ESSEX COUNTY
OFFICE OF THE MANAGER

7551 Court Street · P.O. Box 217 · Elizabethtown, New York 12932
Telephone (518) 873-3333 · Fax (518) 873-3339

Daniel L. Palmer
County Manager

Linda M. Wolf
Purchasing Agent

TO: All Bidders

FROM: Linda Wolf, CPA, Purchasing Agent

DATE: May 16, 2012

SUBJECT: Addendum #2 LITTLE WHITEFACE SKI PATROL BUILDING

This Addendum, issued to bid document holders of record, indicates changes to the bid documents for the *LITTLE WHITEFACE SKI PATROL BUILDING* Bid Opening June 6, 2012.

Please make the following change:

1. **Please change the day for the Pre-Bid Conference to Tuesday, May 22, 2012.**

END OF ADDENDUM #2

ESSEX COUNTY
OFFICE OF THE MANAGER

7551 Court Street · P.O. Box 217 · Elizabethtown, New York 12932
Telephone (518) 873-3333 · Fax (518) 873-3339

Daniel L. Palmer
County Manager

Linda M. Wolf
Purchasing Agent

TO: All Bidders

FROM: Linda Wolf, CPA, Purchasing Agent

DATE: May 15, 2012

SUBJECT: Addendum #1 LITTLE WHITEFACE SKI PATROL BUILDING

This Addendum, issued to bid document holders of record, indicates changes to the bid documents for the *LITTLE WHITEFACE SKI PATROL BUILDING* Bid Opening June 6, 2012.

Please make the following change:

1. **Please change the day for the Bid Opening to Tuesday, May 22, 2012.**

VOID

END OF ADDENDUM #1

NOTICE TO BIDDERS

NOTICE IS HEREBY GIVEN, that the Undersigned, on behalf of the Essex County Board of Supervisors, will accept sealed bids at the Office of the Purchasing Agent, 7551 Court Street, Elizabethtown, New York, until June 6, 2012 at 2:00 PM for the construction of the Little Whiteface Ski Patrol Building at Whiteface Mountain, Wilmington, New York.

All bids submitted in response to this notice shall be marked "SEALED BID – LITTLE WHITEFACE SKI PATROL BUILDING" clearly on the outside of the envelope. All bids shall be submitted on the bid sheets included in the package, and no other forms shall be accepted.

Plans, specifications, standard proposals and drawings for the proposed work may be obtained at the above address, by calling (518) 873-3332, or on the County's website at www.co.essex.ny.us.

A pre-bid conference will be held at Whiteface Mountain on Thursday, May 22, 2012 at 11:00 AM at the base lodge.

Each proposal must be accompanied by either a Certified Check or a Bid Bond, in a form acceptable to the Essex County Attorney, payable to Essex County Treasurer in the amount of five percent (5%) of amount of the bid.

A labor and material Payment Bond and a Performance Bond in the form contained in the Contract documents will be required of the successful Bidder.

Attention of the bidders is particularly called to the requirements as to the conditions of employment to be observed and minimum wage rates under the Contract

Essex County reserves the right to reject any and all bids not considered to be in the best interest of Essex County, and to waive any technical or formal defect in the bids which is considered by Essex County to be merely irregular, immaterial, or unsubstantial.

In addition to bid sheets, the bidder shall submit executed non-collusion bid certificates signed by the bidder or one of its officers as required by the General Municipal Law Sec. 103d.

A Contract awarded pursuant to this notice shall be subject to the provisions of Sections 103-1, 103-b and 103-d of the General Municipal Law.

PLEASE TAKE FURTHER NOTICE that Essex County affirmatively states that in regard to any contract entered into pursuant to this notice, without regard to race, color, sex, religion, age, national origin, disability, sexual preference or Vietnam Era veteran status, disadvantaged and minority or women-owned business enterprises will be afforded equal opportunity to submit bids in response hereto.

Dated: May 14, 2012

Linda M. Wolf, CPA
Purchasing Agent
Essex County Government Center
7551 Court Street – PO Box 217
Elizabethtown, New York 12932
(518) 873-3332

Little Whiteface
Ski Patrol Building
Whiteface Mountain
Wilmington, New York

PROJECT MANUAL

AES PROJECT NO. 3760
MAY 4, 2012
SET NO._____

THE ARCHITECT CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION, AND BELIEF; THE PLANS AND SPECIFICATIONS ARE IN CONFORMANCE WITH APPLICABLE REQUIREMENTS OF THE NEW YORK STATE UNIFORM FIRE PROTECTION AND BUILDING CODES.

PROJECT ENGINEER

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901
Phone: (518) 561-1598 Fax: (518) 561-1990
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PROJECT ARCHITECT

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00010

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Section Title

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- 16440 Panelboards
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- 16530 Emergency Lighting
- 16720 Fire Alarm

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00105

INVITATION TO BID

Project:	**Little Whiteface Ski Patrol Building**
Owner:	**Essex County** **7551 Court Street, PO Box 217** **Elizabethtown, NY 12932**
Architect/Engineer:	**AES Northeast** **10-12 City Hall Place** **Plattsburgh, NY 12901**
Date:	**May 4, 2012**

NOTICE IS HEREBY GIVEN; that the Undersigned, on behalf of Essex County Board of Supervisors, will accept sealed bids at the Office of the Purchasing Agent, Essex County Government Center, Elizabethtown, New York; until June 6, 2012 at 2:00 PM for the construction of the Little Whiteface Ski Patrol Building at Whiteface Mountain, Wilmington, New York.

Bid documents are available by contacting the Office of the Purchasing Agent, Linda M. Wolf, CPA, Government Center, 7551 Court Street, Elizabethtown, New York 12932 or by calling (518) 873-3332. Bid documents are also available on the website at www.co.essex.ny.us.

All bids submitted in response to this notice shall be marked "SEALED BID – LITTLE WHITEFACE SKI PATROL BUILDING" clearly on the outside of the envelope.

In addition to the bid, the bidder shall submit executed non-collusion bid certificates by the bidder or one of its officers as required by the General Municipal Law Sec. 103d.

The successful bidder will be notified promptly by letter and must be prepared to enter into a contract to furnish the materials or services.

Essex County reserves the right to reject any and all bids not considered to be in the best interest of Essex County, and to waive any technical or formal defect in the bids which is considered by Essex County to be merely irregular, immaterial, or unsubstantial.

PLEASE TAKE FURTHER NOTICE that Essex County affirmatively states that in regard to any contract entered into pursuant to this notice, without regard to race, color, sex, religion, age, national origin, disability, sexual preference or Vietnam Era veteran status, disadvantaged and minority or women-owned business enterprises will be afforded equal opportunity to submit in response hereto.

Project Description: Demolition of the existing ski patrol building and construction of a new one story Ski Patrol/Essex County Telecommunications Building.

The Owner requires the Project to be commenced at the site on August 1, 2012 and completed on or before October 31, 2012.

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

A pre-bid conference will be held at Whiteface Mountain on Thursday, May 22, 2012 at 11:00 AM at the base lodge. We also plan to visit the jobsite on top of Little Whiteface, weather permitting and if feasible.

Bidding Documents for a Stipulated Price contract may be obtained from the office of the Owner free of charge by downloading from the County website. If bidders want paper bid documents, it would be at the Contractor's expense.

The awarded bidder will be required to provide performance and payment bonds in the amount of 100% of the bid sum.

The project may be bid and awarded as separate prime contracts for general construction, mechanical work, and electrical work. The project may also be bid and awarded as one single prime contract for all work, including general construction, mechanical work, and electrical work.

Bidders may bid any or all prime contracts and may also bid all work under one bid. The County reserves the right to award the project in accordance, with the funding available and lowest responsible bid.

Bidders will be required to provide Bid security in the form of a Bid Bond or certified check in the amount of a sum no less than 5 percent of the Bid Sum.

Refer to other bidding requirements described in Instructions to Bidders.

Submit your Bid on the Bid Form provided.

Your Bid will be required to be submitted under a condition of irrevocability for a period of 45 calendar days after submission.

The Owner reserves the right to accept or reject any or all Bids.

Linda M. Wolf, CPA
Purchasing Agent
Essex County Government Center
Elizabethtown, NY 12932
(518) 873-3332

END OF DOCUMENT

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00200

INSTRUCTIONS TO BIDDERS

1.1 SUMMARY

A. Document Includes:
   1. Instructions to Bidders.
   2. Site examination.
   3. Prebid conference.

B. Related Documents:
   1. Document 00105 - Invitation To Bid.
   2. Document 00411 - Bid Form - Stipulated Price.
   3. Document 00430 - Bid Form Supplements: Appendices A and B.
   4. Document 00811 - Supplementary Conditions.
   5. Document 00910 - New York State Prevailing Wage Rates.
   6. Document 01800 - Information Available To Bidders.

1.2 INSTRUCTIONS TO BIDDERS

A. See Essex County General Specifications for additional Instructions to Bidders.

1.3 SITE EXAMINATION

A. Examine the Project site before submitting a Bid.

B. A visit to Project site has been arranged for Bidders at 11:00 AM on Thursday, May 22, 2012.

1.4 PREBID CONFERENCE

A. A Bidders conference is scheduled for 11:00 AM on the 22nd day of May 2012 at the location of Whiteface Mountain, Base Lodge.

B. Prime Contract Bidders are required to attend.

C. Representatives of the Owner and Architect/Engineer will be in attendance.

D. Summarized minutes of this meeting will be circulated to attendees and known Bidders. These minutes will form part of Contract Documents.

E. Information relevant to Bidding Documents will be issued by Addendum.

F. A pre-bid conference will be held at the Base Lodge and then bidders will be transported to the building site, if feasible.

END OF DOCUMENT

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00411

BID FORM - STIPULATED SUM

To: **Essex County**

Project: **Little Whiteface Ski Patrol Building**

Date: .....

Submitted by: .....

(full name) .....

(full address) .....

.....

1.1 OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders, Bid Documents and Contract Documents prepared by the Architect/Engineer for the above mentioned project, we the undersigned, hereby offer to enter into a Contract to perform the Work for the Contract Sum of:

A. Base Bid Contract "GC":

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

+ **Contingency Allowance $10,000 (Ten Thousand Dollars)**

Total: Base Bid Plus Allowance $..... dollars, in lawful money of the United States of America. **(numerical)**

$.....dollars and no cents.
(written)

Alternate GC-1 (ADD): Rock Excavation:

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

Alternate GC-2 (ADD): Demolition of Existing Patrol Building:

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

B. Base Bid Contract "M":

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

+ **Contingency Allowance $4,000 (Four Thousand Dollars)**

Total: Base Bid Plus Allowance $..... dollars, in lawful money of the United States of America. **(numerical)**

$.....dollars and no cents.
(written)

C. Base Bid Contract "E":

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

+ **Contingency Allowance $10,000 (Ten Thousand Dollars)**

Total: Base Bid Plus Allowance $..... dollars, in lawful money of the United States of America. **(numerical)**

$.....dollars and no cents.
(written)

D. Base Bid Contract (ALL WORK):

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

+ **Contingency Allowance $24,000 (Twenty Four Thousand Dollars)**

Total: Base Bid Plus Allowance $..... dollars, in lawful money of the United States of America. **(numerical)**

$.....dollars and no cents.
(written)

Alternate GC-1 (ADD): Rock Excavation:

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

Alternate GC-2 (ADD): Demolition of Existing Patrol Building:

$..... dollars and no cents, in lawful money of the United States of America.
(Numerical)

$.....
(Written)

We have included the bid security as required by the Instruction to Bidders.

All applicable federal taxes are included and State of New York taxes are included in the Bid Sum.

All Contingency Allowances described in Section 01200 - Price and Payment Procedures are included in the Bid Sum.

1.2 ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for forty five days from the bid closing date.

If this bid is accepted by the Owner within the time period stated above, we will:

- Execute the Agreement within seven days of receipt of Notice of Award.

- Furnish the required bonds within seven days of receipt of Notice of Award in the form described in Supplementary Conditions.

- Commence work within seven days after written Notice to Proceed.

If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required bonds, the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required security deposit will be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.3 CONTRACT TIME

If this Bid is accepted, we will:

- Commence work at the building site on August 1, 2012.

- Complete the Work on or before October 31, 2012.

1.4 CHANGES TO THE WORK

When the Architect/Engineer establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee shall be:

..... percent overhead and profit on the net cost of our own Work;

..... percent on the gross cost of work done by any Subcontractor.

On work deleted from the Contract, our credit to the Owner shall be the Architect/Engineer approved net cost plus..... of the overhead and profit percentage noted above.

1.5 ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum #..... Dated.....

Addendum #..... Dated.....

Addendum #..... Dated.....

Addendum #..... Dated.....

1.6 APPENDICES

The following documents are attached to and made a condition of the Bid:

Bid security in form of.....
Document 00430 including appendices.

1.7 BID FORM SIGNATURES

The Corporate Seal of

.....
(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

.....
(Authorized signing officer Title)

(Seal)

.....
(Authorized signing officer Title)

(Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF DOCUMENT

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00430

BID FORM SUPPLEMENTS

To: **Essex County**

Project: **Little Whiteface Ski Patrol Building**

Date: **.....**

Submitted by: **.....**
(full name)

.....

(full address) **.....**

In accordance with Document 00200 - Instructions to Bidders and Document 00411 - Bid Form - Stipulated Price, we include the Appendices to Bid Form Supplements listed below. The information provided shall be considered an integral part of the Bid Form.

- Essex County Bidder's Checklist (1 Page)
- Essex County Certificate of Authority (1 Page)
- Essex County Certification of Experience (1 Page)
- Essex County Security Form #1: Consent of Surety (1 Page)
- Essex County Statement of Surety's Intent (2 Pages)
- Essex County Non-Collusive Bidding Certification (1 Page)
- Essex County Contractor's Acknowledgement (1 Page)
- Subcontractor's List (1 Page)
- Cost Break Down (1 Page)

BID FORM SUPPLEMENTS SIGNATURES

The Corporate Seal of

.....
(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

.....
(Authorized signing officer Title)

(Seal)

.....
(Authorized signing officer Title)
(Seal)

END OF DOCUMENT

BIDDER'S CHECKLIST

Each of the following forms must be executed and notarized if applicable:

CERTIFICATE OF AUTHORITY	_____
CERTIFICATION OF EXPERIENCE	_____
BID SECURITY FORM # 1	_____
STATEMENT OF SURETY'S INTENT	_____
PROPOSAL	_____
NON-COLLUSIVE BIDDING CERTIFICATION	_____

CERTIFICATE OF AUTHORITY

I, _____
(Officer other than officer executing proposal documents)

certify that I am the _____ of the _____
(Title) (Name of Contractor)

_____ a corporation, duly organized and in good standing under the

_____
(Law under which organized, e.g., the New York Business Corporation Law)

named in the foregoing agreement; that _____
(Person executing proposal documents)

who signed said agreement on behalf of the Contractor was, at the time of execution,

_____ of the Contractor; that said agreement was duly signed for
(Title of such person)

and in behalf of said Contractor by authority of its Board of Directors, thereunto duly authorized, and that such authority is in full force and effect at the date hereof.

_____
Signature

Corporate Seal

STATE OF NEW YORK) SS.:
COUNTY OF ESSEX)

On this _____ day of _____, 20____, before me personally came _____ _____ to me known, and known to me to be the _____ (Title) of _____ the corporation described in and which executed the above certificate, who being by me duly sworn did depose and say that he, the said _____ _____ resides at _____, and that he is _____ _____ of said corporation and knows the corporate seal of the said corporation; that the seal affixed to the above certificate is such corporate seal and that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

_____

Notary Public

County

CERTIFICATION OF EXPERIENCE

I, ____________________________ HEREBY CERTIFY THAT (COMPANY __________________________

____________________________________HAS PERFORMED THE FOLLOWING WORK WITHING THE LAST THREE YEARS:

NAMES OF BUSINESS: _________________________________ CONTACT NAME: ___________________

ADDRESS: ____

AMOUNT OF CONTRACT: _______________________ TELEPHONE NO.: _________________________

TYPE OF WORK: ________________________________ FAX NO.: ________________________________

NAMES OF BUSINESS: _________________________________ CONTACT NAME: ___________________

ADDRESS: ____

AMOUNT OF CONTRACT: _______________________ TELEPHONE NO.: _________________________

TYPE OF WORK: ________________________________ FAX NO.: ________________________________

NAMES OF BUSINESS: _________________________________ CONTACT NAME: ___________________

ADDRESS: ____

AMOUNT OF CONTRACT: _______________________ TELEPHONE NO.: _________________________

TYPE OF WORK: ________________________________ FAX NO.: ________________________________

NAMES OF BUSINESS: _________________________________ CONTACT NAME: ___________________

ADDRESS: ____

AMOUNT OF CONTRACT: _______________________ TELEPHONE NO.: _________________________

TYPE OF WORK: ________________________________ FAX NO.: ________________________________

NAMES OF BUSINESS: _________________________________ CONTACT NAME: ___________________

ADDRESS: ____

AMOUNT OF CONTRACT: _______________________ TELEPHONE NO.: _________________________

TYPE OF WORK: ________________________________ FAX NO.: ________________________________

NAMES OF BUSINESS: _________________________________ CONTACT NAME: ___________________

ADDRESS: ____

AMOUNT OF CONTRACT: _______________________ TELEPHONE NO.: _________________________

TYPE OF WORK: ________________________________ FAX NO.: ________________________________

NOTE: THIS FORM MUST BE EXECUTED BY YOUR SURETY AND SUBMITTED WITH YOUR BID.

ESSEX COUNTY
BID SECURITY FORM #1

CONSENT OF SURETY

Issued to:_____
(Name of Bidder)

CONTRACT NUMBER _____

In consideration of the premises and of one dollar to it in hand paid by the County of Essex the receipt whereof is hereby acknowledged, the undersigned contents and agrees that if the contract, for which the preceding estimate and proposal is made, be awarded to the corporation, person or persons making the same, it will become bound as surety and guarantor for its faithful performance, and will execute it as party of the third part thereto when required to do so by the said County of Essex and if the said corporation, person or persons shall omit or refuse to execute such contract if so awarded, it will pay, on demand, to the said County of Essex , any difference between the sum bid by the corporation, person or persons and the sum which the said County may be obliged to pay the corporation, person or person to whom the contract may be afterwards awarded, the amount in each case to be determined by the bids for said contract.

In witness whereof, said Surety has set its seal and caused these presents to be signed by its duly authorized officers, this _____day of _____,20___

(SEAL)

BY:_____

TITLE:_____

NOTE: Attach necessary Power of Attorney, Notarial Acknowledgement of Signature and Surety's Financial Statement.

STATEMENT OF SURETY'S INTENT

To: _____

We have reviewed the Bid of _____
(Contractor)

of _____
(Address)

for _____

_____
(Project)

Bids for which will be received on _____
(Bid Opening Date)

and wish to advise that should this Bid of the Contractor be accepted and the Contract awarded to him, it is our present intention to become surety on the Performance Bond and Labor and Materials Payment Bond required by this Contract.

Any arrangement for the bonds required by the Contract is a matter between the Contractor and ourselves, and we assume no liability to you or third parties if for any reason we do not execute the requisite bonds.

We are duly authorized to transact business in the State of New York, and we appear on the U.S. Treasury Department's most current list (Circular 570 as amended).

Attest:

_____ _____

_____
Surety's Authorized Signature(s)

Attach Power of Attorney

(Corporate seal if any. If no seal, write "No Seal" across this place and sign.)

BID SECURITY

(ATTACHED HERE – CERTIFIED CHECK, CASH OR BID BOND)

NON-COLLUSIVE BIDDING CERTIFICATION

1. By submission of this bid, the undersigned bidder and each person signing on behalf of such bidder certifies and in the case of a joint bid each party thereto certifies as to its own organization — UNDER PENALTY OF PERJURY, that to the best of the undersigned's knowledge and belief:

(a) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(b) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

(c) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

2. The undersigned acknowledges and agrees that a bid shall not be considered for award nor shall any award be made where any of the above have not been complied with; provided however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefor. Where one or more of the above has/have not been complied with, the bid shall not be considered for award nor shall any award be made unless the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

3. The undersigned also acknowledges and agrees that the fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of paragraph 1 above.

4. The undersigned further acknowledges and agrees that any bid hereafter made to any political subdivision of the state or any public department, agency or official thereof by a bidder which is a corporation or a limited liability company for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in paragraph 1 of this certificate, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation or limited liability company.

Name of Bidder: _____
(print full legal name)

Date Signed: _____ Signature: _____

Name of Person Signing Certificate: _____
(print full legal name of signer)

Bidder is (check one): □ an individual, □ a limited liability partnership, □ a limited liability company, □ other entity (specify): _____

CONTRACTOR'S ACKNOWLEDGEMENT
(If Corporation)

STATE OF NEW YORK) SS:
COUNTY OF ESSEX)

On this _____ day of _____ 20____, before me personally came_____
_____ to me known, and known to me to be the _____
of the Corporation described in and which executed the within instrument, who being duly sworn did depose and say that he, the said _____ reside at _____ and that he is _____ of said corporation and knows the corporate seal of the said corporation; that the seal affixed to the within instrument is such corporate seal and that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

_____
Notary Public

CONTRACTOR'S ACKNOWLEDGEMENT
(If Individual)

STATE OF NEW YORK) SS:
COUNTY OF ESSEX)

On this _____ day of _____ 20____, before me personally came
_____ to me known, and known to me to be the same person described in and who executed the within instrument and he duly acknowledged to me that he executed the same for the purpose herein mentioned and, if operating under and trade name, that the certificate required by the New York State Penal Law, Sections 440 and 440-b has been filed with the County Clerk of Essex County.

_____
Notary Public

CONTRACTOR'S ACKNOWLEDGEMENT
(If Co-Partnership)

STATE OF NEW YORK) SS:
COUNTY OF ESSEX)

On this _____ day of _____ 20____, before me personally came
_____ to me known, and known to me to be a member of the firm of and the person described in, and who executed the within instrument in behalf of said firm for the purposes herein mentioned and that the certificate required by the New York State Penal Law, Sections 440 and 440-b has been filed with the County Clerk of Essex County.

_____
Notary Public

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

LIST OF SUBCONTRACTORS

Herewith is the list of subcontractors referenced in the bid submitted by:

(Bidder) .....

To (Owner) **Essex County**

Dated ..... and which is an integral part of the Bid Form.

The following work will be performed (or provided) by subcontractors and coordinated by us:

TRADE	NAME
.....	……
.....	……
.....	……
.....	……
.....	……
.....	……
.....	……
.....	……
.....	……
.....	……
.....	……

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

COST BREAKDOWN

The following is a cost breakdown referenced in the bid submitted by:

(Bidder) .....

To (Owner) **Essex County**

Dated ..... and which is an integral part of the Bid Form.

ITEM OF WORK	VALUE (Overhead and Profit Included)
Division 1 - General Requirements	$.....
Division 2 - Site Construction	$.....
Division 3 - Concrete	$.....
Division 4 - Masonry	$.....
Division 6 - Wood and Plastics	$.....
Division 7 - Thermal and Moisture Protection	$.....
Division 8 - Doors and Windows	$.....
Division 9 - Finishes	$.....
Division 10 - Specialties	$.....
Division 12 - Furnishings	$.....
Division 15 - Mechanical	$.....
Division 16 - Electrical	$.....

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00501

AGREEMENT - AIA

1.1 SUMMARY

A. Document Includes:
   1. Agreement.

B. Related Documents:
   1. Document 00701 - General Conditions - AIA.
   2. Document 00811 - Supplementary Conditions - AIA.

1.2 AGREEMENT

A. AIA Document A101-2007, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment is a Stipulated Sum, forms the basis of Agreement between the Owner and Contractor.

END OF DOCUMENT

DRAFT

AIA® Document A101™ – 2007

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

«Essex County»« »
«7551 Court Street, PO Box 217
Elizabethtown, NY 12932»
«Telephone Number: (518) 873-3380»
«Fax Number: (518) 873-3894»

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

«3760 - Essex County»
«Little Whiteface Ski Patrol Building Renovation
AES Project No. 3760»

The Architect:
(Name, legal status, address and other information)

«Architecture, Engineering, and Land Surveying Northeast, PLLC»«,
«10-12 City Hall Place
Plattsburgh, New York 12901»
«Telephone Number: (518) 561-1598»
«Fax Number: (518) 561-1990»

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

AIA Document A201™–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

« »

If, prior to the commencement of the Work, the Owner requires time to file mortgages and other security interests, the Owner's time requirement shall be as follows:

« »

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than « » (« ») days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

« »

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Portion of Work	Substantial Completion Date

, subject to adjustments of this Contract Time as provided in the Contract Documents.
(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

« »

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » ($ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

« »

§ 4.3 Unit prices, if any:
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price Per Unit ($0.00)

§ 4.4 Allowances included in the Contract Sum, if any:
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than « » (« ») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

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§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of « » percent (« » %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;

.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of « » percent (« » %);

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

§ 5.1.8 Reduction or limitation of retainage, if any, shall be as follows:
(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

« »

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 FINAL PAYMENT

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2.2 of AIA Document A201–2007, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

« »

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ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 INITIAL DECISION MAKER

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A201–2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

§ 6.2 BINDING DISPUTE RESOLUTION

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A201–2007, the method of binding dispute resolution shall be as follows:
(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2007

[« »] Litigation in a court of competent jurisdiction

[« »] Other *(Specify)*

« »

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« » % « »

§ 8.3 The Owner's representative:
(Name, address and other information)

Essex County
«7551 Court Street, PO Box 217
Elizabethtown, NY 12932»
« »
« »
« »
« »

§ 8.4 The Contractor's representative:

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(Name, address and other information)

«Mr. David B. Whitford, RA»
«AES Northeast
10-12 City Hall Place
Plattsburgh, NY 12901»

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A101–2007, Standard Form of Agreement Between Owner and Contractor.

§ 9.1.2 The General Conditions are AIA Document A201–2007, General Conditions of the Contract for Construction.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

« »

Section	Title	Date	Pages

§ 9.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

« »

Number	Title	Date

§ 9.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed by the parties, or the following:

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« »

.2 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201–2007 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

« »

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A201–2007.
(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A201–2007.)

Type of insurance or bond	Limit of liability or bond amount ($0.00)

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	CONTRACTOR *(Signature)*
« »« »	«Mr. David B. Whitford, RA»«, Principal Architect»
(Printed name and title)	*(Printed name and title)*

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ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00701

GENERAL CONDITIONS - AIA

1.1 SUMMARY

A. Document Includes:
   1. General Conditions.

B. Related Documents:
   1. Document 00501 - Agreement - AIA.
   2. Document 00811 - Supplementary Conditions - AIA.

1.2 GENERAL CONDITIONS

A. AIA Document A201-2007, General Conditions of the Contract for Construction, is the General Conditions of the Contract.

1.3 SUPPLEMENTARY CONDITIONS

A. Refer to Document 00811 for modifications to General Conditions.

END OF DOCUMENT

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)
Essex County
Little Whiteface Ski Patrol Building Renovations
AES Project No. 3760

THE OWNER:
(Name, legal status and address)
Essex County
7551 Court Street, PO Box 217
Elizabethtown, NY 12932

THE ARCHITECT:
(Name, legal status and address)
Architecture, Engineering, and Land Surveying Northeast, PLLC
10-12 City Hall Place
Plattsburgh, New York 12901

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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INDEX
(Topics and numbers in bold are section headings.)

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

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portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

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§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

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§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

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§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

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completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

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§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

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§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

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Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

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ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

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for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and

.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

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encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a separate contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- **.7** repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

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§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

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§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

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§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents; or
- **.3** terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- **.1** employees on the Work and other persons who may be affected thereby;
- **.2** the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- **.3** other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

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§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

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§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

.4 Claims for damages insured by usual personal injury liability coverage;

.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

.7 Claims for bodily injury or property damage arising out of completed operations; and

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

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§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

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property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

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ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

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§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

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such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

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§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

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ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

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§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

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§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

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Essex County
Little Whiteface Ski Patrol Building Renovations
AES Project No. 3760

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_____

(Signed)

_____

(Title)

_____

(Dated)

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ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00811

SUPPLEMENTARY CONDITIONS

1.1 SUMMARY

A. Document Includes:
   1. Supplementary Conditions.

B. Related Documents:
   1. Document Agreement.
   2. Essex County General Requirements for Procurement Contracts.

1.2 SUPPLEMENTARY CONDITIONS

A. These Supplementary Conditions modify the General Conditions of the Contract for Construction and other provisions of the Contract Documents as indicated below. All provisions which are not so modified remain in full force and effect.

B. The terms used in these Supplementary Conditions which are defined in the General Conditions of the Contract for Construction have the meanings assigned to them in the General Conditions.

ARTICLE 1.1 - BASIC DEFINITIONS

Add the following subparagraphs:

1.1.8 Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

1.1.9 Furnish: To supply and deliver, unload, inspect for damage.

1.1.10 Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, and make ready for use.

1.1.11 Provide: To furnish and install.

ARTICLE 1.2 - CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following subparagraph:

1.2.4 General Requirements govern the execution of the work of all sections of the specifications.

ARTICLE 3.6 - TAXES

Add the following subparagraph:

3.6.2 The owner is exempt from payment of sales and compensating use of the State of New York and of cities, counties and other subdivisions of the State, of materials sold to it pursuant to the provisions of the Contract. Those taxes are not to be included in bids.

3.6.3 Contractor's purchases of tangible personal property which does not become an integral part of the exempt organization's real property, and are consumed by the Contractor as well as purchases of taxable services are subject to tax.

ARTICLE 7.3 - CONSTRUCTION CHANGE DIRECTIVES

7.1.4 The Agreement identifies the overhead and profit fees applicable to Changes in the Work, whether additions to or deductions from the Work on which the Contract Sum is based and identifies the fees for subcontract work for changes (both additions and deductions) in the Work. The Contractor shall apply fees as noted, to the Subcontractor's gross (net plus fee) costs on additional work.

ARTICLE 8 - TIME

Add the following subparagraph:

8.1.5 Contract Time is identified in Document 0200 - Instructions to Bidders and Document 00411 - Bid Form - Stipulated Sum.

ARTICLE 9 - PAYMENTS AND COMPLETION

Add the following paragraphs:

9.11 Liquidated Damages

9.11.1 Liquidated damages in the amount of $500 per calendar day shall accrue to the Owner after Substantial Completion, for late completion of the Work, after Contract Time has expired.

ARTICLE 11.1 - CONTRACTOR'S LIABILITY INSURANCE

See Essex County Standard Requirements for Insurance on Public Works Projects (Appendix A).

ARTICLE 11.5 - PERFORMANCE BOND AND PAYMENT BOND

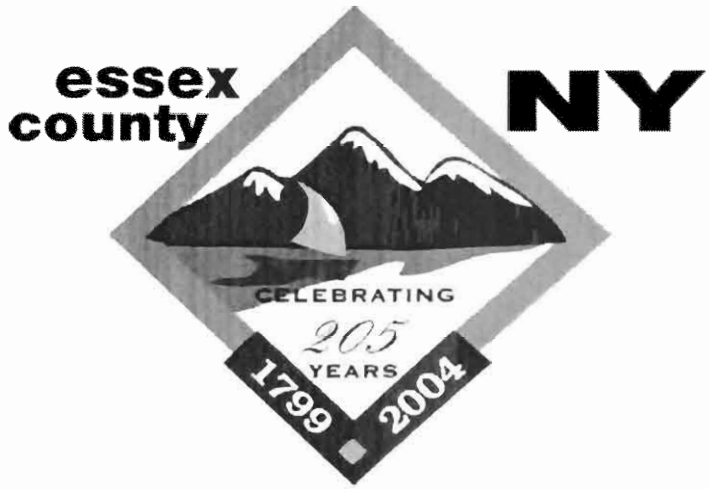
Add the following subparagraphs:

11.5.3 The Contractor shall furnish bonds to the Owner in the following amounts:

.1 Furnish a 100 percent Performance Bond on a standard surety bond form.

.2 Furnish a 100 percent Payment Bond on a standard surety bond form.

END OF DOCUMENT



ESSEX COUNTY

Office of the Purchasing Agent
7551 Court Street, P.O. Box 217
Elizabethtown, NY 12932
518-873-3330/Fax 518-873-3339

GENERAL SPECIFICATIONS FOR PROCUREMENT CONTRACTS

Adopted May 20, 1999.

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PART I
General Provisions

1. APPLICABILITY The terms and conditions set forth herein are expressly incorporated in and applicable to all procurements and resulting procurement contracts let by the Office of the Essex County Purchasing Agent where incorporated by reference in its Bid Documents. The provisions herein shall govern such procurement or contract unless expressly modified or amended by the terms of a Bid Specifications, or a negotiated Contract/Clarification document, if any. Captions are intended as descriptive and are not intended to limit or otherwise restrict the terms and conditions set forth herein.

2. GOVERNING LAW The laws of the State of New York shall govern and apply to the procurement, any resulting contract and for determinations in a court of competent jurisdiction in New York of any and all disputes, litigation or interpretations arising from or connected with the procurement or contract, except where expressly superseded in a specific contract letting or where the Federal supremacy clause requires otherwise. These specifications are modeled after and upon the specifications developed and used by the New York State Office of General Services for procurements by New York State.

3. APPENDIX A / INSURANCE The mandatory terms for all Essex County contracts are expressly incorporated herein and in all bid documents and/or resulting contracts, such terms being set forth in Appendix A *(Standard Clauses for Essex County Contracts).* Insurance requirements are also attached and incorporated herein.

4. ETHICS COMPLIANCE All Bidders/Contractors and their employees must comply with the requirements of the *General Municipal Law,* the *Public Officers Law,* and other State codes, rules and regulations establishing ethical standards for the conduct of business with New York State and/or municipalities. In signing the bid, Bidder certifies full compliance with those provisions for any present or future dealings, transactions, sales, contracts, services, offers, relationships, etc., involving Essex County and/or its employees. Failure to comply with those provisions may result in disqualification from the bidding process, termination of contract, and/or other civil or criminal proceedings as required by law.

5. CONFLICT OF CLAUSES Conflicts between procurement or contract documents shall be resolved in the following order of precedence:

(a) Appendix A *(Standard Clauses for Essex County Contracts)*

(b) Contract/Clarification Documents Writing(s) setting forth the final agreements, clarifications, terms, statement of work and/or modifications between the Bid Documents and Contractors Bid or Mini-bid.

(c) Bid Documents - Bid Specifications prepared by Essex County

(d) Contractors Bid or Proposal

6. DEFINITIONS

Terms used in this document shall have the following meanings:

AGENCY OR AGENCIES Essex County, New York, acting by or through one or more departments, boards, commissions, offices or institutions of Essex County.

ANCILLARY PRODUCT: Product which is purchased or licensed on a restricted use basis in conjunction with the principal manufacturers Product being acquired (e.g. may be used only in combination, or by educational institutions for research use).

AUTHORIZED USER(S) Agencies, or any other entity authorized by Essex County to participate in Essex County procurement contracts (including but not limited to political subdivisions, public authorities, school districts and public benefit corporations), provided that each such Agency or other entity shall be held solely responsible for liabilities or payments due as a result of its participation. The term "Authorized User" shall include "Licensees."

BID OR BID PROPOSAL An offer or proposal submitted by a Bidder to furnish a described product or a solution or means of achieving a practical end, at a stated price for the stated contract term.

BIDDER Any individual or other legal entity, (including but not limited to partnership, firm or corporation) which submits a bid in response to a Bid Solicitation. The term Bidder shall also include "offeror" and/or "contractor".

BID DOCUMENTS Writings setting forth the scope, terms, conditions and technical specifications for a procurement of Product. Such writings typically include, but are not limited to: Invitation for Bids (IFB), Request for Quotation (RFQ), Request for Proposals (RFP), addenda or amendments thereto, and terms and conditions which are incorporated by reference, e.g. Appendix A *(Standard Clauses for NYS Contracts),* Appendix B, *(General Specifications)*. Where these General Specifications are incorporated in negotiated contracts which have not been competitively bid, the term "Bid Documents" shall be deemed to refer to the terms and conditions set forth in the negotiated contract.

BID SOLICITATION The notice or advertisement of an intent to purchase a specified Product by or on behalf of Authorized User(s).

BID SPECIFICATION A written description drafted by Essex County or an authorized user setting forth the specific terms of the intended procurement, which may include: physical or functional characteristics, the nature of a commodity or construction item, any description of the work to be performed, Products to be provided, the necessary qualifications of the Bidder, the capacity and capability of the Bidder to successfully carry out the proposed contract, or the process for achieving specific results and/or anticipated outcomes or any other requirement necessary to perform work. Where these *General Specifications* are incorporated in negotiated contracts which have not been competitively bid, the term "Bid Specifications" shall be deemed to refer to the terms and conditions set forth in the negotiated contract.

CONTRACT The writing(s) which contain the agreement of the Commissioner and the Bidder/Contractor setting forth the total legal obligation between the parties as determined by applicable rules of law.

CONTRACT AWARD NOTIFICATION An announcement to Authorized Users that a contract has been established.

CONTRACTOR Any successful Bidder(s) to whom a contract has been awarded by the Purchasing Agent. The term "Contractor" includes Licensors.

COUNTY Essex County, New York.

EMERGENCY An urgent and unexpected requirement where health and public safety or the conservation of public resources is at risk.

ERROR CORRECTIONS Machine executable software code furnished by Contractor which corrects the Product so as to conform to the applicable warranties, performance standards and/or obligations of the Contractor.

GROUP A classification of Product (commodities, services or technology).

INVITATION FOR BIDS (IFB) A type of Bid Document which is most typically used where requirements can be stated and award will be made to the lowest responsive bid submitted by the most responsible Bidder(s).

LATE BID For purposes of bid openings held and conducted by the Essex County Purchasing Agent, a bid not received in such place as may be designated on the Bid Specifications or in the Office of the Essex County Purchasing Agent, at or before the date and time established in the Bid Specifications for the bid opening.

LETTER OF ACCEPTANCE A letter to the successful Bidder(s) indicating acceptance of its bid in response to a solicitation. Unless otherwise specified, the issuance of a Letter of Acceptance forms a contract but is not an order for Product, and Contractor should not take any action with respect to actual contract deliveries except on the basis of Purchase Orders sent from Authorized User(s).

LICENSED SOFTWARE Software transferred upon the terms and conditions set forth in the Contract. "Licensed Software" includes ancillary products, error corrections, upgrades, enhancements or new releases, and any deliverables due under a maintenance or service contract (e.g. patches, fixes, PTFs, programs, code or data conversion, or custom programming).

LICENSEE The County, or one or more Agencies or Authorized Users who acquire Product from Contractor by execution of a license in accordance with the terms and conditions of the Contract; provided that, for purposes of compliance with an individual license, the term "Licensee" shall be deemed to refer separately to the individual Authorized User(s) on whose behalf the license was executed who took receipt of the Product, and who shall be solely responsible for performance and liabilities incurred.

LICENSOR A Contractor who transfers rights in proprietary Product to Authorized Users in accordance with the rights and obligations specified in the Contract.

MULTIPLE AWARD A determination and award of a contract in the discretion of the Purchasing Agent to more than one responsive and responsible Bidder who meets the requirements of a specification, where the multiple award is made on the grounds set forth in the Bid Document in order to satisfy multiple factors and needs of Authorized Users (e.g., complexity of items, various manufacturers, differences in performance required to accomplish or produce required end results, production and distribution facilities, price, compliance with delivery requirements, geographic location or other pertinent factors).

NEW PRODUCT RELEASES (Product Revisions) Any commercially released revisions to the version of a Product as may be generally offered and available to Authorized Users. New releases involve a substantial revision of functionality from a previously released version of the Product.

PROCUREMENT RECORD Documentation by the Essex County Purchasing Agent of the decisions made and approach taken during the procurement process.

PRODUCT A deliverable under any Bid or Contract which may include commodities (including printing), services and/or technology. The term "Product" includes Licensed Software.

PURCHASE ORDER The County's fiscal form or format which is used when making a purchase.

REQUEST FOR PROPOSALS (RFP) A type of Bid Document which is used for procurements where factors in addition to cost are considered and weighted in awarding the contract and where the method of award is "best value", as defined by the County's Procurement Policy and New York Law.

REQUEST FOR QUOTATION (RFQ) A type of Bid Document which can be used when a formal bid opening is not required (e.g. discretionary, sole source, single source or emergency purchases).

RESPONSIBLE BIDDER A Bidder that is determined to have skill, judgment and integrity, and that is found to be competent, reliable, experienced and qualified financially, as determined by the Purchasing Agent.

RESPONSIVE BIDDER A Bidder meeting the specifications or requirements prescribed in the Bid Document or solicitation, as determined by the Purchasing Agent.

SINGLE SOURCE A procurement where two or more offerors can supply the required Product, and the Purchasing Agent may award the contract to one Bidder over the other.

SOLE SOURCE A procurement where only one offeror is capable of supplying the required Product.

Bid Submission

7. BID LANGUAGE & CURRENCY All offers (tenders), and all information and Product documentation required by the solicitation or provided as explanation thereof, shall be submitted in English. All prices shall be expressed, and all payments shall be made, in United States Dollars ($ US). Any offers (tenders) submitted which do not meet the above criteria will be rejected.

8. BID OPENING Bids may, as applicable, be opened publicly. The Purchasing Agent reserves the right at anytime to postpone or cancel a scheduled bid opening.

9. BID SUBMISSION The submission of a bid will be construed to mean that the bidder is fully informed as to the extent and character of the supplies, material, or equipment required and a representation that the bidder can furnish the supplies, materials, or equipment satisfactorily in complete compliance with the specifications.

All bids shall comply with the following:

(a) Bids are to be packaged, sealed and submitted to the location stated in the Bid Specifications. Bidders are solely responsible for timely delivery of their bids to the location set forth in the Bid Specifications prior to the stated bid opening date/time.

(b) A bid return envelope, if provided with the Bid Specifications, should be used with the bid sealed inside. If the bid response does not fit into the envelope, the bid envelope should be taped onto the outside of the sealed box or package with the bid inside. If using a commercial delivery company which requires use of their shipping package or envelope, Bidders sealed bid, labeled as detailed below, should be placed within the shippers sealed envelope to ensure that the bid is not prematurely opened. All bids must have a label on the outside of the package or shipping container outlining the following information:

"BID ENCLOSED" (bold print, all capitals)
IFB or RFP Number
Bid Submission date and time

In the event that a Bidder fails to provide such information on the return bid envelope or shipping material, the County reserves the right to open the shipping package or envelope to determine the proper bid number or Product group, and the date and time of bid opening. Bidder shall have no claim against the receiving entity arising from such opening and such opening shall not affect the validity of the bid or the procurement. Notwithstanding the County's right to open a bid to ascertain the foregoing information, Bidder assumes all risk of late delivery associated with the bid not being identified, packaged or labeled in accordance with the foregoing requirements.

10. FACSIMILE SUBMISSIONS Unless specifically authorized by the terms of the Bid Specifications,

facsimile bids ARE PROHIBITED AND SHALL NOT BE ACCEPTED. Where the bid specifications are silent as to the submission of bids by facsimile, no fax bids shall be permitted or accepted. Where specifically authorized, the following rules and conditions apply:

(a) FAX number(s) indicated in the Bid Specifications must be used.

(b) Access to the facsimile machine(s) is on a "first come, first serve" basis, and the Purchasing Agent bears no liability or responsibility and makes no guarantee whatsoever with respect to the Bidders access to such equipment at any specific time.

(c) Bidders are solely responsible for submission and receipt of the entire facsimile bid by the Essex County Purchasing Agent prior to bid opening and must include on the first page of the transmission the total number of pages transmitted in the bid, including the cover page. Incomplete, ambiguous or unreadable transmissions in whole or in part may be rejected at the sole discretion of the Purchasing Agent.

(d) Facsimile bids are fully governed by all conditions outlined in the Bid Documents and must be submitted on forms or in the format required in the Bid Specifications, including the executed signature page and acknowledgment.

11. AUTHENTICATION OF FACSIMILE BIDS The act of submitting a bid by facsimile transmission, when, as and if specifically authorized, including an executed signature page, shall be deemed a confirming act by Bidder which authenticates the signing of the bid.

12. LATE BIDS Any bid received at the specified location after the time specified will be considered a late bid. A late bid shall not be considered for award unless acceptance of the late bid is in the best interests of Essex County and either (a) no timely bids meeting the requirements of the Bid Documents are received, or (b) in the case of a multiple award, an insufficient number of timely bids were received to satisfy the multiple award. Delays in United States mail deliveries or any other means of transmittal, including couriers or agents of Essex County, shall not excuse late bid submissions. Otherwise, all late bids will not be considered and will be returned unopened to the bidder. The bidder assumes the risk of any delay in the mail or in the handling of the mail by employees of the County. Whether sent by mail or by means of personal delivery, the bidder assumes responsibility for having his bid deposited on time at the place specified.

13. BID CONTENTS Bids must be complete and legible. All bids must be signed. All information required by the Bid Specifications must be supplied by the Bidder on the forms or in the format specified in the Bid Specifications. No alteration, erasure or addition is to be made to the Bid Documents. Changes may be ignored by the Purchasing Agent or may be grounds for rejection of the bid. Changes, corrections and/or use of white-out in the bid or Bidders response portion of the Bid Document must be initialed by an authorized representative of the Bidder. Bidders are cautioned to verify their bids before submission, as amendments to bids or requests for withdrawal of bids received by the Purchasing Agent after the time specified for the bid opening, may not be considered. All lines must have an indication of bidders response whether it be "o", "N/A" or a dollar figure. All lines must be filled in to indicate bidder acknowledgment of the request. Bids that do not have all applicable lines filled in on bid sheet may be disqualified as a non-responsive bid. The Purchasing Agent shall not assume there is "no charge" when lines are left empty.

Bidders must submit with bid detailed specifications, circulars, warranties and all necessary data on items he proposes to furnish. This information must show clearly that the item offered meets all detailed specifications herein. The Purchasing Agent reserves the right to reject any bid if its compliance with the specifications is not clearly evident. If item offered differs from the provisions contained in these specifications such differences must be explained in detail, and bid will receive careful consideration if such deviations do not depart from the intent of these specifications and are to the best interests of Essex County as interpreted by the Purchasing Agent of Essex County.

It is the responsibility of the bidder to offer a product that meets the specifications of the manufacturer model as listed.

All stock electrical items must be listed and approved by Underwriters' Laboratories, Inc.

14. EXTRANEOUS TERMS Bids must conform to the terms set forth in the Bid Documents, as extraneous terms or material deviations (including additional, inconsistent, conflicting or alternative terms) may render the bid non-responsive and may result in rejection of the bid.

Extraneous term(s) submitted on standard, pre-printed forms (including but not limited to: product literature, order forms, license agreements, contracts or other documents) which are attached or referenced with the submission shall not be considered part of the bid, but shall be deemed included for informational or promotional purposes only.

Only those extraneous terms which meet all the following requirements will be considered as having been submitted as part of the Bid:

(a) Each proposed extraneous term (addition, counter-offer, deviation, or modification) must be specifically enumerated in a writing which is not part of a pre-printed form; and

(b) The writing must identify the particular specification requirement (if any) which Bidder rejects or proposes to modify by inclusion of the extraneous term; and

(c) The Bidder shall enumerate the proposed addition, counteroffer, modification or deviation from the Bid Document, and the reasons therefore.

No extraneous term(s), whether or not deemed "material," shall be incorporated into a contract unless the Purchasing Agent expressly accepts each such term(s) in writing. Acceptance and/or processing of the Bid shall not constitute such written acceptance of Extraneous Term(s).

15. CONFIDENTIAL / TRADE SECRET MATERIALS Confidential, trade secret or proprietary materials as defined by the laws of the State of New York must be clearly marked and identified as such upon submission. Bidders/Contractors intending to seek an exemption from disclosure of these materials under the *Freedom of Information Law* must request the exemption in writing, setting forth the reasons for the claimed exemption, at the time of submission. Acceptance of the claimed materials does not constitute a determination on the exemption request, which determination will be made in accordance with statutory procedures.

16. PREVAILING WAGE RATES - Public Works and Building Services Contracts If any portion of work being bid is subject to the prevailing wage rate provisions of Labor Law, the following shall apply:

(a) "Public Works" and "Building Services" – Definitions

i. Public Works *Labor Law* Article 8 applies to contracts for public improvement in which laborers, workers or mechanics are employed on a "public works" project (distinguished from public "procurement" or "service" contracts). The State, a public benefit corporation, a municipal corporation (including a school district), or a commission appointed by law must be a party to the contract. The wage and hours provision applies to any work performed by contractor or subcontractors.

ii. Building Services *Labor* Law Article 9 applies to contracts for building service work over $1,500 with a public agency, which 1) involve the care or maintenance of an existing building, or 2) involve the transportation of office furniture or equipment to or from such building, or 3) involve the transportation and delivery of fossil fuel to such building, and 4) the principal purpose of which is to furnish services through use of building service employees.

(b) Prevailing Wage Rate Applicable to Bid Submissions A copy of the applicable prevailing wage rates to be paid or provided are attached to this solicitation. Bidders must submit bids which are based upon the prevailing hourly wages, and supplements in cash or equivalent benefits (i.e., fringe benefits and any cash or non-cash compensation which are not wages, as defined by law) that equal or exceed the applicable prevailing wage rate(s) for the location where the work is to be performed. Where the Bid Documents require the Bidder to enumerate hourly wage rates in the bid, Bidders may not submit bids based upon hourly wage rates and supplements below the applicable prevailing wage rates as established by the New York State Department of Labor. **Bids which fail to comply with this requirement will be disqualified.**

(c) Wage Rate Payments / Changes During Contract Term The wages to be paid under any resulting contract shall not be less than the prevailing rate of wages and supplements as set forth by law. It is required that the Contractor keep informed of all changes in the Prevailing Wage Rates during the contract term that apply to the classes of individuals supplied by the contractor on any projects which result from this contract which are subject to the provisions of the *Labor Law.* Contractor is solely liable for and must pay such required prevailing wage adjustments during the contract term as required by law.

(d) Public Posting & Certified Payroll Records In compliance with Article 8, Section 220 of the *Labor Law,* as amended by Chapter 565 of the Laws of 1997:

i. Posting The Contractor must publicly post on the work site, in a prominent and accessible place, a legible schedule of the prevailing wage rates and supplements.

ii. Payroll Records Contractors and sub-contractors must keep original payrolls or transcripts subscribed and affirmed as true under the penalties of perjury as required by law. For public works contracts over $25,000 where the contractor maintains no regular place of business in New York State, such records must be kept at the work site. For building services contracts, such records must be kept at the work site while work is being performed.

iii. Submission of Certified Payroll Transcripts for Public Works Contracts Only Contractors and sub-contractors on public works projects must submit monthly payroll transcripts to Essex County which has prepared or directs the preparation of the plans and specifications for a public works project, as set forth in the Bid Specifications. For mini-bid solicitations, the payroll records must be submitted to the entity preparing the agency mini-bid project specification. For "agency specific" bids, the payroll records should be submitted to the entity issuing the purchase order. For all other Essex County procurement contracts, such records should be submitted to the individual agency issuing the purchase order(s) for the work. Upon mutual agreement of the Contractor and Essex County, the form of submission may be submitted in a specified disk format acceptable to the Department of Labor so long as: 1) the contractor/subcontractor retains the original records; and, (2) an original signed letter by a duly authorized individual of the contractor or subcontractor attesting to the truth and accuracy of the records accompanies the disk. **This provision does not apply to building services contracts.**

iv. Records Retention Contractors and subcontractors must preserve such certified transcripts for a period of three years from the date of completion of work on the awarded contract.

(e) Days Labor - Defined for Article 8, Public Works (For Purposes of Article 8 of the *Labor Law)* No laborer, worker or mechanic in the employ of the contractor, subcontractor or other person doing or contracting to do all or part of the work contemplated by the contract shall be permitted or required to work more than eight hours in any one calendar day or more than five days in any one week except in cases of extraordinary emergency including fire, flood or danger to life or property. "Extraordinary emergency" shall be deemed to include situations in which sufficient laborers, workers and mechanics cannot be employed to carry on public work expeditiously as a result of such

restrictions upon the number of hours and days of labor and the immediate commencement or prosecution or completion without undue delay of the public work is necessary in the judgment of the Essex County Purchasing Agent for the preservation of the contract site or for the protection of the life and limb of the persons using the contract site.

17. TAXES

(a) Unless otherwise specified in the Bid Specifications or set forth in this clause, the quoted bid price includes all taxes applicable to the transaction.

(b) Purchases made by Essex County and certain non-County Authorized Users are exempt from New York State and local sales taxes and, with certain exceptions, federal excise taxes. To satisfy the requirements of the New York State Sales tax exemption, either the Purchase Order issued by a County Agency or the invoice forwarded to authorize payment for such items will be sufficient evidence that the sale by the Contractor was made to the County, an exempt organization under Section 1116 (a) (1) of the *Tax Law.* Non-County Authorized Users must offer their own proof of exemption where required. No person, firm or corporation is, however, exempt from paying the State Truck Mileage and Unemployment Insurance or Federal Social Security taxes, which remain the sole responsibility of the Bidder/Contractor. For tax free transactions under the Internal Revenue Code, the Essex County Registration Number is 14 6002889.

(c) Purchases by Authorized Users other than Essex County may be subject to such taxes, and in those instances the tax should be computed based on the bid price and added to the invoice submitted to such entity for payment.

18. EXPENSES PRIOR TO AWARD Essex County is not liable for any costs incurred by a Bidder in the preparation and production of a bid or for any work performed prior to contract award and/or issuance of an approved Purchase Order.

19. ADVERTISING BID RESULTS A Bidder in submitting a bid agrees not to use the results therefrom as a part of any commercial advertising without the prior written approval of the Purchasing Agent. In addition to any other sanctions or remedies available to it in law or equity, the Purchasing Agent may suspend from bidding on its requirements or terminate a contract of any Bidder/Contractor who violates the terms of this clause.

20. PRODUCT REFERENCES

(a) **"Or Equal"** On all Bid Specifications the words "or equal" are understood to apply where a copyright brand name, trade name, catalog reference, or patented Product is referenced. References to such specific Product are intended as descriptive, not restrictive, unless otherwise stated. Comparable Product will be considered if proof of compatibility is provided, including appropriate catalog excerpts, descriptive literature, specifications and test data, etc. The Purchasing Agents decision as to acceptance of the Product as equal shall be final.

(b) **Discrepancies in References** In the event of a discrepancy between the model number referenced in the Bid Specifications and the written description of the Products therein which cannot be reconciled, with respect to such discrepancy, then the written description shall prevail.

21. RECYCLED OR RECOVERED MATERIALS Upon the conditions specified in the Bid Specifications and in accordance with the laws of the State of New York, Contractors are encouraged to use recycled or recovered materials in the manufacture of Products and packaging to the maximum extent practicable without jeopardizing the performance or intended end use of the Product or packaging unless such use is precluded due to health, welfare, safety requirements or in the Bid

Specifications. Where such use is not practical, suitable, or permitted by the Bid Specifications, Contractor shall deliver new materials in accordance with the "Warranties & Guaranties" set forth below.

Refurbished or remanufactured components or items may only be accepted at the discretion of the Purchasing Agent, or upon the conditions set forth in the Bid Specifications.

Items with recycled, recovered, refurbished or remanufactured content must be identified in the bid or will be deemed new Product.

22. PRODUCTS MANUFACTURED IN PUBLIC INSTITUTIONS Bids offering Products which are manufactured or produced in public institutions will be rejected.

23. PRICING

(a) Unit Pricing If required by the Bid Specifications, the Bidder should insert the price per unit specified and the price extensions in decimals, not to exceed four places for each item, in the bid. In the event of a discrepancy between the unit price and the extension, the unit price shall govern unless, in the sole judgment of the Purchasing Agent, such unit pricing is obviously erroneous.

(b) Net Pricing Prices must be net, including transportation, customs, tariff, delivery and other charges fully prepaid by the Contractor to the destination(s) indicated in the Bid Specifications, subject only to the cash discount. If the award is to be made on another basis, transportation and other charges must be prepaid by the Contractor and added to the invoice as a separate item, unless otherwise required in the Bid Specifications.

(c) "No Charge" Bid When bids are requested on a number of Products as a group or Lot, a Bidder desiring to bid "no charge" on a Product in the grouping or Lot must clearly indicate such. Otherwise, such bid may be considered incomplete and be rejected, in whole or in part, at the discretion of the Purchasing Agent.

If a price is written in numbers and alpha, the alpha will govern.

Prices shall be net FOB any point in Essex County, New York. Price quoted shall include all delivery costs. Prices shall be net, including transportation and delivery charges fully prepaid by the successful bidder to destination indicated in the proposal. If award is made on any other basis, transportation charges must be prepaid by the successful bidder and added to the invoice as a separate item. In any case, title shall not pass until items have been delivered and accepted by the County.

24. DRAWINGS

(a) Drawings Submitted With Bid When the Bid Specifications require the Bidder to furnish drawings and/or plans, such drawings and/or plans shall conform to the mandates of the Bid Documents and shall, when approved by the Purchasing Agent, be considered a part of the bid and of any resulting contract. All symbols and other representations appearing on the drawings shall be considered a part of the drawing.

(b) Drawings Submitted During the Contract Term Where required by the Bid Specifications to develop, maintain and deliver diagrams or other technical schematics regarding the scope of work, Contractor shall be required to develop, maintain, deliver and update such drawings on an ongoing basis at no additional charge. Contractor shall be responsible for updating drawings and plans during the contract term to reflect additions, alterations, and deletions. Such drawings and diagrams shall be delivered to the Authorized

Users representative as required by the Bid Specifications. Where required, Contractor shall furnish to Authorized User in a timely manner the required drawings representing the then current, "as modified" condition of all product included in the scope of work.

(c) Accuracy of Drawings Submitted All drawings shall be neat and professional in manner and shall be clearly labeled as to locations and type of product, connections and components. Drawings and diagrams are to be in compliance with accepted drafting standards. Acceptance or approval of such plans shall not relieve the Contractor from responsibility for design or other errors of any sort in the drawings or plans, or from its responsibility for performing as required, furnishing product, services or installation, or carrying out any other requirements of the intended scope of work.

25. SITE INSPECTION Where Bidder is required by the Bid Specifications to deliver or install Product, or to service installed product(s) or equipment, Bidder shall be given an opportunity and shall be required to inspect the site prior to submission of the Bid, including environmental or other conditions or pre-existing deficiencies in the installed product, equipment or environment, which may affect Bidders ability to deliver, install or otherwise provide the required product. All inquiries regarding such conditions may only be made in writing. Bidder shall be deemed to have knowledge of any deficiencies or conditions which such inspection or inquiry might have disclosed, and to have included the costs of repair in its bid. Bidder must provide a detailed explanation of work intended to be performed under this clause. Bidder shall be required to remedy any pre-existing deficiencies or conditions at the commencement of the contract term. Reimbursement for the cost of repairing the conditions or deficiencies shall be separately enumerated in the bid.

26. SAMPLES

(a) Standard Samples Bid Specifications may indicate that the Product to be purchased must be equal to a standard sample on display in a place designated by the Purchasing Agent and such sample will be made available to the Bidder for examination prior to the opening date. Failure by the Bidder to examine such sample shall not entitle the Bidder to any relief from the conditions imposed by the Bid Documents.

(b) Bidder Supplied Samples The Purchasing Agent reserves the right to request from the Bidder/Contractor a representative sample(s) of the Product offered at any time prior to or after award of a contract. Unless otherwise instructed, samples shall be furnished within the time specified in the request. Untimely submission of a sample may constitute grounds for rejection of bid or cancellation of the Contract. Samples must be submitted free of charge and be accompanied by the Bidders name and address, any descriptive literature relating to the Product and a statement indicating how and where the sample is to be returned. Where applicable, samples must be properly labeled with the appropriate bid or Essex County contract reference.

A sample may be held by the Purchasing Agent during the entire term of the contract and for a reasonable period thereafter for comparison with deliveries. At the conclusion of the holding period the sample, where feasible, will be returned as instructed by the Bidder, at the Bidders expense and risk. Where the Bidder has failed to fully instruct the Purchasing Agent as to the return of the sample (i.e. mode and place of return, etc.) or refuses to bear the cost of its return, the sample shall become the sole property of the receiving entity at the conclusion of the holding period.

(c) Enhanced Samples When an approved sample exceeds the minimum specifications, all Product delivered must be of the same enhanced quality and identity as the sample. Thereafter, in the event of a Contractors default, the Purchasing Agent may procure a commodity substantially equal to the enhanced sample from other sources, charging the Contractor for any additional costs incurred.

(d) Conformance with Sample(s) Submission of a sample (whether or not such sample is tested by, or for, the Purchasing Agent) and approval thereof shall not relieve the Contractor from full compliance with all conditions and terms, performance related and otherwise, specified in the Bid Documents. If in the judgment of the Purchasing Agent the sample or product submitted is not in accordance with the specifications or testing requirements prescribed in the Bid Documents, the Purchasing Agent may reject the bid. If an award has been made, the Purchasing Agent may cancel the contract at the expense of the Contractor.

(e) Testing All samples are subject to tests in the manner and place designated by the Purchasing Agent, either prior to or after contract award. Unless otherwise stated in the Bid Specifications, Bidder Samples consumed or rendered useless by testing will not be returned to the Bidder.

27. ADDENDA / INTERPRETATION No verbal interpretation of the intent of any of the specifications or other Contract Documents will be made before receipt of bids. Requests for interpretations prior to receipt of bids must be presented, in writing, to the Purchasing Agent, 100 Court Street, P.O. Box 217, Elizabethtown, NY 12932, and to be given consideration must be received by the Purchasing Agent at least seven (7) days prior to the date set for the opening of bids.

Any interpretation, and any additional information or instruction will, if issued, be in the form of a written Addendum or Addenda sent to all holders of Contract Documents at the addresses furnished therefor, at least five (5) days prior to the date of the opening of bids.

Failure of any bidder to receive any Addenda shall not relieve such bidder from any obligation under this bid as submitted. All Addenda so issued shall become a part of the Contract Documents.

Bid Evaluation

28. BID EVALUATION The Purchasing Agent reserves the right to accept or reject any and all bids, or separable portions of offers, and waive technicalities, irregularities, and omissions if the Purchasing Agent determines the best interests of the County will be served. The Purchasing Agent, in his/her sole discretion, may accept or reject illegible, incomplete or vague bids and his/her decision shall be final. A conditional or revocable bid which clearly communicates the terms or limitations of acceptance may be considered and contract award may be made in compliance with the Bidders conditional or revocable terms in the offer.

Where a bidder is requested to submit a bid on individual items and/or on a total sum or sums, the right is reserved to award bids on individual items or on total sums. The County reserves the right to award in whole or in part based on the lowest responsible bid.

The following three items will automatically render a bid unacceptable to Essex County:

a. Failure to sign bid proposal page.
b. Failure to include necessary bid deposit (as required).
c. Failure to sign and submit non-collusive bidding certificate.

It shall be fully understood that any deviations from the inclusion of the above items will be grounds to see the bid as non-compliant and will not be considered for award.

The Purchasing Agent reserves the right to reject such bids, as in his opinion, are incomplete, conditional, obscure, or which contain irregularities of any kind including unbalanced bids. One in which the amount bid for one or more separate items is substantially out of line with the current market prices for the materials and/or work covered thereby.

29. CONDITIONAL BID Unless the Bid Specifications provides otherwise, a bid is not rendered non-responsive if the Bidder specifies that the award will be accepted only on all or a specified group of items or Product included in the specification. It is understood that nothing herein shall be deemed to change or alter the method of award contained in the Bid Documents.

30. CLARIFICATIONS / REVISIONS Prior to award, the Purchasing Agent reserves the right to seek clarifications, request bid revisions, or to request any information deemed necessary for proper evaluation of bids from all Bidders deemed to be eligible for contract award. Failure to provide requested information may result in rejection of the bid.

31. PROMPT PAYMENT DISCOUNTS While prompt payment discounts will not be considered in determining the low bid, the Purchasing Agent may consider any prompt payment discount in resolving bids which are otherwise tied. However, any notation indicating that the price is net, (e.g. net 30 days), shall be understood to mean only that no prompt payment discount is offered by the Bidder. The imposition of service, interest, or other charges, except pursuant to the provisions of Article 11_A of the *State Finance Law,* which are applicable in any case, may render the bid non-responsive and may be cause for its rejection.

32. EQUIVALENT OR IDENTICAL BIDS In the event two offers are found to be substantially equivalent, price shall be the basis for determining the award recipient. If two or more Bidders submit substantially equivalent bids as to pricing or other factors, the decision of the Purchasing Agent to award a contract to one or more of such Bidders shall be final.

33. PERFORMANCE QUALIFICATIONS The Purchasing Agent reserves the right to investigate or inspect at any time whether or not the Product, qualifications or facilities offered by the Bidder/Contractor meet the requirements set forth in the Bid Documents. Contractor shall at all times during the contract term remain responsible and responsive. A Bidder/Contractor must be prepared, if requested by the Purchasing Agent, to present evidence of experience, ability and financial standing, as well as a statement as to plant, machinery and capacity of the manufacturer for the production, distribution and servicing of the Product bid. If the Purchasing Agent determines that the conditions and terms of the Bid Documents or Contract are not complied with, or that items or Product proposed to be furnished do not meet the specified requirements, or that the qualifications, financial standing or facilities are not satisfactory, or that performance is untimely, the Purchasing Agent may reject such bid or terminate the contract. Nothing in the foregoing shall mean or imply that it is obligatory upon the Purchasing Agent to make an investigation either before or after award of a contract, but should such investigation be made, it in no way relieves the Bidder/Contractor from fulfilling all requirements and conditions of the contract.

34. DISQUALIFICATION FOR PAST PERFORMANCE Bidder may be disqualified from receiving awards if Bidder, or anyone in Bidders employment, has previously failed to perform satisfactorily in connection with public bidding or contracts.

35. QUANTITY CHANGES PRIOR TO AWARD The Purchasing Agent reserves the right, at any time prior to the award of a specific quantity contract, to alter in good faith the quantities listed in the Bid Specifications to conform with requirements. In the event such right is exercised, the lowest responsible Bidder meeting specifications will be advised of the revised requirements and afforded an opportunity to extend or reduce its bid price in relation to the changed quantities. Refusal by the low Bidder to so extend or reduce its bid price may result in the rejection of its bid and the award of such contract to the lowest responsible Bidder who accepts the revised requirements.

36. RELEASE OF BID EVALUATION MATERIALS Requests concerning the evaluation of bids may be submitted under the *Freedom of Information Law.* Information, other than the Bid Tabulation, shall be released as required by law after contract award. Written requests should be directed to the Purchasing Agent.

37. TIME FRAME FOR OFFERS The Purchasing Agent reserves the right to make awards within sixty (60) days after the date of the bid opening, during which period, bids must remain firm and cannot be withdrawn. If, however, an award is not made within the sixty (60) day period, bids shall remain firm until such later time as either a contract is awarded or the Bidder delivers to the Purchasing Agent written notice of the withdrawal of its bid. Any bid which expressly states therein that acceptance must be made within a shorter specified time, may at the sole discretion of the Purchasing Agent, be accepted or rejected.

TERMS & CONDITIONS

38. CONTRACT CREATION / EXECUTION Except as may be otherwise provided by law or by the Purchasing Agent, upon receipt of all required approvals a Contract shall be deemed executed and created with the successful Bidder(s) upon the Purchasing Agent's mailing or electronic communication to the address on the bid of (a) a Letter of Acceptance, (b) a fully executed contract, or (c) a Purchase Order authorized by the Purchasing Agent.

39. COMPLIANCE WITH LAWS, ETC. The Bidder shall comply with all the provisions of the laws of the State of New York and of the United States of America which affect municipalities and municipal contracts, and any and all State and Federal rules and regulation, and of amendments and additions thereto, insofar as the same shall be applicable to any contract awarded hereunder with the same force and effect as if set forth at length herein. The Bidder's special attention is called to the following laws: *General Municipal Law* Section 1 03-d, *State Finance* Law Section 167-b prohibiting the purchase of tropical hardwood products, and the New York State Public Employee Safety & Health Act of 1980.

40. MODIFICATION OF TERMS The terms and conditions set forth in the Contract shall govern all transactions by Authorized User(s) under this Contract. The Contract may only be modified or amended upon mutual written agreement of the Purchasing Agent and Contractor.

The Contractor may, however, offer Authorized User(s) more advantageous pricing, payment, or other terms and conditions than those set forth in the Contract. In such event, a copy of such terms shall be furnished to the Authorized User(s) and Purchasing Agent by the Contractor.

Other than where such terms are more advantageous for the Authorized User(s) than those set forth in the Contract, no alteration or modification of the terms of the Contract, including substitution of Product, shall be valid or binding against Authorized User(s) unless authorized by the Purchasing Agent or specified in the Contract Award Notification. No such alteration or modification shall be made by unilaterally affixing such terms to Product upon delivery (including, but not limited to, attachment or inclusion of standard pre-printed order forms, product literature, "shrink wrap" terms accompanying software upon delivery, or other documents) or by incorporating such terms onto order forms, purchase orders or other documents forwarded by the Contractor for payment, notwithstanding Authorized Users subsequent acceptance of Product, or that Authorized User has subsequently processed such document for approval or payment.

41. SCOPE CHANGES The Purchasing Agent reserves the right, unilaterally, to require, by written order, changes by altering, adding to or deducting from the contract specifications, such changes to be within the general scope of the contract. The Purchasing Agent may make an equitable adjustment in the contract price or delivery date if the change affects the cost or time of performance.

With respect to any specific quantity stated in the contract, the Purchasing Agent reserves the right after award to order up to 20% more or less (rounded to the next highest whole number) than the specific quantities called for in the contract. Notwithstanding the foregoing, the Purchasing Agent may purchase greater or lesser percentages of contract quantities should the Purchasing Agent and Contractor so agree.

42. ESTIMATED QUANTITY CONTRACTS Estimated quantity contracts are expressly agreed and

understood to be made for only the quantities, if any, actually ordered during the contract term. No guarantee of any estimated quantity(s) is implied or given. Unless otherwise set forth in the Bid Specifications, contracts for services and technology are completely voluntary as to use, and therefore no quantities are guaranteed.

43. BEST PRICING OFFER During the contract term, if substantially the same or a smaller quantity of a Product is sold by the Contractor outside of this contract vehicle upon the same or similar terms and conditions as that of this contract at a lower price, the price under this contract shall be immediately reduced to the lower price.

44. PURCHASE ORDERS Unless otherwise authorized in writing by the Purchasing Agent, no Products are to be delivered or furnished by Contractor until transmittal of an official Purchase Order from the Authorized User requiring the Product. Unless terminated or canceled pursuant to the authority vested in the Purchasing Agent, Purchase Orders shall be effective and binding upon the Contractor when placed in the mail or electronically transmitted prior to the termination of the contract period, addressed to the Contractor at the address set forth in the Contract for receipt of orders, or in the Contract Award Notification.

All Purchase Orders issued pursuant to contracts let by the Purchasing Agent must bear the appropriate contract number and, if necessary, required State approvals. Unless otherwise specified, all Purchase Orders against centralized contracts will be placed by Authorized Users directly with the Contractor and any discrepancy between the terms stated on the vendors order form, confirmation or acknowledgment, and the contract terms shall be
resolved in favor of the terms most favorable to the Authorized User.

If, with respect to an agency specific contract, a Purchase Order is not received within two weeks after the issuance of a Contract Award Notification, it is the responsibility of the Contractor to request in writing that the appropriate Authorized User forward a Purchase Order. If, thereafter, a Purchase Order is not received within a reasonable period of time, the Contractor shall promptly notify the appropriate purchasing officer in Essex County. Failure to timely notify such officer may, in the discretion of the Purchasing Agent and without cost to the State, result in the canceling of such requirement by the Purchasing Agent with, at the Purchasing Agents discretion, a corresponding reduction in the contract quantity and price.

45. PRODUCT DELIVERY It shall be understood that with respect to contract deliveries, time is of the essence. Delivery must be made as ordered and in accordance with the terms of the contract. Unless otherwise specified in the Bid Specifications, delivery shall be made within thirty calendar days after receipt of a purchase order by the Contractor. The decision of the Purchasing Agent as to compliance with delivery terms shall be final. The burden of proof for delay in receipt of Purchase Order shall rest with the Contractor. In all instances of a potential or actual delay in delivery, the Contractor shall immediately notify the Purchasing Agent and the Authorized User, and confirm in writing the explanation of the delay, and take appropriate action to avoid any subsequent late deliveries. Any extension of the time for delivery must be requested in writing by the Contractor and approved in writing by the Purchasing Agent. Failure to meet such time schedule may be grounds for cancellation of the order or, in the Purchasing Agents discretion, the Contract.

The County must be notified twenty-four (24) hours in advance of delivery. The County reserves the right to deny acceptance of delivery if this notice is not given, at no cost to the County.

The successful bidder shall be responsible for delivery of items in good condition at point of destination, and shall file with the carrier all claims for breakage, imperfections, and other losses, which will be deducted from invoices. The Purchasing Agent will note for the benefit of successful bidder when packages are not received in good condition. Carton shall be labeled with purchase order or contract number, successful bidders name and general statement of contents. Failure to comply with this condition shall be considered sufficient reason for refusal to accept the goods.

Unless otherwise stated in the specifications, all items must be delivered into and placed at a point within the building as directed by the shipping instructions or the Purchasing Agent. The successful bidder will be required to furnish proof of delivery in every instance.

Unloading and placing of equipment and furniture is the responsibility of the successful bidder, and the County accepts no responsibility for unloading and placing of equipment Any costs incurred due to the failure of the successful bidder to comply with this requirement will be charged to him. No help for unloading will be provided by the County, and suppliers should notify their truckers accordingly.

All deliveries shall be accompanied by delivery tickets or packing slips. Ticket shall contain the following information for each item delivered:

Contract Number and/or Purchase Order Number
Name of Article
Item Number (if applicable)
Quantity
Name of the Successful Bidder

46. SATURDAY & HOLIDAY DELIVERIES Unless otherwise specified in the Bid Specifications or by an Authorized User, deliveries will not be scheduled for Saturdays, Sundays or legal holidays observed by the State of New York except of Product for daily consumption or where an emergency exists or the delivery is a replacement or is late, in which event the convenience of the Authorized User shall govern.

47. SHIPPING / RECEIPT OF PRODUCT

(a) Packaging Tangible Product shall be securely and properly packed for shipment, storage and stocking in appropriate, clearly labeled shipping containers and according to accepted commercial practice, without extra charge for packing materials, cases or other types of containers. The container shall become and remain the property of the receiving entity unless otherwise specified in the contract documents.

(**b) Shipping Charges** Contractor shall be responsible for insuring that the Bill of Lading states "charges prepaid" for all shipments. Unless otherwise stated in the Bid Specifications, all deliveries shall be deemed to be FOB Destination tailgate delivery at the dock of the Authorized User. Unless otherwise agreed, items purchased at a price F.O.B. Shipping point plus transportation charges are understood to not relieve the contractor from responsibility for safe and proper delivery notwithstanding the Authorized Users payment of transportation charges.

(c) Receipt of Product The Contractor shall be solely responsible for assuring that deliveries are made to personnel authorized to accept delivery on behalf of the Authorized User. Any losses resulting from the Contractors failure to deliver Product to authorized personnel shall be borne exclusively by the Contractor.

48. TITLE AND RISK OF LOSS Notwithstanding the form of shipment, title and risk of loss shall not pass from the Contractor to the Authorized User until the Products have been received, inspected and accepted by the receiving entity. Acceptance shall occur within a reasonable time or in accordance with such other defined acceptance period as may be specified in the Bid Specifications. Mere acknowledgment by Authorized User personnel of the delivery or receipt of goods (e.g. signed bill of lading) shall not be deemed or construed as acceptance of the Products received. Any delivery of Product which is substandard or does not comply with the Contract terms, may be rejected or accepted on an adjusted price basis, as determined by the Purchasing Agent.

49. RE-WEIGHING PRODUCT Deliveries are subject to re-weighing at the point of destination by the receiving entity. If shrinkage occurs which exceeds that normally allowable in the trade, the receiving

entity shall have the option to require delivery of the difference in quantity, or to reduce the payment accordingly.

50. PRODUCT SUBSTITUTION In the event a specified manufacturers Product listed in the Contractors Bid becomes unavailable or cannot be supplied by the Contractor for any reason (except as provided for in the Force Majeure Clause below) a Product deemed by the Purchasing Agent to be the equal or better of the specified commodity or service must be substituted by the Contractor at no additional cost or expense to the Authorized User. Unless otherwise specified, any substitution of Product prior to the Purchasing Agents approval may be cause for cancellation of contract.

51. REJECTED PRODUCT When Products are rejected, they must be removed by the Contractor from the premises of the receiving entity within ten days of notification of rejection by Authorized User. Upon rejection notification, risk of loss of rejected or non-conforming Product shall remain on Contractor. Rejected items not removed by the Contractor within ten days of notification shall be regarded as abandoned by the Contractor, and the Authorized User shall have the right to dispose of the items as its own property. The Contractor shall promptly reimburse the Authorized User for any and all costs and expenses incurred in storage or effecting removal or disposition.

52. INSTALLATION Where installation is required, Bidder shall be responsible for placing and installing the equipment in the required locations. All materials used in the installation shall be of good quality and shall be free from any and all defects which would mar the appearance of the equipment or render it structurally unsound. Installation includes the furnishing of any equipment, rigging and materials required to install or replace the Product in the proper location. The Contractor shall protect the site from damage for all its work and shall repair damages or injury of any kind caused by the Contractor, its employees, officers or agents. If any alteration, dismantling or excavation, etc. is required to effect installation, the Contractor shall thereafter promptly restore the structure or site to its original condition. Work shall be performed so as to cause the least inconvenience to the Authorized User(s) and with proper consideration for the rights of other contractors or workers. The Contractor shall promptly perform its work and shall coordinate its activities with those of other contractors. The Contractor shall clean up and remove all debris and rubbish from its work as required or directed. Upon completion of the work, the building and surrounding area of work shall be left clean and in a neat, unobstructed condition, and everything in satisfactory repair and order.

53. REPAIRED OR REPLACED PRODUCT / COMPONENTS Where the Contractor is required to repair, replace or substitute Product or components under the Contract, the repaired, replaced or substituted Product shall be subject to all terms and conditions for new Product set forth in the contract, including product warranties.

54. ON-SITE STORAGE Materials, equipment or supplies may be stored at the County/s or Authorized User's site at the Contractors sole risk and only with the approval of, as the case may be, the County or the Authorized User.

55. EMPLOYEES / SUBCONTRACTORS / AGENTS All employees, subcontractors or agents performing work under the contract must be trained technicians who meet or exceed the technical and training qualifications set forth in the Bid Specifications or the Bid, whichever is greater, and must comply with all rules and requirements of the Contract. The Purchasing Agent reserves the right to conduct a security background check or otherwise approve any employee or agent furnished by Contractor and to refuse access to or require replacement of any personnel for cause, including but not limited to, technical or training qualifications, quality of work or change in security status or non-compliance with Authorized Users security or other requirements. Such approval shall not relieve the Contractor of the obligation to perform all work in compliance with the contract terms. The Purchasing Agent reserves the right to reject and/or bar from the facility for cause any employee, subcontractor, or agents of the Contractor.

56. ASSIGNMENT / SUBCONTRACTORS The Contractor shall not assign, transfer, convey, sublet, or otherwise dispose of the contract or its right, title or interest therein, or its power to execute such contract to any other person, company, firm or corporation in performance of the contract, other than the assignment of the right to receive moneys due, without the prior written consent of Essex County. Prior to an assignment of the right to receive moneys becoming effective, Contractor shall file a written notice of such assignment simultaneously with Essex County and participating Authorized User(s).

The Purchasing Agent reserves the right to reject any proposed subcontractor, assignee or supplier for bona fide business reasons, which may include, but are not limited to: that the proposed transferee is on the Department of Labors list of companies with which New York State cannot do business; the Purchasing Agent determines that the company is not qualified; unsatisfactory contract performance or service has been previously provided; or attempts were not made to solicit minority and womens business enterprises (M/WBE) bidders for the subcontract.

57. PERFORMANCE / BID BOND Essex County reserves the right to require the Bidder/Contractor to furnish without additional cost, a performance, payment or bid bond or negotiable irrevocable letter of credit or other form of security for the faithful performance of the contract, whenever the Purchasing Agent in his/her sole discretion deems such bond or security to be in Essex County's best interest. Where required, such bond or other security shall be in the form prescribed by the Purchasing Agent.

58. STOP / SUSPENSION OF WORK

(a) Stop Work Order The Purchasing Agent reserves the right to stop the work covered by this contract at any time that the successful Contractor becomes unable or incapable of performing the work or meeting any requirements or qualifications set forth in the contract. In the event of such stopping, the Purchasing Agent shall have the right to arrange for the completion of the work in such manner as it may deem advisable and if the cost thereof exceeds the amount of the bid, the successful Contractor shall be liable for any such cost on account thereof.

(b) Suspension of Work Order The Purchasing Agent, in his/her sole discretion, reserves the right to suspend any or all activities under this contract, at anytime, in the best interests of the State or Issuing Entity. In the event of such suspension, the contractor will be given a formal written notice outlining the particulars of such suspension. Examples of the reason for such suspension include, but are not limited to, a budget freeze on County spending, declaration of emergency, or other such circumstances. Upon issuance of such suspension of work, the Contractor is not to accept any purchase orders, as specified in the Suspension Order. Activity may resume at such time as the Purchasing Agent issues a formal written notice authorizing a resumption of work.

59. CANCELLATION A contract may be canceled by the Purchasing Agent, and/or an Authorized User may cancel its participation, license or service order under the contract, at the Contractors expense upon non-performance, or upon a determination that Contractor is non-responsive, or non-responsible.

60. FORCE MAJEURE The Contractor shall not be responsible for delay resulting from its failure to perform if neither the fault nor negligence of the Contractor, its officers, employees or agents contributed to such delay and the delay is due directly to acts of God, wars, acts of public enemies, strikes, fires or floods, or other similar cause beyond the control of the Contractor, or for any of the foregoing which affect subcontractors or suppliers and no alternate source of supply is available to the Contractor. In such event, Contractor shall notify the Purchasing Agent, by certified or registered mail, of the delay or potential delay and the cause(s) thereof either (a) within ten (10) calendar days after the cause which creates or will create the delay first arose if the Contractor could reasonably foresee that a delay could occur by reason thereof, or (b), if delay is not reasonably foreseeable, within five (5) calendar days after the date the Contractor first had reason to believe a delay could result. The foregoing shall constitute the Contractors sole remedy or excuse with respect to such delay. In the

event performance is suspended or delayed, in whole or in part, by reason of any of the aforesaid causes or occurrences and proper notification is given the Purchasing Agent, any performance so suspended or delayed shall be performed by the Contractor at no increased cost, promptly after such disabilities have ceased to exist unless it is determined in the sole discretion of the Purchasing Agent that the delay will significantly impair the value of the contract to the County or to Authorized Users, whereupon the Purchasing Agent may:

(a) Accept allocated performance or deliveries from the Contractor. The Contractor, however, hereby agrees to grant preferential treatment to County Agencies with respect to Product subjected to allocation; and/or

(b) Purchase from other sources (without recourse to and by the Contractor for the costs and expenses thereof) to replace all or part of the Products which are the subject of the delay, which purchases may be deducted from the contract quantity; or

(c) Terminate the contract or the portion thereof which is subject to delivery delays, and thereby discharge any unexecuted portion of the contract or the relative part thereof.

61. CONTRACT BILLINGS Contractor shall provide complete and accurate billing invoices to each Authorized User in order to receive payment. Billings for Agencies must contain all information required by the County Treasurer and/or Auditor. The County Treasurer shall render payment for Agency purchases, and such payment shall be made in accordance with ordinary County procedures and practices. Payment of contract purchases made by Authorized Users other than Agencies shall be billed directly by Contractor on invoices/vouchers, together with complete and accurate supporting documentation as required by the Authorized User.

Submission of an invoice and payment thereof shall not preclude the Purchasing Agent from reimbursement or demanding a price adjustment in any case where the Product delivered is found to deviate from the terms and conditions of the bid and award documents.

62. DEFAULT - AUTHORIZED USER An Authorized Users breach shall not be deemed a breach of the centralized contract. In the event a participating Authorized User fails to make payment to the Contractor for Products delivered, accepted and properly invoiced, within 60 days of such delivery and acceptance, the Contractor may, upon 10 days advance written notice to both the Purchasing Agent and the Authorized Users purchasing official, suspend additional shipments of Product or provision of services to such entity until such time as reasonable arrangements have been made and assurances given by such entity for current and future contract payments.

Notwithstanding the foregoing, the Contractor shall, at least 10 days prior to declaring a breach of contract by any Authorized User, by certified or registered mail, notify both the Purchasing Agent and the purchasing official of the breaching Authorized User of the specific facts, circumstances and grounds upon which a breach will be declared. It is understood, however, that if the Contractors basis for declaring a breach is insufficient, the Contractors declaration of breach and failure to service an Authorized User shall constitute a breach of its contract and the County or Authorized User may thereafter utilize any remedy available at law or equity.

63. INTEREST ON LATE PAYMENTS

(a) County Agencies The payment of interest on certain payments due and owed by a County agency may be made in accordance with Section 3-a of the *General Municipal Law* at the rate of three percent (3%) per annum.

(b) By Non-County Agencies The terms of Article 11-A apply only to procurements by and the consequent payment obligations of the County. Neither expressly nor by any implication is the County responsible for payments on any purchases made by a Non-County Agency

Authorized User.

(c) By Contractor Should the Contractor be liable for any payments to the County hereunder, interest, late payment charges and collection fee charges will be determined and assessed pursuant to Section 18 of the *State Finance Law to* the same extent as though the contract was with the State of New York rather than the County.

64. REMEDIES FOR BREACH It is understood and agreed that all rights and remedies afforded below shall be in addition to all remedies or actions otherwise authorized or permitted by law:

(a) Cover / Substitute Performance Upon the failure of the Contractor to properly perform within the time specified, failure to provide acceptable service, to make immediate replacement of rejected Product when so requested, or upon the revocation of the Contract by the Purchasing Agent for cause, or upon repudiation of the contract by the Contractor, the Purchasing Agent may, with or without formally bidding same:

i. Purchase from other sources to replace the Product rejected, revoked, not timely delivered or repudiated; or

ii. If after making reasonable attempts, under the circumstances then existing, to timely provide acceptable service or acquire replacement product of equal or comparable quality, the Purchasing Agent is unsuccessful, the Purchasing Agent may acquire acceptable service or replacement product of lesser or greater quality.

Such purchases may, in the discretion of the Purchasing Agent, be deducted from the contract quantity.

(b) Withhold Payment In any case where a question of non-performance by Contractor arises, payment may be withheld in whole or in part at the discretion of the Purchasing Agent. Should the amount withheld be finally paid, a cash discount originally offered may be taken as if no delay in payment had occurred.

(c) Reimbursement of Costs Incurred The Contractor agrees to reimburse the County and/or Authorized User promptly for any and all additional costs and expenses incurred for acquiring acceptable services, and/or replacement Product. Should the cost of cover be less than the contract price, the Contractor shall have no claim to the difference. The Contractor covenants and agrees that in the event suit is successfully prosecuted for any default on the part of the Contractor, all costs and expenses expended or incurred by the County or Authorized User in connection therewith, including reasonable attorneys fees, shall be paid by the Contractor.

Where the Contractor fails to timely deliver pursuant to the guaranteed delivery terms of the contract, the Purchasing Agent may authorize an ordering Authorized User to rent substitute equipment temporarily. Any sums expended for such rental shall, upon demand, be reimbursed to the Authorized User promptly by the Contractor or deducted by the Authorized User from payments due or to become due the Contractor on the same or another transaction.

(d) Deduction / Credit Sums due as a result of these remedies may be deducted or offset by the County or Authorized User from payments due, or to become due, the Contractor on the same or another transaction. If no deduction or only a partial deduction is made in such fashion the Contractor shall pay to the County or Authorized User the amount of such claim or portion of the claim still outstanding, on demand. The Purchasing Agent reserves the right to determine the disposition of any rebates, settlements, restitution, liquidated damages, etc. which arise from the administration of the contract.

65. ASSIGNMENT OF CLAIM Contractor hereby assigns to the County any and all its claims for overcharges associated with this contract which may arise under the antitrust laws of the United States, 15 U.S.C. Section 1, *et seq.* and the antitrust laws of the State of New York, *General Business Law* Section 340, *et seq.*

66. TOXIC SUBSTANCES Each Contractor furnishing a toxic substance as defined by Section 875 of the *Labor Law,* shall provide such Authorized User with not less than two copies of a material safety data sheet, which sheet shall include for each such substance the information outlined in Section 876 of the *Labor Law.*

Before any chemical product is used or applied on or in any building, a copy of the product label and Material Safety Data Sheet must be provided to and approved by the user agency representative.

67. INDEPENDENT CONTRACTOR It is understood and agreed that the legal status of the Contractor, its agents, officers and employees under this Contract is that of an independent contractor, and in no manner shall they be deemed employees of the County or Authorized User, and therefore are not entitled to any of the benefits associated with such employment. The Contractor agrees, during the term of this contract, to maintain at Contractors expense those benefits to which its employees would otherwise be entitled by law, including health benefits, and all necessary insurance for its employees, including workers compensation, disability and unemployment insurance, and to provide the Authorized User with certification of such insurance upon request. The Contractor remains responsible for all applicable federal, state and local taxes, and all FICA contributions.

68. SECURITY / CONFIDENTIALITY Contractor warrants, covenants and represents that it will comply fully with all security procedures of the County and any Authorized User(s) in performance of the Contract.

Contractor further warrants, covenants and represents that any confidential information obtained by Contractor, its agents, subcontractors, officers, or employees in the course of performing its obligations, including without limitation, security procedures, business operations information, or commercial proprietary information in the possession of the County or any Authorized User hereunder or received from another third party, will not be divulged to any third parties. Contractor shall not be required to keep confidential any such confidential material which is publicly available through no fault of Contractor, independently developed by Contractor without reliance on confidential information of the County or Authorized User, or otherwise obtained under the Freedom of Information Act or other applicable New York State Laws and Regulations. This warranty shall survive termination of this Contract for a period of five (5) years. Contractor further agrees to take appropriate steps to instruct its personnel, agents, officers and any subcontractors regarding the obligations arising under this clause to insure such confidentiality.

69. COOPERATION WITH THIRD PARTIES The Contractor shall be responsible for fully cooperating with any third party agents, including but not limited to subcontractors of the Authorized User, relating to delivery of product or coordination of services.

70. CONTRACT TERM - EXTENSION In addition to any stated renewal periods in the Contract, any contract or unit portion thereof let by the Purchasing Agent may be extended by the Purchasing Agent for an additional period(s) of up to one year (cumulatively) with the written concurrence of the Contractor.

71. WARRANTIES & GUARANTEES Contractor hereby warrants and guarantees:

(a) To fully defend, indemnify and save harmless the County, Authorized Users and their respective officers, agents and employees from suits, actions, damages and costs of every name and description arising out of the acts or omissions of Contractor, its officers, employees,

subcontractors, partners, or agents, in any performance under this contract including: i) personal injury, damage to real or personal tangible or intangible property, without limitation; ii) negligence, either active or passive, without limitation, or iii) infringement of any law or of a United States Letter Patent with respect to the Products furnished, or of any copyright, trademark, trade secret or other third party intellectual proprietary rights, without limitation, provided that the County or Authorized User shall give Contractor: (a) prompt written notice of any action, claim or threat of infringement suit, or other suit, promptness of which shall be established by Authorized User upon the furnishing of written notice and verified receipt, (b) the opportunity to take over, settle or defend such action, claim or suit at Bidders sole expense, and (c) assistance in the defense of any such action at the expense of Contractor. Where a dispute or claim arises relative to a real or anticipated infringement, the County or Authorized User may require Bidder/Contractor, at its sole expense, to submit such information and documentation, including formal patent attorney opinions, as the Purchasing Agent shall require.

(b) Contractor warrants full ownership, clear title free of all liens, or perpetual license rights to any Products transferred to Authorized User under this Contract, and Contractor shall be solely liable for any costs of acquisition associated therewith without limitation. Contractor warrants that Authorized User will have undisturbed, peaceful use of the Products, including, without limitation, software, object or source codes, custom programming or third party intellectual property rights incorporated or embedded therein, and training modules or Documentation. Contractor fully indemnifies the County and Authorized User for any loss, damages or actions arising from a breach of said warranty without limitation.

(c) To pay, at its sole expense, all applicable permits, licenses, tariffs, tolls and fees and give all notices and comply with all laws, ordinances, rules and regulations of any governmental entity in conjunction with the performance of obligations under the contract.

(d) Unless recycled or recovered materials are available in accordance with the "Recycled & Recovered Materials" clause, Product offered shall be standard new equipment, current model of regular stock product with all parts regularly used with the type of equipment offered; and no attachment or part has been substituted or applied contrary to the manufacturers recommendations and standard practice. Every Product, including any substituted or replacement unit delivered, must be guaranteed against faulty material and workmanship for a period of one year from and after the date the unit is accepted unless otherwise specified by the County or Authorized User. Notwithstanding the foregoing, when the manufacturers standard guarantee for Product or any component thereof exceeds one year, the longer guarantee period shall apply to such unit or component thereof delivered under this contract. Furthermore, the Contractor agrees to extend its warranty period with regard to any Product delivered by the cumulative periods of time, after notification, during which the Product requires servicing or replacement (down time) or is in the possession of the Contractor, its agents, officers or employees. If during the regular or extended warranty periods faults develop, the Contractor shall promptly repair or, upon demand, replace the defective unit or component part affected. All costs for labor and material and transportation incurred to repair or replace defective goods during the warranty periods shall be borne solely by the Contractor, and the County or Authorized User shall in no event be liable or responsible therefore. This warranty shall survive any termination of the contract in accordance with the warranty term.

(e) Where the provision of services requires the replacement or repair of Product, any replaced or repaired component, part or Product shall be new and shall, if available, be replaced by the original manufacturers component, part or Product. All proposed substitutes for the original manufacturers installed Product must be approved by the Authorized User before installation. The Product or part shall be equal to or of better quality than the original Product being replaced. Any Product replaced by the Contractor under the contract shall be guaranteed for one (1) year from the date of replacement and replaced at no cost to the Authorized User if found defective during that time.

(f) Prior to award and during the Contract term and any renewals thereof, Contractor must establish to the satisfaction of the Purchasing Agent that it meets or exceeds all requirements of the bid and any applicable laws, including but not limited to, permits, insurance coverage, licensing, proof of coverage for workman's compensation, and shall provide such proof as required by the Purchasing Agent. Failure to do so may constitute grounds for the County to cancel or suspend this contract, in whole or in part, or to take any other action deemed necessary by the Purchasing Agent.

The Contractor further warrants and guarantees:

i. His/Her/Its products against defective material or workmanship and to repair or replace any damages or marring occasioned in transit.

ii. To furnish adequate protection from damage for all work and repair damages of any kind for which he or his workmen are responsible, to the building or equipment, to his own work, or to the work of other successful bidders.

iii. To carry adequate insurance to protect the County from loss in case of accident, fire, theft, etc.

iv. That all deliveries will be equal to the accepted bid sample.

v. That the equipment delivered is standard, new, latest model of regular stock product or as required by the specifications; also that no attachment or part has been substituted or applied contrary to manufacturer's recommendations and standard practice. Every unit delivered must be guaranteed against faulty material and workmanship for a period of at least one year from date of delivery. If during this period such faults develop, the successful bidder agrees to replace the unit or the part affected without cost to the County. Any merchandise provided under the contract which is or becomes defective during the guarantee period shall be replaced by the successful bidder free of charge with the specific understanding that all replacements shall carry the same guarantee as the original equipment The successful bidder shall make any such replacement immediately upon receiving notice from the County.

vi. That all manufacturers product warranties and guarantees shall be furnished to the County, and that the County's rights thereunder shall not be in any way impaired or limited.

72. YEAR 2000 WARRANTY The following Year 2000 warranty applies to procurements of:

A) **Product,** including: i) equipment incorporating embedded software or other technology (e.g. copiers, elevators, security systems), ii) software, or iii) other technology; or

B) **Services** including: i) consulting, integration, code or data conversion ii) maintenance or support services, iii) data entry or processing, or iv) contract administration services (e.g. billing, invoicing, claim processing).

This Year 2000 Warranty shall survive beyond termination or expiration of the Contract through: a) one year, b) December 31, 2000, or c) the Contractor or Third Party Manufacturers stated Year 2000 warranty term, whichever is longer. Nothing in this warranty statement shall be construed to limit any rights or remedies otherwise available under this Contract for breach of warranty.

(a) **Definitions** For purposes of this warranty, the following definitions shall apply:

i. **"Product"** shall include, without limitation: any piece or component of equipment, hardware, firmware, middleware, custom or commercial software, or internal

components or subroutines therein which perform any date/time data recognition function, calculation, comparing or sequencing. Where services are furnished (e.g., maintenance, consulting, systems integration, code or data conversion, data entry) the term "Product" shall include resulting deliverables.

ii. "Contractors Product" shall include all Product delivered under this Contract by Contractor other than Third Party Products.

iii. "Third Party Product" shall include product manufactured or developed by a corporate entity independent from Contractor and provided by Contractor on a non-exclusive licensing or other distribution agreement with the third party manufacturer. "Third Party Product" does not include product where Contractor is: (a) a corporate subsidiary or affiliate of the third party manufacturer/developer; and/or (b) the exclusive re-seller or distributor of product manufactured or developed by said corporate entity.

(b) Warranty Disclosure At the time of bid for individual or agency specific contracts, or at the time of ordering Product or Product quote for Essex County centralized contracts, Contractor must disclose in writing to Authorized User:

i. For Contractor Product and Products (including, but not limited to, Contractor and/or Third Party Products and/or Authorized Users Installed Products) which have been specified to perform as a system: Compliance or non-compliance of the Products individually and as a system with the Warranty set forth below; and

ii. For Third Party Product not specified to perform as part of a system: compliance on the grounds that the Contractor has passed-through the third party manufacturer Year 2000 Warranty or non-compliance based upon the fact that a) Contractor indicates that they can not pass through the third party manufacturers Year 2000 Warranty or b) there is no third party manufacturers Year 2000 Warranty to pass through.

NOTE: AN ABSENCE OR FAILURE TO FURNISH THE REQUIRED WRITTEN WARRANTY DISCLOSURE SHALL BE DEEMED A STATEMENT OF COMPLIANCE BY THE CONTRACTOR OF THE PRODUCT(S) OR SYSTEM(S) IN QUESTION WITH THE YEAR 2000 WARRANTY STATEMENT SET FORTH BELOW.

(c) Year 2000 Warranty Year 2000 Warranty "compliance" shall be defined in accordance with the following warranty statement:

Warranty Statement: Contractor warrants that Product(s) furnished pursuant to this Contract shall, when used in accordance with the Product documentation, be able to accurately process date/time data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the years 1999 and 2000, including leap year calculations. Where a purchase requires that specific Products must perform as a package or system, this warranty shall apply to the Products as a system.

In the event of any breach of this warranty, Contractor shall restore the Product to the same level of performance as warranted herein, or repair or replace the Product with conforming Product so as to minimize interruption to Authorized Users ongoing business processes, time being of the essence, at Contractors sole cost and expense. This warranty does not extend to correction of Authorized Users errors in data entry or data conversion.

(d) YEAR 2000 Warranty on Services Where Contractor is providing ongoing services,

including but not limited to: i)consulting, integration, code or data conversion ii) maintenance or support services, iii) data entry or processing, or iv) contract administration services (e.g. billing, invoicing, claim processing), in addition to the foregoing Year 2000 warranty on service deliverables, Contractor warrants that services shall be provided in an accurate and timely manner without interruption, failure or error due to the inaccuracy of Contractors business operations in processing date/time data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the years 1999 and 2000, including leap year calculations. Contractor shall be responsible for damages resulting from any delays, errors or untimely performance resulting therefrom, including but not limited to the failure or untimely performance of such services.

GENERAL

73. APPLICABILITY In addition to the terms contained in **Part I** *(General - All Procurements),* the terms contained in **Part II *(Software & Technology Procurements)*** apply to software and technology procurements.

74. DEFINITIONS - Part II

DOCUMENTATION The complete set of manuals (e.g. user, installation, instruction or diagnostic manuals) in either hard or electronic copy, necessary to enable an Authorized User to properly test, install, operate and enjoy full use of the Product in accordance with the license rights.

ENTERPRISE The business operations in the United States of a Licensee or Enterprise Participant, without regard to geographic location where such operations are performed or the entity actually performing such operations on behalf of Licensee or Enterprise Participant. For the County of New York, "business operations" shall be defined as the business operations of all Agencies, as defined in Part I.

ENTERPRISE LICENSE A contract which grants Enterprise Participants unlimited license rlghts to access, use and/or execute Product within the Enterprise.

ENTERPRISE PARTICIPANTS One or more Licensees, as defined in Part I, participating in an Enterprise License.

LICENSE EFFECTIVE DATE The date Product is delivered to an Authorized User. Where a License involves Licensees right to copy a previously licensed and delivered Master Copy of a Program, the license effective date for additional copies shall be deemed to be the date on which the Purchase Order is executed.

LOGICAL PARTITION A subset of the processing power within a CEC which has been divided through hardware and/or software means (i.e. *Processor Resources/System Manager* [PR/SM]) so as to limit the total processing power which is accessible by an operating system image by individual users or individual software products.

OBJECT CODE The machine executable code that can be directly executed by a computers central processing unit(s).

PHYSICAL PARTITION A subset of the processing power within a CEC which has been derived through hardware means so as to limit the total processing power accessible by an operating system image by individual users or individual Products.

SITE The location (street address) where Product will be executed.

SOURCE CODE The programming statements or instructions written and expressed in any language

understandable by a human being skilled in the art which are translated by a language compiler to produce executable machine Object Code.

TERMS OF LICENSE The terms and conditions set forth in the Contract which are in effect and applicable to a Product order at the time of order placement, and only such additional terms as are consistent therewith or more advantageous to the Authorized User as are set forth on the individual Product order form executed and approved by both Authorized User and Contractor.

VIRUS Any computer code, whether or not written or conceived by Contractor, which disrupts, disables, harms, or otherwise impedes in any manner the operation of the Product, or any other associated software, firmware, hardware, or computer system (such as local area or wide-area networks), including aesthetic disruptions or distortions, but does not include security keys or other such devices installed by Product manufacturer.

TERMS AND CONDITIONS

75. SOFTWARE LICENSE GRANT *Unless otherwise set forth in the Bid Specifications or Contract, where Product is acquired on a licensed based the following shall constitute the license grant:*

(a) License Scope Licensee is granted a non-exclusive, perpetual license to use, execute, reproduce, display, perform, or merge the Product with other product within its business enterprise in the United States. Licensee shall ha\~e the right to use and distribute modifications or customizations of the Product to and for use by any Authorized Users otherwise licensed to use the product, provided that any modifications, however extensive, shall not diminish manufacturers proprietary title or interest. No license, right or interest in any trademark, trade name, or service mark is granted hereunder.

(b) License Term The license term shall commence upon the License Effective Date. Where the terms of license permit licensing on a non-perpetual basis, the license term stated in the Contract shall be extended by the time periods allowed for testing and acceptance.

(c) Licensed Documentation Contractor hereby grants to Licensee a perpetual license right to make, reproduce (including downloading electronic copies of the Product) and distribute, either electronically or otherwise, copies of Product Documentation as necessary to enjoy full use of the Product. If commercially available, Licensee shall have the option to require the Contractor to deliver, at Contractors expense: a) One (1) hard copy and One (1) Master Electronic Copy of the Documentation in diskette or CD-ROM format; or b) hard copies of the Product Documentation by type of license in the following amounts, unless otherwise mutually agreed:

- Individual/Named User License – 1 copy per License
- Concurrent Users – 8 copies per site
- Processing Capacity – 8 copies per site

(d) Product Use Product may be accessed, used, executed, reproduced, displayed, performed by Licensee to service all Authorized Users of the machine on which Product is installed, up to the capacity measured by the applicable licensing unit stated in the terms of license (i.e. payroll size, number of employees, CPU, MIPS, MSU, concurrent user, workstation).

(e) Permitted License Transfers As Licensee's business operations may be altered, expanded or diminished, licenses granted hereunder may be transferred or combined for use at an alternative or consolidated Authorized User site not originally specified in the license, including transfers between Agencies ("permitted license transfers"). Licensee(s) do not have to obtain the approval of Contractor for permitted license transfers, but must give thirty (30) days

prior written notice to Contractor of such move(s) and certify in writing that the Product is not in use at the prior site. There shall be no additional license or other transfer fees due Contractor, provided that: i) the maximum capacity of the consolidated machine is equal to the combined individual license capacity of all licenses running at the consolidated or transferred site. (e.g., named users, seats, or MIPS); and ii) that, if the maximum capacity of the consolidated machine is greater than the individual license capacity being transferred, a logical or physical partition or other means of restricting access will be maintained within the computer system so as to restrict use and access to the Product to that unit of licensed capacity solely dedicated to beneficial use for Licensee.

(f) Restricted Use By Outsourcers / Facilities Management, Service Bureaus / or Other Third Parties Outsourcers, facilities management or service bureaus retained by Licensee shall have the right to use the Product to maintain Licensee's business operations, including data processing, for the time period that they are engaged in such activities, provided that: 1) Licensee gives notice to Contractor of such party, site of intended use of the Product, and means of access; and 2) such party has executed, or agrees to execute, the Product manufacturers standard nondisclosure or restricted use agreement which executed agreement shall be accepted by the Contractor ("NonDisclosure Agreement"); and 3) if such party is engaged in the business of facility management, outsourcing, service bureau or other services, such third party will maintain a logical or physical partition within its computer system so as to restrict use and access to the program to that portion solely dedicated to beneficial use for Licensee. In no event shall Licensee assume any liability for third partys compliance with the terms of the Non-Disclosure Agreement, nor shall the Non-Disclosure Agreement create or impose any liabilities on the County or Licensee.

Any third party with whom a Licensee has a relationship for a state function or business operation, shall have the temporary right to use Product (using, for example, but not limited to, JAVA Applets), provided that such use shall be limited to the time period during which the third party is using the Product for the stated function or business activity.

(g) Archival Back-Up and Disaster Recovery Licensee may use and copy the Product and related Documentation in connection with: 1) reproducing a reasonable number of copies of the Product for archival backup and disaster recovery procedures in the event of destruction or corruption of the Product or disasters or emergencies which require Licensee to restore backup(s) or to initiate disaster recovery procedures for its platform or operating systems; 2) reproducing a reasonable number of copies of the Product and related documentation for cold site storage. "Cold Site" storage shall be defined as a restorable back-up copy of the Product not to be installed until and alter the declaration by the Licensee of a disaster; 3) reproducing a back-up copy of the Product to run for a reasonable period of time in conjunction with a documented consolidation or transfer otherwise allowed under paragraph (F) above. "Disaster Recovery" shall be defined as the installation and storage of Product in ready-to-execute, back-up computer systems prior to disaster or breakdown which is not used for active production or development.

(h) Confidentiality Restrictions The Product is a trade secret and proprietary product. Licensee and its employees will keep the Product strictly confidential, and Licensee will not disclose or otherwise distribute or reproduce any Product to anyone other than as authorized under the terms of license. Licensee will not remove or destroy any proprietary markings of Contractor.

(i) Restricted Use by Licensee Except as expressly authorized by the terms of license, Licensee shall not:

a. Copy the Product;

b. Cause or permit reverse compilation or reverse assembly of all or any portion of the Product;

c. Distribute, disclose, market, rent, lease or transfer to any third party any portion of the Product or the Documentation, or use the Product or Documentation in any service bureau arrangement;

d. Disclose the results of Product performance benchmarks to any third party who is not an Authorized User without prior notice to Contractor;

e. Export the Licensed Software in violation of any U.S. Department of Commerce export administration regulations.

76. ENTERPRISE LICENSE OPTION FOR SOFTWARE Multiple Authorized Users may license any Product offered under the Contract on behalf of their collective business operations. An Enterprise License shall incorporate the terms set forth in this Part II and the pricing set forth in the Contract, and additionally the following terms:

(a) Enterprise – Defined Any Authorized User may be an Enterprise Participant. Enterprise Participants will be enumerated in the Enterprise License, including: i) contact name, ship to and main billing address of each Enterprise Participant, ii) street address of the included End User sites of each Enterprise Participant. The originally defined Enterprise may be modified at any time thereafter, including deletion or addition of Enterprise Participants, sites ownership to" locations, provided that Contractor is given written notice and that any additional capacity required by such addition is licensed in accordance with the Enterprise License terms.

(b) Product Use Product licensed under this Enterprise Option shall be licensed with the rights set forth in this Part II, without reference to a specific designated system or Licensee, up to the maximum licensed capacity. Product may be used and freely transferable anywhere within the defined Enterprise, including higher or lower performance machines, and Enterprise Participants will not incur an increase in license, support or other charges provided that the aggregate utilization of the Product does not exceed the aggregate Enterprise Licensed capacity.

(c) Submission of Orders, Billing and Usage Reporting An Enterprise may be established for order placement and billing as either a "single" or "multiple" point of contact, at Licensees option. Where designated as a "single", one Enterprise Participant shall be designated as the lead agency and central point for submission of Purchase Orders, usage reporting and billing. Where designated as "multiple" point of contact, each designated Enterprise Participant shall be responsible for submission of Purchase Orders, reporting and billing with regard to its use of Enterprise Licensed Product. For either single or multiple point of contact Enterprises, a) Contractor agrees to hold each Enterprise Participant solely responsible for payment and performance; and b) Contractor shall be responsible for furnishing an annual report to each designated point of contact summarizing overall Enterprise License activity for the preceding twelve months.

(d) Shipping / Delivery Contractor shall be responsible for delivery of Master Copies of Enterprise Licensed Product and documentation to Enterprise Participants. Within either "Single" or "Multiple" Enterprise Licenses, shipping and delivery of Master Copies of Product and Documentation shall be the responsibility of Contractor to each "ship to" location specified on the Purchase Order(s). Distribution and installation of Enterprise Licensed Product to End Users at a site shall be the responsibility of the Licensee.

(e) Enterprise Operating Systems Unless otherwise specified by the parties, up to ten (10) hardware/operating system combinations for Product shall be included at no additional charge.

The initial ten hardware/operating systems may be specified at any time within five (5) years of the Enterprise License effective date. Additional hardware/operating systems beyond the initial ten (10) may be specified at anytime by the Enterprise, however if additional copies of Product are required for hardware/operating systems beyond the initial ten, the cost for such systems will be as mutually agreed between the parties.

(f) Product Acceptance Each Enterprise Participant shall have a right of acceptance, as set forth above in this Part II, only for the first copy of Product for its site(s).

(g) Enterprise Fees Enterprise License Fees shall be set forth in the Contract. Notwithstanding the foregoing, the Product license fees for additional copies or units of capacity for Enterprise licensed Product shall not increase by more than six percent (6%) annually each year during the Enterprise License term. Contractor may offer additional discounts/incentives for Enterprise Participants as may be mutually agreed between the parties. Enterprise Participants shall be entitled to aggregate the volume of all Enterprise Participants for purposes of establishing any applicable discounts under the Contract, and Enterprise Licensed Volume shall be aggregated with volume of non-Enterprise Licensed Product otherwise purchased under the centralized Contract. Upon termination of the Enterprise, Enterprise Participants have the right to acquire additional capacity or users at the Enterprise License price for twelve months after the termination of the Enterprise License.

(h) Technical Support Unless otherwise mutually agreed, technical support is optional and may be elected individually by Product by each Enterprise Participant. Where an Enterprise Participant is under a current maintenance or technical support contract, such Enterprise Participant shall be entitled to credit any support paid covering any portion of the Enterprise License Term to the fees due under the Enterprise license.

Enterprise Participants shall have the right to partially or wholly de-support a subset of unused Enterprise licensed capacity upon written notice to Contractor at the end of any then - current technical support term without penalty or charge. The capacity for a Program license which has been de-supported must remain inactive and may not be used within the Enterprise unless technical support for such capacity has been reinstated. In the event of de-support, Contractor reserves the right to reasonably determine compatibility of future releases or new programs prior to shipment.

(i) Merger of Two or More Enterprises Two or more Enterprises may be merged to form a larger Enterprise for the purpose of sharing and exchanging data at no additional license fee provided that participants give Contractor notice of such merger and that the combined capacity does not exceed the maximum capacity of the individual licenses.

(j) "Nested" Enterprises Individual Enterprise License participant(s) may license additional capacity or products for the specific use of a subset of the larger enterprise. Said participant(s) must certify in writing to Contractor that such use is only by the enumerated subset of participants.

(k) Default A default by any Enterprise Participant shall entitle the Contractor to the remedies against such participant under the Contract, but shall not be deemed a default by the remaining non-defaulting Enterprise Participants.

77. PRODUCT ACCEPTANCE Unless otherwise provided in the Bid Specifications, the County and/or Authorized User(s) shall have sixty (60) days from delivery to accept Product. Failure to provide notice of acceptance or rejection by the end of the period provided for under this clause would constitute acceptance by the County or Authorized User(s) as of the expiration of that period.

Unless otherwise provided in the Bid Specifications, The County or Authorized User shall have

the option to run acceptance testing on the Product prior to acceptance, such tests and data sets to be specified by User. Where using its own data or tests, The County or Authorized User must have the tests or representative set of data available upon delivery. This demonstration will take the form of a documented installation test, capable of observation by the County or Authorized User, and shall be made part of the Contractors standard documentation. The test data shall remain accessible to the County or Authorized User after completion of the test.

In the event that the documented installation test cannot be completed successfully within sixty (60) days from delivery, and the Contractor or Product is responsible for the delay, The County or Authorized User shall have the option to cancel the order in whole or in part, or to extend the testing period for another sixty (60) day increment. The County or Authorized User shall notify Contractor of acceptance upon successful completion of the documented installation test. Such cancellation shall not give rise to any cause of action against the County or Authorized User for damages, loss of profits, expenses, or other remuneration of any kind.

Costs and liabilities associated with a failure of the Product to perform in accordance with the functionality tests or product specifications during the acceptance period shall be borne fully by Contractor to the extent that said costs or liabilities shall not have been caused by negligent or willful acts or omissions of the The County or Authorized Users agents or employees. Said costs shall be limited to fees paid to Contractor, if any, or any liability for costs incurred at the direction or recommendation of Contractor.

78. AUDIT OF LICENSED PRODUCT USAGE Contractor shall have the right to periodically audit, at its expense, use of licensed Product at any site where a copy of the Product resides provided that: i) Contractor gives Licensee or Enterprise Participants at least thirty (30) days advance notice, ii) such audit is conducted during such party's normal business hours iii) each Licensee or Enterprise Participant is entitled to designate a representative who shall be entitled to participant and simultaneously review all information obtained by the audit, and shall be entitled to copies of all reports, data or information obtained by the Contractor; and iv) if the audit shows that such party is not in compliance such party shall be liable for the unlicensed capacity and shall be required to purchase the additional units or rights necessary to bring it into compliance.

79. OWNERSHIP / TITLE TO CUSTOM PRODUCTS OR PROGRAMMING Where contract deliverables include custom products or programming, title, rlghts and interests to such Product(s) shall be determined as follows:

(a) Definitions

Product For purposes of this section, the term "Product" shall have the meaning set forth in Part I of these *General Specifications,* which includes, but is not limited to: software applications or programming, programming tools, documentation ~including user or training manuals), modules, interfaces, templates, and other elements such as utilities, subroutines, algorithms, formulas, source code, object code, reports, drawings, or data.

"Existing Product" is defined as any proprietary material(s) existing or developed independently and not at the expense of Licensee.

"Custom Product" is defined as any material(s), exclusive of Existing Product, created, prepared, written, compiled or developed by Contractor, or anyone acting on his behalf for The County or Authorized User pursuant to the Contract.

(b) Contractor or Third Party Manufacturers Title to Existing Product Title to Existing Product(s) does not transfer. With respect to such Existing Product(s), whether embedded in or operating in conjunction with Custom Product, Contractor warrants: a) all right, title and interest in Contractors Existing Product(s); or b) all license rights, title and interest in third party Existing

Product(s), which include the right to grant to The County or Authorized User an irrevocable, non-exclusive, worldwide, paid-up license to use, execute, reproduce, display, perform, and distribute Existing Product(s). Contractor hereby grants a irrevocable, non-exclusive, worldwide, paid-up license to use, execute, reproduce, display, perform, and distribute Existing Product(s) embedded in or transferred for use in conjunction with Custom Product(s). The Licensee agrees to reproduce the copyright notice and any other legend of ownership on any copies made under the license granted under this paragraph prior to distribution or use.

(c) Title to Custom Product Title to Custom Product(s), excluding Existing Product, shall be deemed the sole and exclusive property of the County or Authorized User, who shall have all right, title and interest (including ownership and copyrights). For the purposes of the federal copyright law, execution of this contract shall constitute an assignment of all right, title and interest in the Custom Product(s) by Contractor to the County or Authorized User. The County or Authorized User, in its sole discretion, reserves the right to sell Custom Product or to license them on an exclusive or non-exclusive basis to Contractor or other Third Parties. Contractor hereby agrees to take all necessary and appropriate steps to ensure that Custom Product is protected against unauthorized use, execution, reproduction, display, performance, or distribution by or through Contractor, its partners or agents. Notwithstanding this reservation of title, Contractor shall not be precluded from using the related or underlying general knowledge, skills and experience developed in the course of providing the Custom Product in the course of Contractor's business.

(d) Acquisitions Funded By Tax Exempt Financing In addition to the foregoing rights under a, b and c, the sale or licensing of Custom Product or rights therein shall not occur until such Product or rights are or become useable, and shall be at fair market value which shall be determined at the time of sale or licensing. Any such transfer shall be pursuant to a separate written agreement. If the Contract deliverables are to be funded through tax exempt financing, the County or Authorized User may assign to a Trustee or other entity for security purposes County or Authorized Users ownership and license rights in Custom and Existing Products. Contractor will cooperate with the County or Authorized User to execute such other documents as may be appropriate to achieve the objectives of this paragraph.

(e) Other Acquisitions (Not Funded by Tax Exempt Financing) In addition to the rights set forth above (paragraphs "a", "b" and "c"), the County or Authorized User reserves the right to transfer any or all rights to Custom Materials on an exclusive or non-exclusive basis. Where such transfer (sale or licensing) is provided in the Bid Specifications, Contractor shall include a purchase price for such rights in its bid. Such price shall be offered as a deduction from Contractor's overall Bid or Project Bid price, and shall be weighted as set forth in the bid evaluation criteria, if any. Such rights shall transfer to the successful Bidder/Contractor upon successful completion and acceptance by the County or Authorized User of all contract deliverables. Contractor will cooperate with the County or Authorized User to execute such other documents as may be appropriate to achieve the objectives of this paragraph.

80. PROOF OF LICENSE The Contractor must provide to each Licensee who places a Product order either: a) the Product manufacturer's certified License Confirmation Certificates in the name of each such Licensee; or b) a written confirmation from the Product manufacturer accepting Contractors Product invoice as proof of license. Bidder or Contractor shall submit a sample manufacturers certificate, or alternatively such written confirmation from the manufacturer, with the Bid or Contract. Such certificates must be in a form acceptable to the Licensee.

81. PRODUCT VERSION Product orders shall be deemed to reference Manufacturers most recently released model or version of the Product at time of delivery, unless an earlier model or version is specifically requested in writing by the County or Authorized User and Contractor is willing to provide such version.

82. MIGRATION TO CENTRALIZED CONTRACT The County or Authorized User may obtain

additional Product authorized under this contract, (e.g., licensed capacity upgrades, new releases, documentation, maintenance, consulting or training) whether or not Product was initially obtained independently of this contract. The County or Authorized Users election to obtain additional Product shall not operate to diminish, alter or extinguish rights previously granted.

83. NOTICE OF PRODUCT DISCONTINUANCE In the event that a Product manufacturer proposes to discontinue maintenance or support for Product, Contractor shall (1) notify the County and each Authorized User in writing of the intended discontinuance, and (2) continue to provide maintenance and support for the greater of: a) the best terms offered by Contractor to any other customer, or b) not less than eighteen (18) months from the date of notice, and (3) at The County or Authorized Users option, either a) provided that the County or Authorized User is under maintenance, provide the County or Authorized User with either a Product replacement with equivalent functionality at no additional charge, or b) provide County or Authorized User with the source code for Licensed Product at no additional charge to enable it to continue use and maintenance of the Product.

84. REINSTATEMENT OF MAINTENANCE The County or Authorized User shall not be required to purchase maintenance for use of Product, and may discontinue maintenance at the end of any current maintenance term upon written notice to Contractor. In the event that The County or Authorized User discontinues maintenance of licensed Product, it may, at any time thereafter, reinstate maintenance for Product without any additional penalties or other charges, by paying Contractor at rates which would have been due under the contract for the period of time that such maintenance had lapsed, or for twelve months, whichever is less.

85. NO HARDSTOP / PASSIVE LICENSE MONITORING Contractor hereby represents, warrants and covenants that the Product and all Upgrades do not and will not contain any computer code that would disable the Product or Upgrades or impair in any way its operation based on the elapsing of a period of time, exceeding an authorized number of copies, advancement to a particular date or other numeral, or other similar self-destruct mechanisms (sometimes referred to as "time bombs", "time locks", or "drop dead" devices) or that would permit Contractor to access the Product to cause such disablement or impairment (sometimes referred to as a "trap door" device). Contractor agrees that in the event of a breach or alleged breach of this provision that The County or Authorized User shall not have an adequate remedy at law, including monetary damages, and that The County or Authorized User shall consequently be entitled to seek a temporary restraining order, injunction, or other form of equitable relief against the continuance of such breach, in addition to any and all remedies to which The County or Authorized User shall be entitled.

