

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 until 2:00 P.M. on October 3, 2012 for alterations of the Telecommunications Shelter at Mount Defiance, Ticonderoga, New York.

The bids shall be opened and read aloud on October 3, 2012 at 2:00 P.M., at the Office of the Purchasing Agent, Linda M. Wolf, CPA, Government Center, 7551 Court St., Elizabethtown, New York 12932. If additional information concerning the bidding is required, please call 518-873-3332.

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

A pre-bid conference will be held at the site on Wednesday, September 19, 2012 at 9:00 am.

All bids submitted in response to this notice shall be marked "SEALED PROPOSAL – MOUNT DEFIANCE TELECOMMUNICATIONS SHELTER ALTERATIONS" 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.

In addition to the bids, 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. The bidder shall also submit an executed certificate of compliance with the Iran Divestment Act signed by the bidder or one of its officers as required by the General Municipal Law Sec. 103g.

Each bid 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.

All Certified Checks and Bid Bonds, except those of the three (3) low bidders will be returned within ten (10) days after the bids are opened. The checks or bonds of the three (3) low bidders will be returned after the execution of the Contract.

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.

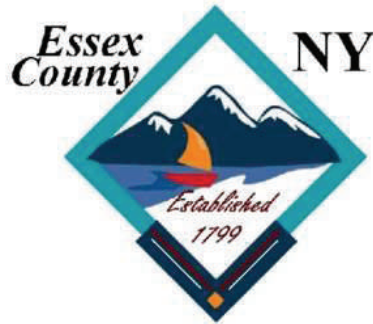
The successful bidder will be notified promptly by letter and must be prepared to enter into a contract to furnish the materials or services.

Essex County reserves the right to reject any and all proposals not considered to be in the best interest of Essex County, and to waive any technical or formal defect in the proposals 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 bids in response hereto.

Dated: August 30, 2012

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



Public Safety Radio Communications System Mount Defiance Telecommunications Shelter Alterations Ticonderoga, New York

PROJECT MANUAL

**AES PROJECT NO. 3808
AUGUST 24, 2012
SET NO. _____**

THE ARCHITECT/ENGINEER CERTIFIES THAT TO THE BEST OF ITS KNOWLEDGE,
INFORMATION, AND BELIEF; THE PLANS AND SPECIFICATIONS ARE IN CONFORMANCE WITH
APPLICABLE REQUIREMENTS OF THE BUILDING CODES OF NEW YORK STATE.

PROJECT ENGINEER

PROJECT ARCHITECT



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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ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DOCUMENT 00010

TABLE OF CONTENTS

Section Title

SERIES 0 DOCUMENTS

MISCELLANEOUS DOCUMENTS

00010 Table of Contents
Project Schedule

BIDDING REQUIREMENTS

00105 Invitation to Bid
00200 Instructions to Bidders
00411 Bid Form – Stipulated Sum
00430 Bid Form Supplements

- 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 Certification of Compliance with Iran Divestment Act (1 page)
- 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)

CONTRACTING REQUIREMENTS

00501 Agreement – AIA

- AIA A101 Agreement

00701 General Conditions – AIA

- AIA A201 General Conditions

00811 Supplementary Conditions

- Appendix C – Insurance Requirements – Public Works Contractors
- Appendix D – Standard Clauses for Essex County Contracts
- Contractor Progress Payment Waiver, Release and Discharge
- Appendix E – Essex County General Specifications for Procurement Contracts

00910 New York State Prevailing Wage Rates

DIVISION 1 – GENERAL REQUIREMENTS

01100 Summary
01200 Price and Payment Procedures
01300 Administrative Requirements
01330 Submittal Procedures

- Submittal Coversheet

01400 Quality Requirements
01500 Temporary Facilities and Controls

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 01600 Product Requirements
- 01700 Execution Requirements
 - Closeout Checklist
- 01800 Information Available to Bidders
 - ATL Limited Hazardous Material Survey, No. PL5324CE-01-05-12
- 01900 Statement of Special Inspections

DIVISION 2 – SITE CONSTRUCTION

- 02000 Asbestos Abatement
- 02316 Rock Removal

DIVISION 3 – CONCRETE

- 03300 Cast-In-Place Concrete

DIVISION 4 – MASONRY

- 04200 Unit Masonry

DIVISION 5 – METALS

- 05120 Structural Steel
- 05400 Cold-Formed Metal Framing

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

- 07160 Cementitious Coating
- 07212 Board Insulation
- 07213 Batt Insulation
- 07620 Sheet Metal Flashing and Trim
- 07840 Firestopping
- 07900 Joint Sealers

DIVISION 8 – DOORS AND WINDOWS

- 08100 Steel Doors and Frames
- 08710 Door Hardware

DIVISION 9 – FINISHES

- 09305 Cement Board System
- 09650 Resilient Flooring
- 09900 Paints and Coatings

DIVISION 13 – SPECIAL CONSTRUCTION

- 13200 Antenna Support Structure

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DIVISION 15 – MECHANICAL

- 15060 Hangers and Supports
- 15760 Terminal Heating and Cooling Units
- 15810 Ducts
- 15850 Air Outlets and Inlets

DIVISION 16 – ELECTRICAL

- 16060 Grounding and Bonding
- 16070 Electrical Supports
- 16075 Electrical Identification
- 16123 Building Wire and Cable
- 16130 Raceway and Boxes
- 16133 Cable Trays for Communications Systems
- 16140 Wiring Devices
- 16231 Generator Set
- 16289 Transient Voltage Surge Suppressors
- 16413 Automatic Delayed Transition Transfer Switch
- 16440 Panelboards
- 16510 Interior and Exterior Luminaries
- 16530 Emergency Lighting

Drawings

END OF SECTION

PROJECT SCHEDULE

CONTRACT DESCRIPTION: ALTERATIONS OF TELECOMMUNICATIONS
SHELTER AT MOUNT DEFIANCE

NOTICE TO BIDDERS: August 30, 2012

PRE-BID MEETING AT MOUNT DEFIANCE: September 19, 2012 at 9:00 am

BID OPENING DATE: October 3, 2012 at 2:00 pm

ESTIMATED START DATE: Immediately after award

SUBSTANTIAL COMPLETION: June 30, 2013

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DOCUMENT 00105

INVITATION TO BID

Project: **Mount Defiance
Telecommunications Shelter Alterations**

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: **August 29, 2012**

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, Essex County Government Center, Elizabethtown, New York until **October 3, 2012 at 2:00 PM** for the alterations of the Telecommunications Shelter at Mount Defiance, Ticonderoga, New York.

Bid documents are available by contacting the Office of the Purchasing Agent, Linda M. Wolf, CPA, Government Center, 7551 Court St., 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 – MOUNT DEFIANCE TELECOMMUNICATIONS SHELTER ALTERATIONS" clearly on the outside of the envelope.

In addition to the bid, the bidder shall submit executed non-collusion bid certificates signed by the proposer or one of its officers as required by the General Municipal Law Sec. 103d. The bidder shall also submit an executed certificate of compliance with the Iran Divestment Act signed by the bidder or one of its officers as required by the General Municipal Law Sec. 103g.

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 proposals 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 bids in response hereto.

Project Description: Alterations to existing telecommunications building atop Mount Defiance in Ticonderoga, NY, including but not limited to: Asbestos abatement, renovation, and conversion of

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

generator room into telecommunications equipment room, new HVAC system, new electrical services, new outdoor emergency power system, one new antenna support structure, and other associated work shown on the drawings and specifications.

The Owner requires the Project to be commenced at the site in fall 2012 and completed on or before June 30, 2013.

Special Conditions:

- Due to accessibility to the site, work will be suspended during winter conditions and site will not be accessible. The Contractor shall return in the spring of 2013 to complete the work.
- The work must be coordinated with the property Owner, Fort Ticonderoga, and other tenants/vendors working on site.
- The switchover to the new power supply shall be limited due to the interruption of telecommunication services.

A pre-bid conference will be held at the site on Wednesday, September 19, 2012 at 9:00 am.

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 will be bid and awarded as one prime contract for all work, including general construction, mechanical work, and electrical work.

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 9:00 AM on September 19, 2012.

1.4 PREBID CONFERENCE

- A. A Bidders conference is scheduled for 9:00 AM on the 19th day of September 2012 at the location of jobsite (top of Mount Defiance).
- 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.

END OF DOCUMENT

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DOCUMENT 00411

BID FORM - STIPULATED SUM

To: Essex County
Project: Mount Defiance Telecommunications Shelter Alterations
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" for all work:

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

\$.....
(Written)

+ **Contingency Allowance** **\$15,000 (Fifteen Thousand Dollars)**

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

\$.....**dollars and no cents.**
(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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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 in the fall of 2012.

- Complete the Work on or before June 30, 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:

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DOCUMENT 00430

BID FORM SUPPLEMENTS

To: **Essex County**

Project: **Mount Defiance Telecommunications Shelter Alterations**

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 Certification of Compliance with Iran Divestment Act (1 page)
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 _____

CERTIFICATION OF COMPLIANCE
WITH IRAN DIVESTMENT ACT _____

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.: _____

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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)

CERTIFICATION OF COMPLIANCE WITH THE IRAN DIVESTMENT ACT

As a result of the Iran Divestment Act of 2012 (the "Act"), Chapter 1 of the 2012 Laws of New York, a new provision has been added to State Finance Law (SFL) § 165-a and New York General Municipal Law § 103-g, both effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law) (the "Prohibited Entities List"). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, each Bidder/Contractor, any person signing on behalf of any Bidder/Contractor and any assignee or subcontractor and, in the case of a joint bid, each party thereto, certifies, under penalty of perjury, that once the Prohibited Entities List is posted on the OGS website, that to the best of its knowledge and belief, that each Bidder/Contractor and any subcontractor or assignee is not identified on the Prohibited Entities List created pursuant to SFL § 165-a(3)(b).

Additionally, Bidder/Contractor is advised that once the Prohibited Entities List is posted on the OGS Website, any Bidder/Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to this solicitation must certify at the time the Contract is renewed, extended or assigned that it is not included on the Prohibited Entities List.

During the term of the Contract, should the County receive information that a Bidder/Contractor is in violation of the above-referenced certification, the County will offer the person or entity an opportunity to respond. If the person or entity fails to demonstrate that he/she/it has ceased engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the County shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages or declaring the Bidder/Contractor in default.

The County reserves the right to reject any bid or request for assignment for a Bidder/Contractor that appears on the Prohibited Entities List prior to the award of a contract and to pursue a responsibility review with respect to any Bidder/Contractor that is awarded a contract and subsequently appears on the Prohibited Entities List.

I, _____, being duly sworn, deposes and says that he/she is the
_____ of the _____ Corporation and
that neither the Bidder/Contractor nor any proposed subcontractor is identified on the Prohibited Entities List.

SIGNED

SWORN to before me this _____
day of _____, 20__

Notary Public

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

[illegible]

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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	\$.....
- Asbestos Abatement	\$.....
- Rock Excavation	\$.....
Division 3 - Concrete	\$.....
Division 4 - Masonry	\$.....
Division 5 – Metals	\$.....
Division 7 - Thermal and Moisture Protection	\$.....
Division 8 - Doors and Windows	\$.....
Division 9 - Finishes	\$.....
Division 13 – Special Construction (Antenna Support Structure)	\$.....
Division 15 - Mechanical	\$.....
Division 16 - Electrical	\$.....

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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)

«Essex County»
«Mount Defiance
Telecommunications Shelter Alterations
AES Project No. 3808»

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.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS
10	INSURANCE AND BONDS

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.)

<< >>

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.

§ 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:

« »

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)

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

« »
« »
« »
« »

§ 8.4 The Contractor's representative:

(Name, address and other information)

<< >>
<< >>
<< >>
<< >>
<< >>
<< >>

§ 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:

« »

- .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)

« »« »

(Printed name and title)

CONTRACTOR (Signature)

« »« »

(Printed name and title)

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
Mount Defiance
Telecommunications Shelter Alterations
Ticonderoga, New York

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

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
8	TIME
9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

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INDEX

(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, **12.1**

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,
10.2.8, 13.4.2, 13.7, 14.1, 15.2

Addenda

1.1.1, 3.11.1

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.5**

Additional Insured

11.1.4

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.5**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.6.3, 9.7, 9.10, 11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10,
4.2.7, 9.3.2, 13.5.1

Arbitration

8.3.1, 11.3.10, 13.1.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.4.1, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2,
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Architect, Limitations of Authority and Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3,
4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2,
9.5.3, 9.6.4, 15.1.3, 15.2

Architect's Additional Services and Expenses

2.4.1, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.4.1, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,
7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,
13.5.2, 15.2, 15.3

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,
3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18,
4.1.2, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.4.2, 13.5, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3.7

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1.1, 15.2.5, 15.2.6.1, 15.3.1,
15.3.2, 15.4.1

Boiler and Machinery Insurance

11.3.2

Bonds, Lien

7.3.7.4, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.7.4, 9.6.7, 9.10.3, 11.3.9, **11.4**

Building Permit

3.7.1

Init.

Capitalization

1.3

Certificate of Substantial Completion
9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7,
9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3

Certificates of Inspection, Testing or Approval
13.5.4

Certificates of Insurance
9.10.2, 11.1.3

Change Orders

1.1.1, 2.4.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11.1, 3.12.8, 4.2.8,
5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.6, 7.3.9, 7.3.10, 8.3.1,
9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9, 12.1.2,
15.1.3

Change Orders, Definition of
7.2.1

CHANGES IN THE WORK

2.2.1, 3.11, 4.2.8, **7**, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1,
11.3.9

Claims, Definition of
15.1.1

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4
Claims and Timely Assertion of Claims
15.4.1

Claims for Additional Cost
3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, **15.1.4**

Claims for Additional Time
3.2.4, 3.7.4.1.1, 8.3.2, 10.3.2, **15.1.5**

Concealed or Unknown Conditions, Claims for
3.7.4

Claims for Damages
3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,
11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6
Claims Subject to Arbitration
15.3.1, 15.4.1

Cleaning Up
3.15, 6.3

Commencement of the Work, Conditions Relating to
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3,
6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1,
15.1.4

Commencement of the Work, Definition of
8.1.2

Communications Facilitating Contract Administration
3.9.1, **4.2.4**

Completion, Conditions Relating to
3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1,
9.10, 12.2, 13.7, 14.1.2

COMPLETION, PAYMENTS AND **9**

Completion, Substantial
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2,
13.7

Compliance with Laws

1.6.1, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 10.2.2,
11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14.1.1,
14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions
3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract
1.1.1, 6.1.1, 6.1.4

Consent, Written
3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,
9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2

Consolidation or Joinder
15.4.4

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

1.1.4, **6**

Construction Change Directive, Definition of
7.3.1

Construction Change Directives
1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**,
9.3.1.1

Construction Schedules, Contractor's
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contingent Assignment of Subcontracts
5.4, 14.2.2.2

Continuing Contract Performance
15.1.3

Contract, Definition of
1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 11.3.9, **14**

Contract Administration
3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to
3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1
Contract Documents, Copies Furnished and Use of
1.5.2, 2.2.5, 5.3

Contract Documents, Definition of
1.1.1

Contract Sum
3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, **9.1**, 9.4.2, 9.5.1.4, 9.6.7,
9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4, 15.2.5

Contract Sum, Definition of
9.1

Contract Time
3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4,
8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2,
15.1.5.1, 15.2.5

Contract Time, Definition of
8.1.1

CONTRACTOR **3**

Contractor, Definition of
3.1, **6.1.2**

Contractor's Construction Schedules

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor's Employees

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8

Contractor's Relationship with the Architect

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3.1, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents
3.2

Contractor's Right to Stop the Work
9.7

Contractor's Right to Terminate the Contract
14.1, 15.1.6

Contractor's Submittals

3.10, 3.11, 3.12.4, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3

Contractual Liability Insurance

11.1.1.8, 11.2

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.2.5, 3.11

Copyrights

1.5, **3.17**

Correction of Work

2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**

Correlation and Intent of the Contract Documents 1.2

Cost, Definition of

7.3.7

Costs

2.4.1, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.3, 12.1.2, 12.2.1, 12.2.4, 13.5, 14

Cutting and Patching

3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4.1, 11.3.1, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Damages for Delay

6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2

Date of Commencement of the Work, Definition of **8.1.2**

Date of Substantial Completion, Definition of **8.1.3**

Day, Definition of

8.1.4

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 15.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1

Delays and Extensions of Time

3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Disputes

6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site

3.11

Drawings, Definition of

1.1.5

Drawings and Specifications, Use and Ownership of
3.11

Effective Date of Insurance

8.2.2, 11.1.2

Emergencies

10.4, 14.1.1.2, 15.1.4

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Equipment, Labor, Materials or

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work
 1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5,
 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2,
 9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
 Extensions of Time
 3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,
 10.4.1, 14.3, 15.1.5, 15.2.5
Failure of Payment
 9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
 Faulty Work
 (See Defective or Nonconforming Work)
Final Completion and Final Payment
 4.2.1, 4.2.9, 9.8.2, **9.10**, 11.1.2, 11.1.3, 11.3.1, 11.3.5,
 12.3.1, 14.2.4, 14.4.3
 Financial Arrangements, Owner's
 2.2.1, 13.2.2, 14.1.1.4
 Fire and Extended Coverage Insurance
 11.3.1.1
GENERAL PROVISIONS
1
Governing Law
13.1
 Guarantees (See Warranty)
Hazardous Materials
 10.2.4, **10.3**
 Identification of Subcontractors and Suppliers
 5.2.1
Indemnification
 3.17, **3.18**, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,
 11.3.7
Information and Services Required of the Owner
 2.1.2, **2.2**, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,
 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,
 13.5.2, 14.1.1.4, 14.1.4, 15.1.3
Initial Decision
15.2
Initial Decision Maker, Definition of
 1.1.8
 Initial Decision Maker, Decisions
 14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5
 Initial Decision Maker, Extent of Authority
 14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,
 15.2.5
Injury or Damage to Person or Property
10.2.8, 10.4.1
 Inspections
 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,
 9.9.2, 9.10.1, 12.2.1, 13.5
 Instructions to Bidders
 1.1.1
 Instructions to the Contractor
 3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2
Instruments of Service, Definition of
1.1.7
 Insurance
 3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, **11**

Insurance, Boiler and Machinery
11.3.2
Insurance, Contractor's Liability
11.1
 Insurance, Effective Date of
 8.2.2, 11.1.2
Insurance, Loss of Use
11.3.3
Insurance, Owner's Liability
11.2
Insurance, Property
 10.2.5, **11.3**
 Insurance, Stored Materials
 9.3.2
INSURANCE AND BONDS
11
 Insurance Companies, Consent to Partial Occupancy
 9.9.1
 Intent of the Contract Documents
 1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4
Interest
13.6
Interpretation
 1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1
 Interpretations, Written
 4.2.11, 4.2.12, 15.1.4
 Judgment on Final Award
 15.4.2
Labor and Materials, Equipment
 1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
 Labor Disputes
 8.3.1
 Laws and Regulations
 1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13.1, 4.1.1, 9.6.4, 9.9.1,
 10.2.2, 11.1.1, 11.3, 13.1.1, 13.4, 13.5.1, 13.5.2,
 13.6.1, 14, 15.2.8, 15.4
 Liens
 2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8
 Limitations, Statutes of
 12.2.5, 13.7, 15.4.1.1
 Limitations of Liability
 2.3.1, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,
 4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3, 11.1.2,
 11.2, 11.3.7, 12.2.5, 13.4.2
 Limitations of Time
 2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,
 5.2, 5.3.1, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,
 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,
 11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15
Loss of Use Insurance
11.3.3
 Material Suppliers
 1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5
Materials, Hazardous
 10.2.4, **10.3**

Materials, Labor, Equipment and
1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1,
3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3,
9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2
Means, Methods, Techniques, Sequences and
Procedures of Construction
3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2
Mechanic's Lien
2.1.2, 15.2.8
Mediation
8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, **15.3**,
15.4.1
Minor Changes in the Work
1.1.1, 3.12.8, 4.2.8, 7.1, **7.4**
MISCELLANEOUS PROVISIONS
13
Modifications, Definition of
1.1.1
Modifications to the Contract
1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,
10.3.2, 11.3.1
Mutual Responsibility
6.2
Nonconforming Work, Acceptance of
9.6.6, 9.9.3, **12.3**
Nonconforming Work, Rejection and Correction of
2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4,
12.2.1
Notice
2.2.1, 2.3.1, 2.4.1, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1, 9.7,
9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1, 13.5.2,
14.1, 14.2, 15.2.8, 15.4.1
Notice, Written
2.3.1, 2.4.1, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7,
9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, **13.3**, 14,
15.2.8, 15.4.1
Notice of Claims
3.7.4, 10.2.8, **15.1.2**, 15.4
Notice of Testing and Inspections
13.5.1, 13.5.2
Observations, Contractor's
3.2, 3.7.4
Occupancy
2.2.2, 9.6.6, 9.8, 11.3.1.5
Orders, Written
1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1, 13.5.2,
14.3.1
OWNER
2
Owner, Definition of
2.1.1
Owner, Information and Services Required of the
2.1.2, **2.2**, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2,
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1,
13.5.2, 14.1.1.4, 14.1.4, 15.1.3

Owner's Authority
1.5, 2.1.1, 2.3.1, 2.4.1, 3.4.2, 3.8.1, 3.12.10, 3.14.2,
4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3,
7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4,
9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2,
12.3.1, 13.2.2, 14.3, 14.4, 15.2.7
Owner's Financial Capability
2.2.1, 13.2.2, 14.1.1.4
Owner's Liability Insurance
11.2
Owner's Relationship with Subcontractors
1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2
Owner's Right to Carry Out the Work
2.4, 14.2.2
Owner's Right to Clean Up
6.3
Owner's Right to Perform Construction and to
Award Separate Contracts
6.1
Owner's Right to Stop the Work
2.3
Owner's Right to Suspend the Work
14.3
Owner's Right to Terminate the Contract
14.2
Ownership and Use of Drawings, Specifications
and Other Instruments of Service
1.1.1, 1.1.6, 1.1.7, **1.5**, 2.2.5, 3.2.2, 3.11.1, 3.17,
4.2.12, 5.3.1
Partial Occupancy or Use
9.6.6, **9.9**, 11.3.1.5
Patching, Cutting and
3.14, 6.2.5
Patents
3.17
Payment, Applications for
4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,
14.2.3, 14.2.4, 14.4.3
Payment, Certificates for
4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,
9.10.3, 13.7, 14.1.1.3, 14.2.4
Payment, Failure of
9.5.1.3, **9.7**, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
Payment, Final
4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3.1,
13.7, 14.2.4, 14.4.3
Payment Bond, Performance Bond and
7.3.7.4, 9.6.7, 9.10.3, **11.4**
Payments, Progress
9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
PAYMENTS AND COMPLETION
9
Payments to Subcontractors
5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2
PCB
10.3.1

Performance Bond and Payment Bond

7.3.7.4, 9.6.7, 9.10.3, **11.4**

Permits, Fees, Notices and Compliance with Laws

2.2.2, **3.7**, 3.13, 7.3.7.4, 10.2.2

PERSONS AND PROPERTY, PROTECTION OF

10
Polychlorinated Biphenyl

10.3.1

Product Data, Definition of

3.12.2

Product Data and Samples, Shop Drawings

3.11, **3.12**, 4.2.7

Progress and Completion

4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.3

Progress Payments

9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3

Project, Definition of

1.1.4

Project Representatives

4.2.10

Property Insurance

10.2.5, **11.3**

PROTECTION OF PERSONS AND PROPERTY

10

Regulations and Laws

1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1, 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14, 15.2.8, 15.4

Rejection of Work

3.5, 4.2.6, 12.2.1

Releases and Waivers of Liens

9.10.2

Representations

3.2.1, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.8.2, 9.10.1

Representatives

2.1.1, 3.1.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1, 5.1.2, 13.2.1

Responsibility for Those Performing the Work

3.3.2, 3.18, 4.2.3, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10

Retainage

9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3

Review of Contract Documents and Field

Conditions by Contractor

3.2, 3.12.7, 6.1.3

Review of Contractor's Submittals by Owner and Architect

3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2

Review of Shop Drawings, Product Data and Samples by Contractor

3.12

Rights and Remedies

1.1.2, 2.3, 2.4, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4, **13.4**, 14, 15.4

Royalties, Patents and Copyrights

3.17

Rules and Notices for Arbitration

15.4.1

Safety of Persons and Property

10.2, 10.4

Safety Precautions and Programs

3.3.1, 4.2.2, 4.2.7, 5.3.1, **10.1**, 10.2, 10.4

Samples, Definition of

3.12.3

Samples, Shop Drawings, Product Data and

3.11, **3.12**, 4.2.7

Samples at the Site, Documents and

3.11

Schedule of Values

9.2, 9.3.1

Schedules, Construction

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Separate Contracts and Contractors

1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2

Shop Drawings, Definition of

3.12.1

Shop Drawings, Product Data and Samples

3.11, **3.12**, 4.2.7

Site, Use of

3.13, 6.1.1, 6.2.1

Site Inspections

3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5

Site Visits, Architect's

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Special Inspections and Testing

4.2.6, 12.2.1, 13.5

Specifications, Definition of

1.1.6

Specifications

1.1.1, **1.1.6**, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14

Statute of Limitations

13.7, 15.4.1.1

Stopping the Work

2.3, 9.7, 10.3, 14.1

Stored Materials

6.2.1, 9.3.2, 10.2.1.2, 10.2.4

Subcontractor, Definition of

5.1.1

SUBCONTRACTORS

5

Subcontractors, Work by

1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7

Subcontractual Relations

5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1

Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3

Submittal Schedule

3.10.2, 3.12.5, 4.2.7

Subrogation, Waivers of

6.1.1, **11.3.7**

Substantial Completion

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3, 12.2, 13.7

Substantial Completion, Definition of 9.8.1

Substitution of Subcontractors

5.2.3, 5.2.4

Substitution of Architect

4.1.3

Substitutions of Materials

3.4.2, 3.5, 7.3.8

Sub-subcontractor, Definition of 5.1.2

Subsurface Conditions

3.7.4

Successors and Assigns

13.2

Superintendent

3.9, 10.2.6

Supervision and Construction Procedures

1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3

Surety

5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7

Surety, Consent of

9.10.2, 9.10.3

Surveys

2.2.3

Suspension by the Owner for Convenience 14.3

Suspension of the Work

5.4.2, 14.3

Suspension or Termination of the Contract

5.4.1.1, 14

Taxes

3.6, 3.8.2.1, 7.3.7.4

Termination by the Contractor

14.1, 15.1.6

Termination by the Owner for Cause

5.4.1.1, **14.2**, 15.1.6

Termination by the Owner for Convenience 14.4

Termination of the Architect

4.1.3

Termination of the Contractor

14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT

14

Tests and Inspections

3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 11.4.1.1, 12.2.1, **13.5**

TIME

8

Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Time Limits

2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5, 13.7, 14, 15.1.2, 15.4

Time Limits on Claims

3.7.4, 10.2.8, **13.7**, 15.1.2

Title to Work

9.3.2, 9.3.3

Transmission of Data in Digital Form

1.6

UNCOVERING AND CORRECTION OF WORK 12

Uncovering of Work

12.1

Unforeseen Conditions, Concealed or Unknown

3.7.4, 8.3.1, 10.3

Unit Prices

7.3.3.2, 7.3.4

Use of Documents

1.1.1, 1.5, 2.2.5, 3.12.6, 5.3

Use of Site

3.13, 6.1.1, 6.2.1

Values, Schedule of

9.2, 9.3.1

Waiver of Claims by the Architect

13.4.2

Waiver of Claims by the Contractor

9.10.5, 13.4.2, 15.1.6

Waiver of Claims by the Owner

9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6

Waiver of Consequential Damages

14.2.4, 15.1.6

Waiver of Liens

9.10.2, 9.10.4

Waivers of Subrogation

6.1.1, **11.3.7**

Warranty

3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7

Weather Delays

15.1.5.2

Work, Definition of

1.1.3

Written Consent

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2

Written Interpretations

4.2.11, 4.2.12

Written Notice

2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, **13.3**, 14, 15.4.1

Written Orders

1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1, 15.1.2

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.

§ 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

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.

§ 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.

§ 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.

§ 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.

§ 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

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.

§ 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.

§ 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.

§ 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

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.

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

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.

§ 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

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.

§ 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.

§ 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.

§ 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.

§ 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.

§ 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.

§ 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

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.

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.

§ 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

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.

§ 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.

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.

§ 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.

§ 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.

Additions and Deletions Report for

AIA[®] Document A201[™] – 2007

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 15:10:45 on 08/03/2012.

PAGE 1

Essex County
Mount Defiance
Telecommunications Shelter Alterations
Ticonderoga, New York

...

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

...

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

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 15:10:45 on 08/03/2012 under Order No. 8571613932_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2007, General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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:

Supplementary Conditions

00811

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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

Supplementary Conditions

00811

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 but 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, be 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 its 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 its 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 Services'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: _____

WITNESSETH:

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

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)

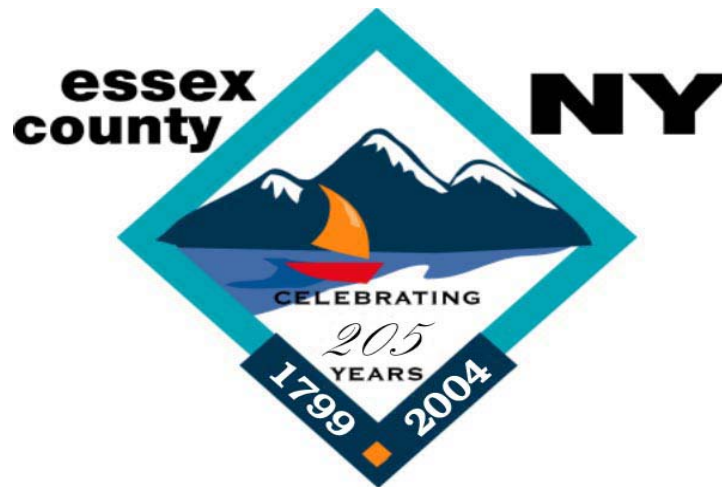
I, _____, being duly sworn, depose and say that: I reside at _____, and I hereby sign this instrument under penalty of perjury; I am the of the Releasor identified herein; I am fully authorized to execute this instrument on behalf of the Releasor; and I hereby affirm that the statements contained in this instrument are true and correct.

Vendor/Releasor Agent Sign Here

Sworn to before me this _____
day of _____, 20__.

Notary Public

APPENDIX E



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.

TABLE OF CONTENTS

PART I

Page

General Provisions

1.	Applicability	5
2.	Governing Law	5
3.	Appendix A / Insurance	5
4.	Ethics Compliance	5
5.	Conflict of Clauses.....	5
6.	Definition.	5

Bid Submission

7.	Bid Language & Currency.....	8
8.	Bid Opening	8
9.	Bid Submission	8
10.	Facsimile Submissions.....	8
11.	Authentication of Facsimile Bids.....	9
12.	Late Bids.	9
13.	Bid Contents	9
14.	Extraneous Terms	10
15.	Confidential/Trade Secret Materials	10
16.	Prevailing Wage Rates	10
17.	Taxes	12
18.	Expenses Prior to Award	12
19.	Advertising Bid Results	12
20.	Product References.....	12
21.	Recycled/Recovered Materials	12
22.	Products Manufactured in Public Institutions	13
23.	Pricing	13
24.	Drawings	13
25.	Site Inspection	14
26.	Samples	14
27.	Addenda/Interpretation	15

Bid Evaluation

28.	Bid Evaluation	15
29.	Conditional Bid	15
30.	Clarification/Revisions	16
31.	Prompt Payment Discounts	16
32.	Equivalent or Identical Bids	16
33.	Performance Qualifications	16
34.	Disqualification for Past Performance	16
35.	Quantity Changes Prior to Award	16
36.	Release of Bid Evaluation Materials	16
37.	Time Frame for Offers	16

Terms & Conditions

38.	Contract Creation/Execution	17

39.	Compliance With Laws, Etc.	17
40.	Modification of Terms	17
41.	Scope Changes	17
42.	Estimated Quantity Contracts	17
43.	Best Pricing Offer	18
44.	Purchase Orders	18
45.	Product Delivery	18
46.	Saturday & Holiday Deliveries	19
47.	Shipping/Receipt of Product	19
48.	Title & Risk of Loss	19
49.	Re-Weighing Product	19
50.	Product Substitution.....	20
51.	Rejected Product	20
52.	Installation	20
53.	Repaired or Replaced Product/Components	20
54.	On-Site Storage	20
55.	Employees/Subcontractors/Agents	20
56.	Assignment/Subcontractors	20
57.	Performance/Bid Bond	21
58.	Stop/Suspension of Work	21
59.	Cancellation	21
60.	Force Majeure	21
61.	Contract Billings	22
62.	Default – Authorized User	22
63.	Interest on Late Payments	22
64.	Remedies for Breach	23
65.	Assignment of Claim	23
66.	Toxic Substances	24
67.	Independent Contractor	24
68.	Security/Confidential	24
69.	Cooperation With Third Parties	24
70.	Contract Terms – Extension	24
71.	Warranties/Guarantees	24
72.	Year 2000 Warranty	26

PART II
Software/Technology
General Provisions

73.	Applicability	28
74.	Definitions – Part II	28

Terms & Conditions

75.	Software License Grant	29
76.	Enterprise License Option for Software	31
77.	Product Acceptance	32
78.	Audit of Licensed Product Usage	33
79.	Ownership/Title to Custom Products or Programming	33
80.	Proof of License	34
81.	Product Version	34
82.	Migration to Centralized Contract	34

83.	Notice of Product Discontinuance	35
84.	Reinstatement of Maintenance	35
85.	No Hard-stop/Passive License Monitoring	35
86.	Additional Warranties/Guarantees	35
87.	Indemnification	36
88.	Source Code Escrow for Licensed Products	36

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. EXTRANEIOUS 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 and (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 rights 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 basis 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 have 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, rights 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 MERCHANTABILITY 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DOCUMENT 00910

NYS PREVAILING WAGE RATE

PRC #2012006875



Andrew M. Cuomo, Governor

Peter M. Rivera, Commissioner

Essex County

David Whitford, Principle Architect
AES Northeast
10-12 City Hall Place
Plattsburgh NY 12901

Schedule Year 2012 through 2013
Date Requested 08/06/2012
PRC# 2012006875

Location Mount Defiance
Project ID# AES No. 3808
Project Type Telecommunications Shelter Alterations

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 2012 through June 2013. 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 from 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, but 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

Peter M. Rivera, Commissioner

Essex County

David Whitford, Principle Architect
AES Northeast
10-12 City Hall Place
Plattsburgh NY 12901

Schedule Year 2012 through 2013
Date Requested 08/06/2012
PRC# 2012006875

Location Mount Defiance
Project ID# AES No. 3808
Project Type Telecommunications Shelter Alterations

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: \$ _____	Contract Type:	
Approximate Starting Date: ____/____/____	☐ (01) General Construction	
Approximate Completion Date: ____/____/____	☐ (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

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
 - o unemployment benefits, if unemployed through no fault of your own, able to work, and otherwise qualified
 - o workers' compensation benefits for on-the-job injuries
 - o payment for wages earned, minimum wage, and overtime (under certain conditions)
 - o prevailing wages on public work projects
 - o the provisions of the National Labor Relations Act and
 - o 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:

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.

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_oshacfm

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	☐
Carpenter - Building/Heavy&Highway	277CDO	Chenango, Delaware, Otsego	☐
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	☐

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
Electrician	86	Genesee, Livingston, Monroe, Ontario, Orleans, Wayne, Wyoming	☐
Electrician	910	Clinton, Essex, Franklin, Jefferson, Lewis, St. Lawrence	☐
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, Hamilton, 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	☐
Glazier	660	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming	☐
Glazier	660r	<u>Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming</u>	☐
Glazier	677.1	Jefferson, Lewis, Livingston, Monroe, Ontario, Seneca, St. Lawrence, Wayne, Yates	☐
Glazier	667.Z-2	Cayuga, Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego	☐
Glazier	677z3	Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins	☐
Glazier	667r.2	Cayuga, Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego	☐
Insulator - Heat & Frost	30-Syracuse	Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, 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
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	☐
Laborer - Building	621b	Allegany, Cattaraugus, Chautauqua	☐
Laborer - Residential	621r	Allegany, Cattaraugus, Chautauqua	☐
Mason - Building/Heavy&Highway	780	Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk	☐
Operating Engineer - Heavy& Highway	832H	Allegany, Chemung, Genesee, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates	☐
Operating Engineer - Heavy/Highway	137H/H	Putnam, Westchester	☐
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	☐
Painter	150	Livingston, Monroe, Ontario, Wayne, Yates	☐
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	☐
Teamster - Building/Heavy&Highway	456	Putnam, Westchester	☐

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

08/01/2012

JOB DESCRIPTION Asbestos Worker

DISTRICT 9

ENTIRE COUNTIES

Albany, Clinton, Essex, Franklin, Fulton, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

WAGES

Per hour

7/01/2012

Asbestos Worker

Removal & hazardous

abatement Only

\$ 30.00

Only for the removal of insulation materials from mechanical systems which are not going to be scrapped.

SUPPLEMENTAL BENEFITS

Per hour paid

Journeyman

\$ 11.00

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

08/01/2012

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

07/01/2012

01/01/2013
An additional

01/01/2014
An additional

Boilermaker

\$ 30.00

\$ 1.25*

\$ 1.15*

* To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeymen

\$ 22.87*
+ 0.89

* 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, 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

08/01/2012

JOB DESCRIPTION Carpenter - Building

DISTRICT 1

ENTIRE COUNTIES

Clinton, Essex, Franklin

WAGES

Per hour:	07/01/2012	06/01/2013 An Additional	06/01/2014 An Additional
Carpenter	\$ 23.85	\$ 1.29*	\$ 1.44*
Floor Coverer	23.85	1.29*	1.44*
Carpet Layer	23.85	1.29*	1.44*
Dry-Wall	23.85	1.29*	1.44*
Lather	23.85	1.29*	1.44*
Piledriver	24.10	1.29*	1.44*
Diver-Wet Day	61.25	1.29*	1.44*
Diver -Dry Day	24.85	1.29*	1.44*
Diver Tender	24.85	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 based upon deepest depth on the day of the dive:
 - 0' to 80' no additional fee
 - 81'to 100' additional \$.50 per foot
 - 101'to 150' additional \$.75 per foot
 - 151'and deeper additional \$1.25 per foot
- Penetration pay for Divers based upon deepest penetration on the day of the dive:
 - 0' to 50' no additional fee
 - 51' to 100' additional \$.75 per foot
 - 101' and deeper additional \$1.00 per foot

(*)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 \$ 16.00

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	\$ 9.11
2nd year term	9.11
3rd year term	11.61
4th year term	11.61

1-291B-Cli

Carpenter - Building / Heavy&Highway

08/01/2012

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:

	07/01/2012	07/01/2013 An Additional	07/01/2014 An Additional
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface Installer	\$ 27.21	\$ 0.80*	\$ 0.73*

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

(*)To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour Paid:

	07/01/2012
Journeyman	\$ 18.09

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (2, 17) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

Notes:

When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. When a holiday falls upon a Sunday, it shall be observed on the following Monday.

An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

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:

	07/01/2012
Carpenter	
1st year term	\$ 9.09
2nd year term	14.49
3rd year term	15.39
4th year term	16.29

1-42AtSS

Carpenter - Heavy&Highway

08/01/2012

JOB DESCRIPTION Carpenter - Heavy&Highway

DISTRICT 1

ENTIRE COUNTIES

Clinton, Essex, Franklin, Hamilton, Warren, Washington

WAGES

Per hour

07/01/2012	07/01/2013	07/01/2014

		An Additional	An Additional
Carpenter	\$ 27.00	\$ 1.04*	\$ 1.05*
Millwright	28.50	1.04*	1.05*
Piledriver	27.00	1.04*	1.05*
Diver-Wet Day	62.50	1.04*	1.05*
Diver-Dry Day	28.00	1.04*	1.05*
Diver-Tender	28.00	1.04*	1.05*
Diver-Slurry and Effluent	93.75	1.04*	1.05*

(*)To be allocated at a later date.

State or Federal designated hazardous site, requiring protective gear shall be an additional \$2.00 per hour.
Certified welders when required to perform welding work will receive an additional \$1.25 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.

Diver rates applies to all hours worked on dive day. Additional pay based upon the deepest depth or penetration on the day of the dive:

Depth Pay	0' to 80' no additional. 81' to 100' an additional \$0.50 per foot 101' to 150' an additional \$0.75 per foot 151' and deeper an additional \$1.25 per foot

Penetration pay for divers	0' to 50' no additional. 51' to 100' an additional \$0.75 per foot 101' and deeper an additional \$1.00 per foot

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 17.74

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	\$ 9.09
2nd year terms	9.09
3rd year terms	11.59
4th year terms	11.59

1-291HH-Alb

Electrician

08/01/2012

JOB DESCRIPTION Electrician

DISTRICT 6

ENTIRE COUNTIES

Clinton, Essex, Franklin, Jefferson, Lewis, St. Lawrence

WAGES

Per hour:

07/01/2012

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 mechanical lifts over 65 feet.

