

#### **DRAWINGS**

T-000 Title Sheet G-001 General Notes + Site Plan G-002 Code Analysis + Egress Plans A-010 Exterior Demo + Prop Floor | Plans A-020 Exterior Demo + Prop Floor 2 Plans A-110 Interior Demo + Prop Apt 1 Plans A-120 Interior Demo + Prop Apt 4 Plans A-140 Exist + Prop Roof Plans

A-200 West Elevations Demo + Prop A-210 North + South Elevations Demo + Prop A-220 East Elevations Demo + Prop A-300 Existing Sections

A-410 Apt I: Interior Elevs + Plans A-420 Apt 4: Interior Elevs Plans A-500 Exterior Wall Sections A-501 Exterior Wall Sections

A-510 Exterior Wall Details A-511 Exterior Wall Details A-520 Exterior Plan Details

A-550 Interior Details A-590 Partition Types A-600 Schedules

A-610 Door and Window Schedules A-710 Apt 1: RCP

A-720 Apt 4: RCP A-810 Apt 1: Furniture Plan A-820 Apt 4: Furniture Plan

P-001 Plumbing Riser Diagram + Notes
P-110 Apt 1: Prop Plumbing Plan
P-120 Apt 4: Prop Plumbing Plan

### **ALTERNATES**

S.1: EXTERIOR (BASE BID)

See A-010, A-020, A-200, A-210, A-220, A-500, A-550, A-610

S.2: APARTMENT 1 INTERIOR

See A-110, A-410, A-550, A-590, A-600, A-610, A-710, P-001, P-110, struc dwgs, mech dwgs

S.3: APARTMENT 4 INTERIOR See A-120, A-420, A-550, A-590, A-600, A-610, A-720, P-001, P-120, struc dwgs, mech dwgs

**S.4: FURNITURE** See A-810, A-820

## **STABLES**

#### CLIENT

Essex County 7551 Court Street P.O. Box 217 Elizabethtown, NY 12932 518.873.3895

#### **ARCHITECT**

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#### ASSOCIATE ARCHITECT

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#### **ENGINEER: STRUCTURAL**

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#### **ENGINEER: MEP**

EP Engineering LLC 110 William Street 32nd Floor New York NY 10038 212.257.6190

#### ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023 ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road

Westport NY 12993

## T-000

TITLE SHEET



#### **GENERAL NOTES**

- I) The construction manager / general contractor shall verify all existing conditions in the field prior to commencing work and shall report any discrepancies between the drawings and existing conditions to the architect.
- 2) Minor details not usually shown or specified but necessary for proper construction of any part of the work shall be included as if they were indicated in the drawings except for compromise to base building systems and finishes.
- 3) The construction manager / general contractor shall coordinate all work with requirements of local authorities.
- 4) The construction manager / general contractor shall verify all load-bearing walls, posts, beams, etc and notify architect immediately of any discrepancies or conflicts with new work.
- 5) All dimensions are from finished walls and partitions unless otherwise indicated. Walls shown to 'align' shall be finished flush and smooth with existing work. After the floor channels for the partition walls have been laid the architect is to be notified so that work may be inspected and approved for conformance with design before proceeding with additional construction.
- 6) The construction manager / general contractor is responsible for coordination of all subcontractors, suppliers, and vendors as well as deliveries, off-loading, and handling of all materials and equipment unless otherwise noted. Any substitute in specifications must be submitted to the architect for omissions, ambiguities, or conflicts in any of the construction drawings, or be in doubt as to their meaning, he must bring the question to the attention of the architect prior to the start of construction. The architect shall review the question and where the information sought is not clearly indicated or specified, will issue a clarifying addendum. Neither the owner nor the architect will be responsible for verbal instructions.
- 7) 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 drawings and specifications, the most stringent requirement shall apply.
- 8) Written requests must be submitted for any proposed changes in the scope of work by the construction manager / general contractor to the owner and architect before any work is started. Such requests shall indicate scope of work, cost, and possible delays to the project.
- 9) The construction manager / general contractor shall be responsible for the protection of all conditions and materials within the proposed construction area. The construction manager / general contractor shall have sole responsibility for any damage or injuries caused by or during the execution of the work.
- A) Where demolition is indicated, remove all objects except those specifically designated to remain.
- B) The drawings may not show all items or objects existing at the site. The construction manager / general contractor must verify at the site all objects to be preserved and report to the architect any discrepancies or questionable items.
- C) Use all means necessary to protect existing objects designated to remain, and in the event of damage, immediately make all repairs and replacements necessary to the approval of the architect at no additional expense to the owner.
- D) Prior to commencement, carefully locate and inspect the entire site and all objects designated to be removed and to be preserved, as well as all existing utilities and determine all requirements for disconnecting, capping, or protecting all such work in accordance with the requirements of the utility company, building management, or agency involved.
- E) The construction manager / general contractor shall remove, reroute, and / or cap all unused utilities after checking with the architect. The items shall be capped off within existing walls or slabs.

#### 10) Partitions:

- A) All outside corners at masonry and drywall partitions shall have metal corner beads.

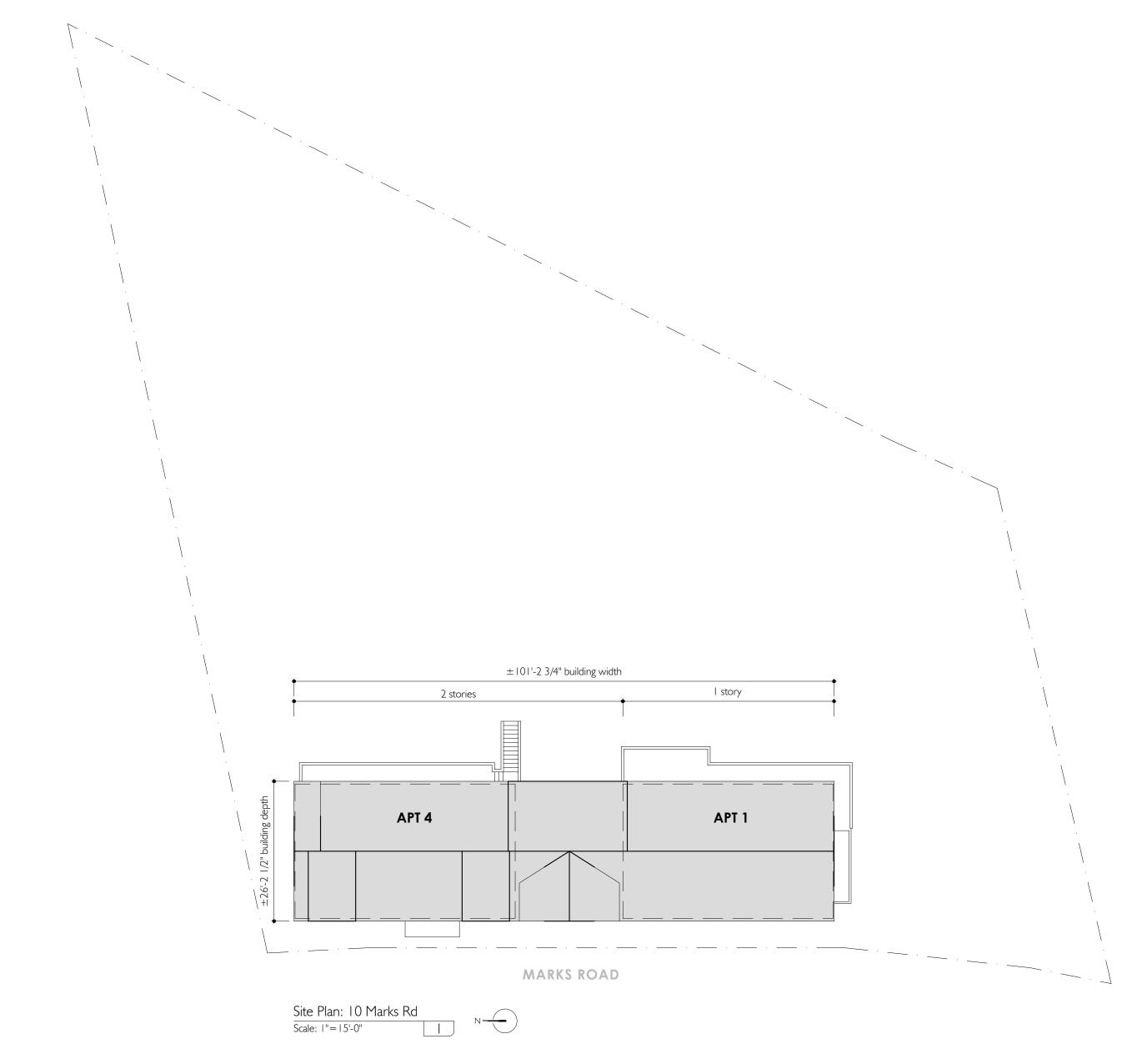
  Tape and spackle smooth where required.

  Three coat spackle finish minimum.
- B) All defective plaster and / or drywall on adjacent existing walls shall be chopped out and / or patched free of irregularities and shall match adjacent walls in finish and thickness.
- C) Alignment of new wall construction to existing walls and columns shall be done in a manner so as to visible eliminate the point of contact or joint of new and existing materials.
- D) Where demolition has occurred, contractor shall fill all holes, patch smooth, and level all remaining surfaces including walls, floors and ceilings. Square all corners and properly prepare all surface to receive finishes.
- E) For the removal of all unwanted equipment and debris at the completion of construction, debris storage will only be permitted in the owner's space until contractor's debris removal trucks arrive on site. At that time, as coordinated with building management, it will be permitted to bring the debris down through the building. All removal cost will be born by the contractor.
- F) Clean fixtures, equipment, finish hardware, and painted and decorated surfaces and remove marks, stains, paint, dirt, and other soiling resulting from the work of this contract.
- II) Temporary power and lighting to be taken from the owner's meter panel. Contractor to coordinate with owner.
- 12) The owner is responsible for land surveys, topographic surveys, boundary and property surveys.
- 13) The contractor is responsible for Building and Planning Department inspections and any inspections required for the project by the authorities having jurisdiction.
- 14) General contractor to relinquish any construction materials, equipment, and fixtures requested by owner.
- 15) Maintain structure in weather-tight condition at all times.
- 16) All materials and products shall be installed strictly in accordance with the manufacturer's instructions.

## ASBESTOS AND LEAD PAINT REMOVAL

- I) The owner is responsible for the discovery and disclosure of hazardous construction materials / finishes at the site. All work areas must be tested for asbestos and lead paint contamination by a certified inspector before commencing work.
- 2) New York State laws and regulations (NYS Dept of Labor Code Rule 56) require the owner of a building to have an asbestos survey completed prior to renovations. The building owner shall engage a certified asbestos inspector to sample and test all building construction materials (interior and exterior) that will be disturbed (cut, drilled, removed, or demolished) for renovations. The asbestos inspector will provide a report of the asbestos containing building materials located in the subject building. Then the owner shall have an abatement design (drawings and specifications) prepared by a certified asbestos designer. All asbestos containing building materials shall be abated or enclosed by a NYS licensed asbestos abatement contractor in accordance with all state and federal regulations. The asbestos survey and abatement costs are the responsibility of the owner.
- 3) The contractor is responsible for the proper protection or removal of hazardous construction materials / finishes during construction, in compliance with all state and federal regulations. Contractor must adhere to EPA standards for lead paint removal. Removal of lead and asbestos may only be undertaken by certified professionals.
- 4) If lead is present, contractor must be EPA certified to remove lead paint and all employees on site must be trained in lead-safe work practices. Contractor shall provide proof of training and certification.





#### ISSUES:

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ESSEX COUNTY FARMWORKER

Stables 10 Marks Road

HOUSING RENOVATION

Westport NY 12993
G-00 |

GENERAL NOTES + SITE PLAN



#### **CODE SUMMARY**

#### **STABLES**

#### General Summary

Project Description Renovation of existing 2-story 3,57 I gross sf migrant farm worker housing for a total of 8 occupants. The building includes four dwelling units on the 1 st and 2nd floors.

Applicable CodesX2020 Existing Building Code of New York State 2020 Mechanical Code of New York State Project State: New York 2020 Residential Code of New York State X 2020 Energy Conservation Construction Code of New York State 2020 Building Code of New York State 2010 Americans with Disabilities Act 2020 Fire Code of New York State Fair Housing Amendments Act 1988 X NYS DOH Sanitary Code Part 15 Migrant Farmworker Housing 2020 Plumbing Code of New York State Type of Project | new construction alteration - level 3 **X** alteration - level 2 building addition

**Zone** Westport Zoning Code V-BUS

Use & Occupancy 2020 Building Code of New York State

Classification No change of occupancy. Residential Group R-2: four dwelling units

Frontage increase not required.

Type of Construction 2020 Building Code of New York State

Type V-B: structural elements, exterior walls and interior walls are of any materials permitted by this code

#### Building Height & Area

#### **Building Height & Are**

rea				Bldg Ht Abv	Grade Plane	# Stories Abv	/ Grade Plane	Building Area				
	Occupancy Classification	Construction Type	Sprinkler	Allov	vable	Allov	vable	Allowable				
	Classification			BCNYS	Zoning	BCNYS	Zoning	BCNYS	Zoning			
	R-2	V-B	NS	40'-0"	35'-0"	2	NR	14,000	NR			
		Tabular Allowable		most re	most restrictive		most restrictive		estrictive			
		Tubulul Allowable		35	35'-0"		ories	14,000 sf				
			Proposed	20'-	- I O"	2 sta	ories	3 571 sf				

Allowable area for single-occupancy, multistory building per

506.2.3 Allowable area (Equation 5-2):  $[(7,000 + (7,000 \times 0))] \times 2 = 14,000 \text{ sf}$ 

#### **Building Construction**

Fire Resistance Rating	Duildia - Flans and	Тур	ре І Тур		oe II	Тур	e III	Type IV	Тур	e V
Requirements for		Α	В	Α	В	Α	В	HT	Α	В
<b>Building Elements</b>	primary structural frame	3	2		0		0	HT	1	0
	bearing walls:									
Construction Type: V-B	- exterior		2		0	2	2	2		0
	- interior	3	2		0		0	I / HT		0
	non-bearing walls:									
	- exterior walls and partitions									
	- interior walls and partitions	0	0	0	0	0	0	2304.11.2	0	0
	floor construction	2	2		0		0	HT		0
	roof construction	1 1/2			0		0	HT		0

Fire Separations

	incidental use area protection per BCNYS Table 509:
X	- I hr at furnace room with furnace over 400K BTU
	- 1 hr at boiler room with boiler over 15 psi and 10 hp
X	unit separation: 1 hr (BCNYS 420.2, 708.3)
X	stairwells; not required (EBCNYS 802,2,1 Exception 11)

**Foam Plastics** X foam insulation: flame spread < 75 and smoke developed < 450 (BCNYS 2603.3)

X thermal barrier separation from interior required at foam insulation (BCNYS 2603.4)

X NFPA 285 test NOT required for Type V-B exterior walls with foam insulation (BCNYS 2603.5) Finish Requirements X wall / ceiling finish: class B in exit stairways, exit passageways, corridors, and exit access stairways (FCNYS Table 803.3) X wall / ceiling finish: class C in rooms and enclosed spaces (FCNYS Table 803.3)

X floor finish in exit enclosures and corridors to be minimum class II (FCNYS 804.3.3.2)

## **Building Construction**

_									
Sprinkler System		fully sprinklere	ed, NFP	A ST3R system	above grade only X not required (EBCNYS 803.2.2)				
Fire Dept Connection		required	X	not required	(BCNYS 912.1)				
Standpipe		required	Х	not required	(EBCNYS 803.3)				
Fire Alarm System		required	Х	not required	(EBCNYS 803.4.1.6)				
Smoke Alarms	Х	required		not required	Smoke alarms installed in individual dwelling and sleeping units (EBCNYS 803.4.3)				
Portable Fire					(BCNYS 906.1) Light Hazard				
Extinguishers	X	required		not required	Table 906.3 (1) minimum 2-A extinguishers within 75'-0" travel distance / 11,250 max sf of area				
CO Detection System	Χ	required		not required	(BCNYS 915.1)				

## **Building Construction**

No of Means of Egress	X	two existing means of egress to remain
Exit Arrangement	X	exits must be separated by at least 1/2 the diagonal measurement of the area served in an unsprinklered building (BCNYS 1007.1.1)
Travel Distances	Y	maximum exit access travel distance (without sprinkler system): 200'-0" (BCNYS Table 1017.2) maximum dead-end corridor (without sprinkler system): 35'-0" (EBCNYS 805.6)
		maximum dead-end corridor (without sprinkler system): 35'-0" (EBCNYS 805.6)
<b>Egress Capacity</b>	v	stair minimum width 0.3" per person or 22" (BCNYS 1005.3.1, EBCNYS 805.3.1.2.2) other components: 0.2" per person or 36" (for corridors) whichever is greater (BCNYS 1005.3.2 and 1020.2)
	^	other components: 0.2" per person or 36" (for corridors) whichever is greater (BCNYS 1005.3.2 and 1020.2)
<b>Direction of Door Swing</b>		pivot or side-hinged swinging doors shall swing in the direction of egress travel when serving a room or area containing an occupant load of
		50 or more persons (EBCNYS 805.4.2)

#### **Building Construction**

Energy Efficiency	Insulat	tion and Fenestration Requirements by Component (ECCNYS Table	R402.1.4)				
		fenestration U-Factor: 0.30 maximum	mass wall R-Value: R-I 5/20 minimum				
Climate Zone: 6	Χ	skylight U-Factor: 0.55 maximum	floor R-Value: R-30 minimum				
	Χ	glazed fenestration SHGC: NR	basement wall R-Value: R-15/19 minimum				
	Χ	ceiling R-Value: R-49 minimum	slab R-Value & depth: R-I 0, 4 ft minimum				
	Х	wood frame wall R-Value: 13 cavity + 10 continuous min	crawl space wall R-value: R-15/19 minimum				

#### Accessibility Reqs

Dwelling & Sleeping Units X unit 1 is acessible (EBCNYS 305.6, BCNYS Table 1107.6.1.1)
unit 4 not required to be accessible (BCNYS 1107.6.2.3, EBCNYS 305.6 Exception 4)

#### NYS Sanitary Code Pt 15

15.6(d) Sleeping		a per occupant	required						
Quarters	Space	Occupants	Area Required	Area Provided					
	unit I bedroom 0 I	2	100 sf	140 sf					
	unit 1 bedroom 02	2	100 sf	141 sf					
	unit 2 bedroom 0 l	2	100 sf	118 sf					
	unit 4 bedroom 02	2	100 sf	121 sf					
	(4) 2 l sf of wall storage minimum   12" deep area required per occupant								
	See furniture plans or	n A-810 and A-	-820.						

15.6(h) Fire A minimum of type 2A rated fire extinguisher shall be provided in a readily accessible location not more than 100'-0" feet **Extinguishing Equip** from each housing unit. In addition, a minimum of a type 5BC rated extinguisher shall be provided within 30'-0" of all rooms

containing cooking facilities. Any extinguisher with an equivalent A:BC rating may be provided.

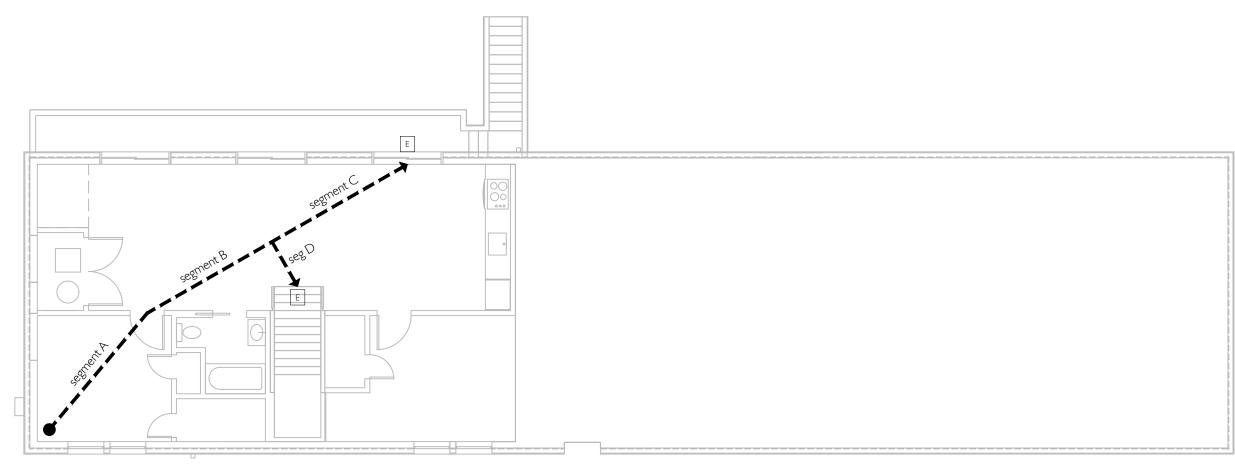
15.8 Toilet Requirements minimum | toilet required per 15 occupants and 1 urinal per 30 men Space Occupants Toilets Required Toilets Provided Urinals Required Urinals Provided 0 (dwelling unit) 0 (dwelling unit)

**15.10 Food Preparation** minimum 2 stove burners per 5 occupants required

Space Occupants Burners Required Burners Provided

15.12 Laundry Bathing Requiremen

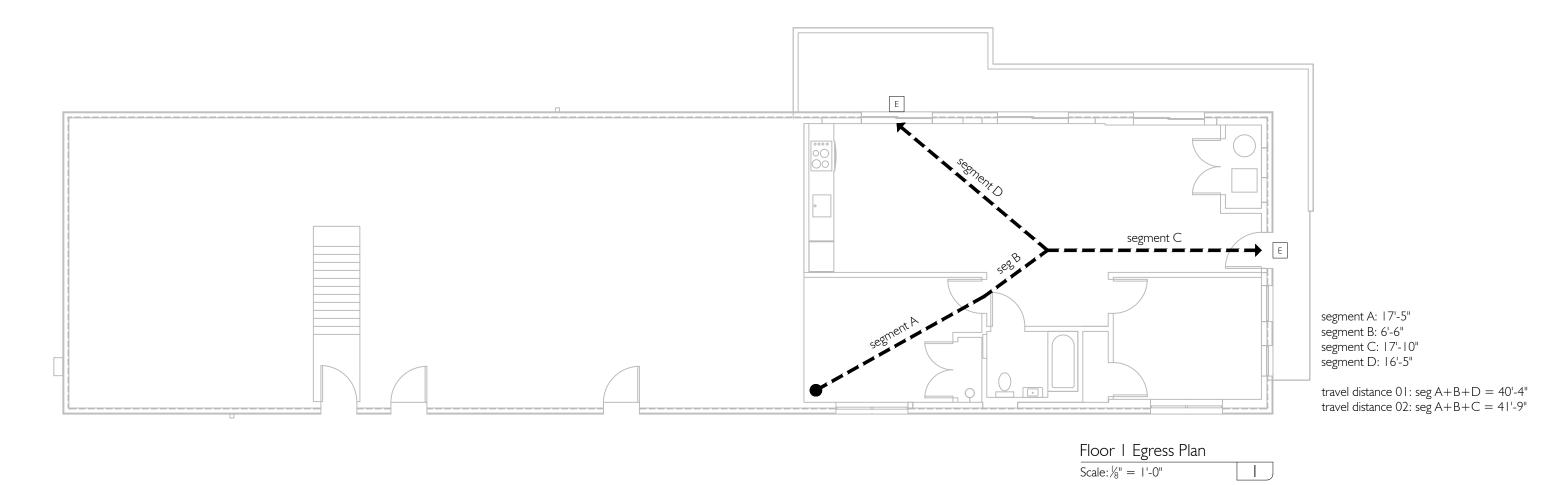
ry &	(a) I shower head required per 15 occupants										
ents	Space	Occupants	Heads Required	Heads Provided							
	unit I	4		1							
	unit 4	4		1							
	(b) I mechanical was	her required pe	er 50 occupants								
	Space	Occupants	Washers Required	Washers Provided							
	unit I	4	1	1							
	unit 4	4									
	(c) I lavatory required	diper 15 occup	ants								
	Space	Occupants	Lavatories Required	Lavatories Provided							
	unit I	4	I	1							
	unit 4	4	I	I							



segment A: |4'-|" segment B: |2'-0" segment C: |3'-0" segment D: 4'-4" travel distance 01: seg A+B+D =  $30^{\circ}-4^{\circ}$ travel distance 02: seg A+B+C =  $39^{\circ}-1^{\circ}$ 

Floor 2 Egress Plan

Scale:  $\frac{1}{8}$  = 1'-0"



ISSUES:

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HOUSING RENOVATION Stables

10 Marks Road Westport NY 12993

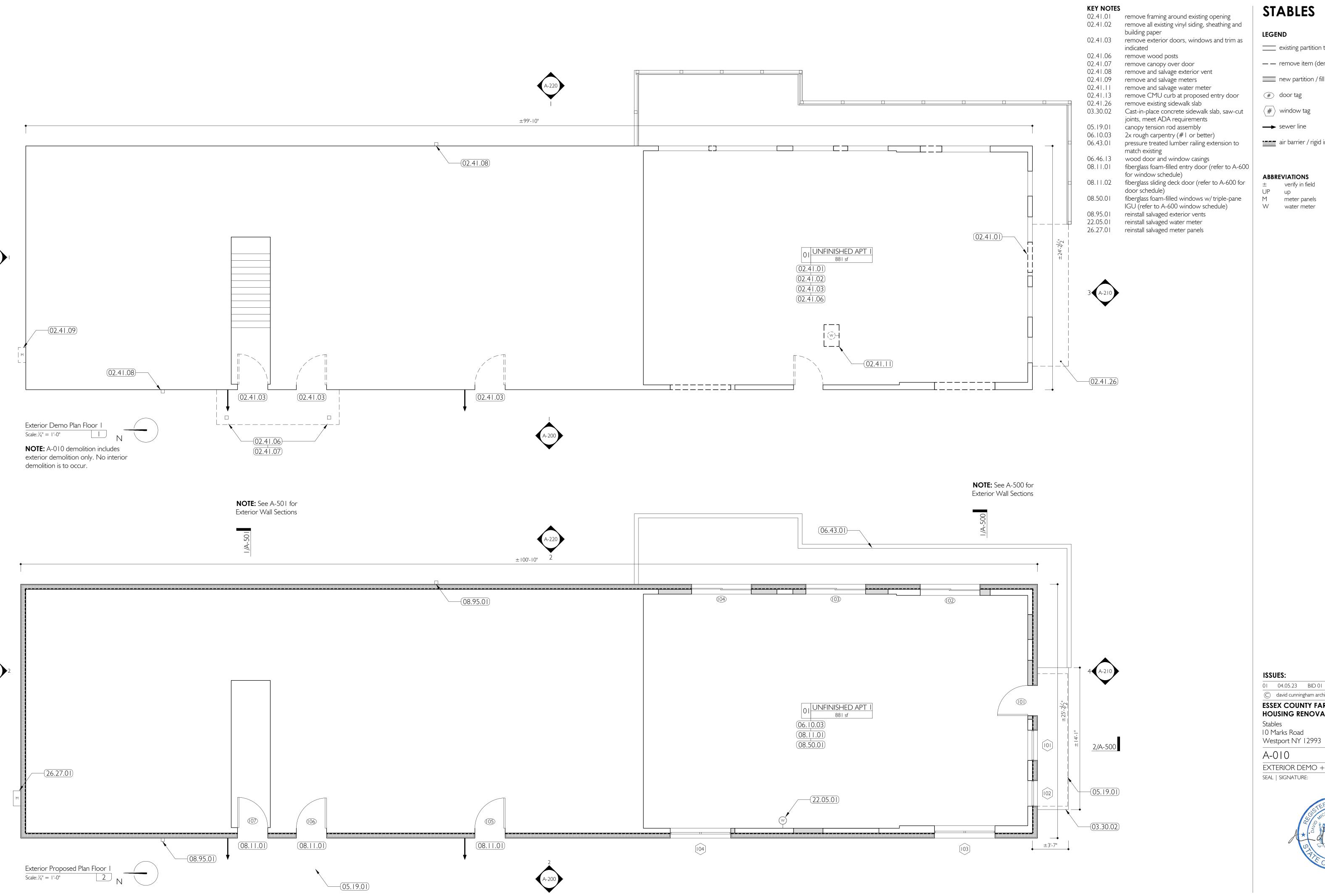
G-002

CODE ANALYSIS + EGRESS PLANS SEAL | SIGNATURE:

ESSEX COUNTY FARMWORKER



**STABLES** 



existing partition to remain

— remove item (demo)

new partition / fill

# door tag

 $\langle\#
angle$  window tag

air barrier / rigid insulation / cladding

#### **ABBREVIATIONS** ± verify in field

UP up

meter panels

W water meter

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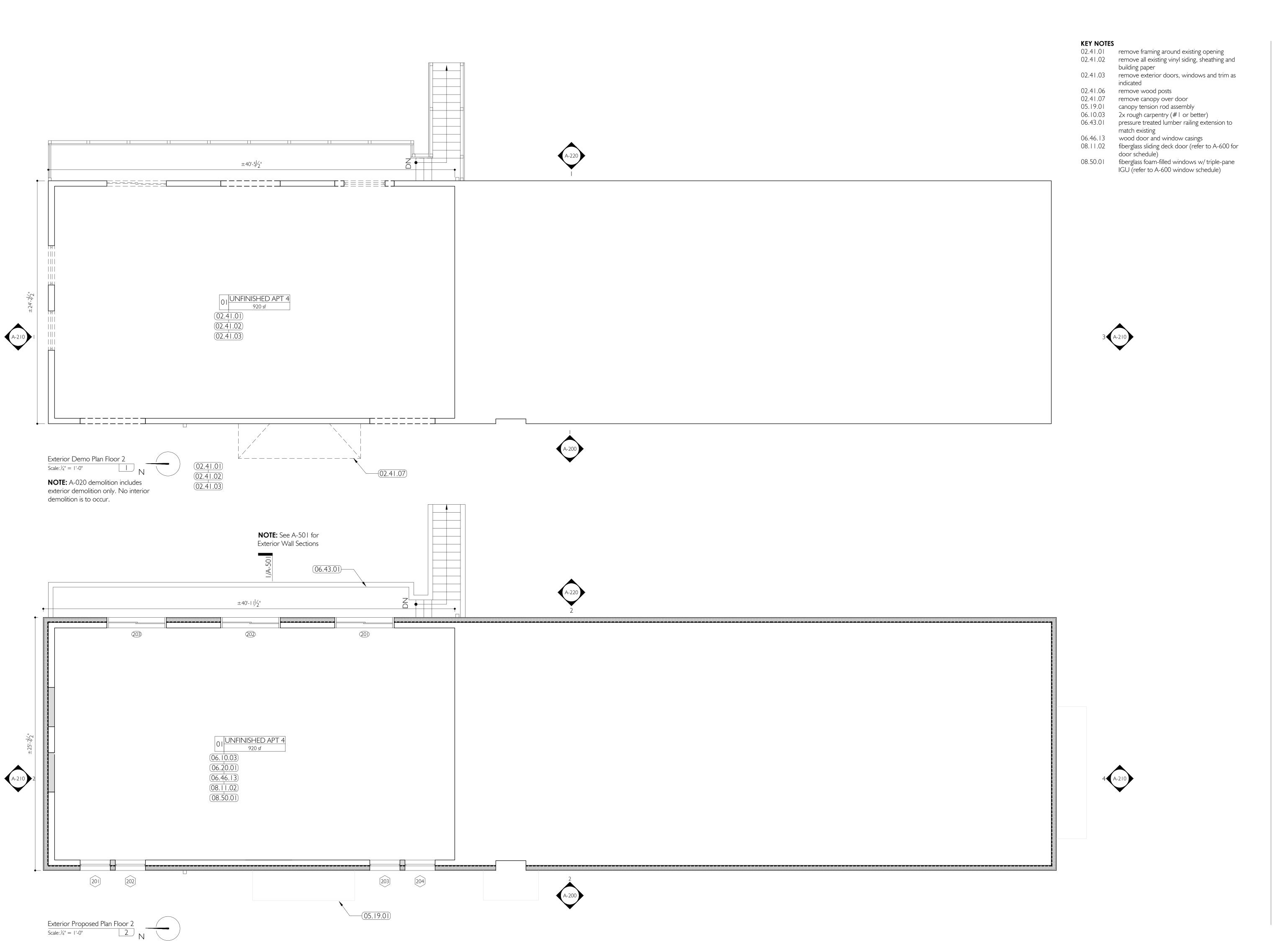
#### HOUSING RENOVATION

10 Marks Road Westport NY 12993

A-010

EXTERIOR DEMO + PROP FLR | PLANS SEAL | SIGNATURE:





LEGEND

\_\_\_\_ existing partition to remain

— remove item (demo)

new partition / fill

# door tag

 $\langle\#
angle$  window tag

→ sewer line

air barrier / rigid insulation / cladding

**ABBREVIATIONS** ± verify in field

DN down

M meter panels

ISSUES:

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ESSEX COUNTY FARMWORKER HOUSING RENOVATION

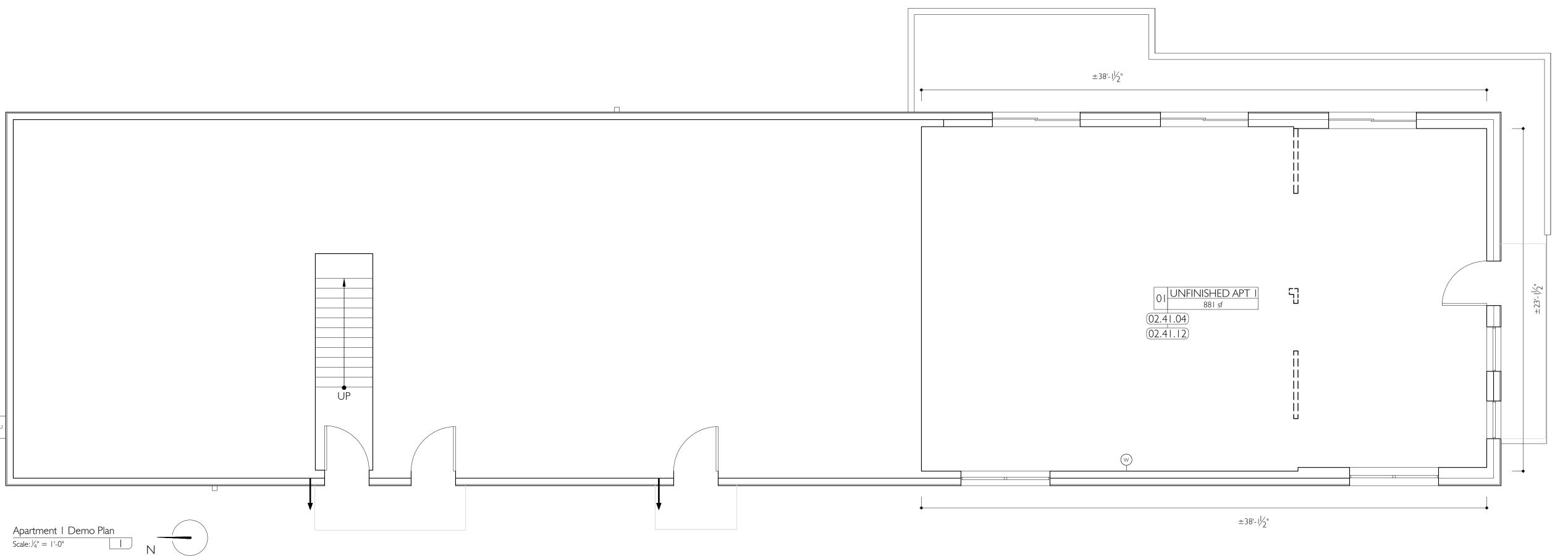
Stables 10 Marks Road

Westport NY 12993

A-020

EXTERIOR DEMO + PROP FLR 2 PLANS SEAL | SIGNATURE:





**NOTE:** A-I I 0 demolition includes

demolition is to occur.

interior demolition only. No exterior

02.41.04 remove interior stud framing and non structural furring as indicated 02.41.12 remove remaining cavity insulation 05.50.01 concealed countertop support bracket 06.10.03 2x rough carpentry (No I or better) 06.22.01 closet shelf 06.46.02 I x 4 wood casing, clear pine flat stock, poly finish (refer to A-550 for casing details) 06.46.12 | x 6 wood wall base, clear pine flat stock, poly finish (refer to A-550 for Wall Base Details) 08.14.01 solid wood doors, trustile (refer to A-610 door 08.71.01 door hardware (refer to A-610) 08.83.01 mirror 08.83.02 mirrored medicine cabinet 20" x 40" (refer to A-600 bathroom schedule 09.29.01 5/8" interior G.W.B. per schedule 09.29.02 5/8" interior moisture, mold and mildew resistant board 09.29.03 5/8" interior cementitious backer board 09.30.01 ceramic tile, 2" hexagon 09.30.02 ceramic tile, 2" x 8" subway 09.30.03 ceramic tile base 09.64.02 wood floor, 3" white oak strip 09.91.11 paint, interior, wall 09.91.12 paint, interior, trim 09.91.13 paint, interior, ceiling 09.91.21 paint, interior bathroom, wall 09.91.23 paint, interior bathroom, ceiling 10.28.01 shower curtain rod 10.28.02 shower curtain 10.28.03 toilet paper holder 10.28.05 robe hook 10.28.06 grab bars 10.57.01 closet rod 11.30.01 range 11.30.02 refrigerator 11.30.03 microwave over range 11.31.02 electric washer/dryer combo 12.35.01 kitchen cabinet 12.35.03 medicine cabinet 24" x 28" 12.36.01 kitchen countertop 12.37.01 cabinet hardware 22.31.01 50 gallon hybrid electric heat pump hot water 22.41.02 lavatory wall mount sink 22.41.04 lavatory faucet 22.41.05 bathtub 22.41.06 bathtub surround 22.41.08 bathtub spout 22.41.09 shower system 22.41.10 shower rough 22.41.11 toilet 22.41.12 kitchen undermount sink 22.41.13 kitchen faucet 26.10.02 install new 200 A main panel 26.50.01 light fixture (see RCP A-900, A910 and A-600 lighting schedule)

**KEY NOTES** 

# ISSUES:

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ESSEX COUNTY FARMWORKER

# ESSEX COUNTY FARMWORK HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

**STABLES** 

e'g partition to remain

— remove item (demo)

air barrier / rigid insulation / cladding

new partition / fill

# door tag

 $\langle\#
angle$  window tag

→ sewer line

**ABBREVIATIONS** 

UP

± verify in field

up

W water meter

EP electrical panel F refrigerator

HWH hot water heater

sewer line

utility box / meters

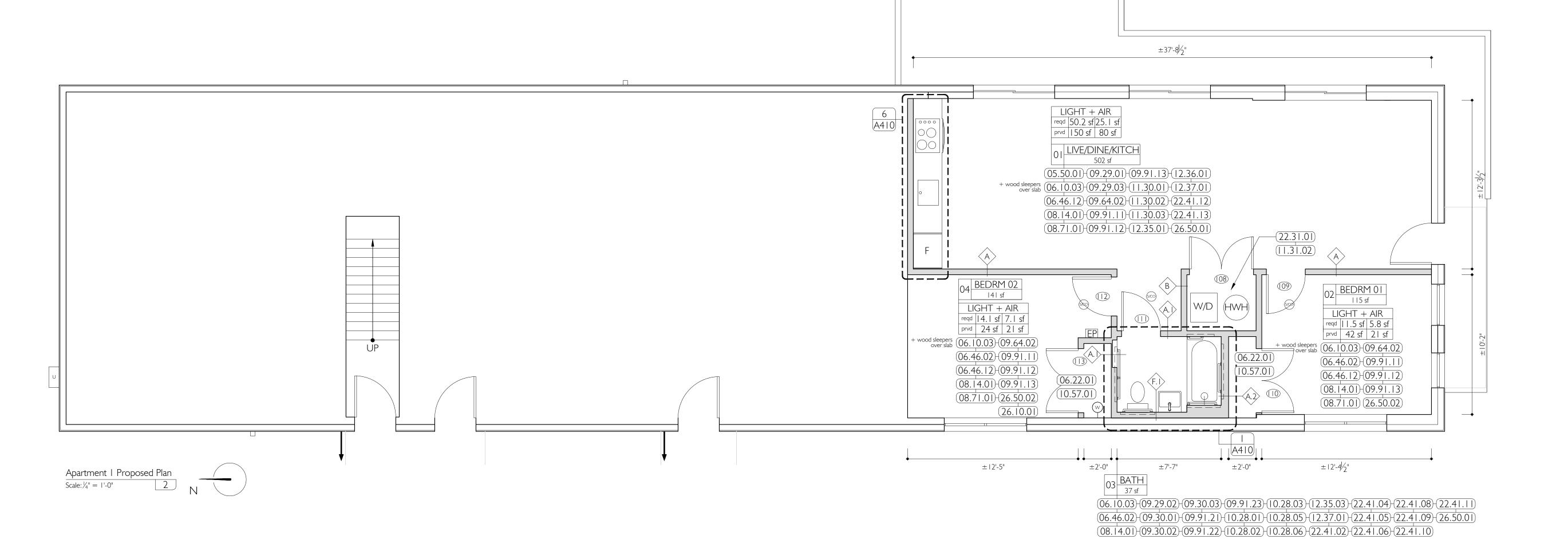
W/D combination washer / dryer

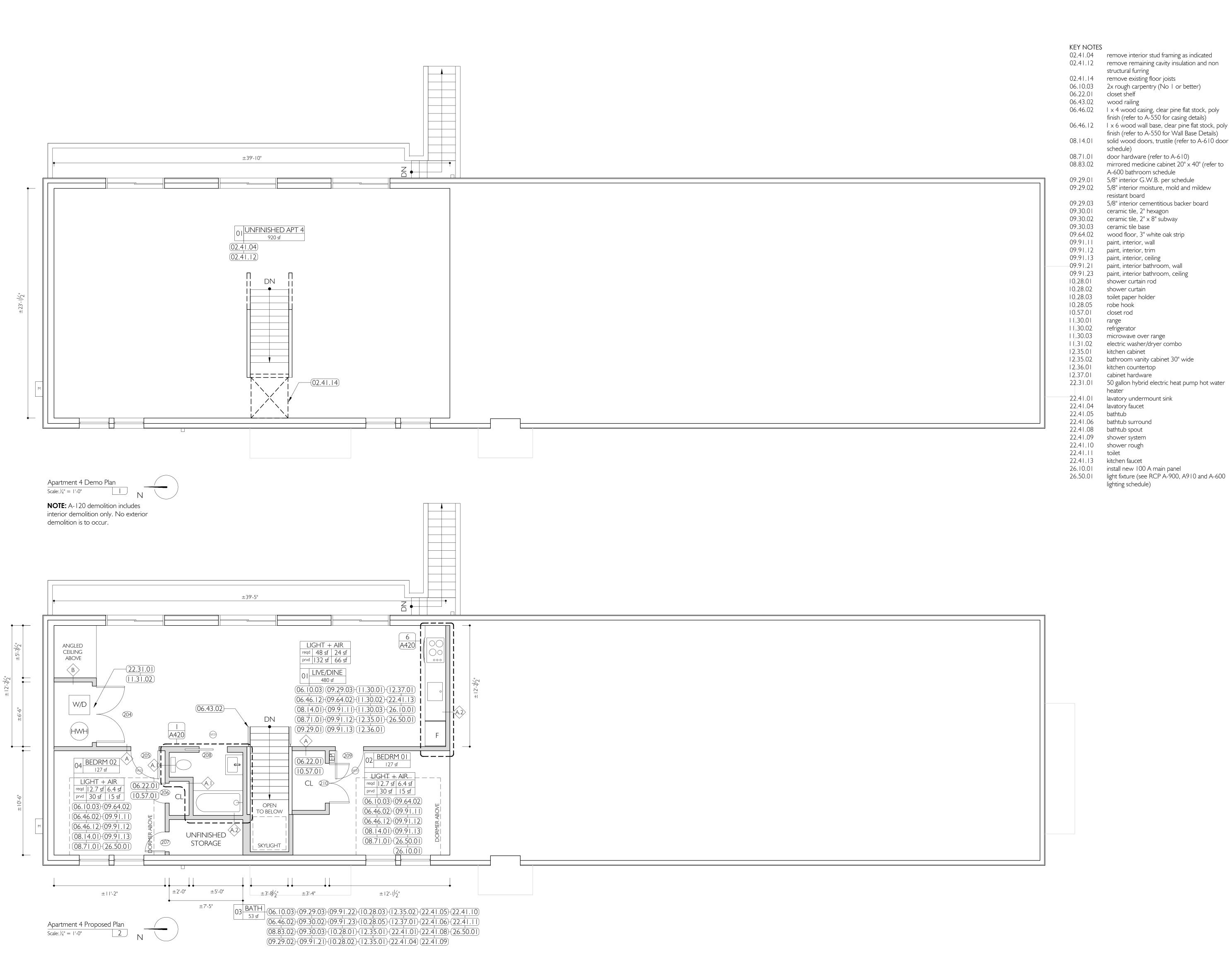
**LEGEND** 

## A-110

INTERIOR DEMO + PROP APT | PLANS SEAL | SIGNATURE:







#### **LEGEND**

e'g partition to remain

— remove item (demo)

new partition / fill

# door tag

 $\langle \# \rangle$  window tag

→ sewer line

air barrier / rigid insulation / cladding

## **ABBREVIATIONS**

verify in field DN down

refrigerator

utility box / meters S sewer line

W/D stack washer / dryer

## ISSUES:

01 04.05.23 BID 01

david cunningham architecture planning 2023 ESSEX COUNTY FARMWORKER

#### HOUSING RENOVATION

Stables 10 Marks Road

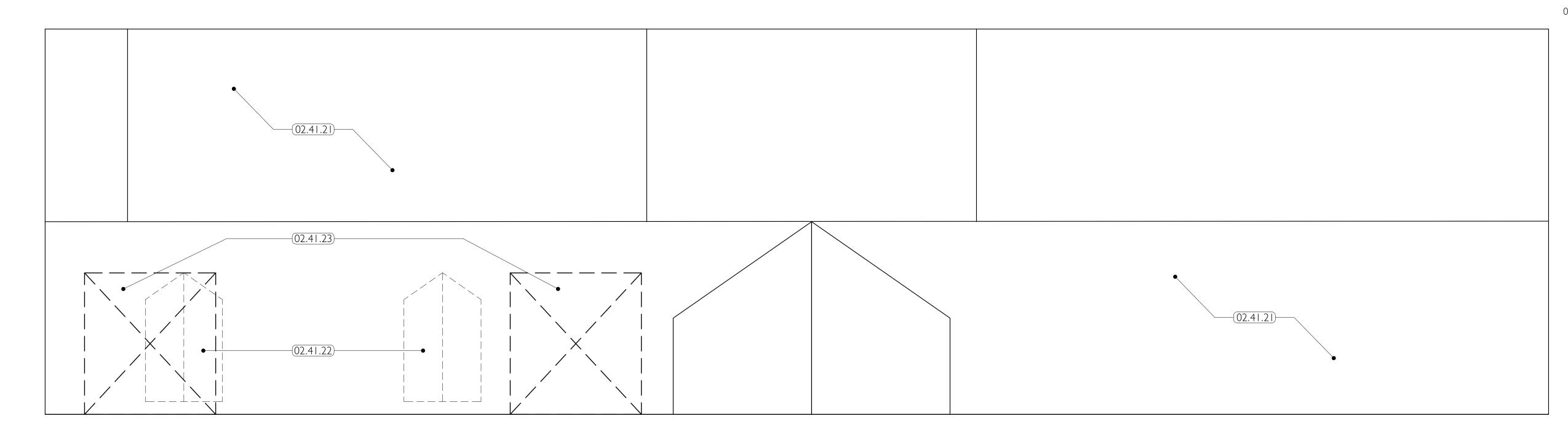
### Westport NY 12993 A-120

INTERIOR DEMO + PROP APT 4 PLANS SEAL | SIGNATURE:

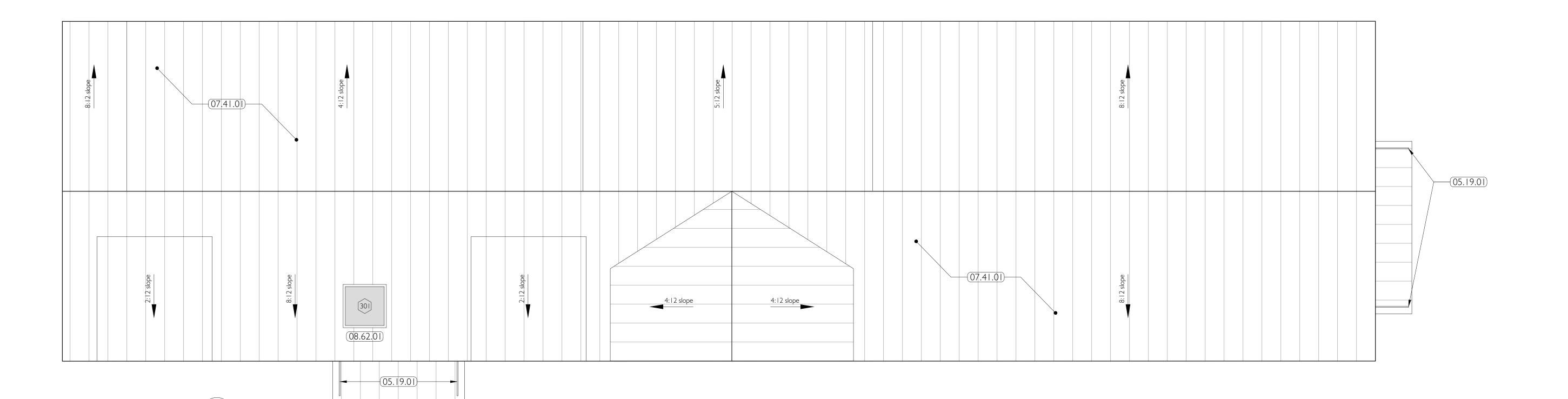


KEY NOTES

o2.41.21 remove and salvage metal roofing
o2.41.22 remove existing dormers
o2.41.23 remove metal roofing, roof decking, and
framing for new opening
o5.19.01 canopy tension rod assembly
o7.41.01 Pac Clad Tite-Loc standing seam metal
roof panel
o8.62.01 Velux fixed curb mounted skylight