86. ADDITIONAL WARRANTIES / GUARANTEES Where Contractor or Product manufacturer offers additional or more advantageous warranties than set forth herein, Contractor shall offer or pass through any additional or more advantageous warranties to The County or Authorized Users. In addition to the 'Warranties/Guarantees" set forth in Part I, Contractor makes the following warranties.

(a) Product Performance Warranty Contractor represents and warrants that the Products delivered pursuant to this contract conform to the manufacturers specifications, performance standards, and documentation and that the documentation fully describes the proper procedure for using the Products in an efficient manner. Contractor does not warrant that software is error-free.

In the event that Contractor does not remedy a substantial breach of this warranty within the cure period, Licensee shall also have the right to terminate any payments due Contractor, with a refund of the any fees prospectively paid from the date of breach.

(b) Year 2000 Warranty For all procurements of Product, Contractor must furnish a warranty statement in accordance with the NYS Standard Year 2000 Warranty Compliance Statement set forth in Part I at the time of bid for agency specific contracts or product order for centralized contracts.

(c) Virus Warranty Contractor represents and warrants that Licensed Software contains no known viruses. Bidder is not responsible for viruses introduced at Licensees site. For purposes of this provision, "Virus" shall have the meaning set forth in Part II, "Definitions".

A breach of any of the foregoing shall be deemed a material breach of the Contract or any License granted thereunder. The defaulting party shall be given written notice of a warranty breach under this section and shall have a thirty (30) day period to cure such breach.

87. INDEMINIFICATION THE WARRANTIES SET FORTH IN THESE *GENERAL SPECIFICATIONS* (PARTS I and II) ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Contractor shall defend, indemnify and save harmless the County and Authorized Users from suits, actions, claims, damages and costs arising under or connected to Contractors actions, and except where express loss liabilities set forth elsewhere in the Contract provide for a higher loss limitation liability than as set forth in this paragraph, or where such express provisions impose Contractor liability on "without limitation", the total liability of Contractor for such claim(s), regardless of the nature and basis for the claim, shall not exceed two (2) times the fees paid for the applicable Product. For any suit, action, claim, damages or costs arising under or are connected to personal injury or property damage, or breach of the title, patent and copyright warranties, Contractor shall be fully liable without limitation.

The County or Authorized User may retain such moneys from the amount due Contractor as may be necessary to satisfy any claim for damages, costs and the like asserted by or against the County or Authorized User, provided however, that Contractor shall not indemnify each such entity to the extent that any claim, loss or damages arising hereunder is caused by the negligence act or failure to act of said entity.

88. SOURCE CODE ESCROW FOR LICENSED PRODUCTS If source code or source code escrow is offered by either Contractor or Product manufacturer/developer to any other commercial customers, Contractor either: i) will provide Licensee with the Source Code for the Product; or ii) place the Source Code in a third party escrow arrangement with a designated escrow agent who shall be named and identified to the County, and who shall be directed to release the deposited Source Code in accordance with a standard escrow agreement acceptable to the County, or iii) will certify to the County that the Product manufacturer/developer has named the County, and the Licensee, as a named beneficiary of an established escrow arrangement with its designated escrow agent who shall be named and identified to the County and Licensee, and who shall be directed to release the deposited Source Code in accordance with the terms of escrow. Source Code, as well as any corrections or enhancements to such source code, shall be updated for each new release of the Product in the same manner as provided above. Contractor shall identify the escrow agent upon commencement of the contract term and shall certify annually that the escrow remains in effect in compliance with the terms of this paragraph.

The County may release the Source Code to Licensees under this Contract who have licensed Product or obtained services, who may use such copy of the Source Code to maintain the Product.

APPENDIX C
INSURANCE REQUIREMENTS - PUBLIC WORKS CONTRACTORS

I. The Contractor *and each of its subcontractors* shall procure and maintain during the entire term of the contract the following required insurance:

- ***Commercial General Liability Insurance***
  $1,000,000 per occurrence/ $2,000,000 aggregate, including coverage for liability assumed by contract, completed operations, explosion, collapse, underground hazard and products liability.
- ***Automobile Liability***
  $1,000,000 combined single limit for owned, hired and borrowed and non-owned motor vehicles.
- ***Workers' Compensation***
  Statutory Workers' Compensation and Employers' Liability Insurance for all employees.
- ***Owners & Contractors Protective Liability Insurance***
  $2,000,000 per occurrence / $2,000,000 aggregate.
- ***Excess/Umbrella Liability Insurance***
  $1,000,000 per occurrence / $2,000,000 aggregate.

II. Notwithstanding any terms, conditions or provisions, in any other writing between the parties, the Contractor hereby agrees to name the County as:

- an *additional insured* on the Contractor's Commercial General Liability, Automobile Liability and Excess/Umbrella Liability insurance policies; and
- a *named insured* on the Owners & Contractors Protective Liability Insurance policy.

III. The policy/policies of insurance furnished by the Contractor shall:

- be from an A.M. Best rated "A" New York State licensed insurer; and
- contain a 30-day notice of cancellation

IV. The Contractor agrees to indemnify the County for any applicable deductibles.

V. Contractor acknowledges that failure to obtain such insurance on behalf of the County constitutes a material breach of contract and subjects it to liability for damages, indemnification and all other legal remedies available to the County. Prior to commencement of work or use of facilities, the Contractor shall provide to the County proof that such requirements have been met by furnishing certificate(s) of such insurance, and the declarations pages from the policies of such insurance. The failure of the County to object to the contents of the certificate(s) and/or declarations pages, or the absence of same, shall not be deemed a waiver of any and all rights held by the County.

VI. All certificates of insurance will provide 30 days notice to the county of cancellation or non-renewal.

VII. Contractor and subcontractor waives all rights of subrogation against the owner and will have the General Liability, Umbrella Liability Workers' Compensation policies endorsed setting forth this Waiver of Subrogation.

VIII. All policies will also contain no exclusions with respect to Section 240 and 241 of the NYS Labor Law.

IX. The County shall be listed as an additional insured on a primary and non-contributory basis.

APPENDIX *D - STANDARD CLAUSES FOR ESSEX COUNTY CONTRACTS*

1. ***Independent Contractor Status***

The parties each acknowledge, covenant and agree that the relationship of the Contractor to the County shall be that of an independent contractor. The Contractor, in accordance with its status as an independent contractor, further covenants and agrees that it:

(a) will conduct itself in accordance with its status as an independent contractor;

(b) will neither hold itself out as nor claim to be an officer or employee of the County; and

(c) will not make any claim, demand or application for any right or privilege applicable to an officer or employee of the County, including but not limited to workers' compensation benefits, unemployment insurance benefits, social security coverage or retirement membership or credits.

2. ***Contractor To Comply With Laws/Regulations***

The Contractor shall at all times comply with all applicable state and federal laws, rules and regulations governing the performance and rendition of the services to be furnished under this agreement.

3. ***Licenses, Permits, Etc.***

The Contractor shall, during the term of this agreement, obtain and keep in full force and effect any and all licenses, permits and certificates required by any governmental authority having jurisdiction over the rendition and performance of the services to be furnished by the Contractor under this agreement.

4. ***Termination***

This agreement may be terminated without cause by either party upon 30 days prior written notice, and upon such termination neither party shall have any claim or cause of action against the other except for services actually performed and mileage expenses actually incurred prior to such termination. Notwithstanding the foregoing, this agreement may be immediately terminated by the County:

(a) for the Contractor's breach of this agreement, by serving written notice of such termination stating the nature of the breach upon the Contractor by personal delivery or by certified mail, return receipt requested, and upon such termination either party shall have such rights and remedies against the other as provided by law; or

(b) upon the reduction or discontinuance of funding by the State or Federal governments to be used in furnishing some or all of the work, labor and/or services provided for under this agreement, and upon such termination neither party shall have any claim or cause of action against the other except for services actually performed and expenses (if the same are to be paid under this agreement) actually incurred prior to such termination.

5. ***Defense & Indemnification***

The Contractor shall defend, indemnify and hold harmless the County to the fullest extent allowed by law, and notwithstanding any insurance requirements, from and against any and all liability, losses, claims, actions, demands, damages, expenses, suits, judgments, orders, causes of action and claims, including but not limited to attorney's fees and all other costs of defense, by reason of any liability whatsoever imposed by law or otherwise upon the County for damages to person, property or of any other kind in nature, including by not limited to those for bodily injury, property damage, death arising out of or in connection with its officers, employees, agents, contractors, sub-contractors, guests or invitees negligence or

its/their performance or failure to perform this agreement.

6. ***Discrimination Prohibited***

The services to be furnished and rendered under this agreement by the Contractor shall be available to any and all residents of Essex County without regard to race, color, creed, sex, religion, national or ethnic origin, handicap, or source of payment; and under no circumstances shall a resident's financial ability to pay for the services provided be considered unless such consideration is allowed by State and/or Federal law, rule or regulation.

7. ***Non-Discrimination In Employment***

The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, age, disability or marital status. In the event that this is a contract to be performed in whole or in part within the State of New York for (a) the construction, alteration or repair of any public building or public work, (b) for the manufacture, sale or distribution of materials, equipment or supplies, (c) for building service, the Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex or national origin:

(1) discriminate in hiring against any citizen who is qualified and available to perform the work; or

(2) discriminate against or intimidate any employee hired for the performance of work under this contract.

The Contractor agrees to be subject to fines of $50.00 per person per day for any violation of this paragraph, as well as to possible termination of this contract or forfeiture of all moneys due hereunder for a second or subsequent violation.

8. ***Damage/Injury To Persons & Property***

The Contractor shall promptly advise the County of all damages to property of the County or of others, or of injuries incurred by persons other than employees of the Contractor, in any manner relating, either directly or indirectly, to the performance of this agreement.

9. ***Records***

The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter collectively "the Records") in accordance with the following requirements:

(a) the Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter;

(b) the County Auditor, State Comptroller, the Attorney General or any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York, or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying.

The County shall take reasonable steps to protect from public disclosure any of the records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate County official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified and designation of said records as exempt under the statute is reasonable. Nothing

contained herein shall diminish, or in any way adversely affect, the County's right to discovery in any pending or future litigation.

10. ***Claims For Payment***

All invoices or claims for which payment is sought from the County must be submitted in accordance with the following:

(a) each claim for payment must include
  (1) an invoice detailing the claim,
  (2) copies of all documentation supporting the claim,
  (3) a properly completed County standard voucher, which includes
    (i) the County contract number under which payment is being claimed; ***AND***
    (ii) the payee's Federal employer identification number or Federal social security number, or both such numbers when the payee has both such numbers. *[Failure to include this number or numbers will prevent and preclude payment by the County; except that where the payee does not have such number or numbers, the payee, on the invoice or County voucher, must give the reason or reasons why the payee does not have such number or numbers and such reasons constitute a valid excuse under law.]*

(b) Unless otherwise provided in this agreement, each claim for payment must be submitted to the County no later than 30 days after the work, labor, materials, and/or services for which payment is claimed were rendered or furnished.

(c) Notwithstanding any other provision of this agreement, no claim for payment shall be valid, and the County shall not be liable for payment thereof, unless it is submitted to the County within 30 days of the close of the calendar year in which the work, labor, materials, and/or services for which payment is claimed were rendered or furnished.

(d) Unless otherwise provided in this agreement, the requirements of this paragraph 10, and/or of any other provisions of this agreement which supersede the same, shall constitute conditions precedent to the County's payment obligation, and failure to comply with any or all of said requirements shall entitle the County to deny payment.

(e) As a further condition of payment, each claim of payment shall be accompanied by a Contractor and Sub-Contractor Progress Payment Waiver, Release and Discharge, and each Final Payment shall be accompanied by a Contractor and Sub-Contractor Final Payment, Waiver and Release form. As well as a Contractor Affidavit relative to Final Payment. Copies of these forms are attached and made a part hereof.

11. ***Consent***

In the event that State or Federal law requires the recipient of services to be furnished and rendered under this agreement to give his/her prior consent thereto, the contractor shall obtain such person's consent and furnish proof thereof to the County.

12. ***Executory Clause***

The County shall have no liability under this contract to the Contractor or to anyone else beyond the funds appropriated and available for this contract.

13. ***Public Work & Building Service Contract Requirements***

If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof:

(a) neither the Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said

statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department; and

(b) the Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

14. ***Public Work Contracts – Hazardous Substances***

If this is a contract for public work, the Contractor agrees as follows:

(a) the Contractor acknowledges that the County uses and/or produces various substances which may be classified as hazardous under OSHA's Hazard Communication Standard;

(b) the Contractor recognizes the use of said substances by the County and acknowledges that the County has provided, or upon request will provide, the Contractor with a description of such substances which may be present in the area of the County's facility/facilities to which the Contractor may have accessed during the performance of this contract;

(c) the Contractor acknowledges that the County has provided, or upon request will provide, suggestions for appropriate protective measures which should be observed when the Contractor is in the area of any such hazardous substances;

(d) the Contractor agrees to be solely responsible for providing training and information to its employees regarding any such hazardous substances, as well as of any protective measures suggested by the County;

(e) the Contractor agrees to be solely responsible to ensure that the Contractor's employees observe protective measures during the performance of their duties in the performance of the contract, and that all such protective measures will be at least as stringent as those suggested or which would have been suggested by the County;

(f) in the event that the Contractor's performance of the work under this contract requires the use of any hazardous substances, the Contractor shall notify the County in advance of bringing in and/or using such substances in or upon County property and suggest to the County appropriate measures to be observed by the County, its officers and employees, and/or the public; and

(g) in the event the Contractor fails in whole or in part to comply with the terms of this paragraph, the County shall have the right to interrupt the Contractor's work and/or terminate this contract, and the Contractor shall be prohibited from renewing such work until all applicable safety and health procedures and practices are implemented by the Contractor.

15. ***Disputes***

Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration, but must, instead, by heard in a court of competent jurisdiction within the State of New York.

16. ***Non-Assignment***

This agreement may not be assigned, subcontracted, transferred, conveyed, sublet or otherwise disposed of in whole or in part, by the Contractor, without the prior written consent of the County, and any attempts to assign the contract without the County's written consent are null and void.

17. ***No Collusion***

If this contract was awarded based upon the submission of bids, the Contractor

warrants, under penalty of perjury, that:

(a) its bid was arrived at independently and without collusion aimed at restricting competition; and

(b) at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the County a non-collusive bidding certification on Contractor's behalf.

18. ***International Boycott***

In accordance with Section 220-f of the Labor Law, if this contract exceeds $5,000.00, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation, has participated, is participating, or shall participate in an International boycott in violation of the federal Export Administration Act of 1979, or regulations thereunder. If such contractor, or any of the aforesaid affiliates of Contractor, is convicted, or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the County Manager within five (5) business days of such conviction, determination or disposition of appeal.

19. ***County's Rights of Set-Off***

The County shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the County's option to withhold for the purposes of set-off any moneys due to the Contractor under this agreement up to any amounts due and owing to the County with regard to this contract, any other contract with any County department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the County for any other reason, including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The County shall exercise its set-off rights in accordance with normal County practices, including, in cases of set-off pursuant to an audit, the acceptance of such audit by the County Board of Supervisors or its designated representative.

20. ***Contractor Defined***

Whenever the term "Contractor" is used in this agreement, such term shall include and apply to all employees, all officers, directors and agents, if any, of the Contractor.

21. ***Amendment***

This agreement may not be amended, modified or renewed except by written agreement signed by the Contractor and the County.

22. ***Ownership Of Work Products***

All final and written or tangible work products completed by the Contractor shall belong to the County. In the event of premature discontinuance of performance, the Contractor agrees to deliver all existing products and data files to the County.

23. ***Executive Order Debarment/Suspension***

In the event that this contract involves the Contractor furnishing goods and services in excess of $100,000.00, or constitutes a subaward to subrecipients, under any Federal program, grant or other funding source, then by executing this agreement the Contractor certifies that neither it nor any of its principals are suspended or debarred within the scope or

meaning of Executive Orders 12549 and 12689, any Federal or State regulation implementing or codifying the same, or any other Federal or State law, rule or regulation.

24. ***Health Insurance Portability and Accountability Act of 1996 (HIPAA)***

In the event that this contract involves the use or disclosure of protected health information within the meaning or application of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), and the regulations thereunder, the following provisions of this paragraph shall apply.

(a) *Definitions.* The terms used, but not otherwise defined, in this Agreement shall have the same meaning as given such terms in 45 CFR §160.103 and §164.501, as the same may be amended from time to time, including but not limited to the following.

(1) "Business Associate" shall mean the Contractor, its officers, employees, agents and subcontractors.

(2) "Covered Entity" shall mean Essex County (the "County"), its departments, agencies, officers and employees.

(3) "Individual" shall have the same meaning as given such term in 45 CFR §164.501 and shall also include a person who qualifies as a personal representative in accordance with 45 CFR §164.502(g).

(4) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 CFR Part 160 and Part 164, subparts A and E.

(5) "Protected Health Information" shall have the same meaning as given such term in 45 CFR §164.501, limited to the information created or received by Contractor from or on behalf of the County.

(6) "Required by law" shall have the same meaning as given such term in 45 CFR §164.501.

(7) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his/her designee.

(b) *Obligations and Activities of Contractor.*

Contractor agrees to:

(1) not use or disclose Protected Health Information other than as permitted or required by this Agreement or as required by law;

(2) use appropriate safeguards to prevent use or disclosure of the Protected Health Information other than as provided for by this Agreement;

(3) mitigate, to the extent practicable, any harmful effect that is known, should have been known, and/or discovered to/by Contractor of a use or disclosure of Protected Health Information by Contractor in violation of the requirements of this Agreement;

(4) report to the County any use or disclosure of the Protected Health Information not provided for by this Agreement of which it becomes aware;

(5) ensure that any agent, including a subcontractor, to whom it provides Protected Health Information received from, or created or received by Contractor on behalf of the County agrees to the same restrictions and conditions that apply through this Agreement to Contractor with respect to such information;

(6) provide access, at the request of the County, and in the time and manner designated by the County or the Secretary, to Protected Health Information in a Designated Record Set, to the County or, as directed by the County, to an Individual in order to meet the requirements under 45 CFR §164.524;

(7) make any amendment(s) to Protected Health Information in a Designated Record

Set that the County directs or agrees to pursuant to 45 CFR §164.526 at the request of the County or an Individual, and in the time and manner designated by the County or the Secretary;

(8) make internal practices, books, and records, including policies and procedures and Protected Health Information, relating to the use and disclosure of Protected Health Information received from, or created or received by Contractor on behalf of, the County available to the County, and/or to the Secretary, in a time and manner designated by the County or by the Secretary, for purposes of the Secretary determining the County's compliance with the Privacy Rule;

(9) document such disclosures of Protected Health Information and information related to such disclosures as would be required for the County to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with 45 CFR §164.528;

(10) provide to the County or an Individual, in time and manner designated by the County or the Secretary, information collected in accordance with the above subparagraph (b)(9) of this Agreement, to permit the County to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with 45 CFR §164.528.

(c) *Permitted Uses and Disclosures by Contractor.*

Except as otherwise limited in this Agreement, Contractor may use or disclose Protected Health Information on behalf of, or to provide services to, the persons entitled to services under this Agreement:

(1) solely for the purposes of performing Contractor's obligations under this Agreement, if such use or disclosure of Protected Health Information would not violate the Privacy Rule if done by the County or the minimum necessary policies and procedures of the County; or

(2) provided that such use or disclosures are required by law; or

(3) Contractor

(A) obtains written authorization(s) from the individual to which the information pertains permitting the specific uses or disclosures of such information to third persons,

(B) represents and agrees in writing with such individual that the information to be used and/or disclosed will remain confidential and used or further disclosed only as required by law or for the purposes specified in the written authorization(s), and

(C) such third persons agree in writing to notify the County as soon as practicable and in writing of any instances of which such third person(s) is/are aware in which the confidentiality of the information has been breached; or

(4) provide Data Aggregation services to the County as permitted by 42 CFR §164.504(e)(2)(i)(B); or

(5) report violations of law to appropriate Federal and State authorities, consistent with §164.502(j)(1).

(d) *County To Inform Contractor of Privacy Practices and Restrictions.*

The County agrees to notify the Contractor of any

(1) limitation(s) in its notice of privacy practices of the County in accordance with 45 CFR §164.520, to the extent that such limitation may affect the Contractor's use or disclosure of Protected Health Information;

(2) changes in, or revocation of, permission by Individual to use or disclose Protected Health Information, to the extent that such changes may affect the Contractor's use or disclosure of Protected Health Information; and/or

(3) restriction to the use or disclosure of Protected Health Information that the County has agreed to in accordance with 45 CFR §164.522, to the extent that such restriction may affect Contractor's use or disclosure of Protected Health Information.

(e) *Permissible Requests by County.*

The County shall not request Contractor to use or disclose Protected Health Information in any manner that would not be permissible under the Privacy Rule if done by the County; except that in the event that the services to be furnished by the Contractor under this Agreement requires data aggregation by the Contractor, the Contractor may use or disclose protected health information for such data aggregation or management and administrative activities of Contractor.

(f) *Survival of Provisions.*

The obligations of the Contractor under this paragraph 24 shall survive the expiration of the term of this Agreement and/or the termination of this Agreement, and said obligations shall remain effective and shall not terminate until all of the Protected Health Information provided by the County to Contractor, or created or received by Contractor on behalf of the County, is destroyed or returned to the County, or, if it is infeasible to return or destroy Protected Health Information, protections are extended to such information, in accordance with the termination provisions in subparagraph (g) below.

(g) *Return or Destruction of Protected Health Information.*

Except as otherwise provided below, upon termination of this Agreement for any reason, Contractor shall return or destroy all Protected Health Information received from the County, or created or received by Contractor on behalf of the County. This provision shall apply to Protected Health Information that is in the possession of subcontractors or agents of Contractor. Contractor shall retain no copies of the Protected Health Information.

In the event that Contractor determines that returning or destroying the Protected Health Information is infeasible, Contractor shall provide to the County notification of the conditions that make return or destruction infeasible. Upon determination by the County that return or destruction of Protected Health Information is infeasible, Contractor shall extend the protections of this Agreement to such Protected Health Information and limit further uses and disclosures of such Protected Health Information to those purposes that make the return or destruction infeasible, for so long as Contractor maintains such Protected Health Information.

(h) *Termination for Cause.*

Upon the County's knowledge of a material breach of this paragraph by Contractor, the County shall:

(1) either:

(A) provide an opportunity for Contractor to cure the breach or end the violation and terminate this Agreement within the time specified by the County, or

(B) immediately terminate this Agreement if cure is not possible; and

(2) report the violation to the Secretary.

(I) *Miscellaneous.*

(1) Regulatory References. A reference in this Agreement to a section in the Privacy

Rule means the section as in effect or as amended.

(2) Amendment. The Parties agree to take such action as is necessary to amend this Agreement from time to time as is necessary for the County to comply with the requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.

(3) Survival. The respective rights and obligations of Contractor under this paragraph 24 of this Agreement shall survive the termination of this Agreement.

(4) Interpretation. Any ambiguity in this Agreement shall be resolved to permit the County to comply with the Privacy Rule.

25. ***Severability***

If any term or provision of this agreement or the application thereof to any person or circumstance shall to any extent be held invalid or unenforceable, the remainder of this agreement or the application of such term or provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and every other term and provision of this agreement shall be valid and be enforced to the fullest extent permitted by law.

26. ***Entire Agreement***

This agreement is the entire agreement between the parties, and the same shall be construed in accordance with the laws of the State of New York.

27. ***For Medicaid/Federal Health Care Related Work***

Excluded/Debarred Party Clause

The Vendor/Contractor represents and warrants that it, nor its employees or contractors, are not excluded from participation, and is not otherwise ineligible to participate, in a "federal health care program" as defined in 42 U.S.C. § 1320a-7b(f) or in any other government payment program.

In the event Vendor/Contractor, or one of it employees or contractors, is excluded from participation, or becomes otherwise ineligible to participate in any such program during the Term, Vendor/Contractor will notify Essex County in writing within three (3) days after such event. Upon the occurrence of such event, whether or not such notice is given to the Vendor/Contractor, Essex County reserves the right to immediately cease contracting with the Vendor/Contractor.

If Vendor/Contractor is an Employment Agency, the Vendor/Contractor represents and warrants that its employees and contractors are not excluded from participation in a "federal health care program" as defined in 42 U.S.C. § 1320a-7b(f) or debarred from participation in any federal or other program.

The Vendor/Contractor further represents and warrants it will, at a minimum, check monthly all of it employees and subcontractors against:

The General Services Administration's Federal Excluded Party List System (or any successor system,

The United States Department of Health and Human Service's Office of the Inspector General's Lists of Excluded Individuals and Entities or any successor list,

The New York State Department of Health's Office of the Medicaid Inspector General's

list of Restricted, Terminated or Excluded Individuals or Entities.

In the event an excluded party is discovered the Vendor/Contractor will notify Essex County in writing within three (3) days after such event.Upon the occurrence of such event, whether or not such notice is given to the Vendor/Contractor, Essex County reserves the right to immediately cease contracting with the Vendor/Contractor.

CONTRACTOR PROGRESS PAYMENT WAIVER, RELEASE AND DISCHARGE

PROJECT: _____

OWNER: ESSEX COUNTY

CONTRACTOR: _____

W I T N E S S E T H :

The above-named Contractor, hereinafter referred to as the "Releasor", does, for and on behalf of itself, its' successors, assigns and all parties claiming any interest or right through the Releasor, hereby warrant, covenant and agree as follows:

1. Releasor is/was a Contractor relative to the above-referenced Project pursuant to a contract or other relationship for the performing and/or furnishing of work, labor, services, materials and/or equipment at the Project site or to be incorporated in said Project.

2 Whenever the term "Releasor" is used in this instrument such term shall mean: (a) the above-named Contractor, its, successors and assigns; (b) any and all sureties and all other guarantors of the Releasor on any payment, performance, labor and/or material bond or other undertaking; (c) all parties claiming any interest or right through the Releasor, including but not limited to subcontractors and suppliers; and (d) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a), (b) and (c).

3. Whenever the term "Releasees" is used in this instrument such term shall mean: (a) the above-named Owner, its' successors and assigns; (b) the Project Architect/Engineer; and (c) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a) and (b).

4. For and in consideration of the sum of $_____, and other good and valuable consideration, which sum is acknowledged as being the full and total amount due or allegedly due or owing from the Releasees to the Releasor as of the date hereof, and the receipt of such payment being hereby acknowledged, the Releasor does waive, release and discharge the Releasees from any and all causes of action, suits, debts, claims, liens, accounts, bonds, contracts, damages, encumbrances, judgments and demands whatsoever and of every kind and nature, in law or in equity, which against the Releasees, jointly and/or severally, the Releasor ever had, now has, or might hereafter have, relating directly or indirectly to the work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or incorporated or to be incorporated in said Project, as of the date hereof, including but not in any manner limited to the right of the Releasor to assert, file or claim any lien or other security interest in or upon the real and/or personal property of the Releasees.

5. The Releasor hereby agree to defend, indemnify, and hold harmless the Releasees from any and all damages, costs, expenses, demands, suits, liens and legal fees, directly or indirectly relating to any claim for compensation by any other party for work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or which should have been so furnished or performed, or incorporated or to be incorporated in said Project, as of the date hereof, by the Releasor or by any other party claiming any interest or right through the

Releasor.

6. The Releasor hereby certifies and warrants that it has fully paid for all work, labor, services, materials and/or equipment provided to it in connection with the Project and/or any contract relating thereto.

7. The Releasor hereby grants to the Releasees the right to review and audit any and books and records of the Releasor at any time for verification.

IN WITNESS WHEREOF this instrument has been executed this ___ day of ____ _____, 20__.

_____
Releasor

By:_____

_____
(Print Name)

_____
(Title)

STATE OF NEW YORK)
) SS:
COUNTY OF_____)

I, _____, being duly sworn, depose and say that: I reside at _____ _____, and I hereby sign this instrument under penalty of perjury; I am the of the Releasor identified herein; I am fully authorized to execute this instrument on behalf of the Releasor; and I hereby affirm that the statements contained in this instrument are true and correct.

_____
Vendor/Releasor Agent Sign Here

Sworn to before me this ____
day of _____, 20__.

_____
Notary Public

CONTRACTOR FINAL PAYMENT WAIVER, RELEASE AND DISCHARGE

PROJECT: _____

OWNER: ESSEX COUNTY

CONTRACTOR: _____

W I T N E S S E T H :

The above-named Contractor, hereinafter referred to as the "Releasor", does, for and on behalf of itself, its' successors, assigns and all parties claiming any interest or right through the Releasor, hereby warrants, covenants and agrees as follows:

1. Releasor is/was a Contractor relative to the above-referenced Project pursuant to a contract or other relationship for the performing and/or furnishing of work, labor, services, materials and/or equipment at the Project site or to be incorporated in said Project.

2 Whenever the term "Releasor" is used in this instrument such term shall mean: (a) the above-named Contractor, its, successors and assigns; (b) any and all sureties and all other guarantors of the Releasor on any payment, performance, labor and/or material bond or other undertaking; (c) all parties claiming any interest or right through the Releasor, including but not limited to subcontractors and suppliers; and (d) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a), (b) and (c).

3. Whenever the term "Releasees" is used in this instrument such term shall mean: (a) the above-named Owner, its' successors and assigns; (b) Essex County, its agencies and departments (including but not limited to its Office for the Aging); and (c) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a) and (b).

4. For and in consideration of the sum of $_____, and other good and valuable consideration, which sum is acknowledged as being the full, final and total amount due or allegedly due or owing from the Releasees to the Releasor as of the date hereof, and the receipt of such payment being hereby acknowledged, the Releasor does waive, release and discharge the Releasees from any and all causes of action, suits, debts, claims, liens, accounts, bonds, contracts, damages, encumbrances, judgments and demands whatsoever and of every kind and nature, in law or in equity, which against the Releasees, jointly and/or severally, the Releasor ever had, now has, or might hereafter have, relating directly or indirectly to the work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or incorporated or to be incorporated in said Project, as of the date hereof, including but not in any manner limited to the right of the Releasor to assert, file or claim any lien or other security interest in or upon the real and/or personal property of the Releasees.

5. The Releasor hereby agree to defend, indemnify, and hold harmless the Releasees from any and all damages, costs, expenses, demands, suits, liens and legal fees, directly or indirectly relating to any claim for compensation by any other party for work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or which should have been so furnished or performed, or incorporated or to be incorporated in said Project, as of the date hereof, by the

Releasor or by any other party claiming any interest or right through the Releasor.

6. The Releasor hereby certifies and warrants that it has fully paid for all work, labor, services, materials and/or equipment provided to it in connection with the Project and/or any contract relating thereto.

7. The Releasor hereby grants to the Releasees the right to review and audit any and books and records of the Releasor at any time for verification.

IN WITNESS WHEREOF this instrument has been executed this ____ day of _____, 20__.

_____
Contractor

By:_____

_____
(Print Name)

_____
(Title)

STATE OF NEW YORK)
) SS:
COUNTY OF ESSEX)

I, _____, being duly sworn, depose and say that: I reside at ____ _____, and I hereby sign this instrument under penalty of perjury; I am the of the Releasor identified herein; I am fully authorized to execute this instrument on behalf of the Releasor; and I hereby affirm that the statements contained in this instrument are true and correct.

_____
Vendor/Releasor Agent Sign Here

Sworn to before me this ____
day of _____, 20__.

_____
Notary Public

CONTRACTORS AFFIDAVIT RELATIVE TO FINAL PAYMENT

PROJECT: _____

OWNER: ESSEX COUNTY

CONTRACTOR: _____

W I T N E S S E T H :

The herein below designated representative of the Contractor being duly sworn deposes and states:

1. He is duly authorized to sign this Affidavit on behalf of the Contractor.

2. That all payrolls, bills for materials and equipment, and other indebtedness connection with the work for which the County or the County's property might be responsible or encumbered have been paid or otherwise satisfied and there remain no further indebtedness or bills outstanding.

3. Attached hereto and made a part hereof is a valid certificate of insurance evidencing that insurance required by the contract documents will remain in full force after final payment is currently in effect and will not be cancelled or allowed to expire until at least 30 days prior written notice has been given to the owner.

4. Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the contract documents.

5. Attached hereto and made a part hereof at Schedule B is a detailed list of all sub-contractors and material suppliers.

6. Contractor warrants and represents that all sub-contractors, material suppliers and fringe benefit trust funds for employees of contractor and sub-contractors on the portion of the project encompassed by the work, as well as all workers and persons employed in connection therewith have been paid in full for all labor and work and materials furnished.

7. Contractor releases and waives any and all public improvement lien rights which contractor has against the County.

IN WITNESS WHEREOF, deponent has executed this document on ___ day of _____

_____, 20___.

_____
Contractor

By:_____

_____
(Print Name)

_____
(Title)

STATE OF NEW YORK)
) SS:
COUNTY OF ESSEX)

I, _____, being duly sworn, depose and say that: I reside at _____, and I hereby sign this instrument under penalty of perjury; I am the of the Releasor identified herein; I am fully authorized to execute this instrument on behalf of the Releasor; and I hereby affirm that the statements contained in this instrument are true and correct.

_____
Vendor/Releasor Agent Sign Here

Sworn to before me this ____
day of _____, 20___.

_____
Notary Public

SUBCONTRACTOR/SUPPLIER PROGRESS PAYMENT
WAIVER, RELEASE AND DISCHARGE

PROJECT: _____

OWNER: ESSEX COUNTY

CONTRACTOR: _____

SUBCONTRACTOR/SUPPLIER: _____

W I T N E S S E T H :

The above-named Subcontractor/Supplier, hereinafter referred to as the "Releasor", does, for and on behalf of itself, its, successors, assigns and all parties claiming any interest or right through the Releasor, hereby warrants, covenants and agrees as follows:

1. Releasor is/was a subcontractor/supplier to the Contractor above-named relative to the above-referenced Project pursuant to a contract or other relationship for the performing and/or furnishing of work, labor, services, materials and/or equipment at the Project site or to be incorporated in said Project.

2. Whenever the term "Releasor" is used in this instrument such term shall mean: (a) the above-named Subcontractor/Supplier, its' successors and assigns; (b) any and all sureties and all other guarantors of the Releasor on any payment, performance, labor and/or material bond or other undertaking; (c) all parties claiming any interest or right through the Releasor; and (d) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a), (b) and (c).

3. Whenever the term "Releasees" is used in this instrument such term shall mean: (a) the above-named Contractor and all of its, sureties and other guarantors on any payment, performance, labor and/or material bond or other undertaking; (b) the abovenamed Owner, its, successors and assigns; (c) the Project Architect/Engineer; and (d) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a), (b) and (c).

4. For and in consideration of the sum of $_____, and other good and valuable consideration, which sum is acknowledged as being the full and total amount due or allegedly due or owing from the Releasees to the Releasor as of the date hereof, and the receipt of such payment being hereby acknowledged, the Releasor does waive, release and discharge the Releasees from any and all causes of action, suits, debts, claims, liens, accounts, bonds, contracts, damages, encumbrances, judgments and demands whatsoever and of every kind and nature, in law or in equity, which against the Releasees, jointly and/or severally, the Releasor ever had, now has, or might hereafter have, relating directly or indirectly to the work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or incorporated or to be incorporated in said Project, as of the date hereof, including but not in any manner limited to the right of the Releasor to assert, file or claim any lien or other security interest in or upon the real and/or personal property of the Releasees.

5. The Releasor hereby agree to defend, indemnify, and hold harmless the Releasees from any and all damages, costs, expenses, demands, suits, liens and legal fees, directly or indirectly relating to any claim for compensation by any other party for work, labor, services, materials and/or

equipment furnished and/or performed at the Project site, or which should have been so furnished or performed, or incorporated or to be incorporated in said Project, as of the date hereof, by the Releasor or by any other party claiming any interest or right through the Releasor.

6. The Releasor hereby certifies and warrants that it has fully paid for all work, labor, services, materials and/or equipment provided to it in connection with the Project and/or any contract relating thereto.

7. The Releasor hereby grants to the Releasees the right to review and audit any and books and records of the Releasor at any time for verification.

IN WITNESS WHEREOF this instrument has been executed this ___ day of _____ _____, 20____.

_____
Releasor

By:_____

_____
(Print Name)

_____
(Title)

STATE OF NEW YORK)
) SS:
COUNTY OF ESSEX)

I, _____, being duly sworn, depose and say that: I reside at ____ _____, and I hereby sign this instrument under penalty of perjury; I am the of the Releasor identified herein; I am fully authorized to execute this instrument on behalf of the Releasor; and I hereby affirm that the statements contained in this instrument are true and correct.

_____
Vendor/Releasor Agent Sign Here

Sworn to before me this ____
day of _____, 20___

_____
Notary Public

SUBCONTRACTOR/SUPPLIER FINAL WAIVER, RELEASE AND DISCHARGE

PROJECT:_____

OWNER: ESSEX COUNTY

CONTRACTOR: _____

SUBCONTRACTOR/SUPPLIER: _____

W I T N E S S E T H :

The above-named Subcontractor/Supplier, hereinafter referred to as the "Releasor", does, for and on behalf of itself, its, successors, assigns and all parties claiming any interest or right through the Releasor, hereby warrants, covenants and agrees as follows:

1. Releasor is/was a subcontractor/supplier to the Contractor above-named relative to the above-referenced Project pursuant to a contract or other relationship for the performing and/or furnishing of work, labor, services, materials and/or equipment at the Project site or to be incorporated in said Project.

2. Whenever the term "Releasor" is used in this instrument such term shall mean: (a) the above-named Subcontractor/Supplier, its' successors and assigns; (b) any and all sureties and all other guarantors of the Releasor on any payment, performance, labor and/or material bond or other undertaking; (c) all parties claiming any interest or right through the Releasor; and (d) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a), (b) and (c).

3. Whenever the term "Releasees" is used in this instrument such term shall mean: (a) the above-named Contractor and all of its, sureties and other guarantors on any payment, performance, labor and/or material bond or other undertaking; (b) the abovenamed Owner, its, successors and assigns; (c) the Project Architect/Engineer; and (d) the respective officers, directors, principals, shareholders, agents, employees and attorneys of (a), (b) and (c).

4. For and in consideration of the sum of $_____, and other good and valuable consideration, which sum is acknowledged as being the full, final and total amount due or allegedly due or owing from the Releasees to the Releasor as of the date hereof, and the receipt of such payment being hereby acknowledged, the Releasor does waive, release and discharge the Releasees from any and all causes of action, suits, debts, claims, liens, accounts, bonds, contracts, damages, encumbrances, judgments and demands whatsoever and of every kind and nature, in law or in equity, which against the Releasees, jointly and/or severally, the Releasor ever had, now has, or might hereafter have, relating directly or indirectly to the work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or incorporated or to be incorporated in said Project, as of the date hereof, including but not in any manner limited to the right of the Releasor to assert, file or claim any lien or other security interest in or upon the real and/or personal property of the Releasees.

5. The Releasor hereby agree to defend, indemnify, and hold harmless the Releasees from any and all damages, costs, expenses, demands, suits, liens and legal fees, directly or indirectly relating to any claim for compensation by any other party for work, labor, services, materials and/or equipment furnished and/or performed at the Project site, or which should have been so furnished or performed, or incorporated or to be incorporated in said Project, as of the date hereof, by the Releasor or by any other party claiming any interest or right through the Releasor.

6. The Releasor hereby certifies and warrants that it has fully paid for all work, labor, services, materials and/or equipment provided to it in connection with the Project and/or any contract relating thereto.

7. The Releasor hereby grants to the Releasees the right to review and audit any and books and records of the Releasor at any time for verification.

IN WITNESS WHEREOF this instrument has been executed this ___ day of ____ _____, _____.

_____
Releasor

By:_____

_____
(Print Name)

_____
(Title)

STATE OF NEW YORK)
) SS:
COUNTY OF ESSEX)

I, _____, being duly sworn, depose and say that: I reside at ____ _____, and I hereby sign this instrument under penalty of perjury; I am the of the Releasor identified herein; I am fully authorized to execute this instrument on behalf of the Releasor; and I hereby affirm that the statements contained in this instrument are true and correct.

_____
Vendor/Releasor Agent Sign Here

Sworn to before me this ____
day of _____, 20__.

_____
Notary Public

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 00910

NYS PREVAILING WAGE RATE

PRC #2012003936

Andrew M. Cuomo, Governor

Colleen C. Gardner, Commissioner

Essex County

David Whitford, Principal Architect
AES Northeast
10-12 City Hall Place
Plattsburgh NY 12901

Schedule Year 2011 through 2012
Date Requested 05/02/2012
PRC# 2012003936

Location Whiteface Mountain
Project ID# AES #3760
Project Type Little Whiteface Ski Patrol Building Demolition of old building and construction of new building.

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2011 through June 2012. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.state.ny.us. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "4 Day / 10 Hour Work Schedule" form (PW 30R).

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12240; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.state.ny.us.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.state.ny.us.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website www.labor.state.ny.us.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the project's date of completion. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, by are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Andrew M. Cuomo, Governor

Colleen C. Gardner, Commissioner

Essex County

David Whitford, Principal Architect
AES Northeast
10-12 City Hall Place
Plattsburgh NY 12901

Schedule Year 2011 through 2012
Date Requested 05/02/2012
PRC# 2012003936

Location Whiteface Mountain
Project ID# AES #3760
Project Type Little Whiteface Ski Patrol Building Demolition of old building and construction of new building.

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information
All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:
[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

IMPORTANT NOTICE

FOR

CONTRACTORS & CONTRACTING AGENCIES

Social Security Numbers on Certified Payrolls

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concerns with regard to inclusion of this information on payrolls if another identifier will suffice.

For these reasons, ***the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor.***

NOTE: This change does not affect the Department's ability to request and receive the entire social security number from employers during the course of its public work / prevailing wage investigations.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

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1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

Construction Industry
Fair Play Act

Required Posting For Labor Law
Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site.

Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense.

The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, www.labor.ny.gov.

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.state.ny.us .

New York State Department of Labor
Required Notice under Article 25-B of the Labor Law

ATTENTION ALL EMPLOYEES, CONTRACTORS AND SUBCONTRACTORS:
YOU ARE COVERED BY THE
CONSTRUCTION INDUSTRY FAIR PLAY ACT

The law says that you are an employee unless:

- You are free from direction and control in performing your job AND
- You perform work that is not part of the usual work done by the business that hired you AND
- You have an independently established business

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

IT IS AGAINST THE LAW FOR AN EMPLOYER TO MISCLASSIFY EMPLOYEES AS INDEPENDENT CONTRACTORS OR PAY EMPLOYEES OFF-THE-BOOKS.

Employee rights. If you are an employee:

- You are entitled to state and federal worker protections such as
  - unemployment benefits, if unemployed through no fault of your own, able to work, and otherwise qualified
  - workers' compensation benefits for on-the-job injuries
  - payment for wages earned, minimum wage, and overtime (under certain conditions)
  - prevailing wages on public work projects
  - the provisions of the National Labor Relations Act and
  - a safe work environment
- It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor*:*

- You must pay all taxes required by New York State and Federal Law.

Penalties for paying off-the-books or improperly treating employees as independent contractors:

- **Civil Penalty** — First Offense: up to $2,500 per employee. Subsequent Offense(s): up to $5,000 per employee.
- **Criminal Penalty** — First Offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing Public Work for up to one year. Subsequent Offense(s): Misdemeanor - up to 60 days in jail, up to a $50,000 fine and debarment from performing Public Work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at 1(866)435-1499 or send an email to dol.misclassified@labor.state.ny.us. All complaints of fraud and violations are taken seriously and you can remain anonymous.

Employer Name:

IA 999 (09/10)

WORKER NOTIFICATION

(Labor Law §220, paragraph a of subdivision 3-a)

Effective February 24, 2008

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.state.ny.us* or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

* In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(11.11)

New York State Department of Labor
Bureau of Public Work

Attention Employees

THIS IS A:

PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at: www.labor.ny.gov

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4886
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 775-3568	White Plains	(914) 997-9507
Newburgh	(845) 568-5156		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

OSHA 10-hour Construction

Safety and Health Course – S1537-A

Effective July 18, 2008

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, section 220-h. It requires that on all public work projects of at least $250,000.00, all laborers, workers and mechanics working on the site, be certified as having successfully completed the OSHA 10-hour construction safety and health course. It further requires that the advertised bids and contracts for every public work contract of at least $250,000.00, contain a provision of this requirement.

NOTE: ***The OSHA 10 Legislation only applies to workers on a public work project that are required, under Article 8, to receive the prevailing wage.***

Where to find OSHA 10-hour Construction Course

1. NYS Department of Labor website for scheduled outreach training at:

   www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm

2. OSHA Training Institute Education Centers:

   Rochester Institute of Technology OSHA Education Center
   Rochester, NY
   Donna Winter
   Fax (585) 475-6292
   e-mail: dlwtpo@rit.edu
   (866) 385-7470 Ext. 2919
   www.rit.edu/~outreach/course.php3?CourseID=54

   Atlantic OSHA Training Center
   UMDNJ – School of Public Health
   Piscataway, NJ
   Janet Crooks
   Fax (732) 235-9460
   e-mail: crooksje@umdnj.edu
   (732) 235-9455
   https://ophp.umdnj.edu/wconnect/ShowSchedule.awp?~~GROUP~AOTCON~10~

   Atlantic OSHA Training Center
   University at Buffalo
   Buffalo, New York
   Joe Syracuse
   Fax (716) 829-2806
   e-mail:mailto:japs@buffalo.edu
   (716) 829-2125
   http://www.smbs.buffalo.edu/CENTERS/trc/schedule_OSHA.php

   Keene State College
   Manchester, NH
   Leslie Singleton
   e-mail: lsingletin@keene.edu
   (800) 449-6742
   www.keene.edu/courses/print/courses_osha.cfm

3. List of trainers and training schedules for OSHA outreach training at:

   www.OutreachTrainers.org

Requirements for OSHA 10 Compliance

Chapter 282 of the Laws of 2007, codified as Labor Law 220-h took effect on July 18, 2008. The statute provides as follows:

The advertised specifications for every contract for public work of $250,000.00 or more must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date*.)
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-485-5696.

WICKS Reform 2008

(For all contracts advertised or solicited for bid on or after 7/1/08)

- Raises the threshold for public work projects subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work. The total project's threshold would increase from $50,000 to: $3 million in Bronx, Kings, New York, Queens and Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

- For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical work and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or use of a Project Labor Agreement (PLA), and must be open to public inspection.

- Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

- The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.

- Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

- Reduces from 15 to 7 days the period in which contractors must pay subcontractors.

IMPORTANT INFORMATION

Regarding Use of Form PW30R

"Employer Registration for Use of 4 Day / 10 Hour Work Schedule"

To use the '4 Day / 10 Hour Work Schedule':

There MUST be a *Dispensation of Hours (PW30)* in place on the project

AND

You MUST register your intent to work 4 / 10 hour days, by completing the PW30R Form.

REMEMBER…

The '4 Day / 10 Hour Work Schedule' applies ONLY to Job Classifications and Counties listed on the PW30R Form.

Do not write in any additional Classifications or Counties.

(**Please note** : For each Job Classification check the individual wage schedule for specific details regarding their 4/10 hour day posting.)

Instructions for Completing Form PW30R

"Employer Registration for Use of 4 Day / 10 Hour Work Schedule"

Before completing Form PW30R check to be sure …

- There is a *Dispensation of Hours* in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Instructions (Type or Print legibly):

Contractor Information:

- Enter the Legal Name of the business, FEIN, Street Address, City, State, Zip Code; the Company's Phone and Fax numbers; and the Company's email address (if applicable)
- Enter the Name of a Contact Person for the Company along with their Phone and Fax numbers, and the personal email address (if applicable)

Project Information:

- Enter the Prevailing Rate Case number (PRC#) assigned to this project
- Enter the Project Name / Type (i.e. Smithtown CSD – Replacement of HS Roof)
- Enter the Exact Location of Project (i.e. Smithtown HS, 143 County Route #2, Smithtown,NY; Bldgs. 1 & 2)
- If you are a Subcontractor, enter the name of the Prime Contractor for which you work
- On the Checklist of Job Classifications -
  - Go to pages 2 and 3 of the form
  - Place a checkmark in the box to the right of the Job Classification you are choosing
  - Mark all Job Classifications that apply

    ****Do not write in any additional Classifications or Counties.****

Requestor Information:

- Enter the name of the person submitting the registration, their title with the company , and the date the registration is filled out

Return Completed Form:

- **Mail** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work, SOBC – Bldg.12 – Rm.130, Albany, NY 12240 -***OR -***
- **Fax** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work at (518)485-1870

New York State Department of Labor
Bureau of Public Work
W. Averell Harriman State Office Campus
Building 12 - Room 130
Albany, New York 12240
Phone - (518) 457-5589 Fax - (518) 485-1870

Employer Registration for Use of 4 Day / 10 Hour Work Schedule

Before completing Form PW30R check to be sure …
There is a *Dispensation of Hours* in place on the project.
The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Please Type or Print the Requested Information

When completed …
Mail to NYSDOL Bureau of Public Work, SOBC, Bldg. 12, Rm.130, Albany, NY 12240
-or-
Fax to NYSDOL Bureau of Public Work at (518) 485-1870

Contractor Information

Company Name: _____ FEIN: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number _____ Fax Number: _____ Email Address: _____

Contact Person: _____

Phone No: _____ Fax No: _____ Email: _____

Project Information

Project PRC#: _____ Project Name/Type: _____

Exact Location of Project: _____ County: _____

(If you are Subcontractor)
Prime Contractor Name: _____

Job Classification(s) to Work 4/10 Schedule: *(Choose all that apply on Job Classification Checklist - Pages 2 & 3)*
**** Do not write in any additional Classifications or Counties****

Requestor Information

Name: _____

Title: _____ Date : _____

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Applicable Counties	Check Box
Carpenter - Building	1042	Clinton, Essex, Franklin	☐
Carpenter - Building	370	Albany, Fulton, Greene, Montgomery, Rensselaer, Schenectady, Schoharie	☐
Carpenter - Building	370Z2	Hamilton, Warren, Washington	☐
Carpenter - Building	370Z3	Saratoga	☐
Carpenter - Heavy&Highway	370Saratoga	Saratoga	☐
Carpenter - Heavy&Highway	370/1042H/H	Clinton, Essex, Franklin, Hamilton	☐
Carpenter - Heavy&Highway	370H/H	Albany, Fulton, Montgomery, Rensselaer, Schenectady, Schoharie, Warren, Washington	☐
Carpenter - Building	85	Livingston, Monroe, Ontario, Wayne, Wyoming	☐
Carpenter - Building	281B	Cayuga, Seneca, Yates	☐
Carpenter - Heavy/Highway	281HH	Cayuga, Seneca, Yates	☐
Carpenter - Building/Heavy&Highway	280	Genesee, Niagara, Orleans, Wyoming	☐
Carpenter - Building/Heavy&Highway	9	Erie, Cattaraugus	☐
Carpenter - Heavy&Highway	66h	Allegany, Chautauqua, Cattaraugus	☐
Carpenter - Building	66	Allegany, Chautauqua, Cattaraugus	☐
Carpenter - Building	277 CST	Cortland, Schuyler, Tompkins	☐
Carpenter - Building	277 JLS	Jefferson, Lewis, St. Lawrence	☐
Carpenter - Building	277 omh	Herkimer, Madison, Oneida	☐
Carpenter - Building	277 On	Onondaga	☐
Carpenter - Building	277 Os	Oswego	☐
Carpenter - Heavy/Highway	277h CST	Cortland, Schuyler, Tompkins	☐
Carpenter - Heavy/Highway	277h JLS	Jefferson, Lewis, St. Lawrence	☐
Carpenter - Heavy/Highway	277h On	Onondaga	☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Applicable Counties	Check Box
Carpenter - Heavy/Highway	277oneidah	Herkimer, Madison, Oneida	☐
Carpenter - Heavy/Highway	277h Os	Oswego	☐
Electrician	25m	Nassau, Suffolk	☐
Electrician	43	Cayuga, Chenango, Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego, Otsego, Tompkins, Wayne	☐
Electrician	840Teledata and 840 Z1	Cayuga, Onondaga, Ontario, Seneca, Wayne, Yates	☐
Electrician	86	Genesee, Livingston, Monroe, Ontario, Orleans, Wayne, Wyoming	☐
Electrician Lineman	1049Line/Gas	Nassau, Suffolk	☐
Electrician Lineman	1249a	Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates	☐
Elevator Constructor	138	Columbia, Delaware, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester	☐
Elevator Constructor	14	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming	☐
Elevator Constructor	27	Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates	☐
Elevator Constructor	35	Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamiliton, Herkimer, Montgomery, Oneida, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington	☐
Elevator Constructor	62.1	Broome, Cayuga, Chenango, Cortland, Delaware, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St. Lawrence, Tioga, Tompkins	☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Applicable Counties	Check Box
Glazier	677.1	Jefferson, Lewis, Livingston, Monroe, Ontario, Seneca, St. Lawrence, Wayne, Yates	☐
Insulator - Heat & Frost	30-Syracuse	Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Tioga, Tompkins	☐
Laborers - Residential Deconstruction, Demolition	601	Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Essex, Franklin, Genesee, Jefferson, Lewis, Livingston, Monroe, Onondaga, Ontario, Orleans, Oswego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Wayne, Wyoming, Yates	☐
Operating Engineer - Heavy& Highway	832H	Allegany, Chemung, Genesee, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates	☐
Painter	178 B	Broome, Chenango, Tioga	☐
Painter	178 E	Chemung, Schuyler, Steuben	☐
Painter	178 O	Delaware, Otsego	☐
Painter	31	Cayuga, Herkimer, Lewis, Madison, Oneida, Onondaga, Ontario, Oswego, Seneca	☐
Painter	38.O	Oswego	☐
Painter	4-Buf,Nia, Olean	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Livingston, Niagara, Orleans, Steuben, Wyoming	☐
Painter	4-Jamestown	Cattaraugus, Chautauqua	☐
Sheetmetal Worker	46	Livingston, Monroe, Ontario, Seneca, Wayne, Yates	☐
Teamster - Heavy&Highway	294h/h	Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington	☐
Teamster - Heavy&Highway	317a.hh	Allegany, Cayuga, Cortland, Seneca, Steuben, Tompkins, Wayne, Yates	☐
Teamster - Heavy&Highway	693.H/H	Broome, Chenango, Delaware, Otsego, Tioga	☐

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is for each hour worked, some classifications require the payment or provision of supplements for each hour paid (including paid holidays on which no work is performed) and/or may require supplements to be paid or provided at a premium rate for premium hours worked.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.state.ny.us) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2

Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-775-3568	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4904
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Essex County General Construction

Asbestos Worker — 05/01/2012

JOB DESCRIPTION Asbestos Worker **DISTRICT** 9

ENTIRE COUNTIES
Albany, Clinton, Essex, Franklin, Fulton, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES
Per hour

	7/01/2011	
Asbestos Worker Removal & hazardous abatement Only	$ 17.50	plus additional $3.00*

Only for the removal of insulation materials from mechanical systems which are not going to be scrapped.

* To be allocated at a later time.

SUPPLEMENTAL BENEFITS
Per hour paid

Journeyman	$ 7.50

OVERTIME PAY
See (B, E, *Q, **T, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (2, 4, 6, 25) on HOLIDAY PAGE
*Code Q applies to 4,6,25.
**Code T applies to 2.

9-12a - Removal Only

Boilermaker — 05/01/2012

JOB DESCRIPTION Boilermaker **DISTRICT** 1

ENTIRE COUNTIES
Albany, Broome, Chenango, Columbia, Delaware, Essex, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington

WAGES
Per hour

	07/01/2011
Boilermaker	$ 30.00

SUPPLEMENTAL BENEFITS
Per hour worked

Journeymen	$ 22.36

OVERTIME PAY
See (*B, **E, Q) on OVERTIME PAGE
*,** DOUBLE TIME AFTER TEN HOURS ON MON.-SAT.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the day observed by the State or Nation shall be observed, and when Christmas Day and New Year's fall on Saturday, Friday will be observed as the holiday.

REGISTERED APPRENTICES
Wages per hour
(1/2) year terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%

Supplemental Benefits per hour worked.

All Apprentices get same benefits as Journeyman.

1-197

Carpenter - Building 05/01/2012

JOB DESCRIPTION Carpenter - Building **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Franklin

WAGES

Per hour:	07/01/2011	06/01/2012 An Additional	06/01/2013 An Additional	06/01/2014 An Additional
Carpenter	$ 23.41	$ 0.88**	$ 1.29**	$ 1.44**
Floor Coverer	23.41	0.88**	1.29**	1.44**
Carpet Layer	23.41	0.88**	1.29**	1.44**
Dry-Wall	23.41	0.88**	1.29**	1.44**
Lather	23.41	0.88**	1.29**	1.44**
Piledriver	23.66	0.88**	1.29**	1.44**
Diver-Wet Day	45.58	0.88**	1.29**	1.44**
Diver -Dry Day	24.41	0.88**	1.29**	1.44**
Diver Tender	24.41	0.88**	1.29**	1.44**

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW:
- Certified welders shall receive $1.00 per hour over the journeyman's rate of pay when the employee is required to be certified and performs DOT or ABS specified welding work
- When an employee performs work within a contaminated area on a State and/or Federally designated hazardous waste site, and where relevant State and/or Federal regulations require employees to be furnished and use or wear required forms of personal protection, then the employee shall receive his regular hourly rate plus $1.50 per hour.
- Depth pay for Divers:
  0' to 80' no additional fee
  81'to 100' additional $.50 per foot per hour
  101'to 150' additional $1.00 per foot per hour
  151'and deeper additional $1.25 per foot per hour
- Penetration pay for Divers:
  0' to 50' no additional fee
  51' to 100' additional $.75 per foot per hour
  101' and deeper additional $1.00 per foot per hour

(**)To be allocated at a later date

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman $ 15.67

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES
Wages per hour

One year terms at the following percentage of Journeyman's base wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour worked:

Carpenter	
1st year term	$ 8.25
2nd year term	8.25
3rd year term	10.75
4th year term	10.75

1-291B-Cli

Carpenter - Building / Heavy&Highway — 05/01/2012

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Wages per hour:

	07/01/2011
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface Installer	$ 26.50

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS
Per hour Paid:

	07/01/2011
Journeyman	$ 18.00

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (2, 17) on HOLIDAY PAGE
Overtime: See (6, 16, 27) on HOLIDAY PAGE
Note: When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. Whan a holiday falls upon a Sunday, it shall be observed on the following Monday.

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour paid:

Carpenter	07/01/2011
1st year term	$ 9.00
2nd year term	14.40
3rd year term	15.30
4th year term	16.20

1-42AtSS

Carpenter - Heavy&Highway — 05/01/2012

JOB DESCRIPTION Carpenter - Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Franklin, Hamilton

WAGES
Per hour:

	07/01/2011
Carpenter	$ 27.65
Millwright	29.15
Piledriver	27.65

Diver-Wet Day	43.95
Diver-Dry Day	28.65
Diver-Tender	28.65

State or Federal designated hazardous site, requiring propectivegear shall be an additional $1.50 per hour.
Certified welders when required to perform welding work will receive an additional $1.50 per hour.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Friday, provided the project duration is more than forty (40) hours.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 16.05

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (2, 17) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
In the event a Holiday falls on a Saturday, the Friday before will be observed as a Holiday. If a Holiday falls on a Sunday, then Monday will be observed as a Holiday.

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's base wage

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour worked:

1st year terms	$ 7.46
2nd year terms	12.01
3rd year terms	16.05
4th year terms	16.05

1-291HH-Ess

Electrician — 05/01/2012

JOB DESCRIPTION Electrician **DISTRICT** 6

ENTIRE COUNTIES
Clinton, Essex, Franklin, Jefferson, Lewis, St. Lawrence

WAGES
Per hour: 07/01/2011

Electrician	$ 31.00
Cable Splicer	32.50
Tunnel worker/welder	32.50

NOTE:

A) Shift Work: The following rates will apply on all Contracting Agency mandated shifts worked between the hours listed below. The employer may be permitted to adjust the starting hours of the shift by up to two (2) hours if required by the agency. If a shift begins outside of the stated shift hours, the rate paid would be determined by what shift period the majority of the hours were worked.

1st shift	8:00 AM to 4:30 PM	Regular wage rate
2nd shift	4:30 PM to 1:00 AM	Regular wage rate plus 17.3%
3rd shift	12:30 AM to 9:00 AM	Regular wage rate plus 31.4%

B) Additional $1.50 per hour for all underground and tunnel work working 35 feet or more on scaffolds, ladders, towers, steeples, structural steel, or over

65 feet from mechanical lifts.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 15.65 *plus 3% of gross wage

* NOTE: THE 3% IS BASED ON THE HOURLY WAGE PAID ON STRAIGHT TIME RATE OR PREMIUM TIME RATE.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
(Hourly) terms at the following percentage of journeyman's wage.

	1-1000 40%	to 2000 45%	to 3500 50%	to 5000 60%	to 6500 70%	to 8000 80%
07/01/2011	$ 12.40	$ 13.95	$ 15.50	$ 18.60	$ 21.70	$ 24.80
Tunnel apprentices						
07/01/2011	$ 13.90	$ 15.45	$ 17.00	$ 20.10	$ 23.20	$ 26.30

Supplemental Benefits per hour worked:

Appr 1st & 2nd term	$ 6.94 * plus 3% of gross wage
Appr All other terms	$ 15.65 * plus 3% of gross wage paid.

* NOTE: THE 3% IS BASED ON THE HOURLY WAGE PAID ON STRAIGHT TIME RATE OR PREMIUM TIME RATE.

6-910

Elevator Constructor **05/01/2012**

JOB DESCRIPTION Elevator Constructor **DISTRICT** 1

ENTIRE COUNTIES
Albany, Clinton, Essex, Fulton, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES
Per hour

	07/01/2011	01/01/2012
Mechanic	$ 38.94	$ 40.09
Helper	70% of Mechanic Wage Rate	70% of Mechanic Wage Rate

(**)To be allocated at a later date

**** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 ****
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman/Helper	$ 21.785*	$ 23.535*

*Plus 6% of wages if less than 5 years service
*Plus 8% of wages if more than 5 years service

OVERTIME PAY
See (D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE
Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
Wages per hour

1st 6mo	2nd 6mo	2nd yr	3rd yr	4th yr
50 %	55 %	65 %	70 %	80 %

Supplemental Benefits per hour worked

Apprentices	$ 21.785 +6% of wage	$ 23.535 +6% of wage

1-35

Glazier 05/01/2012

JOB DESCRIPTION Glazier **DISTRICT** 1

ENTIRE COUNTIES
Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES
Per hour

	07/01/2011	05/01/2012 An Additional	05/01/2013 An Additional
Glazier base wage	$ 23.60	$1.50**	$1.50**
	+ additional $1.50 per hour for all hours worked		
*High Work Base Wage	27.65		
	+ additional $3.30 per hour for all hours worked		

(*)When working on Swing Stage or Lift 100 feet or more in height, measured from the ground level up.
(**)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 13.98
Journeyman High Work	19.18

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE
Premium is applied to the respective base wage only.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If any of the holidays are designated by federal law to be celebrated on a day other than that on which they regularly fall, then the holiday shall be celebrated on the day set by said federal law as if the day on which the holiday is celebrated was actually the holiday date.

REGISTERED APPRENTICES
Wages per hour

Apprentice Glazier One Half Year (900 hr) terms at the following percentage of Journeyman's base wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
35%	45%	55%	65%	75%	85%	90%	95%

+ additional $1.50 per hour for all hours worked for all terms

Apprentice Glazier Hi-Work One Half Year (900 hr) terms at the following percentage of Journeyman's Hi-Work base wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
35%	45%	55%	65%	75%	85%	90%	95%

+ additional $3.30 per hour for all hours worked for all terms

Supplemental Benefits per hour worked

For apprentices indentured after 07/01/2009 the following supplemental benefit applies:

Apprentice	
1st-4th term	$12.63
5th-8th term	13.98
Apprentice High Work	
1st-4th term	$ 14.78
5th-8th term	19.18

For apprentices indentured prior to and including 07/01/2009, the following supplemental benefit applies:

Apprentice	$ 13.98
Apprentice High Work	19.18

1-201

Insulator - Heat & Frost — 05/01/2012

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT** 1

ENTIRE COUNTIES
Albany, Columbia, Delaware, Essex, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Sullivan, Ulster, Warren, Washington

WAGES

Wages per hour	07/01/2011	05/01/2012 An Additional
Asbestos Worker*	$ 28.83	$ 1.50**
Insulator*	28.83	1.50**
Firestopping Worker*	24.51	1.50**

(*)On Mechanical Systems only.
(**)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 18.26

OVERTIME PAY
See (*B1, **Q) on OVERTIME PAGE
*B1=Double time begins after 10 hours on Saturday
**Q=Triple time on Labor Day if worked.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
When a holiday falls on Sunday the following Monday shall be observed as the holiday.

REGISTERED APPRENTICES
Wages per hour

one year terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th
60 %	70 %	80 %	90 %

Supplemental Benefits per hour worked:

Apprentices	$ 18.26

1-40

Ironworker — 05/01/2012

JOB DESCRIPTION Ironworker **DISTRICT** 1

ENTIRE COUNTIES
Albany, Clinton, Columbia, Delaware, Essex, Greene, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

PARTIAL COUNTIES
Fulton: Only the Townships of Broadalbin, Mayfield, Northampton,Bleecker and Johnstown.
Hamilton: Only the Townships of Hope, Benson and Wells.
Montgomery: Only the Townships of Florida, Amsterdam, Charleston,Glen, Mohawk and Root.
Otsego: Only the Towns of Unadilla, Butternut,Morris, Otego,Oneonta, Laurens, Millford, Maryland and Worchester.

WAGES

Per hour	07/01/2011
Ornamental	$ 27.65
Reinforcing	27.65
Rodman	27.65
Sheeter Bucker-up	27.90
Structural & Precast	27.65
Mover/Rigger	27.65
Fence Erector	27.65
Stone Derrickman	27.65
Sheeter	27.90
Curtain Wall Installer	27.65
Metal Window Installer	27.65

SUPPLEMENTAL BENEFITS
Per hour worked

JOURNEYMAN	$ 22.46

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES
Wages per hour
ONE YEAR TERMS AT THE FOLLOWING WAGE RATES:

	07/01/2011
1st yr	$ 16.00
2nd yr	18.00
3rd yr	20.00
4th yr	22.00

Supplemental Benefits per hour worked	
1st year	$ 8.50
2nd year	16.83
3rd year	18.02
4th year	19.18

1-12

Laborer - Building 05/01/2012

JOB DESCRIPTION Laborer - Building **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Warren

WAGES
GROUP #A:
Basic Rate, Multi Trade Tender, Pipe Layer (water, sewer & etc), Self-propelled equipment operator

GROUP #B:
Demolition and wrecking, Concrete or plaster pump.

GROUP #C:

Sandblaster on construction clean-up, Drilling equipment only where a separate air compressor unit supplies power, Metal formsetter (sidewalk) and Curb Setter, Asphalt Raker, and Tail/Screwman on paving machine.

GROUP #D:
Acetylene Burner on demolition and cutting of Pipe

GROUP #E:
Blaster

GROUP #F:
Workers in kilns, tanks, boilers etc., Asbestos & Hazardous Waste Work.

WAGES per hour

	07/01/2011	07/01/2012 An Additional
Group # A	$ 19.78	$ 0.95*
Group # B	19.93	
Group # C	20.08	
Group # D	20.23	
Group # E	20.28	
Group # F	20.78	

*To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour worked

Journeymen	$ 15.67

OVERTIME PAY
See (B, E, *E2, Q) on OVERTIME PAGE
*Inclement weather makeup day may be provided November 15 to May 15.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour

Terms are at the following percentage of Group Rate A.

0-1,333 Hrs	1,334-2,666 Hrs	2,667-4,000 Hrs
70%	80%	90%

Supplemental Benefits per hour worked

Apprentices	$ 15.67

1-186ew

Laborer - Heavy&Highway 05/01/2012

JOB DESCRIPTION Laborer - Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Warren

WAGES
GROUP # A:
Basic Rate, Drill Helper, Flagman, Outboard and Hand Boats.

GROUP # B:
Chain Saw, Concrete Aggregate Bin, Concrete Bootman, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steelmesh, Small Generators for Laborers' Tools, Installation of Bridge Drainage Pipe, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Water Pump Operator (1-1/2" and Single Diaphragm) Nozzle (Asphalt, Gunite, Seeding, and Sand Blasting) , Laborers on Chain Link Fence, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, Oil and Air Tool Operators, Wrecking Laborer.

GROUP # C:
Drilling Equipment Only Where a Separate Air Compressor Unit Supplies Power, Acetylene Torch Operators, Asphalt Raker, Powderman, Tail or Screw Operator on Asphalt Paver.

GROUP # D:
Blasters, Metal Form Setters (sidewalk), Stone or Granite Curb Setters.

GROUP # E:
Hazardous waste, Lead & Abestos abatement.

WAGES per hour	07/01/2011	07/01/2012 An Additional
Group # A	$ 22.94	$ 1.35*
Group # B	23.14	
Group # C	23.34	
Group # D	23.54	
Group # E	24.94	

All employees who work a single irregular shift starting between 5:00 pm and 1:00 am on governmental mandated night work shall be paid an additional $1.75 per hour.
(*)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeymen	$ 16.33

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If a holiday falls on Sunday, it will be celebrated on Monday. In the event that men work on this Sunday holiday, they shall be paid double time. In the event that men work on Monday, they shall be compensated at double time plus the holiday pay. Accordingly, the Monday following the Sunday is treated as the holiday.

REGISTERED APPRENTICES
Wages per hour

Terms are at the following percentage of Group A rate.

0-1333 Hrs	1334-2666 Hrs	2667-4000 Hrs
70%	80%	90%

Supplements per hour worked

Apprentices	$ 16.33

1-186/2h

Laborer - Tunnel — 05/01/2012

JOB DESCRIPTION Laborer - Tunnel **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Warren

WAGES
GROUP A: Change House Man

GROUP B: Miners and all Machine Men, Safety Miner, all Shaft-work, Caisson work, Drilling, Blow Pipe, all Air Tools, Tugger, Scaling, Nipper, Guniting pot to nozzle, Bit Grinder, Signal Man (top and bottom), Concrete Men, Shield driven tunnels, mixed face and soft ground, liner plate tunnels in free air.

GROUP C: Hazardous/Waste Work

WAGES (per hour)

	07/01/2011
Tunnel Laborer:	
Group A	$ 26.12
Group B	26.32
Group C*	28.12

*Work site required to be designated by State/Federal as hazardous waste site and relevant regulations require employees to use personal protection.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	16.33

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
If the holiday falls on Saturday, it will be celebrated on Friday. If the holiday falls on Sunday, it will be celebrated on Monday.

REGISTERED APPRENTICES
Wages per hour

Terms are at the following percentage of Group B rate.

0-1333 Hrs	1334-2666 Hrs	2667-4000 Hrs
70%	80%	90%

Supplements per hour worked
Apprentices $ 16.33

1-186T

Lineman Electrician — 05/01/2012

JOB DESCRIPTION Lineman Electrician **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour:

NOTE: Includes Teledata Work within Ten feet of High Voltage Transmission Lines

Below rates applicable on all Overhead and Underground Transmission line work & Fiber Optic Cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction.

	07/01/2011	05/07/2012
Lineman/Tech./Welder	$ 44.52	$45.23
Cable splicer	44.52	45.23
Digging Machine Operator	40.07	40.71
Tractor Trailer Driver	37.84	38.45
Groundman/Truck Driver	35.62	36.18
Mechanic 1st Class	35.62	36.18
Flagman	26.71	27.14

Additional 1.00 per hr.for entire crew when a helicopter is used.

Below rates apply on Switching Structures, Maintenance projects, Railroad Catenary install/maint, Third rail installation, Bonding of Rails and pipe type cable and installation of Fiber Optic Cable.

Lineman/Technician/Welder	$ 43.31	$ 44.01
Digging Machine Operator	38.98	39.61
Tractor Trailer Driver	36.81	37.41
Groundman/Truck Driver	34.65	35.21
Mech. 1st Class	34.65	35.21
Flagman	25.99	26.41
Certified WelderPipe Type Cable	45.48	46.21
Cable Splicer pipe type cable	47.64	48.41

Additional 1.00 per hour for entire crew when a helicopter job.

Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of Fiber Optic Cable where no other construction trades are or have been involved.

Lineman /Techician	$ 42.02	$ 42.72
Welder/Cable Splicer	42.02	42.72
Digging Machine Operator	37.82	38.45
Tractor Trailer Driver	35.72	36.31
Groundman/Truck Driver	33.62	34.18
Mechanic 1st Class	33.62	34.18
Flagman	25.21	25.63

Additional 1.00 per.hr.for entire crew when a helicopter is used.

Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work"

Lineman/Technician	$ 42.02	$ 42.72
Cable Splicer pipe type cable	46.22	46.99
Certified Welder pipe type	44.12	44.86
Digging Machine Operator	37.82	38.45
Tractor Trailer Driver	35.72	36.31
Mechanic 1st Class	33.62	34.18
Groundman/Truck Driver	33.62	34.18
Flagman	25.21	25.63

Additional $ 1.00 per hour for entire crew when a helicopter is used.

** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 **
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked including holidays listed below:

The following SUPPLEMENTAL benefits apply to all classification categories of CONSTRUCTION, TRANSMISSION and DISTRIBUTION.

$ 16.50 *plus 7% of hourly wage paid	$ 18.25 *plus 7% of hourly wage paid

OVERTIME PAY
See (B, E, Q,) on OVERTIME PAGE. Double time for all emergency work designated by the Dept. of Jurisdiction.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1st shift	8:00 AM to 4:30 PM REGULAR RATE
2nd shift	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3rd shift	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov. of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov. of NYS Election Day.

SUPPLEMENTS for holidays paid at straight time

REGISTERED APPRENTICES
(1000) hr terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked:

The following SUPPLEMENTAL benefits apply to all classification categories of CONSTRUCTION, TRANSMISSION and DISTRIBUTION.

$ 16.50	$ 18.25
*plus 7% of hourly wage paid	*plus 7% of hourly wage paid

*NOTE: The 7% is based on the hourly wage paid, straight time rate or premium rate.

6-1249a

Lineman Electrician - Teledata — 05/01/2012

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per hour:

FOR WORK OUTSIDE BUILDING PROPERTY LINES.

	07/01/2011
Cable Splicer	$ 27.44
Installer/Repairman	26.05
Teledata Lineman	26.05
Technician/Equip Oper	26.05
Groundman	13.81

NOTE: EXCLUDES Teledata work within ten feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

SUPPLEMENTAL BENEFITS
Per hour worked:

$ 4.43
*plus 3% of hourly wage paid

*NOTE: The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal Lighting — 05/01/2012

JOB DESCRIPTION Lineman Electrician - Traffic Signal Lighting **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour:

	07/01/2011	05/07/2012
Lineman/Technician	$38.02	$38.25
Certified Welder	39.92	40.16
Digging Mach	34.22	34.43
Tractor trailer driver	32.32	32.51
Groundman Truck Driver	30.42	30.60

Mechanic 1st Class	30.42	30.60
Flagman	22.81	22.95

Above rates applicable on all Lighting and Traffic Signal Systems with the installation, testing, operation, maintenance and repair of all traffic control and illumination projects, traffic monitoring systems, road weather information systems and the installation of Fiber Optic Cable.

SUPPLEMENTAL BENEFITS
Per hour worked:

All classifications	$ 16.50 *plus 6.5% of hourly wage paid	$18.25 *plus 6.5% of hourly wage paid

NOTE: Additional $1.00 per hr. for entire crew when a helicopter is used.
*NOTE: The 6.5% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
NOTE: DOUBLE TIME FOR ALL EMERGENCY WORK DESIGNATED BY THE DEPT. OF JURISDICTION.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov of NYS Election Day.

REGISTERED APPRENTICES
WAGES: (1000) hour terms at the following percentage of Journeymans Wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS: Same as Journeyman/Technician.

6-1249a-LT

Lineman Electrician - Tree Trimmer — 05/01/2012

JOB DESCRIPTION Lineman Electrician - Tree Trimmer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour:

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

	07/01/2011	01/01/2012
Tree trimmer	$ 21.64	$ 22.08
Equip Operator	19.09	19.48
Mechanic	19.09	19.48
Truck Driver	16.14	16.46
Ground person	13.25	13.51
Flag person	9.44	9.62

SUPPLEMENTAL BENEFITS
Per hour worked:

	$ 7.36	$ 7.88

	*plus 3% of hourly wage paid	*plus 3% of hourly wage paid

Supplements paid at STRAIGHT TIME rate for holidays.

*NOTE: The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

6-1249TT

Mason - Building — 05/01/2012

JOB DESCRIPTION Mason - Building **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Franklin

PARTIAL COUNTIES
Warren: Only the Townships of Chester, Hague, Horicon and Johnsburg.

WAGES
Per hour

	07/01/2011	05/01/2012 An Additional
Bricklayer	$ 26.27	$ 1.35**
Cement Finish	26.27	1.35**
Plasterer/Fireproofer*	26.27	1.35**
Pointer/Caulker/Cleaner	26.27	1.35**
Stone Mason	26.27	1.35**
Acid Brick	26.77	1.35**

(*)Fireproofer on Structural only.
(**)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 16.06

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday which occurs on Sunday shall be observed the following Monday.

REGISTERED APPRENTICES
Wages per hour

750 hr terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

0-500 Hours	$ 9.81
All others	16.06

1-2b.8

Mason - Building — 05/01/2012

JOB DESCRIPTION Mason - Building **DISTRICT** 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

Per hour	07/01/2011
Tile/Marble/Terazzo	
Setter	$ 28.53
Finisher	22.59

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman Setter	$ 16.63
Journeyman Finisher	13.93

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour

Hour Terms at the following percentage of Journeyman's wage

Setter:	
1st term 0-500 hours	60%
2nd term 501-1500 hours	70%
3rd term 1501-2500 hours	80%
4th term 2501-3500 hours	85%
5th term 3501-4500 hours	90%
6th term 4501-6000 hours	95%

Finisher:	
1st term 0-500 hours	70%
2nd term 501-1500 hours	80%
3rd term 1501-2500 hours	90%
4th term 2501-3700 hours	95%

Supplemental Benefits per hour worked

Setter:	
1st term 0-500 hours	$ 9.78
2nd term 501-1500 hours	9.78
3rd term 1501-2500 hours	13.205
4th term 2501-3500 hours	13.205
5th term 3501-4500 hours	14.918
6th term 4501-6000 hours	16.63

Finisher:	
1st term 0-500 hours	$ 9.28
2nd term 501-1500 hours	9.28
3rd term 1501-2500 hours	11.605
4th term 2501-3700 hours	11.605

1-2TS.1

Mason - Heavy&Highway 05/01/2012

JOB DESCRIPTION Mason - Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Albany, Cayuga, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Madison, Montgomery, Oneida, Oswego, Rensselaer, Saratoga, Schenectady, Schoharie, St. Lawrence, Warren, Washington

PARTIAL COUNTIES
Onondaga: For Heavy & Highway Cement Mason or Plaster Work in Onondaga County, refer to Mason-Heavy&Highway tag 1-2h/h on.

WAGES
Per hour

	07/01/2011	07/01/2012

		An Additional
Mason & Bricklayer	$ 30.72	$ 2.00**

Additional $1.00 per hour for work on any swing scaffold or staging suspended by means of ropes or cables.

(**)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 16.34

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If a holiday falls on Sunday, the Monday following shall constitute the day of the legal holiday.

REGISTERED APPRENTICES
Wages per hour

750 HR TERMS at the following percent of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th
55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

0-500 Hours	$ 9.74
All others	16.34

1-2hh.1

Millwright — 05/01/2012

JOB DESCRIPTION Millwright **DISTRICT** 1

ENTIRE COUNTIES
Clinton, Essex, Franklin

WAGES
Per hour: 07/01/2011

Millwright	$ 25.06

(*) WELDER/HAZMAT - A Certified Welder shall received $ 1.25 per hour in addition to the current journeyman's rate provided he/she is directed to perform certified welding. If a work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) are required, then that Employee shall receive a $ 1.25 premium per hour.

SUPPLEMENTAL BENEFITS
Supplement Benefits per hour worked:

Journeyman Millwright	$ 16.34

OVERTIME PAY
See (B, E, *E2, Q) on OVERTIME PAGE
*Saturday may be used as a make-up day and worked at the straight time rate of pay during a work week when conditions such as weather, power failure, fire or natural disaster prevent the performance of work on a regularly scheduled work day. If a make-up day is utilized, a minimun of eight hours must be scheduled.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Any holiday that falls on Sunday shall be observed the following Monday. Any holiday that falls on Saturday shall be observed the preceding Friday.

REGISTERED APPRENTICES
Wages per hour:

1 year terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour worked:

Millwrights	
1st Year Term	$ 7.59
2nd Year Term	13.715
3rd Year Term	14.59
4th Year Term	15.465

1-1163b

Operating Engineer - Building — 05/01/2012

JOB DESCRIPTION Operating Engineer - Building **DISTRICT** 1

ENTIRE COUNTIES
Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

PARTIAL COUNTIES
Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

WAGES
CLASS A1:
Crane, hydraulic cranes, tower crane, locomotive crane, piledriver, cableway, derricks,whirlies, dragline, boom trucks over 5 tons.

CLASS A:
Shovel, all Excavators (including rubber tire full swing), Gradalls, power road grader, all CMI equipment, front-end rubber tire loader, tractor-mounted drill (quarry master), mucking machine, concrete central mix plant, concrete pump, belcrete system, automated asphalt concrete plant, and tractor road paver, boom trucks 5 tons and under, maintenance engineer, self-contained crawler drill-hydraulic rock drill.

CLASS B:
Backhoes (rubber tired backhoe/loader combination), bulldozer, pushcat, tractor, traxcavator, scraper, LeTourneau grader, form fine grader, self-propelled soil compactor (fill roller), asphalt roller, blacktop spreader, power brooms, sweepers, trenching machine, Barber Green loader, side booms, hydro hammer, concrete spreader, concrete finishing machine, one drum hoist, power hoisting (single drum), hoist two drum or more, three drum engine, power hoisting (two drum and over), two drum and swinging engine, three drum swinging engine, hod hoist, A-L frame winches, core and well drillers (one drum), post hole digger, model CHB Vibro-Tamp or similar machine, batch bin and plant operator, dinky locomotive, skid steer loader, track excavator 5/8 cubic yard or smaller, front end rubber tired loader under four cubic yards, vac truck.

CLASS C:
Fork lift, high lift, all terrain fork lift: or similar, oiler, fireman and heavy-duty greaser, boilers and steam generators, pump, vibrator, motor mixer, air compressor, dust collector, welding machine, well point, mechanical heater, generators, temporary light plants, electric submersible pumps 4" and over, murphy type diesel generator, conveyor, elevators, concrete mixer, beltcrete power pack (belcrete system), seeding, and mulching machines, pumps.

* In the event that equipment listed above is operated by robotic control, the classification covering the operation will be the same as if manually operated.

WAGES per hour

	07/01/2011
Class # A1	$ 33.85
Class # A	33.41
Class # B	32.50
Class # C	29.93

Additional $0.50 per hr for Tower Cranes.
Additional $0.50 per hr for Cranes with Boom length & jib 150ft. and over.
Additional $1.00 per hr for Cranes with Boom length & jib 200ft. and over.
Additional $2.00 per hr over B rate for Nuclear Leader work.
Additional $0.40 per hr for tunnel or excavation of shaft 40' or more deep.
Additional $2.50 per hr. for hazardous waste removal work on State and/or Federally designated waste site which require employees to wear Level C or above forms of personal protection

SUPPLEMENTAL BENEFITS
Per hour paid

Journeyman	$ 21.62

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If a holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on Saturday, it will be celebrated on Friday. Employees who work a Saturday holiday shall be paid double time plus the holiday pay.

REGISTERED APPRENTICES
Wages per hour

1000 hours terms at the following percentage of Journeyman's wage Class B

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour paid

All terms	$ 17.05

1-106b

Operating Engineer - Heavy&Highway — 05/01/2012

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Albany, Broome, Chenango, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Tioga, Warren, Washington

PARTIAL COUNTIES
Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.
Herkimer: East of a North/South line through the RailroadStation at Little Falls.

WAGES
MASTER MECHANIC

CLASSIFICATION 1A:
Boom Truck (over 5 tons, manufacturers rating), Crane, Cherry Picker (over 5 tons capacity), Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane

CLASSIFICATION A:
Automated Concrete Spreader (CMI Type), Automatic Fine Grader, Backhoe (Except Tractor Mounted. Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Back Filling Machine, Belt Placer (CM1 Type), Blacktop Plant (Automated), Boom truck (5 tons and under), Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine (Self-Propelled, Slipform), Concrete Pump, Directional Drilling Machine, Dredge, Dual Drum Paver, Excavator (All Purpose Hydraulically Operated, Gradall or Similar), Front End Loader (4 cu. yd. and Over), Head Tower (Sauerman or Equal), Hoist (Two or Three Drum), Holland Loader, Maintenance Engineer, Mine Hoist, Mucking Machine or Mole, Pavement Breaker (SP Wertgen; PB-4 and similar type), Power Grader, Profiler (over 105 H.P.), Quad 9, Quarry Master (or equivalent), Scraper, Shovel, Side Boom, Slip Form Paver (If a second man is needed, he shall be an Oiler), Tractor Drawn Belt-Type Loader, Truck or Trailer Mounted Log Chipper (Self Feeder), Tug Operator (Manned Rented Equipment Excluded), Tunnel Shovel

CLASSIFICATION B:
Asphalt Paver, Backhoe (Tractor Mounted, Rubber Tired), Bituminous Recycler Machine, Bituminous Spreader and Mixer, Blacktop Plant (Non-Automated), Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine, Cage Hoist, Central Mix Plant (Non-Automated) and All Concrete Batching Plants, Cherry Picker (5 tons capacity and under), Concrete Paver (Over 16S), Crawler Drill (Self-contained), Crusher, Diesel Power Unit, Drill Rigs (Tractor Mounted), Front End Loader (Under 4 cu. yd.), Greaseman/Lubrication Engineer, Hi-Pressure Boiler (15 lbs. and over), Hoist (One Drum), Hydro-Axe, Kolman Plant Loader and Similar Type Loaders (If Employer requires another man to clean the screen or to maintain the equipment, he shall be an Oiler), L.C.M. Work Boat Operator, Locomotive, Mixer (for stabilized base self-propelled), Monorail Machine, Plant Engineer, Profiler (105 H.P. and under), Pug Mill, Pump Crete, Ready Mix Concrete Plant, Refrigeration Equipment (for soil stabilization), Road Widener, Roller (all above sub-grade), Sea Mule, Self-contained Ride-on Rock Drill (Excluding Air-Track Type Drill), Skidder, Tractor with Dozer and/or Pusher, Trencher, Tugger Hoist, Vermeer saw (ride on, any size or type),Welder, Winch, Winch Cat

CLASSIFICATION C:
A Frame Winch Hoist on Truck, Aggregate Plant, Ballast Regulator (Ride-on), Boiler (used in conjunction with production), Bituminous Heater (self-propelled), Cement and Bin Operator, Hands-Off Equipment (Compressors, Dust Collectors, Generators, Pumps, Welding Machines, Light Plants, Heaters), Concrete Pavement Spreader and Finisher, Concrete Paver or Mixer (16S and under), Concrete Saw (self-propelled), Conveyor, Directional Drill Machine Locator, Drill (Core), Drill (Well), Farm Tractor with accessories, Fine Grade Machine, Fireman, Fork Lift, Form Tamper, Grout Pump, Gunite Machine, Hammers (Hydraulic self-propelled), Hydra-Spiker (Ride-on), Hydraulic Pump (jacking system), Hydro-Blaster (Water), Mulching Machine, Oiler, Parapet Concrete or Pavement Grinder, Post Hole Digger and Post Driver, Power Broom (towed), Power Heaterman, Power Sweeper, Revinius Widener, Roller (Grade and Fill), Scarifier (Ride-on), Shell Winder, Skid steer loader (Bobcat or similar), Span-Saw (Ride-on), Steam Cleaner, Tamper (Ride-on), Tie Extractor (Ride-on), Tie Handler (Ride-on), Tie Inserter (Ride-on), Tie Spacer (Ride-on), Tire Repair, Track Liner (Ride-on), Tractor Tractor (with towed accessories), Vac Truck, Vibratory Compactor, Vibro Tamp, Well Point

*Note for all above classifications of Operating Engineer - In the event that equipment listed above is operated by robotic control, the classification covering the operation will be the same as if manually operated.

WAGES per hour

	07/01/2011
Master Mechanic	$ 34.97
Class 1A	33.79
Class A	33.36
Class B	32.45
Class C	29.88

Additional $2.00 per hour for All Employees who work a single irregular work shift starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.
Additional $0.50 per hr for Cranes with Boom length & jib 150ft. and over.
Additional $1.00 per hr for Cranes with Boom length & jib 200ft. and over.
Additional $0.50 per hr for Tower Cranes.
Additional $2.50 per hr. for hazardous waste removal work on State and/or Federally designated waste site which require employees to wear Level C or above forms of personal protection.

(**)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour paid

Journeyman	$ 21.85

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If the holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on a Saturday, it will be celebrated on Saturday.

REGISTERED APPRENTICES
Wages per hour

1000 hours terms at the following percentage of Journeyman's wage Class B

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour paid

All Terms	$ 17.25

1-106h

Operating Engineer - Marine Construction — 05/01/2012

JOB DESCRIPTION Operating Engineer - Marine Construction **DISTRICT** 4

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per Hour:

DREDGING OPERATIONS	07/01/2011
CLASS A	
Operator, Leverman, Lead Dredgeman	$ 32.89
CLASS A1 Dozer,Front Loader Operator	To Conform to Operating Engineer Prevailing Wage in Locality where Work is being Performed including Benefits.
CLASS B	
Spider/Spill Barge Operator, Tug Operator(over1000hp), OperatorII, Fill Placer, Derrick Operator, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer	$ 28.49
Certified Welder, Boat Operator(licensed)	$ 26.84
CLASS C	
Drag Barge Operator, Steward, Mate, Assistant Fill Placer,	$ 26.14
Welder (please add)	$ 0.06
Boat Operator	$ 25.29
CLASS D	
Shoreman, Deckhand, Rodman, Scowman, Cook, Messman, Porter/Janitor	$ 21.09
Oiler(please add)	$ 0.09

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

	07/01/2011
All Classes A & B	$ 8.05 plus 7% of straight time wage overtime hours add $ 0.63
All Class C	$ 7.75 plus 7% of straight time wage overtime hours add $ 0.48
All Class D	$ 7.45 plus 7% of straight time wage overtime hours add $ 0.23

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarConst

Operating Engineer - Survey Crew **05/01/2012**

JOB DESCRIPTION Operating Engineer - Survey Crew **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: : The Northern portion of the county from the Northern boundry line of the City of Poughkeepsie North.
Genesee: Only that portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia

WAGES
Per hour:

SURVEY CLASSIFICATIONS: Party Chief- One who directs a survey party. Instrument person- One who runs the instrument and assists the Party Chief. Rod person- One who holds the rods and, in general, assists the survey party.

	07/01/2011	06/01/2012
Survey Rates:		
Party Chief	$ 31.62	$ 32.62
Instrument/Rod person	28.85	29.85

Additional $3.00 per hr. for work in a Tunnel.
Additional $2.50 per hr. for EPA or DEC certified toxic or hazardous waste work

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 20.50	$ 21.75

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: (1 yr. or 1000 hrs.) terms at the following wage rates.

1st year 60%	$ 17.31	$ 17.91
2nd year 70%	20.19	20.89
3rd year 80%	23.08	23.88

SUPPLEMENTAL BENEFITS:

	$ 20.50	$ 21.75

6-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer 05/01/2012

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundry line of the City of Poughkeepsie north.
Genesee: Entire county except that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES
Per hour:

Feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.
SURVEY CLASSIFICATIONS: Party Chief- One who directs a survey party.
Instrument Man- One who runs the instrument and assists the Party Chief.
Rodman- One who holds the rods and in general, assists the survey party.

07/01/2011	06/01/2012

Survey Rates:

Party Chief	$ 31.62	$ 32.62
Instrument/Rodperson	28.85	29.85

Additional $3.00 per hr. for work in a Tunnel.
Additional $2.50 per hr. for EPA or DEC certified toxic or hazardous waste work

SUPPLEMENTAL BENEFITS
Per hour worked:

	$ 20.50	$ 21.75

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

6-545 DCE

Painter — 05/01/2012

JOB DESCRIPTION Painter **DISTRICT** 1

ENTIRE COUNTIES
Essex, Hamilton, Warren, Washington

WAGES
Per hour

	07/01/2011	05/01/2012 An Additional
Brush, Taping	$ 25.04*	$ 1.35**
Paperhanging	25.04*	1.35**
Spray Rate	25.04*	1.35**
Structural Steel***	26.04*	1.35**
Lead Abatement	26.04*	1.35**
Lead Abatement on Structural Steel	27.04*	1.35**

(*)PLUS additional $0.05 per hour for all hours worked added to the base wage for all above categories of Painter.
(**)To be allocated at a later date
(***)Employees working on objects with the use of swing stage, boatswain chair, pick and cables only will be paid at Structural Steel rate. Structural Steel rate also applies to tanks over 100,000 gallons or over 20 feet high or under 55 feet wall height, towers, smoke stacks, flag poles.

Bridge Painter
See Bridge Painter rates for the following work:
All Bridges, All Elevated Tanks and Shell Tanks over 55 feet wall height.

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 9.72

OVERTIME PAY
See (B, E2, H) on OVERTIME PAGE
Premium is applied to base wage only.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If any of the holidays herein are designated by federal law to be celebrated on a day other than that on which they regularly fall, then the holiday shall be celebrated on the day set by said federal law.

REGISTERED APPRENTICES
Wages per hour

1 year terms at the following percentage of Journeyman's wage.

1st year	2nd year	3rd year	4th year
40%	50%	60%	80%

PLUS additoinal $0.05 per hour for all hours worked for all terms added to the wage

Supplemental Benefits per hour worked

All terms $ 9.72

1-466-Z2

Painter - Bridge & Structural Steel **05/01/2012**

JOB DESCRIPTION Painter - Bridge & Structural Steel **DISTRICT** 9

ENTIRE COUNTIES
Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES
(Per Hour Worked)

	07/01/2011
STEEL:	
Bridge Painting	$ 46.25
Power Tool/Spray	$ 52.25

Shift Work: Where project specifications and/or contract provide for night work outside the regular hours of work, and said night work is performed on a second shift, which is separate from the first crew, the night shift employees shall be paid an additional 10% of the regular wage up to seven (7) hours, after which they shall be paid at time and one half the regular wage. If only a night shift is employed, the employees shall be paid at time and one half.

Note: For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

SUPPLEMENTAL BENEFITS
Per Hour Worked:

	07/01/2011
Journeyworker	$ 31.04* $ 31.04**
Hourly Rate after 40 hours from May 1st to Nov. 15th	$ 6.75 only
Hourly Rate after 50 hours from Nov. 16th to April 30th	$ 6.75 only

*For the period of May 1st to November 15th:
This rate shall be paid up to maximum of forty (40) hours worked per week. For all hours exceeding 40, the hourly rate shall drop to the hourly rate shown above by date.
EXCEPT for the first and last week of employment on the project, and for the weeks of Memorial Day, Independence Day and Labor Day, this rate shall be paid for the actual number of hours worked.

**For the period of November 16th to April 30th:
This rate shall be paid up to a maximum of fifty (50) hours worked per week. For all hours exceeding 50, the hourly rate shall drop to the hourly rate shown above by date.

OVERTIME PAY
See (A, F, R) on OVERTIME PAGE
*Note: When calculating overtime pay for the Power Tool/ Spray classification, add Six dollars to the hourly overtime rate calculated for the "Bridge Painting" classification.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
(Wage per hour Worked):

(1) year terms at the following percentage of Journeyworkers wage.

Apprentices:	1st	2nd	3rd
07/01/2011	40%	60%	80%

Supplemental Benefits:

1st Term: Same percentage as used for wage

2nd and 3rd term: Same percentage as used for wage

9-DC-9/806/155-BrSS

Painter - Line Striping 05/01/2012

JOB DESCRIPTION Painter - Line Striping **DISTRICT** 9

ENTIRE COUNTIES
Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES
Per hour:

Painter (Striping-Highway):	07/01/2011
Striping-Machine Operator*	$26.61
Linerman Thermoplastic	$31.87

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety

SUPPLEMENTAL BENEFITS

Per hour paid:	07/01/2011
Journeyworker:	$13.06

OVERTIME PAY
See (B, E, P, S) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 20) on HOLIDAY PAGE
Overtime:	See (5, 8, 11, 12, 15, 16, 17, 20, 21, 22) on HOLIDAY PAGE

9-8A/28A-LS

Painter - Metal Polisher 05/01/2012

JOB DESCRIPTION Painter - Metal Polisher **DISTRICT** 9

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2011
Metal Polisher	$ 25.60*

*Note: All workers shall be paid an additional premium in an amount equal to twenty (20%) percent of their basic straight time rate of pay for all time worked on hanging scaffolds and on standing scaffolds while working more than 34 feet off the ground. Such premium are to be paid on top of their straight time or overtime, whichever is applicable. This also applies to employees erecting scaffolding.

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2011
Journeyworker:	$ 11.12

OVERTIME PAY
See (B, E, Q, T) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime:	See (5, 6, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES
55% of Basic Polisher Rate

9-8A/28A-MP

Plumber 05/01/2012

JOB DESCRIPTION Plumber **DISTRICT** 1

ENTIRE COUNTIES
Essex, Franklin

PARTIAL COUNTIES
Hamilton: The Townships of Long Lake and Indian Lake

WAGES
Per hour

	07/01/2011	05/01/2012 An Additional	05/01/2013 An Additional
Plumber & Steamfitter	$ 31.25	$ 2.80**	$ 2.80**

**To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 13.03 + 8.30*

* This portion of the benefit is subject to the SAME PREMIUM as shown for overtime.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 23) on HOLIDAY PAGE
Note: Whenever a Holiday falls on a Saturday, the preceding day, Friday, shall be observed as the Holiday. If a Holiday falls on a Sunday, the following day, Monday shall be observed as the Holiday.

REGISTERED APPRENTICES
Wages per hour

One year terms at the following percentage of Journeyman's wage

1st yr	50%
2nd yr	60%
3rd yr	70%
4th yr	80%
5th yr	90%

Supplemental Benefits per hour worked

1st yr	$ 11.77 + 4.15*
2nd yr	12.02 + 4.98*
3rd yr	12.27 + 5.81*
4th yr	12.52 + 6.64*
5th yr	12.78 + 7.47*

* This portion of the benefit is subject to the SAME PREMIUM as shown for overtime.

1-773-SF

Roofer — 05/01/2012

JOB DESCRIPTION Roofer **DISTRICT** 1

ENTIRE COUNTIES
Albany, Clinton, Columbia, Essex, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Warren, Washington

WAGES
Per hour

	07/01/2011	06/01/2012 An Additional	06/01/2013 An Addtional
Roofer/Waterproofer	$ 26.40	$ 1.50*	$ 1.50*
Pitch & Asbestos	28.40	$ 1.50*	$ 1.50*

(*)To be allocated at a later date

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman $ 12.62

OVERTIME PAY
See (B, E*, Q) on OVERTIME PAGE.
* Saturday may be used as a make up day at straight time if employee misses 8 hrs or more during that week due to inclement weather.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When any Holiday falls on Saturday, the Friday before such Holiday shall be recognized as the legal Holiday. When a Holiday falls on Sunday, it shall be observed the following Monday.

REGISTERED APPRENTICES
Wages per hour

(1/2) year terms at the following per cent of the Roofer/Waterproofer rate. For Pitch & Asbestos work, an additional $2.00 must be paid in wages.

1st yr 1st half	50%
1st yr 2nd half	58%
2nd yr 1st half	66%
2nd yr 2nd half	74%
3rd yr 1st half	82%
3rd yr 2nd half	90%

Supplemental Benefits per hour worked

1st yr 1st half	$ 10.85
1st yr 2nd half	11.04
2nd yr 1st half	11.27
2nd yr 2nd half	11.47
3rd yr 1st half	11.75
3rd yr 2nd half	11.95

1-241

Sheetmetal Worker — 05/01/2012

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 1

ENTIRE COUNTIES
Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES
Per hour

	07/01/2011
Sheetmetal Worker	$ 29.78

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman $ 22.34

OVERTIME PAY
See (B,E*,Q,) on OVERTIME PAGE

* Double time after 8 hours on Saturdays.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
When any holiday falls on Saturday, the Friday before such holiday shall be recognized as the legal holiday. Any holiday falling on Sunday, the following Monday shall be recognized as the legal holiday.

REGISTERED APPRENTICES
Wages per hour

6 Month Terms at the following rate:

1st term	$ 15.60
2nd term	16.88

3rd term	17.51
4th term	18.15
5th term	18.46
6th term	19.36
7th term	20.85
8th term	22.34
9th term	23.82
10th term	25.31

Supplemental Benefits per hour worked

1st term	$ 14.57
2nd term	14.98
3rd term	15.19
4th term	15.41
5th term	18.61
6th term	18.91
7th term	19.39
8th term	19.89
9th term	20.38
10th term	20.87

Sprinkler Fitter — 05/01/2012

JOB DESCRIPTION Sprinkler Fitter **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour

	07/01/2011	01/01/2012	04/01/2012	01/01/2013
Sprinkler Fitter	$ 30.15	$ 30.15	$ 31.05	$ 31.05

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman	$ 19.00	$ 19.15	$ 19.15	$ 19.30

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES
Wages per hour

For Apprentices Hired Prior To 04/01/2010:

One Half Year terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
50%	50%	55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

	07/01/2011	01/01/2012	04/01/2012	01/01/2013
1st & 2nd terms	$ 8.15	$ 8.15	$ 8.15	$ 8.15
3rd & 4th terms	14.00	14.15	14.15	14.30
All others	19.00	19.15	19.15	19.30

For Apprentices Hired On Or After 04/01/2010:

One Half Year terms at the following percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
45%	50%	55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

	07/01/2011	01/01/2012	04/01/2012	01/01/2013
1st & 2nd terms	$ 8.15	$ 8.15	$ 8.15	$ 8.15
3rd & 4th terms	14.00	14.15	14.15	14.30
All others	14.75	14.90	14.90	15.05

1-669

Teamster - Building — 05/01/2012

JOB DESCRIPTION Teamster - Building **DISTRICT** 7

ENTIRE COUNTIES
Clinton, Essex, Franklin, Jefferson, St. Lawrence

PARTIAL COUNTIES
Lewis: Only the Townships of Croghan, Denmark, Diana, New Bremen,Harrisburg, Montague, Osceola and Pinckney.
Oswego: Only the Towns of Boylston, Redfield, and Sandy Creek.
Warren: Only the Townships of Hague, Horicon, Chester and Johnsburg.

WAGES
GROUP # 1: Fuel Trucks, Fork Lift (Warehouse & Storage Area Only), Bus, Warehouse, Yardman, Truck Helper, Pickups, Panel Truck, Flatbody Material Trucks (straight Jobs), Single axle Dump Trucks, Dumpsters, Material Checkers & Receivers, Greasers, Tiremen, Mechanic Helpers and Parts Chasers.
GROUP # 2: Tandems, Mechanics & Batch Trucks.
GROUP # 3: Semi Trailers, Low Boys, Asphalt Distributor Trucks, and Agitator Mixer Truck, Dump Crete Type Vehicles and 3 axle Dump trucks.
GROUP # 4: Asbestos Removal, Special earth moving Euclid type or similar off highway equip.(non self load.) Articulated and all-track dump trucks.

Wages per hour

	07/01/2011	06/01/2012	06/01/2013	06/01/2014
Building:			Additional	Additional
Group #1	$ 19.71	$ 19.58	$1.70	$ 1.80
Group #2	19.71	19.58	1.70	1.80
Group #3	19.81	19.68	1.70	1.80
Group #4	19.96	19.84	1.70	1.80

SUPPLEMENTAL BENEFITS
Per hour worked:

	07/01/2011	06/01/2012
All groups	$ 17.44	$ 19.17

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

7-687B

Teamster - Heavy&Highway — 05/01/2012

JOB DESCRIPTION Teamster - Heavy&Highway **DISTRICT** 7

ENTIRE COUNTIES
Clinton, Essex, Franklin, Jefferson, St. Lawrence

PARTIAL COUNTIES
Lewis: Only the Townships of Croghan, Denmark, Diana, New Bremen,Harrisburg, Montague, Osceola and Pinckney.
Oswego: Only the Towns of Boylston, Redfield, and Sandy Creek.
Warren: Only the Townships of Hague, Horicon, Chester and Johnsburg.

WAGES
GROUP 1: Warehousemen, Yardmen, Truck Helpers, Pickups,
Panel Trucks, Flatboy Material Trucks(straight jobs), Single Axle Dump Trucks,

Dumpsters, Material Checkers and Receivers, Greasers, Truck Tiremen, Mechanics Helpers and Parts Chasers. Fork Lift (storage & warehouse areas only) Tandems and Batch Trucks, Mechanics, Dispatcher. Semi-Trailers, Low-boy Trucks, Asphalt Distributor Trucks, and Agitator, Mixer Trucks and dumpcrete type vehicles, Truck Mechanic,Fuel Truck.

GROUP 2: Specialized Earth Moving Equipment, Euclid type, or similar off-highway where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck. Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour:

	07/01/2011	06/01/2012	06/01/2013
Heavy/Highway:			Additional
Group #1	$ 22.74	$ 22.46	$ 1.70
Group #2	22.96	22.68	1.70

Additional $2.50 per hr for hazardous waste removal work on a City, County, and/or Federal Designated waste site and regulations require employee to use or wear respiratory protection. For work bid on or after April 1, 1982 there shall be a 12 month carryover of the negotiated rate in effect at the time of the bid.

SUPPLEMENTAL BENEFITS

Per hour worked:

	07/01/2011	06/01/2012
All classes	$ 18.75	$ 20.63

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

7-687

Welder 05/01/2012

JOB DESCRIPTION Welder **DISTRICT** 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2011

Welder (To be paid the same rate of the mechanic performing the work)

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

(A)	Time and one half of the hourly rate after 7 hours per day
(AA)	Time and one half of the hourly rate after 7 and one half hours per day
(B)	Time and one half of the hourly rate after 8 hours per day
(B1)	Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
(B2)	Time and one half of the hourly rate after 40 hours per week
(C)	Double the hourly rate after 7 hours per day
(C1)	Double the hourly rate after 7 and one half hours per day
(D)	Double the hourly rate after 8 hours per day
(D1)	Double the hourly rate after 9 hours per day
(E)	Time and one half of the hourly rate on Saturday
(E1)	Time and one half 1st 4 hours on Saturday Double the hourly rate all additional Saturday hours
(E3)	Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
(E2)	Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E4)	Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(F)	Time and one half of the hourly rate on Saturday and Sunday
(G)	Time and one half of the hourly rate on Saturday and Holidays
(H)	Time and one half of the hourly rate on Saturday, Sunday, and Holidays
(I)	Time and one half of the hourly rate on Sunday
(J)	Time and one half of the hourly rate on Sunday and Holidays
(K)	Time and one half of the hourly rate on Holidays
(L)	Double the hourly rate on Saturday
(M)	Double the hourly rate on Saturday and Sunday
(N)	Double the hourly rate on Saturday and Holidays
(O)	Double the hourly rate on Saturday, Sunday, and Holidays
(P)	Double the hourly rate on Sunday
(Q)	Double the hourly rate on Sunday and Holidays
(R)	Double the hourly rate on Holidays
(S)	Two and one half times the hourly rate for Holidays, if worked
(S1)	Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
(T)	Triple the hourly rate for Holidays, if worked

(U) Four times the hourly rate for Holidays, if worked

(V) Including benefits at SAME PREMIUM as shown for overtime

(W) Time and one half for benefits on all overtime hours.

NOTE:BENEFITS are PER HOUR WORKED,for each hour worked, unless otherwise noted

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

(1)	None
(2)	Labor Day
(3)	Memorial Day and Labor Day
(4)	Memorial Day and July 4th
(5)	Memorial Day, July 4th, and Labor Day
(6)	New Year's, Thanksgiving, and Christmas
(7)	Lincoln's Birthday, Washington's Birthday, and Veterans Day
(8)	Good Friday
(9)	Lincoln's Birthday
(10)	Washington's Birthday
(11)	Columbus Day
(12)	Election Day
(13)	Presidential Election Day
(14)	1/2 Day on Presidential Election Day
(15)	Veterans Day
(16)	Day after Thanksgiving
(17)	July 4th
(18)	1/2 Day before Christmas
(19)	1/2 Day before New Years
(20)	Thanksgiving
(21)	New Year's Day
(22)	Christmas
(23)	Day before Christmas
(24)	Day before New Year's
(25)	Presidents' Day
(26)	Martin Luther King, Jr. Day
(27)	Memorial Day

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12240

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone: ( ) Fax: ( )
E-Mail:

2. NY State Units (see Item 5)

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO ☐ check if new or change)
Name and complete address:

Telephone:( ) Fax: ( )
E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

- ☐ New Schedule of Wages and Supplements.
  APPROXIMATE BID DATE :
- ☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements

NOTE: The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = NYS Dept. of Labor; NYC = New York City Comptroller's Office; AG = NYS Attorney General's Office; DA = County District Attorney's Office.