**** IMPORTANT NOTICE - EFFECTIVE 07/01/2012 ****

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	\$ 16.68 *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%
Electrician	\$ 12.40	\$ 13.95	\$ 15.50	\$ 18.60	\$ 21.70	\$ 24.80
Cable Splicer / Tunnel	\$ 13.90	\$ 15.45	\$ 17.00	\$ 20.10	\$ 23.20	\$ 26.30

Supplemental Benefits per hour worked:

Appr 1st & 2nd term	\$ 7.77 * plus 3% of gross wage
Appr All other terms	\$ 16.68 * 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

08/01/2012

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

	07/01/2012	01/01/2013	01/01/2014	01/01/2015
Mechanic	\$40.09*	\$ 40.36*	\$ 40.90*	\$ 41.51*
Helper	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

	07/01/2012	01/01/2013	01/01/2014	01/01/2015
Journeyman/Helper	\$ 23.535*	\$ 25.185*	\$ 26.785*	\$ 28.385*

(*)Plus 6% of gross wages if less than 5 years service

(*)Plus 8% of gross 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

0-6 mo	6-12 mo	2nd yr	3rd yr	4th yr
50 %	55 %	65 %	70 %	80 %

Supplemental Benefits per hour worked

Same as Journeyman/Helper

1-35

Glazier

08/01/2012

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

	07/01/2012	05/01/2013
Glazier base wage	\$ 24.80	\$1.50**
+ additional \$1.55 per hour for all hours worked		

*High Work Base Wage 28.00
+ additional \$3.55 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	\$ 14.28
Journeyman	
High Work	19.63

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 \$1.55 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 \$3.55 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	\$12.93
5th-8th term	14.28
Apprentice High Work	
1st-4th term	\$ 15.08
5th-8th term	19.63

For apprentices indentured prior to and including 07/01/2009, the following supplemental benefit applies:

Apprentice	\$ 14.28
Apprentice High Work	19.63

1-201

Insulator - Heat & Frost

08/01/2012

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 07/01/2012

Asbestos Worker*	\$ 29.64
Insulator*	29.64
Firestopping Worker*	25.19

(*)On Mechanical Systems only.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman	\$ 18.95

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 \$ 18.95

1-40

Ironworker

08/01/2012

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	07/01/2012	05/01/2013 An Additional	05/01/2014 An Additional
Ornamental	\$ 28.00	\$1.45*	\$1.55*
Reinforcing	28.00	1.45*	1.55*
Rodman	28.00	1.45*	1.55*
Structural & Precast	28.00	1.45*	1.55*
Mover/Rigger	28.00	1.45*	1.55*
Fence Erector	28.00	1.45*	1.55*
Stone Derrickman	28.00	1.45*	1.55*
Sheeter	28.25	1.45*	1.55*
Curtain Wall Installer	28.00	1.45*	1.55*
Metal Window Installer	28.00	1.45*	1.55*

*To be allocated at a later date

SUPPLEMENTAL BENEFITS

Per hour worked

JOURNEYMAN \$ 23.11

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:

	07/01/2012
1st yr	\$ 16.00
2nd yr	18.00
3rd yr	20.00
4th yr	22.00

Supplemental Benefits per hour worked

1st year \$ 9.00

2nd year	17.68
3rd year	18.92
4th year	20.16

1-12

Laborer - Building**08/01/2012**

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

07/01/2012

Group # A	\$ 20.23
Group # B	20.38
Group # C	20.53
Group # D	20.68
Group # E	20.73
Group # F	21.23

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 16.17

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 \$ 16.17

1-186ew

Laborer - Heavy&Highway**08/01/2012**

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, Guniting, Seeding, and Sand Blasting), Laborers Assisting on Chain Link Fence Installation, 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 07/01/2012

Group # A	\$ 23.34
Group # B	23.54
Group # C	23.74
Group # D	23.94
Group # E	25.34

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.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 17.28

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 \$ 17.28

1-186/2h

Laborer - Tunnel

08/01/2012

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)

07/01/2012

Tunnel Laborer:

Group A \$ 26.52

Group B 26.72

Group C* 28.52

*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 17.28

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 \$ 17.28

1-186T

Lineman Electrician

08/01/2012

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 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. (14.01.01)

07/01/2012

Lineman /Techician	\$ 42.72
Welder/Cable Splicer	42.72
Digging Machine Operator	38.45
Tractor Trailer Driver	36.31
Groundman/Truck Driver	34.18
Mechanic 1st Class	34.18
Flagman	25.63

Additional \$1.00 per hour 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". (14.02.01A)

Lineman/Technician	\$ 42.72
Cable Splicer pipe type cable	46.99
Certified Welder pipe type	44.86
Digging Machine Operator	38.45
Tractor Trailer Driver	36.31
Mechanic 1st Class	34.18
Groundman/Truck Driver	34.18
Flagman	25.63

Additional \$1.00 per hour 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. (14.02.01B)

Lineman/Technician/Welder	\$ 44.01
Digging Machine Operator	39.61
Tractor Trailer Driver	37.41
Groundman/Truck Driver	35.21
Mech. 1st Class	35.21
Flagman	26.41
Certified WelderPipe Type Cable	46.21
Cable Splicer pipe type cable	48.41

Additional \$1.00 per hour for entire crew when a helicopter is used.

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. (14.03.01)

Lineman/Tech./Welder	\$ 45.23
Cable splicer	45.23
Digging Machine Operator	40.71
Tractor Trailer Driver	38.45
Groundman/Truck Driver	36.18
Mechanic 1st Class	36.18
Flagman	27.14

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.

\$ 18.25
*plus 7.5% 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.

\$ 18.25
*plus 7.5% of
hourly wage paid

*NOTE: The 7.5% is based on the hourly wage paid, straight time rate or premium rate.

6-1249a

Lineman Electrician - Teledata

08/01/2012

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.

	07/01/2012	01/01/2013	01/01/2014
Cable Splicer	\$ 27.99	\$ 28.55	\$ 29.12
Installer/Repairman	26.57	27.10	27.64
Teledata Lineman	26.57	27.10	27.64
Technician/Equip Oper	26.57	27.10	27.64
Groundman	14.09	14.37	14.66

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	\$ 4.43	\$ 4.43
*plus 3% of hourly wage paid	*plus 3% of hourly wage paid	*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

08/01/2012

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:

07/01/2012

Lineman/Technician	\$ 38.25
Certified Welder	40.16
Digging Mach	34.43
Tractor trailer driver	32.51
Groundman Truck Driver	30.60
Mechanic 1st Class	30.60
Flagman	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	\$18.25
	*plus 7% of
	hourly wage paid

*NOTE: The 7% is based on the hourly wage paid, straight time rate or premium rate.
Supplements paid at STRAIGHT TIME rate for holidays.

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

08/01/2012

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.

07/01/2012

Tree Trimmer	\$ 22.08
Equip Operator	19.48
Mechanic	19.48
Truck Driver	16.46
Groundman	13.51
Flag person	9.62

SUPPLEMENTAL BENEFITS

Per hour worked:

\$ 7.88
*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

08/01/2012

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

	07/01/2012	05/01/2013 Additional	05/01/2014 Additional
Bricklayer	\$ 27.17	\$ 1.00**	\$ 1.00**
Cement Finisher	27.17	1.00**	1.00**
Plasterer/Fireproof*	27.17	1.00**	1.00**
Pointer/Caulker/Cleaner	27.17	1.00**	1.00**
Stone Mason	27.17	1.00**	1.00**
Acid Brick	27.67	1.00**	1.00**

(*)Fireproof on Structural only.

(**)To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 16.96

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	\$ 10.21
All others	16.96

1-2b.8

Mason - Building

08/01/2012

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	07/01/2012	06/01/2013	06/01/2014
		An Additional	An Additional

Tile/Marble/Terazzo

Setter	\$ 28.88	\$1.30*	\$1.35*
Finisher	22.94	1.03*	1.07*

(*) To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman Setter	\$ 17.53
Journeyman Finisher	14.83

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	\$ 10.18
2nd term 501-1500 hours	10.18
3rd term 1501-2500 hours	13.86
4th term 2501-3500 hours	13.86
5th term 3501-4500 hours	15.69
6th term 4501-6000 hours	17.53

Finisher:	
1st term 0-500 hours	\$ 9.68
2nd term 501-1500 hours	9.68
3rd term 1501-2500 hours	12.26
4th term 2501-3700 hours	12.26

Mason - Heavy&Highway

08/01/2012

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

07/01/2012

Mason &
Bricklayer

\$ 31.82

Additional \$1.00 per hour for work on any swing scaffold or staging suspended by means of ropes or cables.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman

\$ 17.24

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	\$ 10.14
All others	17.24

1-2hh.1

Millwright

08/01/2012

JOB DESCRIPTION Millwright

DISTRICT 1

ENTIRE COUNTIES

Clinton, Essex, Franklin

WAGES

Per hour:

07/01/2012

07/01/2013
An Additional

07/01/2014
An Additional

Millwright

\$ 25.40

\$1.06*

\$1.19*

Note: 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.

(*)To be allocated at a later date.

SUPPLEMENTAL BENEFITS

Supplement Benefits per hour worked:

Journeyman Millwright	\$ 16.94

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 minimum 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	\$ 7.94
2nd Year Term	14.24
3rd Year Term	15.14
4th Year Term	16.04

1-1163b

Operating Engineer - Building

08/01/2012

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, whirlyies, 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, belcrete 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

07/01/2012

07/01/2013

07/01/2014

Class # A1	\$ 35.20	\$ 36.55	\$ 37.90
Class # A	34.76	36.11	37.46
Class # B	33.85	35.20	36.55
Class # C	31.28	32.63	33.98

Additional \$0.50 per hr for Tower Cranes.

Additional \$1.00 per hr for Cranes with Boom length & jib 150ft. and over.

Additional \$2.00 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.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman	\$ 22.37	\$ 23.12	\$ 23.87

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 worked

	07/01/2012	07/01/2013	07/01/2014
All terms	\$ 17.80	\$ 18.55	\$ 19.30

1-158 Alb

Operating Engineer - Heavy&Highway

08/01/2012

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 1

ENTIRE COUNTIES

Albany, Broome, Chenango, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, 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.

WAGES

CLASSIFICATION A:

Asphalt Curb Machine (Self Propelled, Slipform), 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 (CMI Type), Blacktop Plant (Automated), Boom truck, Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine (Self Propelled, Slipform), Concrete Pump, Crane, Cherry Picker, Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane, Directional Drilling Machine, Dredge, Dual Drum Paver, Excavator (All PurposeHydraulically 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 BeltType 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 (NonAutomated), Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine, Cage Hoist, Central Mix Plant [(NonAutomated) 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, HiPressure 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 selfpropelled), 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 subgrade), 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

CLASSIFICATION C:

A Frame Winch Hoist on Truck, Articulated Heavy Hauler, Aggregate Plant, Asphalt or Concrete Grooving Machine (ride on), Ballast Regulator(Ride-on), oiler (used in conjunction with production), Bituminous Heater (self-propelled), oat (powered), Cement and Bin Operator, Concrete Pavement Spreader and Finisher Concrete Paver or Mixer (16S and under), Concrete Saw (self-propelled), Conveyor, Deck Hand, Directional Drill Machine Locator, Drill (Core and Well), Farm Tractor with accessories, Fine Grade Machine, Fireman, Fork Lift, Form Tamper, Grout Pump, Gunit 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, Revinus 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), Vibratory Compactor, Vibro Tamp, Well Point, and the following hands-off equipment: Compressors, Dust Collectors, Generators, Pumps, Welding Machines, Light Plants and Heaters

- 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

	07/01/2012	07/01/2013	07/01/2014
Master Mechanic	\$ 36.32	\$ 37.67	\$ 39.02
Class A*	34.71	36.06	37.41
Class B	33.80	35.15	36.50
Class C	31.23	32.58	33.93

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 \$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.

(*) Premiums for CRANES is based upon Class A rates with the following premiums:

- Additional \$4.00 per hr for Tower Cranes, including self erecting.
- Additional \$3.00 per hr for Lattice Boom Cranes and all other cranes with a manufacturers rating of fifty (50) tons and over.
- Additional \$2.00 per hr for all Hydraulic Cranes and Derricks with a manufacturer's rating of 49 ton and below, including boom trucks.

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman	\$ 22.60	\$ 23.35	\$ 24.10

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 worked

	07/01/2012	07/01/2013	07/01/2014
All Terms	\$ 18.00	\$ 18.75	\$ 19.50

1-158H/H Alb

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 07/01/2012

CLASS A

Operator, Leverman, \$ 32.89

Lead Dredgeman

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,

\$ 28.49

Tug Operator(over1000hp),

OperatorII, Fill Placer,

Derrick Operator, Engineer,

Chief Mate, Electrician,

Chief Welder,

Maintenance Engineer

Certified Welder,

\$ 26.84

Boat Operator(licensed)

CLASS C

Drag Barge Operator,

\$ 26.14

Steward, Mate,

Assistant Fill Placer,

Welder (please add)\$ 0.06

Boat Operator

\$ 25.29

CLASS D

Shoreman, Deckhand,

\$ 21.09

Rodman, Scowman, Cook,

Messman, Porter/Janitor

Oiler(please add)\$ 0.09

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

All Classes A & B
07/01/2012
\$ 8.45 plus 7%
of straight time
wage overtime hours
add \$ 0.63

All Class C
\$ 8.10 plus 8%
of straight time
wage overtime hours
add \$ 0.48

All Class D
\$ 7.85 plus 8%
of straight time
wage overtime hours
add \$ 0.33

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

08/01/2012

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, Schoenectady, 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.

07/01/2012

Survey Rates:

Party Chief	\$ 32.62
Instrument/Rod person	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	\$ 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%	\$ 17.91
2nd year 70%	20.89
3rd year 80%	23.88

SUPPLEMENTAL BENEFITS:

\$ 21.75

6-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer

08/01/2012

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, Schoenectady, 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.

07/01/2012

Survey Rates:

Party Chief \$ 32.62

Instrument/Rodperson 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:

\$ 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

Operating Engineer - Tunnel

08/01/2012

JOB DESCRIPTION Operating Engineer - Tunnel

DISTRICT 5

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: Northern part of Dutchess to the northern boundary line of the 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 Rte. 343 then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains to Connecticut.

Genesee: Only that portion of the county that lies east of a linedrawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES

Crane 1: All cranes, including self erecting to be paid \$4.00 per hour over the Class A rate.

Crane 2: All Lattice Boom Cranes and all other cranes with a manufacturer's rating of fifty (50) ton and over to be paid \$3.00 per hour over Class A rate.

Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton nad below, including boom trucks, to be paid \$2.00 per hour over Class A rate.

MASTER MECHANIC/CHIEF TUNNEL ENG.:

CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor-mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (Automated); Cableway; Caisson Auger; Central Mix Concrete Plant (Automated); Concrete Curb Machine (Self-propelled slipform) Concrete Pump (8" or over); Dredge; Dual Drum Paver; Any Mechanical Shaft Drill; Excavator (all purpose-hydraulic-Gradall or Similar); Fork Lift (factory rated 15 ft and over); Front End Loader (4 c.y. & over); Gradall; Head Tower (Sauerman or Equal), Hoist Shaft; Hoist (two or three Drum); Mine Hoist; Maintenance Engineer (Shaft and Tunnel) ; Mine Hoist; Mucking Machine or Mole, Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Mach.; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, he shall be an Oiler); Tractor Drawn Belt Type Loader; Tripper/Maintenance Eng.(Shaft & Tunnel); Truck or Trailer Mounted Log Chipper (self-feeding); Tug Operator (Manned rented equip. excluded); Tunnel Shovel; Mining Machine(Mole and Similar Types).

CLASS B: Automated Central Mix Concrete Plant; Backhoe Trac-Mtd, Rubber Tired); Backhoe (topside); Bitum. Spred. & Mixer, Blacktop Plant non-automated); Blast or Rotary Drill (Truck or Tractor Mounted); Boring Machine; Cage Hoist; Central Mix Plant(NonAutomated) and All Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (Tractor Mounted); Front End Loader (under 4 c.y.); Grayco Epoxy Machine; Hoist (One Drum); Hoist 2 or 3 Drum (Topside); Kolman Plant Loader & Similar Type Loaders (if Employer requires another person to clean the screen or to maintain the equipment, he shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maint. Eng. (Topside); Grease Man; Welder; Mixer (for stabilized base-self propelled); Monorail Machine; Plant Eng.; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Mach.; Shovel (Topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Winch and Winch Cat.

CLASS C: A Frame Truck; Ballast Regulator (ride-on); Compressors (4 under 2,000 cfm combined capacity; or 3 or less with more than 1200 cfm. but not to exceed 2,000 cfm); Compressors (any size but subject to other provisions for compressors-Dust Collectors, Generators, Pumps, Welding Machines, Light Plants-4 of any type or combination); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill well; Elec Pump Used in Conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; ForkLift (under 15 ft); Grout Pump (over (5) cu. ft.; Gunite Machine; Hammers (hydraulic- self propel.); Hydra-Spiker-Ride on; Hydra-Blaster; Hydra Blaster (water); Motorized Form Carrier; Post Hole Digger & Post Driver; Power Sweep; Roller grade & fill); Scarifer (Ride on); Span-Saw (Ride-on); Submersible Electric Pump (when used in lieu of well point system); Tamer (Ride-on); Tie-Extractor, Tie Handler, Tie Inserter, Tie Spacer and Track Liner (Ride-on); Tractor (with towed accessories); Vibratory Compactor; Vibro Tamp, Well Point.

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors(3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors(any size, but subject to other provisions for compressors-Dust Collectors, Generators, Pumps, Welding Machines, Light Plants-3 or less-any type or combination); Concrete Saw (self propelled); Fireman; Form Tamer; Hydraulic Pump (jacking system); Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broome towed; Power Heaterman; Revinus Widener; Shell Winder; Steam Cleaner and Tractor; Greaseman; Junior Engineer.

Per hour:	07/01/2012	07/01/2013	07/01/2014
Crane 1	\$ 41.28	\$ 42.48	\$ 43.68
Crane 2	40.28	41.48	42.68
Crane 3	39.28	40.48	41.68
Master Mechanic	39.41	40.61	41.81
CLASS A	37.28	38.48	39.68
CLASS B	36.06	37.26	38.46
CLASS C	33.27	34.47	35.67
CLASS D	30.26	31.46	32.66

SUPPLEMENTAL BENEFITS

Per hour paid:			
Journeyman	\$ 22.75	\$ 23.65	\$ 24.55

OVERTIME PAY

See (B, B2, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1000) hours terms at the following percentages.

1st term	60% of Class D
2nd term	65% of Class C
3rd term	70% of Class B
4th term	75% of Class A

Supplemental Benefits per hour paid:

\$ 22.75	\$ 23.65	\$ 24.55

5-832TL.

Painter

08/01/2012

JOB DESCRIPTION Painter

DISTRICT 1

ENTIRE COUNTIES

Essex, Hamilton, Warren, Washington

WAGES

Per hour	07/01/2012

Brush, Taping	\$ 26.04
Paperhanging	26.04

Spray Rate	26.04
Structural Steel*	27.04
Lead Abatement	27.04
Lead Abatement on Structural Steel	28.04

(*)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 \$ 10.12

OVERTIME PAY

See (B, E2, H) on OVERTIME PAGE

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%

Supplemental Benefits per hour worked

All terms \$ 10.12

1-466-Z2

Painter - Bridge & Structural Steel

08/01/2012

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: 07/01/2012 10/1/2012

STEEL:

Bridge Painting \$ 51.23 \$ 52.23

Power Tool/Spray Additional \$6.00 per hour above hourly rate, whether straight time or overtime

Note: Generally, 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: 07/01/2012 10/1/2012

Journeyworker \$ 26.80* \$ 27.05
\$ 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: Calculate overtime rate as follows: Bridge Painting and Power Tool/Spray titles subtract \$4.98 from the hourly rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(Wage per hour Worked):

Apprentices: (1) year terms

	1st	2nd	3rd
07/01/2012	\$ 20.55	\$ 30.78	\$ 41.00
10/01/2012	\$ 20.95	\$ 31.38	\$ 41.80

Supplemental Benefits per hour worked:

07/01/2012	\$ 8.35	\$ 19.00	\$ 22.90
10/01/2012	\$ 8.70	\$ 19.15	\$ 23.10

9-DC-9/806/155-BrSS

Painter - Line Striping

08/01/2012

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):	07/01/2012
Striping-Machine Operator*	\$26.61 plus an additional \$0.50**
Linerman Thermoplastic	\$31.87 plus an additional \$0.50**

** To be allocated at a future date

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: 07/01/2012
Journeyworker:

Striping-Machine operator	\$ 14.18
Linerman Thermoplastic	\$ 14.55

OVERTIME PAY

See (*B, **B2, E, E2, 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

08/01/2012

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, Schoenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

07/01/2012

Metal Polisher	\$ 26.11
Metal Polisher**	\$ 27.02
Metal Polisher***	\$ 29.61

**Note: Applies on New Construction & complete renovation

*** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2012

Journeyworker:

All classification \$ 12.92

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

Wages per hour:

One (1) year term at the following wage rates:

1st	2nd	3rd
\$13.50	\$15.00	\$18.00

Supplemental benefits:

Per hour paid:

1st	2nd	3rd
\$10.27	\$10.39	\$10.63

9-8A/28A-MP

Plumber

08/01/2012

JOB DESCRIPTION Plumber

DISTRICT 1

ENTIRE COUNTIES

Essex, Franklin

PARTIAL COUNTIES

Hamilton: The Townships of Long Lake and Indian Lake

WAGES

Per hour

07/01/2012

05/01/2013

An Additional

Plumber & Steamfitter	\$ 32.43	\$ 2.80**

**To be allocated at a later date

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman	\$ 14.05 + 8.90*

* 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	\$ 12.68 + 4.45*
2nd yr	12.95 + 5.34*
3rd yr	13.23 + 6.23*
4th yr	13.50 + 7.12*
5th yr	13.78 + 8.01*

* This portion of the benefit is subject to the SAME PREMIUM as shown for overtime.

1-773-SF

Roofer

08/01/2012

JOB DESCRIPTION Roofer

DISTRICT 1

ENTIRE COUNTIES

Albany, Clinton, Columbia, Essex, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Warren, Washington

WAGES

Per hour

	07/01/2012	06/01/2013 An Additional
Roofer/Waterproofer	\$ 27.00	\$ 1.50*
Pitch & Asbestos	29.00	\$ 1.50*

(*)To be allocated at a later date

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 13.52

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	\$ 11.75
1st yr 2nd half	11.94
2nd yr 1st half	12.17
2nd yr 2nd half	12.37
3rd yr 1st half	12.65
3rd yr 2nd half	12.85

1-241

Sheetmetal Worker**08/01/2012**

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

07/01/2012

Sheetmetal Worker \$ 30.86

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 22.53
+3% of
wage

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	\$ 16.25
2nd term	17.58
3rd term	18.24
4th term	18.91
5th term	19.13
6th term	20.06
7th term	21.60
8th term	23.15
9th term	24.69
10th term	26.23

Supplemental Benefits per hour worked

1st term	\$ 15.10
2nd term	15.54
3rd term	15.77
4th term	16.00
5th term	19.49
6th term	19.80
7th term	20.32
8th term	20.84
9th term	21.37
10th term	21.89

1-83

Sprinkler Fitter**08/01/2012**

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

	07/01/2012	01/01/2013
Sprinkler Fitter	\$ 29.83	\$ 29.83

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman	\$ 20.37	\$ 20.52

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 wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 15.08	\$ 15.08	\$ 16.26	\$ 17.77	\$ 19.28	\$ 20.79	\$ 22.29	\$ 23.80	\$ 25.31	\$ 26.82

Supplemental Benefits per hour worked

	07/01/2012	01/01/2013
1st & 2nd Terms	\$ 8.60	\$ 8.60
3rd Term	14.72	14.87
4th Term	14.76	14.91
5th Term	20.06	20.21
6th Term	20.10	20.25
7th Term	20.15	20.30
8th Term	20.19	20.34
9th Term	20.24	20.39
10th Term	20.28	20.43

For Apprentices HIRED ON OR AFTER 04/01/2010:

One Half Year terms at the following wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 13.57	\$ 15.08	\$ 16.26	\$ 17.77	\$ 19.28	\$ 20.79	\$ 22.29	\$ 23.80	\$ 25.31	\$ 26.82

Supplemental Benefits per hour worked

	07/01/2012	01/01/2013
1st Term	\$ 8.56	\$ 8.56
2nd Term	8.60	8.60
3rd Term	14.72	14.87
4th Term	14.76	14.91
5th Term	15.31	15.46
6th Term	15.35	15.50
7th Term	15.40	15.55
8th Term	15.44	15.59
9th Term	15.49	15.64
10th Term	15.53	15.68

Teamster - Building**08/01/2012**

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

	07/01/2012	06/01/2013	06/01/2014
Building:		Additional	Additional
Group #1	\$ 20.18	\$ 1.70	\$ 1.80
Group #2	20.18	1.70	1.80
Group #3	20.28	1.70	1.80
Group #4	20.44	1.70	1.80

SUPPLEMENTAL BENEFITS

Per hour worked:

	07/01/2012
All groups	\$ 18.57

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAYPaid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

7-687B

Teamster - Heavy&Highway**08/01/2012**

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, Flatbody 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:

	07/01/2012	06/01/2013
Heavy/Highway:		Additional
Group #1	\$ 22.46	\$ 1.70
Group #2	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:

07/01/2012

All classes

\$ 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

08/01/2012

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

07/01/2012

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

☐ 10 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



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 08/01/2012

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	07/02/2017
DOL	DOL	*****9095	ABDO TILE COMPANY		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	07/02/2017
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	*****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	DA		ANTHONY CARDINALE		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/16/2017
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 612NANUET NY 10954	02/04/2011	02/04/2016
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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

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	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 CONSTRUCTI ON 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	05/04/2017
DOL	DOL	*****0818	BLASTEC INC	MILLER SANDBLASTIN G & 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		442 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL		CANTISANI HOLDING LLC		220 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL	*****1143	CARMODY BUILDING CORP		442 ARMONK ROAD MOUNT KISCO NY 10549	05/04/2012	05/04/2017
DOL	DOL	*****3368	CARMODY CONCRETE CORP		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL		CARMODY CONTRACTING CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL	*****6215	CARMODY CONTRACTING INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL		CARMODY ENTERPRISES LTD		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL	*****3812	CARMODY INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****3812	CARMODY INDUSTRIES INC		442 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL		CARMODY MAINTENANCE CORP		105 KISCO AVENUE MOUNT KISCO NY 10549	05/04/2012	05/04/2017
DOL	DOL	*****0324	CARMODY MASONRY CORP		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****3812	CARMODY"2" INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

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	*****0810	D & G PAINTING & DECORATING INC		53 LITTLE COLLABAR ROAD MONTGOMERY NY 12549	04/19/2012	04/19/2017
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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

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 ACOCCELLA		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	07/02/2017
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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

DOL	DOL	*****7735	GRYF CONSTRUCTION INC		394 SPOTSWOOD-ENGLISH RD MONROE NJ 08831	08/08/2011	08/08/2016
DOL	DOL		GUS PAPASTEFANOU		C/O D & G PAINTING & DECO 53 LITTLE COLLABAR ROADMONTGOMERY NY 12549	04/19/2012	04/19/2017
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	*****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	DA	*****1958	IRON HORSE ONE INC		10 ROSWELL AVENUE OCEANSIDE NY 11572	09/30/2010	09/30/2015
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 WOODBURN 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	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 JIULIANI		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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

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		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	*****5941	KINGSVIEW ENTERPRISES INC		7 W FIRST STREET P O BOX 2LAKESWOOD NY 14750	01/14/2011	01/14/2016
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		MANUEL ESTEVES		55 OLD TURNPIKE ROAD SUITE 612NANUET 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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

DOL	NYC	****4314	MASCON RESTORATION LLC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL	****0845	MASONRY CONSTRUCTION INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	****3333	MASONRY INDUSTRIES INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
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 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	DA	****6988	NEW YORK INSULATION INC		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/16/2017
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	****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	DOL		OKBY ELSAYED		1541 EAST 56TH STREET BROOKLYN NY 11234	05/04/2012	05/04/2017
DOL	NYC		OLIVER HOLGUIN		95-26 76TH STREET OZONE PARK NY 11416	10/12/2011	10/12/2016

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

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 2222ALBANY 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 PHYLIS AVENUE BUFFALO NY 14215	09/03/2008	09/03/2013
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	*****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	DOL		ROSEANNE CANTISANI		11 TATAMUCK ROAD POUND RIDGE NY 10576	05/04/2012	05/04/2017
DOL	NYC		ROSS J HOLLAND		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

DOL	NYC		SHAFIQL 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 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 STREETSSUNNYSIDE 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	*****8176	TOURO CONTRACTING CORP		1541 EAST 56TH STREET BROOKLYN NY 11234	05/04/2012	05/04/2017
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

NYSDOL Bureau of Public Work Debarment List 08/01/2012

Article 8

DOL	DOL		ULIANO AND SONS INC		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
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	*****7617	WHITE PLAINS CARPENTRY CORP		P O BOX 309 WHITE PLAINS NY 10603	12/04/2009	05/04/2017
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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 alterations at the existing telecommunications building.
- B. All work will be completed under one single prime contract, except as noted below or identified as not in contract.

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. Remove and deliver to Owner the following items prior to start of work:
 - 1. Any equipment requested by Essex County.

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.

Summary

01100

1

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.
- B. Utility Outages and Shutdown: Coordinate with Fort Ticonderoga/Owner and various tenants.

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 and tenants to minimize conflict, and to facilitate all Owner's and tenants operations.
- C. Schedule the Work to accommodate Owner and tenants 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 - Not Used.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 Contingency Allowance = \$15,000**
- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

Price and Payment Procedures

01200

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.3 FIELD ENGINEERING

- A. Locate and protect survey control and reference points. Promptly notify Architect/Engineer of discrepancies discovered.
- B. Control datum for survey is that established by Owner provided survey.
- C. Verify set-backs and easements; confirm drawing dimensions and elevations.
- D. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- E. Maintain complete and accurate log of control and survey work as Work progresses.
- F. On completion of foundation walls and major site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.
- G. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- H. Promptly report to Architect/Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- I. 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, 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 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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, 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 (twice 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, 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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, and those affected by decisions made.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. 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.

Submittal Procedures

01330

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of site and construction throughout progress of Work produced by digital camera.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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

Mount Defiance Telecommunications Shelter Alterations

PROJECT NO.: 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 Architect/Engineer 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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:

Quality Requirements

01400

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

Quality Requirements

01400

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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

Quality Requirements

01400

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Temporary water service.
 - 8. Temporary sanitary facilities.
- B. Construction Facilities:
 - 1. Field offices and sheds.
 - 2. Vehicular access.
 - 3. Parking.
 - 4. Progress cleaning and waste removal.
 - 5. 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. Special Conditions:
 - 1. Due to accessibility to the site, work will be suspended during winter conditions and site will not be accessible. The Contractor shall return in the spring of 2013 to complete the work.
 - 2. The work must be coordinated with the property Owner, Fort Ticonderoga, and other tenants/vendors working on site.
 - 3. The switchover to the new power supply shall be limited due to the interruption of telecommunication services.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- B. Owner will pay cost of energy used. Exercise measures to conserve energy. Utilize Owner's existing power service.
- C. Provide temporary electric feeder from existing service at location as directed by utility. Do not disrupt Owner's use of service.
- D. Complement existing power service capacity and characteristics as required for construction operations.
- E. 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.
- F. 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.7 TEMPORARY WATER SERVICE

- A. There is no water available at the site. Contractor shall import water needed for construction.

1.8 TEMPORARY SANITARY FACILITIES

- A. There are no sanitary facilities available at the site. Contractor shall provide portable sanitation unit at site during construction.

1.9 FIELD OFFICES AND SHEDS

- A. Do not use existing facilities for field offices or for storage.
- B. Contractor shall provide its own portable office and storage sheds.
- C. 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.
- D. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

1.10 VEHICULAR ACCESS

- A. Use designated existing on-site roads for construction traffic.
- B. Provide means of removing mud from vehicle wheels before entering streets.

1.11 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel.
- B. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas.
- C. Use of designated areas of existing parking facilities used by construction personnel is permitted.
- D. Do not allow heavy vehicles or construction equipment in parking areas.
- E. 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.
- F. Removal, Repair:
 - 1. Remove temporary materials and construction.
 - 2. Repair existing facilities damaged by use, to original condition.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- G. 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 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.

1.14 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.

1.15 ENCLOSURES AND FENCING

- A. Construction: Plastic construction netting.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

1.16 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 personnel to site in coordination with Owner'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.

1.17 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.

1.18 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.

1.19 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

1.20 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise from rock removal and noise produced by construction operations.

1.21 PEST CONTROL

- A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work entering facility.

1.22 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.

1.23 RODENT CONTROL

- A. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

1.24 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

Temporary Facilities and Controls

01500

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.: 3808
 PROJECT TITLE: Mount Defiance Telecommunications Shelter Alterations
 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

DOCUMENT 01800

INFORMATION AVAILABLE TO BIDDERS

1.1 SUMMARY

A. Document Includes:

1. Limited Hazardous materials survey by Atlantic Testing Laboratories.

1.2 EXISTING CONDITIONS SURVEY

- A. A copy of existing conditions survey is included with this document, titled Limited Hazardous Materials Survey, PL5324CE-01-05-12, 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



ATLANTIC TESTING LABORATORIES

Plattsburgh
1080 Military Turnpike - Suite 7
Plattsburgh, NY 12901
518/563-5878 (T)
518/562-1321 (F)

May 3, 2012

AES Northeast, PLLC
10-12 City Hall Place
Plattsburgh, New York 12901

Attn: Mr. Dave Whiteford RA, AIA
Principal Architect

Re: Limited Hazardous Materials Survey
Mount Defiance Telecommunications Building
Ticonderoga, New York
ATL Report No. PL5324CE-01-05-12

Ladies/Gentlemen:

Enclosed is a copy of the Limited Hazardous Materials Survey report prepared for the referenced site. This project was completed in accordance with the scope of work outlined in our contract (ATL No. PL5998-11-02-12), dated February 22, 2012, and authorized by Mr. David B. Whitford on March 14, 2012.

Please contact our office should you have any questions, or if we may be of further assistance.

Sincerely,
ATLANTIC TESTING LABORATORIES, Limited

Anna S. Vanderhoof
Environmental Scientist

ASV/ZWR/MBR/av

Enclosures

LIMITED HAZARDOUS MATERIALS SURVEY

**MOUNT DEFIANCE TELECOMMUNICATIONS BUILDING
TICONDEROGA, 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. PL5324CE-01-05-12

May 3, 2012

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 Purpose	1
1.2 Project Team and Certifications	1
2.0 SCOPE OF WORK	1
2.1 Project Description	1
2.2 Inaccessible Areas	1
2.3 Document Review	2
2.4 Limitations.....	2
3.0 ASBESTOS	2
3.1 Methodology	2
3.2 Regulatory Compliance	3
3.3 Summary of Findings	3
4.0 LEAD-BASED PAINT	5
4.1 Methodology	5
4.2 Regulatory Compliance	5
4.3 Summary of Findings	5
5.0 POLYCHLORINATED BIPHENYLS	6
5.1 Methodology	6
5.2 Regulatory Compliance	6
5.3 Summary of Findings	7
6.0 CONCLUSIONS AND RECOMMENDATIONS	7
6.1 General	7
6.2 Asbestos-Containing Materials.....	8
6.3 Lead-Based Paint.....	8
6.4 PCB-Containing Materials	8

APPENDICES

Licenses and Certifications	A
Site Location Map	B
Sample Location Plans	C
Laboratory Reports and Custody Documentation.....	D

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 Mount Defiance Telecommunications building located on Defiance Street, Ticonderoga, Essex County, New York. The limited survey was performed on March 20, 2012. 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 Derek Converse, Environmental Scientist, and Michael Sullivan, Environmental Technician. 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 on Defiance Street, Ticonderoga, 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 designated areas of the Mount Defiance Telecommunications Building and may be impacted during a proposed renovation project.

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 not occupied, but were 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. If any suspect ACM, LBP, and/or PCB-containing caulk are encountered during demolition and/or renovation activities, the activities disturbing the suspect ACM, LBP, and/or PCB-containing caulk must stop and the material must be sampled and laboratory analyzed in accordance with applicable regulations.

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. PL5998-11-02-12), dated February 22, 2012, 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 an Asbestos Building Inspector to identify suspect ACM. Functional spaces were identified to assist 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 New York State Department of Health (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 17 homogeneous areas of suspect ACM were identified during the visual examination, from which 34 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 Location¹	Friable	% Asbestos²	Condition	Sample Numbers	Estimated Quantity^{3, 4}
White Roof Flashing and Heating Vent Caulk	Interior Vent, Horizontal Flashing Caulk, Perimeter of Exterior AHU, and Under Roof Flashing	No	NAD	Fair	PL5324AI01A PL5324AI01B	NA
12- by 12-Inch Blue with White Floor Tile	Communications Room and Generator Room	No	18.9	Fair	PL5324AI02A PL5324AI02B	390 Square Feet
Yellow Mastic Associated with the 12- by 12-Inch Blue with White Floor Tile	Communications Room and Generator Room	No	1.5	Fair	PL5324AI03A PL5324AI03B	390 Square Feet

Material	General Location ¹	Friable	% Asbestos ²	Condition	Sample Numbers	Estimated Quantity ^{3, 4}
4-Inch Black Covebase	Communications Room and Generator Room	No	NAD	Fair	PL5324AI04A PL5324AI04B	NA
Brown Adhesive Associated with 4-Inch Black Covebase	Communications Room and Generator Room	No	NAD	Fair	PL5324AI05A PL5324AI05B	NA
White Mortar Patch	Northeast Exterior	Yes	NAD	Fair	PL5324AI06A PL5324AI06B	NA
Black Roof Caulk	Roof, Center Area	No	NAD	Good	PL5324AI07A PL5324AI07B	NA
Tan Roof Caulk	North Exterior Wall, Roof West Wall, and South AHU	No	NAD	Fair	PL5324AI08A PL5324AI08B	NA
30- by 15-Foot White EPDM Membrane Comingled with Sealant	Roof	No	NAD	Fair	PL5324AI09A PL5324AI09B	NA
30- by 15-Foot Homosote Board	Roof	No	NAD	Fair	PL5324AI10A PL5324AI10B	NA
30- by 15-Foot Black Felt/Tar Associated with Foam Insulation Board	Roof	No	NAD	Fair	PL5324AI11A PL5324AI11B	NA
30- by 15-Foot White Fibrous Vapor Barrier	Roof	No	NAD	Fair	PL5324AI12A PL5324AI12B	NA
30- by 15-Foot Black Built-up Felt/Tar Bottom Layer	Roof	No	NAD	Fair	PL5324AI13A PL5324AI13B	NA
3- by 4-Foot Black EPDM Membrane Comingled with Sealant	Roof, Center Area	No	NAD	Fair	PL5324AI14A PL5324AI14B	NA
Brown Roof Insulation	Roof	No	NAD	Fair	PL5324AI15A PL5324AI15B	NA
Gray Stone Mortar	Northeast Exterior	No	NAD	Fair	PL5324AI16A PL5324AI16B	NA
Gray CMU Mortar	Communications Room	No	NAD	Fair	PL5324AI17A PL5324AI17B	NA

Notes:

¹ Sample Location Plan(s) 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. Materials listed in bold font in Table I above were determined or assumed to be ACM.

4.0 LEAD-BASED PAINT

4.1 Methodology

A visual examination of the subject areas was conducted by a Lead Risk Assessor to identify potential LBP. Functional spaces were identified as described in Section 3.1 of this report, to assist 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 International Asbestos Testing Laboratories (IATL), located in Mount Laurel, New Jersey. The samples were laboratory analyzed for lead, in accordance with EPA Methods 6010 and 3050B. IATL is a NYSDOH certified laboratory for lead analysis under ELAP No. 11021.

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 3 homogeneous paints, from which a total of 3 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

Material Description/ Surface Color	General Location¹	Sample Numbers	Laboratory Results² (mg/kg Lead)
Off-white Paint - CMU Walls and Concrete Ceiling	Communications Room and Generator Room	PL5324LI01	ND
Gray Paint	Door, Trim and Roof Area of the Communications Room, Generator Room, and Roof Areas	PL5324LI02	2,900
Beige Paint	Roof Wall	PL5324LI03	4,900
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/cm² (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). None of the samples collected 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, 2 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 an Environmental Scientist to identify suspect PCB-containing caulk/sealant. 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 NEA Pace Analytical Inc., located in Schenectady, New York. The samples were laboratory analyzed for PCB, in accordance with EPA Method 8082. NEA Pace Analytical, Inc., is a NYSDOH certified laboratory for PCB analysis under ELAP No. 11078.

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

A total of 3 homogeneous suspect PCB-containing caulk materials were identified during the visual examination, from which 3 bulk samples were collected, composited, 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 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/Color	General Location¹	Sample Number	Associated ACM Sample No.	Total PCB² (ppm)
White Caulk	Interior Vent, Horizontal Flashing Caulk, Perimeter of Exterior AHU, and Under Roof Flashing	PL5324PI01A PL5324PI01B PL5324PI01C	PL5324AI01	ND
Black Caulk	Communication Cable Penetration Area on Roof	PL5324PI02A PL5324PI02B PL5324PI02C	PL5324AI07	ND
Tan Caulk	Vertical Caulk on North Exterior Wall, Roof West Wall, and South AHU	PL5324PI03A PL5324PI03B PL5324PI03C	PL5324AI08	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. None of the samples collected contained 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 revisited 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 must be sampled and laboratory analyzed in accordance with applicable regulations.

6.2 Asbestos-Containing Materials

1. The materials listed in bold in Table I of Section 3.3 were determined to be ACM.
2. Subpart 56-5(h) of 12 NYCRR Part 56 requires that no demolition, renovation, remodeling, or repair work be commenced by any owner or the owner's agent prior to the completion of asbestos abatement. Asbestos abatement must be performed by an asbestos abatement contractor that maintains a current asbestos handling license, and employs NYSDOL certified asbestos handlers and supervisors. It is recommended that a 12 NYCRR 56 certified Project Monitor oversee abatement activities.
3. 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. None of the materials sampled were determined to be LBP per HUD criteria. Table II 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 $30 \mu\text{g}/\text{m}^3$.