## ISSUES:

**STABLES** 

01 04.05.23 BID 01 david cunningham architecture planning 2023

# ESSEX COUNTY FARMWORKER HOUSING RENOVATION

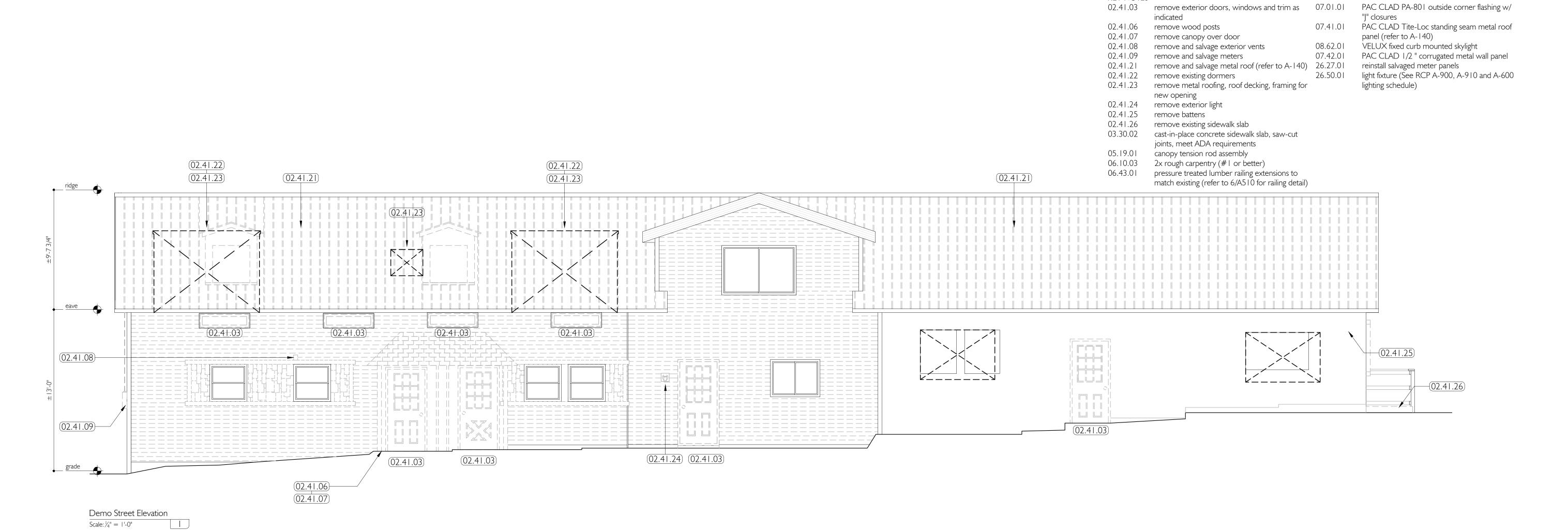
Stables 10 Marks Road Westport NY 12993

A-140

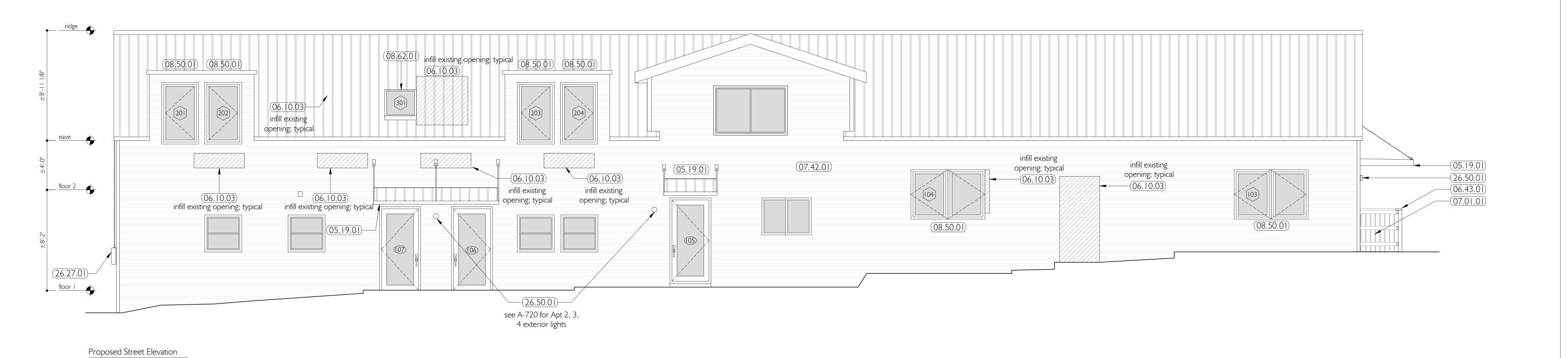
EXIST + PROP ROOF PLANS

SEAL | SIGNATURE:





KEY NOTES



Scale:  $\frac{1}{4}$ " = 1'-0"

## **STABLES**

LEGEND

infill existing opening, typical

new opening

remove existing siding, sheathing, building paper

existing framed opening without window

remove and salvage existing metal roofing

ISSUES:

01 04.05.23 BID 01

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ESSEX COUNTY FARMWORKER HOUSING RENOVATION

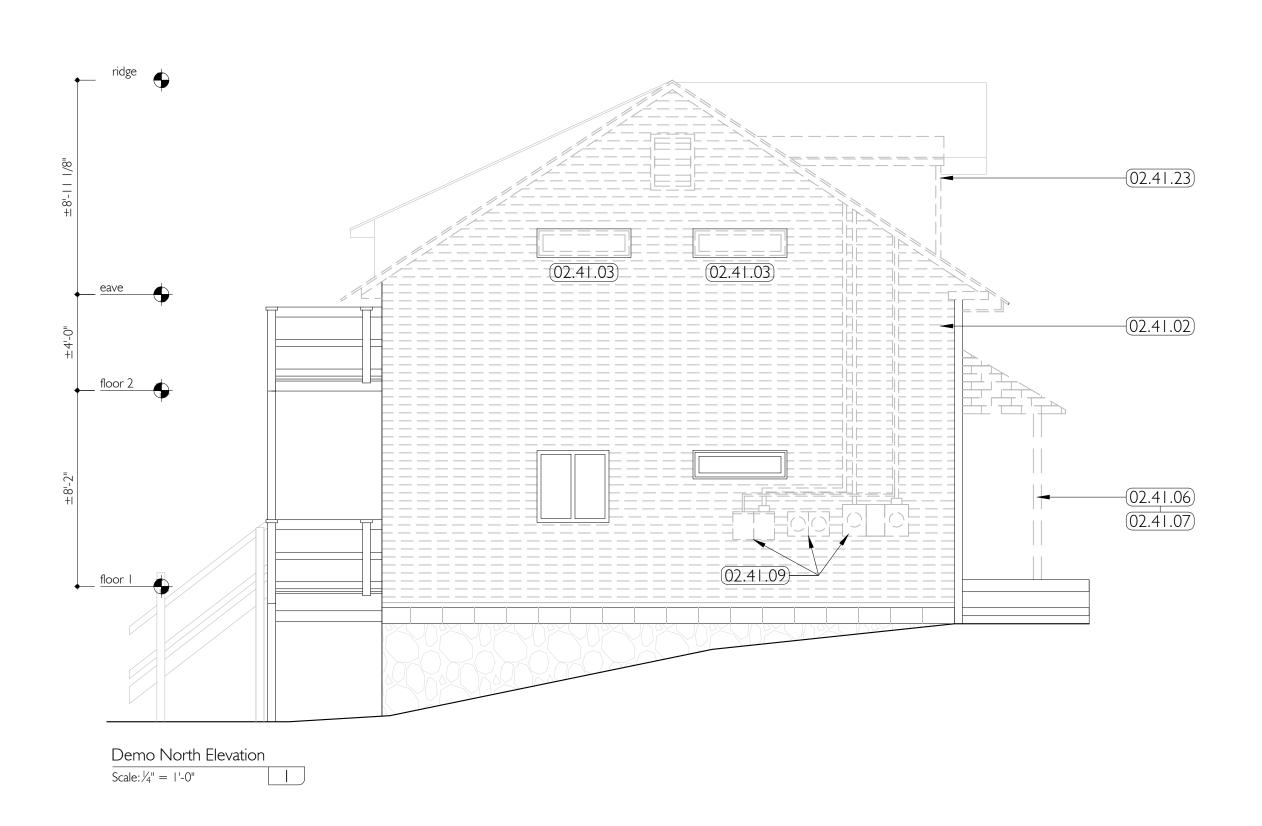
Stables 10 Marks Road Westport NY 12993

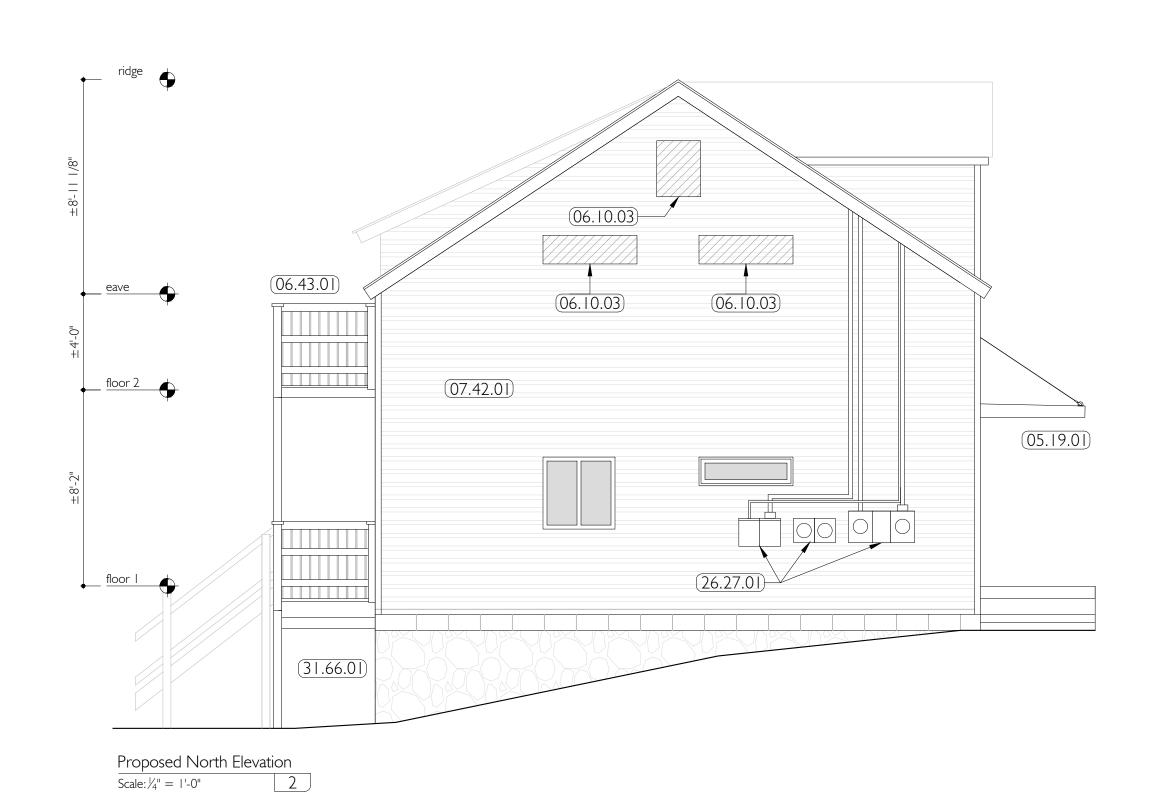
A-200

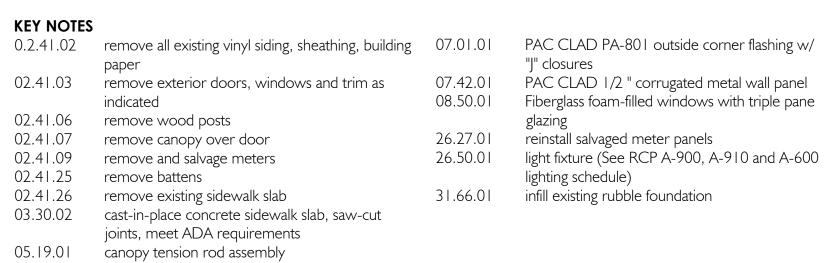
DEMO + PROP WEST ELEVATIONS

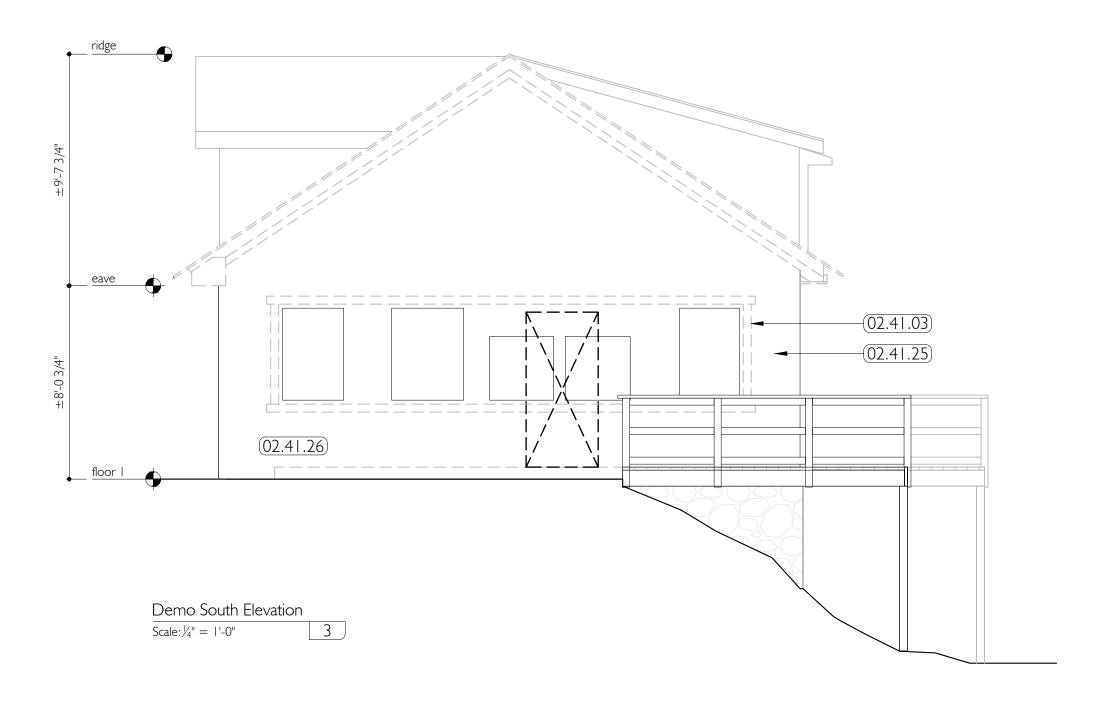
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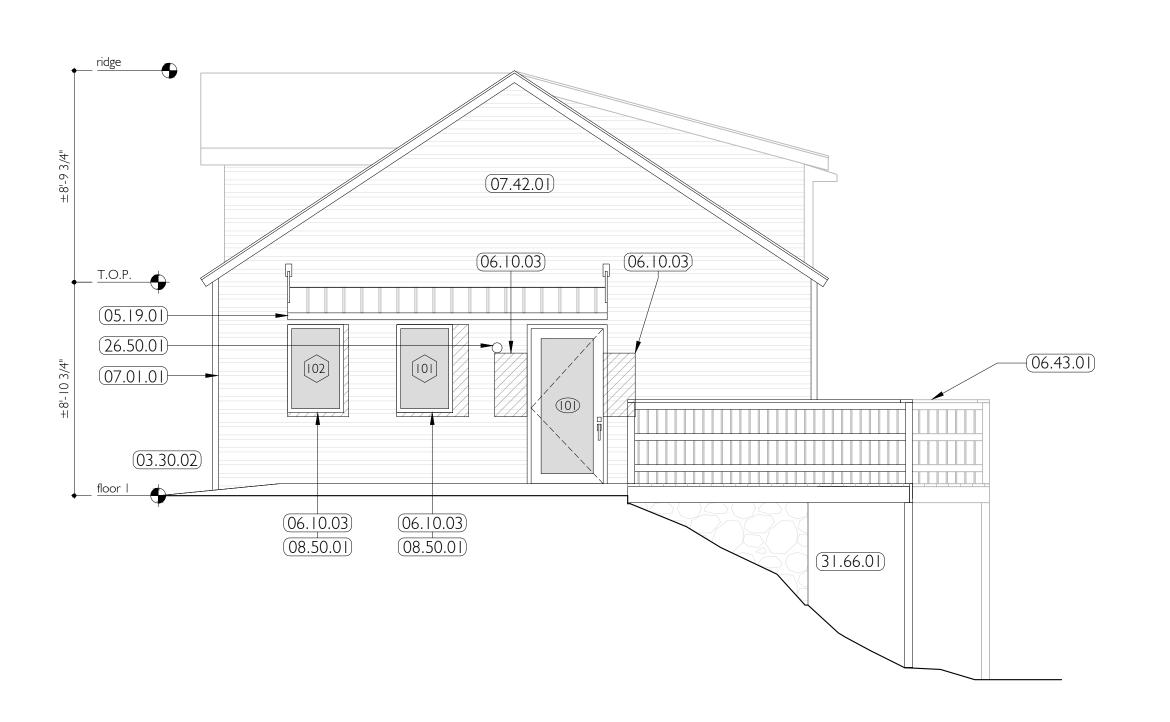






06.10.03 2x rough carpentry (#1 or better)

pressure treated lumber railing extensions to match existing (refer to 6/A510 for railing detail)



Proposed South Elevation
Scale: ¼" = 1'-0" 4

**STABLES** LEGEND infill existing opening, typical new opening remove existing siding, sheathing, building paper existing framed opening without window remove and salvage existing metal roofing

ISSUES:

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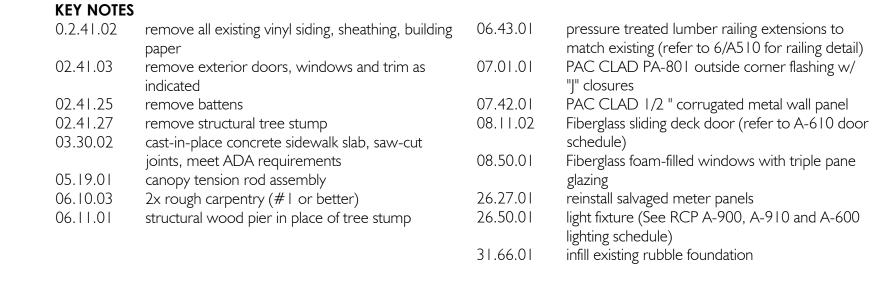
ESSEX COUNTY FARMWORKER HOUSING RENOVATION

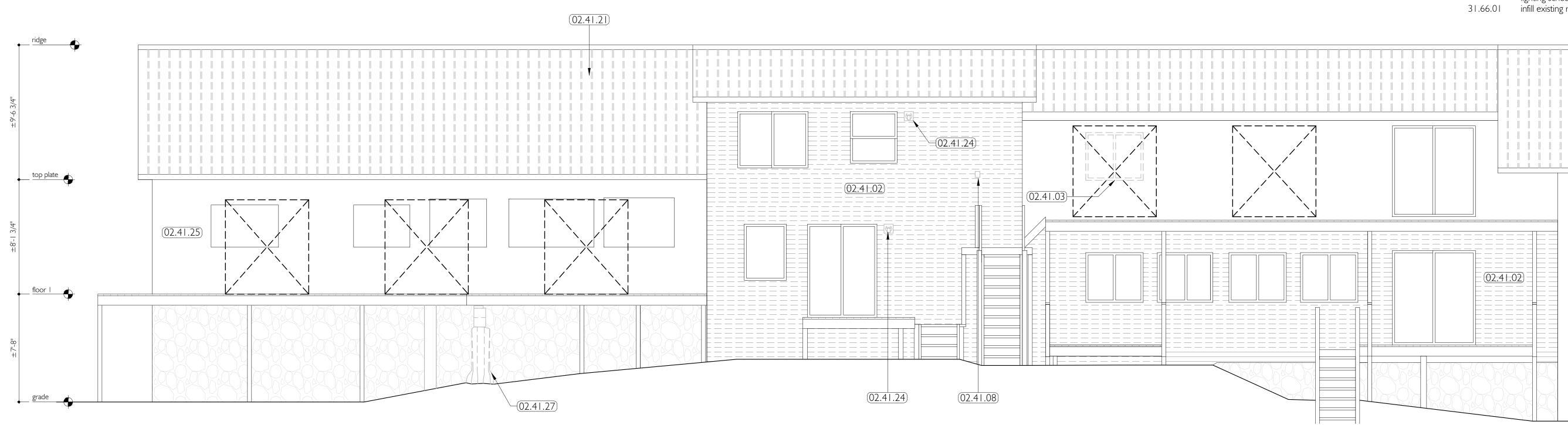
Stables 10 Marks Road Westport NY 12993

A-210

DEMO + PROP NORTH + SOUTH ELEVATIONS SEAL | SIGNATURE:







Existing East Elevation

Scale: /4" = 1'-0"

**NOTE:** Deck shown without railing for clarity. Refer to 6/A-510 for proposed railing detail to span deck.



Proposed East Elevation Scale:  $\frac{1}{4}$ " = 1'-0"

**NOTE:** Deck shown without railing for clarity. Refer to 6/A-510 for proposed railing detail to span deck.

## ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023

#### ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

**STABLES** 

new opening

infill existing opening, typical

remove existing siding, sheathing, building paper

existing framed opening without window

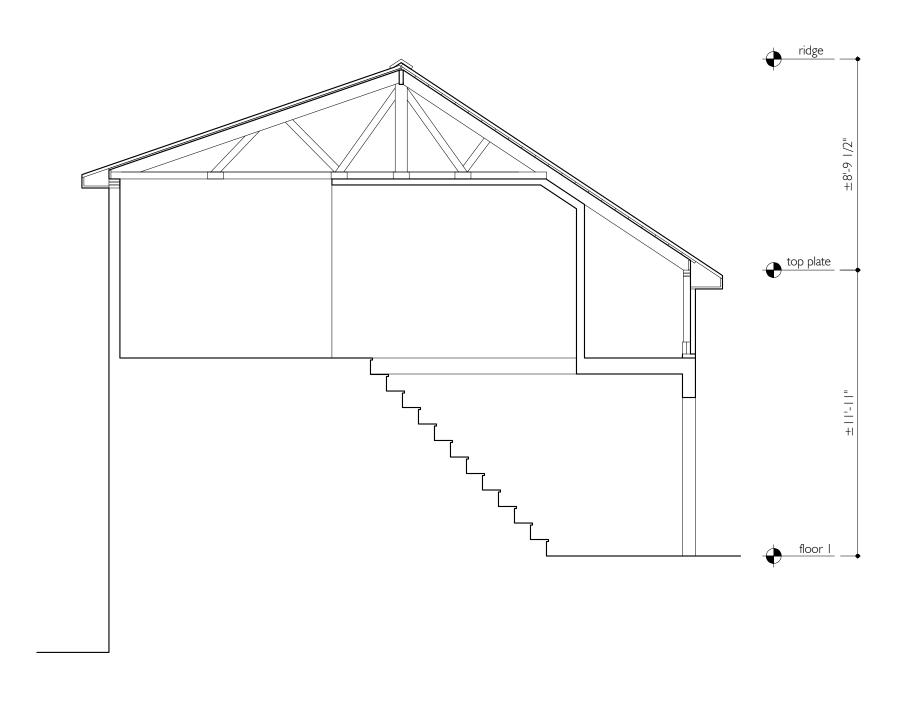
remove and salvage existing metal roofing

**LEGEND** 

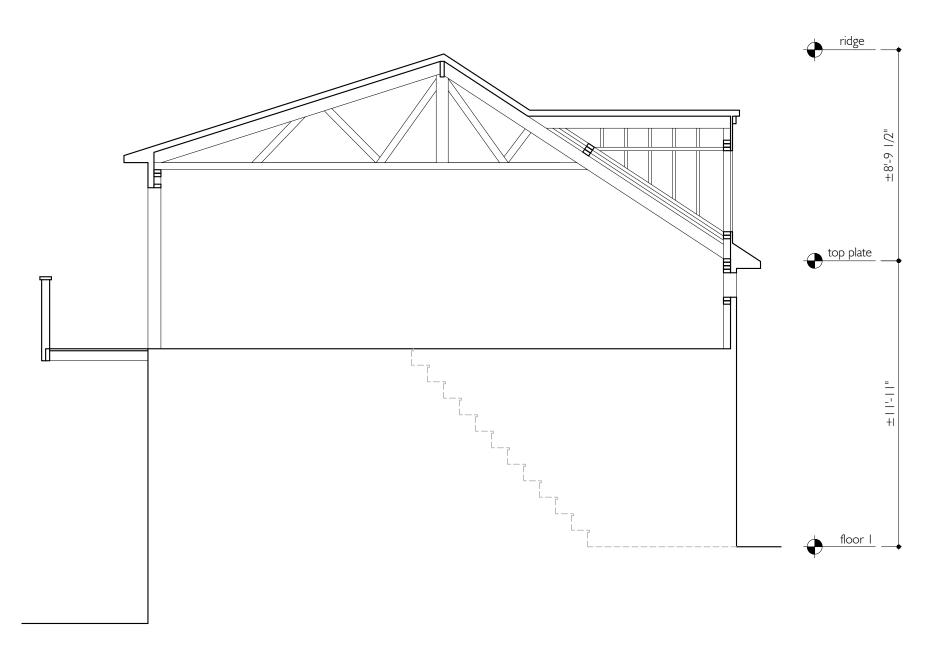
A-220

DEMO + PROP EAST ELEVATIONS SEAL | SIGNATURE:

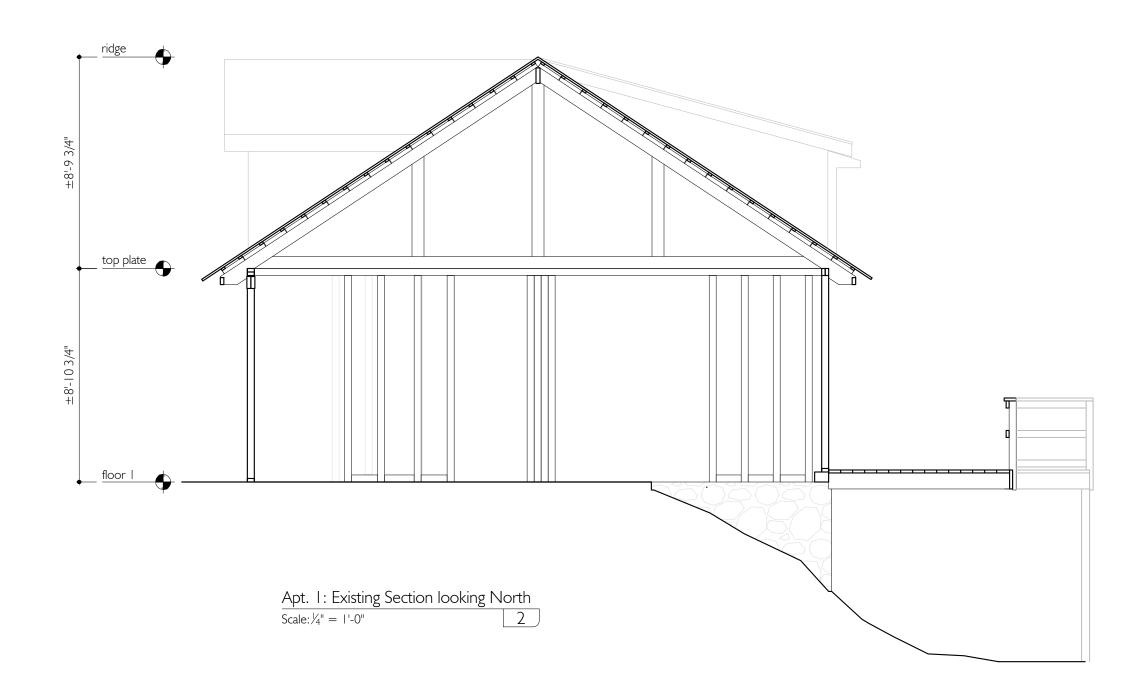












#### ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023

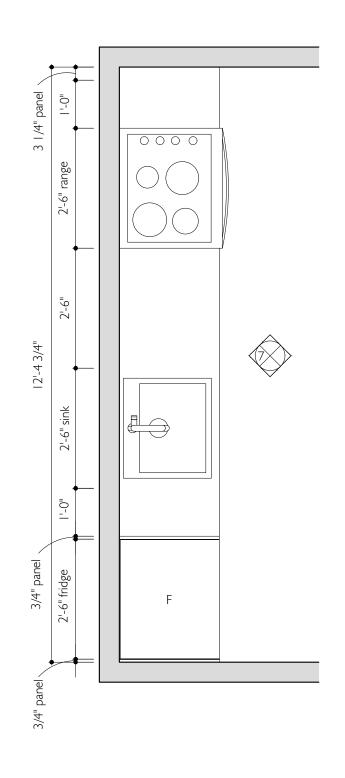
ESSEX COUNTY FARMWORKER
HOUSING RENOVATION
Stables
10 Marks Road
Westport NY 12993

A-300

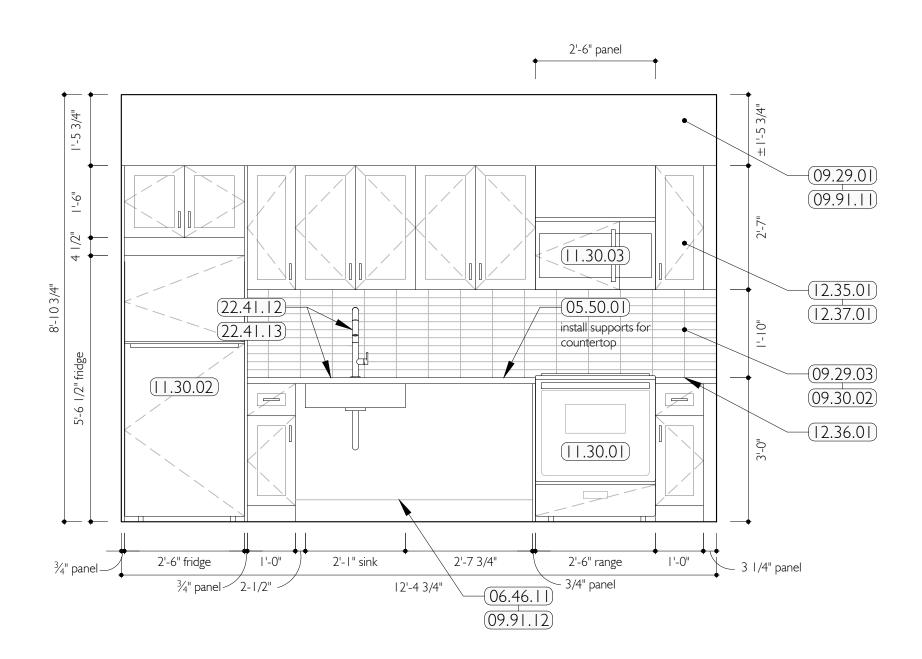
EXISTING SECTIONS

SEAL | SIGNATURE:







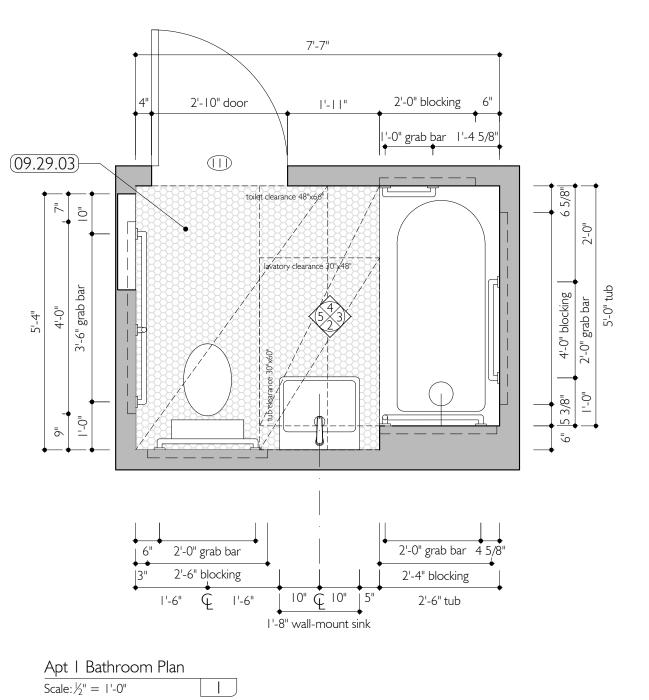


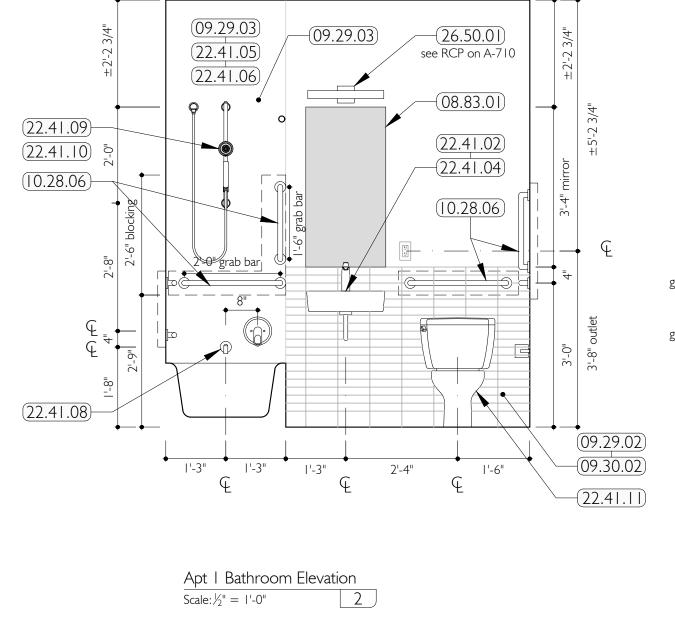
72'-0"

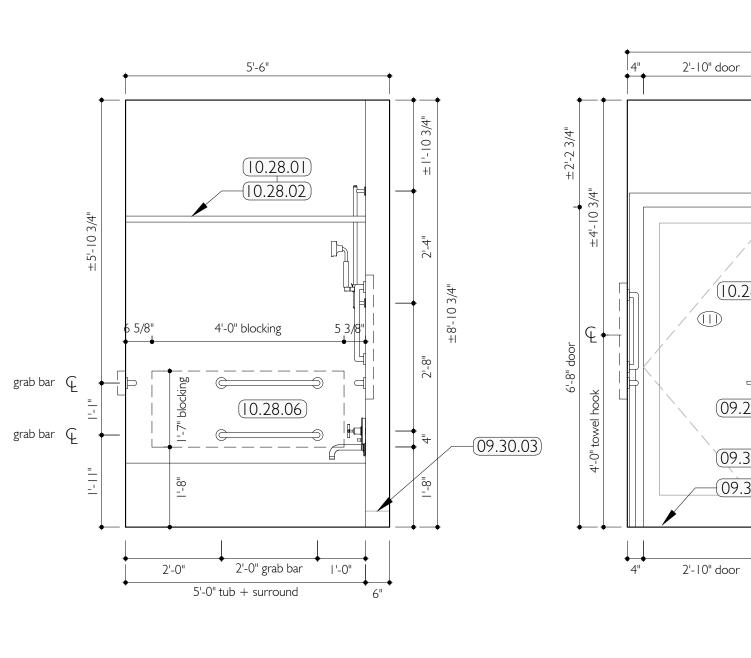
Apt I Kitchen Elevation

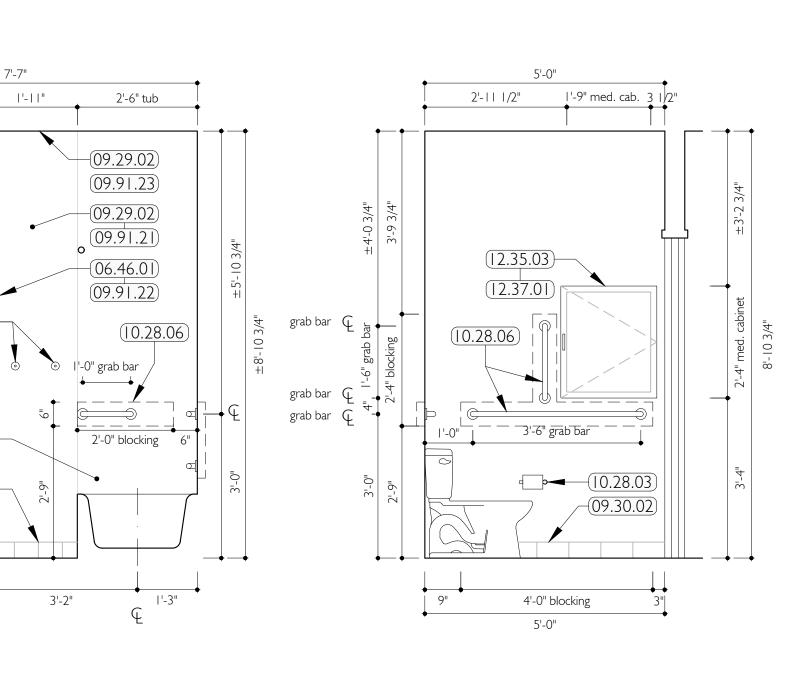
Scale: ½" = 1'-0" 7

59'-11 7/8" tub 5" 1'-8" mirror









Apt 1 Bathroom Elevation	Apt I Bathroom Elevation	Apt I Bathroom Elevation
Scale: $\frac{1}{2}$ = 1'-0"	Scale: $\frac{1}{2}$ = 1'-0"	Scale: $\frac{1}{2}$ = 1'-0"

1'-11"

3'-2"

KEY NOTES		09.30.01	Ceramic tile, 2" hexagon	10.28.04	Towel bar, 24" (refer to A-600 Bathroom	12.35.03	Medicine cabinet, 24" x 28" (refer to A-600	22.41.06	Bathtub surround (refer to A-600 Plumbing 26.	.50.01	Light fixture (refer to A-600 Lighting Schedule
05.50.01	Concealed countertop support bracket	09.30.02	Ceramic tile, 2" x 8" subway		Schedule)		Bathroom Schedule)		Schedule)		and A-710 RCP)
06.46.01	I x 4 wood casing, clear pine with routed	09.30.03	Ceramic tile base	10.28.05	Robe hook (refer to A-600 Bathroom	12.36.01	Countertop (refer to A-600 Bathroom or	22.41.07	Shower base 36" x 36" (refer to A-600		
	reveal, painted (refer to A-550 for Casing	09.91.11	Paint, interior, wall		Schedule)		Kitchen Schedule)		Plumbing Schedule)		
	Details)	09.91.12	Paint, interior, trim	10.28.06	Grab bar (refer to A-600 Bathroom	12.37.01	Cabinet hardware (refer to A-600 Bathroom	22.41.08	Bathtub spout (refer to A-600 Plumbing		
06.46.11	I x 6 wood wall base, clear pine with routed	09.91.13	Paint, interior, ceiling		Schedule)		or Kitchen Schedule)		Schedule)		
	reveal, painted (refer to A-550 for Wall Base	09.91.21	Paint, interior bathroom, wall	11.30.01	Range (refer to A-600 Kitchen Schedule)	22.41.01	Lavatory undermount sink (refer to A-600	22.41.09	Shower system (refer to A-600 Plumbing		
	Details)	09.91.22	Paint, interior bathroom, trim	11.30.02	Refrigerator (refer to A-600 Kitchen		Plumbing Schedule)		Schedule)		
08.83.01	Mirror	09.91.23	Paint, interior bathroom, ceiling		Schedule)	22.41.02	Lavatory wall mount sink (refer to A-600	22.41.10	Shower rough (refer to A-600 Plumbing		
08.83.02	Mirrored medicine cabinet, 20" x 40" (refer	10.28.01	Shower curtain rod (refer to A-600	11.30.03	Microwave over range (refer to A-600		Plumbing Schedule)		Schedule)		
	to A-600 Bathroom Schedule)		Bathroom Schedule)		Kitchen Schedule)	22.41.03	Lavatory metal trough sink (refer to A-600	22.41.11	Toilet (refer to A-600 Plumbing Schedule)		
09.20.01	5/8" interior G.W.B. per schedule	10.28.02	Shower curtain (refer to A-600 Bathroom	12.35.01	Kitchen cabinet (refer to A-600 Kitchen		Plumbing Schedule)	22.41.12	Kitchen undermount sink (refer to A-600		
09.29.02	5/8" interior moisture, mold, and mildew		Schedule)		Schedule)	22.41.04	Lavatory faucet (refer to A-600 Plumbing		Plumbing Schedule)		
	resistant board	10.28.03	Toilet paper holder (refer to A-600	12.35.02	Bathroom vanity cabinet, 30" wide (refer to		Schedule)	22.41.13	Kitchen faucet (refer to A-600 Plumbing		
09.29.03	5/8" interior cementitious backer board		Bathroom Schedule)		A-600 Bathroom Schedule)	22.41.05	Bathtub (refer to A-600 Plumbing Schedule)		Schedule)		

## **STABLES**

#### LEGEND

remove item

\_\_\_\_ new partition

# door tag

 $\langle\#
angle$  window tag

# smoke / CO detector

**ABBREVIATIONS**MW microwave

refrigerator radiator verify in field PBO purchased by owner

## ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023

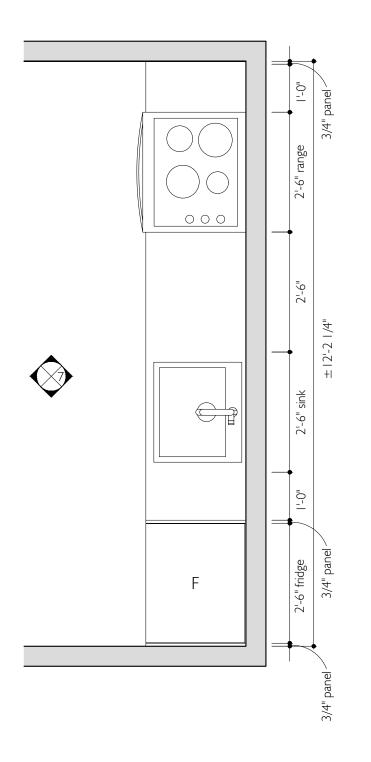
ESSEX COUNTY FARMWORKER

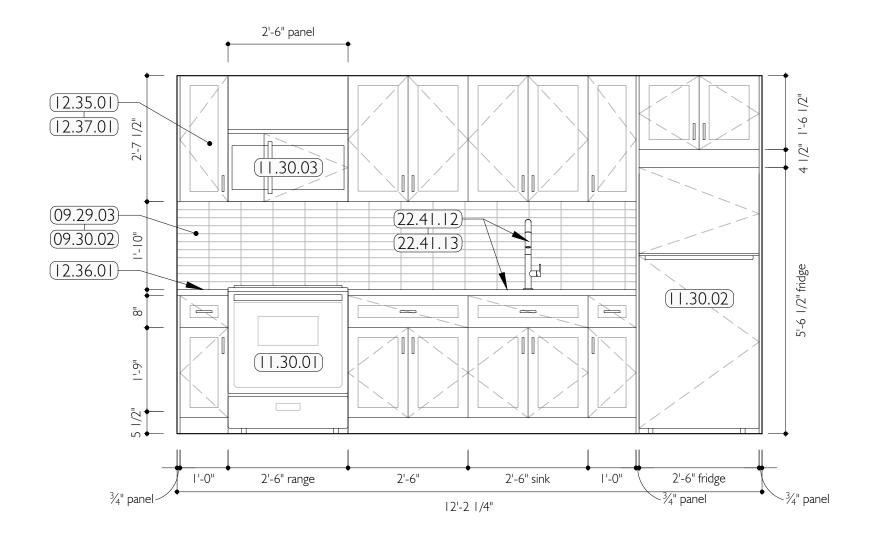
### HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

A-410 APT 1: INTERIOR ELEVS + PLANS

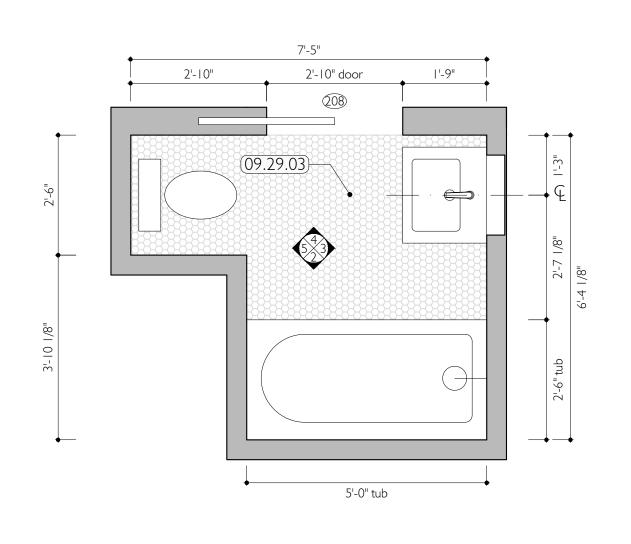


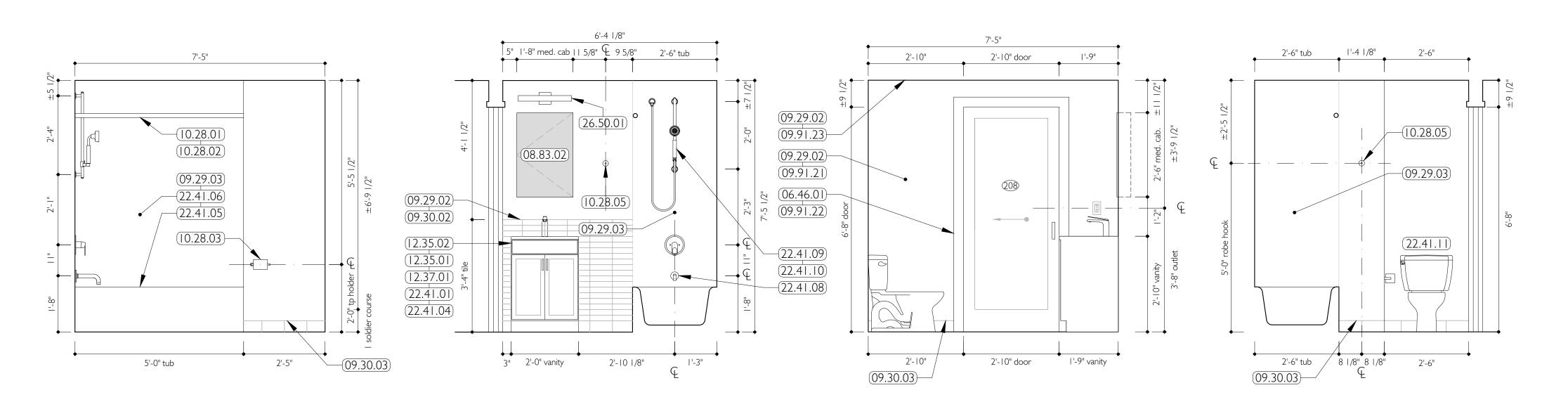




Apt 4 Kitchen Elevation

7 Apt 4 Kitchen Plan  $Scale: \frac{1}{2} = 1'-0"$ 6





Apt 4 Bathroom Plan

Scale: ½" = 1'-0" Apt 4 Bathroom Elevation Apt 4 Bathroom Elevation Apt 4 Bathroom Elevation Apt 4 Bathroom Elevation Scale:  $\frac{1}{2}$ " = 1'-0" Scale:  $\frac{1}{2}$ " = 1'-0" Scale:  $\frac{1}{2}$ " = 1'-0" Scale:  $\frac{1}{2}$ " = 1'-0"