A list of those barred from bidding, or being awarded, any public work contract or subcontract with the State, under section 141-b of the Workers' Compensation Law, may be obtained at the following link, on the NYS DOL Website:

https://dbr.labor.state.ny.us/EDList/searchPage.do

NYSDOL Bureau of Public Work Debarment List 05/02/2012

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	NYC		A & T IRON WORKS INC		25 CLIFF STREET NEW ROCHELLE NY 10801	12/21/2009	12/21/2014
DOL	DOL	*****0711	A ULIANO & SON LTD		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL		A ULIANO CONSTRUCTION		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	NYC	*****5804	AAR/CO ELECTRIC INC		5902 AVENUE N BROOKLYN NY 11234	03/20/2009	03/20/2014
DOL	DOL	*****9095	ABDO TILE CO		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	06/25/2015
DOL	DOL	*****9095	ABDO TILE COMPANY		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	06/25/2015
DOL	DOL	*****0635	ABOVE ALL PUMP REPAIR CORP		360 KNICKERBOCKER AVENUE BATAVIA NY 11716	10/20/2008	10/20/2013
DOL	NYC	*****5022	ACE DRYWALL SYSTEMS INC.		194 ASHLAND PLACE BROOKLYN NY 11217	03/06/2008	03/06/2013
DOL	AG	*****8219	ACTIVE CABLING INC		C/O FRANK DECAPITE 7 SYCAMORE ROAD DRWOODBURY NY 11797	10/02/2008	10/01/2013
DOL	DOL		ADAM A CEMERYS		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	07/08/2015
DOL	DOL	*****7584	ADAM'S FLOOR COVERING LLC		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	02/15/2017
DOL	DOL		AFFORDABLE PAINTING PLUS		367 GREEVES ROAD NEW HAMPTON NY 10958	10/01/2010	10/01/2015
DOL	DOL		ALBERT CASEY		43-28 54TH STREET WOODSIDE NY 11377	07/01/2011	07/01/2016
DOL	DOL		ALL TOWNS MECHANICAL	BARRY MORRIS	18 EAST SUNRISE HIGHWAY FREEPORT NY 11758	01/21/2008	01/21/2013
DOL	DOL	*****3101	ALLSTATE CONCRETE CUTTING, INC.		635 MIDLAND AVENUE GARFIELD NJ 07026	07/09/2007	07/09/2012
DOL	DOL	*****8740	ALLSTATE ENVIRONMENTAL CORP		C/O JOSE MONTAS 27 BUTLER PLACEYONKERS NY 10710	03/18/2011	03/15/2017
DOL	DOL	*****8534	ALPHA INTERIORS INC		513 ACORN STREET/ SUITE C DEER PARK NY 11729	05/27/2010	05/27/2015
DOL	DOL	*****8291	AMIR'S VISION INC		230 PRATT STREET BUFFALO NY 14204	09/17/2008	09/17/2013
DOL	NYC		ANDERSON LOPEZ		670 SOUTHERN BLVD BRONX NY 10455	06/14/2011	06/14/2016
DOL	DOL	*****0860	ANDREA STEVENS	STEVENS TRUCKING	2458 EAST RIVER ROAD CORTLAND NY 13045	01/23/2008	01/23/2013
DOL	AG		ANTHONY BRANCA		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DOL		ANTHONY POSELLA		30 GLEN HOLLOW ROCHESTER NY 14622	10/19/2009	10/19/2014
DOL	DOL		ANTHONY TAORMINA		215 MCCORMICK DRIVE BOHEMIA NY 11716	05/20/2009	05/20/2014
DOL	DOL		ANTHONY ULIANO		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL	*****2725	ARAGONA CONSTRUCTION CORP		5755 NEWHOUSE ROAD EAST AMHERST NY 14051	10/10/2007	10/10/2012
DOL	DOL	*****8688	ARC MECHANICAL CORP		215 MCCORMICK DRIVE BOHEMIA NY 11716	05/20/2009	05/20/2014
DOL	DOL	*****8482	ARGO CONTRACTING CORP		5752 WEST WEBB ROAD YOUNGSTOWN OH 44515	05/21/2008	05/21/2013
DOL	NYC		ARIE BAR		5902 AVENUE N BROOKLYN NY 11234	03/20/2009	03/20/2014
DOL	DOL		ARTHUR C OSUORAH		PO BOX 1295 BUFFALO NY 14215	02/15/2008	02/15/2013
DOL	DOL	*****8027	ARTHUR DESIGN ENGINEERS & ASSOCIATES		PO BOX 1295 BUFFALO NY 14215	02/15/2008	02/15/2013
DOL	DOL	*****9336	ARTIERI SPECIALTIES LLC	SWITZER SALES	107 STEVENS STREET LOCKPORT NY 14094	11/04/2009	11/04/2014
DOL	DOL	*****2993	AST DRYWALL & ACOUSTICS INC		46 JOHN STREET - STE 711 NEW YORK NY 10038	12/16/2008	12/16/2013
DOL	DOL	*****2534	B & B CONCRETE CONTRACTORS INC		55 OLD TURNPIKE ROAD SUITE 612MANUET NY 10954	02/04/2011	02/04/2016
DOL	DOL	*****7828	BALLAGH GENERAL CONTRACTING INC		250 KNEELAND AVENUE YONKERS NY 10705	07/09/2007	07/09/2012
DOL	NYC		BASIL ROMEO		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL		BEATRICE ORTEGA		764 BRADY AVE - APT 631 BRONX NY 10462	05/21/2008	05/21/2013

DOL	DOL	*****2294	BEDELL CONTRACTING CORP		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL		BENNY VIGLIOTTI		C/O LUVIN CONSTRUCTION CO P O BOX 357CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	DOL		BERNADETTE GORMALLY		250 KNEELAND AVENUE YONKERS NY 10705	07/09/2007	07/09/2012
DOL	NYC		BERNARD COHNEN		193 HARWOOD PLACE PARAMUS NJ 07652	05/14/2008	05/14/2013
DOL	DOL	*****6999	BEST ROOFING OF NEW JERSEY LLC		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL	*****9890	BETTY JOE FRAZIER	NOBLE CONSTRUCTION GROUP	23960 WHITE ROAD WATERTOWN NY 13601	02/14/2008	02/14/2013
DOL	DOL		BIAGIO CANTISANI		200 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL	*****0818	BLASTEC INC	MILLER SANDBLASTING & PAINTING	121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DOL	*****8501	BLOCKHEAD CONCRETE & PAVING INC		P O BOX 71 CHEEKTOWAGA NY 14225	09/03/2008	09/03/2013
DOL	NYC	*****8377	BOSPHORUS CONSTRUCTION CORPORATION		3817 KINGS HIGHWAY-STE 1D BROOKLYN NY 11234	06/30/2010	06/30/2015
DOL	DOL		BRIAN HOXIE		2219 VALLEY DRIVE SYRACUSE NY 13207	12/04/2009	12/04/2014
DOL	DOL	*****4311	C & F SHEET METAL CORP		201 RICHARDS STREET BROOKLYN NY 11231	02/25/2009	02/24/2014
DOL	DOL	*****9286	CALI BROTHERS INC		1223 PARK STREET PEEKSKILL NY 10566	09/12/2007	09/12/2012
DOL	DOL		CANTISANI & ASSOCIATES LTD		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY CONCRETE CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY ENTERPRISES LTD		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY MASONRY CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY"2" INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL	*****9721	CATENARY CONSTRUCTION CORP		112 HUDSON AVENUE ROCHESTER NY 14605	02/14/2006	10/20/2014
DOL	DOL	*****1683	CATONE CONSTRUCTION COMPANY INC		294 ALPINE ROAD ROCHESTER NY 14423	03/09/2012	03/09/2017
DOL	DOL		CATONE ENTERPRISES INC		225 DAKOTA STREET ROCHESTER NY 14423	03/09/2012	03/09/2017
DOL	DOL	*****7924	CBI CONTRACTING INCORPORATED		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL		CHARLES MURDOUGH		203 KELLY DRIVE EAST AURORA NY 14052	03/26/2008	03/26/2013
DOL	DOL		CHARLES OKRASKI		67 WARD ROAD SALT POINT NY 12578	01/21/2011	01/21/2016
DOL	DOL		CHARLES RIBAUDO		513 ACORN ST - SUITE C DEER PARK NY 11729	05/27/2010	05/27/2015
DOL	DOL	*****1416	CHEROMINO CONTROL GROUP LLC		61 WILLET ST - SUITE 14 PASSAIC NJ 07055	12/03/2009	02/23/2017
DOL	DOL		CHESTER A BEDELL		1233 WALT WHITMAN ROAD MELVILLE NY 11747	04/29/2008	04/29/2013
DOL	DOL		CHRIS SAVOURY		44 THIELLS-MT IVY ROAD POMONA NY 10970	10/14/2011	10/14/2016
DOL	DOL		CHRIST R PAPAS		C/O TRAC CONSTRUCTION INC 9091 ERIE ROADANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL		CHRISTOF PREZBYL		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL		CITY GENERAL BUILDERS INC		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****7086	CITY GENERAL IRON WORKS INC		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****5329	CNY MECHANICAL ASSOCIATES INC		P O BOX 250 EAST SYRACUSE NY 13057	11/06/2008	11/06/2013
DOL	NYC	*****1768	COFIRE PAVING CORPORATION		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016

DOL	DOL	*****8342	CONKLIN PORTFOLIO LLC		60 COLONIAL ROAD STILLWATER NY 12170	02/15/2011	02/15/2016
DOL	DOL	*****5740	CORTLAND GLASS COMPANY INC		336 TOMPKINS STREET CORTLAND NY 13045	10/21/2010	07/15/2016
DOL	NYC	*****8777	CROSSLAND ELECTRICAL SYSTEMS INC		846 EAST 52ND STREET BROOKLYN NY 11203	12/19/2008	12/29/2013
DOL	DOL	*****0115	CROW AND SUTTON ASSOCIATES INC		949 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL	*****4266	CRYSTAL INTERIOR CONTRACTING INC		922 CRESCENT STREET BROOKLYN NY 11208	05/21/2008	05/21/2013
DOL	DOL	*****1804	CUSTOM GARDEN LANDSCAPING INC		283 NORTH MIDDLETOWN ROAD PEARL RIVER NY 10965	09/28/2009	09/28/2014
DOL	DOL	*****9453	D & D MASON CONTRACTORS INC		158-11 96TH STREET HOWARD BEACH NY 11414	06/25/2009	06/25/2014
DOL	DOL	*****6339	D J FLOORS INC		9276 VIA CIMATO DRIVE CLARENCE CENTER NY 14032	08/29/2007	08/29/2012
DOL	DOL		D JAMES SUTTON		949 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		DANIEL CELLUCCI ELECTRIC		17 SALISBURY STREET GRAFTON MA 01519	06/02/2010	06/02/2015
DOL	DOL	*****7129	DANIEL T CELLUCCI	DANIEL CELLUCCI ELECTRIC	17 SALISBURY STREET GRAFTON MA 01519	06/02/2010	06/02/2015
DOL	DOL		DARIN ANDERSON		134-25 166 PLACE #5E JAMAICA NY 11434	08/07/2008	08/07/2013
DOL	DOL		DARREN MAYDWELL		115 LEWIS STREET YONKERS NY 10703	05/12/2009	05/12/2014
DOL	DOL		DEANNA J REED		5900 MUD MILL RD-BOX 949 BREWERTON NY 13029	09/02/2008	09/02/2013
DOL	DOL	*****2311	DELCON CONSTRUCTION CORP		220 WHITE PLAINS ROAD TARRYTOWN NY 10591	08/27/2009	08/27/2014
DOL	DOL	*****6971	DELPHI PAINTING AND DECORATING INC		1445 COMMERCE AVENUE BRONX NY 10461	10/09/2007	10/09/2012
DOL	DOL	*****3538	DELTA CONTRACTING PAINTING AND DESIGN INC		75 MCCULLOCH DRIVE DIX HILLS NY 11746	10/19/2010	10/19/2015
DOL	DOL		DESMOND CHARLES		922 CRESCENT STREET BROOKLYN NY 11208	05/21/2008	05/21/2013
DOL	DOL		DIMITEIUS KASSIMIS		152-65 11TH AVENUE WHITESTONE NY 11357	05/22/2008	05/22/2013
DOL	DOL		DONALD NOWAK		10 GABY LANE CHEEKTOWAGA NY 14227	10/15/2009	10/15/2014
DOL	DOL		DONALD SCHWENDLER		9276 VIA CIMATO DRIVE CLARENCE CENTER NY 14032	08/29/2007	08/29/2012
DOL	DOL	*****6148	DOT CONSTRUCTION OF NY INC		765 BRADY AVE - APT 631 BRONX NY 10462	05/21/2008	05/21/2013
DOL	DOL		DOUGLAS MCEWEN		121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DOL		DRAGOLJUB RADOJEVIC	61 WILLET ST - SUITE 14	PASSAIC NJ 07055	12/03/2009	07/09/2015
DOL	NYC	*****6176	E N E L ELECTRICAL CORP		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	NYC	*****8074	ECONOMY IRON WORKS INC		670 SOUTHERN BLVD BRONX NY 10455	06/14/2011	06/14/2016
DOL	DOL		EDWARD SUBEH		1 CHELSEA COURT ATLANTIC CITY NJ 08401	10/06/2008	10/06/2013
DOL	NYC	*****6260	EL TREBOL SPECIAL CLEANING INC		95-26 76TH STREET OZONE PARK NY 11416	10/12/2011	10/12/2016
DOL	DOL	*****3554	ELITE BUILDING ENTERPRISES INC		34-08 PARKWAY DRIVE BALDWIN NY 11510	07/01/2008	07/21/2013
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL	*****6101	ENHANCED DATA COM INC		75 SHERBROOK ROAD NORTH BABYLON NY 11704	07/01/2010	07/01/2015
DOL	DOL		ERROL L ALLEN		134-25 166 PLACE #5E JAMAICA NY 11434	08/07/2008	08/07/2013
DOL	DOL		ESCO INSTALLERS LLC		1 CHELSEA COURT ATLANTIC CITY NJ 08401	10/06/2008	10/06/2013
DOL	DOL	*****0329	FAULKS PLUMBING HEATING & AIR CONDITIONING INC		3 UPTON STREET HILTON NY 14468	06/10/2008	06/10/2013
DOL	DOL		FERNANDO GOMEZ		201 RICHARDS STREET BROOKLYN NY 11231	02/25/2009	02/25/2014
DOL	DOL	*****0768	FISHER CONCRETE INC		741 WELSH ROAD JAVA CENTER NY 14082	04/08/2009	04/08/2014
DOL	DOL	*****5867	FJM-FERRO INC		6820 14TH AVENUE BROOKLYN NY 11219	10/27/2011	10/27/2016

DOL	DOL	*****8067	FORTH SPORT FLOORS INC		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	03/27/2017
DOL	DOL	*****0115	FOXCROFT NURSERIES INC		949 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		FRANCIS (FRANK) OSCIER		3677 SENECA STREET WEST SENECA NY 14224	09/03/2008	09/03/2013
DOL	NYC		FRANK (FRANCIS) OSCIER		3677 SENECA STREET WEST SENECA NY 14224	09/03/2008	09/03/2013
DOL	NYC		FRANK ACOCELLA		68 GAYLORD ROAD SCARSDALE NY 10583	02/10/2011	02/10/2016
DOL	NYC		FRANK BAKER		24 EDNA DRIVE SYOSSET NY 11791	05/14/2008	05/14/2013
DOL	DOL		FRANK J MERCANDO	C/O MERCANDO CONTRACTIN G CO INC	134 MURRAY AVENUE YONKERS NY 10704	11/22/2008	11/22/2013
DOL	DOL		FRANK J MERCANDO		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL		FRANK ORTIZ		75 SHERBROOK ROAD NORTH BABYLON NY 11704	07/01/2010	07/01/2015
DOL	DOL		FRED ABDO	ABDO TILE COMPANY AKA ABDO TILE CO	6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	06/25/2015
DOL	NYC		FREDERICK LEE		89 WALKER STREET NEW YORK NY 10013	01/04/2008	01/04/2013
DOL	DOL	*****9202	G & M PAINTING ENTERPRISES INC		13915 VILLAGE LANE RIVERVIEW MI 48192	02/05/2010	02/05/2015
DOL	DOL	*****9832	G A FALCONE CONSTRUCTION INC		253 COMMONWEALTH AVENUE BUFFALO NY 14216	08/07/2007	08/07/2012
DOL	DOL	*****7088	GBA CONTRACTING CORP		4015 21ST AVENUE ASTORIA NY 11105	01/11/2008	01/11/2013
DOL	DOL	*****6826	GBE CONTRACTING CORPORATION		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	NYC		GELSOMINA TASSONE		25 CLIFF STREET NEW ROCHELLE NY 10801	06/15/2010	06/15/2015
DOL	DOL		GEORGE A PATTI III		P O BOX 772 JAMESTOWN NY 14701	08/13/2010	08/13/2015
DOL	NYC		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GEORGE SHINAS		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	DOL		GERALD A POLLOCK		336 TOMPKINS STREET CORTLAND NY 13045	06/29/2010	07/15/2016
DOL	DOL		GERALD F POLUCH JR		2085 BRIGHTON HENRIETTA TOWN LINE ROADROCHESTER NY 14623	11/04/2010	11/04/2015
DOL	AG		GERARD IPPOLITO		563 MUNCEY ROAD WEST ISLIP NY 11795	07/14/2008	07/14/2013
DOL	DOL	*****4013	GR GRATES CONSTRUCTION CORPORATION		63 IRONWOOD ROAD UTICA NY 13520	06/14/2010	06/14/2015
DOL	DOL		GRATES MERCHANT NANNA INC		63 IRONWOOD ROAD UTICA NY 13520	06/14/2010	06/15/2015
DOL	DOL		GREG SURACI		364 BLEAKER ROAD ROCHESTER NY 14609	10/25/2007	10/25/2012
DOL	DOL		GREGG G GRATES		63 IRONWOOD ROAD UTICA NY 13520	06/14/2010	06/14/2015
DOL	DOL		GRETCHEN SULLIVAN		P O BOX 130 CRETE IL 60417	11/10/2011	11/10/2016
DOL	DOL		GRIOGORIOS BELLOS		4015 21ST AVENUE ASTORIA NY 11105	01/11/2008	01/11/2013
DOL	DOL	*****9985	GROUND LEVEL CONSTRUCTION		10 GABY LANE CHEEKTOWAGA NY 14227	10/15/2009	10/15/2014
DOL	DOL	*****7735	GRYF CONSTRUCTION INC		394 SPOTSWOOD-ENGLISH RD MONROE NJ 08831	08/08/2011	08/08/2016
DOL	DOL	*****8904	HALLOCKS CONSTRUCTION CORP	P O BOX 278	YORKTOWN HEIGHTS NY 10598	12/01/2008	12/01/2013
DOL	DOL		HARALAMBOS KARAS		80-12 ASTORIA BOULEVARD EAST ELMHURST NY 11370	11/22/2008	10/22/2013
DOL	DOL	*****5405	HARD LINE CONTRACTING INC		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL	*****0080	HI-AMP ELECTRICAL CONTRACTING CORP		265-12 HILLSIDE AVENUE FLORAL PARK NY 11004	02/15/2008	02/15/2013
DOL	DOL	*****4331	HIDDEN VALALEY EXCAVATING INC		225 SEYMOUR STREET FREDONIA NY 14063	02/08/2011	02/08/2016

DOL	DOL	*****9893	HOXIE'S PAINTING CO INC		2219 VALLEY DRIVE SYRACUSE NY 13207	12/04/2009	12/04/2014
DOL	DOL	*****6429	IDM ENTERPRISES INC		60 OUTWATER LANE GARFIELD NJ 07026	05/09/2009	05/09/2014
DOL	DOL	*****6293	IMPRESSIVE CONCRETE CORP		264A SUBURBAN AVENUE DEER PARK NY 11729	12/18/2007	12/18/2012
DOL	DOL	*****8898	IN-TECH CONSTRUCTION INC		8346 BREWERTON ROAD CICERO NY 13039	07/06/2007	07/06/2012
DOL	DOL	*****7561	INDUS GENERAL CONSTRUCTION		33-04 91ST STREET JACKSON HEIGHTS NY 11372	04/28/2010	04/28/2015
DOL	DOL	*****0488	INTERWORKS SYSTEMS, INC.		1233 WALT WHITMAN ROAD MELVILLE NY 11747	04/29/2008	04/29/2013
DOL	DOL		ISRAEL MONTESINOS		517 MILES SQUARE ROAD YONKERS NY 10701	02/15/2008	02/15/2013
DOL	DOL		IVAN D MARKOVSKI		60 OUTWATER LANE GARFIELD NJ 07026	05/09/2009	05/09/2014
DOL	DOL		IVAN TORRES		11 PLYMOUTH ROAD DIX HILLS NY 11746	02/15/2008	02/15/2013
DOL	DOL	*****0579	J & I CONSTRUCTION CORP		110 FOURTH STREET NEW ROCHELLE NY 10801	02/15/2008	02/15/2013
DOL	DOL		J & N LEASING AND BUILDING MATERIALS		154 EAST BOSTON POST ROAD MAMARONECK NY 10543	08/11/2009	08/11/2014
DOL	DOL	*****1584	J M TRI STATE TRUCKING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	DOL		JAMES SICKAU		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	12/30/2016
DOL	DOL		JAMES WALSH		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL		JASON ASBURY		22562 SEA BASS DRIVE BOCA RATON FL 33428	10/10/2007	10/10/2012
DOL	DOL		JEANETTE CALICCHIA		1223 PARK STREET PEEKSKILL NY 10566	09/12/2007	09/12/2012
DOL	DOL		JEFFREY A NANNA		502 WOODBURNE DRIVE UTICA NY 13502	06/14/2010	06/14/2015
DOL	DOL		JEFFREY ARTIERI		107 STEVENS STREET LOCKPORT NY 14094	11/04/2009	11/04/2014
DOL	DOL		JOHN B DUGAN		121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DOL		JOHN BUONADONNA		283 NORTH MIDDLETOWN ROAD PEARL RIVER NY 10965	09/28/2009	09/28/2014
DOL	DOL		JOHN CATONE		C/O CATONE CONSTRUCTION 294 ALPINE ROADROCHESTER NY 14612	03/09/2012	03/09/2017
DOL	DOL		JOHN DESCUL		75 MCCULLOCH DRIVE DIX HILLS NY 11746	10/19/2010	10/19/2015
DOL	NYC		JOHN DITURI		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	NYC		JOHN FICARELLI		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		JOHN JIULIANNI		222 GAINSBORG AVENUE E WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	NYC		JOHN MARI JR		278 ROBINSON AVENUE NEW YORK NY 10312	04/06/2008	04/06/2013
DOL	NYC		JOHN O'SHEA		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	DOL	*****5970	JOHN PREVETE FRAMING AND JOHN PREVETE FRAMING INC	JOHN PREVETE	320 RIDGE ROAD WEST MILFORD NJ 07480	03/26/2008	03/26/2013
DOL	DOL	*****2701	JOHN SMYKLA	AFFORDABLE PAINTING PLUS	367 GREEVES ROAD NEW HAMPTON NY 10958	10/01/2010	10/01/2015
DOL	DOL		JORGE OUVINA		344 SOUNDVIEW LANE COLLEGE POINT NY 11356	11/22/2011	11/22/2016
DOL	DOL		JOSE DOS SANTOS JR		85-08 60TH AVENUE ELMHURST NY 11373	11/21/2008	11/21/2013
DOL	DOL		JOSE MONTAS		27 BUTLER PLACE YONKERS NY 10710	03/18/2011	03/15/2017
DOL	DOL		JOSEPH CALICCHIA		1223 PARK STREET PEEKSKILL NY 10566	09/12/2007	09/12/2012
DOL	DOL		JOSEPH CASUCCI		6820 14TH AVENUE BROOKLYN NY 11219	10/27/2011	10/27/2016
DOL	DOL		JOSEPH MONETTE		C/O JOHN MONETTE 140 ARMSTRONG AVENUESYRACUSE NY 13209	10/21/2009	10/21/2014

DOL	DOL	*****1763	JR RESTORATION & ROOFING INC		152-65 11TH AVENUE WHITESTONE NY 11357	05/22/2008	05/22/2013
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL	*****9422	JUNKYARD CONSTRUCTION CORP.		2068 ANTHONY AVENUE BRONX NY 10457	12/26/2007	12/26/2012
DOL	DOL	*****3810	K M MARTELL CONSTRUCTION, INC.		57 CROSS ROAD MIDDLETOWN NY 10940	06/25/2007	06/25/2012
DOL	DOL		K NELSON SACKOOR		16 JOY DRIVE NEW HYDE PARK NY 11040	01/05/2010	01/05/2015
DOL	NYC		KAMIL OZTURK		3715 KINGS HWY - STE 1D BROOKLYN NY 11234	06/30/2010	06/30/2015
DOL	NYC		KAZIMIERZ KONOPSKI		194 ASHLAND PLACE BROOKLYN NY 11217	03/06/2008	03/06/2013
DOL	NYC	*****4923	KELLY'S SHEET METAL, INC.		1426 ATLANTIC AVENUE BROOKLYN NY 11216	12/28/2007	01/14/2013
DOL	DOL		KEMPTON MCINTOSH		8531 AVENUE B BROOKLYN NY 11236	12/16/2008	12/16/2013
DOL	DOL		KEVIN MARTELL		57 CROSS ROAD MIDDLETOWN NY 10940	06/25/2007	06/25/2012
DOL	DOL	*****5941	KINGSVIEW ENTERPRISES INC		7 W FIRST STREET P O BOX 2LAKEWOOD NY 14750	01/14/2011	01/14/2016
DOL	DOL		KRIS CLARKSON		2484 CATON ROAD CORNING NY 14830	06/20/2007	06/20/2012
DOL	DOL		KRZYSZTOF PRXYBYL		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL	*****0526	LAGUARDIA CONSTRUCTION CORP		47-40 48TH STREET WOODSIDE NY 11377	07/01/2011	07/01/2016
DOL	NYC	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****9628	LANCET ARCH INC		112 HUDSON AVENUE ROCHESTER NY 14605	02/14/2006	10/19/2014
DOL	DOL		LANCET SPECIALTY CONTRACTING CORP		C/O CATENARY CONSTRUCTION 112 HUDSON AVENUEROCHESTER NY 14605	10/19/2009	10/19/2014
DOL	DOL		LARRY FRANGOS		5752 WEST WEBB ROAD YOUNGSTOWN OH 44515	05/21/2008	05/21/2013
DOL	DOL	*****7907	LEEMA EXCAVATING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	AG	*****5102	LIBERTY TREE SERVICE, INC.		563 MUNCEY ROAD WEST ISLIP NY 11795	07/14/2008	07/14/2013
DOL	DOL	*****8453	LINPHILL ELECTRICAL CONTRACTORS INC		523 SOUTH 10TH AVENUE MOUNT VERNON NY 10553	01/07/2011	01/07/2016
DOL	DOL		LINVAL BROWN		523 SOUTH 10TH AVENUE MOUNT VERNON NY 10553	01/07/2011	01/07/2016
DOL	DOL	*****5953	LPD CONTRACTING INC		1205 MCBRIDE AVENUE WEST PATTERSON NJ 07424	08/27/2007	08/27/2012
DOL	DOL	*****5171	LUVIN CONSTRUCTION CORP		P O BOX 357 CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	DOL	*****9688	M K PAINTING INC		4157 SEVENTH STREET WYANDOTT MI 48192	05/14/2007	05/14/2012
DOL	DOL		MANUEL ESTEVES		55 OLD TURNPIKE ROAD SUITE 612MANUET NY 10954	02/04/2011	02/04/2016
DOL	NYC		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	NYC		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		MARGARET FORTH		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	03/27/2017
DOL	DOL		MARIO R ECHEVERRIA JR		588 MEACHAM AVE-SUITE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	DOL		MARK LINDSLEY		355 COUNTY ROUTE 8 FULTON NY 13069	08/08/2009	08/14/2014
DOL	NYC	*****4314	MASCON RESTORATION INC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	NYC	*****4314	MASCON RESTORATION LLC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL		MASONRY CONSTRUCTION INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		MASONRY INDUSTRIES INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014

DOL	DOL	*****6826	MATSOS CONTRACTING CORPORATION		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	AG	*****9970	MAY CONSTRUCTION CO INC		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DOL	*****9857	MBL CONTRACTING CORPORATION		2620 ST RAYMOND AVENUE BRONX NY 10461	08/30/2011	08/30/2016
DOL	DOL		MCI CONSTRUCTION INC		975 OLD MEDFORD AVENUE FARMINGDALE NY 11738	08/24/2009	08/24/2014
DOL	DOL	*****5936	MCSI ADVANCED AV SOLUTIONS LLC		2085 BRIGHTON HENRIETTA TOWN LINE ROADROCHESTER NY 14623	11/04/2010	11/04/2015
DOL	DOL	*****4259	MERCANDO CONTRACTING CO INC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL	*****0327	MERCANDO INDUSTRIES LLC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL		MICHAEL HAYNES		211 BRUCE STREET SYRACUSE NY 13224	12/07/2011	12/07/2016
DOL	DOL		MICHAEL L. KRIVITZA	NORTHEAST TECHNOLOGIES	105 PINE STREET - APT 2 EAST ROCHESTER NY 14445	05/14/2007	05/14/2012
DOL	DOL		MICHAEL STEVENS	STEVENS TRUCKING	2458 EAST RIVER ROAD CORTLAND NY 13045	01/23/2008	01/23/2013
DOL	DOL	*****0860	MICHAEL STEVENS	STEVENS TRUCKING	2458 EAST RIVER ROAD CORTLAND NY 13045	01/23/2008	01/23/2013
DOL	DOL	*****2635	MIDLAND CONSTRUCTION OF CEDAR LAKE INC		13216 CALUMET AVENUE CEDAR LAKE IL 46303	11/10/2011	11/10/2016
DOL	DOL	*****5517	MILLENNIUM PAINTING INC		67 WARD ROAD SALT POINT NY 12578	01/21/2011	01/21/2016
DOL	DOL	*****0818	MILLER SANDBLASTING AND PAINTING		121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	NYC		MOHAMMAD SELIM		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11372	03/04/2010	03/04/2015
DOL	DA		MOHAMMED SALEEM		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	NYC	*****2690	MONDOL CONSTRUCTION INC		11-27 30TH DRIVE LONG ISLAND CITY NY 11102	05/25/2011	05/25/2016
DOL	DOL		MORTON LEVITIN		3506 BAYFIELD BOULEVARD OCEANSIDE NY 11572	08/30/2011	08/30/2016
DOL	NYC		MUHAMMAD ZULFIQAR		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL	*****2357	MUNICIPAL MILLING & MIX-IN-PLACE		9091 ERIE ROAD ANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL	*****2251	MURDOUGH DEVELOPMENT CO., INC.		203 KELLY DRIVE EAST AURORA NY 14052	03/26/2008	03/26/2013
DOL	DOL		MURRAY FORTH		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	03/27/2017
DOL	DA	*****9642	MUTUAL OF AMERICAL GENERAL CONSTRUCTION & MANAGEMENT CORP		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	DOL		N PICCO AND SONS CONTRACTING INC		154 EAST BOSTON POST ROAD MAMARONECK NY 10543	08/11/2009	08/11/2014
DOL	DOL	*****4133	NASDA ELECTRICAL ENTERPRISES INC		134-25 166 PLACE - #5E JAMAICA NY 11434	08/07/2008	08/07/2013
DOL	DOL	*****9445	NASDA ENTERPRISES INC		134-25 166 PLACE #5E JAMAICA NY 11434	08/07/2008	08/07/2013
DOL	DOL		NAT PICCO		154 EAST BOSTON POST ROAD MAMARONECK NY 10543	08/22/2009	08/22/2014
DOL	DOL		NICOLE SPELLMAN		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL		NIKOLAS PSAREAS		656 N WELLWOOD AVE/STE C LINDENHURST NY 11757	09/01/2011	09/01/2016
DOL	DOL	*****9890	NOBLE CONSTRUCTION		23960 WHITE ROAD WATERTOWN NY 13601	02/14/2008	02/14/2013
DOL	DOL	*****7771	NORTHEAST TECHNOLOGIES		105 PINE STREET APT. 2 EAST ROCHESTER NY 14445	05/14/2007	05/14/2012
DOL	DOL	*****7041	NYCOM SERVICES CORP		80-12 ASTORIA BOULEVARD EAST ELMHURST NY 11370	11/22/2008	11/22/2013
DOL	DOL	*****0797	O GLOBO CONSTRUCTION CORP		85-06 60TH AVENUE ELMHURST NY 11373	11/21/2008	11/21/2013
DOL	NYC		OLIVER HOLGUIN		95-26 76TH STREET OZONE PARK NY 11416	10/12/2011	10/12/2016
DOL	NYC	*****3855	OT & T INC		36-28 23RD STREET LONG ISLAND CITY NY 11106	01/15/2008	05/14/2013
DOL	NYC	*****9833	PARADISE CONSTRUCTION CORP		6814 8TH AVENUE BROOKLYN NY 11220	12/05/2007	12/05/2012

DOL	DOL	*****5226	PASCARELLA & SONS		459 EVERDALE AVENUE WEST ISLIP NY 11759	01/10/2010	01/10/2015
DOL	DOL		PATRICK BURNS		19 E. CAYUGA STREET OSWEGO NY 13126	05/15/2008	05/15/2013
DOL	DOL		PATRICK SHAUGHNESSY		88 REDWOOD DRIVE ROCHESTER NY 14617	05/16/2008	05/16/2013
DOL	DOL		PEDRO RINCON		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL		PETER J LANDI		249 MAIN STREET EASTCHESTER NY 10709	10/05/2009	10/05/2014
DOL	DOL	*****7229	PETER J LANDI INC		249 MAIN STREET EASTCHESTER NY 10709	10/05/2009	10/05/2014
DOL	DOL	*****1136	PHOENIX ELECTRICIANS COMPANY INC		540 BROADWAY P O BOX 22222ALBANY NY 12201	03/09/2010	03/09/2015
DOL	DOL	*****5419	PINE VALLEY LANDSCAPE CORP		RR 1, BOX 285-B BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		PRECISION DEVELOPMENT CORP		115 LEWIS STREET YONKERS NY 10703	05/12/2009	05/12/2014
DOL	DOL	*****7914	PRECISION SITE DEVELOPMENT INC		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL	*****9359	PRECISION STEEL ERECTORS INC		P O BOX 949 BREWERTON NY 13029	09/02/2008	09/02/2013
DOL	DOL	*****6895	PROLINE CONCRETE OF WNY INC		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	12/30/2016
DOL	DOL	*****2326	PUTMAN CONSTRUCTION COMPANY OF WESTERN NY		29 PHYLLIS AVENUE BUFFALO NY 14215	09/03/2008	09/03/2013
DOL	DOL	*****7438	R & H COMMERCIAL FLOORING, INC.		102 WILLOW AVENUE WATKINS GLEN NY 14891	06/20/2007	06/20/2012
DOL	DOL		RAMON BONILLA		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL	*****7294	REDWOOD FLOORING, INC.		88 REDWOOD DRIVE ROCHESTER NY 14617	05/16/2008	05/16/2013
DOL	NYC	*****6978	RISINGTECH INC		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT DIMARSICO		1233 WALT WHITMAN ROAD MELVILLE NY 11747	04/29/2008	04/29/2013
DOL	NYC		ROBERT FICARELLI		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		ROBERT O'HANLON		635 MIDLAND AVENUE GARFIELD NJ 07026	07/09/2007	07/09/2012
DOL	DOL	*****1721	ROBERTS CONSTRUCTION OF UPSTATE NEW YORK INC		5 SANGER AVENUE NEW HARTFORD NY 13413	01/28/2009	01/28/2014
DOL	DOL	*****3467	ROCKERS AND NOCKERS LLC		207 RIVERVIEW ROAD REXFORD NY 12148	10/23/2007	10/23/2012
DOL	DOL	*****9025	ROJO MECHANICAL LLC		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL		RONALD R SAVOY	C/O CNY MECHANICAL ASSOCIATES INC	P O BOX 250 EAST SYRACUSE NY 13057	11/06/2008	11/06/2013
DOL	DOL		ROSARIO CARRUBBA		5755 NEWHOUSE ROAD EAST AMHERST NY 14051	10/10/2007	10/10/2012
DOL	DOL	*****5905	ROSE PAINTING CORP		222 GAINSBORG AVENUE EAST WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	NYC		ROSS J HOLLAND		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		RUSSELL TUPPER		8346 BREWERTON ROAD CICERO NY 13039	07/06/2007	07/06/2012
DOL	DOL		RUTH H SUTTON		939 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		S & M CONTRACTING LLC		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL	*****2585	S B WATERPROOFING INC		SUITE #3R 2167 CONEY ISLAND AVENUEBROOKLYN NY 11223	11/04/2009	11/04/2014
DOL	DOL	*****9066	SAMAR PAINTING & DECORATING INC		137 E MAIN STREET ELMSFORD NY 10523	12/01/2008	12/01/2013
DOL	NYC	*****0987	SCHWARTZ ELECTRIC CONTRACTORS INC		89 WALKER STREET NEW YORK NY 10013	01/04/2008	01/04/2013
DOL	DOL	*****6348	SEABURY ENTERPRISES LLC		22562 SEA BASS DRIVE BOCA RATON FL 33428	10/10/2007	10/10/2012
DOL	NYC	*****4020	SERVI-TEK ELEVATOR CORP		2546 EAST TREMONT AVENUE BRONX NY 10461	06/04/2009	06/04/2014

DOL	NYC	*****8252	SEVERN TRENT ENVIRONMENTAL SERVICES INC		16337 PARK ROW HOUSTON TX 77084	06/12/2007	06/12/2012
DOL	NYC		SHAFIQUL ISLAM		11-27 30TH DRIVE LONG ISLAND CITY NY 11102	05/25/2011	05/25/2016
DOL	DOL		SHAIKF YOUSUF		C/O INDUS GENERAL CONST 33-04 91ST STREETJACKSON HEIGHTS NY 11372	04/28/2010	04/28/2015
DOL	DOL	*****0256	SIERRA ERECTORS INC		79 MADISON AVE - FL 17 NEW YORK NY 10016	04/16/2009	04/16/2014
DOL	DOL	*****0415	SIGNAL CONSTRUCTION LLC		199 GRIDER STREET BUFFALO NY 14215	11/14/2006	02/25/2015
DOL	DOL	*****8469	SIGNATURE PAVING AND SEALCOATING		P O BOX 772 JAMESTOWN NY 14701	08/13/2010	08/13/2015
DOL	DOL	*****8469	SIGNATURE SEALCOATING AND STRIPING SERVICE		345 LIVINGSTON AVENUE P O BOX 772JAMESTOWN NY 14702	04/04/2007	08/13/2015
DOL	DOL	*****0667	SNEEM CONSTRUCTION INC		43-22 42ND STREET SUNNYSIDE NY 11104	07/01/2011	07/01/2016
DOL	DOL		SPASOJE DOBRIC		61 WILLET STREET - SUITE PASSAIC NJ 07055	07/09/2010	02/23/2017
DOL	DOL	*****3539	SPOTLESS CONTRACTING	IMPACT INDUSTRIAL SERVICES INC	44 THIELLS-MT IVY ROAD POMONA NY 10970	10/14/2011	10/14/2016
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	NYC	*****6650	START ELEVATOR CONSTRUCTION, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	NYC	*****3896	START ELEVATOR MAINTENANCE, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	NYC	*****1216	START ELEVATOR REPAIR, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	NYC	*****2101	START ELEVATOR, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	DOL		STEED GENERAL CONTRACTORS INC		1445 COMMERCE AVENUE BRONX NY 10461	10/09/2007	10/09/2012
DOL	DOL		STEFANIE MCKENNA		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		STEPHEN BALZER		34-08 PARKWAY DRIVE BALDWIN NY 11510	07/01/2008	07/01/2013
DOL	DOL		STEVE PAPASTEFANOU		1445 COMMERCE AVENUE BRONX NY 10461	10/09/2007	10/09/2012
DOL	DOL		STEVEN CONKLIN		60 COLONIAL ROAD STILLWATER NY 12170	02/15/2011	02/15/2016
DOL	DOL	*****4081	STS CONSTRUCTION OF WNY		893 EAGLE STREET BUFFALO NY 14210	06/09/2009	06/09/2014
DOL	DOL	*****2036	SURACI ENTERPRISES INC		364 BLEAKER ROAD ROCHESTER NY 14609	10/25/2007	10/25/2012
DOL	DOL	*****4293	THE J OUVINA GROUP LLC		344 SOUNDVIEW LANE COLLEGE POINT NY 11356	11/22/2011	11/22/2016
DOL	DOL		THEODORE F FAULKS		18 FIREWEED TRAIL HILTON NY 14468	06/10/2008	06/10/2013
DOL	DOL		THOMAS ASCHMONEIT		79 MADISON AVENUE - FL 17 NEW YORK NY 10016	04/16/2009	04/16/2014
DOL	DOL		THOMAS DEMARTINO		158-11 96TH STREET HOWARD BEACH NY 11414	06/25/2009	06/25/2014
DOL	DOL		THOMAS GORMALLY		250 KNEELAND AVENUE YONKERS NY 10705	07/09/2007	07/09/2012
DOL	DOL		THOMAS TERRANOVA		13 NEW ROAD/SUITE 1 NEWBURGH NY 12550	11/15/2010	11/15/2015
DOL	NYC		TIMOTHY O'SULLIVAN		C/O SNEEM CONSTRUCTION 4322 42ND STREETSUNNYSIDE NY 11104	07/01/2011	07/01/2016
DOL	DOL		TIMOTHY P SUCH		893 EAGLE STREET BUFFALO NY 14210	06/09/2009	06/09/2014
DOL	DOL		TNT DEMOLITION AND ENVIRONMENTAL INC		355 COUNTY ROUTE 8 FULTON NY 13069	08/08/2009	08/19/2014
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****2357	TRAC CONSTRUCTION INC	MUNICIPAL MILLING & MIX -IN- PLACE	9091 ERIE ROAD ANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL		TRI STATE TRUCKING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014

DOL	DOL	*****5213	TRIAD PAINTING CO INC		656 N WELLWOOD AVE/STE C LINDENHURST NY 11757	09/01/2011	09/01/2016
DOL	DOL	*****4294	TWT CONSTRUCTION COMPANY INC		13 NEW ROAD/SUITE 1 NEWBURGH NY 12550	11/15/2010	11/15/2015
DOL	NYC	*****5184	UDDIN USA CORP		663 DEGRAW STREET BROOKLYN NY 11217	05/17/2007	05/17/2012
DOL	DOL		ULIANO AND SONS INC		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL	*****8663	URBAN-SUBURBAN RECREATION INC		3 LUCON DRIVE DEER PARK NY 11728	06/20/2007	06/20/2012
DOL	DOL	*****0854	VANESSA CONSTRUCTION INC		588 MEACHAM AVE/STE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	DOL		VIRGINIA L CAPONE		137 E MAIN STREET ELMSFORD NY 10523	12/01/2008	12/01/2013
DOL	NYC	*****9936	VISHAL CONSTRUCTION INC		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11272	03/04/2010	03/04/2015
DOL	DOL	*****0329	WET PAINT CO. OF OSWEGO, INC		19 E. CAYUGA STREET OSWEGO NY 13126	05/15/2008	05/15/2013
DOL	DOL		WHITE PLAINS CARPENTRY CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		WILLIAM PUTNAM		50 RIDGE ROAD BUFFALO NY 14215	09/03/2008	09/03/2013
DOL	DOL		WILLIAM SCRIVENS		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		WILLIAM W FARMER JR		112 HUDSON AVENUE ROCHESTER NY 14605	10/19/2009	10/19/2014
DOL	NYC	*****5498	XAVIER CONTRACTING LLC		68 GAYLORD ROAD SCARSDALE NY 10583	02/10/2011	02/10/2016
DOL	AG		YULY ARONSON		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DOL		ZEPHENIAH DAVIS		2068 ANTHONY AVENUE BRONX NY 10457	12/26/2007	12/26/2012

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01001

SPECIAL CONDITIONS

SPECIAL CONDITIONS REGARDING ACCESS TO THE SITE AND TEMPORARY FACILITIES AVAILABLE

1. ACCESS TO SITE: ACCESS TO THE SITE IS VERY LIMITED. THERE IS A VERY ROUGH ACCESS ROAD (approx. 2.7 miles to top from the base lodge, it takes about 30 minutes to reach the top with a construction vehicle) TO THE TOP OF LITTLE WHITEFACE THAT REQUIRES HEAVY DUTY HIGH GROUND CLEARANCE FOUR WHEEL DRIVE VEHICLES. CONTRACTORS WILL BE RESPONSIBLE FOR CONTINUOUS ROAD MAINTENANCE AS CONSTRUCTION VEHICLES DAMAGE THE ROAD. WHITEFACE MOUNTAIN WILL ALSO ALLOW ACCESS TO THE MOUNTAINTOP VIA ALL TERRAIN VEHICLES. (ATV ACCESS WILL REQUIRE AN ORIENTATION BY WHITEFACE AND COMPLIANCE WITH WHITEFACE POLICIES) WHITEFACE MOUNTAIN ALSO HAS SOME CONSTRUCTION VEHICLES THAT COULD ASSIST IN TRANSPORTING MATERIALS AND WORKERS. HOWEVER, THIS WILL BE VERY LIMITED SINCE WHITEFACE MOUNTAIN STAFF IS VERY LIMITED. THE GONDOLA WILL ALSO BE AVAILABLE TO TRANSPORT WORKERS TO THE TOP OF LITTLE WHITEFACE WHEN THE GONDOLA IS NORMALLY IN OPERATION. THE GONDOLA IS ONLY AVAILABLE FROM 9AM TO 3:30 PM IN THE SUMMER UNTIL LABOR DAY. THEREAFTER IT IS ONLY AVAILABLE ON WEEKENDS DURING THESE HOURS, UNTIL OCTOBER CLOSING. ALL EQUIPMENT AND COSTS TO ACCESS THE SITE SHALL BE INCLUDED IN THE CONTRACTORS BID.

2. WATER: NO WATER IS AVAILABLE AT THE SITE. THERE ARE TWO NON-POTABLE WATER SOURCES AVAILABLE ON THE MOUNTAIN. WE BELIEVE THERE MAY BE FOUR OPTIONS AVAILABLE TO CONTRACTORS, AND PERHAPS OTHERS WE HAVE NOT CONSIDERED. ALL EQUIPMENT AND COSTS TO PROVIDE WATER TO THE SITE SHALL BE INCLUDED IN THE CONTRACTORS BID.

   OPTION 1 BROOK: THERE IS A BROOK PARTWAY UP THE MOUNTAIN NEAR THE ACCESS ROAD THAT COULD BE UTILIZED TO FILL TANKS TO TRANSPORT TO THE TOP OF THE MOUNTAIN. THE CONTRACTOR SHALL PROVIDE ALL WATER TANKS, FILLING EQUIPMENT AND TRANSPORT VEHICLES TO THE SITE.

   OPTION 2 SNOWMAKING SYSTEM WATER: THIS IS A VERY EXPENSIVE OPTION BECAUSE THE SYSTEM IS NORMALLY SHUTDOWN IN THE SUMMER FOR MAINTENANCE AND REPAIRS. IT IS POSSIBLE THE SYSTEM COULD BE TURNED ON BUT THE CONTRACTOR WILL HAVE TO PAY WHITEFACE MOUNTAIN FOR THE COST OF OPERATING THE PUMPS AND EQUIPMENT. BIDDERS SHOULD CONTACT WHITEFACE MOUNTAIN FOR MORE INFORMATION.

   OPTION 3 HELICOPTER: IT IS THE CONTRACTORS OPTION TO TRANSPORT WATER TO THE TOP OF LITTLE WHITEFACE VIA HELICOPTER. SPECIAL PERMISSION WILL HAVE TO BE OBTAINED FROM WHITEFACE MOUNTAIN/ORDA. ALL HELICOPTER

TRANSPORT WILL HAVE TO BE COORDINATED WITH WHITEFACE MOUNTAIN OPERATIONS.

OPTION 4 OTHER SOURCES: POTABLE AND NON-POTABLE WATER IS AVAILABLE AT THE MID STATION AND BASE LODGE BUT WOULD HAVE TO BE PUT INTO WATER TANKS AND TRANSPORTED TO THE TOP OF LITTLE WHITEFACE.

3. TEMPORARY POWER: THE CONTRACTOR WILL HAVE TO ESTABLISH TEMPORARY POWER AT THE TOP OF LITTLE WHITEFACE. THERE IS CURRENTLY ONE 20 AMP CIRCUIT FEEDING THE EXISTING SKI PATROL BUILDING THAT COULD BE USED TEMPORARILY UNTIL PERMANENT POWER IS AVAILABLE. CONTRACTORS MAY WANT TO USE PORTABLE GENERATORS FOR CONSTRUCTION. ALL EQUIPMENT AND COSTS FOR TEMPORARY POWER SHALL BE INCLUDED IN THE CONTRACTORS BID.

4. HEATING, COOLING AND VENTILATION: THERE IS NO HEATING, COOLING AND VENTILATION AVAILABLE AT THE SITE.

5. WEATHER CONDITIONS: THE WEATHER CONDITIONS ON TOP OF LITTLE WHITEFACE CAN BE VERY SEVERE, EVEN IN THE SUMMER MONTHS. CONTRACTORS SHALL CONSIDER THE CONSTANT WIND AND CHANGING WEATHER CONDITIONS THAT CONTINUOUSLY OCCUR ON TOP OF LITTLE WHITEFACE MOUNTAIN.

6. MATERIAL TRANSPORT: IT IS THE CONTRACTOR'S RESPONSIBILITY TO TRANSPORT ALL MATERIALS TO THE SITE, VIA THE ACCESS ROAD OR ALTERNATIVE MEANS, SUCH AS HELICOPTER. ALL HELICOPTER WORK SHALL REQUIRE SPECIAL PERMISSION FROM AND COORDINATION WITH WHITEFACE MOUNTAIN OPERATIONS. ALL HELICOPTER WORK, AND OTHER TRANSPORTATION EQUIPMENT AND COSTS SHALL BE INCLUDED IN THE CONTRACTORS BID.

7. TEMPORARY STRUCTURES: THERE ARE NO TEMPORARY OFFICES, SHELTERS NOR MATERIAL/TOOL SHEDS STRUCTURES AVAILABLE AT THE SITE. CONTRACTOR SHALL PROVIDE ITS OWN TEMPORARY STRUCTURES FOR STORAGE OF TOOLS, TEMPORARY OFFICE SPACE AND STORAGE OF MATERIALS, AND INCLUDE ALL COSTS FOR TEMPORARY STRUCTURES IN ITS BID.

8. SANITATION FACILITIES: THERE ARE NO SANITATION FACILITIES AT THE SITE. PROVIDE TEMPORARY PORTABLE SANITATION UNIT AT THE SITE.

9. OTHER REQUIREMENTS: ATTACHED ARE THREE ADDITIONAL DOCUMENTS AND ORDA REQUIREMENTS FOR CONSTRUCTION PROJECTS AT WHITEFACE MOUNTAIN. CONTRACTOR SHALL COMPLY WITH ALL ORDA REQUIREMENTS AND INCLUDE RESULTANT COSTS IN ITS BID.

END OF SECTION

Whiteface Mt. Ski Center

(518) 946-2223

Notice to Outside Vendors

LET'S WORK TOGETHER !

During your construction project at Whiteface Mt. there are a few things which will help orient you to our facility.

If your project will require an on site "Base Of Operation", Please consult with Management for Location, access routes, and/or parking space.

The common and most frequently used phone numbers are:

Main Office

204 – Bruce McCulley
206 – Doug Hart
208 – Kristy Duell
209 – Judy Winch

223 – Lift Maint. (Ron Depo)
224 – Electric (Michael Hart)
225 – Area Maint. (Pat Munn)
226 – Tails & Slopes (Richard Bouyea)
222 – Night Security (Maddy Thwaits)
228 – Vehicle Maint. (Wallace Pulsifer)
302 – Ticket Booth (weekends)

For an Emergency, please call anyone in the Main Office, or use the Whiteface Radio provided to you, and call the office identified as "553".

An Ambulance can be reached by dialing "9911" on any outside access phone.

A list of first aid stations is attached to this document.

State Law Requires that we inform you, and your employees, of our Hazardous Communication Program. Please let us know when we can arrange this. (approx. 1/2 hour to complete)

See the attached Pollution Prevention Plan, and follow it's requirements where they apply to your work.

As you know Whiteface Mt. is open to the public during the summer for scenic skyrides and Mountain Biking. We ask that safety concerning the public and staff be paramount. Also, we ask that any work area be kept as clean as possible.

Thank You

Whiteface Mt. Staff and Management

Base of Operation: _____

_____

Contact Info:

On Site Supervisor: _____

On Site Phone: _____

Cell Phone: _____

Fax #: _____

Parking: _____

_____

Hours of Work (Daily schedule): _____

_____

Equipment Needs: _____

_____

Equipment Storage: _____

_____

First Aid Procedures: _____

_____

Radio Usage: _____

_____

Telephone Usage(needs): _____

_____

Haz. Com arrangements: _____

_____

NOTES: _____

_____

_____

_____

OLYMPIC REGIONAL
NEW YORK
DEVELOPMENT AUTHORITY

To Whom It May Concern,

It is our company policy to require all groups and/or vendors using Olympic Regional Development Authority facilities to provide a valid Certificate of Insurance. Therefore, your group/company is requested to submit a Certificate of Insurance with the following minimum required insurance limits.

1 - Comprehensive Form General Liability:

Each Occurrence / BI & PD Combined Occurrence:	$1,000,000
General Aggregate / BI & PD General Aggregate:	$2,000,000

2 - Add the following entities as **additional insured**:

N.Y.S. Olympic Regional Development Authority
N.Y.S. Department of Environmental Conservation
The State of New York
The Town of North Elba
The Town of North Elba Park District

For Vendors Only:

3 - Worker's Compensation:	Statutory Limit
Employer's Liability:	$500,000
4 - Automobile Liability:	$1,000,000

Please forward your Certificate of Insurance to the attention of the Risk Management Department at O.R.D.A. at the address listed below. Your immediate attention is appreciated.

Any renewal and/or cancellation notice should be forwarded thirty (30) days prior to the expiration date and/or cancellation of coverage.

Please feel free to contact us if we can be of further assistance. Thank you for your cooperation.

Cordially,

Mike Bartlett

Mike Bartlett
Risk Manager

Olympic Regional Development Authority, 2634 Main St., Lake Placid, NY 12946

SITE ACCESS A G R E E M E N T

AGREEMENT, made by and between the Olympic Regional Development Authority, hereinafter referred to as the "**OWNER**" and

_____

CONTRACTOR

_____

ADDRESS

hereinafter referred to as the "**CONTRACTOR**".

W I T N E S S E T H:

WHEREAS, the Owner shall allow site access to the Contractor to perform services for work as needed.

NOW, THEREFORE, in consideration of the promises, covenants and agreements contained herein, the parties hereto agree as follows:

The term of this Site Access shall be from 01 January 2008 through 01 January 2009**.**

The **CONTRACTOR** agrees to be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the agreement. The **CONTRACTOR** shall comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. The contractor shall provide reasonable protection to prevent damage, injury or loss to employees on the Work and other persons who may be affected thereby, the Work and materials and equipment to be incorporated therein, and other property at the site or adjacent thereto.

To the fullest extent permitted by law, the **CONTRACTOR** shall indemnify and hold harmless and defend ORDA, The State of New York, The New York State Department of Environmental Conservation and its officers, employees and agents from and against any and all claims, damages, losses, expenses and actions, including but not limited to attorneys' fees arising out of or resulting from performance of the Work, or resulting from any act or omission of **CONTRACTOR** any subcontractor, anyone directly or indirectly employed by any of the fore mentioned or anyone for whose acts any may be liable regardless of whether or not it is limited to any claims arising under Labor Law Sections 200, 240, and/or 241, Industrial Code Rule 23 and common law negligence, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property (other than the Work itself), including loss of use resulting therefrom. Such obligation shall not be construed to negative, abridge or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described herein.

In claims against the **OWNER**, its officers, employees, and agents, by an employee of the contractor, a subcontractor, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this paragraph shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the contractor or a sub-contractor under Worker's or Workman's Compensation Acts, disability benefit acts, or other employee benefit acts.

The **CONTRACTOR** shall procure and maintain all of the insurance required under this provision until all work, including punch list items, is complete. The **CONTRACTOR** and each sub-contractor of every tier shall provide insurance as follows:

A. Worker's Compensation and Employer Liability Insurance:

(i) Statutory Worker's Compensation (including occupational disease); Provide C105.2 form.

(ii) Employer's Liability (with a minimum limit of $1,000,000) New York Statutory endorsement.

Commercial General Liability with minimum limits of $1,000,000 for each occurrence and minimum limits of $2,000,000 general aggregate that provides coverage for, but is not limited to: claims for damage because of bodily injury, sickness or disease, or death of any person, including, but not limited to, the **CONTRACTOR'S** employees; claims for damages insured by usual personal injury liability coverage, which are sustained
(a) by a person as a result of a offense directly or indirectly related to employment of such person by the contractor or
(b) by any other person; claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; claims involving liability insurance applicable to the **CONTRACTOR'S** obligations under the indemnification provision of this agreement, independent contractor's coverage, and products/completed operations coverage. The limits may be provided through a combination of primary and umbrella/excess liability policies.

C. Coverage shall provide and encompass at least the following:

(i) written on an occurrence form;

(ii) endorsement naming the Olympic Regional Development Authority as an additional insured;

(iii) the policy or polices must be endorsed to be primary as respects the coverage afforded the owner as additional insured and such policy or policies shall be primary to any other insurance maintained by the **OWNER**. Any other insurance maintained by the **OWNER** shall be excess of and shall not contribute with the **CONTRACTOR'S** or subcontractor's insurance, regardless of the "other insurance" clause contained in the **OWNER'S** own policy of insurance.

D. Commercial Automobile Liability and Property Damage Insurance covering all owned, leased, hired and non-owned vehicles used in connection with the Work with a combined single limit for bodily injury and property damage of at least $1,000,000 per occurrence. The limit may be provided through a combination of primary and umbrella/excess liability policies.

E. Umbrella and/or excess liability policies used to follow the form of the commercial general liability policy, automobile liability and employer's liability limits

shown above may be warranted to be in excess of limits provided by the primary, commercial general liability, automobile liability and employer's liability policy, but not excess to other insurance maintained by the **OWNER**.

The following forms are required to be included in the general liability policy:

1. CG 20330704, Additional Insured-Owners, Lessees or Contractors
2. CG 20370704, Additional Insured-Owners, Lessees or Contractors-Completed Operations, Owners is to be named on this form.
3. CG 24O41093, Waiver of transfer of rights of recovery against others to Owner, Owners is to be named on this form.

F. All insurance shall be written with insurance carriers licensed by the State of New York Insurance Department and have a best rating of AII, or better. Proof of insurance shall be provided on a Certificate of Insurance and shall include the contract number, the Accord Certificate of Insurance or insurance company certificate may be used for proof of Worker's Compensation and disability. All certificates shall contain a sixty (60) days notice of cancellation, non-renewal or material change to the **OWNER**. All certificates must be signed by a licensed agent or authorized representative of the insurance company. Broker's signature is not acceptable.

Names of other persons or entities as additional insured to be included on policy are as follows:

The Olympic Regional Development Authority
and its Offices and Employees

The People of the State of New York,
and its Offices and Employees

Additional for Whiteface, Gore and Olympic Sports Complex
The Department of Environmental Conservation
and its Officers and Employees

Additional for activities at the North Creek Snow Bowl
The Town of North Creek

Additional for activates at the Olympic Jumping Complex and the Olympic Center
The Town of North Elba

The **CONTRACTOR** shall enforce strict discipline and good order among the **CONTRACTOR'S** employees and other persons carrying out service at **OWNER'S** sites.

This agreement may not be amended or modified except in writing by the parties hereto nor may any obligations hereunder be waived orally.

This agreement shall be governed by the laws of the State of New York.

All work shall be completed according to all federal, state and local laws and with required licenses.

It is mutually agreed between the parties that an independent contractor relationship is hereby established under the terms and conditions of this contract.

IN WITNESS WHEREOF, the CONTRATOR hereto accepts the requirements of said agreement as of the day and year first above written.

DATE: _____

_____
Authorized Signature of Contractor

_____
Title

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01100

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Contract description.

B. Work by Owner.

C. Owner supplied products.

D. Contractor's use of site and premises.

E. Future work.

F. Work sequence.

G. Owner occupancy.

H. Specification Conventions.

1.2 CONTRACT DESCRIPTION

A. Work of the Project includes demolition of the existing ski patrol building and construction of a new ski patrol building / Essex County Communications facility.

B. Perform Work of each Contract under separate contract with Owner in accordance with Conditions of the Contract. (The County may elect to complete all the work under one contract).

C. Work of each separate Contract is generally identified in the following articles; however, the Contractor is responsible for compliance with all applicable sections of the Contract package:

1. **Contract (GC) – General Construction**: Provide work identified in Specifications Division 1 through Division 10, Division 12, and indicated on C, S, and A drawings, except work specifically identified as not in contract (NIC) or assigned to another contractor or the Owner.
2. **Contract (M) – Mechanical**: provide work identified in Specifications Division 1, Division 15, and indicated on M drawings, except work specifically identified as not in contract (NIC) or assigned to another contractor or the Owner.
3. **Contract (E) – Electrical**: Provide work identified in Specifications Division 1 and Division 16 and indicated on C and E drawings, except work specifically identified as not in contract (NIC) or assigned to another contractor or the Owner.

1.3 WORK BY OWNER

A. The Owner will award contracts for supply and installation of all communications equipment, including antennas.

B. Items noted NIC (Not in Contract), movable cabinets, furnishings, and equipment, will be furnished and installed by Owner.

C. Whiteface Mountain will remove and retain possession of the following items before start of work:
1. Building Contents.

D. Remove and deliver to Owner the following items prior to start of work:
1. Propane tanks.
2. Radio equipment.
3. Any other equipment requested by Whiteface Mountain.

1.4 OWNER SUPPLIED PRODUCTS

A. Owner's Responsibilities:
1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples, to Contractor.
2. Arrange and pay for delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

C. Products furnished to site and installed by Owner:
1. All radio and communications equipment, including all antennas.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

A. Limit use of site and premises to allow:
1. Owner occupancy.
2. Work by Others and Work by Owner.
3. Use of site and premises by the public.

B. Access to Site: See Special Conditions.

C. Construction Operations: See Special Conditions.

D. Time Restrictions for Performing Interior Exterior Work: See Special Conditions.

E. Utility Outages and Shutdown: Coordinate with Whiteface Mountain operations.

1.6 OWNER OCCUPANCY

A. The Owner will occupy the site and premises during the entire period of construction for the conduct of normal operations.

B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.7 SPECIFICATION CONVENTIONS

A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 COORDINATION OF SEPARATE CONTRACTS

A. The Owner has awarded other contracts, which affects the Work of this contract. The Contractor shall coordinate its Work with the Work of other contractors. Each Contractor shall control and coordinate the work of its subcontractors, if any. The Owner shall approve or require the modification of the work schedules of all contractors to the end that project may be progressed as expeditiously as case permits.

B. If any part of the Work depends for proper execution or results upon the work of any other contractor, the Contractor shall inspect and promptly report in writing to the Owner’s Representative, any defects in such work. The Contractor’s failure to inspect and report shall constitute an acceptance of the other contractor’s work as fit and proper for the reception of the following work.

C. The award of more than one contract for the Project requires sequential or otherwise interrelated contractor operations, and will involve inherent delays in the guarantee of unimpeded operations of any contractor. The Contractor acknowledges these conditions, and understands that the Contractor shall bear the risk of all delays caused by the presence or operations of other contractors engaged by the Owner and delays attendant upon any approved construction schedule.

D. The Owner shall not be liable for delays, which occur by reason of any contractor's failure to comply with directions of the Owner or because of the neglect, failure or inability of any contractor to perform its work efficiently.

E. The Contractor shall defend, indemnify and hold the Owner harmless from any and all claims or judgments of damages and from costs and expenses to which the Owner may be subjected or which it may suffer or incur by reason of or based upon an allegation of the Contractor's failure to promptly comply with the directions of the Owners Representative.

F. Should the Contractor sustain any damage through any act or omissions of any other contractor having a contract with the owner for the performance of work upon the Site of work which may be necessary to be performed for the proper execution of the Work to be performed hereunder, or through any act or omission of a subcontractor of such contractor, the Contractor shall have no claim against the Owner for such damage, but shall have a right to recover such damage from the other contractor under the provision similar to the following provision which has been or will be inserted in the contract with such other contractors.

G. Should any other contractor having or who shall hereafter have a contract with Owner for the performance of work upon the site sustain any damage through any act or omission of the Contractor hereunder or through any act or omission of any subcontractor of the Contractor, the Contractor agrees to reimburse such other contractor for all such damages and to indemnify and hold the Owner harmless from all such claims.

H. The Engineer shall determine loss and amounts claimed for errors, omissions, and liability of a Contractor in damage to other Contractor's work, damage to Owner's property, and corrective work necessary by other Contractors in order to perform their work. The Contractors will have the opportunity to take corrective action at the discretion of the Engineer. The Engineer's decision will be based on maintaining the Construction Schedule and performance of timely work by all Contractors. Contractor shall be obligated to accept the Engineer's determination in change in time and money will execute a Change Order reflection same. Claims, disputes or other matters in question between the Prime Contractors arising out of or relating to the contractual obligation or breach thereof shall be subject to and decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect unless the parties mutually agree otherwise.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01200

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Contingency allowances.

B. Schedule of values.

C. Applications for payment.

D. Change procedures.

E. Defect assessment.

1.2 CONTINGENCY ALLOWANCES

A. The contractors shall include in their respective base bids, a stipulated sum allowance, for use upon authorization by the engineer and owner, as follows:

1. **Base Bid Contract (GC) Contingency Allowance = $10,000**

2. **Base Bid Contract (M) Contingency Allowance = $4,000**

3. **Base Bid Contract (E) Contingency Allowance = $10,000**

B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Contingency Allowance.

C. Funds will be drawn from Contingency Allowance only by Change Order.

D. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.3 SCHEDULE OF VALUES

A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout will be considered.

B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

C. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization, bonds and insurance and allowances separately.

D. Include in each line item, amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.

E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.4 APPLICATIONS FOR PAYMENT

A. Submit three copies of each application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702. Contractor's electronic media driven form.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Payment Period: Submit at intervals stipulated in the Agreement.

D. Submit with transmittal letter as specified for Submittals in Section 01330.

E. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
1. Current construction photographs.
2. Partial release of liens from major subcontractors and vendors.
3. Affidavits attesting to off-site stored products.
4. Construction progress schedules, revised and current.

1.5 CHANGE PROCEDURES

A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. The Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on AIA Form G710.

C. The Architect/Engineer may issue a Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with stipulation of overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 5 days.

D. Contractor may propose changes by submitting a request for change to Architect/Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors. Document requested substitutions in accordance with Section 01600.

E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Architect/Engineer.

F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

G. Construction Change Directive: Architect/Engineer may issue directive, on AIA Form G713 Construction Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

H. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect/Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.

I. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

J. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.

K. Change Order Forms: AIA G701 Change Order.

L. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

M. Correlation Of Contractor Submittals:
1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

1.6 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect/Engineer, it is not practical to remove and replace the Work, the Architect/Engineer will direct appropriate remedy or adjust payment.

C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer.

D. Defective Work will be partially repaired to instructions of Architect/Engineer, and unit sum/price will be adjusted to new sum/price at discretion of Architect/Engineer.

E. Individual specification sections may modify these options or may identify specific formula or percentage sum/price reduction.

F. Authority of Architect/Engineer to assess defects and identify payment adjustments, is final.

G. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from transporting vehicle.
4. Products placed beyond lines and levels of required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling, and disposing of rejected products.

1.7 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work.

C. Schedule of Alternates:
1. Alternate No. 1: (ADD) Rock Removal:
   a. Base Bid Item: No Rock Removal Work.
   b. Alternate Item: Rock removal per Section 02316 and applicable drawings.
2. Alternate No. 2: (ADD) Building Demolition:
   a. Base Bid Item: No Demolition.
   b. Alternate item: Demolish, remove, and dispose of existing ski patrol building, including foundation.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01230

ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1 (ADD): Provide a separate Stipulated Price for Rock Removal as specified.

B. Alternate No. 2 (ADD): Provide a separate Stipulated Price for Demolition of Existing Ski Patrol Building as specified.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01300

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and project conditions.

B. Field engineering.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Pre-installation meetings.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.

F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

A. Employ Land Surveyor registered in State of New York and acceptable to Architect/Engineer.

B. Locate and protect survey control and reference points. Promptly notify Architect/Engineer of discrepancies discovered.

C. Control datum for survey is that established by Owner provided survey.

D. Verify set-backs and easements; confirm drawing dimensions and elevations.

E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit copy of site drawing and certificate signed by Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.

G. Maintain complete and accurate log of control and survey work as Work progresses.

H. On completion of foundation walls and major site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

I. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

J. Promptly report to Architect/Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.

K. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect/Engineer.

1.4 PRECONSTRUCTION MEETING

A. Architect/Engineer will schedule meeting after Notice of Award.

B. Attendance Required: Owner, Architect/Engineer, ORDA, and Contractor.

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
5. Designation of personnel representing parties in Contract, ORDA, and Architect/Engineer.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.

7. Scheduling.
8. Coordinating access to site.

D. Architect/Engineer will record minutes and distribute copies after meeting to participants, and those affected by decisions made.

1.5 SITE MOBILIZATION MEETING

A. Architect/Engineer will schedule meeting at Project site prior to Contractor occupancy.

B. Attendance Required: Owner, Architect/Engineer, Special Consultants, ORDA, Contractor, Contractor's Superintendent, and major Subcontractors.

C. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls.
4. Temporary utilities.
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules and access to site.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Architect/Engineer will record minutes and distribute copies after meeting to participants and those affected by decisions made.

1.6 PROGRESS MEETINGS

A. Architect/Engineer will schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.

B. Architect/Engineer will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, ORDA, Architect/Engineer, as appropriate to agenda topics for each meeting.

D. Agenda:
1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.

7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

E. Architect/Engineer will record minutes and distribute copies after meeting to participants, and those affected by decisions made.

1.7 PRE-INSTALLATION MEETINGS

A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.

B. Require attendance of parties directly affecting, or affected by, Work of specific section.

C. Notify Architect/Engineer four days in advance of meeting date.

D. Prepare agenda and preside at meeting:
1. Review conditions of installation, preparation and installation procedures.
2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, Owner, ORDA, and those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed products list.

D. Product data.

E. Shop drawings.

F. Samples.

G. Design data.

H. Test reports.

I. Certificates.

J. Manufacturer's instructions.

K. Manufacturer's field reports.

L. Erection drawings.

M. Construction photographs.

1.2 SUBMITTAL PROCEDURES

A. Transmit each submittal with Architect/Engineer accepted form attached.

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

E. Schedule submittals to expedite Project, and deliver to Architect/Engineer at business address. Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.

H. Allow space on submittals for Contractor and Architect/Engineer review stamps.

I. When revised for resubmission, identify changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

K. Submittals not requested will not be recognized or processed.

L. *Contractors shall provide all submittals, shop drawings and product data stipulated in the individual specification sections, within 30 days of the Letter of Intent, Notice to Proceed or Contract Award, whichever occurs first. In the event there is a delay in the arrival of materials and equipment on-site as needed for proper sequencing to complete the work according to the approved schedule and contract completion date, due to the failure of the Contractor to provide the submittals in a timely manner specified, then the Contractor will be assessed ADDITIONAL liquidated damages in the amount of $500.00(five hundred dollars) per calendar day from the date of the delay of the work, as determined by and at the sole discretion of the Architect/Engineer.*

1.3 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial schedules within 15 days after date of Owner-Contractor Agreement. After review, resubmit required revised schedule within ten days.

B. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.

C. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

D. Submit computer generated horizontal bar chart with separate line for each major portion of Work or operation, identifying first work day of each week.

E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

F. Indicate estimated percentage of completion for each item of Work at each submission.

G. Submit separate schedule of submittal dates for shop drawings, product data, and samples and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.

H. Indicate delivery dates for Owner furnished products.

I. Revisions To Schedules:
1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including effect of changes on schedules of separate contractors.

1.4 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

A. Product Data: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Submit number of copies Contractor requires, plus two copies Architect/Engineer will retain.

C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700.

1.6 SHOP DRAWINGS

A. Shop Drawings: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
   1. Include signed and sealed calculations to support design.
   2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
   3. Make revisions and provide additional information when required by authorities having jurisdiction.

D. Submit number of opaque reproductions Contractor requires, plus three copies Architect/Engineer will retain.

E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700.

1.7 SAMPLES

A. Samples: Submit to Architect/Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.

B. Samples For Selection as Specified in Product Sections:
   1. Submit to Architect/Engineer for aesthetic, color, or finish selection.
   2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect/Engineer selection.

C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

D. Include identification on each sample, with full Project information.

E. Submit number of samples specified in individual specification sections; Architect/Engineer will retain two samples.

F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

G. Samples will not be used for testing purposes unless specifically stated in specification section.

H. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01700.

1.8 DESIGN DATA

A. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.

B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.9 TEST REPORTS

A. Submit for Architect/Engineer's knowledge as contract administrator or for Owner.

B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 CERTIFICATES

A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Architect/Engineer, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect/Engineer.

1.11 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Architect/Engineer for delivery to Owner in quantities specified for Product Data.

B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.12 MANUFACTURER'S FIELD REPORTS

A. Submit reports for Architect/Engineer's benefit as contract administrator or for Owner.

B. Submit report within 5 days of observation to Architect/Engineer for information.

C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.13 ERECTION DRAWINGS

A. Submit drawings for Architect/Engineer's benefit as contract administrator or for Owner.

B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by Architect/Engineer or Owner.

1.14 CONSTRUCTION PHOTOGRAPHS

A. Provide photographs of site and construction throughout progress of Work produced by digital camera.

B. Twice monthly submit photographs.

C. Take two site photographs from differing directions and five interior photographs indicating relative progress of the Work.

D. Take photographs as evidence of existing project conditions.

E. Identify date and time of view.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

CONTRACTOR'S LETTERHEAD

PROJECT TITLE: Essex County

Little Whiteface Ski Patrol Building

PROJECT NO.: 3760

ENGINEER: AES Northeast, PLLC

SPEC. SECTION NO. _____ ❑ Warranty ❑ Performance Affidavit ❑ Other
❑ Product Data ❑ Shop Drawing ❑ Samples/Color Charts

DESCRIPTION: _____

NO. OF PAGES: _____

DATE SUBMITTED: _____ DATE RESUBMITTED: _____

CONTRACTOR'S STAMP & NOTES:

The Contractor Certifies that this product submittal:

1. **Is equal in materials of construction, quality, durability, appearance, strength, and design characteristics.**
2. **It will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole.**
3. **It has a proven record of performance and availability of responsive service.**
4. **There will be no increase in cost to the Owner or increase in Contract Times.**
5. **It conforms substantially to the detailed requirements of the item named in the Contract Documents.**
6. **The Contractor has allowed at least (2) weeks for review of this submittal.**

ENGINEER'S STAMP & NOTES:

AES NORTHEAST, PLLC

☐ **No Exceptions Taken** ☐ **Revise & Resubmit**

☐ **Make Corrections Noted** ☐ **Rejected**

DATE:_____**BY:**_____

Architect's/Engineer's review is for general conformance with the design concepts and contract documents. Marking or comments shall not be construed as relieving the Contractor from compliance with the project plans and specifications, nor departure therefrom. The Contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly and for performing work in a safe manner.

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01400

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control and control of installation.

B. Tolerances

C. References.

D. Testing and inspection services.

E. Manufacturers' field services.

F. Examination.

G. Preparation.

H. Cutting and Patching

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce required and specified quality.

F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.

C. Obtain copies of standards where required by product specification sections.

D. When specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.5 TESTING AND INSPECTION SERVICES

A. Contractor shall employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing.
   1. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time specialist and responsible officer.
   2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.

B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Architect/Engineer.
   1. Laboratory: Authorized to operate in State of New York.
   2. Laboratory Staff: Maintain full time specialist on staff to review services.
   3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.

C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Architect/Engineer or Owner.

D. Reports will be submitted by independent firm to Architect/Engineer and Contractor, in triplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
1. Notify Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Architect/Engineer. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.

H. Agency Responsibilities:
1. Test samples of mixes submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect/Engineer and Contractor of observed irregularities or non-conformance of Work or products.
6. Perform additional tests required by Architect/Engineer.
7. Attend preconstruction meetings and progress meetings.

I. Agency Reports: After each test, promptly submit three copies of report to Architect/Engineer and to Contractor. When requested by Architect/Engineer, provide interpretation of test results. Include the following:
1. Date issued.
2. Project title and number.
3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and specifications section.
6. Location in Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

J. Limits On Testing Authority:
1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency or laboratory may not approve or accept any portion of the Work.
3. Agency or laboratory may not assume duties of Contractor.
4. Agency or laboratory has no authority to stop the Work.

1.6 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect/Engineer 30 days in advance of required observations. Observer subject to approval of Architect/Engineer. Owner.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

D. Refer to Section 01330 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements affecting:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07840, to full thickness of penetrated element.

J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

K. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:
   1. Temporary electricity.
   2. Temporary lighting.
   3. Temporary heating.
   4. Temporary cooling.
   5. Temporary ventilation.
   6. Telephone service.
   7. Facsimile service.
   8. Temporary water service.
   9. Temporary sanitary facilities.

B. Construction Facilities:
   1. Field offices and sheds.
   2. Vehicular access.
   3. Parking.
   4. Progress cleaning and waste removal.
   5. Project identification.
   6. Traffic regulation.
   7. Fire prevention facilities.

C. Temporary Controls:
   1. Barriers.
   2. Enclosures and fencing.
   3. Security.
   4. Water control.
   5. Dust control.
   6. Erosion and sediment control.
   7. Noise control.
   8. Pest control.
   9. Pollution control.
   10. Rodent control.

D. Removal of utilities, facilities, and controls.

1.2 TEMPORARY ELECTRICITY

A. Owner will pay cost of energy used. Exercise measures to conserve energy. Utilize Owner’s existing power service.

B. Provide temporary electric feeder from existing gondola electrical service at location as directed by ORDA. Do not disrupt Owner's use of service.

C. Complement existing power service capacity and characteristics as required for construction operations.

D. Provide power outlets, with branch wiring and distribution boxes located as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.

E. Provide main service disconnect and over-current protection at convenient location.

1.3 TEMPORARY LIGHTING

A. Provide and maintain lighting for construction operations to achieve minimum lighting level of 2 watt/sq ft.

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.

C. Maintain lighting and provide routine repairs.

D. Permanent building lighting may be utilized during construction.

1.4 TEMPORARY HEATING

A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.

B. Enclose building prior to activating temporary heat in accordance with Enclosures article in this section.

C. Prior to operation of permanent equipment for temporary heating purposes, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

D. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.

1.5 TEMPORARY VENTILATION

A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.6 TELEPHONE SERVICE

A. Provide, maintain, and pay for cellular telephone service to field office at time of project mobilization.

1.7 TEMPORARY WATER SERVICE

A. See Special Conditions.

1.8 TEMPORARY SANITARY FACILITIES

A. See Special Conditions.

1.9 FIELD OFFICES AND SHEDS

A. See Special Conditions.

B. Do not use existing facilities for field offices or for storage.

C. ORDA will provide space for Project meetings at the existing facilities.

D. Do not use permanent facilities for field offices or for storage.

E. Storage Areas And Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection of products to requirements of Section 01600.

F. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

1.10 VEHICULAR ACCESS

A. See Special Conditions.

B. If necessary, construct temporary bridges and culverts to span low areas and allow unimpeded drainage.

C. Location approved by ORDA.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Use designated existing on-site roads for construction traffic.

1.11 PARKING

A. Arrange for temporary parking areas to accommodate construction personnel.

B. Locate as approved by ORDA.

C. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas.

D. Use of designated areas of existing parking facilities used by construction personnel is permitted.

E. Do not allow heavy vehicles or construction equipment in parking areas.

F. Do not allow vehicle parking on existing pavement.

G. Maintenance:
1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.

2. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

H. Removal, Repair:
1. Remove temporary materials and construction.
2. Repair existing facilities damaged by use, to original condition.

I. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.12 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 TRAFFIC REGULATION

A. Signs, Signals, And Devices:
1. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction.
2. Traffic Cones and Drums, Flares and Lights: As approved by authority having jurisdiction.
3. Flagperson Equipment: As required by authority having jurisdiction.

B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

C. Flares And Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

D. Haul Routes:
1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
2. Confine construction traffic to designated haul routes.
3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

E. Traffic Signs And Signals:

1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
2. Provide, operate, and maintain traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
3. Relocate as Work progresses, to maintain effective traffic control.

1.14 FIRE PREVENTION FACILITIES

A. Prohibit smoking with buildings under construction and demolition. Designate area on site where smoking is permitted. Provide approved ashtrays in designated smoking areas.

B. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

C. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.
1. Provide one fire extinguisher on each floor of buildings under construction and demolition.
2. Provide minimum one fire extinguisher in every construction trailer and storage shed.

1.15 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way and for public access to existing building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.16 ENCLOSURES AND FENCING

A. Construction: Plastic construction netting.

B. Provide 6 feet high fence around construction site; equip with vehicular and pedestrian gates with locks.

C. Exterior Enclosures:
1. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.
2. Provide temporary roofing.

1.17 SECURITY

A. Security Program:
   1. Protect Work existing premises and Owner's operations from theft, vandalism, and unauthorized entry.
   2. Initiate program in coordination with Owner's existing security system at project mobilization.
   3. Maintain program throughout construction period until Owner occupancy.

B. Entry Control:
   1. Restrict entrance of persons and vehicles into Project site and existing facilities.
   2. Allow entrance only to authorized persons with proper identification.
   3. Maintain log of workers and visitors, make available to Owner on request.
   4. Coordinate access of ORDA’s personnel to site in coordination with ORDA's security forces.

C. Personnel Identification:
   1. Provide identification badge to each person authorized to enter premises.
   2. Badge To Include: Personal photograph, name, expiration date, and employer.
   3. Maintain list of accredited persons, submit copy to Owner on request.
   4. Require return of badges at expiration of their employment on the Work.

1.18 WATER CONTROL

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.19 DUST CONTROL

A. Execute Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.20 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

B. Minimize surface area of bare soil exposed at one time.

C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.

D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.21 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise from rock removal and noise produced by construction operations.

1.22 PEST CONTROL

A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work entering facility.

1.23 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.24 RODENT CONTROL

A. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.25 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

B. Remove underground installations to minimum depth of 2 feet. Grade site as indicated on Drawings.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

F. Equipment electrical characteristics and components.

1.2 PRODUCTS

A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.

B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

C. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products in accordance with manufacturers' instructions.

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

D. For exterior storage of fabricated products, place on sloped supports above ground.

E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during bidding period to requirements specified in this section.

B. Architect/Engineer will consider requests for Substitutions only within 15 days after date of Owner-Contractor Agreement.

C. Substitutions may be considered when a product becomes unavailable through no fault of Contractor.

D. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

E. A request constitutes a representation that Contractor:
   1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
   2. Will provide same warranty for Substitution as for specified product.
   3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.

4. Waives claims for additional costs or time extension which may subsequently become apparent.
5. Will reimburse Owner and Architect/Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.

F. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.

G. Substitution Submittal Procedure:
1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
3. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.

B. Final cleaning.

C. Starting of systems.

D. Demonstration and instructions.

E. Testing, adjusting and balancing.

F. Protecting installed construction.

G. Project record documents.

H. Operation and maintenance data.

I. Manual for materials and finishes.

J. Manual for equipment and systems.

K. Spare parts and maintenance products.

L. Product warranties and product bonds.

M. Maintenance service.

1.2 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect/Engineer's review.

B. Provide submittals to Architect/Engineer required by authorities having jurisdiction.

C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

D. Owner will occupy all portions of building as specified in Section 01100.

1.3 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Clean equipment and fixtures to sanitary condition with cleaning materials appropriate to surface and material being cleaned.

D. Replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 STARTING OF SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architect/Engineer seven days prior to start-up of each item.

C. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable manufacturer's representative and Contractors' personnel in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report in accordance with Section 01330 that equipment or system has been properly installed and is functioning correctly.

1.5 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at equipment designated location.

E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

F. Required instruction time for each item of equipment and system is specified in individual sections.

1.6 TESTING, ADJUSTING AND BALANCING

A. Contractor shall employ and pay for independent firm to perform testing, adjusting, and balancing.

B. Independent firm will perform services specified in Division 15.

C. Reports will be submitted by independent firm to Architect/Engineer indicating observations and results of tests and indicating compliance or non-compliance with requirements of Contract Documents.

1.7 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

1.8 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed Shop Drawings, Product Data, and Samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish main floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Details not on original Contract drawings.

G. Submit documents to Architect/Engineer with claim for final Application for Payment.

1.9 OPERATION AND MAINTENANCE DATA

A. Submit data bound in 8-1/2 x 11 inch (A4) text pages, three D side ring binders with durable plastic covers.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", and title of project.

C. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

D. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

E. Contents: Prepare Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
      f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
   3. Part 3: Project documents and certificates, including the following:
      a. Shop drawings and product data.
      b. Air and water balance reports.
      c. Certificates.
      d. Originals of warranties.

1.10 MANUAL FOR MATERIALS AND FINISHES

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect/Engineer will review draft and return one copy with comments.

B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

C. Submit one copy of completed volumes 15 days prior to final inspection. Draft copy be reviewed and returned after final inspection, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.

D. Submit three sets of revised final volumes in final form within 10 days after final inspection.

E. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations.

F. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

G. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

H. Additional Requirements: As specified in individual product specification sections.

I. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.11 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit three copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect/Engineer will review draft and return one copy with comments.

B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

C. Submit three copies of completed volumes 15 days prior to final inspection. Draft copy be reviewed and returned after final inspection, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.

D. Submit three sets of revised final volumes in final form within 10 days after final inspection.

E. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

F. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed or by label machine.

G. Include color coded wiring diagrams as installed.

H. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and special operating instructions.

I. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

J. Include servicing and lubrication schedule, and list of lubricants required.

K. Include manufacturer's printed operation and maintenance instructions.

L. Include sequence of operation by controls manufacturer.

M. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

N. Include control diagrams by controls manufacturer as installed.

O. Include Contractor's coordination drawings, with color coded piping diagrams as installed.

P. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

Q. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

R. Include test and balancing reports as specified in Section 01400.

S. Additional Requirements: As specified in individual product specification sections.

T. Include listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

1.12 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.

B. Deliver to Project site and place in location as directed by Owner; obtain receipt prior to final payment.

1.13 PRODUCT WARRANTIES

A. Obtain warranties executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.

B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include Table of Contents and assemble in three D side ring binder with durable plastic cover.

F. Submit prior to final Application for Payment.

G. Time Of Submittals:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
   2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.

3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.14 MAINTENANCE SERVICE

A. Furnish service and maintenance of components indicated in specification sections for one year from date of Substantial Completion.

B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.

D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

PROJECT CLOSEOUT CHECKLIST
CONSTRUCTION PHASE
(EXHIBIT 1)

AES PROJECT NO.:	3760
PROJECT TITLE:	Little Whiteface Ski Patrol Building
OWNER :	Essex County
CONTRACTOR:	
CONTRACT:	

LEGEND
O = OWNER
AES = AES NORTHEAST, PLLC
C = CONTRACTOR
A = REGULATORY AGENCY
N/A = NOT APPLICABLE

				DISTRIBUTION DATE			
REQ'D	DATE REC'D	DESCRIPTION	SUB. BY	O	C	AES	REMARKS
X		Punchlist by AES	AES				
X		Certificate of Substantial Completion	AES				
X		Final Change Order	AES				
X		Final App. for Payment	C				
X		Certificate Debts & Claims	C				
X		Release of Liens from Suppliers and Subcontractors	C				
X		Consent of Surety	C				
X		Record Drawings (Include Verbiage)	C				
X		Operations & Maint. Manuals	C				
X		Warranties - Manuf./Suppliers	C				
X		Project Guarantee and Certification	C				
X		Maintenance Stock	C				
X		Systems Demonstrations	C				
X		Certified Payrolls	C				
X		Maintenance Service Contracts	C				

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

DOCUMENT 01800

INFORMATION AVAILABLE TO BIDDERS

1.1 SUMMARY

A. Document Includes:
   1. Limited Hazardous materials survey by Atlantic Testing Laboratories.
   2. Statement of Special Inspections.

1.2 EXISTING CONDITIONS SURVEY

A. A copy of existing conditions survey is included with this document, titled Limited Hazardous Materials Survey, dated February 8, 2011, and prepared by Atlantic Testing Laboratories.

B. This survey identifies hazardous materials in or on the building. The Contractor shall comply with all applicable federal and state regulations for the hazardous materials present.

END OF DOCUMENT

LIMITED HAZARDOUS MATERIALS SURVEY

WHITEFACE MOUNTAIN SKI RESORT
SKI PATROL BUILDING
WILMINGTON, NEW YORK

PREPARED FOR:

AES Northeast, PLLC
10-12 City Hall Place
Plattsburgh, New York 12901

PREPARED BY:

Atlantic Testing Laboratories, Limited
130 Arizona Avenue Suite 1540
Plattsburgh, New York 12903

ATL REPORT NO. PL5260CE-01-02-11

February 8, 2011

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Purpose

Atlantic Testing Laboratories, Limited (ATL) was retained by AES Northeast, PLLC, to perform a limited hazardous materials survey of designated areas within the Ski Patrol Building at Whiteface Mountain. The limited survey was performed on January 10, 2011. The purpose of the limited hazardous materials survey was to identify asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCB)-containing materials that are present on exposed surfaces within the subject areas, and may have a significant impact on planned renovation activities. The limited hazardous materials survey procedures and report format that follow are in general compliance with applicable local, state, and federal rules and regulations.

1.2 Project Team and Certifications

Members of the ATL project team included Torey Russell, Project Manager; William Bourdette, Senior Technician; and William Miner, Project Manager. Certifications of ATL's field survey team members and a copy of applicable company licenses maintained by ATL are included in Appendix A.

2.0 SCOPE OF WORK

2.1 Project Description

The project site is located at Whiteface Mountain Ski Resort, Route 86, Wilmington, Essex County, New York. A Site Location Map, depicting the general location of the project site, is included in Appendix B.

The intent of the limited hazardous materials survey was to identify suspect ACM, LBP, and PCB-containing materials that are located within the Ski Patrol Building and may be impacted during the proposed renovation of the building.

The limited hazardous materials survey was conducted for the subject areas, as directed by Mr. David Whitford, representing AES Northeast, PLLC. The subject areas were occupied and operational at the time of the sampling event.

2.2 Inaccessible Areas

The extent of inaccessible areas is dependent upon the building type, construction materials, history of renovations and repairs, and project scope. Concealed materials may exist in areas that are not readily exposed to view. Although this limited hazardous materials survey was performed to identify ACM, LBP, and PCB-containing caulk within the subject areas, potential ACM, LBP, and/or PCB-containing caulk may have escaped detection that could be encountered during future building demolition and/or renovation activities. Wall, ceiling, floor, roofing, and/or other component systems may contain concealed suspect ACM, LBP, and/or PCB-containing caulk.

2.3 Document Review

No historical asbestos or hazardous materials survey reports or sampling and analysis data were available for review at the time of the limited asbestos or hazardous materials survey.

2.4 Limitations

This report has been prepared in accordance with the scope of work outlined in ATL's contract (ATL No. PL5998-71-10-10), dated October 27, 2010, and should not be used as abatement specifications or design documents. The findings, conclusions, and recommendations presented in this report are based on the field observations made by representatives of ATL and the information provided by representatives of AES Northeast, PLLC.

Quantities and locations of sampled materials are approximate, and should be verified by the abatement contractor(s) prior to providing actual cost quotations and/or initiating abatement activities. Variations in reported quantities and locations for sampled materials, in addition to the discovery of suspect materials not identified in this report, is possible due to the presence of inaccessible areas, as described in Section 2.2 of this report.

The findings and opinions are relevant to the dates of our site work and should not be relied on to represent conditions at substantially later dates.

3.0 ASBESTOS

3.1 Methodology

A visual examination of the subject areas was conducted by the field survey team to identify suspect ACM. Functional space identifications were assigned to the field drawings to assist the survey team while locating suspect ACM. A functional space is defined as a spatially distinct area within a building that contains identifiable populations of building occupants. A functional space may include a room, a group of rooms, or other defined area, and several functional spaces may comprise a single homogeneous sampling area. A homogeneous sampling area is defined as an area that is uniform by color, texture, construction/application, and general appearance. Each identified functional space was visually examined to determine the locations of suspect ACM. These materials were then delineated into homogeneous sampling areas.

Samples of each accessible homogeneous area were collected and placed in clean, labeled containers. The appropriate custody documentation was completed and the suspect ACM samples were submitted to AmeriSci New York (AmeriSci), located in New York, New York. The samples were laboratory analyzed by polarized light microscopy (PLM) and transmission electron microscopy (TEM) methodologies, as applicable. AmeriSci is a New York State Department of Health (NYSDOH) certified laboratory for PLM and TEM analysis under Environmental Laboratory Approval Program (ELAP) No. 11480. AmeriSci is also accredited by the National Institute of Standards and Technology (NIST), under the National Voluntary Laboratory Accreditation Program (NVLAP).

3.2 Regulatory Compliance

In New York State, there are multiple regulatory agencies that have jurisdiction over ACM in buildings. Asbestos survey requirements are primarily regulated or specified by the New York State Department of Labor (NYSDOL), the NYSDOH, the Occupational Safety and Health Administration (OSHA), and the United States Environmental Protection Agency (EPA).

The NYSDOL established Part 56 of The Official Compilation of Codes, Rules, and Regulations (cited as 12 NYCRR, Part 56) to address the proper identification, handling, removal, and disposal of ACM in buildings. Asbestos survey requirements are specified in Subpart 56-5.1

"Asbestos Survey Requirements for Building/Structure Demolition, Renovation, Remodeling and Repair". The NYSDOL also works in conjunction with the NYSDOH to establish and maintain asbestos safety training program requirements, and enforce personnel certifications and licensing protocol for asbestos contractors.

The OSHA defines requirements for asbestos surveys and identification of ACM and presumed asbestos-containing materials (PACM) in 29 CFR 1926.1101 (k) "Communication of Hazards". Under this regulation, OSHA makes reference to conducting inspections according to 1926.1101 (k)(5)(ii)(B) and 1926.1101 (k)(5)(iii) or pursuant to the requirements of the Asbestos Hazard Emergency Response Act (AHERA) 40 CFR Part 763, Subpart E "Asbestos-Containing Materials in Schools." The AHERA is regulated by the EPA, and applies to primary and secondary schools only; however, the procedures mandated under AHERA are generally considered the industry standards for surveys, as these are typically the most stringent.

3.3 Summary of Findings

A total of 8 homogeneous areas of suspect ACM were identified during the visual examination, from which 16 bulk samples were collected and subsequently submitted to a NYSDOH approved laboratory for analysis. Approximate sample locations are depicted on the Sample Location Plans, contained in Appendix C. A copy of laboratory reports and sample custody documentation are contained in Appendix D. Table I below provides a summary of the identified suspect ACM and associated analytical results.

Table I
Summary of Suspect ACM and Analytical Results

Material	General Location[1]	Friable[4]	% Asbestos[2]	Condition[4]	Reference Sample Numbers	Estimated Quantity[3, 4]
Tan Adhesive	Below Black Rubber Flooring	NA	NAD	NA	PL5260AI01A PL5260AI01B	NA
Brown Widow Caulk	Exterior Window	NA	NAD	NA	PL5260AI02A PL5260AI02B	NA
Silver Vapor Barrier	Behind Brown Metal Siding	NA	NAD	NA	PL5260AI05A PL5260AI05B	NA
White Adhesive	Below Blue Rubber Flooring	NA	NAD	NA	PL5260AI06A PL5260AI06B	NA
Yellow Insulation	Behind Metal Siding	NA	NAD	NA	PL5260AI07A PL5260AI07B	NA
Black Adhesive Paper Assoc. With Yellow Insulation	Above The Ceiling, Interior	NA	NAD	NA	PL5260AI08A PL5260AI08B	NA
Black Adhesive Paper Assoc. With Pink Insulation	Above The Ceiling, Interior	NA	NAD	NA	PL5260AI09A PL5260AI09B	NA

Table I (continued)
Summary of Suspect ACM and Analytical Results

Material	General Location[1]	Friable[4]	% Asbestos[2]	Condition[4]	Reference Sample Numbers	Estimated Quantity[3, 4]
Tan Adhesive	Plywood Ceiling, Interior	NA	NAD	NA	PL5260AI010A PL5260AI010B	NA

Notes:

[1] Sample Location Plans are enclosed in Appendix C.

[2] NAD = No Asbestos Detected.

[3] Quantities and locations are approximate and must be verified by asbestos abatement contractors prior to providing actual cost quotations and/or initiating abatement activities.

[4] NA = Not Applicable

The EPA, NYSDOL, and other regulatory agencies define ACM as any material containing greater than 1% of asbestos. None of the materials sampled were determined to be ACM.

Materials containing trace asbestos (i.e., less than 1%) are not considered ACM; however, the OSHA recognizes materials that contain trace amounts of asbestos, and require these materials to be handled in accordance with their standard interpretation letter titled "Requirements for demolition operations involving material containing <1% asbestos ", dated August 13, 1999. As shown in Table I above, none of the materials were determined to contain trace amounts of asbestos.

4.0 LEAD-BASED PAINT

4.1 Methodology

A visual examination of the subject areas was conducted by the field survey team to identify suspect LBP. Functional space identifications that were assigned, as described in Section 3.1 of this report, were utilized to assist the survey team while locating suspect LBP. Potential LBP surfaces were classified into homogeneous areas. A homogeneous area is defined as similar paint color schemes, building components, and substrates the paint is applied on.

Samples of each accessible homogeneous area were collected and placed in clean, labeled containers. The appropriate custody documentation was completed and the suspect LBP samples were submitted to Environmental Laboratory Services (ELS), located in North Syracuse, New York. The samples were laboratory analyzed for lead, in accordance with EPA Methods 6010 and 3050B. ELS is a NYSDOH certified laboratory for lead analysis under ELAP No. 11375.

4.2 Regulatory Compliance

Although New York State has established Title X, Part 67 of The Official Compilation of Codes, Rules, and Regulations (cited as NYCRR Title X, Part 67) for "Lead Poisoning Prevention and Control", LBP inspections and risk assessments are generally subject to the requirements of federal regulations. The United States Department of Housing and Urban Development (HUD), EPA, and OSHA are the primary federal regulatory agencies responsible for the establishment and enforcement of such regulations. On a state level, the NYSODH does require laboratories to be certified to perform lead analysis under the ELAP.

The HUD "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" include details pertaining to sampling and analysis of suspect LBP, in addition to the identification and control of LBP hazards. The HUD guidelines pertain to federally owned or assisted housing; however, these are commonly referenced and made mandatory by other regulatory agencies. The EPA requirements for LBP activities, specified in 40 CFR Part 745, apply to targeted housing and child-occupied facilities, and are similar to HUD guideline requirements.

The OSHA Construction Standard for Lead (29 CFR 1926.62) applies to employees of an employer who may or will be exposed to occupational levels of lead. OSHA requires employees to maintain, at a minimum, awareness, respiratory protection, and hazard communication training.

4.3 Summary of Findings

The suspect LBP identified during the visual examination included 6 homogeneous paints, from which a total of 6 paint chip samples were collected and subsequently submitted to a NYSDOH approved laboratory for analysis. Approximate sample locations are depicted on the Sample Location Plans, contained in Appendix C. A copy of laboratory reports and associated sample custody documentation are contained in Appendix D. Table II below provides a summary of the identified suspect LBP and associated analytical results.

Table II
Summary of Suspect LBP and Analytical Results

Surface Color	General Location [1]	Sample Numbers	Laboratory Results [2] (mg/kg Lead)
Gray	Exterior Wood Siding	PL5260LI01	48
Green over Brown	**Exterior Metal Roofing**	**PL5260LI02**	**13,000**
Green over Reddish-Brown	**Exterior Metal Siding**	**PL5260LI03**	**27,000**
White	**Interior Walls**	**PL5260LI04**	**46,000**
Brown	Ceilings	PL5260LI05	160
Green Over Brown	Interior Columns	PL5260LI06	3,200

Notes:

[1] Sample Location Plans are contained in Appendix C.

[2] ND = Not detected above the laboratory method detection limit.

HUD identifies LBP as "any paint, varnish, stain, or other applied coating that has 1 mg/cm^2 (or 5,000 mg/kg or 0.5% by weight) or more of lead" (HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing). Samples listed in bold font in Table II above were determined to be LBP, in accordance with HUD criteria.

The OSHA lead-in-construction standard (29 CFR 1926.62) requires an exposure assessment where any detectable levels of lead, or materials containing lead, are present. As shown in Table II above, all samples were determined to contain a detectable concentration of lead.

5.0 POLYCHLORINATED BIPHENYLS

5.1 Methodology

A visual examination of the subject areas was conducted by the field survey team to identify suspect PCB-containing caulk. The identified materials were classified into homogeneous sampling areas. A homogeneous sampling area is defined as an area that is uniform by color, texture, construction/application, and general appearance.

Samples of each accessible homogeneous area were collected and placed in clean, labeled containers. The appropriate custody documentation was completed and the suspect PCB-containing caulk samples were submitted to ELS, located in North Syracuse, New York. The samples were laboratory analyzed for PCB, in accordance with EPA Method 8082. ELS is a NYSDOH certified laboratory for PCB analysis under ELAP No. 11375.

5.2 Regulatory Compliance

PCB are primarily regulated by the EPA. The EPA has issued several documents and enforces federal mandated laws and regulations governing the usage, management, and disposal of PCB-containing materials. State and local regulatory agencies have also enacted laws and regulations concerning PCB materials, many of which are consistent with the regulations set forth by the EPA. In accordance with the regulations and guidelines presented in 40 CFR Parts 750 and 761 "Disposal of Polychlorinated Biphenyls; Final Rule", PCB wastes are generally regulated for disposal under the Toxic Substances Control Act (TSCA) if the concentrations are 50 ppm or greater. Per New York State Department of Environmental Conservation (NYSDEC) regulations, material containing greater than 50 ppm is regulated hazardous waste.

5.3 Summary of Findings

One homogeneous suspect PCB-containing caulk material was identified during the visual examination, from which a bulk sample was collected, composited, and subsequently submitted to a NYSDOH approved laboratory for analysis. Approximate sample locations are depicted on the Sample Location Plan, contained in Appendix C. A copy of laboratory reports and associated sample custody documentation are contained in Appendix D. Table III below provides a summary of the identified suspect PCB-containing caulk and associated analytical results.

Table III
Summary of Suspect PCB-Containing Caulk and Analytical Results

Material Description	General Location [1]	Sample Number	Total PCB[2] (ppm)
Brown Window Caulk	Southeast Window Exterior	PL5260PI01	ND

Notes:

[1] Sample Location Plans are contained in Appendix C.

[2] ND = Not detected above the laboratory method detection limit.

PCB-containing caulk is regulated under the TSCA as an "unauthorized use", and is considered a regulated hazardous material at concentrations equal to or greater than 50 ppm. The sample collected did not contain greater than 50 ppm total PCB.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are prepared from ATL's understanding that the subject buildings may be subject to renovation projects. Should the management of the building areas change, it is recommended that the findings be revised to reflect appropriate operations and management practices for ACM, LBP, and PCB-containing caulk.

6.1 General

1. Concealed regulated ACM, LBP, or PCB may exist at the site that could be encountered during future building renovation activities. Wall, ceiling, floor, roofing, and/or other component systems may contain concealed suspect ACM, LBP, and/or PCB. If any suspect ACM, LBP and/or PCB is encountered during demolition and/or renovation activities, the activities disturbing the suspect ACM, LBP, or PCB must stop and the material should be sampled and laboratory analyzed in accordance with applicable regulations.

6.2 Asbestos-Containing Materials

1. None of the materials collected were determined to be ACM.

2. Subpart 56-5(g) of 12 NYCRR Part 56 specifies requirements for transmittal of asbestos survey information by the owner or owner's agent. One copy of the asbestos survey report shall be sent to the local government entity charged with issuing a permit for such demolition, renovation, remodeling, or repair work under applicable State or local laws. If controlled demolition or pre-demolition activities will be performed, one copy of the asbestos survey report shall be submitted to the appropriate Asbestos Control Bureau district office. One copy of the asbestos survey report must be kept on the construction site throughout the duration of the asbestos project and any associated demolition, renovation, remodeling, or repair project.

6.3 Lead-Based Paint

1. The materials listed in bold in Table II of Section 4.3 were determined to be LBP per HUD criteria. The referenced table also shows materials that contain detectable concentrations of lead and are regulated under OSHA.

2. Identified LBP or paint with a detectable concentration of lead should be managed in accordance with applicable EPA and OSHA requirements prior to or during demolition, renovation, remodeling, or repair work.

3. Demolition/renovation contractors are required to conduct exposure monitoring or use historical objective data to ensure that employee exposures do not exceed the action level of 30 $\mu g/m^3$.

6.4 PCB-Containing Materials

1. None of the caulk materials sampled contained PCB concentrations exceeding 50 ppm, and are therefore not considered hazardous materials/hazardous waste.

APPENDIX A

LICENSES AND CERTIFICATIONS

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
RICHARD F. DAINES, M.D.

Expires 12:01 AM April 01, 2011
Issued April 01, 2010

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. PAUL MUCHA
AMERICA SCIENCE TEAM NEW YORK INC
117 EAST 30TH ST
NEW YORK, NY 10016

NY Lab Id No: 11480
EPA Lab Code: NY01378

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES: SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below.

Miscellaneous

Asbestos in Friable Material	EPA 600/M4/82/020 Item 198.1 of Manual
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	ITEM 198.4 OF MANUAL

Serial No.: 41865

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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E-Mail: pmucha@amerisci.com
URL: http://www.amerisci.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 200546-0**

NVLAP Code	*Designation / Description*
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2010-07-01 through 2011-06-30
Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200546-0

AmeriSci New York

New York, NY

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2010-07-01 through 2011-06-30

Effective dates

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

Sally S. Bruce

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

COPY

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
RICHARD F. DAINES, M.D.

Expires 12:01 AM April 01, 2011
Issued April 01, 2010
Revised June 28, 2010

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. DAVID R. HILL
ENVIRONMENTAL LABORATORY SERVICES
7280 CASWELL STREET
NORTH SYRACUSE, NY 13212

NY Lab Id No: 11375
EPA Lab Code: NY00062

is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards for the category ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE

All approved analytes are listed below:

Metals II	
Arsenic, Total	EPA 6020
Beryllium, Total	EPA 6010B
	EPA 6020
Chromium VI	EPA 7196A
Mercury, Total	EPA 7471A
Selenium, Total	EPA 6010B
	EPA 6020
Vanadium, Total	EPA 6010B
	EPA 6020
Zinc, Total	EPA 6010B
	EPA 6020
Metals III	
Cobalt, Total	EPA 6010B
	EPA 6020
Molybdenum, Total	EPA 6010B
	EPA 6020
Thallium, Total	EPA 6010B
	EPA 6020
Tin, Total	EPA 6010B
Titanium, Total	EPA 6010B
Minerals	
Chloride	EPA 9250
Fluoride, Total	EPA 9214
Sulfate (as SO4)	EPA 9035
Miscellaneous	
Boron, Total	EPA 6010B
Hydrogen ion (pH)	EPA 9040B

Miscellaneous	
Hydrogen Ion (pH)	EPA 9045C
Lead in Dust Wipes	EPA 6010B
	EPA 6020
Lead in Paint	EPA 6020
Phenols	EPA 9066
Specific Conductance	EPA 9050
Nitroaromatics and Isophorone	
2,4-Dinitrotoluene	EPA 8270C
2,6-Dinitrotoluene	EPA 8270C
Isophorone	EPA 8270C
Nitrobenzene	EPA 8270C
Pyridine	EPA 8270C
Nitrosoamines	
N-Nitrosodimethylamine	EPA 8270C
N-Nitrosodi-n-propylamine	EPA 8270C
N-Nitrosodiphenylamine	EPA 8270C
Petroleum Hydrocarbons	
Oil & Grease Total Recoverable (HEM)	EPA 9071 (Solvent:Hexane)
Phthalate Esters	
Benzyl butyl phthalate	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 8270C
Diethyl phthalate	EPA 8270C
Dimethyl phthalate	EPA 8270C
Di-n-butyl phthalate	EPA 8270C
Di-n-octyl phthalate	EPA 8270C

Serial No.: 42695

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

NELAP Recognized

COPY

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7280 CASWELL STREET
NORTH SYRACUSE, NY 13212

NY Lab Id No. 11375
EPA Lab Code: NY00062

Is hereby APPROVED as an Environmental Laboratory in conformance with the National Environmental Laboratory Accreditation Conference Standards for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved analytes are listed below:

Polychlorinated Biphenyls	
PCB-1016	EPA 8082
	EPA-600/4-81-045
PCB-1221	EPA 8082
	EPA-600/4-81-045
PCB-1232	EPA 8082
	EPA-600/4-81-045
PCB-1242	EPA 8082
	EPA-600/4-81-045
PCB-1248	EPA 8082
	EPA-600/4-81-045
PCB-1254	EPA 8082
	EPA-600/4-81-045
PCB-1260	EPA 8082
	EPA-600/4-81-045
PCB-1262	EPA 8082
PCB-1268	EPA 8082
Polynuclear Aromatic Hydrocarbons	
Acenaphthene	EPA 8270C
Acenaphthylene	EPA 8270C
Anthracene	EPA 8270C
Benzo(a)anthracene	EPA 8270C
Benzo(a)pyrene	EPA 8270C
Benzo(b)fluoranthene	EPA 8270C
Benzo(ghi)perylene	EPA 8270C
Benzo(k)fluoranthene	EPA 8270C
Chrysene	EPA 8270C
Dibenzo(a,h)anthracene	EPA 8270C
Fluoranthene	EPA 8270C
Fluorene	EPA 8270C
Indeno(1,2,3-cd)pyrene	EPA 8270C
Naphthalene	EPA 8270C
Phenanthrene	EPA 8270C
Pyrene	EPA 8270C
Priority Pollutant Phenols	
2,4,5-Trichlorophenol	EPA 8270C
2,4,6-Trichlorophenol	EPA 8270C
2,4-Dichlorophenol	EPA 8270C
2,4-Dimethylphenol	EPA 8270C
2,4-Dinitrophenol	EPA 8270C
2-Chlorophenol	EPA 8270C
2-Methyl-4,6-dinitrophenol	EPA 8270C
2-Methylphenol	EPA 8270C
2-Nitrophenol	EPA 8270C
3-Methylphenol	EPA 8270C
4-Chloro-3-methylphenol	EPA 8270C
4-Methylphenol	EPA 8270C
4-Nitrophenol	EPA 8270C
Pentachlorophenol	EPA 8270C
Phenol	EPA 8270C
Purgeable Aromatics	
1,2,4-Trimethylbenzene	EPA 8021B
	EPA 8260B
1,2-Dichlorobenzene	EPA 8021B
	EPA 8260B
1,3,5-Trimethylbenzene	EPA 8021B

Serial No.: 42695

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 486-5570 to verify the laboratory's accreditation status.

NELAP Recognized

NEW YORK STATE - DEPARTMENT OF LABOR
DIVISION OF SAFETY AND HEALTH
LICENSE AND CERTIFICATE UNIT
STATE CAMPUS BUILDING 12
ALBANY, NY 12240

ASBESTOS HANDLING LICENSE

Atlantic Testing Laboratories, Limited

P.O. Box 29

Canton, NY 13617

FILE NUMBER: 99-0911
LICENSE NUMBER: 29276
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 10/04/2010
EXPIRATION DATE: 11/30/2011

Duly Authorized Representative – Marijean B Remington

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

Maureen A. Cox, Director
FOR THE COMMISSIONER OF LABOR

SH 432 (4-07)

United States Environmental Protection Agency

This is to certify that

Atlantic Testing Laboratories, Limited

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

New York

This certification is valid from the date of issuance and expires March 11, 2013

NY-8962-3

Certification #

DEC 17 2009

Issued On

Kenneth S. Stoller

Kenneth S. Stoller, P.E., QEP, DEE, Chief

Pesticides & Toxic Substances Branch

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

WILLIAM S MINER
CLASS(EXPIRES)
D INSP(07/11)

CERT# 09-19993
DMV# 571763710
MUST BE CARRIED ON ASBESTOS PROJECTS

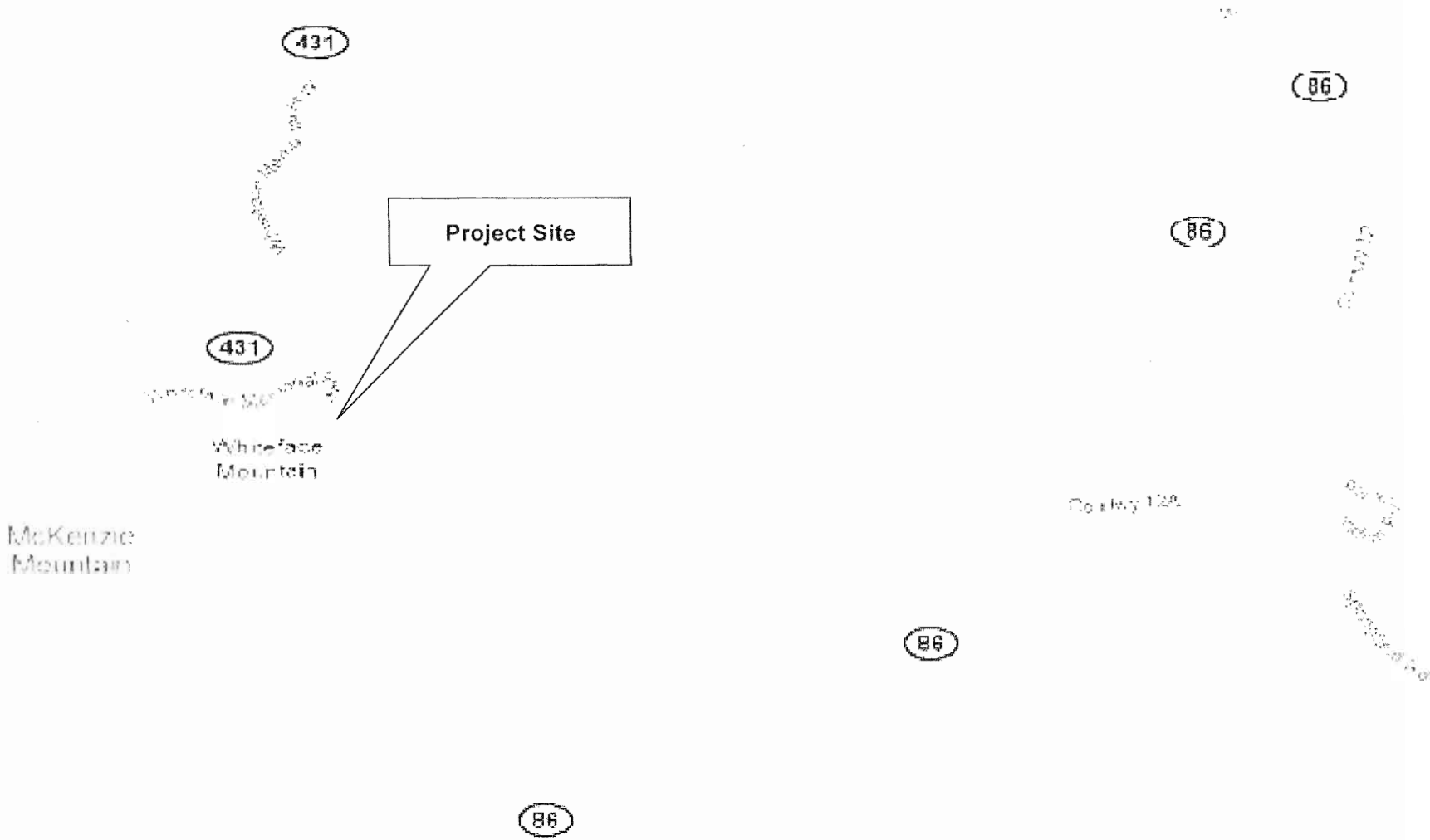
STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE

WILLIAM R BOURDETTE
CLASS(EXPIRES)
C/ATEC(02/11) D INSP(02/11)
H PM (02/11)

CERT# 08-11761
DMV# 322241735
MUST BE CARRIED ON ASBESTOS PROJECTS

APPENDIX B

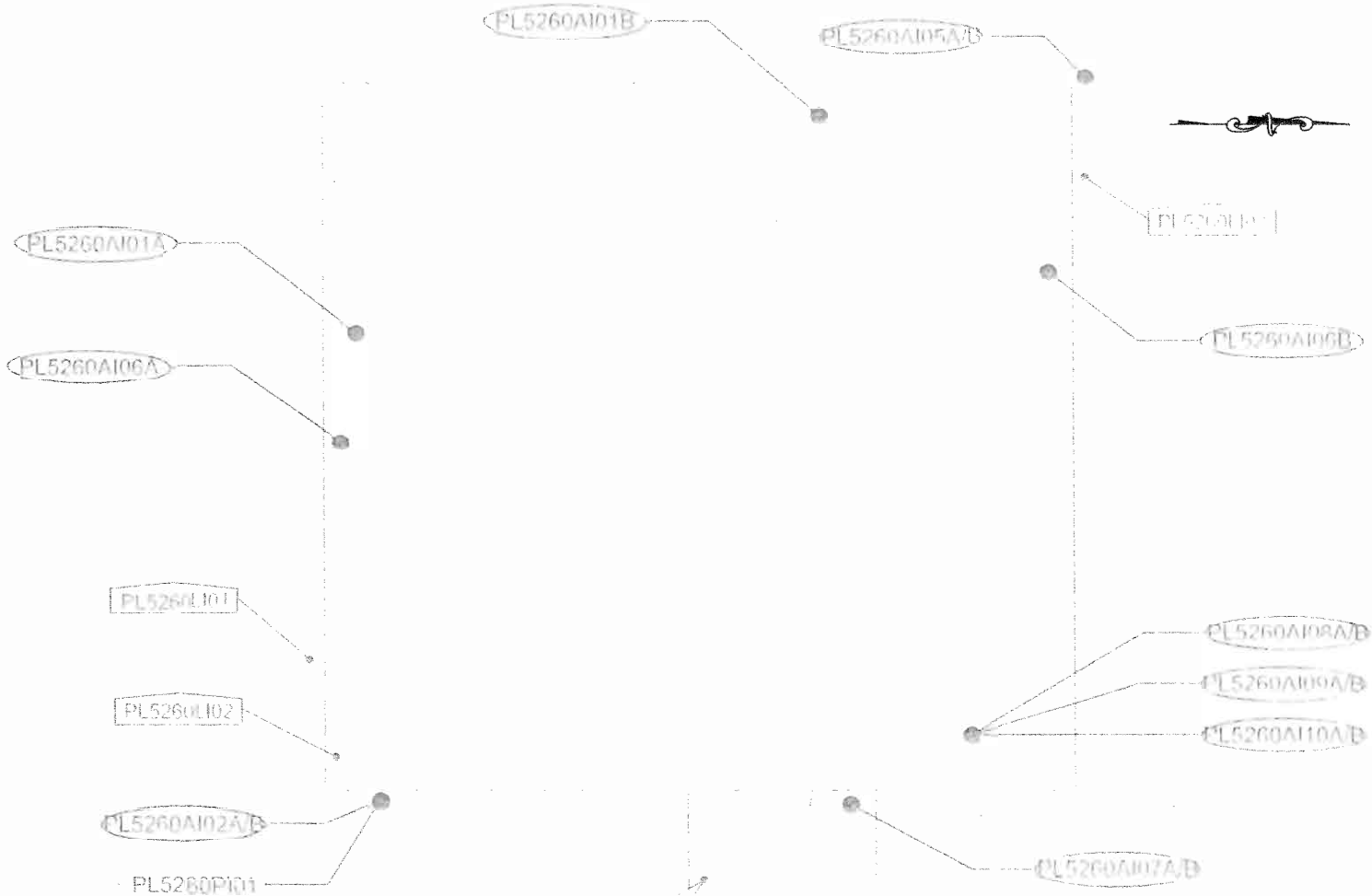
SITE LOCATION MAP



Site Location Map	Drawn by: TRC	Scale: Not to scale	Project No.: PL5260	Date: February 2011
Ski Patrol Building **Whiteface Mountain Ski Resort** **Wilmington, New York**	***ATLANTIC TESTING LABORATORIES*, Limited** Albany, NY · Binghamton, NY · Canton, NY · Elmira, NY · Plattsburgh, NY Poughkeepsie, NY · Syracuse, NY · Rochester, NY · Utica, NY · Watertown, NY			

APPENDIX C

SAMPLE LOCATION PLANS



LEGEND

PL5260LI00 Suspect Lead Sample ID and Approximate Location

PL5260PI00 Suspect PCB Sample ID and Approximate Location

PL5260AI00 Suspect Asbestos Sample ID and Approximate Location

HAZARDOUS MATERIALS SAMPLE LOCATION PLAN	Scale	Report No.	Date
	None	PL5260	January 2011
First Floor *Ski Patrol Building - Whiteface Mountain* *Wilmington, New York*	**ATLANTIC TESTING LABORATORIES, Limited** Albany, NY Binghamton, NY Canton, NY Elmira, NY Poughkeepsie, NY Plattsburgh, NY Rochester, NY Syracuse, NY Utica, NY Watertown, NY		

APPENDIX D

LABORATORY REPORTS AND CUSTODY DOCUMENTATION

AMERI SCI

AmeriSci New York
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

PLM Bulk Asbestos Report

Atlantic Testing Laboratories, Limited
Attn: Torey Russell
P.O. Box 29

Canton, NY 13617

Date Received 01/11/11 **AmeriSci Job #** 211011897
Date Examined 01/14/11 **P.O. #** COC#: 4666, 4665
ELAP # 11480 **Page** 1 **of** 4
RE: PL5260; AES Northeast; Whiteface Mtn. Ski Patrol, Wilmington, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5260AI01A 01	211011897-01 **Location:** Southwest In Building / Tan Adhesive Assoc. W / Black Flooring	*No*	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 21.7 %			
PL5260AI01B 01	211011897-02 **Location:** West In Building / Tan Adhesive Associated W / Black Flooring	*No*	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 25.9 %			
PL5260AI02A 02	211011897-03 **Location:** Southeast Window / Brown Exterior Window Caulk	*No*	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 7.7 %			
PL5260AI02B 02	211011897-04 **Location:** Southeast Window / Brown Ext. Window Caulk	*No*	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 8.1 %			
PL5260AI03A 03	211011897-05 **Location:** No Sample Submitted		NA
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			

See Reporting notes on last page

AmeriSci Job #: **211011897**
Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos Report

PL5260; AES Northeast; Whiteface Mtn. Ski Patrol, Wilmington, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5260AI03B	211011897-06		NA
03	**Location:** No Sample Submitted		
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
PL5260AI04A	211011897-07		NA
04	**Location:** No Sample Submitted		
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
PL5260AI04B	211011897-08		NA
04	**Location:** No Sample Submitted		
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
PL5260AI05A	211011897-09	***No***	NAD
05	**Location:** Northwest Corner - Ext. Metal Siding / Brown W/ Silver Vapor Barrier		(by NYS ELAP 198.1) by David W. Roderick on 01/14/11
Analyst Description: Silver/Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 5 %, Fibrous glass 50 %, Non-fibrous 45 %			
PL5260AI05B	211011897-10	***No***	NAD
05	**Location:** Northwest Corner - Ext. Metal Siding / Brown W/ Silver Vapor Barrier		(by NYS ELAP 198.1) by David W. Roderick on 01/14/11
Analyst Description: Silver/Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 5 %, Fibrous glass 40 %, Non-fibrous 55 %			
PL5260AI06A	211011897-11	***No***	NAD
06	**Location:** South In Building / White Adhesive Assoc. W/ Blue Flooring		(by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: OffWhite, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 30.7 %			

See Reporting notes on last page

AmeriSci Job #: **211011897**
Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos Report

PL5260; AES Northeast; Whiteface Mtn. Ski Patrol,
Wilmington, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5260AI06B 06	211011897-12 **Location:** Northwest In Building / White Adhesive Assoc. W/ Blue Flooring	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: OffWhite, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 28.2 %			
PL5260AI07A 07	211011897-13 **Location:** East In Entrance / Yellow Insulation Behind Metal Siding	***No***	NAD (by NYS ELAP 198.1) by David W. Roderick on 01/14/11
Analyst Description: Yellow, Homogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose Trace, Fibrous glass 99 %, Non-fibrous 1 %			
PL5260AI07B 07	211011897-14 **Location:** East In Entrance / Yellow Insulation Behind Metal Siding	***No***	NAD (by NYS ELAP 198.1) by David W. Roderick on 01/14/11
Analyst Description: Yellow, Homogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose Trace, Fibrous glass 100 %, Non-fibrous Trace			
PL5260AI08A 08	211011897-15 **Location:** Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Yellow Insulation	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Silver/Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 8.2 %			
PL5260AI08B 08	211011897-16 **Location:** Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Yellow Insulation	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Silver/Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 7.2 %			
PL5260AI09A 09	211011897-17 **Location:** Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Pink Insulation	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.5 %			

See Reporting notes on last page

AmeriSci Job #: **211011897**

Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos Report

PL5260; AES Northeast; Whiteface Mtn. Ski Patrol, Wilmington, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5260AI09B 09	211011897-18 **Location:** Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Pink Insulation	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.8 %			
PL5260AI10A 10	211011897-19 **Location:** Northeast In Ceiling / Tan Adhesive	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 13.2 %			
PL5260AI10B 10	211011897-20 **Location:** Northeast In Ceiling / Tan Adhesive	***No***	NAD (by NYS ELAP 198.6) by David W. Roderick on 01/14/11
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 15.5 %			

Reporting Notes:

Analyzed by: David W. Roderick

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop; PLM Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab Code 200546-0), ELAP PLM Method 198.1 for NY friable samples or 198.6 for NOB samples (NY ELAP Lab ID11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile,FR 59,146,38970,8/1/94). National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab. This PLM report relates ONLY to the items tested. AIHA Lab # 102843.

Reviewed By:_____

END OF REPORT

211011897

ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

№ 4666

Albany 22 Corporate Drive Clifton Park, NY 12065 518/383-9144 (T) 518/383-9166 (F)
Binghamton 128 Park Avenue Binghamton, NY 13903 607/773-1812 (T) 607/773-1835 (F)
Canton 6431 U.S. Highway 11 Canton, NY 13617 315/386-4578 (T) 315/386-1012 (F)
Elmira 2330 Route 352 Elmira, NY 14903 607/737-0700 (T) 607/737-0714 (F)
Plattsburgh 1080 Military Turnpike Plattsburgh, NY 12901 518/563-5878 (T) 518/562-1321 (F)
Poughkeepsie 251 Upper North Road Highland, NY 12528 845/691-8098 (T) 845/691-8099 (F)
Rochester 3445 Winton Place Rochester, NY 14623 585/427-9020 (T) 585/427-9021 (F)
Syracuse 6085 Court Street Road Syracuse, NY 13206 315/699-5281 (T) 315/699-3374 (F)
Utica 301 St. Anthony Street Utica, NY 13501 315/735-3309 (T) 315/735-0742 (F)
Watertown 26581 NYS Route 283 Watertown, NY 13601 315/786-7887 (T) 315/786-2022 (F)

Project No.	Project Name	Date Collected
P15260	AES North East / White Face Mtn. Ski Patrol	01-10-11 / Page 1 of 2

Project Contact: Torey Russell
Project Location: Wilmington, NY

Laboratory Instructions
Turn-Around-Time: ☐ 12hr ☐ 24hr ☐ 48hr ☐ 72hr ☒ 5day ☐
Special Instructions: ☒ Positive Stop Analysis ☒ If negative by PLM-NOB, analyze by TEM-NOB ☐ Other

Report Distribution
Send Reports To (ATL Office): Canton Office
ATL Contact: Torey Russell
Send Copy To: 518.562.1321
Fax Results: ☒ Yes ☐ No

Field Sample No.	Sample Location	Sample Description	PLM	PLM-NOB	TEM-NOB	TEM-ONLY	MICRO-VAC	Laboratory Sample ID No.
5260AI01A	South West In Building	Tan ~~Flooring~~ Adhesive Assoc. w/ Black Flooring		X	X			
5260AI01B	West In Building	Tan Adhesive Associated w/ Black Flooring		X	X			
5260AI02A	South East Window	Brown Exterior Window Caulk		X	X			
5260AI02B	South East Window	Brown Ext. Window Caulk		X	X			
5260AI03A	NO SAMPLE SUBMITTED							
5260AI03B								
5260AI04A	No Sample Submitted							
5260AI04B								
5260AI05A	North West Corner - Ext. Siding	Brown w/ Silver ~~Ext. Siding~~ Vapor Barrier		X	X			
5260AI05B	North West Corner - Ext. Siding	Brown w/ Silver Vapor Barrier		X	X			
5260AI06A	South In Building	White Adhesive Assoc. w/ Blue Flooring		X	X			
5260AI06B	North West In Building	White Adhesive Assoc. w/ Blue Flooring		X	X			

Sampler's Name: William Bourdette Date: 01-10-11
Sampler's Signature: [signature] Time: 1200
Received at Laboratory (Name): Date:
Laboratory Signature: Time:
Shipment Rec'd Intact ☐ Yes ☐ No

Samples Relinquished By:		Samples Received By:	
Name: William Bourdette	Date: 01-10-11	Name:	Date:
Signature: [signature]	Time: 1900	Signature: [signature]	Time:
Name:	Date:	Name:	Date: 1/11
Signature:	Time:	Signature:	Time: 1016

Field and Laboratory Remarks: Please Email Results to WBourdette@AtlanticTesting.com

ATLANTIC TESTING LABORATORIES, Limited

Distribution: White with Samples
Yellow to Laboratory
Pink to ATL Files

OF-7c
Revised: 2/05

211011897

ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

№ 4665

Albany 22 Corporate Drive, Clifton Park, NY 12065, 518/383-9144 (T), 518/383-9166 (F)
Binghamton 125 Park Avenue, Binghamton, NY 13903, 607/773-1812 (T), 607/773-1835 (F)
Canton 6431 U.S. Highway 11, Canton, NY 13617, 315/386-4578 (T), 315/386-1012 (F)
Elmira 2330 Route 352, Elmira, NY 14903, 607/737-0700 (T), 607/737-0714 (F)
Plattsburgh 1060 Military Turnpike, Plattsburgh, NY 12901, 518/563-5878 (T), 518/562-1321 (F)
Poughkeepsie 251 Upper North Road, Highland, NY 12528, 845/691-6098 (T), 845/691-6099 (F)
Rochester 3445 Winton Place, Rochester, NY 14623, 585/427-9020 (T), 585/427-9021 (F)
Syracuse 6085 Court Street Road, Syracuse, NY 13206, 315/699-5281 (T), 315/699-3374 (F)
Utica 301 St. Anthony Street, Utica, NY 13501, 315/735-3309 (T), 315/735-0742 (F)
Watertown 26581 NYS Route 283, Watertown, NY 13601, 315/786-7887 (T), 315/786-2022 (F)

Project No.	Project Name	Date Collected
PL5260	AES NorthEast Whiteface Mtn. Ski Patrol Bldg.	01-10-11 Page 2 of 2

Laboratory Instructions

Turn-Around-Time: ☐ 12hr ☐ 24hr ☐ 48hr ☐ 72hr ☒ 5day ☐ _____

Special Instructions: ☒ Positive Stop Analysis ☒ If negative by PLM-NOB, analyze by TEM-NOB ☐ Other _____

Report Distribution

Send Reports To (ATL Office): Canton Office
ATL Contact: Torey Russell
Send Copy To: 518. 562 1321
Fax Results: ☒ Yes ☐ No

Project Contact: Torey Russell
Project Location: Wilmington, NY

Field Sample No.	Sample Location	Sample Description	Analysis Requested: PLM	PLM-NOB	TEM-NOB	TEM-ONLY	MICRO-VAC	Laboratory Sample ID No.
SB1001A	East in Entrance	Yellow Insulation Behind Metal Stairs	X					
SB1001B	East in Entrance	Yellow Insulation Behind Metal Stairs	X					
SB1002A	North East in Ceiling	Black Adhesive Paper Assoc. w/ Yellow Insulation		X	X			
SB1002B	North East in Ceiling	Black Adhesive Paper Assoc. w/ Yellow Insulation		X	X			
SB1003A	North East in Ceiling	Black Adhesive Paper Assoc. w/ Pink Insulation		X	X			
SB1003B	North East in Ceiling	Black Adhesive Paper Assoc. w/ Pink Insulation		X	X			
SB1004A	North East in Ceiling	Tan Adhesive		X	X			
SB1004B	North East in Ceiling	Tan Adhesive		X	X			

01-10-11

Sampler's Name:	William Bourdette	Date:	01-10-11	Received at Laboratory (Name):		Date:	Shipment Rec'd Intact ☐ Yes ☐ No
Sampler's Signature:		Time:	1700	Laboratory Signature:		Time:	

Samples Relinquished By:				Samples Received By:				Field and Laboratory Remarks:
Name:	William Bourdette	Date:	01-10-11	Name:		Date:		Please Email Results to
Signature:		Time:	1700	Signature:		Time:		WBourdette@atlantictesting.com
Name:		Date:		Name:		Date:	1/11	
Signature:		Time:		Signature:		Time:	1016	

ATLANTIC TESTING LABORATORIES, Limited

Distribution: White with Samples
Yellow to Laboratory
Pink to ATL Files

OF-7c
Revised: 2/05

PAGE 01/01

AmeriSci Job #: **211011897**

Client Name: Atlantic Testing Laboratories, Limited

Table I
Summary of Bulk Asbestos Analysis Results
PL5260; AES Northeast; Whiteface Mtn. Ski Patrol, Wilmington, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	PL5260AI01A	01	0.138	73.2	5.1	21.7	NAD	NAD
Location:	Southwest In Building / Tan Adhesive Assoc. W / Black Flooring							
02	PL5260AI01B	01	0.112	73.2	0.9	25.9	NAD	NAD
Location:	West In Building / Tan Adhesive Associated W / Black Flooring							
03	PL5260AI02A	02	0.181	71.3	21.0	7.7	NAD	NAD
Location:	Southeast Window / Brown Exterior Window Caulk							
04	PL5260AI02B	02	0.173	72.3	19.7	8.1	NAD	NAD
Location:	Southeast Window / Brown Ext. Window Caulk							
05	PL5260AI03A	03	—	—	—	—	NA	NA
Location:	No Sample Submitted							
06	PL5260AI03B	03	—	—	—	—	NA	NA
Location:	No Sample Submitted							
07	PL5260AI04A	04	—	—	—	—	NA	NA
Location:	No Sample Submitted							
08	PL5260AI04B	04	—	—	—	—	NA	NA
Location:	No Sample Submitted							
09	PL5260AI05A	05	—	—	—	—	NAD	NA
Location:	Northwest Corner - Ext. Metal Siding / Brown W/ Silver Vapor Barrier							
10	PL5260AI05B	05	—	—	—	—	NAD	NA
Location:	Northwest Corner - Ext. Metal Siding / Brown W/ Silver Vapor Barrier							
11	PL5260AI06A	06	0.140	66.4	2.9	30.7	NAD	NAD
Location:	South In Building / White Adhesive Assoc. W/ Blue Flooring							
12	PL5260AI06B	06	0.131	67.9	3.8	28.2	NAD	NAD
Location:	Northwest In Building / White Adhesive Assoc. W/ Blue Flooring							
13	PL5260AI07A	07	—	—	—	—	NAD	NA
Location:	East In Entrance / Yellow Insulation Behind Metal Siding							
14	PL5260AI07B	07	—	—	—	—	NAD	NA
Location:	East In Entrance / Yellow Insulation Behind Metal Siding							
15	PL5260AI08A	08	0.158	85.4	6.3	8.2	NAD	NAD
Location:	Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Yellow Insulation							
16	PL5260AI08B	08	0.181	90.1	2.8	7.2	NAD	NAD
Location:	Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Yellow Insulation							

See Reporting notes on last page

Client Name: Atlantic Testing Laboratories, Limited

Table I
Summary of Bulk Asbestos Analysis Results

PL5260; AES Northeast; Whiteface Mtn. Ski Patrol, Wilmington, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	PL5260AI09A	09	0.193	96.9	2.6	0.5	NAD	NAD
Location:	Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Pink Insulation							
18	PL5260AI09B	09	0.256	97.7	1.6	0.8	NAD	NAD
Location:	Northeast In Ceiling / Black Adhesive Paper Assoc. W/ Pink Insulation							
19	PL5260AI10A	10	0.114	51.8	35.1	13.2	NAD	NAD
Location:	Northeast In Ceiling / Tan Adhesive							
20	PL5260AI10B	10	0.174	31.6	52.9	15.5	NAD	NAD
Location:	Northeast In Ceiling / Tan Adhesive							

Analyzed by: Marik Peysakhov_____; Date Analyzed 1/14/2011

**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by EPA 600/M4-82-020 per 40 CFR or ELAP 198.1 for New York friable samples or ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (not covered by NVLAP Bulk accreditation); or ELAP 198.4 for New York samples; NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses); AIHA Lab # 102843, NVLAP Lab Code 200546-0, NYSDOH ELAP LAB ID 11480.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

Reviewed By:_____

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033, FAX (315) 458-0526, (800) 842-4667

Analysis Testing
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Inorganics
Metals
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Microbiology
Asbestos
Field Sampling
Courier Services

Laboratory Analysis Report

ATLANTIC TESTING LABORATORIES
P.O. Box 29
6431 U.S. Highway 11
Canton, NY 13617
ATTN: Mr. Torey Russell

PROJECT #: 248805
RECEIVED: 01/11/2011 @ 14:25

Site Address:
AES NORTHEAST WHITEFACE MOUNTAIN
SKI PATROL BUILDING
WILMINGTON, NY

CLIENT JOB NUMBER: PL5260

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 566415 CLIENT SAMPLE ID: LI01 GRAY EXTERIOR WOOD SIDING				**DATE/TIME SAMPLED:** 01/10/11 @	
PB IN PAINT	48	MG/KG as Rec'd	01/18/11	EPA 6010	CRI
Metals Digestion			01/13/11	EPA 3050B	RIC
SOLIDS, TOTAL	-			SM18 2540B	KCH
Insufficient sample volume/mass submitted to properly analyze.					
SAMPLE #: 566416 CLIENT SAMPLE ID: LI02 GREEN ON BROWN EXTERIOR TOP ROOF				**DATE/TIME SAMPLED:** 01/10/11 @	
PB IN PAINT	13000	MG/KG DRY WT.	01/18/11	EPA 6010	CRI
Metals Digestion			01/13/11	EPA 3050B	RIC
SOLIDS, TOTAL	95	PERCENT	01/12/11	SM18 2540B	KCH
SAMPLE #: 566417 CLIENT SAMPLE ID: LI03 GREEN ON REDDISH BROWN EXTERIOR METAL SIDING				**DATE/TIME SAMPLED:** 01/10/11 @	
PB IN PAINT	27000	MG/KG as Rec'd	01/18/11	EPA 6010	CRI
Metals Digestion			01/13/11	EPA 3050B	RIC
SOLIDS, TOTAL	-			SM18 2540B	KCH
Insufficient sample volume/mass submitted to properly analyze.					
SAMPLE #: 566418 CLIENT SAMPLE ID: LI04 WHITE INTERIOR WALL				**DATE/TIME SAMPLED:** 01/10/11 @	
PB IN PAINT	46000	MG/KG as Rec'd	01/18/11	EPA 6010	CRI
Metals Digestion			01/13/11	EPA 3050B	RIC
SOLIDS, TOTAL	-			SM18 2540B	KCH
Insufficient sample volume/mass submitted to properly analyze.					
SAMPLE #: 566419 CLIENT SAMPLE ID: LI05 BROWN CEILING				**DATE/TIME SAMPLED:** 01/10/11 @	
PB IN PAINT	160	MG/KG as Rec'd	01/18/11	EPA 6010	CRI
Metals Digestion			01/13/11	EPA 3050B	RIC
SOLIDS, TOTAL	-			SM18 2540B	KCH
Insufficient sample volume/mass submitted to properly analyze.					