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 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: 10/17/2011

EXPIRATION DATE: 11/30/2012

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

Maureen A. Cox, Director
FOR THE COMMISSIONER OF LABOR

STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



DERECK CONVERSE

CLASS (EXPIRES)

C-ATEC(12/12) D-ASP(12/12)

1-5-PM(12/12)

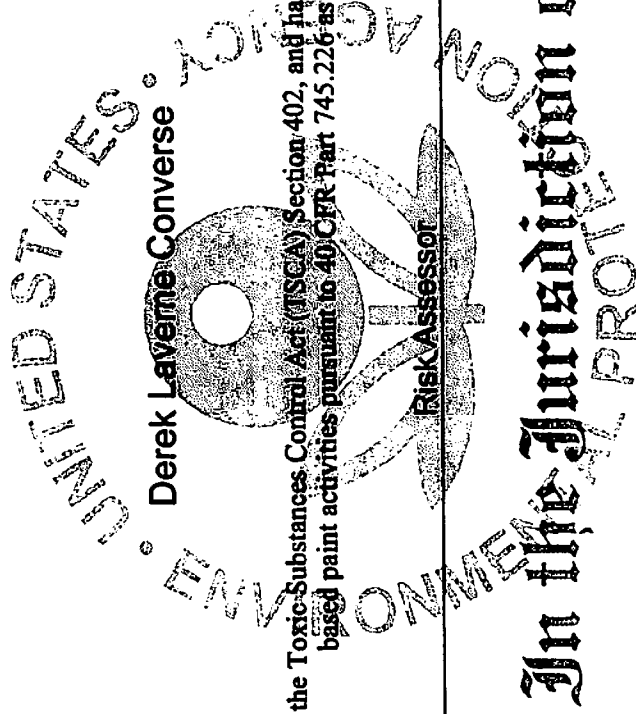


CERT# 07-01746
DIR# 448681638

MUST BE CARRIED ON ASBESTOS PROJECTS

United States Environmental Protection Agency

This is to certify that



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 as a:

In the Jurisdiction of:

New York

This certification is valid from the date of issuance and expires

May 13, 2015

NY-R-17675-2

Certification #

APR 19 2012

Issued On

John Gorman, Chief

Pesticides & Toxic Substances Branch



United States Environmental Protection Agency

This is to certify that

Derek Laveme Converse

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 as a:

Risk Assessor

In the Jurisdiction of:

Region 2 Tribal Lands

This certification is valid from the date of issuance and expires May 13, 2015

T2-R-17675-2

Certification #

APR 19 2012

Issued On



John Gorman, Chief

Pesticides & Toxic Substances Branch

A handwritten signature in black ink, appearing to read "John Gorman".

Certification No T2-R-17876-2	
Date of Birth 12/20/1972	Expiration Date 06/13/2016

Address
12 Sisson St
Potsdam, NY 13676

Badge Holder's Name
Derek Laverne Converse

Badge Holder's Signature


If found, drop in any mailbox
Postmaster: Please return to:
US EPA
1200 Pennsylvania Ave, NW
(MC-740407)
Washington, DC 20460
or call 1-800-424-LEAD



Certification No NY-R-17876-2	
Date of Birth 12/20/1972	Expiration Date 06/13/2016

Address
12 Sisson St
Potsdam, NY 13676

Badge Holder's Name
Derek Laverne Converse

Badge Holder's Signature


If found, drop in any mailbox
Postmaster: Please return to:
US EPA
1200 Pennsylvania Ave, NW
(MC-740407)
Washington, DC 20460
or call 1-800-424-LEAD



STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



MICHAEL A. SULLIVAN
CLASS (EXPIRES)
CATEC (07/12) 11:45 PM (07/12)



CERT# 89-12221
DMV# 432032222

MUST BE CARRIED ON ASBESTOS PROJECTS

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2013
Issued April 1, 2012

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

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.: 46752

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.



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

AmeriSci New York

DBA: AmeriSci New York

117 E. 30th Street

New York, NY 10016

Mr. Paul Mucha

Phone: 212-679-8600 Fax: 212-679-2711

E-Mail: pmucha@amerisci.com

URL: <http://www.amerisci.com>

BULK ASBESTOS FIBER ANALYSIS (PLM)

NVLAP LAB CODE 200546-0

NVLAP Code Designation / Description

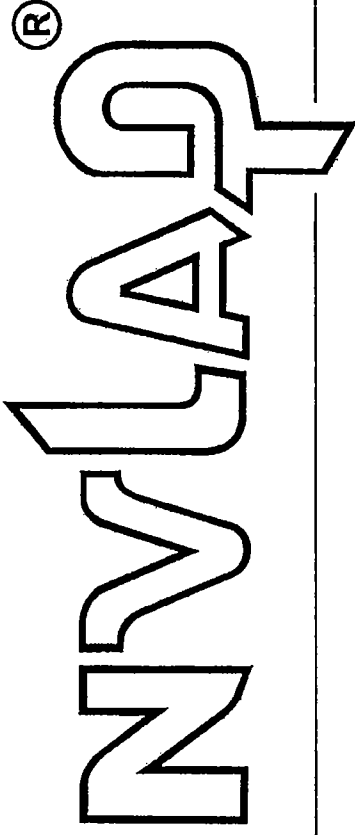
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2011-07-01 through 2012-06-30

Effective dates

Sally S. Bruce
For the National Institute of Standards and Technology

United States Department of Commerce
National Institute of Standards and Technology



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 Communiqué dated January 2009).*

2011-07-01 through 2012-06-30

Effective dates



Dolly S. Bruce
For the National Institute of Standards and Technology

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2012
Issued April 01, 2011

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. ROBERT E. WAGNER
NEA INC, DIVISION OF PACE ANALYTICAL SERVICES
2190 TECHNOLOGY DRIVE
SCHENECTADY, NY 12308

NY Lab Id No: 11078
EPA Lab Code: NY00906

*is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:*

Nitrosoamines

N-Nitrosodi-n-propylamine	EPA 8270C
N-Nitrosodiphenylamine	EPA 625
	EPA 8270C

Organophosphate Pesticides

Atrazine	EPA 8270C

Phthalate Esters

Benzyl butyl phthalate	EPA 625
	EPA 8270C
Bis(2-ethylhexyl) phthalate	EPA 625
	EPA 8270C
Diethyl phthalate	EPA 625
	EPA 8270C
Dimethyl phthalate	EPA 625
	EPA 8270C
Di-n-butyl phthalate	EPA 625
	EPA 8270C
Di-n-octyl phthalate	EPA 625
	EPA 8270C

Polychlorinated Biphenyls

2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 8082
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 8082
2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 8082
2,2',3,3',4,4',5-Hexachlorobiphenyl	EPA 8082
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 8082

Polychlorinated Biphenyls

2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 8082
2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 8082
2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 8082
2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 8082
2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 8082
2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 8082
2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 8082
2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 8082
2,2',3,4,5'-Pentachlorobiphenyl	EPA 8082
2,2',3,5,5',6-Hexachlorobiphenyl	EPA 8082
2,2',3,5'-Tetrachlorobiphenyl	EPA 8082
2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 8082
2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 8082
2,2',4,5,5'-Pentachlorobiphenyl	EPA 8082
2,2',4,5'-Tetrachlorobiphenyl	EPA 8082
2,2',4,6,6'-Pentachlorobiphenyl	EPA 8082
2,2',5,5'-Tetrachlorobiphenyl	EPA 8082
2,2',5-Trichlorobiphenyl	EPA 8082
2,2',6,6'-Tetrachlorobiphenyl	EPA 8082
2,2',6-Trichlorobiphenyl	EPA 8082
2,2'-Dichlorobiphenyl	EPA 8082
2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 8082
2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 8082
2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 8082
2,3,3',4,4',5-Hexachlorobiphenyl	EPA 8082

Serial No.: 44147

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.



NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2012
Issued April 01, 2011

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. ROBERT E. WAGNER
NEA INC, DIVISION OF PACE ANALYTICAL SERVICES
2190 TECHNOLOGY DRIVE
SCHENECTADY, NY 12308

NY Lab Id No: 11078
EPA Lab Code: NY00906

*is hereby APPROVED as an Environmental Laboratory in conformance with the
National Environmental Laboratory Accreditation Conference Standards for the category
ENVIRONMENTAL ANALYSES NON POTABLE WATER
All approved analytes are listed below:*

Polychlorinated Biphenyls

2,3,3',4,4'-Pentachlorobiphenyl	EPA 8082
2,3,3',4,6-Pentachlorobiphenyl	EPA 8082
2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 8082
2,3',4,4',5'-Pentachlorobiphenyl	EPA 8082
2,3,4,4',5-Pentachlorobiphenyl	EPA 8082
2,3',4,4',5-Pentachlorobiphenyl	EPA 8082
2,3',4,4'-Tetrachlorobiphenyl	EPA 8082
2,3-Dichlorobiphenyl	EPA 8082
2,4,4'-Trichlorobiphenyl	EPA 8082
2,4',5-Trichlorobiphenyl	EPA 8082
2,4'-Dichlorobiphenyl	EPA 8082
2-Chlorobiphenyl	EPA 8082
3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 8082
3,3',4,4',5-Pentachlorobiphenyl	EPA 8082
3,3',4,4'-Tetrachlorobiphenyl	EPA 8082
3,3',4,5,5'-Pentachlorobiphenyl	EPA 8082
3,4,4',5-Tetrachlorobiphenyl	EPA 8082
3,4,4'-Trichlorobiphenyl	EPA 8082
4,4'-Dichlorobiphenyl	EPA 8082
4-Chlorobiphenyl	EPA 8082
Decachlorobiphenyl	EPA 8082
PCB-1016	EPA 608
	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1221	EPA 608

Polychlorinated Biphenyls

PCB-1221	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1232	EPA 608
	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1242	EPA 608
	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1248	EPA 608
	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1254	EPA 608
	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1260	EPA 608
	EPA 8082
	SOP NE273 Rev. 1.0
PCB-1262	EPA 8082
PCB-1268	EPA 8082

Polynuclear Aromatics

Acenaphthene	EPA 625
	EPA 8270C
Acenaphthylene	EPA 625
	EPA 8270C
Anthracene	EPA 625

Serial No.: 44147

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2012
Issued April 01, 2011
Revised July 18, 2011

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. ROBERT E. WAGNER
NEA INC, DIVISION OF PACE ANALYTICAL SERVICES
2190 TECHNOLOGY DRIVE
SCHENECTADY, NY 12308

NY Lab Id No: 11078
EPA Lab Code: NY00906

*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:*

Phthalate Esters

Di-n-butyl phthalate	EPA 8270C
Di-n-octyl phthalate	EPA 8270C

Polychlorinated Biphenyls

2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 8082
2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 8082
2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 8082
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 8082
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 8082
2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 8082
2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 8082
2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 8082
2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 8082
2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 8082
2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 8082
2,2',3,4,5'-Pentachlorobiphenyl	EPA 8082
2,2',3,5,5',6-Hexachlorobiphenyl	EPA 8082
2,2',3,5'-Tetrachlorobiphenyl	EPA 8082
2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 8082
2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 8082
2,2',4,5,5'-Pentachlorobiphenyl	EPA 8082
2,2',4,5'-Tetrachlorobiphenyl	EPA 8082
2,2',4,6,6'-Pentachlorobiphenyl	EPA 8082
2,2',5,5'-Tetrachlorobiphenyl	EPA 8082
2,2',5-Trichlorobiphenyl	EPA 8082
2,2',6,6'-Tetrachlorobiphenyl	EPA 8082

Polychlorinated Biphenyls

2,2',6-Trichlorobiphenyl	EPA 8082
2,2'-Dichlorobiphenyl	EPA 8082
2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 8082
2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 8082
2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 8082
2,3,3',4,4',5-Hexachlorobiphenyl	EPA 8082
2,3,3',4,4'-Pentachlorobiphenyl	EPA 8082
2,3,3',4,6-Pentachlorobiphenyl	EPA 8082
2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 8082
2,3',4,4',5'-Pentachlorobiphenyl	EPA 8082
2,3,4,4',5-Pentachlorobiphenyl	EPA 8082
2,3',4,4',5-Pentachlorobiphenyl	EPA 8082
2,3',4,4'-Tetrachlorobiphenyl	EPA 8082
2,3-Dichlorobiphenyl	EPA 8082
2,4',5-Trichlorobiphenyl	EPA 8082
2-Chlorobiphenyl	EPA 8082
3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 8082
3,3',4,4',5-Pentachlorobiphenyl	EPA 8082
3,3',4,4'-Tetrachlorobiphenyl	EPA 8082
3,4,4',5-Tetrachlorobiphenyl	EPA 8082
3,4,4'-Trichlorobiphenyl	EPA 8082
4,4'-Dichlorobiphenyl	EPA 8082
4-Chlorobiphenyl	EPA 8082
Decachlorobiphenyl	EPA 8082
PCB-1016	EPA 8082

Serial No.: 45250

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2012
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CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

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MR. ROBERT E. WAGNER
NEA INC, DIVISION OF PACE ANALYTICAL SERVICES
2190 TECHNOLOGY DRIVE
SCHENECTADY, NY 12308

NY Lab Id No: 11078
EPA Lab Code: NY00906

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-1221	EPA 8082
PCB-1232	EPA 8082
PCB-1242	EPA 8082
PCB-1248	EPA 8082
PCB-1254	EPA 8082
PCB-1260	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

Priority Pollutant Phenols

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
4-Chloro-3-methylphenol	EPA 8270C
4-Nitrophenol	EPA 8270C
Pentachlorophenol	EPA 8270C
Phenol	EPA 8270C

Semi-Volatile Organics

1,1'-Biphenyl	EPA 8270C
2-Methylnaphthalene	EPA 8270C
Acetophenone	EPA 8270C
Benzaldehyde	EPA 8270C
Caprolactam	EPA 8270C
Dibenzofuran	EPA 8270C

Volatile Aromatics

1,2,4-Trichlorobenzene, Volatile	EPA 8260B
1,2,4-Trimethylbenzene	EPA 8260B
1,2-Dichlorobenzene	EPA 8260B
1,3,5-Trimethylbenzene	EPA 8260B
1,3-Dichlorobenzene	EPA 8260B

Serial No.: 45250

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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2012
Issued April 01, 2011
Revised April 18, 2011

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. FRANK E. EHRENFELD III
INTERNATIONAL ASBESTOS TESTING LABS
9000 COMMERCE PARKWAY SUITE B
MOUNT LAUREL, NJ 08054

NY Lab Id No: 11021
EPA Lab Code:

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:

Metals I

Lead, Total EPA 7000B

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
Lead in Dust Wipes EPA 7000B
Lead in Paint EPA 7000B

Sample Preparation Methods

EPA 1311
EPA 3050B

Serial No.: 44818

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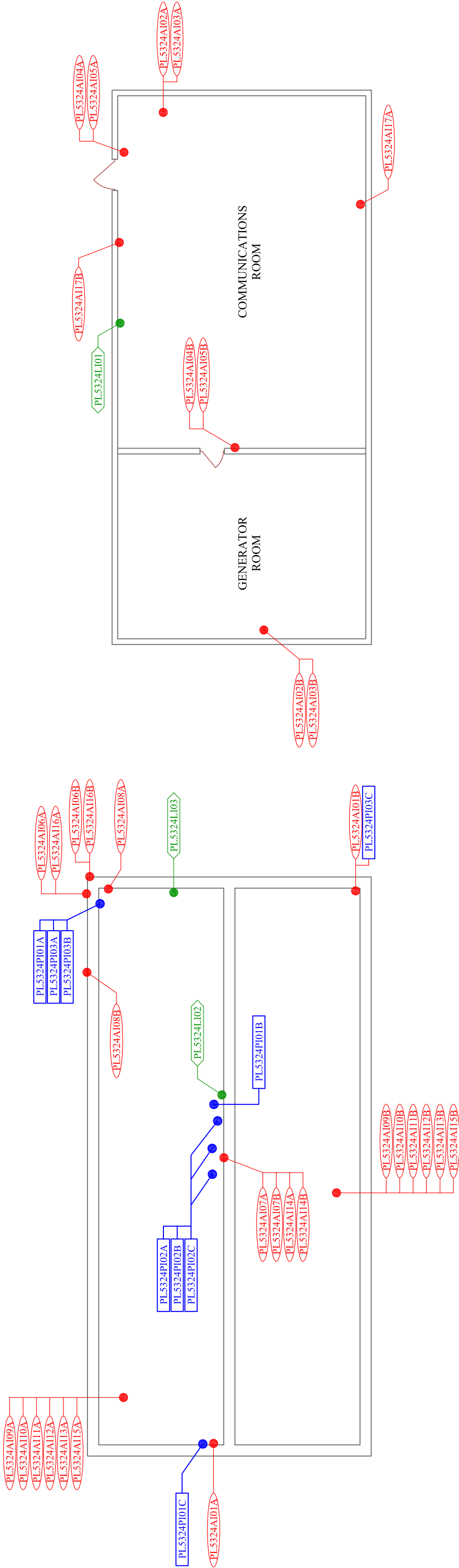
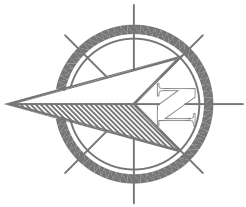
APPENDIX B
SITE LOCATION MAP



Site Location Map		Drawn by: DLC	Scale: Not to scale	Project No.: PL5324	Date: March 2012
Mount Defiance Telecommunications Building Ticonderoga, Essex County, New York		Albany, NY Poughkeepsie, NY	ATLANTIC TESTING LABORATORIES, Limited Binghamton, NY Syracuse, NY	Canton, NY Rochester, NY Utica, NY	Plattsburgh, NY Watertown, NY

APPENDIX C

SAMPLE LOCATION PLANS



EXTERIOR / ROOF VIEW
Scale: None

INTERIOR VIEW
Scale: None

LEGEND

- Suspect Asbestos Sample ID and Approximate Location
- Suspect PCB Sample ID and Approximate Location
- Suspect Lead Paint Sample ID and Approximate Location

SAMPLE LOCATION PLAN

Mount Defiance
Telecommunications Building
Ticonderoga, Essex County, 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

Drawn by:	Scale :	Report No. :	Date :
REZ	AS NOTED	PL5324	May, 2012

APPENDIX D

LABORATORY REPORTS AND CUSTODY DOCUMENTATION

**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 03/23/12 **AmeriSci Job #** 212033953
Date Examined 03/27/12 **P.O. #** COC#11038,11040-41
ELAP # 11480 **Page** 1 of 7
RE: PL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5324AI01A 1 Location: Roof - W - White Caulk	212033953-01	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 2.4 %			
PL5324AI01B 1 Location: Roof - SE - White Caulk	212033953-02	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 2.1 %			
PL5324AI02A 2 Location: Communications Rm - Blue W/ White 12 by 12 Inch Floor Tile	212033953-03	Yes	0.3 % (ELAP 198.6; 400pc) by Bella J. Chernis on 03/27/12
Analyst Description: Blue/White, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Chrysotile 0.3 % Other Material: Non-fibrous 37.5 %			
PL5324AI02B 2 Location: Generator Rm - Blue W/ White 12 by 12 Inch Floor Tile	212033953-04	Yes	0.5 % (ELAP 198.6; 400pc) by Bella J. Chernis on 03/27/12
Analyst Description: Blue/White, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Chrysotile 0.5 % Other Material: Non-fibrous 48.1 %			
PL5324AI03A 3 Location: Communications Rm - Assoc. Yellow Mastic	212033953-05	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 27.2 %			

AmeriSci Job #: 212033953

Page 2 of 7

Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos ReportPL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5324AI03B 3 Location: Generator Rm - Assoc. Yellow Mastic Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 17 %	212033953-06	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI04A 4 Location: Communications Rm - Black 4 inch Cove Base Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 2.2 %	212033953-07	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI04B 4 Location: Generator Rm - Black 4 inch Cove Base Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 0.9 %	212033953-08	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI05A 5 Location: Communications Rm - Assoc. Brown Adhesive Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 38.9 %	212033953-09	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI05B 5 Location: Generator Rm - Assoc. Brown Adhesive Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 46.3 %	212033953-10	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI06A 6 Location: Exterior - NE - White Mortar Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-11	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12

See Reporting notes on last page

AmeriSci Job #: 212033953

Page 3 of 7

Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos ReportPL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5324AI06B 6 Location: Exterior - NE - White Mortar Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-12	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
PL5324AI07A 7 Location: Roof - Center - Black Roof Caulk Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 1 %	212033953-13	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI07B 7 Location: Roof - Center - Black Roof Caulk Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 11.2 %	212033953-14	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI08A 8 Location: Roof - NE - Tan Caulk Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 8.9 %	212033953-15	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI08B 8 Location: Wall - N - Tan Caulk Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 4.4 %	212033953-16	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
PL5324AI09A 9 Location: Roof - N - White EPDM Membrane Comingled W/ Sealant Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 17.6 %	212033953-17	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12

AmeriSci Job #: 212033953

Page 4 of 7

Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos ReportPL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5324AI09B 9	212033953-18 Location: Roof - S - White EPDM Membrane Comingled W/ Sealant	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 17.9 %			
PL5324AI10A 10	212033953-19 Location: Roof - N - Brown Homosote Board	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
Analyst Description: Brown, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 90 %, Non-fibrous 10 %			
PL5324AI10B 10	212033953-20 Location: Roof - S - Brown Homosote Board	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
Analyst Description: Brown, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 90 %, Non-fibrous 10 %			
PL5324AI11A 11	212033953-21 Location: Roof - N - Black Tar Paper Assoc. W/ White Foam Board	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Fibrous glass Trace, Non-fibrous 1.3 %			
PL5324AI11B 11	212033953-22 Location: Roof - S - Black Tar Paper Assoc. W/ White Foam Board	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Fibrous glass 5 %, Non-fibrous 2.6 %			
PL5324AI12A 12	212033953-23 Location: Roof - N - White Fibrous Vapor Barrier	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
Analyst Description: White, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Fibrous glass 85 %, Non-fibrous 15%			

AmeriSci Job #: 212033953

Page 5 of 7

Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos ReportPL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5324A12B 12 Location: Roof - S - White Fibrous Vapor Barrier	212033953-24	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
Analyst Description: White, Homogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Fibrous glass 80 %, Non-fibrous 20 %			
PL5324A13A 13 Location: Roof - N - Black Built-up Roofing	212033953-25	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 0.5 %			
PL5324A13B 13 Location: Roof - S - Black Built-up Roofing	212033953-26	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 1.9 %			
PL5324A14A 14 Location: Roof - Center - Black EPDM Membrane Comingled W/ Sealant	212033953-27	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 3.6 %			
PL5324A14B 14 Location: Roof - Center - Black EPDM Membrane Comingled W/ Sealant	212033953-28	No	NAD (by NYS ELAP 198.6) by Bella J. Chernis on 03/27/12
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 8.9 %			
PL5324A15A 15 Location: Roof - N - Brown Roof Insulation	212033953-29	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %			

AmeriSci Job #: **212033953**

Client Name: Atlantic Testing Laboratories, Limited

Page 6 of 7

PLM Bulk Asbestos ReportPL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
PL5324AI15B 15 Location: Roof - S - Brown Roof Insulation Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-30	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
PL5324AI16A 16 Location: Exterior - NE - Gray Stone Mortar Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-31	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
PL5324AI16B 16 Location: Exterior - NE - Gray Stone Mortar Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-32	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
PL5324AI17A 17 Location: Communications Rm - Gray CMV Mortar Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-33	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12
PL5324AI17B 17 Location: Communications Rm - Gray CMV Mortar Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material Asbestos Types: Other Material: Non-fibrous 100 %	212033953-34	No	NAD (by NYS ELAP 198.1) by Bella J. Chernis on 03/27/12

AmeriSci Job #: 212033953

Page 7 of 7

Client Name: Atlantic Testing Laboratories, Limited

PLM Bulk Asbestos ReportPL 5324; Mt. Defiance Telecommunications Building;
Ticonderoga, NY**Reporting Notes:**

Analyzed by: Bella J. Chernis



*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, RI Cert#AAL-094, CT Cert#PH-0186, Mass Cert#AA000054.

Reviewed By: _____ END OF REPORT _____

Table 1
Summary of Bulk Asbestos Analysis Results
 PL 5324; Mt. Defiance Telecommunications Building; Ticonderoga, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLMDS	** Asbestos % by TEM
01	PL5324AI01A	1	0.210	45.2	52.4	2.4	NAD	NAD
Location:	Roof - W - White Caulk							
02	PL5324AI01B	1	0.240	46.3	51.7	2.1	NAD	NAD
Location:	Roof - SE - White Caulk							
03	PL5324AI02A	2	0.188	17.0	45.2	18.9	Chrysotile 0.3	Chrysotile 18.9
Location:	Communications Rm - Blue W/ White 12 by 12 Inch Floor Tile							
04	PL5324AI02B	2	0.148	20.9	30.4	48.6	Chrysotile 0.5	NA/PS
Location:	Generator Rm - Blue W/ White 12 by 12 Inch Floor Tile							
05	PL5324AI03A	3	0.180	50.0	22.8	27.1	NAD	Chrysotile Trace
Location:	Communications Rm - Assoc. Yellow Mastic							
06	PL5324AI03B	3	0.100	55.0	28.0	15.5	NAD	Chrysotile 1.5
Location:	Generator Rm - Assoc. Yellow Mastic							
07	PL5324AI04A	4	0.135	37.8	60.0	2.2	NAD	NAD
Location:	Communications Rm - Black 4 inch Cove Base							
08	PL5324AI04B	4	0.107	35.5	63.6	0.9	NAD	NAD
Location:	Generator Rm - Black 4 inch Cove Base							
09	PL5324AI05A	5	0.306	42.8	18.3	38.9	NAD	NAD
Location:	Communications Rm - Assoc. Brown Adhesive							
10	PL5324AI05B	5	0.300	43.7	10.0	45.3	NAD	NAD
Location:	Generator Rm - Assoc. Brown Adhesive							
11	PL5324AI06A	6	---	---	---	---	NAD	NA
Location:	Exterior - NE - White Mortar							
12	PL5324AI06B	6	---	---	---	---	NAD	NA
Location:	Exterior - NE - White Mortar							
13	PL5324AI07A	7	0.209	42.1	56.9	1.0	NAD	NAD
Location:	Roof - Center - Black Roof Caulk							
14	PL5324AI07B	7	0.187	79.7	9.1	11.2	NAD	NAD
Location:	Roof - Center - Black Roof Caulk							
15	PL5324AI08A	8	0.146	67.8	23.3	8.9	NAD	NAD
Location:	Roof - NE - Tan Caulk							
16	PL5324AI08B	8	0.160	50.6	45.0	4.4	NAD	NAD
Location:	Wall - N - Tan Caulk							

Client Name: Atlantic Testing Laboratories, Limited

Table 1
Summary of Bulk Asbestos Analysis Results
 PL 5324; Mt. Defiance Telecommunications Building; Ticonderoga, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLMDS	** Asbestos % by TEM
17	PL5324AI09A	9	0.108	55.6	25.9	17.6	NAD	NAD
Location: Roof - N - White EPDM Membrane Comingled W/ Sealant								
18	PL5324AI09B	9	0.117	46.2	35.9	17.9	NAD	NAD
Location: Roof - S - White EPDM Membrane Comingled W/ Sealant								
19	PL5324AI10A	10	---	---	---	---	NAD	NA
Location: Roof - N - Brown Homosote Board								
20	PL5324AI10B	10	---	---	---	---	NAD	NA
Location: Roof - S - Brown Homosote Board								
21	PL5324AI11A	11	0.075	96.0	2.7	1.3	NAD	NAD
Location: Roof - N - Black Tar Paper Assoc. W/ White Foam Board								
22	PL5324AI11B	11	0.105	89.5	2.9	7.6	NAD	NAD
Location: Roof - S - Black Tar Paper Assoc. W/ White Foam Board								
23	PL5324AI12A	12	---	---	---	---	NAD	NA
Location: Roof - N - White Fibrous Vapor Barrier								
24	PL5324AI12B	12	---	---	---	---	NAD	NA
Location: Roof - S - White Fibrous Vapor Barrier								
25	PL5324AI13A	13	0.208	98.1	1.4	0.5	NAD	NAD
Location: Roof - N - Black Built-up Roofing								
26	PL5324AI13B	13	0.215	96.3	1.9	1.9	NAD	NAD
Location: Roof - S - Black Built-up Roofing								
27	PL5324AI14A	14	0.112	93.8	2.7	3.6	NAD	NAD
Location: Roof - Center - Black EPDM Membrane Comingled W/ Sealant								
28	PL5324AI14B	14	0.101	86.1	5.0	8.9	NAD	NAD
Location: Roof - Center - Black EPDM Membrane Comingled W/ Sealant								
29	PL5324AI15A	15	---	---	---	---	NAD	NA
Location: Roof - N - Brown Roof Insulation								
30	PL5324AI15B	15	---	---	---	---	NAD	NA
Location: Roof - S - Brown Roof Insulation								
31	PL5324AI16A	16	---	---	---	---	NAD	NA
Location: Exterior - NE - Gray Stone Mortar								
32	PL5324AI16B	16	---	---	---	---	NAD	NA
Location: Exterior - NE - Gray Stone Mortar								

See Reporting notes on last page

Client Name: Atlantic Testing Laboratories, Limited

Table I
Summary of Bulk Asbestos Analysis Results
 PL 5324; Mt. Defiance Telecommunications Building; Ticonderoga, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	Asbestos % by PLM/IDS	Asbestos % by TEM
33	PL5324AI17A	17	---	---	---	---	NAD	NA
Location: Communications Rm - Gray CMV Mortar								
34	PL5324AI17B	17	---	---	---	---	NAD	NA
Location: Communications Rm - Gray CMV Mortar								

Analyzed by: Marik Peysakhov; Date Analyzed 3/27/2012
 **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 heterogeneous materials).

Reviewed By: _____



ATLANTIC TESTING LABORATORIES

ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY RECORD

11038

212039953

Albany
22 Corporate Drive
Clifton Park, NY 12065
518-263-9144 (T)
518-383-9166 (F)

Canton
6431 U.S. Highway 1
Canton, NY 13617
315-286-4578 (T)
315-286-1012 (F)

Elmira
2330 Route 352
Elmira, NY 14903
607-737-4000 (T)
607-737-0714 (F)

Plattsburgh
130 Arizona Ave
Plattsburgh, NY 12901
518-563-5878 (T)
518-562-1331 (F)

Poughkeepsie
241 Upper Ninth 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
315-699-3281 (T)
315-699-3374 (F)

Utica
301 St. Anthony Street
Utica, NY 13501
315-735-3399 (T)
315-735-0742 (F)

Watertown
26581 NYS Route 223
Watertown, NY 13601
315-786-3887 (T)
315-786-2022 (F)

Project Name: Mt. Defiance Telecommunications Building		Date Collected: 3/20/12		Page of 23		Project Number: PL5324		Report Description: Canton Office	
Project Location: Art Court		Project Location: Ticonderoga, NY		Project Location: Ticonderoga, NY		Project Location: Ticonderoga, NY		Project Location: Ticonderoga, NY	
Field Sample No.		Sample Location		Sample Description		Analysis Requested		Laboratory Sample ID No.	
PL5324A107B		Roof - Center		Black Roof Caulk		PLM NOB		PLM NOB	
PL5324A108A		Roof - NE		Tan Caulk		PLM NOB		PLM NOB	
PL5324A109B		Walk - N		Tan Caulk		PLM NOB		PLM NOB	
PL5324A109A		Roof - N		White EPDM Membrane Comingled w/ Sealant		PLM NOB		PLM NOB	
PL5324A109B		Roof - S		White EPDM Membrane Comingled w/ Sealant		PLM NOB		PLM NOB	
PL5324A110A		Roof - N		Brown Homosote Board		PLM NOB		PLM NOB	
PL5324A110B		Roof - S		Brown Homosote Board		PLM NOB		PLM NOB	
PL5324A111A		Roof - N		Black Tar Paper Assoc w/ White Foam Board		PLM NOB		PLM NOB	
PL5324A111B		Roof - S		Black Tar Paper Assoc w/ White Foam Board		PLM NOB		PLM NOB	
PL5324A112A		Roof - N		White Fibrous Vapor Barrier		PLM NOB		PLM NOB	
PL5324A112B		Roof - S		White Fibrous Vapor Barrier		PLM NOB		PLM NOB	
PL5324A113A		Roof - N		Black Built-Up Roofing		PLM NOB		PLM NOB	
PL5324A113B		Roof - S		Black Built-Up Roofing		PLM NOB		PLM NOB	
Sample Name: Derek Camerone		Date: 3/20/12		Time: 12:50		Signature: [Signature]		Signature: [Signature]	
Sample Name: Derek Camerone		Date: 3/20/12		Time: 16:30		Signature: [Signature]		Signature: [Signature]	
Sample Name: [Signature]		Date: 3/20/12		Time: 11:14		Signature: [Signature]		Signature: [Signature]	

Distribution: White with Samples
Yellow to Laboratory
Pink to ATL Files

ENV-001A
Asbestos Bulk Sample Chain-of-Custody Record rev 3: 07/09



ATLANTIC TESTING LABORATORIES

ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY RECORD

11041

Albany
22 Corporate Drive
Clifton Park, NY 12065
518283-9144 (T)
518283-9166 (F)

Canton
6501 U.S. Highway 11
Canton, NY 13617
315386-4578 (T)
315386-1012 (F)

Elmira
2310 Goetz 352
Elmira, NY 14903
607757-0700 (T)
607757-0714 (F)

Patchburgh
130 Arizona Ave
Patchburgh, NY 12903
518563-5878 (T)
518562-1321 (F)

Poughkeepsie
251 Upper North Road
Highland, NY 12528
845691-6093 (T)
845691-6099 (F)

Rochester
3445 Winton Place
Rochester, NY 14623
585427-9020 (T)
585427-9021 (F)

Syracuse
6085 Court Street Road
Syracuse, NY 13206
315699-5384 (T)
315699-5374 (F)

Utica
301 St. Anthony Street
Utica, NY 13501
315735-3399 (T)
315735-0942 (F)

Watertown
26581 NYS Route 283
Watertown, NY 13601
315786-7887 (T)
315786-2023 (F)

Project Name		Date Collected		Laboratory Instructions		Report Distribution	
Project No.		Date		Type		To	
PL5324	Mt. Daniance Telecommunications Building	3/20/12	Page 1 of 3	☐ 12hr ☒ 24hr ☐ 48hr ☐ 72hr	☐ Positive Sup. Analysis ☒ Negative by PLM-NOB, analyze by TEM-NOB ☐ Other	Canton Office Art Cron	
Project Location		Sample Description		Analysis Requested		Laboratory Sample ID No.	
Ticonderoga, NY							
Field Sample No.	Sample Location	Sample Description		PLM	PLM-NOB	TEM-NOB	TEM-ONLY
PL5324A101A	Roof - W	White Caulk			X	X	
PL5324A101B	Roof - SE	White Caulk			X	X	
PL5324A102A	Communications Rm	Blue w/White 12-by-12-Inch Floor Tile			X	X	
PL5324A102B	Generator Rm	Blue w/White 12-by-12-Inch Floor Tile			X	X	
PL5324A103A	Communications Rm	Aston Yellow Mastic			X	X	
PL5324A103B	Generator Rm	Aston Yellow Mastic			X	X	
PL5324A104A	Communications Rm	Black 4-Inch Covebase			X	X	
PL5324A104B	Generator Rm	Black 4-Inch Covebase			X	X	
PL5324A105A	Communications Rm	Aston Brown Adhesive			X	X	
PL5324A105B	Generator Rm	Aston Brown Adhesive			X	X	
PL5324A106A	Exterior - NE	White Mortar		X			
PL5324A106B	Exterior - NE	White Mortar		X			
PL5324A107A	Roof - Center	Black Roof Caulk			X	X	
Sample Name	Date	Time	Signature	Signature	Signature	Signature	Signature
Dark Converse	3/20/12	11:00					
Dark Converse	3/20/12	11:30					
Dark Converse	3/20/12	11:44					

Think Quality

ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY RECORD

Watertown
26581 NYS Route 28
Watertown, NY 13601
315/786-7287 (T)
315/786-7000 (H)

Think Quality

drive:Forms\Environmental\FieldForms\Asbestos Bulk Sample Chain-of-Custody Record rev 3: 07/09
ENV-001A



Pace Analytical e-Report

Report prepared for:

ATLANTIC TESTING LABORATORIES, LTD
22 CORPORATE DR
CLIFTON PARK, NY 12065
CONTACT: ART CROSS

Project ID: MT. DEFIANCE TELECOMMUNICATIONS BLDG.

Sampling Date(s): March 20, 2012

Lab Report ID: 12030199

Client Service Contact: William Kotas (518) 346-4592 ext. 17

Analysis Included:

PCB Analysis

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. The results contained within this document relate only to the samples included in this report. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

A handwritten signature in black ink that reads "Dan Pflzer".

Dan Pflzer
Laboratory Director



Certifications: NYS (EPA: NY00906, ELAP: 11078), NJ (NY026), CT (PH-0337), MA(M-NY906), NC (668)

Pace Analytical Services, Inc. | 2190 Technology Drive | Schenectady, NY 12308
Phone: 518.346.4592 | internet: www.pacelabs.com

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Table of Contents

Section 1: CASE NARRATIVE	4
Section 2: QUALIFIERS	6
Section 3: SAMPLE CHAIN OF CUSTODY	8
Section 4: GC - PCB	10
Section 5: Quality Control Samples (Lab)	14

1

2

3

4

5

CASE NARRATIVE

March 28, 2012

CASE NARRATIVE

This data package (SDG ID: 12030199) consists of 3 caulk samples received on 3/21/2012. The samples are from Project Name: MT. DEFIANCE TELECOMMUNICATIONS BLDG..

This sample delivery group consists of the following samples:

<u>Lab Sample ID</u>	<u>Client ID</u>	<u>Collection Date</u>
AP03422	PL5324PI01 A, B, C	3/20/2012 12:15
AP03423	PL5324PI02 A, B, C	3/20/2012 12:20
AP03424	PL5324PI03 A, B, C	3/20/2012 12:50

Sample Delivery and Receipt Conditions

- (1.) All samples were delivered to the laboratory via FEDEX delivery service on 3/21/2012.
- (2.) All samples were received at the laboratory intact and within holding times.
- (3.) The following cooler temperature was recorded at sample receipt (Control limits are between 0-6 Degrees Celsius): 10.9 degrees Celsius; which exceed temperature limits. Ice was present in the cooler. Please see Chain of Custody for details.

PCB Aroclor Analysis

Analysis for PCB Aroclors was performed by method SW-846 8082A. Samples were extracted by Soxhlet Extraction Method (EPA - Method 3540C). The following technical and administrative items were noted for the analysis:

- (1.) All quality assurance parameters were met for the analysis.

Respectfully submitted,



William A. Kotas
Client Services Manager

QUALIFIERS

Organic Laboratory Qualifiers Defined

B - Denotes analyte observed in associated method blank or extraction blank. Analyte concentration should be considered as estimated.

D - Surrogate was diluted out. The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria.

E - Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.

J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).

P - Indicates relative percent difference (RPD) between primary and secondary GC column analysis exceeds 40 % or indicates percent difference (PD) between primary and secondary GC column analysis exceeds 25 %.

U - Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.

Z - Chromatographic interference due to PCB co-elution.

* - Value not within control limits.

Inorganic Laboratory Qualifiers Defined

B - Denotes analyte observed in associated method blank or digestion blank. Analyte concentration should be considered as estimated.

E - Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.

J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).

U - Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.

* - Value not within control limits.

SAMPLE CHAIN OF CUSTODY



ATLANTIC TESTING LABORATORIES

Environmental Chain-Of-Custody Record

<12030199P1>

8572

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
Corning, NY 14903
607/737-0700 (T)
607/737-0714 (F)

Plattsburgh
130 Arizona Ave
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
3445 Winton Road
Rochester, NY 14623
585/427-9020 (T)
585/427-9021 (F)

Syracuse
6085 C 120301991
315/699-3374 (T)
315/699-3374 (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			
PL5324		AES Northeast		☐ NYSDEC ☐ SW-846 ☐ NYSDOH ☐ CLP ☐ Other												Dates Required: 2 wk T.A.T. Send Report To: <i>acton@atlantic testing.com</i> <i>cleanore@atlantic testing.com</i> email Results: ☒ YES ☐ NO Laboratory Identification No. Field Notes			
Page 1 of 1		Project Contact: Art Cross		Project Location															
Project Name: Mt. Defiance Telecommunications Bldg.		Ticonderoga, NY																	
Date	Time	Sample Location		Sample Type	No. of Containers														
3/20/12	12:15	PL5324P101A, PL5324P101B, PL5324P101C White Cement		G, Sol	3	X											AP03422	* Each sample	
3/20/12	12:20	PL5324P102A, PL5324P102B, PL5324P102C Black Cement		G, Sol	3	X											AP03423	includes containers	
3/20/12	12:50	PL5324P103A, PL5324P103B, PL5324P103C Tan Cement		G, Sol	3	X											AP03424	with similar matl. Please combine containers of each homogenous material to make 1 sample.	
Samplers Name: Derek Converse		Date: 3/20/12		Received for Name:												Date:		Shipment Rec'd Intact?	
Samplers Signature: <i>[Signature]</i>		Time: 12:50		Laboratory Signature:												Time:		☒ YES ☐ NO	
Samples Relinquished By:				Samples Received By:				Sample Type Code Key:				Laboratory Remarks							
Name: Derek Converse		Date: 3/20/12		Name: VIA FedEx		Date:		Description		Matrix		10.9°C							
Signature: <i>[Signature]</i>		Time: 15:00		Signature:		Time:		C Composite		DW Drinking Water									
								G Grab		GW Groundwater									
								Q QA/QC		O Oil									
								O Other		S Soil									
										SL Sludge									
										WW Wastewater									
Name: VIA FedEx		Date:		Name: J. Zerka		Date: 3-21-12													
Signature: <i>[Signature]</i>		Time:		Signature: <i>[Signature]</i>		Time: 11:00													

Think Quality

Distribution: White with Samples
Yellow to Laboratory

ENV-001B
pdrive:Forms\Environmental\OfficeForms\Environmental Chain-Of-Custody Record rev 2: 09/07

GC - PCB



Analytical Sample Results

Job Number: 12030199

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: ATLANTIC TESTING LABORATORIES, LTD
Project: MT. DEFIANCE TELECOMMUNICATIONS BLDG.
Client Sample ID: PL5324PI01 A, B, C
Lab Sample ID: 12030199-01 (AP03422)

Collection Date: 03/20/2012 12:15
Sample Matrix: CAULK
Received Date: 03/21/2012 11:00
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC20F-1225-14	SW-846 8082 (PCB)	03/26/2012 15:07	JES	NA	NA	Phenomenex, Zebtron ZB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	17409	EPA 3540C	03/22/2012 15:11	JWO	1.59 g	25.0 mL	NA

Analyte	CAS No.	Result (ug/g)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1221	11104-28-2	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1232	11141-16-5	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1242	53469-21-9	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1248	12672-29-6	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1254	11097-69-1	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1260	11096-82-5	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1262	37324-23-5	ND	0.315	1.00	U	GC20F-1225-14
Aroclor 1268	11100-14-4	ND	0.315	1.00	U	GC20F-1225-14
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC20F-1225-14

Surrogate	CAS No.	% Recovery	Limits (%)	Q ¹	File ID
Tetrachloro-meta-xylene	877-09-8	82.5	60.0-140		GC20F-1225-14
Decachlorobiphenyl	2051-24-3	101	60.0-140		GC20F-1225-14

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.