KEY NOTES	}	09.91.23	Paint, interior bathroom, ceiling		Schedule)	22.41.02
08.83.01	Mirror	10.28.01	Shower curtain rod (refer to A-600	11.30.03	Microwave over range (refer to A-600	
08.83.02	Mirrored medicine cabinet, 20" x 40" (refer		Bathroom Schedule)		Kitchen Schedule)	22.41.03
	to A-600 Bathroom Schedule)	10.28.02	Shower curtain (refer to A-600 Bathroom	12.35.01	Kitchen cabinet (refer to A-600 Kitchen	
09.29.02	5/8" interior moisture, mold, and mildew		Schedule)		Schedule)	22.41.04
	resistant board	10.28.03	Toilet paper holder (refer to A-600	12.35.02	Bathroom vanity cabinet, 30" wide (refer to	
09.29.03	5/8" interior cementitious backer board		Bathroom Schedule)		A-600 Bathroom Schedule)	22.41.05
09.30.01	Ceramic tile, 2" hexagon	10.28.04	Towel bar, 24" (refer to A-600 Bathroom	12.35.03	Medicine cabinet, 24" x 28" (refer to A-600	22.41.06
09.30.02	Ceramic tile, 2" x 8" subway		Schedule)		Bathroom Schedule)	
09.30.03	Ceramic tile base	10.28.05	Robe hook (refer to A-600 Bathroom	12.36.01	Countertop (refer to A-600 Bathroom or	22.41.07
09.91.11	Paint, interior, wall		Schedule)		Kitchen Schedule)	
09.91.12	Paint, interior, trim	10.28.06	Grab bar (refer to A-600 Bathroom	12.37.01	Cabinet hardware (refer to A-600 Bathroom	22.41.08
09.91.13	Paint, interior, ceiling		Schedule)		or Kitchen Schedule)	
09.91.21	Paint, interior bathroom, wall	11.30.01	Range (refer to A-600 Kitchen Schedule)	22.41.01	Lavatory undermount sink (refer to A-600	22.41.09
09.91.22	Paint, interior bathroom, trim	11.30.02	Refrigerator (refer to A-600 Kitchen		Plumbing Schedule)	

22.41.10 Shower rough (refer to A-600 Plumbing Lavatory wall mount sink (refer to A-600 Plumbing Schedule) Lavatory metal trough sink (refer to A-600 22.41.11 Toilet (refer to A-600 Plumbing Schedule) Plumbing Schedule) 22.41.12 Kitchen undermount sink (refer to A-600 Lavatory faucet (refer to A-600 Plumbing Plumbing Schedule)
22.41.13 Kitchen faucet (refer to A-600 Plumbing Schedule) Bathtub (refer to A-600 Plumbing Schedule) Light fixture (refer to A-600 Lighting Schedule and A-720 RCP) Bathtub surround (refer to A-600 Plumbing 26.50.01 Schedule) Shower base 36" x 36" (refer to A-600

Plumbing Schedule)
Bathtub spout (refer to A-600 Plumbing

Shower system (refer to A-600 Plumbing

Schedule)

Schedule)

## **STABLES**

#### LEGEND

— remove item

\_\_\_\_ new partition

# door tag

 $\langle\#
angle$  window tag

smoke / CO detector

**ABBREVIATIONS**MW microwave

F refrigerator
RD radiator
± verify in field
PBO purchased by owner

## ISSUES:

01 04.05.23 BID 01

david cunningham architecture planning 2023

## ESSEX COUNTY FARMWORKER

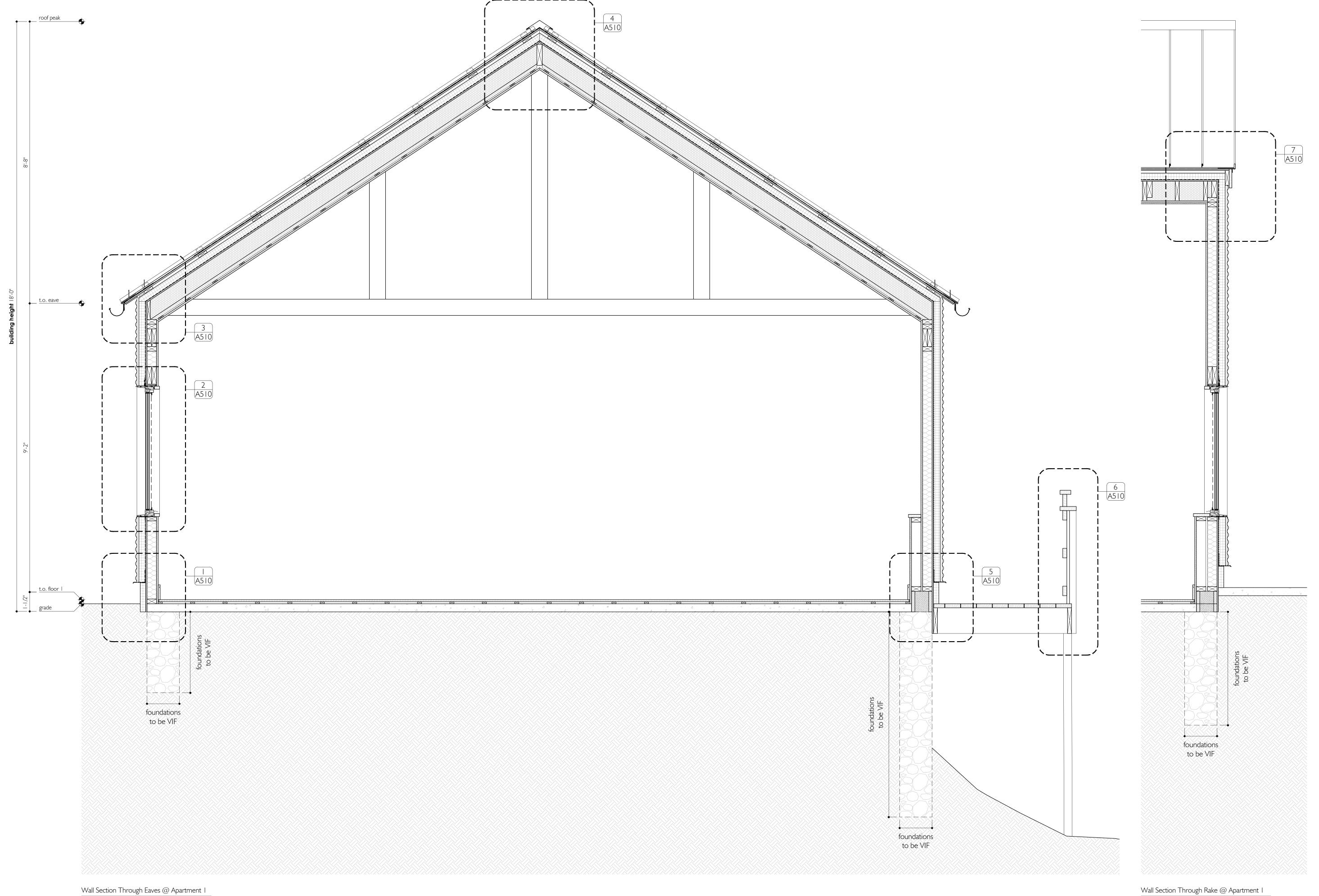
HOUSING RENOVATION Stables 10 Marks Road

Westport NY 12993

A-420

APT 4: INTERIOR ELEVS + PLANS SEAL | SIGNATURE:





Scale: 3/4"= 1'-0"

ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023

# ESSEX COUNTY FARMWORKER HOUSING RENOVATION

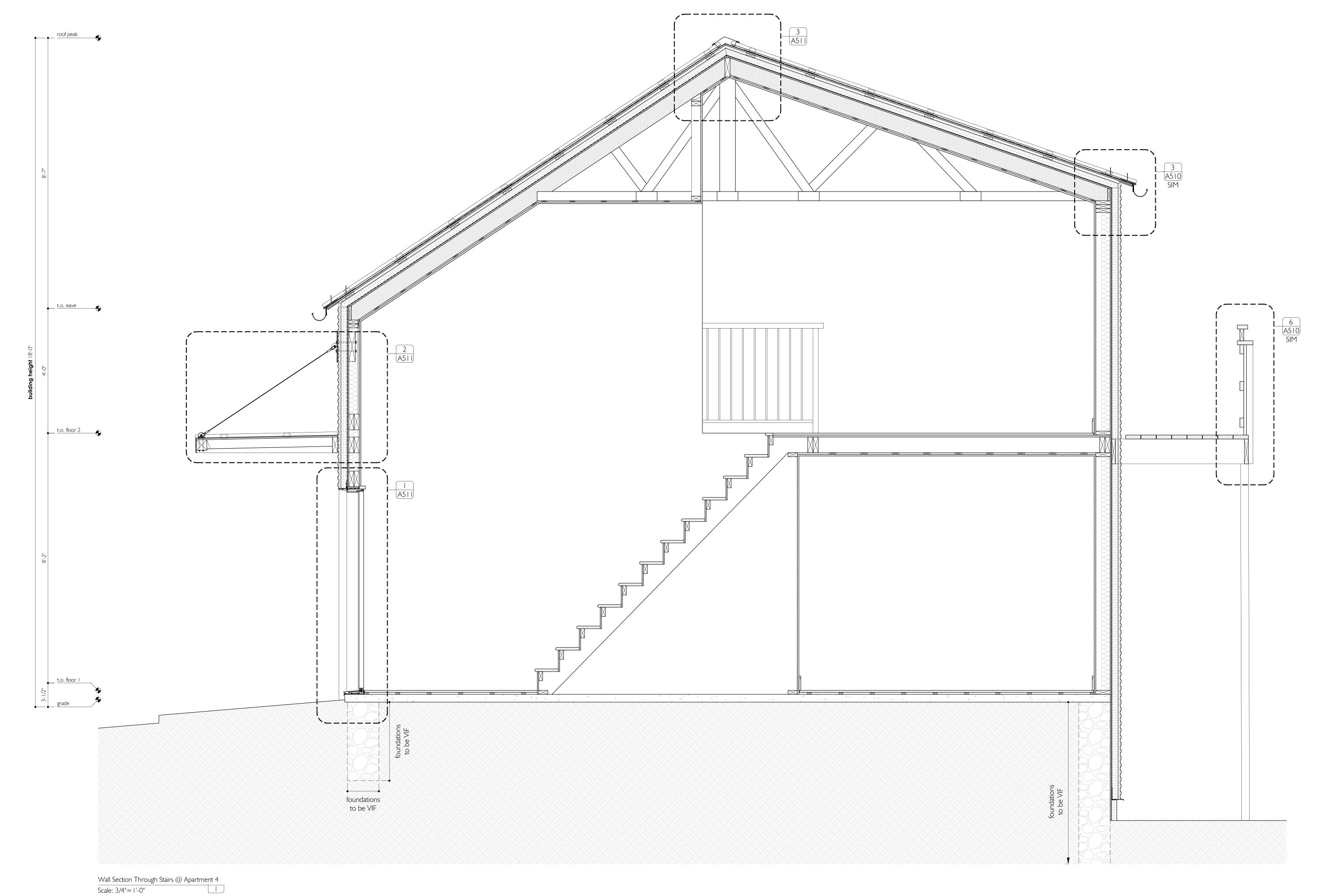
Stables 10 Marks Road Westport NY 12993

A-500

EXTERIOR WALL SECTIONS SEAL | SIGNATURE:



Wall Section Through Rake @ Apartment I Scale: 3/4"= 1'-0"



ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023

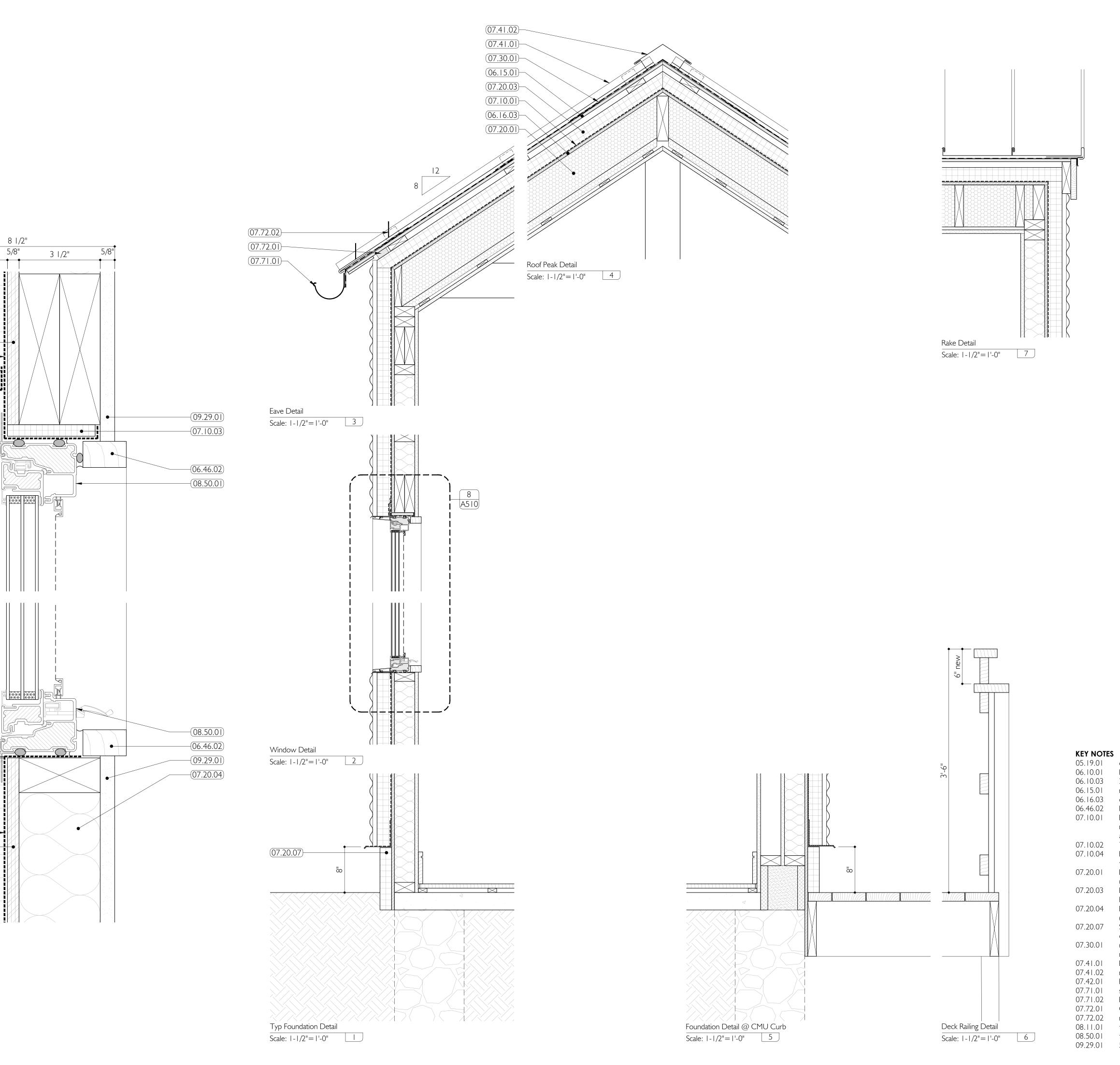
# ESSEX COUNTY FARMWORKER HOUSING RENOVATION Stables 10 Marks Road Westport NY 12993

A-50 I

EXTERIOR WALL SECTIONS

SEAL | SIGNATURE:





(07.42.0 l)—

(06.10.01)

07.20.03

06.16.03

(07.10.01)

07.10.04

(07.71.02)

<u>(07.42.01)</u> **►** 

06.10.01

07.20.03

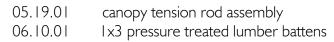
(07.10.01)

06.16.03

Window Detail

Scale: 6"= 1'-0"

8



06.10.01 1x3 pressure treated lumber battens 06.10.03 2x rough carpentry (no. 1 or better) 06.15.01 roof decking exterior-grade 5/8" CDX plywood sheathing

06.46.02 | 1x4 wood casing 07.10.01 Pro Clima Intello X: variable-permeability mesh-reinforced "smart" membrane

air/weather barrier 07.10.02 Tescon Vana: vapor-permeable sealing tape07.10.04 Pro Clima Contega Solido Exo-D: exterior window sealing tape

Dry installed dense-packed cellulose insulation (R-3.8/inch minimum) 07.20.03 Roxul Comfortboard 80: mineral wool dense

batts (R-4.2/inch minimum) 07.20.04 Roxul Comfortbatt: mineral wool batts

(R-14 minimum) Styro rigid insulation board with cementitious

07.30.01 (2) layers #15 roofing felt, staggered seams, mechanically fastened 07.41.01 Pac Clad Tite-Loc: standing seam metal roof

o7.41.02 ridge vent flashing with Z closures
o7.42.01 Pac Clad 1/2" corrugated metal wall panel
o7.71.01 seamless aluminum 6" half round, Kynar finish

07.71.02 Kynar painted aluminum drip edges + flashing 07.72.01 Cor-A-Vent soffit and siding vent

07.72.02 metal snow guard
08.11.01 fiberglass foam-filled entry door
08.50.01 fiberglass foam-filled windows w/ triple pane
09.29.01 5/8" interior GWB

## ISSUES:

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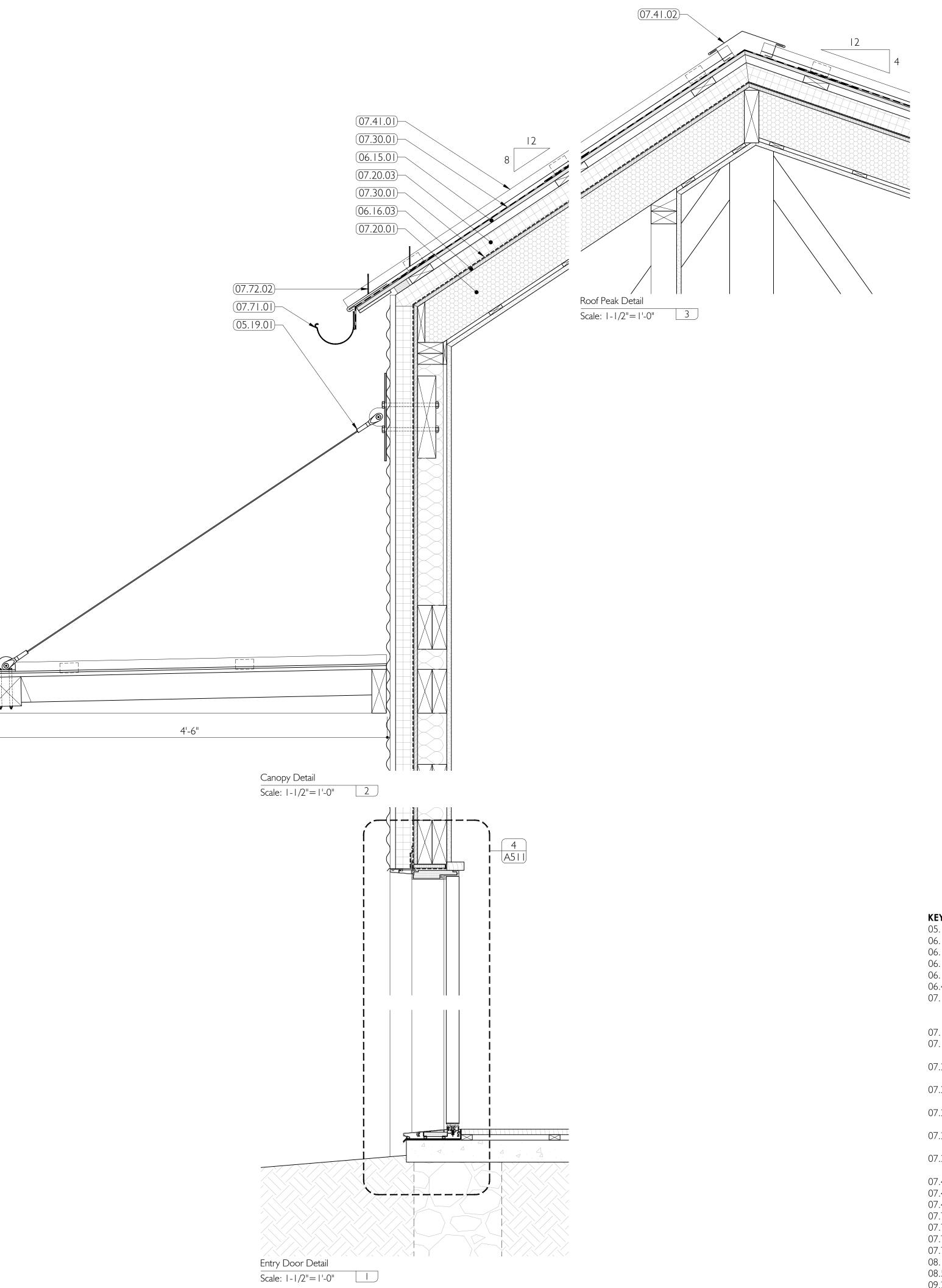
#### ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

A-510

EXTERIOR WALL DETAILS SEAL | SIGNATURE:





**KEY NOTES** 

05.19.01 canopy tension rod assembly 06.10.01 1x3 pressure treated lumber battens

06.10.03 2x rough carpentry (no. 1 or better) 06.15.01 roof decking 06.16.03 exterior-grade 5/8" CDX plywood sheathing

06.46.02 1x4 wood casing 07.10.01 Pro Clima Intello X: variable-permeability mesh-reinforced "smart" membrane

air/weather barrier 07.10.02 Tescon Vana: vapor-permeable sealing tape 07.10.04 Pro Clima Contega Solido Exo-D: exterior

window sealing tape
07.20.01 Dry installed dense-packed cellulose insulation
(R-3.8/inch minimum)

07.20.03 Roxul Comfortboard 80: mineral wool dense

batts (R-4.2/inch minimum) 07.20.04 Roxul Comfortbatt: mineral wool batts

(R-14 minimum) Styro rigid insulation board with cementitious

07.30.01 (2) layers #15 roofing felt, staggered seams, mechanically fastened

07.41.01 Pac Clad Tite-Loc: standing seam metal roof

o7.41.02 ridge vent flashing with Z closures
o7.42.01 Pac Clad 1/2" corrugated metal wall panel
o7.71.01 seamless aluminum 6" half round, Kynar finish 07.71.02 Kynar painted aluminum drip edges + flashing 07.72.01 Cor-A-Vent soffit and siding vent

07.72.02 metal snow guard
08.11.01 fiberglass foam-filled entry door
08.50.01 fiberglass foam-filled windows w/ triple pane
09.29.01 5/8" interior GWB

#### ISSUES: 01 04.05.23 BID 01

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#### ESSEX COUNTY FARMWORKER

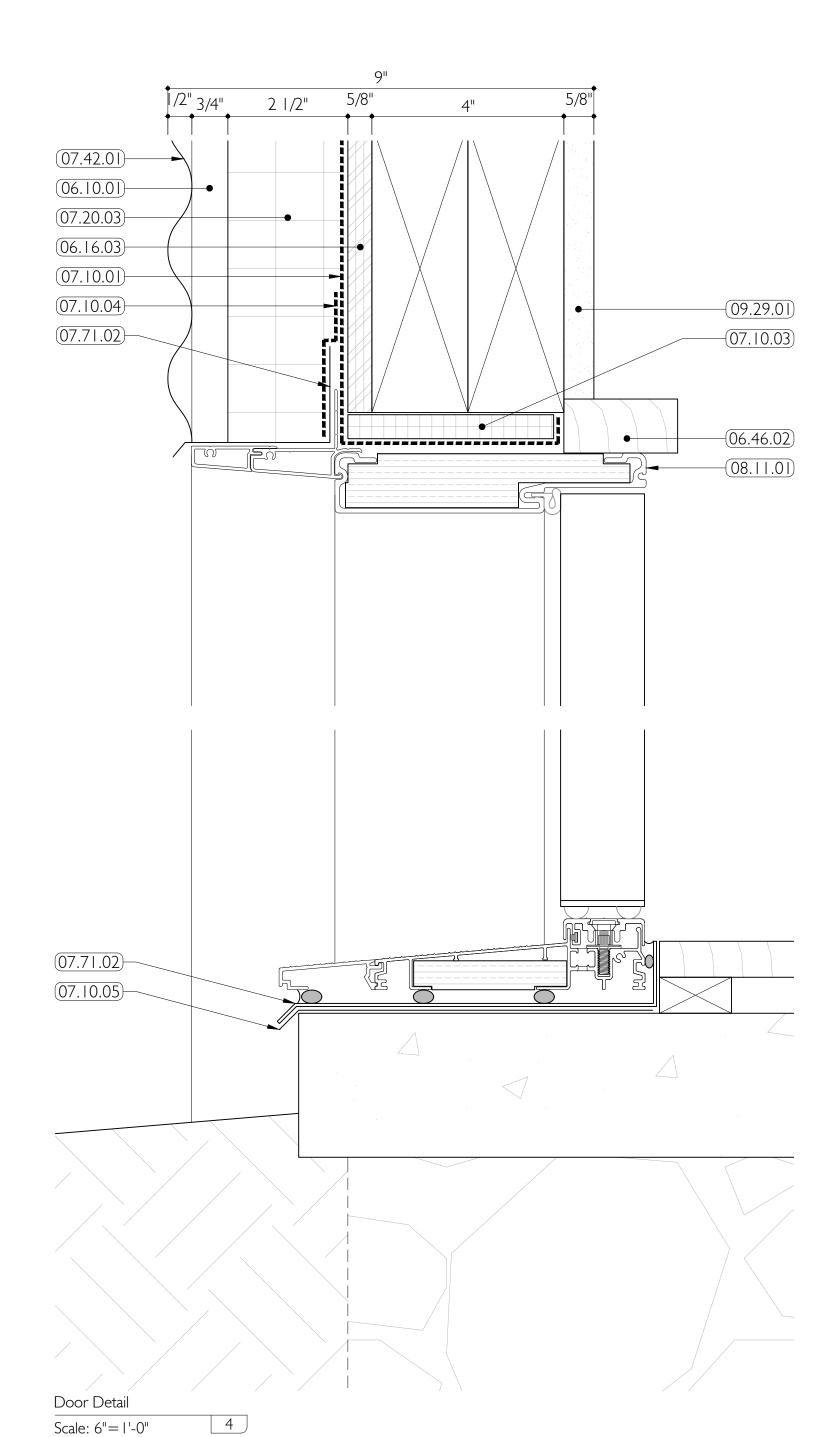
HOUSING RENOVATION Stables

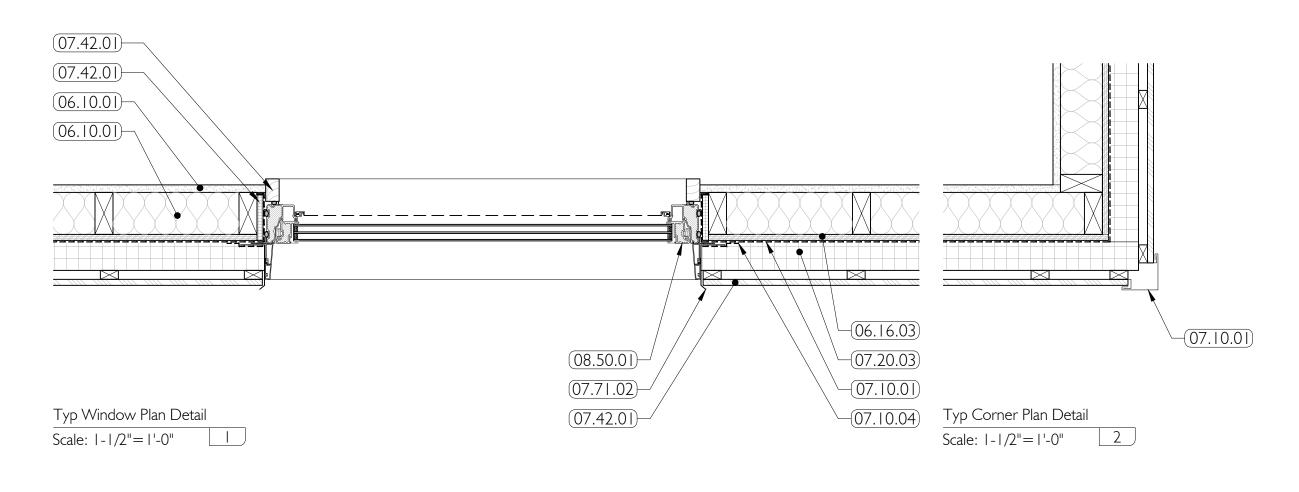
10 Marks Road Westport NY 12993

A-511

EXTERIOR WALL DETAILS SEAL | SIGNATURE:







**KEY NOTES** 05.19.01 canopy tension rod assembly 06.10.01 1x3 pressure treated lumber battens 2x rough carpentry (no. 1 or better) roof decking exterior-grade 5/8" CDX plywood sheathing

06.46.02 1x4 wood casing 07.01.01 PAC CLAD PA-801 Outside Corner Flashing w/ "J" Closures 07.10.01 Pro Clima Intello X: variable-permeability mesh-reinforced "smart" membrane

air/weather barrier 07.10.02 Tescon Vana: vapor-permeable sealing tape
07.10.04 Pro Clima Contega Solido Exo-D: exterior

window sealing tape
Dry installed dense-packed cellulose insulation
(R-3.8/inch minimum) 07.20.03 Roxul Comfortboard 80: mineral wool dense

batts (R-4.2/inch minimum)
07.20.04 Roxul Comfortbatt: mineral wool batts

(R-14 minimum) Styro rigid insulation board with cementitious

coating

07.30.01 (2) layers #15 roofing felt, staggered seams, mechanically fastened

07.41.01 Pac Clad Tite-Loc: standing seam metal roof

o7.41.02 ridge vent flashing with Z closures
o7.42.01 Pac Clad 1/2" corrugated metal wall panel
o7.71.01 seamless aluminum 6" half round, Kynar finish 07.71.02 Kynar painted aluminum drip edges + flashing 07.72.01 Cor-A-Vent soffit and siding vent

07.72.02 metal snow guard
08.11.01 fiberglass foam-filled entry door
08.50.01 fiberglass foam-filled windows w/ triple pane
09.29.01 5/8" interior GWB

## ISSUES:

01 04.05.23 BID 01 © david cunningham architecture planning 2023

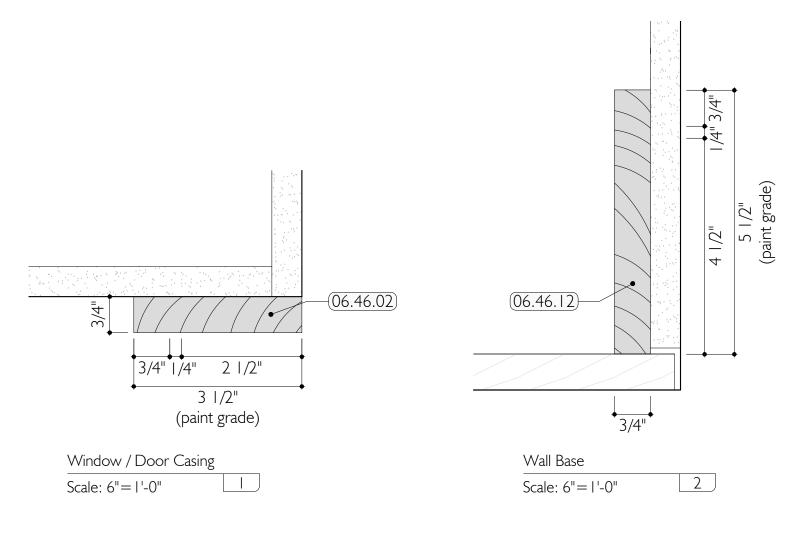
#### ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

A-520

PLAN DETAILS SEAL | SIGNATURE:





Stables 10 Marks Road Westport NY 12993

ISSUES:

01 04.05.23 BID 01

david cunningham architecture planning 2023

ESSEX COUNTY FARMWORKER HOUSING RENOVATION

A-550 INTERIOR DETAILS

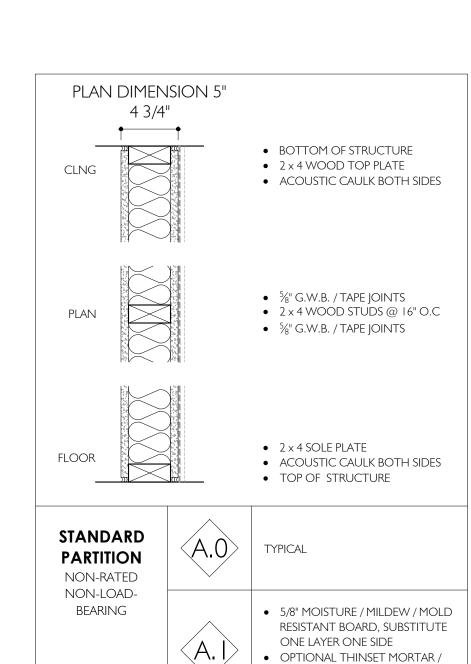
SEAL | SIGNATURE:

KEY NOTES

06.46.02 | I x 4 wood casing, clear pine flat stock, polyurethane finish (refer to A-550 for Casing Details)

06.46.12 | I x 6 wood wall base, clear pine flat stock, poly finish (refer to A-550 for Wall Base Details)





TILE PER SCHEDULE (DASHED

• 5/8" CEMENTITIOUS BACKER UNIT

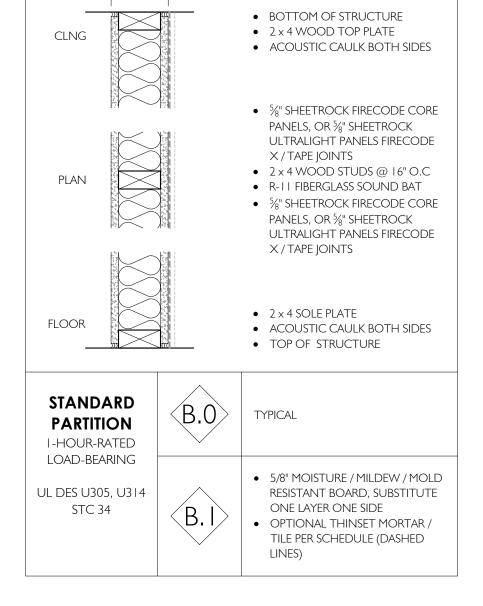
LIQUID APPLIED WATER

PROOFING (DASHED LINES)

THINSET MORTAR / TILE PER

SUBSTITUTE ONE LAYER ONE SIDE

LINES)



CLNG

FLOOR

STANDARD

**PARTITION** 

I-HOUR-RATED

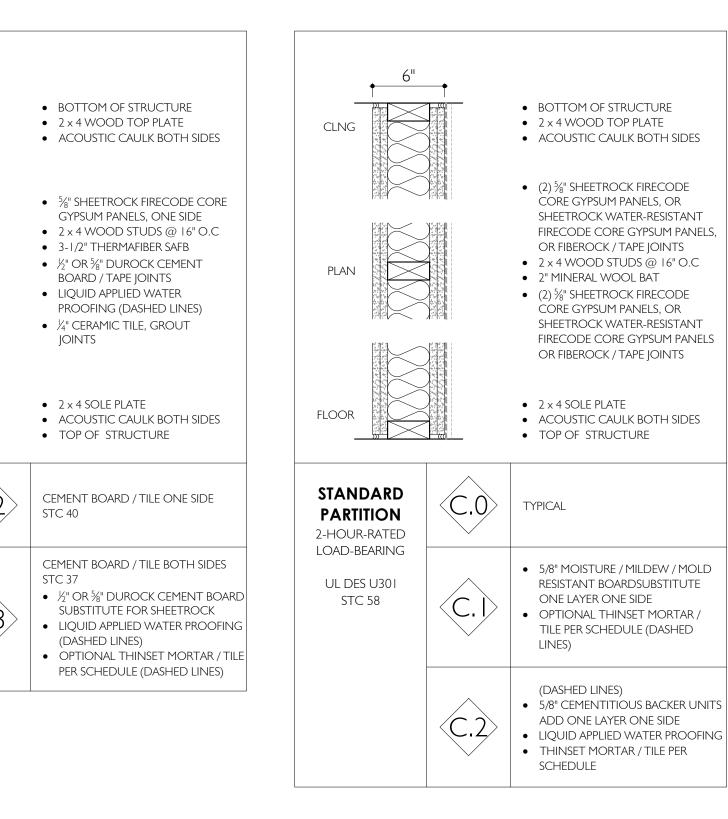
LOAD-BEARING

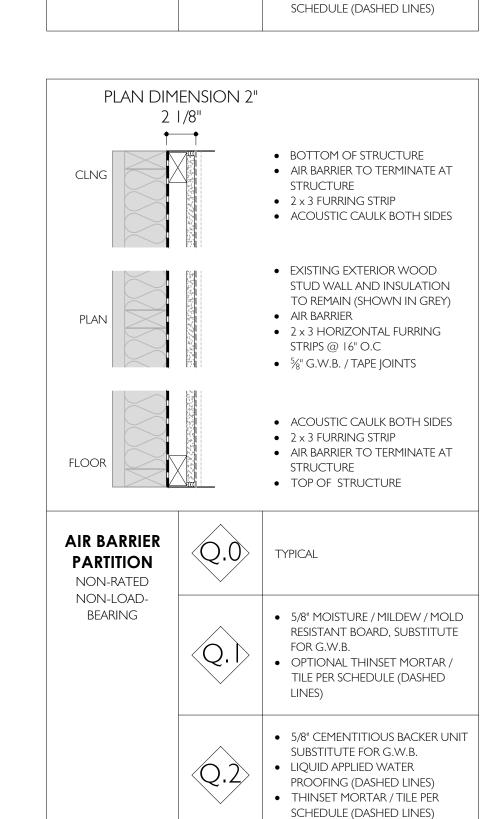
UL DES U329

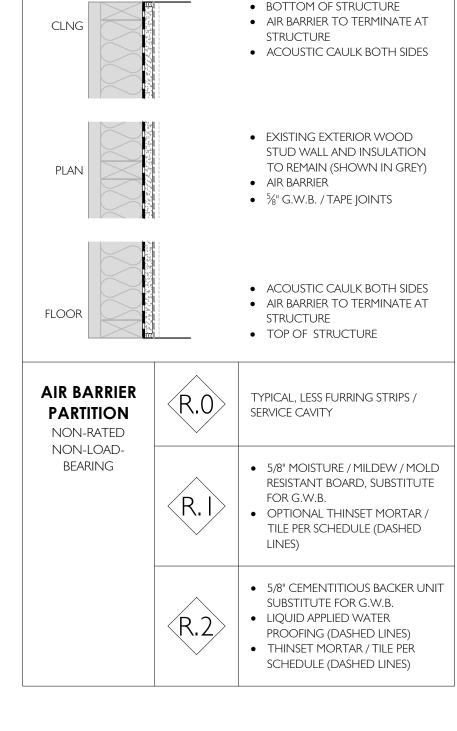
PLAN DIMENSION 5"

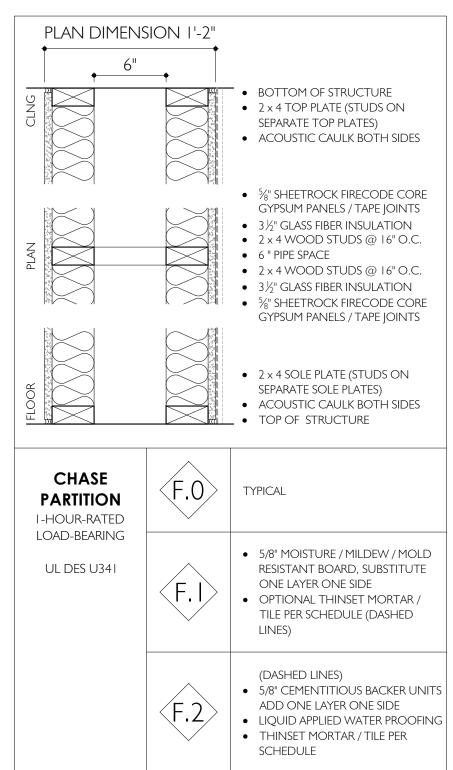
4 3/4"

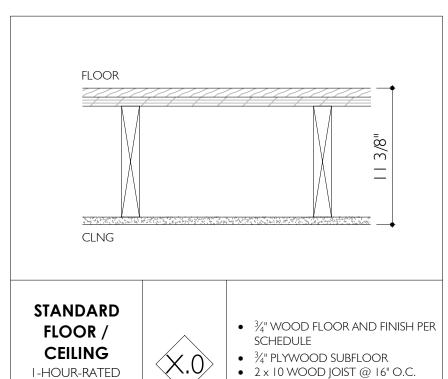
PLAN DIMENSION I" 5/8"





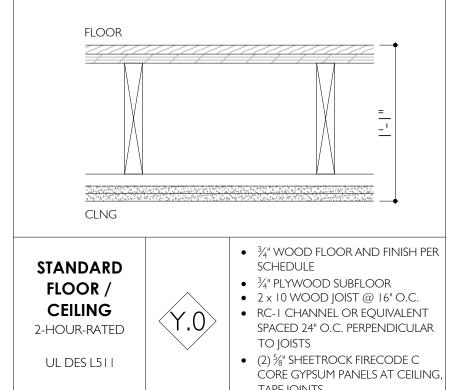


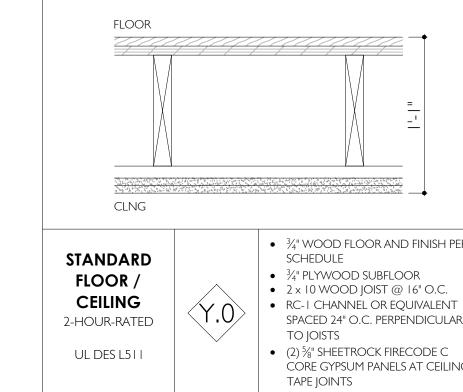




UL DES L512

• 5/8" SHEETROCK FIRECODE C CORE GYPSUM PANELS AT CEILING





# **STABLES**

ISSUES:

01 04.05.23 BID 01

david cunningham architecture planning 2023 ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road

Westport NY 12993

A-590

PARTITION TYPES



## SCHEDULE NOTES

 All keynotes to be as specified (or approved equal). See project manual for additional information. All exterior, interior, and bathroom paint to be Benjamin Moore Aura: Exterior, Interior, and Bath + Spa (respectively).

PLUMBI	NG SCHEDULE						
KEYNOTE	DESCRIPTION	MANUFACTURER	MODEL	FINISH	SIZE	QTY	NOTES
22.41.01	Lavatory undermount sink	American Standard	0614.000	white	18" W x 12" L x 6 7/6" D	I	
22.41.02	Lavatory wall mount sink	American Standard	9024.001EC	white	20" W x 18¼" L x 5" D	I	ADA
22.41.04	Lavatory faucet	American Standard	7105121	polished chrome	7" H	2	WaterSense, ADA
22.41.05	Bathtub	American Standard	2946.102 or 2946.202	white	60" L × 32" W × 18" H	2	
22.41.06	Bathtub surround	American Standard	2946.BW	white	58" H	2	
22.41.08	Bathtub spout	American Standard	8888.022.002	polished chrome		2	
22.41.09	Shower system	American Standard	TU662221.002	polished chrome		2	slidebar with handshower system
22.41.10	Shower rough	American Standard	RUIOISS			2	
22.41.11	Toilet	American Standard	2988.101	white		2	WaterSense, ADA
22.41.12	Kitchen undermount sink	American Standard	18SB6252211.075	stainless steel	28" W x 22" L x 6" D	2	ADA, 29" min cabinet required
22.41.13	Kitchen faucet	American Standard	4931.300	polished chrome	17-6/16" H	2	ADA, single deck mount
22.41.14	Washing machine	General Electric	GFW148SSMWW	white	23½" W x 25½" D x 33½" H	I	stackable with dryer (see plumbing schedule)

EQUIPM	ENT SCHEDULE						
KEYNOTE	DESCRIPTION	MANUFACTURER	MODEL	FINISH	SIZE	QTY	NOTES
11.31.01	electric dryer	General Electric	GFT14ESSMWW	white	23 <sup>7</sup> / <sub>6</sub> " W x 24 <sup>1</sup> / <sub>4</sub> " D x 33 <sup>1</sup> / <sub>4</sub> " H	I	stackable with washer (see plumbing schedule)
11.31.02	electric washer/dryer combo	General Electric	GFT14ESSMWW	white	23 <sup>7</sup> / <sub>6</sub> " W x 24 <sup>1</sup> / <sub>4</sub> " D x 33 <sup>1</sup> / <sub>4</sub> " H	I	

BATHRO	OM SCHEDULE						
KEYNOTE	DESCRIPTION	MANUFACTURER	MODEL	FINISH	SIZE	QTY	NOTES
08.83.01	Mirror					I	surface mount
08.83.02	Mirrored medicine cabinet	Kohler	K-99002	aluminum	20" W x 30" H	I	recessed, soft close hinges
12.35.02	Bathroom vanity cabinet	KOB Kitchen and Bath	Stock cabinets	Gray Shaker	30" W x 33" H x 21"D	I	soft close hinges
12.37.01	Cabinet hardware	KOB Kitchen and Bath		polished chrome	4" pulls		
12.36.01	Countertop	IceStone	QuartzStone	snowflake	I" thick		
10.28.01	Shower curtain rod	Kohler	K-9351-S	polished steel	20" W x 30" H	2	
10.28.02	Shower curtain					2	
10.28.03	Toilet paper holder	Kohler	K-27292-CP	polished chrome		2	
10.28.04	Towel bar, 24"	Kohler	K-27287-CP	polished chrome	24"	4	
10.28.05	Robe hook	Kohler	K-27290-CP	polished chrome	20" W x 30" H	2	
10.28.06	Grab bar (Apt 1 only)	Kohler Contemporary	model varies per size	polished chrome	sizes vary, see A-410	8	provide blocking as indicated on A-410
00.20.01	Floor tile (Apt 1)	- Daltile Keystones	2" hexagon mosaic	D452	2"	28 sf	match grout to tile, see A-410
09.30.01	Floor tile (Apt 4)	- Daitile Reystories	2 Hexagori mosaic	D432	_ Z	26 sf	match grout to tile, see A-420
00 20 02	Wall tile (Apt 1)	Dakila Lianan	250 450 C4200MOD	0190(1)	2 v 0 4 v 0 2 v 0 bullpa	17 sf	stacked bond, match grout to tile, see A-410
09.30.02	Wall tile (Apt 4)	- Daltile Linear	2x8, 4x8, S4289MOD	0170(1)	2 x 8, 4 x 8, 2 x 8 bullnose	I3 sf	stacked bond, match grout to tile, see A-420
00 20 02	Base tile (Apt 1)	Delicite Linear	C4400MOD	0190(1)	4 0 1 11	7 If	match grout to tile, see A-410
09.30.03	Base tile (Apt 4)	- Daltile Linear	S4489MOD	0190(1)	4 x 8 bullnose	I I If	match grout to tile, see A-420

KITCHE	N SCHEDULE						
KEYNOTE	DESCRIPTION	MANUFACTURER	MODEL	FINISH	SIZE	QTY	NOTES
12.25.01	Kitchen upper cabinets	KOB Kitchen and Bath	Stock cabinets	Gray Shaker			soft close hinges and runners
12.35.01	Kitchen base cabinets	KOB Kitchen and Bath	Stock cabinets	Gray Shaker			soft close hinges and runners
12.37.01	Cabinet hardware	KOB Kitchen and Bath		polished chrome	4" pulls		
12.36.01	Countertop	IceStone	QuartzStone	snowflake	I" thick		
11.30.01	Range	General Electric	PHS930YPFS	stainless steel	30" W	2	slide in, induction range
11.30.02	Refrigerator	General Electric	GTE19JSNRSS	stainless steel	30" W	2	
11.30.03	Microwave	General Electric	JVM6172DKBB	stainless steel	30" W	2	microwave over range, vented to exterior
00.20.02	Wall tile (Apt 1)	Dakila Linaan	20	0190(1)	20	18 sf	stacked bond, match grout to tile, see A-410
09.30.02	Wall tile (Apt 4)	Daltile Linear	2×8	0170(1)	2 x 8	18 sf	stacked bond, match grout to tile, see A-420

FURNITURE SCHEDULE							
KEYNOTE	DESCRIPTION	MANUFACTURER	MODEL	FINISH	SIZE	QTY	NOTES
12.58.02	Bed Frame - Full XL	Ecologic: Academy	40-45480	rubberwood, steel	60"W x 80"D	4	Headboard and Footboard, Steel Tubular Platform
12.58.04	Mattress - Full XL	Ecologic	99-VF-IS-5480	nylon	60"W x 80"L x 8"H	4	Nylon Inverted Seam
12.58.07	Sofa	Ecologic: Collins	00-11003-2		80"W x 33"D x 29"H	2	3-Seat
12.58.08	Sofa Chair	Ecologic: Pacifica	00-11001-2	engineered hardwood	36"W x 33"D x 29"H	2	
12.58.09	Coffee Table	Ecologic: Pacifica	85-66440-T	engineered hardwood	40"W x 20"D x 18"H	2	
12.58.10	Dining Table	Savoy	5090	oak	60"W x 36"D x 30"H	2	
12.58.11	Chair	Savoy: Metro Chair	917WSB	oak	19" x 22" x 33"	8	
10.57.01	Closet rod						provide blocking as required

## ISSUES:

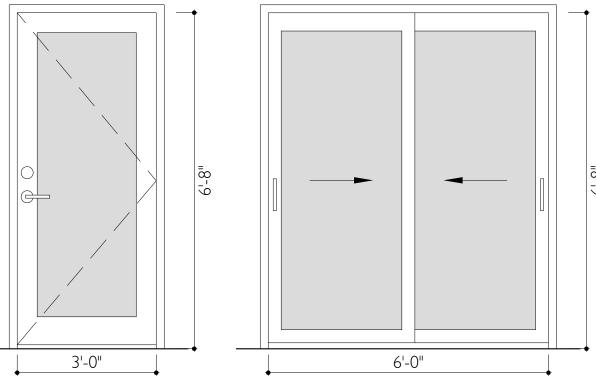
01 04.05.23 BID 01

david cunningham architecture planning 2023 ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

A-600 SCHEDULES





**TYPE A** glazed entry door

TYPE B glazed sliding door

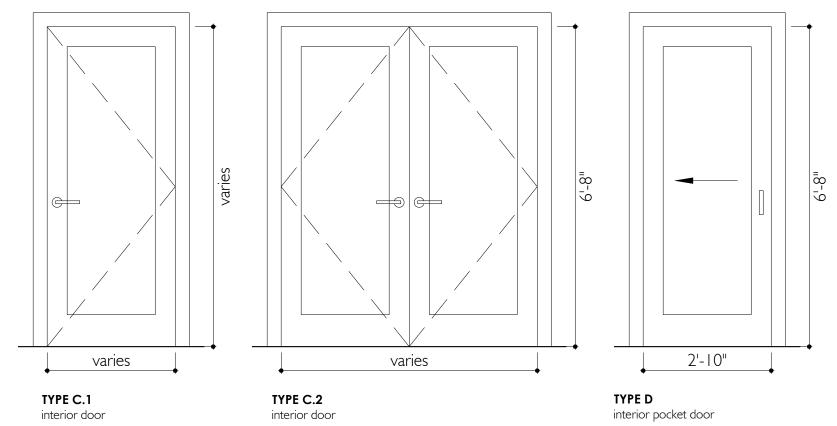
Door Types Scale: 1/2"=1'-0"

ΕX	(TFI	RIO	R DOOR S	CHED		F						
		IXI 🔾	K DOOK 3									
BASI	C		DESCRIPTION	DIN	1ENSIC	DNS	MATERIAL	FRAME	FINISH	MANUFACTURER	MODEL	HARDWARE
#	type	quantity	DESCRIPTION	thickness	width	height	1 1/ (1 L1 (1/ (L	I I V (I IL	11141511	1 // ( VOI / CTOILER	TIODEE	SET #
101	Α		apt I entry	1 3/4"	3'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
102	В	1	apt I deck	1 3/4"	6'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
103	В		apt I deck	1 3/4"	6'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
104	В		apt I deck	1 3/4"	6'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
105	Α		apt 2 entry	1 3/4"	3'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	l
106	Α		apt 3 entry	1 3/4"	3'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
107	Α		apt 4 entry	1 3/4"	3'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
201	В		apt 4 deck	1 3/4"	6'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
202	В		apt 4 deck	1 3/4"	6'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	
203	В		apt 4 deck	1 3/4"	6'-0"	6'-8"	glass	fiberglass	integral	Fibertec	flush fiberglass entry door with glazed full light	

I. All exterior doors must meet the applicable building and energy codes. 2. All exterior doors must be NFRC rated.

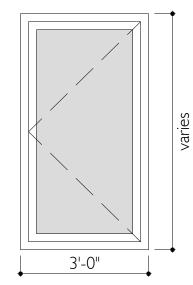
3. All hardware shall be Omnia levers with satin chrome finish.