ATLANTIC TESTING LABORATORIES
P.O. Box 29
6431 U.S. Highway 11
Canton, NY 13617
ATTN: Mr. Torey Russell

PROJECT #: 248805
RECEIVED: 01/11/2011 @ 14:25

Site Address:
AES NORTHEAST WHITEFACE MOUNTAIN
SKI PATROL BUILDING
WILMINGTON, NY

CLIENT JOB NUMBER: PL5260

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 566419 CLIENT SAMPLE ID: LI05 BROWN CEILING				DATE/TIME SAMPLED: 01/10/11 @	
SAMPLE #: 566420 CLIENT SAMPLE ID: LI06 GREEN ON BROWN INTERIOR COLUMN				DATE/TIME SAMPLED: 01/10/11 @	
PB IN PAINT	3200	MG/KG as Rec'd	01/18/11	EPA 6010	CRI
Metals Digestion			01/13/11	EPA 3050B	RIC
SOLIDS, TOTAL	99	PERCENT	01/12/11	SM18 2540B	KCH

Sample Receipt Temperature: *Degrees C*

David R. Hill
Laboratory Director

01/18/2011
Print Date

All NELAC Quality Control requirements pertaining to the analyses were met, unless otherwise specified.
All analyses performed by NYS ELAP Laboratory Certification #11375, unless otherwise stated.
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248805

ATLANTIC TESTING LABORATORIES

№ 4623

ENVIRONMENTAL - CHAIN OF CUSTODY

Albany 22 Corporate Drive, Clifton Park, NY 12065, 518/383-9144 (T), 518/383-9166 (F)

Binghamton 126 Park Avenue, Binghamton, NY 13903, 607/773-1812 (T), 607/773-1835 (F)

Canton 6431 U.S. Highway 11, Canton, NY 13617, 315/386-4578 (T), 315/386-1012 (F)

Elmira 2330 Route 352, Elmira, NY 14903, 607/737-0700 (T), 607/737-0714 (F)

Plattsburgh 130 Arizona Ave., Ste. 1540, Plattsburgh, NY 12903, 518/563-5978 (T), 518/562-1321 (F)

Poughkeepsie 251 Upper North Road, Highland, NY 12528, 845/691-6098 (T), 845/691-6099 (F)

Rochester 3445 Winton Place, Rochester, NY 14623, 585/427-9020 (T), 585/427-9021 (F)

Syracuse 6085 Court Street Road, Syracuse, NY 13206, 315/699-5281 (T), 315/699-3374 (F)

Utica 301 St. Anthony Street, Utica, NY 13501, 315/735-3309 (T), 315/735-0742 (F)

Watertown 26581 NYS Route 283, Watertown, NY 13601, 315/786-7887 (T), 315/786-2022 (F)

Project No.	Client Name	QA/QC Code	Parameters	Report Distribution
PLS260	AES Northeast	☐NYSDEC ☐SW-846	Total Lead (Paint Chips)	Dates Required: 5 Day TAT
Page 1 of 1	White Face Mtn	☐NYSDOH ☐CLP		Send Reports To: TRussell@atlantictesting.com WBourdette@atlantictesting.com
Project Contact: Tony Russell		☐Other	Project Location	Fax Results: Email ☒Yes ☐No
Project Name: Ski Patrol Building		Wilmington, NY		Custody Seal: X = Intact

Date	Time	Sample Location	Sample Type	No. of Containers	Laboratory Identification No.	Field Notes
01-10-11	—	Gray Ext. Wood Siding PLS260 LI01	G, Sol	1	X	566415
01-10-11	—	Green on Brown Ext. Roof (Top) PLS260 LI02	G, Sol	1	X	416
01-10-11	—	Green on (Reddish Brown Ext. Metal Siding PLS260 LI03	G, Sol	1	X	417
01-10-11	—	White Int. Wall PLS260 LI04	G, Sol	1	X	418
01-10-11	—	Brown Ceiling PLS260 LI05	G, Sol	1	X	419
01-10-11	—	Green on Brown Int. Glass PLS260 LI06	G, Sol	1	X	420

01-10-11

Sampler's Name:	William Bourdette	Date:	01-10-11	Received for Name:	Jessica Bramley	Date:	1/11/11	Shipment Rec'd Intact?
Sampler's Signature:		Time:	1200	Laboratory Signature:		Time:	1425	☐Yes ☐No

Samples Relinquished By:				Samples Received By:				Sample Type Code Key:		Laboratory Remarks
Name:	William Bourdette	Date:	01-10-11	Name:		Date:		Description: C Composite; G Grab; Q QA/QC; O Other	Matrix: DW Drinking Water; GW Groundwater; O Oil; S Soil; SL Sludge; WW Wastewater	
Signature:		Time:	1900	Signature:		Time:				
Name:		Date:		Name:		Date:				
Signature:		Time:		Signature:		Time:				

Sol = Solid

Think Quality

Page 3 / 3

Distribution: White with Samples
Yellow to Laboratory
Pink to ATL Files

OF-7E
Revised: 11/02

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
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- Metals
- Wetchemistry
- Microbiology
- Asbestos

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Courier Services

Laboratory Analysis Report

ATLANTIC TESTING LABORATORIES
P.O. Box 29
6431 U.S. Highway 11
Canton, NY 13617
ATTN: Mr. Torey Russell

PROJECT #: 248806
RECEIVED: 01/11/2011 @ 14:25

Site Address:
AES NORTHEAST WHITEFACE MOUNTAIN
SKI PATROL BUILDING
WILMINGTON, NY

CLIENT JOB NUMBER: PL5260

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 566421 CLIENT SAMPLE ID:	PI01 BROWN EXTERIOR WINDOW CAULK			**DATE/TIME SAMPLED:** 01/10/11 @	
Semi-Volatile - PCB'S					
aroclor 1016	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1221	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1232	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1242	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1248	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1254	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1260	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1262	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
aroclor 1268	<0.99	MG/KG DRY WT.	01/20/11	EPA 8082	KAL
Surrogate (2,4,5,6-tetrachloro-m-xylene): 109% recovery,(decachlorobiphenyl): 90% recovery, Surrogate recovery acceptance limits are 75-125%.					
Solid Ultrasonic Extraction			01/18/11	EPA 3550B	CJA
SOLIDS, TOTAL	99	PERCENT	01/12/11	SM18 2540B	KCH

ATLANTIC TESTING LABORATORIES
P.O. Box 29
6431 U.S. Highway 11
Canton, NY 13617
ATTN: Mr. Torey Russell

PROJECT #: 248806
RECEIVED: 01/11/2011 @ 14:25

Site Address:
AES NORTHEAST WHITEFACE MOUNTAIN
SKI PATROL BUILDING
WILMINGTON, NY

CLIENT JOB NUMBER: PL5260

TEST PERFORMED	RESULTS	UNITS	DATE/TIME PERFORMED	METHOD NUMBER	PERFORMED BY
Sample Receipt Temperature:	*Degrees C*				

David R. Hill
Laboratory Director

01/24/2011
Print Date

All NELAC Quality Control requirements pertaining to the analyses were met, unless otherwise specified.
All analyses performed by NYS ELAP Laboratory Certification #11375, unless otherwise stated.
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248806

ATLANTIC TESTING LABORATORIES

№ 4622

ENVIRONMENTAL - CHAIN OF CUSTODY

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Binghamton 126 Park Avenue, Binghamton, NY 13903, 607/773-1812 (T), 607/773-1835 (F)
Canton 6431 U.S. Highway 11, Canton, NY 13617, 315/386-4578 (T), 315/386-1012 (F)
Elmira 2330 Route 352, Elmira, NY 14903, 607/737-0700 (T), 607/737-0714 (F)
Plattsburgh 130 Arizona Ave., Ste. 1540, Plattsburgh, NY 12903, 518/563-5878 (T), 518/562-1321 (F)
Poughkeepsie 251 Upper North Road, Highland, NY 12528, 845/691-6098 (T), 845/691-6099 (F)
Rochester 3446 Winton Place, Rochester, NY 14623, 585/427-9020 (T), 585/427-9021 (F)
Syracuse 6085 Court Street Road, Syracuse, NY 13206, 315/699-5281 (T), 315/699-3374 (F)
Utica 301 St. Anthony Street, Utica, NY 13501, 315/735-3309 (T), 315/735-0742 (F)
Watertown 26581 NYS Route 283, Watertown, NY 13601, 315/786-7667 (T), 315/786-2022 (F)

Project No.	Client Name	QA/QC Code	Parameters	Report Distribution 2 WEEK TAT
PL5260	AES North East	☐NYSDEC ☐SW-846		Dates Required: ~~5 DAY~~ 2 Wks
Page 1 of 1	White Face Mtn	☐NYSDOH ☐CLP ☐Other		Send Reports To: T Russell@AtlanticTesting.com, W Bourdette@AtlanticTesting.com
Project Contact:	Torey Russell	Project Location	EPA Method 8082	~~Fax~~ EMAIL Results: ☒Yes ☐No
Project Name:	Sc: Partial Building	Wilmington, NY		

Date	Time	Sample Location	Sample Type	No. of Containers	EPA Method 8082							Laboratory Identification No.	Field Notes
01-10-11	—	Brown Ext. Window Caulk PL5260 PI 01	G, Sol	1	X							566421	

Custody Seal: X = intact

01-10-11 [signature]

Sampler's Name:	William Bourdette	Date:	01-10-11	Received for Name:	Jessica Brandt	Date:	1/11/11
Sampler's Signature:	[signature]	Time:	1200	Laboratory Signature:	[signature]	Time:	1425

Shipment Rec'd Intact? ☐Yes ☐No

Samples Relinquished By:				Samples Received By:			
Name:	William Bourdette	Date:	01-10-11	Name:		Date:	
Signature:	[signature]	Time:	1200	Signature:		Time:	
Name:		Date:		Name:		Date:	
Signature:		Time:		Signature:		Time:	

Sample Type Code Key:

Description		Matrix	
C	Composite	DW	Drinking Water
G	Grab	GW	Groundwater
Q	QA/QC	O	Oil
O	Other	S	Soil
		SL	Sludge
		WW	Wastewater

Sol = Solid

Laboratory Remarks

Think Quality

Distribution: White with Samples
Yellow to Laboratory
Pink to ATL Files

OF-7E
Revised: 11/02

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

STATEMENT OF SPECIAL INSPECTIONS

List of Abbreviations:

BCNYS - Building Code of New York State, 2010 ed.
Eng. - Structural Engineer of Record
Arch. - Architect
TA - Testing Agency (As represented by Special Inspector)
OR - Owner's Representative

Earthwork Inspections - BCNYS Section 1704.7

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Approval of Subgrade		Arch.		1704.7 Items 1, 2

Concrete Construction - BCNYS Section 1704.4

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Inspection of reinforcing steel, including placement.		TA	ACI 318: 3.5, 7.1-7.7	1903.5, 1907.7 (03300-3.10-B)
Verifying use of required design mix.	TA		ACI 318:Ch.4, 5.2-5.4	(03300-3.10-B)
Sampling fresh concrete and performing slump, temp., air content, and strength testing.	TA		ASTM C172 ASTM C 31 ACI 318: 5.6, 5.8	(03300-3.10-C)
Inspection for maintenance of specified curing temperature and techniques.		TA Eng.	ACI 318: 5.11-5.13	1905.11, 1905.12 1905.13

Masonry Construction - BCNYS Section 1704.5

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYC Section (job Spec. Section)
Inspection program shall verify: 1. Location, size and grade of reinforcement 2. Construction of mortar joints 3. Grout placement including clean grout space, consolidation and proportions of site prepared grout and mortar (compliance with approved mix design) 4. Protection of masonry during cold weather (below 40^0 F) or hot weather (above 90^0 F) 5. Compliance with required inspections provisions of the construction Documents and the approved submittals shall be verified .		TA	ACI 530/ASCE 5 & 6	1704.5 (04816)

Wood Construction - BCNYS Section 1704.6

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Verification of use of proper lumber grades and engineered wood products.		TA	DOC PS20.	2303.1.1 (06100)
Verification of proper lumber and engineered wood product member sizes and spacings.		TA		(06100)

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Inspection of fabrication of pre-manufactured metal plate connected wood trusses. a. Verify workmanship and fabricator's ability to conform to approved construction documents and approved standards. b. The above inspection may be waived if the truss fabricator participates in a recognized quality-assurance program that complies with the requirements in Specification Section 06185. Fabricators that comply with the Mark License Agreement with the Truss Plate Institute would meet these requirements.		TA	TPI 1	1704.6, 1704.2 (06185)
Installation of metal connectors: a. Verify correct component and spacing. b. Verify correct nailing or bolts used.		TA Eng. TA Eng.		(06100)
Installation of Pre-manufactured trusses: a. Verify correct placement of trusses from shop drawings. b. Verify correct placement and connection of temporary and permanent bracing. c. Verify installation of hold-downs and connectors at bearings.		TA Eng. TA Eng. TA Eng.		(06185)
Verify correct installation of sheathing including placement, size and spacing of nails.		TA Eng.		1704.6.1 (06100)

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

STATEMENT OF SPECIAL INSPECTIONS

List of Abbreviations:

BCNYS - Building Code of New York State, 2010 ed.
Eng. - Structural Engineer of Record
Arch. - Architect
TA - Testing Agency (As represented by Special Inspector)
OR - Owner's Representative

Earthwork Inspections - BCNYS Section 1704.7

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Approval of Subgrade		Arch.		1704.7 Items 1, 2

Concrete Construction - BCNYS Section 1704.4

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Inspection of reinforcing steel, including placement.		TA	ACI 318: 3.5, 7.1-7.7	1903.5, 1907.7 (03300-3.10-B)
Verifying use of required design mix.	TA		ACI 318:Ch.4, 5.2-5.4	(03300-3.10-B)
Sampling fresh concrete and performing slump, temp., air content, and strength testing.	TA		ASTM C172 ASTM C 31 ACI 318: 5.6, 5.8	(03300-3.10-C)
Inspection for maintenance of specified curing temperature and techniques.		TA Eng.	ACI 318: 5.11-5.13	1905.11, 1905.12 1905.13

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

Masonry Construction - BCNYS Section 1704.5

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYC Section (job Spec. Section)
Inspection program shall verify: 1. Location, size and grade of reinforcement 2. Construction of mortar joints 3. Grout placement including clean grout space, consolidation and proportions of site prepared grout and mortar (compliance with approved mix design) 4. Protection of masonry during cold weather (below 40^0 F) or hot weather (above 90^0 F) 5. Compliance with required inspections provisions of the construction Documents and the approved submittals shall be verified .		TA	ACI 530/ASCE 5 & 6	1704.5 (04816)

Wood Construction - BCNYS Section 1704.6

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Verification of use of proper lumber grades and engineered wood products.		TA	DOC PS20.	2303.1.1 (06100)
Verification of proper lumber and engineered wood product member sizes and spacings.		TA		(06100)

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Inspection of fabrication of pre-manufactured metal plate connected wood trusses. a. Verify workmanship and fabricator's ability to conform to approved construction documents and approved standards. b. The above inspection may be waived if the truss fabricator participates in a recognized quality-assurance program that complies with the requirements in Specification Section 06185. Fabricators that comply with the Mark License Agreement with the Truss Plate Institute would meet these requirements.		TA	TPI 1	1704.6, 1704.2 (06185)
Installation of metal connectors: a. Verify correct component and spacing. b. Verify correct nailing or bolts used.		TA Eng. TA Eng.		(06100)
Installation of Pre-manufactured trusses: a. Verify correct placement of trusses from shop drawings. b. Verify correct placement and connection of temporary and permanent bracing. c. Verify installation of hold-downs and connectors at bearings.		TA Eng. TA Eng. TA Eng.		(06185)
Verify correct installation of sheathing including placement, size and spacing of nails.		TA Eng.		1704.6.1 (06100)

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SECTION 02055

SOILS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes subsoil materials and topsoil materials.

1.2 REFERENCES

A. AASHTO T180 American Association of State Highway and Transportation Officials - Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18-in Drop.

B. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb Rammer and 12 inch Drop.

C. ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.

D. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb Rammer and 18 inch Drop.

E. ASTM D2167 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

F. ASTM D2487 - Classification of Soils for Engineering Purposes.

G. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods Shallow Depth.

H. ASTM D3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods Shallow Depth.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures

B. Samples: Submit, in airtight containers, 10-lb sample of fill to testing laboratory.

C. Materials Source: Submit name of imported materials source.

PART 2 PRODUCTS

2.1 SUBSOIL MATERIALS

A. Common Fill:
   1. Excavated and re-used material which has been approved by the Engineer.
   2. Graded.

3. Free of lumps larger than 3 inches, rocks larger than 3 inches, organics and debris.
4. Conforming to ASTM D2487, Group Symbol CL.

2.2 TOPSOIL MATERIALS

A. Topsoil:
1. Excavated and reused material. Graded/screened prior to reuse to meet specification Section 02920.
2. Free of roots, rocks larger than ¼ inch, subsoil, debris, large weeds and foreign matter.
3. Conforming to ASTM D2487, Group Symbol OH.

2.3 SOURCE QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services. Testing and analysis of soil material. Contractor shall employ and pay for testing services (i.e., testing contingency allowance shall not be used) for reuse of existing site materials.

B. Testing and Analysis of Subsoil Material: Perform in accordance with ASTM D698.

C. When tests indicate materials do not meet specified requirements, change material and retest.

D. Furnish materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.1 SOIL REMOVAL

A. Excavate subsoil and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.

B. Remove lumped soil, boulders, and rock.

C. Stockpile excavated topsoil material in area designated on site. Remove excess subsoil material not being used from site.

3.2 STOCKPILING

A. Stockpile materials on site at locations indicated or designated by Owner.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Prevent intermixing of soil types or contamination.

E. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

F. Stockpile materials on impervious material and cover to prevent erosion and leaching, until disposed of.

G. Provide temporary erosion and sediment controls (E&SC) as per the SWPPP around stockpile(s) to prevent degradation of drainage-ways and waters of the U.S. Maintain temporary E&SC measures until all stock pile(s) have been removed from the project area and site has been fully re-vegetated.

3.3 STOCKPILE CLEANUP

A. Leave unused materials in neat, compact stockpile.

B. Leave area in clean and neat condition. Grade site surface to prevent freestanding surface water.

END OF SECTION

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SECTION 02060

AGGREGATE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes aggregate materials for fill, drainage, and grading purposes.

1.2 RELATED SECTIONS

A. Section – 02320 – Backfill.

B. Section – 02324 – Trenching.

1.3 REFERENCES

A. AASHTO M147 (American Association of State Highway and Transportation Officials) - Materials for Aggregate and Soil-Aggregate.

B. AASHTO T180 (American Association of State Highway and Transportation Officials) - Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18 inch Drop.

C. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.

D. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb Rammer and12 inch Drop.

E. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18 inch Drop.

F. ASTM D2167 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

G. ASTM D2487 - Classification of Soils for Engineering Purposes.

H. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

I. ASTM D3017 - Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

J. ASTM D4318 - Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Samples: Submit, in air-tight containers, 10 lb sample of each type of type fill to testing laboratory.

C. Materials Source: Submit name of imported materials suppliers.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with NYS DOT Standards.

PART 2 PRODUCTS

2.1 COARSE AGGREGATE MATERIALS

A. NYS DOT 304.12: Conforming to NYS DOT Standards, graded in accordance with ASTM C136, conforming to the following gradation:

Sieve Size	Percent Passing
2”	100
¼”	25-60
No. 40	5-40
No. 200	0-10
PAN	0

B. NYS DOT 703.4 #2: Crushed or Gravel: Pit run, Angular crushed or natural stone; free of shale, clay, friable material and debris; graded in accordance with ASTM C136, conforming to the following gradation:

Sieve Size	Percent Passing
1 ½ inches	100
1 inch	90-100
½ inch	0-15

C. NYS DOT #1a: Pea Gravel: Crushed or Gravel: Pit run, Angular crushed or natural stone; free of shale, clay, friable material and debris; graded in accordance with ASTM C136, conforming to the following gradation:

Sieve Size	Percent Passing
½”	100
¼ ”	20-100
#10	0-15
#20	0-5
PAN	0

D. ASTM D 448 Number 67 crushed stone:

Sieve Size	Percent Passing
1”	100
3/4”	90-100
3/8”	20-55
No. 4	0-10
No. 8	0-5

E. Engineered Structural Fill: Crushed or Gravel: Pit run, Angular crushed or natural stone; free of shale, clay, friable material and debris; graded in accordance with ASTM C136, within the following limits:

Sieve Size	Percent Passing
3”	100
1”	80-95
½ inch	45-75
No. 4	30-60
No. 40	10-40
No. 200	0-7

F. Select Granular Fill: Granular materials consisting of a clean, screened, crushed, or bank-run gravel conforming to the following gradation:

Sieve Size	Percent Passing
4”	100
¼”	35-65
#200	0-10

G. Common Fill: Should exhibit a coefficient of permeability in the range of $1x10^{-3}$ to $1x10^{-5}$ cm/sec. The Common Fill should conform to the following gradation:

Sieve Size	*Percent Passing
3”	100
¼”	35-70
#200	15-30

*Other material gradations may meet the requirements for common fill.

H. Common/Reusable Fill: Sands and gravels which do not contain wood, rubbish, organics, clay or silts (in excess of 10% of clays or silts by weight), stones larger than 3” in diameter and is capable of compaction of 92% of maximum dry density and has been approved by the Engineer.

2.2 FINE AGGREGATE MATERIALS

A. Fine Aggregate Type: Conforming to NYS DOT Standards.

B. Sand: Natural river or bank sand; free of silt, clay, loam, friable or soluble materials, and organic matter; graded in accordance with ASTM C136; conforming to the following gradation:

Sieve Size	Percent Passing
1”	100
No. 30	0-70
No. 500	0-35
No. 200	0-10

2.3 SOURCE QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and inspection services.

B. Coarse Aggregate Material - Testing and Analysis: Perform in accordance with applicable ASTM Standard (i.e. ASTM D698, ASTM D1557, ASTM D2922, ASTM D3017, ASTM C136).

C. Fine Aggregate Material - Testing and Analysis: Perform in accordance with applicable ASTM Standard (i.e. ASTM D698, ASTM D1557, ASTM D2922, ASTM D3017, ASTM C136).

D. When tests indicate materials do not meet specified requirements, change material or material source and retest.

E. Furnish materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.1 STOCKPILING

A. Stockpile materials on site at locations designated by Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Direct surface water away from stockpile site so as to prevent erosion or deterioration of materials.

E. Stockpile materials on impervious material and cover to prevent erosion and leaching, until disposed of.

F. Maintain stockpile materials in accordance with the Stormwater Pollution Prevention Plan (SWPPP).

3.2 STOCKPILE CLEANUP

A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent freestanding surface water.

B. When borrow area is indicated, leave area in clean and neat condition. Grade site surface to prevent freestanding surface water.

END OF SECTION

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SECTION 02221

BUILDING DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolishing designated structures.
   2. Demolishing designated foundations.
   3. Disconnecting and capping designated utilities.
   4. Removing designated items for reuse and Owner's retention.
   5. Protecting items designated to remain.
   6. Removing demolished materials.

B. Related Sections:
   1. Section 02055 - Soils: Backfill materials.
   2. Section 02060 - Aggregate: Backfill materials.
   3. Section 02320 - Backfill.

1.2 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Accurately record actual locations of capped utilities, subsurface obstructions, and other hidden conditions.

1.3 QUALITY ASSURANCE

A. Conform to applicable code for demolition of structures, safety of adjacent structures, dust control, runoff control, and disposal.

B. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.

C. Obtain required permits from authorities having jurisdiction.

1.4 QUALIFICATIONS

A. Demolition Firm: Company specializing in performing work of this section with minimum five years experience.

1.5 PRE-INSTALLATION MEETINGS

A. Section 01300 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.6 SCHEDULING

A. Schedule Work to precede new construction.

1.7 PROJECT CONDITIONS

A. Buildings indicated to be demolished will be vacated before start of Work.

B. Owner assumes no responsibility for actual condition of buildings to be demolished.

C. Notify Architect/Engineer upon discovery of hazardous materials.

D. Hazardous Materials: Known hazardous materials are identified in Section 01800.

E. Do not burn or bury demolished materials on-site.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Fill Material: Specified in Section 02060.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine existing buildings indicated to be demolished before demolition.

B. Determine where removals may result in structural deficiency or unplanned building collapse during demolition. Coordinate demolition sequence and procedures to prevent structures from becoming unstable.

C. Determine where demolition may affect structural integrity or weather resistance of adjacent buildings indicated to remain.
1. Identify measures required to protect buildings from damage.
2. Identify remedial work including patching, repairing, bracing, and other work required to leave buildings indicated to remain in structurally sound and weathertight and watertight condition.

D. Verify hazardous material abatement is complete before beginning demolition.

3.2 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work.
1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Notify affected utility companies before starting work and comply with utility's requirements.

C. Erect and maintain temporary barriers and security devices for protection of the public, Owner, and existing improvements indicated to remain.

D. Protect existing landscaping materials, trees, appurtenances, structures, and other structures and utilities indicated to remain.

E. Prevent movement or settlement of adjacent structures. Provide bracing and shoring.

3.3 DEMOLITION REQUIREMENTS

A. Use of explosives is not permitted.

B. Conduct demolition to minimize interference with adjacent structures.

C. Cease operations immediately when adjacent structures appear to be in danger. Notify authority having jurisdiction and Architect/Engineer. Do not resume operations until directed.

D. Conduct operations with minimum interference to public or private accesses to occupied adjacent structures. Maintain protected egress and access from adjacent structures at all times.

3.4 DEMOLITION

A. Disconnect, remove, and cap designated utilities to gondola connection point. Identify utilities at termination of demolition. Record termination or capped location on Record Documents.

B. Remove foundation walls and footings to minimum of two feet below finished grade beyond area of new construction.

C. Remove concrete slabs-on-grade.

D. Disconnect propane tanks and relinquish to ORDA and store at designated location on premises.

E. Remove materials to be re-installed or retained in manner to prevent damage. Store and protect in accordance with requirements of Section 01600.

F. Rough grade and compact areas affected by demolition to accommodate subsequent construction operations.

G. Continuously clean-up and remove demolished materials from site. Do not allow materials to accumulate on site.

H. Do not burn or bury materials on site. Leave site in clean condition.

END OF SECTION

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SECTION 02311

ROUGH GRADING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Excavating topsoil.
2. Excavating subsoil.
3. Cutting, grading, filling, rough contouring, and compacting site for site structures.

B. Related Sections:
1. Section 02055 - Soils.
2. Section 02060 - Aggregate.
3. Section 02221 - Building Demolition.
4. Section 02315 - Excavation and Fill: Building excavation.
5. Section 02316 - Rock Removal.
6. Section 02320 - Backfill: General building area backfilling.
7. Section 02324 - Trenching: Trenching and backfilling for utilities.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:
1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:
1. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
3. ASTM D1556 - Standard Test Method for Density of Soil in Place by the Sand-Cone Method.
4. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lbf/ft3 (2,700 kN-m/m3)).
5. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
6. ASTM D2419 - Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
7. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
8. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
9. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Accurately record actual locations of utilities remaining by horizontal dimensions, elevations or inverts, and slope gradients.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ASTM C136.

PART 2 PRODUCTS

2.1 MATERIALS

A. Topsoil: As specified in Section 02055.

B. Subsoil Fill: As specified in Section 02055.

C. Structural Fill: As specified in Section 02060.

D. Granular Fill: As specified in Section 02060.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify survey bench mark and intended elevations for the Work are as indicated on Drawings.

3.2 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum.

C. Notify utility company.

D. Protect utilities indicated to remain from damage.

E. Protect plant life, lawns, rock outcropping and other features remaining as portion of final landscaping.

F. Protect bench marks, survey control point, existing structures, fences, and ramps, from excavating equipment and vehicular traffic.

3.3 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, relandscaped, or regraded, without mixing with foreign materials for use in finish grading.

B. Stockpile on site and protect from erosion.

C. Do not remove topsoil from site.

3.4 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be further excavated, relandscaped, or regraded.

B. When excavating through roots, perform Work by hand and cut roots with sharp axe.

C. Stockpile subsoil on site and protect from erosion.

D. Stockpile excavated material on site.

E. Benching Slopes: Horizontally bench existing slopes greater than 1: 4 to key placed fill material to slope to provide firm bearing.

F. Stability: Replace damaged or displaced subsoil as specified for fill.

3.5 FILLING

A. Fill areas to contours and elevations with unfrozen materials.

B. Place fill material in continuous layers and compact in accordance with schedule at end of this section.

C. Place material in continuous layers as follows:
1. Subsoil Fill: Maximum 12 inches compacted depth.
2. Structural Fill: Maximum 8 inches compacted depth.
3. Granular Fill: Maximum 8 inches compacted depth.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise.

F. Make grade changes gradual. Blend slope into level areas.

G. Repair or replace items indicated to remain damaged by excavation or filling.

3.6 TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Top Surface of Subgrade: Plus or minus 1/10 foot from required elevation.

3.7 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and inspection services.

B. Perform laboratory material tests in accordance with ASTM D1557 or ASTM D698 or AASHTO T180.

C. Perform in place compaction tests in accordance with the following:
1. Density Tests: ASTM D1556, ASTM D2167, or ASTM D2922.
2. Moisture Tests: ASTM D3017.

D. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.8 SCHEDULES

A. Structural Fill:
1. Fill Type: See Section 02060. To subgrade elevation.
2. Compact uniformly to minimum 95 percent of maximum density.

B. Previous Structural Fill:
1. Fill Type: See Section 02060. To subgrade elevation.
2. Compact uniformly to minimum 95 percent of maximum density.

C. Subsoil Fill:
1. Fill Type: See Section 02060. To subgrade elevation.
2. Compact uniformly to minimum 95 percent of maximum density.

D. Topsoil Fill:
1. Fill Type: See Section 02055. To subgrade elevation.
2. Compact uniformly to minimum 90 percent of maximum density.

END OF SECTION

SECTION 02315

EXCAVATION AND FILL

PART 1 GENERAL

1.1 SUMMARY

A. Section includes excavating for site structures.

1.2 REFERENCES

A. ASTM D698, Moisture-Density Relations of Soils and Soil Aggregate Mixtures, Using a 5.5-lb Rammer and a12 inch Drop.

B. ASTM D1556, Density of Soil In-Place by the Sand-Cone Method.

C. ASTM D2049, Relative Density of Cohesionless Soils.

D. ASTM D2167, Density of Soil in Place by the Rubber-Balloon Method.

E. ASTM D2922, Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth).

F. Local utility standards when working within 24 inches of utility lines.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities indicated to remain from damage.

C. Notify utility company to remove and relocate utilities.

D. Protect plant life, lawns, and other features remaining as portion of final landscaping.

E. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.2 EXCAVATING

A. Underpin adjacent structures which may be damaged by excavation work.

B. Excavate subsoil to accommodate building foundations, slabs-on-grade, paving, site structures, and construction operations.

C. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; perform compaction in accordance with Section 02320 and 02324.

D. Slope banks with machine to angle of repose or less until shored.

E. Do not interfere with 45 degree bearing splay of foundations.

F. Grade top perimeter of excavation to prevent surface water from draining into excavation.

G. Hand trim excavation. Remove loose matter.

H. Remove lumped subsoil, boulders, and rock up to one and one half (1½) cu yd measured by volume. Remove larger material as specified in Section 02316.

I. Notify Engineer of unexpected subsurface conditions and discontinue affected Work in area until notified to resume Work.

J. Correct areas over excavated with backfill and compact replacement as specified for authorized excavation or replace with fill concrete as directed by Engineer.

K. Remove excavated material from site.

3.3 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services.

B. Request visual inspection of bearing surfaces by Engineer before installing subsequent work.

3.4 PROTECTION

A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.

B. Protect bottom of excavations and soil adjacent to and beneath foundations from freezing.

C. Protect structures, utilities and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION

ESSEX COUNTY
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SECTION 02316

ROCK REMOVAL

PART 1 GENERAL

1.1 SUMMARY

A. Section includes removal of identified and discovered rock during excavation and expansive tools or explosives to assist rock removal.

1.2 REFERENCES

A. NFPA 495 (National Fire Protection Association) - Code for Manufacture, Transportation, Storage, and Use of Explosive Materials.

1.3 DEFINITIONS

A. Site Rock: Solid mineral material with volume in excess of one and one half (3/4) cu yd or solid material that cannot be removed with one and one half (1½) cu yd capacity excavator without drilling or blasting.

B. Trench Rock: Solid mineral material with volume in excess of one and one half (3/4) cu yd or solid material that cannot be removed with one and one half (1½) cu yd capacity excavator without drilling or blasting.

C. Rock: Solid mineral material of size that cannot be removed with one and one half (1½) cu yd capacity excavator.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate proposed method of blasting, delay pattern, explosive types, type of blasting mat or cover, and intended rock removal method.

C. Survey Report: Submit pre-blast survey report on conditions of buildings near locations of rock removal. Pre-blast survey report to be prepared by NYS Licensed Professional Engineer.

D. Prior to any blasting activities, provide a pre-blast meeting with Owner, ORDA, Engineer, Contractor and New York State Department of Transportation.

E. Provide submittals as may be required by New York State Department of Transportation officials.

1.5 QUALITY ASSURANCE

A. Seismic Survey Firm: Licensed Company specializing in seismic surveys with five years documented experience.

B. Explosives Firm: Company specializing in explosives for disintegration of rock, with five years documented experience and acceptable to Engineer.

1.6 PROJECT CONDITIONS

A. Conduct pre-blast survey and document conditions of buildings within 500 feet of rock removal, prior to blasting, and photograph existing conditions identifying existing irregularities. Pre-blast surveys shall be conducted by a NY State Licensed Professional Engineer and provided to Owner prior to blasting operations.

B. Advise owners of adjacent buildings or structures in writing, prior to executing seismographic survey. Explain planned blasting and seismic operations.

C. Provide seismic survey prior to rock excavation to determine maximum charges that can be used at different locations in area of excavation without damaging adjacent properties or other work.

1.7 SCHEDULING

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Schedule Work to avoid disruption to occupied buildings nearby.

C. Conduct blasting operations between hours of 8:00 a.m. and 5:00 p.m. only.

PART 2 PRODUCTS

2.1 MATERIALS

A. Explosives: Type recommended by explosive firm following seismic survey and required by authorities having jurisdiction.

B. Delay Device: Type recommended by explosives firm.

C. Blast Mat Materials: Type recommended by explosives firm.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify site conditions and note subsurface irregularities affecting Work of this section.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum.

3.3 ROCK REMOVAL BY MECHANICAL METHOD

A. Excavate and remove rock by mechanical method.
   1. Drill holes and use expansive tools and wedges to fracture rock.

B. Cut away rock at bottom of excavation to form level bearing.

C. Remove shaled layers to provide sound and unshattered base for footings and foundations.

D. In single pipe utility trenches, excavate to 6 inches below invert elevation of pipe and 36 inches wider than pipe diameter.

E. In dual pipe utility trenches, excavate to 6 inches below invert elevation of pipe and 48 inches wider than pipe diameter.

F. Remove excavated materials from site.

G. Correct unauthorized rock removal with lean concrete fill in accordance with Section 02320 or as directed by Engineer.

3.4 ROCK REMOVAL BY EXPLOSIVE METHODS

A. When rock is uncovered requiring explosives method for rock disintegration, notify Engineer.

B. Provide seismographic monitoring during progress of blasting operations.

C. The blasting plan will incorporate a vibration standard of 0.2 in/sec or as indicated by existing site conditions, if damage to historical structures is eminent.

D. Drill blasting holes within 12 inches of finished slope.

E. Disintegrate rock and remove from excavation.

F. Remove rock at excavation bottom to form level bearing.

G. Remove shaled layers to provide sound and unshattered base for footings and foundations.

H. In single pipe utility trenches, excavate to 6 inches below invert elevation of pipe and 36 inches wider than pipe diameter.

I. In dual pipe utility trenches, excavate to 6 inches below invert elevation of pipe and 48 inches wider than pipe diameter.

J. Remove excavated material from site (or store permanently on-site if permitted by ORDA).

K. Correct unauthorized rock removal with lean concrete fill in accordance with Section 02320 or as directed by Engineer.

3.5 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services.

B. Request visual inspection of foundation bearing surfaces by Engineer before installing subsequent work.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 02320

BACKFILL

PART 1 GENERAL

1.1 SUMMARY

A. Section includes fill for conduit installation; fill around site structures; fill for over-excavation; consolidation and compaction as scheduled.

1.2 REFERENCES

A. AASHTO T180 (American Association of State Highway and Transportation Officials) - Moisture-Density Relations of Soils Using a 10-lb Rammer and an 18 inch Drop.

B. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb Rammer and 12 inch Drop.

C. ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.

D. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18 inch Drop.

E. ASTM D2049 - Relative Density of Cohesionless Soils.

F. ASTM D2167 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

G. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

H. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Sand: For trenching excavations; as specified in Section 02060.

B. Engineered Structural Fill: As specified in Section 02060.

C. NYS DOT Item 703.4, #2's: As specified in Section 02060.

D. NYS DOT 304.12: As specified in Section 02060.

E. Select Granular Fill: As specified in Section 02060.

F. Filter Sand: As specified in Section 02060.

G. Common/Reusable Fill: As specified in Section 02060.

H. Concrete: Structural concrete (Class A) conforming to Section 03300 with compressive strength of 4,000 psi.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify structural ability of unsupported walls to support loads imposed by fill.

3.2 PREPARATION

A. Compact subgrade to density requirements for subsequent backfill materials.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with specified fill and compact to density equal to or greater than requirements for subsequent fill material.

C. Scarify and proof roll subgrade surface to depth of 12 inches to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.3 BACKFILLING

A. Backfill areas to contours and elevations with unfrozen materials.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.

C. Place and compact materials in equal continuous layers not exceeding 8 inches in loose thickness, at a moisture content of $^{+/-}$2% of the optimum moisture content, and to densities in excess of the following, as determined by ASTM D1557:

Minimum Density	Area Affected
95%	Under footings or foundations
95%	Under slab on-grade, sidewalks, pavement
92%	All other areas

D. Employ placement method that does not disturb or damage other work.

E. Maintain optimum moisture content of backfill materials to attain required compaction density.

F. Backfill against supported foundation walls. Do not backfill against unsupported foundation walls.

G. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.

H. Slope grade away from buildings minimum 2 inches in 10 ft, unless noted otherwise.

I. Make gradual grade changes. Blend slope into level areas.

J. Remove surplus backfill materials from site.

3.4 TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

C. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.5 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and inspection services.

B. Testing: In accordance with ASTM D1557.

C. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at no additional cost to Owner.

D. Frequency of Tests:
1. Compaction Tests:
a. Trench: Every 500 feet of trench of each lift in pavement/sidewalk areas and at each open cut road crossing.
2. As directed by Engineer.
3. As specified in individual Sections of the specifications.

3.6 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Protecting finished work.

B. Reshape and re-compact fills subjected to vehicular traffic.

3.7 SCHEDULE

A. Materials and installation as per the following.

B. Concrete Slabs/Floors/Foundations:
1. Engineered Structural Fill, compacted to 95 percent.

C. Foundations/Footings (When Groundwater or Surfacewater is Present in the Foundation Excavations):
1. NYS DOT #2’s, compacted with vibratory compaction (as directed by Engineer).

D. Exterior Side of Foundation Walls:
   1. Select Granular Fill, to subgrade elevation, each lift, compacted to 95 percent (outside limits of filter sand).

E. Grass Areas:
   1. Select Granular Fill or common fill approved by Engineer, to 4 inches below finish grade, compacted to 92 percent.

F. Correct Over-excavation:
   1. Class A Concrete, as specified (4,000 psi).

G. Wet Areas and Footing Drains:
   1. NYS DOT #2's compacted to area requirements being backfilled.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 02324

TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes excavating trenches for utilities; compacted fill from top of utility bedding to subgrade elevations; and backfilling and compaction.

1.2 REFERENCES

A. AASHTO T180 (American Association of State Highway and Transportation Officials) - Moisture-Density Relations of Soils Using a 10-lb Rammer and an18 inch Drop.

B. ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.

C. ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb Rammer and 12 inch Drop.

D. ASTM D1556 - Test Method for Density of Soil in Place by the Sand-Cone Method.

E. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb Rammer and 18 inch Drop.

F. ASTM D2167 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

G. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

H. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil-Aggregate Mixtures.

1.3 DEFINITIONS

A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.5 COORDINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Road Base: NYS DOT, 304.12, as specified in Section 02060.

B. Bedding: Sand and/or NYS DOT #2's, as specified in Section 02060.

C. Cover: Select Granular Fill, as specified in Section 02060 (initial utility cover). Above initial utility cover Select Granular Fill or Common/Reusable Fill excavated materials (as approved by Engineer), and specified in Section 02060.

D. Concrete: Class A, Structural concrete conforming to ASTM C94 with compressive strength of 4,000 psi.

PART 3 EXECUTION

3.1 LINES AND GRADES

A. Grades:
1. Lay pipes to lines and grades indicated on plans and profiles.
2. Maintain grade alignment of pipe as shown on plans and profiles.
3. Provide deeper grades as required and shown on profiles.

B. Location of Pipe Lines:
1. Location and approximate depths of proposed pipe lines are shown on Drawings.
2. Engineer reserves right to make changes in lines, grades, and depths of pipelines and manholes when changes are required for Project conditions.

3.2 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Protect plant life, lawns, and other features remaining as portion of final landscaping.

C. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D. Maintain and protect above and below grade utilities indicated to remain.

E. Cut out soft areas of subgrade not capable of compaction in place. Backfill with sand and compact to density equal to or greater than requirements for subsequent backfill material, but no less than 95 percent.

3.3 TRENCHING

A. Excavate subsoil required for utilities.

B. Remove excavated materials which are found unacceptable by the Engineer and dispose of at permitted location.

C. Perform excavation within 24 inches of existing utilities in accordance with utility's requirements.

D. Do not advance open trench more than 50 feet ahead of installed pipe.

E. Cut trenches sufficiently wide to enable installation and allow inspection. Remove water or materials that interfere with Work.

F. Excavate bottom of trenches maximum 4 feet wider than outside diameter of pipe or structure.

G. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and pipe.

H. Do not interfere with 45 degree bearing splay of foundations.

I. When Project conditions permit, slope side walls of excavation starting 2 feet above top of pipe. When side walls can not be sloped, provide sheeting and shoring or trench box(s) to protect excavation as specified in this section.

J. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered.

K. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.

L. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.

M. Remove unsuitable excavated material from site.

3.4 BACKFILLING

A. Backfill trenches to contours and elevations with unfrozen fill materials.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

C. Sand: Place and compact materials in equal continuous layers not exceeding 8 inches loose thickness.

D. Common Fill: Place and compact material in equal continuous layers not exceeding 8 inches loose thickness.

E. Employ placement method that does not disturb or damage utilities in trench, and existing utilities.

F. Maintain optimum moisture content of fill materials to attain required compaction density.

G. Do not leave any trench open at end of working day.

H. Remove surplus fill materials from site.

I. Leave fill material stockpile areas completely free of excess fill materials.

3.5 TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

C. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.6 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and inspection services.

B. Compaction Testing: In accordance with appropriate ASTM standards.

C. When tests indicate work does not meet specified requirements, remove work, replace, compact, and retest.

D. Frequency of Tests: Every 500 feet of trench of each lift in pavement/sidewalk areas and at each open cut road crossing.

3.7 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Protecting finished work.

B. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 02821

CHAIN LINK FENCE AND GATES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes fence framework and accessories; posts and manual gates and related hardware.

1.2 REFERENCES

A. ASTM A121 - Zinc-Coated (Galvanized) Steel Barbed Wire.

B. ASTM A123 - Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.

C. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

D. ASTM A392 - Zinc-Coated Steel Chain-Link Fence Fabric.

E. ASTM A428 - Test Method for Weight of Coating on Aluminum-Coated Iron or Steel Articles.

F. ASTM A491 - Aluminum-Coated Steel Chain Link Fence Fabric.

G. ASTM A569 - Steel, Carbon (0.15 Maximum Percent), Hot-Rolled Sheet and Strip Commercial Quality.

H. ASTM A585 - Aluminum Coated Steel Barbed Wire.

I. ASTM A653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

J. ASTM A792 - Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

K. ASTM A824 - Metallic Coated Steel Marcelled Tension Wire for Use with Chain Link Fence.

L. ASTM B429 - Aluminum-Alloy Extruded Structural Pipe and Tube.

M. ASTM C94 - Ready-mixed Concrete.

N. ASTM F567 - Practice for Installation of Chain-Link Fence.

O. ASTM F668 - Poly (Vinyl Chloride) (PVC) Coated Steel Chain Link Fence Fabric.

P. ASTM F900 - Industrial and Commercial Swing Gates.

Q. ASTM F934 - Standard Colors for Polymer-Coated Chain Link Fence Materials.

R. ASTM F1043 - Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.

S. ASTM F1083 - Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.

T. ASTM F1184 - Industrial and Commercial Horizontal Slide Gates.

U. CLFMI (Chain Link Fence Manufacturers Institute) - Product Manual.

1.3 SYSTEM DESCRIPTION

A. Fence Height: 10 feet.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.

C. Product Data: Submit data on fabric, posts, accessories, fittings and hardware.

1.5 QUALITY ASSURANCE

A. Supply material in accordance with CLFMI - Product Manual.

B. Perform installation in accordance with ASTM F567.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

1.7 DELIVERY, STORAGE AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

C. Identify each package with manufacturer’s name.

D. Store fence fabric and accessories in secure and dry place.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:
1. Anchor Fence Inc.
2. Cyclone Inc.
3. Page Aluminized Steel Corp.

2.2 MATERIALS AND COMPONENTS

A. Materials and Components: Conform to CLFMI Product Manual.

B. Fabric Size: CLFMI Heavy Industrial service.

C. Intermediate Posts: Type I round.

D. Terminal, Corner, Rail, Brace, and Gate Posts: Type I.

2.3 MATERIALS

A. Framing (Steel): ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 25 ksi; coating conforming to ASTM F1043 Type A on pipe exterior and interior.

2.4 COMPONENTS

A. Line Posts: 1.9 inch diameter.

B. Corner and Terminal Posts: 2.38 inch.

C. Gate Posts: 3.5 inch diameter.

D. Top and Brace Rail: 1.66 inch diameter, plain end, sleeve coupled.

E. Fabric: 2 inch diamond mesh inter-woven galvanized wire, 6 gauge, top and bottom salvage twisted tight

F. Gate Frame: 1.66 inch diameter for welded fabrication.

G. Tension Wire: 6 gage thick steel, single strand.

H. Tension Band: as recommended by manufacturer.

I. Tension Strap: as recommended by manufacturer.

J. Tie Wire: Aluminum alloy steel wire.

2.5 ACCESSORIES

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer. Vinyl coated.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; galvanized steel.

C. Gate Hardware: Fork latch with gravity drop Mechanical keepers with provision for padlock.

2.6 GATES

A. General:
   1. Gate Types, Opening Widths and Directions of Operation: As indicated on Drawings.
   2. Factory assemble gates.
   3. Design gates for operation by one person.
   4. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Swing Gates:
   1. Fabricate gates to permit 180 degree swing.
   2. Gate construction: ASTM A900 with welded corners.

2.7 FINISHES

A. Components: Galvanized.

B. Hardware: Galvanized to ASTM A153, 2.0 oz/sq ft coating.

C. Accessories: Same finish as framing.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install framework accessories and gates in accordance with ASTM F567.

B. Brace each gate post.

C. Support gates from gate posts. Attach hinged side of gate from building wall.

D. Install three hinges on each gate leaf, latch, catches, retainer and locking clamp.

3.2 ERECTION TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Maximum Variation From Plumb: ¼ inch.

C. Maximum Offset From Indicated Position: 1 inch.

D. Minimum distance from property line: 6 inches.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
   1. Footings.
   2. Foundation walls.

1.2 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each of the following, signed by manufacturers:

B.
   1. Admixtures.
   2. Form materials and form-release agents.
   3. Pre-Mixed Bag Concrete
   4. Steel reinforcement and accessories.
   5. Curing compounds.
   6. Bonding agents.
   7. Adhesives.
   8. Repair materials.

C. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing pre-mixed bag concrete.

B. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.

C. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

D. Source Limitations: Obtain pre-mixed bag concrete material of the same brand from the same manufacturer's plant. Obtain admixtures from single source from single manufacturer.

E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5. Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
3. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures. See Below.

F. Special Inspections: The Owner will retain the services of a qualified Special Inspector for this project. The Special Inspector will provide and/or coordinate inspection and testing requirements in accordance with the provisions of Chapter 17 of the International Building Code, and the Statement of Special inspections. The contractor shall provide access as required for the special inspections to take place. The contractor shall notify the special inspector of the construction schedule so that the inspections are completed in a timely manner. A Statement of Special Inspections has been prepared for this project listing the inspection required.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

B. Pre-Mixed Bag Concrete: Keep dry in a well-ventilated enclosure at all times. All damaged bags will be rejected.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
1. Plywood, metal, or other approved panel materials.

2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
   a. High-density overlay, Class 1 or better.
   b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
   c. Structural 1, B-B or better; mill oiled and edge sealed.
   d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

D. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.

E. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
   1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

F. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

G.
   1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.

2.3 REINFORCEMENT ACCESSORIES

A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
   1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Pre-mixed bag concrete shall contain the following cementitious materials, of the same type, brand, and source, throughout Project:
   1. Portland Cement: ASTM C 150, Type I/II.

B. Normal-Weight Aggregates: Pre-mixed bag concrete shall contain ASTM C 33, coarse aggregate or better, graded. Provide aggregates from a single source.
   1. Maximum Coarse-Aggregate Size: 1 inch nominal.
   2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: Potable.

2.5 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
   1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
   2. Retarding Admixture: ASTM C 494/C 494M, Type B.
   3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
   4.

2.6 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
   1. VOC Content: Curing and sealing compounds shall have a VOC content of 200 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.7 RELATED MATERIALS

A. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

B. Bonding Adhesive for Rebar Dowels and Rod Anchors: Hilti HIT-HY 150 Adhesive as manufactured by Hilt Corp. or equivalent .

2.8 CONCRETE MIXTURES, GENERAL

A. Pre-mixed bag concrete design mixtures shall be proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Cementitious Materials: If possible, use fly ash, pozzolan, or ground granulated blast-furnace slag as needed to reduce the total amount of portland cement, which would otherwise be used. Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
   1. Fly Ash: 25 percent.
   2. Combined Fly Ash and Pozzolan: 25 percent.
   3. Ground Granulated Blast-Furnace Slag: 50 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.

D. Admixtures: Use admixtures according to manufacturer's written instructions.
   1. Use water-reducing admixture in concrete, as required, for placement and workability.

2.9 CONCRETE MIXTURES

A. Footings, Foundations, and Abutment Repairs: Supply pre-mixed bag concrete product meeting the following requirements:
   1. Minimum Compressive Strength: 4000 psi at 28 days.
   2. Maximum Water-Cementitious Materials Ratio: 0.50.
   3. Slump Limit: 5 inches.
   4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch nominal maximum aggregate size.

2.10 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.11 CONCRETE MIXING

A. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete in strict accordance with pre-mixed bag concrete manufacturer’s requirements. Mix concrete materials in appropriate drum-type batch machine mixer.
   1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
   2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd..

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
   1. Class C, 1/2 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar. Note: concrete may not enter stream.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
   1. Install keyways, reglets, recesses, and the like, for easy removal.
   2. Do not use rust-stained steel form-facing material.

F. Chamfer exterior corners and edges of permanently exposed concrete.

G. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

H. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

I. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 36 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.

B.
   1. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.5 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

C. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

D. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.6 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
   1. Apply to all vertical concrete surfaces.

B. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and apply a smooth trowel finish.

3.7 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.8 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
   1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
      a. Water.
      b. Continuous water-fog spray.
      c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
   2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than

seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
   a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

3.9 CONCRETE SURFACE REPAIRS

A. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

B. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
   1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
   2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

C. Repairing Unformed Surfaces:
   1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
   2. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
   3. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

D. Perform structural repairs of concrete, subject to Engineer's approval, using epoxy adhesive and patching mortar.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Inspections:
1. Steel reinforcement placement.
2. Verification of use of required design mixture.
3. Concrete placement, including conveying and depositing.
4. Curing procedures and maintenance of curing temperature.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 1 cu. yd., but less than 15 cu. yd., plus one set for each additional 3 cu. yd. or fraction thereof.
   a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
4. Compression Test Specimens: ASTM C 31/C 31M.
   a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
   b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
5. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
   a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
   b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
6. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
8. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete

testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
10. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M.
11. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 04700

MANUFACTURED STONE VENEER

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Manufactured stone veneer, Manufactured stone trim, and application materials.

B. Related Sections:
1. Division 07 Section specifying flashing materials.

1.2 REFERENCES

A. American Concrete Institute (ACI).

B. American Society for Testing and Materials (ASTM):
1. ASTM C 39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
2. ASTM C 67, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
3. ASTM C 177, Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
4. ASTM C 192, Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
5. ASTM C 270, Standard Specification for Mortar for Unit Masonry.
6. ASTM C 482, Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
7. ASTM D 226, Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.

C. Masonry Standards Joint Committee (MSJC) of The Masonry Society.

D. Underwriters Laboratories (UL):

E. Listing in Material Approval Guide.

F. UL 723, Standard for Safety for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

A. Reference Section 01300–Submittal Procedures; submit following items:
1. Product Data: Manufactured masonry and application materials including mortar color charts, and weather resistant barrier.
2. Samples: Panel containing full-size samples of specified manufactured masonry showing full range of colors and textures complete with specified mortar.
3. Actual size of masonry sample approximately 12 by 12 inches (300 by 300 mm).

4. Quality Assurance/Control Submittals:
   a. Qualifications:
      1) Proof of manufacturer qualifications.
      2) Proof of installer qualifications.
   b. Certificates: ICC-ES Report.
   c. Test Reports for physical properties.
   d. Manufacturer’s Installation Instructions.

1.4 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer Qualifications:
      a. Minimum five years experience in producing manufactured masonry.
      b. Member of following organizations:
         1) MSJC.
         2) ACI.
         3) ASTM.
   2. Installer Qualifications: Company with documented experience in installation of manufactured masonry including minimum 5 projects within 400 mile radius of this Project.

B. Certifications:
   1. Current ICC-ES Report.
   2. UL: Listing in Material Approval Guide.
   3. Building Materials Evaluation Commission.
   4. HUD: Material Release Number.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01600–Product Storage and Handling Requirements.

B. Follow manufacturer’s instructions.

C. Store moisture-sensitive materials in weather protected enclosures.

1.6 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Maintain materials and ambient temperature in area of installation at minimum 40 degrees F (4 degrees C) prior to, during, and for 48 hours following installation.

1.7 WARRANTY

A. Special Warranty: Provide manufacturer's standard limited warranty against defects in manufacturing for a period of 50 years following date of Substantial Completion.

1.8 MAINTENANCE

A. Extra Materials: Furnish extra manufactured stone material in a variety of shapes and sizes in quantity equal to three percent of the installed stone.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Owens Corning, Toledo, OH.

B. Eldorado Stove, SanMarcos, CA.

C. Substitutions: Per Section 01330 and 01600.

2.2 MANUFACTURED MASONRY MATERIALS

A. Manufactured Stone Textures:
1. O.C. “River Rock”; “Earth Blend”.
2. Eldorado “River Rock”; “Colorado”

B. Architectural Trim:
1. Watertable/Sill—Stone Textured:
a. Color: To be selected.
b. Size: 2 (front), 2-1/2 (back), by 3 by 18 inches (50 (front), 65 (back) by 75 by 455 mm).
c. Provide sloped top surface and drip edge.

C. Manufactured Masonry Physical Properties:
1. Compressive Strength: ASTM C 192 and ASTM C39, 1800 psi (12.4 MPa), 5 specimen average, 1500 psi (10.3 MPa) minimum for individual unit.
2. Bond Between Stone Unit, Type S Mortar, and Backing: ASTM C 482, 50 psi (345 kPa).
3. Thermal Resistance: ASTM C 177, R-factor, 0.355 per inch (25.4 mm) of thickness.
4. Freeze/Thaw: ASTM C 67, no disintegration and less than 3 percent weight loss.
5. Fire Hazard Test, UL 723:
a. Flame spread: 0.
b. Smoke Development: 0.
6. Maximum Veneer Unit Weight: 15 psf (73 kg/m^2).

2.3 RELATED MATERIALS

A. Weather Resistant Barrier: Kraft waterproof building paper, UBC Standard No. 14-1 or No. 15, Type I, asphalt saturated felt, ASTM D 226.

B. Metal Lath: 2.5 lb (1.4 kg/m^2) galvanized expanded metal lath.

C. Mortar: Premixed Type N or mortar mixed using components and proportions following manufactured masonry manufacturer's installation instructions. Comply with ASTM C 270.
1. Mortar Color: Iron oxide pigments.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates upon which manufactured masonry will be installed.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.2 PREPARATION

A. Protection: Prevent work from occurring on the opposite of walls to which manufactured masonry is applied during and for 48 hours following installation of the manufactured masonry.

B. Surface Preparation: Follow manufacturer's instructions designated below for the appropriate type of manufactured masonry and substrate.

3.3 INSTALLATION

A. Install Stone products in accordance with manufacturer's installation instructions using grouted joints.

B. Install architectural trim products in accordance with manufacturer's installation instructions.

C. Install/Apply Related Materials specified above in accordance with type of substrate and manufactured masonry manufacturer's installation instructions.

3.4 CLEANING

A. Reference Section 01700–Cleaning and Waste Management.

B. Clean manufactured masonry in accordance with manufacturer's installation instructions.

3.5 PROTECTION

A. Protect finished work from rain during and for 48 hours following installation.

B. Protect finished work from damage during remainder of construction period.

END OF SECTION

SECTION 04816

CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Mortar and grout.
3. Steel reinforcing bars.
4. Masonry joint reinforcement.
5. Ties and anchors.
6. Miscellaneous masonry accessories.

B. Related Sections:

1. Section 03300 "Cast-in-Place Concrete".

1.3 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 PERFORMANCE REQUIREMENTS

A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.

1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

1.5 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Owner will engage a qualified independent testing agency to perform preconstruction testing indicated below. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

1. Concrete Masonry Unit Test: For each type of unit required, according to ASTM C 140 for compressive strength.
2. Mortar Test (Property Specification): For each mix required, according to ASTM C 109/C 109M for compressive strength.
3. Mortar Test (Property Specification): For each mix required, according to ASTM C 780 for compressive strength.
4. Grout Test (Compressive Strength): For each mix required, according to ASTM C 1019.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For the following:

1. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement." Show elevations of reinforced walls.

1.7 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each type and size of the following:

1. Masonry units.

a. Include material test reports substantiating compliance with requirements.
b. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.

2. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
3. Grout mixes. Include description of type and proportions of ingredients.
4. Reinforcing bars.
5. Joint reinforcement.
6. Anchors, ties, and metal accessories.

B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.
2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

C. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

D. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.8 QUALITY ASSURANCE

A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

C. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

D. **Special Inspections**: The Owner will retain the services of a qualified Special Inspector for this project. The Special Inspector will provide and/or coordinate inspection and testing requirements in accordance with the provisions of Chapter 17 of the International Building Code, and the Statement of Special inspections. The contractor shall provide access as required for the special inspections to take place. The contractor shall notify the special inspector of the construction schedule so that the inspections are completed in a timely manner. A Statement of Special Inspections has been prepared for this project listing the inspection required.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in covered weatherproof dispensing silos.

C. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.10 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and higher and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
2. Provide square-edged units for outside corners unless otherwise indicated.

B. CMUs: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi.
2. Density Classification: Normal weight.
3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.
4. Size (Width): Manufactured to the following dimensions:

a. 100 mm nominal; 92 mm actual.
b. 150 mm nominal; 143 mm actual.
c. 200 mm nominal; 194 mm actual.
d. 250 mm nominal; 244 mm actual.

e. 300 mm nominal; 295 mm actual.
f. 400 mm nominal; 396 mm actual.

2.3 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Masonry Cement: ASTM C 91.

E. Mortar Cement: ASTM C 1329.

F. Aggregate for Grout: ASTM C 404.

G. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

H. Water: Potable.

2.4 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Masonry Joint Reinforcement, General: ASTM A 951/A 951M.
1. Exterior Walls: Hot-dip galvanized, carbon steel.
2. Wire Size for Side Rods: 0.148-inch diameter.
3. Wire Size for Cross Rods: 0.148-inch diameter.
4. Provide in lengths of not less than 10 feet .

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

2.5 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.6 MISCELLANEOUS ANCHORS

A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron wedge-type inserts.

B. Dovetail Slots in Concrete: Furnish dovetail slots with filler strips, of slot size indicated, fabricated from 0.034-inch, galvanized steel sheet.

C. Anchor Bolts: L-shaped steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153/A 153M, Class C; of dimensions indicated.

D. Postinstalled Anchors: chemical anchors.

1. Load Capacity: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

2.7 MISCELLANEOUS MASONRY ACCESSORIES

A. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

2.8 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use masonry cement mortar unless otherwise indicated.
3. For exterior masonry, use masonry cement mortar.
4. For reinforced masonry, use masonry cement mortar.
5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated.
1. For all reinforced masonry, use Type S.

D. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.

2. Proportion grout in accordance with ASTM C 476, Table 1.
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Build chases and recesses to accommodate items specified in this and other Sections.

B. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.

C. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch or minus 1/4 inch.
2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls do not vary from level by more than 1/4 inch in 10 feet, or 1/2 inch maximum.

2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
3. For vertical lines and surfaces do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
5. For lines and surfaces do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch.

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4-inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

G. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow CMUs as follows:

1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

3.6 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.

1. Space reinforcement not more than 16 inches o.c.
2. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings in addition to continuous reinforcement.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.7 REINFORCED UNIT MASONRY INSTALLATION

A. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

B. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.8 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to meet specified requirements shall be done at Contractor's expense.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

B. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

C. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.

D. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.

E. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for compressive strength.

F. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

3.9 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.

4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.10 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.

1. Crush masonry waste to less than 4 inches in each dimension.
2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Section 312000 "Earth Moving."
3. Do not dispose of masonry waste as fill within 18 inches of finished grade.

C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking and nailers.

B. Related Requirements:
1. Section 06160 "Sheathing."
2. Section 06185 "Shop-Fabricated Wood Trusses.

1.3 DEFINITIONS

A. Exposed Framing: Framing not concealed by other construction.

B. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.

C. Lumber grading agencies, and the abbreviations used to reference them, include the following:
1. NeLMA: Northeastern Lumber Manufacturers' Association.
2. NLGA: National Lumber Grades Authority.
3. SPIB: The Southern Pine Inspection Bureau.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 INFORMATIONAL SUBMITTALS

A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

B. Evaluation Reports: For the following, from ICC-ES:
1. Wood-preservative-treated wood.
2. Engineered wood products.
3. Power-driven fasteners.
4. Powder-actuated fasteners.
5. Expansion anchors.
6. Metal framing anchors.

1.6 QUALITY ASSURANCE

A. **Special Inspections**: The Owner will retain the services of a qualified Special Inspector for this project. The Special Inspector will provide and/or coordinate inspection and testing requirements in accordance with the provisions of Chapter 17 of the International Building Code, and the Statement of Special inspections. The contractor shall provide access as required for the special inspections to take place. The contractor shall notify the special inspector of the construction schedule so that the inspections are completed in a timely manner. A Statement of Special Inspections has been prepared for this project listing the inspection required.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Certified Wood: Materials shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship" for the following:
1. Dimension lumber framing.
2. Laminated-veneer lumber.
3. Laminated-strand lumber.
4. Prefabricated wood I-joists.
5. Rim boards.
6. Miscellaneous lumber.

B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.

2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
4. Provide dressed lumber, S4S, unless otherwise indicated.

C. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

D. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
1. For exposed lumber indicated to receive a stained or natural finish, omit marking and provide certificates of treatment compliance issued by inspection agency.

D. Application: Treat items indicated on Drawings, and the following:
1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.

2.3 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: No. 2 or better grade.

1. Application: All interior partitions.
2. Species:
   a. Hem-fir (north); NLGA.
   b. Spruce-pine-fir; NLGA.
   c. Spruce-pine-fir (south); NeLMA

B. Load-Bearing Walls and Partitions: No. 2 or better grade.
1. Application: Exterior walls and interior load-bearing partitions.
2. Species:
   a. Southern pine (where noted on the drawings); SPIB.
   b. Spruce-pine-fir; NLGA.
   c. Spruce-pine-fir (south); NeLMA.

C. Ceiling Joists: No. 2 or better grade.
1. Species:
   a. Spruce-pine-fir; NLGA.
   b. Spruce-pine-fir (south); NeLMA.

D. Joists, Rafters, and Other Framing Not Listed Above: No. 2 or better grade.
1. Species:
   a. Spruce-pine-fir; NLGA.
   b. Spruce-pine-fir (south); NeLMA.

E. Exposed Framing: Provide material hand-selected for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
1. Application: Exposed exterior and interior framing indicated to receive a stained or natural finish.
2. Species and Grade: As indicated above for load-bearing construction of same type.

2.4 ENGINEERED WOOD PRODUCTS

A. Engineered Wood Products, General: Products shall contain no urea formaldehyde.

B. Source Limitations: Obtain each type of engineered wood product from single source from a single manufacturer.

C. Laminated-Veneer Lumber (LVL): Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. Boise Cascade Corporation.
   b. Georgia-Pacific.
   c. Weyerhaeuser Company.
2. Extreme Fiber Stress in Bending, Edgewise: 2600 psi or greater.
3. Modulus of Elasticity, Edgewise: 1,900,000 psi or greater.

D. Laminated-Strand Lumber (LSL): Structural composite lumber made from wood strand elements with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      a. Louisiana-Pacific Corporation.
      b. Weyerhaeuser Company.
      c. Georgia-Pacific.
   2. Extreme Fiber Stress in Bending, Edgewise: 2325 psi or greater.
   3. Modulus of Elasticity, Edgewise: 1,550,000 psi or greater.

E. Wood I-Joists: Prefabricated units, I-shaped in cross section, made with solid or structural composite lumber flanges and wood-based structural panel webs, let into and bonded to flanges. Provide units complying with material requirements of and with structural capacities established and monitored according to ASTM D 5055.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      a. Boise Cascade Corporation.
      b. Georgia-Pacific.
      c. Louisiana-Pacific Corporation.
      d. Weyerhaeuser Company.
   2. Web Material: Either oriented strand board or plywood, complying with DOC PS 1 or DOC PS 2, Exposure 1.
   3. Structural Properties: Provide units with depths and design values not less than those indicated.
   4. Provide units complying with APA PRI-400, factory marked with APA trademark indicating nominal joist depth, joist class, span ratings, mill identification, and compliance with APA standard.

F. Rim Boards: Product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research/evaluation report for I-joists.
   1. Manufacturer: Provide products by same manufacturer as I-joists.
   2. Material: All-veneer product glued-laminated wood or product made from any combination solid lumber, wood strands, and veneers.
   3. Thickness: 1-1/4 inches.
   4. Provide performance-rated product complying with APA PRR-401, rim board grade, factory marked with APA trademark indicating thickness, grade, and compliance with APA standard.

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking.
   2. Nailers.
   3. Furring.
   4. Grounds.

B. For items of dimension lumber size, provide Construction or No. 2 or better grade lumber and the following species:
   1. Spruce-pine-fir; NLGA.
   2. Spruce-pine-fir (south); NeLMA.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
   1. Spruce-pine-fir (south) or spruce-pine-fir; No. 2 or better grade; NeLMA or NLGA.

D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
   1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: NES NER-272.

D. Wood Screws: ASME B18.6.1.

E. Lag Bolts: ASME B18.2.1.

F. Bolts: Steel bolts complying with ASTM A 307, Grade A ; with ASTM A 563 hex nuts and, where indicated, flat washers.

2.7 METAL FRAMING ANCHORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
   1. KC Metals Products, Inc.
   2. Simpson Strong-Tie Co., Inc.
   3. USP Structural Connectors.

C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

D. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
1. Use for interior locations unless otherwise indicated.

E. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
1. Use for wood-preservative-treated lumber and where indicated.

F. Joist Hangers: U-shaped joist hangers with 2-inch long seat and 1-1/4-inch wide nailing flanges at least 85 percent of joist depth.
1. Thickness: 0.062 inch (1.6 mm).

G. I-Joist Hangers: U-shaped joist hangers with 2-inch long seat and 1-1/4-inch wide nailing flanges full depth of joist. Nailing flanges provide lateral support at joist top chord.
1. Thickness: 0.062 inch (1.6 mm).

H. Post Bases: Adjustable-socket type for bolting in place with standoff plate to raise post 1 inch above base and with 2-inch minimum side cover, socket 0.062 inch thick, and standoff and adjustment plates 0.108 inch thick.

I. Ties: Flat straps, with holes for fasteners, for tying framing members together.
1. Width: 1-1/4 inches (32 mm).
2. Thickness: 0.062 inch (1.6 mm).
3. Length: As indicated.

J. Rafter and Truss Tie-Downs (Hurricane or Seismic Ties): Types as indicated to tie down rafter or truss and fasten to plates below.

K. Hold-Downs: Brackets for bolting to wall studs and securing to foundation walls with anchor bolts or to other hold-downs with threaded rods and designed with first of two bolts placed seven bolt diameters from reinforced base.

2.8 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.

Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

D. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

E. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.

F. Do not splice structural members between supports unless otherwise indicated.

G. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

H. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
   1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
   2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
   3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.

I. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

J. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
   1. Use inorganic boron for items that are continuously protected from liquid water.
   2. Use copper naphthenate for items not continuously protected from liquid water.

K. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
   1. NES NER-272 for power-driven fasteners.
   2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
   3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.

L. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

M. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
1. Comply with indicated fastener patterns where applicable.
2. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

C. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

D. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 WOOD FURRING INSTALLATION

A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.

B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal- size furring horizontally and vertically at 24 inches o.c.

C. Furring to Receive Gypsum Board: Install 1-by-2-inch nominal- size furring vertically at 16 inches o.c.

3.4 WALL AND PARTITION FRAMING INSTALLATION

A. General: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.
1. For exterior walls, provide 2-by-6-inch nominal- size wood studs spaced 16 inches o.c. unless otherwise indicated.
2. For interior partitions and walls, provide 2-by-6-inch nominal- size wood studs spaced 16 inches o.c. unless otherwise indicated.
3. Provide continuous horizontal blocking at midheight of partitions more than 96 inches high, using members of 2-inch nominal thickness and of same width as wall or partitions.

B. Construct corners and intersections with three or more studs.

C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
   1. For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal depth for openings 48 inches and less in width, 6-inch nominal depth for openings 48 to 72 inches in width, 8-inch nominal depth for openings 72 to 120 inches in width, and not less than 10-inch nominal depth for openings 10 to 12 feet in width.
   2. For load-bearing walls, provide -jamb studs as indicated. Provide headers of depth indicated.

3.5 FLOOR JOIST FRAMING INSTALLATION

A. General: Install floor joists with crown edge up and support ends of each member with not less than 1-1/2 inches of bearing on wood. Attach floor joists as follows:
   1. Where supported on wood members, by toe nailing or by using metal framing anchors.
   2. Where framed into wood supporting members, by using wood ledgers as indicated or, if not indicated, by using metal joist hangers.

B. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds 48 inches.

C. Do not notch in middle third of joists; limit notches to one-sixth depth of joist, one-third at ends. Do not bore holes larger than 1/3 depth of joist; do not locate closer than 2 inches from top or bottom.

D. Provide solid blocking of 2-inch nominal thickness by depth of joist at ends of joists unless nailed to header or band.

E. Lap members framing from opposite sides of beams, girders, or partitions not less than 4 inches or securely tie opposing members together. Provide solid blocking of 2-inch nominal thickness by depth of joist over supports.

F. Provide solid blocking between joists under jamb studs for openings.

G. Under non-load-bearing partitions, provide double joists separated by solid blocking equal to depth of studs above.

3.6 CEILING JOIST AND RAFTER FRAMING INSTALLATION

A. Ceiling Joists: Install ceiling joists with crown edge up and complying with requirements specified above for floor joists. Face nail to ends of parallel rafters.

B. Rafters: Notch to fit exterior wall plates and use metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing, if any, and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.

C. Provide special framing as indicated for eaves, overhangs, and similar conditions if any.

3.7 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 06112

RAMP AND STAIR FRAMING AND RAILINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes framing, decking, railings for ramp and stairs.

1.2 REFERENCES

A. American Wood-Preservers' Association:
   1. AWPA C1 - All Timber Products - Preservative Treatment by Pressure Process.

B. National Institute of Standards and Technology:
   1. NIST PS 20 - American Softwood Lumber Standard.

C. Northeastern Lumber Manufacturers Association:
   1. NELMA - Standard Grading Rules for Northeastern Lumber.

D. National Lumber Grades Authority:
   1. NLGA - Standard Grading Rules for Canadian Lumber.

E. Southern Pine Inspection Bureau:
   1. SPIB - Standard Grading Rules for Southern Pine Lumber.

1.3 SUBMITTALS

A. Product Data: Submit technical data on lumber, sheathing, wood preservative materials, application instructions, and individual framing connectors.

B. Apply label from agency approved by authority having jurisdiction to identify each fire retardant treated material.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with the following:
   1. Lumber Grading Agency: Certified by NELMA and SPIB

1.5 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Store lumber and sheathing in dry location and prevent material from warping.

1.6 PRODUCT HANDLING

A. Delivery and Storage: Keep materials under cover and dry. Store in horizontal position on supports above grade. Allow air circulation within, under, and around material.

B. Do not handle material such that grade markings become illegible.

PART 2 PRODUCTS

2.1 LUMBER MATERIALS

A. Lumber Grading Rules: NELMA and SPIB.

B. Framing Lumber:
1. Surfaced Dry Construction Grade Southern Pine for Pressure Treated Lumber graded under NLGA rules as follows:
a. Studs 2 inches to 4 inches thick x 4 inches to 6 inches wide:
1) Fb = 675 psi.
2) E = 1,200,000 psi.
3) Except Building C (See Below).
b. Other framing members:
1) Fb = 875 psi.
2) E = 1,400,000 psi.
3) Except Building C (See Below).
2. Moisture content for dimensioned lumber shall not exceed 19% unless wood preservative is specified.

2.2 RAILINGS, POSTS, BALUSTERS, AND HANDRAILS MATERIALS

A. Material: Northern white cedar grade “D” select per WWPA; 19% maximum moisture content sizes shown on the drawings.

2.3 ACCESSORIES

A. Fasteners: All stainless steel type 306.
1. Nails – common or box nails where nailing is specified on drawings. Sinker or pneumatically installed nails may be substituted (contingent upon) acceptance by Engineer.
2. Wood Screws: ANSI B 18.6.1.
3. Lag Screws: ANSI B 18.2.1.
4. Bolts: ASTM A 307 Grade A with ASTM A 563 hex nuts.

B. Metal Connectors:
1. Connectors shall be fabricated using hot dipped process galvanizing ASTM A 525 G60.
2. Connectors in contact with pressure treated framing shall meet G185 galvanizing. Other locations as indicated on the drawings as “hot dipped galvanized” shall also meet this criteria.

C. Adhesive: PL-400 for dry conditions. PL-500 for wet conditions or accepted by Engineer.

D. Post Footings: Precast or cast-in-place 4,000 psi concrete.

2.4 FACTORY WOOD TREATMENT

A. Wood Preservative (Pressure Treatment): AWPA Treatment C2 for lumber and C9 for plywood using water borne preservative with 0.40 percent retainage for members within 6” of ground, .25 percent at other locations; Non-CCA treatment.

B. Coat cut surfaces with AWPA M4.

PART 3 EXECUTION

3.1 FRAMING

A. Set structural members level and plumb, in correct position.

B. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in alignment until completion of erection and installation of permanent bracing.

C. Place horizontal members, crown side up.

3.2 RAILINGS, POSTS, BALUSTERS, AND HANDRAILS

A. Install as shown on drawings.

3.3 CONNECTIONS:

A. For metal framing connectors: Use manufacturer’s recommended nails (size and quantity). Nails must be installed by hand – pneumatic nailers are prohibited.

B. Nailing shall comply with Table 2304.9.1 of the Building Code of New York State unless indicated otherwise.

3.4 TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Framing Members: 1/4inch from indicated position, maximum.

C. Surface Flatness: 1/4 inch in 10 feet maximum.

END OF SECTION

SECTION 06160

SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wall sheathing.
2. Roof sheathing.
3. Sheathing joint and penetration treatment.

B. Related Requirements:

1. Section 06100 "Rough Carpentry".

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

A. Certified Wood: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Plywood.

B. Plywood: Either DOC PS 1 or DOC PS 2 unless otherwise indicated.

C. Oriented Strand Board: DOC PS 2.

D. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.

E. Factory mark panels to indicate compliance with applicable standard.

2.2 WALL SHEATHING

A. Plywood Wall Sheathing: Exterior sheathing.

1. Span Rating: Not less than 32/16.
2. Nominal Thickness: Not less than 1/2 inch.

2.3 ROOF SHEATHING

A. Plywood Roof Sheathing: Exterior sheathing.

1. Span Rating: Not less than 40/20.
2. Nominal Thickness: Not less than 19/32 inch.

2.4 SUBFLOORING AND UNDERLAYMENT

A. Plywood Combination Subfloor-Underlayment: DOC PS 1, Exterior, Structural I, C-C Plugged single-floor panels.

1. Span Rating: Not less than 24 o.c.
2. Nominal Thickness: Not less than 3/4 inch .
3. Edge Detail: Tongue and groove.
4. Surface Finish: Fully sanded face.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: NES NER-272.

D. Wood Screws: ASME B18.6.1.

2.6 MISCELLANEOUS MATERIALS

A. Adhesives for Field Gluing Panels to Framing: Formulation complying with ASTM D 3498 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's "International Residential Code for One- and Two-Family Dwellings."

D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.

E. Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

B. Fastening Methods: Fasten panels as indicated below:

1. Combination Subfloor-Underlayment:

    a. Glue and nail to wood framing.
    b. Space panels 1/8 inch apart at edges and ends.

2. Wall and Roof Sheathing:

    a. Nail to wood framing.
    b. Space panels 1/8 inch apart at edges and ends.

END OF SECTION

SECTION 06185

SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wood roof trusses.
2. Wood truss bracing.
3. Metal truss accessories.

B. Related Requirements:

1. Section 06160 "Sheathing" for roof sheathing and subflooring.

1.3 DEFINITIONS

A. Metal-Plate-Connected Wood Trusses: Planar structural units consisting of metal-plate-connected members fabricated from dimension lumber and cut and assembled before delivery to Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For metal-plate connectors, metal truss accessories, and fasteners.

B. Shop Drawings: Show fabrication and installation details for trusses.

1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
2. Indicate sizes, stress grades, and species of lumber.
3. Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design loads.
4. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
5. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.
6. Show splice details and bearing details.

C. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For metal connector-plate manufacturer and fabricator.

B. Material Certificates: For dimension lumber specified to comply with minimum specific gravity. Indicate species and grade selected for each use and specific gravity.

C. Product Certificates: For metal-plate-connected wood trusses, signed by officer of truss fabricating firm.

D. Evaluation Reports: For the following, from ICC-ES:
1. Metal-plate connectors.
2. Metal truss accessories.

1.6 QUALITY ASSURANCE

A. Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-control procedures in TPI 1 for manufacture of connector plates.

1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program that complies with quality-control procedures in TPI 1 and that involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Handle and store trusses to comply with recommendations in TPI BCSI**,** "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

1. Store trusses flat, off of ground, and adequately supported to prevent lateral bending.
2. Protect trusses from weather by covering with waterproof sheeting, securely anchored.
3. Provide for air circulation around stacks and under coverings.

B. Inspect trusses showing discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are damaged or defective.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design metal-plate-connected wood trusses.

B. Structural Performance: Provide metal-plate-connected wood trusses capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1 unless more stringent requirements are specified below.

1. Design Loads: As indicated.
2. Maximum Deflection Under Design Loads:

a. Roof Trusses: Vertical deflection of 1/360 of span.

C. Comply with applicable requirements and recommendations of the following publications:

1. TPI 1, "National Design Standard for Metal Plate Connected Wood Truss Construction."
2. TPI DSB, "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses."
3. TPI BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

D. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

2.2 DIMENSION LUMBER

A. Certified Wood: For metal-plate-connected wood trusses and permanent bracing, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S.
4. Provide dry lumber with 19 percent maximum moisture content at time of dressing.

C. Minimum Chord Size for Roof Trusses: As indicated.

D. Minimum Specific Gravity for Top Chords: 0.50.

E. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Section 06100 "Rough Carpentry."

2.3 METAL CONNECTOR PLATES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Alpine Engineered Products, Inc.; an ITW company.
2. Cherokee Metal Products, Inc.; Masengill Machinery Company.
3. CompuTrus, Inc.
4. Eagle Metal Products.
5. Jager Building Systems, Inc.; a Tembec/SGF Rexfor company.
6. MiTek Industries, Inc.; a subsidiary of Berkshire Hathaway Inc.
7. Robbins Engineering, Inc.
8. Truswal Systems Corporation; an ITW company.

B. Source Limitations: Obtain metal connector plates from single manufacturer.

C. General: Fabricate connector plates to comply with TPI 1.

D. Hot-Dip Galvanized-Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 coating designation; and not less than 0.036 inch thick.

1. Use for interior locations unless otherwise indicated.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Provide fasteners for use with metal framing anchors that comply with written recommendations of metal framing manufacturer.

B. Nails, Brads, and Staples: ASTM F 1667.

2.5 METAL FRAMING ANCHORS AND ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

1. Cleveland Steel Specialty Co.
2. KC Metals Products, Inc.
3. Phoenix Metal Products, Inc.
4. Simpson Strong-Tie Co., Inc.
5. USP Structural Connectors.

C. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

D. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.

1. Use for interior locations unless otherwise indicated.

E. Truss Tie-Downs : Use items indicated fastened to both sides of truss and the top plates.

F. Roof Truss Clips: Clips for bracing bottom chord of roof trusses at non-load-bearing walls as indicated. Clip is fastened to truss through slotted holes to allow for truss deflection.

2.6 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 94 percent zinc dust by weight.

2.7 FABRICATION

A. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints.

B. Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design loads for types of joint designs indicated.

C. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.

1. Fabricate wood trusses within manufacturing tolerances in TPI 1.

D. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

2.8 SOURCE QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform special inspections.

1. Provide special inspector with access to fabricator's documentation of detailed fabrication and quality-control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards.
2. Provide special inspector with access to places where wood trusses are being fabricated to perform inspections.

B. Correct deficiencies in Work that special inspections indicate does not comply with the Contract Documents.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wood trusses only after supporting construction is in place and is braced and secured.

B. If trusses are delivered to Project site in more than one piece, assemble trusses before installing.

C. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.

D. Install and brace trusses according to TPI recommendations and as indicated.

E. Install trusses plumb, square, and true to line and securely fasten to supporting construction.

F. Space trusses as indicated; adjust and align trusses in location before permanently fastening.

G. Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

H. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.

I. Install bracing to comply with Section 06100 "Rough Carpentry."

J. Install wood trusses within installation tolerances in TPI 1.

K. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.

L. Replace wood trusses that are damaged or do not meet requirements.

3.2 REPAIRS AND PROTECTION

A. Protect wood trusses from weather. If, despite protection, wood trusses become wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Repair damaged galvanized coatings on exposed surfaces with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 06600

GLASS-REINFORCED PLASTIC FABRICATIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

1.2 SUMMARY:

A. This section includes the following FRP Products & Fabrications:
1. FRP Structural Shapes and Plate for Cupola Openings.

1.3 SCOPE OF WORK:

A. Furnish all labor, materials, equipment and incidentals necessary to install the fiberglass reinforced polymer (FRP) products as specified herein.

1.4 QUALITY ASSURANCE:

A. The material covered by these specifications shall be furnished by an ISO-9001:2000 certified manufacturer of proven ability who has regularly engaged in the manufacture and installation of FRP systems.

B. Substitution of any component or modification of system shall be made only when approved by the Architect or Engineer.

C. Fabricator Qualifications: Firm experienced in successfully producing FRP fabrications similar to that indicated for this project, with sufficient production capacity to produce required units without causing delay in the work.

D. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work.

1.5 DESIGN CRITERIA:

A. The design of FRP products including connections shall be in accordance with governing building codes and standards as applicable.

B. Structural members shall be designed to support all applied loads. Deflection in any direction shall not be more than L/180 of span for structural members. Connections shall be designed to transfer the loads.

1.6 SUBMITTALS:

A. Shop drawings of all fabricated pultruded gratings and treads, structural shapes and plate, standard railings, ladders and cages, foam core building panels, building panel systems, planks, molded gratings and treads and appurtenances shall be submitted to the Engineer for approval. Fabrication shall not start until receipt of Engineer's approval marked "Approved As Submitted" or "Approved As Noted".

B. Manufacturer's catalog data showing:
1. Materials of construction

C. Detail shop drawings showing:
1. Dimensions
2. Sectional assembly
3. Location and identification mark
4. Size and type of supporting frames required

1.7 SHIPPING AND STORAGE INSTRUCTIONS:

A. All systems, sub-systems and structures shall be shop fabricated and assembled into the largest practical size suitable for transporting.

B. All materials and equipment necessary for the fabrication and installation of pultruded gratings and treads, structural shapes and plate, standard railings, ladders and cages, foam core building panels, building panel systems, planks, molded gratings and treads and appurtenances shall be stored before, during, and after shipment in a manner to prevent cracking, twisting, bending, breaking, chipping or damage of any kind to the materials or equipment, including damage due to over exposure to the sun. Any material which, in the opinion of the Engineer, has become damaged as to be unfit for use, shall be promptly removed from the site of work, and the Contractor shall receive no compensation for the damaged material or its removal.

C. Identify and match-mark all materials, items and fabrications for installation and field assembly.

PART 2 PRODUCTS

2.1 GENERAL:

A. Materials used in the manufacture of the FRP products shall be raw materials in conformance with the specification.

B. All materials shall be of the kind and quality specified.

C. All FRP products noted in 1.02 shall be manufactured using a pultruded process utilizing polyester or vinyl ester resin with flame retardant and ultraviolet (UV) inhibitor additives. A synthetic surface veil shall be the outermost layer covering the exterior surface. The flame retardant FRP shapes shall achieve a flame spread rating of 25 or less in accordance with ASTM test method E-84.

D. If required, after fabrication, all cut ends, holes and abrasions of FRP shapes shall be sealed with a compatible resin coating.

E. FRP products exposed to weather shall contain an ultraviolet inhibitor. Should additional ultraviolet protection be required, a one mil minimum UV coating can be applied.

F. All exposed surfaces shall be smooth and true to form.

G. Manufacturers:
1. Strongwell
2. Or alternative manufacturer approved by architect, design engineer or owner.

H. Fasteners: Stainless steel for all bolts, screws, etc.

2.2 STRUCTURAL SHAPES AND PLATE:

A. Material
1. Structural shapes and plate shall be made from isophthalic polyester or vinyl ester resin with fire retardant additives to meet a flame spread rating of less than 25 per ASTM E-84 and meet the self-extinguishing requirements of ASTM D-635. All structural shapes shall contain a UV inhibitor.
2. Structural shapes and plate shall be EXTREN® as manufactured by Strongwell – Bristol Division, Bristol, VA.

B. Process
1. Manufactured by the pultrusion process.
2. Structural FRP members' composition shall consist of a glass fiber reinforced polyester or vinyl ester resin matrix, approximately 50% glass by weight. A synthetic surface veil shall be the outermost layer covering the exterior surfaces. Glass strand rovings shall be used internally for longitudinal strength. Continuous strand glass mats or stitched reinforcements shall be used internally for transverse strength.

PART 3 EXECUTION

3.1 PREPARATION:

A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions and directions for installation of anchorages. Coordinate delivery of such items to project site.

3.2 INSTALLATION, GENERAL:

A. Fastening to in-place construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous FRP fabrications to in-place construction; include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts and other connectors as determined by the Engineer.

B. Cutting, fitting and placement: Perform cutting, drilling and fitting required for installation of miscellaneous FRP fabrications. Set FRP fabrication accurately in location, alignment and elevation; with edges and surfaces level, plumb, true and free of rack; measured from established lines and levels.

C. Provide temporary bracing or anchors in form work for items that are to be built into concrete masonry or similar construction.

3.3 ALL FRP INSTALLATION:

A. If required, all field cut and drilled edges, holes and abrasions shall be sealed with a catalyzed resin compatible with the original resin as recommended by the manufacturer.

B. Install items specified as indicated and in accordance with manufacturer’s instructions.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 07212

BOARD INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes board insulation at exterior walls.

1.2 REFERENCES

A. ASTM C578 - Preformed, Cellular Polystyrene Thermal Insulation.

B. ASTM C1289 – Polyisocyanurate Board Insulation.

1.3 SUBMITTALS

A. Product Data: Submit data on product characteristics, performance criteria, limitations, adhesives.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not install adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.1 BOARD INSULATION

A. Manufacturers:
1. Johns Manville Corporation.
2. Dow Chemical.
3. Tenneco Foam Products.
4. UC Industries/Owens Corning.
5. Celetex Corporation.
6. Substitutions or approved equal: Section 01600 - Product Requirements.

2.2 COMPONENTS

B. Type “ISO” - Polyisocyanurate Board Insulation: ASTM C1289, rigid board, conforming to the following:
1. Board size: 24 x 96 inches.
2. Thickness: As noted on drawings.
3. Facing: Factory applied aluminum foil one side.
4. Thermal resistance: R of 7.5 per inch.
5. Water absorption: less than 1 ½% by volume.

2.3 ACCESSORIES

A. Adhesive: Type recommended by insulation manufacturer for application.

B. Joint Reinforcement: Mesh tape (installed at insulation protection board joints).

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify substrate, adjacent materials, and insulation boards are dry and ready to receive insulation and adhesive.

C. Verify substrate surface is flat, free of honeycomb, fins, irregularities, materials or substances affecting adhesive bond.

3.2 INSTALLATION – WALLS

A. Install boards vertically, fit tight, and secured to walls with adhesive and with Z channels.

B. Place boards in method to maximize contact bedding. Stagger end joints. Butt edges and ends tight to adjacent board and to protrusions.

C. Cut and fit insulation tight to protrusions.

3.3 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution Requirements: Protecting installed construction.

B. Do not permit work to be damaged prior to covering insulation.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 07217

BLOWN INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes loose insulation pneumatically placed or poured into joist spaces, attic trusses, and walls.

1.2 REFERENCES

A. ASTM International:
1. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
2. ASTM E970 - Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source.

B. National Fire Protection Association:
1. NFPA 255 - Test of Surface Burning Characteristics of Building Materials.

C. Underwriters Laboratories, Inc.:
1. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on product characteristics, performance criteria and limitations.

C. Manufacturer's Installation Instructions: Submit procedure for preparation and installation.

1.4 QUALITY ASSURANCE

A. Insulation Installed in Concealed Locations Surface Burning Characteristics:
1. Other Loose Fill Insulation: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

B. Insulation Installed in Exposed Locations Surface Burning Characteristics:
1. Attic Floor Insulation: Minimum 0.12 watt per sq cm critical radiant flux when tested in accordance with ASTM E970.

1.5 COORDINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Coordinate the Work with Section 07212 for placement of insulation materials.

PART 2 PRODUCTS

2.1 BLOWN INSULATION

A. Fiber Fill Insulation: ASTM C764, glass fiber type, non-dulated for pour bulk pneumatic placement, K factor of 3.5.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify substrate, adjacent materials, and insulation are dry and ready to receive insulation.

C. Verify light fixtures have thermal cut-out device to restrict over-heating in soffit or ceiling spaces.

D. Verify spaces are unobstructed to allow placement of insulation.

3.2 INSTALLATION

A. Place insulation tight in chord spaces to density recommended by manufacturer to achieve stated “K” value.

B. Place insulation against baffles. Do not impede natural attic ventilation to soffit.

C. Place against and behind mechanical and electrical services within plane of insulation.

D. Completely fill intended spaces. Leave no gaps or voids.

E. Repair and reseal insulation access ports. Refinish to match undisturbed work.

3.3 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Remove loose insulation residue.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 07260

VAPOR RETARDERS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes sheet and sealant materials for controlling vapor diffusion.

1.2 REFERENCES

A. ASTM International:
1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
2. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.

B. Sealant, Waterproofing and Restoration Institute:
1. SWRI - Sealant Specification.

1.3 PERFORMANCE REQUIREMENTS

A. Vapor Retarder Permeance: Maximum 1 perm when tested in accordance with ASTM E96, Procedure A.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data indicating material characteristics, performance criteria and limitations.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with SWRI - Sealant and Caulking Guide Specification requirements for materials and installation.

1.6 MOCKUP

A. Section 01400 - Quality Requirements: Requirements for mockup.

1.7 SEQUENCING

A. Section 01100 - Summary: Work sequence.

B. Do not install vapor retarder until items penetrating vapor retarder are in place.

PART 2 PRODUCTS

2.1 VAPOR RETARDERS

A. Manufacturers:
   1. Alumiseal Corp.
   2. Fiberweb Corp.
   3. Fi-Foil Co., Inc.
   4. Fortifiber Corp.
   5. Griffolyn, Reef Industries.
   6. Lamtec Corp.
   7. Raven Industries.
   8. Substitutions: Section 01600 - Product Requirements.

2.2 COMPONENTS

A. Sheet Retarder: White polyethylene film reinforced with glass fiber square mesh, .008 mil thick.

B. Sealant: Type specified in Section 07900.

C. Primer and Backer Rods: Recommended by sealant manufacturer to suit application.

D. Cleaner: Non-corrosive type; recommended by sealant manufacturer; compatible with adjacent materials.

E. Adhesive: Compatible with sheet retarder and substrate, permanently non-curing.

2.3 ACCESSORIES

A. Thinner and Cleaner for Sheet: As recommended by sheet material manufacturer.

B. Tape: Polyethylene or Polyester self-adhering type, mesh reinforced, 2 inch wide, compatible with sheet material.

PART 3 EXECUTION

3.1 PREPARATION

A. Remove loose or foreign matter capable of impairing adhesion.

B. Clean and prime substrate surfaces to receive adhesive and sealants.

3.2 INSTALLATION

A. Vapor Retarder For Stud Framed Walls: Secure sheet retarder to stud faces with adhesive. Lap edges over stud faces, lap ends onto adjacent construction; calk ends with sealant to ensure complete seal.

B. Vapor Retarder Seal For Openings: Install sheet retarder between window and door frames and adjacent vapor retarder and seal with sealant or adhesive. Calk with sealant to ensure complete seal. Position laps over firm bearing.

C. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges or where compatibility with adjacent materials may be in doubt.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 07261

CRAWL SPACE VAPOR BARRIER

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Reinforced vapor retarders for crawl space applications.

1.2 REFERENCES

A. ASTM D 882 - Tensile Properties of Thin Plastic Sheeting.

B. ASTM D 1709 - Impact Resistance of Plastic Film by the Free-Falling Dart Method.

C. ASTM D 2582 - Puncture-Propagation Tear Resistance of Plastic Film and Thin Sheeting.

D. ASTM D 3776 - Mass per Unit Area (Weight) of Woven Fabric.

E. ASTM D 4833 - Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.

F. ASTM E 96 - Water Vapor Transmission of Materials.

G. ASTM E 1643 - Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

H. ASTM E 1745 - Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.

1.3 SUBMITTALS

A. Comply with Section 01330 - Submittal Procedures.

B. Product Data: Submit manufacturer's product data, including installation instructions.

C. Samples: Submit manufacturer’s samples of reinforced vapor retarders.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store materials in a clean, dry area in accordance with manufacturer's instructions.

C. Handling: Protect materials during handling and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Reef Industries, Inc., PO Box 750250, Houston, Texas 77275-0250. Toll Free (800) 231-6074. Phone (713) 507-4200. Fax (713) 507-4295. Web Site www.reefindustries.com. E-Mail ri@reefindustries.com, or equal.

2.2 REINFORCED VAPOR RETARDERS

A. Fire Retardant Reinforced Vapor Retarder: Griffolyn Type-90 FR.
1. Material: Fire retardant 5-ply laminate, combining 3 layers of linear low-density polyethylene and 2 high-strength non-woven cord grids.
2. Weight, ASTM D 3776: 70 lb/1,000 ft^2 (34.2 kg/100 m^2).
3. Puncture Propagation Tear, ASTM D 2582: 36 lb (1608 N).
4. Permeance (Perm), ASTM E 96: 0.028 grains/hr-ft^2-in Hg (1.61 ng/(Pa-s-m^2)).
5. Drop Dart, ASTM D 1709: 1,200 g.
6. Tensile Strength, 3 Inches, ASTM D 882: 185 lb/4,250 psi (823 N/29,200 kPa).
7. Puncture Strength, ASTM D 4833: 47 lb (209 N).
8. Surface Burning Characteristics:
   a. NFPA 701, Large Scale: Pass.
   b. UBC 42 and ASTM E 84: Class I, Class B flame spread rating. Flame spread 5, smoke developed 135.
9. Usable Temperature Range: -40 to 170 degrees F (-40 to 77 degrees C).

2.3 ACCESSORIES

A. General: Ensure accessories are from same manufacturer as reinforced vapor retarders.

B. Mastic Tape: Griffolyn Fab Tape.
1. Description: Black, double-sided, asphaltic, pressure-sensitive, mastic tape.
2. Weight: 3.75 pounds per 100 feet.
3. Thickness: 35 mils.
4. 3 Inch Seam Shear: 35 pounds.

C. Self-Adhesive Repair Tape: Griffolyn Griff-Tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive reinforced vapor retarders. Notify Architect if areas are not acceptable. Do not begin installation until unacceptable conditions have been corrected.

3.2 INSTALLATION

A. Install reinforced vapor retarders in accordance with manufacturer's instructions.

B. Install vapor retarders continuously at locations in crawl space as indicated on the drawings.
Ensure there are no discontinuities in vapor retarder at seams and penetrations.

C. Install vapor retarders in largest practical widths.

D. Ensure subgrade beneath vapor retarder is smooth, level, and compacted with no sharp projections.

E. Join sections of vapor retarder and seal penetrations in vapor retarder with mastic tape. Ensure vapor retarder surfaces to receive mastic tape are clean and dry.

F. Ensure there is no moisture entrapment by vapor retarder due to rainfall or ground water intrusion.

G. Immediately repair holes in vapor retarder with self-adhesive repair tape.

H. Seal around steel columns and other penetrations in vapor retarder with recommended tape in accordance with manufacturer's instructions.

I. Extend up foundation walls and secure with pressure treated furring strips.

3.3 PROTECTION

A. Protect reinforced vapor retarders from damage during installation of other work.

B. Immediately repair damaged vapor retarder in accordance with manufacturer's instructions.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 07840

FIRESTOPPING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes firestopping and through-penetration protection systems materials and accessories.

1.2 SYSTEM DESCRIPTION

A. Firestopping Materials: ASTM E119 to achieve fire rating.

B. Surface Burning: ASTM E84 with maximum flame spread / smoke developed rating of 25/450.

C. Firestop interruptions to fire rated assemblies, materials, and components.

1.3 SUBMITTALS

A. Product Data: Submit data on product characteristics, performance and limitation criteria.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Do not apply materials when temperature of substrate material and ambient air is below 60 degrees F.

B. Maintain this minimum temperature before, during, and minimum 3 days after installation of materials.

C. Provide ventilation in areas to receive solvent cured materials.

PART 2 PRODUCTS

2.1 FIRESTOPPING

A. Manufacturers:
   1. Dow Corning Corp.
   2. Hilti Corp.
   3. 3M Fire Protection Products.
   4. United States Gypsum Co.

B. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
   1. Silicone Firestopping Elastomeric Firestopping: Single component silicone elastomeric compound and compatible silicone sealant.
   2. Foam Firestopping Compounds: Single component foam compound.
   3. Formulated Firestopping Compound of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.

4. Fiber Stuffing and Sealant Firestopping: Composite of mineral fiber stuffing insulation with silicone elastomer for smoke stopping.

C. Color: As selected from manufacturer's full range of colors.

2.2 ACCESSORIES

A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces.

B. Dam Material: Permanent:
1. Mineral fiberboard.
2. Mineral fiber matting.
3. Sheet metal.

C. Installation Accessories: Clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify openings are ready to receive work of this section.

3.2 PREPARATION

A. Clean substrate surfaces of matter effecting bond of firestopping material.

B. Install backing materials to arrest liquid material leakage.

3.3 APPLICATION

A. Apply primer where recommended by manufacturer for specific material and substrate.

B. Apply firestopping material in sufficient thickness to achieve required fire rating, to uniform density and texture.

C. Install material at walls or partition openings containing penetrating sleeves, piping, duct work, conduit and other items, requiring firestopping.

D. Dam material to remain.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 07900

JOINT SEALERS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes sealants and joint backing, and accessories.

1.2 REFERENCES

A. American Society for Testing and Materials:
1. ASTM C834 - Standard Specification for Latex Sealants.
2. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
4. ASTM C1193 - Standard Guide for Use of Joint Sealants.
5. ASTM D1056 - Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.
6. ASTM D1565 - Standard Specification for Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Open-Cell Foam).
7. ASTM D1667 - Standard Specification for Flexible Cellular Materials-Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).
8. ASTM D2628 - Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements.

1.3 SUBMITTALS

A. Products Data: Submit data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Products Requirements.

B. Maintain temperature and humidity recommended by sealant manufacturer during and after installation.

PART 2 PRODUCTS

2.1 JOINT SEALERS

A. Manufacturers:
1. M-D/Sika door, window, siding polyurethane sealant.
2. Dow Corning Corp.
3. Substitutions or approved equal: Section 01600 - Products Requirements.

B. Products Description:
1. High Performance General Purpose Exterior Sealant: Polyurethane; ASTM C920, Grade NS, Class 25, Uses M, G, and A; single component.
a. Type: Sikaflex manufactured by Sika.
b. Color: Standard colors matching finished surfaces.
c. Applications: Use for:
1) Control, expansion, and soft joints in masonry.
2) Joints between concrete and other materials.
3) Joints between metal frames and other materials.
4) Other exterior nontraffic joints for which no other sealant is indicated.
2. Exterior Foam Expansion Joint Sealer: Precompressed foam sealer; Polyurethane with water-repellent.
a. Color: Black color.
b. Size: As required to provide watertight seal when installed.
c. Applications: Use for exterior wall expansion joints.
3. Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, non-drying, non-skinning, non-curing.
a. Applications: Use for concealed sealant bead in sheet metal work and concealed sealant bead in siding overlaps.
4. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, single component, paintable.
a. Color: Standard colors matching finished surfaces.
b. Applications: Use for interior wall and ceiling control joints, joints between door and window frames and wall surfaces, and other interior joints for which no other type of sealant is indicated.
5. Bathtub/Tile Sealant: White silicone; ASTM C920, Uses M and A; single component, mildew resistant.
a. Applications: Use for joints between plumbing fixtures and floor and wall surfaces, and joints between toilet room counter tops and wall surfaces.

2.2 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; ASTM D1056, sponge or expanded rubber D1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

2.3 EXPANDING FOAM TAPE

A. Manufacturer:

1. Emseal Joint Systems, Ltd.
2. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Product Descriptions:
1. Preformed elastic self-adhesive expanding tape seal. Polyurethane expanding foam impregnated with water based acrylic modified asphalt emulsion.
2. ¾" x 1" supplied size; 3" x 1" full expanded size.
3. Surface must be absolutely free of dust, cement laitance, or dirt.

2.4 FOAM SEALANT

A. Manufacturer:
1. Dow Chemical Company, Enerfoam.
2. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Product Description:
1. Minimal expanding single component polyurethane foam sealant. UL classified ASTM C557.93.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify substrate surfaces and joint openings are ready to receive work.

C. Verify joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

A. Remove loose materials and foreign matter impairing adhesion of sealant.

B. Clean and prime joints.

C. Perform preparation in accordance with ASTM C1193.

D. Protect elements surrounding Work of this section from damage or disfiguration.

3.3 INSTALLATION

A. Perform installation in accordance with ASTM C1193.

B. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.

C. Install bond breaker where joint backing is not used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

E. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

F. Tool joints concave.

G. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

H. Compression Gaskets: Avoid joints except at ends, corners, and intersections; seal joints with adhesive; install with face 1/8 to 1/4 inch below adjoining surface.

3.4 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Clean adjacent soiled surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution Requirements: Protecting installed construction.

B. Protect sealants until cured.

3.6 SCHEDULE

A. Exterior Joints for Which No Other Sealant Type is Indicated: Polyurethane.

B. Exterior Wall Expansion Joints: Polyurethane (High Elasticity).

C. Control, Expansion, and Soft Joints in Masonry, and between Masonry and Adjacent Work: Polyurethane (Low Elasticity).

D. Joints between Exterior Metal Frames and Adjacent Work: Polyurethane.

E. Interior Joints for Which No Other Sealant is Indicated: Silicone.

F. Control and Expansion Joints in Interior Concrete Slabs and Floors: Polyurethane.

G. Joints between Plumbing Fixtures and Walls and Floors, and between Counter tops and Walls: Acrylic.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 08255

POLYESTER FLUSH DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Acrylic modified polyester (AMP) Colonial flush doors with aluminum frames.

1.2 RELATED SECTIONS

A. Section 08710 - Door Hardware.

1.3 REFERENCES

A. AAMA 1503.1 - Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.

B. ASTM B 209 - Aluminum and Aluminum-Alloy Sheet and Plate.

C. ASTM B 221 - Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

D. ASTM D 256 - Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.

E. ASTM D 570 - Water Absorption of Plastics.

F. ASTM D 638 - Tensile Strength of Plastics.

G. ASTM D 790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

H. ASTM D 1621 – Compressive Properties of Rigid Cellular Plastics.

I. ASTM D 1623 – Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.

J. ASTM D 2126 – Response of Rigid Cellular Plastics to Thermal and Humid Aging.

K. ASTM D 2583 - Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide door assemblies that have been designed and fabricated to comply with specified performance requirements, as demonstrated by testing manufacturer's corresponding standard systems.

B. Thermal Transmission, Exterior Doors, U-Value, AAMA 1503.1: Maximum of 0.09 BTU/hr x sf x degrees F.

C. Impact Strength, AMP Doors and Panels, Nominal Value, ASTM D 256: 2.6 foot-pounds per inch of notch.

D. Tensile Strength, AMP Doors and Panels, Nominal Value, ASTM D 638: 7,500 psi.

E. Flexural Strength, AMP Doors and Panels, Nominal Value, ASTM D 790: 16,900 psi.

F. Water Absorption, AMP Doors and Panels, Nominal Value, ASTM D 570: 0.63 percent after 24 hours.

G. Indentation Hardness, AMP Doors and Panels, Nominal Value, ASTM D 2583: 38.

H. Abrasion Resistance, Face Sheet, Taber Abrasion Test, 25 Cycles at 1,000 Gram Weight with CS-17 Wheel: Maximum of 0.022 average weight loss percentage.

I. Compressive Strength, Foam Core, Nominal Value, ASTM D 1621: 84.2 psi.

J. Compressive Modulus, Foam Core, Nominal Value, ASTM D 1621: 448 psi.

K. Tensile Adhesion, Foam Core, Nominal Value, ASTM D 1623: 48 psi.

L. Thermal and Humid Aging, Nominal Value @ 158°F and 100% Humidity for 14 Days, ASTM D 2126: -4.89 Volume Change.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's product data, including description of materials, components, fabrication, finishes, and installation.

B. Shop Drawings: Submit manufacturer's shop drawings, including elevations, sections, and details, indicating dimensions, tolerances, materials, fabrication, doors, panels, framing, hardware schedule, and finish.

C. Samples:
1. Color: Submit manufacturer's samples of standard colors of doors and frames.

1.6 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Continuously engaged in manufacturing of doors of similar type to that specified, with a minimum of 25 years successful experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying opening door mark and manufacturer.

B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.

C. Handling: Protect materials and finish from damage during handling and installation.

1.8 WARRANTY

A. Warrant doors, frames, and factory hardware against failure in materials and workmanship, including excessive deflection, faulty operation, defects in hardware installation, and deterioration of finish or construction in excess of normal weathering.

B. Warranty Period: Ten years starting on date of shipment.

C. Warranty Period for AMP Painted Finish: Five years starting on date of shipment.

PART 2 PRODUCTS

2.1 AMP COLONIAL FLUSH DOORS

A. Model: SL-18 Flush Colonial Doors with acrylic modified polyester (AMP) face sheets by Specialite or an equal.

B. Door Opening Size: As indicated on the Drawings.

C. Construction:
1. Door Thickness: 1-3/4 inches.
2. Stiles and Rails: Aluminum Alloy 6063-T5, minimum of 2-5/16-inch depth.
3. Corners: Mitered.
4. Provide joinery of 3/8-inch diameter full-width tie rods through extruded splines top and bottom as standard tubular shaped stiles and rails reinforced to accept hardware as specified.
5. Securing Internal Door Extrusions: 3/16-inch angle blocks and locking hex nuts for joinery. Welds, glue, or other methods are not acceptable.
6. Furnish extruded stiles and rails with integral reglets to accept face sheets. Lock face sheets into place to permit flush appearance.
7. Rail caps or other face sheet capture methods are not acceptable.
8. Extrude top and bottom rail legs for interlocking continuous weather bar.
9. Meeting Stiles: Pile brush weatherseals. Extrude meeting stile to include integral pocket to accept pile brush weatherseals.
10. Bottom of Door: Install bottom weather bar with nylon brush weatherstripping into extruded interlocking edge of bottom rail.

D. Face Sheet:
1. Material: AMP, 0.120-inch thickness.
2. Texture: Colonial Woodgrain.
3. Color: Factory finished wood stain as selected by Architect from manufacturer’s standard colors.

E. Core:
1. Material: Poured-in-place polyurethane foam.
2. Density: Minimum of 5 pounds per cubic foot.
3. R-Value: Minimum of 11.

F. Cutouts:
1. Manufacture doors with cutouts for required vision lites.
2. Factory install vision lites.

G. Hardware:
1. Premachine doors in accordance with templates from specified hardware manufacturers and hardware schedule.
2. Factory install hardware.

2.2 MATERIALS

A. Aluminum Members:
1. Extrusions: ASTM B 221.
2. Sheet and Plate: ASTM B 209.
3. Alloy and Temper: As required by manufacturer for strength, corrosion resistance, application of required finish, and control of color.

B. Components: Door and frame components from same manufacturer.

C. Fasteners:
1. Material: Aluminum, 18-8 stainless steel, or other noncorrosive metal.
2. Compatibility: Compatible with items to be fastened.
3. Exposed Fasteners: Screws with finish matching items to be fastened.

2.3 FABRICATION

A. Sizes and Profiles: Required sizes for door and frame units, and profile requirements shall be as indicated on the Drawings.

B. Coordination of Fabrication: Field measure before fabrication and show recorded measurements on shop drawings.

C. Assembly:
1. Complete cutting, fitting, forming, drilling, and grinding of metal before assembly.
2. Remove burrs from cut edges.

D. Welding: Welding of doors or frames is not acceptable.

E. Fit:
1. Maintain continuity of line and accurate relation of planes and angles.
2. Secure attachments and support at mechanical joints with hairline fit at contacting members.

2.4 ALUMINUM DOOR FRAMING SYSTEMS

A. Tubular Framing:
1. Size and Type: As indicated on the Drawings.
2. Materials: Aluminum Alloy 6063-T5, 1/8-inch minimum wall thickness.

3. Applied Door Stops: 0.625-inch high, with screws and weatherstripping. Door stop shall incorporate pressure gasketing for weathering seal. Counterpunch fastener holes in door stop to preserve full metal thickness under fastener head.
4. Frame Members: Box type with 4 enclosed sides. Open-back framing is not acceptable.
5. Caulking: Caulk joints before assembling frame members.
6. Joints:
   a. Secure joints with fasteners.
   b. Provide hairline butt joint appearance.
7. Field Fabrication: Field fabrication of framing using stick material is not acceptable.
8. Applied Stops: For side, transom, and borrowed lites and panels. Applied stops shall incorporate pressure gasketing for weathering seal. Reinforce with solid bar stock fill for frame hardware attachments.
9. Hardware:
   a. Premachine and reinforce frame members for hardware in accordance with manufacturer's standards and hardware schedule.
   b. Factory install hardware.
10. Anchors:
    a. Anchors appropriate for wall conditions to anchor framing to wall materials.
    b. Door Jamb and Header Mounting Holes: Maximum of 24-inch centers.
    c. Secure head and sill members of transom, side lites, and similar conditions.
11. Finish: Factory finish with Kynar two coat system; color as selected by Architect.

2.5 HARDWARE

A. Premachine doors in accordance with templates from specified hardware manufacturers and hardware schedule.

B. Factory install hardware.

C. Hardware Schedule: As specified in Section 08710.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive doors. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 PREPARATION

A. Ensure openings to receive frames are plumb, level, square, and in tolerance.

3.3 INSTALLATION

A. Install doors in accordance with manufacturer's instructions.

B. Install doors plumb, level, square, true to line, and without warp or rack.

C. Anchor frames securely in place.

D. Separate aluminum from other metal surfaces with bituminous coatings or other means approved by Architect.

E. Set thresholds in bed of mastic and backseal.

F. Install exterior doors to be weathertight in closed position.

G. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.

H. Remove and replace damaged components that cannot be successfully repaired as determined by Architect.

3.4 ADJUSTING

A. Adjust doors, hinges, and locksets for smooth operation without binding.

3.5 CLEANING

A. Clean doors promptly after installation in accordance with manufacturer's instructions.

B. Do not use harsh cleaning materials or methods that would damage finish.

3.6 PROTECTION

A. Protect installed doors to ensure that, except for normal weathering, doors will be without damage or deterioration at time of substantial completion.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 08311

ACCESS PANELS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes access doors and panels with frames.
   1. Provide for access to controls, valves, traps, dampers, cleanouts, and similar items requiring operation behind inaccessible finished surfaces.
   2. Coordinate exact locations with various trades to assure proper placement of access doors and panels.

1.2 REFERENCES

A. National Fire Protection Association:
   1. NFPA 80 - Standard for Fire Doors, Fire Windows.

B. Underwriters Laboratories Inc.:
   1. UL - Building Materials Directory.

C. Intertek Testing Services (Warnock Hersey Listed):
   1. WH - Certification Listings.

1.3 SUBMITTALS

A. Product Data: Submit literature indicating sizes, types, finishes, hardware, scheduled locations, fire resistance listings, and details of adjoining Work.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of access units.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified with minimum three years experience.

1.6 COORDINATION

A. Coordinate Work under provisions of Section 01300 - Project Coordination.

B. Coordinate Work with work requiring controls, valves, traps, dampers, cleanouts, and similar items requiring operation being located behind finished surfaces.