Analytical Sample Results

Job Number: 12030199

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: ATLANTIC TESTING LABORATORIES, LTD
Project: MT. DEFIANCE TELECOMMUNICATIONS BLDG.
Client Sample ID: PL5324PI02 A, B, C
Lab Sample ID: 12030199-02 (AP03423)

Collection Date: 03/20/2012 12:20
Sample Matrix: CAULK
Received Date: 03/21/2012 11:00
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC20F-1225-15	SW-846 8082 (PCB)	03/26/2012 15:40	JES	NA	NA	Phenomenex, Zebtron ZB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	17409	EPA 3540C	03/22/2012 15:12	JWO	1.54 g	25.0 mL	NA

Analyte	CAS No.	Result (ug/g)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1221	11104-28-2	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1232	11141-16-5	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1242	53469-21-9	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1248	12672-29-6	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1254	11097-69-1	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1260	11096-82-5	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1262	37324-23-5	ND	0.325	1.00	U	GC20F-1225-15
Aroclor 1268	11100-14-4	ND	0.325	1.00	U	GC20F-1225-15
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC20F-1225-15

Surrogate	CAS No.	% Recovery	Limits (%)	Q ¹	File ID
Tetrachloro-meta-xylene	877-09-8	96.9	60.0-140		GC20F-1225-15
Decachlorobiphenyl	2051-24-3	105	60.0-140		GC20F-1225-15

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Note: There were several non-target peaks.



Analytical Sample Results

Job Number: 12030199

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: ATLANTIC TESTING LABORATORIES, LTD
Project: MT. DEFIANCE TELECOMMUNICATIONS BLDG.
Client Sample ID: PL5324PI03 A, B, C
Lab Sample ID: 12030199-03 (AP03424)

Collection Date: 03/20/2012 12:50
Sample Matrix: CAULK
Received Date: 03/21/2012 11:00
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC20F-1225-16	SW-846 8082 (PCB)	03/26/2012 16:12	JES	NA	NA	Phenomenex, Zebtron ZB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	17409	EPA 3540C	03/22/2012 15:13	JWO	1.50 g	25.0 mL	NA

Analyte	CAS No.	Result (ug/g)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1221	11104-28-2	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1232	11141-16-5	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1242	53469-21-9	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1248	12672-29-6	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1254	11097-69-1	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1260	11096-82-5	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1262	37324-23-5	ND	0.333	1.00	U	GC20F-1225-16
Aroclor 1268	11100-14-4	ND	0.333	1.00	U	GC20F-1225-16
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC20F-1225-16

Surrogate	CAS No.	% Recovery	Limits (%)	Q ¹	File ID
Tetrachloro-meta-xylene	877-09-8	88.1	60.0-140		GC20F-1225-16
Decachlorobiphenyl	2051-24-3	98.7	60.0-140		GC20F-1225-16

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

Quality Control Samples (Lab)



**Quality Control Results
Method Blank**

Job Number: 12030199

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: ATLANTIC TESTING LABORATORIES, LTD
Project: MT. DEFIANCE TELECOMMUNICATIONS BLDG.
Client Sample ID: Method Blank (AP03422B)
Lab Sample ID: PBLK-03

Collection Date: N/A
Sample Matrix: CAULK
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC20F-1225-12	SW-846 8082 (PCB)	03/26/2012 14:02	JES	NA	NA	Phenomenex, Zebtron ZB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	17409	EPA 3540C	03/22/2012 15:09	JWO	10.0 g	25.0 mL	NA

Analyte	CAS No.	Result (ug/g)	PQL	Dilution Factor	Flags	File ID
Aroclor 1016	12674-11-2	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1221	11104-28-2	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1232	11141-16-5	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1242	53469-21-9	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1248	12672-29-6	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1254	11097-69-1	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1260	11096-82-5	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1262	37324-23-5	ND	0.0500	1.00	U	GC20F-1225-12
Aroclor 1268	11100-14-4	ND	0.0500	1.00	U	GC20F-1225-12
Total PCB Amount > RL	1336-36-3	ND		1.00	U	GC20F-1225-12

Surrogate	CAS No.	% Recovery	Limits (%)	Q ¹	File ID
Tetrachloro-meta-xylene	877-09-8	87.5	60.0-140		GC20F-1225-12
Decachlorobiphenyl	2051-24-3	104	60.0-140		GC20F-1225-12

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.



**Quality Control Results
Lab Control Sample**

Job Number: 12030199

Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, NY 12308
Phone: 518.346.4592
Fax: 518.381.6055

Client: ATLANTIC TESTING LABORATORIES, LTD
Project: MT. DEFIANCE TELECOMMUNICATIONS BLDG.
Client Sample ID: Lab Control Sample (AP03422L)
Lab Sample ID: LCS-03

Collection Date: N/A
Sample Matrix: CAULK
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC20F-1225-13	SW-846 8082 (PCB)	03/26/2012 14:35	JES	NA	NA	Phenomenex, Zebron ZB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	17409	EPA 3540C	03/22/2012 15:09	JWO	10.5 g	25.0 mL	NA

Analyte Spiked	CAS No.	Added (ug/g)	LCS (ug/g)	LCS % Rec.	Q ¹	Limits (%)
Aroclor 1254	11097-69-1	1.19	1.15	96.5		70.0-130

¹Qualifier column where '*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q ¹	File ID
Tetrachloro-meta-xylene	877-09-8	91.3	60.0-140		GC20F-1225-13
Decachlorobiphenyl	2051-24-3	105	60.0-140		GC20F-1225-13

¹Qualifier column where '*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

CERTIFICATE OF ANALYSIS

Client: Atlantic Testing Laboratories
130 Arizona Ave; Ste 1540
Plattsburgh NY 12903

Report Date: 3/30/2012
Report Number: 267949
Project: Mt.DefianceTelecom.Bldg.
Project No.: PL5324

LEAD PAINT SAMPLE ANALYSIS SUMMARY

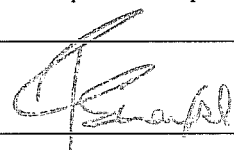
<u>Lab No.</u>	<u>Client No.</u>	<u>Location / Description</u>	<u>Concentration Lead By Weight (%)</u>
4600837	PL5324LI01	Off-White Paint G,Sol (3/20/12)	<0.0070
4600838	PL5324LI02	Grey Paint G,Sol (3/20/12)	0.29
4600839	PL5324LI03	Beige Paint G,Sol (3/20/12)	0.49

Accreditations: **NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)**
AIHA-LAP, LLC No. 100188 NYSDOH-ELAP No. 11021

Analytical Methods: ASTM D3335-85A "Standard Method To Test For Low Concentrations Of Lead In Paint By Atomic Absorption Spectrophotometry"
EPA SW846-(3050B:7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges and Sediments By AAS"

Comments: Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. IATL assumes that appropriate sampling methods have been used and the data upon which these results are based have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=0.0044% by weight. RL= 0.010% by weight (based upon 100 mg sampled). * Insufficient sample provided to perform QC reanalysis (<200 mg) ** Not enough sample provided to analyze (<50 mg) *** Matrix / substrate interference possible. Sample results are not corrected for contamination by field or analytical blanks. This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any government agency. This report shall not be reproduced except in full, without written approval of the laboratory.

Date Received: 3/23/2012
Date Analyzed: 3/30/2012
Analyst: C. Shaffer

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director



8573

Watertown
5581 NYS Route 283
Watertown, NY 13601
315/786-7887 (T)
315/786-7077 (F)

[illegible]

pdrive:Forms\Environmental\OfficeForms\Environmental Chain-Of-Custody Record rev 2: 09/07

BATCH / SAMPLE MANAGEMENT REPORT

Customer No.:	ATL651	Batch Number:	267949
Customer:	Atlantic Testing Laboratories 130 Arizona Ave; Ste 1540 Plattsburgh NY 12903	Project:	AES Northeast
Customer Rep:	RS	Project Number:	PL5324
		TAT:	5 Day
		Date/Time Rec'd:	3/23/2012
# of Samples:	3	Analysis:	Lead Paint
		Time/Date Due:	3/30/2012

Initials Signaling Acknowledgement ☐ RTP: _____ ☐ To PLM NOB _____ ☐ To TEM NOB _____

Special Instructions:

Admin Notes:

E-MAILED
3-30-12

Shipping Error:

- _____ Samples were not received in a sealed container. Bulk samples not double bagged.
- _____ Air Cassettes received open in bag... sample integrity compromised, possible contamination.
- _____ Samples received wet.
- _____ Samples received covered with dust... possible cross contamination.
- _____ Sample containers damaged, contents spilled... possible cross contamination.
- _____ Paperwork received in the same bag as samples possible contamination.
- _____ No / Incomplete Chain of Custody Received.
- _____ No / Incomplete Sample Log Received.
- _____ Sample container IDs do not match the client's sample log.
- _____ No Turnaround Time indicated.
- _____ PCM Re-prep for TEM NIOSH 7402. Cassettes previously opened and portion of filter removed.
- _____ Blank(s) not submitted as required by the requested analytical method.
- _____ Minimum shipping requirements not attained. See attached Carrier Air Bill.
- _____ Other: _____

Batch Error:

- _____ Wrong Client ID Listed:
- _____ Wrong Client Location Listed:
- _____ Wrong Project ID Listed:
- _____ Wrong TurnAround Time Listed:
- _____ Wrong Due Date Listed:
- _____ Wrong Date/Time Received Listed:
- _____ Wrong Analysis Method Listed:
- _____ Wrong Number of Samples Listed:

Login Error:

- _____ Sample Log Stamped Incorrectly:
- _____ Sample Containers Mislabeled:
- _____ Duplicate / Extra Samples Not Stamped:
- _____ Analyst Bench Sheet Error:

DAILY QUALITY CONTROL DATA

LEAD SAMPLE ANALYSIS

(DATE: 03 / 30 / 12)

Standard	Total Lead (mg)	Percent Recovery **
Reagent Blank	0.000	< LOQ
Blank Spike	0.500	98
Lab control Std # 401	0.408	104
Matrix Spike - LBP *	1.11	103
Matrix Spike - Wipe *	0.90	110
Matrix Spike - Soil *	0.518	115
Matrix spike - Air *	0.050	104
2.5 ppm Standard	0.25	104
10.0 ppm Standard	1.0	101
40.0 ppm Standard	4.0	95

AIHA LAP-LLC No. 100188

NYS-DOH ELAP No. 11021

Analysis Method: ASTM D3335-85A
NIOSH 7082
EPA SW846 3050B 7000B

Comments: IATL assumes that all sampling complies with accepted methods.
All client supplied sampling data is assumed to be correct when calculating results.
Detection limit based upon 0.2 mg/L reporting limit and sample size.
* NIST Traceable.
** 80-120% acceptable limits.

Analyzed By: R. Chad Shaffer
R. Chad Shaffer

Date: 3/30/12

Approved By: Frank E. Ehrenfeld, III
Frank E. Ehrenfeld, III
Laboratory Director

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 01900

STATEMENT OF SPECIAL INSPECTIONS

The Owner will provide special inspections. The Contractor shall schedule, coordinate, and cooperate with the Owner's representative to accommodate 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Protection of masonry during cold weather (below 40 ⁰ F) or hot weather (above 90 ⁰ F) 4. 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)

Steel Construction - BCNYS Section 1704.3

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Inspection of fabrication process. Special Inspector shall verify fabricator maintains detailed fabrication and quality control procedures that confirm fabricator's ability to perform the work in accordance with the contract documents. This provision is not required if the fabricator is an AISC certified fabricator for the type of building constructed. Note: welding and other inspections will be performed in the fabricator's shop per the requirements listed below.		TA Eng		1704.2

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

Verification and Inspection	Continuous	Periodic	Referenced Standard	BCNYS Section (Job Spec. Section)
Material verification of high strength bolts, nuts and washers: a. Identification markings to conform to ASTM standards. b. Manufacturer's certificate of compliance required.		TA	ASTM A325 AISC ASD, Section A3.4.	
Inspection of high strength bolted connections		TA	AISC LRFD section M2.5	1704.3.3 (05120-1.06-C) (05120-2.06-C) (05120-3.05-B)
Material verification of structural steel: a. Identification markings conform to ASTM standards. b. Manufacturer's certified mill test reports		TA Eng.	ASTMA6	1708.4
Material verification of weld filler materials: a. Identification markings to conform to AWS D1.1. b. Manufacturer's certificate of compliance required.		TA Eng.	AISC Section A3.6	
Inspection of welding: a. Structural steel: 1. Complete and partial penetration groove welds. 2. Multi-pass fillet welds 3. Single pass fillet welds >5/16 4. Single pass fillet welds <5/16 5. Roof and floor metal deck welds. 6. Welding of shear studs. 7. Welding of cold form metal framing. 8. Welding of stairs and Railing systems	TA TA	TA TA TA TA TA TA	AWS D1.1 AWS D1.3 AWS D1.1 AWS D1.1 AWS D1.1	1704.3.1 (05120-1.06-C) (05120-2.06-B) (05120-3.05-C) (05310-3.05) (05120-3.05-D) (05400-3.03-C) (05500)

Statement of Special Inspections

01900

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 02000

ASBESTOS ABATEMENT

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 describes the methods and procedures for abatement of asbestos-containing materials (ACM) in the proposed renovation areas. Asbestos abatement activities will be limited to only ACM that must be disturbed to accommodate the scheduled project renovations.
- B. All work shall be performed in such a manner as to minimize the risk of exposure to personnel, to prevent exposure to occupants, and to minimize the risk of release of asbestos or asbestos-containing debris to the environment.
- C. All work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. The information contained within this specification Section will be considered part of the Project Documents. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent procedure(s) shall apply.
- D. Building materials have been determined to be ACM based on previous sampling and analysis.
- E. Analytical results for bulk samples collected for this project are available in the following report provided Section 01800.
 - 1. Mount Defiance Telecommunications Building, Limited Hazardous Materials Survey, ATL Report No. PL5324CE-01-05-12, dated May 3, 2012.
- F. Suspect ACM that have not been tested must be assumed to contain asbestos, unless proved otherwise through sampling and analysis.
- G. Movable furnishings and equipment, including miscellaneous small items such as tools, stored materials, files, and records, will be removed from the work areas prior to asbestos abatement contract work commencing. The Contractor shall provide temporary power and site access to the Asbestos Project Monitor.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.3 SCOPE OF WORK

- A. Bulk samples of suspect ACM in areas of scheduled construction and renovation activities were previously collected and analyzed for asbestos. The material listed below were determined to be ACM, and will require abatement if it is to be disturbed during demolition, construction, or renovations.
 - 1. Remove and dispose of asbestos-containing Blue and White Floor Tile and Yellow Mastic) from designated areas, to accommodate renovations.
- B. All asbestos abatement activities shall be performed sufficiently to accommodate work to be completed by other trades. The actual extent of asbestos abatement activities will be dependent upon the selected means and methods for work associated with the project.
- C. It is the Contractor's responsibility to verify the quantities of materials to be removed as the basis for the bid. The Drawings depict the areas in which the work will be conducted, and show the general location of identified ACM, as determined from the directed bulk sampling and analysis performed for the site.

1.4 PERMITS AND COMPLIANCE

- A. The Contractor shall assume full responsibility and liability for compliance with all applicable federal, state, and local laws, rules, and regulations pertaining to work practices, protection of workers, authorized visitors to the site, and persons and property adjacent to the work area.
- B. The Contractor shall perform asbestos related work in accordance with New York State (NYS) Industrial Code Rule 56, 40 CFR 61, 40 CFR 763 Subpart E Asbestos Hazard Emergency Response Act (AHERA), and 29 CFR 1926 as specified herein. Where more stringent requirements are specified, adherence is required to the more stringent requirements.
- C. The Contractor must maintain current licenses pursuant to NYS Department of Labor (NYSDOL), U.S.
- D. Environmental Protection Agency (USEPA), and NYS Department of Environmental Conservation (NYSDEC) for all work related to this project, including the removal, handling, transport, and disposal of ACM.
- E. The Contractor (or qualified subcontractor) shall possess a valid Waste Transporter Permit, issued by the NYSDEC pursuant to 6 NYCRR Part 364, to transport waste material from the site to a storage or disposal facility. The permit shall include the name and location of each storage and/or disposal facility, and a list of all transport vehicles.
- F. The Contractor shall be responsible for all fees related to the asbestos abatement work, including, but not limited to, licenses; permits; project notifications; variance petitions, applications, and re-openings; and Worker certifications.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- G. The Contractor must have, and submit proof upon request, persons employed to engage in or supervise work on the Project that hold a valid NYSDOL asbestos handling certificate pursuant to Industrial Code Rule 56, and valid NYSDOH 2832 form pursuant to 40 CFR, Part 763.
- H. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable to the Project. The Contractor shall pay all royalties and/or license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and hold the Owner and Consultant harmless from loss, including attorney's fees, on account thereof.
- I. The Contractor may, at their own cost, petition applicable regulatory agencies for, obtain, and use site- specific variance(s) to conduct the asbestos abatement work. Should the Contractor choose to apply for any variance, all conditions and provisions of the site-specific variance are subject to the review and approval of the Consultant.
- J. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to, and may, terminate the Contract provided; however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

1.5 SPECIAL JOB CONDITIONS

- A. The Contractor shall take notice, and make employees aware, of occupational safety hazards associated with the abatement work and other work being performed on-site.
- B. Protection of Work to Remain: The Contractor shall preserve and protect building materials and finishes, electrical equipment, and heating and ventilation equipment present within each work area that is not removed or abated. The Contractor shall perform demolition work without damage or contamination of adjacent areas. Where such areas are contaminated, specified procedures for containment must be followed, and contamination must be cleaned up. Where adjacent areas are damaged, restoration must be to original condition.
- C. Title to Materials: ACM resulting from demolition work, except as otherwise indicated, shall remain the property of the Owner. The Contractor is responsible for disposal, as specified, and maintaining records of disposal.

1.6 PROJECT COORDINATION

- A. Performance of the work and preparation and processing of submittals shall be coordinated to comply with the overall project schedule and demolition and construction activities that are scheduled for the site, as specified in other applicable sections of the Project Documents.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.7 MEDICAL REQUIREMENTS

- A. Before potential exposure to airborne asbestos fibers, the Contractor shall provide Workers with a comprehensive medical examination, as required by 29 CFR 1910.1001 and 29 CFR 1926.1101.
 - 1. This examination is not required if adequate records show the employee has been examined, as required by 29 CFR 1910.100 and 29 CFR 1926.1101, within the past year.
 - 2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within 30 calendar days before or after the termination of employment in such occupations.
- B. As required by 29 CFR 1910.1001 and 29 CFR 1926.1101, the Contractor shall maintain complete and accurate records of employees' medical examinations for a period of 30 years after termination of employment and make records of the required medical examinations available for inspection and copying to: Assistant Secretary of Labor for Occupational Safety and Health, Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of these, and an employee's physician upon the request of the employee or former employee.
- C. The Contractor shall furnish the Owner evidence of its firm's medical surveillance program required under 29 CFR 1910.1001 and 29 CFR 1926.1101.

1.8 TRAINING

- A. As required by applicable regulations, prior to assignment to asbestos work, instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.
- B. Establish a respirator program, as required by ANSI Z88.2, 29 CFR 1910.134 and 29 CFR 1926.1101.
- C. Provide respirator training and fit testing.
- D. All Workers and Supervisors shall have successfully completed training and received appropriate certifications, in accordance with NYSDOL and NYSDOH requirements.

1.9 REFERENCES

- A. The Contractor shall comply with the codes and standards listed below, except where more stringent requirements are shown and/or specified. Specific regulations, standards, and guidance documents are listed for informational purposes due to relevance to the work described herein. Specific regulations, standards, and guidance documents that are not listed may also be applicable to the work.
 - 1. Federal Regulations:
 - a. American National Standard Institute (ANSI)
 - 1) ANSI Z88.2-80, Practices for Respiratory Protection

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 2) ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems.
 - b. Code of Federal Regulations (CFR)
 - 1) 29 CFR 1910.1001, "Asbestos" (OSHA)
 - 2) 29 CFR 1910.1200, "Hazard Communication" (OSHA)
 - 3) 29 CFR 1910.134, "Respiratory Protection" (OSHA)
 - 4) 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
 - 5) 29 CFR 1926, "Construction Industry" (OSHA)
 - 6) 29 CFR 1926.1101, "Asbestos" (OSHA)
 - 7) 29 CFR 1926.500, "Guardrails, Handrails and Covers" (OSHA)
 - 8) 40 CFR 61, Subpart A, "General Provisions" (EPA)
 - 9) 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (USEPA)
 - 10) 40 CFR 763, Subpart E, "Asbestos-Containing Materials in Schools" (USEPA)
 - 11) 49 CFR 171-172, "Transportation Standards" (USDOT)
 - c. Occupational Safety and Health Administration (OSHA)
 - d. United States Department of Transportation (USDOT)
 - e. United States Environmental Protection Agency (USEPA)
 - 1) USEPA 560/585-024, Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book)
 - 2) USEPA 530-SW-85-007, Asbestos Waste Management Guidance
2. New York State:
- a. Compilation of the Rules and Regulations of the State of New York (NYCRR)
 - 1) 6 NYCRR, Parts 360 and 364, "Disposal and Transportation" (NYSDEC)
 - 2) 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (NYSDOH)
 - 3) 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (NYSDOL)
 - b. New York State Department of Environmental Conservation (NYSDEC)
 - c. New York State Department of Health (NYSDOH)
 - d. New York State Department of Labor (NYSDOL)
 - e. New York State Department of Transportation (NYSDOT)

1.10 SUBMITTALS

- A. The Contractor shall be responsible to provide and comply with any insurance or contractual submittals that are required for this project, and may be specified in other applicable sections of the project specifications.
- B. Pre-Work Submittals: Within 14 calendar days prior to the pre-construction conference, the Contractor shall submit 3 copies of the documents listed below.
 - 1. Contractor license issued by the NYSDOL

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2. A list of projects performed within the past two years, including the dollar value of all projects
 3. Progress schedule
 - a. Show the complete sequence of abatement activities and the sequencing of work within each building section.
 - b. Show the dates for the beginning and completion of each major element of work, including substantial completion dates for each work area or phase.
 4. Project Notifications: As required by federal and state regulatory agencies, together with proof of transmittal (i.e., certified mail return receipt)
 5. Building Occupant Notification: As required by regulatory agencies
 6. Abatement Work Plan: Provide plans that clearly indicate the following information.
 - a. Work area/containments numbered sequentially.
 - b. Locations and types of all decontamination enclosures.
 - c. Entrances and exits to each work area/containments.
 - d. Type of abatement activity/technique for each work area/containment.
 - e. Number and location of negative air units and exhaust, and calculation verification determining the number of required negative pressure air units.
 - f. Proposed location and construction of storage facilities and field office
 - g. Location of water and electrical connections to building services.
 - h. Waste transport routes through the building to the waste storage container.
 - i. Disposal site/landfill permit from applicable regulatory agency.
 - j. NYSDEC Waste Transporter Permit.
- C. On-Site Submittals: Refer to Subparts 3.2 and .4 D for all submittals, documentation, and postings required to be maintained on-site during abatement activities.
- D. Project Close-out Submittals: Within 30 days of project completion, the Contractor shall submit 2 copies of the documents listed below to the Consultant and 1 set of documents shall be forwarded to the Owner.
1. **Originals** of all waste disposal manifests, seals, and disposal logs.
 2. OSHA compliance air monitoring records conducted during the work.
 3. Daily progress log, including entry/exit log.
 4. A list of all workers used in the performance of the project, including name, NYSDOL certification number and expiration date, and NYSDOH 2832 number and expiration date.
 5. For each Worker used in the performance of the project, submit the Worker's Acknowledgment Statement.
 6. Disposal site/landfill permit from applicable regulatory agency
 7. Final project notifications.
- E. The Contractor shall submit a site-specific Health and Safety Plan for review prior to any work activities. The Health and Safety Plan shall include, but not be limited to, Workers' 40-hour OSHA training and 8- hour refresher training certifications and copies of fit test and medical clearance records.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.11 WORK BY SEPARATE CONTRACT

- A. Project Monitor Contract Work: Services of a qualified Asbestos Abatement Project Monitor will be provided under separate contract. The Asbestos Abatement Project Monitor will be on-site at all times when work is in progress, and will be authorized to observe removal work and interpret and enforce provisions of the Contract Documents.
1. The Asbestos Abatement Contractor shall provide the Asbestos Abatement Project Monitor with access to all areas of work.
 2. Services of a certified Asbestos Project Monitor to observe work practices, and conduct visual clearance and air sampling.
 3. Services of a laboratory, certified by the NYSDOH Environmental Laboratory Approval Program (ELAP) and the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP), to analyze collected samples.

1.12 STOPPAGE OF WORK

- A. The work of the Asbestos Abatement Contractor can be stopped at any time if non-compliance with any applicable regulation, contract requirement, or written job instruction is observed. Standby time required to resolve the situation shall be at the Contractor's expense.
- B. Interpretation of regulations or differences in interpretation of applicable regulations between any parties associated with the project shall be settled in a manner consistent with the administrative and contractual procedures specified in other applicable specifications. If a resolution can not be readily obtained, the applicable regulatory authority will be contacted for interpretation. The interpretation of the regulatory authority shall be final.

PART 2 PRODUCTS

2.1 LOG BOOK

- A. Provide a permanently bound project log book. The log book shall contain, on the title page, the project name; name, address, and telephone number of Owner; name, address, and telephone number of Consultant; name, address, and telephone number of the Contractor; and emergency numbers, including, but not limited to, local Fire/Rescue Department.
- B. All entries into the log shall be made in non-washable, permanent ink, and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.
- C. All persons entering and exiting the work area shall sign the log and include name, employer, NYSDOL certification number, and time of entrance and exiting.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- D. The Project Supervisor shall document all work performed daily and note all visual assessments required by NYS Industrial Code Rule 56 (e.g., testing and inspection of barriers and enclosure by smoke testing, negative air systems, and manometer readings).

2.2 PERSONAL PROTECTIVE EQUIPMENT

- A. All use of personal protective equipment (PPE) shall be in compliance with applicable OSHA regulations and procedures.
- B. The minimum personal protective equipment (PPE) is Level D Modified (hard hat, safety glasses, and steel-toed boots), at all times at the project site both inside and outside the work areas.
- C. Additional PPE is required to reduce exposure to asbestos. The following PPE shall be used during abatement.
1. Respiratory Protection
 - a. Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.
 - b. Respirators shall be individually fit-tested to personnel under the direction of a competent person on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on-site for each employee.
 - c. The Contractor must provide adequate surveillance of working conditions to ensure the selected respirator provides adequate protection, as defined in 29 CFR 1926.1101. Half-face respirators are the minimum allowable respiratory protection permitted to be utilized during asbestos abatement.
 - d. No respirators shall be issued to personnel without such personnel participating in a respirator training program.
 - e. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.
 - f. A storage area for respirators shall be provided by the Contractor in the clean room side of the personal decontamination enclosure, where the respirators will be kept in a clean environment.
 - g. The Contractor shall provide and make available a sufficient quantity of respirator filters, so that filter changes can be made as necessary during the work day. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.
 - h. Filters used with negative pressure air purifying respirators shall not be used any longer than one 8-hour work shift.
 - i. Any authorized visitor, Worker, or Supervisor found in a work area not correctly wearing the required respiratory protection shall be removed from the project site and not be permitted to return.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2. Disposable Protective Clothing
 - a. Disposable protective whole body clothing, head coverings, plastic or rubber gloves, and foot coverings shall be provided to personnel utilized during the project. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Secure sleeves at the wrists, and foot coverings at the ankles, by the use of tape, or provide disposable coverings with elastic wrists or tops.
 - b. Provide sufficient quantities of protective clothing to assure a minimum of 4 complete disposable outfits per day for each individual performing abatement work.
- D. Workers and authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the work area.

2.3 SIGNS AND LABELS

- A. Provide warning signs and barrier tapes at all approaches to the work area. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.
- B. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum size of 20 inches by 14 inches, and displaying the following legend:

DANGER ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

- C. Provide 3-inch wide yellow barrier tape printed with black letters, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances, and across routes to each asbestos work area. Install tape 3 to 4 feet above finish floor.
- D. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos. Labels shall state the following.

DANGER
CONTAINS ASBESTOS FIBERS AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

- E. Provide the following asbestos label, of sufficient size to be clearly legible, for display on waste containers (bags or drums) that will be used to transport asbestos contaminated material in accordance with USDOT 49 CFR Parts 171 and 172. Labels shall state the following.

RQ HAZARDOUS SUBSTANCE SOLID, NOS
FORME, NA 9188
ASBESTOS

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- F. Generator identification information shall be affixed to each waste container, indicating the following and printed in indelible ink.

Generator Name: Essex County, New York
Facility Building Name: Mount Defiance Telecommunications Building
Facility Address: Ticonderoga, New York
Date: MM/DD/YYYY

2.4 POLYETHYLENE SHEETING

- A. Unless otherwise indicated, polyethylene sheeting used on this project shall be at least 6 mil fire retardant sheeting.
- B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting.

2.5 HEPA VACUUM EQUIPMENT

- A. All vacuuming performed in association with the abatement shall be conducted using HEPA-filter equipped industrial vacuums conforming to ANSJ 29.2.
- B. Provide tools and specialized equipment, including scraping nozzles with integral vacuum hoods connected to a REPA vacuum with flexible hose.

2.6 DISPOSAL BAGS, DRUMS, AND CONTAINERS

- A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with USDOT required markings.
- B. Provide 30- or 55-gallon capacity fiber or metal drums capable of being sealed-air and water-tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.
- C. Containers and bags must be labeled with the name of the waste generator and the location at which the waste was generated, in accordance with 40 CFR Part 61 NESHAPS.
- D. Containers and bags must be labeled with the date that they are moved from the waste decontamination enclosure to the waste transport container, in accordance with 12 NYCRR, Part 56-8.9(C)(3).
- E. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not, shall be handled and disposed of as ACM waste.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2.7 SURFACTANT (AMENDED WATER)

- A. Wet all ACM prior to removal with surfactant mix, and apply in accordance with manufacturer's printed instructions.

2.8 POWER TOOLS

- A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be manufacturer equipped with HEPA filtered local exhaust ventilation.

2.9 WATER AND ELECTRICAL

- A. Electrical service shall be coordinated with the Owner prior to initiation of abatement activities. The Contractor shall verify suitability and location of all connections.
- B. Water service is not available at the site.

2.10 OTHER PRODUCTS OR MATERIALS

- A. Other products or materials that are required for use during abatement activities shall comply with local, state, and federal codes and regulations, if applicable. The Contractor is expected to furnish and utilize industry standard equipment and materials. The Contractor shall not furnish equipment or materials that have been altered in such a manner that violates local, state, and/or federal codes and regulations, or presents unnecessary health and safety risks.

2.11 DELIVERY AND STORAGE

- A. Deliver all materials to the job site in original packages, with containers bearing manufacturer's name and label.
- B. Store all materials at the job site in a suitable and designated area.
- C. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
- D. Protect materials from unintended contamination and theft.
- E. Storage areas shall be kept clean and organized.
- F. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

PART 3 EXECUTION

3.1 PROJECT MEETINGS

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- A. The Contractor will be responsible for attending any pre-construction meetings, progress meetings, and/or project closeout meetings that may be required for this project. If the Owner or Owner's designated representatives do not specify any requisite project meetings, the Contractor shall verbally communicate with the appropriate project personnel (i.e., Owner, Construction Manager) prior to initiation of abatement activities, to ensure that the following items are understood between both parties.
1. Contractor's scope of work, Work Plan, work procedures, and schedule
 2. Contractor's safety and health precautions, including protective clothing and equipment and decontamination procedures, in addition to fire and emergency procedures
 3. Consultant's duties, functions, and authority
 4. Contractor's responsibilities for site security and site restoration
 5. Contractor's required pre-work and on-site submittals, documentation, and postings
 6. Temporary utilities
 7. Handling of furniture or other moveable objects
 8. Temporary storage of equipment, supplies, and waste materials
 9. Waste disposal requirements and procedures, including use of the Owner supplied waste manifest and container seals
- B. If not otherwise required, the Contractor shall request a pre-construction walk-through with appropriate project personnel (i.e., Owner, Construction Manager) to document existing conditions of finishes and furnishings and to review the overall Work Plan, location of fire exits, fire protection equipment, water supply, and temporary utilities.

3.2 NOTICES

- A. The Contractor shall provide notification of intent to commence asbestos abatement activities as indicated below.
1. At least 10 working days prior to beginning abatement activities, send written notification to:
United States Environmental Protection Agency
National Emissions Standards for Hazardous Air Pollutants Coordinator
26 Federal Plaza
New York, New York 10007
 2. At least 10 calendar days prior to beginning abatement activities, send written notification to:
New York State Department of Labor
Division of Safety and Health, Asbestos Control Program
State Office Campus
Building 12- Room 454
Albany, New York 12240
- B. The Contractor is required to send notifications to regulatory agencies via mail or package delivery service that will provide proof of delivery and receipt.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- C. The Contractor shall post and/or provide Building Occupant Notification at least (10) calendar days prior to beginning abatement activities, as required by New York State Industrial Code Rule 56. The posting shall include the following information.
1. The locations of the abatement project
 2. The amounts and types of ACM being abated
 3. The commencement and completion dates of the project
 4. The name, address, and asbestos license number of the Asbestos Abatement Contractor
 5. The name, address, and license number of the Consultant
 6. The name, address, and NYSDOH ELAP number of the laboratory providing analytical services.

3.3 PERSONAL PROTECTIVE EQUIPMENT

- A. The use of respirators must be in compliance with applicable OSHA regulations. Respirators shall be worn until outside of the decontamination room.
- B. Disposable protective clothing shall be donned upon entering the decontamination room before entering the work area. Street clothes shall be placed in a storable locker or bin. Workers exiting the work area shall immediately remove protective clothing and place the waste into sealable containers.

3.4 PERSONAL AIR MONITORING

- A. In addition to the requirements of OSHA 1926.1101, the Contractor shall be required to perform personal air monitoring every work shift in each work area during which abatement activities occur, in order to determine that appropriate respiratory protection is being worn and utilized.
- B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits.
- C. Results of personal air monitoring analyses shall be available, verbally, within 24 hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the work site within 5 days. Failure to comply with these requirements may result in all work being stopped until compliance is achieved.

3.5 PROJECT SUPERVISOR

- A. The Contractor shall designate a full-time Project Supervisor, who shall meet the following qualifications.
1. The Project Supervisor must hold a current New York State certification as an Asbestos Contractor Supervisor.
 2. The Project Supervisor must meet the requirements of a "Competent Person", as defined by OSHA 1926.1101, and shall have a minimum of 5 years experience as a Supervisor.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3. The Project Supervisor must be able to speak, read, and write English fluently, as well as communicate in the primary language of the Workers.
4. If the Project Supervisor is not on-site at any time whatsoever, all work will be stopped. The Project Supervisor will remain on-site until the Project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Consultant. The Project Supervisor will be removed from the Project, if so requested, by the Owner.
5. The Project Supervisor will maintain the Project Log Book in accordance with 12 NYCRR, 56-7.3 and the Waste Disposal Log required by Section 4.4 of this specification.
6. The Project Supervisor will be responsible for the performance of the work and shall represent the Contractor in all respects at the Project site. The Supervisor will be the primary point of contact for the Asbestos Project Monitor.

3.6 ON-SITE DOCUMENTATION

- A. The following submittals, documentation, and postings shall be maintained on-site during abatement activities at a location approved by the Asbestos Project Monitor.
 1. Valid Contractor license issued by the NYSDOL
 2. Worker certification, training, and medical surveillance records
 - a. Current New York State Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos
 - b. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101
 - c. Documentation that Workers have been fit tested specifically for respirators used on the project
 - d. Workers Acknowledgment Statements signed by each employee stating that the employee has received training in the proper handling of ACM; understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used
 3. Daily OSHA personal air monitoring results
 4. NYSDOH ELAP certification for the laboratory that will be analyzing the OSHA personal air samples
 5. NYSDEC Waste Transporter Permit
 6. Project documents (specifications and drawings)
 7. Notifications and variances (site-specific) - ensure that the most up-to-date notifications and variances are on-site
 8. Applicable regulations
 9. Material Safety Data Sheets (MSDS) of supplies/chemicals used on the project
 10. Approved Abatement Work Plan
 11. List of emergency telephone numbers
 12. Waste disposal log
 13. Project log book
- B. Medical approval, fit test reports, Worker Acknowledgment Statements, and NYSDOL certificates shall be on-site prior to admittance of any Contractor's employees to the asbestos abatement work area.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3.7 TEMPORARY UTILITIES

- A. Shut down and lock out all electrical power to the asbestos abatement work area.
- B. Provide temporary 120-240 volt, single phase, three-wire, 100 amp electric service with ground fault circuit interrupters (GFCI) for all electric requirements within the asbestos abatement work area.
 - 1. Where available, obtain a power supply from the Owner's existing system. Otherwise, provide power from other sources (i.e., generator).
 - 2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
 - 3. Provide wiring and receptacles, as required by the Consultant, for air sampling equipment.
 - 4. All power to the work area shall be brought in from outside the area through GFCI at the source.
- C. Provide temporary lighting with "weatherproof" fixtures for the work area, including decontamination chambers.
 - 1. The entire work area shall be kept illuminated at all times.
 - 2. Provide lighting, as required by the Consultant, for performance of required visual assessments.
- D. All temporary devices and wiring used in the work area shall be capable of withstanding decontamination procedures, including HEPA vacuuming and wet wiping.
- E. Utilize domestic water services, if available, from the Owner's existing system. Provide hot water heaters with sufficient capacity to meet project demands.

3.8 DECONTAMINATION ENCLOSURES AND WORK AREA PREPARATION

- A. The work area must be vacated by building occupants prior to decontamination enclosure construction and work area preparation.
- B. All demolition necessary to access ACM for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris must be disposed of as asbestos waste.
- C. Provide a personal decontamination enclosure contiguous to each work area. The following conditions shall apply for the construction of a personal decontamination enclosure.
 - 1. The decontamination enclosure shall be attached to the work area and shall be fully framed and sheathed to prevent unauthorized entry.
 - 2. For large asbestos projects, access to the work area shall be from the clean room through an airlock to the shower, followed by an airlock to the equipment room to the work area. For small asbestos projects, access to the work area will be from the clean room, to the shower, and through the equipment room to the work area. Each airlock shall be a minimum of 3 feet from door to door.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3. The decontamination enclosure ceiling and walls shall be covered with one layer of opaque 6 mil fire retardant polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.
 4. Establish a triple layer of 6 mil polyethylene at the decontamination chamber doorways, weighted to ensure a tight seal of the enclosure. Prior to establishing doorway seals, move all required tools, scaffolding, and equipment into the work area.
 5. The entrance to the clean room shall have a lockable door. The clean room shall be sized to accommodate all full-shift Workers and the Asbestos Project Monitor. The minimum dimensions of the clean room shall be 32 square feet for every 6 full-shift Workers, and 6 feet in height. Provide suitable lockers for storage of Workers' street clothes. Storage for respirators, along with replacement filters and disposable towels, shall also be provided.
 6. Provide a temporary shower, with individual hot and cold water supplies and faucets. Provide a sufficient supply of soap and shampoo. There shall be 1 shower for every 6 full-shift abatement workers. The shower room shall be constructed in such a way so that travel through the shower chamber shall be through the shower. The shower shall not be able to be bypassed.
 7. Shower water shall be drained, collected, and filtered through a system with at least a 5.0 micron particle size collection capability, containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered wastewater shall then be discharged in accordance with applicable codes, and the contaminated filters shall be disposed of as asbestos waste.
 8. The equipment room shall be used for the storage of tools and equipment. A walk-off pan filled with water shall be located in the work area outside the equipment room for workers to clean foot coverings when leaving the work area. A labeled 6 mil plastic ACM waste bag, for collection of contaminated clothing, shall be located in this room.
 9. The personal decontamination enclosure shall be cleaned and disinfected, at a minimum, at the end of each work shift and as otherwise directed by the Asbestos Project Monitor.
- D. Provide a waste decontamination enclosure contiguous to each work area. The following conditions shall apply for the construction of a waste decontamination enclosure.
1. The decontamination enclosure shall be attached to the work area and not located within it. The decontamination enclosure shall be fully framed and sheathed to prevent unauthorized entry.
 2. The waste decontamination enclosure system shall consist of a washroom/cleanup room to the work area and an airlock doorway to the holding area. The airlock shall be a minimum of 3 feet from door to door. The entrance to the holding area shall have a lockable door.
 3. The decontamination enclosure ceiling and walls shall be covered with one layer of opaque 6 mil fire retardant polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

4. Establish a triple layer of 6 mil polyethylene at the decontamination chamber doorways, weighted to ensure a tight seal of the enclosure. Prior to establishing doorway seals, move all required tools, scaffolding, and equipment into the work area.
 5. Where there is only one egress from the work area, the holding area of the waste decontamination enclosure system may branch off from the personal decontamination enclosure equipment room, which may then serve as the waste wash room.
- E. The following conditions shall apply to work area preparation procedures.
1. Asbestos danger signs shall be posted at all approaches to the asbestos abatement work area. Post all emergency exit signs only on the work area side at the containment, and post with asbestos caution signs on the non-work area side. Provide all non-work area stairs and corridors accessible to the asbestos abatement work area with warning tapes at the base of stairs and beginning of corridors. Warning tape shall be utilized in addition to caution signs.
 2. Shut down and lock out the building heating, ventilation, and air conditioning (HVAC) and electrical systems. Provide temporary electric power and lighting, as specified in Subpart 3.9.
 3. All surfaces and objects within the work area shall be pre-cleaned using HEPA vacuuming and/or wet wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.
 4. Movable objects within the work area shall be HEPA vacuumed and/or wet wiped and removed from the work area.
 5. All non-movable equipment in the work area shall be completely covered with 2 layers of polyethylene sheeting, at least 6 mil in thickness, and secured in place with duct tape and/or spray adhesive.
 6. Provide enclosure of the asbestos abatement work area necessary to isolate it from unsealed areas of the building, in accordance with the approved Asbestos Abatement Work Plan, and as specified herein.
 7. Seal off all openings, including, but not limited to, windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the work area enclosure, using 2 layers of at least 6 mil fire retardant polyethylene sheeting to form a critical barrier.
 8. Provide temporary framing and sheathing at openings larger than 32 square feet that form the limits of the asbestos abatement work area. Sheathing thickness must be a minimum of 3/8-inch, and all sheathing shall be caulked and the work area side sealed with 2 layers of 6 mil polyethylene sheeting to form an isolation barrier.
 9. Sheeting shall be secured with spray adhesive and then sealed with duct tape. All joints in polyethylene sheeting shall overlap a minimum of 12 inches.
 10. Frame out emergency exits. Provide double-layered 6 mil polyethylene sheeting and tape seal opening. Post as emergency exits only. Within the work area, mark the locations and directions of emergency exits throughout the work area, using exit signs and/or duct tape.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

11. Remove all items attached to, or in contact with, ACM only after the work area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to removal from the work area and before the start of asbestos removal operations.