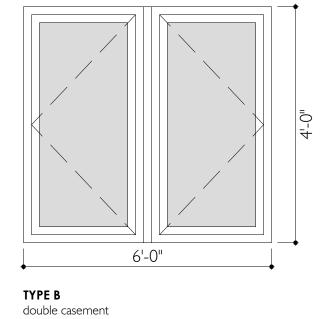
4. General contractor to provide door shop drawings and schedule for review and approval by architect and owner prior to ordering.

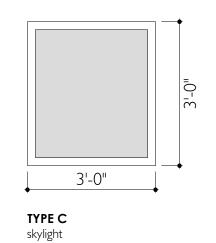


Door Types Scale: 1/2"=1'-0"

BASI	C		DESCRIPTION	DIN	MENSIONS	- MATERIAL	FRAME	FINISH	MANUFACTURER	MODEL	HARDWARE
#	type	quantity	DESCRIPTION	thickness	width height	MATERIAL	FRAITE	LIINISH	MAINUFACTURER	PIODEL	SET #
8(	C.2		utility closet	1 3/8"	4'-8" 6'-8"	wood	wood	paint grade	TruStile	TS1000 with square sticking and louvered panel	3
)9	C.I		bedroom	1 3/8"	2'-10" 6'-8"	wood	wood	paint grade	TruStile	TS 1000 with square sticking and flat panel	2
0	C.2		closet	1 3/8"	4'-8" 6'-8"	wood	wood	paint grade	TruStile	TS 1000 with square sticking and flat panel	3
П	C.I		bathroom	1 3/8"	2'-10" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	2
2	C.I		bedroom	1 3/8"	2'-10" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	2
3	C.2		closet	1 3/8"	4'-8" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	3
)4	C.2		utility closet	1 3/8"	5'-8" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and louvered panel	3
)5	C.I		bedroom	1 3/8"	2'-10" 6'-8"	wood	wood	paint grade	TruStile	TS1000 with square sticking and flat panel	2
)6	C.I	1	closet	1 3/8"	2'-0" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	4
)7	C.I	1	storage	1 3/8"	2'-0" 3'-0"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	4
3C	D	1	bathroom	1 3/8"	2'-10" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	2
)9	C.I		bedroom	1 3/8"	2'-10" 6'-8"	wood	wood	paint grade	TruStile	TS1000 with square sticking and flat panel	2
10	C.2		closet	1 3/8"	4'-0" 6'-8"	wood	wood	paint grade	TruStile	TS I 000 with square sticking and flat panel	3







300 series Low-E triple glazed

FCM

**ACCESSORIES** 

foam-filled fiberglass frame, weather stripping, insect screen

TYPE A single casement

102 A single casement

201 A single casement

202 A single casement 203 A single casement

double casement

104 B double casement 6'-0"

204 A single casement 3'-0"

Window Types Scale: 1/2"=1'-0"

W	INC	OW SCHE	DULE					
BASI	С	FUNCTION	DIMENSIO	NS	HARDWARE	MANUFACTURER	MODEL	GLAZING
#	TYPE	FUNCTION	WIDTH	HEIGHT	HANDVVANE	MAINOFACTORER	MODEL	GLAZING
101	Α	single casement	3'-0"	4'-0"	lock	Fibertec	300 series	Low-E triple g

4'-0"

4'-0"

4'-0"

5'-0"

5'-0"

- 301 C skylight 3'-0" 3'-0" I. All windows and skylights must meet the applicable building and energy codes.
- 2. All windows and skylights must be NFRC rated.
- General contractor to verify all rough opening dimensions in field.
   General contractor to provide window shop drawings and schedule for review and approval by architect and owner prior to ordering.

Fibertec

Fibertec

Fibertec

Fibertec

Fibertec

Fibertec

Velux

#### HARDWARE SETS SCHEDULE QTY DESCRIPTION MANUFACTURER MODEL FINISH SET # I: EXTERIOR ENTRY DOOR 3 Hinge | Lockset / Entry Hardware satin chrome | Faceplate / Strikeplate per door manufacturer | Weatherstrip Gasket 1 Door Sweep Door Stop (half-dome) Baldwin 4000 satin nickel SET #2: BEDROOM / BATHROOM DOOR 3 Hinges 985BB/4BTN | Privacy Lever Omnia satin chrome 912MD/X234F.PR26D | Faceplate / Strikeplate | Door Stop (half-dome) 4000 Baldwin satin nickel SET #3: CLOSET - DOUBLE DOOR 6 Hinges 985BB/4BTN Omnia 2 Dummy Lever 912MD/R.SD15 satin chrome Magnetic Catch Don-Jo 1724 2 Door Stop (half-dome) 4000 Baldwin satin nickel SET #4: CLOSET - SINGLE DOOR 3 Hinges 985BB/4BTN Passage Lever Omnia satin chrome 912MD/X234F.PA26D | Faceplate / Strikeplate | Door Stop (half-dome) Baldwin 4000 satin nickel

## **STABLES**

## SCHEDULE NOTES

- All keynotes to be as specified (or approved equal). See project manual for additional information.

#### ISSUES:

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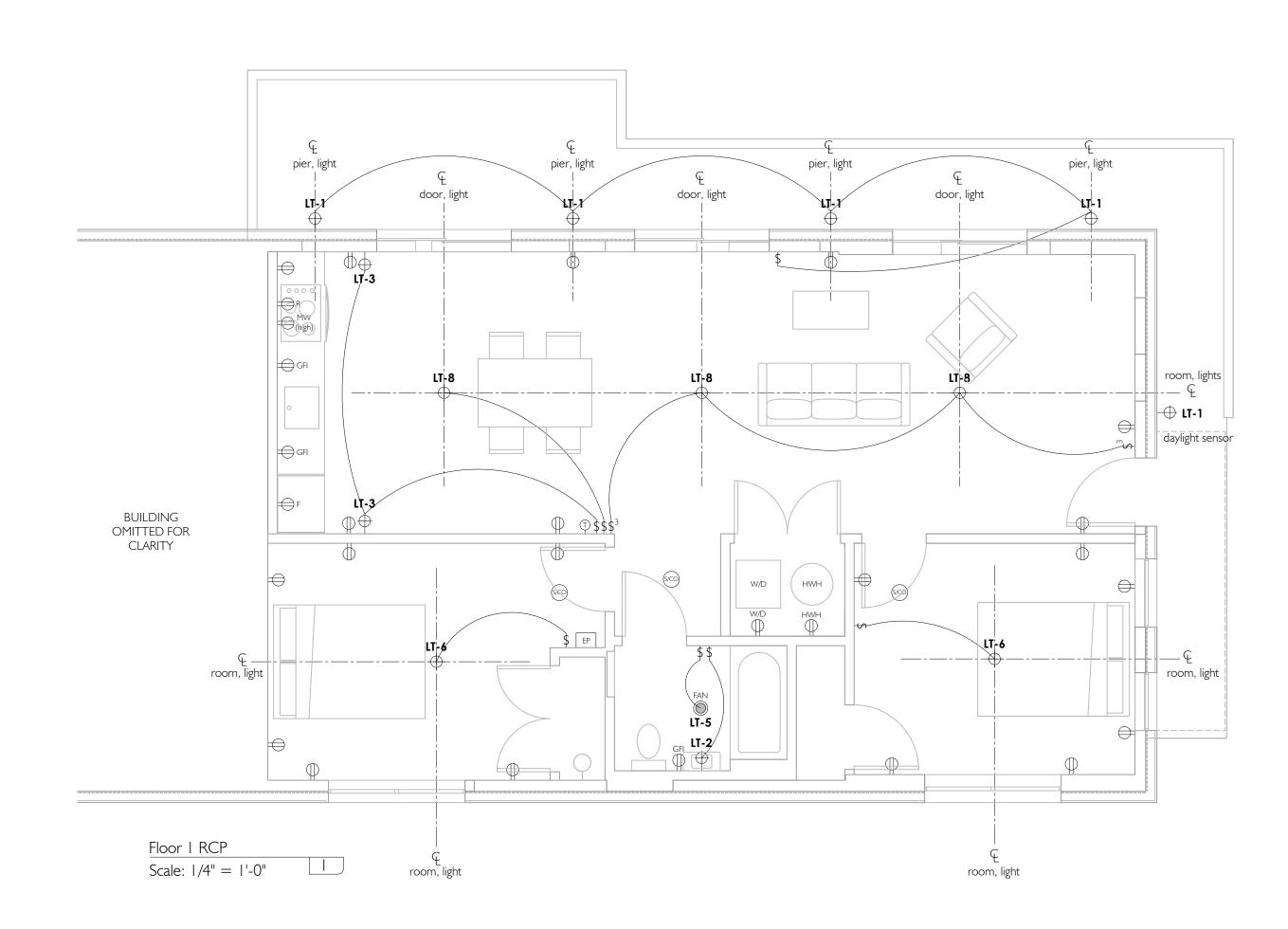
#### **ESSEX COUNTY FARMWORKER HOUSING RENOVATION**

Stables 10 Marks Road Westport NY 12993

A-610

DOOR AND WINDOW SCHEDULES SEAL | SIGNATURE:





APA	APARTMENT 1: LIGHT FIXTURE SCHEDULE									
SYMBOL	TAG	DESCRIPTION	MANUFACTURER	MODEL	FINISH	WATTS	LAMP	COLOR	QTY	NOTES
ф.I	LT-1	wall sconce, exterior	RBW Crisp	RBW1771963	frosted	8.5	LED	3000K	5	daylight sensor at apt entry
<b>T</b>	LT-2	bath sconce, interior, 18" bar	MAXIM Spec	52000-SN	satin nickel	12	LED	3000K	2	
	LT-3	wall sconce, interior 11" Ø	MAXIM Trim	57664-WT	white	20	LED	3000K	2	Triac CL dimming
	LT-5	recessed light / fan combo, 4" Ø	BROAN	744LED	white	66/9.5	LED	2700K	1	includes 70cfm exhaust fan
<u></u>	LT-6	ceiling mount, interior, 16" Ø	BROMIDESIGN Lynch	1661521537	white / silver	allow 50	LED	3000K	2	requires (3) LED A lamps
$\oplus$	LT-8	pendant, interior, 19" Ø	MAXIM Oslo	11414BKWT	white / black	8	LED	3000K	3	requires (1) LED A lamps

- See interior and exterior elevations for switch, outlet, and fixture heights.
   Center light fixtures in soffits and in rooms unless noted otherwise.
   Coordinate fixture installation with engineering systems.
   Coordinate locations of junction boxes for equipment with equipment contractor. Provide gang boxes for all key type switches. Review final locations with the Architect.

#### LEGEND

- ceiling mounted light
- recessed light
- ceiling fan
- → wall mounted light
- ── linear light
- radiant flooring
- duplex outlet
- USB / outlet combo
- quad outlet
- $\bigcirc$  floor outlet
- \$ switch
- \$<sup>3</sup> 3 way switch
- \$\* dimmer switch
- electrical panel
- smoke / CO detector
- internet access point / data
- intercom
- Thermostat
- © security camera
- p doorbell
- exit sign

- ABBREVIATIONS

  DN down
  F refrigerator
  GFI ground fault interrupt
- range radiator RD
- MW microwave
- W/D washer/dryer
- ± verify in field
  PBO purchased by owner

## ISSUES:

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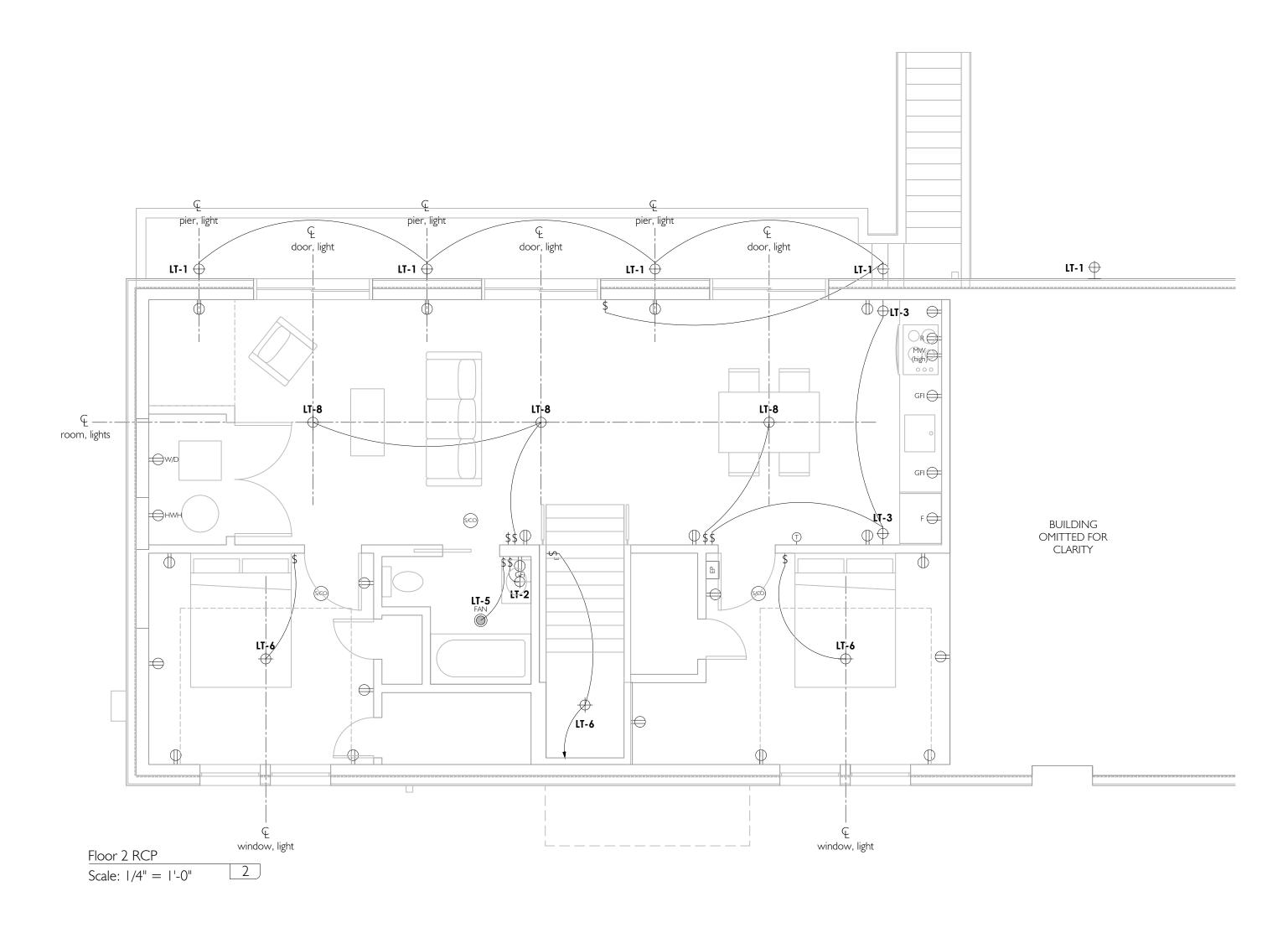
# ESSEX COUNTY FARMWORKER HOUSING RENOVATION

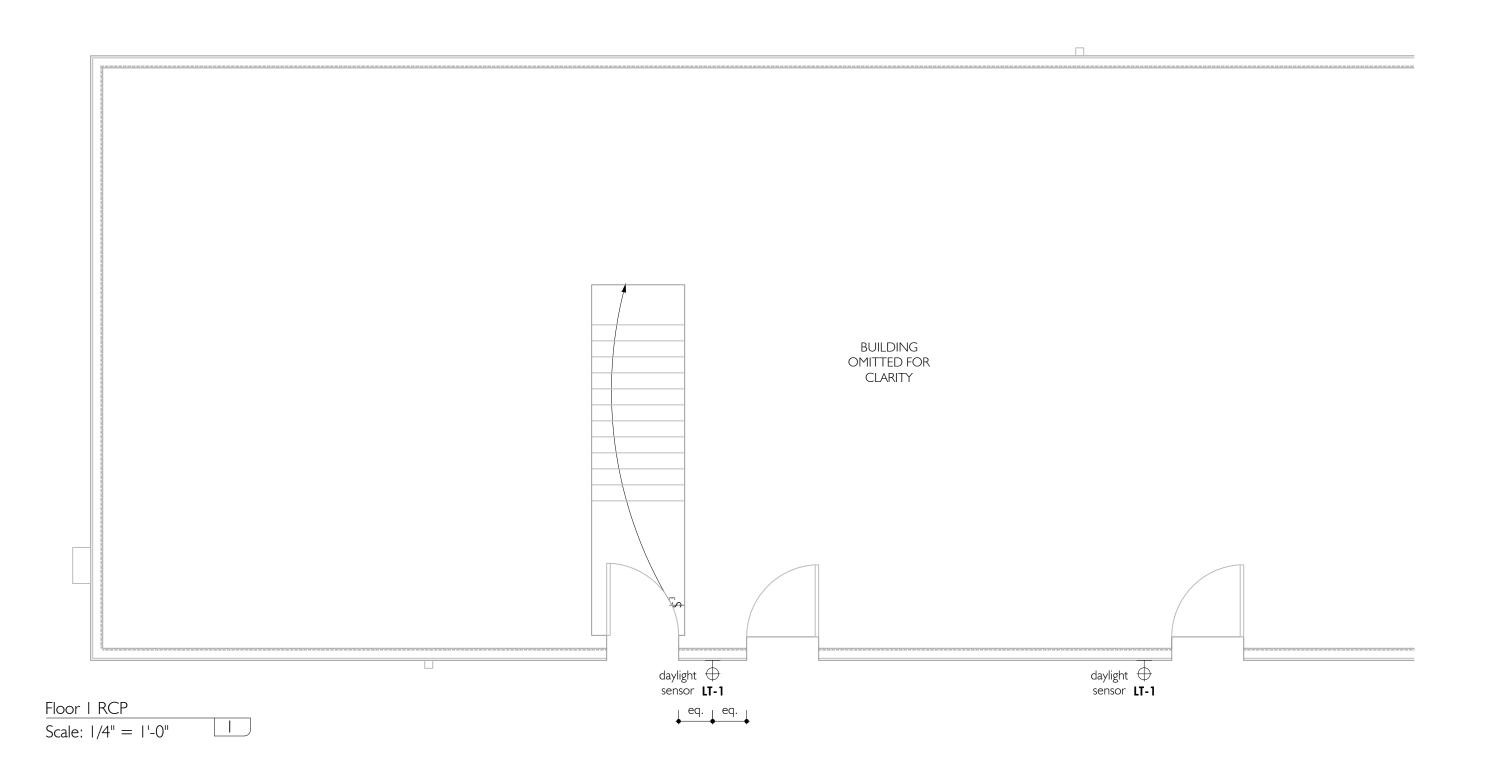
Stables 10 Marks Road Westport NY 12993

A-710

APT I: RCP







#### **APARTMENT 4: LIGHT FIXTURE SCHEDULE** WATTS LAMP COLOR QTY NOTES SYMBOL TAG DESCRIPTION MANUFACTURER MODEL FINISH LT-1 wall sconce, exterior RBW Crisp RBW1771963 8.5 LED 3000K 7 daylight sensor at apt entry frosted MAXIM Spec LT-2 bath sconce, interior, 18" bar 52000-SN 12 LED 3000K LT-3 wall sconce, interior | | Ø LED 3000K 2 Triac CL dimming MAXIM Trim 57664-WT LT-5 recessed light / fan combo, 4" Ø BROAN 744LED 66/9.5 LED 2700K includes 70cfm exhaust fan LT-6 ceiling mount, interior, 16" Ø BROMIDESIGN Lynch 1661521537 requires (3) LED A lamps allow 50 LED 3000K LT-8 pendant, interior, 19" Ø LED 3000K 3 requires (1) LED A lamps MAXIM Oslo 11414BKWT white / black 8

- See interior and exterior elevations for switch, outlet, and fixture heights.
   Center light fixtures in soffits and in rooms unless noted otherwise.
- 3. Coordinate fixture installation with engineering systems.
- 4. Coordinate locations of junction boxes for equipment with equipment contractor. Provide gang boxes for all key type switches. Review final locations with the Architect.

## **STABLES**

#### LEGEND

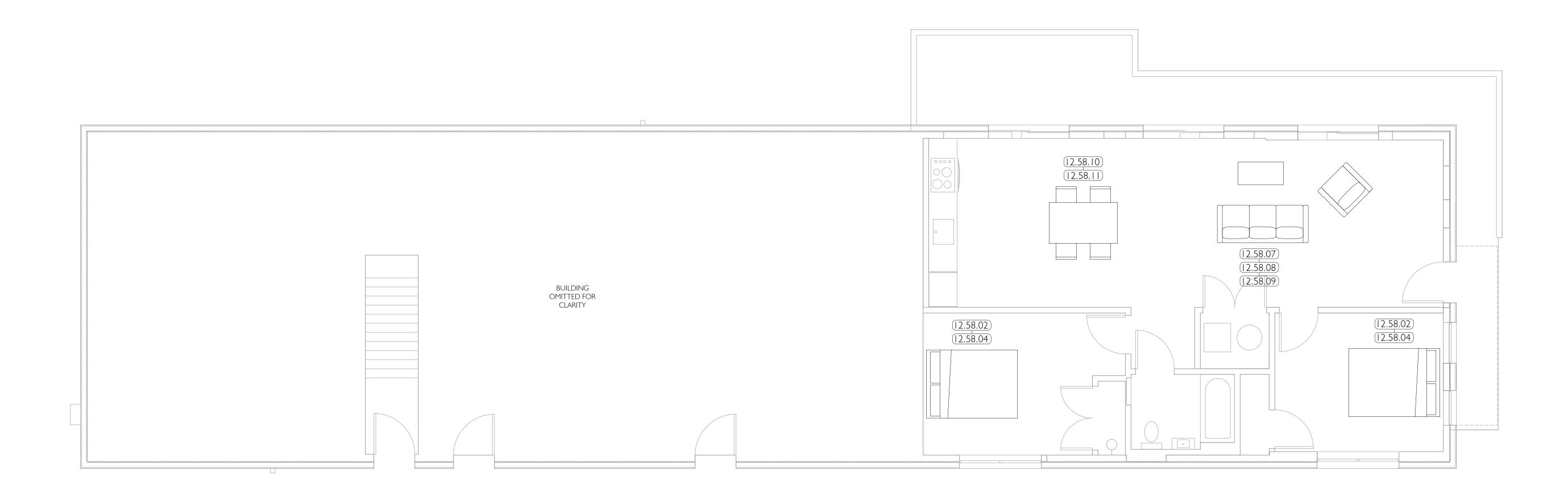
- ceiling mounted light
- recessed light
- 👉 🛮 ceiling fan
- → wall mounted light
- ── linear light
- radiant flooring duplex outlet
- USB / outlet combo
- quad outlet
- floor outlet
- \$ switch
- \$<sup>3</sup> 3 way switch
- \$\* dimmer switch
- electrical panel
- smoke / CO detector internet access point / data
- intercom
- Thermostat
- © security camera
- doorbell
- exit sign

#### **ABBREVIATIONS** DN down

- F refrigerator
  GFI ground fault interrupt
  R range
- range
- RD radiator MW microwave
- W/D washer/dryer
- ± verify in field PBO purchased by owner

- ISSUES:
- 01 04.05.23 BID 01
- david cunningham architecture planning 2023 ESSEX COUNTY FARMWORKER **HOUSING RENOVATION**
- Stables 10 Marks Road
- Westport NY 12993
- A-720
- APT 4: RCP
- SEAL | SIGNATURE:





Apt I Furniture Plan
Scale: I/4" = I'-0"

# **KEY NOTES** (refer to A-600 Furniture Schedule)

 12.58.02
 Bed Frame - Full XL

 12.58.04
 Mattress - Full XL

 12.58.07
 Sofa

 12.58.08
 Sofa Chair

 12.58.09
 Coffee Table

 12.58.10
 Dining Table

 12.58.11
 Chair

### ISSUES:

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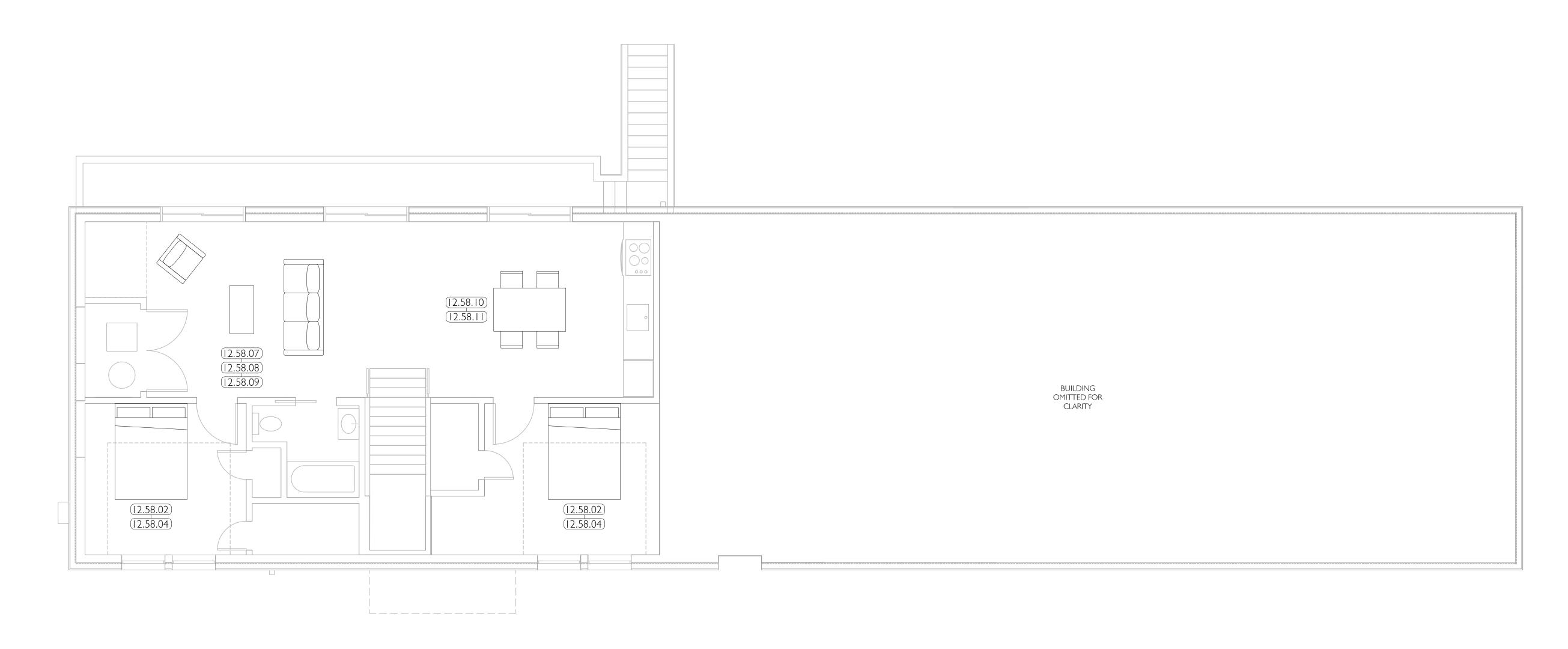
ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

A-810

APT 1: FURNITURE PLAN SEAL | SIGNATURE:





Apt 4 Furniture Plan
Scale: 1/4" = 1'-0"

**KEY NOTES** (refer to A-600 Furniture Schedule)

 12.58.02
 Bed Frame - Full XL

 12.58.04
 Mattress - Full XL

 12.58.07
 Sofa

 12.58.08
 Sofa Chair

 12.58.09
 Coffee Table

 12.58.10
 Dining Table

 12.58.11
 Chair

ISSUES:

A-820

SEAL | SIGNATURE:

01 04.05.23 BID 01

Stables 10 Marks Road Westport NY 12993

APT 4: FURNITURE PLAN

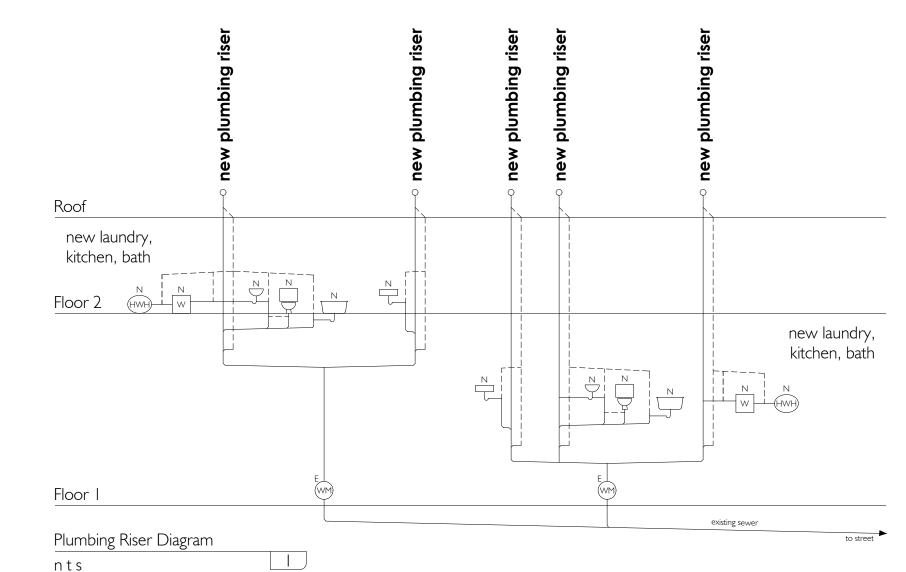
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ESSEX COUNTY FARMWORKER HOUSING RENOVATION

#### PLUMBING GENERAL NOTES

- 1) All plumbing work shall comply with the New York State Plumbing Code.
- 2) Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.
- 3) Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.
- 4) Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, and other items requiring firestopping.
- 5) Where piping penetrates floor, ceiling, or wall, close off space between pipe or duct and adjacent work with firestopping insulation and caulk airtight.
- 6) Plumbing Contractor shall coordinate final pipe and equipment elevations with other trades. Piping installations shall not interfere with space usage, lighting systems, electrical systems, or HVAC grilles and diffusers.
- 7) Coordinate temporary shutdown of plumbing systems with owner prior to performing work. Provide temporary services.
- 8) The Contractor for this work shall carefully inspect and acquaint themselves with all drawings in order to fully understand the work required. The Contractor shall field measure and verify all dimensions and conditions before proceeding with the work.

- 9) Piping layouts are diagrammatic and intended to show general arrangement, size, and capacity. All offsets are not necessarily shown. The plumbing Contractor shall arrange and coordinate the work, furnish necessary offsets, valves, vents, and fittings to avoid conflicts with other mechanical and electrical services and with structural and architectural elements.
- 10) The Contractor shall be responsible for the removal of debris generated by this work and workers at the end of each working day, for general good housekeeping by their workers, and shall supply debris container(s) or dumpster(s) as required.
- II) Refer to architectural plans for locations of fire walls and walls which require sealing. The plumbing Contractor shall be responsible for sealing all floor and wall penetrations with fire rated sealant before final payment.
- 12) The Contractor shall replace any piping system and components which do not pass testing procedures specified and retest repaired portions of the system.
- 13) The Contractor shall make final connections to all plumbing equipment and equipment supplied by others, including required faucets, stops, valves, fittings, traps, etc.
- 14) The Contractor shall provide and install all indirect waste piping.
- 15) The Contractor shall run all piping to avoid reinforcing and / or footings at all column lines.
- 16) Trap primers shall be provided and readily available as per local code for all floor drains with no water content.



**NOTE:** install drain waste vent to town sewer system and water piping to town water system for full bathroom and kitchen

## **DRAWINGS**

P-001.02 Plumb Riser Diagram + Notes P-110.00 Apt 1: Prop Plumbing Plan P-120.00 Apt 4: Prop Plumbing Plan

# MARKS R()A()

PLUMBI	NG FIX	TURE	SCHEE	DULE
FIXTURE	NUMBER	SIZE OF PLU	JMBING LINE	S
FIXTORE	INOLIBER	WASTE	VENT	COLD WATER
water closet	I	3"	2"	1/2"
lavatory	I	1½"	2"	1/2"
sink	2	1½"	2"	1/2"
shower	I	2"	2"	1/2"
washer / dryer	1	2"	2"	<u>ا</u> لا"

PIPE INSULATION	N SCHE	DULE						
		INSULATION	1	nominal pipe siz	Έ	N	nominal pipe siz	Έ
SYSTEM	FLUID TEMP	CONDUCTIVITY	<   "	to <   -   /2"	I-I/2" to <4"	<   "	I" to < I-I/2"	I-I/2" to <4"
		(BTU/IN)/(H*FT2*°F)	CODE REQU	JIRED MINIMUM	INSULATION	SPECIFIED	) INSULATION TI	HICKNESS
domestic hot water supply	110°F - 140°F	0.21 - 0.28	1"	I"	1-1/2"	I"	I"	1-1/2"
domestic cold water supply	45°F - 55°F	0.21 - 0.27	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
domestic hot water recirculation	95°F - 115°F	0.21 - 0.28	<u> </u> "	1"	1-1/2"	I"	1"	1-1/2"

## **STABLES**

## **ABBREVIATIONS**

existing HWH hot water heater LAV lavatory

N new W washer

WC water closet WM water meter

ISSUES:

01 04.05.23 BID 01

HOUSING RENOVATION

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Stables 10 Marks Road

Westport NY 12993

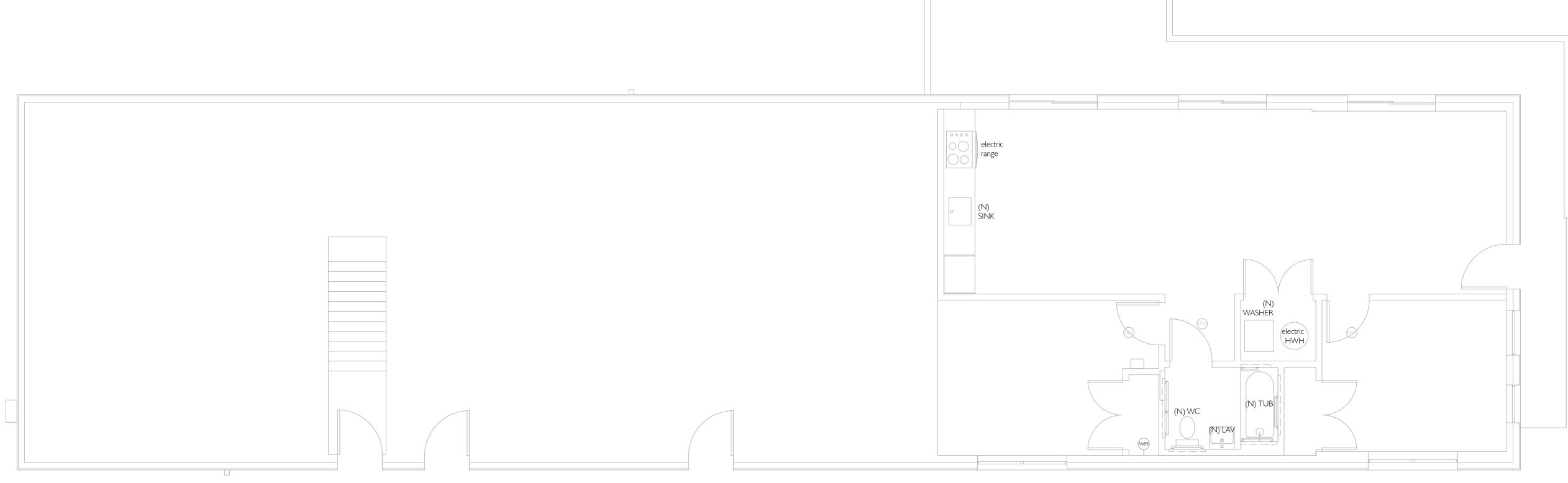
P-00 I

SEAL | SIGNATURE:

PLUMB RISER DIAGRAM + NOTES







Apt I Proposed Plumbing Plan

Scale: 1/4" = 1'-0"

## **STABLES**

# ABBREVIATIONS HWH hot water heater LAV lavatory (N) new WC water closet WM water meter

## ISSUES:

01 04.05.23 BID 01

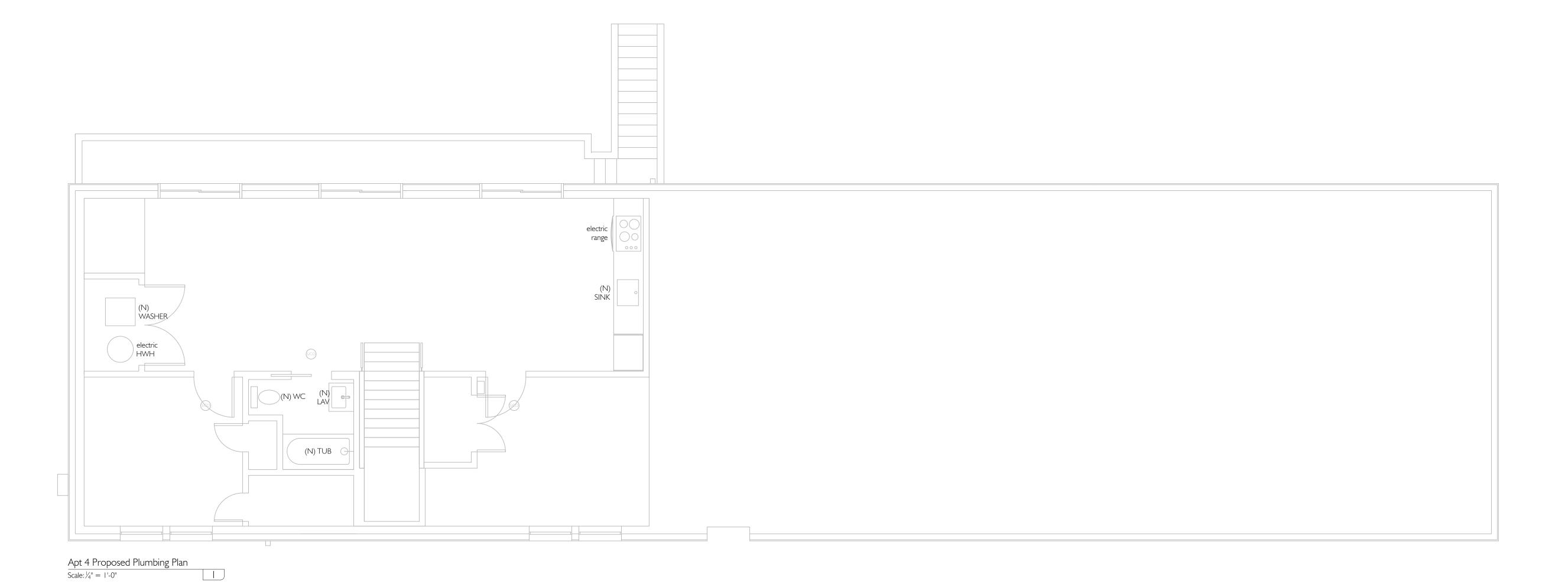
## david cunningham architecture planning 2023 ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

P-110

APT 1: PROP PLUMBING PLAN





ABBREVIATIONS

HWH hot water heater

LAV lavatory

(N) new

WC water closet

### ISSUES:

01 04.05.23 BID 01 david cunningham architecture planning 2023

ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

P-120

APT 4: PROP PLUMBING PLAN



# Essex Farmworker Housing Renovation STABLES

#### **DRAWING LIST**:

T-001 TITLE SHEET & GENERAL NOTES

DM-101 FIRST FLOOR DEMOLITION PLAN

DM-102 SECOND FLOOR DEMOLITION PLAN

DM-103 ROOF DEMOLITION PLAN

S-101 FIRST FLOOR FRAMING PLAN

S-102 SECOND FLOOR FRAMING PLAN

S-103 ROOF FRAMING PLAN

S-201 EXISTING AND PROPOSED ELEVATIONS

S-202 PROPOSED SECTIONS

S-301 TYPICAL DETAILS

#### SCOPE OF WORK

- 1. Reconfigure walls and openings per architectural drawings.
- 2. Raise deck railing.
- 3. Reinforce roof framing structure.
- 4. Reframe roof rafters and joists to support new dormer windows.
- 5. Repair or replace roofing and wall sheathing.
- 6. Repair or replace damaged structural wood members.

#### **STATEMENTS**

of New York State,

1. The construction documents herein comply with the 2020 Building Code of New York State.

	Floor	Level
Material	1st - 2nd	Roof
Wood Framing	8 Psf	5 Psf
Wood Sheathing	3 Psf	3 Psf
Floor Finish	4 Psf	-
Roofing	-	2 Psf
Hung Ceiling	10 Psf	-
Dead Load Total	25 Psf	10 Psf
Live Load	40 Psf	16 Psf
Snow Load	-	37.8 Psf
Wind Load	15 Psf	17 Psf
Total Load	65 Psf	47.8 Psf

#### FRAMING LUMBER

- All framing lumber shall conform to the following governing standards:
   A. American Institute of Timber Construction, "Timber Construction";
   B. National Forest Products Association, "National Design Specification for Wood Construction" latest edition.
- 2. Framing lumber shall be of the following minimum grade and species for the specified use. All lumber shall be grade-stamped by a recognized grading agency and shall be surface dry.

<u>Dimension Lumber</u> Joists and rafters: Douglas Fir Larch #2

Joists and rafters: Douglas Fir Larch #2 Studs and plates: Douglas Fir Larch Stud Grade

Heavy Timber

Posts and timbers: Douglas Fir Larch #1 Beams and stringers: Douglas Fir Larch #1

Manufactured Wood Products
Parallel strand lumber beams: T

Parallel-strand-lumber beams: Trus-Joist "Parallam" or approved equivalent. Joists: Trus-Joist "TJI" or approved equivalent.

- 3. Where framing lumber is flush-framed to Parallam, glulam, or steel girders, set the girders 1/4" clear below the top of lumber to allow for shrinkage.
- 4. Stud walls are to be 2x4 @ 16" o.c. at interior and 2x6 @ 16" o.c. at exterior.
- 5. All rafters and joists shall align directly with studs below. Install additional studs where required.
- 6. Use double studs at ends of walls and ends of wall openings.
- 7. Use double trimmers and headers at floor openings unless otherwise noted.
- 8. Lap all plates at corners and at intersections of partitions.
- 9. Unless otherwise noted, provide headers over all openings as follows:
  Interior walls: (2) 2x10s
  Exterior walls: (3) 2x10s
- 10. Unless otherwise noted, provide a built-up or solid post at the ends of all beams, headers, and girders. Post width shall be at least equal to the width of the member it supports and post depth is 4" at interior walls and 6" at exterior walls.
- 11. Provide cross-bridging or blocking at maximum 8'-0" o.c. for all joists. No joists shall be cut or notched without approval.
- 12. Blocking for floors or roofs framed with engineered wood products shall be timberstrand or equivalent framing member.

#### TIMBER CONNECTORS

- 1. Joist headers, cross-bridging, and connectors for wood construction shall be galvanized steel manufactured by United Steel Products, Simpson, or approved equivalent. Special nails supplied by manufacturer shall be used for required nailing.
- 2. Where joists are flush-framed to headers, use approved joist hangers or bridle irons.
- 3. All bolts shall be A307 grade. Steel plates at connections shall be 1/2" thick A36 steel grade, unless noted otherwise.
- 4. Hanger and bridging nailing schedule shall be as specified in Simpson strong tie connectors manual.
- 5. Unless otherwise noted, steel connectors such as those manufactured by Simpson company, shall be used to join rafters, trusses, joists, or beams to other members at flush-framed conditions. Hangers shall be of a size specifically designed for the member supported.
- 6. Unless otherwise noted, minimum plywood nailing requirements are:

Boundary 8d nails @ 4" on center
Panel edges 8d nails @ 6" on center
Intermediate supports 8d nails @ 12" on center

#### PLYWOOD

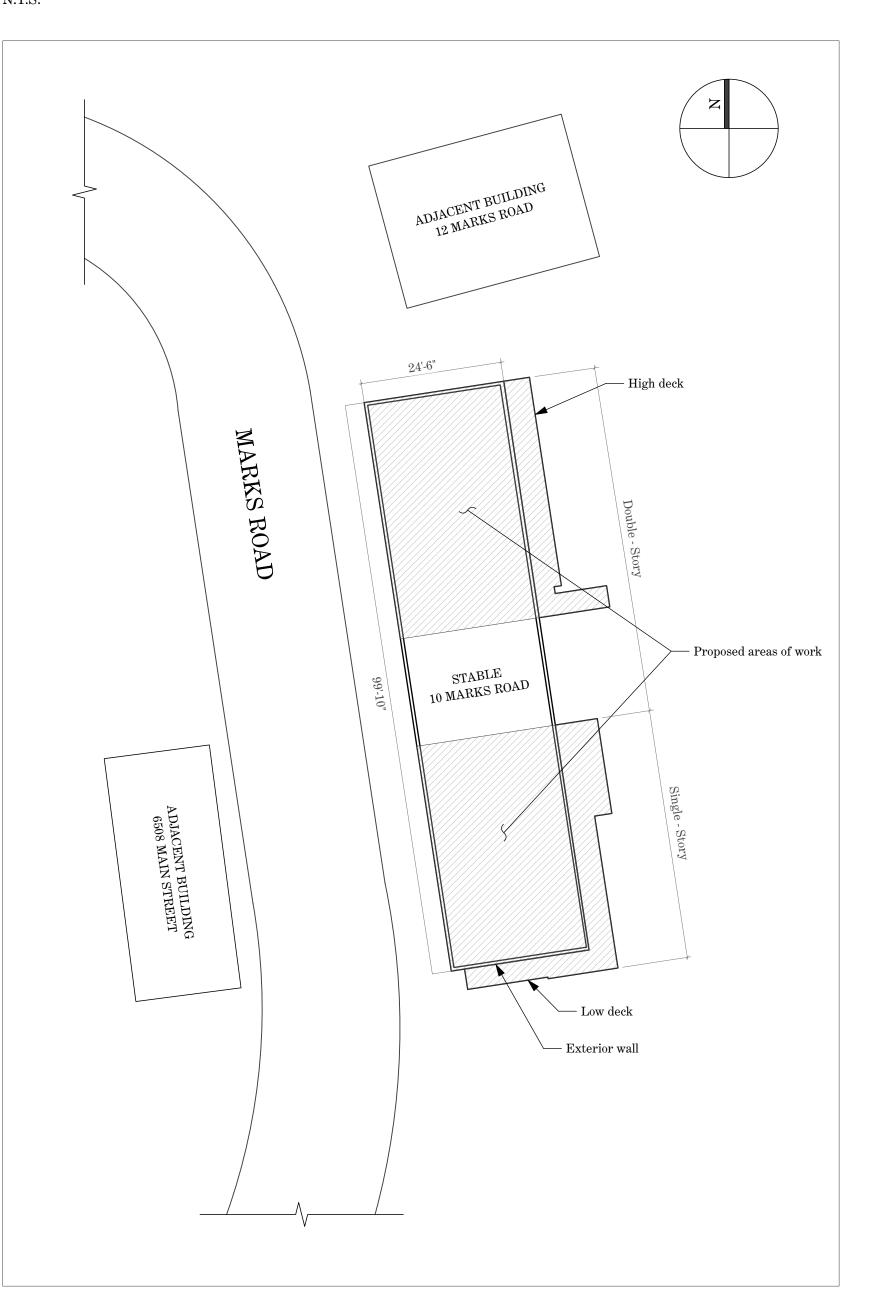
1. Plywood sheathing shall be APA grade stamped for the specified span, made with exterior glue, and be of the following thickness:

Roof: 5/8" (ext. grade)

Walls: 1/2" (ext. grade if exterior wall)

- 2. Index stamp shall be visible on all sheets.
- 3. All plywood shall be glue-nailed to floor joists an elastomeric construction adhesive that conforms to APA specification AFG-01 or ASTM D3498 (B.F. Goodrich PL400 or approved equal).
- 4. Use plyclips or other edge support as required for plywood sheathing.
- 5. Leave 1/16" space at all plywood panel end joints and 1/8" space at all panel edge joints.
- 6. Floor sheathing shall be installed continuous over two or more spans with the long dimension across supports.