PART 2 PRODUCTS

2.1 ACCESS DOORS AND PANELS

A. Manufacturers:
   1. J. L. Industries.
   2. Karp Associates, Inc.
   3. Nystrom Products Co.
   4. Milcor LTD, Partnership.
   5. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Flush Framed Access Doors (Type 1): Frames and nominal 1 inch wide exposed flanges of 16 gage steel and door panels of 14 gage steel.

2.2 FABRICATION

A. Fabricate units of continuous welded construction; weld, fill, and grind joints to assure flush and square unit.

B. Wall and Ceiling Access Door and Panel Hardware:
   1. Hinge: Standard continuous or concealed spring pin type, 175 degree steel hinges.
   2. Lock: Self-latching lock. Screw driver slot for quarter turn cam lock.

C. Size Variations: Obtain acceptance of manufacturer’s standard size units which vary slightly from sizes shown or scheduled.

2.3 SHOP FINISHING

A. Base Metal Protection: Prime coat units with alkyd baked on primer.

B. Finish: Two coats baked enamel, color as selected.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify rough openings for access doors and panels are correctly sized and located.

3.2 INSTALLATION

A. Secure frames rigidly in place, plumb and level in opening, with plane of door and panel face aligned with adjacent finished surfaces.
   1. Set concealed frame type units flush with adjacent finished surfaces.

B. Position unit to provide convenient access to concealed work requiring access.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 08552

ALUMINUM-CLAD WOOD WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Aluminum-clad wood windows.

1.2 RELATED SECTIONS

A. Section 07270 - Air Barriers: Water-resistant barrier.

B. Section 07900 - Joint Sealers.

1.3 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
1. AAMA 502 - Voluntary Specification for Field Testing of Windows and Sliding Doors.
2. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
3. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

B. American Society for Testing and Materials (ASTM):
1. ASTM B 117 - Operating Salt Spray (Fog) Apparatus.
2. ASTM C 1036 - Flat Glass.
3. ASTM C 1048 - Heat-Treated Flat Glass – Kind HS, Kind FT Coated and Uncoated Glass.
4. ASTM D 1149 - Rubber Deterioration – Surface Ozone Cracking in a Chamber.
5. ASTM D 2803 - Filiform Corrosion Resistance of Organic Coatings on Metal.
6. ASTM D 3656 - Insect Screening and Louver Cloth Woven from Vinyl-Coated Glass Yarns.
7. ASTM D 4060 - Abrasion Resistance of Organic Coatings by the Taber Abraser.
8. ASTM E 283 - Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Difference Across the Specimen.
9. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.
10. ASTM E 547 - Water Penetration of Exterior Windows, Curtain Walls and Doors by Cyclic Static Air Pressure Differential.
11. ASTM G 85 - Modified Salt Spray (Fog) Testing.

C. Screen Manufacturers Association (SMA):
1. SMA 1201 - Specifications for Insect Screens for Windows, Sliding Doors and Swinging Doors.

D. Window and Door Manufacturers Association (WDMA):

1. ANSI/AAMA/NWWDA 101/I.S.2 - Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.
2. ANSI/AAMA/NWWDA 101/I.S.2/NAFS-02 - Voluntary Performance Specification for Windows, Skylights and Glass Doors.
3. WDMA I.S.4 - Industry Standard for Water-Repellent Preservative Non-Pressure Treatment for Millwork.

1.4 PERFORMANCE REQUIREMENTS

A. Windows shall be Hallmark certified to a rating of H specifications in accordance with ANSI/AAMA/NWWDA I.S.2.

B. Window Unit Air Leakage, ASTM E 283, 1.57 psf (25 mph): 0.3 cfm per square foot of frame or less.

C. Window Unit Water Penetration: No water penetration through window unit when tested in accordance with ASTM E 547, under static pressure of 7.5 psf (52 mph) after 4 cycles of 5 minutes each, with water being applied at a rate of 5 gallons per hour per square foot.

1.5 SUBMITTALS

A. Comply with Division 1 requirements.

B. Product Data: Submit manufacturer's product data, including installation instructions.

C. Shop Drawings: Submit manufacturer's shop drawings, indicating dimensions, construction, component connections and locations, anchorage methods and locations, hardware locations, and installation details.

D. Warranty: Submit manufacturer’s standard warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site undamaged in manufacturer's or sales branch's original, unopened containers and packaging, with labels clearly identifying manufacturer and product name. Include installation instructions.

B. Storage: Store materials in an upright position, off ground, under cover, and protected from weather, direct sunlight, and construction activities.

C. Handling: Protect materials and finish during handling and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Pella Corporation.

B. Marvin Windows and Doors.

C. Substitutions or approved equal: Section 01600 – Product Requirements.

2.2 ALUMINUM-CLAD WOOD WINDOWS

A. Aluminum-Clad Wood: Factory-assembled aluminum-clad wood windows.

B. Frame:
1. Select softwood, water-repellent, preservative-treated in accordance with WDMA I.S.-4 for water-repellency, three active fungicides and an insecticide applied to the frame.
2. Interior Exposed Surfaces: Clear Pine with no visible fastener holes..
3. Exterior Surfaces: Clad with aluminum.
4. Overall Frame Depth: 5 inches.

C. Sash:
1. Select softwood, water water-repellent, preservative-treated in accordance with WDMA I.S.-4 for water-repellency, three active fungicides and an insecticide applied to the sash.
2. Interior Exposed Surfaces: Clear Pine with no visible fastener holes..
3. Exterior Surfaces: Clad with aluminum, lap-jointed at corners.
4. Corners: Mortised and tenoned, glued and secured with metal fasteners.
5. Extruded acrylonitile butadiene styprene glazing flange. Flange is located on top of wood sash members and under exterior aluminum cladding.
6. Sash Thickness: 1-5/8 inches.

D. Weather Stripping:
1. Water-stop santoprene wrapped foam at head and sill.
2. Thermal-plastic elastomer bulb with slip coating set into lower sash for tight contact at checkrail.
3. Vinyl-wrapped foam inserted into jambliner or jambliner components to seal to sides of sash.

2.3 GLAZING

A. Glazing:
1. Float Glass: ASTM C 1036, Quality 1.
2. Type: Silicone-glazed 5/8-inch dual-seal, annealed, insulating glass, clear multi-layer Low-E coated with argon.
   a. Room Side Grilles: Solid 7/8-inch Clear Pine.
   b. Exterior Grilles: Extruded aluminum. Dimension to match room side grilles.
   c. Bars shall be adhered to both sides of insulating glass with VHB acrylic adhesive tape and aligned with foam grid.
   d. Finish: Exterior surfaces finished to match window cladding. Interior surfaces unfinished, ready for site finishing.

2.4 TOLERANCES

A. Windows shall accommodate the following opening tolerances:
1. Vertical Dimensions Between High and Low Points: Plus 1/4 inch, minus 0 inch.
2. Width Dimensions: Plus 1/4 inch, minus 0 inch.
3. Building Columns or Masonry Openings: Plus or minus 1/4 inch from plumb.

2.5 FINISH

A. Exterior Finish System:
1. Exterior aluminum surfaces shall be finished with the following multi-stage system:
a. Clean and etch aluminum surface of oxides.
b. Pre-treat with chrome phosphate conversion coating.
c. Pre-treat with chromic acid sealer/rinse.
d. Top coat with baked-on polyester enamel.
2. Color: As selected from manufacturers standard.
3. Performance Requirements: Exterior aluminum finishes shall meet or exceed the following performance requirements of AAMA 2605:
a. Dry Film Hardness: Eagle Turquoise Pencil, F minimum.
b. Film Adhesion: 1/16-inch crosshatch, dry, wet, boiling water.
c. Impact Resistance: 1/10-inch distortion, no film removal.
d. Abrasion Resistance: Falling sand coefficient value of 20 minimum.
e. Chemical Resistance: 10 percent Muriatic acid, 15 minutes. Mortar pat test, 24 hours.
f. Detergent Resistance: 3 percent at 100 degrees F, 72 hours.
g. Corrosion Resistance: Humidity, 3,000 hours. Salt spray exceeds 3,000 hours.

B. Exterior Finish System Performance Requirements:
1. Exterior aluminum finishes shall meet or exceed following performance requirements:
a. Ozone Deterioration, ASTM D 1149, Modified: 5 ppm ozone, 160 degrees F, 60 percent relative humidity, 100 hours exposure, little or no loss of cure.
b. Filiform Corrosion Resistance of Organic Coatings on Metal, ASTM D 2803: No corrosion.
c. Taber Abrasion Resistance, ASTM D 4060: 500 g weight, CS-10 wheel, 500 cycles, less than 25 g weight loss.
d. Cyclic Acidified Salt Fog Test, ASTM G 85, Appendix A-2.

C. Interior Finish: Factory finished with 1 prime coat and 1 top coat of white acrylic latex.

2.6 INSTALLATION ACCESSORIES

A. Flashing/Sealant Tape:
1. Aluminum-foil-backed butyl window and door flashing tape.
2. Maximum Total Thickness: 0.013 inch.
3. UV resistant.
4. Verify sealant compatibility with sealant manufacturer.

B. Insulating-Foam Sealant:
1. Low-pressure, polyurethane window and door insulating-foam sealant.

2.7 SOURCE QUALITY CONTROL

A. Factory Testing: Factory test individual standard operable windows for air infiltration in accordance with ASTM E 283, to ensure compliance with this specification.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive windows. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

A. Install windows in accordance with manufacturer's instructions and approved shop drawings.

B. Install windows to be weather-tight and freely operating.

C. Maintain alignment with adjacent work.

D. Secure assembly to framed openings, plumb and square, without distortion.

E. Integrate window system installation with exterior weather-resistant barrier using flashing/sealant tape. Apply and integrate flashing/sealant tape with weather-resistant barrier using watershed principles in accordance with window manufacturer's instructions.

F. Place interior seal around window perimeter to maintain continuity of building thermal and air barrier using insulating-foam sealant.

G. Seal window to exterior wall cladding with sealant and related backing materials at perimeter of assembly.

H. Leave windows closed and locked.

3.3 CLEANING

A. Clean window frames and glass in accordance with Division 1 requirements.

B. Do not use harsh cleaning materials or methods that would damage finish.

C. Remove labels and visible markings.

3.4 PROTECTION

A. Protect installed windows to ensure that, except for normal weathering, windows will be without damage or deterioration at time of substantial completion.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 08710

DOOR HARDWARE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes hardware for doors, including door gaskets, weatherstripping, seals, and thresholds.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI A156.1 - Butts and Hinges.
2. ANSI A156.2 - Bored and Pre-assembled Locks and Latches.
3. ANSI A156.3 - Exit Devices.
4. ANSI A156.4 - Door Controls - Closures.
5. ANSI A156.5 - Auxiliary Locks and Associated Products.
6. ANSI A156.6 - Architectural Door Trim.
7. ANSI A156.7 - Template Hinge Dimensions.
8. ANSI A156.8 - Door Controls - Overhead Holders.
9. ANSI A156.12 - Interconnected Locks and Latches.
10. ANSI A156.13 - Mortise Locks and Latches.
11. ANSI A156.14 - Sliding and Folding Door Hardware.
12. ANSI A156.15 - Closer Holder Release Devices.
13. ANSI A156.16 - Auxiliary Hardware.
14. ANSI A156.18 - Materials and Finishes
15. ANSI A156.19 - Power Assist and Low Energy Power Operated Doors.
16. ANSI A156.23 - Electromagnetic Locks.
17. ANSI A156.24 - Delayed Egress Locks.
18. ANSI A156 - Complete Set of 24 BHMA Standards (A156 Series) with Binder.

B. National Fire Protection Association:
1. NFPA 80 - Standard for Fire Doors, Fire Windows.
2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

C. Underwriters Laboratories Inc.:
1. UL 10B - Fire Tests of Door Assemblies.
2. UL 305 - Panic Hardware.
3. UL - Building Materials Directory.

D. Warnock Hersey:
1. WH - Certification Listings.

1.3 SUBMITTALS

A. Product Data.

B. Shop Drawings:

1. Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts.

C. Hardware Schedule.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout Procedures.

B. Project Record Documents: Record actual locations of installed cylinders and their master key code.

C. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

D. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with the following requirements:
1. ANSI A156 series.
2. NFPA 80.
3. UL 305.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Hardware Supplier: Company specializing in supplying institutional door hardware with minimum three years documented experience approved by primary hardware manufacturers.

1.7 PRE-INSTALLATION MEETINGS

A. Section 01300 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

C. Include persons involved with installation of doors, frames, and hardware.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.

1.9 COORDINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Coordinate Work with other directly affected sections, (including aluminum doors) involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.
   1. Provide templates or actual hardware as required to ensure proper preparation of doors and frames.

C. Sequence installation to accommodate required utility connections.

D. Coordinate Owner's keying requirements during course of Work.

1.10 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish two year manufacturer warranty for locksets and door closers.

1.11 MAINTENANCE MATERIALS

A. Section 01700 - Execution Requirements: Maintenance materials.

B. Furnish special wrenches and tools applicable for each different and for each special hardware component.

C. Furnish maintenance tools and accessories supplied by hardware component manufacturer.

1.12 EXTRA MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Furnish ten extra key lock cylinders for each master keyed group.

PART 2 PRODUCTS

2.1 DOOR HARDWARE

A. Hinge Manufacturers:
   1. Stanley Heavyweight B.B.
   2. Substitutions or approved equal: Section 01600 - Product Requirements.

B. Lockset Manufacturers:
   1. Best Lock Corp., 38H Series.
   2. Substitutions or approved equal: Section 01600 - Product Requirements.

C. Cylinder Manufacturers:
   1. Best Lock Corp., 7 pin removable core.
   2. Substitutions or approved equal: Section 01600 - Product Requirements.

D. Closers Manufacturers:
1. LCN 4040 Series.
2. Substitutions or approved equal: Section 01600 - Product Requirements.

E. Protection Plates, Gaskets, Thresholds, and Trim Manufacturers:
1. Zero International.
2. H.B. Ives.
3. Substitutions or approved equal: Section 01600 - Product Requirements.

2.2 COMPONENTS

A. General Hardware Requirements: Where not specifically indicated, comply with applicable ANSI A156 standard for type of hardware required. Furnish each type of hardware with accessories as required for applications indicated and for complete, finished, operational doors.
1. Templates: Furnish templates or physical hardware items to door and frame manufacturers sufficiently in advance to avoid delay in Work.
2. Reinforcing Units: Furnished by door and frame manufacturers; coordinated by hardware supplier or hardware manufacturer.
3. Fasteners: Furnish as recommended by hardware manufacturer and as required to secure hardware.
a. Finish: Match hardware item being fastened.
4. Fire Ratings: Provide hardware with UL or Warnock Hersey listings for type of application involved.

B. Hinges: ANSI A156.1, full mortise type complying with following general requirements unless otherwise scheduled.
1. Widths: Sufficient to clear trim projection when door swings 180 degrees.
2. Number: Furnish minimum three hinges.
3. Size and Weight: 4-1/2 inch.
a. Extra heavy weight ball bearing hinges.
4. Pins: Furnish nonferrous hinges with non-removable pins (NRP) at exterior and locked out-swinging doors, non-rising pins at interior doors.
5. Tips: Flat button.

C. Locksets: Furnish locksets compatible with specified cylinders. Typical 2-3/4 inch backset. Furnish standard strikes with extended lips to protect trim from being marred by latch bolt verify type of cutouts provided in metal frames.
1. Mortise Locksets: ANSI A156.13, Series 1000, Grade 1 unless otherwise indicated.
2. Auxiliary Locksets: ANSI A156.5, Grade 1, rim locks unless otherwise indicated.
3. Latch Sets: Match locksets.

D. Cylinders: ANSI A156.5, Grade 1, pin type interchangeable core type cylinders.
1. Keying: Key to existing keying system.
2. Include construction keying.
3. Keys: Nickel silver. Stamp keys with “DO NOT DUPLICATE”.
4. Supply keys in the following minimum quantities:
a. 5 master keys.
b. 3 grand master keys.

c. 3 great grand master keys.
d. 3 construction keys.
e. 3 control keys and 10 extra cylinder cores.
f. 3 change keys for each lock.

E. Closers: ANSI A156.4 modern type with cover surface mounted closers; full rack and pinion type with steel spring and non-freezing hydraulic fluid; closers required for fire rated doors unless otherwise indicated.
1. Adjustability: Furnish controls for regulating closing, latching, speeds, and back checking.
2. Arms: Type to suit individual condition; parallel-arm closers at reverse bevel doors and where doors swing full 180 degrees.
3. Location: Mount closers on inside of exterior doors, room side of interior doors typical; mount on pull side of other doors.
4. Operating Pressure: Maximum operating pressure as follows.
a. Interior Doors: Maximum 5 pounds.
b. Exterior Doors: Maximum 10 pound.
c. Fire Rated Doors: As required for fire rating, maximum 15 pounds.

F. Protection Plates, Gaskets, Thresholds, and Trim: Furnish as indicated on Drawings, with accessories as required for complete operational door installations.
1. Kickplates: ANSI A156.6, metal; 12 inch height by 1 inch less than door width; minimum 0.050 inch thick stainless steel.
2. Weatherstripping: Furnish continuous weatherstripping at top and sides of exterior doors, including meeting styles.
3. Fire Rated Gaskets: Furnish continuous fire rated gaskets at top and sides of fire rated doors.
4. Thresholds: Maximum 1/2 inch height.
5. Floor Stops: ANSI A156.1 Grade 1 dome type; furnish with accessories as required for applications indicated.

2.3 ACCESSORIES

A. Lock Trim: Furnish levers with rose as selected from manufacturer’s full range of levers and roses.

B. Through Bolts: Do not permit through bolts and grommet nuts on door faces in occupied areas unless no alternative is possible.

2.4 FINISHING

A. Finishes: ANSI A156.18; furnish following finishes except where otherwise indicated.
1. Hinges:
a. Brushed stainless steel.
2. Typical Exterior Exposed and High Use Interior Door Hardware:
a. Brushed stainless steel.
3. Typical Interior Door Hardware:
a. Brushed stainless steel.
4. Closers: Finish appearance to match door hardware on same face of door.
a. BHMA 628, satin aluminum, clear anodized.

5. Perimeter air seals and Thresholds:
   a. BHMA 722, clear anodized.
6. Other Items: As noted.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify doors and frames are ready to receive door hardware and dimensions are as indicated on shop drawings.

3.2 INSTALLATION

A. Coordinate mounting heights with door and frame manufacturers. Use templates provided by hardware item manufacturer.

B. Mounting Heights From Finished Floor to Center Line of Hardware Item: Comply with manufacturer recommendations and applicable codes where not otherwise indicated.
   1. Locksets: 38 inch.
   2. Push/Pulls: 42 inch.
   3. Dead Locks: 48 inch.
   4. Push Pad Type Exit Devices: 42 inch.
   5. Cross Bar Type Exit Devices: 38 inch.
   6. Top Hinge: Jamb manufacturer’s standard, but not greater than 10 inches from head of frame to centerline of hinge.
   7. Bottom Hinge: Jamb manufacturer’s standard, but not greater than 12-1/2 inches from floor to centerline of hinge.
   8. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.
   9. Hinge Mortise on Door Leaf: 1/4 inch to 5/16 inch from stop side of door.

3.3 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust hardware for smooth operation.

3.4 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution Requirements: Protecting installed construction.

B. Do not permit adjacent work to damage hardware or hardware finish.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 08800

GLAZING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes glass glazing for doors.
   1. Glass glazing materials and installation requirements are included in this section for other sections referencing this section.

B. Related Sections:
   1. Section 08255 – Flush Aluminum Doors.

1.2 REFERENCES

A. American National Standards Institute:
   1. ANSI Z97.1 - Safety Glazing Materials Used in Buildings Safety.

B. ASTM International:
   1. ASTM C669 - Standard Specification for Glazing Compounds for Back Bedding and Face Glazing of Metal Sash.
   2. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
   3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
   4. ASTM C1036 - Standard Specification for Flat Glass.
   5. ASTM C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT Coated and Uncoated Glass.
   6. ASTM C1193 - Standard Guide for Use of Joint Sealants.
   7. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors By Uniform Static Air Pressure Difference.
   8. ASTM E546 - Standard Test Method for Frost Point of Sealed Insulating Glass Units.
   9. ASTM E576 - Standard Test Method for Frost Point of Sealed Insulating Glass Units in the Vertical Position.
   10. ASTM E773 - Standard Test Methods for Seal Durability of Sealed Insulating Glass Units.
   11. ASTM E774 - Standard Specification for Sealed Insulating Glass Units.

C. Glass Association of North America:
   1. GANA - FGMA Sealant Manual.
   2. GANA - Glazing Manual.

D. National Fire Protection Association:
   1. NFPA 80 - Standard for Fire Doors, Fire Windows.

E. Underwriters Laboratories Inc.:
   1. UL - Building Materials Directory.

1.3 PERFORMANCE REQUIREMENTS

A. Size glass to withstand dead loads and positive and negative live loads acting normal to plane of glass as calculated in accordance with New York Building Code.

B. Limit glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.

1.4 SUBMITTALS

A. Product Data:
   1. Glass: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
   2. Glazing Sealants, Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors where exposed.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual for glazing installation methods.

1.6 QUALIFICATIONS

A. Installer: Company specializing in performing Work of this section with minimum three years experience.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not install glazing when ambient temperature is less than 50 degrees F.

C. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.8 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish five year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.

PART 2 PRODUCTS

2.1 COMPONENTS

A. Insulated Glass Units: Total unit thickness 1 inch.
   1. Double Pane Insulated Glass Units: ASTM E774 Class A and E773; with glass elastomer edge seal; purge interpane space with dry hermetic air.
      a. Inner Pane and Outer Pane Glass Type: Tempered safety glass.

2. Insulated Glass Unit Edge Seal Construction: Aluminum mitered and spigoted corners.

2.2 ACCESSORIES

A. Elastomeric Glazing Sealants: Materials compatible with adjacent materials including glass, insulating glass seals, and glazing channels.
   1. Silicone Glazing Sealant: ASTM C920, Type S, Grade NS, Class and Use suitable for glazing application indicated; single component; solvent curing; capable of water immersion without loss of properties; non-bleeding, non-staining, cured Shore A hardness of 15 to 25; standard color.
      a. Structural Silicone: Furnish high-modulus structural silicone glazing materials where sealant bonds glass to substrate.

B. Glazing Gaskets: ASTM C864 Option I, resilient neoprene extruded shape to suit glazing channel retaining slot; black color.

C. Pre-Formed Glazing Tape: Size to suit application.
   1. Preformed butyl compound; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.
      a. Butyl Corner Sealant: ASTM C920 single component non-skinning butyl compatible with glazing tape; color to match tape.

D. Setting Blocks: ASTM C864 Option I, Neoprene, 80 to 90 Shore A durometer hardness, length of 0.1 inch for each square foot of glazing or minimum 4-inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

E. Spacer Shims: ASTM C864 Option I, Neoprene, 50 to 60 Shore A durometer hardness, minimum 3 inch long x one half the height of glazing stop x thickness to suit application.

F. Glazing Clips: Manufacturer's standard type.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify openings for glazing are correctly sized and within acceptable tolerance.

C. Verify surfaces of glazing channels or recesses are clean, free of obstructions impeding moisture movement, weeps are clear, and ready to receive glazing.

3.2 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

3.3 INSTALLATION

A. Perform installation in accordance with GANA Glazing Manual.
   1. Glazing Sealants: Comply with ASTM C1193.
   2. Fire Rated Openings: Comply with NFPA 80

B. Exterior Dry Method (Tape and Gasket Spline Glazing):
   1. Cut glazing tape to length; install on glazing pane. Seal corners by butting tape and sealing junctions with compatible butyl sealant.
   2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
   3. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.
   4. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.
   5. Trim protruding tape edge.

C. Interior Dry Method (Tape and Tape) Installation:
   1. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.
   2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
   3. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
   4. Place glazing tape on free perimeter of glazing in same manner described above.
   5. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
   6. Knife trim protruding tape.

3.4 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Remove glazing materials from finish surfaces.

C. Remove labels after Work is complete.

D. Clean glass and adjacent surfaces.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution Requirements: Protecting installed construction.

B. After installation, mark pane with an 'X' by using removable plastic tape or paste.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 09250

GYPSUM BOARD SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

A. Framing to receive Panels shall be structurally sound, free from bow, and in general Framing compliance with local building code requirements. Damaged and excessively bowed studs shall be replaced before installation of gypsum panels.

B. All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing Delivery and Storage protection from damage and exposure to the elements. All materials should be stored flat. Damaged or of Materials deteriorated materials shall be removed from the premises.

C. In cold weather during panel application and joint finishing, temperatures within the building shall be maintained Environmental Conditions within a range of 55 to 70ºF. Adequate ventilation shall be provided to carry off excess moisture.

1.2 SUBMITTALS

A. Product Data.

PART 2 PRODUCTS

2.1 GYPSUM FIBER PANELS

A. Manufacturer:
1. USG FIBEROCK “Aquatough” Brand Panels - Moisture resistant, Type “X” Fire Resistant, and High Impact (HI).
2. Georgia Pacific Dens Armor plus Abuse Resistant; moisture resistant and Type “X” Fire Resistant panels.
3. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Size:
1. 4’ x 8’ x 5/8” tapered.

C. Joint Reinforcement: Compatible Joint Tape and compatible Setting-Type Joint Compound for the embedment of tape of same manufacturer as panels.

D. Metal Bead and Trim; Primer-Surfacer, of same manufacturer as panels.

PART 3 EXECUTION

3.1 Space framing a maximum of 16 o.c. is recommended for abuse-resistant applications. Furred walls shall be fully braced back to structure.

3.2 Ceiling joists, furring channels, or furring strips must be spaced max. 24 o.c. Framing must be capable of Ceilings supporting the total ceiling system dead load.

3.3 CUTTING PANELS

A. Manufacturer:

1. Panel

a. Cut ends, edges, scribe, and make cutouts within fields of panels in a workmanlike manner. Panels should be Application cut to size utilizing a knife and straight edge. A power saw should be used only if it is equipped with a dust-collection device. Panels may be cut by scoring and snapping, or by sawing, working from the face side. A SNAPPER SHEAR® tool specifically designed for Panels may also be used.

B. When using the score-and-snap method, score the panel twice and snap the panel away from the cut face. The backside of the panel is then broken by snapping the panel in the reverse direction.

C. Panels should be scored and snapped working from the mesh side.

D. If a power-operated saw is used, a low-RPM, 3-1/2 carbide-blade, portable saw is recommended.

E. Where necessary to obtain neatly fitting joints, a rasp or surform should be used to smooth cut edges.

F. Holes for pipes, fixtures, and other small openings can be cut out with a saw or a drywall router equipped with a 1/4 carbide bit. When using a router, panels should be held away from the wall to avoid damage to utility boxes.

3.4 BASIC SINGLE-LAYER SYSTEM, TREATED JOINTS

A. Position all ends and edges of all gypsum fiber panels over framing members, except when joints are at right angles to framing members, as in perpendicular application or when end joints are back-blocked.

B. Apply gypsum fiber panels first to the ceiling, then to the walls. Install panels vertically whenever possible. For horizontal panel application, panels must be gapped 1/16" of an inch. End joints should be loosely fit. Install panels a minimum of 3/8" above the floor. To minimize end joints, use panels of maximum practical lengths. Stagger end joints in successive courses with joints on opposite sides of a partition placed on different studs.

C. Attach panels to framing supports by Power-Driven Screws. Space fasteners not less than 3/8 from edges and ends of panels and drive as recommended for specified fastening method. Drive fasteners in field of panels first, working toward ends and edges. Hold

panel in firm contact with framing while driving fasteners. Drive fastener heads slightly below surface of gypsum fiber panels in a uniform dimple.

D. For non-fire-rated partition designs, refer to the table below for fastener spacing. For UL fire-rated partition designs, refer to the specific UL design for proper fastener spacing.
1. Fastener Spacing = 8" o.c.

E. Install trim at all internal and external angles formed by the intersection of either panel surfaces or other surfaces. Apply (metal, paper-faced) corner bead to all vertical or horizontal external corners in accordance with manufacturer's directions.

3.5 CONTROL JOINT INSTALLATION

A. Attach Zinc Control Joint No. 093 with Bostitch 9/16 "G" staples or equivalent spaced not over 6 apart in each flange. Cut end joints square and align for neat fit. Remove protective tape when joint treatment is completed. Break panel behind joint and back by double framing members (spaced 1/2 apart).

3.6 FASTENER APPLICATION

A. Drywall Screws: Power-drive with an electric screw gun so screw heads provide a slight depression below surface of gypsum fiber panels. Do not drive screws closer than 3/8 from edges and ends of gypsum fiber panels. B Nails: Drive nails with heads slightly below gypsum fiber panel surface in a uniform dimple 1/32 deep formed by crowned face of hammer. Drive nails no closer than 3/8 from edges and ends of panel.

3.7 INTERIOR JOINT SYSTEM APPLICATION

A. Mix joint compound in accordance with manufacturer's recommendation. Use Setting-Type Joint Compound for the embedment of the Joint Tape.

B. Apply joint compound in a thin uniform layer to all joints and angles to be reinforced. Immediately apply Joint Tape centered over joint and seated into compound. Sufficient compound must remain under the tape to provide proper bond. Follow immediately with a thin skim coat to embed tape, but not to function as a second coat. Fold and embed tape properly in all interior angles to provide a true angle. The tape or embedding coat must be hardened prior to application of second coat. Note: Do not use fiberglass tape.

C. Apply second coat of joint compound over embedding coat, filling panel taper flush with surface; cover tape and feather beyond first coat. On joints with no taper, cover the tape and feather on either side of tape. Allow second coat to harden prior to application of finish coat.

D. Spread finish coat evenly over and extend beyond second coat on all joints and feather to a smooth uniform finish. Do not allow finished joint to protrude beyond plane of the surface. Apply a finish coat to cover tape and taping compound at all tapered angles and provide a true angle. Where necessary, sand lightly between coats and following the final application of compound to provide a smooth surface ready for decoration.

3.8 FINISHING FASTENERS

A. Apply joint compound to all fastener depressions.

3.9 FINISHING BEAD AND TRIM

A. Apply first coat to all bead and trim and properly feather out from ground to plane of surface. Compound must harden prior to application of second coat.

B. Apply second coat in same manner as first coat, extending compound slightly beyond first coat, and properly feathering from ground to plane or surface. When dry, sand finish as necessary to provide a flat smooth surface ready for decoration. When sanding, take care not to roughen surface.

C. Treat all joints, fasteners and accessories with a recommended joint treatment system, a minimum Level 4 wallboard finish.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 09650

RESILIENT FLOORING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes resilient tile flooring and base.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer’s product data.

B. Samples:
   1. Submit manufacturer's complete set of color samples for initial selection.
   2. Submit two samples, illustrating color and pattern for each resilient flooring product specified.

1.3 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: Submit maintenance instruction and data.

1.4 QUALITY ASSURANCE

A. Surface Burning Characteristics:
   1. Floor Finishes: Class I, minimum 0.45 watts/sq cm when tested in accordance with NFPA 253.
   2. Base Material: Class I, minimum 0.45 watts/sq cm when tested in accordance with NFPA 253.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

B. Store materials for not less than 48 hours prior to installation in area of installation at temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.1 FLOORING

A. Manufacturers:
   1. Armstrong World Industries, Inc.
   2. Congoleum Corp.
   3. Mannington Commercial.

4. Substitutions: Permitted.

B. Vinyl Composition Tile: ASTM F1066. Armstrong SDT Static Dissipative Tile or equal.
1. Size: 12 x 2.
2. Thickness: 1/8”.
3. Pattern: Solid color or marbleized.

2.2 ACCESSORIES

A. Underlayment: As specified on drawings.

B. Subfloor Filler: Premix latex; type recommended by floor material manufacturer.

C. Primers and Adhesives: Waterproof, types recommended by floor material manufacturer.

D. Moldings and Edge Strips: Same material as flooring.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify floors are dry to maximum moisture content as recommended by manufacturer, and exhibit negative alkalinity, carbonization, and dusting.

3.2 PREPARATION

A. Install underlayment in all areas. Nail at 12” o.c. and 8” o.c. along edges.

B. Fill minor low spots and other defects with sub-floor filler.

C. Apply primer as required to prevent "bleed-thru" or interference with adhesion by substances that cannot be removed. Apply primer to surfaces required by manufacturer.

3.3 INSTALLATION – TILE FLOORING

A. Mix tile from container to ensure shade variation are consistent when tile is placed.

B. Lay flooring with joints and seams parallel to building lines to produce symmetrical tile pattern.

C. Install tile to ashlar pattern. Allow minimum ½ full size tile width at room or area perimeter.

D. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

E. Where floor finishes are different on opposite sides of door, terminate flooring under centerline of door.

F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated. Secure metal strips after installation of flooring with stainless steel screws.

G. Install flooring in recessed floor access covers. Maintain floor pattern.

H. At movable partitions, install flooring under partitions without interrupting floor pattern.

3.4 CLEANING

A. Remove excess adhesive from surfaces without damage.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 09900

PAINTS AND COATINGS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes surface preparation and field application of paints, stains, varnishes, and other coatings.

1.2 REFERENCES

A. ASTM International:
   1. ASTM D16 - Standard Terminology Relating to Paint, Varnish, Lacquer, and Related Products.
   2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
   3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. National Fire Protection Association:
   1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.

C. Painting and Decorating Contractors of America:
   1. PDCA - Architectural Painting Specification Manual.

D. SSPC: The Society for Protective Coatings:
   1. SSPC - Steel Structures Painting Manual.

E. Underwriters Laboratories Inc.:
   1. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 DEFINITIONS

A. Conform to ASTM D16 for interpretation of terms used in this section.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on finishing products.

C. Samples:
   1. Submit two paper chip samples, inch in size illustrating range of colors available for each surface finishing product scheduled.

1.5 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

1.6 QUALITY ASSURANCE

A. Surface Burning Characteristics:
1. Fire Retardant Finishes: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84 NFPA 255 UL 723.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum ten years experience.

B. Applicator: Company specializing in performing work of this section with minimum three years documented experience approved by manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

D. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.

C. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candle measured mid-height at substrate surface.

1.10 SEQUENCING

A. Section 01100 - Summary: Work sequence.

B. Sequence application to the following:
1. Do not apply finish coats until paintable sealant is applied.
2. Back prime wood trim before installation of trim.

1.11 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for paints and coatings.

1.12 EXTRA MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Supply 1 gallons of each color type; store where directed.

C. Label each container with color, type, texture, and room locations.

PART 2 PRODUCTS

2.1 PAINTS AND COATINGS

A. Manufacturers: Paint, Transparent Finishes, Stain, Primer Sealers.
1. Ameritone Paint Corp.
2. Aquarius Coatings, Inc.
3. Coronado Paints.
4. Decratrend Paints.
5. Devoe Paint Co.
6. Duron Inc.
7. Fuller-O’Brien
8. The Glidden Co.
9. ICI Paint Stores.
10. MAB Paints.
11. PPG Architectural Finishes.
12. Sinclair Paints.
13. Substitutions: Section 01600 - Product Requirements.

2.2 COMPONENTS

A. Coatings: Ready mixed, except field catalyzed coatings. Prepare coatings:
1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
2. For good flow and brushing properties.
3. Capable of drying or curing free of streaks or sags.

B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve finishes specified; commercial quality.

C. Patching Materials: Latex filler.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify surfaces and substrate conditions are ready to receive Work as instructed by product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report conditions capable of affecting proper application.

D. Test shop applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
1. Plaster and Gypsum Wallboard: 12 percent.
2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.2 PREPARATION

A. Surface Appurtenances: Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

B. Surfaces: Correct defects and clean surfaces capable of affecting work of this section. Remove or repair existing coatings exhibiting surface defects.

C. Marks: Seal with shellac those which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium or tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.

F. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

G. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand power tool wire brushing or sandblasting; clean by washing with solvent. Apply treatment of phosphoric acid

solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

H. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.

I. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

J. Interior Wood Items Scheduled to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats.

K. Exterior Wood Scheduled to Receive Paint Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior paintable caulking compound after prime coat has been applied.

L. Exterior Wood Scheduled to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior caulking compound after sealer has been applied.

3.3 APPLICATION

A. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

B. Apply each coat to uniform appearance. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.

C. Sand wood surfaces lightly between coats to achieve required finish.

D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

E. Where clear finishes are required, tint fillers to match wood. Work fillers into grain before set. Wipe excess from surface.

F. Prime concealed surfaces of interior and exterior woodwork with primer paint.

G. Prime concealed surfaces of interior wood surfaces scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with thinner.

H. Finishing Mechanical And Electrical Equipment:
   1. Refer to Division 15 for schedule of color coding and identification banding of equipment, duct work, piping, and conduit.
   2. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

3. Prime and paint exterior insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are shop finished.
4. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.4 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services.

B. Inspect and test questionable coated areas.

3.5 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Collect waste material which may constitute fire hazard, place in closed metal containers, and remove daily from site.

3.6 SCHEDULE - EXTERIOR SURFACES

A. Wood - Transparent:
1. Two coats of stain/preservative.

B. Wood - Shingles and Shakes:
1. Two coats of stain/preservative.

C. Wood Timber Members:
1. Two coats of stain/preservative.

D. Steel - Unprimed:
1. One coat of alkyd primer.
2. Two coats of alkyd enamel, gloss.

E. Steel - Shop Primed:
1. Touch-up with zinc chromate or zinc rich primer.
2. Two coats of alkyd enamel, gloss.

3.7 SCHEDULE - INTERIOR SURFACES

A. Wood - Painted:
1. One coat of alkyd prime sealer.
2. Two coats of alkyd enamel, semi-gloss.

B. Wood - Transparent:
1. Filler coat (for open grained wood only).
2. One coat of stain.
3. One coat sealer.

C. Gypsum Board Walls:
   1. One coat of alkyd primer sealer.
   2. Two coats of alkyd enamel, semi-gloss.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 10210

LOUVERS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes louvers, frames, and accessories.

1.2 REFERENCES

A. AMCA 500 (Air Movement and Control Association) - Test Method for Louvers, Dampers, and Shutters.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot-Dip Process.

C. ASTM A666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

D. ASTM B209/B209M - Standard Specification for Aluminum-Alloy Sheet and Plate.

E. ASTM B221/B221M - Standard Specification for Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.

F. UL (Underwriters Laboratories, Inc.) - Electrical Construction Materials Directory.

1.3 SUBMITTALS

A. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, tolerances; head, jamb and sill details; blade configuration, screens, blankout areas required, and frames and wiring diagrams.

B. Product Data: Submit data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout Procedures.

B. Operation and Maintenance Data: Submit Operation and Maintenance Data.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with AMCA Certification for louvers, in accordance with AMCA 500.

B. Conform to applicable code for closing operable louvers in conjunction with the fire and smoke alarm system.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc., as suitable for the purpose specified and indicated.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.7 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.8 COORDINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Coordinate the Work with installation of siding, masonry and flashings.

C. Coordinate the Work with installation of mechanical ductwork and electrical services to motorized devices.

1.9 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Provide twenty-year manufacturer warranty for louvers.

C. Warranty: Include coverage for degradation of finish.

PART 2 PRODUCTS

2.1 EXTRUDED ALUMINUM WIND DRIVEN RAIN RESISTANT STATIONARY LOUVERS

A. Manufacturer:
   1. Ruskin EME737 Wind Driven Rain Resistant Stationary Louver or equal.

B. Fabrication:
   1. Performance Ratings: AMCA licensed.
   2. Frame: Double Frame Design
      a. Material: Extruded aluminum, Alloy 6063-T6.
      b. Wall Thickness: 0.081 inch, nominal.
      c. Frame Depth: 7 inches.
      d. Downspouts and caulking surfaces.
   3. Blades:
      a. Style: Horizontal sinusoidal
      b. Material: Formed aluminum, Alloy 6063-T6.
      c. Wall Thickness: 0.081 inch, nominal.
      d. Exterior Blade Depth: 4 inches
      e. Exterior Blade Angle: 37.5 degrees
      f. Exterior Blade Centers: 4.75 inches
      g. Interior Blade Depth: 3 inches
      h. Interior Blade Centers:2.375 inches, alternating with full depth blades
   4. Bird Screen:
      a. Material: Aluminum, expanded, flattened, 5/8 inch mesh x 0.040 inch.
      b. Frame: Removable and rewireable.

5. Vertical Supports: Hidden vertical supports to allow continuous line appearance up to 120 inches. Continuous blade style with visible mullions or frames at the perimeter of the louver only.
6. Sill: Steeply angled integral sill eliminating areas of standing or trapped moisture where mold or mildew may thrive and effect indoor air quality.
7. Assembly: Factory assemble louver components. All welded construction.

C. Performance Data:
1. Based on testing 48 inch x 48 inch size unit in accordance with AMCA 500.
2. Free Area: 45 percent, nominal.
3. Wind Driven Rain Resistance: Based on testing of 39 inch by 39 inch core area, 41 inch by 44 inch nominal size unit in accordance with AMCA 500-L.
4. 29 MPH wind velocity, 3 inches/hr rainfall rate.
5. Core Velocity: 745 fpm
6. Water Resistance Effectiveness: 99.3 percent, AMCA Class A.
7. Airflow: 3988 cfm
8. Discharge Loss Class 2
9. Maximum Pressure Drop: 0.12 inches w.g.
10. Structural supports shall support wind loads of 50 lbs/sf

D. Accessories:
1. Extended Sills: Extruded aluminum, Alloy 6063-T5. Minimum nominal wall thickness 0.060 inch.
2. Visible Mullions: Manufacturer's standard horizontal or vertical visible mullions for architectural accent as indicated on drawings.

E. Factory Finish:
1. Fluoropolymer Coating:
   a. Conform to AAMA 605.2.
   b. Apply coating following cleaning and pretreatment.
   c. Cleaning: AA-C12C42R1X.
   d. Dry louvers before final finish application.
   e. Total Dry Film Thickness: Approximately 1.2 mils, when baked at 450 degrees F for 10 minutes.
2. Prime Coat:
   a. Apply alkyd prime coat following chemical cleaning and pretreatment.
3. Color for Fluoropolymer Coating: Color as selected by Architect from manufacturer's standard colors.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify prepared openings and flashings are ready to receive Work and opening dimensions are as instructed by the louver manufacturer.

C. Verify that electric power is available and of the correct characteristics.

3.2 INSTALLATION

A. Install louvers level and plumb.

B. Install flashings and align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.

C. Secure louvers in opening framing with concealed fasteners for maintenance purposes.

D. Install bird screen and frame to exterior or interior of louver.

E. Install bird screens to exhaust and intake louvers.

F. Install perimeter sealant in accordance with Section 07900.

3.3 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust operable louvers for freedom of movement of control mechanism. Lubricate operating joints.

3.4 CLEANING

A. Section 01700 - Execution Requirements - Final cleaning.

B. Strip protective finish coverings.

C. Clean surfaces and components.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 10523

FIRE EXTINGUISHERS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes fire extinguishers; fire extinguisher cabinets; and brackets for wall mounting.

1.2 REFERENCES

A. NFPA 10 (National Fire Protection Association) - Standard for Portable Fire Extinguishers.

B. UL (Underwriters Laboratories, Inc.) - Fire Protection Equipment Directory.

1.3 PERFORMANCE REQUIREMENTS

A. Conform to NFPA 10.

B. Provide extinguishers classified and labeled by Underwriters Laboratories Inc. for purpose specified and indicated.

C. Provide fire extinguisher cabinets classified and labeled by Underwriters Laboratories Inc.

1.4 SUBMITTALS

A. Product Data: Submit extinguisher operational features, color and finish and anchorage details.

1.5 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Operation and Maintenance Data: Submit test, refill or recharge schedules and re-certification requirements.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements: Environmental conditions affecting products on site.

B. Do not install extinguishers when ambient temperature is capable of freezing extinguisher ingredients.

PART 2 PRODUCTS

2.1 FIRE EXTINGUISHERS

A. Dry Chemical Type: Steel tank, with pressure gage; Class A:B:C, Size 10; quantity as shown on drawings.

B. Extinguisher Finish: Baked enamel factory finish.

2.2 ACCESSORIES

A. Extinguisher Brackets: Painted steel.

B. Hardware: Painted steel.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify rough openings for cabinet are correctly sized and located.

3.2 INSTALLATION

A. Secure rigidly in place.

B. Place extinguishers and accessories on wall brackets.

C. Position signage as required by authorities having jurisdiction.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 10999

CLOCK

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Tower Clock Components and Remote Control System.

B. Related Sections
1. Basic Materials and Methods: All raceways, junction boxes, and conduit wire to be provided by electrical contractor.

PART 2 PRODUCTS

2.1 CLOCKS

A. Furnish complete clock system consisting of (1) tower clocks and (1) remote control system.

B. Manufacturer: Electric Time Company, Inc., 97 West Street, Medfield, MA, USA (508)-359-4396/(800)-531-2562 FAX (508)-359-4482 - http://www.electricitme.com - sales@electrictime.com

C. Tower Clock Components
1. Dial:
a. Aluminum.
2. Finishes:
a. Dial markings, trim ring and hands to have a black polyurethane finish. Background to have an off-white painted finish. Other standard colors available which are: medium or dark bronze (matches Duranodic #312 & #313), off-white, bright white, matte-black, satin aluminum, forest green, red or gold.
3. Hands:
a. “CS” design
4. Dial Markings:
a. “TI” design
5. Movement:
a. Style MI Design. 24VAC drive motor and electronics. 8 second maximum run time. Alternating hall effect switched closed loop minute impulse operation. Composite lubrication free bearings. Single source: Clock and movement to be manufactured by the same company.
6. Ring:
a. Aluminum trim ring.
7. Style:
a. Style WP-N-1142-MI Design

D. Provide Type 99B-MI automatic reset control;
1. IP65 Enclosure – Indoor & Outdoor Use

2. Automatically resets clock after power failures.
3. Automatically resets clocks for daylight savings time (if required)
4. Precision Quartz Time base 4 minutes per year maximum drift.
5. Optional GPS – no drift.
6. Built in 100 year daylight savings time calendar.
7. 2 Line 16 character backlighted LCD display.
8. ETL listed to UL 863.
9. Power Failure Event logging.
10. Standard MI output – 4 clocks maximum standard
11. Standard 24VDC RP output -20 clocks maximum
12. Sweep Second hand output
13. Hour Strike Capability.
14. RS-232 and RS-485 output ports
15. 24 VAC hour strike output – configurable pulse output

PART 3 EXECUTION

3.1 INSTALLATION

A. Inspect substrates, supporting items and related conditions, to ensure that they are ready to receive each item, prior to commencement of installation.

B. Install each item at locations indicated on drawings, as detailed, and in accordance with manufacturers' instructions.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 12355

CASEWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section includes cabinets and counter tops and casework hardware.

1.2 REFERENCES

A. American National Standards Institute:
   1. ANSI A156.9 - Cabinet Hardware.
   2. ANSI A161.1 - Performance and Construction Standard for Kitchen and Vanity Cabinets.

B. Kitchen Cabinet Manufacturers Association:
   1. KCMA - Directory of Certified Cabinet Manufacturers.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal requirements.

B. Shop Drawings: Indicate casework locations, large scale plans, elevations, rough-in and anchor placement dimensions and tolerances, and clearances required.

C. Product Data: Submit component dimensions, configurations, construction details and joint details.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with ANSI A161.1 and KCMA certification.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 RESIDENTIAL CASEWORK

A. Manufacturers:
   1. Aristokraft, Inc.
   2. Kraftmaid Cabinetry Inc.
   3. Mastercraft Industries, Inc.
   4. Wood-Mode Fine Custom Cabinetry Model.
   5. Substitutions: Section 01600 - Product Requirements.

2.2 COMPONENTS

A. Cabinet Construction: Softwood lumber framing and particle board. Solid red oak face frame.

B. Counter Top: Post formed plastic laminate over particle board, coved to back splash.

C. Side Splash: Plastic laminate over particle board, square internal intersections to back splash and top surface, contoured to suit counter top profile.

D. Door and Drawer Fronts: Solid wood; Red oak.

E. Bolts, Nuts, Washers and Screws: Of size and type to suit application.

F. Concealed Joint Fasteners: Threaded steel.

2.3 HARDWARE COMPONENTS

A. Hardware: Manufacturer's standard.

B. Shelf Standards and Rests: Vertical chrome steel standards with rubber button fitted steel rests.

C. Drawer and Door Pulls: Chrome handles on 4 inch centers.

D. Catches: Mechanical catch.

E. Drawer Slides: Extension arms, steel and ball bearing construction.

F. Hinges: Concealed.

G. Door Bumpers: Resilient plastic with adhesive back; brown color.

2.4 FABRICATION

A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.

B. Fabricate corners and joints without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.

C. Fabricate each unit rigid, not dependent on adjacent units for rigidity.

D. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.

E. Form edges smooth. Form material for counter tops, facing, and shelves from continuous sheets.

F. Provide cutouts for plumbing fixture. Prime paint contact surfaces of cut edges.

G. When necessary to cut and fit on site, furnish materials with ample allowance for cutting. Furnish trim for scribing and site cutting.

2.5 SHOP FINISHING

A. Exposed To View Surfaces: Stain, seal, and varnish of clear color as selected.

B. Interior Surfaces: Plastic Laminate of white color.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01700 - Administrative Requirements: Coordination and project conditions.

B. Verify adequacy of support framing.

3.2 INSTALLATION

A. Install casework, components and accessories.

B. Use anchoring devices to suit conditions and substrate materials encountered.

C. Set casework items plumb and square, securely anchored to building structure.

D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Use filler strips; not additional overlay trim for this purpose.

E. Close ends of units, back splashes, shelves and bases.

3.3 ADJUSTING

A. Section 01700 - Execution and Closeout Requirements: Testing, adjusting, and balancing.

B. Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly.

3.4 CLEANING

A. Section 01700 - Execution and Closeout Requirements: Final cleaning.

B. Clean casework, counters, shelves, and hardware.

3.5 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution and Closeout Requirements: Protecting installed construction.

B. Do not permit finished casework to be exposed to continued construction activity.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 15060

HANGERS AND SUPPORTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Pipe hangers and supports.
2. Hanger rods.
3. Sleeves.
4. Formed steel channel.
5. Firestopping relating to mechanical work.
6. Firestopping accessories.

B. Related Sections:
1. Section 15105 – Pipe and Tubes: Execution requirements for placement of hangers and supports specified by this section.
2. Section 15080 – Mechanical Insulation: Execution requirements for placement of hangers and supports specified by this section.

1.2 REFERENCES

A. American Society of Mechanical Engineers:
1. ASME B31.1 - Power Piping.
2. ASME B31.9 - Building Services Piping.

B. ASTM International:
1. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
2. ASTM E119 - Method for Fire Tests of Building Construction and Materials.
3. ASTM E814 - Test Method of Fire Tests of Through Penetration Firestops.
4. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
5. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems.

C. American Welding Society:
1. AWS D1.1 - Structural Welding Code - Steel.

D. Manufacturers Standardization Society of the Valve and Fittings Industry:
1. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
2. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
3. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.

E. Underwriters Laboratories Inc.:
1. UL 263 - Fire Tests of Building Construction and Materials.
2. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
3. UL 1479 - Fire Tests of Through-Penetration Firestops.
4. UL 2079 - Tests for Fire Resistance of Building Joint Systems.
5. UL - Fire Resistance Directory.

F. Intertek Testing Services (Warnock Hersey Listed):

1. WH - Certification Listings.

1.3 DEFINITIONS

A. Firestopping (Through-Penetration Protection System): Sealing or stuffing material or assembly placed in spaces between and penetrations through building materials to arrest movement of fire, smoke, heat, and hot gases through fire rated construction.

1.4 SYSTEM DESCRIPTION

A. Firestopping Materials: ASTM E119 ASTM E814 UL 263 UL 1479 to achieve fire ratings as noted on Drawings for adjacent construction, but not less than 1 hour fire rating.

B. Firestop interruptions to fire rated assemblies, materials, and components.

1.5 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate system layout with location including critical dimensions, sizes, and pipe hanger and support locations and detail of trapeze hangers.

C. Product Data:
1. Hangers and Supports: Submit manufacturers catalog data including load capacity.
2. Firestopping: Submit data on product characteristics, performance and limitation criteria.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept materials on site in original factory packaging, labeled with manufacturer's identification.

C. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements: Environmental conditions affecting products on site.

B. Do not apply firestopping materials when temperature of substrate material and ambient air is below 60 degrees F.

C. Maintain this minimum temperature before, during, and for minimum 3 days after installation of firestopping materials.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

PART 2 PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

A. Hanger material interior locations shall be galvanized (electroplated) steel. Hanger material for exterior locations shall be stainless steel.

B. Gas and Exhaust Piping:
1. Conform to ASME B31.9.
2. Hangers for Pipe Sizes 1/2 inch and Larger: Carbon steel, adjustable, clevis. B-Line, B3100 or equal.
3. Vertical Support: Pipe strap, B-Line B3180 or equal.
4. Generator Exhaust: Adjustable steel yoke pipe roll, B-Line B3110, or equal.
5. Generator Muffler: Adjustable steel yoke pipe roll, B-Line B3110, or equal.

2.2 ACCESSORIES

A. Hanger Rods: Galvanized steel continuous threaded.

2.3 SLEEVES

A. Sleeves for Rectangular Ductwork: Galvanized steel.

B. Sealant: Acrylic.

2.4 FORMED STEEL CHANNEL

A. Product Description:
1. Interior areas - Galvanized 12 gage thick steel, 1 5/8 strut channel with holes 1-1/2 inches on center.
2. Exterior areas – 304 stainless steel, 12 gage thick, 1 5/8” strut channel.

2.5 FIRESTOPPING

A. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
1. Silicone Firestopping Elastomeric Firestopping: Single component silicone elastomeric compound and compatible silicone sealant.
2. Foam Firestopping Compounds: Single component foam compound.
3. Formulated Firestopping Compound of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.
4. Fiber Stuffing and Sealant Firestopping: Composite of mineral fiber stuffing insulation with silicone elastomer for smoke stopping.
5. Mechanical Firestopping Device with Fillers: Mechanical device with incombustible fillers and silicone elastomer, covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
6. Intumescent Firestopping: Intumescent putty compound which expands on exposure to surface heat gain.
7. Firestop Pillows: Formed mineral fiber pillows.

B. Color: Dark gray as selected from manufacturer's full range of colors.

2.6 FIRESTOPPING ACCESSORIES

A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces and suitable for required fire ratings.

B. Dam Material: Permanent:
1. Sheet metal.

C. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.

D. General:
1. Furnish UL listed products or products tested by independent testing laboratory.
2. Select products with rating not less than rating of wall or floor being penetrated.

E. Non-Rated Surfaces:
1. Stamped steel, chrome plated, hinged, split ring escutcheons or floor plates or ceiling plates for covering openings in occupied areas where piping is exposed.
2. For exterior wall openings below grade, furnish mechanical sealing device to continuously fill annular space between piping and cored opening or water-stop type wall sleeve.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify openings are ready to receive sleeves.

C. Verify openings are ready to receive firestopping.

3.2 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter affecting bond of firestopping material.

B. Remove incompatible materials affecting bond.

C. Do not drill or cut structural members.

3.3 INSTALLATION - PIPE HANGERS AND SUPPORTS

A. Install in accordance with ASME 31.9.

B. Support horizontal piping as scheduled.

C. Install hangers with minimum 1/2 inch space between finished covering and adjacent work.

D. Place hangers within 12 inches of each horizontal elbow.

E. Use hangers with 1-1/2 inch minimum vertical adjustment.

F. Where piping is installed in parallel and at same elevation, provide multiple pipe or trapeze hangers.

G. Support riser piping independently of connected horizontal piping.

H. Design hangers for pipe movement without disengagement of supported pipe.

I. Provide clearance in hangers and from structure and other equipment for installation of insulation. Refer to Section 15080b.

J. Support horizontal piping as scheduled, refer to Section 15071b for seismic restraint hanging guidelines.

3.4 INSTALLATION - FIRESTOPPING

A. Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, ductwork, and other items, requiring firestopping.

B. Apply primer where recommended by manufacturer for type of firestopping material and substrate involved, and as required for compliance with required fire ratings.

C. Apply firestopping material in sufficient thickness to achieve required fire and smoke rating,to uniform density and texture.

D. Fire Rated Surface:
1. Seal opening at wall, partition, and roof as follows:
   a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
   b. Size sleeve allowing minimum of 1 inch void between sleeve and building element.
   c. Pack void with backing material.
   d. Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated.
2. Where conduit, penetrates fire rated surface, install firestopping product in accordance with manufacturer's instructions.

E. Non-Rated Surfaces:
1. Seal opening through non-fire rated wall, partition floor, ceiling, and roof opening as follows:
   a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
   b. Size sleeve allowing minimum of 1 inch void between sleeve and building element.
   c. Install type of firestopping material recommended by manufacturer.
2. Install escutcheons floor plates or ceiling plates where conduit, penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling.

3. Exterior wall openings below grade: Assemble rubber links of mechanical sealing device to size of piping and tighten in place, in accordance with manufacturer's instructions.
4. Interior partitions: Seal pipe penetrations at computer rooms, telecommunication rooms and data rooms. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.

3.5 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements 01700 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

B. Inspect installed firestopping for compliance with specifications and submitted schedule.

3.6 CLEANING

A. Section 01700 - Execution Requirements: Requirements for cleaning.

B. Clean adjacent surfaces of firestopping materials.

3.7 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Requirements for protecting finished Work.

B. Protect adjacent surfaces from damage by material installation.

3.8 SPACING SCHEDULES

A. Copper and Steel Pipe Hanger Spacing

Pipe Size Inches	**Copper Tubing Maximum Hanger Spacing** Feet	**Steel Pipe Maximum Hanger Spacing** Feet	**Copper Tubing Hanger Rod Diameter** Inches	**Steel Pipe Hanger Rod Diameter** Inches
1/2	5	7	3/8	3/8
3/4	5	7	3/8	3/8
1	6	7	3/8	3/8
1-1/4	7	7	3/8	3/8
1-1/2	8	9	3/8	3/8
2	8	10	3/8	3/8
2-1/2 (Note 2)	9	11	1/2	1/2
3	10	12	1/2	1/2
4	12	14	1/2	5/8
5	13	16	1/2	5/8
6	14	17	5/8	3/4
8	16	19	3/4	3/4

B. Note 2: 20 feet maximum spacing, minimum of one hanger for each pipe section close to joint behind bell. Provide hanger at each change of direction and each branch connection. For pipe sizes 6 inches and smaller, subjected to loadings other than weight of pipe and contents, limit span to maximum spacing for water service steel pipe.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 15080

MECHANICAL INSULATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. HVAC ductwork insulation, jackets, and accessories.
2. Generator exhaust insulation, jackets, and accessories.
3. Condensate Insulation
4. Heat Trace System

1.2 REFERENCES

A. ASTM International:
1. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
2. ASTM C195 - Standard Specification for Mineral Fiber Thermal Insulating Cement.
3. ASTM C449/C449M - Standard Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement.
4. ASTM C450 - Standard Practice for Fabrication of Thermal Insulating Fitting Covers for NPS Piping, and Vessel Lagging.
5. ASTM C534 - Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
6. ASTM C553 – Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
7. ASTM C585 - Standard Practice for Inner and Outer Diameters of Rigid Thermal Insulation for Nominal Sizes of Pipe and Tubing (NPS System).
8. ASTM C921 - Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation.
9. ASTM C1071 - Standard Specification for Thermal and Acoustical Insulation (Glass Fiber, Duct Lining Material).
10. ASTM C1136 - Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation.
11. ASTM C1290 - Standard Specification for Flexible Fibrous Glass Blanket Insulation Used to Externally Insulate HVAC Ducts.
12. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
13. ASTM E162 - Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source.

B. Sheet Metal and Air Conditioning Contractors’:
1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

C. Underwriters Laboratories Inc.:
1. UL 1978 - Standard for Safety for Grease Ducts.

1.3 SUBMITTALS

A. Section 01330 – Submittal Procedures: Submittal Procedures.

B. Product Data: Submit product description, thermal characteristics and list of materials and thickness for each service, and location.

C. Manufacturer's Installation Instructions: Submit manufacturers published literature indicating proper installation procedures.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. Factory fabricated fitting covers manufactured in accordance with ASTM C450.

B. Duct insulation, Coverings, and Linings: Maximum 25/50 flame spread/smoke developed index, when tested in accordance with ASTM E84, using specimen procedures and mounting procedures of ASTM E 2231.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Applicator: Company specializing in performing Work of this section with minimum three years documented experience.

1.6 PRE-INSTALLATION MEETINGS

A. Section 01300 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.

C. Protect insulation from weather and construction traffic, dirt, water, chemical, and damage, by storing in original wrapping.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements: Environmental conditions affecting products on site.

B. Install insulation only when ambient temperature and humidity conditions are within range recommended by manufacturer.

C. Maintain temperature before, during, and after installation for minimum period of 24 hours.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

PART 2 PRODUCTS

2.1 DUCTWORK INSULATION

A. ASTM C1290; mineral wool fiber blanket thermal insulation. Formaldehyde free type.
1. Operating Temperature: 250°F.
2. Density 1.0 pound per cubic foot.
3. “K” Factor: ASTM C518, 0.25 at 75°F.
4. Installed R Value: 6.3.

2.2 DUCTWORK INSULATION JACKETS

A. Vapor Retarder Jacket: ASTM 1136, Type II flexible and low permeance vapor retarders.
1. Kraft paper with glass fiber yarn and bonded to aluminized film.
2. Water Vapor Permeance: ASTM E96/E96M; 0.02 perms.
3. Secure with pressure sensitive tape.

2.3 DUCTWORK INSULATION ACCESSORIES

A. Vapor Retarder Tape:
1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive rubber based adhesive.

B. Vapor Retarder Lap Adhesive: Compatible with insulation.

C. Adhesive: Waterproof, ASTM E162 fire-retardant type.

D. Tie Wire: 0.048 inch stainless steel with twisted ends on maximum 12 inch centers.

E. Lagging Adhesive: Fire retardant type with maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

F. Impale Anchors: Galvanized steel, 12 gage self-adhesive pad.

G. Adhesives: Compatible with insulation.

H. Membrane Adhesives: As recommended by membrane manufacturer.

2.4 ENGINE EXHAUST INSULATION (MUFFLER & PIPE)

A. Calcium silicate block and pipe thermal insulation: ASTM C533, Type II for use on surfaces up to 1200°F.

2.5 ENGINE EXHAUST INSULATION JACKETS

A. Aluminum Pipe Jacket.
1. ASTM B209.
2. Thickness: 0.025 inch thick sheet.
3. Finish: Smooth.
4. Joining: Longitudinal slip joints and 2" laps.
5. Fittings: 0.016 inch thick, die shaped covers with factory attached protective liner.
6. Metal Jacket bands: 3/8 inch wide, 0.016 inch thick aluminum.

2.6 EXHAUST INSULATION ACCESSORIES

A. Tie Wire: 0.048 inch stainless steel with twisted ends on maximum 2" centers.

2.7 EXHAUST TURBOCHARGER INSULATION AND JACKETS

A. Custom fit thermal blanket wrap designed to retain radiant heat and improve surrounding work environment. Insulation and jacket shall be designed for a maximum service temperature of 1100°F.

B. Outer jacketing shall be constructed of type 304 stainless steel knitted wire mesh (0.011" diameter at 16 sf/lb) and silicone impregnated fiberglass cloth. The inner jacketings layer shall be constructed same as above except with a plain fiberglass cloth.

C. Insulation material shall be 11 PCF fiberglass needled mat, type E fiber. The mat shall be encapsulated by the mesh and cloth jackets, stapled together.

D. Blanket shall be stapled using 3/8" morel bevel type at the seams. Fasteners shall be 20 gauge stainless steel wire, doubled up and twisted in a spiral fashion.

E. Product specifications:
1. Core Blanket: ASTM C1086-88-standard specification for glass fiber felt thermal insulation, service temperature up to 1200°F.
2. Jacketing Material: As discussed above.
3. Operating Temperature: 1100°F
a. Thickness: 2.5".
b. Surface Temperature: 188°F.

2.8 PIPE INSULATION

A. Condensate Piping: ASTM C534, Type I, flexible, closed cell elastomeric insulation, tubular.
1. Thermal Conductivity: 0.27 at 75 degrees F.
2. Operating Temperature Range: Minus 70 to 180 degrees F.
3. Thickness: 1” minimum (increase thickness to accommodate heat tracing cabling).

2.9 PIPE INSULATION JACKETS

A. Vapor Retarder Jacket:
1. ASTM C921, white Kraft paper with glass fiber yarn, bonded to aluminized film.
2. Water Vapor Permeance: ASTM E96/E96M; 0.02 perms.

2.10 PIPE INSULATION ACCESSORIES

A. Vapor Retarder Lap Adhesive: Compatible with insulation.

B. Covering Adhesive Mastic: Compatible with insulation.

C. Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement: ASTM C449/C449M.

D. Insulating Cement: ASTM C195; hydraulic setting on mineral wool.

E. Adhesives: Compatible with insulation.

2.11 ELECTRIC SELF-REGULATING HEAT TRACE SYSTEM

A. The electric heat trace system shall be FLX self-regulating heating cable with over jacket protection, manufactured by Thermon, The Heat Tracing Specialists (www.thermon.com) or equal.

B. System shall be designed and furnished for the specific application and installation conditions. The heat trace shall utilize one (5 watt per foot) 5-FLX-1 circuit. System shall be controlled by an ambient sensor (Thermon B4X-15140 or equal).

C. Upon receiving the heating cable inspect the cable for any damage incurred during shipment and test the cable with at least a 500 Vdc megohmmeter (megger) between the heating cable bus wires and the heating cable metallic braid to ensure electrical integrity.

D. Install the heating cable in accordance with the manufacturers written instructions. Before making power connections, repeat the megger test with at least a 500Vdc megohmmeter (megger) between the heating cable bus wires and the heating cable metallic braid to ensure compliance with the manufacturers minimum acceptable levels for the megger reading.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify piping, equipment and ductwork has been tested before applying insulation materials.

C. Verify surfaces are clean and dry, with foreign material removed.

3.2 INSTALLATION - PIPING SYSTEMS

A. Piping Exposed to View in Finished Spaces: Locate insulation and cover seams in least visible locations.

B. Hot Piping Systems:
   1. Furnish factory-applied or field-applied standard jackets. Secure with outward clinch expanding staples or pressure sensitive adhesive system on standard factory-applied jacket and butt strips or both.

C. Inserts and Shields:
   1. Piping Supported by Roller Type Pipe Hangers: Install galvanized steel shield between roller and inserts.

D. Exhaust Pipe Exposed: Finish aluminum jacket and fitting covers.

3.3 INSTALLATION - EQUIPMENT

A. Factory Insulated Equipment: Do not insulate.

B. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor retarder cement.

C. Nameplates and ASME Stamps: Bevel and seal insulation around; do not cover with insulation.

D. Equipment Requiring Access for Maintenance, Repair, or Cleaning: Install insulation for easy removal and replacement without damage.

3.4 INSTALLATION - DUCTWORK SYSTEMS

A. Duct dimensions indicated on Drawings are finished inside dimensions.

B. Insulated ductwork conveying air below ambient temperature:
   1. Provide insulation with vapor retarder jackets.
   2. Finish with tape and vapor retarder jacket.
   3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
   4. Insulate entire system including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.

C. Insulated ductwork conveying air above ambient temperature:
1. Provide with or without standard vapor retarder jacket.
2. Insulate fittings and joints. Where service access is required, bevel and seal ends of insulation.

D. External Glass Fiber Duct Insulation:
1. Secure insulation with vapor retarder with wires and seal jacket joints with vapor retarder adhesive or tape to match jacket.
2. Secure insulation without vapor retarder with staples, tape, or wires.
3. Install without sag on underside of ductwork. Use adhesive or mechanical fasteners where necessary to prevent sagging. Lift ductwork off trapeze hangers and insert spacers.
4. Seal vapor retarder penetrations by mechanical fasteners with vapor retarder adhesive.
5. Stop and point insulation around access doors and damper operators to allow operation without disturbing wrapping.

3.5 SCHEDULES

A. Ductwork Insulation Thickness Schedule:

DUCTWORK SYSTEM	INSULATION THICKNESS inches
Dedicated Cooling Unit	2.0
Generator Transitions	2.0

B. Piping and Exhaust Thickness Schedule:

PIPING AND EXHAUST SYSTEM	INSULATION THICKNESS inches
Generator Exhaust Piping and Muffler	3.0
Generator Turbocharger	2.5

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 15105

PIPES AND TUBES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes pipe and pipe fittings for: LPG piping, generator exhaust, fuel oil venting, and condensate piping.

1.2 REFERENCES

A. ASME (American Society of Mechanical Engineers) - Boiler and Pressure Vessel Codes, SEC IX - Qualification Standard for Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators.

B. ASME B16.3 (American Society of Mechanical Engineers) - Malleable Iron Threaded Fittings Class 50 and 300.

C. ASME B16.18 (American Society of Mechanical Engineers) - Cast Copper Alloy Solder Joint Pressure Fittings.

D. ASME B16.22 (American Society of Mechanical Engineers) - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.

E. ASME B16.26 (American Society of Mechanical Engineers) - Cast Copper Alloy Fittings For Flared Copper Tubes.

F. ASME B31.1 (American Society of Mechanical Engineers) - Power Piping.

G. ASME B31.9 (American Society of Mechanical Engineers) - Building Services Piping.

H. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.

I. ASTM A234 - Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.

J. ASTM B32 - Solder Metal.

K. ASTM B88 - Seamless Copper Water Tube.

L. ASTM F708 – Design and Installation of Rigid Pipe Hangers.

1.3 SYSTEM DESCRIPTION

A. Where more than one piping system material is specified, provide compatible system components and joints. Provide flanges, union, and couplings at locations requiring servicing.

B. Use unions, flanges, and couplings downstream of valves and at equipment or apparatus connections. Use non-conducting dielectric connections whenever jointing dissimilar metals in open systems. Do not use direct welded or threaded connections to valves, equipment or other apparatus.

C. Provide pipe hangers and supports in accordance with ASME B31.1 unless indicated otherwise.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit data on pipe materials and fittings. Submit manufacturers catalog information.

PART 2 PRODUCTS

2.1 LPG GAS, FUEL OIL VENT, AND ENGINE EXHAUST PIPING, ABOVE GRADE

A. Steel Pipe: ASTM A53, Schedule 40 black.
1. Fittings: ASME B16.3, malleable iron, or ASTM A234 forged steel welding type.
2. Joints: Threaded 2 ½" and smaller, welded 3" and larger.
3. Exterior Fuel Oil Vent Cap: 2" NPT, anodized aluminum body, #40 brass mesh screen
4. Generator Wall Thimble: DME Incorporated, Insulated Wall Thimble for 3" schedule 40 steel exhaust pipe. Built in pipe guides and insulation rated for 2300 degrees F. Steel flanges (interior and exterior) and inner/outer pipe design. Factory painted with high temperature black enamel. Meet or exceed NFPA 37 requirements.

2.2 EQUIPMENT DRAINS AND OVERFLOWS

A. Copper Tubing: ASTM B88, Type L, hard drawn.
1. Fittings: ASME B16.18, cast brass, or ASME B16.22 solder wrought copper.
2. Joints: Solder, lead free, ASTM B32 95-5 tin-antimony, or tin and silver, with melting range 430 to 535 degrees F.

2.3 UNIONS, FLANGES, AND COUPLINGS

A. Unions for Pipe 2 inches and Under:
1. Ferrous Piping: 150 psig malleable iron, threaded.
2. Copper Pipe: Bronze, soldered joints.

B. Dielectric Connections: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

PART 3 EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.2 INSTALLATION

A. Install heating water piping in accordance with ASME B31.1.

B. Route piping parallel to building structure and maintain gradient.

C. Install piping to conserve building space, and not interfere with use of space.

D. Group piping whenever practical at common elevations.

E. Sleeve pipe passing through partitions, walls and floors.

F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

G. Slope piping and arrange systems to drain at low points.

H. Insulate piping; refer to Section 15080.

END OF SECTION

ESSEX COUNTY
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SECTION 15760

TERMINAL HEATING AND COOLING UNITS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Propane Unit heaters (UH-1)
2. Electric unit heaters (EH-1,2)
3. Dedicated Cooling Unit (DCU-1)

B. Related Sections:
1. Section 15080 - Mechanical Insulation: Execution requirements for insulation specified by this section.
2. Section 15810 - Ducts: Execution requirements for ducts specified by this section.

1.2 REFERENCES

A. Air-Conditioning and Refrigeration Institute:
1. ARI 410 - Forced-Circulation Air-Cooling and Air-Heating Coils.

B. Sheet Metal and Air Conditioning Contractors:
1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

C. American National Standards Institute:
1. ANSI Z83.8 - Gas Unit Heaters.

D. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
1. ASHRAE 90.1 - Energy Standard for Buildings Except Low-Rise Residential Buildings.

E. National Fire Protection Association:
1. NFPA 54 - National Fuel Gas Code.
2. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.
3. NFPA 90B - Standard for the Installation of Warm Air Heating and Air Conditioning Systems.
4. NFPA 211 - Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate cross sections of cabinets, grilles, bracing and reinforcing, and typical elevations. Indicate schedules of equipment and enclosures typically indicating length and number of pieces of element and enclosure, corner pieces, end caps, cap strips, access doors, pilaster covers

C. Product Data: Submit coil and frame configurations, dimensions, materials, rows, connections, and rough-in dimensions. Submit mechanical and electrical service locations, capacities and accessories or optional items.

D. Manufacturer's Installation Instructions: Submit assembly, support details, and connection requirements.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of components and locations of access doors in radiation cabinets required for access to valves.

C. Operation and Maintenance Data: Submit manufacturers descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listings.

1.5 QUALITY ASSURANCE

A. Gas-Fired Unit Heater Performance Requirements: Conform to minimum efficiency prescribed by ASHRAE 90.1 when tested in accordance with ANSI Z83.8.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Accept units on site in factory packing. Inspect for damage. Store under roof.

C. Protect coil fins from crushing and bending by leaving in shipping cases until installation, and by storing indoors. Protect coils from entry of dirt and debris with pipe caps or plugs.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer's warranty for unit heaters and dedicated cooling unit.

1.10 EXTRA MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Furnish five (5) sets of filters for dedicated cooling unit.

PART 2 PRODUCTS

2.1 GAS FIRED UNIT HEATERS (UH-1)

A. Manufacturers:
1. Reznor V3 Series, Model UDAS 45.
2. Substitutions: Section 01600 - Product Requirements

B. Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heat exchanger, burner, controls, and accessories: The unit shall have a factory-installed power venter dvice to draw combustion air from outside of the building. The outside air shall enter the unit through a factory-installed round inlet air terminal on the rear of the heater. The control compartment shall be sealed and the access door shall be gasketed to prevent dirt, lint, dust, or other contaminants present in the heated space from entering the unit. The control compartment door shall be equipped with a safety interlock switch to prevent operation when the door is open.
1. Heating fuel: Propane gas fired.

C. Cabinet: Galvanized steel, easily removed and secured access panels, insulated or double panel construction. All units will be equipped with a built-in disconnect switch. The cabinet shall be low profile with a pre-coat or powdercoat RAL 1001 white paint finish. The cabinet shall be constructed so that screws are not visible from the bottom, front, or sides, except for service panel and accessories. The unit shall be designed for ceiling suspension at both 2-point and 4-point locations with no additional adapter kits. The cabinet shall be equipped with painted, roll-formed horizontal louvers. Louvers shall be spring held and adjustable for directing airflow. The cabinet shall be equipped with a full safety fan guard with no more than ½ inch grill spacing. The (open dripproof) motor and fan assembly shall be resiliently mounted to the cabinet to reduce vibration and noise.

D. Supply Fan: Propeller Centrifugal forward curved type with direct belt drive, variable pitch motor pulley.

E. Heat Exchanger: The heater shall be equipped with a multi-cell, 4 pass serpentine style steel heat exchanger. Heat exchanger tubes shall be press fabricated of 409 stainless steel. All heat exchangers shall be fabricated with no welding or brazing, only tool pressed mechanical joints. All heat exchanger cells shall be designed with an aerodynamic cross section to provide maximum airflow.

F. Gas Burner: Separated combustion type. A single, one piece burner assembly with a single orifice. The burner shall have a continuous wound close pressed stainless steel ribbon separating the flame from the burner interior. All units shall have a single venture tube and orifice supplying fuel to a one-piece burner housing. Each heat exchanger cell shall use balanced draft induction to maintain optimum flame control.

G. Gas Burner Safety Controls: Controls shall include a (single-stage) gas valve; direct spark multi-try ignition with electronic flame supervision with 100% lockout integrally controlled via a printed circuit control board. The control board shall also incorporate diagnostic lights, DIP switches for fan overrun settings, and a relay for fan only operation. All units shall be equipped with a safety limit switch.
1. Thermocouple sensor: Prevents opening of gas valve until pilot flame is proven and stops gas flow on ignition failure.
2. Flame rollout switch: Installed on burner box and prevents operation.
3. Vent safety shutoff sensor: Temperature sensor installed on draft hood and prevents operation, manual reset.
4. Limit Control: Fixed stop at maximum permissible setting, de-energizes burner on excessive bonnet temperature, automatic reset.

H. Controls:
1. Room Thermostat: Adjustable, low voltage, to control burner operation, heater stages in sequence with delay between stages, and supply fan to maintain temperature setting.
2. Supply Fan Control: Energize either from discharge temperature independent of burner controls or with timed off delay and timed on delay. Furnish manual switch for continuous fan operation.

2.2 ELECTRIC UNIT HEATERS (EH-1,2)

A. Manufacturers:
1. Markel, TPI Corporation, UH Series, Model F3F.
2. Substitutions: Section 01600 - Product Requirements

B. Assembly: UL listed and labeled assembly with terminal box and cover, and built-in controls.

C. Heating Elements: Enclosed copper tube, aluminum finned element of coiled nickel-chrome resistance wire centered in tubes and embedded in refractory material. Exposed helical coil of nickel-chrome resistance wire with refractory ceramic support bushings.

D. Cabinet: 0.0478-inch thick steel with easily removed front panel with integral air outlet and inlet grilles.

E. Element Hangers: Quiet operating, ball bearing cradle type providing unrestricted longitudinal movement, on enclosure brackets.

F. Fan: Direct-drive propeller type, statically and dynamically balanced, with fan guard.

G. Motor: Permanently lubricated, sleeve bearings for horizontal models; ball bearings for vertical models.

H. Control: Separate fan speed switch and thermostat heat selector switch, factory wired, with switches built-in behind cover. Furnish thermal overload.

I. Electrical Characteristics:
1. 3.3 kW.
2. 208 volts, three phase, 60 Hz.
3. Disconnect Switch: Factory mount.

2.3 DEDICATED COOLING UNIT (DCU-1)

A. Manufacturers:
1. Bard Climate Control Solutions, Model Q-Tec, Q60A1.
2. Substitutions: Section 01600 - Product Requirements

B. Coils:
1. Type: DX cooling.
2. Copper tubes mechanically expanded into evenly spaced aluminum fins tested to operate at 150 psig. Furnish drain pan under cooling coil, easily removable for cleaning, with drain connection.
3. The evaporator and condenser coils shall have separate drain pans constructed of stainless steel to eliminate corrosion. The lower unit base servces as a secondary drain pan.

C. Electric Heating Coil: Enclosed copper tube, aluminum finned element of coiled nickel-chrome resistance wire centered in tubes and embedded in refractory material.

D. Cabinet: 20 gauge thick steel on solid base pan with exposed edges rounded. Furnish removable front panels with quick-acting, key-operated cam locks. Furnish removable die-cast or fabricated steel discharge grilles. Unit includes built-in rollers for each installation into wall sleeve and removal for service, if necessary. Front panel is hinged and lockable for filter service and access to primary functional electrical controls.

E. Insulation: Cabinet is fully insulated with foil covered, high density fiberglass insulation with sealed edge treatment and special sound deadening insulation material in the compressor section. All insulation is designed to resist mold and mildew growth and facilitate ease of cleaning

F. Finish: Factory apply enamel of gray color on visible surfaces of enclosure or cabinet.

G. Fans: Centrifugal forward-curved double-width wheels, statically and dynamically balanced, direct driven, arranged to draw air through coil.

H. Wall Sleeve: Wall sleeve shall be factory supplied and must be constructed of 16 gauge galvanized steel, coated with an epoxy primer and baked-on polyester enamel paint. It shall be designed to withstand a minimum of 1000 hours of salt spray protection when tested per ASTM B117-03 standard.

I. Motor: The indoor blower motor shall be a variable speed (ECM) type to produce the same rated air flow from 0 to .8 inch WC of external static pressure at low sound levels. The motor is to be self adjusting to provide proper rated air flow at high static pressures without user adjustment or wiring changes by the user. The motor shall be programmed for 20-second ramp up and 60-second down rate for quiet, smooth starting and stopping. PSC motor shall not be acceptable.

J. Air Cooled Condensing Unit: All models shall use a high efficiency scroll compressor for maximum efficiency and reliability. The compressor shall be covered by a 5-year parts warranty. The refrigeration circuit shall be equipped with factory installed high and low pressure controls, and liquid line filter dryer. The refrigeration control shall be a factory installed TXV. Refrigeration service ports shall be included and located with easy access. Refrigerant shall be R-410A. The condenser fan motor shall be a permanent split capacitor, outdoor motor with double oil capacity sleeve bearings and totally enclosed.

K. Control: The internal control circuit shall consist of a current limiting 24VAC type 50VA transformer. To prevent rapid compressor short cycling, a five-minute time delay circuit shall be factory installed. A low pressure bypass shall be factory installed to prevent nuisance tripping during low temperature start-up.

All units with 3-phase power shall include factory mounted phase rotation monitor. This device shall protect scroll compressor from reverse rotation and also protect unit from phase failure. If 3-phase power is incorrectly connected at the field power connections, the phase monitor shall lock out the unit and a red light will illuminate indicating incorrect phase. Also, if a power leg is lost, the phase monitor will lockout the unit due to phase imbalance. Once the condition is corrected, turning the power off at the circuit breaker or disconnect will reset the phase monitor.

L. Filter: Easily removed 1 inch thick glass fiber throw-away permanent washable type, located to filter air before coil.

M. Heating Capacity: As indicated on Drawings, based on 65 degrees F entering air temperature.

N. Electrical Characteristics: Circuit breaker/rotary disconnect access is through lockable access panel. Lock and key are provided as standard equipment. Unit shall have single point entry for line voltage.
1. 208 volts, three phase, 60 Hz.

O. Control System, Bard Telecom Climate Watch System, TCS24 or equal: Building monitoring and digital control system for use with one (1) dedicated telecommunication HVAC unit. Controller shall be factory assembled and wired direct digital controller.
   1. Control Specifications: Multi layer printed circuit boards with 16 bit microcontroller, battery backup, RS232 and RS485 communication ports, and input resolution of 10 bits. Controller shall include 16 universal inputs, 12 normally open relay outputs, 8, 0-10VDC analog outputs. Relay outputs shall be configured for maintained, momentary, or pulse width modulation operation, with or without interlocks. Outputs shall be rated for 5 amps at 24 volts.
   2. The controller shall include sensors for outdoor temperature, outdoor humidity, and indoor temperature.
   3. Interface shall be provided for onsite operation and shall consist of a display and keypad. The interface shall be stand alone and shall communicate with the controller via a RS485 bus. The display shall be touch screen, 32 character, LCD.
   4. Three levels of password protection shall be available. Each may be allowed varying levels of authority for system changes.
   5. Alarm Points: High and Low space temperature, blower failure, compressor lockout.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. For recessed units, verify recess dimensions are correct size.

C. Verify wall construction is ready for installation.

D. Verify ductwork is ready for installation.

E. Verify concealed blocking and supports are in place and connections are correctly located.

3.2 INSTALLATION

A. Install air coils in ducts and casings in accordance with SMACNA HVAC Duct Construction Standards, Metal and Flexible. Refer to Section 15810.

B. Install gas fired units to NFPA 54.

C. Support air coil sections independent of piping on steel channel or double angle frames and secure to casings. Furnish frames for maximum three coil sections. Arrange supports to avoid piercing drain pans. Install with airtight seal between coil and duct or casing.

D. Protect coils to prevent damage to fins and flanges. Comb out bent fins.

E. Install coils level. Install cleanable tube fluid coils and level frame steam coils with 1: 50 pitch.

F. Make connections to coils with unions and flanges.

G. Install insulation air coil casings. Refer to Section 15080.

H. Install drain pan and drain piping connection for cooling coils. Fabricate drain pan from 20 gage galvanized steel. Extend 3 inches from face of coil entering air side, 6 inches from face of coil leaving air side. and 4 inches from face of eliminators. Pipe drain pans individually to floor drain. with water seal trap. Refer to Section 15180.

I. Wire electric duct coils.

J. Install equipment exposed to finished areas after walls and ceilings are finished and painted. Avoid damage.

K. Protection: Install finished cabinet units with protective covers during remainder of construction.

L. Unit Heaters: Hang from building structure, with pipe hangers anchored to building, not from piping. Mount as high as possible to maintain greatest headroom unless otherwise indicated.

M. Cabinet Unit Heaters: Install at locations as indicated on Drawings. Coordinate to assure correct recess size for recessed units.

N. Dedicated Cooling Unit: Install at locations as indicated on Drawings. Install level and shim units, and anchor to structure. Coordinate exact location of wall louvers. Install shelving and auxiliary cabinetry. Install wall trim pieces for continuous wall-to-wall installation.

O. Units with Cooling Coils: Install drain piping to condensate drain.

P. Install electric heating equipment including devices furnished by manufacturer but not factory-mounted. Furnish copy of manufacturer's wiring diagram submittal. Install electrical wiring in accordance with manufacturer's submittals and Section 16150.

3.3 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. After construction is completed, including painting, clean exposed surfaces of units. Vacuum clean coils and inside of cabinets.

C. Touch-up marred or scratched surfaces of factory-finished cabinets, using finish materials furnished by manufacturer.

D. Install new filters.

END OF SECTION

ESSEX COUNTY
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SECTION 15810

DUCTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Duct Materials.
2. Ductwork fabrication.

B. Related Sections:
1. Section 15060 - Hangers and Supports: Product requirements for hangers, supports and sleeves for placement by this section.
2. Section 15820 - Duct Accessories: Product requirements for duct accessories for placement by this section.

1.2 REFERENCES

A. American Society for Testing and Materials:
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
2. ASTM A90/A90M - Standard Test Method for Weight Mass of Coating on Iron and Steel Articles with Zinc or Zinc-Alloy Coatings.
3. ASTM A167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
4. ASTM A366/A366M - Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.
5. ASTM A568/A568M - Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for.
6. ASTM A569/A569M - Standard Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled Sheet and Strip Commercial Quality.
7. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
9. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).

B. Sheet Metal and Air Conditioning Contractors:
1. SMACNA - HVAC Air Duct Leakage Test Manual.
2. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

C. Underwriters Laboratories Inc.:
1. UL 181 - Factory-Made Air Ducts and Connectors.

1.3 PERFORMANCE REQUIREMENTS

A. Variation of duct configuration or sizes other than those of equivalent or lower loss coefficient is not permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Submit duct fabrication drawings, indicating:
1. Fabrication, assembly, and installation details, including plans, elevations, sections, details of components, and attachments to other work.
2. Duct layout, indicating pressure classifications and sizes in plan view. For exhaust duct systems, indicate classification of materials handled as defined in this section.
3. Fittings.
4. Reinforcing details and spacing.
5. Seam and joint construction details.
6. Penetrations through fire rated and other walls.
7. Hangers and supports, including methods for building attachment, vibration isolation, and duct attachment. Refer to Sections 15060b and 15071b.

1.5 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with SMACNA - HVAC Duct Construction Standards - Metal and flexible.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

B. Installer: Company specializing in performing Work of this section with minimum three years experience.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not install duct sealant when temperatures are less than those recommended by sealant manufacturers.

C. Maintain temperatures during and after installation of duct sealant.

1.9 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.10 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for ducts.

PART 2 PRODUCTS

2.1 DUCT MATERIALS

A. Aluminum Ducts: ASTM B209; aluminum sheet, alloy 3003-H14. Aluminum Connectors and Bar Stock: Alloy 6061-T6 or of equivalent strength.

B. Fasteners: Rivets, bolts, or sheet metal screws, stainless steel in wet or corrosive areas.

C. Hanger Rod: ASTM A36 galvanized steel, continuously threaded. Stainless steel in hazardous areas.

2.2 DUCTWORK FABRICATION

A. Fabricate and support rectangular ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible and as indicated on Drawings. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

B. Fabricate and support round ducts with longitudinal seams in accordance with SMACNA HVAC Duct Construction Standards – Metal and Flexible (Round Duct Construction Standards), and as indicated on Drawings. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

C. Increase duct sizes gradually, not exceeding 15 degrees divergence where ever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify sizes of equipment connections before fabricating transitions.

3.2 INSTALLATION

A. Install and seal ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

B. During construction, install temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

C. Use crimp joints with or without bead or beaded sleeve couplings for joining round duct sizes 8 inches and smaller.

D. Install duct hangers and supports in accordance with Section 15060.

E. Use double nuts and lock washers on threaded rod supports.

F. Suspend ducts from unistrut system on wall or on ceiling as indicated on drawings. Provide hanging hardware compatible with duct material.

G. Provide flexible connections between fans and ducts.

3.3 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

END OF SECTION

ESSEX COUNTY
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SECTION 15820

DUCT ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Flexible duct connections.
   2. Opposed blade motorized dampers.

1.2 REFERENCES

A. Air Movement and Control Association International, Inc.:
   1. AMCA 500 - Test Methods for Louvers, Dampers, and Shutters.

B. ASTM International:
   1. ASTM E1 - Standard Specification for ASTM Thermometers.

C. National Fire Protection Association:
   1. NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.
   2. NFPA 92A - Recommended Practice for Smoke-Control Systems.

D. Sheet Metal and Air Conditioning Contractors:
   1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

E. Underwriters Laboratories Inc.:
   1. UL 555 - Standard for Safety for Fire Dampers.
   2. UL 555C - Standard for Safety for Ceiling Dampers.
   3. UL 555S - Standard for Safety for Smoke Dampers.

1.3 SUBMITTALS

A. Section 01330 – Submittal Procedures: Submittal Procedures.

B. Shop Drawings: Indicate for shop fabricated assemblies including volume control dampers duct access doors and duct test holes.

C. Product Data: Submit data for shop fabricated assemblies and hardware used.

D. Product Data: Submit for the following. Include where applicable electrical characteristics and connection requirements.
   1. Flexible duct connections.
   2. Opposed blade motorized dampers.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 – Execution Requirements: Closeout Procedures.

B. Project Record Documents: Record actual locations of access doors.

1.5 QUALITY ASSURANCE

A. Dampers tested, rated and labeled in accordance with the latest UL requirements.

B. Damper pressure drop ratings based on tests and procedures performed in accordance with AMCA 500.

C. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Division 01600 – Product Requirements: Product Storage and Handling Requirements.

B. Protect dampers from damage to operating linkages and blades.

C. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.

D. Storage: Store materials in a dry area indoor, protected from damage.

E. Handling: Handle and lift dampers in accordance with manufacturer's instructions. Protect materials and finishes during handling and installation to prevent damage.

1.8 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.9 COORDINATION

A. Section 01300 – Administrative Requirements: Coordination and project conditions.

B. Coordinate Work where appropriate with building control Work.

1.10 WARRANTY

A. Section 01700 – Execution Requirements: Product Warranties and Product Bonds.

PART 2 PRODUCTS

2.1 FLEXIBLE DUCT CONNECTIONS

A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated on Drawings.

B. Connector: Fabric crimped into metal edging strip.
1. Fabric: UL listed fire-retardant neoprene coated woven glass fiber fabric conforming to NFPA 90A, minimum density 30 oz per sq yd.
2. Net Fabric Width: Approximately 3 inches wide.
3. Metal: 3 inch wide, 24 gauge galvanized steel.

C. Leaded Vinyl Sheet: Minimum 0.55 inch thick, 0.87 lbs. per sq ft, 10 dB attenuation in 10 to 10,000 Hz range.

2.2 MOTORIZED DAMPERS

A. Extruded aluminum 6063T5 damper frame not less than .080" thickness, four inches deep. Frame shall be insulated with Styrofoam on four sides.

B. Extruded aluminum blades 6063T5, internally insulated with polyurethane foam insulation. Blade shall have an R-value of 2.29 and a temperature index of 55.

C. Blade and frame seals shall be of low temperature extruded silicone and secured in slot.

D. Designed for operation in temperatures ranging between -40°F and 212°F.

E. Aluminum corrosion resistant linkage hardware.

F. Leakage shall not exceed 4.9 cfm/ft^2 against 4" w.g. differential pressure at -40°F.

G. Flanged to duct type.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 – Administrative Requirements: Coordination and project conditions.

B. Verify ducts and equipment installation are ready for accessories.

C. Check location of air outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

3.2 INSTALLATION.

A. Install in accordance with NFPA 90A, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible. Refer to Section 15810 for duct construction.

B. Install temporary duct test holes required for testing and balancing purposes. Cut or drill in ducts. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.

3.3 DEMONSTRATION

A. Section 01700 - Execution Requirements: Requirements for demonstration and training.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 15850

AIR OUTLETS AND INLETS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Rectangular supply diffusers.
   2. Rectangular return/exhaust grilles.

B. Related Sections:
   1. Section 15820 - Duct Accessories: Volume dampers for inlets and outlets.

1.2 REFERENCES

A. Air Movement and Control Association International, Inc.:
   1. AMCA 500 - Test Methods for Louvers, Dampers, and Shutters.

B. American Society of Heating, Refrigerating and Air-Conditioning Engineers:
   1. ASHRAE 70 - Method of Testing for Rating the Performance of Air Outlets and Inlets.

C. Sheet Metal and Air Conditioning Contractors:
   1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit sizes, finish, and type of mounting. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of air outlets and inlets.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

1.7 PERFORMANCE

A. Refer to performance requirements in schedules on drawing M-001.

PART 2 PRODUCTS

2.1 RECTANGULAR DIFFUSER (SD-1)

A. Manufacturers:
1. Nailor Industries, Inc., Model 51SV.
2. Price Industries.
3. Substitutions or approved equal: Section 01600 - Product Requirements.

B. Product Description: Single deflection supply register with streamlined blades on ¾" centers. Friction pivoted adjustable air pattern.

C. Extruded aluminum construction with 1 ¼" face border, mitered corners, and a 1" overlap. Countersunk screw holes.

D. Appliance white baked enamel finish.

2.2 RECTANGULAR RETURN GRILLE (RG-1)

A. Manufacturers:
1. Nailor Industries, Inc., Model 51FH (0 degree)
2. Price Industries.
3. Substitutions or approved equal: Section 01600 - Product Requirements.

B. Fixed horizontal blades on ¾" centers with a 0° deflection angle. Extruded aluminum construction with 1 ¼" wide face border, mitered corners, and 1" overlap margin.

C. Streamlined extruded blades positively hold setting, regardless of velocity and pressure.

D. Appliance white baked enamel finish.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify inlet and outlet locations.

C. Verify ceiling systems are ready for installation.

3.2 INSTALLATION

A. Install diffusers to ductwork with airtight connection.

B. Install balancing dampers on duct take-off to diffusers, grilles, and registers, whether or not dampers are furnished as part of diffuser, grille, and register assembly. Refer to Section 15820.

3.3 INTERFACE WITH OTHER PRODUCTS

A. Check location of outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangement.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16060

GROUNDING AND BONDING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes:
1. Interior Grounding System
2. Exterior Grounding System
3. Grounding Conductors
4. Mechanical connectors.
5. Exothermic connections.
6. Grounding Encasement materials.

B. Related Section:
1. Section 16100 – Lightning Protection: Grounding of lightning protection system.

1.2 REFERENCES

A. NECA (National Electrical Contractors Association) - Standard of Installation.

B. NFPA 70 (National Fire Protection Association) - National Electrical Code, 2008 Edition

C. NFPA 101 (National Fire Protection Association) – Life Safety Code

D. NFPA 111 (National Fire Protection Association) – Standard on Stored Electrical Energy, Emergency and Standby Power Systems.

E. NFPA 780 (National Fire Protection Association) – Standard for the installation of Lightning Protection Systems.

F. Underwriters Laboratories
1. UL 467-2004 Grounding and Bonding Equipment
2. UL 497A Secondary Protectors for Communication circuits
3. UL 497B Protectors for Data Communication and Fire Alarm Circuits.
4. UL 1449 Transient Voltage Surge Suppressors

G. NWSM 30-4106-2004 Lightning Protection, Shielding, Bonding, Grounding and Surge Protection Requirements

H. Motorola R-56 – Standard and Guidelines for Communication Sites

1.3 SYSTEM DESCRIPTION

A. Grounding electrode system shall consist of the following elements:
1. Rod or plate electrodes
2. Exterior Building Ground Ring.
3. Internal and External Grounding electrode conductors

4. Foundation Encased Electrode
5. Lightning Protection System
6. External Ground Bus Bar
7. Master Ground Bus Bar
8. Subsystem Ground Bus Bar
9. Rack Ground Bus Bar
10. Interior Perimeter Ground Conductor
11. Communication Bonding Backbone Conductor
12. Equipment Grounding Conductors
13. Grounding Encasement Materials

B. The Drawings represent the 'basis for design' for the external grounding electrode system. An alternative approach to using ground plates or horizontal rods as part of the external ground ring will be considered provided the installation requirements and system resistances are met. Contractor has the option to submit a detailed plan of an alternative external grounding electrodes system (if desired). Prior to submission, the alternative design shall follow Motorola's R-56 Standard and The National Electric Code (NEC) – 2008 Edition.

C. Removal of rock for installation of ground rods (or ground plates) shall be performed by mechanical methods (drilling, boring, scraping, etc.) only. Blasting of rock will not be allowed in any area for installation of the grounding electrode system components.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit product data on grounding conductors, ground rods, ground plates, bus bars, connections and supports, drilling and boring methods, and conductive concrete.

C. Drawings: Submit schematic drawing showing proposed layout and connections of external grounding electrode system. Identify type and material of ground electrodes proposed, bury depth, and electrode layout and distribution.

1.5 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of components and grounding electrodes.

C. Grounding electrode system testing/verification test report.

PART 2 PRODUCTS

2.1 ROD ELECTRODES

A. Specified in Part 3 below.

2.2 GROUND BUS BARS

A. Specified in Part 3 below.

2.3 GROUNDING CONDUCTORS

A. Exterior exposed locations: Insulated Copper wire, solid or stranded, sizes as specified. Jacketing shall be labeled/color coded per NFPA 70 Article 250.119A and ANSI –J-STD-607-A-2002.

B. Partially below or completely below grade: Insulated Copper wire, stranded or solid, sizes as specified.

C. Interior locations: Jacketed Copper wire, stranded, sizes as specified. Jacketing shall be labeled/color coded per NFPA 70 Article 250.119A and ANSI –J-STD-607-A-2002.

2.4 GROUNDING CONNECTIONS

A. Mechanical Connections (below grade): UL listed irreversible high compression fittings. Fittings and compression tools (mechanical, hydraulic, battery powered) rated for 12 tons of force. All mechanical connections shall be coated with a conductive anti-oxidant compound, liberally applied between the two metals being connected.

B. Mechanical Connections (above grade): UL listed irreversible high compression fittings. Fittings and compression tools (mechanical, hydraulic, battery powered) rated for 12 tons of force. UL listed clamps, pressure fittings and 2-hole lugs, bolts, washers as required. Connectors matching type of conductors, conductor quantity, designed for the application. All mechanical connections shall be coated with a conductive anti-oxidant compound, liberally applied between the two metals being connected.

C. Exothermic Connections (above and below grade): Exothermic materials, accessories, and tools for preparing and making permanent field connections between grounding system components.

D. Listings: Exterior installations: UL 467 with minimum 88% conductivity rating. Interior installations: UL 486A with minimum 88% conductivity rating. Compression systems shall include crimped die index and company logo for inspection purposes.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify final backfill and compaction has been completed before driving rod electrodes.

3.2 PREPARATION

A. Remove paint, rust, mill oils, surface contaminants at connection points, prior to performing connections.

3.3 EXTERNAL GROUNDING SYSTEM

A. Grounding Electrodes:

1. Electrolytic Ground Rod Electrodes: Erico, Eritech Chemical Ground Electrode System or equal. Construction shall be of copper, 8'-0" long (straight or 'L' style), hollow copper pipe with a minimum diameter of 2.125 inches. Interior shall be filled with non-hazardous natural earth salts that shall permeate into the surrounding soil, decreasing resistivity. Ground rods shall solid copper, free of paint or other protective coatings. Ground rods shall be UL listed. Ground rods shall be installed by first boring the rock (or soil) to a depth to accept the ground rod and provide minimum cover of 12" to the top of the ground rod. The boring shall be performed by a down-the-hole hammer method or similar, minimum 6" diameter bore. The surrounding interstitial space between the ground rod and the rock shall be filled with conductive concrete to insure that the entire surface of the rod is in contact with the concrete and thus provides a low resistance connection to the earth. The bottom of the electrode shall contain weep holes that shall be in direct contact with bentonite clay to establish electrolytic roots. Ground rods that cannot be driven straight down shall be allowed to be driven at oblique angles not exceeding 45 degrees from vertical. Spacing shall be no less than 8'-0" between ground rods. The top of a ground rod shall not be cut off if rocks prevent the rod from its required depth. Each electrolytic ground rod installation shall include a properly marked heavy duty polymer concrete inspection cover used for periodic inspection and maintenance of the electrolytic material, ground ring connection and resistive testing.
2. Ground Plate Electrodes: Construction shall be copper, minimum 18" x 24" x 0.1875" thick. Ground plates shall be free of paint or other protective coatings. Ground plates shall be UL listed. Ground plates shall be installed vertically. Plates shall be buried min. 30" below finished grade.
3. Foundation Encased Electrode: Encased #4 bare copper conductor. Conductor shall be near the bottom of the building footing with min. 2" min. concrete cover. Conductor shall be bonded to rebar reinforcement that is min. 20'-0" in length. If this not available, the conductor shall be encased a min. of 20'-0" inside the footing. The encased connection to the reinforcement shall be by an approved clamp or exothermic weld. Schedule 40 PVC conduit shall be used as a protective sleeve between footing surface and surrounding earth.
4. External Ground Ring: The external ground ring around the building perimeter to improve the performance of the grounding electrode system and equalize the potential with the earth around the building. The external ground ring conductor shall be #1/0 AWG Bare copper conductor completely surrounding the building.. The ends shall be bonded together (or at a ground rod or ground plate) by exothermic weld or irreversible high compression connector. The ring shall be bonded at a minimum of two points. Ground ring shall be installed in direct contact with the earth with a combination of conductive concrete encasement and soil backfill (as indicated on the drawings).
5. Grounding Encasement Materials: Conductive concrete composed of graded granular carbonaceous aggregate. Hydration and water retentive for reduced

grounding electrode system resistance. Environmentally safe, packaged specifically for conductive encasement, used in accordance with manufacturer's recommendations and compatible with the encased electrodes and grounding system.

B. External Grounding Conductors:
1. All below ground or partially below ground grounding conductors shall be min. #2 bare copper (unless noted otherwise in this specification).
2. External grounding conductors shall be splice free.
3. Above ground conductors used for bonding metallic objects shall be minimum #6 AWG jacketed copper. Solid straps or bars may be used in lieu of wire as long as the cross sectional area equals the above ground conductor specified.
4. External grounding conductors bend angle shall be no less than 90 degrees nor have a bed radius of 8". It shall be run to the grounding electrode system in a direct manner, without loops or sharp bends.
5. Above grade conductors shall be protected, when subject to physical damage.

C. External Ground Bus Bar (EGB): EGB shall provide a convenient termination point for the communication cabling's entry point prior to entering the building. The cables metallic sheath shall be bonded to the EGB at this location.
1. The EGB shall be designed for the purposes of the grounding and shall be UL listed.
2. The EGB shall be installed just outside the building, adjacent to the microflect entry port.
3. The EGB shall be connected to the electrical grounding system with a direct run and a minimum #1/0 AWG copper conductor.
4. Bare solid alloy copper bus bar or plate, one piece. 12"L (minimum) x 2" H x 0.25" thick. Fiberglass or polyester insulators with 15 kV min. dielectric strength, flame resistant. Mounting holes shall be 0.4375" diameter min. on 0.75" centers for 2-hole lug connections. Stainless steel mounting brackets.
5. Attachment shall be by exothermic welding, irreversible crimp connections.

D. General Requirements for External Bonding:
1. All mechanical and compression type connectors shall be UL 467 listed for size and application.
2. Clamps shall be UL 467 listed and have an 88% conductivity rating.

3.4 INTERNAL GROUNDING SYSTEM

A. Master Ground Bus Bar (MGB): Provides internal grounding termination point for communication system and is a dedicated extension of sites common grounding system.
1. Bare solid allow copper bus bar or plate, one piece. 18"L (minimum) x 2" H x 0.25" thick. Fiberglass or polyester insulators with 15 kV min. dielectric strength, flame resistant. Mounting holes shall be 0.4375" diameter min. on 0.75" centers for 2-hole lug connections. Attachment shall be by exothermic welding, irreversible crimp connections.
2. MGB conductor shall be splice free.
3. MGB Grounding Conductor bend angle shall be no less than 90 degrees nor have a bed radius of 8".

4. MGB shall be insulated from its support structure with a minimum of 2" separation.
5. Connection to external grounding system shall be with a multi-stranded bare copper conductor.
6. MGB Grounding Conductor shall not be placed in ferrous conduit.
7. Provide Schedule 40 PVC sleeve when routing MGB Grounding Conductor to exterior grounding system. Install sleeve at 45 degree angle and seal with RTV silicone.

B. Subsystem Ground Bus Bar (SSGB): Provides a single point termination point for internal ground bus conductors, internal perimeter ground bus conductor, and equipment grounding conductors within a common subsystem equipment room.
1. Bare solid allow copper bus bar or plate, one piece. 12"L (minimum) x 2" H x 0.25" thick. Fiberglass or polyester insulators with 15 kV min. dielectric strength, flame resistant. Mounting holes shall be 0.4375" diameter min. on 0.75" centers for 2- hole lug connections. Attachment shall be by exothermic welding, irreversible crimp connections.
2. SSGB conductor shall be splice free.
3. SSGB conductor shall be #2 copper.
4. SSGB shall be insulated from its support structure with a minimum of 2" separation.
5. The SSGB bar shall be bonded to the MGB and the communication bonding backbone
6. MGB Grounding Conductor bend angle shall be no less than 90 degrees nor have a bed radius of 8". It shall be run to the grounding electrode system in a direct manner, without loops or sharp bends.
7. MGB Grounding Conductor shall not be placed in ferrous conduit.

C. Rack Ground Bus Bar (RGB): Installed within an equipment rack or cabinet. It shall provide a single termination point for equipment grounding conductors with the rack or cabinet.
1. The RGB shall be securely mounted to the rack or cabinet with appropriate standoff clearance for separation from dissimilar metals and for attachment of grounding conductors.
2. RGB grounding conductor shall be jacketed #2 copper.
3. RGB grounding conductor shall be splice free.
4. Attachment shall be by exothermic welding or irreversible crimp connections.
5.
6. The SSGB bar shall be bonded to the MGB and the communication bonding backbone

D. Internal Perimeter Ground Bus Conductors (IPGB): The IPGB provides a grounding electrode conductor for the MGB for support apparatus, electrical conduits, equipment and other metallic items throughout the shelter.
1. The IPGB shall not be used to ground communication rack equipment and enclosures.
2. The IPGB shall encompass the entire communication or equipment room with two independent grounding conductors on opposite sides of the room with one end terminated to the MGB or SSGB. IPGB shall be routed horizontally approximately 1'-0" from the ceiling.
3. IPGB grounding conductor shall be bare #2 copper.

4. IPGB grounding conductor shall be splice free.
5. Attachment shall be by exothermic welding or irreversible crimp connections.
6. IPGB Grounding Conductor bend angle shall be no less than 90 degrees nor have a bed radius of 8". It shall be run to the grounding electrode system in a direct manner, without loops or sharp bends.

E. Communication Bonding Backbone Conductors (CBBC): Conductor connecting all main SSGB's serving as a grounding equalizer. CBBC equalizes the potential differences between separate communication SSGB's within a building.
1. CBBC shall originate at the MBG and connect to all SSGB's , finally terminating at the furthest SSGB.
2. CBBC shall be installed to be protected from physical damage. CBBC can be routed through communication pathways (cable trays) en route to other SSGB's.
3. CBBC grounding conductor shall be jacketed #2 copper with maximum of 33' in length. If the length is greater than 33', the CBBC grounding conductor shall be increased in size for 2 kcmil per linear foot of conductor length, with a maximum size of 3/0 AWG.
4. CBBC grounding conductor shall be splice free.

F. Equipment Grounding Conductors (EGC): Bonds equipment chassis, frames, and metallic support equipment to the grounding electrode system.
1. EGC shall be bonded to the MGB, SSGB, RGB, or IPGB using methods described in Parts 3.4 A, B and C above.
2. Braided conductors shall not be used.
3. The EGC shall be a minimum of #6 copper bare or jacketed, sized based on the length of the EGC as outlined below:

Conductor Length (ft)	Conductor Size (AWG)
Less than 4	6
4-6	4
6-8	3
8-10	2

4. Examples of the equipment requiring EGC's include (but not limited to):
   a. light fixtures
   b. unit heaters
   c. electrical panels
   d. door and window frames
   e. storage racks
   f. metal fencing
   g. cable trays
   h. conduit
   i. HVAC units
   j. ductwork, grilles
   k. generator and exhaust systems
   l. communication dish structural supports

G. Bonding Jumpers: Creates a conductive path between electrical components, such as cable trays, piping, conduits or structural framing.

1. Bonding jumpers shall be as short as possible, routed directly to equipment, free of bends or loops.
2. Attachment points shall be free of paint or other coatings to allow for a conductive path.
3. Bonding jumpers shall be no longer than 6'-0" when installed outside a raceway or enclosure.

H. General Requirements for Internal Bonding:

1. All mechanical and compression type connectors shall be UL 486A listed for size and application.
2. Clamps shall be UL 486A listed and have a 88% conductivity rating.
3. Compression lugs shall be two-hole, long barrel type.
4. Connection between dissimilar metals shall not be used unless conductors are separated by a suitable material that is part of the attachment device.
5. Self tapping or sheet metal type screws shall not be used for any grounding attachments.
6. Insulating piercing connectors are not acceptable.
7. Aluminum connection devices are not acceptable.
8. Daisy chain connections between chassis and equipment is not permitted.
9. Mechanical lugs and clamps shall not be used on solid conductors.
10. Each electrical equipment or device shall have a separate independent grounding conductor.
11. Only SSGB's shall be bonded back to the CBBC.
12. The DC power plant return bus shall be bonded to the SSGB. The grounding conductor shall be no smaller than the largest conductor supplied by the DC power system or no smaller than the grounding conductor for the SSGB or MGB (#2 copper).
13. Conduits joined with threaded couplings, threadless couplings, or threadless compression connectors that terminate in a bonded metallic enclosure may be considered adequately bonded and do not require additional bonding. If conduits do not meet this requirement, metallic conduits shall be bonded at points whenever they cross within 12" of the IPGB. Conduits run parallel to the IPGB shall be bonded at the point it enters AND exits 6" from the IPGB. All set screw couplings shall be bridged with a bonding jumper.
14. All surge protective devices (SPD) shall be bonded back to the internal grounding system with minimum #6 AWG copper.
15. Telecommunication metallic shields shall be bonded to the internal grounding system. These shall be the metallic elements of the cables, such as paired conductor and fiber optic cables. These shall be grounded to the SSGB or MGB at the facilities cable entry point. Each metallic member shall be grounded to the SSGB with minimum #6 AWG copper or with a transmission line grounding kit.

3.5 GROUNDING SYSTEM TESTING/VERIFICATION

Upon completion of the grounding electrode system and before bonding to the utility feed neutral wire, resistance testing shall be preformed on the grounding electrode system. The testing shall be preformed using one of the three testing methods listed below:

1. Fall of Potential Test
2. Clamp-on Ohmmeter Test

3. Combined Soil resistivity testing with Clamp-on Ohmmeter test

Refer to Motorola's R-56 Standard for testing prerequisites, procedures, and test worksheets for each test listed above. Field verify all grounding connections are complete before performing test. Upon completion of the test, submit results in report format to engineer for review. Include locations of site test locations.

3.6 GENERAL INSTALLATION

A. Install grounding and bonding conductors concealed from view.

B. Equipment Grounding Conductor: Install separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.

C. Permanently ground entire light and power system in accordance with NEC, including service equipment, distribution panels, lighting panelboards, switch and starter enclosures, motor frames, grounding type receptacles, and other exposed non-current carrying metal parts of electrical equipment.

D. Accomplish grounding of electrical system by using insulated grounding conductor installed with feeders and branch circuit conductors in conduits. Size grounding conductors in accordance with NEC.

E. Permanently attach equipment and grounding conductors prior to energizing equipment.

F. Install bonding jumper only in power distribution panel. Installing bonding jumper in any other cabinets could lead to electrification of cabinets and or conduit within the structure. Distribution panel in stepped down system requires jumper as it is a separately derived system.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16070

ELECTRICAL SUPPORTS AND SEISMIC RESTRAINTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Hangers and supports for electrical equipment and systems.
2. Seismic restraints for electrical equipment and systems.
3. Fire stopping relating to electrical work.

1.2 REFERENCES

A. NFPA 70 (National Fire Protection Association) - National Electrical Code.

B. NECA (National Electrical Contractors Association) - Standard of Installation.

C. UL (Underwriters Laboratories, Inc.) - Fire Resistance Directory.

D. UL 1479 (Underwriters Laboratories, Inc.) - Fire Tests of Through-Penetration Firestops.

E. WH (Warnock Hersey) - Directory of Listed Products.

1.3 DEFINITIONS

A. Firestopping (Through-Penetration Protection System): Sealing or stuffing material or assembly placed in spaces between and penetrations through building materials to arrest movement of fire, smoke, heat, and hot gases through fire rated construction.

B. Seismic Restraint: A structural support element such as a metal framing member, a cable an anchor bolt or stud, a fastening device, or an assembly of these items sued to transmit seismic forces from an item of equipment or system to building structure and to limit movement of item during a seismic event.

1.4 SYSTEM DESCRIPTION

A. Fire stopping Materials: ASTM E119 to achieve fire ratings as noted on Drawings for adjacent construction, but not less than 1 hour fire rating.

1.5 SUBMITTALS

A. Section 01330 - Submittal Procedures: Requirements for submittals.

B. Product Data:
1. Hangers and Supports: Submit manufacturers catalog data including load capacity.
2. Firestopping: Submit data on product characteristics, performance and limitation criteria.

C. Shop Drawings: Indicate materials and dimensions and identify hardware, including attachment and anchorage devices, signed and sealed by a qualified professional engineer. Professional engineer qualification requirements are specified in Division 1 Section "Quality Requirements." Include the following:
   1. Fabricated Supports: Representations of field-fabricated supports not detailed on Drawings.
   2. Seismic Restraints: Detail anchorage and bracing not defined by details or charts on Drawings. Include the following:
      a. Design Analysis: To support selection and arrangement of seismic restraints. Include calculations of combined tensile and shear loads.
      b. Details: Detail fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacings. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events.

D. Product Data: Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of electrical and seismic restraint component used.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept materials on site in original factory packaging, labeled with manufacturer's identification.

C. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements: Environmental conditions affecting products on site.

B. Do not apply firestopping materials when temperature of substrate material and ambient air is below 60 degrees F.

C. Maintain this minimum temperature before, during, and for minimum 3 days after installation of firestopping materials.

D. Provide ventilation in areas to receive solvent cured materials.

1.8 PERFORMANCE REQUIREMENTS

A. Seismic bracing to be designed for 1.0 G lateral forces.

B. Building occupancy classification – II.

PART 2 PRODUCTS

2.1 CONDUIT SUPPORTS

A. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads. Stainless steel in hazardous and exterior areas.

B. Conduit clamps - general purpose: One hole malleable iron for surface mounted conduits. Stainless steel in hazardous and exterior areas.

C. Cable Ties: High strength nylon temperature rated to185 degrees F. Self-locking.

2.2 SEISMIC-RESTRAINT COMPONENTS

A. Angle and Channel-Type Brace Assemblies: Steel angles or steel slotted-support-system components; with accessories for attachment to braced component at one end and to building structure at the other end.

B. Cable Restraints: ASTM A 603, zinc-coated, steel wire rope attached to steel or stainless-steel thimbles, brackets, swivels, and bolts designed for restraining cable service.

C. Hanger Rod Stiffener: Reinforcing steel angle clamped to hanger rod.

D. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for seismically rated rigid equipment mountings, and matched to type and size of attachment devices used.

E. Provide stainless steel restraint components and hardware in hazardous and exterior environments.

2.3 SEISMIC BRACING COMPONENTS

A. Slotted Steel Channel: 1-5/8-by-1-5/8-inch cross section, formed from 0.1046-inch thick steel, with 9/16-by-7/8-inch slots at a maximum of 2 inches o.c. in webs, and flange edges turned toward web.
   1. Materials for Channel: ASTM A 570, GR 33.
   2. Materials for Fittings and Accessories: ASTM A 575, ASTM A 576, or ASTM A 36.
   3. Fittings and Accessories: Products of the same manufacturer as channels and designed for use with that product.
   4. Finish: Baked, rust-inhibiting, acrylic-enamel paint applied after cleaning and phosphate treatment, unless otherwise indicated.

B. Channel-Type Bracing Assemblies: Slotted steel channel, with adjustable hinged steel brackets and bolts.

C. Cable-Type Bracing Assemblies: Zinc-coated, high-strength steel wire rope cable attached to steel thimbles, brackets, and bolts designed for cable service.

D. Hanger Rod Stiffeners: Slotted steel channels with internally bolted connections to hanger rod.

E. Provide stainless steel bracing components and hardware in exterior and hazardous environments.

2.4 FIRESTOPPING

A. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
   1. Fiber Stuffing and Sealant Firestopping: Composite of mineral fiber stuffing insulation with silicone elastomer for smoke stopping.
   2. Intumescent Firestopping: Intumescent putty compound which expands on exposure to surface heat gain.
   3. Firestop Pillows: Formed mineral fiber pillows.

2.5 FIRESTOPPING ACCESSORIES

A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces and suitable for required fire ratings.

B. Dam Material: Permanent:
   1. Mineral fiberboard.
   2. Mineral fiber matting.
   3. Sheet metal.

C. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.

D. General:
   1. Furnish UL listed products or products tested by independent testing laboratory.
   2. Select products with rating not less than rating of wall or floor being penetrated.

2.6 STRUT SUPPORT SYSTEM

A. Product Description:
   1. Exterior environment provide stainless steel strut and hardware.
   2. Interior environment provide hot dipped galvanized strut.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify openings are ready to receive firestopping.

3.2 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter affecting bond of firestopping material.

B. Remove incompatible materials affecting bond.

C. Install backing materials to arrest liquid material leakage.

D. Do not drill or cut structural members.

3.3 INSTALLATION - HANGERS AND SUPPORTS

A. Locate and install anchors, fasteners, and supports in accordance with NECA Standard of Installation.

B. Install conduit and raceway support and spacing in accordance with NEC.

C. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.

D. Install multiple conduit runs on common hangers.

3.4 INSTALLATION - FIRESTOPPING

A. Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, ductwork, conduit and other items, requiring firestopping.

B. Apply primer where recommended by manufacturer for type of firestopping material and substrate involved, and as required for compliance with required fire ratings.

C. Apply fire stopping material in sufficient thickness to achieve required fire and smoke rating, to uniform density and texture.

3.5 CLEANING

A. Section 01700 - Execution Requirements: Requirements for cleaning.

B. Clean adjacent surfaces of firestopping materials.

3.6 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Requirements for protecting finished Work.

B. Protect adjacent surfaces from damage by material installation.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16075

ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.1 SUMMARY

A. Section includes:
1. Nameplates.
2. Labels.
3. Wire markers.
4. Conduit markers.
5. Lockout Devices.

1.2 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data:
1. Submit manufacturer’s catalog literature for each product required.

1.3 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of tagged devices; include tag numbers.

1.4 QUALITY ASSURANCE

A. Perform Work in accordance with NEC, latest edition.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years experience.

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept identification products on site in original containers. Inspect for damage.

C. Accept materials on site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.

D. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements: Environmental conditions affecting products on site.

B. Install labels and nameplates only when ambient temperature and humidity conditions for adhesive are within range recommended by manufacturer.

PART 2 PRODUCTS

2.1 NAMEPLATES

A. Product Description: Laminated three-layer plastic with engraved black letters on white contrasting background color.

B. Letter Size:
1. 1/8 inch high letters for identifying individual equipment and loads.
2. ¼ inch high letters for identifying grouped equipment and loads.

C. Minimum nameplate thickness: 1/8 inch.

2.2 LABELS

A. Labels: Embossed adhesive tape, with 3/16 inch white letters on black background.

2.3 WIRE MARKERS

A. Description: Cloth tape, split sleeve, or tubing type wire markers.

B. Legend:
1. Power and Lighting Circuits: Branch circuit or feeder number as indicated on Drawings.
2. Control Circuits: Control wire number as indicated on schematic and interconnection diagrams and Drawings.

2.4 CONDUIT AND RACEWAY MARKERS

A. Description: Nameplate fastened with adhesive, Labels fastened with adhesive.

B. Color:
1. 480/277 Volt System: Black lettering on white background.
2. 208/120 Volt System: Black lettering on white background.
3. Telephone System: Blue lettering on white background.