3.9 WORK AREA ENTRY AND EXIT PROCEDURES

- A. Access to and from the asbestos abatement work area is permitted only through the personal decontamination enclosure, unless otherwise stipulated in a site-specific or applicable variance.
- B. Workers shall sign the entry/exit log upon every entry and exit.
- C. The following procedures shall be followed when entering the work area.
 1. Before entering the work area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
 2. Workers shall proceed from the clean room, through the shower room and the equipment room, and into the work area.
- D. The following procedures shall be followed when exiting the work area.
 1. Before leaving the work area, gross asbestos contamination shall be removed by brushing, wet cleaning, and/or HEPA vacuuming.
 2. In the equipment room, Workers shall remove disposable clothing, but not respirators, and shall place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
 3. Workers shall shower thoroughly while wearing respirators, and then wash respirator with soap and water prior to removal.
- E. Upon exiting the shower, Workers shall don new disposable clothing if the work shift is to continue or street clothes to exit the area. Under no circumstances shall Workers enter public, non-work areas in disposable protective clothing.

3.10 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

- A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.04 inches of water column within all full enclosure areas relative to adjacent unsealed areas, and that provides a minimum of 6 air changes per hour in the work area during abatement.
- B. Such filtration systems must be operated 24 hours per day during the entire Project, until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.
- C. The system shall include a series of pre-filters and filters to provide HEPA filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.9% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) shall be installed and fully functional to be used during primary unit(s) filter changing and in case of primary failure. There shall be at least one back-up unit for every five primary units.
- E. Upon electric power failure or shut-down of any filtration unit, all abatement activities shall stop immediately and only resume after power is restored and all filtration units are fully operating. For shut-downs longer than one hour, all openings into the work area, including the decontamination enclosures, shall be sealed.
- F. The Contractor shall provide a manometer with a chart recorder to measure and record negative pressure differential across the work area barriers without interruption 24 hours per day for all OSHA class I friable asbestos projects.

3.11 REMOVAL OF ASBESTOS-CONTAINING MATERIALS

- A. ACM shall be removed in accordance with the Contract Documents and the approved Asbestos Abatement Work Plan.
- B. Should the area beyond the work area become contaminated with ACM or elevated fiber levels, immediately stop work and institute emergency procedures. Contaminated non-work areas shall be isolated and subsequently decontaminated in accordance with procedures established for asbestos removal. All costs incurred from decontaminating such non-work areas and the contents thereof shall be borne solely by the Contractor, at no additional cost to the Owner.
- C. Perform all asbestos removal work using wet removal procedures. Mix and apply surfactant in accordance with manufacturer's written instructions. Dry removal procedures are not permitted.
- D. Sufficiently wet asbestos materials with a low pressure, airless fine spray of amended water to ensure full penetration prior to ACM removal. Re-wet materials that do not display evidence of saturation.
- E. A sufficient number of Workers shall continuously apply amended water while ACM is being removed. Excess water must be contained within the work area at all times and should be continuously containerized through the use of a HEPA equipped wet/dry vacuum or other adequate methods.
- F. Perform cutting, drilling, abrading, or any penetration or disturbance of ACM in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power-operated tools used shall be provided with HEPA equipped filtered local exhaust ventilation.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- G. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate or whenever there is enough accumulation to fill a single bag or container. Maintain work area surfaces free of accumulation of asbestos debris.
- H. Power or pressure washers are not permitted for asbestos removal or clean-up procedures.
- I. All open ends of pipe and duct insulation not scheduled for removal shall be encapsulated using lag cloth.
- J. All construction and demolition debris determined by the Consultant to be contaminated with asbestos shall be handled and disposed of as asbestos waste.
- K. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

3.12 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES

- A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the work area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. The work area personnel shall not enter the airlock.
- B. The containers and equipment shall be removed from the airlock by personnel stationed in the wash room during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.
- C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting, dependent upon the physical characteristics of the item, and sealed airtight.
- D. The clean re-containerized items shall be moved into the airlock that leads to the holding area. Workers in the wash room shall not enter this airlock or the work area until waste removal is finished for that period.
- E. Containers and equipment shall be moved from the airlock and into the holding area by personnel dressed in clean personal protective equipment, and who have entered from uncontaminated areas.
- F. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.
- G. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- H. Where the waste removal enclosure is part of the personal decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.

3.13 WORK AREA DECONTAMINATION

- A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, decontamination procedures shall be performed, as specified in 12 NYCRR 56, Subpart 9.1, unless modified by a site-specific or applicable variance.
- B. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.
- C. Where the waste removal enclosure is part of the personnel decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.
- D. After isolation and critical barriers are removed, the Consultant shall inspect the work areas for cleanliness. If necessary, additional cleaning shall be performed by the Contractor, as directed by the Consultant.
- E. As a result of any unsatisfactory visual assessment by the Consultant, or should final clearance air sampling results indicate high fiber levels, the Contractor will clean or re-clean the affected areas at no additional expense to the Owner.

3.14 TENT ENCLOSURES (IF APPLICABLE)

- A. Tent enclosures may only be used in areas specifically permitted by the NYSDOL Industrial Code Rule 56 or a project site-specific variance issued by the NYSDOL.
- B. The Contractor shall restrict access to the immediate area where tent removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.
- C. The Contractor shall not construct or utilize remote personal and waste decontamination enclosure systems. The personal and waste decontamination enclosure systems shall be connected to the work area.
- D. The work area shall be pre-cleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with 2 layers of 6 mil polyethylene and tape.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- E. The tent shall be a single-use barrier constructed with a rigid frame and at least 2 layers of 6 mil polyethylene, unless 1 layer of 6 mil polyethylene is otherwise permitted by NYCRR 56 and/or a site-specific variance. All seams shall be sealed airtight using duct tape and/or spray adhesive.
- F. During removals, negative pressure filtration units shall be used to maintain negative air pressure inside the tent.
- G. OSHA compliance air monitoring is required per Subpart 3.4 of this specification section.
- H. ACM removal shall follow procedures defined in Subpart 3.11 of this specification section.
- I. Waste material shall be placed in properly labeled 6 mil plastic bags or other appropriate containers. The outside of the bags or containers shall be wet wiped and/or HEPA vacuumed before being passed into the waste decontamination enclosure system for double-bagging. All transportation of waste bags and containers outside the work area shall be in watertight carts.
- J. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the decontamination procedures below shall be followed.
 - 1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the work area.
 - 2. All surfaces in the work area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and shall be decontaminated prior to removal from the work area.
 - 3. The Asbestos Project Monitor shall conduct a visual assessment of the work area for cleanliness and completion of abatement.
 - 4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the work area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
 - 5. After the encapsulant has dried, aggressive final clearance air sampling shall be conducted by the Asbestos Project Monitor.
 - 6. Upon receipt of satisfactory final clearance air sampling results, the tent shall be collapsed into itself, placed in suitable disposal bags, and transported to the waste decontamination enclosure. Isolation and critical barriers shall then be removed.

3.15 GLOVEBAG REMOVAL (IF APPLICABLE)

- A. In addition to conformance with applicable regulations and variances, glovebag removals are only permitted to be conducted within tent enclosures complying with these specifications. Removal and disposal must also be conducted in conformance with all regulatory conditions.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- B. The Contractor shall restrict access to the immediate area where tent/glovebag removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.
- C. The work area shall be pre-cleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with 2 layers of 6 mil polyethylene and tape.
- D. Glovebag removals shall utilize commercially available glovebags of at least 6 mil thickness. Use shall be in accordance with the manufacturer's instructions and the following minimum requirements.
 - 1. The sides of the glovebag shall be cut to fit the size of pipe being removed. Tools shall be inserted into the attached tool pocket.
 - 2. The glovebag shall be placed around the pipe and the open edges shall be folded and sealed with staples and duct tape. The glovebag shall also be sealed at the pipe to form a tight seal.
 - 3. Openings shall be made in the glovebag for the wetting tube and HEPA vacuum hose. The opening shall be sealed to form a tight seal.
 - 4. All glovebags shall be smoke tested by the Contractor and verified by the Asbestos Project Monitor before removal operations commence. Glovebags that do not pass the smoke test shall be resealed and then retested.
 - 5. After first wetting the materials to be removed, removal may commence. ACM shall be continuously wetted. After removal of the ACM, the piping shall be scrubbed or brushed, so that no visible ACM remains. Open ends of pipe insulation shall be encapsulated.
 - 6. After the piping is cleaned, the inside of the glovebag shall be washed down and the wetting tube removed. Using the HEPA vacuum, the glovebag shall be collapsed and then twisted and sealed with the tape with the ACM at the bottom of the bag.
 - 7. A disposal bag shall be placed around the glovebag that is then detached from the pipe. The disposal bag is then sealed and transported to the decontamination enclosure.

3.16 RESTORATION OF FACILITIES

- A. The Contractor shall remove temporary utilities upon completion of abatement activities and notification of compliance with clearance criteria. All temporary power shall be disconnected, power lockouts removed, and power restored. All temporary plumbing shall be removed.
- B. The Contractor shall be prepared to remove, replace, and/or repair any existing properties disrupted and/or damaged during performance of the work. For areas that may be impacted by later construction and renovation activities, the Contractor is responsible for communicating with appropriate site personnel and documenting which building materials and finishes can remain as-is subsequent to completion of abatement activities.
 - 1. Finishes unable to be restored shall be replaced under this Contract by the Contractor at no additional cost to the Owner.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2. All foam and expandable foam products and materials used to seal work area openings shall be completely removed upon completion of abatement activities.
3. All penetrations (including, but not limited to, pipes, ducts, etc.) through fire-rated construction shall be fire-stopped using materials and systems tested in accordance with ASTM E814 on projects where re-insulation is part of the required work.

3.17 DISPOSAL OF ASBESTOS WASTE

- A. All asbestos waste shall be stored, transported, and disposed of in accordance with the following regulations as a minimum.
 1. NYSDEC 6 NYCRR Parts 360 and 364
 2. USEPA NESHAPS 40 CFR 61
 3. USEPA Asbestos Waste Management Guidance EPA/530-SW85
- B. The following conditions shall apply for transportation of waste and the selected disposal site.
 1. The Contractor's hauler and disposal site shall be pre-approved by the Owner or Owner's designated representative.
 2. The Contractor shall provide 24-hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours, unless otherwise specified. No waste may be taken from the site, unless the Contractor and Consultant authorize the release of the waste, as described herein.
 3. The Contractor shall have the hauler provide the estimated date and time of arrival at the disposal site.
 4. Upon arrival at the project site, the hauler must possess and present to the Consultant a valid NYSDEC Part 364 Asbestos Hauler's Permit. The Consultant may verify the authenticity of the hauler's permit with the proper authority.
 5. The hauler, with the Contractor and the Consultant, shall inspect all material in the transport container prior to taking possession and signing the asbestos waste manifests.
 6. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The hauler must travel directly to the disposal site, as identified on the notifications, with no unauthorized stops.
- C. The following conditions shall apply to waste storage containers.
 1. All waste containers shall be fully enclosed and lockable (i.e., enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e., open dumpster with canvas cover, etc.), unless specifically permitted by an applicable or site-specific variance.
 2. The Consultant shall verify that the waste storage container and/or truck tags (license plates) match that listed on the NYSDEC Part 364 permit. Any container not listed on the permit shall be removed from the site immediately.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3. The container shall be plasticized and sealed with a minimum of 2 layers of 6 mil polyethylene on the sides and floor. Once on site, the waste container shall be kept locked at all times, except during load out. The waste container shall not be used for storage of equipment or Contractor supplies.
 4. While on-site, the container shall be labeled with USEPA danger signage in accordance with Subpart 2.3 D of this specification section.
 5. The NYSDEC Asbestos hauler's Permit number shall be stenciled on both sides and the back of the container.
 6. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.
 7. Random checks may be initiated at the disposal site to ensure that procedures outlined herein are complied with.
- D. The following conditions shall apply to the Owner's and hauler's asbestos waste manifests.
1. An asbestos waste manifest shall be utilized in conjunction with the asbestos hauler's manifest.
 2. The hauler's manifest shall be completed by the Contractor and verified by the Consultant that all the information and amounts are accurate and the proper signatures are in place.
 3. The manifests shall have the appropriate signatures of the Contractor and the hauler representatives prior to any waste being removed from the site.
 4. Copies of the completed hauler's manifest shall be retained by the Consultant and the Contractor, and shall remain on site for inspection.
 5. Upon arrival at the disposal site, the hauler's manifest shall be signed by the disposal facility operator to certify receipt of ACM covered by the manifest.
 6. The disposal facility operator shall return the original hauler's manifest and the container seals to the Contractor.
 7. The Contractor shall forward copies of the Owner's Hauler's Manifest to the Consultant within 14 calendar days of the waste container being removed from the site. Failure to do so may result in payment being withheld from the Contractor.
 8. The Contractor shall utilize waste disposal logs. This log shall be maintained by the Project Supervisor and shall be kept on site at all times.
 9. Originals of all waste disposal manifests, seals, and disposal logs shall be submitted by the Contractor to the Owner with the final close-out documentation.

3.18 PROJECT MONITORING AND SAMPLING

- A. A Consultant will be retained, under separate contract, to serve as the Abatement Project Monitor and Owner's representative in regard to the performance of the asbestos abatement activities.
- B. The Contractor is required to ensure cooperation with the Consultant, and to comply with direction provided by the Consultant during the course of the project.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- C. The Consultant shall provide the following administrative services.
1. Review and approve or disapprove submittals, as these pertain to proposed asbestos abatement procedures.
 2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner and are correct in content.
- D. The Consultant shall staff the project with trained and/or certified personnel, designated as the Asbestos Project Monitor, to observe removal work and collect samples.
1. The Asbestos Project Monitor shall be on-site at all times during which the Contractor is on-site.
 2. The Contractor shall not be permitted to conduct any work unless the Asbestos Project Monitor is on-site. The Asbestos Project Monitor shall observe the Contractor's work practices and procedures for compliance with regulations and project specifications. The Asbestos Project Monitor shall have with the project documents and regulations.
 3. The Asbestos Project Monitor shall have the authority to stop work when gross work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area exceed 0.01 fibers per cubic centimeter or background level, whichever is higher. Such stop work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.
 4. The Asbestos Project Monitor shall provide the following services.
 - a. Observation of the Contractor's work practices and procedures, including temporary protection requirements, for compliance with all regulations and project specifications.
 - b. Provide abatement project air sampling as required by applicable regulations (NYSDOL) and the Owner. Sampling will include background, work area preparation, abatement, and clearance sampling.
 - c. Verify daily that all Workers used in the performance of the project are certified by the appropriate regulatory agencies.
 - d. Monitor the progress of the Contractor's work, and report any deviations from the schedule to the Owner.
 - e. Monitor, verify, and document all waste load-out operations.
 - f. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
 - g. The Asbestos Project Monitor shall maintain a log that documents all project-related decisions, actions, activities, and occurrences.
 5. The following minimum assessments shall be conducted by the Asbestos Project Monitor. Additional assessments shall be conducted as required by project conditions. Progression from one phase of the work to the next by the Contractor is only permitted with the written approval of the Asbestos Project Monitor.
 - a. Pre-Construction Assessment: The purpose of this assessment is to verify the existing conditions of the work area and to document these conditions.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- b. Pre-Commencement Assessment: The purpose of this assessment is to verify the integrity of each containment system prior to disturbance of any ACM. This assessment shall take place only after the work area is fully prepared.
 - c. Abatement Assessments: The purpose of these assessments is to observe the work practices and procedures and observe the continued integrity of the containment system. Assessments within the removal areas shall be conducted by the Asbestos Project Monitor during preparation, removal, and cleaning activities at least twice every work shift. Additional assessments shall be conducted as warranted.
 - d. Visual Clearance Assessment: The purpose of this assessment is to verify the Contractor's certification that identified materials have been removed from the work area and the absence of all visible accumulations of debris in the work area. This assessment shall be conducted after encapsulation and removal of all surface plastic in the area, except for critical barriers, but before final air clearance testing. This assessment shall be conducted in general accordance with ASTM E 1368 "Standard Practice for Visual Inspection of Asbestos Abatement Projects.
 - e. Post-Clearance Assessment: The purpose of this assessment is to ensure the complete removal of the identified ACM, including debris, from the work area after obtaining satisfactory analytical results for final clearance samples and completing removal of all containment and barrier systems and equipment from the work area.
- E. The Consultant shall provide abatement project air sampling and analysis as required by applicable regulations (NYSDOL). Sampling will include background, work area preparation, abatement, and clearance sampling.
- 1. Unless otherwise required by applicable regulations, the Consultant shall have samples analyzed by phase contrast microscopy (PCM). Results shall be available within 24 hours after completion of sampling.
 - 2. For large and small projects, samples shall be collected as required by applicable regulations (NYSDOL).
 - 3. If the air sampling during abatement reveals airborne fiber levels at or above 0.01 fibers/cc or the background level (whichever is greater) outside the work area, then the Consultant shall issue an immediate stop work order. The Contractor shall then inspect the barriers for leakage and HEPA vacuum and/or wet clean the surface outside the work area. The Contractor shall bear the burden of any and all costs incurred by this delay.
 - 4. Clearance air sampling shall be performed by TEM in accordance with 12 NYCRR, Part 56-9.2 and 40 CFR 763 Subpart E AHERA regulations.
 - 5. Should any clearance sample(s) fail to meet clearance criteria, the Contractor will be directed to re-clean the work area, and new clearance air samples will be collected. The Contractor shall be responsible for any and all costs incurred due to clearance sample failures.
 - 6. The Consultant shall submit copies of all final air clearance results to the NYSDOL at the completion of the project.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 02316

ROCK REMOVAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes removal of identified and discovered rock during excavation and expansive tools to assist rock removal.

1.2 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.
- 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.
- C. Rock: Solid mineral material of size that cannot be removed with one and one half (1½) cu yd capacity excavator.

1.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate proposed method of rock removal.

1.4 SCHEDULING

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Schedule Work to avoid disruption to occupied buildings nearby.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Mechanical Disintegration Compound: Grout mix of materials that expand on curing.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 as directed by Engineer.

3.4 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Generator pad.
 - 2. Sidewalk and ductbank.
 - 3. Antenna Tower foundation

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.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- 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
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Steel reinforcement and accessories.
 - 4. Curing compounds.
 - 5. Adhesives
 - 6. Bonding Agents.
- B. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. Testing Agency Qualifications: An independent agency, 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. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- D. 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.
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- E. Concrete Testing Service: The contractor shall engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

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.
- 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. 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.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

E. 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.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

B. Epoxy-Coated Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed bars, ASTM A 775/A 775M or ASTM A 934/A 934M, epoxy coated, with less than 2 percent damaged coating in each 12-inch bar length.

C. 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. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A 775/A 775M.

B. 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. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I/II, gray, except pigmented cement to be used at colored/polished slab areas noted on drawings. Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33, coarse aggregate or better, graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 1-1/2 inches nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- C. Water: ASTM C 94/C 94M and 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. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.

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, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Anti-Hydro International, Inc.; AH Clear Cure WB.
 - b. BASF Construction Chemicals - Building Systems; Kure-N-Seal WB.
 - c. ChemMasters; Safe-Cure & Seal 20.
 - d. Conspec by Dayton Superior; Cure and Seal WB.
 - e. Cresset Chemical Company; Crete-Trete 309-VOC Cure & Seal.
 - f. Dayton Superior Corporation; Safe Cure and Seal (J-18).
 - g. Edoco by Dayton Superior; Spartan Cote WB II.
 - h. Euclid Chemical Company (The), an RPM company; Aqua Cure VOX; Clearseal WB 150.
 - i. Kaufman Products, Inc.; Cure & Seal 309 Emulsion.
 - j. Lambert Corporation; Glazecote Sealer-20.
 - k. L&M Construction Chemicals, Inc.; Dress & Seal WB.
 - l. Meadows, W. R., Inc.; Vocomp-20.
 - m. Metalcrete Industries; Metcure.
 - n. Nox-Crete Products Group; Cure & Seal 150E.
 - o. Symons by Dayton Superior; Cure & Seal 18 Percent E.
 - p. TK Products, Division of Sierra Corporation; TK-2519 WB.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

q. Vexcon Chemicals, Inc.; Starseal 309.

2.7 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
 - 1. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- C. 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. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash: 25 percent. Not permitted at colored and polished concrete.
 - 2. Combined Fly Ash and Pozzolan: 25 percent. Not permitted at colored and polished concrete.
 - 3. Ground Granulated Blast-Furnace Slag: 50 percent. Not permitted at colored and polished concrete.
 - 4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent. Not permitted at colored and polished concrete.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 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. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2.9 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Footings and Foundation Walls: Proportion normal-weight concrete mixture as follows:
 - 1. Minimum Compressive Strength: 4000 psi at 28 days.
 - 2. Maximum Water-Cementitious Materials Ratio: 0.50.
 - 3. Slump Limit: 4 inches, plus or minus 1 inch.
 - 4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch nominal maximum aggregate size.
- B. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:
 - 1. Minimum Compressive Strength: 4000 psi at 28 days.
 - 2. Minimum Cementitious Materials Content: 500 lb/cu. yd..
 - 3. Slump Limit: 4 inches, plus or minus 1 inch.
 - 4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-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. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

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 B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. 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 24 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.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- B. 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.
- C. 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.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.
- F. Epoxy-Coated Reinforcement: Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M. Use epoxy-coated steel wire ties to fasten epoxy-coated steel reinforcement.

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. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. 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

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. 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.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 4. Slope surfaces uniformly to drains where required.
 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. 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.
- G. 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.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 concrete surfaces not exposed to public view.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 - 1. Apply to concrete surfaces exposed to public view.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.7 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
 - 1. Apply float finish to surfaces to receive trowel finish.
- C. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 - 1. Apply a trowel finish to surfaces exposed to view.
 - 2. Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
 - a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and of levelness, F(L) 15.
- D. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.
 - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3.8 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.
- B. Equipment Bases and Foundations:
 - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
 - 2. Construct concrete bases as shown on drawings.
 - 3. Minimum Compressive Strength: 4000 psi at 28 days.

3.9 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. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. 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.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. 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. 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.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
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.

3.10 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. 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.
- C. 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.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
 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. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. 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.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.11 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Contractor will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports. **Contractor shall be responsible to notify special inspector of when tests will be performed. Notify special inspector at least 24 hours in advance of testing.**
- B. Inspections:
1. Steel reinforcement placement.
 2. Anchor bolts, headed bolts and studs.
 3. Verification of use of required design mixture.
 4. Concrete placement, including conveying and depositing.
 5. 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., plus one set for each additional 20 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.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. 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.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure four standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one laboratory-cured specimens at 7 days and two specimens at 28 days. If the average of the two specimens tested at 28 days does not meet the specified strength then the fourth specimen shall be tested at 56 days.
 - a. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.

Cast-In-Place Concrete

03300

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION

Cast-In-Place Concrete

03300

15

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 04200

UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENT

- 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.
 - 3. Ties and anchors.

1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).

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.
 - 2. Mortar Test (Property Specification): For each mix required, according to ASTM C 780 for compressive strength.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.6 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.
 - 2. Cementitious materials. Include brand, type, and name of manufacturer.
 - 3. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
 - 4. Anchors, ties, and metal accessories.
- B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.7 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM C 1093 for testing indicated.
- B. 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.
- C. 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.
- D. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

1.8 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. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. 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.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.9 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1. Extend cover a minimum of 24 inches down both sides of walls and hold cover securely in place.
- B. 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.
- C. 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 seven days after completing cleaning.
- D. 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.
- B. CMUs: ASTM C 90.
 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2800 psi.
 2. Density Classification: Normal weight unless otherwise indicated.

2.2 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. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304.
 2. Stainless-Steel Sheet: ASTM A 666, Type 304.
 3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Corrugated Metal Ties: Metal strips not less than 1 1/4 inch wide with corrugations having a wavelength of and an amplitude of 0.06 to 0.10 inch made from 12 gauge, stainless-steel sheet.
 - 1) Hohmann & Barnard, Inc.; 345 corrugated Buck Anchor.

2.3 MISCELLANEOUS MASONRY ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene urethane or PVC.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2.4 MORTAR 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 portland cement-lime masonry cement or mortar cement mortar unless otherwise indicated.
 - 3. 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 or needed to provide required compressive strength of masonry.
 - 1. For all masonry, use Type S.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- B. 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.
- C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

3.2 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:

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 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.
3. 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.
4. 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.
5. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

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 head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.

3.3 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. 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, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

3.4 MORTAR BEDDING AND JOINTING

- A. 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.
 1. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3.5 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 comply with specified requirements shall be done at Contractor's expense.

3.6 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. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
 - 4. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.
 - 5. Clean stone trim to comply with stone supplier's written instructions.
 - 6. Clean limestone units to comply with recommendations in ILI's "Indiana Limestone Handbook."

3.7 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.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 05120

STRUCTURAL STEEL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Channels and angles.
 - 2. Fasteners, connectors, and anchors.
 - 3. Grout.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate sizes, spacing, and locations of structural members, openings, connections, cambers, loads, and welded connections.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with the following:
 - 1. AISC Code of Standard Practice for Steel Buildings and Bridges.
 - 2. AISC Seismic Provisions for Structural Steel Buildings.
 - 3. RCSC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts.

1.4 QUALIFICATIONS

- A. Fabricator: Company specializing in performing Work of this section with minimum 3 years experience with the following current AISC Certification:
 - 1. Standard Steel Building Structures (STD).
 - 2. Conventional Steel Building Structures (SBD).
 - 3. Complex Steel Building Structures (CBD).
 - 4. Erector: Company specializing in performing Work of this section with minimum 3 years experience.
- B. Shop Painter: Company specializing in performing Work of this section with minimum 3 years experience.
- C. Welders and Welding Procedures: AWS D.1 qualified within previous 12 months.

PART 2 PRODUCTS

2.1 STRUCTURAL STEEL

- A. Channels and Angles: ASTM A36/A36M.
- B. Steel Pipe: ASTM A 53/A 53M, Type E or Type S, Grade B

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2.2 FASTENERS, CONNECTORS, AND ANCHORS

- A. Bolts: ASTM A307; Grade A or B.
 - 1. Finish: Hot-dip zinc coating.
- B. Nuts: ASTM A563 heavy hex type.
 - 1. Finish: Hot-dip zinc coating.
- C. Washers: ASTM F436; Type 1, circular
 - 1. Finish: Hot-dip zinc coating.

2.3 WELDING MATERIALS

- A. Welding Materials: AWS D1.1; type required for materials being welded.

2.4 ACCESSORIES

- A. Grout: Non-shrink type, pre-mixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing additives, capable of developing minimum compressive strength of 7,000 psi at 28 days.
- B. Shop and Touch-Up Primer: SSPC Paint 15, Type 1, red oxide.

2.5 FABRICATION

- A. Continuously seal joined members by continuous welds. Grind exposed welds smooth.
 - 1. Fabricate connections for bolt, nut, and washer connectors.

2.6 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
 - 1. Fill vent and drain holes that are exposed in the finished Work unless they function as weep holes, by plugging with zinc solder and filing off smooth.

2.7 SOURCE QUALITY CONTROL AND TESTS

- A. Shop test bolted and welded connections as specified for field quality control tests.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify bearing surfaces are at correct elevation.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3.2 PREPARATION

- A. Furnish templates for installation of anchor rods and embedments in concrete and masonry work.

3.3 ERECTION

- A. Allow 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.
- B. Field weld components indicated on shop drawings.
- C. Do not field cut or alter structural members without approval of Architect/Engineer.
- D. After erection, touch up welds and abrasions to match shop finishes.

3.4 GROUT INSTALLATION

- A. Fill void under bearing surface with grout. Install and pack grout to remove air pockets.
- B. Moist cure grout.
- C. Remove forms after grout is set. Trim grout edges to form smooth surface, splayed 45 degrees.

3.5 FIELD QUALITY CONTROL

- A. Welding:
 - 1. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.
 - 2. Visually inspect all welds.
 - 3. Ultrasonic Inspection: ASTM E164; perform on all full penetration welds.
- B. Correct defective welds.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 05400

COLD-FORMED METAL FRAMING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes non-load bearing formed steel stud framing.

1.2 SYSTEM DESCRIPTION

- A. Size components to withstand design loads as follows:
 - 1. Vertical Assembly: psf positive and 15 psf negative.
- B. Maximum Allowable Deflection: 1: 360 of span.
- C. Wall System:
 - 1. Design to AISI SG-973 - Cold-Formed Steel Design Manual.
 - 2. Design to provide for movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
- D. Design system to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.
- E. Seismic Design: Design and detail elements and connections to resist seismic force in accordance with New York State Building Code requirements and ACI 318 for applicable Seismic Zone, Soil Profile Type, and Seismic Importance Factor.

1.3 SUBMITTALS

- A. Product Data: Describe materials and finish, product criteria and limitations.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with AISI SG-973 - Cold-Formed Steel Design Manual.
- B. Furnish framing materials in accordance with SSMA - Product Technical Information.

PART 2 PRODUCTS

2.1 COLD FORMED METAL FRAMING

- A. Manufacturers:
 - 1. Clark Steel Framing Systems

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2. Harrisson Manufacturing Co.
3. Marino\Ware.
4. Unimast Incorporated.
5. Substitutions: Permitted – See Section 01600 – Product Requirements.

2.2 FRAMING COMPONENTS

- A. Steel Sheet: ASTM A1003/A1003M; Structural Grade, Type H, metallic coated:
 1. Grade: ST33H.
 2. Coating: G90 for exterior walls.
- B. Studs: Steel sheet, formed to channel shape, punched web; thickness as noted on drawings, 2 inch face and depth, as noted on drawings.
- C. Track: Steel sheet, formed to channel shape; same width as studs, tight fit; same thickness as studs solid web.

2.3 ACCESSORIES

- A. Bracing, Furring, Bridging, Plates, Gussets, Clips: Formed sheet steel, thickness determined by performance requirements specified; same finish as framing members.
- B. Screws: Hot dip galvanized, self drilling, self tapping.
- C. Anchorage Devices: Power actuated or drilled expansion bolts.
- D. Welding: In accordance with AWS D1.1 and AWS D1.3.
- E. Touch-Up Paint: ASTM A780; galvanizing repair paint.

2.4 FABRICATION

- A. Fabricate assemblies of sizes and profiles required; with framing members fitted, reinforced and braced.
- B. Fit and assemble in largest practical sections for delivery to site, ready for installation.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify building framing components are ready to receive work.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3.2 ERECTION OF STUDS

- A. Line up floor and ceiling tracks; locate to wall or partition layout. Secure in place with fasteners at maximum 24 inches oc. Coordinate installation of sealant with floor and ceiling tracks.
- B. Place studs at spacing indicated on drawings not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using fastener method.
- C. Erect studs one piece full length. Splicing of studs is not permitted.
- D. Allow for deflection, directly below horizontal building framing for non-load bearing framing.
- E. Attach cross studs to studs for attachment of mechanical and electrical items within walls.
- F. Touch-up field welds and damaged metallic coatings primed surfaces with primer to match shop coating.

3.3 TOLERANCES

- A. Maximum Variation from Indicated Position: 1/4 inch.
- B. Maximum Variation of Member from Plane: 1/4 inch.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 07160
CEMENTITIOUS COATING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Application of water-based, high build, heavy-textured, 100 percent acrylic coating.
- B. Related Sections:
 - 1. Section 09305 – Cement Board System.

1.2 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Heat Age Stability: Passed, per Fed Standard 141 C #3019.1. 30 days at 140 degrees F (60 degrees C).
 - 2. Flexibility: No cracking per ASTM D522, 1 inch mandrel.
 - 3. Wind-Driven Rain, TT-C-555B: Passed.
 - 4. Water-Vapor Permeance: 6 perms per ASTM E96, Procedure A.
 - 5. Accelerated Weathering at 5,000 Hours: Passes per ASTM G53.
 - 6. Salt Fog Resistance: Passes per ASTM B117 at 300 hours.
 - 7. Fungus Resistance: No growth per ASTM D3273.
- B. Approximate Coverage Rates: 35 to 65 square feet per gallon (0.88 to 1.63 sm per L), depending on texture.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's technical bulletins and MSDS on each product.

1.4 QUALITY ASSURANCE

- A. Comply with Section 01400.
- B. Qualifications:
 - 1. Manufacturer Qualifications: Company with minimum 5 years of experience in manufacturing of specified products and systems.
 - 2. Applicator Qualifications: Company with minimum of 5 years experience in application of specified products and systems on projects of similar size and scope, and is acceptable to product manufacturer.
 - 3. Successful completion of a minimum of 5 projects of similar size and complexity to specified Work.
- C. Preconstruction Field-Adhesion Testing:
 - 1. Perform adhesion per ASTM D3359, Measuring Adhesion by Tape, Method A. Minimum adhesion rating of 4A is required on 0 to 5 scale.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.5 DELIVERY, STORAGE AND HANDLING

- A. Comply with Section 01600.
- B. Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Store tightly sealed materials off ground and away from moisture, direct sunlight, extreme heat, and freezing temperatures.

1.6 PROJECT CONDITIONS

- A. Environmental Requirements:
 - 1. Ensure that substrate surface and ambient air temperature are minimum of 40 degrees F (4 degrees C) and rising at application time and remain above 40 degrees F (4 degrees C) for at least 24 hours after application. Ensure that frost or frozen surfaces are thawed and dry.
 - 2. Do not apply material if snow, rain, fog, and mist are anticipated within 12 hours after application. Allow surfaces to attain temperature and conditions specified before proceeding with coating system application.
 - 3. Do not apply over sealant joints.
 - 4. Do not apply to horizontal traffic-bearing surfaces.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, provide products from the following manufacturer:
 - 1. Degussa Building Systems.
 - 2. Thoro Systems.
- B. Substitutions or approved equal: Comply with Section 01600.
- C. Specifications and Drawings are based on manufacturer's proprietary literature from Degussa Building Systems. Other manufacturers shall comply with minimum levels of material, color selection, and detailing indicated in Specifications or on Drawings. Architect will be sole judge of appropriateness of substitutions.

2.2 MATERIALS

- 1. Water-based, acrylic copolymer, heavy-texture coating consisting of water, acrylic copolymer emulsion, fillers, and other proprietary (1.17 kg/L) to 10.8 pounds per gallon (1.29 kg/L) per ASTM D1475.
- 2. Solids Content, per ASTM D5201:
- 3. By Weight: 62.7 percent.
- 4. By Volume: 54 percent.

Cementitious Coating

07160

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 5. Viscosity: 102 KU to 108KU per ASTM D562.
- 6. VOC Content: 0.63 pounds per gallon (75 g/L) to 0.84 pounds per gallon (101 g/L) per ASTM D3960.
- B. Color: As selected by Architect from manufacturer's 52 colors.
- C. Texture:
 - 1. Medium sized perlite aggregates. 1/10 inch (2 mm).

2.3 MIXING

- A. Mechanically mix sealer with slow-speed drill and mixing paddle to ensure color uniformity and to minimize air entrapment.
- B. In multi-pail applications, mix contents of each new pail into partially used pail to ensure color consistency and smooth transitions from pail to pail.
- C. Do not dilute or thin material.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

- A. Protect adjacent Work areas and finish surfaces from damage during coating system application.
- B. Ensure that substrate is sound, clean, dry, and free of dust, dirt, oils, grease, laitance, efflorescence, mildew, fungus, biological residues, chemical contaminants, and other contaminants that could prevent proper adhesion.
- C. Clean surface by using high-pressure waterblasting with or without abrasives added to water stream, to achieve surface with texture similar to 100 grit sandpaper.
- D. Some stains and surface contaminants may require chemical removal. When chemical cleaners are used, neutralize compounds and fully rinse surface with clean water. Allow surface to dry before proceeding.
- E. Ensure area being repaired is structurally sound and fully cured.
- F. Remove blisters and loose or delaminated areas.
- G. Sand or grind edges of previous coating to ensure adhesion and smooth transition to new material. Sand edges to featheredge.
- H. Wash down prepared surfaces and allow to completely dry.
- I. Cement Board:
 - 1. Remove fins and mortar droppings. Ensure mortar joints are sound and free of voids and cracks.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2. Ensure there are no gaps, cracks, or voids greater than 2 mils (0.05 mm). Repoint or fill voids with appropriate patching product approved by manufacturer.
 3. Apply primer approved by coating manufacturer.
- J. Chalky Surfaces: Treat chalky surfaces, as defined by ASTM D4214, Test Method A, with water cleaning and application of primer approved by coating manufacturer.

3.2 DETAIL PREPARATION

- A. Apply joint sealant where appropriate on support columns and other details. Inspect expansion joints. Ensure there is no deteriorated sealant, adhesion loss, or non-elastomeric caulking in joints. Replace defective sealant with sealant approved by coating manufacturer.
- B. If movement is anticipated where dissimilar substrates join (for example, stucco and concrete or brick and CMU), properly clean joint and seal with sealant approved by coating manufacturer.
- C. Inspect through-wall penetrations, including electrical, lighting, signage, plumbing, HVAC, and fire-sprinkler piping, for watertight seal. Repair with sealant approved by coating manufacturer.
- D. Inspect flashings, including cap flashing and roof flashing for watertight seal. Repair with sealant approved by coating manufacturer.
- E. Cracks smaller than hairline can be bridged with knife-grade or brush-grade patching compounds.
- F. Chip or grind out nonmoving cracks larger than hairline. Remove dust and pack with knife-grade patching compound. Bridge crack with brush-grade patching compound. Brush narrow band directly into crack using brush, sponge, or other means to match substrate texture and reduce telegraphing of patches through finish coat. On textured substrates, use texturized patching compound to minimize telegraphing.
- G. Rout out dynamic or moving cracks to minimum of 1/4 inch by 1/4 inch (6 mm by 6 mm), then fill with sealant approved by coating manufacturer. Once sealant is tooled and cured, proceed with crack repair as described previously.

3.3 PRIMING

- A. Use primer only to stabilize existing substrates or coatings that are chalking or friable (powdery) after power washing. Ensure that primer for proper adhesion of coating material can bind existing surfaces or paint. Adhesion testing is specified in Part 1.
- B. Apply primers or block fillers acceptable to coating material manufacturer.
- C. Ensure porous surfaces are clean, dry, and free of contaminants. Fill faces with block filler and back roll to eliminate pinholes. Apply by working material into pores, crevices, and voids. Allow block filler to dry before proceeding, typically 24 to 48 hours.

Cementitious Coating

07160

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

Coverage rate depends on porosity and texture of surface. Apply to dry, cured concrete only.

- D. Apply coating after primer and block filler have sufficiently dried.

3.4 APPLICATION

- A. Spray Application:
1. For uniformity of color and texture, use consistent application techniques throughout Project.
 2. Maintain proper wet-film thickness (WFT) during application to ensure performance characteristics desired.
 3. Work to natural break in surfaces before stopping Work.
 4. Work from wet edge with 50 percent overlap.
 5. Use sufficient material to provide color uniformity, but avoid buildups and runs.
 6. Apply coating in manner to obtain pinhole-free, consistent film build on treated surfaces.
- B. Equipment: Apply coating with hopper gun, using compressed air or other select air-assisted equipment (rotor/stator or diaphragm) capable of spraying heavy-bodied and heavy aggregated materials.
- C. Roller and Brush Application:
1. Application by brush is recommended only for small inaccessible areas such as touch-ups.
 2. Work material uniformly onto wall, maintaining wet edge to be followed by spray finish.

3.5 CURING

- A. Drying time is based on 70 degrees F (21 degrees C) and 50 percent relative humidity if applied at recommended thickness).
1. To Touch: 2 to 4 hours.
 2. To Full Cure: 5 days.

3.6 CLEANING

- A. Clean tools and equipment with soapy water.
- B. Clean up and properly dispose of debris remaining on Project site related to application.
- C. Remove temporary coverings and protection from adjacent Work areas.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 07212

BOARD INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes board insulation at exterior wall infill.

1.2 REFERENCES

- A. 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. UC Industries/Owens Corning.
 - 4. Celetex Corporation.
 - 5. Substitutions or approved equal: Section 01600 - Product Requirements.

2.2 COMPONENTS

- A. 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

2.3 ACCESSORIES

- A. Adhesive: Type recommended by insulation manufacturer for application.
- B. Joint Reinforcement: Mesh tape (installed at insulation 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 fasteners.
- 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 07213

BATT INSULATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes batt insulation and vapor retarder in exterior wall infill.
- B. Related Sections:
 - 1. Section 07212 - Board Insulation.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
 - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
 - 4. 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 - Standard Method of 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 SYSTEM DESCRIPTION

- A. Materials of This Section: Provide continuity of thermal barrier at building enclosure elements.

1.4 PERFORMANCE REQUIREMENTS

- A. Vapor Retarder Permeance: Maximum 1 perm when tested in accordance with ASTM E96, Procedure A.

1.5 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on product characteristics, performance criteria and limitations.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.6 QUALITY ASSURANCE

- A. Insulation Installed in Concealed Locations Surface Burning Characteristics:
 - 1. Batt Insulation: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.7 COORDINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate the Work with installation of vapor retarder.

PART 2 PRODUCTS

2.1 COMPONENTS

- A. Batt Insulation: ASTM C665; preformed glass fiber batt or roll blanket; friction fit, conforming to the following:
 - 1. Thermal Resistance: R of 3.5/inch (minimum).
 - 2. Batt or Roll Size: to fit cavity spacing.
 - 3. Facing: Faced on one side with asphalt treated Kraft paper.
- B. Staples: Steel wire; galvanized; type and size to suit application.
- C. Tape: Bright aluminum or Polyethylene or Polyester self-adhering type, mesh reinforced, 2 inch wide.

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.

3.2 INSTALLATION

- A. Install in walls spaces without gaps or voids. Do not compress insulation.
- B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- C. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within plane of insulation.
- D. Install with factory applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane over framing members.
- E. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Sheet metals.
 - 2. Miscellaneous materials.
 - 3. Fabrication.