## BUILDING KEY PLAN



#### STABLES

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Revisions

04/07/2023 Preliminary Bid Set

Professional's Seal



{Marie Ennis, P.

Essex County Farmworker Housing Renovation

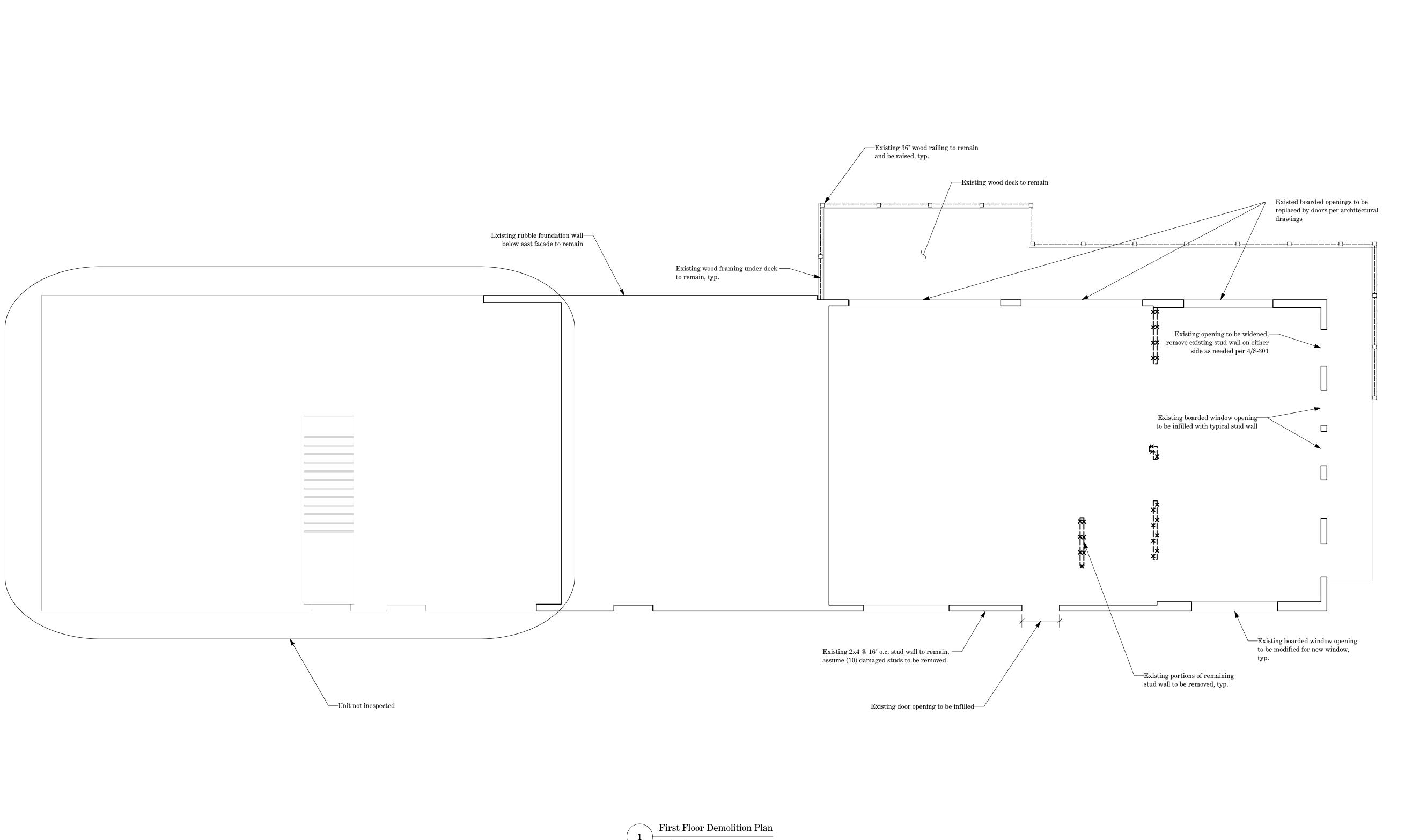
Stables 10 Marks Road Westport, NY 12993

#### Title Sheet & General Notes

Scale: No Scale
Issue Date: April 07, 2023
Drawn by: MM
Project #: J5066.01

Drawing No.

T-001.00
Sheet 01 of 10







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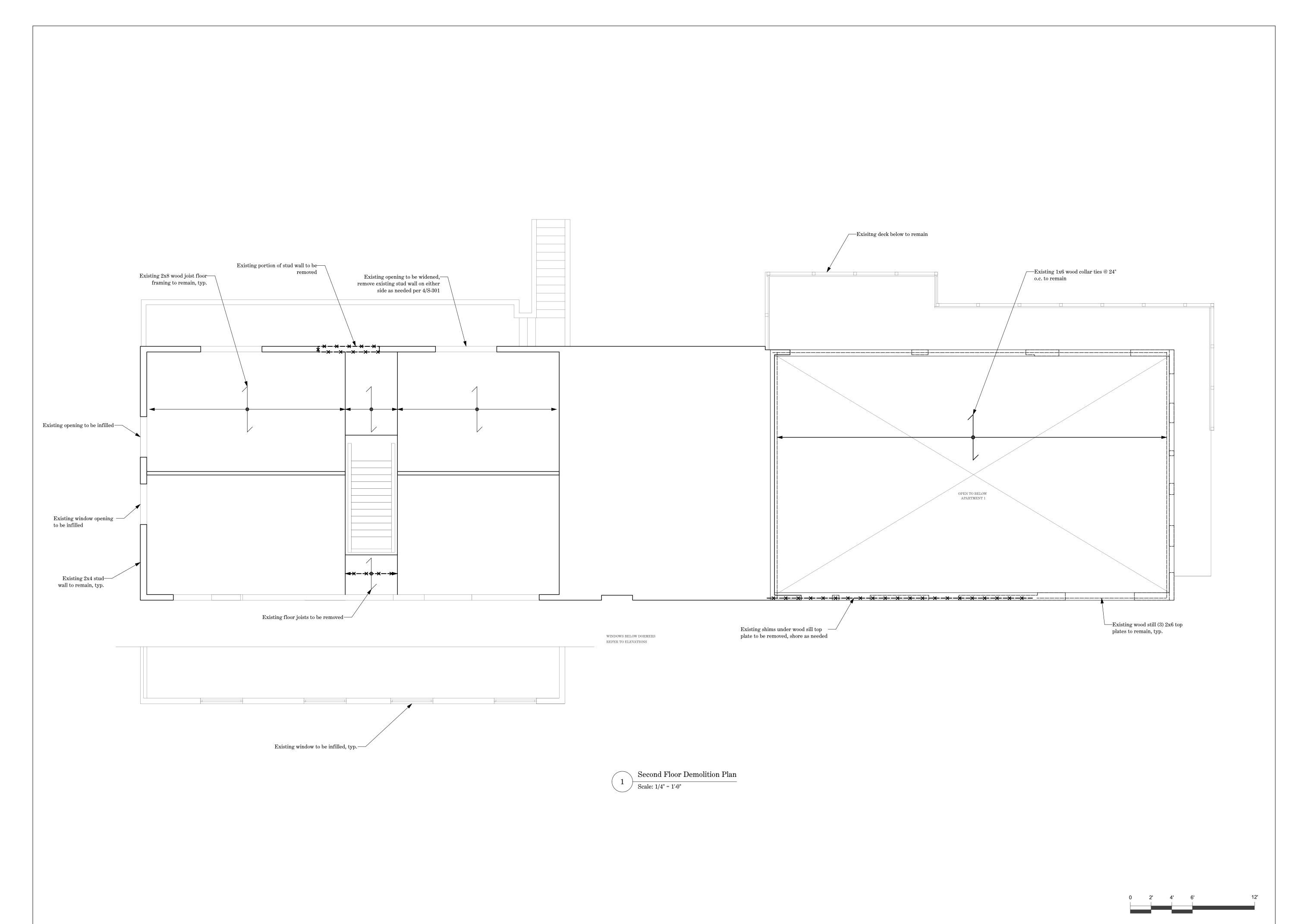
Stables 10 Marks Road Westport, NY 12993

First Floor Demolition Plan

Scale: 1/4" = 1'-0" Issue Date: April 07, 2023 Drawn by: MM Project #: J5066.01

> Drawing No. DM-101.00

> > Sheet 02 of 10





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Second Floor Demolition Plan

Scale: 1/4" = 1'-0"

Issue Date: April 07, 2023

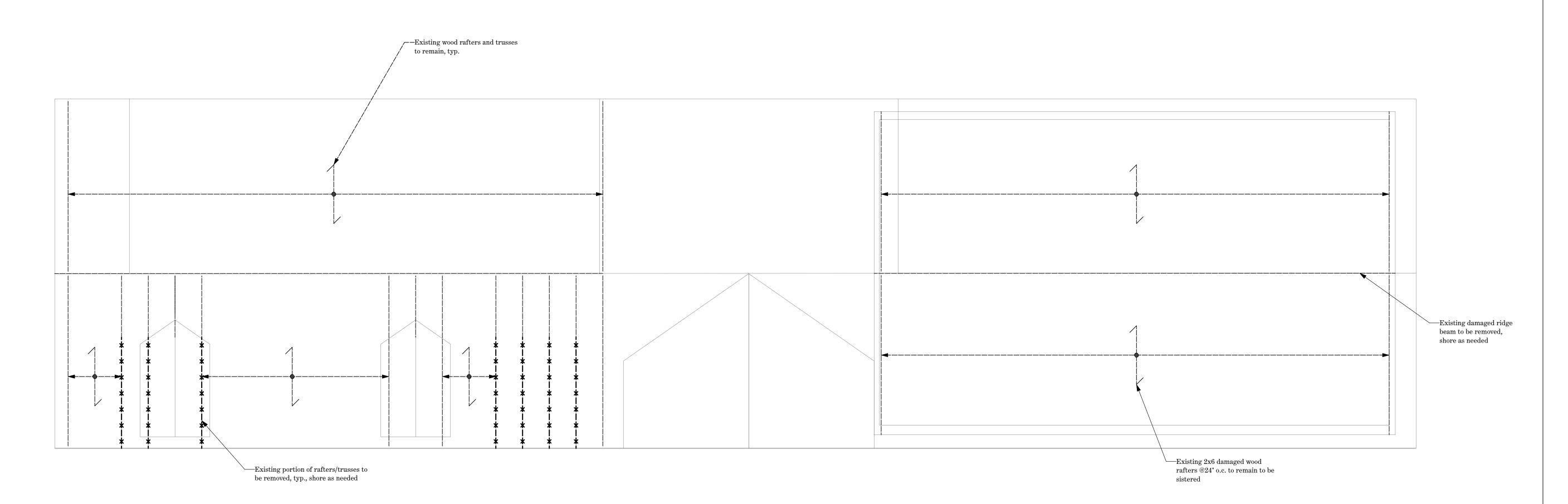
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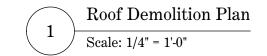
Project #: J5066.01

Drawing No.

DM-102.00

Sheet 03 of 10







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Housing Renovation

Stables 10 Marks Road Westport, NY 12993

Roof Demolition Plan

Scale: 1/4" = 1'-0"

Issue Date: April 07, 2023

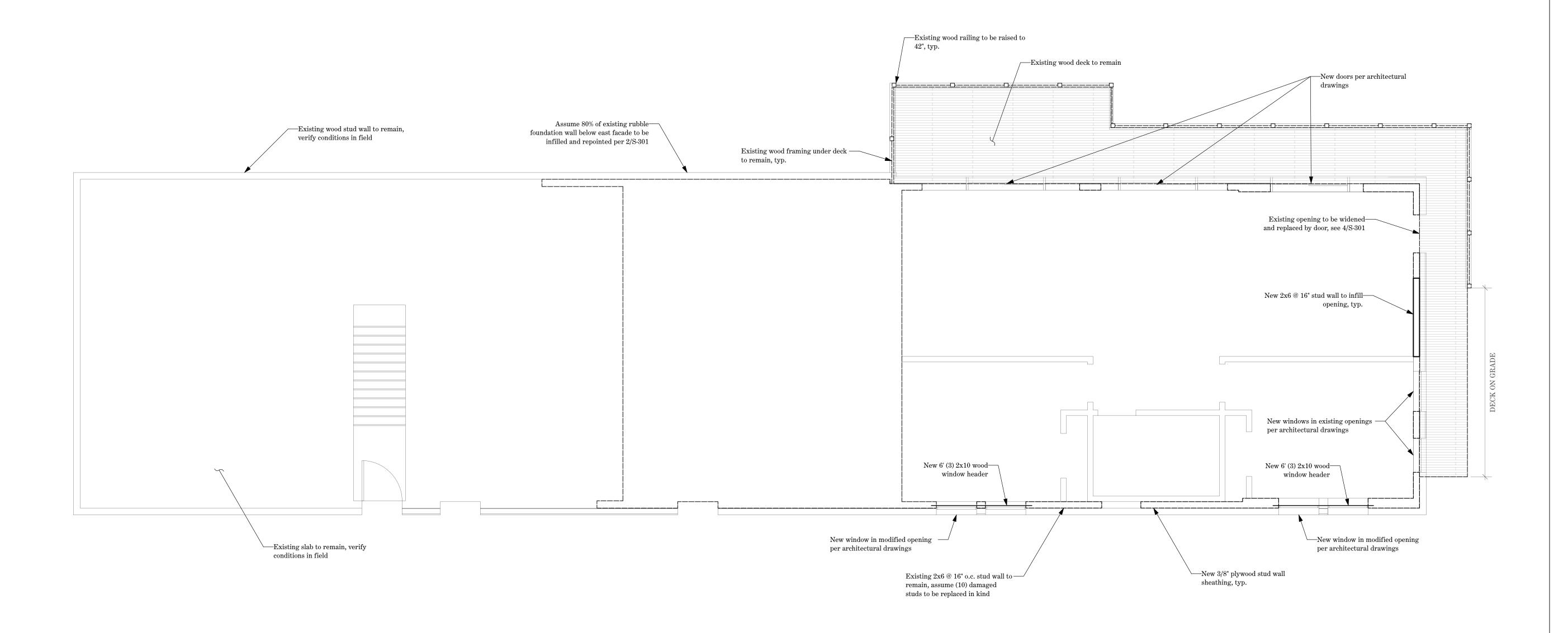
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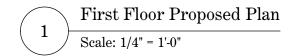
Project #: J5066.01

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Sheet 04 of 10

## CLEAN UP WALL AND OPENINGS!







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Stables 10 Marks Road Westport, NY 12993

First Floor Framing Plan

Scale: 1/4" = 1'-0"

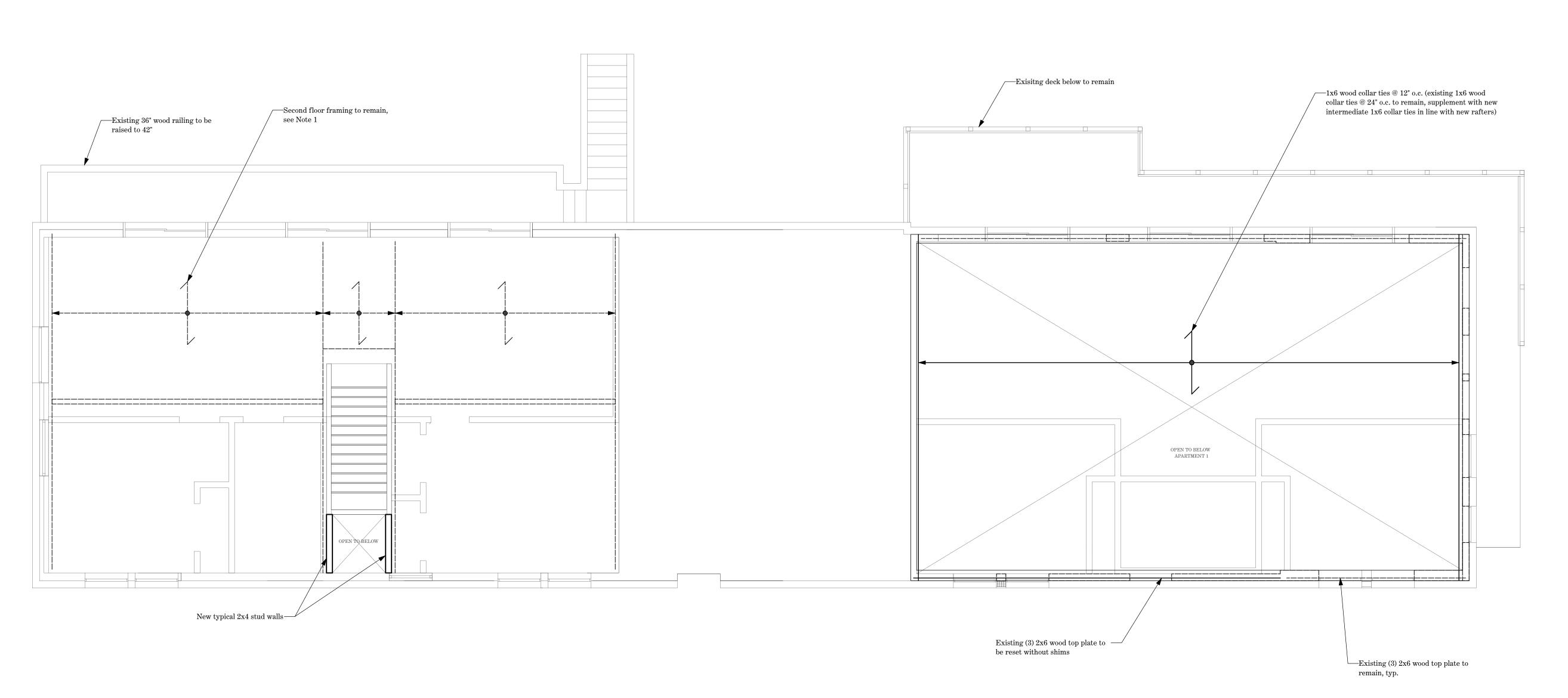
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Drawn by: MM

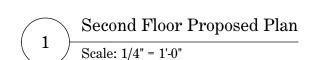
Project #: J5066.01

Drawing No. S-101.00

Sheet 05 of 10



1. Second floor framing does not need to be reinforced as long as joist spacing is not larger than 24" o.c.. Verify in field.





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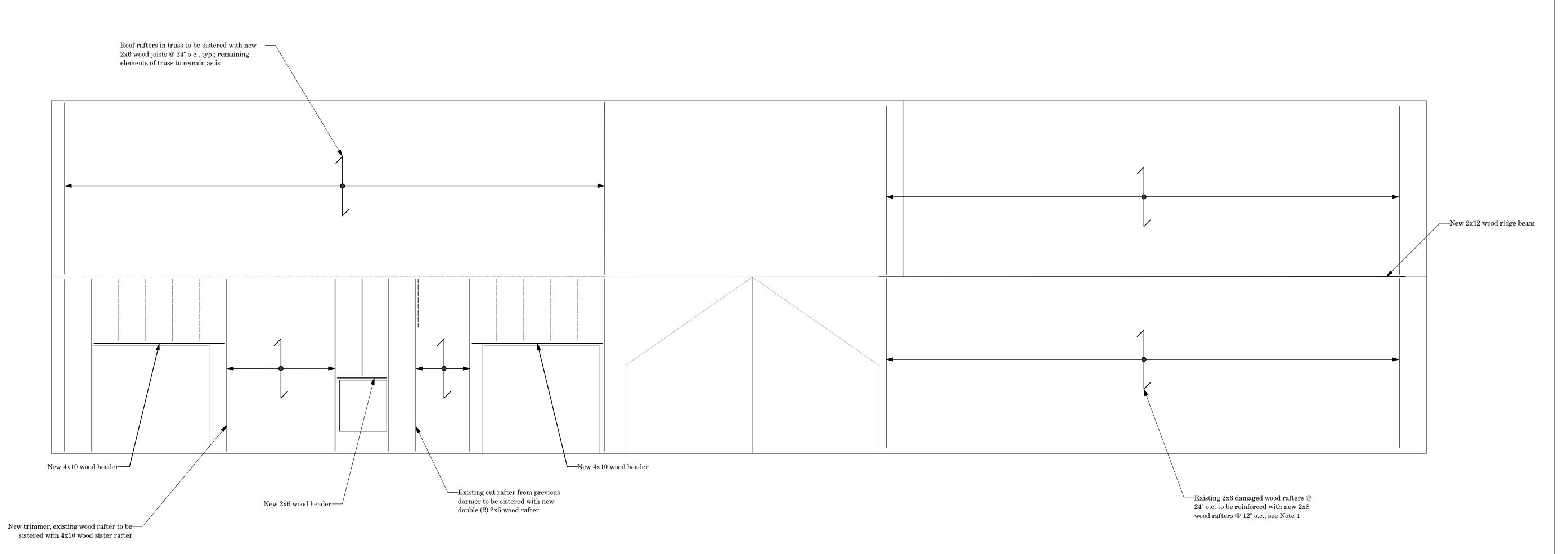
Stables 10 Marks Road Westport, NY 12993

Second Floor Framing Plan

Scale: 1/4" = 1'-0" Issue Date: April 07, 2023 Drawn by: MM Project #: J5066.01

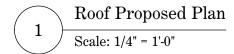
> Drawing No. S-102.00

Sheet 06 of 10



1. Each existing 2x6 wood rafter to be sistered with a new 2x8 wood rafter. Supplement with additional new 2x8 wood rafters in between the existing joists (12" from each).

Alternatively, all existing joists could be removed and replaced with new 2x8 wood rafters @ 12" o.c.





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Roof Framing Plan

Scale: 1/4" = 1'-0"

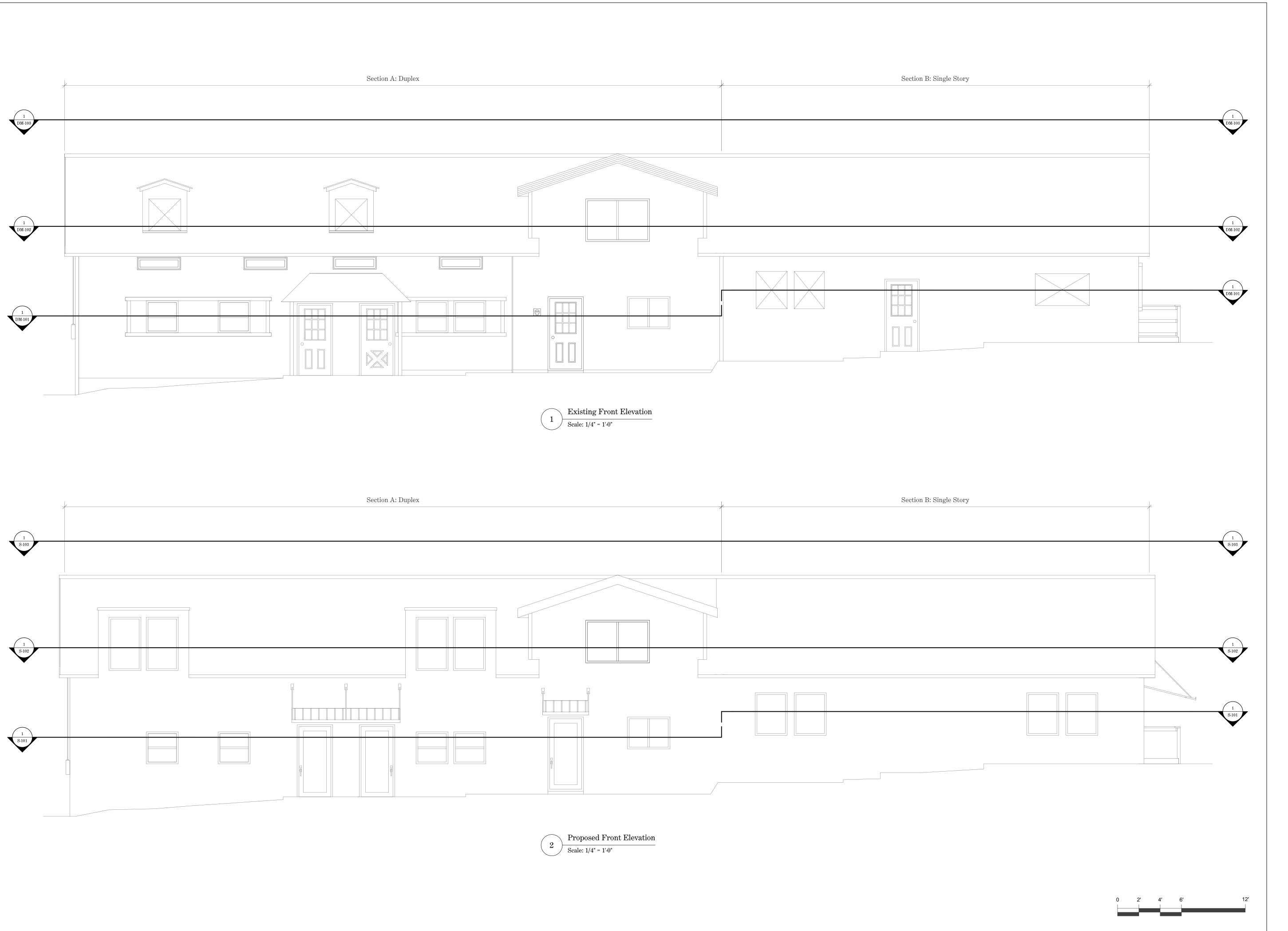
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Drawn by: MM

Project #: J5066.01

Drawing No. S-103.00

Sheet 07 of 10



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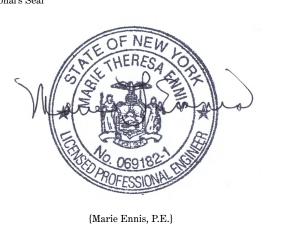
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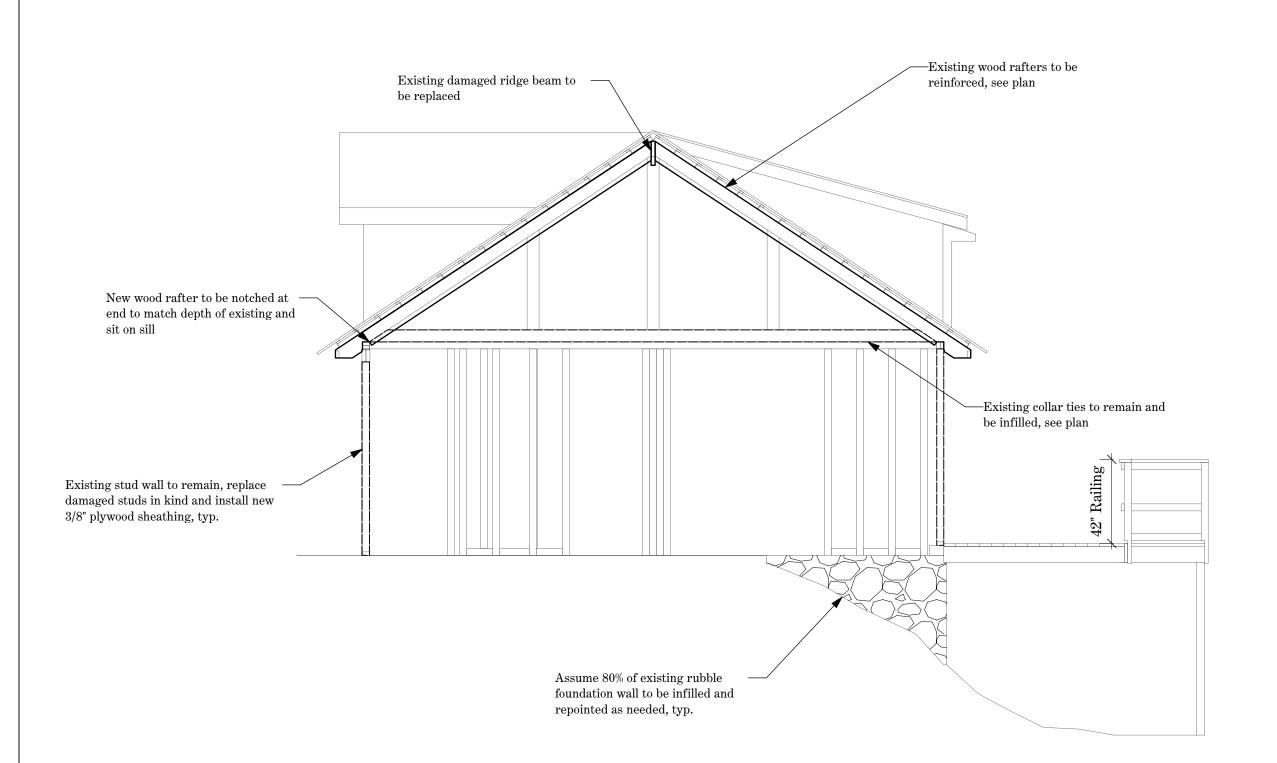
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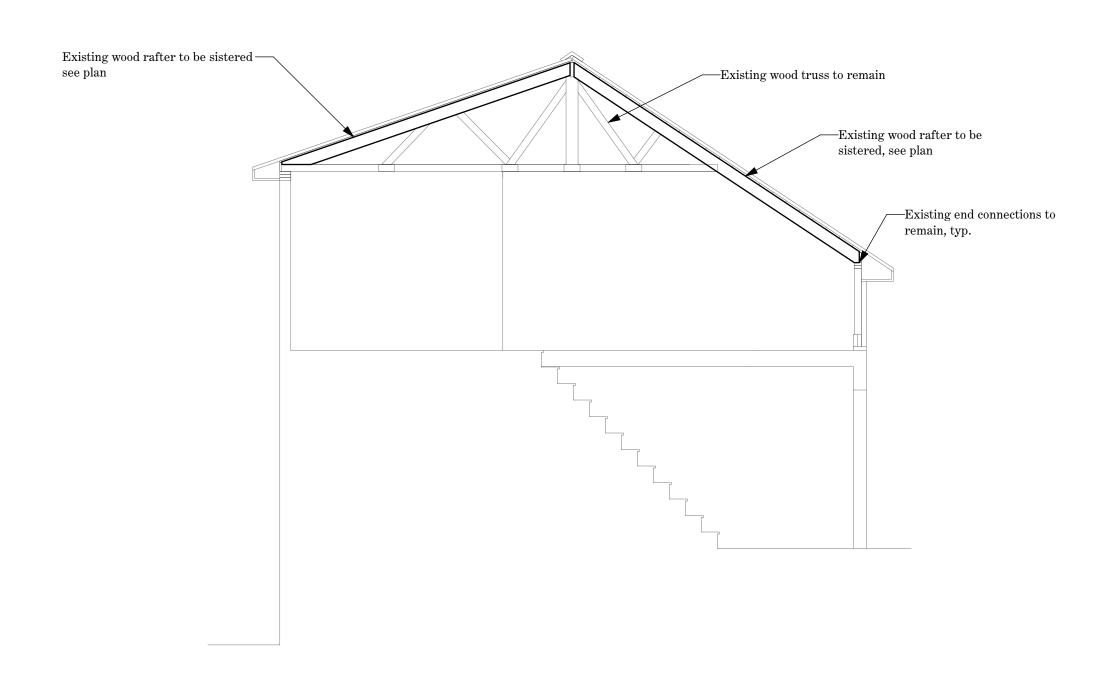
Existing and Proposed Elevations

Scale: 1/4" = 1'-0" Issue Date: April 07, 2023 Drawn by: MM Project #: J5066.01

Drawing No. S-201.00

Sheet 08 of 10





First Floor (Apt 1) Section
Scale: 1/4" = 1'-0"

Second Floor (Apt 4) Section

Scale: 1/4" = 1'-0"



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Proposed Sections

Scale: 1/4" = 1'-0"

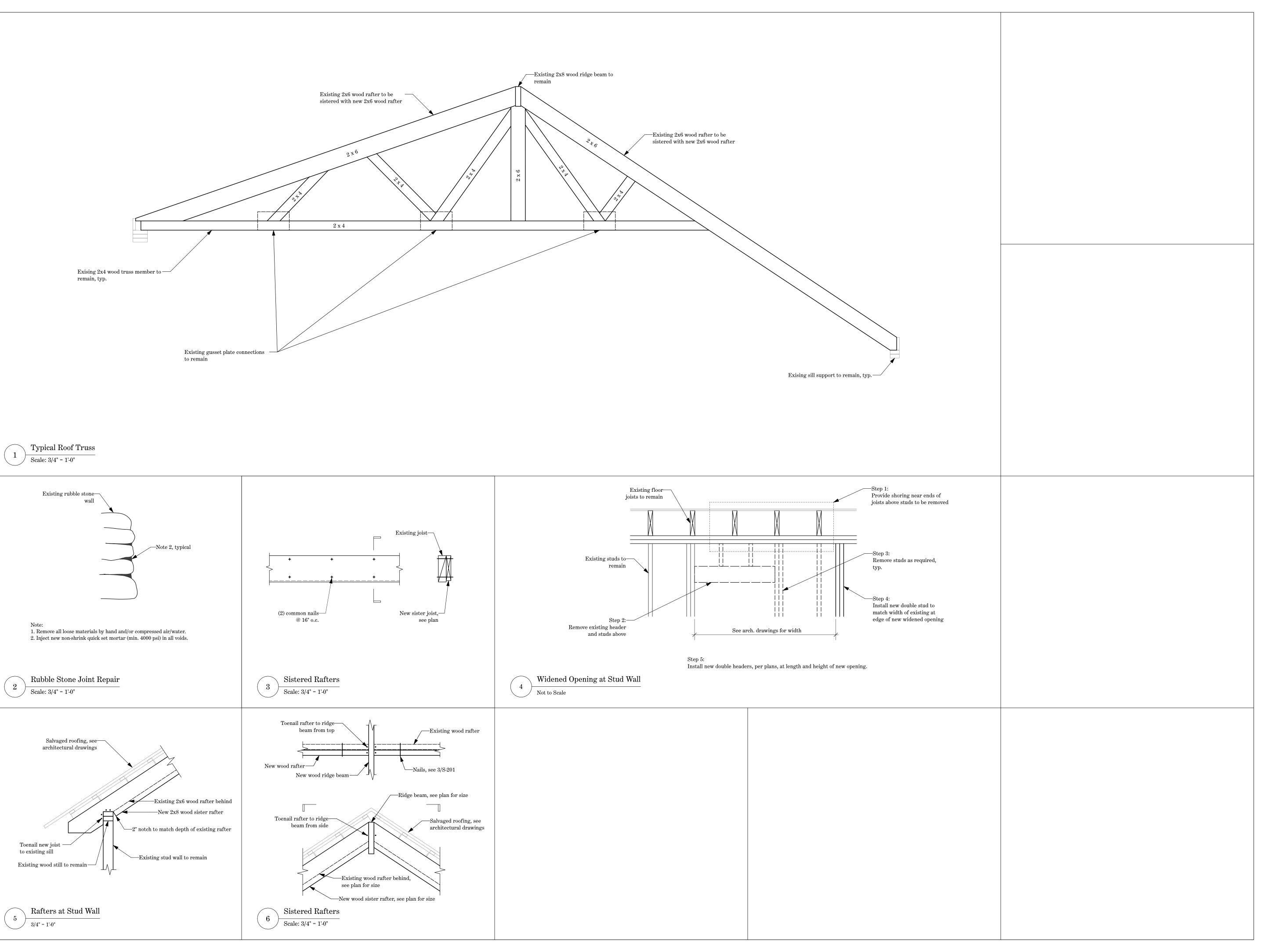
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Typical Details

Scale: 3/4" = 1'-0"

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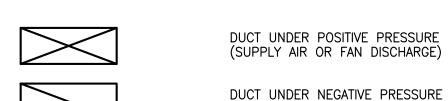
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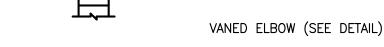
Drawing No. S-301.00

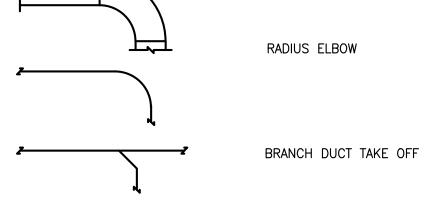
Sheet 10 of 10

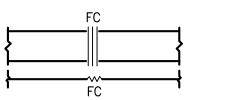
# LEGEND

	SINGLE LINE DUCTWORK - NEW
	SINGLE LINE DUCTWORK - EXISTING
<del>-× × × × × × × × × × × × × × -</del>	EXISTING DUCTWORK - DEMOLISH
	EQUIPMENT - NEW
	PIPING
	CONDENSATE PIPING
	DUCTWORK WITH ACOUSTIC LINING



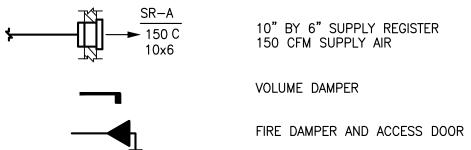






DUCT FLEXIBLE CONNECTION

(RETURN, EXHAUST OR OUTSIDE AIR)



10" BY 6" SUPPLY REGISTER

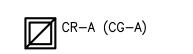
VOLUME DAMPER

AUTOMATIC DAMPER (ELECTRIC)

COMBINATION SMOKE AND FIRE DAMPER AND ACCESS DOOR



TYPE A CEILING DIFFUSER <u>CD-A</u> (400) 400 CFM SUPPLY AIR



TYPE A CEILING REGISTER (CEILING GRILLE)

THE SCALE OF THIS DRAWING IS CORRECT WHEN PRINTED ON 24x36 SIZE PAPER. ALL OTHER PAPER SIZES WILL NOT SHOW THE CORRECT SCALE.

SQUARE DIFFUSER WITH BLANKING PLATE THERMOSTAT TEMP SENSOR SMOKE DETECTOR STATIC PRESSURE SENSOR CARBON MONOXIDE DETECTOR CARBON DIOXIDE DETECTOR A - EQUIPMENT TYPE B - FLOOR/LOCATION C - EQUIPMENT DESIGNATION

# ABBREVIATIONS

A/AMP	AMPERE	EQ	EQUAL	PD	PRESSURE DROP
ACCU	AIR COOLED CONDENSING UNIT	(ER)	EXISTING TO BE RELOCATED	PSIG	PSI GAUGE
AD	ACCESS DOOR	EWB	ENTERING WET BULB	(R)	RELOCATED
AHU	AIR HANDLING UNIT	<b>•</b> F	DEGREES FAHRENHEIT	RA	RETURN AIR
BTU	BRITISH THERMAL UNIT	FA	FREE AREA (SQ. FT.)	REF	REFRIGERANT
BTUH	BTU PER HOUR	FC	FLEXIBLE CONNECTION	RG	RETURN GRILLE
CAD	CONDENSER AIR DISCHARGE	FD	FIRE DAMPER	RL	REFRIGERANT LIQUID
CAI	CONDENSER AIR INTAKE	FT	FEET	RLA	RUNNING LOAD AMPS
CD	CEILING DIFFUSER	HD	HEAD	RS	REFRIGERANT SUCTION
CFM	CUBIC FEET PER MINUTE	HR	HOUR	RM	ROOM
CG	CEILING GRILLE	HT	HEIGHT	SA	SUPPLY AIR
CLG	CEILING	IN	INCH OR INCHES	SP	STATIC PRESSURE
COD	CABLE OPERATED DAMPER	KW	KILOWATT	SPEC	SPECIFICATION
COND	CONDENSATE	LAT	LEAVING AIR TEMPERATURE	TEMP	TEMPERATURE
CP	CONDENSATE PUMP	LBS	POUNDS	TD	TRANSFER DUCT
CR	CEILING REGISTER	LD	LINEAR DIFFUSER	TG	TRANSFER GRILLE
CU FT	CUBIC FEET	LDB	LEAVING DRY BULB TEMPERATURE	TV	TURNING VANES
DB	DRY BULB	MBH	THOUSAND BTU PER HOUR	TYP	TYPICAL
(DE)	EXISTING TO BE REMOVED	MIN	MINIMUM	V	VOLTS
DIAM	DIAMETER	NFA	NET FREE AREA (SQ. FT.)	W	WIDTH
DWG	DRAWING	NO.	NUMBER	W/	WITH
(E)	EXISTING TO REMAIN	NTS	NOT TO SCALE	W/0	WITHOUT
EXH	EXHAUST AIR	OA	OUTSIDE AIR	WB	WET BULB
EAT	ENTERING AIR TEMPERATURE	OAI	OUTSIDE AIR INTAKE	WMS	WIRE MESH SCREEN
EDB	ENTERING DRY BULB TEMPERATURE	Р	PUMP		
ELEC	ELECTRIC	PC	PUMPED CONDENSATE		

# HEATING/COOLING LOAD CALCULATION AND EQUIPMENT SIZING NOTE:

ALL THE MECHANICAL EQUIPMENT SPECIFIED IN THIS DRAWING SET HAS BEEN DESIGNED TO SUFFICIENTLY HEAT AND COOL THE OCCUPIABLE AREAS OF THE BUILDING. REQUIRED HEATING AND COOLING DEMANDS HAVE BEEN CALCULATED IN ACCORDANCE WITH ASHRAE/ACCA 183, AND TAKE INTO ACCOUNT ALL BUILDING ENVELOPE, LIGHTING, VENTILATION & OCCUPANCY LOADS BASED ON THE PROJECT DESIGN. EQUIPMENT SELECTIONS WERE MADE TO MEET THE SYSTEM PEAK LOADS (HEATING OR COOLING).

# SCOPE OF WORK

MECHANICAL MODIFICATIONS TO INCLUDE HVAC REPLACEMENT AND REPLACEMENT OF ASSOCIATED DUCTWORK. NO CHANGE OF USE, OCCUPANCY OR EGRESS UNDER THIS APPLICATION.

# ENERGY COMPLIANCE STATEMENT

THE PROPOSED MECHANICAL DESIGN REPRESENTED IN THIS DOCUMENT IS CONSISTENT WITH THE BUILDING PLANS, SPECIFICATIONS AND OTHER CALCULATIONS SUBMITTED WITH THIS PERMIT APPLICATION. THE PROPOSED MECHANICAL SYSTEMS HAVE BEEN DESIGNED TO MEET THE 2020 ECCCNYS AND TO COMPLY WITH THE MANDATORY REQUIREMENTS SET FORTH.

EP ENGINEERING SHALL NOT HAVE CONTROL OVER, CHARGE OF, OR RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, NOR SHALL THE CONSULTANT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. EP ENGINEERING HAS NO DUTY TO SPECIFY IN ITS DESIGN COVID 19 MEASURES, AND NO DUTY TO INVESTIGATE, OBSERVE, MONITOR OR REPORT ANY FAILURE OF ANY CONTRACTOR OR OTHER THIRD PARTY TO FOLLOW ALL COVID 19 GUIDELINES OR REQUIREMENTS ASSOCIATED WITH THE PROJECT.

#### TABLE M1505.4.3(1) CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT			NUMBER OF BEDROOMS				
FLOOR AREA	0 – 1	2 – 3	4 – 5	6 – 7	> 7		
(square feet)			Airflow in CFM	M			
< 1,500	30	45	60	75	90		
1,501 - 3,000	45	60	75	90	105		
3,001 – 4,500	60	75	90	105	120		
4,501 - 6,000	75	90	105	120	135		
6,001 - 7,500	90	105	120	135	150		
> 7,500	105	120	135	150	165		

2,000 SQFT HABITABLE AREA 4 BEDROOMS 100 CFM OF CONTINUOUS AIRFLOW PROVIDED -

# **STABLES**

#### CLIENT

Essex County 7551 Court Street P.O. Box 217 Elizabethtown, NY 12932 518.873.3895

#### **ARCHITECT**

david cunningham architecture planning pllc 543 Union Street Suite IC Brooklyn NY 11215 718.208.0815

#### **ASSOCIATE ARCHITECT**

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#### **ENGINEER: STRUCTURAL**

Old Structures Engineering 90 Broad Street Suite 1501 New York NY 10004 212.244.4546

### **ENGINEER: MEP**

EP Engineering LLC 110 William Street 32nd Floor New York NY 10038 212.257.6190

# DRAWING LIST

M-100.00 MECHANICAL SYMBOLS, NOTES & ABBREVIATIONS M-300.00 MECHANICAL CONSTRUCTION PLAN - 1ST FLOOR M-301.00 MECHANICAL CONSTRUCTION PLAN - 2ND FLOOR

M-600.00 MECHANICAL SCHEDULES

M-700.00 MECHANICAL DETAILS

M-800.00 MECHANICAL SPECIFICATIONS (1 OF 3)

M-801.00 MECHANICAL SPECIFICATIONS (2 OF 3)

M-802.00 MECHANICAL SPECIFICATIONS (3 OF 3)

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david cunningham architecture planning 2023

#### ESSEX COUNTY FARMWORKER HOUSING RENOVATION

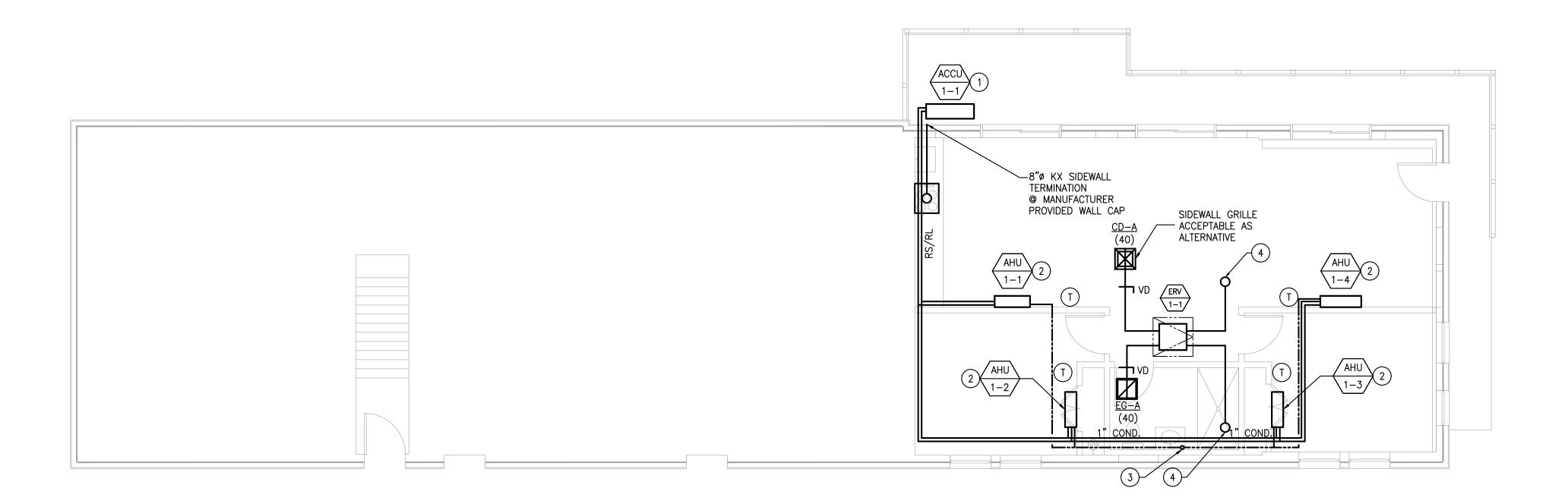
Stables 10 Marks Road

Westport NY 12993 M-100.00

MECHANICAL SYMBOLS, NOTES & **ABBREVIATIONS** 

SEAL | SIGNATURE:







IT IS A VIOLATION FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM ON THIS PLAN IN ANY WAY PURSUANT TO NYS EDUCATION LAW. SECOND 7209(2). IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THIS ITEM HIS OR HER WHOLE OR IN PART, SHALL BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF EP ENGINEERING, LLC. THIS DOCUMENT IS INTENDED SOLELY FOR THE CONSTRUCTION OF APPLICATION SHEET. ALL OTHER MATTERS ARE NOT TO BE RELIED UPON, OR TO BE WHOLE OR IN PART, SHALL BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF EP ENGINEERING, LLC. THIS DOCUMENT IS INTENDED SOLELY FOR THE CONSTRUCTION OF APPLICATION SHEET. ALL OTHER MATTERS ARE NOT TO BE RELIED UPON, OR TO BE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. THE SCALE OF THIS DRAWING IS CORRECT WHEN PRINTED ON 24x36 SIZE PAPER. ALL OTHER PAPER SIZES WILL NOT SHOW THE CORRECT SCALE.