C. Legend:
1. 480 Volt System: 480 VOLTS.
2. 208/120 Volt System: 208 or 240 VOLTS.

3. Telephone System: TELEPHONE.

PART 3 EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.2 INSTALLATION

A. Install identifying devices after completion of painting.

B. Nameplate Installation:
1. Install nameplate parallel to equipment lines.
2. Install nameplate for each electrical distribution and control equipment enclosure with corrosive-resistant mechanical fasteners, or adhesive.
3. Install nameplates for each control panel and major control components located outside panel with corrosive-resistant mechanical fasteners, or adhesive.
4. Secure nameplate to equipment front using screws, or adhesive.
5. Secure nameplate to inside surface of door on recessed panelboard in finished locations.
6. Install nameplates for the following:
   a. Panelboards.
   b. Meter Cabinets.
   c. Service Disconnects.
   d. Generators.

C. Label Installation:
1. Install label parallel to equipment lines.
2. Install label for identification of individual control device stations.
3. Install labels for permanent adhesion and seal with clear lacquer.

D. Wire Marker Installation:
1. Install wire marker for each conductor at panelboard gutters, pull boxes, outlet and junction boxes, and each load connection.
2. Mark data cabling at each end. Install additional marking at accessible locations along the cable run.
3. Install labels at data outlets identifying patch panel and port designation.

E. Conduit or Raceway Marker Installation:
1. Install conduit raceway marker for each conduit raceway longer than 6 feet.
2. Conduit Raceway Marker Spacing: 20 feet on center.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 16121

MEDIUM-VOLTAGE CABLE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes medium voltage cable and cable terminations.

1.2 REFERENCES

A. Institute of Electrical and Electronics Engineers:
   1. IEEE 48 - Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV Through 765 kV.
   2. IEEE C2 - National Electrical Safety Code.

B. National Electrical Manufacturers Association:
   1. NEMA WC 3 - Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
   2. NEMA WC 5 - Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
   3. NEMA WC 7 - Cross-Linked Thermosetting Polyethylene Insulated Wire and Cable for the Transmission and Distribution of Electric Energy.
   4. NEMA WC 8 - Ethylene Propylene Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

C. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

D. New York State Electric & Gas (NYSEG) SP-1099 – Specifications for Customer Service, 2.4 kV to 34.5 kV.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit for cable, terminations, and accessories.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Record actual sizes and locations of cables.

C. Operation and Maintenance Data: Submit instructions for testing and cleaning cable and accessories.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Protect cable ends from entrance of moisture.

PART 2 PRODUCTS

2.1 MEDIUM VOLTAGE CABLE

A. Manufacturers:
1. Diamond Wire & Cable Co.
2. Essex Group Inc.
3. General Cable Co.
4. Substitutions or approved equal: Section 01600 - Product Requirements.

B. Product Description: Solid dielectric insulated cable with extruded strand shield. The cable shall have an extended insulation layer of free retardant cross linked polyethylene (TRXLPE, NEMA WC-7) or ethylene propylene rubber (EPR, NEMA WC-8).

C. Voltage: 35 kV, grounded.

D. Conductor: Copper or aluminum, compact round compressed concentric, stranded, with foil conductor shield.

E. Construction: Three-conductor with metal tape insulation shielding.

F. Jacket: PVC.

G. Cable shall be listed for direct burial and shall conform to NYSEG specifications for customer service – SP-1099.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify conduit and trench are ready to receive cable.

C. Verify routing and termination locations of cable prior to rough-in.

3.2 PREPARATION

A. Use swab to clean conduits before pulling cables.

3.3 EXISTING WORK

A. Remove abandoned medium-voltage cable.

B. Maintain access to existing medium-voltage cable and other installations remaining active and requiring access. Modify installation or provide access panel.

C. Extend existing medium-voltage cable installations using materials and methods, or as specified.

D. Clean and repair existing medium-voltage cable to remain or to be reinstalled.

3.4 INSTALLATION

A. Avoid abrasion and other damage to cables during installation.

B. Use suitable manufacturer approved lubricants and pulling equipment.

C. Sustain cable pulling tensions and bending radii below manufacturer’s recommended limits.

D. Ground cable shield at each termination and splice.

3.5 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services.

B. Inspect exposed cable sections for physical damage.

C. Inspect cable for proper connections.

D. Inspect shield grounding, cable supports, and terminations for proper installation.

E. Inspect and test in accordance with NETA ATS, except Section 4.

F. Perform inspections and tests listed in NETA ATS, Section 7.3.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Section 01700 - Execution Requirements: Protecting installed construction.

B. Protect installed cables from entrance of moisture.

END OF SECTION

ESSEX COUNTY
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SECTION 16123

BUILDING WIRE AND CABLE

PART 1 GENERAL

1.1 SUMMARY

A. Section includes building wire and cable; metal clad cable; and wiring connectors and connections.

1.2 REFERENCES

A. NECA (National Electrical Contractors Association) - Standard of Installation.

B. NETA ATS (International Electrical Testing Association) - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

C. NYSEG specifications for electrical installations and customer services-SP-1099.

1.3 SYSTEM DESCRIPTION

A. Product Requirements: Provide products as follows:
   1. Stranded conductor for feeders and branch circuits 10 AWG and smaller.
   2. Stranded conductors for control circuits.
   3. Conductor not smaller than 12 AWG for power and lighting circuits.
   4. Conductor not smaller than 14 AWG for control circuits.

B. Wiring Methods: Provide the following wiring methods:
   1. Concealed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway, or metal clad cable (concealed in wall only ski patrol room).
   2. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
   3. Exterior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
   4. Wet or Damp Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.

1.4 DESIGN REQUIREMENTS

A. Conductor sizes are based on copper, unless specified otherwise.

1.5 SUBMITTALS

A. Section 01330 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit for building wire and each cable assembly type.

1.6 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of components and circuits.

1.7 FIELD MEASUREMENTS

A. Verify field measurements are as indicated on Drawings.

1.8 COORDINATION

A. Section 01300 - Administrative Requirements: Requirements for coordination.

B. Where wire and cable destination is indicated and routing is not shown, determine routing and lengths required.

C. Wire and cable routing indicated is approximate unless dimensioned.

PART 2 PRODUCTS

2.1 BUILDING WIRE

A. Product Description: Single conductor insulated wire.

B. Conductor: Copper.

C. Insulation Voltage Rating: 600 volts. Type THHN/THWN unless otherwise noted.

D. Insulation Temperature Rating: 75ºC.

E. Control wire: 14 AWG copper conductor, unless otherwise noted.

2.2 METAL CLAD CABLE

A. Conductor: Copper.

B. Insulation Voltage Rating: 600 volts.

C. Insulation Temperature Rating: 75 degrees C.

D. Insulation Material: Thermoplastic.

E. Armor Material: Steel.

F. Armor Design: Interlocked metal tape.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify interior of building has been protected from weather.

C. Verify mechanical work likely to damage wire and cable has been completed.

D. Verify raceway installation is complete and supported.

3.2 PREPARATION

A. Completely and thoroughly swab raceway before installing wire.

3.3 INSTALLATION

A. Route wire and cable to meet Project conditions.

B. Install wire and cable in accordance with NECA "Standard of Installation."

C. Neatly train and lace wiring inside boxes, equipment, and panelboards.

D. Identify and color code wire and cable. Identify each conductor with its circuit number or other designation indicated.

E. Special Techniques - Building Wire in Raceway:
1. Pull conductors into raceway at same time.
2. Install building wire 4 AWG and larger with pulling equipment.

F. Special Techniques - Wiring Connections:
1. Clean conductor surfaces before installing lugs and connectors.
2. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
3. Tape uninsulated conductors and connectors with electrical tape to 150 percent of insulation rating of conductor.
4. Install split bolt connectors for copper conductor splices and taps, 6 AWG and larger.
5. Install solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
6. Install insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
7. Install solid conductor for feeders and branch circuits 10 AWG and smaller.
8. Install stranded conductors for branch circuits 10 AWG and smaller. However, when stranded conductors are used in lieu of solid, then install crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under screws.

3.4 WIRE COLOR

A. General
1. For wire sizes 10 AWG and smaller, install wire colors in accordance with the following:
a. Black, red, and blue for circuits at 120/208 volts single or three phase.
2. For wire sizes 8 AWG and larger, identify wire with colored tape at terminals, splices and boxes. Colors are as follows:
a. Black, red, and blue for circuits at 120/208 volts single or three phase.

B. Neutral Conductors: 120/208 – gray, 277/480 - white. When two or more neutrals are located in one conduit, individually identify each with proper circuit number.

C. Branch Circuit Conductors: Install three or four wire home runs with each phase uniquely color coded.

D. Feeder Circuit Conductors: Uniquely color code each phase.

E. Ground Conductors:
   1. For 6 AWG and smaller: Green or green with yellow stripe.
   2. For 4 AWG and larger: Identify with green tape at both ends and visible points including junction boxes.

END OF SECTION

ESSEX COUNTY
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SECTION 16130

RACEWAY AND BOXES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes conduit and tubing, wireways, outlet boxes, pull and junction boxes.

1.2 REFERENCES

A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.

B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated

C. NECA (National Electrical Contractor's Association) - "Standard of Installation"

D. NEMA FB 1 (National Electrical Manufacturers Association) - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.

E. NEMA OS 1 (National Electrical Manufacturers Association) - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports.

F. NEMA 250 (National Electrical Manufacturers Association) - Enclosures for Electrical Equipment (1000 Volts Maximum).

1.3 SYSTEM DESCRIPTION

A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.

B. Below Grade (Underground Outside Foundation Wall): Provide rigid steel conduit. Provide cast metal boxes.

C. In or Under Slab on Grade, or within crawlspace: Provide rigid steel conduit.

D. Above Grade (Outdoors): Provide rigid steel conduit. Provide cast metal outlet, pull, and junction boxes.

E. Above Grade (Indoors): Provide electrical metallic tubing. Provide sheet metal boxes.

F. Concealed Dry Locations (Ski Patrol Room ONLY): Provide metal clad cable. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas.

G. Wall Sleeves for Grounding Systems: Provide rigid PVC conduit.

1.4 DESIGN REQUIREMENTS

A. Minimum Raceway Size: ¾ inch unless otherwise specified.

1.5 SUBMITTALS

A. Section 01330 – Submittal Procedures: Submittal procedures.

B. Product Data: Submit for the following:
1. Liquid tite flexible metal conduit.
2. Rigid metal conduit.
3. Electrical metallic conduit.
4. Conduit bodies.
5. Wireway.
6. Pull and junction boxes.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

C. Protect PVC conduit from sunlight.

1.7 COORDINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Coordinate installation of outlet boxes for equipment connected under Section 16180.

C. Coordinate mounting heights, orientation and locations of outlets mounted above counters, benches, and backsplashes.

PART 2 PRODUCTS

2.1 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

A. Product Description: Interlocked steel construction with PVC jacket.

B. Fittings: NEMA FB 1.

2.2 RIGID METAL CONDUIT (RMC)

A. Product Description: ANSI C80.1; galvanized steel conduit.

B. Fittings and Conduit Bodies: NEMA FB1, all steel.

2.3 RIGID NON-METALLIC CONDUIT (RNMC)

A. Product Description: ANSI NEMA TC2, Schedule 80.

B. Fittings and Conduit Bodies: NEMA TC3.

2.4 ELECTRIC METALLIC CONDUIT (EMT)

A. Product Description: ANSI C80.3, galvanized tubing.

B. Fittings and Conduit Bodies: NEMA FB1, steel, compression type.

2.5 OUTLET BOXES

A. Sheet metal outlet boxes: NEMA-OS1, galvanized steel.

B. Cast Boxes: NEMA FB 1, Type FD, aluminum. Furnish gasketed cover by box manufacturer. Furnish threaded hubs.

2.6 WIREWAY

A. Product Description: General Purpose type wireway.
   1. Cover: Screw cover.
   2. Fittings: Lay in type with removable top, bottom, and side; captive screws.
   3. Finish: Rust inhibiting primer coating with gray enamel finish.
   4. Connectors: slip-in.

2.7 PULL & JUNCTION BOXES

A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.

B. Surface Mounted Cast Metal Box: NEMA 250, type 4X; flat-flanged, surface mounted junction box:
   1. Material: Cast aluminum.
   2. Cover: Furnish with ground flange , neoprene gasket, and stainless steel cover screws.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify outlet locations and routing and termination locations of raceway prior to rough-in.

3.2 INSTALLATION

A. Install raceway and boxes in accordance with NECA "Standard of Installation."

B. Ground and bond raceway and boxes in accordance with Section 16060.

C. Fasten raceway and box supports to structure and finishes in accordance with Section 16070.

D. Identify raceway and boxes in accordance with Section 16075.

E. Arrange raceway and boxes to maintain headroom and present neat appearance.

3.3 INSTALLATION - RACEWAY

A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.

B. Arrange raceway supports to prevent misalignment during wiring installation.

C. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.

D. Group related raceway; support using conduit rack.

E. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports.

F. Do not attach raceway to ceiling support wires or other piping systems.

G. Construct wireway supports from steel channel specified in Section 16070.

H. Route exposed raceway parallel and perpendicular to walls.

I. Route raceway parallel and perpendicular to walls and ceilings.

J. Route conduit in and under slab from point-to-point.

K. Maintain clearance between raceway and piping for maintenance purposes.

L. Maintain 12 inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.

M. Cut conduit square using saw or pipe cutter; de-burr cut ends.

N. Bring conduit to shoulder of fittings; fasten securely.

O. Install conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.

P. Install no more than equivalent of three 90 degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams.

Q. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.

R. Install suitable pull string or cord in each empty raceway except sleeves and nipples.

S. Install suitable caps to protect installed conduit against entrance of dirt and moisture.

T. Close ends and unused openings in wireway.

3.4 INSTALLATION - BOXES

A. Install wall mounted boxes at elevations to accommodate mounting heights as indicated on Drawings.

B. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.

C. Orient boxes to accommodate wiring devices oriented as specified in Section 16140.

D. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

E. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation. Install with minimum 24 inches separation in acoustic rated walls.

F. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.

G. Install stamped steel bridges to fasten flush mounting outlet box between studs.

H. Install flush mounting box without damaging wall insulation or reducing its effectiveness.

I. Install adjustable steel channel fasteners for hung ceiling outlet box.

J. Do not fasten boxes to ceiling support wires or other piping systems.

K. Support boxes independently of conduit.

L. Install gang box where more than one device is mounted together. Do not use sectional box.

M. Install gang box with plaster ring for single device outlets.

3.5 INTERFACE WITH OTHER PRODUCTS

A. Install conduit to preserve fire resistance rating of partitions and other elements.

B. Locate outlet boxes to allow luminaires positioned as indicated on reflected ceiling plan.

C. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

3.6 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust flush-mounting outlets to make front flush with finished wall material.

C. Install knockout closures in unused openings in boxes.

3.7 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Clean interior of boxes to remove dust, debris, and other material.

C. Clean exposed surfaces and restore finish.

END OF SECTION

ESSEX COUNTY
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SECTION 16133

CABLE TRAYS FOR COMMUNICATIONS SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes ladder style cable trays for communication systems and microflect entry ports for building service entrances.

B. Related Sections:
1. Section 16060 - Grounding and Bonding for Electrical and Communications Systems.
2. Section 16070 - Hangers and Supports for Electrical and Communications Systems.

1.2 REFERENCES

A. ASTM International:
1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
2. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

B. National Electrical Manufacturers Association:
1. NEMA VE 1 - Metal Cable Tray Systems.
2. NEMA VE 2 - Metal Cable Tray Installation Guidelines.

C. National Electric Code (NEC) Article 392 – Cable Trays.

D. IEC 61537 (2001) – Cable Tray Systems and Cable Ladder Systems for Cable Management.

E. TIA 569-A (1998) – Commercial Building Standard for Telecommunications Pathways and Spaces.

F. ASTM A 510 – Specification for General Requirements for Wire Rods and Coarse Round wire, Carbon Steel.

1.3 SUBMITTALS

A. Shop Drawings: Indicate tray type, dimensions, support points, and finishes.

B. Product Data: Submit fittings and accessories.

C. Manufacturer's Installation Instructions: Submit application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements.

Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Record actual routing of cable tray and locations of supports.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.1 METAL LADDER-TYPE CABLE TRAY

A. Manufacturers:
1. Wiremold/Legrande, L Series.
2. Cooper B-Line.

B. Product Description: NEMA VE 1.

C. Material: Steel.

D. Finish: Galvanized to ASTM A123 after fabrication.

E. Inside Width: 18 inches.

F. Inside Depth: 6 inches.

G. Straight Section Rung Spacing: 6 inches.

H. Inside Radius of Fittings: 24 inches.

I. Construction: The cable tray shall be constructed to form an open and accessible compartment to hold the necessary cables. The tray shall be constructed with two components, (1) two longitudinal support rails (side rails) and (2) the rungs. The rail is a single aluminum extrusion with extending flanges that provide rung support. The rungs shall have a 7/8” cable laying surface and be attached with sheet metal screws to the two side rails on 6” centers, creating a cable laying area between the rails.

J. Furnish manufacturer's standard clamps, hangers, brackets, splice plates, reducer plates, blind ends, barrier strips, connectors, and grounding straps.

2.2 MICROFLECT ENTRY PORT

A. Manufacturers:
1. Valmont Microflect or equal.

B. Aluminum entry panel with 4" diameter entry ports. Powder coated machine grey. Furnished with sealing caps and installation hardware. Fasteners and brackets shall be stainless steel. Sealing caps shall provide a water tight cover on the entry ports and shall be replaceable with a boot when a port becomes active.

C. Configurations:
1. Communications Room Ceiling: 12 port, 3 x 4.
2. Cupola Exterior Wall: 4 port, 2 x 2.
3. Gable End Walls: 4 port, 2 x 2.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install metal cable tray in accordance with NEMA VE 2.

B. Support trays and fasten to structure and finishes in accordance with Section 16070. Install supports at each connection point, at end of each run, and at other points to maintain spacing between supports of 4 ft maximum.

C. Install expansion connectors where recommended by manufacturer.

D. Install firestopping in accordance with Section 16070 to sustain ratings when passing cable tray through fire-rated elements.

E. Ground and bond metal cable tray in accordance with Section 16060.
1. Provide continuity between tray components.
2. Use anti-oxidant compound to prepare aluminum contact surfaces before assembly.
3. Install 2 AWG bare copper equipment grounding conductor through entire length of tray; bond to each component.
4. Make connections to tray using mechanical, compression or exothermic connectors.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
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SECTION 16140

WIRING DEVICES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes wall switches; receptacles, device plates, decorative box covers, and alarm monitoring control system.

1.2 REFERENCES

A. NECA (National Electrical Contractors Association) - Standard of Installation.

B. NEMA WD 1 (National Electrical Manufacturers Association) - General Requirements for Wiring Devices.

C. NEMA WD 6 (National Electrical Manufacturers Association) - Wiring Device - Dimensional Requirements.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit manufacturer's catalog information showing dimensions, colors, and configurations.

C. Alarm Monitoring Controls: Submit product data and catalog information for alarm control devices. Include a complete wiring schematic, including panel build drawings, of the system illustrated in the drawings.

PART 2 PRODUCTS

2.1 WALL SWITCHES

A. Product Description: NEMA WD 1, Heavy-Duty, AC only general-use snap switch.

B. Body and Handle: Gray plastic with toggle handle.

C. Ratings:
1. Voltage: 120-277 volts, AC.
2. Current: 20 amperes.

D. Outdoor & Wet Locations: NEMA 4X, gasketed, stainless steel.

2.2 RECEPTACLES

A. Product Description: NEMA WD 1, Heavy-duty general use receptacle meeting federal specification W-C-596 and UL 496.

B. Device Body: Gray plastic.

C. Configurations: NEMA WD 6, type as indicated on Drawings.
1. Simplex, 20A, 125V, NEMA 5-20R.
2. Duplex, 20A, 125V, NEMA 5-20R.
3. Ground fault type, 20A, 125V, NEMA 5-20R, duplex, 6 mA trip.

2.3 WALL PLATES

A. Cover Plate: Gray plastic.

B. Weatherproof Cover Plate: Gasketed cast metal plate with threaded and gasketed device cover. Located in wet and exterior environments.

2.4 ALARM MONITORING CONTROL SYSTEM

A. System Description: Alarm monitoring control system shall consist of remote field installed devices and a 66 punch down block (furnished by others). The field devices shall provide dry contacts closure (normally closed) to the 66-block punch down terminal which will communicate to a central monitoring station at Essex County Emergency Services. Network side wiring shall be by others.

B. Control system wiring shall comply with the 2008 Edition of the National Electric Code. Prior to system installation, contractor shall submit a full list of materials, product specifications, riser and wiring diagrams for review and approval by engineer. Refer to drawing E-103 for alarm requirements.

C. The following field mounted devices shall be provided:
1. Door Intrusion Sensors: GE Sentry 1045 Series or equal. Surface mounted magnetic door contact for intrusion monitoring. Normally closed, 30 VDC input, UL listed.
2. High and Low Level Temperature Limits: Johnson Controls A70 Series or equal. Heavy duty temperature limit controls with auxiliary contact closure at set point. 3/8” x 3” bulb capillary, screwdriver adjustment, manual reset. 35 to 80 degree F low limit, 90-170 degree high limit..
3. Current Sensors: Honeywell CSS Series or equal. Solid core type, Normally open, go/no go operation, 0-250 A operating range, 0.5A trip point, red LED indication.
4. Fire Alarm Monitoring Modules: Provided with fire alarm system package.
5. Generator/Transfer Switch device integration. Refer to drawings and specific specifications for requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify outlet boxes are installed at proper height.

C. Verify wall openings are neatly cut and completely covered by wall plates.

D. Verify branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

3.2 PREPARATION

A. Clean debris from outlet boxes.

3.3 INSTALLATION

A. Install in accordance with NECA "Standard of Installation."

B. Install devices plumb and level.

C. Install switches with OFF position down.

D. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.

E. Install receptacles with grounding pole on top.

F. Connect wiring device grounding terminal to outlet box with bonding jumper and branch circuit equipment grounding conductor.

G. Connect wiring devices by wrapping solid conductor around screw terminal. Install stranded conductor for branch circuits 10 AWG and smaller. When stranded conductors are used in lieu of solid, use crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under device screws.

H. Use jumbo size plates for outlets installed in masonry walls.

3.4 INTERFACE WITH OTHER PRODUCTS

A. Coordinate locations of outlet boxes provided under Section 16130 to obtain mounting heights as specified and as indicated on drawings.

B. Install wall switch 44 inches above finished floor (unless noted otherwise).

C. Install convenience receptacle 18 inches above finished floor (unless noted otherwise).

D. Install communication room equipment receptacle as noted on drawings.

E. Install weatherproof receptacles 24” above grade.

3.5 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust devices and wall plates to be flush and level.

3.6 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16231

GENERATOR SET

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. It is the intent of this specification to secure an engine driven generator set that has been prototype tested, factory built, production tested, and site tested, together with all accessories necessary for a complete installation as shown on the plans and drawings and specified herein. All equipment shall be new and of current production by an international firm which manufactures the generator and controls.

B. Provide complete factory assembled generator set equipment with digital (microprocessor-based) electronic generator set controls, digital governor, and digital voltage regulator.

1.2 GENERAL REQUIREMENTS

A. It is the intent of this specification to secure a generator system that has been tested during design verification, production and at the final job site. The generator set will be of the lasted commercial design and will be complete with all of the necessary accessories for complete installation as shown on the plans, drawings, and specifications herein. The equipment supplied and installed shall meet the requirements of the National Electrical Code, along with all applicable local codes and regulations. All equipment shall be new and of current production of a national firm which manufactures the generator and controls, transfer switches, switchgear, and assembles the generator sets as a complete and coordinated system. There will be one source responsibility for warranty, parts, and service through a local representative with factory-trained servicemen.

1.3 CODES AND STANDARDS

A. The generator set installation and on-site testing shall conform to the requirements of the following codes and standards, as applicable. The generator set shall include necessary features to meet the requirements of these standards.
   1. ANSI S1.13-1971—Measurement of Sound Pressure Levels in Air.
   2. CSA 282, 1989 Emergency Electrical Power Supply for Buildings.
   3. IEEE446 – Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.
   4. NFPA 30 – Flammable and Combustible Liquids.
   5. NFPA 37 – Standard For the Installation and Use of Stationary Combustion Engines and Gas Turbines.
   6. NFPA 70 – National Electrical Code. Equipment shall be suitable for use in systems in compliance to Article 700, 701, and 702.

B. The generator set and supplied accessories shall meet the requirements of the following standards:
   1. NEMA MG1-1998 part 32. Alternator shall comply with the requirements of this standard.
   2. UL142 – Sub-base Tanks.

3. UL1236 – Battery Chargers.
4. UL2200. The generator set shall be listed to UL2200 or submit to an independent third party certification process to verify compliance as installed.

C. The control system for the generator set shall comply with the following requirements.
1. CSA C22.2, No. 14 – M91 Industrial Control Equipment.
2. EN50082-2, Electromagnetic Compatibility – Generic Immunity Requirements, Part 2: Industrial.
3. EN55011, Limits and Methods of Measurement of Radio Interference Characteristics of Industrial, Scientific and Medical Equipment.
4. FCC Part 15, Subpart B.
5. IEC8528 part 4. Control Systems for Generator Sets.
6. IEC Std 801.2, 801.3, and 801.5 for susceptibility, conducted, and radiated electromagnetic emissions.

D. The generator set manufacturer shall be certified to ISO 9001 International Quality Standard and shall have third party certification verifying quality assurance in design/development, production, installation, and service, in accordance with ISO 9001.

1.4 SUBMITTAL

A. The submittal shall include prototype test certification and specification sheets showing all standard and optional accessories to be supplied, schematic wiring diagrams, dimension drawings, and interconnection diagrams identifying by terminal number, each required interconnection between the generator set, the transfer switch, and the remote annunciator panel.

B. Technical data on all major components. Technical data must include an alternator thermal damage curve, description and operating characteristics of the alternator protection device, and an alternator reactive capability curve.

C. Certification of the emissions performance of the generator set engine by the engine manufacturer.

D. Seismic certification, as required.

1.5 TESTING

A. To assure that the equipment has been designed and built to the highest reliability and quality standards, the manufacturer and/or local representative shall be responsible for three separate tests for each specified model: design prototype tests, final production tests, and site tests.
1. Design Prototype Tests: Components of the emergency system such as the engine/generator set, transfer switch, and accessories shall not be subjected to prototype tests since the tests are potentially damaging. Rather, similar design prototypes and preproduction models, which will not be sold, shall have been used for the following tests.
a. Maximum power (kW).
b. Maximum motor starting (kVA) at 15% instantaneous voltage dip.
c. Alternator temperature rise by embedded thermocouple and/or by resistance method per NEMA MG1-22.40 and 16.40.
d. Governor speed regulation under steady-state and transient conditions.

e. Voltage regulation and generator transient response.
f. Fuel consumption at 1/4, 1/2, 3/4, and full load.
g. Harmonic analysis, voltage waveform deviation, and telephone influence factor.
h. Three-phase short circuit tests.
i. Alternator cooling air flow.
j. Torsional analysis to verify that the generator set is free of harmful torsional stresses.
k. Endurance testing.

2. Production Tests
   a. Final Production Tests: Each generator set shall be tested under varying loads with guards and exhaust system in place. Tests shall include:
   b. Single-step load pickup.
   c. Transient and steady—state governing.
   d. Safety shutdown device testing.
   e. Voltage regulation.
   f. Rated Power @ 0.8 PF.
   g. Maximum Power.
   h. Upon request, arrangements to either witness this test will be made, or a certified test record will be sent prior to shipment.
3. Site Tests
   a. Site Tests: An installation check, start-up, and building load test shall be performed by the manufacturer's local representative. The engineer, regular operators, and the maintenance staff shall be notified of the time and date of the site test. The tests shall include:
   b. Fuel, lubricating oil, and antifreeze shall be checked for conformity to the manufacturer's recommendations, under the environmental conditions present and expected.
   c. Accessories that normally function while the set is standing by shall be checked prior to cranking the engine. These shall include: block heaters, battery charger, generator strip heaters, remote annunciator, etc.
   d. Start-up under test mode to check for exhaust leaks, path of exhaust gases outside the building, cooling air flow, movement during starting and stopping, vibration during running, normal and emergency line-to-line voltage and frequency, and phase rotation.
   e. Automatic start-up by means of simulated power outage to test remote-automatic starting, transfer of the load, and automatic shutdown. Prior to this test, all transfer switch timers shall be adjusted for proper system coordination. Engine coolant temperature, oil pressure, and battery charge level along with generator voltage, amperes, and frequency shall be monitored throughout the test.

1.6 WARRANTY & MAINTENANCE

A. The generator set shall be guaranteed against defective material and workmanship in accordance with the manufacturer’s published warranty for five years from date of start-up and acceptance by owner. The warranty shall be comprehensive. No deductibles shall be allowed for travel time, service hours, repair parts cost, etc. shall be allowed during the minimum noted warranty period described in paragraph A above.

B. The generator set manufacturer and its distributor shall maintain a 24-hour parts and service organization. This organization shall be regularly engaged in a maintenance contract program to perform preventive maintenance and service on equipment similar to that specified. A five year full service agreement shall be provided and shall include system operation under simulated operating conditions, adjustment to the generator, transfer switch, and switchgear controls as required, and certification in the owner's maintenance log of repairs made and proper functioning of all systems. Service to be done twice annually.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

1. Cummins Onan, Model 40-DSFAB.
2. Caterpillar.
3. Kohler

2.2 RATINGS

A. The generator set shall operate at 1,800 rpm and at a voltage of: 120/208 AC, Three phase, 4-wire, 60 hertz.

1. The complete generator set shall be rated per ISO8528 at 40 kW at 0.8 PF, Standby, rating, based on site conditions of: Altitude 3,651 feet, ambient temperatures of 90°F, based on temperature measured at the control for indoor installations, and measured at the air inlet closest to the alternator for outdoor equipment.
2. The generator set rating shall be based on emergency/standby service and marked as such per NFPA110.

B. Performance:

1. Voltage regulation shall not exceed one percent for any constant load between no load and rated load for both parallel and non-parallel applications. Random voltage variation with any steady load from no load to full load shall not exceed plus or minus 0.5 percent.
2. Frequency regulation shall be isochronous from steady state no load to steady state rated load. Random frequency variation with any steady load from no load to full load shall not exceed plus or minus 0.25%.
3. The diesel engine-generator set shall be capable of single step load pick up of 100% nameplate kW and power factor, less applicable derating factors, with the engine-generator set at operating temperature.
4. Motor starting capability shall be a minimum of 272 kVA. The generator set shall be capable of sustaining a minimum of 90% of rated no load voltage with the specified kVA load at near zero power factor applied to the generator set.
5. The alternator shall produce a clean AC voltage waveform, with not more than 5% total harmonic distortion at full linear load, when measured from line to neutral, and with not more than 3% in any single harmonic, and no 3rd order harmonics or their multiples. Telephone influence factor shall be less than 40.
6. The generator set shall be certified by the engine manufacturer to be suitable for use at the installed location and rating, and shall meet all applicable exhaust emission requirements at the time of commissioning.
7. The time required to automatically start, accelerate to rated speed and voltage, synchronize and parallel all generator sets to the system bus on a normal power failure

shall not exceed 15 seconds, assuming that the generator sets are in an ambient temperature of 15C or greater, and water jacket heaters are operating properly.

8. The generator set, complete with sound attenuated enclosure, shall be tested by the generator set manufacturer per ANSI S1.13. Data documenting performance shall be provided with submittal documentation.

C. Construction:

1. The engine-generator set shall be mounted on a heavy-duty steel base to maintain alignment between components. The base shall incorporate a battery tray with hold-down clamps within the rails.
2. All switches, lamps, and meters in the control system shall be oil-tight and dust-tight. There shall be no exposed points in the control (with the door open) that operate in excess of 50 volts.
3. All outdoor equipment shall be enclosed with corrosion-protected materials. Steel components used in enclosures shall be powder coated and baked, and shall provide fade and corrosion resistance in compliance to Dry film thickness shall be shd3363 of 2H+all a minimum of 1.8 Mils, gloss at 60degrees per ASTMD523 of 80+/- 10, pencil hardness per ASTM D3363.

D. Connections:

1. The generator set load connections shall be composed of silver or tin plated copper bus bars, drilled to accept mechanical or compression terminations of the number and type as shown on the drawings. Sufficient lug space shall be provided for use with cables of the number and size as shown on the drawings.
2. Power connections to auxiliary devices shall be made at the devices, with required protection located at a wall-mounted common distribution panel.
3. Generator set control interfaces to other system components shall be made on a common, permanently labeled terminal block assembly.

E. Connected Loads: (All in one (1) step)

1. Dedicated Cooling Unit: 5 ton A/C, 208V, 3ϕ.
2. UPS: 3.10 KVA, 120V.
3. Lighting: 1.0 kw, 120V.
4. General Receptacles: 0.50 kw, 120V.
5. Future LMR Rack #1: 1.0 kw, 120V.
6. Future LMR Rack #2: 1.0 kw, 120V.
7. Charger and Batteries #1: 0.75 kw, 208V.
8. Charger and Batteries #2: 0.75 kw, 208V.
9. Microwave Rack #1: 1.0 kw, 120V.
10. Microwave Rack #2: 1.0 kw, 120V.
11. Fire Paging Base Rack: 0.56 kw, 120V.
12. Fire Paging Upper Rack: 1.0 kw, 120V.
13. Future TBD Rack #1: 1.0 kw, 120V.
14. Future TBD Rack #2: 1.0 kw, 120V.
15. ORDA Radio Equipment: 0.56 kw, 120V.
16. Electric Unit Heater: 3.3 kw, 208V, 3ϕ.
17. Gas Unit Heater: 0.16 kw, 120V.

2.3 ENGINE AND ENGINE EQUIPMENT

A. The engine shall be diesel, 4 cycle, radiator and fan cooled. Minimum displacement shall be 4.5 liters, with 4 cylinders. The horsepower rating of the engine at its minimum tolerance level shall be sufficient to drive the alternator and all connected accessories. Two cycle engines are not acceptable. Engine accessories and features shall include:

1. An electronic governor system shall provide automatic isochronous frequency regulation. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions. The control system shall actively control the fuel rate and excitation as appropriate to the state of the generator set. Fuel rate shall be regulated as a function of starting, accelerating to start disconnect speed, accelerating to rated speed, and operating in various isochronous or parallel states.
2. Skid-mounted radiator and cooling system rated for full load operation in 50 degrees C ambient as measured at the generator air inlet, based on 0.5 in H_2O external static head. Radiator shall be sized based on a core temperature which is 10C higher than the rated operation temperature, or prototype tested to verify cooling performance of the engine/radiator/fan operation in a controlled environment. The cooling system shall be filled with a 50/50-ethylene glycol/water mixture by the equipment manufacturer. Rotating parts shall be guarded against accidental contact.
3. Electric starters capable of three complete cranking cycles without overheating.
4. Positive displacement, mechanical, full pressure, lubrication oil pump.
5. Engine Oil Heater: 120V, 1-phase, 60 Hz.
6. Full flow lubrication oil filters with replaceable spin-on canister elements and dipstick oil level indicator.
7. An engine driven, mechanical, positive displacement fuel pump. Fuel filter with replaceable spin-on canister element. Fuel cooler, suitable for operation of the generator set at full rated load in the ambient temperature specified shall be provided if required for operation due to the design of the engine and the installation.
8. Replaceable dry element air cleaner with restriction indicator.
9. Flexible supply and return fuel lines.
10. Engine mounted battery charging alternator, 40-ampere minimum, and solid-state voltage regulator.
11. Coolant Heater:
    a. Engine mounted, thermostatically controlled, coolant heater(s) for each engine. Heater voltage shall be 120V, 1-phase. The coolant heater shall be UL499 listed and labeled.
    b. The coolant heater shall be installed on the engine with SAEJ20 compliant materials. Steel tubing shall be used for connections into the engine coolant system wherever the length of pipe run exceeds 12 inches. The coolant heater installation shall be specifically designed to provide proper venting of the system. The coolant heaters shall be installed using isolation valves to isolate the heater for replacement of the heater element. The design shall allow the heater element to be replaced without draining the engine cooling system or significant coolant loss.
    c. The coolant heater shall be provided with a 24VDC thermostat, installed at the engine thermostat housing. An AC power connection shall be provided for a single AC power connection to the coolant heater system.
    d. The coolant heater(s) shall be sized as recommended by the engine manufacturer to warm the engine to a minimum of 40C in a 15C ambient, in

compliance with NFPA110 requirements, as a minimum, or the temperature required for starting and load pickup requirements of this specification.

12. Provide vibration isolators, spring/pad type, quantity as recommended by the generator set manufacturer. Isolators shall include seismic restraints.
13. Starting and Control Batteries shall be lead acid type, 24 volt DC, sized as recommended by the engine manufacturer for compliance to NFPA110 starting requirements, complete with battery cables and connectors.
14. Provide exhaust silencer for engine of size and type as recommended by the generator set manufacturer and approved by the engine manufacturer. The mufflers shall be critical grade. Exhaust system shall be installed according to the engine manufacturer's recommendations and applicable codes and standards.
15. Battery Charger: Provide one (1) fully regulated, constant voltage, current limited, multi-rate battery charger(s) for generator set. The chargers shall be designed for heavy-duty industrial service, primarily to quickly recharge and maintain batteries that start internal combustion engines. Charger shall be rated a minimum of 12 amps, and be capable of operating in parallel with another like charger for reliability and added charging capacity. Charger shall be 120V, 1-phase.
    a. Charger shall provide 4 distinct charge states: "dead battery", "bulk charge", "absorption", and "float". Charge rate shall be temperature compensated to provide proper charging in ambient conditions from –20 to +55C.
    b. Cummins QSB5G3 or equal.
    c. Provider LED indication of general charger condition, including charging, fault, and equalize. Provide a 2 line LCD display to indicate charge rate, battery voltage, faults, and provide for charger set up. Charger shall provide relay contacts for fault conditions as required by NFPA110.
    d. The charger shall operate properly during fault conditions, including battery disconnection while charging, reversed battery polarity connections, and shorted battery.
    e. The charger shall be compliant to the same RFI/EMI and voltage surge performance as are specified for the genset control.
    f. Provide a dual wall subbase fuel tank sized for 120 hours of operation at full load.

2.4 LOW VOLTAGE AC ALTERNATOR

A. The AC alternator shall be; synchronous, four pole, 2/3 pitch, brushless, revolving field, drip-proof construction, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan, and directly connected to the engine with flexible drive disc. The alternator design shall prevent shaft current from flowing and eliminate the need for insulated bearings. All insulation system components shall meet NEMA MG1 requirements for Class H insulation systems. Actual temperature rise measured by resistance method at full load shall not exceed 105°C in a 40°C ambient.

B. The alternator shall be capable of delivering rated output (kVA) at rated frequency and power factor, at any voltage up to 5 percent above or below rated voltage.

C. The alternator shall be supplied with a dedicated, independent power source for the voltage regulation system, which provides sufficient excitation for the alternator to supply 300% of rated output current for 10 seconds.

D. The subtransient reactance of the alternator shall not exceed 12 percent, based on the standby rating of the generator set.

E. Provide an anti-condensation heater for the alternator for generator sets installed outdoors or in unheated environments. Heater shall be 120V, 1-phase, 60 Hz.

F. Provide two embedded resistance temperature detectors per phase and temperature indication equipment. The control system shall annunciate high alternator temperature as a fault condition.

2.5 GENERATOR SET CONTROL

A. The generator set shall be provided with a microprocessor-based control system that is designed to provide automatic starting, monitoring, protection and control functions for the generator set. The control system shall also be designed to allow local monitoring and control of the generator set, and remote monitoring and control as described in this specification. The control shall be mounted on the generator set. The control shall be vibration isolated and prototype tested to verify the durability of all components in the system under the vibration conditions encountered.

B. The generator set mounted control shall include the following features and functions:
1. Control Switches
   a. Mode Select Switch. The mode select switch shall initiate the following control modes. When in the RUN or Manual position the generator set shall start, and accelerate to rated speed and voltage as directed by the operator. In the OFF position the generator set shall immediately stop, bypassing all time delays. In the AUTO position the generator set shall be ready to accept a signal from a remote device to start and accelerate to rated speed and voltage.
   b. EMERGENCY STOP switch. Switch shall be Red "mushroom-head" push-button. Depressing the emergency stop switch shall cause the generator set to immediately shut down, and be locked out from automatic restarting. The switch shall include a lockout provision for use in safely disabling the generator set for necessary service.
   c. RESET switch. The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition.
   d. PANEL LAMP switch. Operating the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched off 10 minutes after the switch is operated, or after the switch is operated a second time.
   e. Paralleling Breaker Control Switch. The control shall include breaker operation switches for manual paralleling of the generator set.
   f. Voltage and Frequency Adjustment. The genset mounted control shall include digital raise/lower switches for adjustment of voltage and frequency. The control system shall lock out these adjustments when the paralleling breaker is closed. Operator adjustment of the voltage and frequency shall not impact on the load sharing function or settings for kW and kVAR load sharing.
2. Generator Set AC Output Metering: The generator set shall be provided with a metering set including the following features and functions.

a. Analog voltmeter, ammeter, frequency meter, and kilowatt (KW) meter. Voltmeter and ammeter shall display all three phases. Ammeter and KW meter scales shall be color coded in the following fashion: readings from 0-90% of generator set standby rating: green; readings from 90-100% of standby rating: amber; readings in excess of 100%: red.

b. Digital metering set, 0.5% accuracy, to indicate generator RMS voltage and current, frequency, output current, output KW, KW-hours, and power factor. Generator output voltage shall be available in line-to-line and line-to-neutral voltages, and shall display all three phase voltages (line to neutral or line to line) simultaneously.

c. Both analog and digital metering are required.

3. Generator Set Alarm and Status Display:

a. Provisions shall be made for indication of four customer-specified alarm or shutdown conditions. Labeling of the customer-specified alarm or shutdown conditions shall be of the same type and quality as the above specified conditions. The non-automatic indicating lamp shall be red, and shall flash to indicate that the generator set is not able to automatically respond to a command to start from a remote location.

4. Engine Status Monitoring:

a. The control system shall also incorporate a data logging and display provision to allow logging of a minimum of the last 20 warning or shutdown indications on the generator set, the time of the last fault of each type, and the number of faults of each type, and total time of operation at various loads as a percent of the standby rating of the generator set.

5. Engine Control Functions:

a. The control system provided shall include a cycle cranking system, which allows for user selected crank time, rest time, and # of cycles. Initial settings shall be for 3 cranking periods of 15 seconds each, with 15-second rest period between cranking periods.

b. The control system shall include an engine governor control, which functions to provide steady state frequency regulation as noted elsewhere in this specification. The governor control shall include adjustments for gain, damping, and a ramping function to control engine speed and limit exhaust smoke while the unit is starting. The governor control shall be suitable for use in paralleling applications without component changes.

c. The control system shall include time delay start (adjustable 0-300 seconds) and time delay stop (adjustable 0-600 seconds) functions.

d. The control system shall include sender failure monitoring logic for speed sensing, oil pressure, and engine temperature which is capable of discriminating between failed sender or wiring components, and an actual failure conditions.

6. Alternator Control Functions:

a. Controls shall be provided to monitor the output current of the generator set and initiate an alarm (over current warning) when load current exceeds 110% of the rated current of the generator set on any phase for more than 60 seconds. The controls shall shut down and lock out the generator set when output current level approaches the thermal damage point of the alternator (over current shutdown). The protective functions provided shall be in compliance to the requirements of NFPA70 article 445.

b. Controls shall be provided to individually monitor all three phases of the output current for 1, 2, or 3-phase short circuit conditions. The control/protection system shall monitor the current level and voltage. The controls shall shut down and lock out

the generator set when output current level approaches the thermal damage point of the alternator (short circuit shutdown).

c. Controls shall be provided to monitor the KW load on the generator set, and initiate an alarm condition (over load) when total load on the generator set exceeds the generator set rating for in excess of 5 seconds. Controls shall include a load shed control, to operate a set of dry contacts (for use in shedding customer load devices) when the generator set is overloaded.

d. An AC over/under voltage monitoring system that responds only to true RMS voltage conditions shall be provided. The system shall initiate shutdown of the generator set when alternator output voltage exceeds 110% of the operator-set voltage level for more than 10 seconds, or with no intentional delay when voltage exceeds 130%. Under voltage shutdown shall occur when the output voltage of the alternator is less than 85% for more than 10 seconds.

e. A battery monitoring system shall be provided which initiates alarms when the DC control and starting voltage is less than 25 VDC or more than 32 VDC. During engine cranking (starter engaged), the low voltage limit shall be disabled, and if DC voltage drops to less than 14.4 volts for more than two seconds a "weak battery" alarm shall be initiated.

7. The generator set shall be provided with a digital input/output module, including expansion module(s), to provide up to (16) Form C latching output relays for remote monitoring. Relay outputs shall be programmable. Refer to list of required outputs on drawings.

8. The generator set shall be provided with a utility grade protective relay, designed to provide thermal overload protection for the alternator, and performance certified for that purpose by a 3rd party testing organization. The supplier shall submit time overcurrent characteristic curves and thermal damage curve for the alternator, demonstrating the effectiveness of the protection provided. Relay shall be installed to allow shutdown of the generator excitation system on an alternator overload condition, with the engine operating for a cool-down period before shutdown. The relay shall not include an instantaneous trip function.

2.6 GENERATOR SUBBASE DAY TANK

A. Comply with NFPA 30 and standard UL-142.

B. Base mounted fuel oil tank: Factory installed and piped. Cummins Onan Model A030Y657 or equal. Features include the following:

1. Tank level indicator
2. Capacity: Fuel for minimum 68 hours continuous operation at 100% rated power output.
3. Vandal resistant fill cap (raised with lock). Overfill preventor valve and spill fill box.
4. Double wall above ground with secondary containment, UL and ULC listed, NFPA compliant.
5. Interstitial tank monitoring and alarm.
6. Provide vibration isolators between subbase tank and genset and between subbase and steel base.
7. Shall be rectangular in shape and include reinforced steel box channel for generator support, with load rating of 18,000 lbs. per gen-set mounting hole location. Full height gussets shall be provided at gen-set mounting holes.
8. Shall be pressure washed with an iron phosphate solution. Interior shall be coated with a solvent-based film rust preventative, providing inter-operational protection. Exterior shall be painted with medium texture polyester powder paint.
9. Shall be shipped with a certificate of Structural/Mechanical Integrity, certifying that it has met standards through rigorous testing and has demonstrated specified capabilities.

10. Primary tank sections shall be pressurized at 3-5 psi and leak-checked to ensure integrity of sub base weld seams per UL-142 standards. Containment basin shall be leak-checked by means of weld penetrant and ultraviolet light.
11. The sub base tank shall include the following fittings:
    a. Appropriately sized NPT fuel supply.
    b. Fuel return fitting.
    c. 1¼" NPT for normal vent.
12. The sub base tank shall include a direct-reading fuel level gauge.
13. Sub base tank shall include a welded steel containment basin, sized at a minimum of 100% of the tank capacity to prevent escape of fuel into the environment in the event of a tank rupture.
14. A fuel containment basin leak detector switch shall be provided. Activates on primary tank failure.
15. Normal venting: Normal venting shall be sized at 1 ¼" NPT for tanks through 2,499 gallons in accordance with The American Petroleum Institute Standard No. 2000, for venting atmospheric and low pressure storage tanks. Tank shall be provided with atmospheric (normal) vent cap with screen.
16. Emergency venting: The emergency vent NPT fitting shall be sized to accommodate the total capacity of both normal and emergency vents, and is not less than that derived from NFPA 30, Table 2-8, based on wetted surface area of the tank (calculated based on 100% of primary tank). A zinc-plated emergency pressure relief vent cap shall be furnished. The vent shall be spring-pressure operated. Opening pressure shall be 0.5 psig; full opening pressure shall be 2.5 psig. Limits shall be marked on tope of each vent. A second emergency vent fitting shall be provided for the secondary containment portion of the tank if applicable. Units shall be extended to 12' above finished grade.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, equipment foundations, and conditions, with Installer present, for compliance with requirements for installation and other conditions affecting packaged engine generator performance.
    1. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Examine roughing-in of cooling-system piping systems and electrical connections. Verify actual locations of connections before packaged engine generator installation.

3.2 INSTALLATION

A. Comply with packaged engine generator manufacturers' written installation and alignment instructions, and with NFPA 110.

B. Set packaged engine generator set on concrete bases.
    1. Support generator-set mounting feet on rectangular metal blocks and shims or on metal wedges having small taper, at points near foundation bolts to provide 3/4- to 1-1/2-inch gap between pump base and foundation for grouting.
    2. Adjust metal supports or wedges until generator is level.

C. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.

D. Equipment shall be installed by the contractor in accordance with final submittals and contract documents. Installation shall comply with applicable state and local codes as required by the authority having jurisdiction. Install equipment in accordance with manufacturer's instructions and instructions included in the listing or labeling of UL listed products.

E. Installation of equipment shall include furnishing and installing all interconnecting wiring between all major equipment provided for the on-site power system. The contractor shall also perform interconnecting wiring between equipment sections (when required), under the supervision of the equipment supplier.

F. Equipment shall be installed on concrete housekeeping pads. Equipment shall be permanently fastened to the pad in accordance with manufacturer’s instructions and seismic requirements of the site.

G. Equipment shall be initially started and operated by representatives of the manufacturer. All protective settings shall be adjusted as instructed by the consulting engineer.

H. All equipment shall be physically inspected for damage. Scratches and other installation damage shall be repaired prior to final system testing. Equipment shall be thoroughly cleaned to remove all dirt and construction debris prior to initial operation and final testing of system.

I. On completion of the installation by the electrical contractor, the generator set supplier shall conduct a site evaluation to verify the equipment is installed per manufacturer’s recommended practice.

3.3 ON-SITE ACCEPTANCE TEST

A. The complete installation shall be tested to verify compliance with the performance requirements of this specification following completion of all site work. Testing shall be conducted by representatives of the manufacturer, with required fuel supplied by Contractor. The Engineer shall be notified in advance and shall have the option to witness the tests. The generator set manufacturer shall provide a site test specification covering the entire system. Tests shall include:

1. Prior to start of active testing, all field connections for wiring, power conductors, and bus bar connections shall be checked for proper tightening torque.
2. Installation acceptance tests to be conducted on-site shall include a "cold start" test, an eight (8) hour full load (resistive) test, and a one step rated load pickup test in accordance with NFPA 110. Provide a resistive load bank and make temporary connections for full load test, as required.
3. Perform a power failure test on the entire installed system. This test shall be conducted by opening the power supply from the utility service, and observing proper operation of the system for at least 2 hours. Coordinate timing and obtain approval for start of test with site personnel.
4. The generator set supplier shall issue a test report documenting the results of testing, and including a complete list of all settings in the control system.

3.4 TRAINING

A. The equipment supplier shall provide training for the facility operating personnel covering operation and maintenance of the equipment provided. The training program shall be not less than 4 hours in duration. Training date shall be coordinated with the facility owner.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16271

PAD-MOUNTED TRANSFORMERS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes liquid-filled pad-mounted distribution transformers.

1.2 REFERENCES

A. American National Standards Institute:
1. ANSI C37.47 - American National Standard Specifications for Distribution Fuse Disconnecting Switches, Fuse Supports, and Current-Limiting Fuses.
2. ANSI C57.12.26 - Pad-Mounted Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers for Use with Separable Insulated High-Voltage Connectors, High Voltage, 34 500 Grd Y/19 920 Volts and Below; 2500 kVA and Smaller.
3. ANSI C57.12.28 - Pad-Mounted Equipment - Enclosure Integrity.
4. ANSI C57.12.55 - Dry Type Transformers in Unit Installations, Including Unit Substations-Conformance Standard.

B. Institute of Electrical and Electronics Engineers:
1. IEEE 386 - Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V.
2. IEEE C57.12.00 - Standard General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers.
3. IEEE C57.12.90 - Standard Test Code for Liquid-Immersed Distribution, Power, and Regulating Transformers and IEEE Guide for Short Circuit Testing of Distribution and Power Transformers.
4. IEEE C57.12.91 - Standard Test Code for Dry-Type Distribution and Power Transformers.
5. IEEE C57.13 - Standard Requirements for Instrument Transformers.
6. IEEE C57.94 - Recommended Practice for Installation, Application, Operation, and Maintenance of Dry-Type General Purpose Distribution and Power Transformers.
7. IEEE C57.106 - Guide for Acceptance and Maintenance of Insulating Oil in Equipment.
8. IEEE C57.111 - Guide for Acceptance of Silicone Insulating Fluid and Its Maintenance in Transformers.
9. IEEE C57-121 - Guide for Acceptance and Maintenance of Less-Flammable Hydrocarbon Fluid in Transformers.

C. National Electrical Manufacturers Association:
1. NEMA 260 - Safety Labels for Padmounted Switchgear and Transformers Sited in Public Areas.
2. NEMA AB 1 - Molded Case Circuit Breakers and Molded Case Switches.

D. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate electrical characteristics and connection requirements, outline dimensions, connection and support points, weight, specified ratings and materials.

C. Product Data: Submit electrical characteristics and connection requirements, standard model design tests, and options.

D. Test Reports: Indicate procedures and results for specified factory and field testing and inspection.

E. Manufacturer's Field Reports: Indicate activities on site, final adjustments and overcurrent protective device coordination curves, adverse findings, and recommendations.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Closeout procedures.

B. Project Record Documents: Include copy of manufacturer's certified drawings.

C. Operation and Maintenance Data: Submit maintenance procedures for sampling and maintaining fluid.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling, storing, and protecting products.

1.7 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.8 MAINTENANCE MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Furnish two each of special tools required to operate and maintain transformer.

1.9 EXTRA MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Furnish two of each size and type fuse.

PART 2 PRODUCTS

2.1 LIQUID-FILLED TRANSFORMERS

A. Manufacturers:
1. GE Electrical.
2. Federal Pacific.
3. Substitutions or approved equal: Section 01600 - Product Requirements.

B. Product Description: ANSI C57.12.26, three phase, pad mounted, self-cooled transformer unit.

C. Cooling and Temperature Rise; IEEE C57.12.00; Class OA. 65 degrees C, self-cooled.

D. Insulating Liquid: Oil conforming to IEEE C57.106.

2.2 SERVICE CONDITIONS

A. Meet requirements for usual service conditions described in IEEE C57.12.00 and for specified unusual service conditions.

B. Minimum Ambient Temperature: -30 degrees F.

C. Load Current Harmonic Factor: .05 for each unit, maximum.

2.3 RATINGS

A. Capacity: 75 kVA.

B. Primary Voltage: 34.5 kV, wye.

C. Taps: Standard primary taps.

D. Secondary Voltage: 120/208 volts, wye connected, grounded.

E. Impedance: 5.75 percent maximum.

F. Basic Impulse Level: 150 kV.

2.4 ACCESSORIES

A. Accessories: IEEE C57.12.00, standard accessories and magnetic liquid level gage, dial type thermometer, and pressure vacuum.

B. Tap Changer: Externally-operated type.

C. Primary Terminations: Bushing wells conforming to IEEE 386; furnish three for radial feed. Include bushings for insulated loadbreak connectors.

D. Primary Switching: Fused air switch, gang operated.

E. Primary Overcurrent Protection: Internally-mounted, liquid-immersed, expulsion fuses.

F. Secondary Terminations: Spade lugs.

G. Secondary Switching and Overcurrent Protection: Molded case circuit breaker conforming to NEMA AB1.

H. Other Accessories: Primary lightning arrestors.

2.5 FABRICATION

A. Conform to requirements of ANSI C57.12.28.

2.6 FACTORY FINISHING

A. Clean surfaces before applying paint.

B. Apply corrosion-resisting primer to surfaces.

C. Apply finish coat of baked enamel paint to 2 mils thick.

D. Finish Color: Color chosen by ORDA.

2.7 SOURCE QUALITY CONTROL (AND TESTS)

A. Provide factory tests conforming to IEEE C57.12.90. Include routine tests as defined in IEEE C57.12.00 and the following other tests:
1. Impedance voltage and load loss.
2. Dielectric tests.
3. Audible sound level.
4. Short circuit capability.
5. Telephone influence factor (TIF).

B. Test insulating liquid samples in accordance with IEEE C57.106.

C. Allow witnessing of factory inspections and tests at manufacturer's test facility. Notify Owner Architect/Engineer at least seven days before inspections and tests are scheduled.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify pads and supports are suitable for installation.

3.2 INSTALLATION

A. Install plumb and level on concrete pad.

B. Install safety labels in accordance with NEMA 260.

C. Install engraved plastic nameplates in accordance with Section 16075.

D. Ground and bond substation in accordance with Section 16060.

3.3 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and inspection services 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.2.
   1. Tests.

3.4 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust primary taps so secondary voltage is above and within 2 percent of rated voltage.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16289

TRANSIENT VOLTAGE SURGE SUPPRESSORS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Transient Voltage Surge Suppressors, Type 1 and Type 2.

B. Related Sections:
   1. Section 16442 - Panelboards: Transient voltage surge suppressors connected panelboards.

1.2 REFERENCES

A. Institute of Electrical and Electronics Engineers:
   1. IEEE 1100 - Recommended Practice for Powering and Grounding Electronic Equipment.
   2. IEEE C62.41 - Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
   3. IEEE C62.45 - Guide on Surge Testing for Equipment Connected to Low-Voltage AC Power Circuits.

B. National Electrical Manufacturers Association:
   1. NEMA LS 1 - Low Voltage Surge Protection Devices.

C. National Fire Protection Association:
   1. NFPA 70 - National Electrical Code.
   2. NFPA 780 - Standard for the Installation of Lightning Protection Systems.

D. Underwriters Laboratories Inc.:
   1. UL 1283 - Electromagnetic Interference Filters.
   2. UL 1449 - Transient Voltage Surge Suppressors.

E. Motorola R-56 Standards and Guidelines for Communication Sites – 2005 Edition

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit capacity, dimensions, weights, details, and wiring configuration.

C. Test Reports:
   1. Indicate Let-Through voltage test data.
   2. Submit spectrum analysis of each unit.
   3. Submit test reports from nationally recognized independent testing laboratory verifying suppressors can survive published surge current rating.

D. Manufacturer's Installation Instructions: Submit installation instructions and connection requirements.

E. Manufacturer's Certificate: Certify transient voltage surge suppression device complies with UL 1449 Second Edition Surge Voltage Ratings.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 - Execution Requirements: Requirements for submittals.

B. Project Record Documents: Record actual locations of transient voltage surge suppressors.

C. Operation and Maintenance Data: Submit manufacturer's descriptive literature, installation instructions, and maintenance and repair data.

1.5 QUALITY ASSURANCE

A. List individual units under UL 1449 and UL 1283.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.

B. Accept equipment on site in factory packaging. Inspect for damage.

C. Protect equipment from damage by providing temporary covers until construction is complete in adjacent space.

1.7 WARRANTY

A. Section 01700 - Execution Requirements: Requirements for warranties.

B. Furnish 10 year manufacturer’s warranty for transient voltage surge suppressor.

PART 2 PRODUCTS

2.1 TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) – TYPE 1

A. Manufacturers:
1. Ditek, Corporation, Z160 Series
2. Square D Company
3. General Electric Company

B. Product Description: Surge protective devices for protection communication service and distribution equipment.

C. Types: Service entrance panelboard and branch panel locations. Type SAD/MOV consisting of primary modules using SAD technology and secondary modules using MOV technology, permanently connected.

D. Unit Operating Voltage: 120/208 volt, three phase, 4 wire wye.

E. Maximum Continuous Operating Voltage (MCOV): 145

F. The suppression components shall be voltage limiting type. Voltage switching components shall not be utilized as a suppression element in the device.

G. All suppression modules shall be installed from each phase conductor to the neutral conductor (L-N, Normal Mode). Suppression modules or devices of any type shall not be connected between any phase conductor and the equipment grounding conductor or ground ((L-G, Common Mode Neutral to Ground).

H. The Primary Module (SAD) shall provide 20 kA per phase, per polarity, minimum energy absorption.

I. The Secondary Module (MOV) shall consist of a metal oxide varistor with energy handling capability to meet the maximum discharge current requirement of 160 kA per mode, tested in accordance with IEC 61643-1.

J. The TVSS device shall meet the Duty Cycle Test at 6 kV and 3 kA, in accordance with IEEE C62.41.

K. Each device shall be modular in design to allow for easy field replacement.

L. The device shall have integral over current protection and a short circuit current rating of 25,000 amps, as defined by UL 1449, second edition, Section 39.

M. The discharge current shall be 10,000 (nominal), as defined, and tested by IEEE C62.45-2002 waveform characteristics (Category C high 10 kA 6kV minimum).

N. The device shall contain voltage protection (at the nominal discharge current of 10,000 amps)of 600 Vpk or less from each phase to neutral mode, when tested in accordance with IEEE C62.45-2002. Test points are measured using specified conductor size at a distance of 6” outside the enclosure.

O. The suppressed voltage rating (SVR) of 330 Vpk, as determined by testing in accordance with UL 1449, second edition, Section 34.

P. Safety and Diagnostics: Device shall monitor for overheating in each mode due to thermal energy. Green and Red solid state indicator lights shall be on each phase. Absence of green light and presence of a red light indicates which phases have been damaged. Fault detection shall indicate a trouble light. Units not capable of detecting open circuit damage, thermal conditions, and overcurrent will not be accepted.

Q. The TVSS device shall contain a set of form ‘C’ dry contacts, rated at a minimum of 250VAC, and a minimum 2 amp., with a power factor of 1, for remote reporting capability. These contacts shall be initiated when there is an input power failure or the integrity of any module has been compromised. The contact shall be isolated from the AC power circuitry to safeguard the alarm circuit.

R. Construction:

1. Finish: Factory finish of baked enamel.
2. Enclosure: NEMA 4, with maximum dimensions of 20”w x 20”h x 9” d for three phase. The maximum weight of the TVSS device shall be 40 lbs.
3. Environmental Parameters:
   a. Operating Temperature Range: -40 degrees C to 65 degrees C
   b. Storage Temperature Range: -40 degrees C to 65 degrees C
   c. Operating Humidity: 0-95%, non-condensing.
   d. Altitude: 3700 feet.

S. Rating:
1. Electrical Noise Filter: Furnish each unit with high performance EMI/RFI noise rejection filter. Electric line noise attenuation no less than 45 dB at 100 kHz using MIL-STD-220A insertion loss test method.

T. Accessories:
1. Digital display transient event counter with manual reset..
2. Local audible alarm.
3. Push-to-test feature.
4. Factory installed service disconnect switch.

2.2 TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) – TYPE 2

A. Manufacturers:
1. Ditek, Corporation, Z160 Series
2. Square D Company
3. General Electric Company

B. Product Description: Surge protective devices for protection communication service entrance equipment.

C. Types: Service entrance panelboard and branch panel locations. Type MOV consisting of primary modules using MOV techhnology, permanently connected.

D. Unit Operating Voltage: 120/208 volt, three phase, 4 wire wye.

E. Maximum Continuous Operating Voltage (MCOV): 145

F. The suppression components shall be voltage limiting type. Voltage switching components shall not be utilized as a suppression element in the device.

G. All suppression modules shall be installed from each phase conductor to the neutral conductor (L-N, Normal Mode). Suppression modules or devices of any type shall not be connected between any phase conductor and the equipment grounding conductor or ground ((L-G, Common Mode Neutral to Ground).

H. The Primary Module (MOV) shall consist of a metal oxide varistor with energy handling capability to meet the maximum discharge current requirement of 160 kA per mode, tested in accordance with IEC 61643-1.

I. The TVSS device shall meet the Duty Cycle Test at 6 kV and 3 kA, in accordance with IEEE C62.41.

J. Each device shall be modular in design to allow for easy field replacement.

K. The device shall have integral over current protection and a short circuit current rating of 25,000 amps, as defined by UL 1449, second edition, Section 39.

L. The discharge current shall be 10,000 (nominal), as defined, and tested by IEEE C62.45-2002 waveform characteristics (Category C high 10 kA 6kV minimum).

M. The device shall contain voltage protection (at the nominal discharge current of 10,000 amps)of 800 Vpk or less from each phase to neutral mode, when tested in accordance with IEEE C62.45-2002. Test points are measured using specified conductor size at a distance of 6" outside the enclosure.

N. The suppressed voltage rating (SVR) of 400 Vpk, as determined by testing in accordance with UL 1449, second edition, Section 34.

O. Safety and Diagnostics: Device shall monitor for overheating in each mode due to thermal energy. Green and Red solid state indicator lights shall be on each phase. Absence of green light and presence of a red light indicates which phases have been damaged. Fault detection shall indicate a trouble light. Units not capable of detecting open circuit damage, thermal conditions, and overcurrent will not be accepted.

P. The TVSS device shall contain a set of form 'C' dry contacts, rated at a minimum of 250VAC, and a minimum 2 amp., with a power factor of 1, for remote reporting capability. These contacts shall be initiated when there is an input power failure or the integrity of any module has been compromised. The contact shall be isolated from the AC power circuitry to safeguard the alarm circuit.

Q. Construction:
1. Finish: Factory finish of baked enamel.
2. Enclosure: NEMA 4, with maximum dimensions of 20"w x 20"h x 9" d for three phase. The maximum weight of the TVSS device shall be 40 lbs.
3. Environmental Parameters:
   a. Operating Temperature Range: -40 degrees C to 65 degrees C
   b. Storage Temperature Range: -40 degrees C to 65 degrees C
   c. Operating Humidity: 0-95%, non-condensing.
   d. Altitude: 3700 feet.

R. Rating:
1. Electrical Noise Filter: Furnish each unit with high performance EMI/RFI noise rejection filter. Electric line noise attenuation no less than 45 dB at 100 kHz using MIL-STD-220A insertion loss test method.

S. Accessories:
1. Digital display transient event counter with manual reset.
2. Local audible alarm.
3. Push-to-test feature.
4. Factory installed service disconnect switch.

2.3 SOURCE QUALITY CONTROL AND TESTS

A. Section 01400 - Quality Requirements: Testing, inspection and analysis requirements.

B. Test units to specified surge ratings to ensure devices will achieve required life expectancy and reliability. Testing to full ratings also verifies internal construction quality of suppressors. Provide withstand testing for each mode and each phase basis.

C. Perform actual Let-Through voltage test data in form of oscillograph results for ANSI/IEEE C62.41 Catalog C3 (20 kV, 10 kA), Catalog C1 (6 kV, 3 kA), and Catalog. B3 (6 kv, 500 A at 100 kHz) tested in accordance with ANSI/IEEE C62.45.

D. Perform spectrum analysis of each unit based on MIL-STD-220A test procedures between 50 kHz and 200 kHz verifying device noise attenuation exceeds 45 dB at 100 kHz.

E. Perform test verifying suppressors can survive published surge current rating for each mode and each phase basis. Test wave based on ANSI/IEEE C62.41, 8x20 microsecond current wave.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.

B. Verify mounting area is ready for equipment.

C. Verify circuit rough-ins are at correct location.

3.2 INSTALLATION

A. Install in accordance with IEEE 1100.

B. Install distribution and branch suppressors in panelboards.

C. Install using direct bus bar connection.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16413

AUTOMATIC DELAYED TRANSITION TRANSFER SWITCH

PART 1 GENERAL

1.1 SUMMARY

A. Section includes delayed transition transfer switch (DTTS) in an individual enclosure

B. DTTS shall consist of a power transfer switch mechanism and a microprocessor controller to provide automatic operation. Transfer switch and controller shall be the products of the same manufacturer. The DTTS shall transfer the load in delayed transition (break-before-make) mode. Transfer shall be accomplished with a user defined interruption period in both directions adjustable from one second to 5 minutes in at least 15 increments.

1.2 REFERENCES

A. National Electrical Manufacturers Association:
   1. NEMA ICS 10 - Industrial Control and Systems: AC Transfer Switch Equipment.

B. International Electrical Testing Association:
   1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

C. Underwriters Laboratories Inc.:
   1. UL 1008 - Transfer Switch Equipment.

D. IEC 47-6-1 Low-voltage Switchgear and Controlgear; Multifunction equipment; Automatic Transfer Switching Equipment.

E. NFPA 70 - National Electrical Code.

F. NFPA 110 - Emergency and Standby Power Systems.

G. IEEE Standard 446 - IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.

H. UL 508 Industrial Control Equipment.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit catalog sheets showing voltage, switch size, ratings and size of switching and overcurrent protective devices, operating logic, short circuit ratings, dimensions, and enclosure details.

1.4 CLOSEOUT SUBMITTALS

A. Section 01700 – Project Closeout.

B. Project Record Documents: Record actual locations of enclosed transfer switches.

C. Operation and Maintenance Data: Submit routine preventative maintenance and lubrication schedule. List special tools, maintenance materials, and replacement parts.

1.5 QUALIFICATIONS

A. Supplier: Authorized distributor of specified manufacturer with minimum three years documented experience.

1.6 WARRANTY MAINTENANCE SERVICE

A. Section 01700 – Project Closeout.

B. The DTTS shall be guaranteed against defective material and workmanship in accordance with the manufacturer’s published warranty for five years from date of start-up and acceptance of project by Owner. Warranty period includes costs of all labor, parts, and mileage.

C. The DTTS manufacturer and its distributor shall maintain a parts and service organization. This organization shall be regularly engaged in a maintenance contract program to perform preventive maintenance and service on equipment similar to that specified. A five (5) year full service agreement shall be provided and shall include system operation under simulated operating conditions, adjustment to the generator as required, and certification in the owner's maintenance log of repairs made and proper functioning of all systems. Service to be done twice annually.

D. The DTTS manufacturer shall maintain a national service organization of company-employed personnel located throughout the contiguous United States. The service center's personnel must be factory trained.

PART 2 PRODUCTS

2.1 CLOSED TRANSITION AUTOMATIC TRANSFER SWITCH

A. Transfer switches shall have the following characteristics:
   1. Manufacturers
      a. ASCO Power, 300 Series.
      b. Cummins Onan
      c. Substitution: Section 01600 – Product Requirements.

   2. Product Description: NEMA ICS 10, automatic transfer switch.
      a. 150 AMP continuous rating.
      b. 3-Phase, 3-Pole switch.
      c. 120/208 Volt.

d. ATS shall be furnished in a NEMA 12 enclosure.
e. The switch shall be 600-volt class.
f. The withstand and closing ratings with a molded case circuit breaker shall be 22,000 AIC.

B. Configuration: Electrically operated, mechanically held transfer switch. The electrical operator shall be single solenoid mechanism, momentarily energized.
1. All transfer switch sizes shall use only one type of main operator for ease of maintenance and commonality of parts.
2. The switch shall be positively locked and unaffected by momentary outages, so that contact pressure is maintained at a constant value and contact temperature rise is minimized for maximum reliability and operating life.
3. All main contacts shall be silver composition.
4. Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors.
5. Designs utilizing components of molded-case circuit breakers, contactors, or parts thereof, which are not intended for continuous duty, repetitive switching or transfer between two active power sources are not acceptable.
6. Where neutral conductors are to be solidly connected as shown on the plans, a neutral conductor plate with fully rated AL-CU pressure connectors shall be provided.

C. Microprocessor Controller:
1. The controller shall direct the operation of the transfer switch. The controller's sensing and logic shall be controlled by a built-in microprocessor for maximum reliability, minimum maintenance, and inherent serial communications capability. The controller shall be connected to the transfer switch by an interconnecting wiring harness. The harness shall include a keyed disconnect plug to enable the controller to be disconnected from the transfer switch for routine maintenance.
2. The controller shall be enclosed with a protective cover and be mounted separate from the transfer switch unit for safety and ease of maintenance. Sensing and control logic shall be provided on printed circuit boards. Interfacing relays shall be industrial grade plug-in type with dust covers.
3. The controller shall meet or exceed the requirements for Electromagnetic Compatibility (EMC) as follows:
a. ANSI C37.90A/IEEE 472 Voltage Surge Test
b. NEMA ICS – 109.21 Impulse Withstand Test
c. IEC801-2 Electrostatic discharge (ESD) immunity
d. ENV50140 and IEC 801 – 3 Radiated electromagnetic field immunity
e. IEC 801 – 4 Electrical fast transient (EFT) immunity
f. ENV50142 Surge transient immunity
g. ENV50141: Conducted radio-frequency field immunity
h. EN55011: Group 1, Class A conducted and radiated emissions
i. EN61000 –4 – 11 Voltage dips and interruptions immunity.
4. All customer connections shall be wired to a common terminal block to simplify field-wiring connections.

D. Controller Display and Keypad:
1. Controller shall be flush-mounted display with LED indicators for switch position and source availability. It shall also include test and time delay bypass switches.
2. The complete assembly shall be degreased, and thoroughly cleaned through a five-stage aqueous process. The finish shall be ANSI-61, light gray, electrostatically-charged polyester powder paint over a phosphate coating, at a minimum of 2.0 mils in density. Finish shall be suitable for indoor and outdoor environments.
3. For those automatic transfer switches that are less than 1000 amperes, the connection between the normal disconnecting device and the ATS shall be made with the appropriate size cable.
4. A pressure disconnect link shall be provided to disconnect the normal source neutral connection from the emergency and load neutral connections for 4-wire applications. A ground bus shall be provided for connection of the grounding conductor to the grounding electrode. A pressure disconnect link for the neutral to ground bonding jumper shall be provided to connect the normal neutral connection to the ground bus.
5. Control wiring shall be rated for 600 volt, UL 1015. Wires shall be placed in wire duct or harnessed, and shall be supported to prevent sagging or breakage from weight or vibration. All wiring to hinged doors shall be run through door terminal blocks or connection plugs).

E. Voltage, Frequency and Phase Rotation Sensing:
1. The voltage of each phase of the normal source shall be monitored, with pickup adjustable to 95% of nominal and dropout adjustable from 70% to 90% of pickup setting.
2. Single-phase voltage and frequency sensing of the emergency source shall be provided.
3. For those automatic transfer switches less than 1000 amperes, the normal connection shall be provided with a thermal magnetic rated molded case circuit breaker with current ratings as shown on the plans. It shall have a thermal magnetic trip unit.

F. Time Delays:
1. An adjustable time delay shall be provided to override momentary normal source outages and delay all transfer and engine starting signals.
2. An adjustable time delay shall be provided on transfer to emergency, adjustable from 0 to 5 minutes for controlled timing of transfer of loads to emergency.
3. An adjustable time delay shall be provided on retransfer to normal, adjustable to 30 minutes. Time delay shall be automatically bypassed if emergency source fails and normal source is acceptable.
4. A 5-minute cool-down time delay shall be provided on shutdown of engine generator.
5. All adjustable time delays shall be field adjustable without the use of tools.

G. Additional Features:
1. A three position momentary-type test switch shall be provided for the ***test / automatic / reset*** modes. The test position will simulate a normal source failure.

The reset position shall bypass the time delays on either transfer to emergency or retransfer to normal. Switches which require utilizing the keypad and display function or have no manual time delay bypass means are not acceptable.

2. A SPDT contact, rated 5 amps at 30 VDC, shall be provided for a low-voltage engine start signal. The start signal shall prevent dry cranking of the engine by requiring the generator set to reach proper output, and run for the duration of the cool down setting, regardless of whether the normal source restores before the load is transferred.
3. Auxiliary contacts: Rated 10 amps, 32 VDC shall be provided consisting of (1) contact, closed when the DTTS is connected to the normal source and (1) contact closed, when the DTTS is connected to the emergency source.
4. Source Availability Contacts: Form C type, rated 2 amps at 30VDC resistive, shall be provided consisting of:
   a. Normal Power Available (Normally Open)
   b. Normal Power Not Available (Normally Closed)
   c. Emergency Power Available (Normally Open)
   d. Emergency Power Not Available (Normally Closed)
5. LED indicating lights shall be provided; one to indicate when the DTTS is connected to the normal source (green) and one to indicate when the DTTS is connected to the emergency source (red).
6. LED indicating lights shall be provided and energized by controller outputs. The lights shall provide true source availability of the normal and emergency sources, as determined by the voltage sensing trip and reset settings for each source.
7. Engine Exerciser - The controller shall provide an internal engine exerciser. The engine exerciser shall allow the user to program up to seven different exercise routines. For each routine, the user shall be able to:
   a. Enable or disable the routine.
   b. Enable or disable transfer of the load during routine.
   c. Set the start time:
      1) Time of day
      2) Day of week
      3) Week of month (1st, 2nd, 3rd, 4th, alternate or every)
      4) Set the duration of the run.

At the end of the specified duration the switch shall transfer the load back to normal and run the generator for the specified cool down period. A 10-year life battery that supplies power to the real time clock in the event of a power loss will maintain all time and date information.

H. Rating: State voltage and current rating and number of poles or “as indicated on drawings”.

I. Service Conditions: NEMA ICS 10.
   1. Temperature: 50-90 degrees F.

J. Enclosure:
   1. Enclosure: ICS 10, NEMA 1.
   2. Finish: Manufacturer's standard gray enamel.

2.2 SOURCE QUALITY CONTROL

A. Furnish shop inspection and testing of each transfer switch.

B. Allow witnessing of factory inspections and tests at manufacturer's test facility. Notify Owner at least seven days before inspections and tests are scheduled.
1. The complete DTTS shall be factory tested to ensure proper operation of the individual components and correct overall sequence of operation and to ensure that the operating transfer time, voltage, frequency and time delay settings are in compliance with the specification requirements.
2. The manufacturer shall provide a notarized letter certifying compliance with all of the requirements of this specification including compliance with the above codes and standards, and withstand and closing ratings. The certification shall identify, by serial number(s), the equipment involved. No exceptions to the specifications, other than those stipulated at the time of the submittal, shall be included in the certification.
3. The DTTS manufacturer shall be certified to ISO 9001 International Quality Standard and the manufacturer shall have third party certification verifying quality assurance in design/development, production, installation, and servicing in accordance with ISO 9001.

PART 3 EXECUTION

3.1 INSTALLATION

A. Coordinate installation with Intellx-3 building electrical contractor. Refer to Intellx-3 electrical drawings for one-line drawings and details.

3.2 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and Inspection Services.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.22.3.

3.3 MANUFACTURER'S FIELD SERVICES

A. Section 01400 - Quality Requirements: Manufacturers' field services.

B. Check out transfer switch connections and operations and place in service.

3.4 ADJUSTING

A. Section 01400 – Quality Requirements: Testing and Inspection Services.

B. Adjust control and sensing devices to achieve specified sequence of operation.

3.5 DEMONSTRATION AND TRAINING

A. Demonstrate operation of transfer switch in normal and emergency modes.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16440

PANELBOARDS

PART 1 GENERAL

1.1 SUMMARY

A. Lighting and Appliance Panelboard - Furnish and install lighting and appliance panelboard(s) as specified herein and where shown on the associated drawings.

1.2 REFERENCES

A. The panelboard(s) and circuit breaker(s) referenced herein are designed and manufactured according to the latest revision of the following specifications:
   1. NEMA PB 1 – Panelboards.
   2. NEMA PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less.
   3. NEMA AB 1 - Molded Case Circuit Breakers.
   4. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum).
   5. UL 50 - Enclosures for Electrical Equipment.
   6. UL 67 – Panelboards.
   7. UL 98 - Enclosed and Dead-front Switches.
   8. UL 489 - Molded-Case Circuit Breakers and Circuit Breaker Enclosures.
   9. CSA Standard C22.2 No. 29-M1989 - Panelboards and Enclosed Panelboards.
   10. CSA Standard C22.2 No. 5-M91 - Molded Case Circuit Breakers.
   11. Federal Specification W-P-115C - Type I Class 1.
   12. Federal Specification W-P-115C - Type II Class 1.
   13. Federal Specification W-C-375B/Gen - Circuit Breakers, Molded Case, Branch Circuit and Service.
   14. Federal Specification W-C-865C - Fusible Switches.
   15. NFPA 70 - National Electrical Code (NEC).
   16. ASTM - American Society of Testing Materials.

1.3 SUBMITTAL AND RECORD DOCUMENTATION

A. Approval documents shall include drawings. Drawings shall contain overall panelboard dimensions, interior mounting dimensions, and wiring gutter dimensions. The location of the main, branches, and solid neutral shall be clearly shown. In addition, the drawing shall illustrate one line diagrams with applicable voltage systems.

1.4 QUALIFICATIONS

A. Panelboards shall be manufactured in accordance with standards listed Article 1.02 - REFERENCES.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inspect and report concealed damage to carrier within their required time period.

B. Handle carefully to avoid damage to panelboard internal components, enclosure, and finish.

C. Store in a clean, dry environment. Maintain factory packaging and, if required, provide an additional heavy canvas or heavy plastic cover to protect enclosure(s) from dirt, water, construction debris, and traffic.

1.6 OPERATIONS AND MAINTENANCE MATERIALS

A. Manufacturer shall provide installation instructions and NEMA Standards Publication PB 1.1 - Instructions for Safe Installation, Operation and Maintenance of Panelboards rated 600 Volts or less.

1.7 WARRANTY

A. Manufacturer shall warrant specified equipment free from defects in materials and workmanship for the lesser of one (1) year from the date of installation or eighteen (18) months from the date of purchase.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Square D Company
   1. NQOD - CLASS 1630.

B. GE Company.

C. Substitutions or approved equal: Section 01600 – Product Requirements

2.2 LIGHTING AND APPLIANCE PANELBOARD

A. 120/208Y, Three Phase
   1. Interior
      a. Shall be panelboard rated for 240 VAC/48 VDC maximum. Continuous main current ratings, as indicated on associated schedules, not to exceed 600 amperes maximum.
      b. Minimum short circuit current rating: 22,000 in rms symmetrical amperes at 240 VAC.
      c. Provide one (1) continuous bus bar per phase. Each bus bar shall have sequentially phased branch circuit connectors suitable for plug-on or bolt-on branch circuit breakers. The bussing shall be fully rated. Panelboard bus current ratings shall be determined by heat-rise tests conducted in accordance with UL 67. Bussing rated 100-400 amperes shall be copper. Panelboards shall be suitable for use as Service Equipment when application requirements comply with UL 67 and NEC Articles 230-F and -G.
      d. All current-carrying parts shall be insulated from ground and phase-to-phase by Noryl high dielectric strength thermoplastic or equivalent.

e. Split solid neutral shall be plated and located in the mains compartment up to 225 amperes so all incoming neutral cable may be of the same length.
f. Interior trim shall be of dead-front construction to shield user from energized parts. Dead-front trim shall have pre-formed twist outs covering unused mounting space.
g. Nameplates shall contain system information and catalog number or factory order number. Interior wiring diagram, neutral wiring diagram, UL Listed label and short circuit current rating shall be displayed on the
h. Interior or in a booklet format.
i. Interiors shall be field convertible for top or bottom incoming feed. Main and sub-feed circuit breakers shall be vertically mounted. Main lug interiors up to 400 amperes shall be field convertible to main breaker. Interior leveling provisions shall be provided for flush mounted applications.

2. Main Circuit Breaker
   a. Main circuit breakers shall have an overcenter, trip-free, toggle mechanism which will provide quick-make, quick-break contact action. Circuit breakers shall have a permanent trip unit with thermal and magnetic trip elements in each pole. Each thermal element shall be true rms sensing and be factory calibrated to operate in a 40° C ambient environment. Thermal elements shall be ambient compensating above 40° C.
   b. Two- and three-pole circuit breakers shall have common tripping of all poles. Circuit breakers frame sizes above 100 amperes shall have a single magnetic trip adjustment located on the front of the circuit breaker which allows the user to simultaneously select the desired trip level of all poles. Circuit breakers shall have a push-to-trip button for maintenance and testing purposes.
   c. Breaker handle and faceplate shall indicate rated ampacity. Standard construction circuit breakers shall be UL Listed for reverse connection without restrictive line or load markings.
   d. Circuit breaker escutcheon shall have international I/O markings, in addition to standard ON/OFF markings. Circuit breaker handle accessories shall provide provisions for locking handle in the ON or OFF position.
   e. Lugs shall be UL Listed to accept solid or stranded copper conductors only. Lugs shall be suitable for 75° C rated wire. Lug body shall be bolted in place; snap-in designs are not acceptable.
3. Branch Circuit Breakers
   a. Circuit breakers shall be UL Listed with amperage ratings, interrupting ratings, and number of poles as indicated on the panelboard schedules.
   b. Molded case branch circuit breakers shall have bolt-on type bus connectors.
   c. Circuit breakers shall have an overcenter toggle mechanism which will provide quick-make, quick-break contact action. Circuit breakers shall have thermal and magnetic trip elements in each pole. Two- and three-pole circuit breakers shall have common tripping of all poles.

d. There shall be two forms of visible trip indication. The breaker handle shall reside in a position between ON and OFF. In addition, there shall be a red VISI-TRIP® indicator appearing in the clear window of the
e. circuit breaker housing.
f. The exposed faceplates of all branch circuit breakers shall be flush with one another.
g. Lugs shall be UL Listed to accept solid or stranded copper conductors only. Lugs shall be suitable for 75° C rated wire. Branch circuit breakers rated 30 amperes and below shall be UL Listed to accept 60° C rated wire.

4. Enclosures
   a. Type 1 Boxes
      1) Boxes shall be galvanized steel constructed in accordance with UL 50 requirements. Galvanealed steel will not be acceptable.
      2) Boxes shall have removable end walls with knockouts located on one end. Boxes shall have welded interior mounting studs. Interior mounting brackets are not required.
      3) Box width shall be 20 in wide.
   b. Type 1 Fronts
      1) Front shall meet strength and rigidity requirements per UL 50 standards. Front shall have ANSI 49 gray enamel electrodeposited over cleaned phosphatized steel.
      2) Fronts shall be 1-piece with door. Mounting shall be surface.
      3) Panelboards rated 225 amperes and below shall have MONO-FLAT fronts with concealed door hinges and trim screws. Front shall not be removable with the door locked. Front doors shall have rounded corners and edges shall be free of burrs.
      4) Front shall have cylindrical tumbler type lock with catch and spring-loaded stainless steel door pull. All lock assemblies shall be keyed alike. Two (2) keys shall be provided with each lock. A clear plastic directory cardholder shall be mounted on the inside of door.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install panelboards and accessories according to NEMA PB 1.1.

B. Retain paragraph below if seismic controls are Project requirement. Coordinate with Drawings.

C. Mounting Heights: Top of trim 74 inches above finished floor, unless otherwise indicated.

D. Mounting: Plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish.

E. Revise paragraph below if "Balancing Loads" Paragraph is deleted from "Field Quality Control" Article below.

F. Circuit Directory: Create a directory to indicate installed circuit loads after balancing panelboard loads. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.

G. Install filler plates in unused spaces.

H. Retain paragraph below unless ceilings are not accessible.

I. Revise below if "Balancing Loads" Paragraph is deleted from "Field Quality Control" Article below.

J. Wiring in Panelboard Gutters: Arrange conductors into groups and bundle and wrap with wire ties after completing load balancing.

3.2 IDENTIFICATION

A. Select Division 16 Section "Basic Electrical Materials and Methods" for projects with simple requirements and Division 16 Section "Electrical Identification" for projects with complex requirements.

B. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs as specified in Division 16 Section "Basic Electrical Materials and Methods Electrical Identification."

C. Panelboard Nameplates: Label each panelboard with engraved metal or laminated-plastic nameplate mounted with corrosion-resistant screws.

3.3 CONNECTIONS

A. Install equipment grounding connections for panelboards with ground continuity to main electrical ground bus.

B. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.4 FIELD QUALITY CONTROL

A. Prepare for acceptance tests as follows:
1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

B. Testing: After installing panelboards and after electrical circuitry has been energized, demonstrate product capability and compliance with requirements.
1. Procedures: Perform each visual and mechanical inspection and electrical test indicated in NETA ATS, Section 7.5 for switches and Section 7.6 for molded-case circuit breakers. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

C. Balancing Loads: After Substantial Completion, but not more than 60 days after Final Acceptance, measure load balancing and make circuit changes as follows:
   1. Measure as directed during period of normal system loading.
   2. Perform load-balancing circuit changes outside normal occupancy/working schedule of the facility and at time directed. Avoid disrupting critical 24-hour services such as fax machines and on-line data-processing, computing, transmitting, and receiving equipment.
   3. After circuit changes, recheck loads during normal load period. Record all load readings before and after changes and submit test records.
   4. Tolerance: Difference exceeding 20 percent between phase loads, within a panelboard, is not acceptable. Rebalance and recheck as necessary to meet this minimum requirement.

3.5 ADJUSTING

A. Set field-adjustable switches and circuit-breaker trip ranges.

3.6 CLEANING

A. On completion of installation, inspect interior and exterior of panelboards. Remove paint splatters and other spots. Vacuum dirt and debris; do not use compressed air to assist in cleaning. Repair exposed surfaces to match original finish.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16510

INTERIOR AND EXTERIOR LUMINAIRES

PART 1 GENERAL

1.1 SUMMARY

A. Section includes interior and exterior luminaires, lamps, ballasts, and accessories.

1.2 REFERENCES

A. ANSI C82.1 - Ballasts for Fluorescent Lamps - Specifications.

B. ANSI C82.4 - Ballasts for High-Intensity Discharge and Low Pressure Sodium Lamps (Multiple Supply Type).

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit dimensions, ratings, and performance data.

1.4 MAINTENANCE MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

PART 2 PRODUCTS

2.1 LIGHT FIXTURE - TYPE A

A. Manufacturers:
1. Lithonia Lighting, Model DMS-2-32-120-GEB10IS.
2. Columbia.
3. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Product Description:
1. Industrial fluorescent fixture suited for environments where dust, dirt, and moisture are present. Fixture has shatter resistant diffuser cover attached to housing with latches.
2. (2) T-8 32 watt bulbs.
3. 120 volt. Electronic ballast, instant start.
4. Wall and ceiling mounted as indicated on drawings.
5. Aluminum body with stainless steel hardware.
6. Fixture shall be UL listed for damp locations.

2.2 LIGHT FIXTURE - TYPE B

A. Manufacturers:
1. Lithonia Lighting, Model W5-2-32-A12-GEB101IS.

2. Columbia.
3. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Product Description:
1. Wall mounted surface fluorescent fixture suited for direct distribution. Acrylic diffuser.
2. (2) T-8 32 watt bulbs.
3. 120 volt. Electronic ballast, instant start.
4. Wall and ceiling mounted as indicated on drawings.
5. Steel body with white baked enamel finish.
6. Fixture shall be UL listed.

2.3 LIGHT FIXTURE – TYPE C

A. Manufacturers:
1. Sternberg Lighting, Prairie 530.

B. Wall mounted incandescent decorative luminaire. Sloped roof design with 790 P square window design. Frosted window with black powder coated construction.

C. 60 watt incandescent lamp.

PART 3 EXECUTION

3.1 INSTALLATION

A. Provide manufacturer's hanging clips or brackets as necessary to mount fixtures as specified.

B. Install accessories furnished with each luminaire.

C. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire. Use conduit specified for area.

D. Install specified lamps in each luminaire.

E. Mount exit lights to walls, orientated as shown on plans at elevations indicated.

3.2 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Aim and adjust luminaries.

3.3 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Remove dirt and debris from enclosures.

C. Clean photometric control surfaces as recommended by manufacturer.

D. Clean finishes and touch up damage.

3.4 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Protecting finished work.

B. Relamp luminaires having failed lamps at Substantial Completion.

END OF SECTION

ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
AES PROJECT NO. 3760

SECTION 16530

EMERGENCY LIGHTING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes combination exit/emergency lighting units.

1.2 REFERENCES

A. National Electrical Manufacturers Association:
1. NEMA WD 6 - Wiring Devices-Dimensional Requirements.

1.3 SYSTEM DESCRIPTION

A. Emergency lighting to comply with requirements.

1.4 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Product Data: Submit dimensions, ratings, and performance data.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.6 MAINTENANCE MATERIALS

A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

B. Furnish one replacement lamps for each lamp installed.

PART 2 PRODUCTS

2.1 COMBINATION EXIT EMERGENCY LIGHTING UNITS (SKI PATROL ROOM)

A. Manufacturers:
1. Lightalarms, Severe XV Combo series.
2. Columbia.
3. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Product Description: Self contained two-in-one unit for above-the-door applications.

C. Housing: Polycarbonate faceplate, thermoplastic body, NEMA 4x.

D. Face: Single polycarbonate white with red letters.

E. Directional Arrows: As indicated on drawings.

F. Mounting: Wall above door.

G. Battery: Nickel cadmium, 12V dc, maintenance-free.

H. Lamps:
1. Exit: LED.
2. Emergency: (2) 4 watt MR 16 LED.

I. Input Voltage: 120 volts.

J. Options: Cold weather (-40°F - 77°F). UL listed for cold weather.

2.2 COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNITS (COMMUNICATIONS ROOM)

A. Manufacturers:
1. Lightalarms Quickie II, QLX-MRS series.
2. Columbia.
3. Substitutions or approved equal: Section 01600 – Product Requirements.

B. Product Description: Combination exit emergency light.

C. Battery: 6 volt, lead calcium type with 1.5 hour capacity.

D. Battery Charger: Dual-rate type, with sufficient capacity to recharge discharged battery to full charge within (12) hours.

E. Lamps: (2) 5 watt MR16 LED lamps.

F. Housing: Impact-resistant, thermoplastic with white finish and red letters.

G. Test Switch: Transfers unit from external power supply to integral battery supply.

H. Input Voltage: 120 volts.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install surface-mounted emergency lighting units and exit signs plumb and adjust to align with building lines and with each other. Secure to prevent movement.

B. Install wall-mounted emergency lighting units and exit signs at height as indicated on Drawings.

C. Install accessories furnished with each emergency lighting unit and exit sign.

D. Connect emergency lighting units and exit signs to branch circuit outlets provided in Section 16130 as indicated on Drawings.

E. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within unit.

F. Install specified lamps in each emergency lighting unit and exit sign.

G. Ground and bond emergency lighting units and exit signs in accordance with Section 16060.

3.2 FIELD QUALITY CONTROL

A. Section 01400 - Quality Requirements: Testing and inspection services.

B. Operate each unit after installation and connection. Inspect for proper connection and operation.

3.3 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Aim and adjust lamp fixtures as indicated on Drawings.

C. Position exit sign directional arrows as indicated on Drawings.

3.4 PROTECTION OF FINISHED WORK

A. Section 01700 - Execution Requirements: Protecting finished work.

B. Relamp emergency lighting units and exit signs having failed lamps at Substantial Completion.

END OF SECTION

SECTION 16720

FIRE ALARM

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes fire alarm systems.

B. The system shall include, but not be limited to:
1. Fire alarm control panel.
2. Automatic and manually activated alarm initiating and monitoring devices.
3. Notification appliances and peripherals.
4. Standby power supplies including rechargeable back-up batteries.
5. System programming and commissioning.
6. Training of operators

1.2 REFERENCES

A. National Fire Protection Association – NFPA 70 – National Electric Code – Article 760

B. National Fire Protection Association – NFPA 72 – National Fire Alarm Code

C. National Fire Protection Association – NFPA 101 – Life Safety Code

D. Underwriters Laboratories Inc:
1. UL 38 Manually Activated Signaling Boxes
2. UL 1638 Visual Signaling Devices
3. UL 464 Audible Signaling Devices
4. UL 521 Heat Detectors for Fire Protective Signaling Systems
5. UL 268 Smoke Detectors for Fire Protective Signaling Systems

E. Americans with Disabilities Act (ADA): All visual notification appliances and manual pull stations shall comply with the requirements of the ADA.

1.3 DEFINITIONS

A. FACP: Fire alarm control panel.

B. LED: Light-emitting diode.

C. NICET: National Institute for Certification in Engineering Technologies.

D. Definitions in NFPA 72 apply to fire alarm terms used in this Section.

E. NFPA: National Fire Protection Association

1.4 SYSTEM DESCRIPTION

A. Electrically supervised, 24VDC, addressable fire alarm system.

1.5 PERFORMANCE REQUIREMENTS

A. Comply with NFPA 72.

B. Fire alarm signal initiation shall be by one or more of the following devices:
1. Manual stations.
2. Heat detectors.
3. Smoke detectors (photoelectric).
4. Smoke detectors (ionizing).
5. Monitor Modules.

C. Fire alarm signal shall initiate the following actions:
1. Alarm notification appliances shall operate continuously.
2. Identify alarm at the FACP and remote annunciators.
3. Activate voice/alarm communication system.
4. Record events in the system memory.

D. System trouble signal initiation shall be by one or more of the following devices or actions:
1. Open circuits, shorts and grounds of wiring for initiating device, signaling line, and notification-appliance circuits.
2. Opening, tampering, or removal of alarm-initiating and supervisory signal-initiating devices.
3. Loss of primary power at the FACP.
4. Ground or a single break in FACP internal circuits.
5. Abnormal ac voltage at the FACP.
6. A break in standby battery circuitry.
7. Failure of battery charging.
8. Abnormal position of any switch at the FACP or annunciator.

E. System Trouble and Supervisory Signal Actions: Ring trouble bell and annunciate at the FACP.

1.6 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings:
1. Shop Drawings shall be prepared by persons with the following qualifications:
a. Trained and certified by manufacturer in fire alarm system design.
b. Fire alarm certified by NICET, minimum Level III.
2. System Operation Description: Detailed description for this Project, including method of operation and supervision of each type of circuit and sequence of operations for manually and automatically initiated system inputs and outputs. Manufacturer's standard descriptions for generic systems are not acceptable.
3. Device Address List: Coordinate with final system programming.
4. System riser diagram with device addresses, conduit sizes, and cable and wire types and sizes.

5. Wiring Diagrams: Power, signal, and control wiring. Include diagrams for equipment and for system with all terminals and interconnections identified. Show wiring color code.
6. Batteries: Size calculations.
7. Voice/Alarm Signaling Service: Equipment rack or console layout, grounding schematic, amplifier power calculation, and single-line connection diagram.
8. Floor Plans: Indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits.

C. Qualification Data: For Installer.

D. Operation and Maintenance Data: For fire alarm system to include in emergency, operation, and maintenance manuals. Comply with NFPA 72, Appendix A, recommendations for Owner's manual. Include abbreviated operating instructions for mounting at the FACP.

E. Documentation:
1. Approval and Acceptance: Provide the "Record of Completion" form according to NFPA 72 to Owner and Architect.
2. Record of Completion Documents: Provide the "Permanent Records" according to NFPA 72 to Owner and Architect. Format of the written sequence of operation shall be the optional input/output matrix.
   a. Hard copies on paper to Owner and Architect.
   b. Electronic media may be provided to Architect.

1.7 CLOSEOUT SUBMITTALS

A. One (1) copy of the following documents shall be delivered to the building owner's representative at the time of system acceptance. The close out submittals shall include:
1. Project specific operating manuals covering the installed Life Safety System including a detailed narrative description of the system architecture, inputs, notification signaling, auxiliary functions, annunciation, intended sequence of operations; expansion capability, application considerations, and limitations.

   Include the Name, address and telephone of the authorized factory representative with a 24-hour emergency service number that is monitored on a 24-hour basis.

   The manual shall also include Manufacturer’s data sheets and installation manuals/instructions for all equipment installed, a list of recommended spare parts.

2. An up-to-date record (“as-built”) set of approved shop drawing prints that have been revised to show each and every change made to the fire system from the original approved shop drawings. ARCHITECT will provide the blank print for the as-built with the building structural corrections noted for bidder’s use.

   Drawings shall consist of a scaled plan of each building showing the placement of each individual item of the Life Safety System equipment as well as raceway size and routing, junction boxes, and conductor size, quantity, and color in each raceway.

   All drawings must reflect point to point wiring, device address and programmed characteristics as verified in the presence of the engineer and/or the end user unless

device addressing is electronically generated, and automatically graphically self-documented by the system.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this Project.

B. Installer Qualifications: Work of this Section be performed by a UL-listed company.

C. Installer Qualifications: Personnel certified by NICET as Fire Alarm Level III.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Lamps for Strobe Units: (1) horn/strobe.
2. Smoke and Heat Detectors: (1) Smoke, (1) Heat.
3. Detector Bases: (1) base.
4. Keys and Tools: One extra set for access to locked and tamper proofed components.
5. Fuses: Two of each type installed in the system.

1.10 WARRANTY

A. The Fire Alarm / Life Safety System manufacturer shall supply a one (1) year warranty from date of manufacture for all control system, field devices, and appliances.

B. Contractor shall warrant the installed system to be free from any defects of material and installation for a period of one (1) year from acceptance by the engineer. Any deficiencies shall be immediately corrected at no additional cost to the owner.

C. The Fire Alarm Contractor shall maintain a service organization with adequate spare parts stock. Any defects that render the system inoperative shall be repaired within 3 days of the owner notifying the contractor. Other defects shall be repaired within one week of the owner notifying the contractor.

PART 2 - PRODUCTS

2.1 Control Panel

A. Manufacturers:
1. Honeywell, Silent Knight IntelliKnight 5600
2. Simplex Grinnell
3. Substitutions or approved equal: Section 01600 - Product Requirements.

B. The FACP must have Drift Compensation sensitivity capabilities on detectors and be capable of supporting up to 25 detectors and modules in any combination on one SLC loop.

The FACP must support a minimum of two programmable NAC circuits.

The FACP must have a built in UL approved dual line digital communicator. The communicator must transmit in SIA and CID.

The FACP must automatically test the smoke detectors in compliance with NFPA standards to ensure that they are within listed sensitivity parameters and be listed with Underwriters Laboratories for this purpose.

The FACP must compensate for the accumulation of contaminants that affect detector sensitivity. The FACP must have maintenance alert feature (differentiated from trouble condition).

The FACP shall have a Jumpstart feature that can automatically enroll all properly connected accessories into a functional system within 60 seconds of powering up the panel. Panels that do not have these capabilities will not be accepted.

C. System Wiring
   1. The Signaling Line Circuit (SLC) hall be wired with standard NEC 760 compliant wiring, no twisted, shielded or mid capacitance wiring is required for standard installations. All FACP screw terminals shall be capable of accepting 12-22 AWG wire. All system wiring shall be in accordance with the requirements of NFPA 70, the National Electrical Code (NEC) and also comply with article 760 of the NEC.

D. Signaling Line Circuits
   1. Each SLC shall be capable of a wiring distance of 10,000 feet from the SLC driver (panel) and be capable of supporting any combination of detectors and modules up to 25 devices. The communication protocol to SLC devices must be digital. Any SLC loop device, which goes into alarm, must interrupt the polling cycle for priority response from the FACP. The FACP must respond consistently to a device that goes into alarm on an SLC in under 3 seconds. The SLC shall be capable of functioning in a class B configuration.

E. SLC loop devices
   1. Devices supported must include addressable photoelectric detectors, addressable photoelectric detectors with thermal, addressable photoelectric duct detectors, addressable heat detectors, addressable input modules, and relay output modules. There is to be no limit to the number of any particular device type up to the maximum of 25 detectors and modules that can be connected to the SLC.

F. Addressable detector functions
   1. The products of combustion detectors must communicate analog values using a digital protocol to the control panel for the following functions:
      a. Automatic compliance with NFPA 72 standards for detector sensitivity testing.
      b. Drift compensation to assure detector is operating correctly.
      c. Maintenance alert when a detector nears the trouble condition.
      d. Trouble alert when a detector is out of tolerance.
      e. Alert control panel of analog values that indicate fire.

G. Programmable NAC's
   1. The FACP shall support two programmable NAC (Notification Appliance Circuit) circuits that are capable of being programmed as supervised reverse polarity notification circuits or supervised auxiliary power circuits that can be programmed as continuous, resettable or door holder power. Each NAC circuit shall support up to 2 amps. Each auxiliary power circuit shall support up to 1 amp.

H. Annunciators
   1. The main control must have a built in annunciator with three characters of display each consisting of seven segments and feature LED's for AC, General Trouble, Silenced, Ground Fault, Low Battery, Walk Test, NAC 1 and 2 Active and Trouble, and Zones 1 through 5 Alarm, Supervisory, and Trouble. All control and programming keys are a membrane style buttons. The annunciator must be able to silence and reset alarms by opening the cabinet door and pressing SILENCE or RESET once. The annunciators must have an installer code that will allow the limitation of operating system programming to authorized individuals.

I. Digital Communicator
   1. The digital communicator must be an integral part of the control panel and be capable of reporting all zones or points of alarm, supervisory, and trouble as well as all system status information such as loss of AC, low battery, ground fault, loss of supervision to any remote devices with individual and distinct messages to a central station or remote station.
   2. The communicator must be capable of reporting via SIA and Contact ID formats. The communicator shall have a delayed AC loss report function which will provide a programmable report delay to help ease traffic to the central station during a power outage. No controls that use External modems for remote programming and diagnostics shall be accepted.

J. Dry Contacts
   1. The FACP will have three form "C" dry contacts, one will be dedicated to trouble conditions, the other two will be programmable for general alarm, general supervisory, resettable auxiliary power, or door holder power conditions. The trouble contact shall be normal in an electrically energized state so that any total power loss (AC and Backup) will cause a trouble condition. In the event that the microprocessor on the FACP fails the trouble contacts shall also indicate a trouble condition.

K. Ground Fault Detection
   1. A ground fault detection circuit, to detect positive and negative grounds on all field wiring. The ground fault detector shall operate the general trouble devices as specified but shall not cause an alarm to be sounded. Ground fault will not interfere with the normal operation, such as alarm, or other trouble conditions.

L. Over Current Protection
   1. All low voltage circuits will be protected by microprocessor controlled power limiting or have a self restoring polyswitches for the following: smoke detector power, main power supply, indicating appliance circuits, battery standby power and auxiliary output.

M. Test Functions

1. A “Lamp Test” mode shall be a standard feature of the fire alarm control panel and shall test all LED’s on the main panel.
2. A “Walk Test” mode shall be a standard feature of the fire alarm control panel. The walk test feature shall function so that each alarm input tested will operate the associated notification appliance for three seconds. The FACP will then automatically perform a reset and confirm normal device operation.
3. A “Fire Drill” mode shall allow the manual testing of the fire alarm system notification circuits. The “Fire Drill” shall be capable of being controlled at the main annunciator.
4. A “Disable Mode” shall allow for any zone or NAC circuit to be disabled without effecting the operation of the total fire system.

N. Input/Output Activation Structure
1. There are 5 software zones available on the panel. Each zone provides 15 alarm SLC addresses and 5 supervisory SLC addresses. SLC input device type choices are Unused, Detector, Manual Pull Switch, Latching Water Flow Switch or Non-Latching Water Flow Switch. The notification circuits can be configured to activate for any combination of zone alarms and/or supervisories. The on-board relays can be selected to activate for general alarm, general supervisory, resettable auxiliary power, or door holder power. The SLC relays will activate under a fixed mapping structure where a specific SLC address on the relay module dictates what condition it will activate under, ie. SLC relay addresses 111 and 112 will activate for zone 1 alarm conditions.
2. Each NAC circuits can be configured to produce one of six output patterns: Constant On, ANSI, AMSECO synchronization, Gentex synchronization, System Sensor synchronization, and Wheelock synchronization.

O. Programming
1. Modifications to the default panel program can only be accomplished using the embedded web server of the control panel. There are two ways to connect to the panel: connected to an existing network with a DHCP Dynamic Host Configuration Protocol) server present or plugged in directly to a PC using a standard CAT5e Ethernet cable.

2.2 SYSTEM OPERATION

A. Alarm
1. When a device indicates any alarm condition the control panel must respond within 3 seconds. The zone alarm LED for the particular zone in alarm will light.
2. When the alarmed device is restored to normal, the control panel shall be required to be manually reset to clear the alarm condition, except those that are non-latching types.
3. An alarm shall be silenced by pressing the Signal Silence key once on the control panel. When silenced, this shall not prevent the resounding of subsequent events if another event should occur (subsequent alarm feature). When alarms are silenced, the silenced LED on the control panel will remain lit until the alarmed device is returned to normal and/or the panel is reset.

B. Troubles
1. When a device indicates a trouble condition, the specific zone or system trouble LED will light along with the General Trouble LED.
2. When the device in trouble is restored to normal, the control panel shall be automatically reset.

3. A trouble shall be silenced by pressing the Signal Silence key once on the control panel. When silenced, this shall not prevent the resounding of subsequent events if another event should occur. When troubles are silenced, the Silenced LED on the control panel will remain lit until the trouble condition is returned to normal.

C. Supervision methods
1. Each SLC loop shall be electrically supervised for opens and ground faults in the circuit wiring, and shall be so arranged that a fault condition on any loop will not cause an alarm to sound. Additionally, every addressable device connected to the SLC will be supervised and individually identified if in a fault condition. The occurrence of any fault will light a trouble LED and sound the system trouble sounder, but will not interfere with the proper operation of any circuit which does not have a fault condition.
2. Each indicating appliance circuit shall be electrically supervised for opens, grounds and short circuit faults, on the circuit wiring, and shall be so arranged that a fault condition on any indicating appliance circuit or group of circuits will not cause an alarm to sound. The occurrence of any fault will light the trouble LED and sound the system trouble sounder, but will not interfere with the proper operation of any circuit which does not have a fault condition.

2.3 SYSTEM CABINET

A. Mounting
1. The system cabinet shall be red and can be surface mounted. A dead front is included to cover the PCB, batteries and all panel wiring. The panel annunciator shall be exposed through the dead front.

B. Audible System Trouble Sounder
1. An audible system trouble sounder shall be an integral part of the control unit.

2.4 POWER SUPPLY AND CHARGER

A. The entire system shall operate on 24 VDC, filtered switch mode power supply with the rated current available of 2 Amps. The FACP must have a battery charging circuit capable of complying with the following requirements:
1. Twenty-four (24) hours of battery standby with five (5) minutes of alarm signaling at the end of this twenty-four (24) hour period (as required per NFPA 72 central station signaling requirements) using rechargeable batteries with automatic charger to maintain gel-cell batteries in a fully charged condition.
2. The power supply shall comply with U.L. Standard 864 for power limiting.
3. The FACP will indicate a trouble condition if there is a loss of AC power or if the batteries are missing or of insufficient capacity to support proper system operation in the event of AC failure. A “Battery Test” will be performed automatically every minute to check the integrity of the batteries. The test must disconnect the batteries from the charging circuit and place a load on the battery to verify the battery condition.
4. In the event that it is necessary to provide additional power one or more of the model 5496 or 5499 distributed power modules shall be used to accomplish this purpose.

B. Connections and Circuits

1. Connections to the light and power service shall be on a dedicated branch circuit in accordance with the National Fire Alarm Code NFPA 72, National Electrical Code (NEC) NFPA 70, and the local authority having jurisdiction (AHJ).
2. The circuit and connections shall be mechanically protected.
3. A circuit disconnecting means shall be accessible only to authorized personnel and shall be clearly marked “FIRE ALARM CIRCUIT CONTROL”.

2.5 ACCESSORY COMPONENTS

A. SLC Device Support
1. The FACP shall support the operation of 25 addressable devices on the SLC loop without regard to device type. The following devices shall be supported:
   a. Addressable Photoelectric Smoke Detector
   b. Addressable Ionization Smoke Detector
   c. Addressable Fixed Temperature Heat Sensor
   d. Addressable Mini Monitor Input Module
   e. Addressable Monitoring Relay Module
   f. Addressable Single Action Pull Station

2.6 DEVICE INSTALLATION

A. Manual Fire Alarm Stations
1. Manual Fire Alarm Stations shall be non-coded, break glass, single or double action type, with a key operated test-reset lock in order that they may be tested, and so designed that after actual emergency operation, they cannot be restored to normal except by use of a key. The reset key shall be so designed that it will reset manual station and open FACP without use of another key. An operated station shall automatically condition itself so as to be visually detected, as operated, at a minimum distance of fifty feet, front or side. Manual stations shall be constructed of LEXAN® with clearly visible operating instructions on the front of the stations in raised letters. Stations shall be suitable for surface mounting on matching backbox, or semi-flush mounting on a standard single-gang box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) dependent on manual station accessibility or per local requirements.

B. Notification Devices
1. The visual and audio/visual signaling devices shall be compatible with the FACP as stated in the installation manuals and be Listed with Underwriters Laboratories Inc. per UL 1971 and/or 1638. Each indicating appliance circuit shall be electrically supervised for opens, grounds and short circuit faults, on the circuit wiring, and shall be so arranged that a fault condition on any indicating appliance circuit or group of circuits will not cause an alarm to sound. The occurrence of any fault will light the General Trouble LED and sound the system trouble sounder, but will not interfere with the proper operation of any circuit which does not have a fault condition. The notification appliance (combination audio/visual units only) shall produce a peak sound output of 90dba or greater as measured in an anechoic chamber. The appliance shall be polarized to allow for electrical supervision of the system wiring. The unit shall be provided with terminals with barriers for input/output wiring and be able to mount a single gang or double gang box or double workbox with the use of an adapter plate. The unit shall have an input voltage range of 19-30 volts.

C. Smoke Detectors
1. Smoke detectors shall be ceiling mounted, addressable photoelectric and ionizing (as indicated) smoke detectors. The combination detector head and twist lock base shall be U.L. listed compatible with the FACP. The base shall be the appropriate twist lock base. The smoke detector shall have a flashing status LED for visual supervision. The detector may be reset by actuating the control panel's reset switch. The sensitivity of the detector shall be capable of being determined and measured by the control panel without the need for external test equipment. The vandal security-locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field selectable when required. It shall be possible to perform a sensitivity test of the detector without the need of generating smoke. Electronics of the unit shall be shielded to protect against false alarms from E.M.I. and R.F.I.

D. Heat Detectors
1. Furnish and install addressable heat detectors. The combination heat detector and twist lock base shall be U.L. listed compatible with the Silent Knight 5600 fire alarm control panel. The base shall be appropriate twist lock base. The heat detector shall have a flashing status LED for visual supervision. The detector may be reset by actuating the control panel's reset switch. The vandal security-locking feature shall be used in those areas as indicated on the drawings. Electronics of the unit shall be shielded to protect against false alarms from E.M.I. and R.F.I.WIRE AND CABLE
2. Wire and cable for fire alarm systems shall be UL listed and labeled as complying with NFPA 70, Article 760.
3. Adjust wire size in first paragraph below to suit Project. NFPA 70 permits wire sizes down to No. 26 AWG.
4. Signaling Line Circuits: Twisted, shielded pair, not less than No. 18 AWG.
   a. Circuit Integrity Cable: Twisted shielded pair, NFPA 70 Article 760, Classification CI, for power-limited fire alarm signal service. UL listed as Type FPL, and complying with requirements in UL 1424 and in UL 2196 for a 2-hour rating.
5. Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation.
   a. Low-Voltage Circuits: No. 16 AWG, minimum.
   b. Line-Voltage Circuits: No. 12 AWG, minimum.

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION

A. Smoke or Heat Detector Spacing:
1. Smooth ceiling spacing shall not exceed 30 feet the rating of the detector.
2. Spacing of heat detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas, shall be determined according to Appendix A in NFPA 72.
3. Spacing of heat detectors shall be determined based on guidelines and recommendations in NFPA 72.

B. Audible Alarm-Indicating Devices: Install not less than 6 inches below the ceiling. Install bells and horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille.

C. Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inches below the ceiling.

D. Device Location-Indicating Lights: Locate in public space near the device they monitor.

E. FACP: Surface mount with tops of cabinets not more than 72 inches above the finished floor.

3.2 WIRING INSTALLATION

A. Install wiring according to the following:
1. NECA 1.
2. TIA/EIA 568-A.

B. Wiring Method: Install wiring in metal raceway according to Division 16 Section "Raceways and Boxes."
1. Fire alarm circuits and equipment control wiring associated with the fire alarm system shall be installed in a dedicated raceway system. This system shall not be used for any other wire or cable.

C. Wiring Method:
1. Cables and raceways used for fire alarm circuits, and equipment control wiring associated with the fire alarm system, may not contain any other wire or cable.
2. Signaling Line Circuits: Power-limited fire alarm cables may be installed in the same cable or raceway as signaling line circuits.

D. Wiring within Enclosures: Separate power-limited and non-power-limited conductors as recommended by manufacturer. Install conductors parallel with or at right angles to sides and back of the enclosure. Bundle, lace, and train conductors to terminal points with no excess. Connect conductors that are terminated, spliced, or interrupted in any enclosure associated with the fire alarm system to terminal blocks. Mark each terminal according to the system's wiring diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

E. Cable Taps: Use numbered terminal strips in junction, pull, and outlet boxes, cabinets, or equipment enclosures where circuit connections are made.

F. Color-Coding: Color-code fire alarm conductors differently from the normal building power wiring. Use one color-code for alarm circuit wiring and a different color-code for supervisory circuits. Color-code audible alarm-indicating circuits differently from alarm-initiating circuits. Use different colors for visible alarm-indicating devices. Paint fire alarm system junction boxes and covers red.

G. Risers: Install at least two vertical cable risers to serve the fire alarm system. Separate risers in close proximity to each other with a minimum 1-hour-rated wall, so the loss of one riser does not prevent the receipt or transmission of signals from other floors or zones.

H. Wiring to Remote Alarm Transmitting Device: 1-inch conduit between the FACP and the transmitter. Install number of conductors and electrical supervision for connecting wiring as needed to suit monitoring function.

3.3 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals according to Division 16 Section "Electrical Identification."

B. Install instructions frame in a location visible from the FACP.

C. Paint power-supply disconnect switch red and label "FIRE ALARM."

3.4 GROUNDING

A. Ground the FACP and associated circuits; comply with IEEE 1100. Install a ground wire from main service ground to the FACP.

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections, and to assist in field testing. Report results in writing.

B. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:

C. Perform the following field tests and inspections and prepare test reports:
1. Before requesting final approval of the installation, submit a written statement using the form for Record of Completion shown in NFPA 72.
2. Perform each electrical test and visual and mechanical inspection listed in NFPA 72. Certify compliance with test parameters. All tests shall be conducted under the direct supervision of a NICET technician certified under the Fire Alarm Systems program at Level III.
    a. Include the existing system in tests and inspections.
3. Visual Inspection: Conduct a visual inspection before any testing. Use as-built drawings and system documentation for the inspection. Identify improperly located, damaged, or nonfunctional equipment, and correct before beginning tests.
4. Testing: Follow procedure and record results complying with requirements in NFPA 72.
    a. Detectors that are outside their marked sensitivity range shall be replaced.
5. Test and Inspection Records: Prepare according to NFPA 72, including demonstration of sequences of operation by using the matrix-style form in Appendix A in NFPA 70.

3.6 ADJUSTING

A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project outside normal occupancy hours for this purpose.

B. Follow-Up Tests and Inspections: After date of Substantial Completion, test the fire alarm system complying with testing and visual inspection requirements in NFPA 72. Perform tests and inspections listed for three monthly, and one quarterly, periods.

C. Semiannual Test and Inspection: Six months after date of Substantial Completion, test the fire alarm system complying with the testing and visual inspection requirements in NFPA 72. Perform tests and inspections listed for monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.

D. Annual Test and Inspection: One year after date of Substantial Completion, test the fire alarm system complying with the testing and visual inspection requirements in NFPA 72. Perform tests and inspections listed for monthly, quarterly, semiannual, and annual periods. Use forms developed for initial tests and inspections.

3.7 DEMONSTRATION

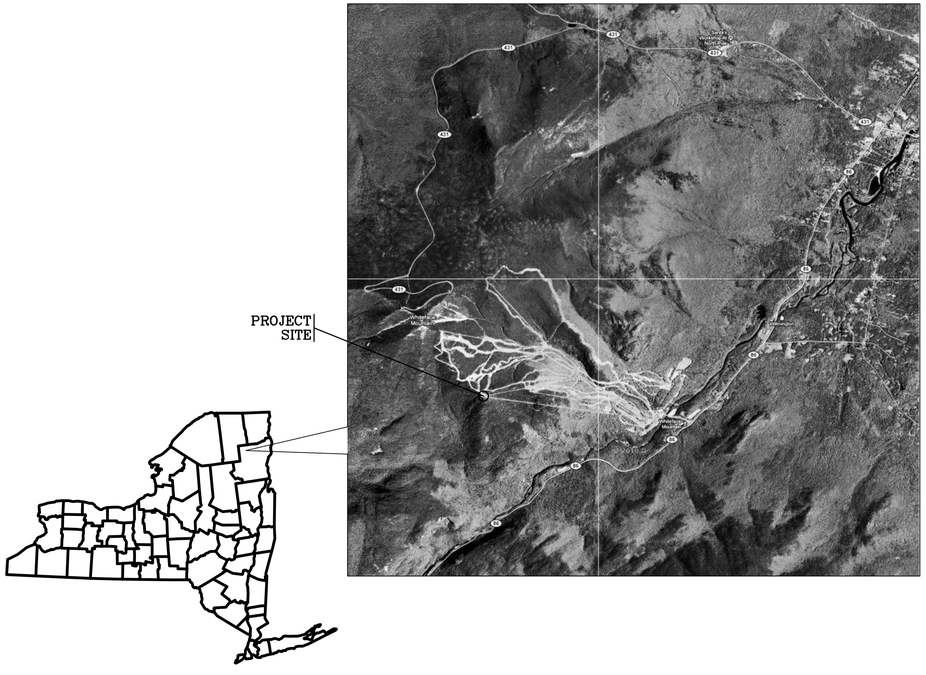
A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain the fire alarm system, appliances, and devices. Refer to Division 1 Section 01700 – Execution Requirements.