1.2 SUBMITTALS

- A. Product Data: For each product indicated.

1.3 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

PART 2 - PRODUCTS

2.1 SHEET METALS

- A. Aluminum Sheet: ASTM B 209, Alloy 3003, 3004, 3105, or 5005, Temper suitable for forming and structural performance required, but not less than H14, finished as follows:
 - 1. Siliconized-Polyester Coating: Epoxy primer and silicone-modified, polyester-enamel topcoat.
 - a. Color: As selected by Architect from manufacturer's full range.

2.2 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Fasteners: Self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
 - 1. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating Stainless steel where indicated.
 - 2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
 - 3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- C. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- D. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.
- F. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat.

2.3 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
 - 1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- C. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- D. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- E. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- F. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal, and in thickness not less than that of metal being secured.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings,

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and elastomeric sealant.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
1. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- F. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
1. Aluminum: Use stainless-steel fasteners.
- G. Seal joints with elastomeric sealant as required for watertight construction.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- a. Color: Standard colors matching finished surfaces.
- b. 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. 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.

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. Product Descriptions:
 - 1. Preformed elastic self-adhesive expanding tape seal. Polyurethane expanding foam impregnated with water based acrylic modified asphalt emulsion.
 - 2. 3/4" 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. Product Description:
 - 1. Minimal expanding single component polyurethane foam sealant. UL classified ASTM C557.93.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 08110

STEEL DOORS AND FRAMES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes steel doors and frames; non-rated.

1.2 SUBMITTALS

- A. Shop Drawings: Indicate door and frame elevations, internal reinforcement, and finishes.
- B. Product Data: Submit door and frame configurations, location of cut-outs for hardware reinforcement.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with the following:
 - 1. ANSI 250.8 - Recommended Specifications for Standard Steel Doors and Frames.
 - 2. DHI - Door Hardware Institute - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.

PART 2 PRODUCTS

2.1 STEEL DOORS AND FRAMES

- A. Manufacturers:
 - 1. Amweld Building Products, Inc.
 - 2. Ceco Door Products.
 - 3. Kewanee Corp.
 - 4. Republic Builders Products.
 - 5. Steelcraft.
 - 6. Substitutions or approved equal: Section 01600 – Product Requirements
- B. Product Description: Standard shop fabricated steel doors and frames; non-rated types; flush face or stile and rail design.

2.2 COMPONENTS

- A. Interior Doors (Non-Rated): ANSI A250.8, SDI 108, 1-3/4 inch thick.
 - 1. Level 2 - Heavy Duty, Model 1, full flush design.
- B. Interior Frames:
 - 1. Level 2 for Door Models 1, nominal 16 gage/0.053 inch thick material, base metal thickness.
- C. Door Core: Cardboard honeycomb.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- D. End Closure: Channel, 0.04 inch thick, flush.

2.3 ACCESSORIES

- A. Silencers: Resilient rubber set in steel channel fitted into drilled hole.
- B. Removable Stops: Rolled steel channel shape.
- C. Bituminous Coating: Fibered asphalt emulsion.
- D. Primer: ANSI A250.10 rust inhibitive type.

2.4 FABRICATION

- A. Fabricate doors and frames with hardware reinforcement welded in place.
- B. Fabricate frames as face welded units as knock down units for field assembly.
- C. Fabricate frames to suit masonry wall coursing with 4 inches head member.
- D. Prepare interior frames for silencers and install.

2.5 SHOP FINISHING

- A. Primer: Air dried. Baked.
- B. Coat inside of frame profile with bituminous coating.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify opening sizes and tolerances are acceptable.

3.2 INSTALLATION

- A. Install doors and frames in accordance with ANSI A250.8.
- B. Coordinate installation of doors and frames with installation of hardware specified in Section 08710.
- C. Adjust door for smooth and balanced door movement.
- D. Tolerances:
 - 1. Maximum Diagonal Distortion: 1/8 inch measured with straight edge, corner to corner.

END OF SECTION

Steel Doors and Frames

08110

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 08710

DOOR HARDWARE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes hardware for doors.

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.

Door Hardware

08710

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- B. Hardware Schedule.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01700 - Execution Requirements: Closeout Procedures.
- B. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- C. 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 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.

1.8 COORDINATION

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with other directly affected sections, 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.9 WARRANTY

- A. Section 01700 - Execution Requirements: Product warranties and product bonds.
- B. Furnish two year manufacturer warranty for locksets and door closers.

1.10 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.

1.11 EXTRA MATERIALS

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.

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., 40H 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 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

Door Hardware

08710

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 and Trim: Furnish as indicated below, 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. 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 Interior Door Hardware:
 - a. Brushed stainless steel.
 3. Closers: Finish appearance to match door hardware on same face of door.
 - a. BHMA 628, satin aluminum, clear anodized.
 4. 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.

Door Hardware

08710

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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. Top Hinge: Jamb manufacturer's standard, but not greater than 10 inches from head of frame to centerline of hinge.
 5. Bottom Hinge: Jamb manufacturer's standard, but not greater than 12-1/2 inches from floor to centerline of hinge.
 6. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.
 7. 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 09305

CEMENT BOARD SYSTEM

PART 1 GENERAL

1.1 SUMMARY

- A. Cement board and associated installation materials for wall applications.
- B. Storage of Materials: All materials shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises. **WARNING:** Store all Cement Board panels flat. Panels are heavy and can fall over, causing serious injury or death. Do not move unless authorized.
- C. Environmental Conditions: In cold weather and during Cement Panel and tile installation, temperatures within the building shall be maintained within the range of 40 to 100 °F. Adequate ventilation shall be provided to carry off excess moisture.
- D. Interior Applications: Wood framing shall approximate the moisture content it will reach in service by allowing the enclosed building to stand as long as possible prior to the application of the cement board. Do not install board when the board is wet.
- E. Exterior Applications: Finishes, leveling/skim coats and basecoats shall not be applied to Cement Panel that is wet or frozen or that contains frost. After application, and for at least 24 hours, finishes, leveling/skim coats and basecoats shall be effectively protected from rain and excessive moisture. In cold weather and during finish applications, Cement Panel, skim or basecoat, mortar, finish material and air temperature must be at least 40 °F, and must remain at this temperature or higher for at least 24 hours after application. Hot and dry weather may affect working time of leveling/skim or basecoat and finish materials. Under rapid drying conditions, dampening or light fogging of board, leveling/skim or basecoat surface may be required to improve workability.
- F. Steel or wood wall framing to receive Cement Panels shall be structurally sound, free from bow, and in general compliance with local building code requirements. Damaged and excessively bowed studs shall be replaced before installation of Cement Panels. Framing shall be designed (based on stud properties alone) not to exceed L/360 deflection for tile and thin brick, L/240 for Direct-Applied Exterior Finish Systems. Steel framing must be 20 gauge or heavier with corrosion-resistant metal coating equivalent to G60 hot-dipped galvanized. Exterior steel framing should be laterally braced.
- G. Installation Practices: Panel should be cut to size with carbide-tipped knife and straight edge. Power saw should be used only if equipped with a dust-collection device and a NIOSH/MSHA-approved respirator is worn.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

PART 2 PRODUCTS

2.1 CEMENT BOARD

- A. Products Materials — Exterior Type Cement Board, 5/8" thickness, 48" width x lengths of 4' to 10'; exceeds ANSI A118.9-1992 for cementitious backer units.

2.2 JOINT REINFORCEMENT

- A. Joint Tape (alkali-resistant), 2" wide.
- B. Fasteners – Self-tapping Steel Screws (No. 8), 1¼" and 1 5/8" for 14 to 20 gauge steel framing; Self-tapping Wood Screws (No. 8), 1¼", 1 5/8", and 2¼" for wood framing.
- C. Adhesives/Mortars:
 - 1. Products compatible with alkaline or portland cement-based Cement Board:
 - a. Meeting ASTM C557-73: multipurpose adhesive.
 - b. Meeting ANSI A136.1 Type I.
 - c. Meeting ANSI A118.1: dry-set mortar mixed with acrylic latex additive.
 - d. Meeting ANSI A118.4: latex portland cement mortar.
- D. Grout:
 - 1. Products compatible with high pH-based Cement Board:
 - a. Meeting ANSI A118.6: specify type.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Framing: Space wood and steel framing a maximum of 16" o.c. The studs of walls freestanding furred walls must be secured to the exterior wall with wall furring brackets or laterally braced with horizontal studs or runners spaced 4' o.c. max. Laterally brace all steel-framed walls prior to the application of joint treatment.
- B. Panel Application - Pre-drill cement board for fasteners or use self-tapping screws. Pre-cut board to required sizes and make necessary cut-outs. Fit ends and edges closely but not forced together, leaving a 1/8" gap. Install board abutting top of spacer strip. Stagger end joints in successive courses. Fasten boards to wood studs spaced max. 16" o.c. and bottom plates with 1¼" Screws spaced 8" o.c. Fasten Cement Board to steel studs spaced max. 16" o.c. and bottom runners with 1¼" Steel Screws spaced 8" o.c. with perimeter fasteners at least 3/8" and less than 5/8" from ends and edges. In double-layer walls where cement boards are installed over each other, apply adhesive to first layer.
- C. Exterior Walls—Attach Cement Board with corrosion-resistant screws spaced a maximum of 8" o.c. over framing spaced a maximum of 16" o.c. Apply a weather resistive barrier and flashing behind the panels as required. Follow the exterior finish manufacturer's recommendations for application over Cement Board.
- D. Joint Finishing - Caulk joints with sealant, specified in Section 07900.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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: Per manufacturer's recommendations.
- 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.
- B. Fill minor low spots and other defects with epoxy grout.
- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

3.4 CLEANING

- A. Remove excess adhesive from surfaces without damage.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

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.

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.

Paints and Coatings

09900

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

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. 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.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- C. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- D. Finishing Mechanical And Electrical Equipment:
 - 1. 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. 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. Steel - Shop Primed:
 - 1. Touch-up with zinc chromate or zinc rich primer.
 - 2. Two coats of alkyd enamel, gloss.
- B. CMU Walls:
 - 1. One coat of acrylic or epoxy block filler.
 - 2. Two coats of acrylic enamel, semi-gloss.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 13200

ANTENNA SUPPORT STRUCTURE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fabrication and installation requirements for the following:
 - 1. Antenna Support Structure

1.2 DEFINITIONS

- A. Antenna Support Structure: A pre-engineered steel structure of three-sided truss-type all welded construction delivered to the site as prefabricated sections to be connected by field bolting to provide a support for new antenna equipment at the heights indicated on the Drawings.

1.3 ACTION SUBMITTALS

- A. Product Data: Antenna support structure manufacturer's literature regarding structure fabrication and installation details and requirements.
- B. Antenna Support Structure Shop Drawings: Drawings that detail all antenna support system components including member sizes, configurations, assembly drawings, erection procedures, weld details, field connections, wall brackets, anchor bolts, base plates, finishes, and similar items.
 - 1. No fabrication of any antenna support system components shall proceed until all shop drawings are reviewed and accepted by the Architect.
 - 2. All shop drawings shall be sealed and signed by a Professional Engineer licensed to practice in New York State.

1.4 INFORMATIONAL SUBMITTALS

- A. Design Calculations: Calculations indicating compliance of all proposed antenna support structure components will all design loading requirements.
 - 1. No fabrication of any antenna support system components shall proceed until the calculations are reviewed and accepted by the Architect.
 - 2. All calculations shall be sealed and signed by a Professional Engineer licensed to practice in New York State.
- B. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Steel materials.
- C. Welder Certifications in accordance with AWS D1.1

Antenna Support Structure
13200

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in the design and fabrication of antenna support structures similar to the type and purpose for the structure indicated on the Drawings for a period of at least five (5) years.
 - 1. The fabricator shall be currently certified by the American Institute of Steel Construction for the fabrication of steel building structures.
- B. Erector Qualifications: Company specializing in performing the work of this section for a period of at least five (5) years.
- C. Perform the work in accordance with the following:
 - 1. AISC Code of Standard Practice for Steel Buildings and Bridges.
 - 2. AISC Seismic Provisions for Structural Steel Buildings.
 - 3. RCSC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts.
 - 4. Building Code of New York State.
 - 5. ANSI/TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures (2005) with Addendum 1 (2007) and Addendum 2 (2009)
- D. Source Limitations: All antenna support system components, brackets, and hardware shall be from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle all antenna support system components in a manner to prevent bending and damage to coatings.
 - 1. All damaged materials shall be promptly replaced at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 ANTENNA SUPPORT STRUCTURE – GENERAL

- A. Antenna support structure shall be a pre-engineered pre-fabricated vertical truss-type steel structure.
 - 1. The structure shall be triangular in plan cross-section with dimensions as required by the system design. Dimensions indicated on the Drawings shall be the minimum required dimensions.
 - 2. All vertical truss components, including legs and truss web members, shall be of solid steel rod construction.
 - 3. Each face of the structure shall include horizontal members to facilitate climbing for service of the structure and equipment.
 - 4. Structure sections shall be bolted together using high strength bolts.
- B. Wall bracket shall be designed to resist antenna support structure forces.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1. Wall bracket location shall be as indicated on the Drawings.
 2. Connection of the wall bracket to existing construction shall be as indicated on the Drawings.
- C. Anchor bolts sizes indicated on the drawings shall be considered as a minimum. Larger diameter anchor bolts shall be provided if required by the antenna support structure design.

2.2 MATERIALS

- A. Steel Materials and Hardware: In conformance with ANSI/TIA-222-G Section 5.0.
- B. Hot-dipped galvanized coating: In conformance with ANSI/TIA-222-G Section 5.0.

PART 3 - EXECUTION

3.1 ANTENNA SUPPORT SYSTEM DESIGN - GENERAL

- A. Antenna support system shall be designed to support the equipment indicated on the Drawings with support at the base and at the wall of the adjacent structure as shown.
1. The installation of permanent guy assemblies shall not be permitted.
- B. The design of the antenna support structure, wall bracket and anchor bolts shall be in strict accordance with all provisions of ANSI/TIA-222-G for the design loading indicated and for the loads imposed by all supported equipment.
- C. All antenna support structure design shall be performed by, or under the direct supervision of, a Professional Engineer licensed to practice in New York State.
- D. Antenna support structure reactions at the base of the structure and at the wall bracket connection to the adjacent building wall shall be clearly indicated on the shop drawings and the design calculations to be submitted for review.

3.2 DESIGN LOADING

- A. The antenna support structure shall be designed in accordance with all requirements of ANSI/TIA-222-G for the following parameters.
1. Design wind speed - 90 MPH (no ice)
 2. Design wind speed - 50 MPH (with 0.75 in. ice)
 3. Radial ice thickness - 0.75 in.
 4. Importance factor - 1.15 (wind only)
 5. Importance factor - 1.00 (with wind and ice loading)
 6. Importance factor - 1.25 (ice)
 7. Importance factor - 1.50 (seismic)

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

8. Wind Exposure B
9. Topography Category 4
10. Topographic factor (K_{zt}) - 2.56
11. Equipment dead loads, ice load on equipment and wind load on equipment for the equipment indicated on the Drawings.
 - a. Equipment configurations and eccentricities shall be as indicated on the Drawings.

3.3 FABRICATION

- A. Antenna support structure components wall bracket and anchor bolts shall be fabricated in strict accordance with all provisions of ANSI/TIA-222-G.

3.4 ERECTION

- A. Erection of the antenna support structure and installation of all components shall be in strict accordance with all erection procedures, assembly drawings and requirements specified by the fabricator.
- B. Any and all misaligned or improperly fabricated components shall be rejected by the Architect and shall be replaced by the fabricator at no additional cost to the Owner.
 1. Field modifications of antenna support system components shall not be permitted.
 2. Field welding shall not be permitted.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 15060

HANGERS AND SUPPORTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Pipe hangers and supports.
 - 2. Hanger rods.

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 F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.
- 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.

1.3 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.

1.4 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- C. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.

1.5 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.

1.6 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

1.7 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.

2.2 ACCESSORIES

- A. Hanger Rods: Galvanized steel continuous threaded. Stainless steel in exterior environment.

2.3 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.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Remove incompatible materials affecting bond.
- C. Do not drill or cut structural members.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

3.2 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.

3.3 FIELD QUALITY CONTROL

- A. Section 01400 - Quality Requirements and 01700 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.

3.4 CLEANING

- A. Section 01700 - Execution Requirements: Requirements for cleaning.

3.5 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 15760

TERMINAL HEATING AND COOLING UNITS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Telecommunication HVAC Units (HVAC-2A, 2B)
- B. Related Sections:
 - 1. 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 90A - Standard for the Installation of Air Conditioning and Ventilating Systems.
 - 2. NFPA 90B - Standard for the Installation of Warm Air Heating and Air Conditioning Systems.
 - 3. 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.9 WARRANTY

- A. Section 01700 - Execution Requirements: Product warranties and product bonds.
- B. Furnish five year manufacturer's warranty for telecommunication HVAC unit compressor.

1.10 EXTRA MATERIALS

- A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
- B. Furnish five (2) sets of filters for each telecommunication HVAC unit.

PART 2 PRODUCTS

2.1 TELECOMMUNICATION HVAC UNITS (HVAC-2A, 2B)

- A. Manufacturers:
 - 1. Bard Climate Control Solutions, Model WA Series
 - 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 serves 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 galvanized steel weatherproof panels on solid 16 gauge galvanized 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.
- 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. Drain Pan: Minimum 20 gauge stainless steel.
- G. Finish: Factory apply enamel of beige color on visible surfaces of enclosure or cabinet.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- H. Fans: Centrifugal forward-curved double-width wheels, statically and dynamically balanced, direct driven, arranged to draw air through coil.
- I. 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.
- J. Motor: The indoor blower motor shall be a high efficiency 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.
- K. Air Cooled Condensing Unit: All models shall use a high efficiency scroll compressor with step capacity providing two stages of control for maximum efficiency. 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. Current sensing relay shall be used to detect high amps caused by high ambient and/or low voltage and to shift compressor to 1st stage operation until the condition is corrected. The condenser fan motor shall be a permanent split capacitor, outdoor motor with double oil capacity sleeve bearings and totally enclosed.
- L. 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.
- Compressor control module shall be factory installed with the following:
1. Built in delay off timer (adjustable from 30 s to 5 min.)
 2. Two minute on delay if power is interrupted
 3. 120 second bypass for low pressure control.
- M. Filter: Easily removed 1 inch thick glass fiber throw-away permanent washable type, located to filter air before coil.
- N. Heating Capacity: As indicated on Drawings, based on 65 degrees F entering air temperature. Factory installed electric resistance heater with automatic safety limit controls.
- O. 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. 240 volts, single phase, 60 Hz.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- P. Options and field installed accessories:
 - 1. Low ambient control
 - 2. Electronic programmable, auto changeover.

- Q. Control System, Bard MC3000A Series Lead/Lag Controller or equal:
 - 1. Two stages of cooling control for (2) air conditioners.
 - 2. One stage of heating control for each connected HVAC unit.
 - 3. Power supplied through telecommunication low voltage control board.
 - 4. Digital display – 4 character LCD.
 - 5. Lead/Lag changeover time: 0-30 days.
 - 6. Internal backup power.
 - 7. Inter-stage time delay: 10 seconds between stages.
 - 8. Inter-stage differential: 4 degrees F
 - 9. On/off differential: 2 degrees F.
 - 10. Cooling Setpoint Range: 65-90 F.
 - 11. Deadband: 2 degrees F to 20 degrees F.
 - 12. Space temperature sensor: (1) local
 - 13. Enclosure: 20 gauge steel, baked enamel paint, hinged cover, NEMA 1.

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. Protect coils to prevent damage to fins and flanges. Comb out bent fins.
- C. Install coils level. Install cleanable tube fluid coils and level frame steam coils with 1: 50 pitch.
- D. Make connections to coils with unions and flanges.
- E. Install insulation air coil casings.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- F. Wire electric duct coils.
- G. Install equipment exposed to finished areas after walls and ceilings are finished and painted. Avoid damage.
- H. Protection: Install finished cabinet units with protective covers during remainder of construction.
- I. 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.

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

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.
- 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Hangers and supports, including methods for building attachment, vibration isolation, and duct attachment. Refer to Sections 15060 and 15071.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

3.3 CLEANING

- A. Section 01700 - Execution Requirements: Final cleaning.

END OF SECTION

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 15850

AIR OUTLETS AND INLETS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Rectangular supply diffusers.
 - 2. Rectangular return grilles.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 $\frac{3}{4}$ " centers. Friction pivoted adjustable air pattern.
- C. Extruded aluminum construction with 1 $\frac{1}{4}$ " 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 $\frac{3}{4}$ " centers with a 0° deflection angle. Extruded aluminum construction with 1 $\frac{1}{4}$ " 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.

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

Air Outlets and Inlets

15850

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

4. Foundation Encased Electrode
5. External Ground Bus Bar
6. Master Ground Bus Bar
7. Subsystem Ground Bus Bar
8. Rack Ground Bus Bar
9. Interior Perimeter Ground Conductor
10. Communication Bonding Backbone Conductor
11. Equipment Grounding Conductors
12. Grounding Encasement Materials

- B. Removal of rock for installation of ground rods 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, bus bars, connections and supports, drilling and boring methods, and conductive concrete.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. 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 is existing to remain.
3. 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, solid tinned 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 bend radius smaller than 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 microflex 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

E. Requirements for Generator Grounding:

1. Bonding to generator chassis shall be in accordance with manufacturers written instructions.
2. Grounding conductors and connections shall meet requirements of external grounding conductors above.
3. Bonding to the grounding electrode systems shall be at the nearest practical location.
4. Ground rods shall be installed adjacent to the generator and shall follow the requirements of ground rods above.
5. The generator grounding conductor shall be 1/0 copper, routed through conduit.

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 alloy 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 interior bend angle shall be no less than 90 degrees nor have a bend 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1. 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. 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 interior bend angle shall be no less than 90 degrees nor have a bend 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): Existing to remain. 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.
- 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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

- A. Upon completion of the grounding electrode system and before bonding to the utility feed neutral wire, resistance testing shall be performed on the grounding electrode system. The testing shall be performed using the test method listed below:
 1. Clamp-on Ohmmeter Test
- B. 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 16070

ELECTRICAL SUPPORTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Hangers and supports for electrical equipment and systems.

1.2 REFERENCES

- A. NFPA 70 (National Fire Protection Association) - National Electrical Code.
- B. NECA (National Electrical Contractors Association) - Standard of Installation.

1.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Product Data:
 - 1. Hangers and Supports: Submit manufacturers catalog data including load capacity.
- 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.

1.4 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.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Section 01600 - Product Requirements: Environmental conditions affecting products on site.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

PART 2 PRODUCTS

2.1 CONDUIT SUPPORTS

- A. Hanger Rods: Threaded high tensile strength electroplated steel with free running threads. Stainless steel in exterior areas.
- B. Conduit clamps - general purpose: One hole malleable iron for surface mounted conduits. Stainless steel in exterior areas.
- C. Cable Ties: High strength nylon temperature rated to 185 degrees F. Self-locking.

2.2 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.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.

3.2 PREPARATION

- A. 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 CLEANING

- A. Section 01700 - Execution Requirements: Requirements for cleaning.

3.5 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

Electrical Supports

16070

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 16075

ELECTRICAL IDENTIFICATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Nameplates.
 - 2. Labels.
 - 3. Wire markers.
 - 4. Conduit markers.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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 & SIGNS

- A. Manufacturers:
 - 1. MSI Marking Services.
 - 2. Seton Identification Products
- B. Product Description:
 - 1. Laminated three layer plastic with engraved black letters on light contrasting background color.
 - 2. 1/16 inch plastic stock with adhesive backing.
 - 3. Color Schedule: Black with white letters.
 - 4. Nameplates shall be provided for the following: panelboards, transfer switches, and equipment disconnect switches.

2.2 CONDUIT AND CABLE ID

- A. Manufacturers:
 - 1. MSI Marking Services, MS-900.
 - 2. Seton Identification Products.
- B. Product Description:
 - 1. Fade resistant, heavy duty vinyl with adhesive backing.
 - 2. Size: 1/2"x 2 1/2".
- C. Color:
 - 1. 240/120 Volt System: Black lettering on white background

2.3 WIRE MARKERS

- A. Manufacturers:
 - 1. MSI Marking Services.
 - 2. Seton Identification Products.
- B. Description: Split sleeve or tubing type wire markers.
- C. Legend:

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

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

Electrical Identification

16075

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 16123

BUILDING WIRE AND CABLE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes building wire and 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.
 - 2. Exposed Dry Interior Locations: Use only building wire, Type THHN/THWN insulation, in raceway.
 - 3. Exterior Locations: Use only building wire, Type THWN insulation, in raceway.
 - 4. Wet or Damp Interior Locations: Use only building wire, Type 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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: 75°C.
- E. Control wire: 14 AWG copper conductor, unless otherwise noted.

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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 120/240 volts single 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 120/240 volts single phase.
- B. Neutral Conductors: 120/240 - 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 (Outdoors): Provide rigid steel conduit. Provide cast metal boxes.
- C. Above Grade (Outdoors): Provide rigid steel conduit. Provide cast metal outlet, pull, and junction boxes.
- D. Above Grade (Indoors): Provide electrical metallic tubing. Provide sheet metal boxes.
- E. Wall Sleeves for Grounding Systems: Provide rigid PVC conduit.

1.4 DESIGN REQUIREMENTS

- A. Minimum Raceway Size: $\frac{3}{4}$ inch unless otherwise specified.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

1.5 SUBMITTALS

- A. Section 01330 – Submittal Procedures: Submittal procedures.
- B. Product Data: Submit for the following:
 - 1. Liquid tight 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.

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 ELECTRIC METALLIC CONDUIT (EMT)

- A. Product Description: ANSI C80.3, galvanized tubing.
- B. Fittings and Conduit Bodies: NEMA FB1, steel, compression type.

2.4 OUTLET BOXES

- A. Sheet metal outlet boxes: NEMA-OS1, galvanized steel.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- B. Cast Boxes: NEMA FB 1, Type FD, aluminum. Furnish gasketed cover by box manufacturer. Furnish threaded hubs.

2.5 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.

2.6 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 16133

CABLE TRAYS FOR COMMUNICATIONS SYSTEMS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes ladder style cable trays for communication systems and microflex 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

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Cooper B-Line, Series 24
 2. Wiremold
- B. Product Description: Ladder type consisting of (2) longitudinal rails with transverse rungs welded to the side rails. The rail is a single aluminum extrusion with extended flanges that provide rung support. Each rung shall support a 200# concentration load at the center of the tray with a safety factor of 1.5. Splice plates shall be of the wedge lock design.
- C. Material: 6063 Aluminum
- D. Finish: Galvanized to ASTM A123 after fabrication.
- E. Inside Width: 18 inches (interior tray), 12 inches (exterior tray)
- F. Inside Depth: 6 inches.
- G. Straight Section Rung Spacing: 6 inches.
- H. Inside Radius of Fittings: 24 inches.
- I. Trays shall be constructed and installed according to NEMA VE 2.
- J. Exterior Tray Accessories: Cooper B-Line Series B1 or equal – Cable tray cover, flanged and ventilated, 0.040" thick aluminum with cover clamps.
- K. Exterior Tray Supports: Cooper B-Line Dura-Block DB2324DS or equal – H-style support consisting of 100% recycled rubber bases and 14 gauge galvanized strut channel base. Each support shall contain (2) bases. Vertical and horizontal channels shall be 1 5/8" slotted 12 gauge galvanized strut channel.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- L. 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. Exterior Wall: 12 port, 3 x 4.

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 6 ft maximum (exterior) and 4 feet maximum (interior).
- C. Install expansion connectors where recommended by manufacturer.
- D. 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Simplex, 30A, 240V, NEMA L14-30R
 - 3. Duplex, 20A, 125V, NEMA 5-20R.
 - 4. 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. 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. Smoke detectors: Edwards P-Series or equal. 120V input, form-C relay output, photoelectric and ionization type. Audible alarm.
 - 5. Generator/Transfer Switch device integration. Refer to drawings and specific specifications for requirements.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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).

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 latest 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:

Generator Set

16231

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.
- E. Emission Certification: EPA Tier 3
- F. Load sizing report from manufacturer, including all loads/steps listed in this specification, confirming that generator set meets performance requirements.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Single-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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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. **An external load bank shall be connected to the system to load the generator to the nameplate kW rating for a duration of 3 hours.**

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

- A. Cummins Onan
- B. Caterpillar.
- C. Kohler

2.2 RATINGS

- A. The generator set shall operate at 1,800 rpm and at a voltage of: 120/240 AC, single phase, 3-wire, 60 hertz.
 - 1. The complete generator set shall be rated per ISO8528 (standby rating), based on site conditions of: Altitude 850 feet, ambient temperatures of 80°F, based on temperature measured at the control for indoor installations, and measured at the air inlet closest to the alternator for outdoor equipment.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. 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.
5. 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.
6. 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.
7. 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.
8. Maximum allowable starting and peak voltage dip shall be 25%.
9. Maximum allowable frequency dip shall be 10%.

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

Generator Set

16231

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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:

F. STEP #1

1. UPS: 4.3 KVA, 240V.
2. Paging Rack 1: 1.40 kVA, 120V.
3. Rectifier (primary): 5.95 kVA, 240V.
4. Rectifier (secondary): 5.95 kVA, 240V.
5. Microwave Rectifier: 0.90 kVA, 120V.
6. Motorola MOSCAD SCADA: 0.12 kVA, 120V.
7. Base Station #1: 0.53 kVA, 120V.
8. Base Station #2: 0.53 kVA, 120V.
9. Base Station #3: 0.53 kVA, 120V.
10. Base Station #4: 0.53 kVA, 120V.
11. AT&T 2G/3G/LTE: 14.0 kW, 240V

G. STEP #2

1. Dehydrator: 0.35 kVA, 120V.
2. Base Station #5: 0.53 kVA, 120V.
3. Base Station #6: 0.53 kVA, 120V.
4. Lighting: 0.40 kW, 120V

H. STEP #3

1. Dedicated Cooling Unit: 5 ton A/C, 240V.

I. STEP #4

1. Dedicated Cooling Unit: 5 ton A/C, 240V.

2.3 ENGINE AND ENGINE EQUIPMENT

A. The engine shall be diesel, 4 cycle, 4-cylinder, radiator and fan cooled. 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.

Generator Set

16231

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 H₂O 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. Provide 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.

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.

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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. 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.
 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:

Generator Set

16231

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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 the output current for 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.

Generator Set

16231

10

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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 OUTDOOR GENERATOR-SET ENCLOSURE

- A. Description: Vandal-resistant, steel, sound attenuated weatherproof housing, (sound level 1) wind resistant up to 100 mph. Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Panels shall be removable by one person without tools. Instruments and control shall be mounted within enclosure. Insulation shall meet UL 94 HF1 flame resistant standards.
- B. Engine Cooling Airflow through Enclosure: Maintain temperature rise of system components within required limits when unit operates at 110 percent of rated load for 2 hours with ambient temperature at top of range specified in system service conditions.
 - 1. Louvers: Fixed-engine cooling-air inlet and discharge. Storm-proof and drainable louvers prevent entry of rain and snow.

2.7 GENERATOR SUBBASE DAY TANK

- A. Comply with NFPA 30 and standard UL-142.
- B. Base mounted fuel oil tank: Factory installed and piped. Features include the following:
 - 1. Tank level indicator
 - 2. Capacity: Fuel for minimum 96 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.

Generator Set

16231

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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

16231

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 16440 - 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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: 120/240 volt, single phase, 3-wire.
- 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

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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. 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 technology, permanently connected.
- D. Unit Operating Voltage: 120/240 volt, single phase, 3-wire.
- 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).

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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. 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: 850 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 Control gear; 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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. Caterpillar.

Automatic Delayed Transition Transfer Switch

16413

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- d. Kohler.
 - e. Substitution: Section 01600 – Product Requirements.
- 2. Product Description: NEMA ICS 10, automatic transfer switch.
 - a. 300 AMP continuous rating.
 - b. 120/240 Volt, 1-Phase
 - c. ATS shall be furnished in a NEMA 1 enclosure.
 - d. The switch shall be 240-volt class.
 - e. 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.

Automatic Delayed Transition Transfer Switch

16413

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 PANELBOARDS

- A. 120/240, Single Phase
 - 1. Interior
 - a. Shall be panelboard rated for 240 VAC maximum. Continuous main current ratings, as indicated on associated schedules, not to exceed 400 amperes maximum.
 - b. Minimum short circuit current rating: 10,000 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 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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.

Panelboards

16440

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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 an indicator appearing in the clear window of the circuit breaker housing.
 - e. The exposed faceplates of all branch circuit breakers shall be flush with one another.
 - f. 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.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- 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:

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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 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 mounted as indicated on drawings.
 - 5. Steel body with white baked enamel finish.
 - 6. Fixture shall be UL listed.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

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
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

SECTION 16530
EMERGENCY LIGHTING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes combination 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.

PART 2 PRODUCTS

2.1 EMERGENCY LIGHTING UNITS (TYPE 1)

- A. Manufacturers:
 - 1. Lithonia Quantum Series, Model ELM2.
 - 2. Columbia Lighting.
 - 3. Lightalarms.
- B. Product Description: Compact, low profile contemporary design with thermoplastic housing.
- C. Battery: Maintenance-free lead-calcium and with self diagnostics, LED indicator and test diagnostics.
- D. Battery Charger: Dual-rate type, with sufficient capacity to recharge discharged battery to full charge within twelve hours.
- E. Lamps: (2) 5.4W, 6V Wedge-based krypton.

ESSEX COUNTY
MOUNT DEFIANCE
TELECOMMUNICATIONS SHELTER ALTERATIONS
AES PROJECT NO. 3808

- F. Input Voltage: 120 volts single phase.
- G. Listings: UL listed and NFPA 101 approved.

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 accessories furnished with each emergency lighting unit.
- C. Connect emergency lighting units to branch circuit outlets provided in Section 16130 as indicated on Drawings.
- D. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within unit.
- E. Install specified lamps in each emergency lighting unit and exit sign.
- F. 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.

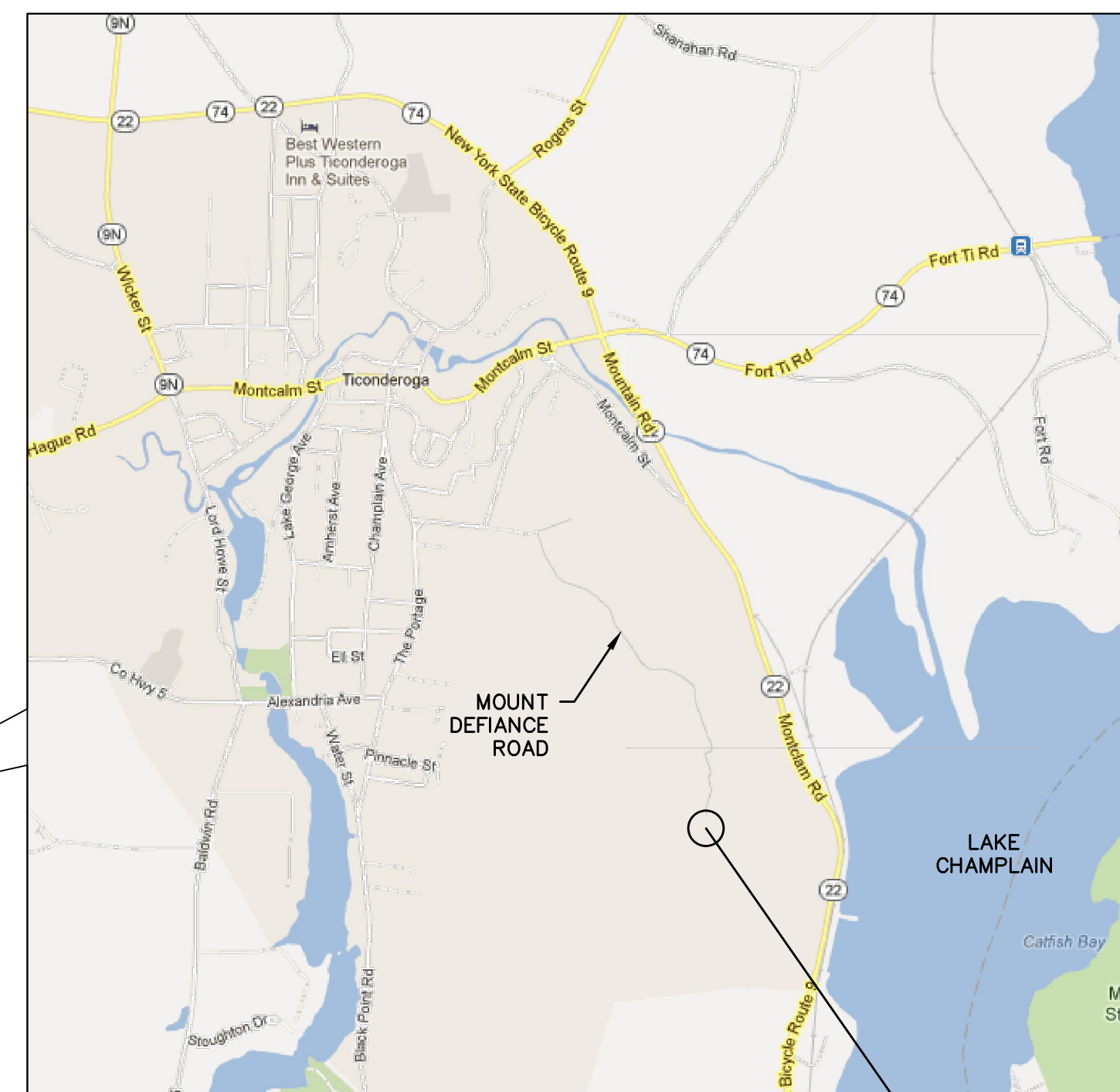
3.4 PROTECTION OF FINISHED WORK

- A. Section 01700 - Execution Requirements: Protecting finished work.
- B. Relamp emergency lighting units and exit signs having failed lamps at Substantial Completion.

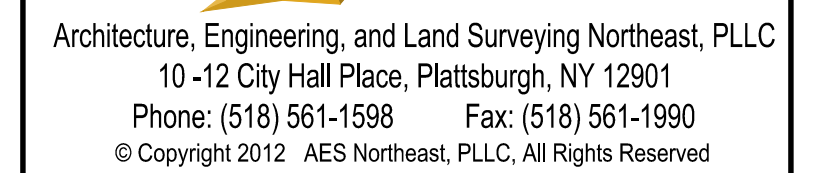
END OF SECTION



MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER ALTERATIONS
TICONDEROGA, NEW YORK



DRAWING LIST	
DRAWING NO.	DRAWING TITLE
G-001	TITLE SHEET
C-101	SITE PLAN & DETAILS
S-100	ROOF PLAN, ANTENNA MOUNTING DETAILS & SECTIONS
A-100	ARCHITECTURAL NOTES, SYMBOLS, HATCH PATTERNS & ABBREVIATIONS
A-101	PLANS, DETAILS & INTERIOR ELEVATIONS
A-501	CONSTRUCTION DETAILS
M-001	MECHANICAL NOTES, LEGENDS & SCHEDULES
M-101	MECHANICAL PLANS
E-001	ELECTRICAL NOTES & ONE-LINE DIAGRAM
E-101	ELECTRICAL PLANS
E-102	ELECTRICAL GROUNDING PLANS
E-103	SPECIAL SYSTEMS PLANS
E-603	PANEL SCHEDULES



ARCHITECT - ENGINEER - LAND SURVEYOR

DRAWING TITLE:

REVISIONS

[illegible]

DRAWN BY: E. SEARS	CHECKED BY:	DATE: 08/24/2012	PROJECT NO.: 3808
DRAWING NO.			

G-001

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 RESPONSIBLE 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.)

DETAIL INDICATOR

DETAIL NUMBER
SHEET NUMBER

ELEVATION INDICATOR

ELEVATION NUMBER
SHEET NUMBER

SECTION INDICATOR

SECTION NUMBER
SHEET NUMBER

INTERIOR ELEVATION INDICATOR

ELEVATION NUMBER
SHEET NUMBER

ROOM LABEL

ROOM NAME
ROOM NUMBER

NEW SPOT ELEVATION

EL. 0'-0"

EXISTING SPOT ELEVATION

EL. 0'-0"

CENTERLINE

--- --

PROPERTY LINE

— — —

CONTRACT LIMIT LINE

— — —

DIAMETER

Ø

ANGLES

∠

WALL FOOTING TYPE

WF-2

DRAWING NOTE INDICATOR

ⓧ

PARTITION WALL TYPE

◇

TOILET ACCESSORY NO.