THE PROJECT NAMED HEREIN AND SHALL NOT BE USED BY ANY OTHER PARTIES FOR ANY OTHER CONSTRUCTION WITHOUT THE WRITTEN CONSENT OF EP ENGINEERING, LLC. CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

### PLAN NOTES

#### 1. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.

- 2. DRAWINGS ARE DIAGRAMMATIC. DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD. RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
- 4. NEITHER ACCURACY NOR COMPLETION OF SERVICES AND UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING SERVICES AND UTILITIES IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
- 5. MANUFACTURERS MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.

3. COORDINATE THIS WORK WITH THAT OF OTHER TRADES.

- 6. PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS RECOMMENDATIONS.
- 7. PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC
- 8. PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
- 9. SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
- 10. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. MECHANICAL CONTRACTOR TO NOTIFY OWNER PRIOR TO STARTING WORK TO VERIFY COMPLIANCE WITH BOND AND WARRANTY OF EXISTING ROOF.
- 11. RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED AND CLEAR OF CEILING INSERTS.
- 12. INSTALL THERMOSTATS 4'-0" ABOVE FINISHED FLOOR OR ABOVE LIGHT SWITCH WHEN IN ENCLOSED ROOMS. COORDINATE FINAL LOCATION WITH ARCHITECT.
- 13. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES.
- 14. ALL EXPOSED DUCTWORK SHALL BE SPIRAL OVAL WITH 1.5" INTERNAL INSULATION. COORDINATE FINISH WITH ARCHITECT.
- 15. INTERNAL AIRFLOW DIMENSIONS ARE SHOWN FOR DUCTS. INCREASE DUCT SIZE AS NECESSARY TO MAINTAIN FREE FLOW AREA INDICATED. USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES. 16. PROVIDE 36" CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS ON
- MECHANICAL EQUIPMENT PER N.E.C. AND MFG. REQUIREMENTS. 17. DUCTWORK SHALL NOT RUN OVER ELECTRICAL PANELS. COORDINATE WITH ELECTRICAL DRAWINGS.
- 18. PROVIDE WELDED STAINLESS STEEL DRIP PAN BELOW ALL PIPING RUNNING ABOVE ELECTRICAL ROOM.
- 19. PITCH CONDENSATE PIPING 1/8" PER 12" IN DIRECTION OF FLOW.
- 20. PROVIDE TRAPS IN CONDENSATE LINES THAT EXTEND OVER 2".
- 21. PROVIDE SHEET METAL AND PIPING SHOP DRAWINGS TO ENGINEER/ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWING SHALL BE FULLY COORDINATED WITH ALL EXISTING CONDITIONS AND NEW WORK FOR ALL TRADES.

### KEY NOTES

- (1) AIR COOLED CONDENSING UNITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, WITH MAINTENANCE CLEARANCES MAINTAINED AS SHOWN. UNITS SHALL BE MOUNTED ON STEEL DUNNAGE OR EQUIPMENT RAILS, WITH SPRING ISOLATORS SIMILAR TO MASON INDUSTRIES SLR (1" DEFLECTION SPRING MOUNTS). SEE STRUCTURAL PLANS FOR MORE INFORMATION. UNITS SHALL BE INSTALLED ABOVE SNOW LINE, AT LEAST 12" ABOVE ROOF SURFACE (18" RECOMMENDED).
- (2) WALL MOUNTED AIR HANDLING UNIT TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. SIZE AND CONNECT INSULATED RS/RL PER MANUFACTURER'S SPECIFICATIONS. BASED ON ACTUAL INSTALLATION. ROUTE 1" CD TO NEAREST INDIRECT WASTE LINE BEHIND SINK. CONDENSATE TO BE CPVC. FOR UNITS THAT CANNOT BE DRAINED BY GRAVITY, PROVIDE BLUE DIAMOND MICROBLUE CONDENSATE PUMP TO BE INSTALLED WITHIN UNIT CASING. COORDINATE INSTALLATION WITH MANUFACTURER. PROVIDE DRAIN PAN LEVEL SENSOR IN INTERNAL PAN WIRED TO SHUT DOWN UNIT UPON SENSING A LEAK.
- (3) PROVIDE INDIRECT DRAIN IN WALL BEHIND SINK FOR CONDENSATE DRAINAGE.
- (4) 6"ø DUCT UP TO GOOSENECK TERMINATION AT ROOF. INTAKE AND EXHAUST TERMINATIONS TO HAVE MINIMUM 10' SEPARATION AT ROOF.

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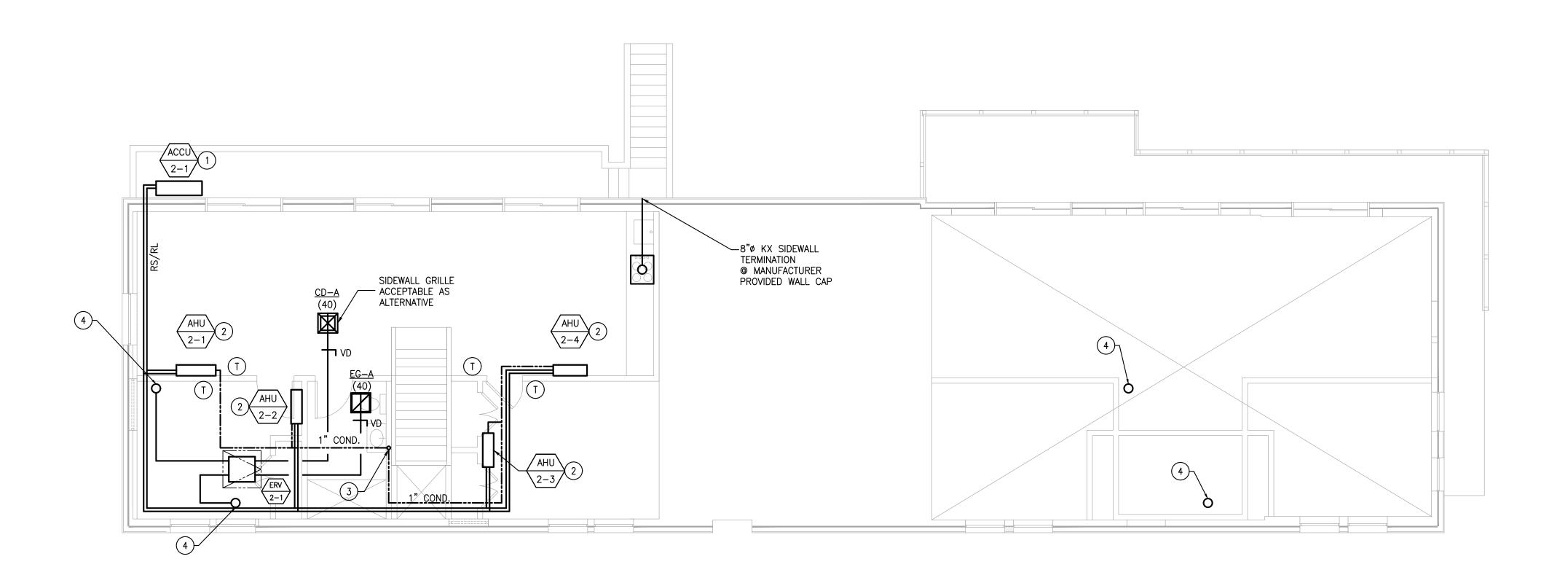
#### ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road Westport NY 12993

M-300.00 MECHANICAL CONSTRUCTION PLAN

- IST FLOOR SEAL | SIGNATURE:







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david cunningham architecture planning 2023

# ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road

Westport NY 12993

M-301.00

MECHANICAL CONSTRUCTION PLAN

2ND FLOOR

SEAL | SIGNATURE:

|----



														SPL	IT AIR	-CONDI	TIONING UNI	TSCHED	ULE - BAS	ED ON M	ITSUBI	SHI/TRA	N E								
										EVA	PORATOR														CONDE	NSING UNIT					
UNIT NO.	SUF	JPPLY F	AN		ELECTRIC	AL DATA		MOUNTING TYPE		EAT	TOTA COOL	ING	SOUND (DE H/N	3A)	HEATING CAPACITY (MBH)	WEIGHT (LBS)	MODEL	DIMENSIONS LxHxW	UNIT NO.	E	LECTRICAL DA	NTA	COOLING CAPACITY	HEATING CAPACITY	HEATING CAPACITY  —11°F	APPROX. WEIGHT	SOUND DATA	MODEL	EFFICIENC	Υ	DIMENSION S LxWxH
	CFM RANGE	ESF	, QTA	V/F	PH/HZ	МСА	МОР		DB (°F)	WB (°	F) (MBI	H)								V/PH/HZ	MCA	МОР	(MBH)	(MBH)	(MBH)	(LBS)	(DBA)		EER/SEER	СОР	(INCHES)
<u>AHU-1-4</u>	440	_	1	208	/1/60	0.2	15	WALL	80	67	18		46 4	0 31	20	28.4	TPKFYP018LM140A	36x12x10													
<u>AHU-1-1</u>	237	_	1	208	/1/60	0.2	15	WALL	80	67	8	,	35 2	9 22	9	24.5	TPKFYP008LM140A	31x12x10	ACCII 1 1	208 /1 /60	7.0	40	40	5.4	40.5	070	F0	NITVACHAGAAGGAA	17.1/07.0	4.0	40.47.57
<u>AHU-1-2</u>	237	_	1	208	/1/60	0.2	15	WALL	80	67	8	,	35 2	9 22	9	24.5	TPKFYP008LM140A	31x12x10	ACCU-1-1	208/1/60	36	40	48	54	40.5	278	52	NTXMSH48A182AA	13.1/23.0	4.0	42x13x53
<u>AHU-1-3</u>	237	_	1	208	/1/60	0.2	15	WALL	80	67	8		35 2	9 22	9	24.5	TPKFYP008LM140A	31x12x10													
AHU-2-1	440	_	1	208	/1/60	0.2	15	WALL	80	67	18		46 4	0 31	20	28.4	TPKFYP018LM140A	36x12x10													
<u>AHU-2-2</u>	237	_	1	208	/1/60	0.2	15	WALL	80	67	8	,	35 2	9 22	9	24.5	TPKFYP008LM140A	31x12x10	ACCH_2_1	208/1/60	36	40	40	54	40.5	278	52	NTXMSH48A182AA	13.1/23.0	4.0	42x13x53
<u>AHU-2-3</u>	237	_	1	208	/1/60	0.2	15	WALL	80	67	8		35 2	9 22	9	24.5	TPKFYP008LM140A	31x12x10	ACCU-2-1	200/1/00	30	40	48	34	40.5	2/0	52	INTAMORITO ZAA	13.1/23.0	4.0	42X13X33
AHU-2-4	237	_	1	208	/1/60	0.2	15	WALL	80	67	8		35 2	9 22	9	24.5	TPKFYP008LM140A	31x12x10													

7. TRANE/MITSUBISHI CONTACT: ERIC AZOULAY; 347.287.5970; ERIC.AZOULAY@TRANETECHNOLOGIES.COM

NOTES:
1. INDOOR UNITS SHALL HAVE FACTORY WALL MOUNTED, PROGRAMMABLE THERMOSTATS, DISCONNECT SWITCHES, FACTORY SUPPLIED INTEGRAL DRIP PANS AND DRAIN PAN LEVEL

SENSORS, INTEGRAL CONDENSATE PUMPS, AND HANGERS.

2. PROVIDE 7-YEAR WARRANTY ON COMPRESSOR AND 1-YEAR WARRANTY ON PARTS. 3. PROVIDE HEADERS AND OTHER REFRIGERANT PIPING ACCESSORIES AS REQUIRED BY THE MANUFACTURER.

4. ALL CONDENSERS TO BE PROVIDED WITH BASIN HEATERS.

5. ALL EQUIPMENT SHALL BE ENERGY STAR CERTIFIED.

6. CONDENSING UNITS SHALL BE MOUNTED ON STEEL DUNNAGE OR EQUIPMENT RAILS, WITH SPRING ISOLATORS SIMILAR TO MASON INDUSTRIES SLR (1" DEFLECTION SPRING MOUNTS). SEE STRUCTURAL PLANS FOR MORE INFORMATION. UNITS SHALL BE INSTALLED ABOVE SNOW LINE, AT LEAST 18" ABOVE ROOF SURFACE.

	ENERGY REC	OVER	Y VENTIL	ATOR SC	HEDUL	LE - REN	IEWAI	RE	
			THERMAL FEFE	CTIVENESS (%)	FLOW	ELECTRICA (SUPPLY/I			BASE UNIT
UNIT NO.	RENEWAIRE MODEL NUMBER	TYPE	1112111111111		FLOW RATE (CFM)	V/PH/HZ	POWER	WEIGHT (LBS)	DIMENSIONS HxWxD (IN)
			WINTER	SUMMER		V/FH/HZ	(W)		(111)
ERV-1/2-1	EV PREMIUM SH	CEILING	80	68	40	208/1/60	42	48	10x23x24
	•					!	•		•

1. PROVIDE W/FLEXIBLE DUCT CONNECTIONS AND DISCONNECT SWITCH. 2. ERVS SHALL BE PROVIDED WITH BACKDRAFT & AUTOMATIC BALANCING DAMPER.

3. ERVS SHALL OPERATE CONTINUOUSLY DURING HOURS OF OPERATION.

# EQUIPMENT IS SPECIFIED AS BASIS OF DESIGN. APPROVED ALTERNATIVES ARE ACCEPTABLE.

		DIFFUSE	RSCHE	DULE - BA	SED ON A	NEMOSTA	A <i>T</i>	
DESIGNATION	FUNCTION	TYPE	MOUNTING	NECK SIZE INCHES	OVERALL DIMENSIONS	CFM RANGE	NOISE CRITERIA	MODEL
				6" ø		0 - 150		
00 4	OLIDBIA	015511055		8" ø	407 407	151 – 275	. 05 110	DO DADAGON
<u>CD-A</u>	SUPPLY	DIFFUSER	LAY-IN	10" ø	18" X 18"	276 - 400	< 25 NC	PG PARAGON
				12" ø		401 - 600		
EG-A	RETURN	DIFFUSER	LAY-IN	15" ø	18" X 18"	_	< 25 NC	PG PARAGON

1. ARCHITECT TO APPROVE BORDER TYPE, STYLE, COLOR AND FINISH PRIOR TO PURCHASING.

2. ALL REGISTERS LOCATED IN ROOMS THAT WILL EXPERIENCE HIGH HUMIDITY SHALL BE ALUMINUM CONSTRUCTION.

3. EXHAUST AND RETURN GRILLES SHALL BE 45° DEFLECTION.

4. ALL AIR OUTLETS/INLETS TO BE PROVIDED WITH VOLUME DAMPERS. PROVIDE CABLE OPERATED DAMPERS FOR INACCESSIBLE CEILINGS.

5. ALL BLADES TO BE PARALLEL TO LONG DIMENSION. COORDINATE W/ ARCHITECT.

DUC	TWORKIN	ISULATI	ION SC	HEDULE	
SERVICE	LOCATION	THICKNESS	MATERIAL	FINISH	MIN. R-VALUE
SUPPLY/RETURN	INDOOR	1-1/2"	D-1	VAPORSEAL	R-6
SUPPLY/RETURN	OUTDOOR	2"	D-2	VAPORSEAL	R-8
INTAKE	ALL	2"	D-3	VAPORSEAL	R-8
ERV INTAKE/EXHAUST (EXTERIOR SIDE)	INDOORS	2"	D-3	VAPORSEAL	R-8
ERV INTAKE/EXHAUST (INTERIOR SIDE)	OUTDOORS	2"	D-2	VAPORSEAL	R-8

NOTES:
1. ALL SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED 2. ALL EXPOSED DUCTWORK SHALL BE INTERNALLY LINED

3. ALL DUCTWORK UPSTREAM AND DOWNSTREAM OF AC'S & FANS SHALL BE

INTERNALLY LINED FOR A MINIMUM 20 FT. 4. REFER TO M-800 SERIES DRAWING FOR EXTERIOR DUCT INSULATION.

		PIPINGI	NSULATIO	ON S	CHEL	DULE				
FLUID OPERATING TEMPERATURE		INSULATION C	ONDUCTIVITY		IOMINAL F	PIPE OR 1 (INCHES)	UBE SIZI	E		MATERIAL
RANGE AND USAGE (*F)	FLUID TYPE	CONDUCTIVITITY BTU-IN / (H-FT <sup>2</sup> -*F)	MEAN RATING TEMPERATURE (°F)	< 1	1 TO < 1 <sup>1</sup> / <sub>2</sub>	1½ TO < 4	4 TO < 8	≥ 8	FINISH	MATERIAL
> 350	STEAM	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0	F-1	P-1
251 - 350	STEAM	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5	F-1	P-1
201 - 250	STEAM	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0	F-1	P-1
141 - 200	HWS/R	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0	F-1	P-1
105 - 140	RL	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5	F-1	P-6
40 - 104	CWS/R, COND	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0	F-1	P-1
< 40	RS	0.20 - 0.26	50	0.5	1.0	1.0	1.0	1.5	F-1	P-6

 \[
 \begin{align\*}
 & \text{RS} & | 0.20 - 0.26 | \text{50} & | 0.5 | 1.0 | 1.0 | 1.0 | 1.5 | F-1 | P-6
 \] 1. THICKNESS OF INSULATION MAY VARY BY MANUFACTURER. INSULATION MUST MATCH LISTED R-VALUE FOR ASSOCIATED SPACE.

2. REFER TO M-800 SERIES FOR FINISH AND MATERIAL WITHIN PIPING INSULATION SECTION.

3. INCREASE INSULATION BY 1" AND PROVIDE PVC UV JACKET FOR OUTDOOR PIPING. 4. CPVC CONDENSATE PIPING SHALL NOT REQUIRE INSULATION.

# **STABLES**

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### ESSEX COUNTY FARMWORKER HOUSING RENOVATION

Stables 10 Marks Road

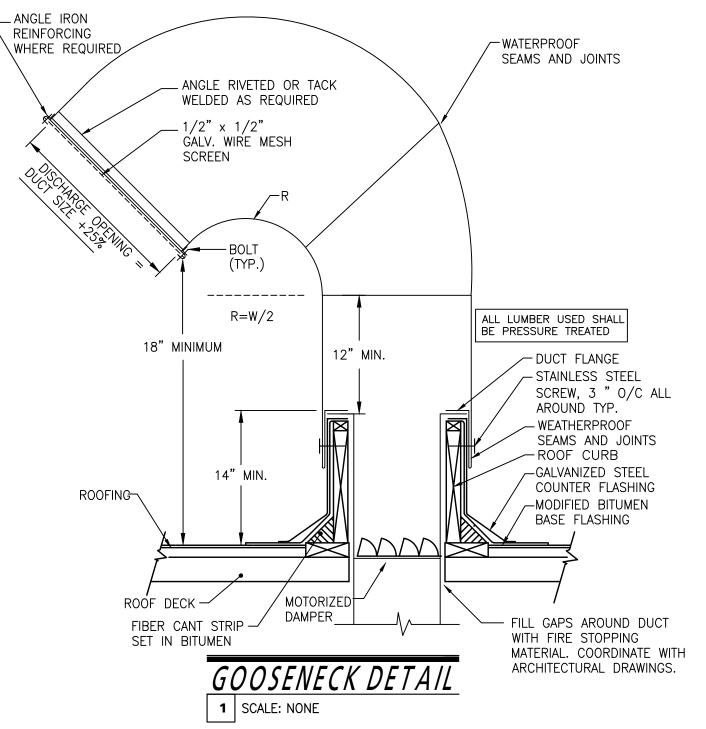
Westport NY 12993

M-600.00

MECHANICAL SCHEDULES

SEAL | SIGNATURE:





VOLUME DAMPER,-

SEE NOTES

- INSULATION. MINIMUM

OVERLAP OF 3"

. INSULATION SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS

6. INSULATION SHALL BE MINIMUM 1-1/2" THICK R-6 TO MEET MINIMUM ENERGY CODE VALUES.

DEVICES INSTALLED INSIDE DUCT SHALL NOT BE HIDDEN BY INSULATION

<u>LAP-JOINT</u>

4. ALL TRANSVERSE AND LONGITUDINAL JOINTS AND SEAMS IN SUPPLY AIR DUCT SHALL BE SEALED AIR TIGHT

INTERIOR DUCTWORK INSULATION AND SEALING DETAIL

SOFT ELASTOMER BUTYL GASKETS WITH ADHESIVE BACKING SHALL BE USED TO SEAL FLANGED JOINTS.

WITH DAP CMC DUCT SEALER. JOINTS ALSO SHALL BE RIVETED OR CONNECTED WITH SHEET METAL SCREWS.

- DO NOT OVER COMPRESS INSULATION

─ DUCT — SIZE AS NOTED ON PLANS

- LONGITUDINAL JOINT (SEE NOTES)

─ TRANSVERSE JOINT (SEE NOTES)

FIBERGLASS WRAP INSULATION SIZE AS PER SPECIFICATIONS

LAP JOINT.-

SEE BELOW

UL 181 FOIL TAPE -

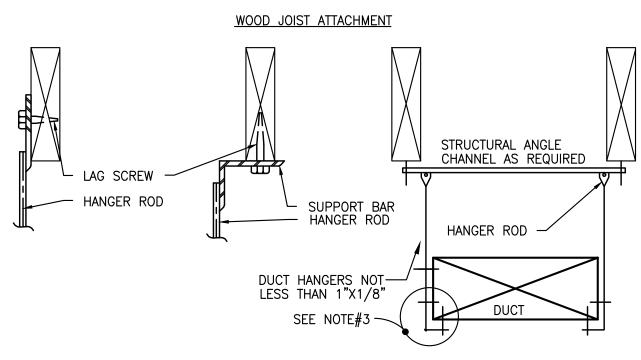
UNDERLYING -

DUCTWORK

5 | SCALE: NONE

MINIMUM 3" WIDE

FOR DETAILS



HANGERS

1"X1/8"

1"X1/8"

\_\_\_\_

1"X1/8"GA.

HANGER SIZE FOR RECTANGULAR DUCT SHALL BE AS FOLLOWS:

SPACING

8'-0"

4'-0"

4'-0"

4'-0"

SEE NOTE

ROUND

8"GA.WIRE

1/4" ROD

3/8" ROD

3/8" ROD

3/8" ROD

3/8" ROD

1/4" ROD | 8'-0"

HANGERS

LONGEST

OF DUCT

DIMENSION

19" TO 30"

31" TO 42"

43" TO 60"

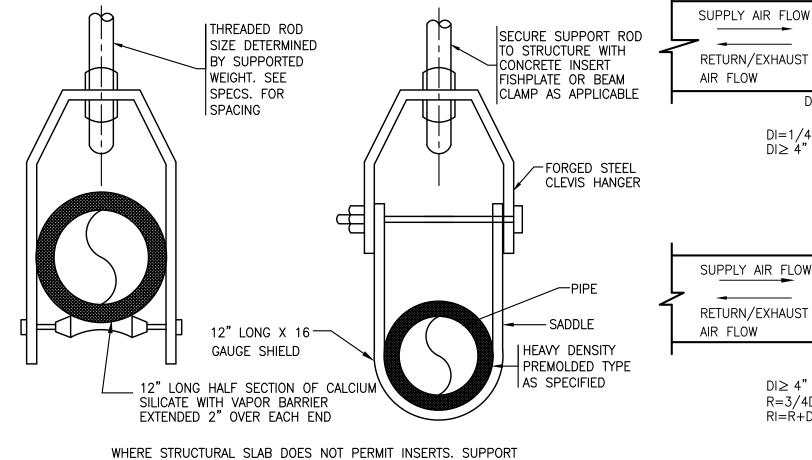
61" TO 84"

85" TO 96"

OVER 97"

#### NOTES: 1. ALL DUCT TO BE HUNG FROM BUILDING CONSTRUCTION NOT TO BE SUPPORTED FROM HUNG CEILING.

- . WHEN DUCT AREA EXCEEDS 8 SQ.FT. ANGLE STIFFENERS REQUIRED AROUND CIRCUMFERENCE EVERY 4'-0.
- 3. FOR DUCT OVER 48"WIDE HANGERS SHALL TURN UNDER DUCT AT LEAST 2"AND SHALL BE FASTENED TO THE BOTTOM AS WELL AS TO THE SIDES OF THE DUCT.
- 4. FOR DUCTS WITH A CROSS SECTIONAL AREA OF 4 SQ.FT. OR LESS. HANGERS SHALL BE NO MORE THAN 8FT. APART. FOR DUCTS WITH A CROSS SECTIONAL AREA OF MORE THAN 4 SQ.FT. BUT NOT OVER 8 SQ.FT. HANGERS SHALL BE NOT MORE THAN 6 FT. A PART. AND FOR DUCTS WITH A CROSS SECTIONAL AREA OF MORE THAN 8 SQ.FT. HANGERS SHALL BE NOT MORE THAN 4 FT. A PART. THE DISTANCES BETWEEN SHALL BE MEASURED LINEARLY ALONG THE DUCT.



PIPING FROM STRUCTURE WITH AUXILIARY STEEL IF REQUIRED.

**3** | SCALE: NONE

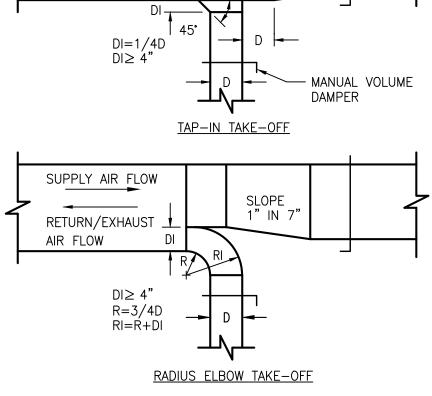
CONDENSATE -PUMP DISCHARGE

ISOLATION VALVE

CHECK VALVE UNION (TYP)

(TYP)

FLOW DIRECTION-



CLEVIS ROLLER HANGER DETAI DUCT BRANCH TAKE-OFF DETAIL

> FULL SIZE OF RECEIVER INLET

> > ISOLATION

– VALVE

► STRAINER 

CONNECT TO AC -UNIT DRIP PAN

TO AC UNIT

4 | SCALE: NONE

DUCT SUPPORT DETAIL - WOOD 2 | SCALE: NONE

TRAPEZE

SHELF

1"X1"X 1/8"

1"X1"X 1/8"

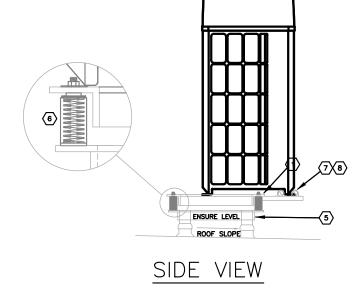
2"X2"X1/8"

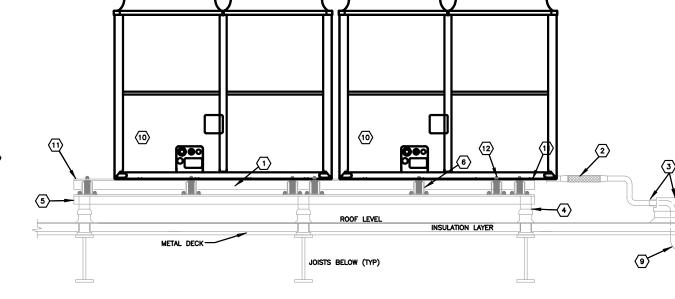
2"X2"X 1/4"

2"X2"X 3/16"

ANGLES

1/2"X 1 1/2"X 1/8"



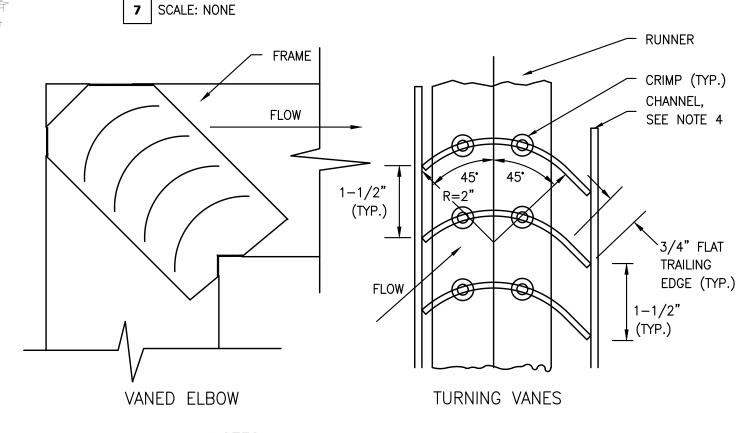


FRONT VIEW

## **CODED NOTES:**

- 1. PROVIDE STRUCTURAL INTERSTITIAL ANGLE IRON MOUNTING MEMBER OR SIMILAR ATTACHED DIRECTLY TO BOTTOM OF UNIT MOUNTING FLANGE AND PROVIDE CROSS BRACING FOR RIGIDITY. ENSURE IT CARRIES FULL MOUNTING FOOT WIDTH ON UNIT. FINAL SPECIFICATION OF MEMBER BY STRUCTURAL ENGINEER OF RECORD.
- 2. PROVIDE BRAIDED COPPER FLEXIBLE CONNECTOR, R410A RATED, 650PSI MAX WORKING PRESSURE, PACKLESS INDUSTRIES OR EQUAL ON ALL MAIN PIPING DOWNSTREAM OF TWINNING KITS/CONVERGING FITTINGS PRIOR TO PENETRATION THROUGH ROOF. 3. PIPE ROOF CURB, FLASHED AND SEALED WATER TIGHT, PROVIDE FLEXIBLE WATER TIGHT COLLAR TO ALLOW FOR MOVEMENT WHERE PIPE ENTERS CURB. DO
- NOT ENTER PIPE CURB FROM VERTICAL DIRECTION. 4. TYPICAL BASE SUPPORT POSTS, SECURELY ANCHORED TO BUILDING STRUCTURE BELOW, QUANTITY, SIZE, AND CARRYING CAPACITY DETERMINED BY
- STRUCTURAL ENGINEER OF RECORD.
- 5. STRUCTURAL ANGLE IRON BASE MOUNTING FRAME WITH CROSS MEMBERS FOR RIGIDITY FINAL SIZING BY STRUCTURAL ENGINEER OF RECORD. 6. VIBRATION SPRING SLR TYPE ISOLATORS (MASON INDUSTRIES OR EQUIV.) WITH RUBBER BASE PADS, SECURELY FASTENED TO STRUCTURAL BASE AND TO CONDENSING UNIT INTERSTITIAL SUPPORT STEEL. SPRING ISOLATOR TO PROVIDE MINIMUM 1" DEFLECTION OR 10 TIMES THE STATIC DEFLECTION OF THE ROOF DECK FROM EQUIPMENT WEIGHT - DETERMINED BY STRUCTURAL ENGINEER OF RECORD. AT A MINIMUM, PROVIDE SPRING ISOLATORS AT EACH EQUIPMENT BASE MOUNTING HOLE LOCATION.
- 7. IF REQUIRED, ONLY SUPPORT LATERAL PIPE EMANATING FROM CONDENSING UNIT CONNECTIONS BY CROSS MEMBER SUPPORT THAT IS ATTACHED DIRECTLY TO CONDENSING UNIT MOUNTING ANGLE IRON FRAME ABOVE SPRING ISOLATORS. DO NOT ATTACH ANY PIPING TO LOWER FIXED SUPPORT BASE.
- 8. USE NEOPRENE ISOLATION COLLARS ON PIPE CLAMS WHEN FASTENING PIPING TO SUPPORTS.
- 9. USE LONG RADIUS SWEEPING COPPER ACR TUBE PIPE BENDS WHERE PIPE ENTERS BUILDING AT FIRST ELBOW INTO CEILING SPACE TO MINIMIZE REFRIGERANT FLOW NOISE AND VIBRATION.
- 10. ALL ELECTRICAL CONNECTIONS TO UNITS TO BE VIA FLEXIBLE CONDUIT, PROVIDE SUFFICIENT SLACK TO ALLOW FOR UNIT MOVEMENT ON SPRING ISOLATORS. 11. ENSURE CROSS MEMBERS OF INTERSTITIAL FRAME AND BOTTOM SUPPORT FRAME ARE NOT DIRECTLY BELOW ENDS OF MODULES IN ALL LOCATIONS AND DO NOT BLOCK DRAINAGE WEEP HOLES IN BOTTOM OF UNIT CASING, FAILURE TO DO THIS MAY RESULT IN ICE DAMMING/BUILDUP BENEATH UNIT AND SUBSEQUENT BUILDUP OF ICE IN BOTTOM OF UNIT CASING BELOW COIL AND POTENTIAL DAMAGE TO BOTTOM OF COIL.
- ACCESS DOORS AND VOLUME DAMPERS SHALL BE FULLY FUNCTIONAL AFTER INSULATION HAS BEEN INSTALLED 12. WHEN SELECTING SPRING ISOLATORS ALWAYS CONSIDER WEIGHT DISTRIBUTION BY REFERENCING EQUIPMENT WEIGHT AND CENTER OF GRAVITY. NEAR RIGHT ENDS OF UNITS (VIEWED FROM FRONT PANEL) SPRING WEIGHT CAPACITY MAY BE LARGER. IF HIGHER SPRING WEIGHT CAPACITY IS REQUIRED VS OTHER SPRING LOCATIONS, CONSIDER AN ADDITIONAL SPRING OF EQUAL "K" VALUE (lbs/in) NEAR RIGHT END OF LAST MODULE. IN GENERAL IT IS RECOMMENDED TO SELECT ALL MOUNTING SPRINGS OF EQUIVALENT "K" VALUE (Ibs/in).

CONDENSING UNIT SUPPORT DETAIL 6 | SCALE: NONE



MAXIMUM UNSUPPORTED VANE LENGTH 36"

CONDENSATE

CONDENSATE PUMP DETAIL

- 2. VANES AND FRAMES 24 GAUGE
- 3. DUCT INLET AND OUTLET DIMENSIONS TO BE EQUAL
- 4. FOR HIGH VELOCITY APPLICATIONS PROVIDE 18 GAUGE CHANNEL AND TACK WELD VANE EDGES TO CHANNEL, TYPICAL BOTH ENDS
- 5. FRAMES AND CHANNELS BOLTED OR TACK WELDED TO ELBOW

SINGLE-THICKNESS TURNING VANES FOR SQUARE ELBOW 8 | SCALE: NONE

## Essex County

**STABLES** 

#### CLIENT

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#### **ASSOCIATE ARCHITECT**

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#### **ENGINEER: STRUCTURAL**

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#### **ENGINEER: MEP**

EP Engineering LLC 110 William Street 32nd Floor New York NY 10038 212.257.6190

### ISSUES:

01 04.07.23 BID 01

david cunningham architecture planning 2023

# ESSEX COUNTY FARMWORKER

HOUSING RENOVATION Stables 10 Marks Road

Westport NY 12993 M-700.00

MECHANICAL DETAILS

SEAL | SIGNATURE:



IT IS A VIOLATION FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM ON THIS PLAN IN ANY WAY PURSUANT DRAWINGS & SPECIFICATIONS AS INSTRUMENTS OF PROFESSIONAL SERVICE ARE, AND SHALL REMAIN, THE PROPERTY OF EP ENGINEERING, LLC. NO REPRODUCTION, IN TO NYS EDUCATION LAW, SECOND 7209(2). IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THIS ITEM HIS OR HER SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. THE SCALE OF THIS DRAWING IS CORRECT WHEN PRINTED ON 24x36 SIZE PAPER. ALL OTHER PAPER SIZES WILL NOT SHOW THE CORRECT SCALE.

THIS PLAN IS APPROVED BY THE CITY ONLY FOR THE WORK INDICATED ON THE WHOLE OR IN PART, SHALL BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF EP ENGINEERING, LLC. THIS DOCUMENT IS INTENDED SOLELY FOR THE CONSTRUCTION OF APPLICATION SHEET. ALL OTHER MATTERS ARE NOT TO BE RELIED UPON, OR TO BE THE PROJECT NAMED HEREIN AND SHALL NOT BE USED BY ANY OTHER PARTIES FOR ANY OTHER CONSTRUCTION WITHOUT THE WRITTEN CONSENT OF EP ENGINEERING, LLC. CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

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#### GENERAL

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201 LATEST EDITION. AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
- B. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
- C. INVESTIGATE EACH SPACE THROUGH WITCH EQUIPMENT MUST BE MOVED INCLUDING HALLWAYS, DOOR WIDTHS, ELEVATOR DIMENSIONS, ETC. WHERE NECESSARY EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES. ASCERTAIN FROM BUILDING OWNER AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH ALL
- D. DUCTWORK AND PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF DUCTWORK AND PIPING TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH THE EXISTING SERVICES. INCLUDING THOSE OF OTHER TRADES IS REQUIRED.
- E. SUPPORT ALL DUCTWORK AND PIPING FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING. INSERTS SHALL BE STEEL, SLOTTED TYPE AND FACTORY PAINTED SINGLE ROD SHALL BE SIMILAR TO GRINNELI FIG. 281. MULTI-ROD SHALL BE SIMILAR TO FEE & MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS. MAXIMUM LOADING INCLUDING PIPES, DUCTWORK CONTENTS AND COVERING SHALL NOT EXCEED 75% OF RATED INSERT CAPABILITY. WHEN SUPPORTING FROM BUILDING USE BEAM CLAMPS IN APPROVED MANNER.
- F. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL
- G. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES IN MAKING UP THE WORK PROPOSAL.
- H. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO ENSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING OWNER. INSTALL ISOLATION VALVES AT POINT OF CONNECTION TO THE EXISTING PIPING. PROVIDE TEMPORARY DUCT CAPS AND/OR CONNECTIONS TO MINIMIZE SHUTDOWN TIME.
- I. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT.
- J. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.
- K. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- L. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL.
- M. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.
- N. ALL PRESENT MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT, WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS, SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
- O. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- P. THE WORK IN THE BUILDING SHALL BE DONE

- WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.
- Q. THE CONTRACTOR'S PROPOSAL FOR ALL WORK 2. SCOPE OF WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE PREMIUM PORTION OF THE WAGES PAID.
- R. UNLESS OTHERWISE SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- S. ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

T. SUBMISSION OF A PROPOSAL SHALL BE

- CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC. WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON-SITE INSPECTION SHALL VERIFY EXISTING DUCTWORK, PIPING (SIZES, CLEARANCES, ETC.) AND CONDITIONS.
- U. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
- V. THE FINAL ACCEPTANCE WILL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, BALANCED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.

#### W. GUARANTEE:

- i. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE MECHANICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER, AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNERS PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE SYSTEM.
- ii. THE CONTRACTOR SHALL GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL INCLUDE RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THIS CONTRACTOR.
- iii. THIS CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL SYSTEMS UNTIL THE FINAL ACCEPTANCE OF THE WORK.
- iv. ALL AIR CONDITIONING UNIT COMPRESSORS AND REFRIGERATION COMPONENTS SHALL HAVE A 5-YEAR WARRANTY.
- X. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.

### Y. DEFINITIONS:

THE SCALE OF THIS DRAWING IS CORRECT WHEN PRINTED ON 24x36 SIZE PAPER. ALL OTHER PAPER SIZES WILL NOT SHOW THE CORRECT SCALE.

- i. "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
- ii. "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
- iii. "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
- iv. "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
- v. "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
- vi. "EXPOSED": NOT INSTALLED UNDERGROUND

- OR "CONCEALED" AS DEFINED ABOVE.
- vii. "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

- A. THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING. COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
- B. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
- C. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

### D. PERMITS AND FEES

- i. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TEST OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
- ii. THIS CONTRACTOR SHALL PREPARE OR HIRE THE NECESSARY CONSULTANTS TO PREPARE AND FILE ALL PLANS, CALCULATION, FORMS, ETC. REQUIRED FOR FILING WITH ALL AGENCIES REQUIRED FOR THIS WORK INCLUDING BUT NOT LIMITED TO THE DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION), DEC (DEPARTMENT OF ENVIRONMENTAL CONSERVATION), BUREAU OF AIR RESOURCES, EPA (ENVIRONMENTAL PROTECTION AGENCY), FDNY, ETC.
- E. INSPECTIONS & TESTING / SPECIAL INSPECTIONS
- i. THIRD PARTY INSPECTION AGENCY SHALL BE HIRED BY THE OWNER TO PERFORM ALL INSPECTIONS REQUIRED BY ALL LOCAL
- F. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT PROVIDE COMPLETE SET OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, DUCTWORK, PIPING AND CONTROL SYSTEMS INDICATING CAPACITY DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.
- G. WITHIN 15 DAYS AFTER AWARD OF CONTRACT, SUBMIT FOR REVIEW, A LIST OF ALL MATERIAL AND EQUIPMENT MANUFACTURER'S PRODUCTS THAT ARE PROPOSED, AS WELL AS NAMES OF ALL SUBCONTRACTORS WHOM THIS TRADE PROPOSES TO UTILIZE ON THIS PROJECT.

### 3. SHOP DRAWINGS

IT IS A VIOLATION FOR ANY PERSON. UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR. TO ALTER AN ITEM ON THIS PLAN IN ANY WAY PURSUANT

TO NYS EDUCATION LAW, SECOND 7209(2). IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THIS ITEM HIS OR HER

SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

- A. INDICATE ON EACH SUBMISSION: PROJECT NAME AND LOCATION, ARCHITECT AND ENGINEER, ITEM IDENTIFICATION AND APPROVAL STAMP OF PRIME CONTRACTOR. SUBCONTRACTOR NAMES AND PHONE NUMBERS, REFERENCE TO THE APPLICABLE DESIGN DRAWING OR SPECIFICATION ARTICLE, DATE AND SCALE.
- B. THE WORK DESCRIBED IN ALL SHOP DRAWING SUBMISSION SHALL BE CAREFULLY CHECKED FOR ALL CLEARANCES (INCLUDING THOSE REQUIRED FOR MAINTENANCE AND SERVICING). FIELD CONDITIONS, MAINTENANCE OF ARCHITECTURAL CONDITIONS AND PROPER COORDINATION WITH ALL TRADES ON THE JOB.
- C. EACH SUBMITTED SHOP DRAWING IS TO INCLUDE A CERTIFICATION THAT ALL RELATED JOB CONDITIONS HAVE BEEN CHECKED AND VERIFIED AND THAT THERE ARE NO CONFLICTS.
- D. ALL SHOP DRAWINGS ARE TO BE SUBMITTED. TO ALLOW 5 BUSINESS DAYS FOR CHECKING

- IN ADVANCE OF FIELD REQUIREMENTS. ALL SUBMITTALS TO BE COMPLETE AND CONTAIN ALL REQUIRED AND DETAILED INFORMATION. SHOP DRAWINGS WITH MULTIPLE PARTS SHALL BE SUBMITTED AS A PACKAGE.
- IF SUBMITTALS DIFFER FROM THE CONTRACT DOCUMENT REQUIREMENTS, MAKE SPECIFIC MENTION OF SUCH DIFFERENCES IN A LETTER OF TRANSMITTAL, WITH REQUEST FOR SUBSTITUTION, TOGETHER WITH REASONS FOR
- ELECTRONIC COPIES OF ENGINEERING DRAWINGS:
- i. IF THE CONTRACTOR REQUIRES (.DWG) FORMAT. THE DRAWINGS WILL BE FORWARDED ONLY UPON RECEIPT OF SIGNED ACCEPTANCE OF TERMS FORM. PERMISSION FROM THE ARCHITECT MUST FIRST BE OBTAINED FOR ENGINEER TO INCLUDE THE ARCHITECTURAL BACKGROUND AS REFERENCE. THE CONTRACTOR IS TO OBTAIN THE ARCHITECT'S LATEST DRAWINGS DIRECTLY FROM THE ARCHITECT.
- ii. THESE FILES ARE BEING ISSUED FOR THE CONVENIENCE OF THE CONTRACTOR AND THE CONTRACTOR REMAINS RESPONSIBLE FOR ALL CONTRACT REQUIREMENTS RELATED TO THE NORMAL SHOP DRAWING PREPARATION PROCESS.

#### G. SUBMISSIONS:

- PROVIDE ALL COORDINATION DRAWINGS, DUCTWORK AND PIPING SHOP DRAWINGS IN PDF FORMAT - PAPER SUBMISSIONS SHALL NOT BE ACCEPTED. THE ARCHITECT WILL FORWARD ALL SUBMISSIONS TO THE FNGINFFR.
- H. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
- SCALE) ii. SHEET METAL & PIPING SHOP STANDARDS

j. SHEET METAL SHOP DRAWING (3/8 INCH

SHEETMETAL SHOP STANDARDS SHALL BE COMPILED DIRECTLY FROM THE "SMACNA DUCT CONSTRUCTION STANDARDS — METAL AND FLEXIBLE" MANUAL. MODIFICATIONS FOR A SPECIFIC PROJECT, IF ANY, SHALL BE INDICATED DIRECTLY ON THE SMACNA TEMPLATES. MODIFIED SHOP STANDARDS NOT TAKEN DIRECTLY FROM THE SMACNA TEMPLATES WILL NOT BE ACCEPTED. ANY DEVIATIONS FROM SMACNA SHALL BE NOTED.

### iii. AC UNITS

### iv. FANS

- v. PIPING LAYOUT: DETAIL, AT 3/8 INCH SCALE PIPING LAYOUT WITH FITTINGS, VALVES AND EQUIPMENT, USE SINGLE LINE FOR PIPE SIZES 3 INCHES AND SMALLER, AND DOUBLE LINE FOR PIPE SIZES 4 INCHES AND GREATER. FABRICATION OF PIPE ANCHORS, HANGERS, SUPPORTS FOR MULTIPLE PIPES, ALIGNMENT GUIDES, EXPANSION JOINTS AND LOOPS, AND ATTACHMENTS OF THE SAME TO THE BUILDING STRUCTURE. DETAIL LOCATION OF ANCHORS, ALIGNMENT GUIDES, AND EXPANSION JOINTS AND LOOPS SUBMIT ALL WELDING CERTIFICATES.
- vi. VIBRATION ISOLATION
- vii. DAMPER AND VALVE ACTUATORS
- viii. AUTOMATIC CONTROL SYSTEMS AND DEVICES
- ix. SEQUENCE OF OPERATIONS
- COORDINATION DRAWINGS: CONTRACTOR SHALL PROVIDE PLANS AT 3/8 INCH SCALE INDICATING COORDINATION BETWEEN THE TRADES USING INPUT FROM INSTALLERS OF THE ITEMS INVOLVED.
- i. DUCT AND PIPING INSTALLATION INDICATING COORDINATION WITH GENERAL CONSTRUCTION, BUILDING COMPONENTS. AND OTHER BUILDING SERVICES. INDICATE LOCATIONS AND SIZES OF ALL OPENINGS IN FLOOR, WALLS AND ROOF THAT MAY BE REQUIRED.
- ii. COORDINATION WITH SUSPENDED CEILING COMPONENTS, STRUCTURAL MEMBERS TO WHICH DUCT WILL BE ATTACHED, SIZE AND LOCATION OF INITIAL ACCESS MODULES FOR ACOUSTICAL TILE, PENETRATIONS OF SMOKE BARRIERS AND FIRE-RATED CONSTRUCTION, LIGHTING FIXTURES, AIR OUTLETS AND INLETS, SPEAKERS, SPRINKLERS, ACCESS PANELS, PERIMETER MOLDINGS SHALL BE PERFORMED.

### AS-BUILTS AND EQUIPMENT OPERATION

- INSTRUCTIONS PROVIDE ALL COORDINATION DRAWINGS, DUCTWORK AND PIPING AS-BUILTS IN AUTOCAD 2013 AND PDF FORMAT. ALI CATALOG CUTS AND SUBMITTALS TO BE PROVIDED IN ELECTRONIC PDF FORMAT. THE ARCHITECT WILL FORWARD ALL SUBMISSIONS TO THE ENGINEER.
- ON COMPLETION AND ACCEPTANCE OF WORK, THIS CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS, EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

- C. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 INCH X 11 IN FORMAT. THE CONTRACTOR SHALL GIVE ONE COPY OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.
- D. THE INSTRUCTIONS SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.
- E. FINAL AS-BUILT DRAWINGS INDICATING AS INSTALLED CONDITIONS SHALL BE PROVIDED TO THE ARCHITECT AND ENGINEER AFTER COMPLETION OF THE INSTALLATION.

## 5. SUBSTITUTIONS

- A. NO SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER WHICH INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS. ANY CHANGES IN LAYOUT, ELECTRICAL CHARACTERISTICS, STRUCTURAL REQUIREMENTS OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER AS PART OF THIS PROPOSAL. THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR THE SUBSTITUTION AND ALL CHANGES RESULTING FROM THE SUBSTITUTION, ALL ITEMS SHALL BE SUBMITTED FOR REVIEW IN CONJUNCTION WITH THE SUBMITTAL OF THE SUBSTITUTION. ANY SUBSTITUTION MUST BE SUBMITTED WITH AN EXPLANATION WHY A SUBSTITUTION IS BEING UTILIZED. IF THE SUBSTITUTED ITEM DEVIATES FROM THE SPECIFIED ITEM, THOSE DEVIATIONS ARE TO BE IDENTIFIED ON A LINE BY LINE BASIS. IF THE SUBSTITUTE IS BEING UTILIZED FOR FINANCIAL REASONS, THE ASSOCIATED CREDIT MUST BE SIMULTANEOUSLY SUBMITTED.
- ALL SUBSTITUTED EQUIPMENT SHALL CONFORM TO SPACE REQUIREMENTS AND PERFORMANCE REQUIREMENTS SHOWN ON CONTRACT DOCUMENTS. CONTRACTOR SHALL REPLACE ANY EQUIPMENT THAT DOES NOT MEET THESE REQUIREMENTS AT HIS OWN EXPENSE. ANY MODIFICATIONS TO ASSOCIATED SYSTEMS OR ADDITIONAL COSTS ATTRIBUTED TO THIS SUBSTITUTION SHALL BE AT THIS CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL SUBMIT BID BASED ON SPECIFIED ITEMS AND SHALL SUPPLY AS AN ALTERNATE PRICE ANY SUBSTITUTIONS.
- SERVICE AND WARRANTY (MAINTENANCE CONTRACT)
- A. THIS CONTRACTOR SHALL PROVIDE AS AN ADD ALTERNATE PRICE, A FULL ONE YEAR SERVICE OF ALL MECHANICAL COMPONENTS AND SYSTEMS, WITH PRICES FOR YEARS 2, 3 AND 4 FOLLOWING THIS FIRST YEAR. AT THE TIME OF ACCEPTANCE OF PROJECT, THE TENANT OR OWNER'S REPRESENTATIVE WILL DECIDE TO ACCEPT WHICH ALTERNATE, IF ANY. THIS IS IN ADDITION TO THE WARRANTY BEING PROVIDED AS PART OF THE BASE CONTRACT.