END OF SECTION

LITTLE WHITEFACE
SKI PATROL BUILDING

WHTIEFACE MOUNTAIN
WILMINGTON, NEW YORK

SCHEDULE OF DRAWINGS	
G-001	TITLE SHEET
V-101	PLAN OF EXISTING CONDITIONS
C-101	SITE PLAN
C-102	ENLARGED SITE PLAN
C-201	SITE PROFILES
C-202	SITE PROFILES
S-001	STRUCTURAL NOTES
S-100	FOUNDATION & FLOOR FRAMING PLANS
S-101	ATTIC FLOOR & ROOF FRAMING PLANS
S-200	SECTION SHEET 1
S-201	SECTION SHEET 2
S-202	SECTION & DETAIL SHEET 1
S-203	DETAIL SHEET 2 & TRUSS LOADING DIAGRAMS
A-001	ARCHITECTURAL NOTES, SYMBOLS, HATCH PATTERNS & ABBREVIATIONS
A-101	FLOOR & CEILING PLANS
A-102	ATTIC, CUPOLA & ROOF PLANS
A-201	EXTERIOR ELEVATIONS
A-202	EXTERIOR ELEVATIONS
A-301	BUILDING SECTIONS
A-401	INTERIOR ELEVATIONS, RAMP & STAIR PLANS
A-402	WALL SECTIONS
A-501	CONSTRUCTION DETAILS
A-601	DOOR, WINDOW & FINISH SCHEDULES & DETAILS
A-602	DOOR & WINDOW DETAILS
M-001	MECHANICAL NOTES, LEGENDS AND SCHEDULES
M-101	MECHANICAL PLANS
M-501	MECHANICAL DETAILS
E-001	ELECTRICAL NOTES AND ONE-LINE DIAGRAM
E-101	ELECTRICAL PLANS
E-102	ELECTRICAL GROUNDING PLAN
E-103	SPECIAL SYSTEMS PLAN



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ARCHITECT - ENGINEER - LAND SURVEYOR

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PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

TITLE SHEET

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)
1	ALARM MONITORING	04/06/2012
2	GENERAL REVISIONS	05/04/2012

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.FESSETTE		06/28/2011	3760

DRAWING NO.

G-001

Plot Date: 05/07/2012 Plot Time: 10:56 AM
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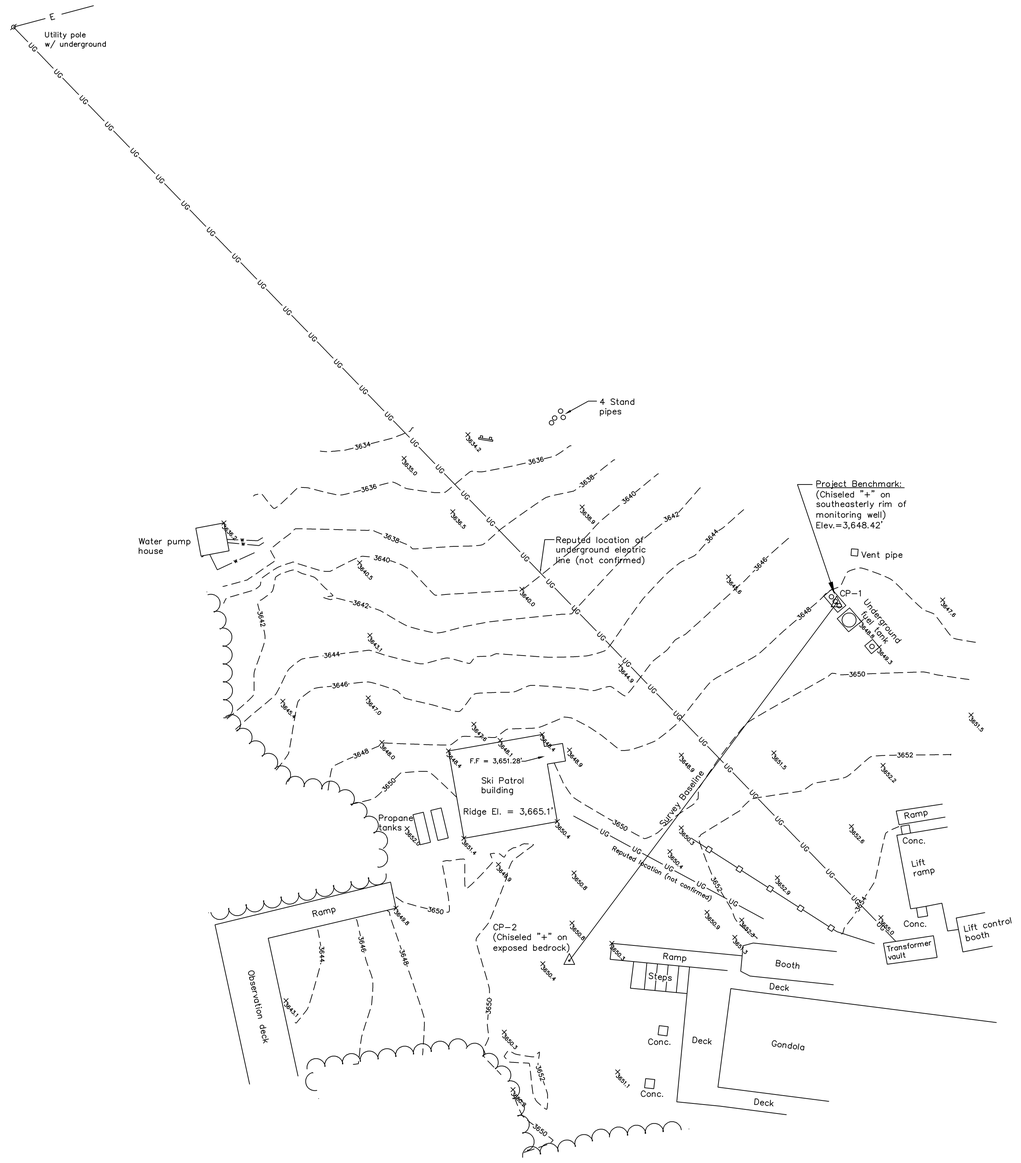

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Scale 1" = 20'

Plot Date: 06/29/2011 Plot Time: 2:31 PM
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AES NORTHEAST

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ARCHITECT – ENGINEER – LAND SURVEYOR

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3. The location of underground improvements or encroachments are not always known and often must be estimated. If any underground improvements or encroachments exist or are shown, the improvements or encroachments are not covered by surveyor's certification.Utility locations shown are approximate and are for informational purposes only. Before you dig, call 811 or visit the web site www.digsafelynewyork.com.
4. No Abstract of Title was provided to surveyor at time of survey. This survey is subject to any state of facts an up to date Abstract of Title would disclose.
5. Site was snow and ice covered at the time of survey. Some physical features or appurtenances may have been concealed and therefore may not be shown. Surveyor is not responsible for any omissions resulting from these conditions.
6. Datum for survey:

Coordinate System:	U.S State Plane 1983(96) New York State East Zone 3101	
Control station used:	Raybrook	44°18'13.92302"N
	CORS ARP	074°04'42.07597"W
Adjustment:	NAD 1983(96)	
Ellipsoid Red. Factor:	0.99982912	
Grid Scale Factor:	0.99992889	
Combined Scale Factor:	0.99975802	

Vertical Datum: NAVD 88 (Geoid 03)

Map distances shown are grid distances.

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

PLAN OF EXISTING CONDITIONS

REVISIONS

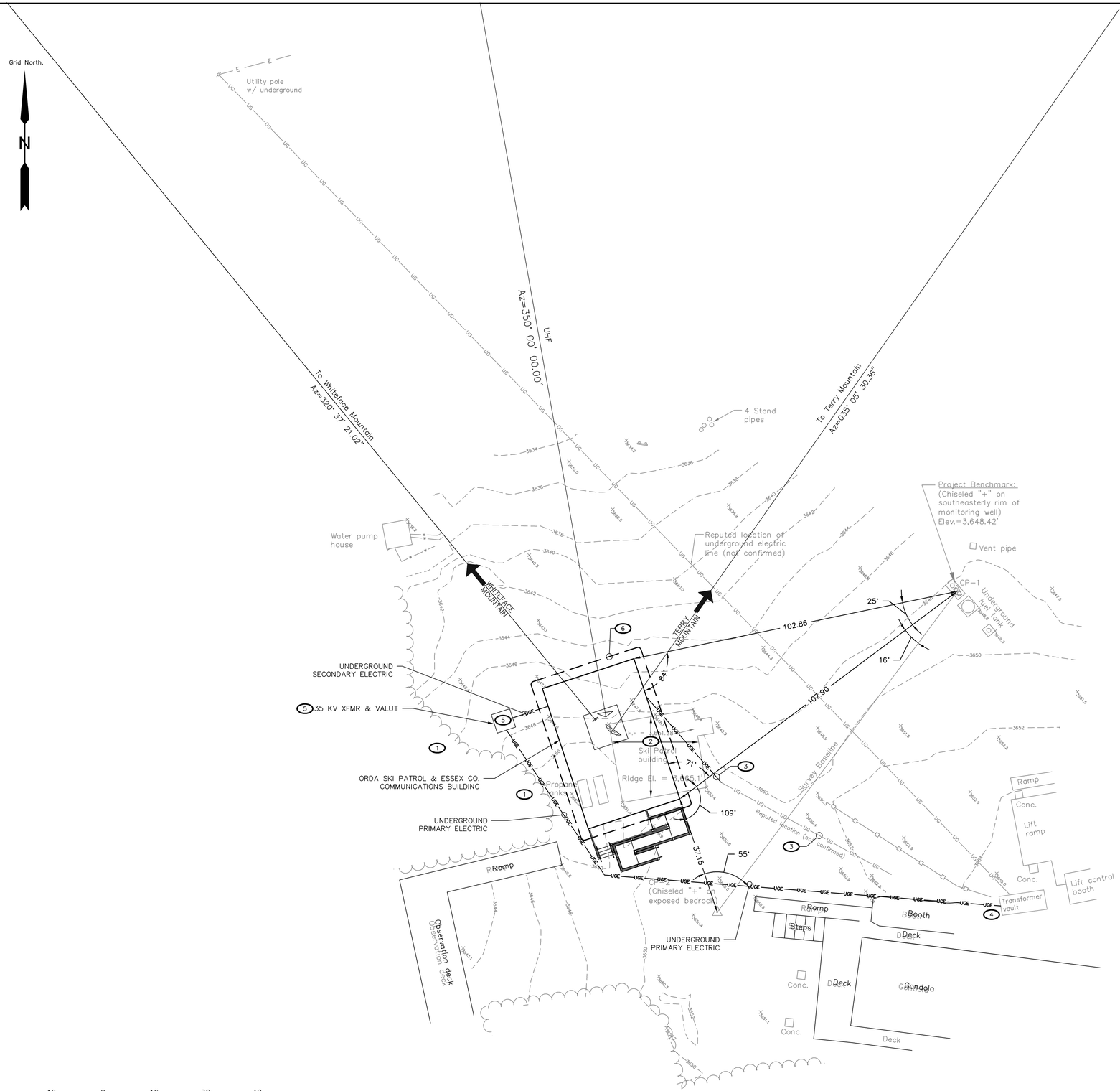
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
G. Pawlowski		06/28/2011	3760

DRAWING NO.

V-101



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Scale 1" = 16'

Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County – Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\C-Drawings\3760 C-100's.dwg

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ARCHITECT – ENGINEER – LAND SURVEYOR

DRAWING NOTES:

1. CONTRACTOR IS NOT PERMITTED TO CUT OR REMOVE ANY TREES. PROTECT EXISTING TREES @ ALL TIMES.
2. CONTRACTOR SHALL COMPLETELY DEMOLISH & REMOVE EXISTING SKI PATROL BUILDING.
3. CONTRACTOR SHALL REMOVE EXISTING POWER FEED TO EXISTING SKI PATROL BUILDING. CONTRACTOR SHALL REMOVE DAMAGED & EXPOSED 4" PVC CONDUIT & REPLACE/ EXTEND WITH RIGID STEEL TO NEW BUILDING.
4. REMOVE PORTION OF XFMR PLATFORM FOR INSTALLATION OF NEW PRIMARY LOOP FEED. RESTORE PLATFORM TO ORIGINAL CONDITION UPON COMPLETION OF WORK.
5. REFER TO 'E' DRAWINGS FOR PRIMARY & SECONDARY FEEDER SIZING, TRENCHING & XFMR INSTALLATION.
6. PERIMETER GROUND RING. REFER TO DWG. E-102 & SPEC 16060 FOR REQUIREMENTS.

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

SITE PLAN

REVISIONS

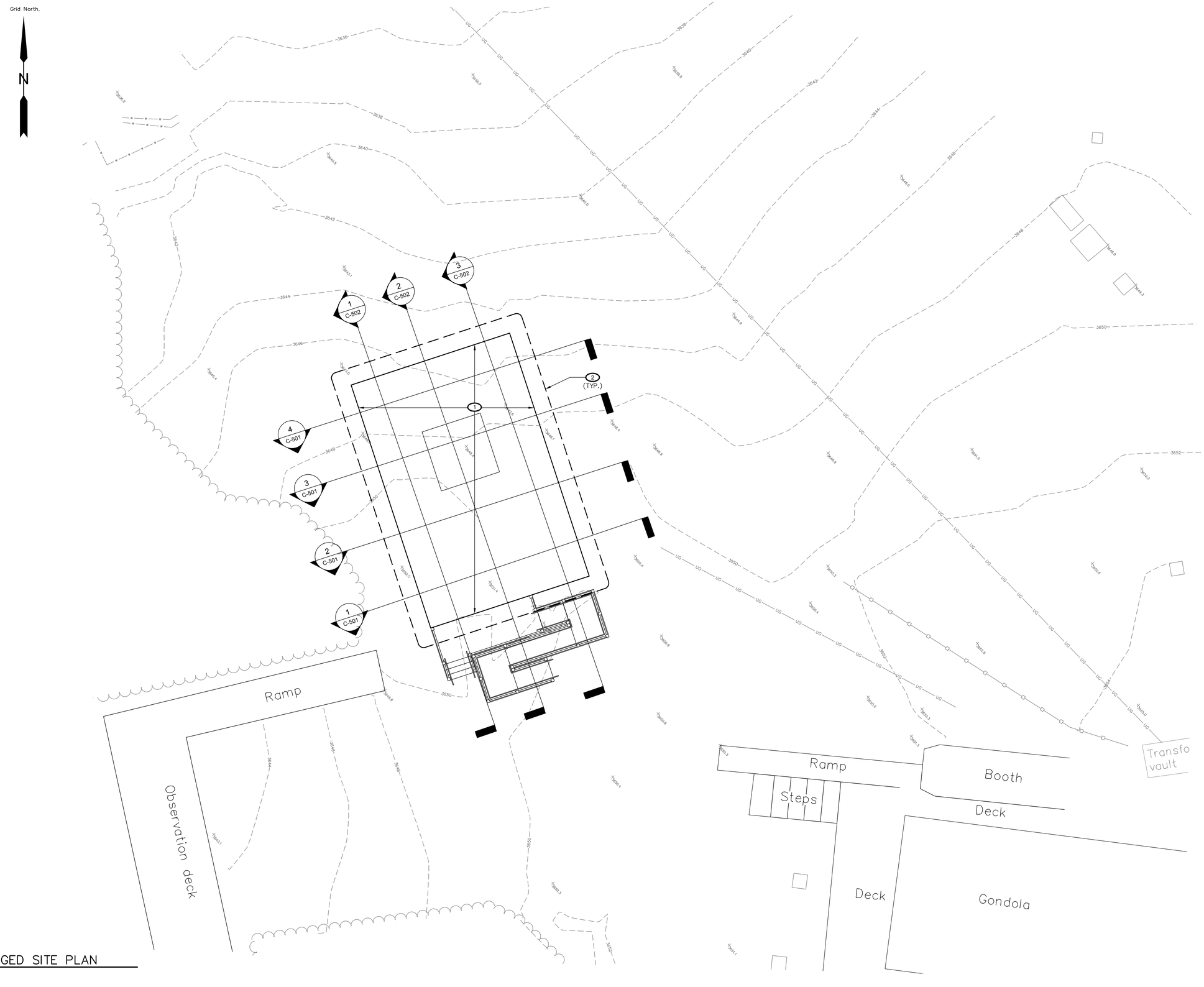
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.

C-101



2 C-102 ENLARGED SITE PLAN
SCALE: 1:8

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ARCHITECT – ENGINEER – LAND SURVEYOR

GENERAL NOTES:

1. PURPORTED FINDINGS: BUILDING SITE IS MADE UP OF MOSTLY BEDROCK AND COBLE. THERE IS SOME LIMITED TOPSOIL (ABOUT 12") UNDER THE NORTHERN PORTION OF THE BUILDING SITE. IN SOME AREAS BEDROCK IS AT THE SURFACE AND IN SOME AREAS THE BEDROCK IS 8" TO 12" BELOW THE SURFACE.

DRAWING NOTES:

(1) CONTRACTOR SHALL EXCAVATE DOWN TO SOLID BEDROCK FOR NEW FOUNDATION. CONTRACTOR SHALL REMOVE ANY BEDROCK OUTCROPPINGS THAT INTERFERE WITH BUILDING LOCATION. CONTRACTOR SHALL EXCAVATE SO THAT 12" OF CLEARANCE IS MAINTAINED BETWEEN BOTTOM OF FLOOR JOIST AND TOP OF BEDROCK AND ALLOW FOR MIN. 12" HIGH CONCRETE GRADE BEAM FOUNDATION.

(2) CONTRACTOR SHALL EXCAVATE 3'–0" HORIZONTALLY FROM PERIMETER OF BUILDING SO THAT 12" OF COVER IS MAINTAINED BETWEEN GROUNDING RING AND NEW FINISH GRADE; OR TRENCH 12" BELOW GRADE FOR GROUNDING RING.

PROJECT TITLE:
ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
WILMINGTON, NEW YORK

DRAWING TITLE:
ENLARGED SITE PLAN

REVISIONS

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1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
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DRAWING NO.
C–102

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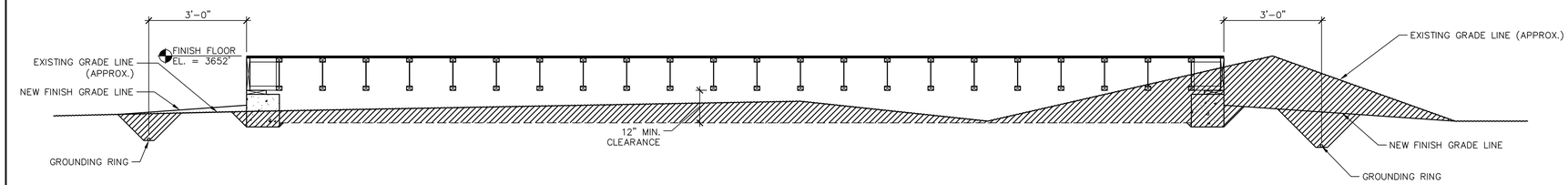
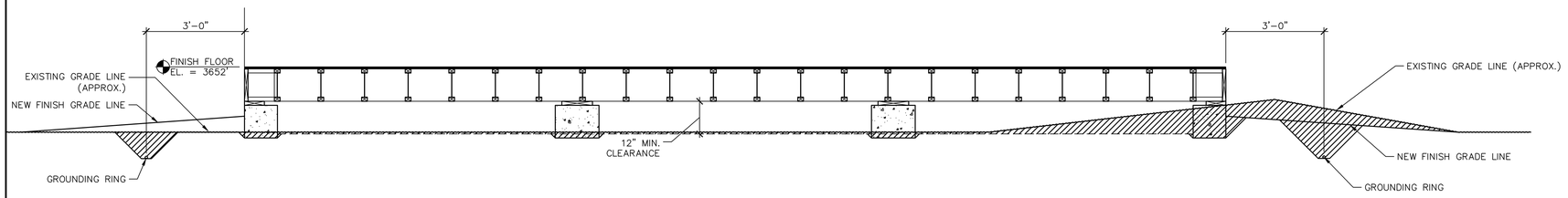


1 C-201 SITE PROFILE
SCALE: 1/2" = 1'-0"



2 C-201 SITE PROFILE
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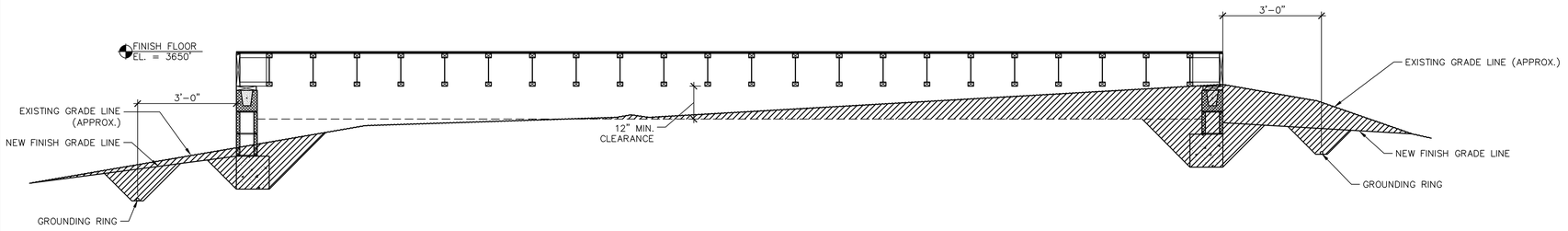
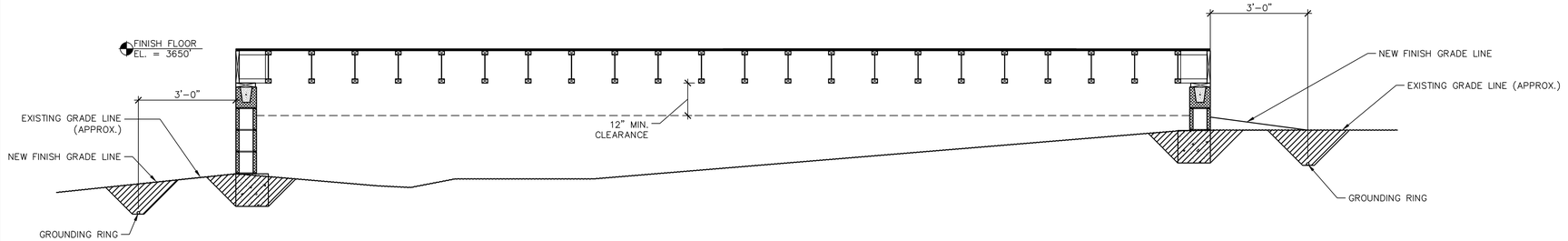


3 C-201 SITE PROFILE
SCALE: 1/2" = 1'-0"



4 C-201 SITE PROFILE
SCALE: 1/2" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

GENERAL NOTES:

1. CONTRACTOR SHALL BACKFILL FOUNDATION. SLOPE NEW FINISH GRADE 1:20 MIN. SLOPE AWAY FROM FOUNDATION.

LEGEND:

AREAS OF EXCAVATION/ROCK REMOVAL

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

SITE PROFILES

REVISIONS

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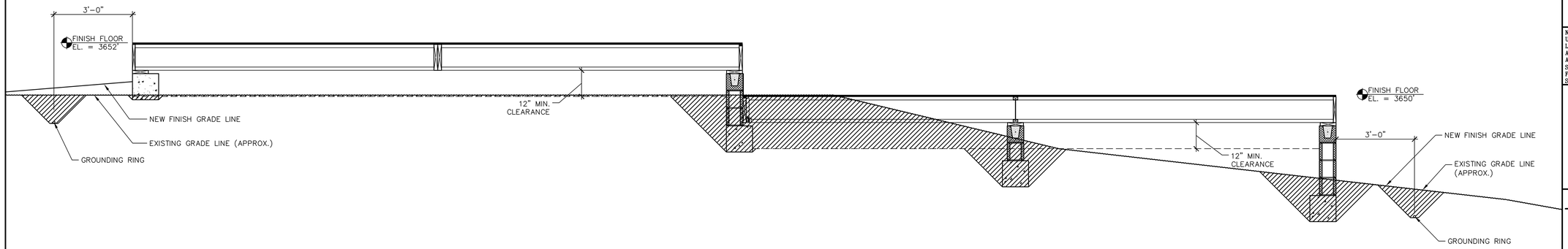
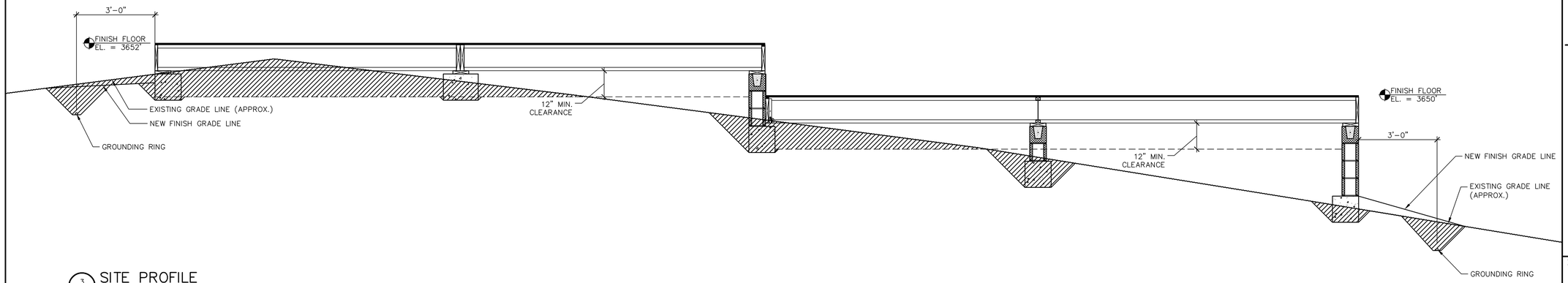
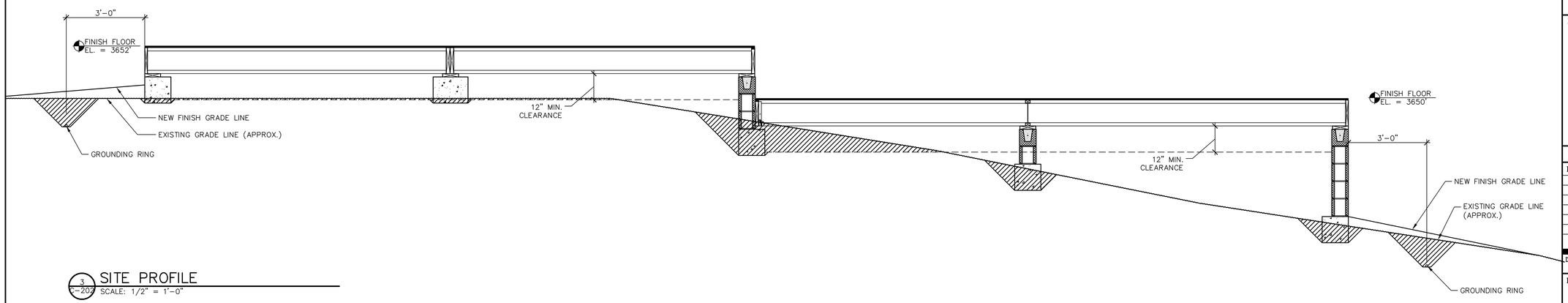


1 C-202 SITE PROFILE
SCALE: 1/2" = 1'-0"



3 C-202 SITE PROFILE
SCALE: 1/2" = 1'-0"



3 C-202 SITE PROFILE
SCALE: 1/2" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

GENERAL NOTES:

1. CONTRACTOR SHALL BACKFILL FOUNDATION. SLOPE NEW FINISH GRADE 1:20 MIN. SLOPE AWAY FROM FOUNDATION.

LEGEND:

AREAS OF EXCAVATION/ROCK REMOVAL

PROJECT TITLE:
ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

SITE PROFILES

REVISIONS

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DRAWING NO.
C-202

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GENERAL NOTES

1. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL & MECHANICAL DRAWINGS & SHALL CONFORM TO THE PROJECT SPECIFICATIONS & THE BUILDING CODE OF NEW YORK STATE.

2. DESIGN LOADS:

ROOF LOADS:

SNOW – 99 psf Sloped Roof
134 psf Ground Snow
SNOW EXPOSURE FACTOR Ce = 0.8
SNOW IMPORTANCE FACTOR I = 1.2
THERMAL FACTOR Ct = 1.1
DEAD – 20 psf TOTAL
(NOTE: APPLY 10 psf TO BOTTOM CHORD & 10 psf TO TOP CHORD OF TRUSS)

DRIFT, SLIDING & UNBALANCED SNOW LOADS PER ASCE 7–05
(SEE TRUSS LOADING DIAGRAMS DWG. S–203 FOR MORE INFORMATION).

FLOOR LOADS:

DEAD LOAD – 12 psf ALL AREAS
SKI PATROL ROOM LIVE LOAD – 100 psf
COMMUNICATIONS ROOM LIVE LOAD – 100 psf
STORAGE ROOM LIVE LOAD – 125 psf
GENERATOR ROOM LIVE LOAD – 125 psf
ATTIC BELOW CUPOLA – 100 psf
ATTIC @ ALL OTHER AREAS – 20 psf

LATERAL LOADS:

WIND LOAD – BUILDING CODE OF NYS, (PER ASCE 7–05)
FOR MAIN WIND FORCE RESISTING SYSTEM & COMPONENT FORCES.
– EXPOSURE CATEGORY D
– WIND IMPORTANCE FACTOR = 1.15
– 3–SECOND GUST BASIC WIND SPEED = 90 MPH
– TOPOGRAPHIC FACTOR Kzt = 1.742

SEISMIC LOAD

SEISMIC OCCUPANCY CATEGORY IV
SEISMIC DESIGN CATEGORY C
Sds = 0.29, Sd1 = 0.08
SITE CLASS D
SEISMIC FORCE RESISITING SYSTEM
LIGHT FRAMED WALLS WITH SHEAR PANELS
R = 6.5
DESIGN BASE SHEAR (V) = 4.51 kips
EQUIVALENT LATERAL FORCE PROCEDURE (ASCE 7.05)
Ie = 1.5

CONCRETE NOTES

1. MINIMUM CONCRETE COMPRESSIVE STRENGTH (F'c) AT 28 DAYS SHALL BE AS FOLLOWS:
FOUNDATION GRADE BEAMS AND PIERS – 4000 psi

2. CONCRETE PLACED IN COLD WEATHER SHALL MEET THE REQUIREMENTS OF ACI 306 "COLD WEATHER CONCRETE".

3. TOP OF FOUNDATION WALL CONCRETE SHALL RECEIVE A STEEL TROWEL FINISH.

4. ALL SIDE SURFACES SHALL HAVE A FORM FINISH FREE OF HONEYCOMBING AND IRREGULARITIES IN EXCESS 1/4" FROM PLANE OF THE SURFACE. PATCH ALL HONEYCOMBED AREAS WITH NON–SHRINK GROUT.

5. CURE ALL CONCRETE; MOIST CURE FOR 7 DAYS MIN. OR CURE WITH LIQUID MEMBRANE CURING COMPOUND, MEETING REQUIREMENTS OF ASTM C 309, TYPE 1, APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. VERIFY CURING COMPOUND'S COMPATIBILITY WITH ADHESION OF ARCHITECTURAL FINISHES.

6. ALL ANCHOR BOLTS SHALL COMPLY WITH ASTM A307. HOT–DIP GALVANIZE ALL ANCHOR BOLTS AND ASSOCIATED HARDWARE PER ASTM A153.

7. ALL REINFORCEMENT SHALL COMPLY WITH ASTM A615, GR. 60.

8. THE CONTRACTOR SHALL CHECK WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL SUBCONTRACTOR'S FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, INSERTS AND OTHER ITEMS RELATED TO THE CONCRETE WORK, AND SHALL ASSUME RESPONSIBILITY FOR THEIR PROPER LOCATION.

9. EPOXY ADHESIVE FOR GROUTING REINFORCEMENT DOWELS INTO CONCRETE SHALL BE HY150, AS MANUFACTURED BY HILTI CORP., OR EQUIVALENT.

10 LAP LENGTHS FOR CONCRETE REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED TO BE GREATER:

NO. 3 BAR = 17"
NO. 4 BAR = 22"
NO. 5 BAR = 24"
NO. 6 BAR = 33"

11. REFER TO SPECIFICATION SECTION 03300 FOR ADDITIONAL INFORMATION.

CONCRETE MASONRY

1. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90. NORMAL WEIGHT UNITS WITH A MINIMUM AVERAGE NET–AREA COMPRESSIVE STRENGTH OF 2150 PSI.

2. MORTAR SHALL COMPLY WITH ASTM C270, TYPE S.

3. REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60. INSTALL REINFORCEMENT IN ACCORDANCE WITH ASCE 6–95/ACI 530.1–95.

4. MASONRY JOINT REINFORCEMENT SHALL BE LADDER OR TRUSS TYPE CONFORMING TO ASTM A 951. REINFORCEMENT SHALL BE HOT–DIP GALVANIZED CARBON STEEL WIRE. SIDE RODS AND CROSS ROD WIRE SIZES SHALL BE MINIMUM 9ga.

5. GROUT SHALL COMPLY WITH ASTM C 476. MIX GROUT TO A CONSISTENCY THAT HAS A SLUMP BETWEEN 8 AND 11 INCHES. PLACE GROUT IN ACCORDANCE WITH ASCE 6–95/ACI 530.1–95, INCLUDING MECHANICAL CONSOLIDATION.

6. REFER TO SPECIFICATION SECTION 04816 FOR ADDITIONAL INFORMATION.

MANUFACTURED LUMBER

1. ALL LVL'S – LAMINATED VENEER LUMBER – SHALL COMPLY WITH ASTM D 5456 AND ASTM D 2559. LVL SHAPES AND SIZES INDICATED ARE AS MANUFACTURED BY THE WEYERHAEUSER CO. AS A BASIS OF DESIGN. "E" = MIN. 1900 Ksi., "Fb" = MIN. 2.60 Ksi.

2. ALL LSL'S – LAMINATED STRAND LUMBER – SHALL COMPLY WITH ASTM D 5456 AND ASTM D 2559. LSL SHAPES AND SIZES INDICATED ARE AS MANUFACTURED BY THE WEYERHAEUSER CO. AS A BASIS OF DESIGN. "E" = MIN. 1550 Ksi., "Fb" = MIN. 2.325 Ksi.

3. ALL TJI'S – WOOD I–JOISTS – SHALL COMPLY WITH ASTM D 5055. TJI SHAPES AND SIZES INDICATED ARE AS MANUFACTURED BY THE WEYERHAEUSER CO. AS A BASIS OF DESIGN.

4. ALL RIM BOARDS SHALL BE LSL MATERIAL OF THE SIZES INDICATED AND SHALL BE MANUFACTURED BY THE SAME SUPPLIER AS THE WOOD I–JOISTS.

5. REFER TO SPECIFICATION SECTION 06100 FOR ADDITIONAL INFORMATION.

ROUGH CARPENTRY

1. CONTRACTOR SHALL SUBMIT FROM LUMBER SUPPLIER (5) COPIES OF SUBMITTAL TO ENGINEER INDICATING SPECIES AND GRADES OF FRAMING LUMBER AND TIMBER WITH RULES AGENCY NOTED, FOR EACH TYPE OF STRUCTURAL FRAMING SUPPLIED.

2. ALL FRAMING LUMBER SHALL BE A MINIMUM OF NO. 1/NO.2 SPRUCE–PINE–FIR (SPF) AS GRADED BY THE NATIONAL LUMBER GRADES AUTHORITY (NLGA) OR THE NORTHEASTERN LUMBER MANUFACTURER'S ASSOCIATION (NELMA) UNLESS OTHERWISE INDICATED. LUMBER GRADES FOR SPECIFIC STRUCTURAL MEMBERS SHALL BE A MINIMUM OF THE GRADES LISTED BELOW UNLESS OTHERWISE NOTED:

RAFTERS AND JOISTS	NO. 1 OR NO. 2 SPF
EXTERIOR WALL STUDS	NO. 1 / N.L.G.A.
INTERIOR WALL STUDS	NO. 1 / N.L.G.A.
WALL PLATES	NO. 1 OR NO. 2 SPF
SILL PLATES	NO. 1 OR NO. 2 PPT S. PINE
EXTERIOR EXPOSED LUMBER	NO. 1 OR NO. 2 PPT S. PINE
MISC. BLOCKING & FURRING	NO. 1 OR NO. 2 SPF

3. ALL WOOD BEARING OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE PRESERVATIVE TREATED (PPT) SOUTHERN PINE.

4. STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY DETAILED.

5. HOLES FOR BOLTS SHALL BE BORED TO 1/32" TO 1/16" LARGER THAN NOMINAL BOLT SIZE INDICATED.

6. ALL BOLTS SHALL BE RE–TIGHTENED PRIOR TO APPLICATION OF WALL SHEATHING.

7. ALL BOLTS BEARING ON WOOD SHALL HAVE WASHERS UNDER BOLT HEAD AND NUTS.

8. PROVIDE MIN. THREE STUDS AT ALL WALL CORNERS U.N.O.

9. LUMBER CONNECTORS SUCH AS JOIST HANGERS, METAL ANCHORS, PLATES ETC. SHALL BE HOT DIPPER GALVANIZED STEEL AS MANUFACTURED BY SIMPSON STRONG TIE CO. INC. OR EQUIVALENT. NAIL TO LUMBER WITH SIZE AND NO. OF NAILS AS RECOMMENDED BY MANUFACTURER. (CONNECTORS SHOWN ARE BY SIMPSON.)

10. TOP WALL PLATES SHALL BE SPLICED PER THE TYPICAL TOP PLATE JOINT SPLICE DETAIL ON DWG. S–202.

11. ALL WOOD FASTENERS SHALL COMPLY WITH TABLE 2304.9.1 FASTENEING SCHEDULE OF THE BUILDING CODE OF NEW YORK STATE OR AS SHOWN ON THE DRAWINGS. ALL NAILS OR FASTENERS CONNECTED TO PRESSURE PRESERVATIVE TREATED LUMBER SHALL BE HOT–DIP GALVANIZED PER ASTM A153.

12. ALL BOLTS SHALL COMPLY WITH ASTM A 307, GRADE A; WITH ASTM A 563 HEX NUTS AND, WHERE INDICATED, FLAT WASHERS. ALL BOLTS AND HARDWARE, INCLUDING ANCHOR BOLTS, CONNECTING PRESSURE PRESERVATIVE TREATED LUMBER SHALL BE HOT DIP GALVANIZED PER ASTM A153.

13. LEAD HOLES FOR LAG BOLTS SHALL BE BORED AS FOLLOWS:

– THE CLEARANCE HOLE FOR THE SHANK (SMOOTH PORTION OF SCREW) SHALL HAVE THE SAME DIAMETER AND PENETRATION AS THE SHANK DIAMETER.

– THE LEAD HOLE FOR THE THREADED PORTION SHALL BE DRILLED TO AT LEAST THE DEPTH OF THE THREADED PORTION AND SHALL BE OF THE FOLLOWING SIZE:

7/16" DIA. SCREW IN SPF – 1/4", IN S. PINE – 5/16"
1/2" DIA. SCREW IN SPF – 5/16", IN S. PINE – 3/8"
5/8" DIA. SCREW IN SPF – 7/16", IN S. PINE – 7/16"
3/4" DIA. SCREW IN SPF – 1/2", IN S. PINE – 9/16"
LEAD HOLES ARE NOT REQ'D FOR 3/8" LAG SCREWS PROVIDED EDGE AND END DISTANCE ARE SUFFICIENT TO PREVENT SPLITTING.

14. REFER TO SPECIFICATION SECTION 06100 FOR ADDITIONAL INFORMATION.

PRE–FABRICATED WOOD TRUSSES

1. WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH SECTION 2303.4 OF THE NEW YORK STATE BUILDING CODE, ANSI/TPI1–2002 (NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION) AND OTHER APPLICABLE PUBLICATIONS AS PUBLISHED BY THE TRUSS PLATE INSTITUTE. SPECIAL ATTENTION IS DRAWN TO THE INSPECTION AND SHOP DRAWING REQUIREMENTS OF SECTION 2303.4 OF THE NEW YORK STATE BUILDING CODE.

2. ALL ROOF TRUSSES SHALL MEET A DEFLECTION CRITERIA OF SPAN/360. ENGINEERING DRAWINGS AND CALCULATIONS CONFORMING WITH THE DESIGN LOAD AND DEFLECTION CRITERIA SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENCED TO PRACTICE IN THE STATE OF NEW YORK.

3. WOOD TRUSSES SHALL BE BRACED DURING INSTALLATION AND AFTER PERMANENT INSTALLATION IN ACCORDANCE WITH BCSI (BUILDING COMPONENT SAFETY INFORMATION) 1–03 AS PUBLISHED BY THE WOOD TRUSS COUNCIL OF AMERICA AND THE TRUSS PLATE INSTITUTE. THE BRACING SHOWN IN THIS MANUAL SHALL BE THE MINIMUM ACCEPTABLE UNLESS AN ALTERNATIVE BRACING PLAN, DESIGNED BY AN ENGINEER LICENCED TO PRACTICE IN THE STATE OF NEW YORK, IS SUBMITTED FOR REVIEW.

4. ANY PERMANENT BRACING REQUIRED TO RESIST WIND AND SEISMIC LOADS SHALL BE ERECTED AS SHOWN ON THE PROJECT DRAWINGS. AFTER REVIEW OF THE TRUSS MANUFACTURER'S SHOP DRAWINGS ADDITIONAL PERMANENT BRACING MAY BE REQUIRED TO RESIST LOCAL WEB AND CHORD MEMBER COMPRESSION BRACING FORCES. THE REQUIREMENTS FOR THIS BRACING WILL BE SHOWN BY THE ENGINEER AS COMMENTS TO THE TRUSS MANUFACTURER'S SHOP DRAWINGS.

5. TRUSSES SHALL BE STORED , HANDLED, AND ERECTED IN STRICT ACCORDANCE WITH BCSI 1–03. THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH THE PROCEDURES OF BCSI 1–03. A COPY OF BCSI 1–03 SHALL BE ON THE JOB SITE FOR THE DURATION OF THE TRUSS ERECTION PROCESS.

6. THE TRUSS SUPPLIER SHALL DESIGN AND SUPPLY ALL HANGERS REQUIRED FOR ALL TRUSS TO TRUSS CONNECTIONS, AND ALL BEAM TO TRUSS CONNECTIONS. THESE HANGARS SHALL BE CLEARLY INDICATED ON THE TRUSS SHOP DRAWINGS.

7. WOOD TRUSS TOP AND BOTTOM CHORD MEMBERS SHALL BE OF THE MINIMUM SIZES INDICATED ON THE TRUSS LOADING DIAGRAMS.

8. SEE DRAWING S–203 FOR TRUSS ELEVATION AND LOADING DIAGRAMS.

5. REFER TO SPECIFICATION SECTION 06185 FOR ADDITIONAL INFORMATION.

SHEATHING

1. SHEETS SHALL BE LAID WITH LONG DIMENSIONS PERPENDICULAR TO SUPPORTING MEMBERS.

2. ROOF SHEATHING SHALL BE 19/32" THK. APA (AMERICAN PLYWOOD ASSOCIATION) RATED SHEATHING , EXTERIOR, WITH A MINIMUM SPAN RATING OF 40/20. ALL ROOF SHEATHING SHALL BE NAILED TO ALL PERIMETER FRAMING WITH 10d NAILS AT A MAXIMUM SPACING OF 6" C–C. PLYWOOD SHALL BE NAILED TO ALL INTERMEDIATE FRAMING WITH 10d NAILS AT A MAXIMUM SPACING OF 12" C–C. ONE PLYWOOD CLIP SHALL BE INSTALLED BETWEEN EACH FRAMING MEMBER AT PANEL EDGES WHEN FRAMING SPACING EXCEEDS 16".

3. FLOOR SHEATHING SHALL BE 3/4" THICK APA (AMERICAN PLYWOOD ASSOCIATION) RATED "STURD–I–FLOOR SHEATHING, SPAN RATING OF 24" C–C, EXPOSURE 1 SUBFLOOR. ATTACH TO FRAMING WITH ADHESIVE AND 10d NAILS AT 6" C–C AT ALL PERIMETER FRAMING AND 12" C–C AT INTERMEDIATE FRAMING. ADHESIVE SHALL COMPLY WITH APA SPECIFICATION AFG–01 OR ASTM D3498.

4. WALL SHEATHING SHALL BE 1/2" THK. APA RATED CDX PLYWOOD WITH A MINIMUM SPAN RATING OF 32/16. SHEATHING SHALL BE NAILED TO ALL FRAMING WITH 10d NAILS AT 12" C–C IN THE FIELD AND 6" C–C AT ALL EDGES. (TYP. U.N.O.) SEE SHEAR WALL SCHEDULE ON DWG. S–301 FOR ADDITIONAL REQUIREMENTS AT SHEAR WALLS. ALL CUPOLA WALL FRAMING SHALL HAVE BLOCKING AT ALL PLYWOOD JOINTS. EDGE NAILING FOR ALL CUPOLA WALLS SHALL BE 10d @ 4" C–C.

5. REFER TO SPECIFICATION SECTION 06160 FOR ADDITIONAL INFORMATION.

ABBREVIATIONS

A.B.	Anchor Bolt	I.F.	Inside Face
A.F.F.	Above Finished Floor	INFO.	Information
ARCH.	Architectural	INV.	Invert
BM.	Beam	LG.	Long, Length
B/STL.	Bottom of Steel	LLBB	Long Legs Back to Back
BOT.	Bottom	LLV	Long Leg Vertical
C.J.	Control Joint	M.O.	Masonry Opening
C–C	Center to Center	MAX.	Maximum
CL.	Clear	MECH.	Mechanical
C.M.U.	Concrete Masonry Unit	MIN.	Minimum
COL.	Column	N.S.	Near Side
CONC.	Concrete	O.F.	Outside Face
CONT.	Continuous	P.A.F.	Powder Actuated Fastener
D	Deep	P.E.N.	Plywood Edge Nailing
DEG.	Degrees	P.J.F.	Pre–formed Joint Filler
DET.	Detail	PL.	Plate
DIA.	Diameter	PPT	Pressure Preservative Treated
DWG.	Drawing	REF.	Reference, Refer
E.W.	Each Way	REINF.	Reinforcement
EA.	Each	REQ'D.	Required
E.C.	Epoxy Coated	S.C.	Slip Critical
EL.	Elevation	S.S.	Stainless Steel
EMBED.	Embedment	S.I.F.	Step in Footing
EQ.	Equivalent	S.O.G.	Slab On Grade
EQ. SPA.	Equal Spacing	SCJ	Saw Cut Control Joint
EQUIP.	Equipment	SECT.	Section
EXIST.	Existing	SHT.	Sheet
EXP. BOLT	Expansion Bolt	SLBB	Short Legs Back to Back
EXP. JT.	Expansion Joint	SLV	Short Leg Vertical
F.S.	Far Side	STD.	Standard
FDN.	Foundation	S. PINE	Southern Pine
FIN.	Finish	S.P.F.	Spruce Pine Fir
FLG.	Flange	T & B	Top and Bottom
FLR.	Floor	T/FTG.	Top of Footing
FTG.	Footing	T/WALL	Top of Wall
GA.	Gage	T/STL.	Top of Steel
GALV.	Galvanized	THK.	Thick
GR.	Grade	TS	Tube Steel
G.W.B.	Gypsum Wall Board	TYP.	Typical
H.S.	High Strength	U.N.O.	Unless Noted Otherwise
H.D.G.	Hot Dip Galvanized	VERT.	Vertical
HGR.	Hanger	V.I.F.	Verify In Field
HORIZ.	Horizontal	WCJ	Wall Control Joint
HSS	Hollow Structural Section	W.W.F.	Welded Wire Fabric

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PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

STRUCTURAL NOTES

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
JVL	CBS	06/28/2011	3760

DRAWING NO.

S–001

Plot Date: 06/30/2011 Plot Time: 10:55 AM
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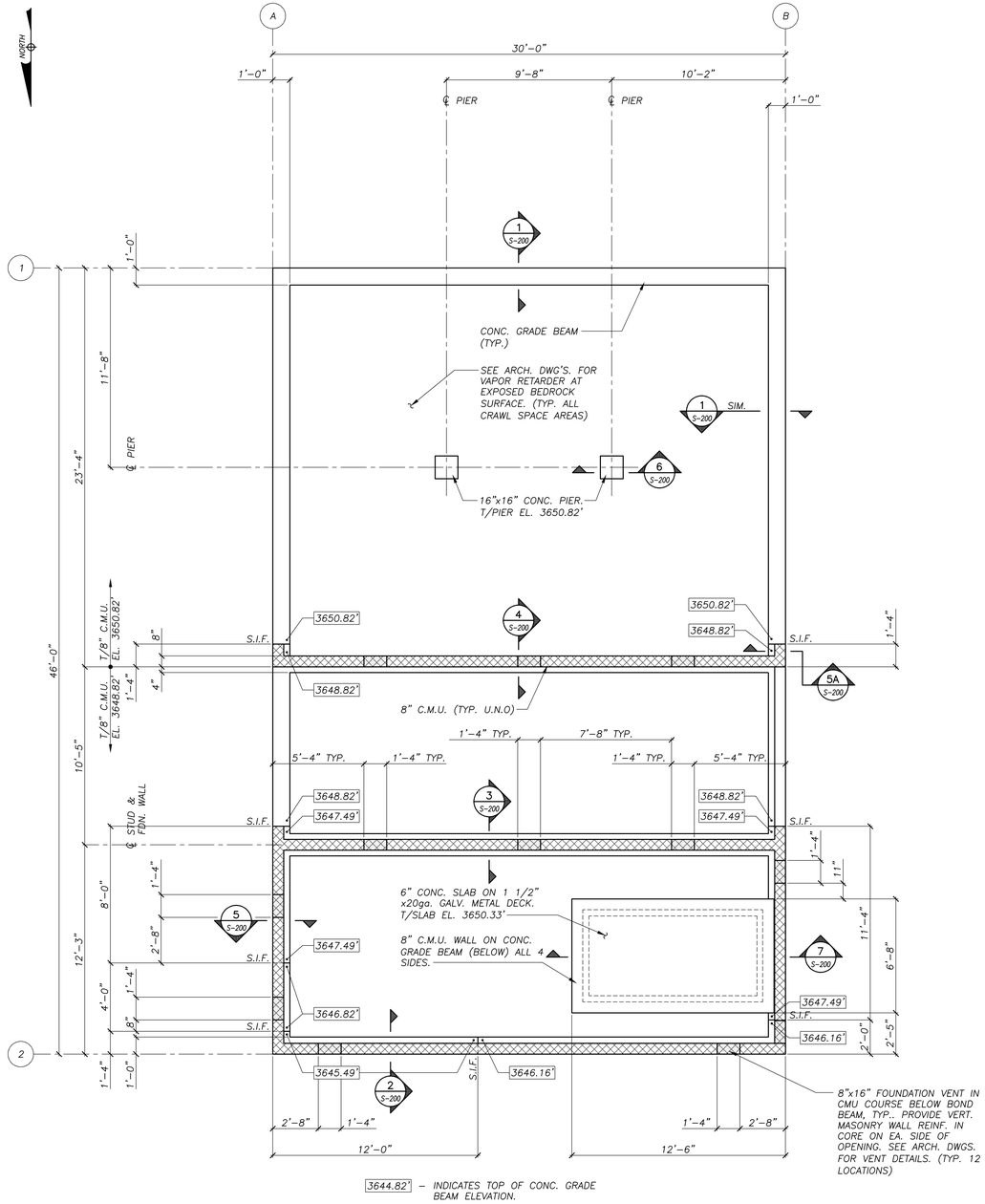
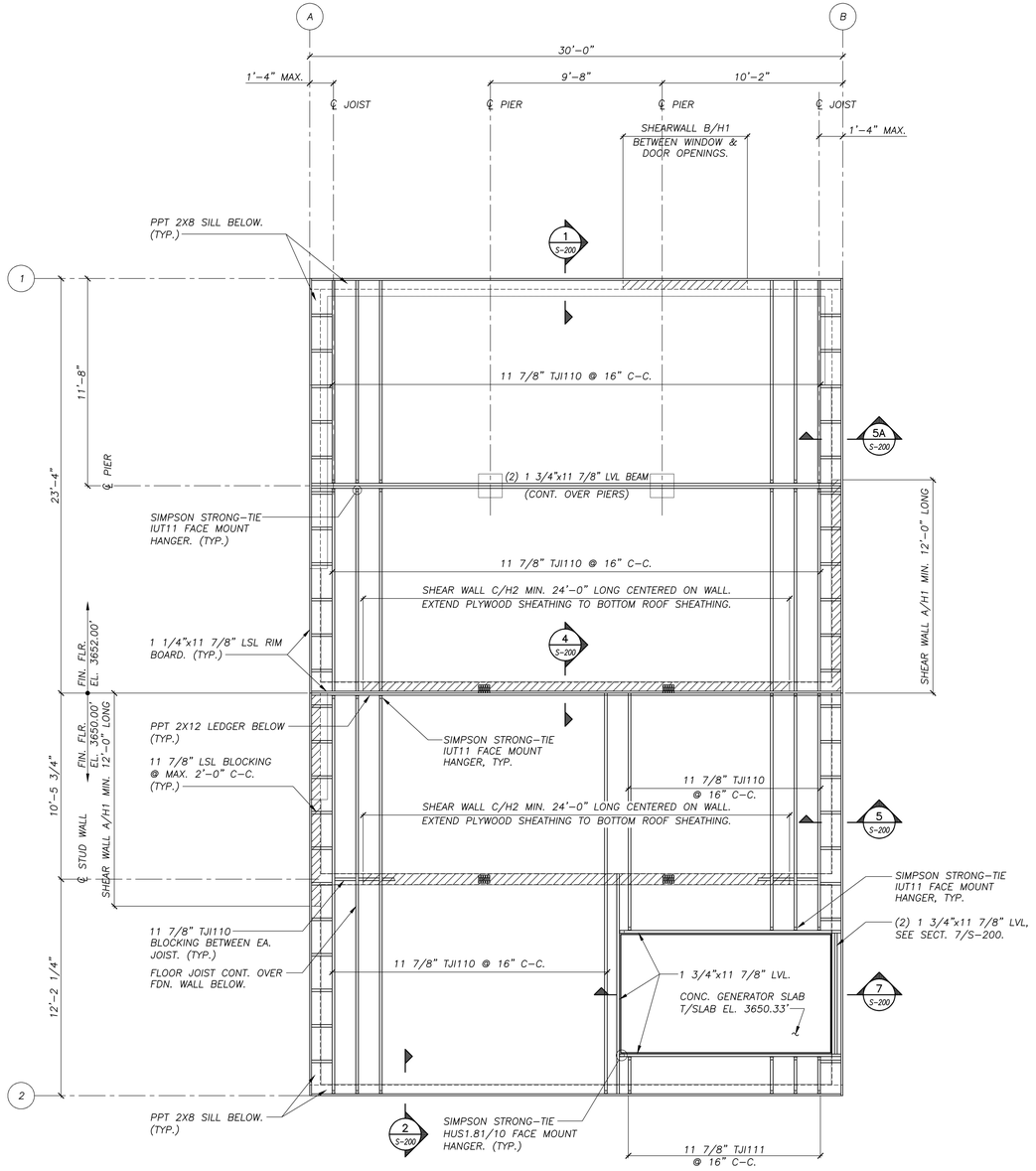


3644.82' – INDICATES TOP OF CONC. GRADE BEAM ELEVATION.

FOUNDATION PLAN

1/4"=1'-0"



FLOOR FRAMING PLAN

1/4"=1'-0"

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DRAWING TITLE:

FOUNDATION & FLOOR FRAMING PLANS

REVISIONS

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S-100

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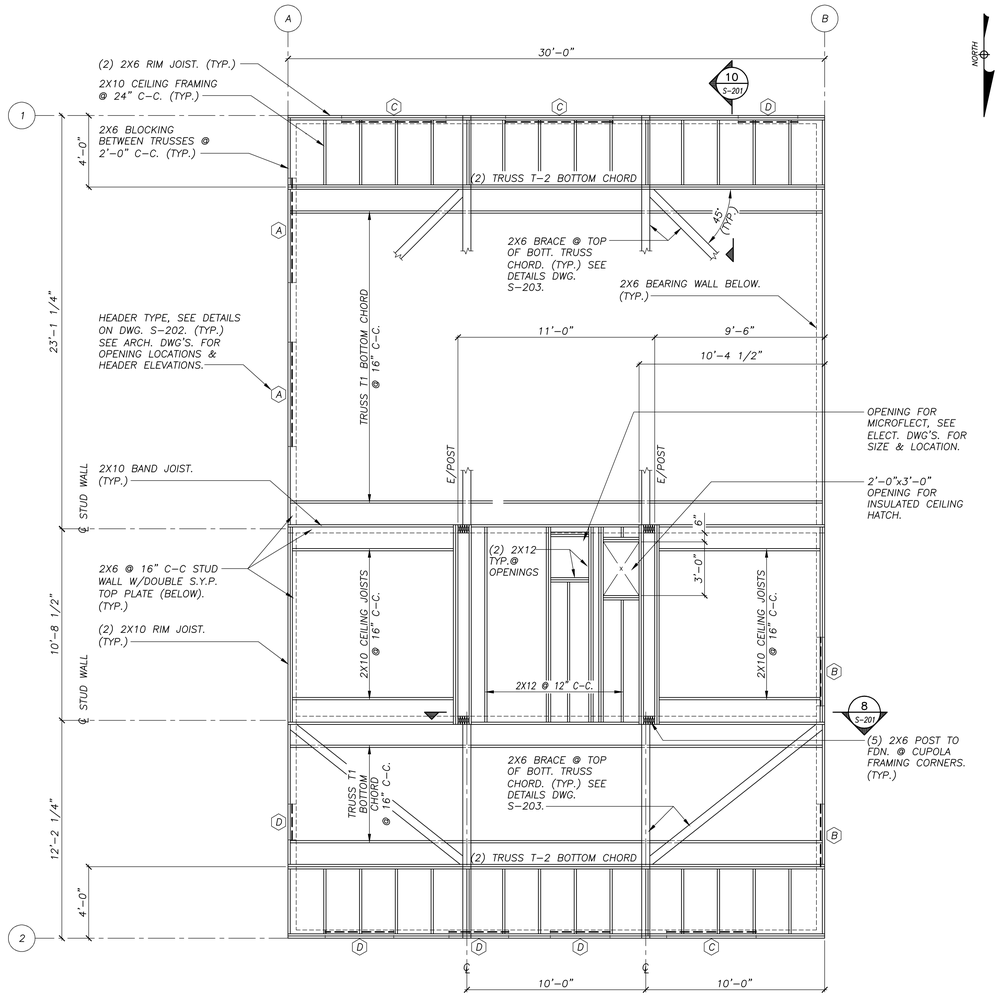
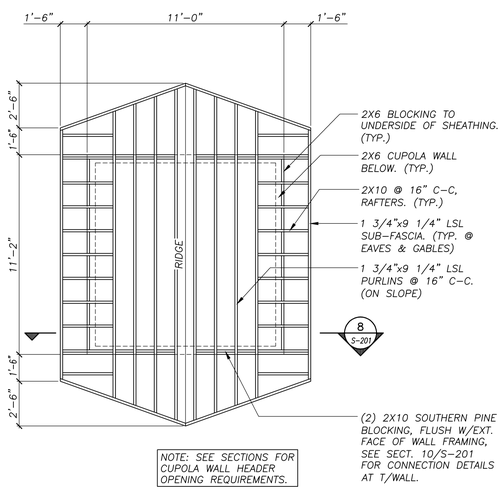


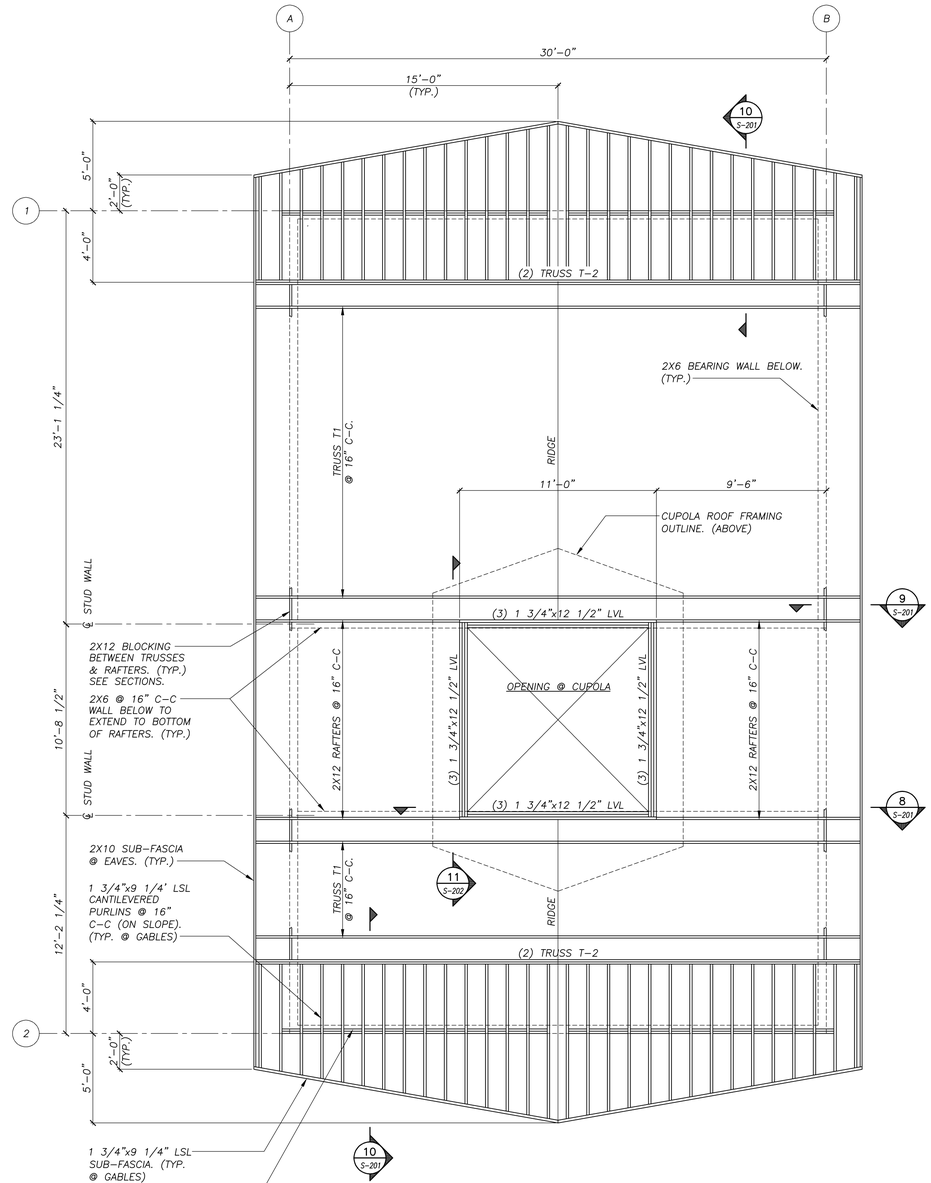
ATTIC FLOOR FRAMING PLAN

1/4"=1'-0"



CUPOLA ROOF FRAMING PLAN

1/4"=1'-0"



MAIN ROOF FRAMING PLAN

1/4"=1'-0"

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WILMINGTON, NEW YORK

DRAWING TITLE:

ATTIC FLOOR & ROOF FRAMING PLANS

REVISIONS

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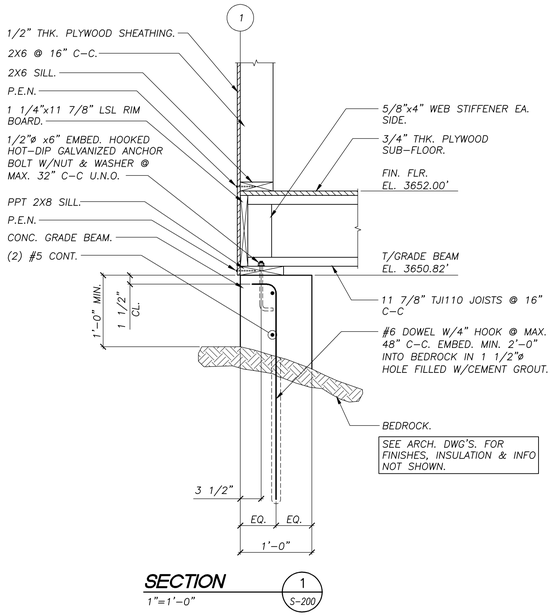
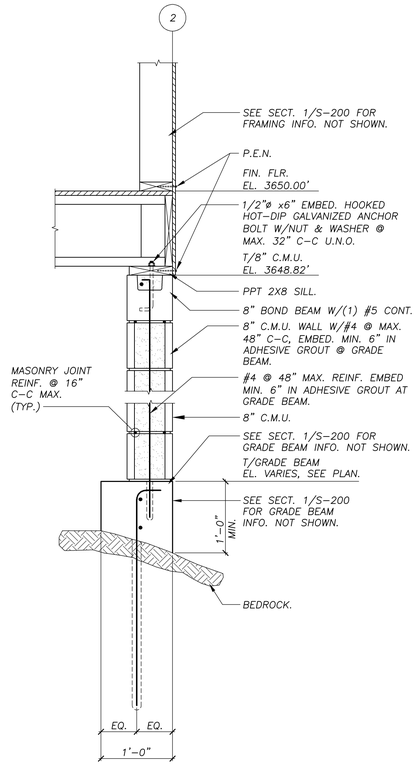


SECTION 1 S-200
1"=1'-0"



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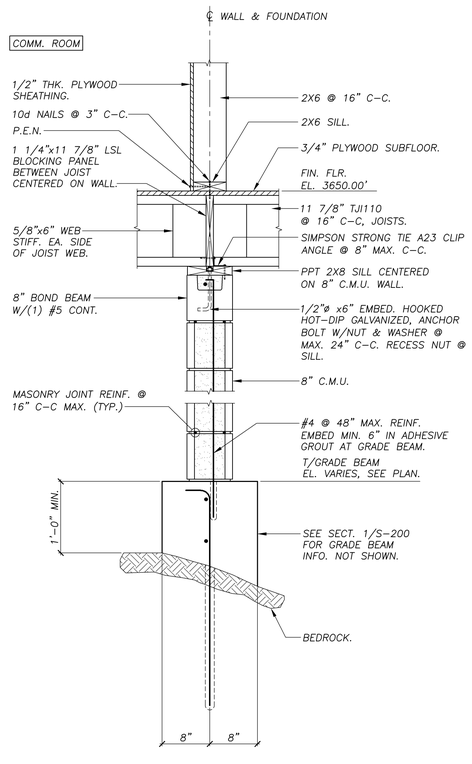

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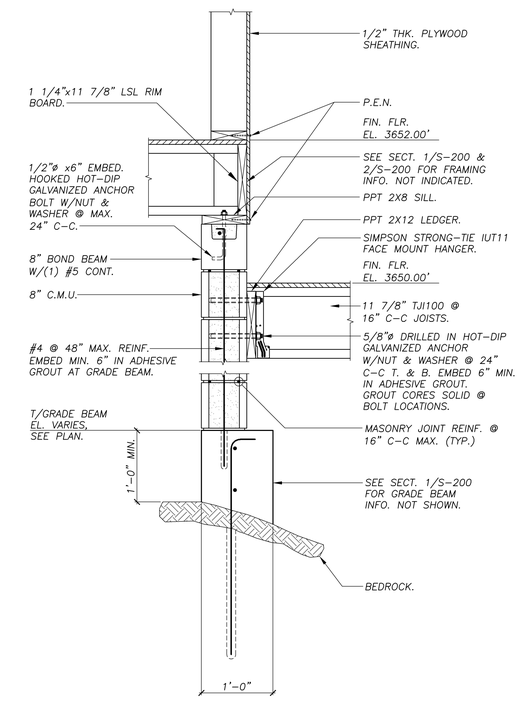

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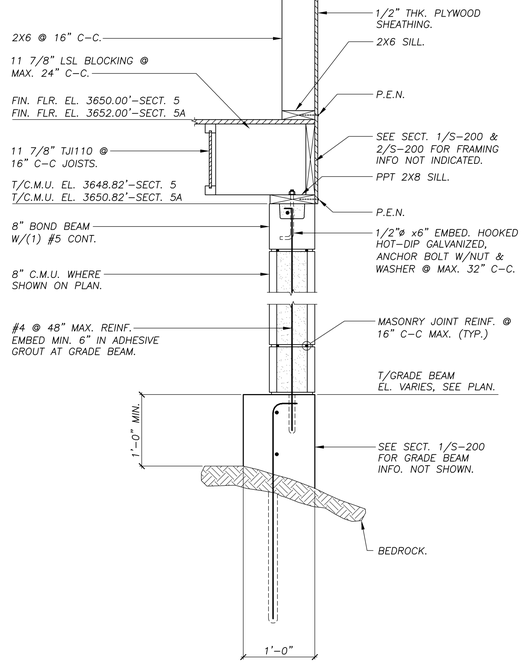

SECTION 5 S-200 / 5A S-200
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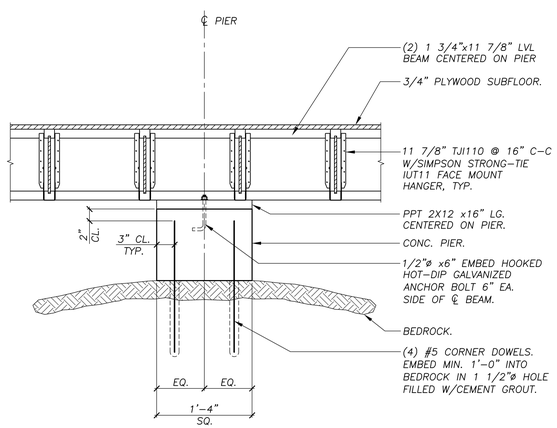

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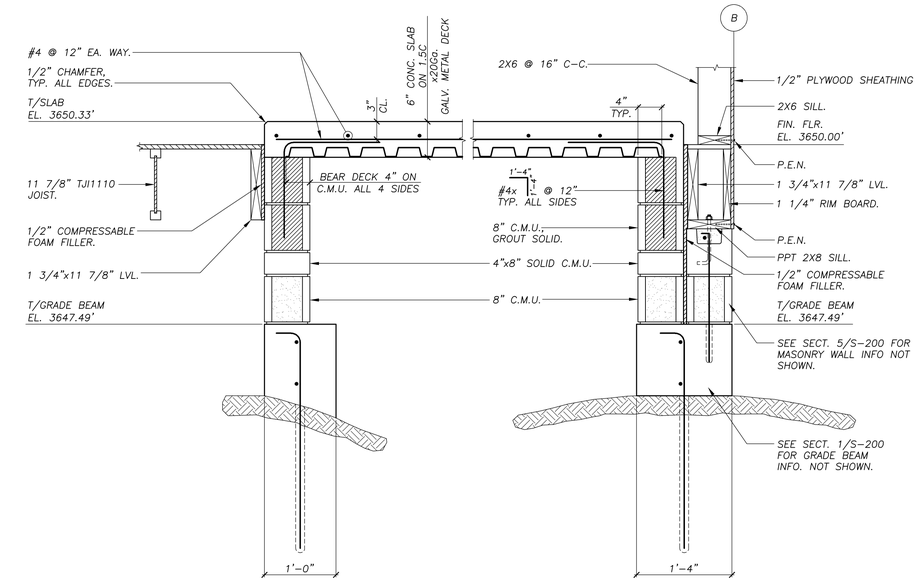

SECTION 7 S-200
1"=1'-0"

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WILMINGTON, NEW YORK

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Plot Date: 06/30/2011 Plot Time: 10:52 AM
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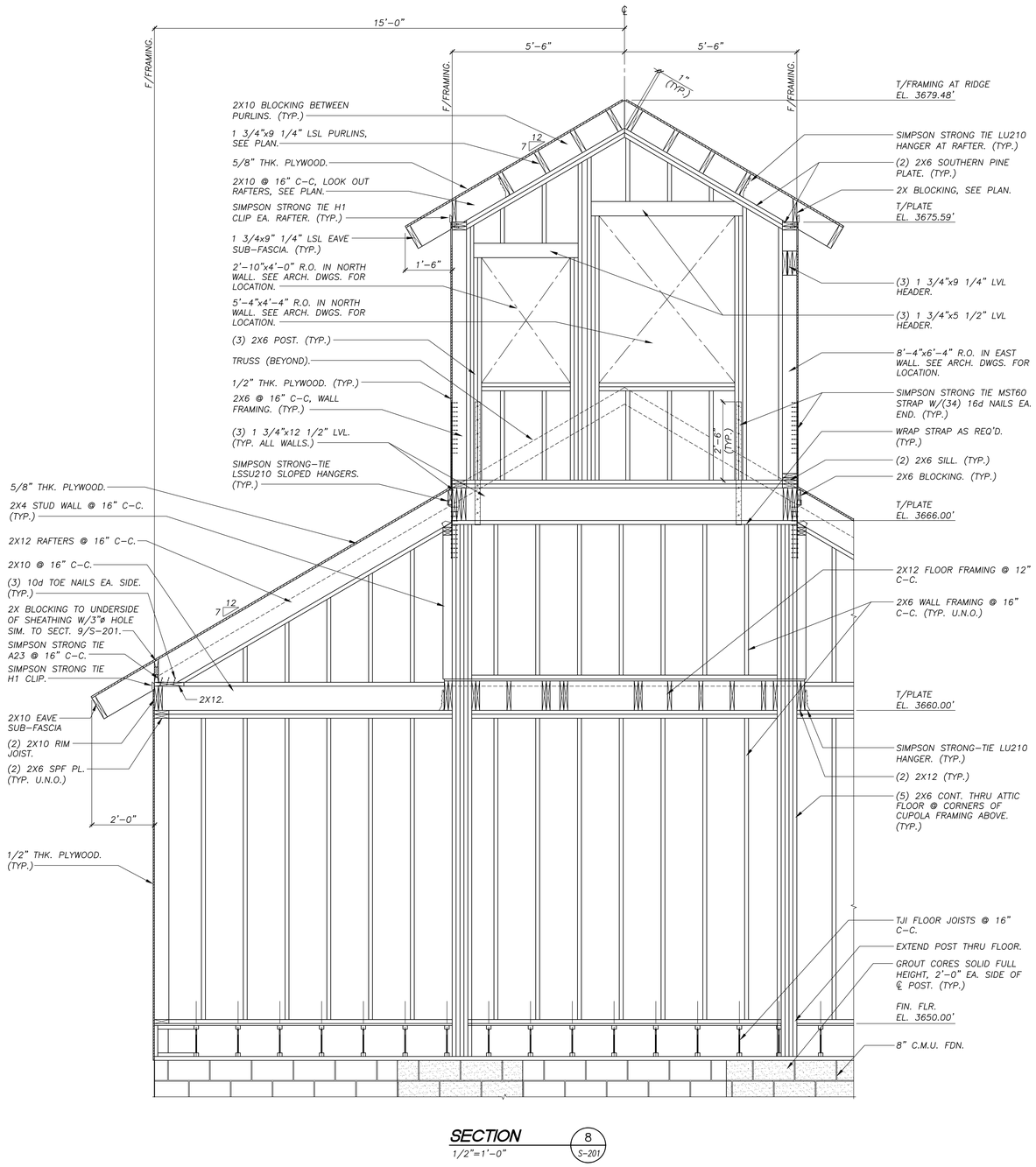

SECTION 8
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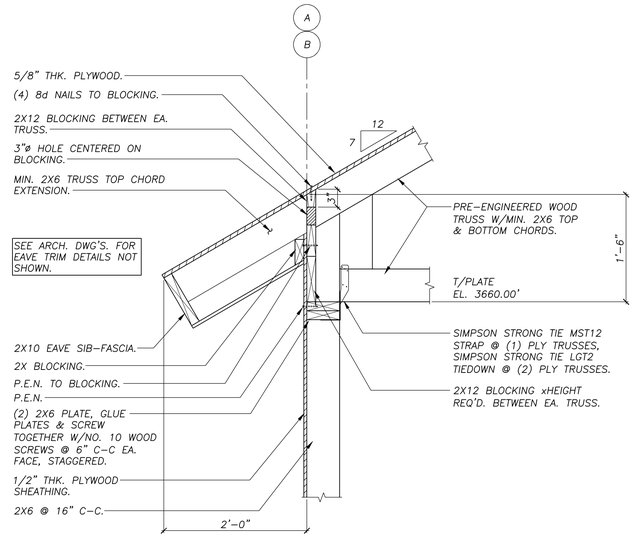

SECTION 9
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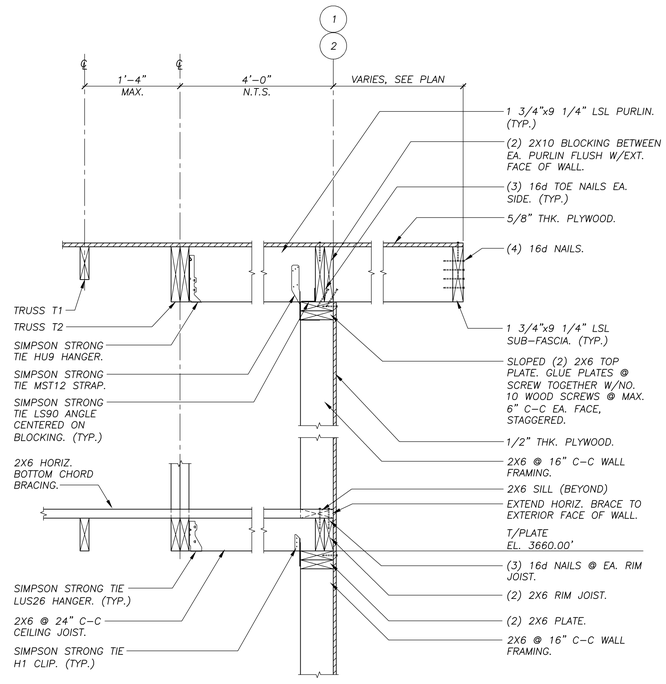

SECTION 10
1"=1'-0" S-201

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WILMINGTON, NEW YORK

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SECTION SHEET 2

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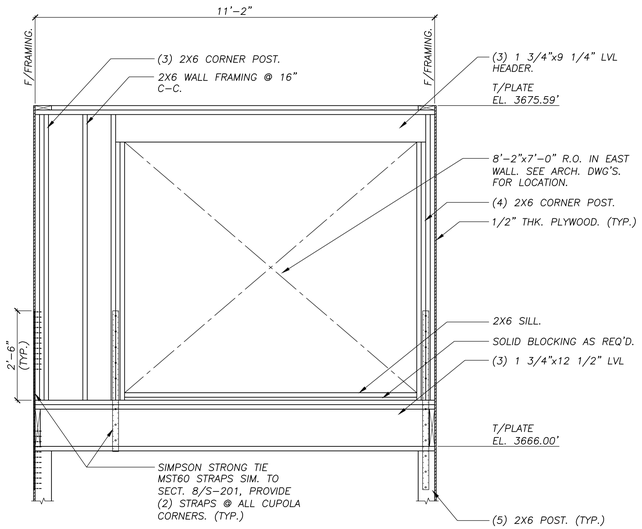
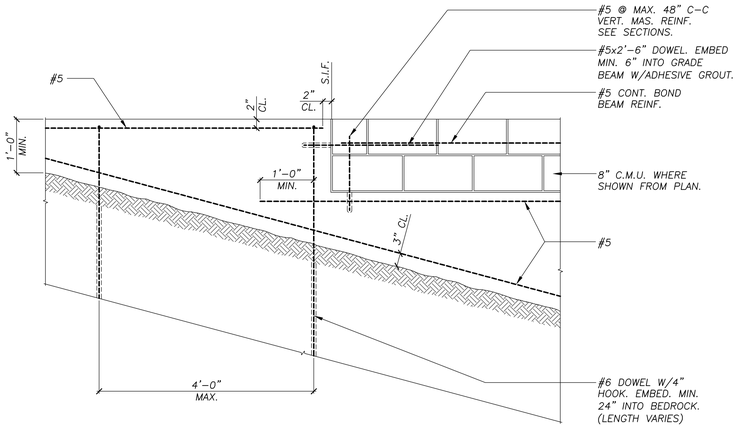


NOTE: ROOF FRAMING NOT SHOWN FOR CLARITY.

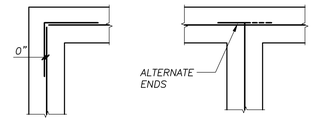
SECTION 11/S-301

1/2"=1'-0"



TYPICAL GRADE BEAM REINF. AND STEP IN FOUNDATION (S.I.F.) DETAIL

1"=1'-0"



TYPICAL CORNER REINF. DETAILS

N.T.S.

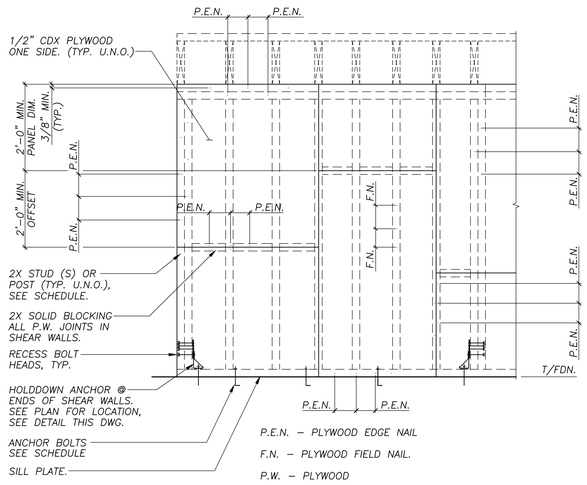
SHEARWALL SCHEDULE

MARK	SHEATHING	NAILING		ANCHOR BOLTS	END POST/STUD	REMARKS
		EDGE (P.E.N.)	FIELD			
A	1/2" CDX	6"	1'-0"	1/2"ø @ 24" C-C.	(2) 2X6	-
B	1/2" CDX	4"	1'-0"	1/2"ø @ 24" C-C	(2) 2X6	
C	1/2" CDX	4"	1'-0"	1/2"ø @ 24" C-C	(4) 2X6	

HOLDDOWN SCHEDULE

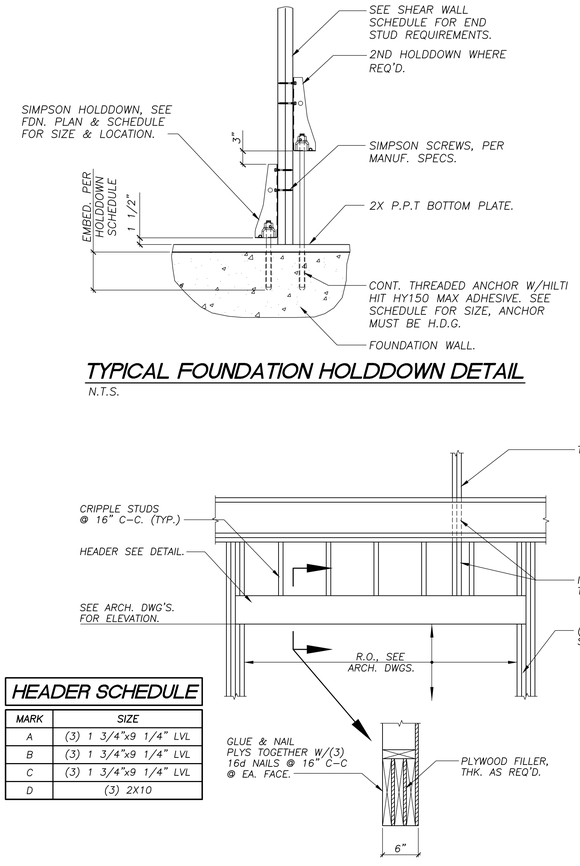
MARK	HOLDDOWN	ANCHOR SIZE
H1	SIMPSON (2) HDU2	5/8"ø CONT. THREADED ROD W/HEAVY HEX NUTS (EMBED 5 5/8" @ FDN.)
H2	SIMPSON (2) HDU8	7/8"ø CONT. THREADED ROD W/HEAVY HEX NUTS (EMBED. 6 5/8" @ FDN.)

1. SEE TYPICAL SHEAR WALL DETAIL FOR ADDITIONAL INFO.
2. ALL HOLDDOWNS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS. SEE TYPICAL HOLD DOWN DETAILS.
3. ALL PLYWOOD NAILS 10d COMMON NAILS, U.N.O.
4. ALL CONT. THREADED ROD ANCHORS SHALL BE HOT-DIP GALVANIZED.



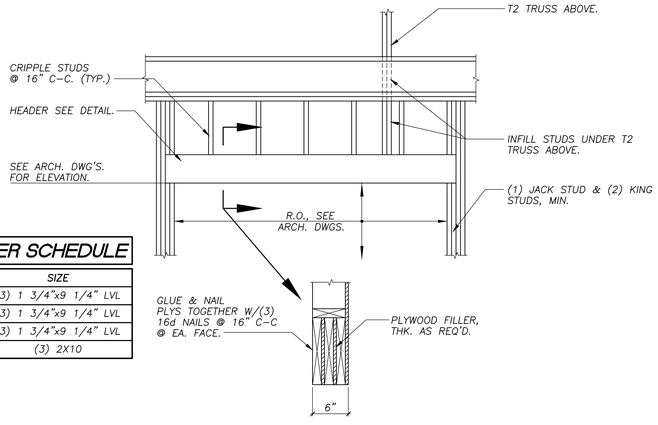
TYPICAL SHEAR WALL DETAIL

N.T.S.



TYPICAL FOUNDATION HOLDDOWN DETAIL

N.T.S.

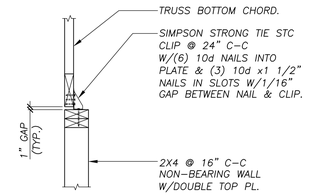


HEADER SCHEDULE

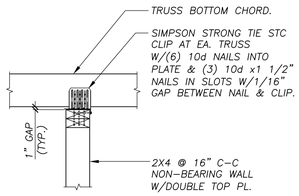
MARK	SIZE
A	(3) 1 3/4"x9 1/4" LVL
B	(3) 1 3/4"x9 1/4" LVL
C	(3) 1 3/4"x9 1/4" LVL
D	(3) 2X10

TYPICAL HEADER DETAIL

N.T.S.



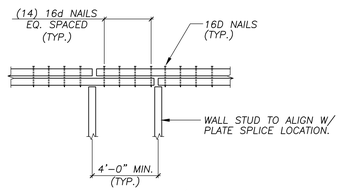
PARALLEL CONDITION



PERPENDICULAR CONDITION

TYPICAL DETAIL: TRUSS TO NON-BEARING WALL CONNECTION

N.T.S.



TYPICAL TOP PLATE JOINT/SPLICE DETAIL

N.T.S.

(APPLIES TO ALL EXTERIOR WALLS & ALL INTERIOR WALLS AT SHEAR WALL LINES)

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WILMINGTON, NEW YORK

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NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
JVL	CBS	06/28/2011	3760

DRAWING NO.

S-202

Plot Date: 06/30/2011 - Plot Time: 10:53 AM
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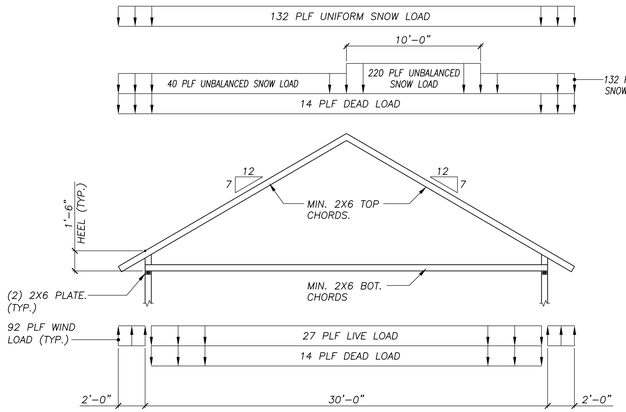
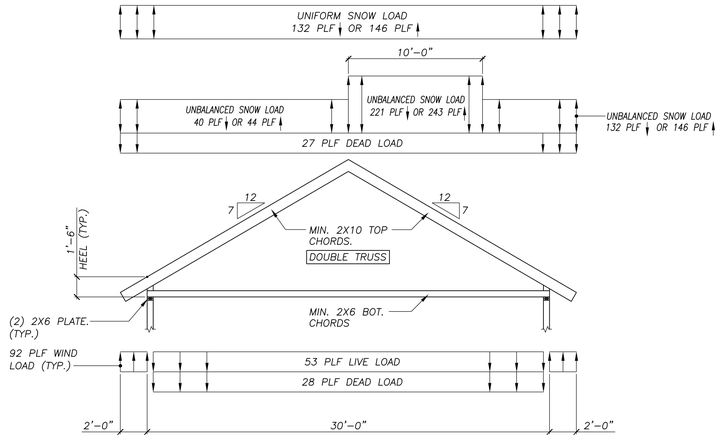


TRUSS LOADING DIAGRAM - T1

N.T.S.

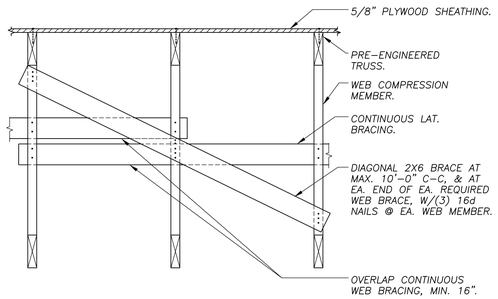


TRUSS LOADING DIAGRAM - T2

N.T.S.

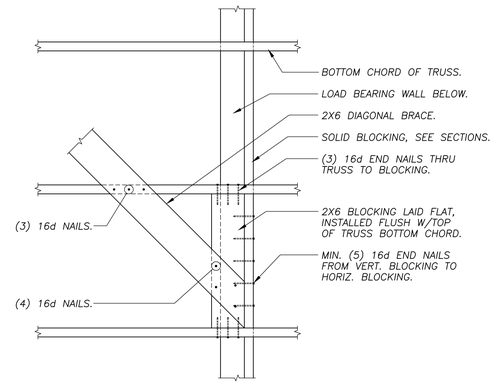
PRE-FABRICATED WOOD TRUSS DESIGN NOTES

1. TOP AND BOTTOM CHORD SHALL BE MINIMUM 2X6 MEMBERS OR LARGER, AS NOTED OR AS REQUIRED BY DESIGN.
2. ALL LOADS ARE POUNDS PER LINEAR FOOT.
3. UNBALANCED SNOW: MAXIMUM LOAD MUST BE EVALUATED ON LEFT AND RIGHT SIDE OF GABLE. LOAD IS NOT SIMULTANEOUS WITH BALANCE SNOW LOAD.
4. LOADING INDICATED AS UP OR DOWN FOR TRUSS T2 IS DUE TO PATTERN LOADING CASES FOR THE GABLE OVERHANG PURLINS.
5. WEB LAYOUT SHALL BE DESIGNED BY TRUSS FABRICATOR.
6. COMPRESSION WEB BRACING SHALL BE DESIGNED BY TRUSS FABRICATOR. CONTRACTOR SHALL INSTALL WEB BRACING PER FABRICATOR'S DESIGN. TERMINATE BRACING PER THE TYPICAL DETAIL - DIAGONAL BRACING TO STABILIZE WEB COMPRESSION MEMBERS, ON DWG. S-300.
7. TRUSS T2 SHALL BE (2) PLY MINIMUM.



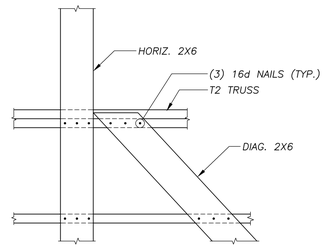
TYPICAL DETAIL - DIAGONAL BRACING TO STABILIZE TRUSS COMPRESSION MEMBERS

1"=1'-0"



TYPICAL HORIZONTAL BRACING TERMINATION DETAIL

N.T.S. (PLAN VIEW SHOWN)



TYPICAL HORIZ. BRACING CONNECTION DETAIL

1"=1'-0"

AES NORTHEAST
Architecture, Engineering, and Land Surveying Northeast, PLLC
10 -12 City Hall Place, Plattsburgh, NY 12901
Phone: (518) 561-1598 Fax: (518) 561-1990
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ARCHITECT - ENGINEER - LAND SURVEYOR

STRUCTURAL ENGINEER:

SCHODER RIVERS ASSOCIATES
Consulting Engineers, P.C.
Evergreen Professional Park
453 Dixon Road, Suite 7, Bldg. 3
Queensbury, New York 12804
(518) 761-0417, FAX: (518) 761-0513

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

DETAIL SHEET 2 & TRUSS LOADING DIAGRAMS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
JVL	CBS	06/28/2011	3760

DRAWING NO.

S-203

Plot Date: 06/30/2011 Plot Time: 10:54 AM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\Drawings by others\from Schoder Rivers 2011-6-30\10-326 BASE.dwg

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS AND SEQUENCE OF CONSTRUCTION; AND ALL SAFETY AND SECURITY AT THE PROJECT SITE.
2. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT WORK AT THE SITE & FIELD VERIFYING ALL DIMENSIONS & MEASUREMENTS. NOTIFY THE ARCHITECT/ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
3. THE OWNER IS RESPONSIBLE FOR LAND SURVEYS, TOPOGRAPHIC SURVEYS, BOUNDARY AND PROPERTY SURVEYS. THE OWNER IS REPONSIBLE FOR ZONING AND PLANNING BOARD APPROVALS AND PERMITS.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE BUILDING PERMIT, ELECTRICAL INSPECTIONS AND ANY OTHER PERMITS/INSPECTIONS REQUIRED FOR THE PROJECT REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.
5. THESE DRAWINGS ARE SUPPLEMENTED BY SEPARATE STANDARD SPECIFICATIONS IN THE PROJECT MANUAL WHICH ESTABLISH THE MINIMUM STANDARD OF MATERIALS AND WORKMANSHIP. IF THERE IS ANY CONFLICT BETWEEN THE DRAWING AND THE SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL APPLY OR TAKE PRECEDENCE.
6. RELINQUISH ANY CONSTRUCTION MATERIALS, EQUIPMENT & FIXTURES REQUESTED BY OWNER.
7. DISCONNECT & PROPERLY TERMINATE ALL PLUMBING, HEATING & ELECTRICAL SYSTEMS IN STRUCTURE TO BE DEMOLISHED.
8. PROVIDE TEMPORARY SHORING OF ALL STRUCTURES PRIOR & DURING DEMOLITION, PROTECT REMAINING STRUCTURE FROM DAMAGE.
9. MAINTAIN STRUCTURE IN WEATHERTIGHT CONDITION AT ALL TIMES.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL SUB-CONTRACTORS, SUPPLIERS & VENDORS; AS WELL AS DELIVERIES, OFF-LOADING & HANDLING OF ALL MATERIALS & EQUIPMENT.
11. "REMOVE" SHALL MEAN TO DEMOLISH, REMOVE AND PROPERLY DISPOSE OF DESIGNATED BUILDING COMPONENTS. (ALSO SEE 6 & 7 ABOVE)
12. THE OWNER IS RESPONSIBLE FOR THE DISCOVERY & DISCLOSURE OF HAZARDOUS CONSTRUCTION MATERIALS/FINISHES AT THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER PROTECTION OR REMOVAL OF HAZARDOUS CONSTRUCTION MATERIALS/FINISHES DURING CONSTRUCTION, IN COMPLIANCE WITH ALL STATE & FEDERAL REGULATIONS. (i.e. ASBESTOS, LEAD PAINT/PIPING, PCB'S, ETC.)

DRAWING SYMBOLS

DETAIL INDICATOR — X: DETAIL NUMBER; X-XXX: SHEET NUMBER

ELEVATION INDICATOR — X: ELEVATION NUMBER; X-XXX: SHEET NUMBER

SECTION INDICATOR — X: SECTION NUMBER; X-XXX: SHEET NUMBER

INTERIOR ELEVATION INDICATOR — X: ELEVATION NUMBER; X-XXX: SHEET NUMBER

ROOM LABEL — VESTIBULE: ROOM NAME; 101: ROOM NUMBER

+ 0'-0" NEW SPOT ELEVATION

EL. 0.0' EXISTING SPOT ELEVATION

CENTERLINE

PROPERTY LINE

CONTRACT LIMIT LINE

DIAMETER

ANGLES

WF-2 WALL FOOTING TYPE

X DRAWING NOTE INDICATOR

X PARTITION WALL TYPE

TOILET ACCESSORY NO.

X BUILDING GRID LINES

X STRUCTURAL MEMBER CENTERLINES

XXX EL. = X'-X" ELEVATION MARKER

XXX DOOR NUMBER

X WINDOW NUMBER

FE FIRE EXTINGUISHER

HATCH PATTERNS

- NEW ASPHALT PAVING (SECTION)
- UNDISTURBED OR COMPACTED SUBSOIL (SECTION)
- GRANULAR FILL
- # 2 STONE
- FIELDSTONE (PLAN)
- STONE WALL (ELEVATION)
- RANDOM BROKEN COURSED ASHLAR STONE VENEER
- RANDOM ASHLAR STONE
- CONCRETE
- CMU (PLAN)
- CMU (SECTION)
- CMU (ELEVATION) RUNNING BOND
- NEW STUD WALL (PLAN)
- NEW WALL INFILL (PLAN)
- ROUGH WOOD (FRAMING LUMBER SECTION)
- WOOD (SHIMS)
- WOOD (FINISH)
- INSULATION (BATT)
- GLASS (ELEVATION)
- FIRE STOPPING
- NEW GRASS AREA
- TOPSOIL & SEED (SECTION)
- STRUCTURAL FILL
- BEDROCK (SECTION)
- RIVER STONE (PLAN & ELEVATION)
- RIVER STONE (PLAN & ELEVATION)
- RANDOM HORZ. COURSED ASHLAR STONE VENEER
- QUARRIED STONE (SECTION) GRANITE, MARBLE, SLATE,...
- SOLID MASONRY GROUTING
- BRICK (PLAN)
- BRICK (SECTION)
- BRICK (ELEVATION) RUNNING BOND
- BRICK (ELEVATION) FLEMISH BOND
- PLYWOOD SHEATHING
- FINISHED WOOD (PLAN & SECTION)
- INSULATION (RIGID)
- STEEL (SECTION)
- ALUMINUM (SECTION)
- CEDAR OR ARCHITECTURAL SHINGLES (PLAN & ELEVATION)
- ASPHALT SHINGLES (PLAN & ELEVATION)

ABBREVIATIONS

ACP	ACOUSTIC CLG. PANEL	INSUL.	INSULATION
ACM	ASBESTOS CONTAINING MATERIAL	INT.	INTERIOR
ADJ.	ADJUSTABLE	INV.	INVERT
A.F.F.	ABOVE FINISH FLOOR	I.E.	INVERT ELEVATION
ALT.	ALTERNATE		
AL.	ALUMINUM	JAN.	JANITOR
ARCH.	ARCHITECT	JT	JOINT
APPROX.	APPROXIMATE		
A OR AMP	AMPERE	LAV.	LAVATORY/VANITY
@	AT	LT.	LIGHT
BD	BOARD	M.H.	MANHOLE
B.I.	BLACK IRON	MAT'L	MATERIAL
BLDG.	BUILDING	MAX.	MAXIMUM
BM.	BEAM	MECH.	MECHANICAL
B. P.	BEARING PLATE	M.C.	MECHANICAL CONTRACTOR
BLK	BLOCK	MFR	MANUFACTURER
BSMT.	BASEMENT	MIN.	MINIMUM
BTM.	BOTTOM	MISC.	MISCELLANEOUS
BT/SH	BATHTUB/SHOWER	M.R.	MOISTURE RESISTANT
		MTD.	MOUNTED
CARP.	CARPET	MTL.	METAL
CATV	CABLE TELEVISION		
CTR	CENTER	N.I.C.	NOT IN CONTRACT
℄	CENTERLINE	NO.	NUMBER
C.B.	CATCH BASIN	N.T.S.	NOT TO SCALE
CB.	CIRCUIT BREAKER		
C.T.	CERAMIC TILE	O.C.	ON CENTER
CU.	COPPER	OPG.	OPENING
CI.	CAST IRON	OWS	OIL/WATER SEPARATOR
CJ	CONTROL JOINT		
CLG.	CEILING	P.C.	PLUMBING CONTR.
CH	CHANNEL	PLUMB	PLUMBING
CI	CAST IRON	PLYWD.	PLYWOOD
CL.	CLOSET	PR	PAIR
C.M.U.	CONCRETE MASONRY UNIT	PT.	PRESSURE TREATED
COL.	COLUMN	PTD.	PAINTED
C.O.	CLEAN OUT	P.V.	PLUMBING VENT
CONC.	CONCRETE		
CONT.	CONTINUOUS	Q.T.	QUARRY TILE
COND.	CONDUIT		
CONTR.	CONTRACTOR	REF.	REFRIGERATOR
CONSTR.	CONSTRUCTION	RM.	ROOM
		R.D.	ROOF DRAIN
DTL.	DETAIL	REIN.	REINFORCING
DIA.	DIAMETER	RESIL.	RESILENT
D.F.	DRINKING FOUNTAIN	REQ'D.	REQUIRED
DR	DOOR		
DSB	DEEP SUMP BASIN	SCHED.	SCHEDULE
DN	DOWN	S&CR	SHELF & CLOSET ROD
DWG.	DRAWING	SIM.	SIMILAR
		SPEC.	SPECIFIED / SPECIFICATION
EA.	EACH	S.S.	STAINLESS STEEL
E.C.	ELECTRIC CONTR.	STL.	STEEL
EL.	ELEVATION	STD.	STANDARD
ELEC.	ELECTRICAL	STOR.	STORAGE
ENGR.	ENGINEER	SUSP.	SUSPENDED
EQUIP.	EQUIPMENT	SYS.	SYSTEM
EXIST.	EXISTING		
EXT.	EXTERIOR	T&G	TONGUE & GROOVE
ELEV.	ELEVATION	T.D.	TRENCH DRAIN
		TEL.	TELEPHONE
F - X	FAN, X DENOTES #	T.O.C.	TOP OF CONC.
FDN.	FOUNDATION	TOIL.	TOILET
F.G.	FIBERGLASS	TSR	TRUNK SEWER REPLACEMENT
FIN.	FINISH	TYP.	TYPICAL
F.F.	FINISH FLOOR		
FL.	FLOOR	U.N.O.	UNLESS NOTED OTHERWISE
FR	FRAME		
FTG.	FOOTING	V.C.B.	VINYL COVE BASE
F.D.	FLOOR DRAIN	V.C.T.	VINYL COMPOSITE TILE
FTG. D.	FOOTING DRAIN	VERT.	VERTICAL
		VEST.	VESTIBULE
GA.	GAUGE	V.I.F.	VERIFY IN FIELD
GALV.	GALVANIZED	VTH	VENT TO HEADER
GAL.	GALLON	VTR	VENT THRU ROOF
G.C.	GENERAL CONTR.	V.W.C.	VINYL WALL COVERING
GEN.	GENERAL	V.S.F.	VINYL SHEET FLOORING
GWB.	GYPSUM WALL BOARD		
GYP.	GYPSUM	W/	WITH
		W.C.	WATER CLOSET
H.C.	HEATING CONTR.	WD.	WOOD
HDWR.	HARDWARE	WDW.	WINDOW
HGT.	HEIGHT	W.H.	WATER HEATER
HTG.	HEATING	WMR	WATER MAIN REPLACEMENT
HVAC	HEATING, VENTILATION, & COOLING	WWF/WM	WOVEN WIRE FABRIC/ MESH
H.W.	HOT WATER	W.R.	WATER RESISTANT
H.M.	HOLLOW METAL		
H.T.	HOUSE TRAP		

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ARCHITECT - ENGINEER - LAND SURVEYOR

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

ARCHITECTURAL NOTES, SYMBOLS, HATCH PATTERNS & ABBREVIATIONS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.

A-001

Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-00's.dwg

WALL TYPES:

A EXTERIOR WALLS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- VAPOR BARRIER SHEET
- 2"x6" WOOD FRAMING 16" O.C.
- 5½" BLOWN-IN CELLULOSE INSULATION IN CAVITIES
- ½" PLYWOOD SHEATHING
- 1-½" FOIL FACED BOARD INSULATION WITH TAPED SEAMS
- ½" PLYWOOD SHEATHING
- AIR BARRIER SHEET
- LOG SIDING/CEDAR SHAKES WITH FINISH

B INTERIOR BEARING WALLS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- 2"x6" WOOD FRAMING 16" O.C.
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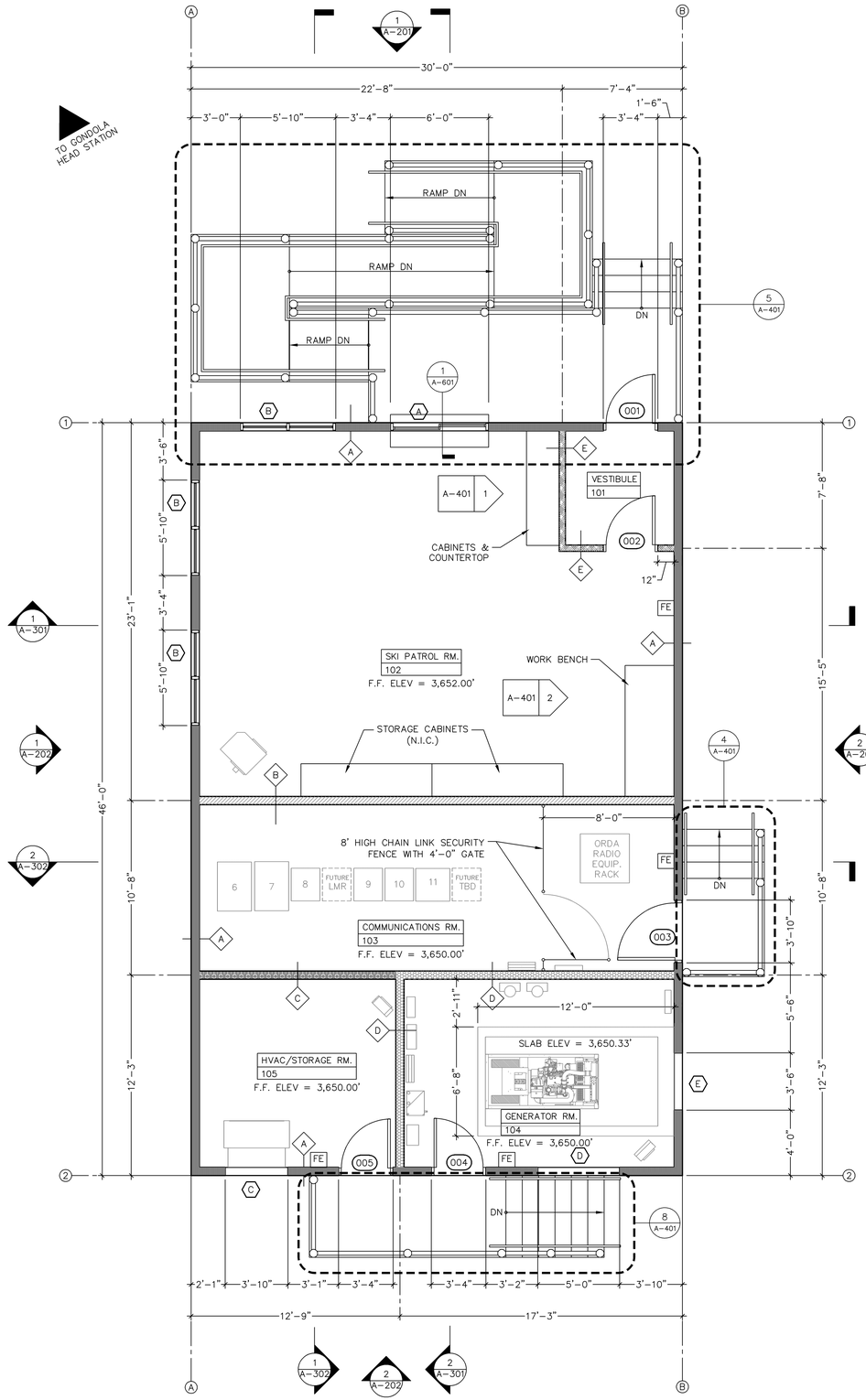
- 2"x6" WOOD FRAMING 16" O.C.
- 5½" BLOWN-IN CELLULOSE INSULATION IN CAVITIES
- ⅜" PLYWOOD SHEATHING
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

D INTERIOR FIRE RATED PARTITIONS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- ⅝" TYPE 'X' FIRE RESISTANT GYPSUM PANELS
- 2"x6" WOOD FRAMING 16" O.C.
- 5½" BLOWN-IN CELLULOSE INSULATION IN CAVITIES.
- FIRESTOP SEALANT @ JOINTS & ALL/AROUND PENETRATIONS
- ⅝" TYPE 'X' FIRE RESISTANT GYPSUM PANELS
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

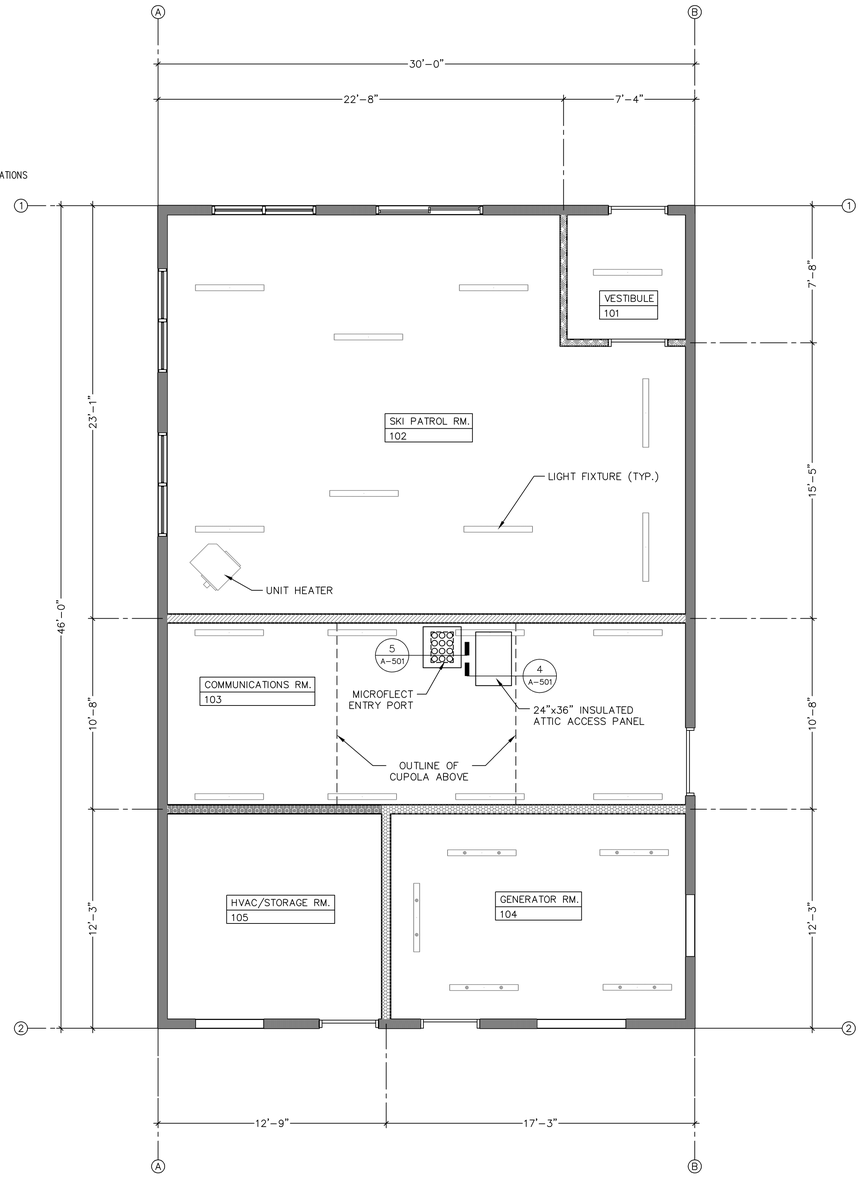
E INTERIOR PARTITIONS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- 2"x4" WOOD FRAMING 16" O.C.
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

F INTERIOR PARTITIONS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- 2"x6" WOOD FRAMING 16" O.C.
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

G CUPOLA WALLS:
- 2"x6" WOOD FRAMING 16" O.C.
- ½" PLYWOOD SHEATHING
- LOG SIDING/CEDAR SHAKES WITH FINISH



FLOOR PLAN
SCALE: 1/4" = 1'-0"



CEILING PLAN
SCALE: 1/4" = 1'-0"

North

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ARCHITECT - ENGINEER - LAND SURVEYOR

DRAWING NOTES:

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

FLOOR & CEILING PLANS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.

A-101

Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-100's.dwg

WALL TYPES:

A EXTERIOR WALLS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- VAPOR BARRIER SHEET
- 2"x6" WOOD FRAMING 16" O.C.
- 5½" BLOWN-IN CELLULOSE INSULATION IN CAVITIES
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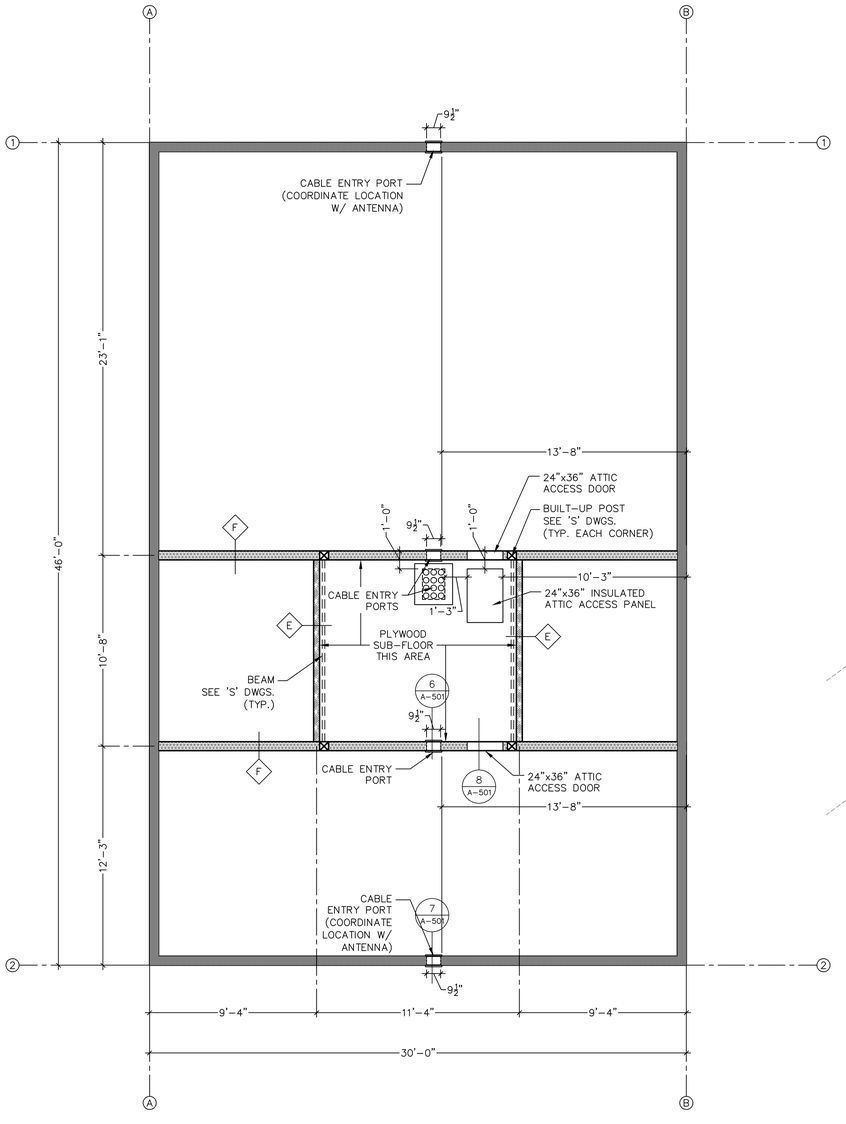
- ⅝" TYPE 'X' FIRE RESISTANT GYPSUM PANELS
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

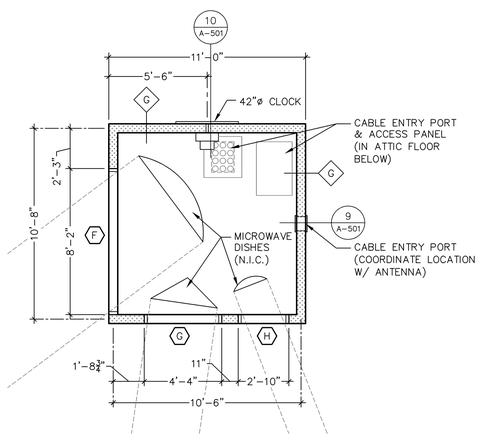
E INTERIOR PARTITIONS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- 2"x4" WOOD FRAMING 16" O.C.
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

F INTERIOR PARTITIONS:
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.
- 2"x6" WOOD FRAMING 16" O.C.
- ½" PLYWOOD SHEATHING, FINISH AS SCHED.

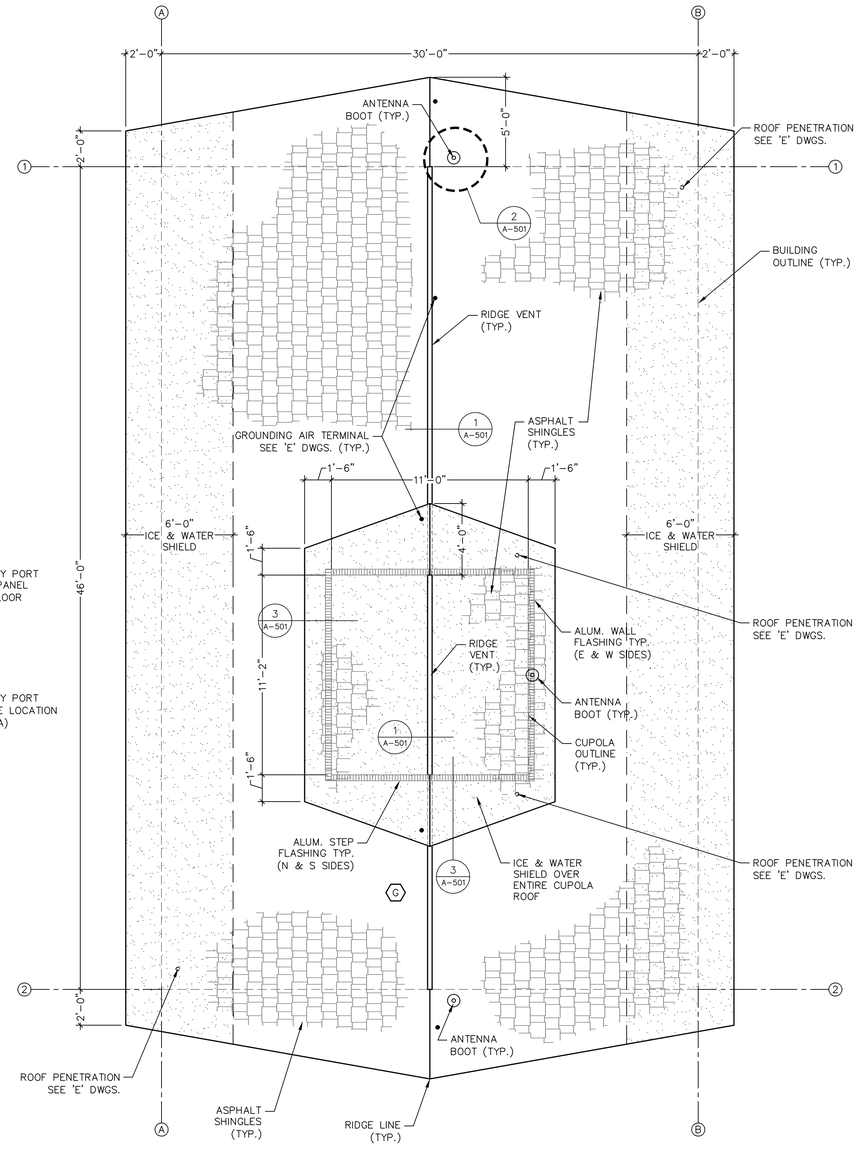
G CUPOLA WALLS:
- 2"x6" WOOD FRAMING 16" O.C.
- ½" PLYWOOD SHEATHING
- LOG SIDING/CEDAR SHAKES WITH FINISH



1 A-102 ATTIC PLAN
SCALE: 1/4" = 1'-0"
North



2 A-102 CUPOLA PLAN
SCALE: 1/4" = 1'-0"
North



3 A-102 ROOF PLAN
SCALE: 1/4" = 1'-0"
North

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ARCHITECT – ENGINEER – LAND SURVEYOR

DRAWING NOTES:

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

ATTIC, CUPOLA & ROOF PLANS

REVISIONS

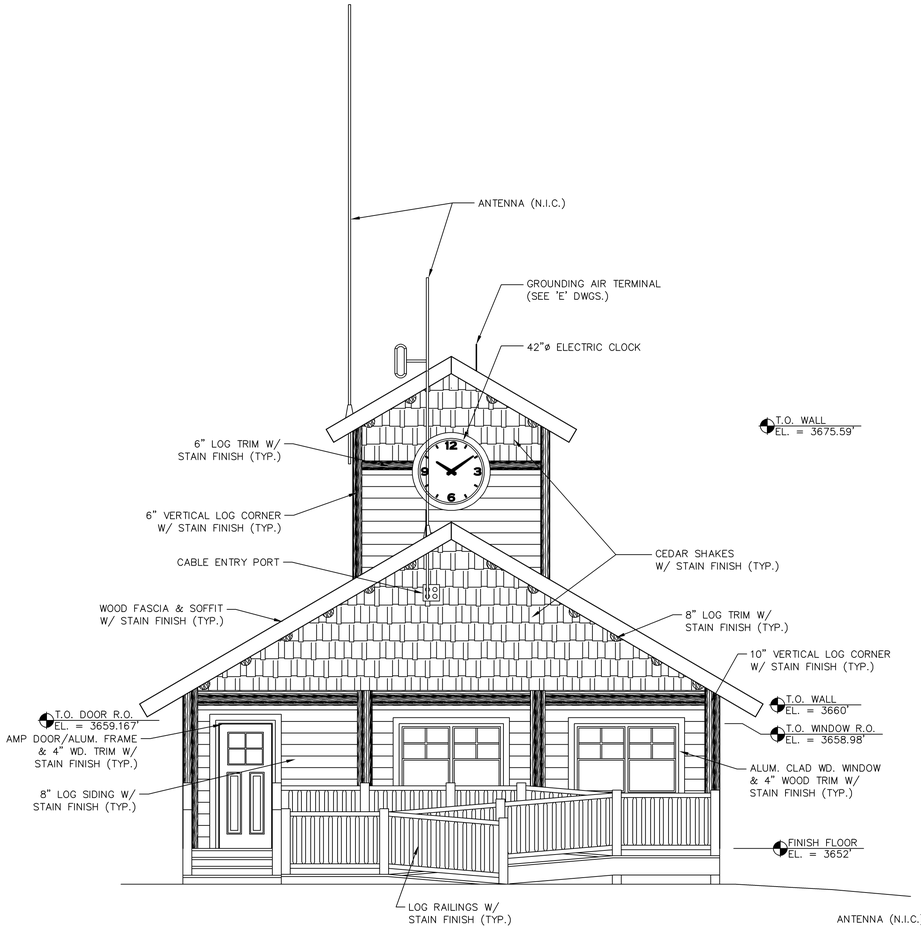
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.