⊗

BUILDING GRID LINES

ⓧ

STRUCTURAL MEMBER CENTERLINES

⊗

ELEVATION MARKER

XXX
EL. = 'X'-X"

DOOR NUMBER

XXX

WINDOW NUMBER

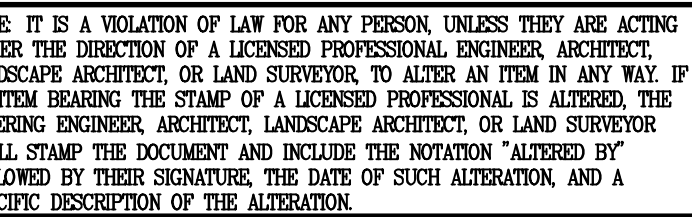
X

FIRE EXTINGUISHER

FE

	NEW ASPHALT PAVING (SECTION)		NEW GRASS AREA
	UNDISTURBED OR COMPACTED SUBSOIL (SECTION)		TOPSOIL & SEED (SECTION)
	GRANULAR FILL		STRUCTURAL FILL
	# 2 STONE		BEDROCK (SECTION)
	FIELDSTONE (PLAN)		RIVER STONE (PLAN & ELEVATION)
	STONE WALL (ELEVATION)		RIVER STONE (PLAN & ELEVATION)
	RANDOM BROKEN COURSED ASHLAR STONE VENEER		RANDOM HORZ. COURSED ASHLAR STONE VENEER
	RANDOM ASHLAR STONE		QUARRIED STONE (SECTION) GRANITE, MARBLE, SLATE,...
	CONCRETE		SOLID MASONRY GROUTING
	CMU (PLAN)		BRICK (PLAN)
	CMU (SECTION)		BRICK (SECTION)
	CMU (ELEVATION) RUNNING BOND		BRICK (ELEVATION) RUNNING BOND
	NEW STUD WALL (PLAN)		BRICK (ELEVATION) FLEMISH BOND
	NEW WALL INFILL (PLAN)		PLYWOOD SHEATHING
	ROUGH WOOD (FRAMING LUMBER SECTION)		FINISHED WOOD (PLAN & SECTION)
	WOOD (SHIMS)		INSULATION (RIGID)
	WOOD (FINISH)		STEEL (SECTION)
	INSULATION (BATT)		ALUMINUM (SECTION)
	GLASS (ELEVATION)		CEDAR OR ARCHITECTURAL SHINGLES (PLAN & ELEVATION)
	FIRE STOPPING		ASPHALT SHINGLES (PLAN & ELEVATION)

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.	ALTERATE		
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. B	BENDING PLATE	M.C.	MECHANICAL CONTRACTOR
BLK	BLACK	MFR.	MANUFACTURER
BSMT.	BASEMENT	MIN.	MINIMUM
BTM.	BOTTOM	MISC.	MISCELLANEOUS
BT/SH	BATHTUB/SHOWER	M.R.	MOISTURE RESISTANT
		MTD.	MOUNTED
		MTL.	METAL
CARP.	CARPET		
CATV	CABLE TELEVISION		
CTR	CENTER	N.I.C.	NOT IN CONTRACT
CL	CENTERLINE	NO.	NUMBER
C.B.	CATCH BASIN	N.T.S.	NOT TO SCALE
CB.	CIRCUIT BREAKER		
CL.	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
CH	CAST IRON	PLYWD.	PLYWOOD
CL	CLOSET	PR	PAIR
C.M.U.	CONCRETE MASONRY UNIT	PT.	PRESSURE TREATED
COL.	COLUMN	P.TD.	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.	RESILIENT
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
		T.E.	TELEPHONE
F ~ X	FAN, X DENOTES #	T.O.C.	TOP OF CONC.
FDN.	FOUNDATION	T.O.	TOILET
F.G.	FIBERGLASS	TSR	TRUNK SEWER REPLACEMENT
FIN.	FINISH	TYP.	TYPICAL
F.F.	FINISH FLOOR		
FL.	FLOOR	U.N.O.	UNLESS NOTED OTHERWISE
FRM.	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
GAL.V.	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.	GYP SUM WALL BOARD		
GYP.	GYP SUM	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
HOT	HOT WATER	W.R.	WATER RESISTANT
H.M.	HOLLOW METAL		
H.T.	HOUSE TRAP		



ARCHITECT - ENGINEER - LAND SURVEYOR

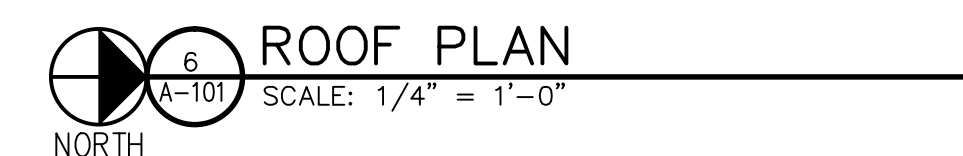
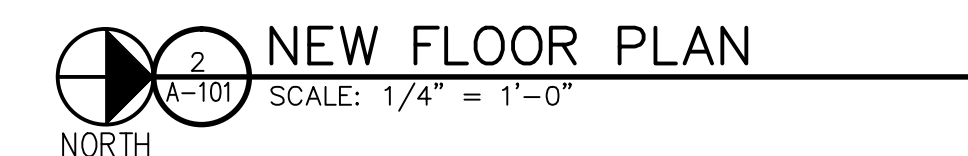
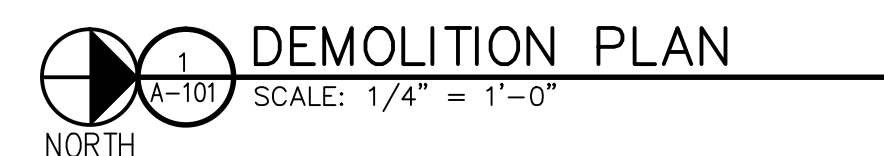
PROJECT TITLE:
ESSEX COUNTY, NEW YORK
MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS
TICONDEROGA, NEW YORK

ARCHITECTURAL NOTES, SYMBOLS, HATCH PATTERNS & ABBREVIATIONS

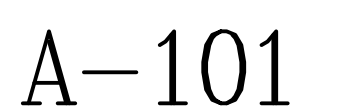
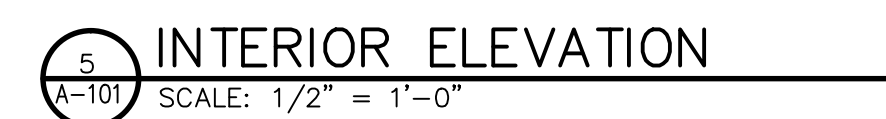
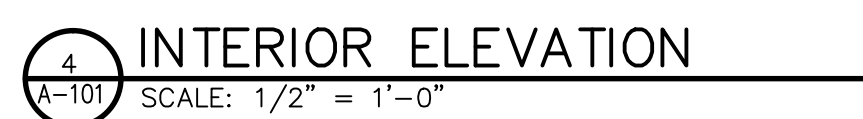
REVISIONS

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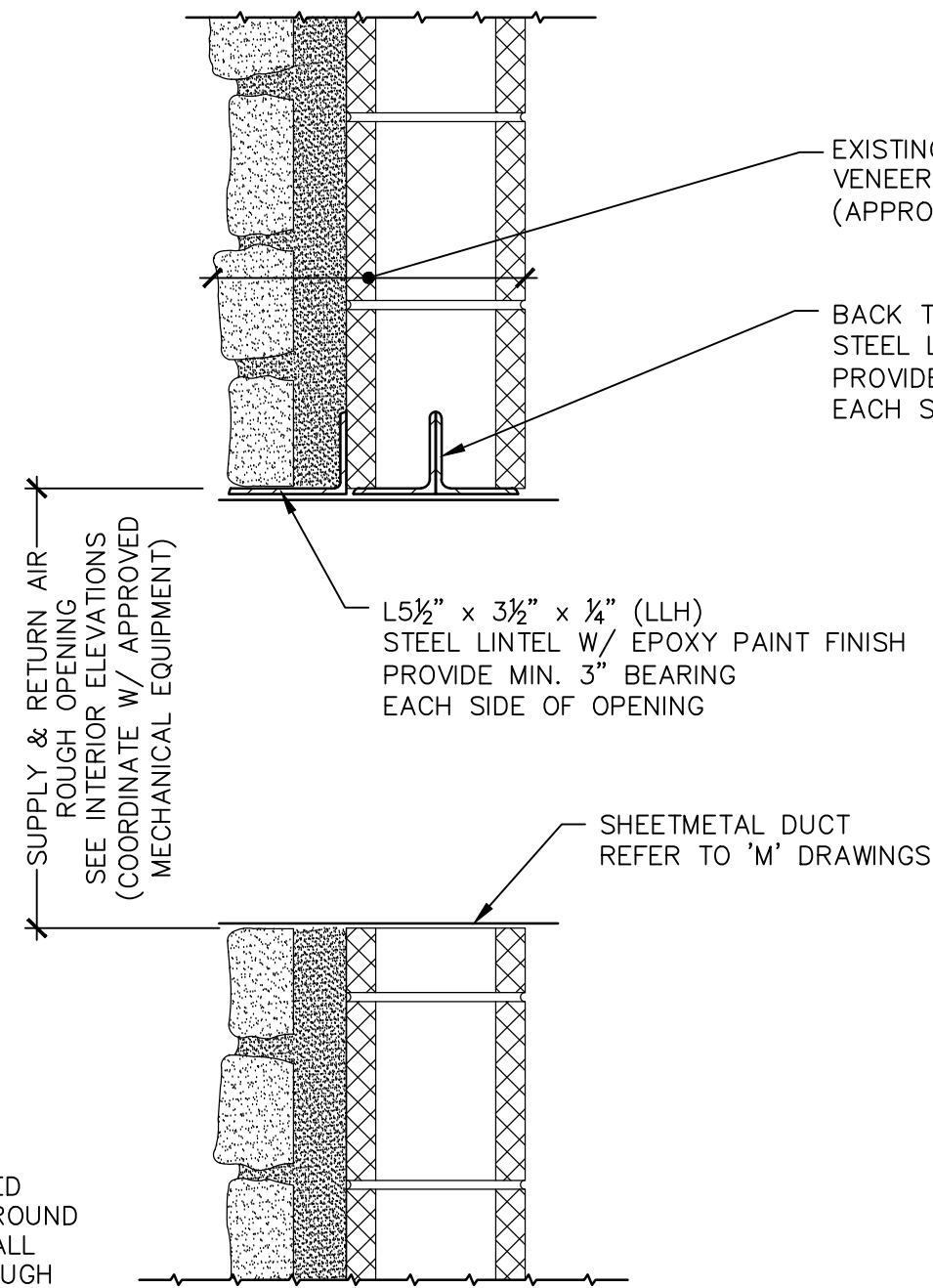
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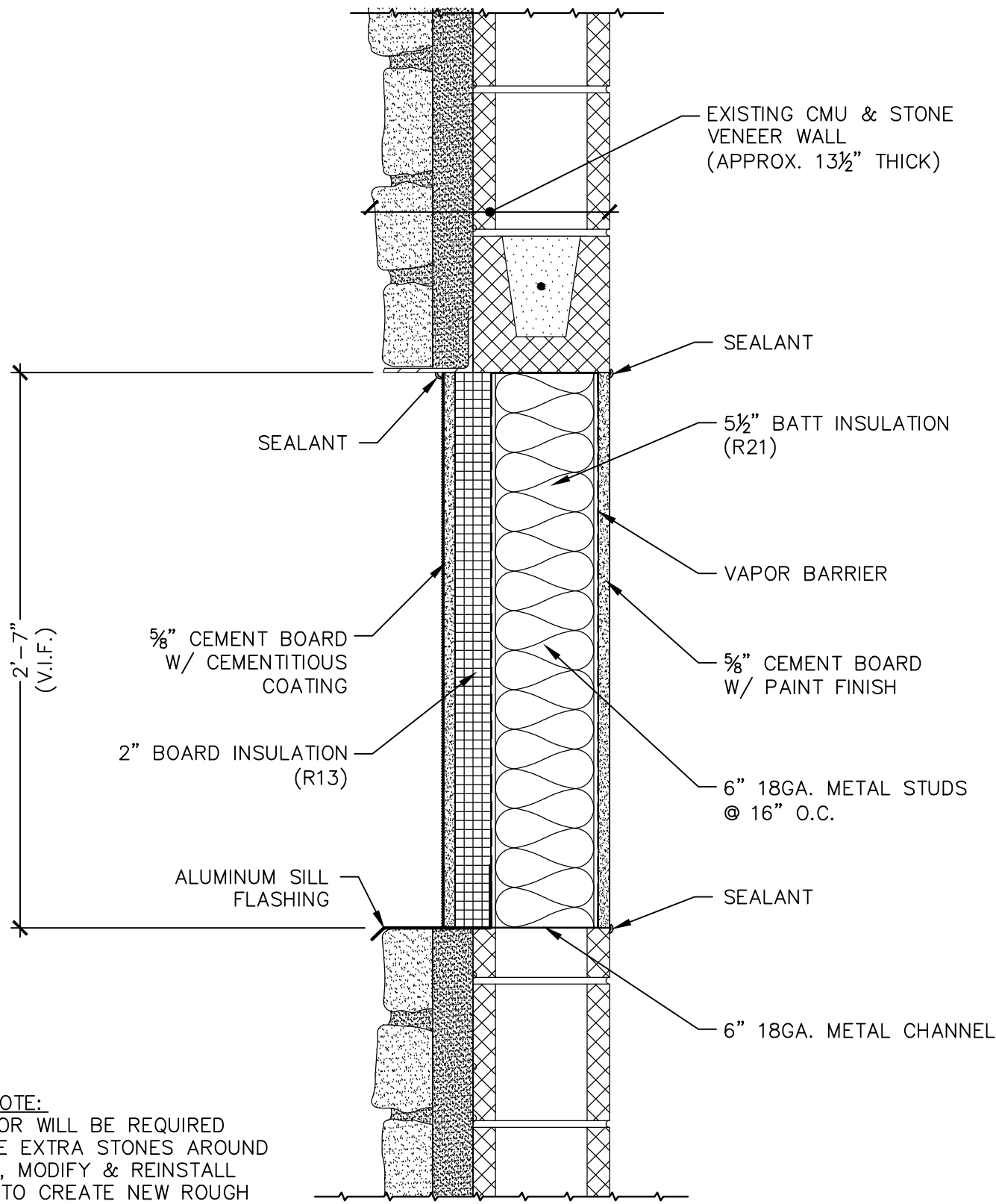
NOTE:
VERIFY ALL ROUGH OPENING
DIMENSIONS & LOCATIONS OF
SUPPLY & RETURN WITH
HVAC MANUFACTURER (TYP.)



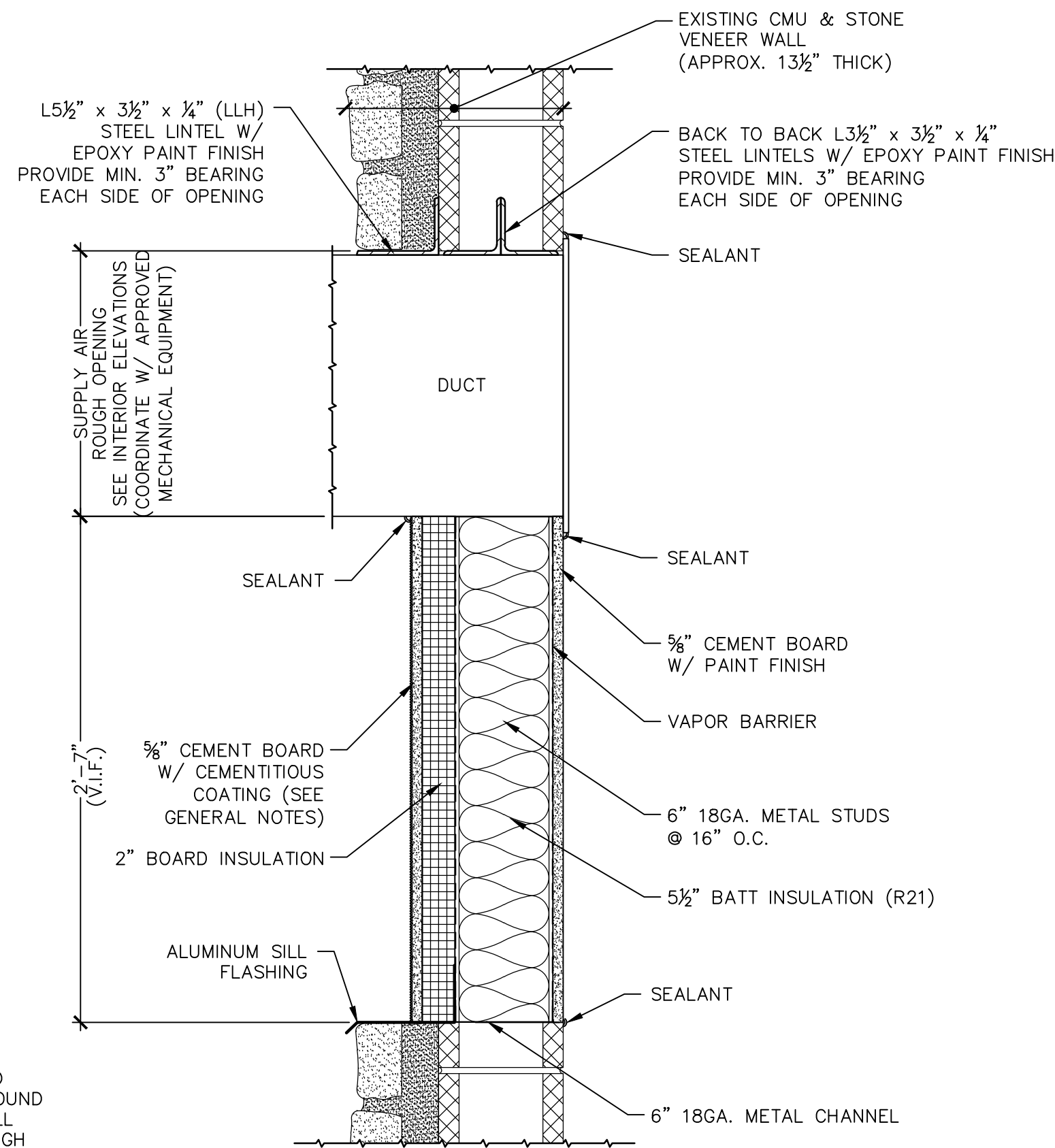
Plot Date: 08/27/2012 Plot Time: 2:54 PM
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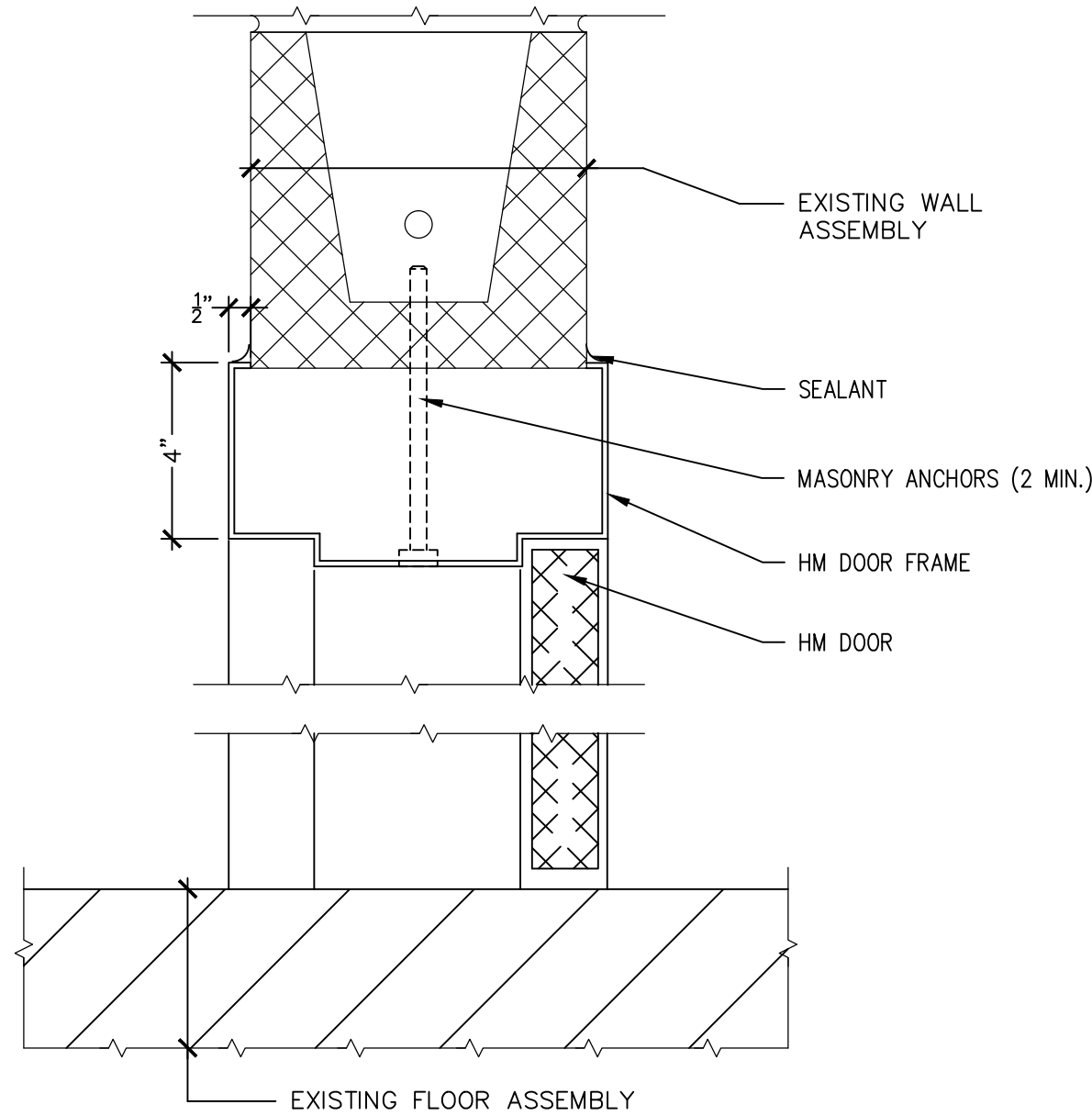
1 TYPICAL DUCT ROUGH OPENING
A-501 SCALE: 1 1/2" = 1'-0"



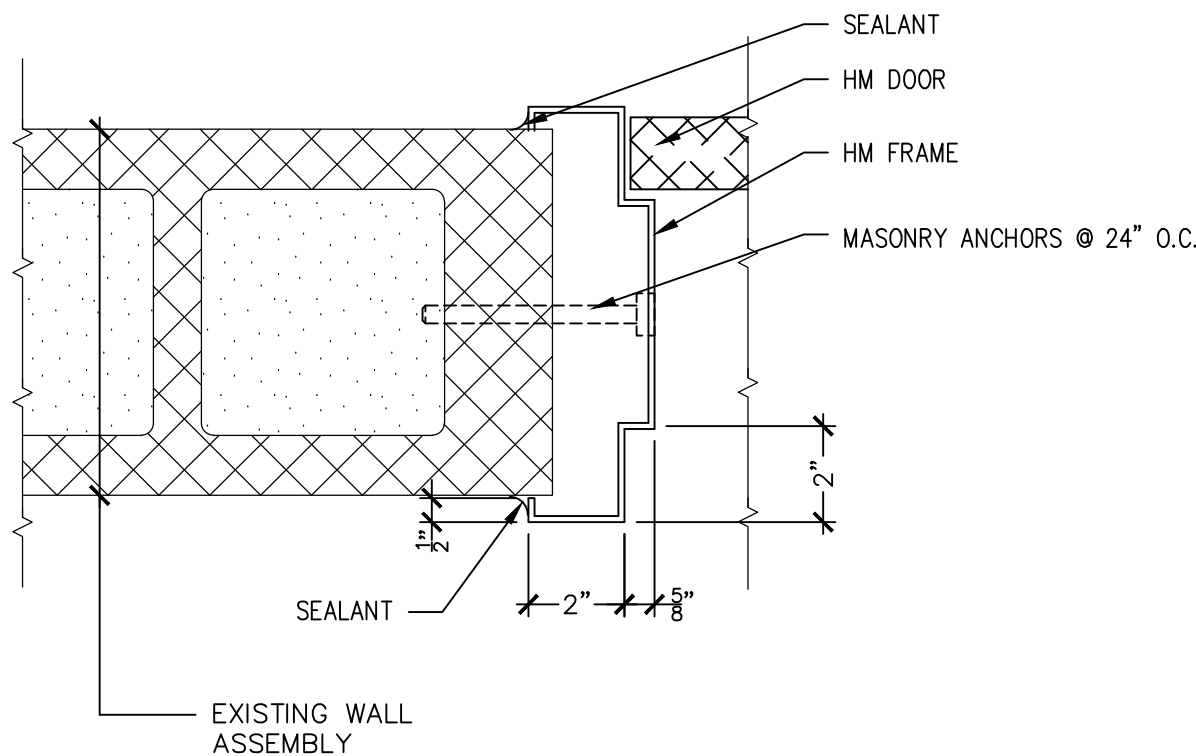
2 WALL INFILL
A-501 SCALE: 1 1/2" = 1'-0"



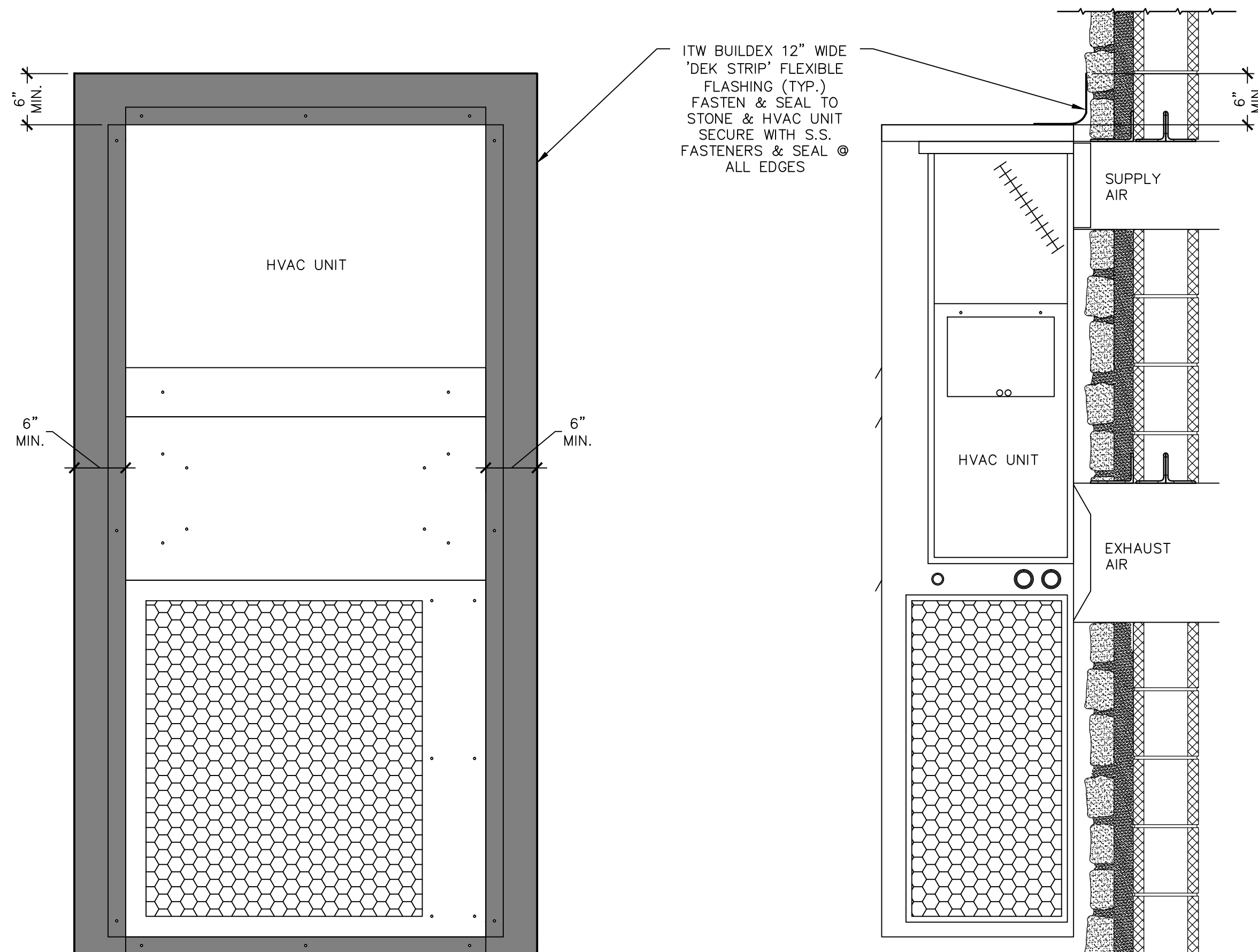
3 WALL INFILL @ DUCT
A-501 SCALE: 1 1/2" = 1'-0"



4 INTERIOR DOOR HEAD/SILL
A-501 SCALE: 3" = 1'-0"



5 INTERIOR DOOR JAMB
A-501 SCALE: 3" = 1'-0"



5 HVAC UNIT FLASHING DETAIL
A-501 SCALE: 3" = 1'-0"



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10-12 City Hall Place, Plattsburgh, NY 12901
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ARCHITECT - ENGINEER - LAND SURVEYOR

GENERAL NOTES:

1. FASTEN CEMENT BOARD WITH #8 SCREWS @ 8" O.C. WITH MIN. OF 1/2" PENETRATION INTO STONES.

PROJECT TITLE:
ESSEX COUNTY, NEW YORK
**MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS**
TICONDEROGA, NEW YORK

DRAWING TITLE:

CONSTRUCTION DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE (MM/DD/YYYY)	
DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.:
E. SEARS		08/24/2012	3808
DRAWING NO.			

A-501

Plot Date: 08/27/2012 Plot Time: 2:54 PM
File Path: P:\38\3808 Essex County - Mt. Defence Utility Building Alterations\Eng Arch\A drawings\3808 M.dwg

GENERAL NOTES

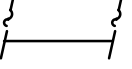
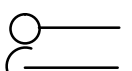
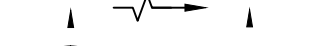
1. ALL PIPE & EQUIPMENT SHALL BE SUPPORTED PER SPECIFICATIONS.
2. INSTALL PIPING TO CONSERVE BUILDING SPACE AND NOT INTERFERE WITH USE OF SPACE.
3. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
4. PROTECT PIPING SYSTEMS FROM ENTRY OF FOREIGN 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

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
	ZONE THERMOSTAT, REVERSE ACTING	15760
	DUCT TRANSITION	15810
	SINGLE WALL DUCT	15810
	DUCT SUPPLY END SECTION	15810
	DUCT EXHAUST END SECTION	15810
	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



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ARCHITECT – ENGINEER – LAND SURVEYOR

NOTES:

PROJECT TITLE:
ESSEX COUNTY, NEW YORK
MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS
TICONDEROGA, NEW YORK

DRAWING TITLE:
MECHANICAL NOTES,
LEGENDS &
SCHEDULES

REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

	DRAWN BY: J. LUSTENADER	CHECKED BY:	DATE: 08/24/2012	PROJECT NO.: 3808

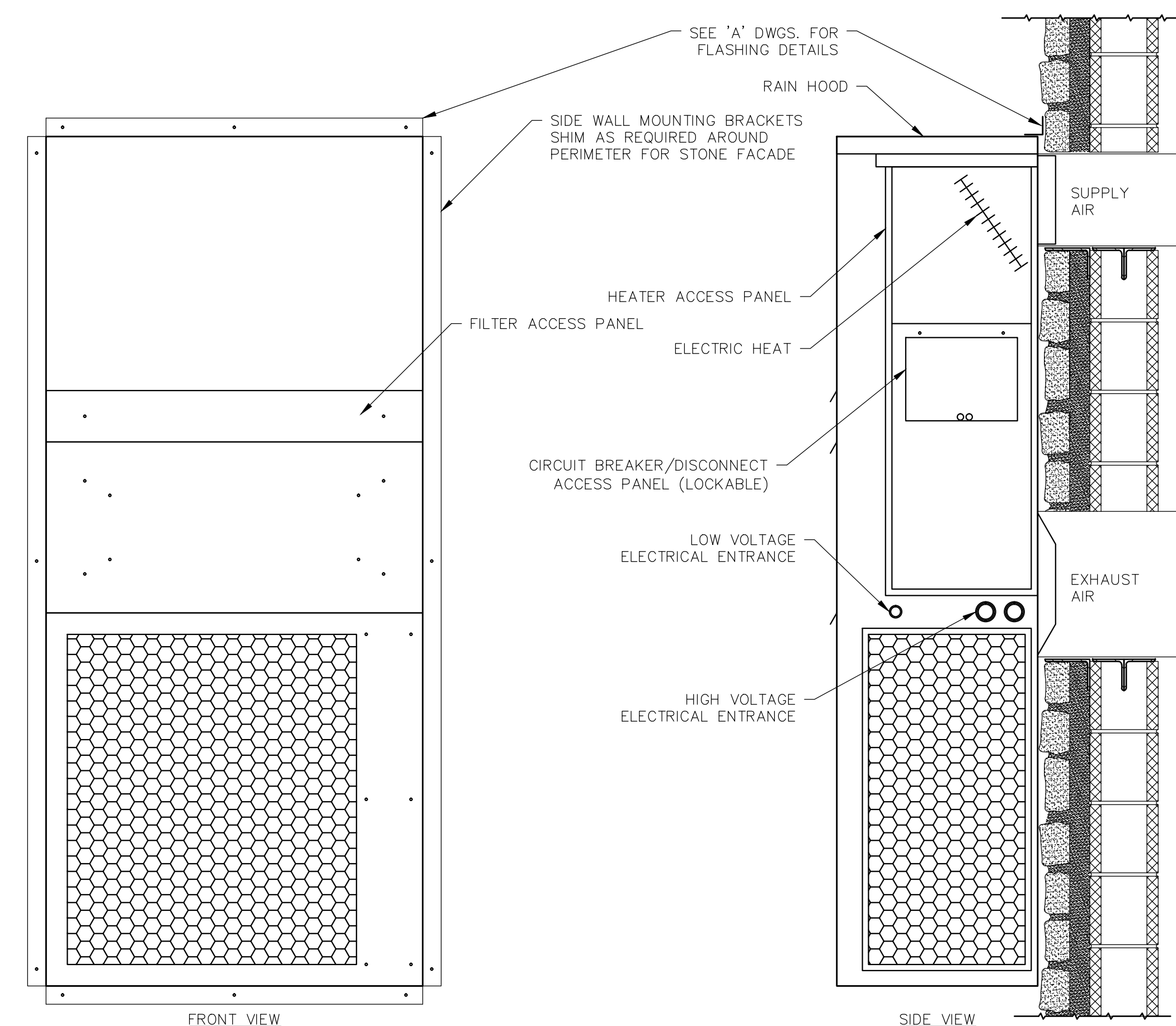
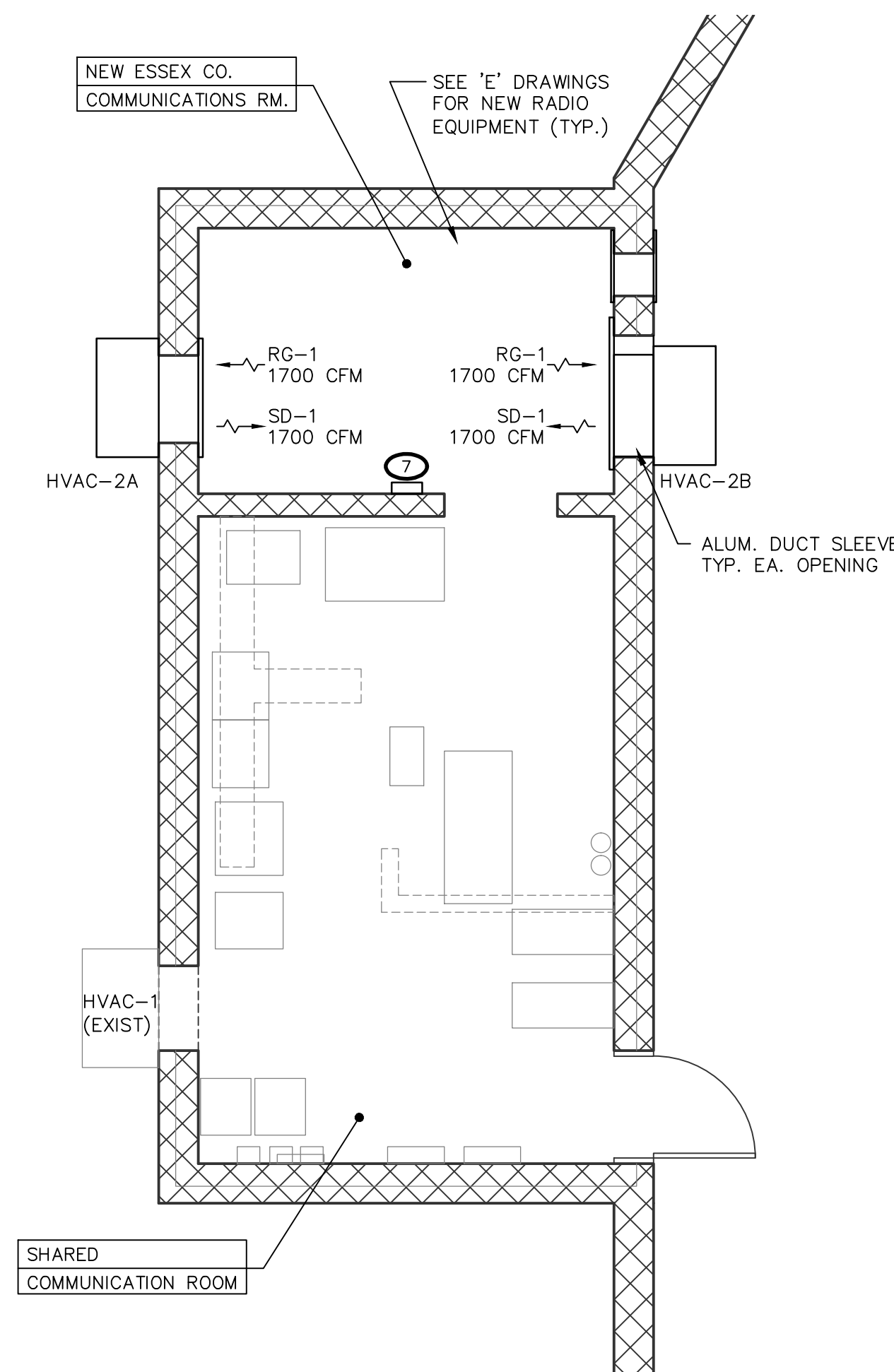
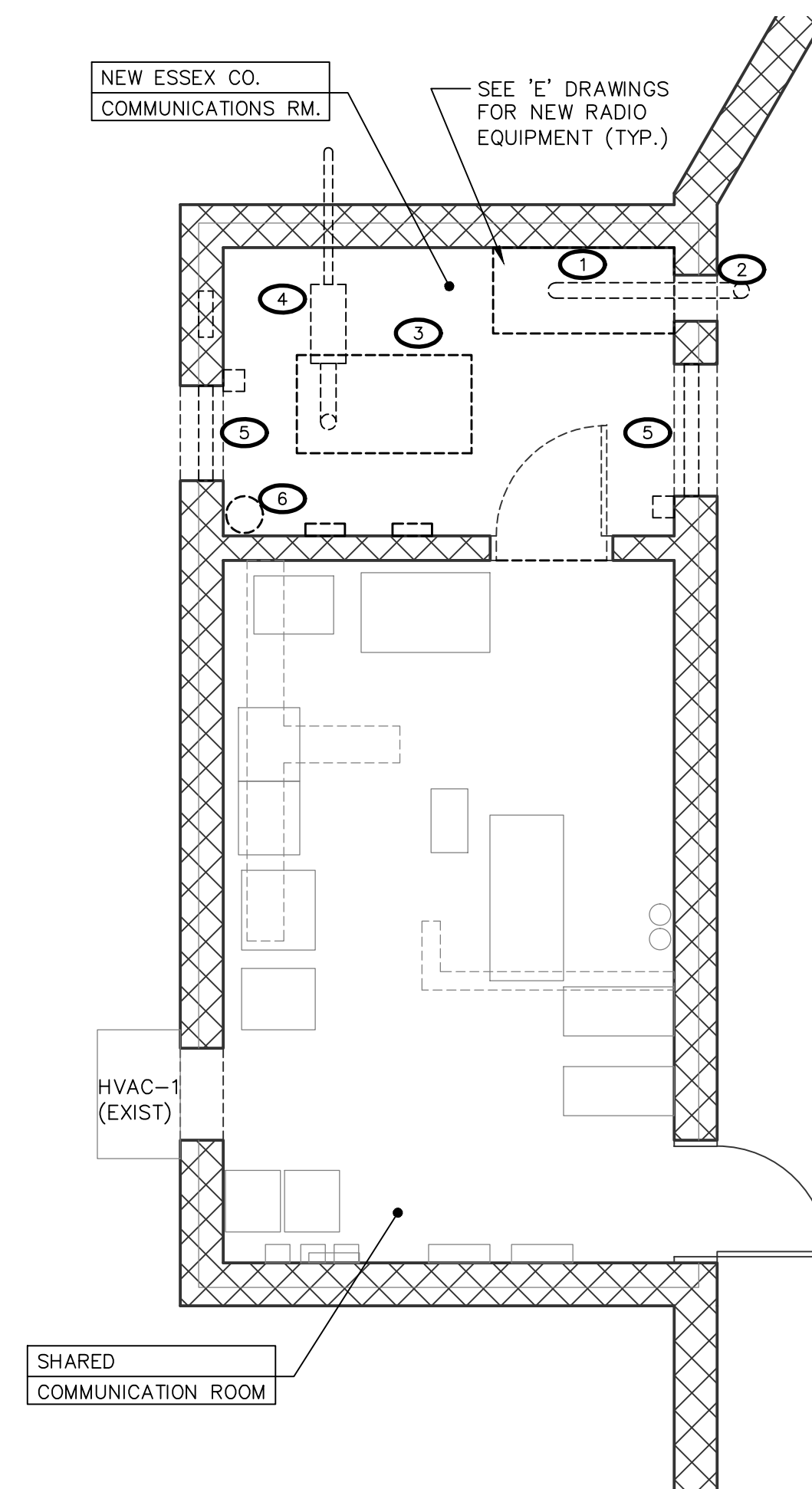
DRAWING NO.

M-001

RETURN GRILLE (RG) SCHEDULE										SPEC. 15850
TAG	TYPE	SIZE	DUCT	NECK	PATTERN/STYLE	MATERIAL	COLOR	NECK VELOCITY (FPM)	INSTALLATION HEIGHT	
RG-1	DUCT MTD.	30"x16"	30"x16"	30"x16"	HORIZ. BAR/0" FIXED BLADE	STEEL	WHITE	500	4'-7" (BTM.)	

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.	30"x10"	30"x10"	30"x10"	VERTICAL BAR/ 3/4" SPACING	STEEL	WHITE	800	HORIZONTAL	8'-5" (BTM.)		