### 7. ACCESS DOORS IN GENERAL CONSTRUCTION

- A. THIS CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL A PLAN INDICATING THE SIZE (MINIMUM 18 INCH X 18 INCH) AND LOCATION OF ALL ACCESS DOORS REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, DEVICES, VALVES, DAMPERS AND CONTROLS. CONTRACTOR SHALL ARRANGE FOR FURNISHING AND INSTALLATION OF ALL ACCESS DOORS IN FINISHED CONSTRUCTION AND INCLUDE COSTS IN THE
- B. REMOVABLE ACCESS TILE AND/OR ACCESS DOOR ARE REQUIRED IN HUNG CEILINGS, SHAFTS AND WALLS FOR ALL EQUIPMENT DAMPERS, VALVES, ETC. HVAC CONTRACTOR TO FURNISH ACCESS LOCATION REQUIREMENTS TO GENERAL CONTRACTOR. ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS, AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES, DAMPERS AND EQUIPMENT.

## 8. SHEET METAL WORK

- A. DUCT CONSTRUCTION, INCLUDING SHEET METAL THICKNESSES, SEAM AND JOINT CONSTRUCTION, REINFORCEMENTS, HANGERS AND SUPPORTS, SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" LATEST EDITION AND PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.
- EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL DUCTWORK AND OTHER SHEET METAL WORK SHALL BE GALVANIZED SHEET STEEL
- C. DESCRIPTION OF DUCTWORK PRESSURE CLASS AND EQUIPMENT:
- i. 2 INCH DUCT CLASS AND LESS: ALL OTHER LOW PRESSURE DUCTOWORK. SEAL CLASS C, LEAKAGE CLASS 24 (RECTANGULAR) OR CLASS 12 (ROUND).
- ii. 3 INCH DUCT CLASS: ALL SUCTION AND DISCHARGE OF KITCHEN EXHAUST AND OTHER EXHAUST DUCTWORK. SEAL CLASS B, LEAKAGE CLASS 12 RECTANGULAR METAL OR CLASS 6 (ROUND).
- iii. 4 INCH AND GREATER DUCT CLASS: ALL SUPPLY/RETURN DUCTWORK FROM DISCHARGE/INTAKE OF FANS, AIR HANDLING UNITS OR AC UNITS TO INLET/OUTLET OF TERMINAL BOXES ON FLOOR, ALL OUTDOOR DUCTWORK AND ALL DUCTWORK RUNNING THROUGH UNCONDITIONED SPACES. SEAL CLASS A,

LEAKAGE CLASS 6 (RECTANGULAR METAL) OR CLASS 3 (ROUND).

- GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", LATEST EDITION, BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.
- i. THE FOLLOWING FITTING CONNECTIONS AND DUCT CONSTRUCTION GAUGES ARE NOT ACCEPTABLE
- a) DRIVE SLIP [T-1, T-2] FITTING
- b) 26 GAUGE DUCTWORK.

CONNECTIONS

- ii. TRANSVERSE JOINTS: SELECT JOINT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS -METAL AND FLEXIBLE", "TRANSVERSE (GIRTH) JOINTS", FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS — METAL AND FLEXIBLE." FITTINGS AND/OR JOINTS OF TWO DIFFERENT GAUGES, CONNECTED JOINT RATING SHALL MEET MORE STRINGENT CONDITIONS.
- iii. USE THE FOLLOWING SMACNA TRANSVERSE (GIRTH) JOINTS
- a) DUCT CONSTRUCTION AS FOLLOWS FOR 2 INCH W.G. CLASS: (1) UP TO 12 INCH WIDE USE T-6
- OR T-7 (2) 13 INCH TO 28 INCH WIDE USE T-11 OR T12 (3) 29 INCH WIDE AND UP USE TDC OR TDF
- b) DUCT CONSTRUCTION AS FOLLOWS FOR 3 INCH W.G. CLASS: (1) UP TO 20 INCH WIDE USE T-6 OR T-7
- (2) 21 INCH TO 24 INCH WIDE USE T-11 OR T12 (3) 25 INCH WIDE AND UP USE TDC OR TDF

c) DUCT CONSTRUCTION AS FOLLOWS

- FOR 4 INCH W.G. CLASS: (1) UP TO 12 INCH WIDE USE T-6 OR T-7 (2) 13 INCH TO 18 INCH WIDE USE
- T-11 OR T12 (3) 19 INCH WIDE AND UP USE TDC
- VOLUME DAMPERS: GALVANIZED STEEL, PER SMACNA "LOW VELOCITY MANUAL," EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT OTHER END. FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION. INSTALL WITH LEVERS ACCESSIBLE.
- PROVIDE MANUAL BALANCING VOLUME DAMPERS AS REQUIRED TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF BALANCING DAMPERS ARE NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUM STANDARDS SHALL GOVERN:
- a) LOW PRESSURE: ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB-BRANCHES FROM MAINS SHALL BE PROVIDED WITH BALANCING DAMPERS.
- b) LOW PRESSURE: ALL EXHAUST AND RETURN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB-BRANCHES FROM MAINS SHALL BE PROVIDED WITH BALANCING DAMPERS.
- FLEXIBLE DUCTWORK SHALL NOT BE USED ON THIS PROJECT.
- G. ACCESS DOORS: INSULATED OR UNINSULATED, SAME AS DUCT.
- i. PROVIDE MINIMUM 20 INCH X 14 INCH ON MAIN DUCTS, AND 12 INCH X 6 INCH ON BRANCH DUCTS, UNLESS OTHERWISE APPROVED, AT FIRE DAMPERS, AND AT ALL DUCT ACCESSORIES SUCH AS HUMIDIFIERS, DUCT SMOKE DETECTORS, AUTO DAMPERS, AND LOUVERS.
- ii. ALL ACCESS DOORS TO BE HINGED, WITH LATCH SIMILAR TO VENTLOCK NO. 100.
- H. FLEXIBLE CONNECTIONS: NEOPRENE-COATED GLASS FABRIC, 30 OZ PER SQUARE YD WITH SEWED AND CEMENTED SEAMS, SIMILAR TO VENT FABRICS. PROVIDE WITH METAL COLLARS. ALLOW MINIMUM MOVEMENT OF 1 INCH.
- I. TURNING VANES: GALVANIZED STEEL SMALL DOUBLE-THICKNESS VANES WITH 2 INCH INSIDE RADIUS.
- J. FIRE DAMPERS: DYNAMIC; RATED AND LABELED ACCORDING TO UL 555 BY AN NRTL GALVANIZED STEEL CONSTRUCTION, CURTAIN TYPE WITH BLADES OUT OF THE AIRSTREAM (TYPE B), SPRING LOADED, EQUIPPED WITH FUSIBLE LINK, CONFORMING TO NFPA STANDARD 90A AND APPROVED BY NEW YORK CITY, SIMILAR TO POTOROFF OR RUSKIN, RATED AS REQUIRED. PROVIDE FIRE DAMPERS AS NOTED ON THE PLANS AND IN DUCTS AND OPENINGS IN SHAFTS, FLOORS, FIRE WALLS, FIRE-RESISTANCE PARTITIONS, FIRE RATED CEILINGS, EXIT CORRIDOR WALLS. PROVIDE

ACCESS DOOR IN DUCT ADJACENT TO EACH FIRE DAMPER. SEE INSTALLATION ON DRAWING.

- K. COMBINATION FIRE/SMOKE DAMPERS:
  - i. COMBINATION FIRE/SMOKE DAMPERS SHALL BE INSTALLED AS INDICATED ON DRAWING AND AS REQUIRED BY LOCAL CODES. DAMPERS TO BE UL 555S LATEST EDITION 9. AIR OUTLETS LISTED AND LABELED AND IN CONFORMANCE WITH NFPA.
  - ii. COMBINATION FIRE/SMOKE DAMPERS SHALL BE CLASS 1 (ONE), DUAL OVERRIDE REMOTE RESETTABLE, OPPOSED MULTIBLADE TYPE WITH FIRESTAT OR EQUIVALENT HEAT RESPONSIVE DEVICE, 120-VOLT ACTUATOR AS REQUIRED MOUNTED OUT OF THE AIR STREAM, WITH DAMPER OPERATOR AND BLADE POSITION INDICATOR SWITCHES. PROVIDE MOTOR MOUNT BRACKET STRENGTHENER FOR DAMPERS OVER 10 INCH IN HEIGHT. PROVIDE A 10 GAUGE WELDED VERTICAL STIFFENER AT EACH CORNER TO PREVENT DAMPER MISALIGNMENT.
  - iii. PROVIDE ACCESS DOOR IN DUCT ADJACENT TO EACH FIRE/SMOKE DAMPER.
- iv. PROVIDE FIRE/SMOKE DAMPERS AS NOTED ON THE PLANS AND IN DUCTS AND OPENINGS IN SHAFTS, FLOORS, FIRE WALLS, FIRE-RESISTANCE PARTITIONS, FIRE RATED CEILINGS AND SMOKE BARRIERS.
- v. THE HVAC CONTRACTOR SHALL PROVIDE ALL DEVICES, RELAYS, END SWITCHES, E/P SWITCHES, CONTROL COMPONENTS, AIR PIPING, POWER WIRING, CONTROL WIRING AND INTERLOCK WIRING AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION FOR THESE DAMPERS.
- vi. DAMPERS SHALL BE MANUFACTURED BY GREENHECK MODEL FSD-311, RUSKIN MODEL FSD-60, OR APPROVED EQUAL.
- vii. MODULATING COMBINATION FIRE/SMOKE DAMPERS TO BE PROVIDED WITH ACTUATORS RATED AND TESTED FOR THIS APPLICATION.
- viii. SEE INSTALLATION ON DRAWING.
- .. ALL DUCT DIMENSIONS INDICATED ON PLANS ARE INSIDE CLEAR DIMENSIONS. INCREASE DUCT DIMENSIONS AS REQUIRED TO ACCOUNT FOR INTERNAL LINING.
- M. AUTOMATIC DAMPERS: COMPLETE WITH LINKAGE AND ELECTRIC OPERATOR. OPPOSED BLADE DAMPER OR GALVANIZED STEEL MIN. 4 INCH, MAX. 8 INCH WIDE WITH COMPRESSIBLE EDGE SEALS TO PREVENT LEAKAGE. FACTORY-ASSEMBLE STEEL LINKAGE AND SHAFT WITH NYLON OR OIL-IMPREGNATED BRONZE BEARINGS. MOTOR WITH SUFFICIENT POWER TO LIMIT LEAKAGE TO 10 CFM PER SQUARE FEET. LINKAGE TO WITHSTAND LOAD EQUAL TO TWICE MAXIMUM OPERATING FORCE WITHOUT DEFLECTION. DAMPER MOUNTED IN

WELDED STEEL CHANNEL FRAME.

- i. SHUTOFF DAMPERS SHALL BE CLASS MOTORIZED DAMPERS WITH AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/SF OF DAMPER SURFACE AREA AT 1.0 INCH WG AND AMCA 500D LISTED.
- N. EXTERIOR LOUVERS: 4 INCH WIDE STATIONARY LOUVER, EXTRUDED ALUMINUM, 0.081 INCH WALL THICKNESS, 6063T5 ALLOY BLADES AND FRAME WITH STAINLESS STEEL OR ALUMINUM FASTENERS. LOUVER TO INCORPORATE STRUCTURAL SUPPORT TO WITHSTAND WIND LOAD OF 20 LBS PER SQUARE FEET. PROVIDE REMOVABLE 3/4 INCH X 3/4 INCH ALUMINUM BIRDSCREEN IN AN ALUMINUM FRAME. AIR PERFORMANCE AND WATER PENETRATION LESS THAN OR EQUAL TO GREENHECK. COORDINATE ALL REQUIREMENTS WITH THE BUILDING
- COMPLY WITH BASE BUILDING STANDARDS.
- O. ALUMINUM DUCTWORK: ALUMINUM SHEETS: COMPLY WITH ASTM B 209ALLOY 3003, H14 TEMPER; WITH MILL FINISH FOR CONCEALED DUCTS, AND STANDARD. ONE-SIDE BRIGHT FINISH FOR

MANAGEMENT AND ARCHITECT. LOUVER TO

ii. ALL OUTSIDE AIR, EXHAUST, AND RELIEF DUCTWORK WITHIN 5 FEET OF LOUVERS SHALL BE ALUMINUM WITH SEAMS SEALED WATERTIGHT WITH ALCOA ALUMINASTIC TYPE C SEAM SEALER OR SOLDER. PITCH DUCTWORK TOWARDS LOUVER.

DUCT SURFACES EXPOSED TO VIEW.

- P. WIRE MESH SCREEN (WMS): NO. 16 USSG, 3/4 SQUARE MESH, IN 1 INCH WIDE GALVANIZED STEEL ENCLOSING FRAME FLANGED DUCT OPENING TO RECEIVE FRAME
- Q. LEAKAGE TESTING:
  - i. ALL DUCTWORK GREATER THAN 2 INCH CLASS AS DEFINED WITHIN IS TO BE TESTED. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL COLLARS, CAPS, ELECTRIC POWER, ETC. NECESSARY TO PERFORM THE TESTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SCHEDULING THE TEST NO LESS THAN THREE (3) BUSINESS DAYS PRIOR TO ITS INTENDED OCCURRENCE. LOW PRESSURE DUCTWORK (2 INCH CLASS) SHALL BE TESTED ON AN AS NEEDED BASIS AT THE ENGINEER'S DIRECTION. LEAKAGE TEST PROCEDURE SHALL FOLLOW THE OUTLINES AND CLASSIFICATIONS IN THE SMACNA HVAC DUCT LEAKAGE TEST MANUAL. IF SPECIMEN FAILS TO MEET ALLOTTED LEAKAGE LEVEL. THE CONTRACTOR SHALL MODIFY TO BRING

- IT INTO COMPLIANCE AND SHALL RETEST IT UNTIL ACCEPTABLE LEAKAGE IS DEMONSTRATED. TESTS AND NECESSARY REPAIR SHALL BE COMPLETED AND A REPORT SHALL BE SUBMITTED TO AND APPROVED BY ENGINEER PRIOR TO CONCEALMENT OF DUCTS.
- A. GENERAL:
- MARGIN TYPES, COLORS, FINISH AND METHODS OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH ARCHITECTURAL CEILING AND WALL DETAILS AND SPECIFICATIONS. FINISH SHALL MATCH COLOR SAMPLE AS APPROVED:
- ii. FRAME TYPE SUITABLE FOR MOUNTING IN CEILING OR WALL CONSTRUCTION AS INDICATED ON ARCHITECTURAL PLANS.
- iii. EXACT LOCATION OF ALL AIR OUTLETS AS PER ARCHITECTURAL PLANS.
- iv. PROVIDE MOUNTING AND BLOCKING
- v. SUITABLE FOR OPERATION AT 20% EXCESS AND 20% LESS THAN NOTED CAPACITY FOR CONSTANT VOLUME SYSTEMS AND AT 20% EXCESS AND 60% LESS THAN NOTED CAPACITY FOR VARIABLE VOLUME SYSTEMS.
- vi. MANUFACTURER RESPONSIBLE FOR EXAMINING APPLICATION OF EACH OUTLET AND GUARANTEE THAT EACH WILL PROVIDE REQUIRED NC LEVELS AND COMFORT SPACE CONDITIONS WITHOUT DRAFTS THROUGHOUT OPERATING RANGE.
- vii. ALL REGISTERS SHALL BE PROVIDED WITH OPPOSED BLADE VOLUME DAMPERS. DAMPER OPERATING LEVERS SHALL BE ACCESSIBLE AT THE FACE OF AIR OUTLETS. CEILING DIFFUSERS SHALL NOT HAVE BUTTERFLY DAMPERS WITHIN NECK.
- viii. ONLY FOUR (4) WAY DIFFUSERS SHALL BE PROVIDED. PROVIDE SHEETMETAL BLANK OFF AS REQUIRED FOR 1 WAY, 2 WAY OR 3 WAY DIFFUSERS.

ix. PROVIDE BLANKING FOR PROPER

COVERAGE AND BLOW WITHOUT PRODUCING OBJECTIONABLE NOISE OR AIR MOTION AT OCCUPIED LEVEL. x. MANUFACTURERS: SUBJECT TO

COMPLIANCE WITH REQUIREMENTS, PROVIDE

- PRODUCTS BY ONE OF THE FOLLOWING: a) ANEMOSTAT PRODUCTS; A MESTEK
- COMPANY.
- b) TITUS.
- c) PRICE INDUSTRIES LINEAR DIFFUSERS: EXTRUDED ALUMINUM CONSTRUCTION, FINISH AS PER ARCHITECT. REMOVABLE CORE, AIR DEFLECTION VANE AND CABLE DAMPER IN EACH BRANCH TAP WITH 3 FEET CABLE TO DIFFUSER FACE.
- i. LINEAR DIFFUSERS: FRAME TYPES SHALL MATE WITH CEILINGS. PROVIDE MEANS TO NEATLY BUTT AND ALIGN UNITS TO GIVE CONTINUOUS APPEARANCE WITHOUT BUTTING FLANGES. NO SCREW HOLES OR WELDED CORNERS VISIBLE ON DIFFUSERS OR FRAMES WILL BE PERMITTED. AIR VOLUME SHALL BE ADJUSTABLE THROUGH AIR SUPPLY FACE WITHOUT REQUIRING REMOVAL OF FACE PANEL. PROVIDE BLANKED SECTIONS FOR INACTIVE LENGTHS. PROVIDE PLASTER FRAMES AND OPPOSED BLADE VOLUME DAMPERS WITH REMOTE CABLE OPERATORS WHERE NOTED. REFER TO ARCHITECTURAL DRAWINGS FOR
- MOUNTING DETAILS AND OVERALL LENGTHS. C. SQUARE DIFFUSERS: DIFFUSERS SHALL BE STEEL CONSTRUCTION PAINTED WHITE SUITABLE
- FOR THE TYPE OF CEILING.
- D. REGISTERS AND GRILLES: i. RETURN AND EXHAUST REGISTERS: STEEL CONSTRUCTION WITH VOLUME DAMPER.
- ii. SUPPLY REGISTERS: STEEL CONSTRUCTION ADJUSTABLE DOUBLE DEFLECTION STEEL AIRFOIL LOUVERS, WITH VOLUME DAMPER. PROVIDE AIR EQUALIZING DEFLECTOR WHERE REGISTER COLLAR DUCT IS LESS THAN 2 FEET LONG.

iii. TRANSFER GRILLES: STEEL CONSTRUCTION

WITHOUT VOLUME DAMPER. 10. NOISE CONTROL

DUCTWORK:

A. ALL ROOM NC LEVELS SHALL BE 35 OR LESS.

PROVIDE SOUNDLINING FOR THE FOLLOWING

ii. ALL AIR TRANSFER AND JUMPER DUCTS.

iv. DOWNSTREAM OF ALL TERMINAL BOXES

- i. ALL DUCTWORK WITHIN MECHANICAL ROOMS AND NOT LESS THAN 25 FEET ON EACH SIDE OF ALL FANS AND AC UNITS.
- iii. RETURN AIR STUB DUCTS AT MER WALLS AND SHAFT INTAKE OPENINGS FOR FULL LENGTH.
- v. ALL MIXED AIR PLENUMS, EXCEPT WHERE MOISTURE CARRYOVER FROM OUTDOOR AIR LOUVER WILL OCCUR.

(CV, VAV) FOR A MINIMUM OF 15 FEET).

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# CLIENT

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Stables

ESSEX COUNTY FARMWORKER HOUSING RENOVATION

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MECHANICAL SPECIFICATIONS (1 OF 3)

Westport NY 12993 M-800.00



- vi. EXPOSED SUPPLY DUCTWORK SHALL BE ACOUSTICALLY LINED IN LIEU OF EXTERNAL INSULATION.
- vii. ALSO WHERE NOTED ON A DRAWING.
- C. SOUNDLINING IN DUCTWORK: FIBROUS GLASS, MINIMUM 3 LB DENSITY, 1-1/2 INCH THICKNESS, MAXIMUM 0.25 K FACTOR AT 75°F MEAN TEMPERATURE WITH ACRYLIC COATED FINISH FACTORY APPLIED EDGE COATING AND STENCILED IN ACCORDANCE WITH NFPA 90. FLAMESPREAD SHALL BE A MAXIMUM OF 25. LINING SHALL NOT SUPPORT MICROBIAL GROWTH AND SHALL BE TESTED IN ACCORDANCE WITH ASTM C 1071 AND ASTM G21/G22. SIMILAR TO MANVILLE PERMACOTE LINACOUSTIC.
- D. ALL SOUNDLINING, ADHESIVES, FACES AND ACCESSORIES TO BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, EXCEPT AS OTHERWISE NOTED.

### 11. TESTING AND BALANCING

- A. ALL AIR AND WATER BALANCING SHALL BE BY AN INDEPENDENT CONTRACTOR NOT AFFILIATED WITH THE MECHANICAL CONTRACTOR AND IN ACCORDANCE WITH LOCAL STANDARDS. CONTRACTOR SHALL UTILIZE BASE BUILDING BALANCING CONTRACTOR OR APPROVED EQUAL, CONTACT BUILDING MANAGEMENT.
- B. CONTRACTOR TO BALANCE ENTIRE SYSTEM TO AIR AND/OR WATER QUANTITIES AS SHOWN ON ALL RELATED DRAWINGS FOR THIS JOB, AND AS DESCRIBED HEREIN. BALANCING MUST BE DONE IN THE PRESENCE OF A BUILDING ENGINEER.
- C. AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF FANS AND BRANCH DAMPERS FOR MAJOR ADJUSTMENTS. AIR SUPPLY OUTLETS TO BE BALANCED TO A UNIFORM SUPPLY ACROSS ENTIRE FACE. ADJUSTMENT OF TERMINAL DAMPERS AND DEVICES SHALL BE FOR TRIM OR MINOR ADJUSTMENT ONLY. THIS SHALL BE DONE TO PERMIT THE LEAST NOISE GENERATION IN THE TERMINAL AREAS AND UTILIZE MINIMUM FAN ENERGY.
- D. WATER BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF BALANCING VALVES AT PUMPS FOR PROPER FLOW. ADJUST FLOW THROUGH COILS AS REQUIRED.
- E. UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL REBALANCE ANY EXISTING PORTIONS OF AIR DISTRIBUTION SYSTEM AND WATER DISTRIBUTION SYSTEM AFFECTED BY THE RENOVATION AND ALSO BALANCE ALL NEW
- F. IF DISCREPANCIES EXIST IN THE REPORT THAT REQUIRE FIELD VERIFICATION, THE TESTING AND BALANCING COMPANY IN THE PRESENCE OF THE ENGINEER SHALL VISIT THE JOBSITE FOR FIELD VERIFICATION OF THE REPORT.

G. THE CONTRACTOR SHALL PROVIDE ALL LABOR.

- PRESSURE GAUGES, FLOW METERS, SHEAVES. AND BELTS REQUIRED TO BALANCE SYSTEMS
- H. BALANCING REPORT SHALL BE PROVIDED ON NEBB OR AABC-TYPE FORMS.
- BALANCING AND TESTING SHALL BE PERFORMED AND SUPERVISED BY A CERTIFIED
- NEBB OR AABC TECHNICIAN. BALANCING AND TESTING SHALL BE PERFORMED AND SUPERVISED BY ONE OF THE 13. DUCTWORK INSULATION FOLLOWING INDEPENDENT FIRMS SPECIALIZING
- IN TESTING AND BALANCING: i. INTERNATIONAL TESTING AND BALANCING
- ii. INDEPENDENT TESTING & BALANCING
- iii. MERENDINO ASSOCIATES.
- K. THE PERFORMANCE AND CAPACITY OF ALL SYSTEMS AND EQUIPMENT TO BE DEMONSTRATED BY THE CONTRACTOR.
- L. AFTER SUBMISSION OF THE FIELD VERIFIED BALANCING REPORT, THE AIR BALANCING COMPANY SHALL RETURN TO THE JOB SITE TO PERFORM TWO (2) OCCUPANT COMFORT BALANCES AS DIRECTED BY THE OWNER OR ENGINEER
- M. THE FINAL REPORT AFTER THE COMFORT BALANCE IS TO BE INCLUDED IN PROJECT OPERATING AND MAINTENANCE MANUAL TO OWNER AND ENGINEER.
- N. THE TESTING AND BALANCING AGENCY SHALL INCLUDE AS PART OF THEIR WORK AN EXTENDED WARRANTY OF 90 DAYS AFTER COMPLETION OF TEST AND BALANCE WORK. THE ENGINEER AT HIS DISCRETION DURING THE WARRANTY PERIOD MAY REQUEST A RECHECK, OR RESETTING OF ANY EQUIPMENT. THE MECHANICAL CONTRACTOR AND THE BALANCING CONTRACTOR SHALL PROVIDE THE NECESSARY TECHNICIANS TO FACILITATE THIS WORK.
- O. BALANCING AGENCY SHALL PERMANENTLY MARK ALL ADJUSTMENT DEVICES (VALVES, DAMPERS, ETC.) TO ENABLE THE SETTING TO BE RESTORED.

### P. AIR BALANCING:

i. PRE-CONSTRUCTION AIR TESTING: MEASURE PRESSURE, TEMPERATURE, AND VOLUME OF AIR FROM EXISTING BASE BUILDING SYSTEM BEFORE STARTING WORK. TRAVERSE MAIN SUPPLY AND RETURN DUCTS BEFORE WORK TO OBTAIN TOTAL FLOW. SUBMIT REPORT TO ENGINEER IMMEDIATELY AFTER COMPLETION OF TEST

ii. HVAC CONTRACTOR SHALL ENSURE THAT A

- FIRST SET OF AIR FILTERS ARE IN PLACE, WHENEVER FANS ARE RUNNING AND REPLACED WITH A NEW CLEAN SET OF FILTERS BEFORE TESTING IS COMMENCED.
- iii. TEST, ADJUST, REPLACE SHEAVES, AND BALANCE ALL EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE AIR QUANTITIES INDICATED ON PLANS WITHIN PLUS OR MINUS 5 PERCENT.
- iv. TEST REPORT SHALL INCLUDE, BUT NOT 14. PIPING INSULATION BE LIMITED TO THE FOLLOWING:
- a) FLOW, LEAKAGE CLASS, TEMPERATURE, STATIC PRESSURE OF AIR AT ALL TRUNK DUCTS SERVING AREAS OF
- b) TEMPERATURE OF AIR LEAVING OUTLETS AT TWO (2) TYPICAL AIR OUTLETS.
- c) QUANTITY OF AIR AT EACH AIR INLET AND OUTLET AFTER BALANCING.
- d) PROVIDE FOR ALL FANS, FAN MOTOR HP, AMPS, VOLTS, FAN RPM, CFM, INLET AND DISCHARGE STATIC PRESSURE, SHEAVE POSITION.
- e) PROVIDE FOR ALL AIR CONDITIONING UNITS, SUPPLY CFM, OUTSIDE AIR CFM, RETURN AIR CFM, MIXED AIR CFM. PROVIDE OUTSIDE AIR. MIXED AIR AND SUPPLY AIR TEMPERATURES (DRY BULB - COOLING AND HEATING, WET-BULB-COOLING.) INDICATE UNIT OPERATING MODE DURING TEST.
- f) CALIBRATE ALL NEW TERMINAL BOXES (VAV) AS REQUIRED TO MEET SPECIFIED MINIMUM/MAXIMUM CFM.
- a) LISTING OF DESIGN AND ACTUAL READINGS AS WELL AS ALL MANUFACTURER'S DATA FOR EQUIPMENT.

#### 12. INSULATION — GENERAL REQUIREMENTS

- A. ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE, COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES, INC. USING STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723 (ASTM E-84), (ASA A2.5-1963). FLAMESPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.
- PRODUCTS SHALL NOT CONTAIN ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.

### C. DEFINITIONS:

- i. EXPOSED: INDOOR DUCTS, PIPING OR EQUIPMENT LOCATED IN MECHANICAL EQUIPMENT ROOMS AND IN AREAS WHICH WILL BE VISIBLE WITHOUT REMOVING CEILINGS OR OPENING ACCESS PANELS.
- ii. CONCEALED: INDOOR DUCTS, PIPING OR EQUIPMENT WHICH IS NOT EXPOSED.
- iii. OUTDOOR: DUCTS, PIPING OR EQUIPMENT WHICH IS EXPOSED TO THE WEATHER.

- A. INSULATE ALL DUCTWORK IN ACCORDANCE WITH INSULATION SCHEDULE ON M-600 DRAWING EXCEPT AS OTHERWISE NOTED.
- B. REINSULATE ALL DUCTWORK AND PIPING WHICH IS EXISTING AND DAMAGED DURING CONSTRUCTION OR REQUIRED TO BE RELOCATED. INSULATE WITH SAME MATERIAL AND THICKNESS.
- C. NON-INSULATED DUCTWORK:
- i. WHERE SOUNDLINING IS OF MINIMUM THICKNESS SPECIFIED FOR INSULATION.
- ii. AIR CONDITIONING RETURN AIR DUCTWORK EXPOSED IN AIR CONDITIONED SPACES AND INSTALLED IN HUNG CEILINGS WHERE SPACE IMMEDIATELY ABOVE AND BELOW ARE BOTH AIR CONDITIONED.

### D. MATERIAL:

- i. TYPE D-1: MINIMUM 1-LB DENSITY FIBERGLASS BLANKET, MAXIMUM 0.28 K-FACTOR AT 75°F MEAN TEMPERATURE WITH FACTORY-APPLIED FOIL-SKRIM-KRAFT FACING SIMILAR TO MANVILLE MICROLITE.
- ii. TYPE D-2: 3 LB. FIBERGLASS BOARD. THE MAXIMUM K FACTOR SHALL BE 0.23 AT 75°F MEAN TEMPERATURE WITH A MINIMUM DENSITY OF 3 LB. THE INSULATION SHALL BE PROVIDED WITH A FACTORY-APPLIED ALL PURPOSE OR ALL SERVICE FACING. THE INSULATION SHALL BE EQUAL TO MANVILLE TYPE 814 SPIN-GLAS AP.
- iii. TYPE D-3: MINIMUM 6 LB FIBERGLASS BOARD. MAXIMUM 0.22 K-FACTOR AT 75°F MEAN TEMPERATURE WITH FACTORY APPLIED ALL PURPOSE OR ALL SERVICE 15. FIRE-RATED INSULATION SYSTEMS FACING. SIMILAR TO MANVILLE 817 SPIN-GLAS AP.

### E. INSTALLATION:

i. FIBERGLASS BLANKET: 2 INCH LAP STRIPS AT ALL SEAMS, SECURE BOTTOM OF ALL DUCTS OVER 24 INCH WIDE WITH MIN. 2 ROWS OF WELD PINS 12 INCH ON

- CENTER. SECURE ALL SEAMS WITH FOIL VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE.
- ii. FIBERGLASS BOARD: SEAL JOINTS AND BREAKS IN FACING WITH 3 INCH WIDE TAPE TO MATCH FACING AND ADHERE WITH VAPOR SEAL ADHESIVE. APPLY 5 INCH WIDE TAPE AT CORNERS, WELD PINS ON TOP, SIDES AND BOTTOM.

- INSULATE ALL PIPING IN ACCORDANCE WITH INSULATION SCHEDULE ON M-600 DRAWING EXCEPT AS OTHERWISE NOTED.
- B. PIPING, VALVES AND FITTINGS TO BE INSULATED:
- i. LOW TEMPERATURE PIPING SYSTEMS, 40 TO 100°F INCLUDING
- a) CHILLED WATER SUPPLY AND RETURN.
- b) CONDENSER WATER SUPPLY AND
- c) GLYCOL WATER SUPPLY AND RETURN.
- ii. LOW TEMPERATURE HOT PIPING SYSTEMS, 100 TO 250°F INCLUDING

d) CONDENSATE DRAIN PIPING.

- a) LOW TEMPERATURE HOT WATER SUPPLY AND RETURN.
- b) LOW PRESSURE STEAM SUPPLY TO 15 c) LOW PRESSURE CONDENSATE RETURN, EXCEPT STEAM TRAPS AND TRAP

ASSEMBLY AND RADIATION RUNOUTS

d) PUMPED CONDENSATE DISCHARGE.

ENCLOSURES.

CONCEALED IN RADIATION

### C. MATERIAL

- i. TYPE P-1: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS, MAXIMUM 0.23 K-FACTOR AT 75°F MEAN TEMPERATURE WITH FACTORY-APPLIED FIRE-RETARDANT FOIL-SKRIM-KRAFT FACING. ALL SERVICE JACKET. SIMILAR TO OWENS-CORNING 650
- ii. TYPE P-4: MINIMUM 1 LB DENSITY FIBERGLASS FITTING INSERTS, MAXIMUM 0.28 K-FACTOR AT 75°F MEAN TEMPERATURE SIMILAR TO MANVILLE HI-LO TEMP INSULATION INSERTS.
- iii. TYPE P-6: MINIMUM 6 LB MOLDED FOAMED PLASTIC. MAXIMUM 0.27 K-FACTOR AT 75°F MEAN TEMPERATURE. MAXIMUM 0.17 PERMEANCE. SIMILAR TO ARMSTRONG ARMAFLEX II.

### D. FINISH:

- i. TYPE F-1: FITTING COVER, MOLDED WHITE PVC JACKET, UL CLASS 1, MAXIMUM PERMEANCE 0.05 SIMILAR TO MANVILLE 7FSTRON.
- ii. TYPE F-4: PVC JACKETING WITH MINIMUM 0.016 INCH WALL THICKNESS AND LONGITUDINAL JOINTS WITH LOCK SEAMS.

### OUTDOOR PIPING:

- i. FOR ALL PIPING, FITTINGS AND VALVES LOCATED OUTDOORS, INCREASE SCHEDULED INSULATION THICKNESS BY A MINIMUM OF 1 INCH AND PROVIDE F-4 FINISH. PROVIDE VAPORSEAL ON ALL OUTDOOR PIPES, VALVES AND FITTINGS SUBJECT TO CONDENSATION.
- ii. COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL HEAT TRACING REQUIREMENTS AND PIPING LENGTH REQUIREMENTS. ELECTRICAL TO PROVIDE CABLING AND THERMOSTAT.

## F. INSTALLATION:

- i. BEFORE APPLYING INSULATION ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED.
- ii. ALL INSULATION SHALL BE BUTTED FIRMLY TOGETHER. PROVIDE 2 INCH LAMP STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. USE VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE WHERE REQUIRED. STAPLES NOT PERMITTED. REFRIGERANT PIPING INSULATION SHALL HAVE MITERED FITTINGS.
- iii. ALL INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS PASSING THROUGH SLEEVES, HANGERS, ETC., OR OTHER OPENINGS. PROVIDE SADDLES OR SHIELDS FOR PROTECTION.
- iv. INSULATION FOR STRAINERS OR OTHER FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

A. FIRE-RATED BOARD: STRUCTURAL-GRADE, PRESS-MOLDED, XONOLITE CALCIUM SILICATE. FIREPROOFING BOARD SUITABLE FOR OPERATING TEMPERATURES UP TO 1700°F. COMPLY WITH ASTM C 656, TYPE II, GRADE 6. TESTED AND CERTIFIED TO PROVIDE A 2-HOUR FIRE RATING BY A NRTL ACCEPTABLE TO

AUTHORITY HAVING JURISDICTION.

IT IS A VIOLATION FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM ON THIS PLAN IN ANY WAY PURSUANT

- MANUFACTURERED BY JOHNS MANVILLE; SUPER FIRETEMP M.
- B. FIRE-RATED BLANKET: HIGH-TEMPERATURE. FLEXIBLE, BLANKET INSULATION WITH FSK JACKET THAT IS TESTED AND CERTIFIED TO PROVIDE A 2-HOUR FIRE RATING BY A NRTL ACCEPTABLE TO AUTHORITY HAVING JURISDICTION. MANUFACTURED BY JOHNS MANVILLE; FIRETEMP WRAP; FIREMASTER DUCT WRAP, 3M; FIRE BARRIER WRAP PRODUCTS, UNIFRAX CORPORATION: FYREWRAP.
- NYC PROJECTS: PRODUCT SHALL HAVE LISTING FOR THE PARTICULAR APPLICATION

### 16. VIBRATION ISOLATION

RESPONSIBILITIES

- A. FURNISH AND INSTALL ALL NECESSARY VIBRATION ISOLATORS, VIBRATION HANGERS, MOUNTING PADS, RAILS, ETC., TO ISOLATE VIBRATION AND SOUND FROM BEING TRANSMITTED TO THE BUILDING STRUCTURE ALL VIBRATION PRODUCTS SHALL BE SPECIFICALLY DESIGNED FOR THEIR INTENDED USE. PROVIDE ISOLATION FOR MOTORIZED EQUIPMENT.
- MANUFACTURER OF THE VIBRATION ISOLATION EQUIPMENT SHALL HAVE THE FOLLOWING
- i. SUBMIT TYPE, SIZE, DEFLECTION, LOCATION AND DETAILS INCLUDING FREE HEIGHT FOR EACH ISOLATOR PROPOSED FOR ITEMS IN THE SPECIFICATION AND ON THE DRAWINGS.
- ii. SUBMIT DETAILS OF ALL STEEL FRAMES AND CONCRETE INERTIA BASES TO BE USED IN CONJUNCTION WITH THE ISOLATION IN THIS SPECIFICATION AND IN THE DRAWINGS.
- iii. CLEARLY OUTLINE THE PROCEDURES FOR INSTALLING AND ADJUSTING THE ISOLATORS OR HANGERS.
- iv. GUARANTEE THE SPECIFIED ISOLATION SYSTEMS DEFLECTION AND THAT A MINIMUM OF 90% EFFICIENCY WILL BE
- C. THE FOLLOWING ARE APPROVED MANUFACTURERS, PROVIDED THEIR SYSTEMS STRICTLY COMPLY WITH THE DESIGN INTENT FOR PERFORMANCE, DEFLECTION AND STRUCTURAL CAPACITY OF THIS SPECIFICATION. MASON INDUSTRIES, INC., HAUPPAUGE, NY i. VIBRATION MOUNTINGS & CONTROLS, INC.,
- BLOOMINGDALE, NJ iii. AMBER BOOTH, HOUSTON, TX iv. KINETICS NOISE CONTROL, INC.
- PROVIDE INSTALLATION INSTRUCTIONS, DRAWINGS AND FIELD SUPERVISION TO ASSURE PROPER INSTALLATION AND PERFORMANCE.
- INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS INCLUDING THE LOAD AND SPRING STATIC DEFLECTION FOR EACH FLOOR OR CEILING HUNG ISOLATOR.
- F. PROVIDE LEVELING DEVICES AND APPROVED RESILIENT DEVICES AS REQUIRED TO LIMIT EQUIPMENT AND PIPING MOTION IN EXCESS OF 1/4 INCH ISOLATORS SHALL HAVE CAPABILITY OF SUPPORTING EQUIPMENT AND PIPING AT A FIXED ELEVATION DURING INSTALLATION AND AT A SPECIFIED HEIGHT AFTER ADJUSTMENT.
- ALL SPRINGS SHALL HAVE AT LEAST 50% ADDITIONAL LOAD CAPACITY ABOVE DESIGN
- H. PROVIDE SUPPLEMENTAL STEEL AS REQUIRED WHERE EQUIPMENT CANNOT SUPPORT POINT
- PROVIDE CORROSION PROTECTION FOR EQUIPMENT MOUNTED OUTDOORS. SPRING CORROSION RESISTANCE SHALL BE POWDER COATING OF THE SPRING WITH THE STEEL HOUSING HOT DIPPED GALVANIZED. ALL HARDWARE TO BE CADMIUM PLATED.

### J. CENTRIFUGAL FANS

- i. FLOOR MOUNTED AXIAL FANS, CABINET FANS, FAN SECTIONS, AIR HANDLING UNITS UTILIZE MASON TYPE SLF FREE STANDING SPRING OR EQUAL.
- ii. CEILING HUNG UTILIZE MASON TYPE 30 N OR EQUAL.
- iii. 3 HP AND LESS MOTOR TYPE B-1 BASE WITH SPRING ISOLATORS MASON TYPE SLF SPRING ISOLATORS OR EQUAL.
- iv. 24 INCH DIAMETER AND UP, WITH UP TO 40 HP MOTOR-TYPE B-1 BASE WITH MASON TYPE SLF SPRING ISOLATORS OR EQUAL.
- v. MOTOR SIZE MINIMUM CONCRETE THICKNESS
- a) 5 TO 15 HP 6 INCHES b) 20 TO 50 HP - 8 INCHES
- K. FLOOR MOUNTING OF PACKAGED AIR CONDITIONING UNIT WITH INTERNAL ISOLATION FOR COMPRESSORS - NEOPRENE IN SHEAR -TYPE SUPER W- BRIDGE BEARING.
- i. 50 PSI MAXIMUM LOADING. PROVIDE STEEL BEARING PLATE TO DISTRIBUTE LOAD WHERE REQUIRED.
- TYPE RSC AND/OR DUNNAGE STEEL WITH TYPE SLR WITH VERTICAL LIMIT STOPS.

ROOFTOP AC UNITS - SPRING ROOF CURB -

- M. SUPPORT OF PIPING IN EQUIPMENT ROOMS

AND WHERE EXPOSED ON ROOF

ISOLATORS

(TYPE SLR).

- i. ALL WATER PIPING OUTSIDE OF SHAFTS WITHIN 50 FEET OF CONNECTED ROTATING EQUIPMENT TO BE SUPPLIED WITH
- ii. HANGER ROD ISOLATORS (TYPE 30N)
- MOUNTINGS. iii. INDOOR SUPPORTED PIPING ISOLATORS
- iv. VERTICAL RISER PIPING ANCHOR AND GUIDES (TYPE ADA).
- N. FLOOR AND ROOF MOUNTING OF FACTORY ASSEMBLED AIR HANDLING UNITS. AIR CONDITIONING UNITS, HEAT EXCHANGERS AND CONDENSING UNITS, - SPRING ISOLATORS (ROOF MOUNTED EQUIPMENT TYPE SLR), OR (INDOOR EQUIPMENT TYPE SLF).
- PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL FANS AND DUCTWORK (REFER TO DUCTWORK SECTION FOR SPECIFICATIONS).

#### 17. PIPING — GENERAL REQUIREMENTS

- A. COMPLETE WITH: PIPE, FITTINGS, VALVES STRAINERS, MOTORIZED VALVE OPERATORS HANGERS, SUPPORTS, GUIDE, SLEEVES, AND ACCESSORIES.
- ALL ITEMS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING CODES AND STANDARDS:
- AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
- ii. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
- (ANSI). iv. MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY

iii. AMERICAN NATIONAL STANDARDS INSTITUTE

GASKETS: ONE PIECE RING TYPE 1/16 INCH MINIMUM THICKNESS KLINGER C4400 ONLY (OR APPROVED EQUAL, SUBMIT FOR APPROVAL BEFORE USE).

## WELDING

- i. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH ALL CODES APPLICABLE TO THE PARTICULAR SERVICE. WELDING FILLER METALS: COMPLY WITH AWS D10.12/D10.12M FOR WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS AND CHEMICAL ANALYSIS OF STEEL PIPE BEING WELDED.
- ii. COMPLY WITH SECTION II, PART C OF THE ASME BOILER AND PRESSURE VESSEL CODE FOR WELDING MATERIALS APPROPRIATE FOR WALL THICKNESS AND FOR CHEMICAL ANALYSIS OF PIPE BEING WELDED.
- iii. QUALIFY PROCESSES AND OPERATORS ACCORDING TO ASME BOILER AND PRESSURE VESSEL CODE: SECTION IX. "WELDING AND BRAZING QUALIFICATIONS" COMPLY WITH PROVISIONS IN ASME B31 SERIES, "CODE FOR PRESSURE PIPING."
- iv. WELDERS SHALL BE QUALIFIED FOR ALL REQUIRED PIPE SIZES, MATERIAL, WALL THICKNESS, AND POSITION IN ACCORDANCE WITH THE AMERICAN SOCIETY OF MECHANICAL ENGINEERING (ASME) SECTION IX, BOILER AND PRESSURE VESSEL CODE. CERTIFY THAT EACH WELDER HAS PASSED AWS QUALIFICATION TESTS FOR WELDING PROCESSES INVOLVED AND THAT
- CERTIFICATION IS CURRENT. v. COPIES OF THE CERTIFIED WELDER QUALIFICATION REPORTS SHALL BE MAINTAINED BY THE RESPONSIBLE WELDING AGENCY AND THE COMPANY PERFORMING THE WELDING, AND SHALL BE SUBMITTED TO THE OWNER AND/OR ENGINEER UPON REQUEST.
- vi. ALL DEFECTIVE WELDS SHALL BE CHIPPED OUT AND REPAIRED AT NO COST TO THE OWNER, BASED ON PROCEDURE TO BE SPECIFIED AT THE TIME.

# E. COPPER TUBE BRAZING

- ALL BRAZING SHALL BE DONE IN ACCORDANCE WITH ALL CODES APPLICABLE TO THE PARTICULAR SERVICE. BRAZING FILLER METALS: AWS A5.8, BCUP SERIES. COPPER-PHOSPHORUS ALLOYS FOR JOINING COPPER WITH COPPER; OR BAG-1, SILVER ALLOY FOR JOINING COPPER WITH BRONZE OR STEEL.
- ii. QUALIFY PROCESS AND OPERATORS IN ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE, SECTION IX, "WELDING AND BRAZING QUALIFICATIONS".
- iii. BRAZERS SHALL BE QUALIFIED FOR ALL REQUIRED TUBE SIZES, MATERIAL, WALL THICKNESS, AND POSITION IN ACCORDANCE WITH THE AMERICAN SOCIETY OF MECHANICAL ENGINEERING (ASME), SECTION IX, BOILER AND PRESSURE VESSEL CODE.

iv. COPIES OF THE CERTIFIED BRAZER

QUALIFICATION REPORTS SHALL BE

MAINTAINED BY THE RESPONSIBLE BRAZING

AGENCY AND THE COMPANY PERFORMING

THE BRAZING, AND SHALL BE SUBMITTED

- TO THE OWNER, BASED ON PROCEDURE TO BE SPECIFIED AT THE TIME.

v. ALL DEFECTIVE BRAZEMENTS SHALL BE

TO THE OWNER AND/OR ENGINEER UPON

CHIPPED OUT AND REPAIRED AT NO COST

### F. GASKETS

- PIPE-FLANGE GASKET MATERIALS: SUITABLE FOR CHEMICAL AND THERMAL CONDITIONS OF PIPING SYSTEM CONTENTS. ASME B16.21, NONMETALLIC, FLAT, ASBESTOS-FREE, 1/8-INCH MAXIMUM THICKNESS UNLESS THICKNESS OR SPECIFIC MATERIAL IS INDICATED.
- G. ALL PRESSURIZED HYDRONIC PIPING TO BE TESTED HYDROSTATICALLY TO 150 PSI OR 150% OF OPERATING PRESSURE, WHICHEVER GREATER, BUT NEVER EXCEED TEST PRESSURE ANSI B16.1 BASIS. TEST DURATION TO BE 2 HOURS WITH NO PRESSURE CHANGE CORRECTED FOR TEMPERATURE CHANGE REPAIR OR REPLACE LEAKS OR DEFECTS WITHOUT ADDITIONAL COST.

### i. REFRIGERANT PIPING

- a) TEST REFRIGERANT PIPING FOR TIGHTNESS AND LEAKS UNDER PRESSURE OR VACUUM -COORDINATE WITH MANUFACTURER REQUIREMENTS. THE DURATION OF EACH TEST SHALL BE TWENTY-FOUR (24) HOURS.
- b) TEST JOINTS IN ACCORDANCE WITH ASHRAE 15-LATEST EDITION. THERE SHALL BE NO OBSERVABLE LEAKS OR CHANGES IN PRESSURE. IF EITHER IS OBSERVED, SEAL LEAKS, AND REPEAT TEST PROCEDURES

### H. SYSTEM FILLING

CONNECTION.

MANAGEMENT.