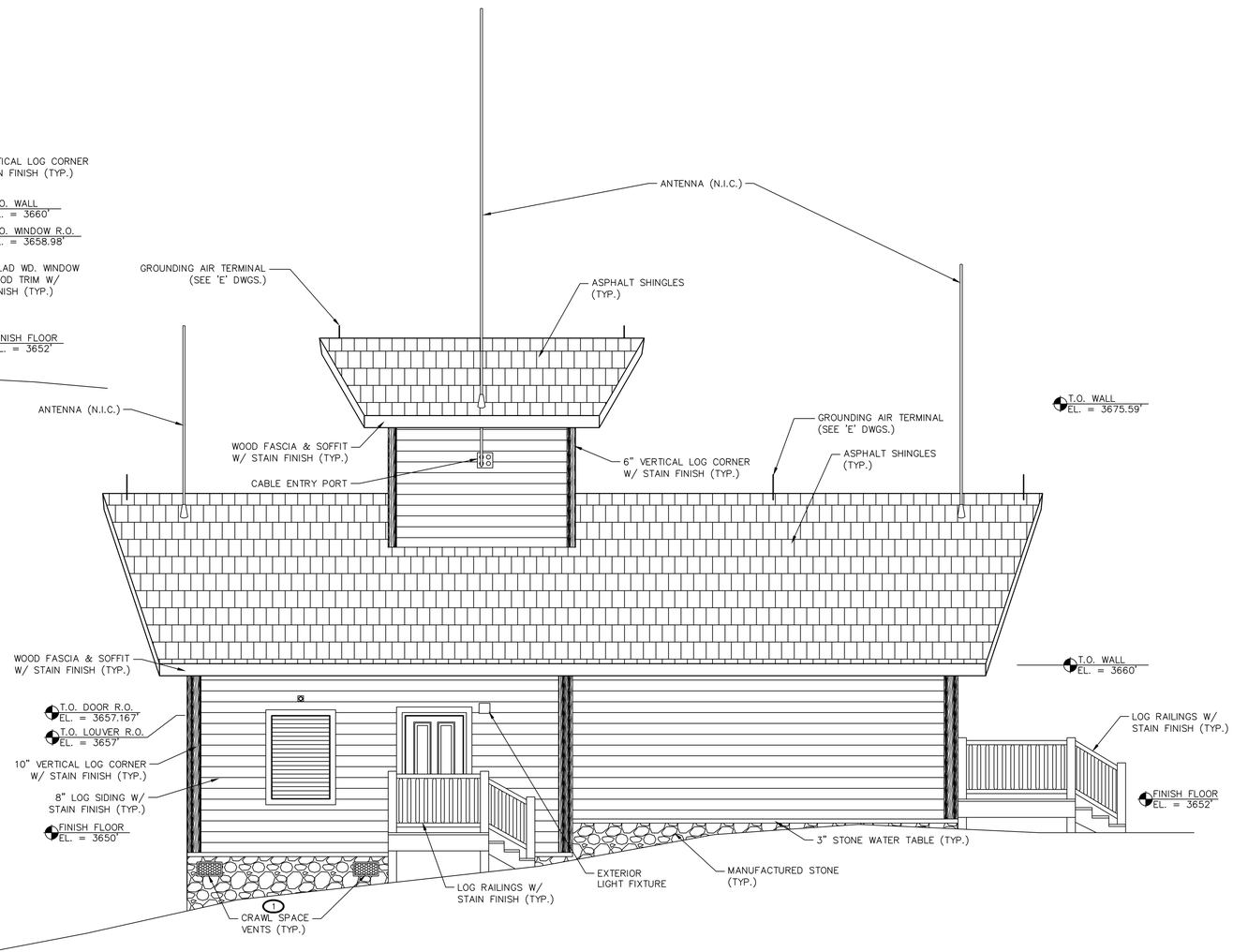
A-102

Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County – Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-100's.dwg



1 A-201 SCALE: 1/4" = 1'-0"

SOUTH EXTERIOR ELEVATION



2 A-201 SCALE: 1/4" = 1'-0"

WEST EXTERIOR ELEVATION

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ARCHITECT – ENGINEER – LAND SURVEYOR

DRAWING NOTES:

1. CRAWL SPACE VENT: (SEE 'S' DWGS. FOR LOCATIONS) 16"x8", 50 SQ IN. NET FREE AREA, HEAVY DUTY ALUMINUM CONSTRUCTION, AUTOMATIC, NON-POWERED WITH PREMIUM BI-METAL COIL (OPENS AT 70°F AND CLOSES AT 40°F). HONEYCOMB GRILL WITH FACTORY FINISH.

PROJECT TITLE:
ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

EXTERIOR ELEVATIONS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

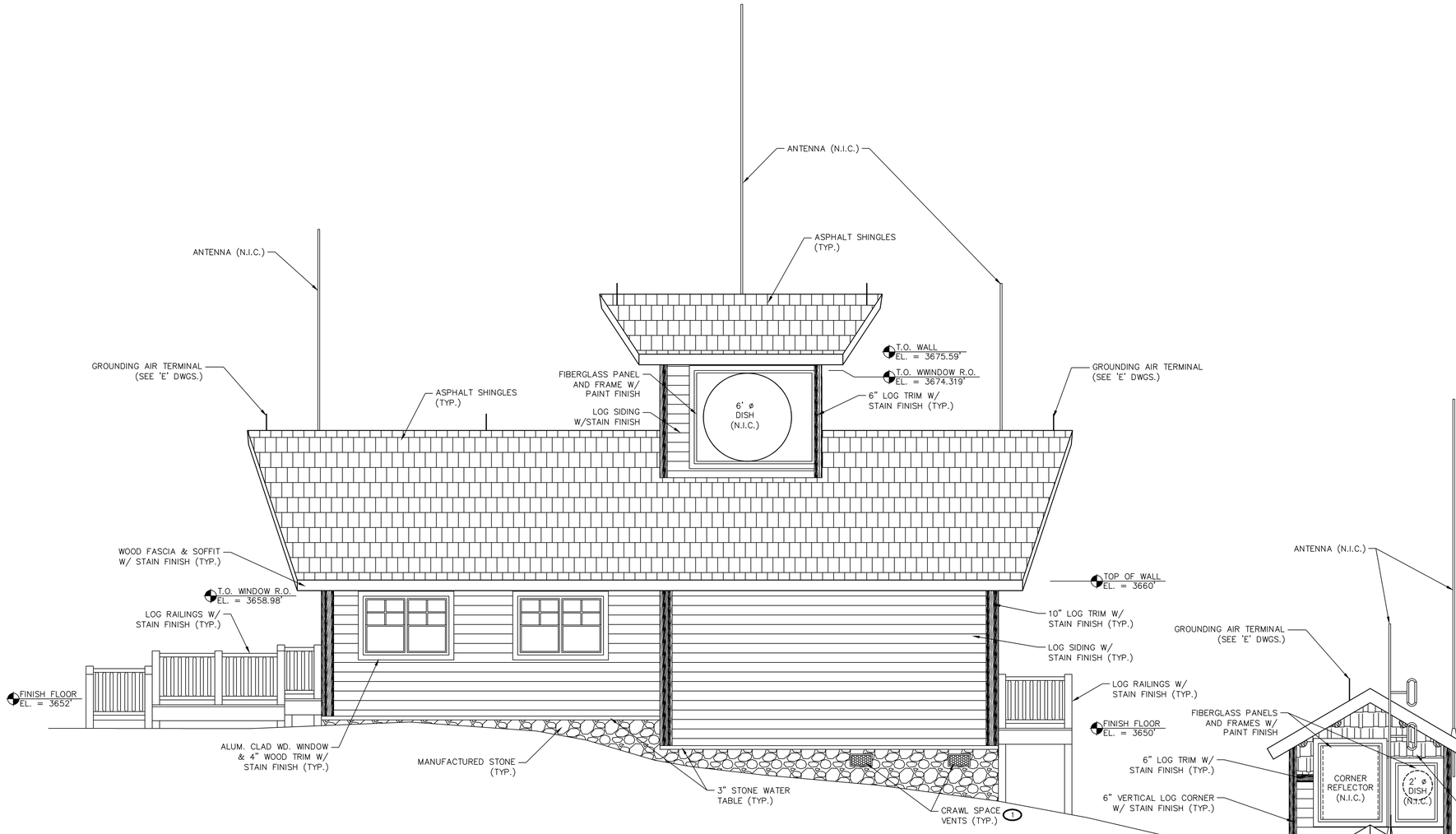
1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.

A-201

Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-200's.dwg



1 A-202 EAST EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

2 A-202 NORTH EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

DRAWING NOTES:

1. CRAWL SPACE VENT: (SEE 'S' DWGS. FOR LOCATIONS) 16"x8", 50 SQ IN. NET FREE AREA, HEAVY DUTY ALUMINUM CONSTRUCTION, AUTOMATIC, NON-POWERED WITH PREMIUM BI-METAL COIL (OPENS AT 70'F AND CLOSES AT 40'F). HONEYCOMB GRILL WITH FACTORY FINISH.

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

EXTERIOR ELEVATIONS

REVISIONS

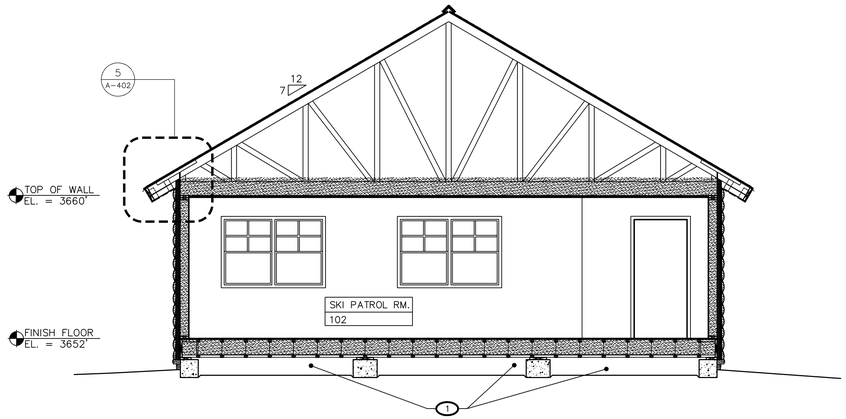
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

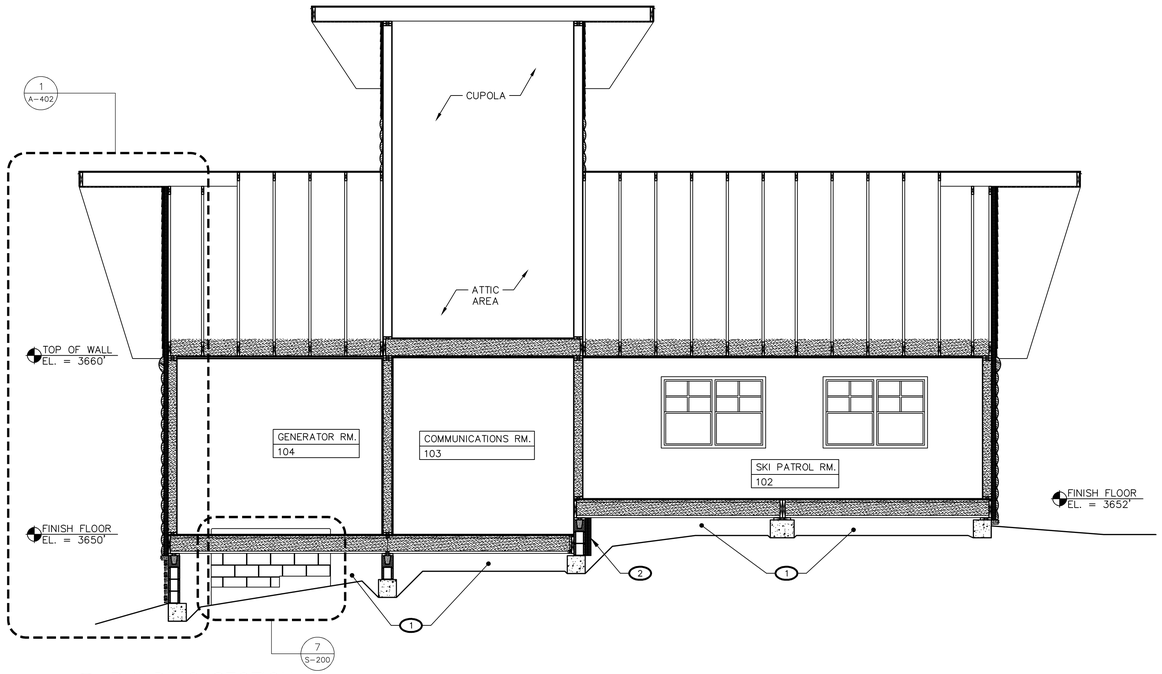
DRAWING NO.

A-202

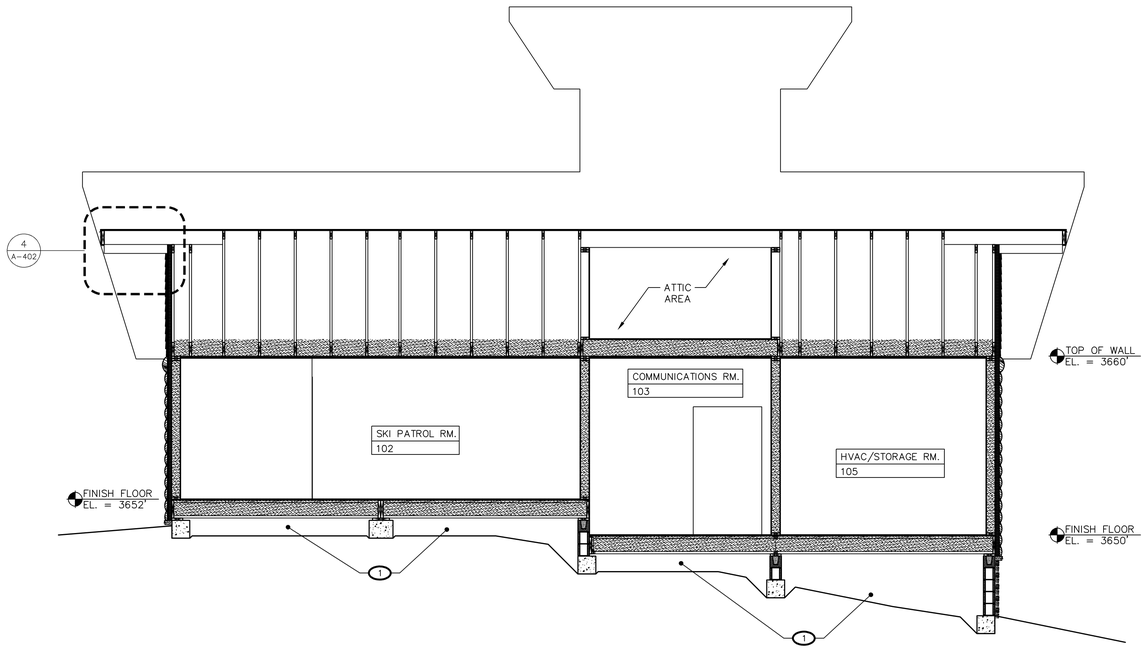
Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County – Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-200's.dwg



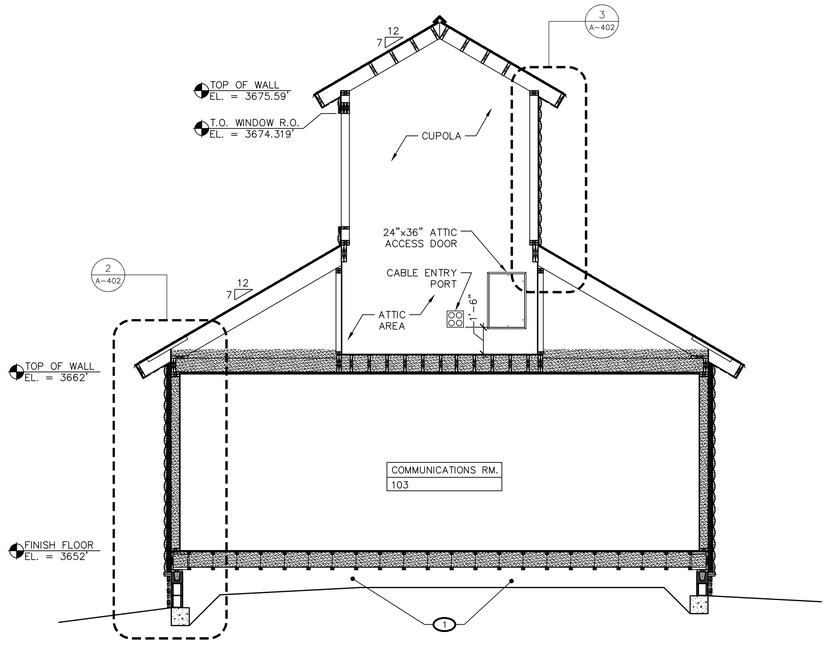
1 A-301 BUILDING SECTION
SCALE: 1/4" = 1'-0"



2 A-301 BUILDING SECTION
SCALE: 1/4" = 1'-0"



3 A-301 BUILDING SECTION
SCALE: 1/4" = 1'-0"



4 A-301 BUILDING SECTION
SCALE: 1/4" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

DRAWING NOTES:

1. VAPOR BARRIER:
   - PROVIDE 2 LAYERS OF REINFORCED FIRE RETARDANT VAPOR RETARDER OVER ENTIRE CRAWL SPACE
   - BALLAST WITH 2"x 8"x 16" CONCRETE PAVERS @ 10'-0" O.C. BOTH WAYS
   - EXTEND VAPOR RETARDER UP FACE OF CONCRETE FOUNDATION WALLS & SECURE WITH PRESSURE TREATED 1"x 4" CONTINUOUS FURRING STRIP
2. PROVIDE 2 LAYERS OF 2" FOIL FACED BOARD INSULATION & FASTEN TO CMU FOUNDATION WALL.

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

BUILDING SECTIONS

REVISIONS

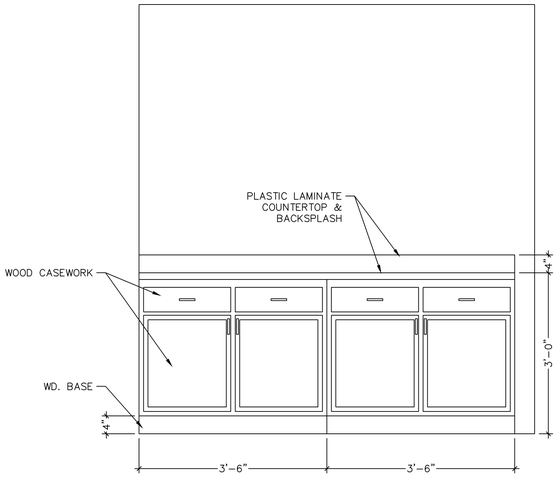
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

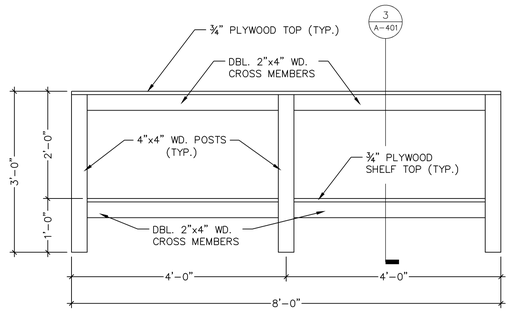
DRAWING NO.

A-301

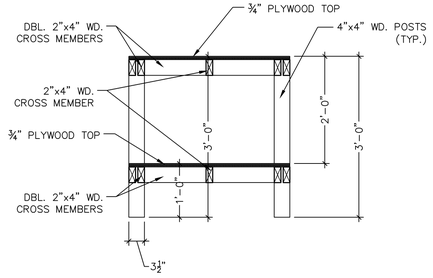
Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County – Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-300's.dwg



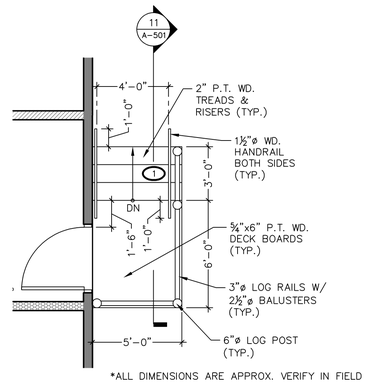
1 A-401 INTERIOR ELEVATION
SCALE: 3/4" = 1'-0"



2 A-401 WORK BENCH ELEVATION
SCALE: 3/4" = 1'-0"

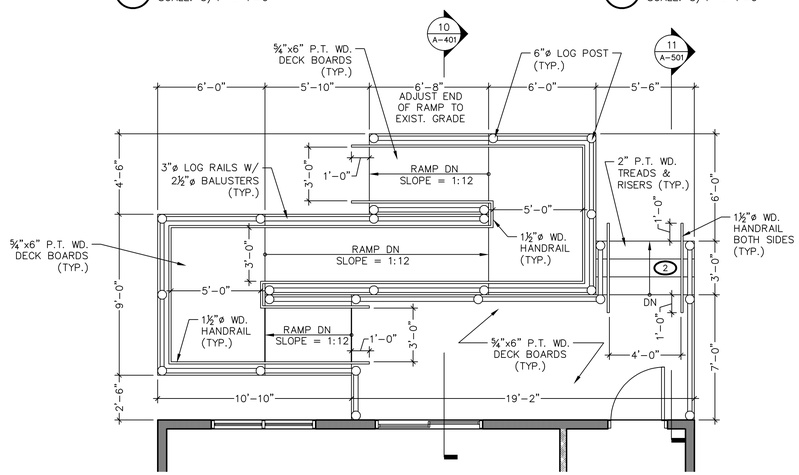


3 A-401 SECTION – WORK BENCH
SCALE: 3/4" = 1'-0"



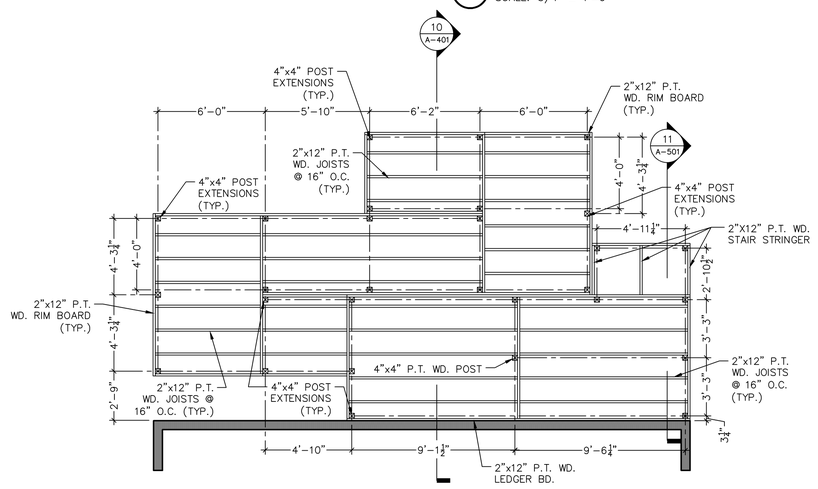
*ALL DIMENSIONS ARE APPROX. VERIFY IN FIELD

4 A-401 STAIR #1 PLAN
SCALE: 1/4" = 1'-0"

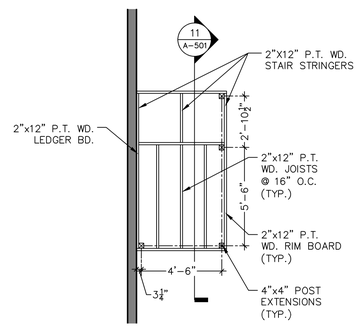


*ALL DIMENSIONS ARE APPROX. VERIFY IN FIELD

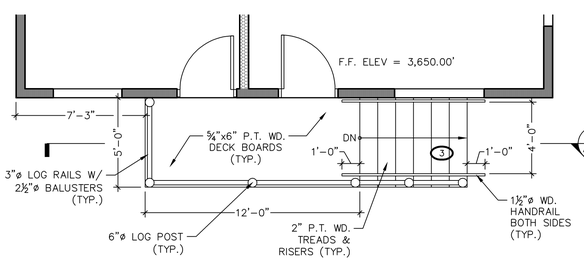
5 A-401 RAMP/STAIR #2 PLAN
SCALE: 1/4" = 1'-0"



6 A-401 RAMP/STAIR #2 FRAMING PLAN
SCALE: 1/4" = 1'-0"

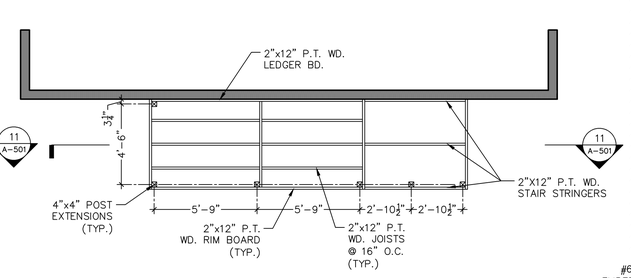


7 A-401 STAIR #1 FRAMING PLAN
SCALE: 1/4" = 1'-0"

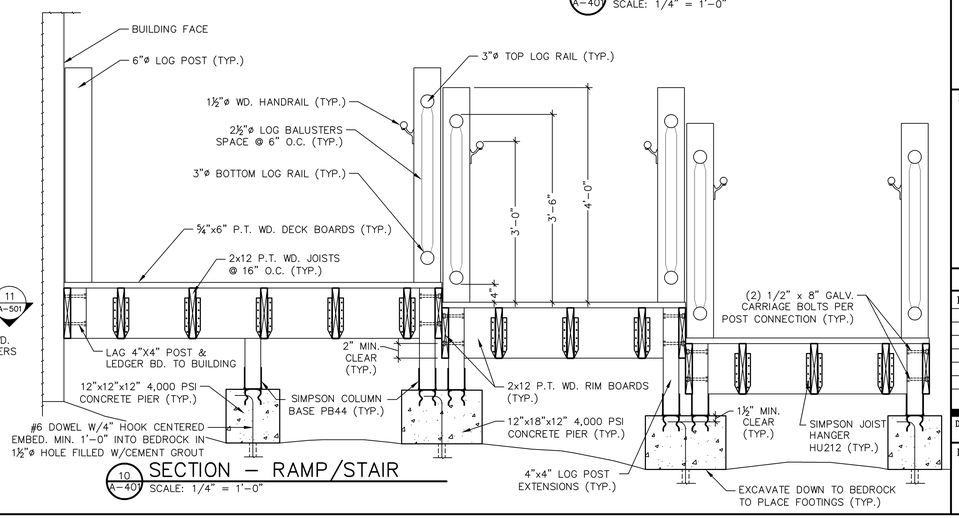


*ALL DIMENSIONS ARE APPROX. VERIFY IN FIELD

8 A-401 STAIR #3 PLAN
SCALE: 1/4" = 1'-0"



9 A-401 STAIR #3 FRAMING PLAN
SCALE: 1/4" = 1'-0"



10 A-401 SECTION – RAMP/STAIR
SCALE: 1/4" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

DRAWING NOTES:

1. STAIR #1: TREADS = 3 @ 11¼"
   RISERS = 4 @ 6"
   *APPROX. TOTAL HEIGHT = 2'-0"
2. STAIR #2: TREADS = 3 @ 11¼"
   RISERS = 4 @ 6"
   *APPROX. TOTAL HEIGHT = 2'-0"
3. STAIR #3: TREADS = 6 @ 11¼"
   RISERS = 7 @ 6"
   *APPROX. TOTAL HEIGHT = 3'-6"

*ADJUST TOTAL HEIGHT ACCORDING TO FINAL FINISH GRADE.

PROJECT TITLE:
ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

INTERIOR ELEVATIONS, RAMP & STAIR PLANS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.

A-401

Plot Date: 06/30/2011 Plot Time: 11:01 AM
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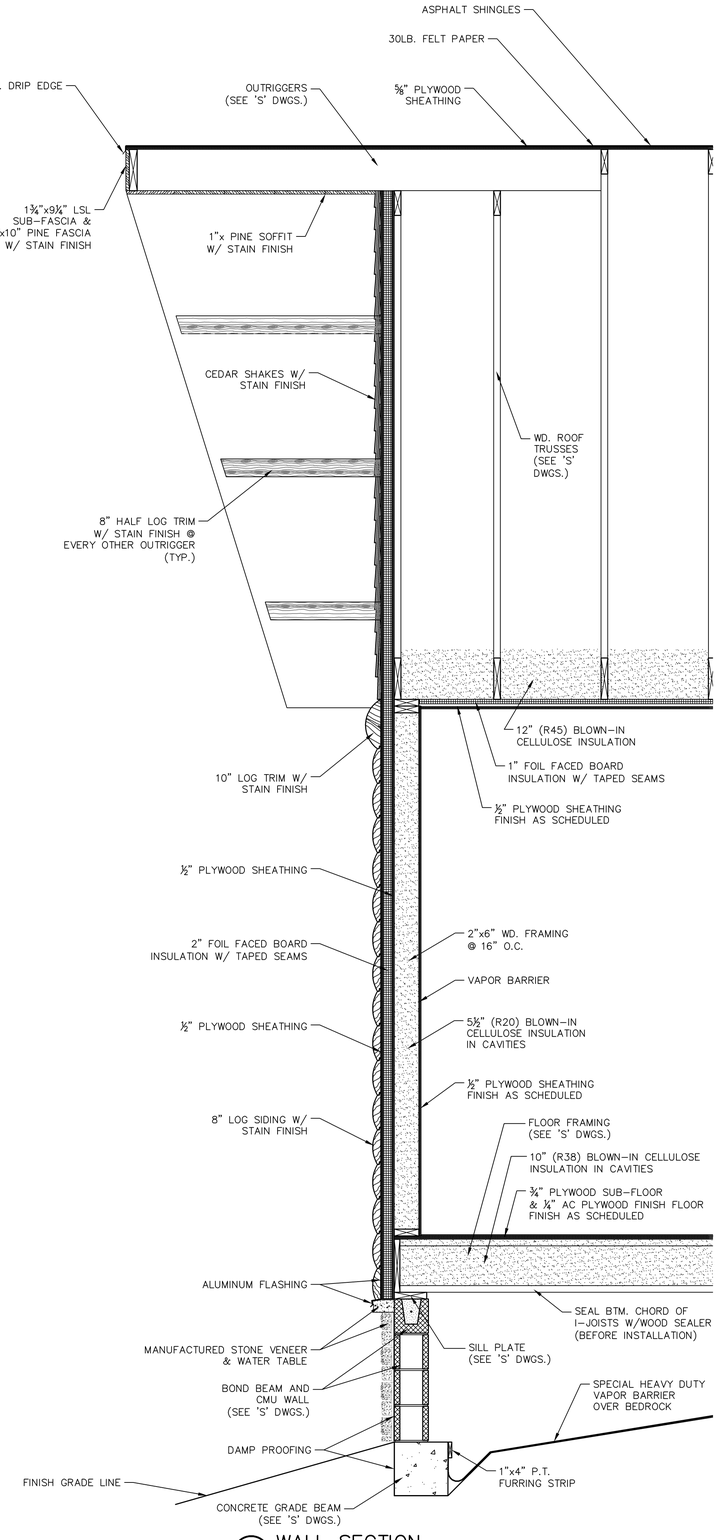

1 A-402 WALL SECTION
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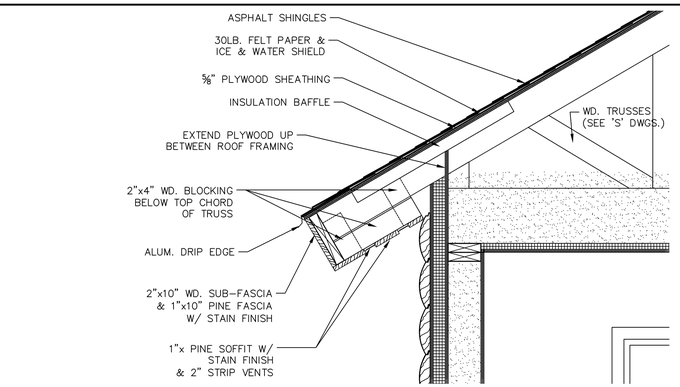
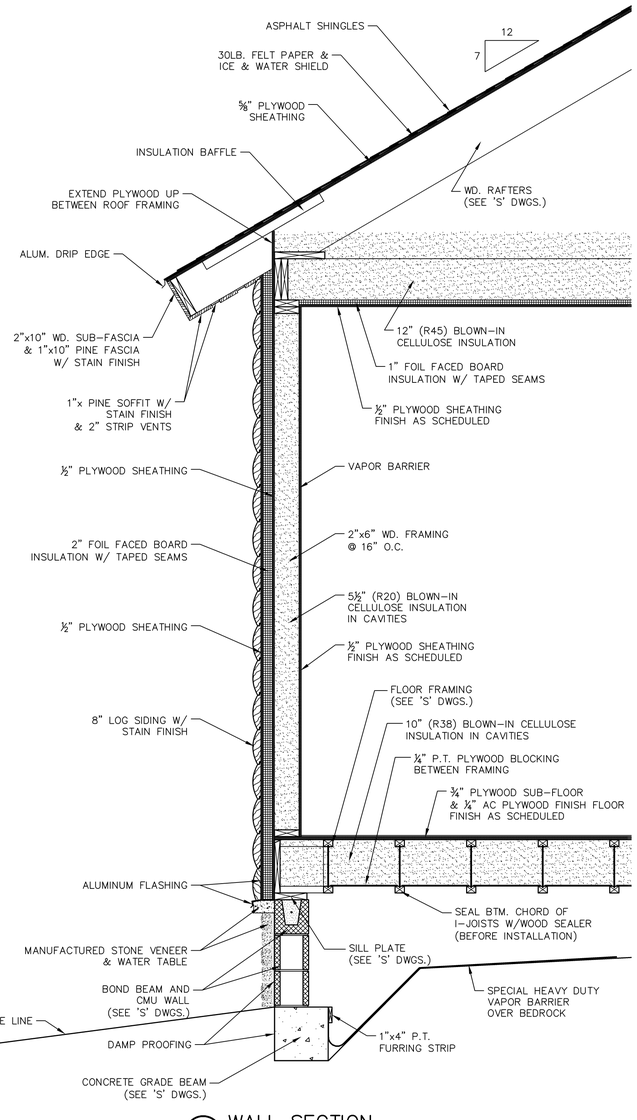
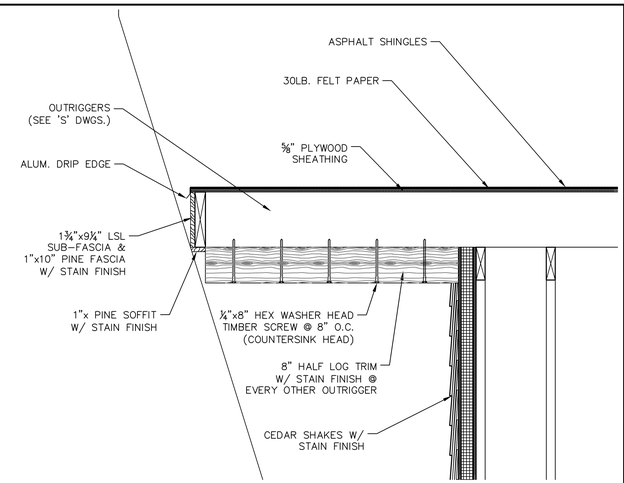


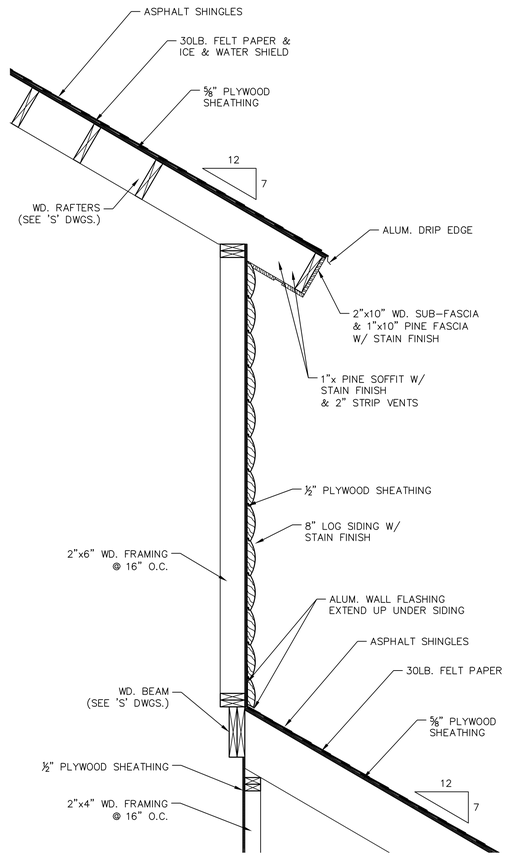
5 A-402 EAVE DETAIL @ TRUSS
SCALE: 1" = 1'-0"



2 A-402 WALL SECTION
SCALE: 3/4" = 1'-0"



4 A-402 GABLE END DETAIL
SCALE: 1" = 1'-0"



3 A-402 WALL SECTION
SCALE: 3/4" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

WALL SECTIONS

REVISIONS

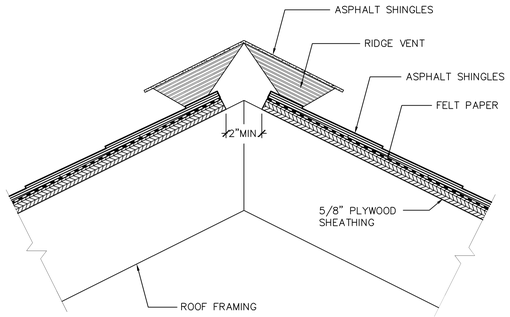
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

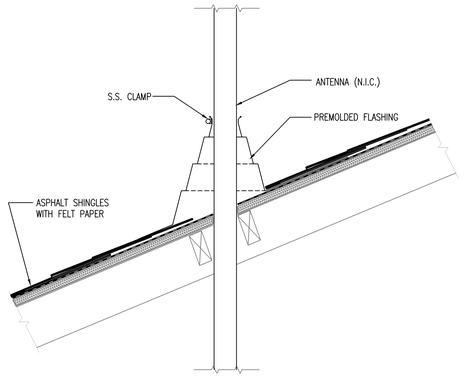
DRAWING NO.

A-402

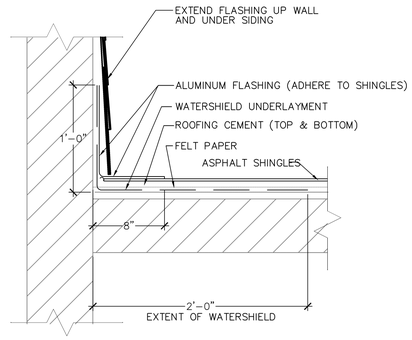
Plot Date: 06/29/2011 Plot Time: 2:32 PM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-400's.dwg



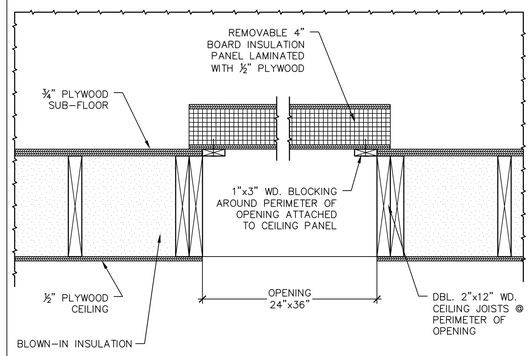
1 A-501 SECTION – RIDGE VENT
SCALE: 3" = 1'–0"



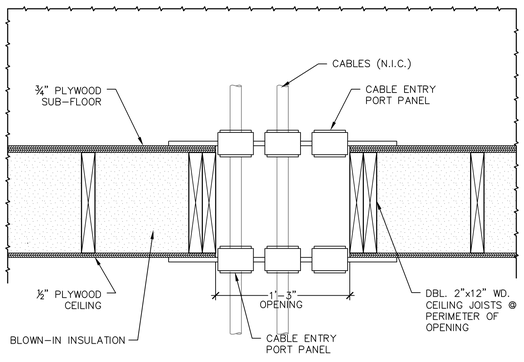
2 A-501 SECTION – ANTENNA FLASHING
SCALE: 1 1/2" = 1'–0"
NOTE: COORDINATE LOCATION W/ ANTENNA INSTALLER



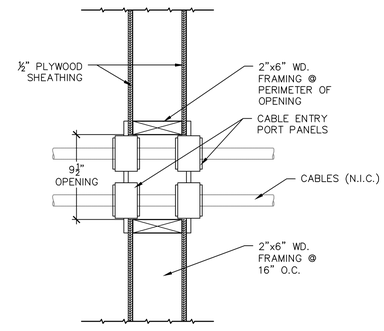
3 A-501 SECTION – WALL FLASHING
SCALE: 1 1/2" = 1'–0"



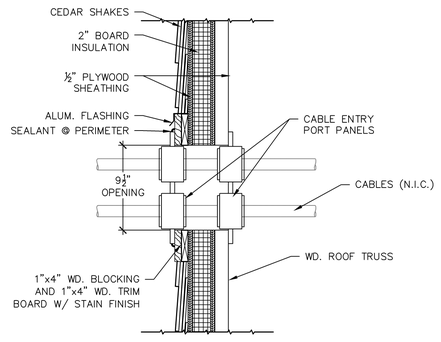
4 A-501 SECTION – ATTIC ACCESS PANEL
SCALE: 1 1/2" = 1'–0"



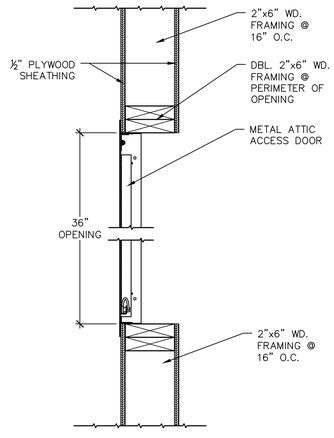
5 A-501 SECTION – CABLE ENTRY PORT
SCALE: 1 1/2" = 1'–0"



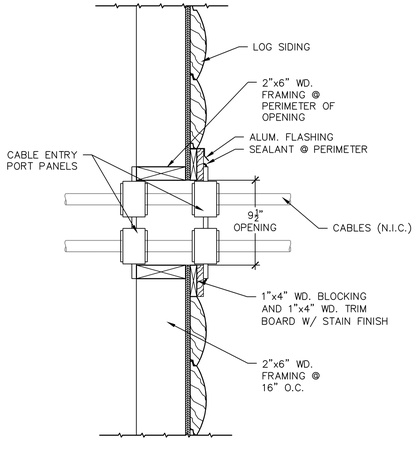
6 A-501 SECTION – CABLE ENTRY PORT
SCALE: 1 1/2" = 1'–0"



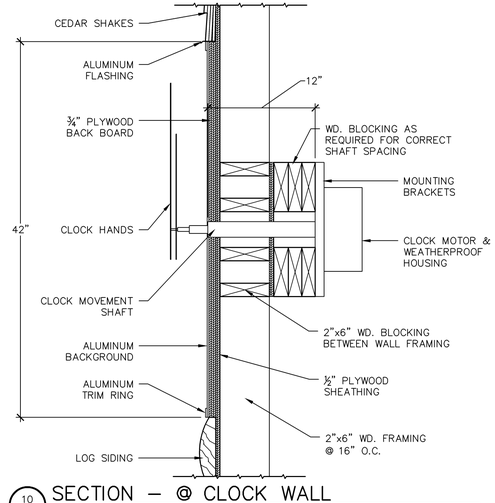
7 A-501 SECTION – CABLE ENTRY PORT
SCALE: 1 1/2" = 1'–0"



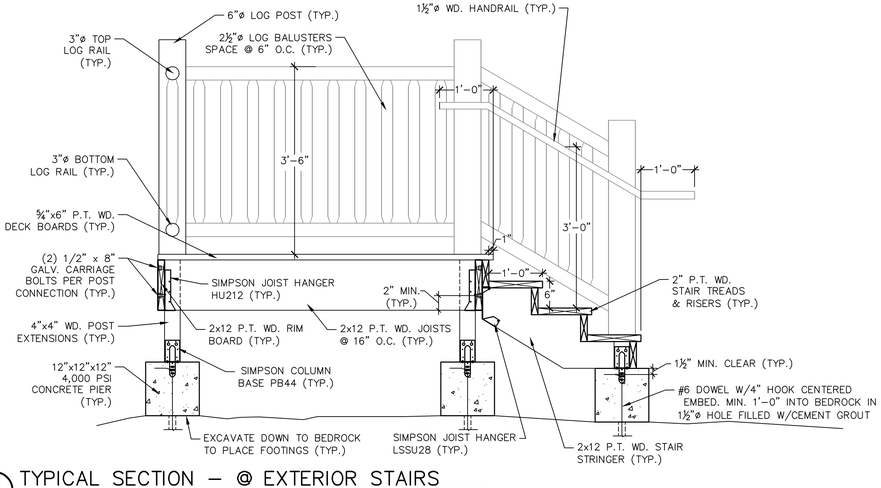
8 A-501 SECTION – ATTIC ACCESS DOOR
SCALE: 1 1/2" = 1'–0"



9 A-501 SECTION – CABLE ENTRY PORT
SCALE: 1 1/2" = 1'–0"



10 A-501 SECTION – @ CLOCK WALL
SCALE: 1 1/2" = 1'–0"



11 A-501 TYPICAL SECTION – @ EXTERIOR STAIRS
SCALE: 3/4" = 1'–0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:
ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
WILMINGTON, NEW YORK

DRAWING TITLE:
CONSTRUCTION DETAILS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E.SEARS		06/28/2011	3760

DRAWING NO.
A–501

Plot Date: 06/30/2011 Plot Time: 11:00 AM
File Path: P:\37\3760 Essex County – Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A–Drawings\3760 A–500's.dwg

FINISH SCHEDULE

RM NO.	ROOM NAME	FLOOR		BASE		WALLS		CEILING			REMARKS
		MATERIAL/ SUBSTRATE	FINISH	MATERIAL/ SUBSTRATE	FINISH	MATERIAL/ SUBSTRATE	FINISH	MATERIAL/ SUBSTRATE	FINISH	HEIGHT	
101	VESTIBULE	¾" PLYWD	POLY	WD	PAINT	PLYWD	PAINT	PLYWD	PAINT	8'-0"	
102	SKI PATROL ROOM	¾" PLYWD	POLY	WD	PAINT	PLYWD	PAINT	PLYWD	PAINT	8'-0"	
103	COMMUNICATIONS ROOM	¾" PLYWD	ESD. VCT	WD	PAINT	PLYWD/GYP	PAINT	PLYWD	PAINT	10'-0"	⅝" TYPE 'X' GYPSUM PANELS WITH ½" PLYWOOD SHEATHING ON TOP; SEE WALL TYPES FOR SPECIFIC WALLS
104	GENERATOR ROOM	¾" PLYWD	POLY	WD	PAINT	PLYWD/GYP	PAINT	PLYWD/GYP	PAINT	10'-0"	⅝" TYPE 'X' GYPSUM PANELS WITH ½" PLYWOOD SHEATHING ON TOP ON WALLS & CEILING
105	HVAC/STORAGE ROOM	¾" PLYWD	POLY	WD	PAINT	PLYWD/GYP	PAINT	PLYWD	PAINT	10'-0"	⅝" TYPE 'X' GYPSUM PANELS WITH ½" PLYWOOD SHEATHING ON TOP; SEE WALL TYPES FOR SPECIFIC WALLS
	ATTIC	½" PLYWD	–	–	–	PLYWD	–	–	–	–	

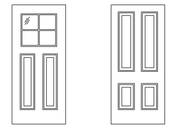
FINISH SCHEDULE LEGEND

DWG. CODE	DESCRIPTION
ACP	ACOUSTICAL CEILING PANEL SYSTEM & GRID (SEE CLG. PLAN)
CARP	NYLON CARPET LEVEL LOOP
GYP	GYPSUM BOARD, TAPED & COMPOUNDED
WD	1"x4" WD. WALL BASE
PLYWD	PLYWOOD SUB-FLOOR OR WALL SHEATHING
POLY	CLEAR SATIN POLYURETHANE – 2 COATS
PAINT	PAINT FINISH – LATEX – PRIMER + 2 COATS
VSF	VINYL SHEET FLOORING
VCT	VINYL COMPOSITION TILE
VCB	4" VINYL COVE BASE
QT	QUARRY TILE
CT	CERAMIC TILE
ESD	ELECTROSTATIC DISCHARGE

DOOR SCHEDULE

DWG. CODE	TO/FROM ROOM NAME/#	DOOR SIZE WIDTH	SIZE HEIGHT	SIZE THK	DOOR TYPE	FIRE RATING	FRAME MATERIAL	FRAME FINISH	FRAME GLAZING	DETAILS MATERIAL	DETAILS FINISH	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HARDWARE SCHEDULE ● NEW HARDWARE: HINGES	CLOSER	THRESHOLD	EXIT DEVICE	DOOR STOP	LOCK CYLINDER	WEATHER STRIPPING AT JAMB	DOOR SEAL & GASKETING	LOCK SET/ LATCH SET	LOCKSET (BHMA) FUNCTION	FLUSH BOLT/ RECEIVER	ELECTRIC STRIKE	DOOR & FRAME REMARKS/ROUGH OPENINGS
001	EXTERIOR TO VESTIBULE (101)	3'-0"	7'-0"	1¾"	A	–	AMP	F.F.	INSUL.	ALUM.	F.F.	1/A-601	2/A-601	3/A-601	●	●	●			●	●	●	●	ENTR.			NOTE: FIELD VERIFY ALL DIMENSIONS
002	VESTIBULE (101) TO SKI PATROL RM. (102)	3'-0"	7'-0"	1¾"	A	–	AMP	F.F.	INSUL.	ALUM.	F.F.	1/A-602	5/A-602	9/A-602	●	●	●		●		●		●	PASS.			
003	EXTERIOR TO COMMUNICATIONS RM. (103)	3'-6"	7'-0"	1¾"	B	–	AMP	F.F.	–	ALUM.	F.F.	1/A-601	2/A-601	3/A-601	●	●	●		●	●	●	●	●	ENTR.			
004	EXTERIOR TO GENERATOR RM. (104)	3'-0"	7'-0"	1¾"	B	–	AMP	F.F.	–	ALUM.	F.F.	1/A-601	2/A-601	3/A-601	●	●	●		●	●	●		●	ENTR.			
005	EXTERIOR TO HVAC/STORAGE RM. (105)	3'-0"	7'-0"	1¾"	B	–	AMP	F.F.	–	ALUM.	F.F.	1/A-601	2/A-601	3/A-601	●	●	●		●	●	●	●	●	ENTR.			

DOOR/FRAME ELEVATIONS



A EXTERIOR B EXTERIOR

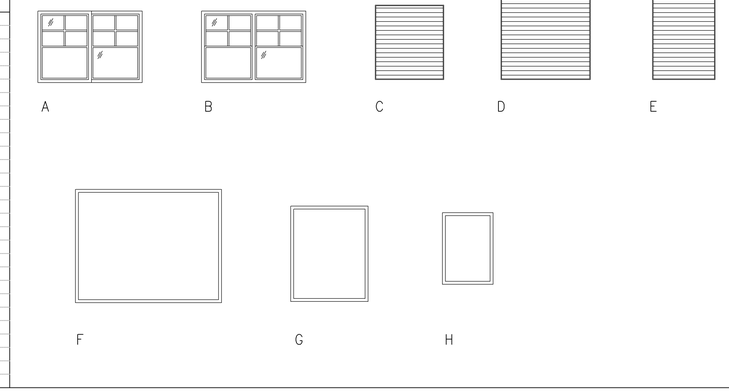
HARDWARE FUNCTIONS

DWG CODE	DESCRIPTION
ENTR.	ENTRANCE
PASS.	PASSAGE
PRIV.	PRIVACY
OFF.	OFFICE
STOR.	STORAGE
HOTL.	HOTEL
CLAS.	CLASSROOM

WINDOW/LOUVER SCHEDULE

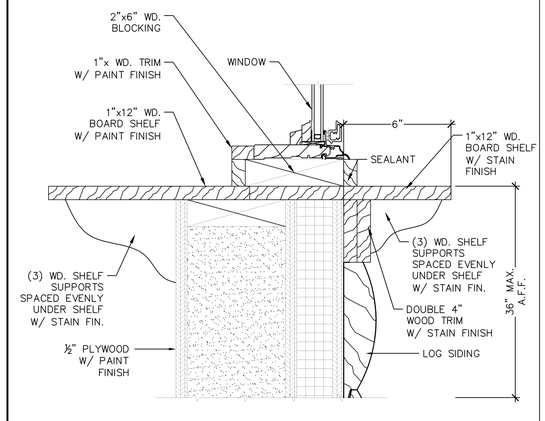
DWG. CODE	WINDOW/LOUVER SIZE WIDTH	SIZE HEIGHT	ELEVATION	DESCRIPTION	GLAZING	OPTIONS	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS
A	6'-0"	4'-0"	A	ALUMINUM CLAD WOOD SLIDER	INSUL.	LOW E, ARGON FILLED	2/A-602	6/A-602	1/A-601	
B	6'-0"	4'-0"	B	ALUMINUM CLAD WOOD DOUBLE HUNG	INSUL.	LOW E, ARGON FILLED	2/A-602	6/A-602	10/A-602	(2) 3'-0"x 4'-0" UNITS MULLED TOGETHER
C	3'-10"	4'-2"	C	ALUMINUM LOUVER	–	WEATHERPROOF	3/A-602	7/A-602	11/A-602	
D	5'-0"	6'-0"	D	ALUMINUM LOUVER	–	WEATHERPROOF	3/A-602	7/A-602	11/A-602	
E	3'-6"	5'-0"	E	ALUMINUM LOUVER	–	WEATHERPROOF	3/A-602	7/A-602	11/A-602	
F	8'-2"	6'-4"	F	FIBERGLASS PANEL AND FRAME	F.G.	–	2/A-601	3/A-601	4/A-601	
G	4'-4"	5'-4"	G	FIBERGLASS PANEL AND FRAME	F.G.	–	2/A-601	3/A-601	4/A-601	
H	2'-10"	4'-0"	H	FIBERGLASS PANEL AND FRAME	F.G.	–	2/A-601	3/A-601	4/A-601	

WINDOW/LOUVER ELEVATIONS

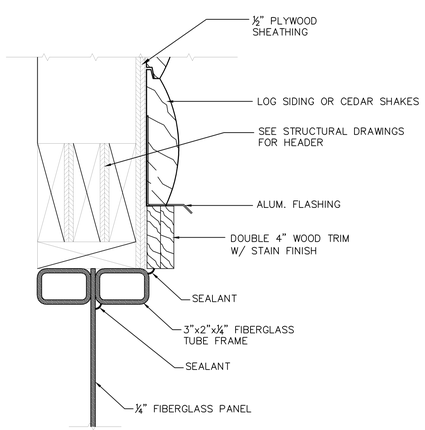


DOOR/WINDOW SCHEDULE LEGEND

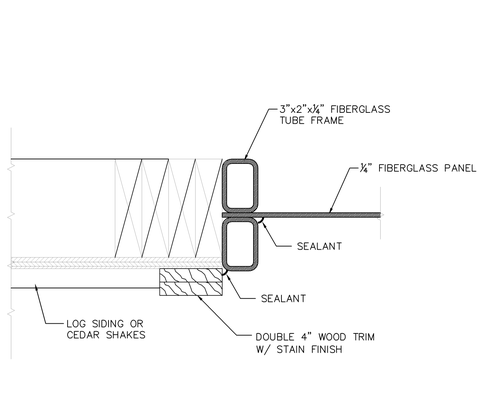
DWG CODE	DESCRIPTION
ALUM.	ALUMINUM
AMP	ACRYLIC MODIFIED POLYESTER
HM	HOLLOW METAL
HM/KD	HOLLOW METAL / KNOCK DOWN
INSUL. HM	INSULATED HOLLOW METAL
INSUL.	INSULATED GLASS
PAINT	PAINT FINISH
POLY	POLYURETHANE (CLEAR SATIN)
WD	WOOD VENEER W/ SOLID CORE
F.F.	FACTORY FINISH
F.G.	FIBERGLASS



1 A-601 SECTION – SERVICE WINDOW SILL
SCALE: 3" = 1'-0"



2 A-601 SECTION – WINDOW HEAD
SCALE: 3" = 1'-0"



3 A-601 SECTION – WINDOW JAMB
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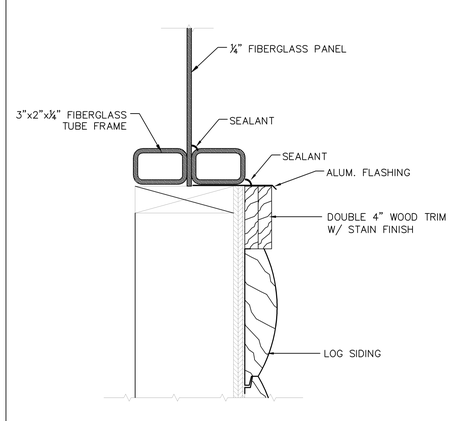

4 A-601 SECTION – WINDOW SILL
SCALE: 3" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

DOOR, WINDOW & FINISH SCHEDULES & DETAILS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.BARBER		06/28/2011	3760

DRAWING NO.

A-601

Plot Date: 06/29/2011 Plot Time: 2:35 PM
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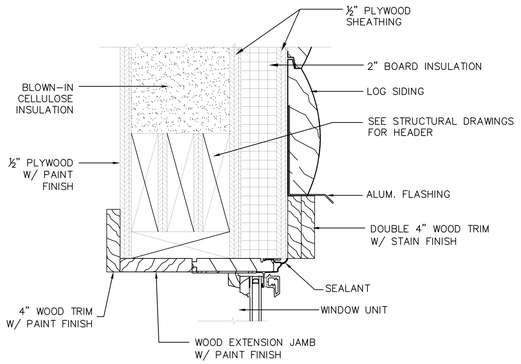

1 A-602 SECTION – WINDOW HEAD
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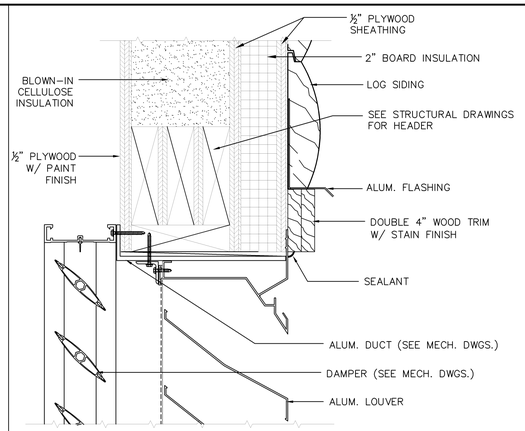
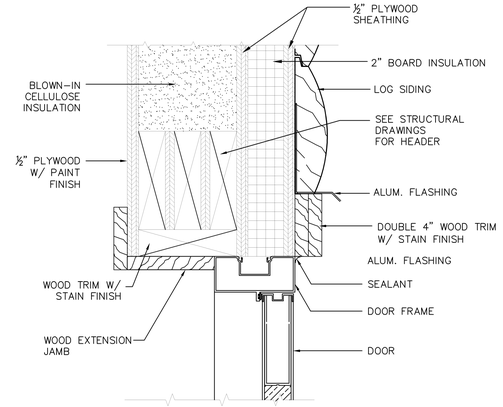
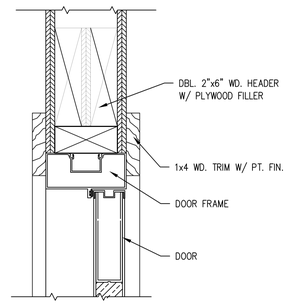


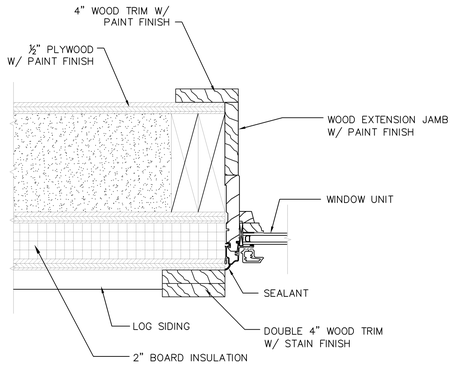
2 A-602 SECTION – LOUVER HEAD
SCALE: 3" = 1'-0"



3 A-602 SECTION – EXTERIOR DOOR HEAD
SCALE: 3" = 1'-0"



4 A-602 SECTION – INTERIOR DOOR HEAD
SCALE: 3" = 1'-0"



5 A-602 SECTION – WINDOW JAMB
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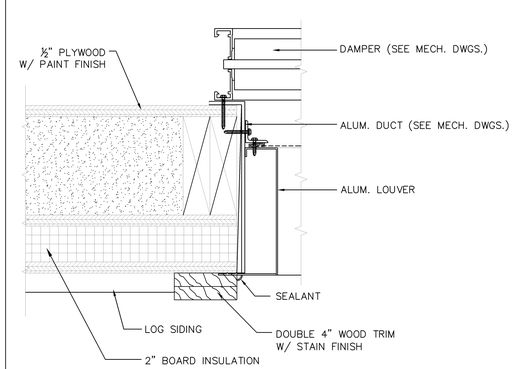
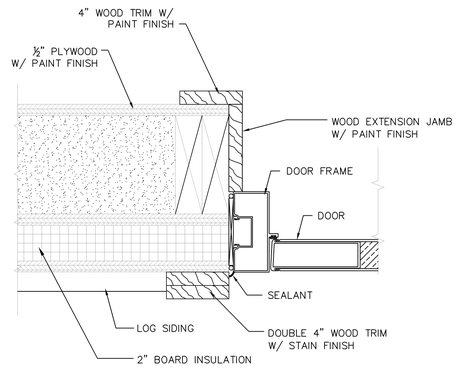
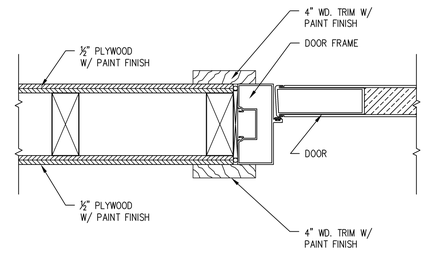


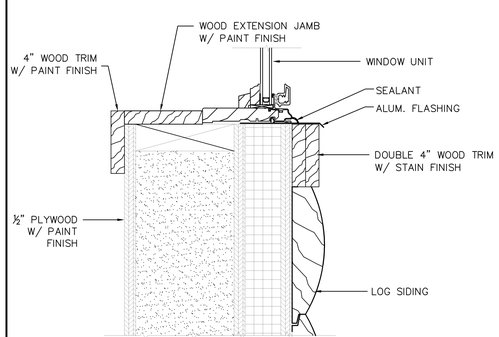
6 A-602 SECTION – LOUVER JAMB
SCALE: 3" = 1'-0"



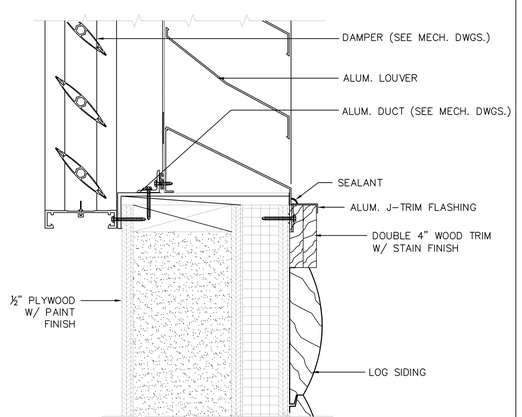
7 A-602 SECTION – EXTERIOR DOOR JAMB
SCALE: 3" = 1'-0"



8 A-602 SECTION – INTERIOR DOOR JAMB
SCALE: 3" = 1'-0"



9 A-602 SECTION – WINDOW SILL
SCALE: 3" = 1'-0"



10 A-602 SECTION – LOUVER SILL
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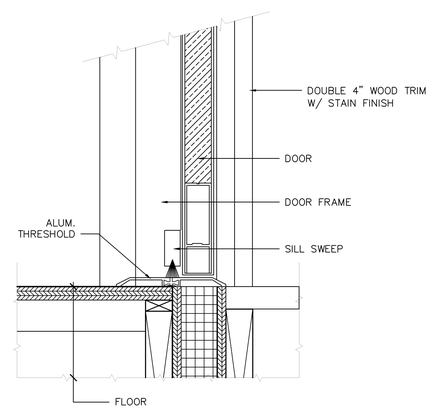
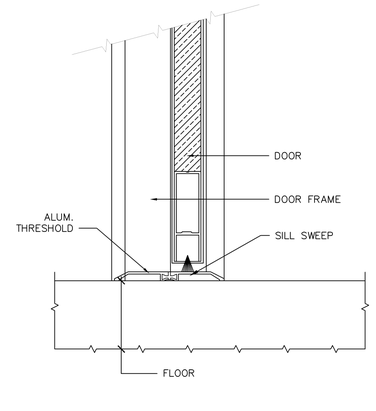


11 A-602 SECTION – EXTERIOR DOOR THRESHOLD
SCALE: 3" = 1'-0"



12 A-602 SECTION – INTERIOR DOOR THRESHOLD
SCALE: 3" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

DOOR & WINDOW DETAILS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.BARBER		06/28/2011	3760

DRAWING NO.

A-602

Plot Date: 06/29/2011 Plot Time: 2:33 PM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\A-Drawings\3760 A-600's.dwg

GENERAL NOTES

1. ALL PIPE & EQUIPMENT SHALL BE SUPPORTED PER SPECIFICATIONS.
2. INSTALL PIPING TO CONSERVE BUILDING SPACE AND NOT INTERFERE WITH USE OF SPACE.
3. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
4. PROTECT PIPING SYSTEMS FROM ENTRY OF FOREIGN MATERIALS BY TEMPORARY COVERS, COMPLETING SECTIONS OF THE WORK, AND ISOLATING PARTS OF COMPLETED SYSTEM.
5. DO NOT OPERATE FANS FOR ANY PURPOSE UNTIL DUCTWORK IS CLEANED, FILTERS IN PLACE, BEARINGS LUBRICATED, AND FAN HAS BEEN TEST RUN.
6. INSTALL MATERIAL AT FIRE RATED CONSTRUCTION PERIMETERS AND OPENINGS CONTAINING PENETRATING SLEEVES, PIPING, DUCTWORK, CONDUIT, AND OTHER ITEMS, REQUIRING FIRESTOPPING.
7. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS.
8. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.
9. INSTALL MATERIAL AT FIRE RATED CONSTRUCTION PERIMETERS AND OPENINGS CONTAINING PENETRATING SLEEVES, PIPING, AND OTHER ITEMS, REQUIRING FIRESTOPPING.
10. WHERE PIPING PENETRATES FLOOR, CEILING, OR WALL, CLOSE OFF SPACE BETWEEN PIPE OR DUCT AND ADJACENT WORK WITH FIRE STOPPING INSULATION AND CAULK AIRTIGHT. PROVIDE CLOSE FITTING METAL COLLAR OR ESCUTCHEON COVERS AT BOTH SIDES OF PENETRATION.

ABBREVIATION DESCRIPTION

ABBREVIATION	DESCRIPTION
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALUM.	ALUMINUM
B.O.D.	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BV	BUTTERFLY VALVE
CW	COLD WATER
CFM	CUBIC FEET PER MINUTE
CU	COPPER
DN	DOWN
EA	EXHAUST AIR
E.A.T.	ENTERING AIR TEMPERATURE
E.C.	ELECTRICAL CONTRACTOR
EF–X	EXHAUST FAN, X DENOTES NUMBER
ELEV.	ELEVATION
E.W.T.	ENTERING WATER TEMPERATURE
F.F.	FINISHED FLOOR
FPM	FEET PER MIN
G.C.	GENERAL CONTRACTOR
H	HOT WATER
HP	HORSEPOWER
HW	HOT WATER HEATER
L.A.T.	LEAVING AIR TEMPERATURE
MBTU	THOUSAND BTUs PER HOUR
M.C.	MECHANICAL CONTRACTOR
OA	OUTDOOR AIR
P.C.	PLUMBING CONTRACTOR
PF	PRIMARY FILTERS
RA	RETURN AIR
SA	SUPPLY AIR
SF	SECONDARY FILTERS
S.S.	STAINLESS STEEL
TEMP.	TEMPORARY
T.O.D.	TOP OF DUCT
T–STAT	THERMOSTAT
TYP.	TYPICAL
UH–X	UNIT HEATER, X DENOTES NUMBER
U.NO.	UNLESS NOTED OTHERWISE
ø	DIAMETER
∠	ANGLE

MECHANICAL DEVICE LEGEND

SYMBOL	DESCRIPTION	SPEC.
	BALL VALVE	15110
T	ZONE THERMOSTAT	15760
	DUCT TRANSITION	15810
	SINGLE WALL DUCT	15810
	DUCT SUPPLY END SECTION	15810
	DUCT EXHAUST END SECTION	15810
A	DAMPER ACTUATOR	15820
	UNIT HEATER	15760
	UPTURNED ELBOW	15105
	DOWNTURNED ELBOW	15105
	AIR FLOW DIRECTION	–
	SUPPLY DIFFUSER	15850
	RETURN GRILLE	15850
	OPPOSED BLADE DAMPER	15820

RETURN GRILLE (RG) SCHEDULE — SPEC. 15850

TAG	TYPE	SIZE	DUCT	NECK	PATTERN/STYLE	MATERIAL	COLOR	NECK VELOCITY (FPM)	INSTALLATION HEIGHT
RG–1	DUCT MTD.	40"x14"	40"x14"	40"x14"	HORIZ. BAR/0° FIXED BLADE	ALUM.	WHITE	400	–1'–0" (BTM.)

UNIT HEATER SCHEDULE — SPEC. 15760

TAG	TYPE	KW	INPUT BTU	OUTPUT BTU	VOLTS	PH	AMPS	CFM	CONTROLLED BY	NOTES
UH–1	PROPANE UNIT HEATER	–	45,000	37,350	115	1	2.4	629	24V WALL THERMOSTAT	WALL MTD. @ 4'–0" (BTM.)
EH–1,2	ELECTRIC UNIT HEATER	3.3	–	11,200	208	3	9.2	400	24V WALL THERMOSTAT	WALL MTD. @ 4'–0" (BTM.), LOW TEMP. T–STAT 35°–85° F.

CONTROL DAMPER (CD) SCHEDULE — SPEC. 15820

TAG	TYPE	CONFIGURATION	SIZE (WxH)	CONTROL VOLTAGE	CONTROL SEQUENCE	INSTALLATION	NOTES
CD–1	MOTORIZED	OPPOSED	42"x60"	24V	SPRING OPEN/POWER CLOSED	FLANGED	ATS RELAY CONTROL
CD–2	MOTORIZED	OPPOSED	60"x72"	24V	SPRING OPEN/POWER CLOSED	FLANGED	ATS RELAY CONTROL

SUPPLY DIFFUSER (SD) SCHEDULE — SPEC. 15850

TAG	TYPE	SIZE	DUCT	NECK	PATTERN/STYLE	MATERIAL	COLOR	NECK VELOCITY (FPM)	DISCHARGE PATTERN	INSTALLATION HEIGHT	NOTES
SD–1	DUCT MTD.	40"x14"	40"x14"	40"x14"	VERTICAL BAR/ 3/4" SPACING	ALUM.	WHITE	400	HORIZONTAL	5'–0" (BTM.)	

AIR HANDLER UNIT SCHEDULE — SPEC.

TAG	TYPE	TOTAL FLOW RATE (CFM)	EXTERNAL STATIC PRESSURE (IN WG.)	SUPPLY FAN DATA		VOLTAGE	HEATING DESIGN: –40°F DB, –40°F WB					COOLING DESIGN: 82° F DB, 71°F WB, 19.6 DR			NOTES
				DRIVE	HP		MBTU	E.A.T. (°F)	L.A.T. (°F)	KW	AMPS	TOTAL CAPACITY (BTU/HR)	TONS	EER	
DCU–1	INDOOR VERTICAL A/C	1550	0.2	DIRECT	0.75	208V–3PH	23.0	60	85	9.0	12.5	52,200	5.0	9.1	LOW AMBIENT CONTROL

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

MECHANICAL NOTES, LEGENDS AND SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.FESSETTE		06/28/2011	3760

DRAWING NO.

M–001

Plot Date: 06/29/2011 Plot Time: 2:33 PM
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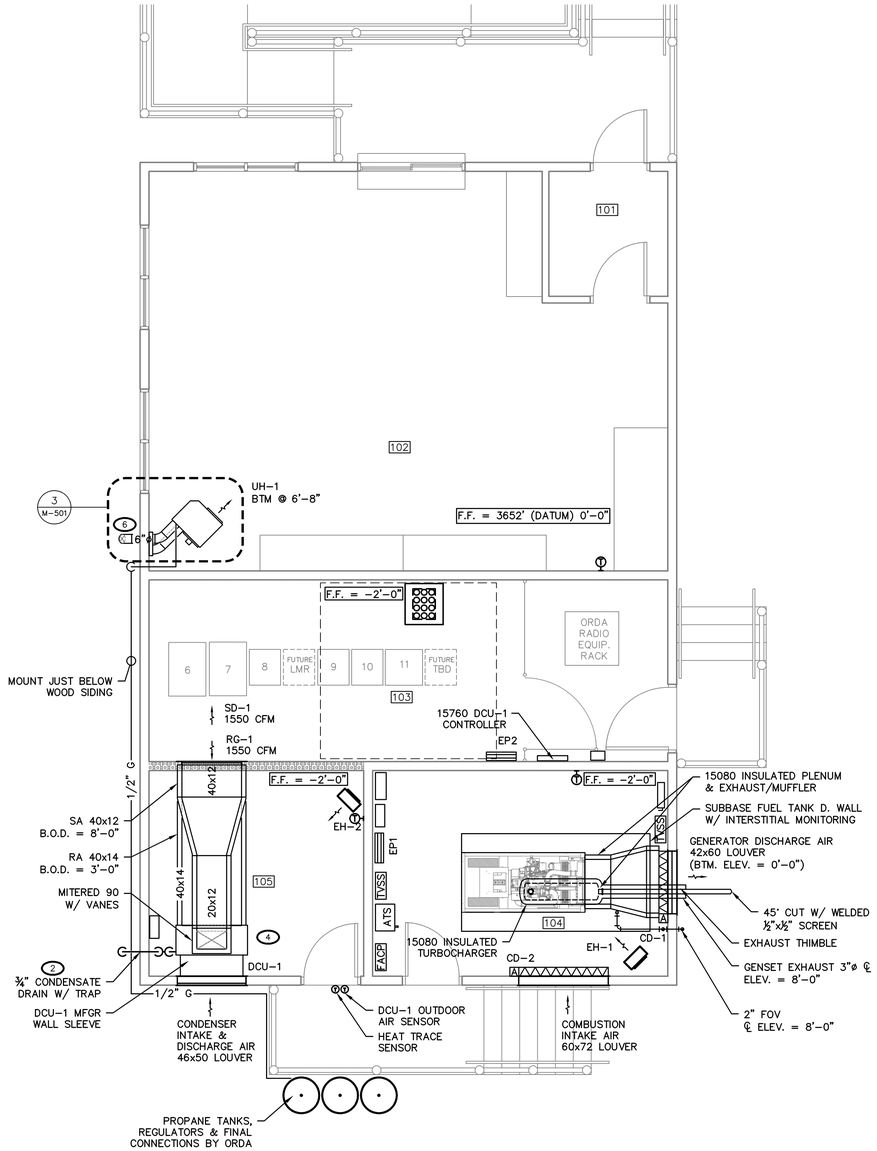

1 M-101 MECHANICAL PLAN
SCALE: 1/4" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

1. PAINT THE FOLLOWING EXTERIOR PIPING PER 9900:
   –PROPANE PIPING
   –EXHAUST PIPING
   –FOV PIPING
2. PROVIDE ELECTRIC HEAT TRACING TO CONDENSATE DRAIN. REFER TO DETAIL 4/M-501.
3. PROVIDE FLEXIBLE CONNECTORS BETWEEN DCU-1 INLETS/OUTLETS AND DUCTWORK.
4. INSTALL DUCTWORK TO ALLOW FOR DCU-1 REMOVAL/MAINTENANCE.
5. UTILIZE ATS INTERNAL RELAY TO DE-ENERGIZE EH-1 WHEN EMERGENCY GENERATOR IS RUNNING
6. PROVIDE MIN. 12" CLEARANCE FROM WINDOW OPENING.

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

MECHANICAL PLANS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.FESSETTE		06/28/2011	3760

DRAWING NO.

M-101

Plot Date: 06/29/2011 Plot Time: 2:33 PM
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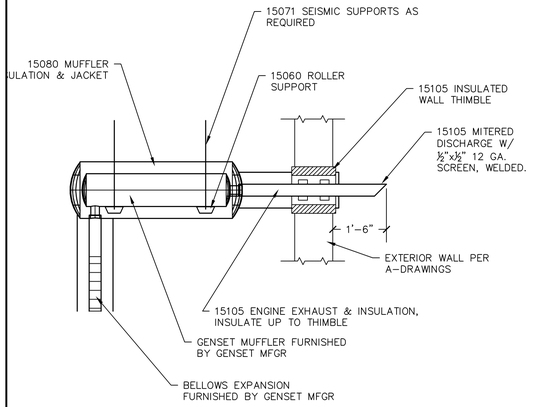
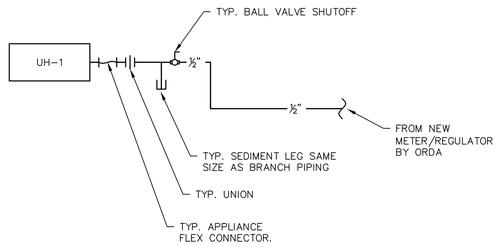
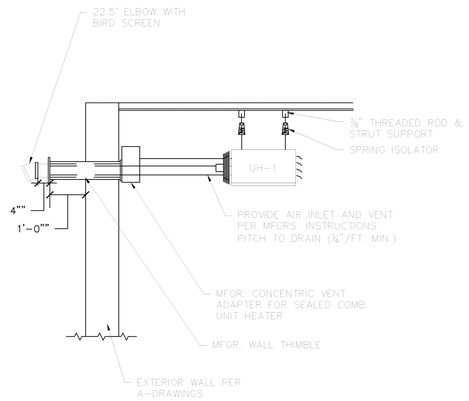


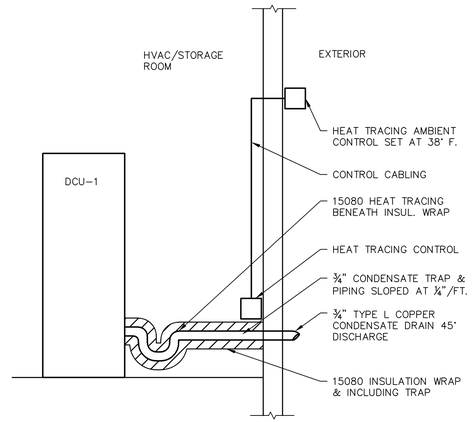
1 M-501 GENERATOR EXHAUST
SCALE: N.T.S.



2 M-501 SCHEMATIC LPG TRAIN
SCALE: N.T.S.



3 M-501 GAS UNIT HEATER
SCALE: N.T.S.



4 M-501 CONDENSATE TRAP & HEAT TRACING
SCALE: N.T.S.

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:
ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
WILMINGTON, NEW YORK

DRAWING TITLE:
MECHANICAL DETAILS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.FESSETTE		06/28/2011	3760

DRAWING NO.
M-501

Plot Date: 06/29/2011 Plot Time: 2:33 PM
File Path: P:\37\3760 Essex County – Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\M-Drawings\M-100s\3760 M-100s.dwg

PANEL SCHEDULE – EP1

PANEL EP1	225 AMP	MAIN 200		BRANCH BREAKER SUMMARY					
BUSES CU	W/ GRD BUS	W/ ISO. GRD BUS	X	POLES	AMPS.	USED	SPARE	TOTAL	TOTAL POLES
120/208 3φ 4W		42 SPACES		3	75	1	0	1	3
BREAKER INTERR'G CAPACITY		22,000 AIC		3	45	1	0	1	3
ENCLOSURE NEMA 12		COVER TYPE		3	20	2	0	2	6
SURFACE MOUNT	X	CLAMPED ONLY		1	20	19	2	21	21
FLUSH MOUNT		DOOR-IN-DOOR	X						
CIRCUIT BREAKER TYPE									
BOLT-ON	X	PLUG-IN				BLANKS	9	33	

BRANCH CIRCUITS NO.	BREAKERS POLE	BREAKERS AMP.	PH.	CON. LOAD KW.	CON. LOAD HP.	EQUIPMENT	WIRING LOAD WIRE	WIRING GROUND WIRE	WIRING COND.
1	3	45	3	11.2	–	DCU-1	#8	#8	1"
2	3	20	3	3.3	–	EH-2	#12	#12	3/4"
7	3	20	3	3.3	–	EH-1	#12	#12	3/4"
8	1	20	1	0.6	–	RECEPT./RM 104, 105	#12	#12	3/4"
10	1	20	1	0.9	–	RECEPT./RM 103	#12	#12	3/4"
12	1	20	1	0.6	–	RECEPT./RM 103	#12	#12	3/4"
13	1	20	1	0.6	–	RECEPT./RM 102	#12	#12	3/4"
14	1	20	1	0.8	–	RECEPT./RM 102	#12	#12	3/4"
15	1	20	1	0.3	–	RECEPT./RM 102	#12	#12	3/4"
16	1	20	1	0.6	–	UH-1	#12	#12	3/4"
17	1	20	1	–	–	HVAC CONTROLS	#12	#12	3/4"
18	1	20	1	–	–	CLOCK CONTROLLER	#12	#12	3/4"
19	1	20	1	–	–	HEAT TRACING	#12	#12	3/4"
20	1	20	1	–	–	SPARE	–	–	–
21	1	20	1	1.1	–	LIGHTS/103, 104, 105	#12	#12	3/4"
22	1	20	1	0.5	–	LIGHTS/ 101, 102	#12	#12	3/4"
23	1	20	1	–	–	GENSET ACTUATORS	#12	#12	3/4"
24	1	20	1	–	–	GENSET BATTERY CHARGER	#12	#12	3/4"
25	1	20	1	–	–	GENSET OIL HEATER	#12	#12	3/4"
26	1	20	1	–	–	GENSET COOLANT HEATER	#12	#12	3/4"
27	1	20	1	–	–	GENSET ALT. HEATER	#12	#12	3/4"
28	1	20	1	–	–	FIRE ALARM PANEL	#12	#12	3/4"
29	3	75	3	12.3	–	SUBPANEL EP-2	#4	#8	1 1/2"
30	1	20	1	–	–	SPARE	–	–	–
32	1	20	1	–	–	SPARE	–	–	–
34-42	–	–	–	–	–	BLANK	–	–	–

PANEL SCHEDULE – EP2

PANEL EP2	100 AMP	MAIN 75		BRANCH BREAKER SUMMARY					
BUSES CU	W/ GRD BUS	W/ ISO. GRD BUS	X	POLES	AMPS.	USED	SPARE	TOTAL	TOTAL POLES
120/208 3φ 4W		30 SPACES		2	20	2	2	4	8
BREAKER INTERR'G CAPACITY		22,000 AIC		2	25	1	0	1	2
ENCLOSURE NEMA 1		COVER TYPE		1	20	7	5	12	12
SURFACE MOUNT	X	CLAMPED ONLY							
FLUSH MOUNT		DOOR-IN-DOOR	X						
CIRCUIT BREAKER TYPE									
BOLT-ON	X	PLUG-IN				BLANKS	8	22	

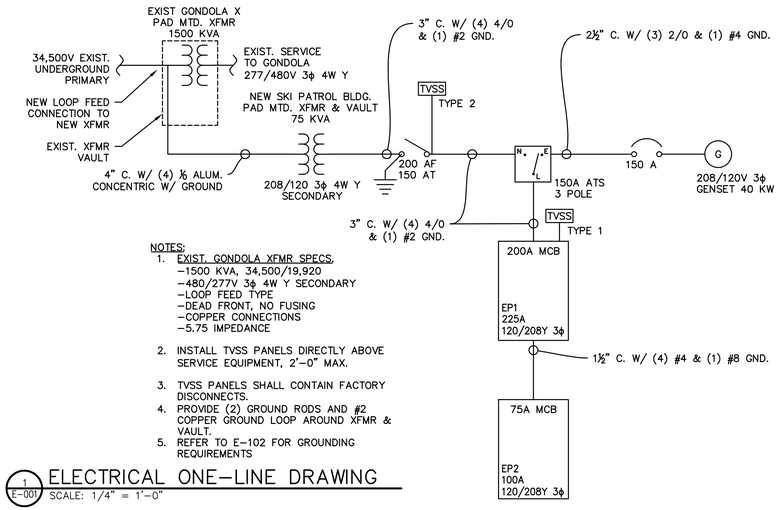
BRANCH CIRCUITS NO.	BREAKERS POLE	BREAKERS AMP.	PH.	CON. LOAD KW.	CON. LOAD HP.	EQUIPMENT	WIRING LOAD WIRE	WIRING GROUND WIRE	WIRING COND.
1	2	25	1	3.0	–	UPS CABINET (ITEM 6)	#10	#10	3/4"
2	1	20	1	1.0	–	FUTURE LMR	#12	#12	3/4"
4	1	20	1	1.0	–	FUTURE LMR	#12	#12	3/4"
5	2	20	1	0.7	–	RECTIFIER/BATTERIES (ITEM 9)	#12	#12	3/4"
6	2	20	1	0.7	–	RECTIFIER/BATTERIES (ITEM 9)	#12	#12	3/4"
9	1	20	1	–	–	SPARE	#12	#12	3/4"
10	1	20	1	–	–	SPARE	#12	#12	3/4"
11	1	20	1	0.6	–	DANIELS PAGING (ITEM 11)	#12	#12	3/4"
12	1	20	1	1.0	–	DANIELS PAGING (ITEM 11)	#12	#12	3/4"
13	1	20	1	1.0	–	FUTURE TBD	#12	#12	3/4"
14	1	20	1	1.0	–	FUTURE TBD	#12	#12	3/4"
15	1	20	1	0.6	–	ORDA RADIO	#12	#12	3/4"
16	2	20	1	–	–	SPARE	–	–	–
17	2	20	1	–	–	SPARE	–	–	–
20	1	20	1	–	–	SPARE	–	–	–
21	1	20	1	–	–	SPARE	–	–	–
22	1	20	1	–	–	SPARE	–	–	–
23-30	–	–	–	–	–	BLANK	–	–	–

ELECTRICAL DEVICE LEGEND

SYMBOL	DESCRIPTION	SPEC.
S	LIGHT SWITCH	16140
S_3	3-WAY LIGHT SWITCH	16140
φ	SIMPLEX RECEPTACLE	16140
φ	DUPLEX RECEPTACLE	16140
$φ_{GFI}$	RECEPTACLE WITH GROUND FAULT PROTECTION	16140
$φ_{IG}$	DUPLEX RECEPTACLE WITH ISOLATED GROUND	16140
φ	QUADRAPLEX RECEPTACLE	16140
$φ_{IG}$	QUADRUPLEX RECEPTACLE WITH ISOLATED GROUND	16140
J	JUNCTION BOX (SIZED PER NEC)	16130
	DISCONNECT SWITCH – NON FUSIBLE	16415
	DISCONNECT SWITCH – FUSIBLE	16415
PP-X	SURFACE MTD. POWER PANEL	16440
A	LIGHT FIXTURE TYPE A	16510
B	LIGHT FIXTURE TYPE B	16510
C	LIGHT FIXTURE TYPE B	16510
	EMERGENCY LIGHT	16530
	EXIT/EMERGENCY LIGHT COMBO	16530
	HOME RUN POWER CIRCUIT	16123
	SWITCHING CIRCUIT	16123
	MOTOR	–
	BELOW SLAB/FLOOR CONDUIT	16130
	ABOVE FLOOR CONDUIT	16130
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION	16289
S	SMOKE DETECTOR (PHOTOELECTRIC)	16720
S_I	SMOKE DETECTOR (IONIZING)	16720
H	HEAT DETECTOR	16720
K	PULL-STATION	16720
FACP	FIRE ALARM CONTROL PANEL	16720
	HORN/STROBE COMBO	16720
	DOOR CONTACT	16140
M	FA MONITOR RELAY MODULE	16720
CT	CURRENT SENSOR	16140
	LOW TEMP LIMIT CONTROL	16140
	HIGH TEMP LIMIT CONTROL	16140

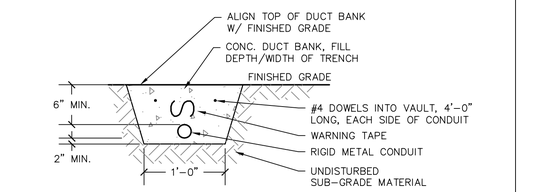
ABBREVIATION DESCRIPTION

ABBREVIATION	DESCRIPTION
AF	AMPERE FRAME
A OR AMP	AMP
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
ALUM.	ALUMINUM
CU	COPPER
DN	DOWN
E.C.	ELECTRICAL CONTRACTOR
EF-X	EXHAUST FAN, X DENOTES NUMBER
ELEV.	ELEVATION
F.F.	FINISHED FLOOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
PTD.	PAINTED
S.C.	SITE CONTRACTOR
S.S.	STAINLESS STEEL
TYP.	TYPICAL
UH-X	UNIT HEATER, X DENOTES NUMBER
U.NO.	UNLESS NOTED OTHERWISE



NOTES:
1. EXIST. GONDOLA XFMR SPECS.
   -1500 KVA, 34,500/19,920
   -480/277V 3φ 4W Y SECONDARY
   -LOOP FEED TYPE
   -DEAD FRONT, NO FUSING
   -COPPER CONNECTIONS
   -5.75 IMPEDANCE
2. INSTALL TVSS PANELS DIRECTLY ABOVE SERVICE EQUIPMENT, 2'-0" MAX.
3. TVSS PANELS SHALL CONTAIN FACTORY DISCONNECTS.
4. PROVIDE (2) GROUND RODS AND #2 COPPER GROUND LOOP AROUND XFMR & VAULT.
5. REFER TO E-102 FOR GROUNDING REQUIREMENTS

1 E-001 ELECTRICAL ONE-LINE DRAWING
SCALE: 1/4" = 1'-0"



NOTES:
1. IF SITE CONDITIONS & EXCAVATION ALLOWS, CONDUIT CAN BE INSTALLED WITHOUT A CONCRETE DUCT BANK IF MINIMUM OF 18" COVER ABOVE CONDUIT CAN BE MAINTAINED.
2. ELECTRICAL TRENCHING REQUIREMENTS APPLIES TO BOTH PRIMARY AND SECONDARY ELECTRICAL FEEDS

2 E-001 ELECTRICAL TRENCH
N.T.S.

3 E-001 TRANSFORMER PAD
N.T.S.

4 E-001 CLOCK CONTROLLER
N.T.S.

NOTES:
1. VAULT AND PAD SHALL BE NYSEG APPROVED
2. INSTALLATION SHALL CONFORM TO NYSEG DISTRIBUTION STANDARDS.

5 E-001 TRANSFORMER VAULT
N.T.S.

6 E-001 ELECTROLYTIC GROUND ROD
N.T.S.

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

1. CONTRACTOR SHALL COORDINATE ANY TEMPORARY SHUTDOWNS TO GONDOLA SERVICE W/ ORDA PERSONNEL.

PROJECT TITLE:

ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

ELECTRICAL NOTES AND ONE-LINE DIAGRAM

REVISIONS

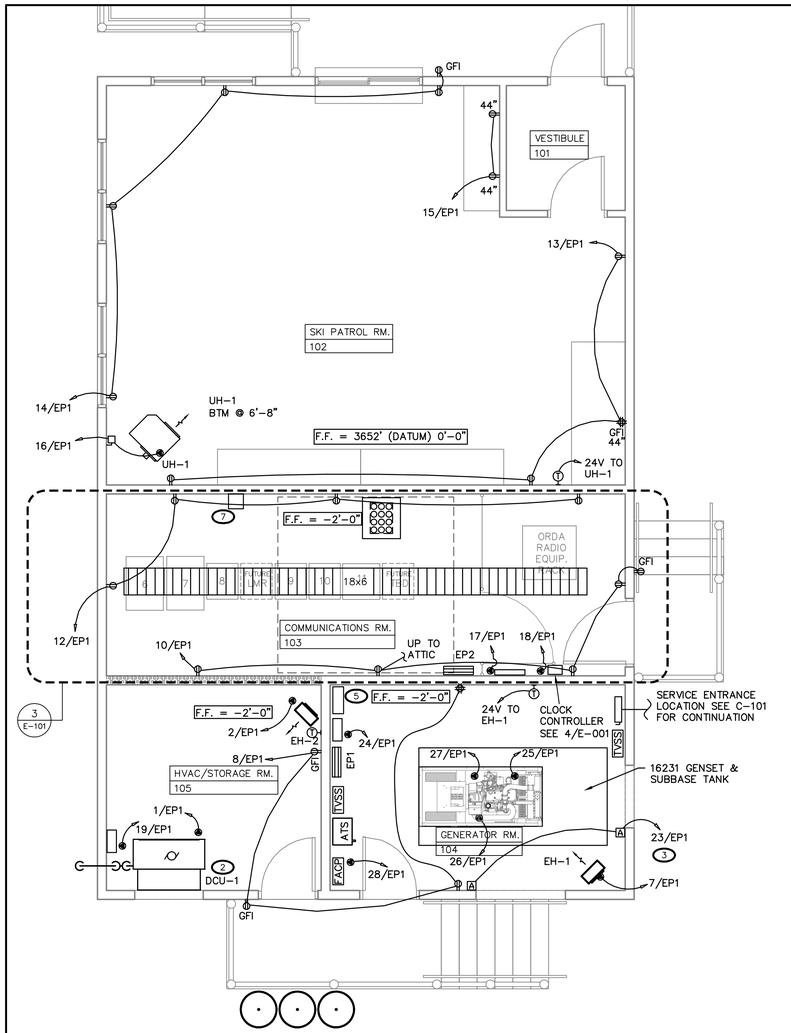
NO.	DESCRIPTION	DATE (MM/DD/YYYY)
1	ALARM MONITORING	04/06/2012
2	GENERAL REVISIONS	05/04/2012

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.FESSETTE		06/28/2011	3760

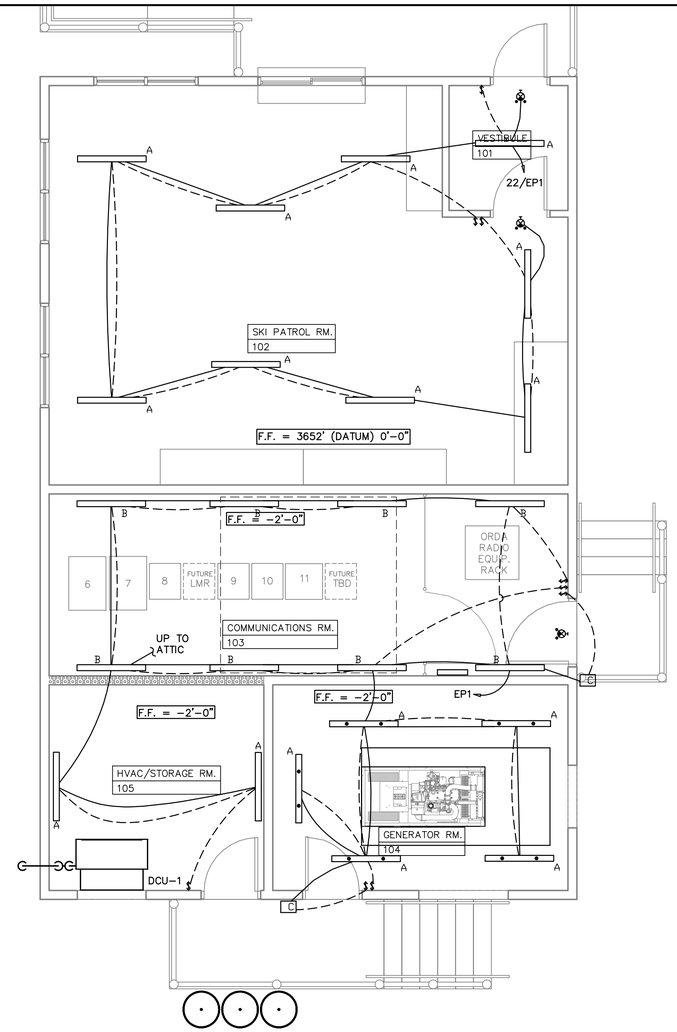
DRAWING NO.

E-001

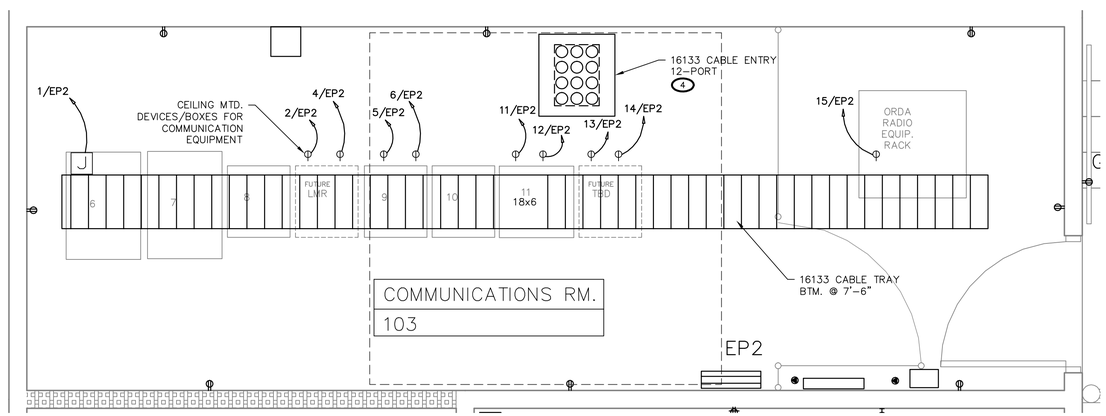
Plot Date: 05/07/2012 Plot Time: 10:57 AM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\E-Drawings\E-100s\3760 E-100s.dwg



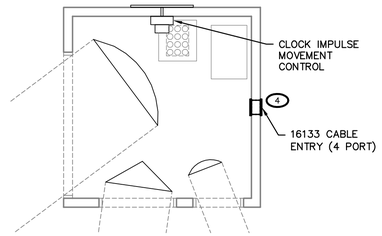
1 E-101 POWER PLAN
SCALE: 1/4" = 1'-0"



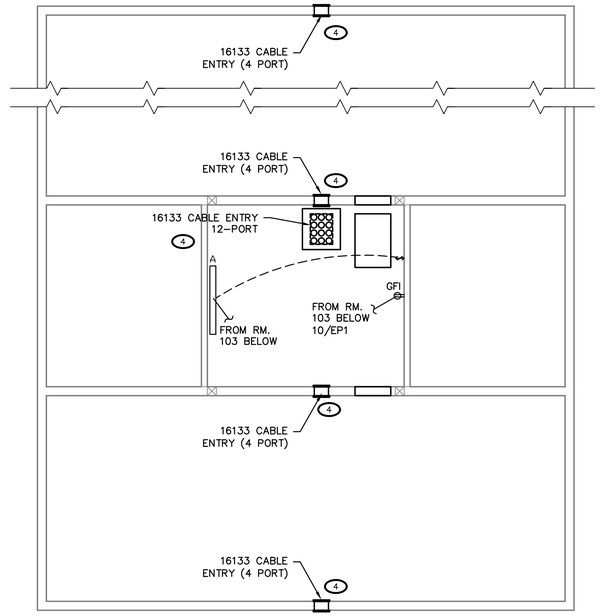
2 E-101 LIGHTING PLAN
SCALE: 1/4" = 1'-0"



3 E-101 ENLARGED COMM. RM.
SCALE: 1/2" = 1'-0"



4 E-101 CUPOLA PLAN
SCALE: 1/4" = 1'-0"



5 E-101 ATTIC POWER & LIGHTING PLAN
SCALE: 1/4" = 1'-0"

COMMUNICATION EQUIPMENT SCHEDULE (N.I.C.)

ITEM NO.	EQUIPMENT NAME/DESCRIPTION	VOLTAGE	PHASE	CYCLE	NEMA	TYPE	QTY	VOLT-AMPS (VA)	TOTAL VA	REMARKS
1	OMNIDIRECTIONAL ANTENNA	–	–	–	–	–	–	–	–	
2	PARABOLIC ANTENNA	–	–	–	–	–	–	–	–	
3	SUPER STATIONMASTER OMNI FIBERGLASS ANTENNA	–	–	–	–	–	–	–	–	
4	EXPOSED DIPOLE DIRECTIVE ANTENNA	–	–	–	–	–	–	–	–	
5	PAD6-65BC1S1R 6' STD., SINGLE POLE ANTENNA W/ RADOME	–	–	–	–	–	–	–	–	
6	UPS CABINET	208	1	60	0		1	4300	4300	
7	COMBINER RACK	120	1	60	0		1	0	0	
8	LMR RACK (GTR8000'S)	–	–	–	–	–	–	–	–	
	FUTURE LMR RACK	120	1	60	5-20R	SIMPLEX	2	1152	2304	
9	CHARGER (RECTIFIER) & BATTERIES	208	1	60	L14-20R	SIMPLEX	2	830	1660	
10	MICROWAVE RACK (MHSB)	–	–	–	–	–	–	–	–	
11	DANIELS FIRE PAGING CABINET (BASE)	120	1	60	5-20R	SIMPLEX	1	650	650	
11	DANIELS FIRE PAGING CABINET (UPPER)	120	1	60	5-20R	SIMPLEX	1	1152	1152	
	FUTURE TBD	120	1	60	5-20R	SIMPLEX	2	1152	2304	
	ORDA RADIO EQUIPMENT RACK	120	1	60	5-20R	SIMPLEX	1	650	650	

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

1. MOUNT THE LIGHT FIXTURES AT THE FOLLOWING ELEVATIONS:

ROOM	TYPE	HEIGHT (AFF)
101	A	8'-0"
102	A	8'-0"
103	B	8'-0"
104	A	10'-0"
105	A	8'-0"
EXTERIOR	C	SEE 'A' DWGS.
102,103	EXIT	4'-0"
ATTIC	A	

2. DCU-1 SHALL BE PROVIDED W/ FACTORY MTD DISCONNECT SWITCH.
3. ATS/GENSET RELAY CONTROL TO ACTIVATE DAMPER ACTUATORS.
4. REFER TO 'A' DRAWINGS FOR CABLE ENTRY DETAILS AND SPECIFIC LOCATIONS.
5. PROVIDE 12"x12"x8" HINGED ENCLOSURE FOR THE FOLLOWING ALARM CONTACTS:
   - FIRE ALARM
   - HVAC
   - GENERATOR/ATS

   SCADA/RADIO ALARM SYSTEM PROVIDED BY OTHERS.
6. GENERATOR ROOM WALLS (TYPE 'D') REQUIRE FIRESTOPPING, 1 HOUR.
7. SITE MONITORING 66-BLOCK LOCATION.

PROJECT TITLE:
ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
WILMINGTON, NEW YORK

DRAWING TITLE:
ELECTRICAL PLANS

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)
1	ALARM MONITORING	04/06/2012
2	GENERAL REVISIONS	05/04/2012

1" 2" 3" 4"

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
J.FESSETTE		06/28/2011	3760

DRAWING NO.
E-101

Plot Date: 05/07/2012 Plot Time: 10:57 AM
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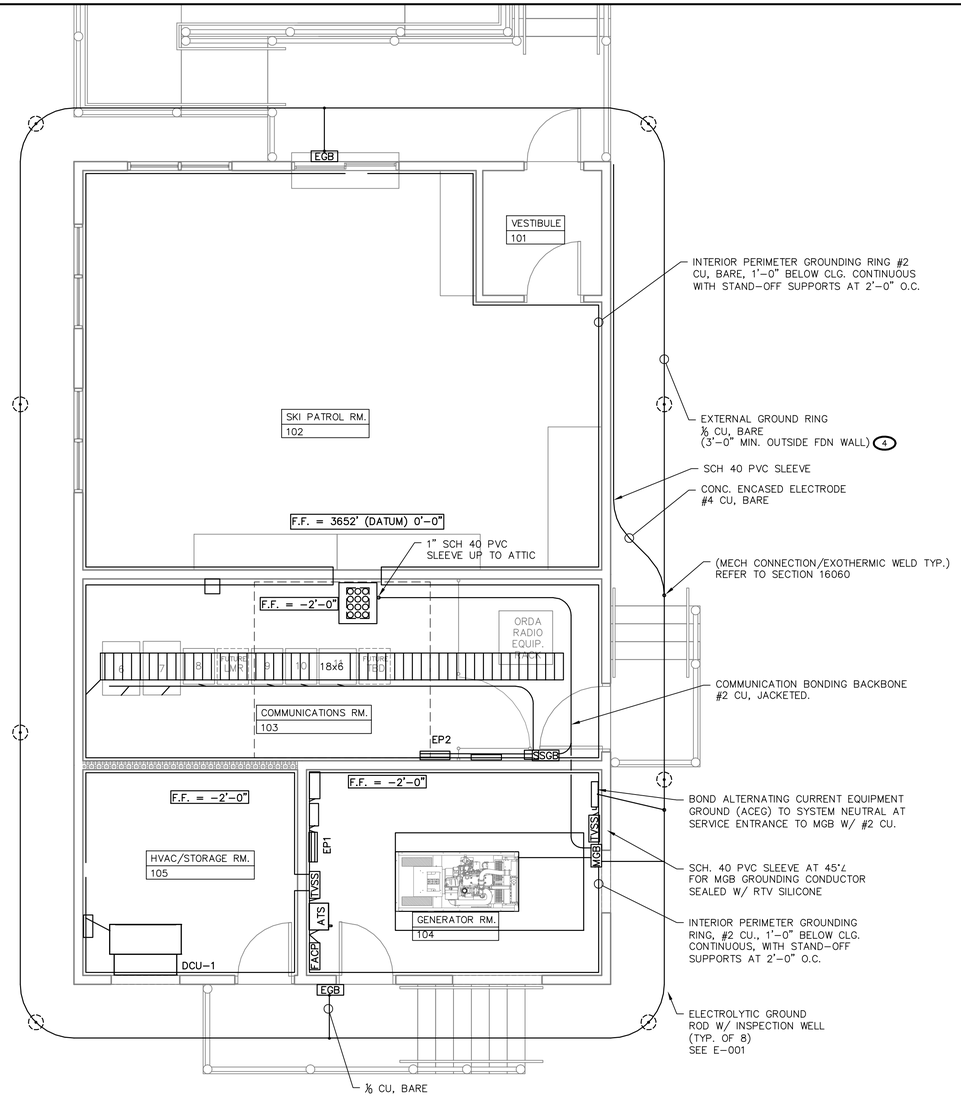
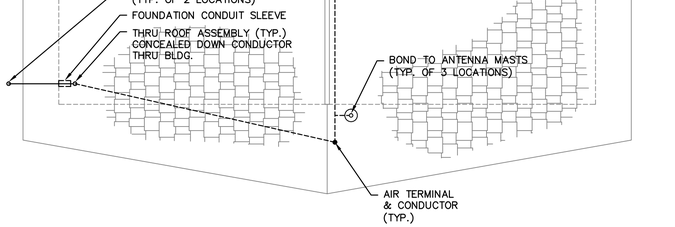
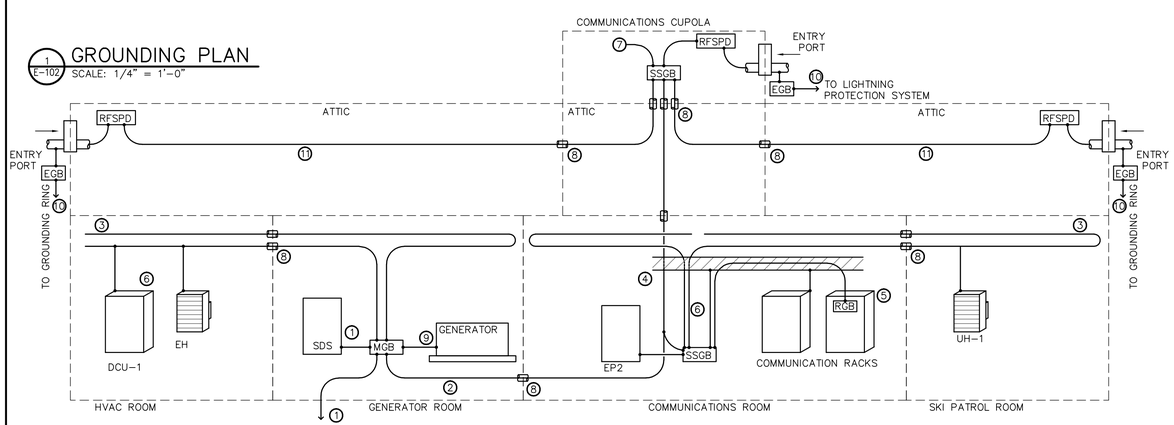


1 E-102 GROUNDING PLAN
SCALE: 1/4" = 1'-0"



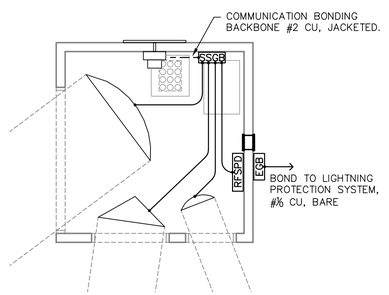
3 E-102 LIGHTING PROTECTION PLAN
SCALE: 1/4" = 1'-0"



2 E-102 INTERIOR GROUNDING RISER
SCALE: N.T.S.

MGB MAIN GROUND BUSS BAR
SSGB SUB SYSTEM GROUNDING BUS BAR
RGB RACK GROUND BUS BAR
EGB EXTERNAL GROUND BUS BAR
RFSPD RF SURGE PROTECTIVE DEVICE

1. MGB GROUNDING CONDUCTOR: #2 CU. TO ACEG BARE
2. COMMUNICATION BONDING BACKBONE: JACKETED #2 CU.
3. INTERIOR PERIMETER GROUNDING BUS (IPGB): BARE #2 CU.
4. BOND CABLE TRAY SECTIONS W/ JUMPERS: JACKETED #6 CU.
5. TYP. RACK GROUND BUS BAR GROUNDING CONDUCTOR: JACKETED #2 CU.
6. TYP. EQUIPMENT GROUNDING CONDUCTOR: REFER TO SPEC. 16060 FOR SIZING.
7. TYP. COMMUNICATION DISH SUPPORT BONDING
8. SCH. 40 PVC SLEEVE
9. GENERATOR CHASSIS GROUND
10. EXTERNAL GROUND BUS CONDUCTOR. #⅝ CU, BARE
11. RF SURGE PROTECTION GROUND CONDUCTOR, #6 CU, BARE



4 E-102 CUPOLA GROUNDING PLAN
SCALE: 1/4" = 1'-0"

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

1. THESE DRAWINGS REPRESENT SCHEMATIC REPRESENTATION OF BUILDING GROUNDING AND LIGHTNING PROTECTION SYSTEMS. REFER TO SPEC. SECTION 16100 FOR SPECIFIC REQUIREMENTS. NOT ALL EQUIPMENT/FIXTURES REQUIRING GROUNDING/BONDING IS ILLUSTRATED ON THESE DRAWINGS.
2. SPEC 16100 REQUIRES A LIGHTNING PROTECTION SYSTEM DESIGN TO DETERMINE GROUNDING CONDUCTOR SIZES, SPECIFIC LOCATIONS AND SYSTEM DETAILS.
3. RF SURGE PROTECTION DEVICES (N.I.C.) PROVIDED BY COMMUNICATION SYSTEM VENDOR.
4. PERIMETER/GROUND RING SHALL BE INSTALLED IN EXCAVATED TRENCH (12" MIN. DEPTH) AROUND PERIMETER OF BUILDING. TRENCH EXCAVATION BY ORDA. CONTRACTOR SHALL COVER ENTIRE GROUND RING AND TRENCH WITH CONDUCTIVE CONCRETE (12" MIN. DEPTH). IN AREAS WHERE FINISHED GRADE WILL BE HIGHER THAN TRENCH SURFACE, PROVIDE ADDITIONAL SOIL BACKFILL ON TOP OF GROUND RING TRENCH.

PROJECT TITLE:
ESSEX COUNTY
LITTLE WHITEFACE SKI PATROL BUILDING
WILMINGTON, NEW YORK

DRAWING TITLE:
ELECTRICAL GROUNDING PLAN

REVISIONS

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Plot Date: 05/07/2012 Plot Time: 10:57 AM
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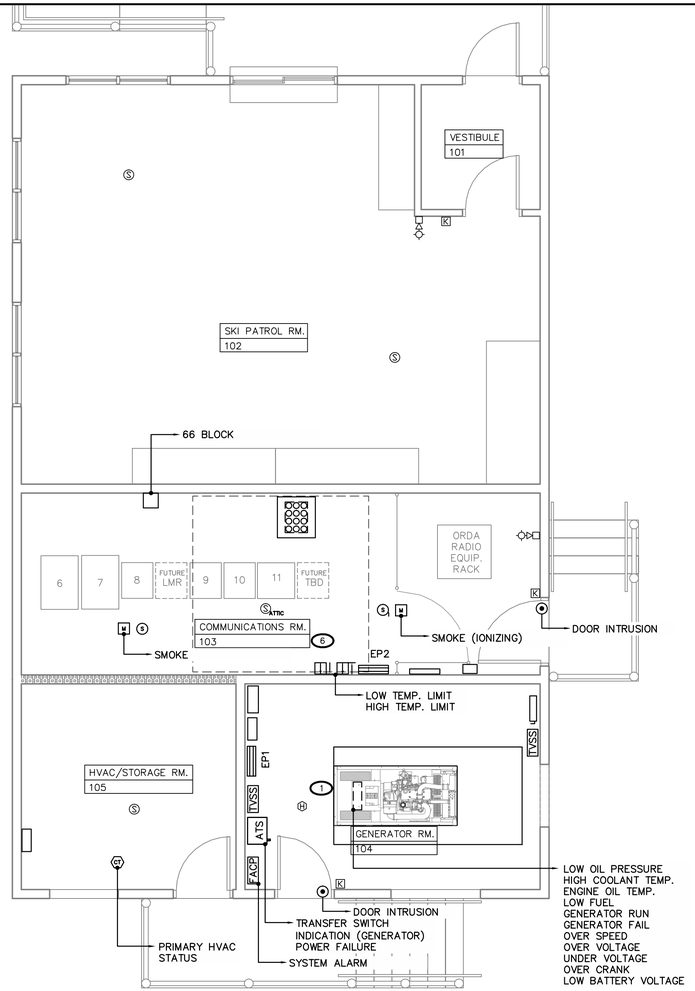
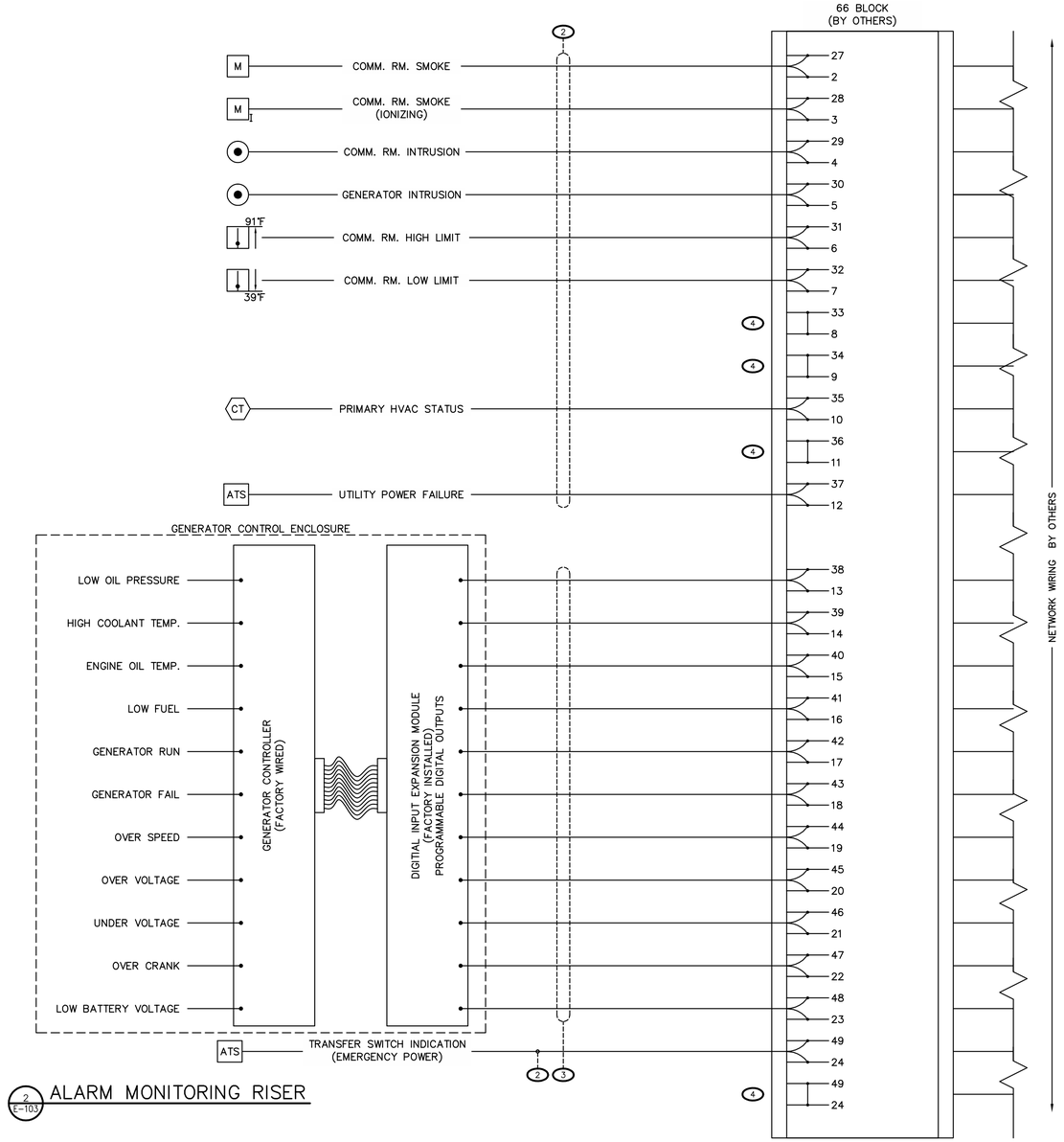


1 E-103 SPECIAL SYSTEMS PLAN
SCALE: 1/4" = 1'-0"



2 E-103 ALARM MONITORING RISER

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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

1. LOCATION OF GENERATOR CONTROLLER / DIGITAL EXPANSION MODULE.
2. PROVIDE 3/4" C. FOR EA. ALARM DEVICE. DO NOT USE CABLE TRAYS.
3. PROVIDE 1" C. FOR GENERATOR ALARMS TO 66 BLOCK. DO NOT USE CABLE TRAYS.
4. ALARM POINT NOT USED. JUMPER 66 BLOCK FOR N.C. CONDITION.
5. INSTALL ALARM MONITORING DEVICES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
6. INSTALL COMM. ROOM HI & LOW LIMIT SENSORS AT 60" A.F.F.
7. COORDINATE FA ALARM RELAY MODULE WIRING W/ FACP WIRING DIAGRAMS.
8. ALL ALARM MONITORING DEVICES SHALL PROVIDE N.C. CONDITION TO 66 BLOCK.

PROJECT TITLE:
ESSEX COUNTY

LITTLE WHITEFACE SKI PATROL BUILDING

WILMINGTON, NEW YORK

DRAWING TITLE:

SPECIAL SYSTEMS PLAN

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)
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E-103

Plot Date: 05/07/2012 Plot Time: 10:57 AM
File Path: P:\37\3760 Essex County - Little Whiteface Ski Renovation\F Drawings\2 Eng and Arch\E-Drawings\E-100s\3760 E-100s.dwg