AIR HANDLER UNIT SCHEDULE															SPEC. 15760	
TAG	TYPE	TOTAL FLOW RATE (CFM)	EXTERNAL STATIC PRESSURE (IN WG.)	SUPPLY FAN DATA		VOLTAGE	HEATING DESIGN: -20°F DB, -20°F WB					COOLING DESIGN: 86° F DB, 71°F WB, 19.6 DR				NOTES
				DRIVE	HP		MBTU	E.A.T. (°F)	L.A.T. (°F)	KW	AMPS	SENSIBLE CAPACITY (BTU/HR)	TONS	IPLV	EER	
HVAC-2A	OUTDOOR VERTICAL A/C	1700	0.35	DIRECT	0.75	240V-1PH	17.1	60	83	5.0	21	42,000	5.0	14.3	10.8	LOW AMBIENT CONTROL, 5KW ELECTRIC HEAT, LEAD/LAG CONTROL
HVAC-2B	OUTDOOR VERTICAL A/C	1700	0.35	DIRECT	0.75	240V-1PH	17.1	60	83	5.0	21	42,000	5.0	14.3	10.8	LOW AMBIENT CONTROL, 5KW ELECTRIC HEAT, LEAD/LAG CONTROL



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ARCHITECT - ENGINEER - LAND SURVEYOR

NOTES:

- 1 REMOVE 275 GALLON FUEL OIL TANK. ESSEX COUNTY SHALL REMOVE CONTENTS OF TANK.
- 2 REMOVE FUEL OIL VENT & FILL PIPING & SEAL WALL PENETRATIONS.
- 3 REMOVE FOS/FOR PIPING FROM TANK TO GENSET. ABANDON PIPING BELOW SLAB & EVACUATE W/ COMPRESSED AIR. TERMINATE PIPING BELOW FLOOR.
- 4 REMOVE GENSET EXHAUST, STRUT SUPPORTS, & SEAL WALL PENETRATIONS W/ GROUT.
- 5 REMOVE DAMPERS & DAMPER ACTUATORS.
- 6 REMOVE GENERATOR COOLANT RESERVOIR.
- 7 HVAC LEAD/LAG CONTROLLER.

PROJECT TITLE:
ESSEX COUNTY, NEW YORK
MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS
TICONDEROGA, NEW YORK

DRAWING TITLE:

MECHANICAL PLANS

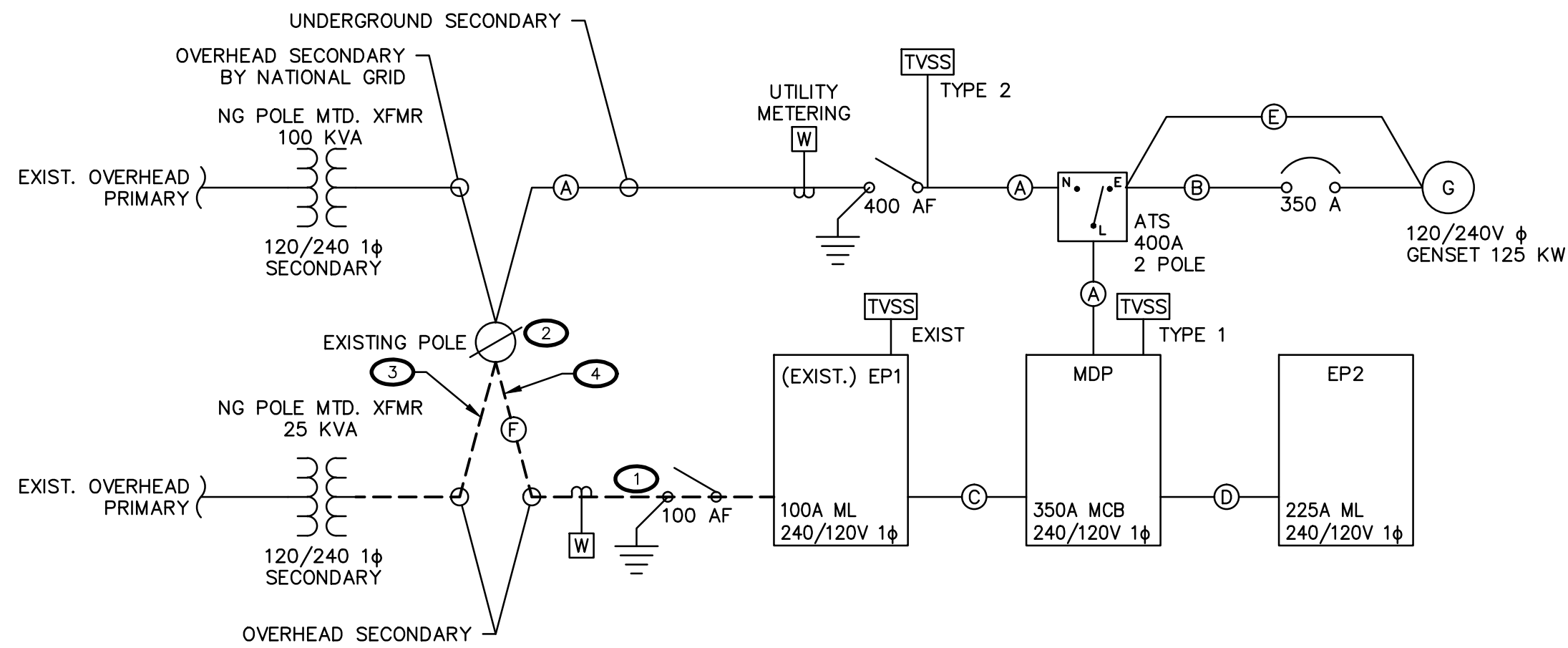
REVISIONS

[illegible]

DRAWN BY: J. LUSTENADER	CHECKED BY:	DATE: 08/24/2012	PROJECT NO.: 3808
DRAWING NO.			

M-101

SYMBOL	DESCRIPTION	SPEC.
	LIGHT SWITCH	16140
	SIMPLEX RECEPTACLE	16140
	DUPLEX RECEPTACLE	16140
	RECEPTACLE WITH GROUND FAULT PROTECTION	16140
	QUADRAPLEX RECEPTACLE	16140
	JUNCTION BOX (SIZED PER NEC)	16130
	DISCONNECT SWITCH - NON FUSIBLE	16415
	DISCONNECT SWITCH - FUSIBLE	16415
	SURFACE MTD, POWER PANEL	16440
	LIGHT FIXTURE TYPE A	16510
	EMERGENCY LIGHT	16530
	HOME RUN POWER CIRCUIT	16123
	SWITCHING CIRCUIT	16123
	MOTOR	-
	BELOW SLAB/FLOOR CONDUIT	16130
	ABOVE FLOOR CONDUIT	16130
	TRANSIENT VOLTAGE SURGE SUPPRESSION	16289
	SMOKE DETECTOR (PHOTOELECTRIC)	16720
	SMOKE DETECTOR (IONIZING)	16720
	PULL-STATION	16720
	HORN/STROBE COMBO	16720
	DOOR CONTACT	16140
	FA MONITOR RELAY MODULE	16720
	CURRENT SENSOR	16140
	LOW TEMP LIMIT CONTROL	16140
	HIGH TEMP LIMIT CONTROL	16140

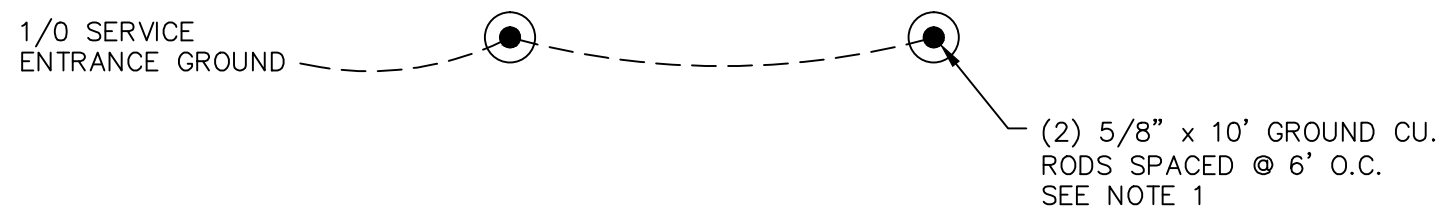


FEEDER SCHEDULE							
TAG	OCPD	CONDUIT		CONDUCTORS			NOTES
		QTY	SIZE	P	N	G	
A	350A	(1)	4"	(2) 500 KCMIL	(1) 500 KCMIL	(1) 1/0	
B	350A	(2)	3"	(2) 4/0	(1) 4/0	(1) #3	3
C	100A	(1)	1 1/2"	(2) #3	(1) #3	(1) #8	
D	150A	(1)	2"	(2) 1/0	(1) 1/0	(1) #6	
E	N/A	(1)	N/A	N/A	N/A	N/A	1
F	100A	(1)	2"	(2) #3	(1) #3	UNKNOWN	2

1. #14 START CONTROL
2. EXISTING FEEDER - REMOVE SERVICE RISER & CONDUCTORS AFTER
NEW SERVICE IS INSTALLED
3. (2) PARALLEL SETS

1 ELECTRICAL ONE-LINE DRAWING
E-001 SCALE: 1/4" = 1'-0"

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



GROUNDING NOTES:

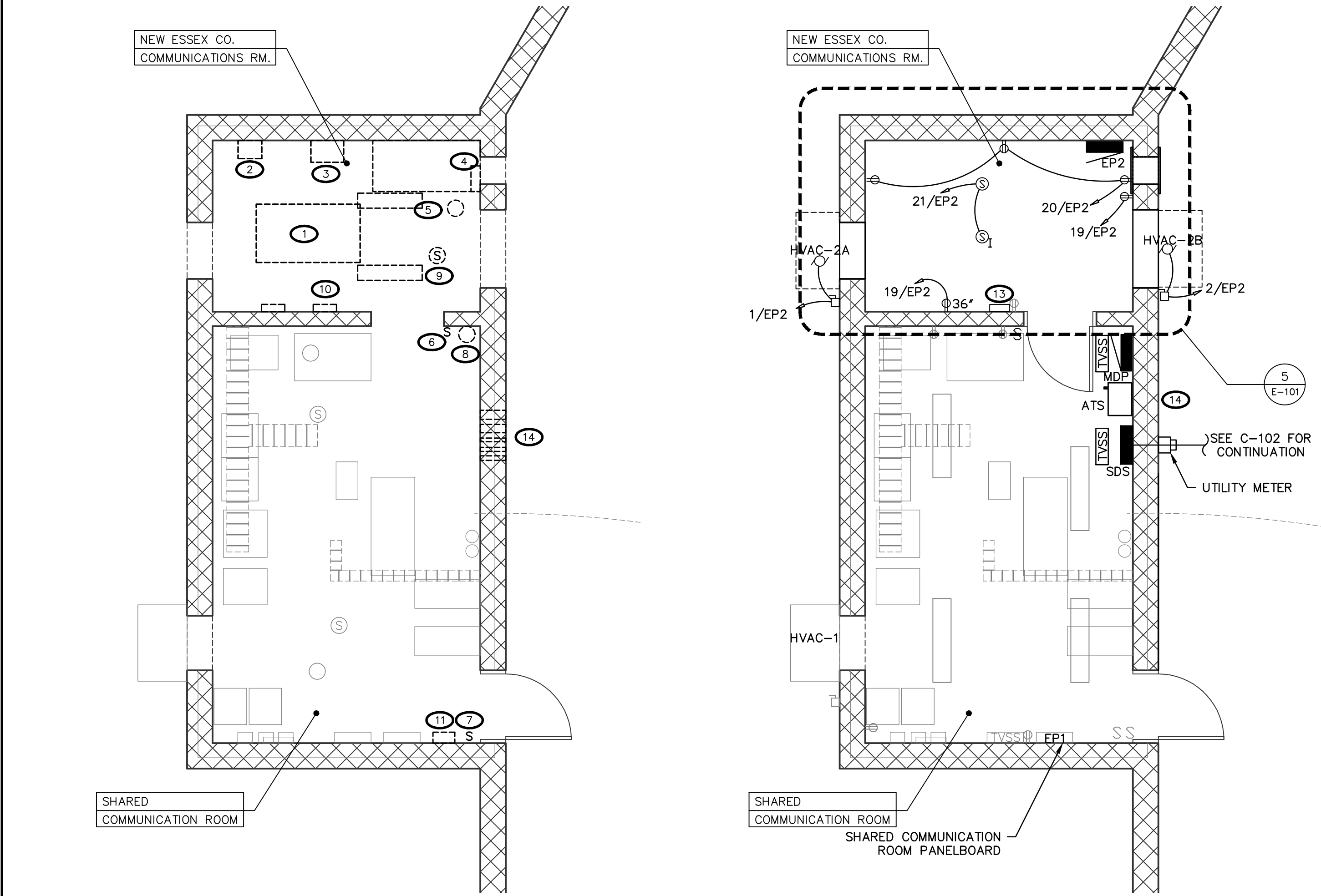
1. IF SITE CONDITIONS DO NOT ALLOW PROPER INSTALLATION OF STANDARD GROUND RODS WITHOUT DEFORMATION, ELECTROLYTIC GROUND RODS SHALL BE PROVIDED AS DETAILED ON C-101.

2
E-001

GROUNDING SYSTEM

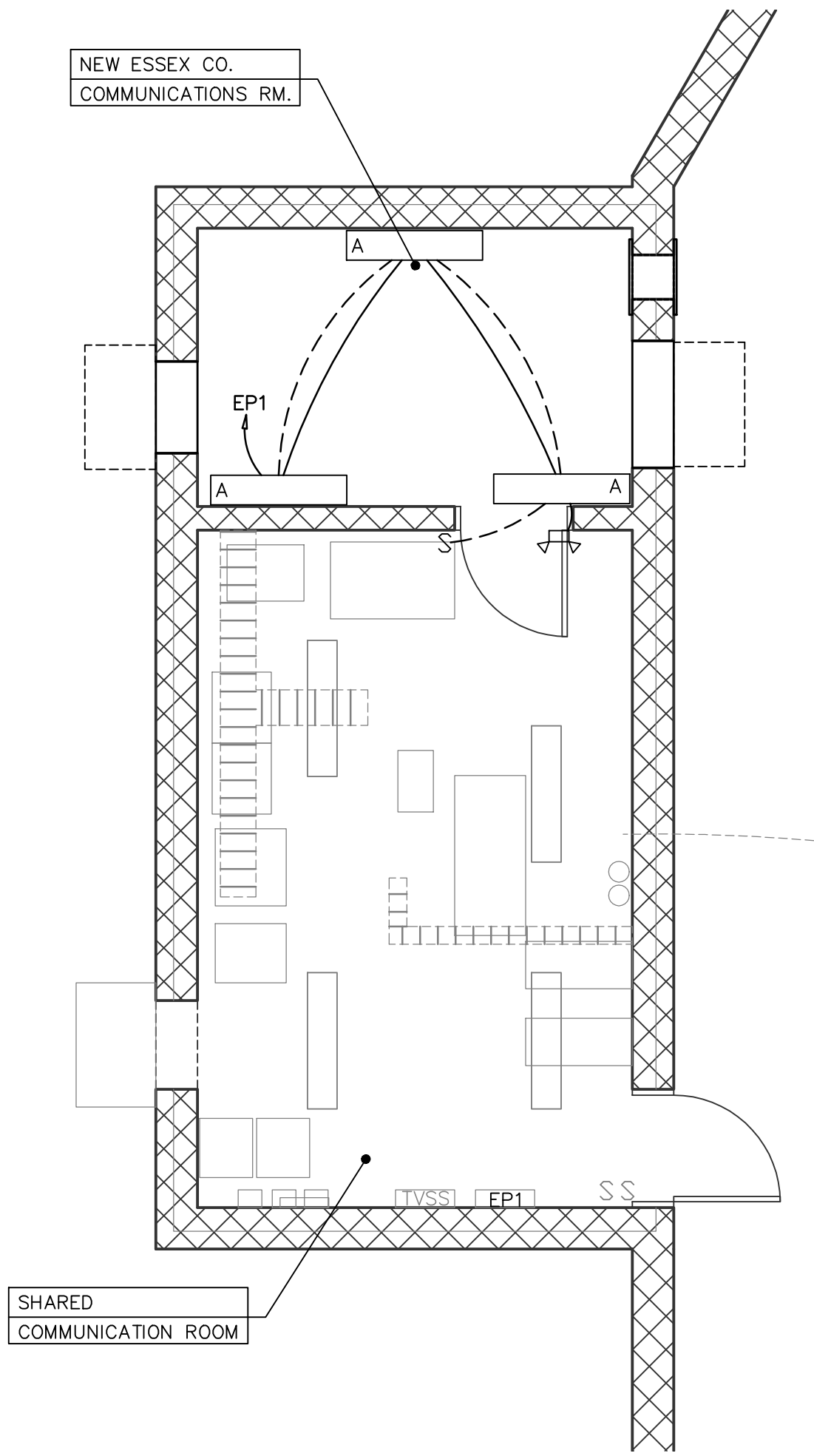
SCALE: N.T.S.

Plot Date: 08/27/2012 Plot Time: 2:54 PM
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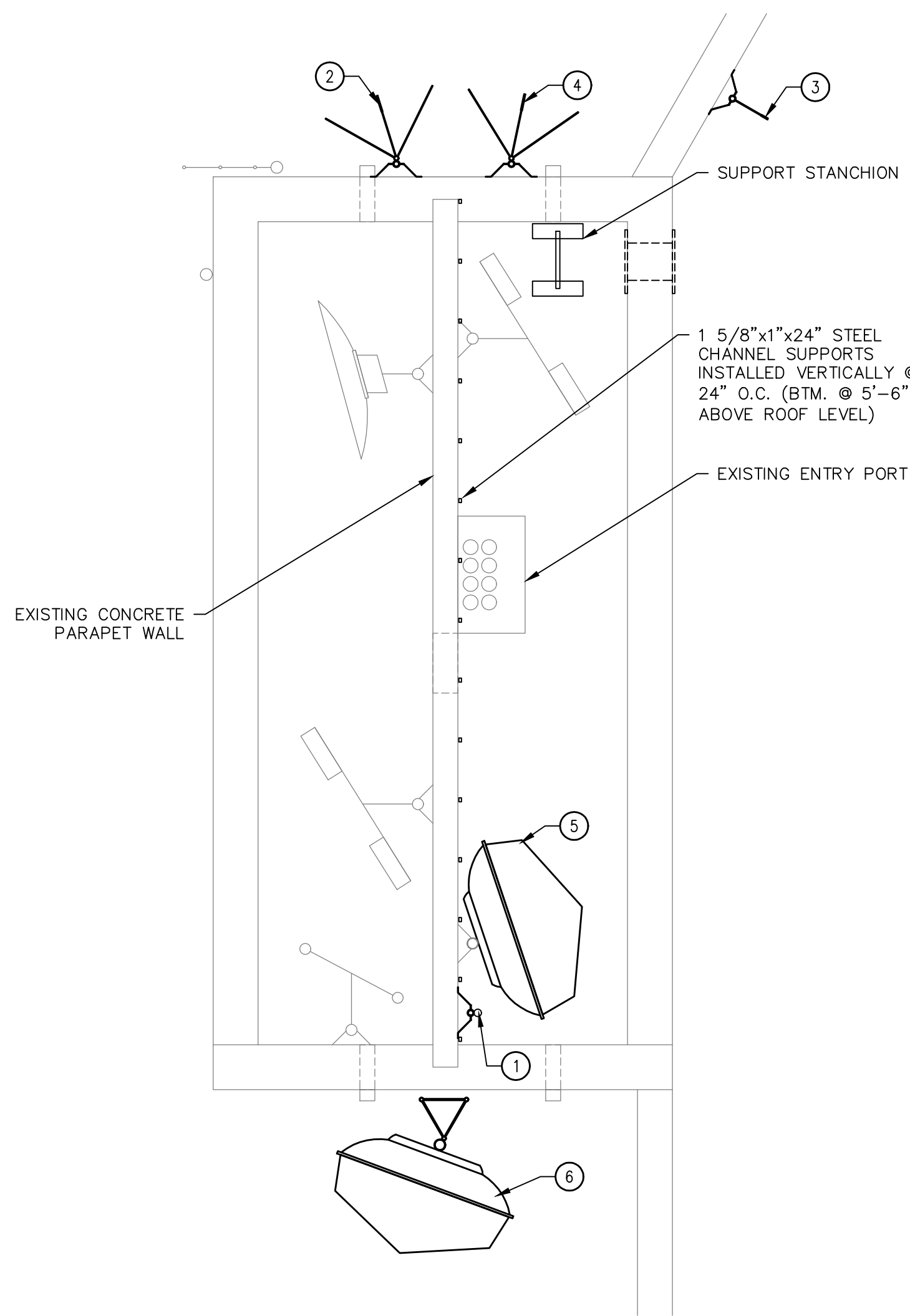


1 ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

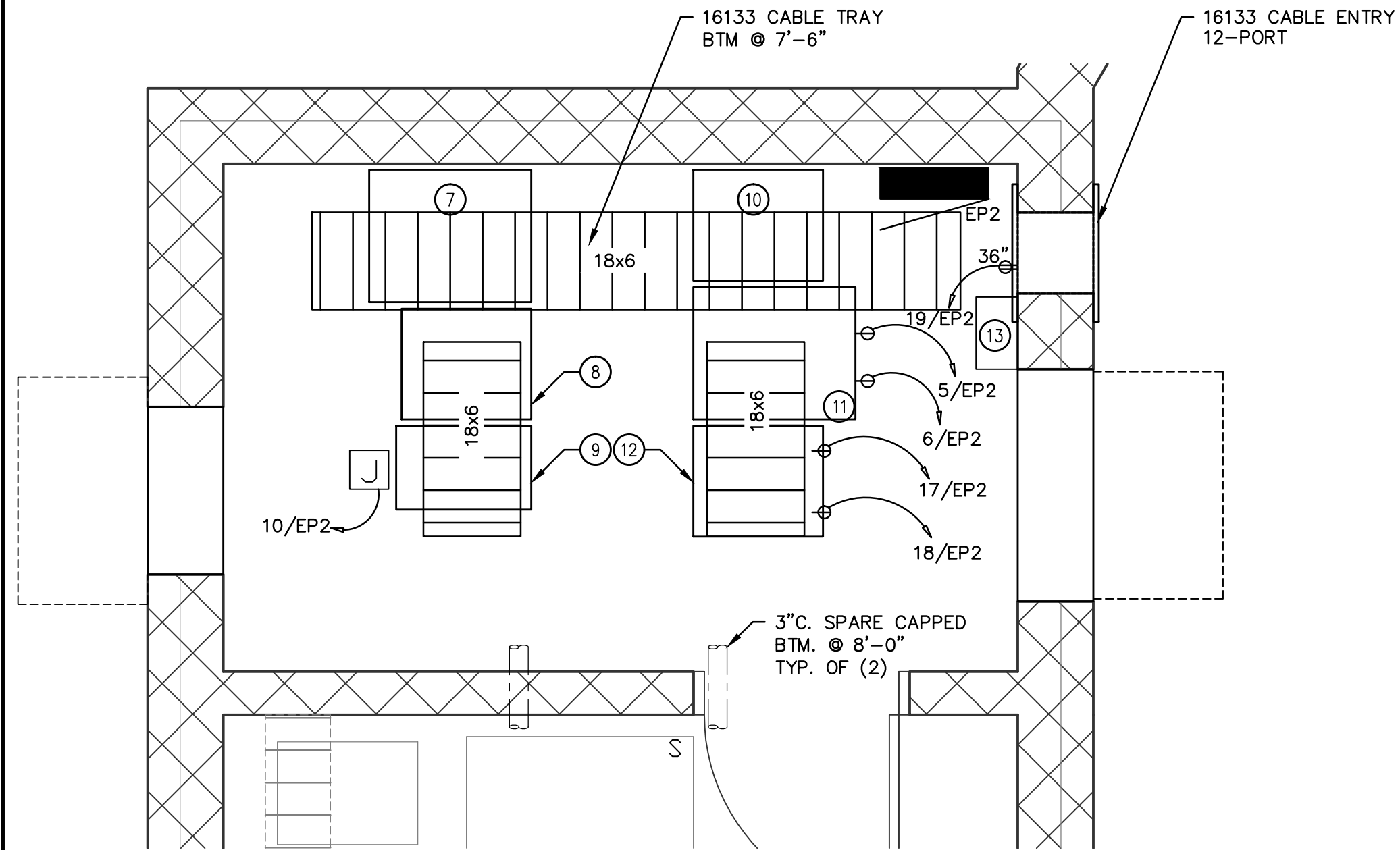
2 POWER PLAN
SCALE: 1/4" = 1'-0"



3 LIGHTING PLAN
SCALE: 1/4" = 1'-0"



4 ROOF PLAN
SCALE: 1/4" = 1'-0"



5 ENLARGED COMM. RM.
SCALE: 1/2" = 1'-0"

COMMUNICATION EQUIPMENT SCHEDULE

ITEM NO.	EQUIPMENT NAME/DESCRIPTION	VOLTAGE	PHASE	CYCLE	NEMA	TYPE	QTY	VOLT-AMPS (VA)	TOTAL VA	REMARKS
1	SC229-SFXLDF COLLINEAR OMNI ANTENNA	-	-	-	-	-	-	-	-	
2	SD210R-SD2P120LDF LOW PM VHF REFLECTOR ANTENNA	-	-	-	-	-	-	-	-	
3	SD110-SF2PASNM EXPOSED DIPOLE	-	-	-	-	-	-	-	-	
4	SD210R-SD2P120LDF LOW PM VHF REFLECTOR ANTENNA	-	-	-	-	-	-	-	-	
5	PAD6-65BC MICROWAVE ANTENNA (W/ RADOME)	-	-	-	-	-	-	-	-	
6	PAD6-65BC MICROWAVE ANTENNA (W/ RADOME)	-	-	-	-	-	-	-	-	
7	COMBINER RACK	-	-	-	-	-	-	-	-	
8	LMR RACK	-	-	-	-	-	-	-	-	
9	UPS CABINET	240	1	60	-	JB	1	4300	4300	JB CLG MTD @ 10'-0" A.F.F.
10	MICROWAVE RACK	-	-	-	-	-	-	-	-	
11	RECTIFIER AND BATTERIES	240	1	60	L14-30R	SIMPLEX	2	5950	11900	RECEPTS. CLG MTD. @ 10'-0" A.F.F.
12	PAGING	120	1	60	5-20R	SIMPLEX	2	1400	2800	RECEPTS. CLG MTD. @ 10'-0" A.F.F.
13	DEHYDRATOR	120	1	60	5-20R	SIMPLEX	1	350	350	RECEPT. WALL MTD @ 36" A.F.F.



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NOTES:

- 1 REMOVE STANDBY GENERATOR (20kW) & ASSOCIATED WIRING.
- 2 REMOVE BATTERY CHARGER & ASSOCIATED WIRING.
- 3 REMOVE AUTOMATIC TRANSFER SWITCH & ASSOCIATED WIRING.
- 4 REMOVE FUEL TANK LEVEL GAUGE & ASSOCIATED WIRING.
- 5 REMOVE LIGHT FIXTURES.
- 6 REMOVE EMERGENCY FUEL SAFETY SWITCH.
- 7 REMOVE ABANDONED LIGHT SWITCH.
- 8 REMOVE ABANDONED T-STAT.
- 9 REMOVE ABANDONED SMOKE & HEAT DETECTORS & CONDUIT.
- 10 REMOVE GENERATOR AND ATS ALARM PANELS, JB'S, AND CONDUIT.
- 11 UPON COMPLETION OF NEW SERVICE INSTALLATION (INCLUDING PANELBOARDS & ATS), REMOVE EXISTING SERVICE DISCONNECT SWITCH.
- 12 MOUNT LIGHT FIXTURES AT APPROX. 8'-0" A.F.F.
- 13 HVAC LEAD/LAG CONTROLLER, POWERED THROUGH HVAC UNIT (LOW VOLTAGE). PROVIDE 3/4" C. & POWER/COMMUNICATIONS CABLING PER MFG. INSTRUCTIONS.
- 14 CORE DRILL FOR THE FOLLOWING CONDUIT PENETRATIONS:
 - (1) 4" UTILITY POWER
 - (2) 3" EMERGENCY POWER
 - (1) 1" GENSET START/STOP CONTROL
 - (1) 1 1/4" GENSET ACCESSORY POWER
 - (1) 1 1/2" GENERATOR ALARMS
 - (1) 1" SERVICE GROUND

PROJECT TITLE:
ESSEX COUNTY, NEW YORK
**MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS**
TICONDEROGA, NEW YORK

DRAWING TITLE:

ELECTRICAL PLANS

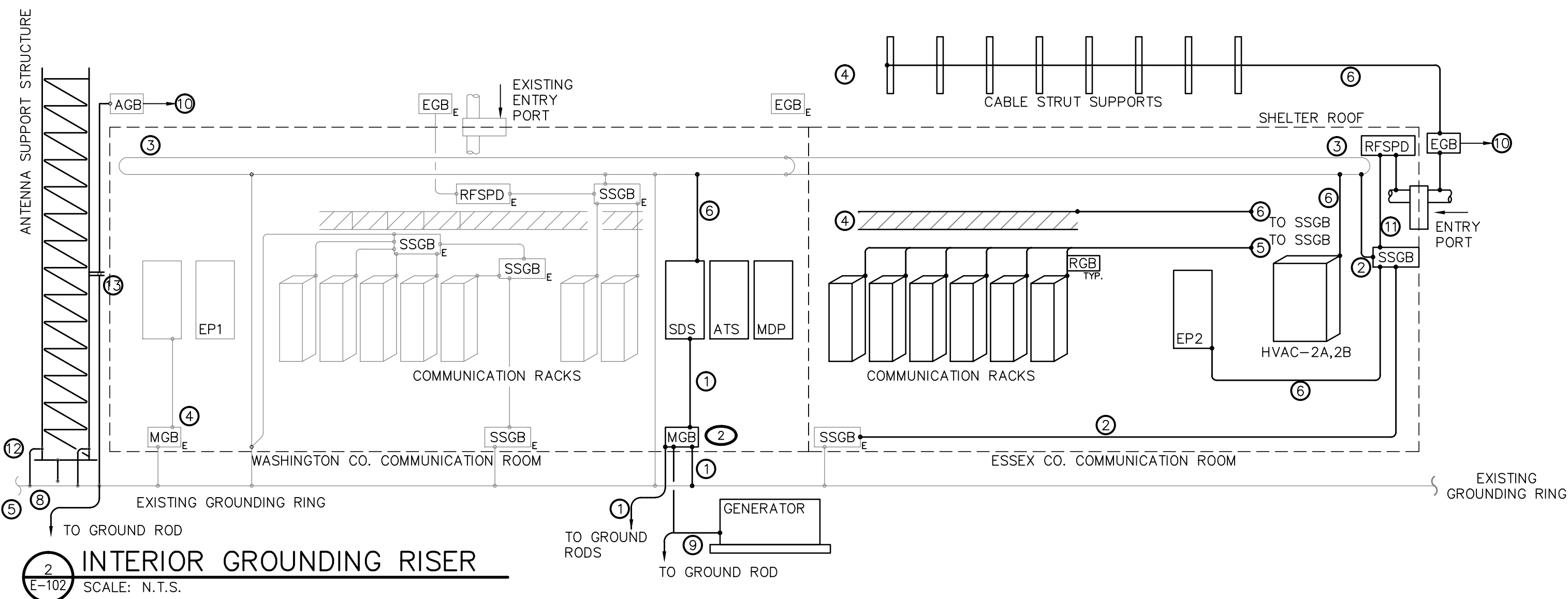
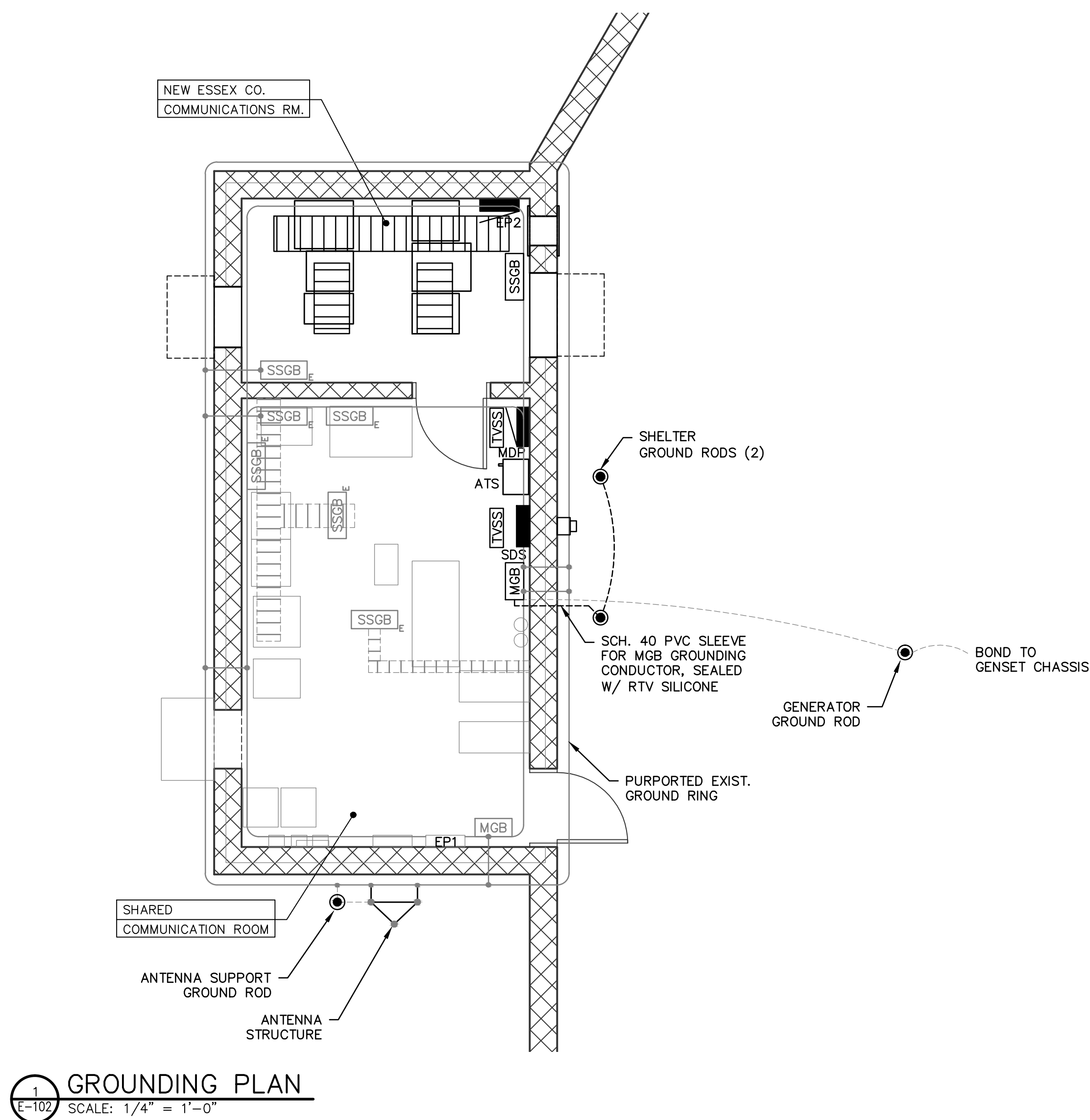
REVISIONS

NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY: J. LUSTENADER	CHECKED BY:	DATE: 08/24/2012	PROJECT NO.: 3808

DRAWING NO.

E-101



AGB	ANTENNA MAST GROUND BUS BAR
EGB_E	EXISTING EXTERNAL GROUND BUS BAR
SSGB_E	EXISTING SUB SYSTEM GROUNDING BUS BAR
MGB_E	EXISTING MAIN GROUND BUSS BAR
RFSPD_E	EXISTING RF SURGE PROTECTIVE DEVICE
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: 1/0 CU. TO ACEG
 - 2 COMMUNICATION BONDING BACKBONE: JACKETED #2 CU.
 - 3 EXISTING INTERIOR PERIMETER GROUNDING BUS (IPGB): #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, 1/0 CU
 - 10 EXTERNAL GROUND BUS CONDUCTOR: 1/0 CU,
 - 11 RF SURGE PROTECTION GROUND CONDUCTOR, #6 CU, BARE
 - 12 BONDING CONDUCTOR, BARE #2 CU.
 - 13 ANTENNA SUPPORT DOWN CONDUCTOR, 1/0 CU.

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NOTES:

- ① THESE DRAWINGS REPRESENT SCHEMATIC REPRESENTATION OF BUILDING GROUNDING PROTECTION SYSTEMS. REFER TO SPEC. SECTION 16100 FOR SPECIFIC REQUIREMENTS. NOT ALL EQUIPMENT/FIXTURES REQUIRING GROUNDING/BONDING IS ILLUSTRATED ON THESE DRAWINGS.
- ② CONNECT TO EXISTING ROUND RING BONDING JUMPER INSIDE BUILDING.
- ③ RF GROUND PROTECTION DEVICES (N.I.C.) PROVIDED BY COMMUNICATION SYSTEM VENDOR.
- ④ UPON CONNECTION OF NEW ELECTRIC SERVICE & REMOVAL OF EXISTING SERVICE DISCONNECT, REMOVE GROUNDING CONDUCTOR.
- ⑤ BOND ANTENNA SUPPORT STRUCTURE EXISTING GROUND RING, TYP. (2) LOCATIONS.
- ⑥ BOND TO WALL SUPPORT STRUCTURE.
- ⑦ BOND STRUCTURAL BAR REINFORCEMENT TO ANTENNA STRUCTURE.
- ⑧ DURING EXCAVATION OF ANTENNA SUPPORT STRUCTURE FOUNDATION, CONTRACTOR SHALL CAREFULLY LOCATE AND EXPOSE EXISTING PERIMETER GROUND RING FOR NEW GROUND RING CONNECTIONS.

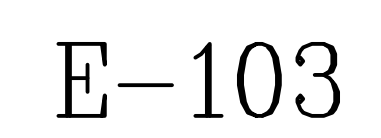
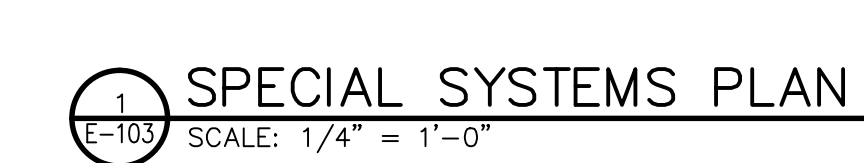
PROJECT TITLE:
ESSEX COUNTY, NEW YORK
MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS
TICONDEROGA, NEW YORK

DRAWING TITLE:

ELECTRICAL
GROUNDING PLANS

[illegible]

E-102



Plot Date: 08/27/2012 Plot Time: 2:54 PM
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PANEL SCHEDULE – MDP

PANEL	MDP	400 AMP	MAIN	350	BRANCH BREAKER SUMMARY						
BUSES	CU	W/ GRD BUS		W/ ISO. GRD BUS	X	POLES	AMPS.	USED	SPARE	TOTAL	TOTAL POLES
120/240 1φ 3W				30 SPACES		2		1	0	2	2
BREAKER INTERR'G CAPACITY				22,000 AIC		2	100	1	0	2	2
ENCLOSURE	NEMA 1			COVER TYPE		2	20	2	0	2	4
SURFACE MOUNT		X		CLAMPED ONLY		1	20	1	0	1	1
FLUSH MOUNT				DOOR-IN-DOOR	X						
CIRCUIT BREAKER TYPE											
BOLT-ON		X		PLUG-IN						21	9
BRANCH CIRCUITS				EQUIPMENT		WIRING					
NO.	BREAKERS POLE	AMP.	PH.	CON. KW.	LOAD HP.			LOAD WIRE	GROUND WIRE	COND.	
1	2	100	1		—	EP1 SUBFEED		SEE E-001			
2	2	175	1		—	EP2 SUBFEED		SEE E-001			
5	2	20	1		—	GENSET BLOCK HEATER		#10	#10	1"	
6	2	20	1		—	GENSET BATTERY CHARGER		#10	#10	1"	
9	1	20	1		—	GENSET COOLANT HEATER		#10	#10	1"	
10-30	1	20	1		—	BLANK		—	—	—	

PANEL SCHEDULE – EP2 – ESSEX CO.

PANEL	EP2	225 AMP	MAIN	LUG	BRANCH BREAKER SUMMARY						
BUSES	CU	W/ GRD BUS		W/ ISO. GRD BUS	X	POLES	AMPS.	USED	SPARE	TOTAL	TOTAL POLES
120/240 1φ 3W				30 SPACES		2	50	2	0	2	4
BREAKER INTERR'G CAPACITY				22,000 AIC		2	30	2	0	2	4
ENCLOSURE	NEMA 1			COVER TYPE		2	25	1	0	1	2
SURFACE MOUNT		X		CLAMPED ONLY		2	20	0	3	3	6
FLUSH MOUNT				DOOR-IN-DOOR	X	1	20	5	2	7	7
CIRCUIT BREAKER TYPE											
BOLT-ON		X		PLUG-IN						7	23
BRANCH CIRCUITS				EQUIPMENT		WIRING					
NO.	BREAKERS POLE	AMP.	PH.	CON. KW.	LOAD HP.			LOAD WIRE	GROUND WIRE	COND.	
1	2	50	1	—	—	HVAC-2A		#8	#8	1"	
2	2	50	1	—	—	HVAC-2B		#8	#8	1"	
5	2	20	1	—	—	SPARE		—	—	—	
6	2	30	1	0.6	—	RECTIFIER (ITEM 11)		#10	#10	3/4"	
9	2	30	1	—	—	RECTIFIER (ITEM 11)		#10	#10	3/4"	
10	2	25	1	3.0	—	UPS CABINET (ITEM 9)		#10	#10	3/4"	
13	2	20	1	—	—	SPARE		—	—	—	
14	2	20	1	—	—	SPARE		—	—	—	
17	1	20	1	—	—	PAGING (ITEM 12)		#12	#12	3/4"	
18	1	20	1	—	—	PAGING (ITEM 12)		#12	#12	3/4"	
19	1	20	1	—	—	RECEPT. /DEHYDRATOR (ITEM 13)		#12	#12	3/4"	
20	1	20	1	—	—	RECEPTACLES / ESSEX CO. RM.		#12	#12	3/4"	
21	1	20	1	—	—	SMOKE DETECTORS		#12	#12	3/4"	
22	1	20	1	—	—	SPARE		#12	#12	3/4"	
23	1	20	1	—	—	SPARE		#12	#12	3/4"	
24-30	—	—	—	—	—	BLANK		—	—	—	



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NOTES:

PROJECT TITLE:
ESSEX COUNTY, NEW YORK
MOUNT DEFIANCE
TELECOMMUNICATION
SHELTER
ALTERATIONS
TICONDEROGA, NEW YORK

DRAWING TITLE:

PANEL SCHEDULES

REVISIONS		
NO.	DESCRIPTION	DATE (MM/DD/YYYY)

DRAWN BY: J. LUSTENADER	CHECKED BY:	DATE: 08/24/2012	PROJECT NO.: 3808

DRAWING NO.

E-601