- j. SYSTEMS OR PORTIONS OF SYSTEMS TO BE TESTED SHALL HAVE PROVISIONS FOR FILLING, VENTING (AIR REMOVAL). DRAINAGE AND TEST PRESSURE
- ii. LIQUID USED FOR TESTING SHALL BE CLEAN CITY WATER MIXED WITH CHEMICALS SPECIFIED BY THE BASE BUILDING WATER TREATMENT CONTRACTOR. THE HVAC CONTRACTOR SHALL HIRE THE SERVICES OF THE BUILDING WATER TREATMENT CONTRACTOR AND PROVIDE ALL REQUIRED LABOR. PROVIDE TEMPORARY METERING AND MIXING DEVICES AS REQUIRED. THE HVAC CONTRACTOR SHALL OBTAIN ALL

REQUIREMENTS FROM THE BUILDING

- FLUSHING AND CLEANING AND TREATMENT
- i. AFTER COMPLETION OF HYDROSTATIC TESTS AND EMPTYING, PROVIDE LABOR FOR INITIAL FLUSHING, CLEANING, AND PASSIVATING IN ACCORDANCE WITH THE OWNER'S WATER TREATMENT SPECIFICATION THE HVAC CONTRACTOR SHALL HIRE THE SERVICES OF THE BASE BUILDING WATER TREATMENT CONTRACTOR. COORDINATE WITH THE OWNER'S WATER TREATMENT COMPANY AND PROVIDE ALL SPECIFICATION REQUIREMENTS AND REQUIRED LABOR. COORDINATE ALL REQUIREMENTS WITH BASE BUILDING MANAGEMENT FOR BASE
- BUILDING VENDOR. ii. PROVIDE ONE YEAR'S SUPPLY OF NECESSARY WATER TREATMENT CHEMICALS FOR NEW SYSTEM TO THE OWNER OR TENANT INCLUDING THE FOLLOWING:
- iii. CLOSED SYSTEM TREATMENT (CHILLED WATER, SECONDARY WATER, CLOSED CONDENSER WATER AND HOT WATER) PROVIDE AGENTS TO REDUCE SCALE DEPOSITS, TO ADJUST PH AND TO INHIBIT CORROSION. TREATMENT SHALL NOT CONTAIN ANY CHROMATE'S OR OTHER TOXIC SUBSTANCES. USE PROPER CHEMISTRY TO PROVIDE BACTERIA COUNTS BELOW 103/ COLONIES PER MILLILITER (AEROBIC & NON AEROBIC). PH LEVELS TO BE BETWEEN 7.0 AND 9.0. CORROSION RATE TO BE LESS THAN 1/2 MILS/YEAR
- STEEL, 1/10 MILS/YEAR COPPER. iv. OPEN SYSTEM TREATMENT (CONDENSER WATER) PROVIDE AGENTS TO REDUCE SCALE DEPOSITS, TO ADJUST PH AND TO INHIBIT CORROSION. TREATMENT SHALL NOT CONTAIN ANY CHROMATE'S OR OTHER TOXIC SUBSTANCES. USE PROPER CHEMISTRY TO PROVIDE BACTERIA COUNTS BELOW 105/ COLONIES PER MILLIMETER (AEROBIC AND NON-AEROBIC). PH TO BE BETWEEN 7.5 AND 8.5. CORROSION RATES TO BE LESS THAN 1 MILS/YEAR -STEEL AND 1/10 MILS/YEAR COPPER.
- J. PROVIDE DIELECTRIC FITTINGS WHERE DISSIMILAR METALS ARE TO BE JOINED.

# K. HOT (WET) TAPS:

- i. PROVIDE NEW HOT (WET) TAP CONNECTIONS INTO PIPING SYSTEMS AS INDICATED ON THE PLANS.
- ii. PROVIDE ALL REQUIRED EQUIPMENT AND MATERIALS SUCH AS A TAPPING MACHINE. WELDING MACHINE. FULL PORTED VALVE AND A PRESSURE CONTAINING FITTING. VALVE AND PRESSURE FITTING TO BE RATED FOR THE WORKING PRESSURE OF THE PIPING SYSTEM.
- iii. HOT TAP TO BE PERFORMED BY A

- QUALIFIED CONTRACTOR WHO IS SPECIALIZED IN PERFORMING THIS TYPE OF WORK. CONTRACTORS NAME SHALL BE SUBMITTED TO THE OWNER, OWNER'S REPRESENTATIVE, BUILDING MANAGEMENT AND ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.
- iv. HOT (WET) TAP COUPON IS TO BE TURNED OVER TO BUILDING MANAGEMENT.

# DRAIN DOWN FOR NEW PIPING CONNECTION

INTO EXISTING:

- i. CONTRACTOR TO OBTAIN SCHEDULE AND COORDINATE WITH BUILDING MANAGEMENT FOR SYSTEM DRAIN DOWN AND CONNECTION INTO EXISTING BUILDING PIPING. ALL COSTS ASSOCIATED WITH DRAIN DOWN ARE TO BE INCLUDED AS PART OF BID.
- M. ALL INSTRUMENTATION (PRESSURE GAUGES AND THERMOMETERS) SHALL BE RATED FOR THE SAME PRESSURE AND TEMPERATURE AS PIPING SYSTEM AND RATED SPECIFICALLY FOR THE SAME SERVICE AS THE PIPING, PRESSURE GAUGES ARE TO BE LIQUID FILLED WITH 1% ACCURACY. SELECT GAUGES AND THERMOMETERS SO THAT THE MID-POINT IS AT THE WORKING PRESSURE AND TEMPERATURE. INSTRUMENTS TO BE MANUFACTURED BY WEISS INSTRUMENT MILJOCO CORPORATION OR APPROVED EQUAL.
- PROVIDE THERMOMETERS IN PIPING AS INDICATED ON THE DRAWINGS AND AT THE INLET AND OUTLET OF EACH HYDRONIC COIL, HEAT EXCHANGER AND PIECE OF EQUIPMENT THAT INVOLVES A DIFFERENTIAL TEMPERATURE. THERMOMETERS TO BE ORGANIC LIQUID FILLED.
- ii. PROVIDE PRESSURE GAUGES IN PIPING AS INDICATED ON THE DRAWINGS AND AT SUCTION AND DISCHARGE OF EACH PUMP AND AT INLETS AND OUTLETS OF EACH HYDRONIC COIL, HEAT EXCHANGER AND PIECE OF EQUIPMENT THAT INVOLVES A

### DIFFERENTIAL PRESSURE.

POINT LOADS.

8 FEET.

N. PIPE SUPPORTS:

- PROVIDE ADEQUATE SUPPORT FOR PIPE AND CONTENTS TO PREVENT SAGGING. VIBRATION, OR SWAYING AND ALLOW FOR EXPANSION AND CONTRACTION. PROVIDE SUPPLEMENTAL STEEL AS REQUIRED WHERE STRUCTURE CANNOT SUPPORT
- FORGED STEEL ADJUSTABLE CLEVIS TYPE HANGER. MAXIMUM SPACING AS FOLLOWS:

HORIZONTAL PIPING TO BE SUPPORTED BY

a) STEEL 1 INCH AND SMALLER: 6 FEET.

b) STEEL 1-1/4 INCH AND LARGER: 10

c) COPPER 1 INCH AND SMALLER: 5

- d) COPPER 1-1/2 IN TO 2-1/2 INCH:
- e) COPPER 3 INCH: 10 FEET. f) PROVIDE ADDITIONAL SUPPORTS AT CHANGES IN DIRECTION, BRANCH PIPING AND RUNOUTS OVER 5 FEET AND CONCENTRATE LOADS DUE TO
- SIMILAR ITEMS.
- iii. ROD SIZE

VALVES, STRAINERS AND OTHER

- a) PIPE 2 IN AND SMALLER: 3/8 IN b) PIPE 2-1/2 IN TO 3 IN: 1/2 IN
- iv. VERTICAL PIPING:

c) PIPE 4 TO 8 IN: 3/4 IN

- a) BASE ELBOW SUPPORT WITH BEARING PLATE ON STRUCTURAL SUPPORT. b) GUIDES AT EVERY SECOND FLOOR
- c) TOP SUPPORT HANGER OR SADDLE IN HORIZONTAL CONNECTION WITH PROVISIONS FOR EXPANSION.

SUPPORT BOLTED AND WELDED TO

PIPE BEARING ON STRUCTURAL STEEL

(SPACING NOT TO EXCEED 25 FEET).

OR BEARING PLATE AT FLOOR. e) FOR MULTIPLE PIPES, COORDINATE GUIDES, BEARING PLATES AND

d) INTERMEDIATE STEEL RISER CLAMP

O. VALVES — GENERAL REQUIREMENTS

ACCESSORY STEEL.

RATINGS: NOT LESS THAN INDICATED AND AS REQUIRED FOR SYSTEM PRESSURES AND TEMPERATURES.

UNLESS OTHERWISE INDICATED.

i. VALVE PRESSURE AND TEMPERATURE

iii. VALVE-END CONNECTIONS: a) FLANGED: WITH FLANGES ACCORDING

TO ASME B16.1 FOR IRON VALVES

ii. VALVE SIZES: SAME AS UPSTREAM PIPING

b) FLANGED: WITH FLANGES ACCORDING TO ASME B16.5 FOR STEEL VALVES

c) FLANGED: WITH FLANGES ACCORDING

TO ASME B16.24 FOR BRONZE DRAWINGS & SPECIFICATIONS AS INSTRUMENTS OF PROFESSIONAL SERVICE ARE, AND SHALL REMAIN, THE PROPERTY OF EP ENGINEERING, LLC. NO REPRODUCTION, IN THIS PLAN IS APPROVED BY THE CITY ONLY FOR THE WORK INDICATED ON THE

- - d) SOLDER JOINT: WITH SOCKETS ACCORDING TO ASME B16.18.

iv. GENERAL-DUTY VALVE APPLICATIONS:

b) SHUTOFF SERVICE, STEAM: GATE

c) THROTTLING SERVICE EXCEPT STEAM:

BALL, BUTTERFLY, PLUG VALVES.

d) THROTTLING SERVICE, STEAM: GLOBE

BRANCH CONNECTION TO SUPPLY MAINS,

AT SUPPLY CONNECTION TO EACH PIECE

BRANCH LINE. INSTALL THROTTLING DUTY

VALVES AT EACH BRANCH CONNECTION TO

RETURN MAINS, AT RETURN CONNECTIONS

OF EQUIPMENT IS CONNECTED IN THE

TO EACH PIECE OF EQUIPMENT, AND

vi. INSTALL CALIBRATED BALANCING VALVES IN

ELSEWHERE AS REQUIRED TO FACILITATE

THE RETURN WATER LINE OF EACH

HEATING OR COOLING ELEMENT AND

vii. INSTALL SPRING LOADED CHECK VALVES

ELSEWHERE AS REQUIRED TO CONTROL

viii. THREADED CONNECTIONS ARE NOT TO BE

AT EACH PUMP DISCHARGE AND

USED FOR GLYCOL SYSTEMS.

A. PROVIDE ALL REFRIGERANT PIPING REQUIRED

ACCORDANCE WITH ASHRAE STANDARD

15-LATEST EDITION AND ALL AUTHORITIES

SHALL INCLUDE ALL REQUIRED ITEMS FOR

REFRIGERANT PIPING SHALL BE HARD COOPER,

TYPE L OR ACR, ASTM B88 OR ASTM B 280,

CHARGING, DRAINING AND PURGING THE

C. JOINTS IN REFRIGERATION PIPING SHALL BE

). REFRIGERANT PIPING SHALL BE OF THE SIZE

AND NUMBER OF PIPES RECOMMENDED BY

THE MANUFACTURER AND AS APPROVED BY

HORIZONTAL PIPING OF THE COMPRESSOR

SUCTION AND DISCHARGE LINES AND THE

CONDENSER DISCHARGE LINES SHALL BE

PITCHED A MINIMUM OF 1/2 INCH IN 10 FEET.

EACH SUCTION GAS VERTICAL RISER SHALL BE

EXCESSIVE OIL FROM BEING TRAPPED IN THE

PROVIDE A FULLY PIPED OIL SEPARATOR FOR

G. VALVES SHALL BE DESIGNED FOR REFRIGERANT

SERVICE. SHUTOFF VALVES SHALL BE BRASS

DISCONNECTING EQUIPMENT, CONTROLS, ETC.

FOR MAKING REPAIRS. PIPING SHALL BE RUN

IN A SINGLE LAYER, WITH EACH LINE ISOLATED

PROVISION SHALL BE MADE FOR EXPANSION

AND CONTRACTION OF PIPING. ALL PIPING

SHALL BE FURNISHED WITH SLEEVES AS

H. REFRIGERANT PIPING PASSING THROUGH RATED

CONTINUOUS FIRE-RESISTING PIPE DUCT OR

15-LATEST EDITION. PIPE CONDUIT SHALL BE

THROUGH/ABOVE PUBLIC CORRIDORS SHALL BE

INSTALLED WITHIN 1-HR RATED ENCLOSURE.

UNLESS IT CONTAINS LESS THAN 10 POUNDS

OF GROUP A-1 REFRIGERANT, ITS COMPLETE

DISCHARGE INTO THE CORRIDOR WOULD BE

1103.1 IN THE NYC AND IT IS INSTALLED AT

LESS THAN 50% OF ITS RCL PER TABLE

SHAFTS CONTAINING REFRIGERANT PIPING

SHALL NOT BE SHARED WITH ANY AIR

FLOORS OR DEMISING WALLS SHALL BE

ENCLOSED IN A RIGID AND GAS-TIGHT

SHAFT VENTED TO THE OUTSIDE, IN

ACCORDANCE WITH ASHRAE STANDARD

COPPER TUBE TYPE L WITH SOLDERED

REFRIGERANT PIPING RUNNING

PASSING THROUGH WALLS, PARTITIONS, ETC.,

PACKLESS TYPE. UNIONS, FLANGED VALVES OR

TRAPPED AT ITS EVAPORATOR WITH A TRAP AS

IN THE DIRECTION OF REFRIGERANT FLOW.

RECOMMENDED BY THE COMPRESSOR

SYSTEM. ANY ADDITIONAL RISERS OR

EQUALIZER LINES REQUIRED BY THE

INSTALL REFRIGERANT PIPING TO PREVENT

MANUFACTURER OF EQUIPMENT FOR THE

PROPER SYSTEM OPERATION SHALL BE

INSTALLED AS PART OF THIS CONTRACT

EACH REFRIGERANT SYSTEM AS PER

MANUFACTURER'S RECOMMENDATIONS.

FITTINGS SHALL BE PROVIDED FOR

FROM ANOTHER TO PREVENT RUBBING.

FOR A COMPLETE REFRIGERATION SYSTEM,

WITH ALL VALVES, FITTINGS AND SPECIALTIES

NECESSARY FOR SATISFACTORY OPERATION IN

HAVING JURISDICTION. REFRIGERATION SYSTEM

ELSEWHERE AS INDICATED.

SYSTEM BALANCING.

FLOW DIRECTION.

18. REFRIGERANT SYSTEMS

SYSTEM.

BRAZED.

BRAZED.

THE ENGINEER.

MANUFACTURER.

REQUIRED.

FITTINGS.

LEAST 9' AFF.

DUCTWORK.

OF EQUIPMENT, UNLESS ONLY ONE PIECE

v. INSTALL SHUTOFF DUTY VALVES AT EACH

FOLLOWING VALVE TYPES:

VALVES.

VALVES.

- e) THREADED: WITH THREADS ACCORDING TO ASME B1.20.1.
- f) VALVE BYPASS AND DRAIN CONNECTIONS: MSS SP-45.
- UNLESS OTHERWISE INDICATED, USE THE **ARCHITECT** david cunningham architecture planning pllc
- 543 Union Street Suite IC a) SHUTOFF SERVICE EXCEPT STEAM BALL, BUTTERFLY OR GATE VALVES. Brooklyn NY 11215
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TO NYS EDUCATION LAW, SECOND 7209(2). IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THIS ITEM HIS OR HER WHOLE OR IN PART, SHALL BE MADE WITHOUT THE WRITTEN AUTHORIZATION OF EP ENGINEERING, LLC. THIS DOCUMENT IS INTENDED SOLELY FOR THE CONSTRUCTION OF APPLICATION SHEET. ALL OTHER MATTERS ARE NOT TO BE RELIED UPON, OR TO BE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. THE PROJECT NAMED HEREIN AND SHALL NOT BE USED BY ANY OTHER PARTIES FOR ANY OTHER CONSTRUCTION WITHOUT THE WRITTEN CONSENT OF EP ENGINEERING, LLC. CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES. THE SCALE OF THIS DRAWING IS CORRECT WHEN PRINTED ON 24x36 SIZE PAPER. ALL OTHER PAPER SIZES WILL NOT SHOW THE CORRECT SCALE.

#### 19. ELECTRICAL WORK

#### A. GENERAL:

- ELECTRICAL POWER WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACT. CONTROL WIRING SHALL BE PROVIDED BY THE HVAC CONTRACT. CONTROL WIRING SHALL BE DEFINED AS ANY WIRING 120V AND BELOW INSTALLED FOR PURPOSES OTHER THAN PROVIDING PRIMARY ELECTRICAL POWER TO EQUIPMENT.
- MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES (VFD) SHALL BE FURNISHED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO EQUIPMENT SECTION FOR VARIABLE FREQUENCY DRIVE SPECIFICATIONS.
- iii. DUCT MOUNTED SMOKE DETECTORS, WHERE REQUIRED, SHALL BE PROVIDED BY AND WIRED BY THE ELECTRICAL CONTRACTOR, AND MOUNTED BY THE HVAC CONTRACTOR.
- a) THIS CONTRACTOR SHALL INSTALL THE SMOKE DETECTOR SAMPLING TUBES IN THE DUCT AS COORDINATED IN THE
- b) THIS CONTRACTOR SHALL ASSIST THE ELECTRICAL CONTRACTOR IN TESTING THE DUCT-MOUNTED SMOKE DETECTION SYSTEM.
- iv. ALL ELECTRICAL CONTROL WIRING SHALL COMPLY WITH LOCAL ELECTRICAL CODE, ALL AUTHORITIES HAVING JURISDICTION AND THE PROJECT ELECTRICAL SPECIFICATIONS.
- v. MECHANICAL CONTRACTOR TO OBTAIN QUANTITY OF CONTROLLERS REQUIRED AND COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL OPERATING REQUIREMENTS, INTERLOCKS AND CONNECTIONS FOR STARTERS.
- vi. THE MECHANICAL CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL POINT TO POINT, COMPLETELY COORDINATED WIRING DIAGRAMS AND INDICATE ALL SOURCE POWER REQUIREMENTS AND ALL FIELD WIRING TO BE PERFORMED BY THE ELECTRICAL CONTRACTOR.
- vii. WHERE EXISTING STARTERS ARE TO BE REUSED, THIS CONTRACTOR SHALL MAINTAIN ALL EXISTING CONTROL CONNECTIONS. WHERE NEW STARTERS ARE TO BE PROVIDED TO REPLACE EXISTING. THIS CONTRACTOR SHALL SURVEY THE EXISTING CONTROL CONNECTIONS AND PREPARE AN EXISTING CONTROL WIRING DIAGRAM PRIOR TO DEMOLITION FOR SUBMITTAL TO THE ENGINEER. THE NEW STARTERS SHALL BE PROVIDED WITH THE NECESSARY CONTACTS AND RELAYS REQUIRED TO RECONNECT THE EXISTING CONTROLS. PROVIDE ALL REQUIRED CONTACTS FOR START/STOP AND FIRE

### 20. MOTORS:

- A. MOTORS SHALL HAVE THE ELECTRICAL CHARACTERISTICS AS LISTED ON THE DRAWINGS. COORDINATE ALL REQUIREMENTS WITH ELECTRICAL CONTRACTOR. ALL MOTORS SHALL COMPLY WITH NEMA MG-1 STANDARD AND SHALL BE OF THE HIGH EFFICIENCY TYPE AND MEET THE 1992 EPA ENERGY EFFICIENCY ACT AND UTILITY COMPANY REBATE REQUIREMENTS.
- B. MOTORS FOR VARIABLE FREQUENCY DRIVES (VFD) SHALL BE SUITABLE FOR USE WITH VARIABLE FREQUENCY DRIVES AND COMPLY WITH NEMA MG-1 PART 31.40.4.2. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS OF THE MOTOR AND VFD MANUFACTURER.
- C. IF CONTRACTOR ELECTS TO SUBSTITUTE OR INCREASE MOTOR HORSEPOWER OVER THAT SPECIFIED, THE COST OF MOTOR AND ELECTRICAL CHANGES SHALL BE BORNE BY THIS CONTRACTOR.
- D. MOTORS (UNDER HVAC WORK): IN ACCORDANCE WITH NEMA, IEEE AND ANSI C50 STANDARDS:
- i. STANDARD EFFICIENCY UNLESS OTHERWISE NOTED.
- ii. 1.15 SERVICE FACTOR INCLUDING MOTORS SERVED FROM A VFD
- iii. SQUIRREL CAGE INDUCTION, OPEN DRIPPROOF TYPE, 1750 RPM, NEMA TYPE B INSULATION CLASS, CONTINUOUS DUTY,
- 21. MOTOR CONTROLLERS

CONTRACTOR.

### SUPPLIED BY HVAC CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL

EXCEPT AS NOTED.

### B. ENCLOSURES:

PROVIDE ENCLOSURES FOR STARTERS AND VFD'S SUITABLE FOR OPERATING ENVIRONMENT. ENCLOSURE'S SHALL BE NEMA 1 VENTILATED SHEETMETAL FOR INDOOR APPLICATION, NEMA 3R WITH ADDITIONAL GASKETING WEATHER-PROOF RAINTIGHT ENCLOSURE FOR EXPOSED OUTDOOR SERVICE OR INDOOR SERVICE EXPOSED TO MOISTURE. PROVIDE

- DISCONNECT SWITCH ON ENCLOSURE AS REQUIRED FOR SERVICE.
- C. WITH SOLID-STATE (ELECTRONIC) OVERLOAD PROTECTION. COORDINATE ALL MOTOR CONTROLLER TYPES AND SIZES WITH MOTOR TYPES AND SIZES.
- STARTER EXCEPT USE MAGNETIC TYPE WHERE AUTOMATICALLY CONTROLLED.

D. 1/3 HP AND SMALLER: PROVIDE MANUAL

- i. MANUAL TYPE: 2-POLE TOGGLE SWITCH WITH OVERLOAD PROTECTION AND PILOT
- E. 1/2 HP AND LARGER: PROVIDE MAGNETIC STARTER:
- COMBINATION UNFUSED DISCONNECT SWITCH AND MAGNETIC STARTER EXCEPT AS NOTED.
- SOLID-STATE (ELECTRONIC) OVERLOAD PROTECTION IN EACH PHASE LEG WITH RESET IN ENCLOSURE.
- iii. HOA SELECTOR SWITCH FOR AUTOMATICALLY OPERATED MOTORS. SAFETY
- iv. RED, GREEN AND AMBER PILOT LIGHTS.

CONTROLS COMMON TO BOTH CONTROLS.

- v. SWITCHES: HORSE-POWER-RATED, EXTERNAL PADLOCKING TYPE.
- vi. HOLDING COILS: 10 WATT, 120 VOLT.
- vii. CONTACTS: MAIN LINE AND MINIMUM (2) -
- viii. REQUIRED FOR CONTROLS SPECIFIED.

TO CONTACTS

- ix. CONTROL TRANSFORMER: FOR MOTORS OVER 120 VOLTS, TO STEP DOWN CONTROL VOLTAGE TO 120 VOLTS; OF THE REQUIRED CAPACITY WITH FUSE AND GROUND CONNECTION ON VOLTAGE SIDE.
- x. FUSES: SIMILAR TO BUSSMAN.
- xi. RELAYS: TO SUPPLEMENT AUXILIARY CONTACTS IN CONTROLLER. MINIMUM 10 WATT COIL AND TWO 10 AMP CONTACTS.
- xii. TERMINALS: SUITABLE FOR CONDUCTORS NOTED AND AS APPROVED.
- F. DISCONNECT SWITCHES ARE PROVIDED BY THE ELECTRICAL CONTRACTOR IF NOT INTEGRAL WITH EQUIPMENT.
- G. ACCEPTABLE MANUFACTURERS:
- i. EATON/ CUTLER HAMMER.
- ii. SQUARE D.
- iii. ALLEN BRADLEY.

### 22. EQUIPMENT

- A. PROVIDE ALL EQUIPMENT AND ACCESSORIES OF THE SIZES AND CAPACITIES AS SCHEDULED AND AS INDICATED ON THE DRAWINGS.
- B. INSTALL EQUIPMENT IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, MANUFACTURERS INSTRUCTIONS AND ALL CODES AND REGULATIONS WHICH APPLY.
- C. PROVIDE EQUIPMENT SUPPORTS AND/OR MOUNTINGS AS INDICATED ON THE DRAWING, IN VIBRATION SPECIFICATION AND AS FOLLOWS:
- i. FLOOR MOUNTED EQUIPMENT PROVIDE DIMENSIONS FOR A 4 INCH CONCRETE HOUSEKEEPING PAD WITH ALL REQUIRED WATERPROOFING TO THE CONSTRUCTION MANAGER.
- ii. EQUIPMENT ON FLOOR STANDS PROVIDE FLOOR STAND OF STRUCTURAL STEEL OR STEEL PIPES AND FITTINGS ATTACHED TO
- iii. ROOF MOUNTED EQUIPMENT PROVIDE PREFABRICATED ISOLATED ROOF CURB WITH INTEGRAL VIBRATION ISOLATORS.
- iv. CEILING MOUNTED EQUIPMENT PROVIDE SUPPORTS WITH APPROVED SUITABLE ANCHORS SUSPENDED DIRECTLY FROM BUILDING STEEL STRUCTURE.
- v. PROVIDE SUPPLEMENTAL STEEL AS REQUIRED TO ADEQUATELY SUPPORT THE EQUIPMENT LOAD.
- vi. EQUIPMENT SHALL BE INSTALLED WITH VIBRATION ISOLATION, REFER TO VIBRATION ISOLATION SECTION.

### D. RIGGING

THE SCALE OF THIS DRAWING IS CORRECT WHEN PRINTED ON 24x36 SIZE PAPER. ALL OTHER PAPER SIZES WILL NOT SHOW THE CORRECT SCALE.

i. THIS CONTRACTOR SHALL SURVEY THE BUILDING AND VERIFY THE RIG PATH PRIOR TO PURCHASE OF EQUIPMENT. CONFIRM ALL EQUIPMENT FITS THROUGH ALL HALLWAYS, DOORS, ELEVATORS, WINDOWS, ETC. WITHOUT REQUIRING MAJOR 24. SEQUENCE OF OPERATIONS: ALTERATIONS TO THE EXISTING BUILDING CONDITIONS. ANY MODIFICATIONS TO EXISTING CONDITIONS SHALL BE REPAIRED

OR REPLACED BY CONTRACTOR.

ii. THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED RIGGING, HOISTING AND BRACING TO INSTALL THE EQUIPMENT AS INDICATED ON THE PLANS. THIS WORK SHALL BE PERFORMED BY AN INSURED CERTIFIED LICENSED RIGGING COMPANY THAT IS

- EXPERIENCED IN RIGGING EQUIPMENT OF THE TYPE INDICATED FOR THE AREAS SHOWN ON THE CONSTRUCTION DOCUMENTS. THIS CONTRACTOR SHALL SUBMIT RIGGING PLANS FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK
- iii. ALL PERMITS REQUIRED FROM THE AUTHORITIES AND AGENCIES INVOLVED TO PERFORM THE RIGGING ARE THE RESPONSIBILITIES OF THIS CONTRACTOR.
- iv. ALL STRUCTURAL SUPPORTS. MODIFICATIONS OR ADDITIONS ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK. ALL SUPPLEMENTAL STRUCTURAL SUPPORTS, ELEVATOR CHARGES /MODIFICATIONS, BRACING AND PROTECTION REQUIRED FOR THE RIG IS THE RESPONSIBILITY OF THIS CONTRACTOR.
- v. THE RIGGING CONTRACTOR SHALL HIRE AND PAY FOR ALL CHARGES AND SERVICES OF THE BUILDING ELEVATOR CONTRACTOR FOR THE RIGGING OF THE EQUIPMENT.
- E. UP FRONT PURCHASE OF EQUIPMENT
- i. THE CONTRACTOR SHALL SUBMIT A LIST OF LONG LEAD TIME ITEMS THAT WILL AFFECT THE SCHEDULE OF THE PROJECT IF NOT PURCHASED IMMEDIATELY UP FRONT AT THE START OF THE PROJECT THE MECHANICAL CONTRACTOR SHALL SUBMIT PROPOSED MANUFACTURER AND LEAD TIMES FOR ALL PROJECT EQUIPMENT AT TIME OF PROJECT AWARD.
- CLOSED 10 AMP AUXILIARIES, IN ADDITION 23. AUTOMATIC CONTROLS GENERAL REQUIREMENTS

#### A. WORK INCLUDED

- i. FURNISH AND INSTALL AS HEREIN SPECIFIED, A COMPLETE AUTOMATIC TEMPERATURE CONTROL SYSTEM. MANUFACTURER SHALL BE SUBMITTED WITH BID AND APPROVED BY ENGINEER BEFORE BID AWARD. THE ATC CONTRACTOR SHALL BE AN INDEPENDENT CONTRACTOR NOT AFFILIATED WITH THE MECHANICAL CONTRACTOR.
- ii. PROVIDE POWER FOR PANELS AND CONTROL DEVICES FROM A SOURCE DESIGNATED BY THE ELECTRICAL CONTRACTOR.
- iii. COORDINATE INSTALLATION SCHEDULE WITH THE MECHANICAL CONTRACTOR AND GENERAL CONTRACTOR.
- iv. FURNISH, MOUNT, AND WIRE ALL ASSOCIATED PANELS AND DEVICES FOR THE SYSTEM TO BE COMPLETELY OPERATIONAL REGARDLESS OF FUNCTION OR VOLTAGE, UNLESS OTHERWISE STATED.

### B. SUBMITTALS

- i. PRODUCT DATA: INCLUDE MANUFACTURER'S TECHNICAL LITERATURE FOR EACH CONTROL DEVICE INDICATED. LABELED WITH SETTING OR ADJUSTABLE RANGE OF CONTROL. INDICATE DIMENSIONS. CAPACITIES, PERFORMANCE CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, FINISHES FOR MATERIALS, AND INSTALLATION AND STARTUP INSTRUCTIONS FOR EACH TYPE OF PRODUCT INDICATED.
- ii. SHOP DRAWINGS: DETAIL EQUIPMENT ASSEMBLIES AND INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, METHOD OF FIELD ASSEMBLY, COMPONENTS, AND LOCATION AND SIZE OF EACH FIELD CONNECTION.
- a) SCHEMATIC FLOW DIAGRAMS SHOWING FANS, COILS, DAMPERS, VALVES, AND CONTROL DEVICES.
- b) WIRING DIAGRAMS: POWER, SIGNAL, AND CONTROL WIRING.
- c) DETAILS OF CONTROL PANEL FACES, INCLUDING CONTROLS, INSTRUMENTS, AND LABELING.

### C. QUALITY ASSURANCE

- INSTALLER QUALIFICATIONS: A QUALIFIED INSTALLER WHO IS AN AUTHORIZED REPRESENTATIVE OF THE AUTOMATIC CONTROL SYSTEM MANUFACTURER FOR BOTH INSTALLATION AND MAINTENANCE OF UNITS REQUIRED FOR THIS PROJECT.
- ii. COMPLY WITH ALL CURRENT GOVERNING CODES, ORDINANCES, AND REGULATIONS INCLUDING UL, NFPA, THE LOCAL BUILDING CODE, NEC, ETC.
- iii. MATERIALS AND EQUIPMENT SHALL BE THE CATALOGUED PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN PRODUCTION AND INSTALLATION OF AUTOMATIC TEMPERATURE CONTROL SYSTEMS AND SHALL BE MANUFACTURER'S LATEST STANDARD DESIGN THAT COMPLIES WITH THE SPECIFICATION REQUIREMENTS.
- A. SPLIT SYSTEM (VRF) SEQUENCE:
- 1)PROVIDE A 7-DAY PROGRAMMABLE THERMOSTAT (BY VRF MANUFACTURER) FOR EACH AIR HANDLER, WITH CAPABILITY FOR FAN TO BE ALWAYS ON OR IN AUTOMATIC MODE.
  - a) PROGRAMMABLE THERMOSTAT SHALL BE CAPABLE OF SETBACK CONTROLS,

- PROGRAMMED BY THE END USER, FOR 65°F AND 80°F IN WINTER AND SUMMER, RESPECTIVELY.
- b) PROGRAMMABLE THERMOSTAT SHALL HAVE 5°F DEADBAND AND SETPOINT OVERLAP RESTRICTIONS
- c) ALL UNITS TO BE CONNECTED TO CENTRALIZED CONTROLLER FOR MONITORING AND CONTROL.

#### 2)PROVIDE ALL WIRING FROM CONDENSING UNITS TO RESPECTIVE AIR HANDLERS AND CENTRAL CONTROLLER.

#### 3)FAN MODES:

IN ON MODE, FAN SHALL RUN CONTINUOUSLY. WHEN THE FAN STOPS, EACH ASSOCIATED MOTORIZED DAMPER SHALL CLOSE.

IN AUTOMATIC MODE, FAN SHALL ONLY ENERGIZE UPON A CALL FOR COOLING/HEATING.

#### 4)UNIT MODES:

- a) IN COOLING MODE, THE CONDENSER SHALL CYCLE (ON, OFF) TO MAINTAIN SETPOINT.
- b) IN HEATING MODE, THE HEAT PUMP SHALL CYCLE (ON, OFF) TO MAINTAIN SETPOINT.
- c) FOR UNITS SERVING SPACES WITH EXTERIOR DOORS: DOOR SWITCH SHALL TEMPORARILY SHUT DOWN RESPECTIVE AHU WHEN DOOR IS OPEN FOR MORE THAN 5 MINUTES. UPON DOOR CLOSING, SYSTEM SHALL RE-ENERGIZE.
- d) FOR AHUS SERVING AMENITY SPACES, ASSOCIATED THERMOSTATS SHALL DEFAULT TO SETBACK TEMPERATURES DURING UNOCCUPIED HOURS.
- B. TOILET EXHAUST FANS:
- I. FAN SHALL BE CONTROLLED VIA A WALL MOUNTED SWITCH.

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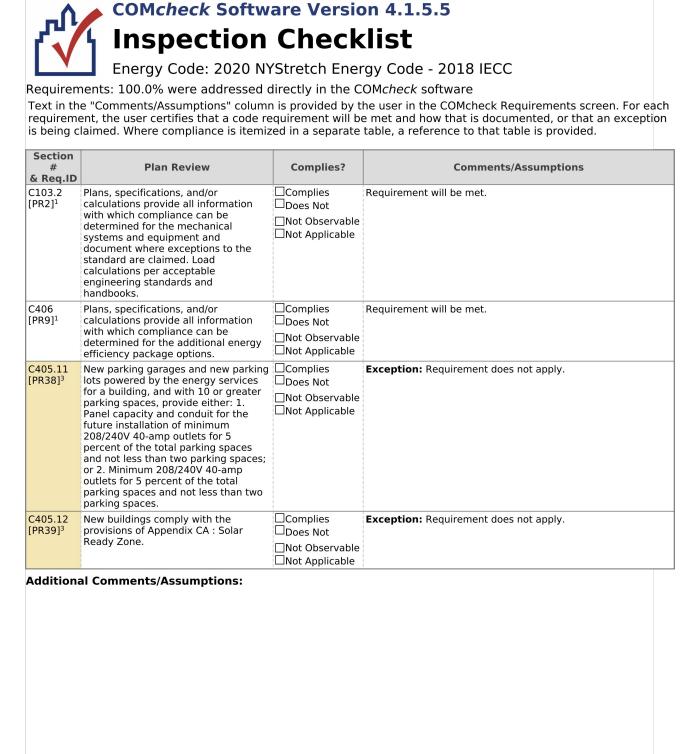
# HEATING/COOLING LOAD CALCULATION AND EQUIPMENT SIZING NOTE:

ALL THE MECHANICAL EQUIPMENT SPECIFIED IN THIS DRAWING SET HAS BEEN DESIGNED TO SUFFICIENTLY HEAT AND COOL THE OCCUPIABLE AREAS OF THE BUILDING. REQUIRED HEATING AND COOLING DEMANDS HAVE BEEN CALCULATED IN ACCORDANCE WITH ASHRAE/ACCA 183, AND TAKE INTO ACCOUNT ALL BUILDING ENVELOPE, LIGHTING, VENTILATION & OCCUPANCY LOADS BASED ON THE PROJECT DESIGN. EQUIPMENT SELECTIONS WERE MADE TO MEET THE SYSTEM PEAK LOADS (HEATING OR COOLING).

# ENERGY COMPLIANCE STATEMENT

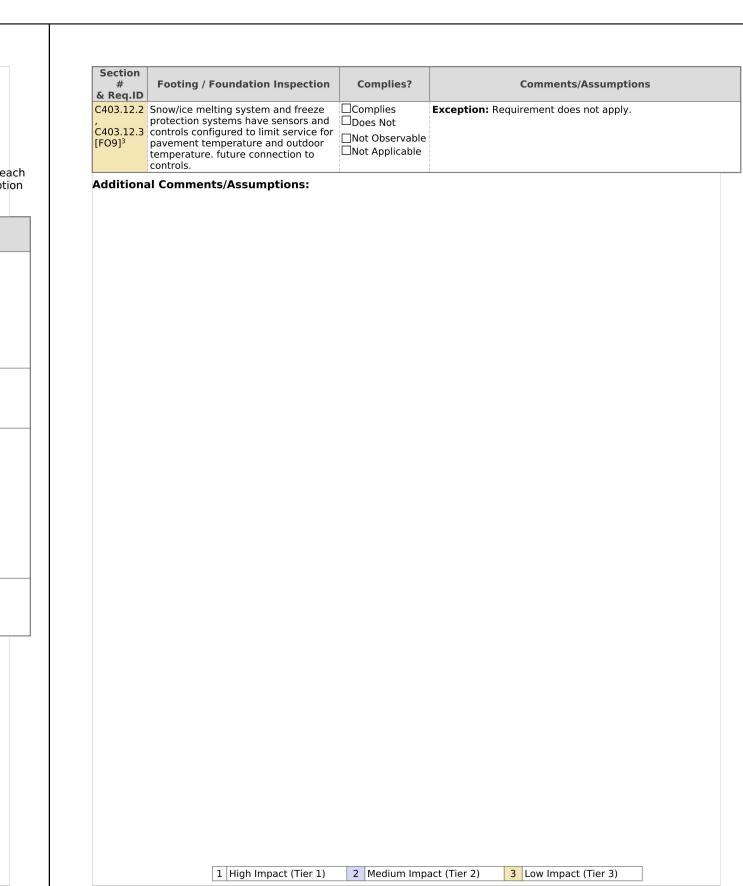
THE PROPOSED MECHANICAL DESIGN REPRESENTED IN THIS DOCUMENT IS CONSISTENT WITH THE BUILDING PLANS, SPECIFICATIONS AND OTHER CALCULATIONS SUBMITTED WITH THIS PERMIT APPLICATION. THE PROPOSED MECHANICAL SYSTEMS HAVE BEEN DESIGNED TO MEET THE 2020 ECCCNYS AND TO COMPLY WITH THE MANDATORY REQUIREMENTS SET FORTH.





1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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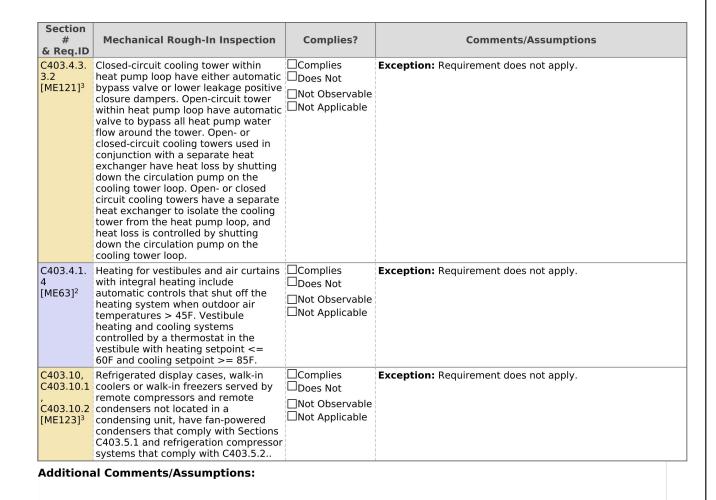
C404.5.1, tc. [PL6]3	deated water supply piping conforms or pipe length and volume equirements. Refer to section details deated water supply piping conforms or pipe length and volume equirements. Refer to section details deated water supply piping conforms or pipe length and volume equirements. Refer to section details deated water supply piping conforms or pipe length and volume equirements. Refer to section details deater and storage tank have controls that limit operation from startup to call the section of the section details deater and storage tank have controls that limit operation from startup to call the section of the section details deater and storage tank have controls that limit operation from startup to section details deater and storage tank have controls that limit operation from startup to call the section of	Not Observable     Not Applicable     Complies     Does Not     Not Observable     Not Observable     Not Observable     Not Applicable     Complies     Does Not     Not Observable     Not Applicable     Complies     Does Not     Not Observable     Not Applicable     Complies     Does Not     Not Observable     Not Observable     Not Observable     Not Opservable     Complies	Exception: Requirement does not apply.  Exception: Requirement does not apply.
C404.5.1, tc (PL6)3 res[PL6]3 res[PL6]3 res[PL6]3 res[PL7]3 res[PL	deated water supply piping conforms or pipe length and volume deated water supply piping conforms or pipe length and volume dequirements. Refer to section details deater and storage tank have controls that limit operation from startup to cape to minutes after end of heating ycle.  Sumps that circulate water between a deater and storage tank have controls that limit operation from startup to cape to minutes after end of heating ycle.  Sumps that circulate water between a deater and storage tank have controls that limit operation from startup to cape the minutes after end of heating ycle.	□Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Complies □Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Not Observable □Not Observable □Complies □Does Not □Not Observable □Not Applicable □Complies	Exception: Requirement does not apply.  Exception: Requirement does not apply.  Exception: Requirement does not apply.
C404.5.1, tc C404.5.2 re [PL6] <sup>3</sup> C404.6.3 Pt tr C2 C404.6.3 Pt [PL7] <sup>3</sup> ht tr C3 C404.6.3 Pt [PL7] <sup>3</sup> hc tr C5 C404.6.3 Pt C5 C404.6.3 Pt C5 C404.6.3 Pt C7 C404.7 D	o pipe length and volume equirements. Refer to section details tumps that circulate water between a seater and storage tank have controls hat limit operation from startup to 5 minutes after end of heating ycle.  Tumps that circulate water between a seater and storage tank have controls hat limit operation from startup to 5 minutes after end of heating ycle.  Tumps that circulate water between a seater and storage tank have controls hat limit operation from startup to 6 minutes after end of heating ycle.	□Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Complies □Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Not Applicable □Complies	Exception: Requirement does not apply.  Exception: Requirement does not apply.
[PL7] <sup>3</sup> he th construction of the constructio	teater and storage tank have controls hat limit operation from startup to teat is a few series of the startup to teat is a few series of the startup to teat is a few series of the series of the startup to teat is a few series of the startup to teat is a few series of the series of the startup to teat is a few series of the	□Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Not Applicable □Complies	<b>Exception:</b> Requirement does not apply.
[PL7] <sup>3</sup> ho th construction of the constructio	teater and storage tank have controls hat limit operation from startup to  = 5 minutes after end of heating ycle.  Tumps that circulate water between a teater and storage tank have controls hat limit operation from startup to	□ Does Not □ Not Observable □ Not Applicable □ Complies	
[PL7] <sup>3</sup> ho th cycle cyc	leater and storage tank have controls hat limit operation from startup to		
	ycle.	□Not Observable □Not Applicable	Exception: Requirement does not apply.
uj ao aj of	Demand recirculation water systems lave controls that start the pump ipon receiving a signal from the liction of a user of a fixture or appliance and limits the temperature of the water entering the cold-water siping to 104°F.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
[PL8] <sup>3</sup> ha uj ad aj of	Demand recirculation water systems have controls that start the pump ipon receiving a signal from the ction of a user of a fixture or pipliance and limits the temperature of the water entering the cold-water biping to 104°F.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
[PL8] <sup>3</sup> ha uj ac aj of	Demand recirculation water systems have controls that start the pump pon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water siping to 104°F.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
Additional	Comments/Assumptions:		

C402.2.6 [ME41] <sup>3</sup>	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	□Does Not □Not Observable	Exception: Requirement does not apply.
C403.11.3 [ME61] <sup>2</sup>	HVAC piping insulation insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is	□Not Applicable □Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C402 11 2	provided with shielding from solar radiation.  HVAC piping insulation insulated in		Requirement will be met.
[ME61] <sup>2</sup>	accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	Does Not Not Observable Not Applicable	Requirement will be filet.
C403.11.3 [ME61] <sup>2</sup>	HVAC piping insulation insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.8.1 [ME65] <sup>3</sup>	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  See the Mechanical Systems list for values.
C403.8.1 [ME65] <sup>3</sup>	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  See the Mechanical Systems list for values.
C403.8.1 [ME65] <sup>3</sup>	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.  See the Mechanical Systems list for values.
C403.8.3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation <= 15% of maximum total efficiency of the fan.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.8.3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation <= 15% of maximum total efficiency of the fan.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.8.3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) >= 67. The total efficiency of the fan at the design point of operation <= 15% of maximum total efficiency of the fan.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.12.1 [ME71] <sup>2</sup>	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	□Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.2.3 [ME55] <sup>2</sup>	HVAC equipment efficiency verified.	□Complies □Does Not □Not Observable □Not Applicable	See the Mechanical Systems list for values.

Data filename: P:\2023\2023.039 - Champlain Migrant Houses\Trade Assets\Mech\Calc\Stables COMCheck.cck Page 5 of 11

Mechanical Rough-In Inspection Complies?

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
	New traction elevators with a rise of 75 feet or more have a power conversion system that complies as follows: C405.8.1.1.1 Induction motors with a Class IE2 efficiency ratings are be used. C405.8.1.1.2 Transmissions does not reduce the efficiency of the combined motor/transmission below that shown for the Class IE2 motor for elevators with capacities below 4,000 lbs. C405.8.1.1.3 Potential energy released during motion recovered with a regenerative drive that supplies electrical energy to the building electrical system.	∟Not Applicable	Exception: Requirement does not apply.
C405.10 [ME37] <sup>3</sup>	Commercial kitchen equipment shall comply with the minimum efficiency requirements of Tables C405.9(1) through table C405.9(5).	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
C403.2.2 [ME59] <sup>1</sup>	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.		Requirement will be met.
C403.7.1 [ME59] <sup>1</sup>	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.7.2 [ME115] <sup>3</sup>	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
C403.7.6 [ME141] <sup>3</sup>	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	□Complies □Does Not □Not Observable □Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.7.4 [ME57] <sup>1</sup>	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.7.5 [ME116] <sup>3</sup>	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria. See section details.	□Not Observable □Not Applicable	Exception: Requirement does not apply.
,	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
	1 High Impact (Tier 1)	2 Medium Imp	act (Tier 2) 3 Low Impact (Tier 3)
Project Title	e: Stables me: P:\2023\2023.039 - Champlain Mig		Report date: 04/11/23 Assets\Mech\Calc\Stables COMCheck.cck Page 6 of 11



Data filename: P:\2023\2023.039 - Champlain Migrant Houses\Trade Assets\Mech\Calc\Stables COMCheck.cck Page 3 of 11

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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01 04.07.23 BID 01

david cunningham architecture planning 2023

ESSEX COUNTY FARMWORKER

HOUSING RENOVATION

10 Marks Road

Westport NY 12993

EN-200.00 ENERGY COMPLIANCE CERTIFICATES (

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Section #	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
& Req.ID C405.6 [EL26] <sup>2</sup>	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
C405.7 [EL27] <sup>2</sup>	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	□Complies □Does Not	Requirement will be met.
C405.8.2 [EL28] <sup>2</sup>	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
C405.9 [EL29] <sup>2</sup>	Total voltage drop across the combination of feeders and branch circuits <= 5%.	□Complies □Does Not □Not Observable □Not Applicable	Exception: Requirement does not apply.
Addition	al Comments/Assumptions:		
Addition	al Comments/Assumptions:		
Additiona	1 High Impact (Tier 1)	2 Medium Imp	act (Tier 2) 3 Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3,	systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.3.1 [FI27] <sup>3</sup>	capacity does not exceed calculated loads. See section details.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.2.4. 1 [FI47] <sup>3</sup>	controlled by a thermostat control. Minimum one humidity control device per installed	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.2.4. 1 [FI47] <sup>3</sup>	controlled by a thermostat control. Minimum one humidity control device per installed	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.2.4. 1 [FI47] <sup>3</sup>		☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1. 2 [FI38] <sup>3</sup>	deadband.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.4.1. 3 [FI20] <sup>3</sup>	overlap restrictions.	□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
C403.4.2 [FI39] <sup>3</sup>	controls using automatic time clock or programmable control system.	□Not Observable □Not Applicable	Requirement will be met.
2.1,	(heat) and 85°F (cool); 7-day clock, 2-	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.1.1 [FI57] <sup>1</sup>		□Complies □Does Not □Not Observable □Not Applicable	Requirement will be met.
Additiona	al Comments/Assumptions:		
	1 High Impact (Tier 1)	2 Medium Impa	act (Tier 2) 3 Low Impact (Tier 3)

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3) Data filename: P:\2023\2023.039 - Champlain Migrant Houses\Trade Assets\Mech\Calc\Stables COMCheck.cck Page 10 of 11

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### ISSUES:

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