

Additions and Renovations Platt Technical High School

Milford, CT

ADDENDUM NO. 5

August 15, 2019

The original Specifications and Drawings dated May 24, 2019, Addendum No.1 dated July 23, 2019, Addendum No.2 dated July 29, 2019, Addendum No.3 dated August 2, 2019 and Addendum No.4 dated August 9, 2019 for the above-captioned project are amended as stated in this Addendum. This Addendum consists of twelve (12) pages, plus the following attachments.

ATTACHMENTS

PROJECT MANUAL	
Section 08 51 13 – PROJECTED / FIXED ALUMINUM WINDOWS	(9 pages)
Section 23 51 00 – BREECHINGS, CHIMNEYS AND STACKS	(6 pages)
ARCHITECTURAL SKETCHES	
RA5-03, RA5-04	(2 pages)
ARCHITECTURAL DRAWINGS	
A6-3-10, A6-3-20	(2 pages)
STRUCTURAL SKETCHES	
RS5-001, RS5-002, RS5-003, RS5-004, RS5-005, RS5-006, RS5-007	(7 pages)
	,
STRUCTURAL DRAWINGS	
S1-1-2E, S1-1-3E, S1-1-ME, S1-1-MF, S4-2-1	(5 pages)
MECHANCIAL DRAWINGS	
M1-1-MF, M1-2-1F, M3-1-3, M5-1-3, M5-1-4	(5 pages)
ELECTRICAL DRAWINGS	
E2-1-1F, E2-2-1F, E5-1-2, E5-1-3, E8-1-5	(5 pages)
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REVISED BID DATE: Bids Due at 2:00 pm on August 29, 2019.

BIDDER QUESTION LOG (SEE ATTACHMENT), dated 8-15-2019.



AMENDMENTS TO ADDENDUM NO.3

DIVISION 08 – OPENINGS

ADD 5-001 ADDENDUM NO.3, Page 4, ITEM ADD 3-011 – SECTION 08 41 10 – ALUMINUM-FRAMED

ENTRANCES AND STOREFRONTS

ADD the following sentence after Article 2.1, Paragraph A, Sub-paragraph 2a.1:

"U-Value for Exterior Storefront: 0.039 U-Value."

AMENDMENTS TO ADDENDUM NO.4

DIVISION 08 – OPENINGS

ADD 5-002 ADDENDUM NO.4, Page 7, ITEM ADD 4-032 – SECTION 08 45 23 – FIBERGLASS-SANDWICH-

PANEL ASSEMBLIES

Article 1.3, Paragraph G, REPLACE the last sentence with the following:

"The resulting system design may include but not limited to Aluminum I-beams,

Heavy TB I-beams and Aluminum Integral Stiffeners."

ADD 5-003 ADDENDUM NO.4, Page 7, ITEM ADD 4-037 - SECTION 08 45 23 - FIBERGLASS-SANDWICH-

PANEL ASSEMBLIES

Article 2.3, Paragraph D, Sub-paragraph 2, REVISE the Basis of Design to be:

"Basis of Design, Kalwall's Hurricane High Impact Face Sheet designed to meet Large Missile Windborne Debris."

AMENDMENTS TO PROJECT MANUAL

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

ADD 5-004 SECTION 00 01 10 – TABLE OF CONTENTS

Page 4, Under Division 08, ADD "Section 08 51 13, Projected / Fixed Aluminum Windows."

ADD 5-005 SECTION 00 01 15 – LIST OF DRAWING SHEETS

Page 7, REPLACE Title for drawing A6-3-10 to the following:

Drawing A6-3-10: "TRANSLUCENT WALL PANEL / WINDOW AND LOUVER TYPES"

ADD 5-006 SECTION 00 11 16 - INVITATION TO BID

Page 1, third paragraph: REVISE Bid Due Date to "2:00 pm on August 29, 2019."

ADD 5-007 SECTION 00 11 16 – INVITATION TO BID

Page 4, Item 12, Payment and Performance Bond, ADD the following instruction:

"Bond obligee is 'The Morganti Group, Inc.'"

ADD 5-008 SECTION 00 41 10 – BID PACKAGE SUBMITTAL REQUIREMENTS

BID PACKAGE No.02, Site Work: Page 2, ADD Section 01 56 39, Temporary Tree and Plant

Protection.



ADD 5-009 SECTION 00 41 10 – BID PACKAGE SUBMITTAL REQUIREMENTS

<u>BID PACKAGE No.08, Windows</u>: Page 2, ADD Section 08 51 13, Projected / Fixed Aluminum Windows under Division 8, Openings.

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

ADD 5-010 SECTION 07 54 00 – THERMOPLASTIC MEMBRANE ROOFING

Page 7, Article 1.9, Paragraph B:

Replace the 2nd sentence which reads

"The warranty shall be a 25-year no dollar limit (NDL), non-prorated total system labor and material warranty, for wind speed as required by Code or as indicated on the Drawings."

With the following:

"The warranty shall be a 25-year no dollar limit (NDL), non-prorated total system labor and material warranty. Provide a Wind Addenda to the Warranty for 120 mph maximum gusts."

DIVISION 08 – OPENINGS

ADD 5-011 SECTION 08 41 10 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

Article 1.2, DESCRIPTION OF WORK, Paragraph A, ADD the following item No 8:

"8. Door hardware necessary for achieving impact rating."

Article 2.6 – DOOR HARDWARE: ADD Paragraph C:

"Furnish and install the necessary door hardware that was tested as part of the impact-rated assembly. This includes continuous aluminum hinges, concealed vertical exit rods, panic exit devices, thresholds, and gasketing. The impact testing shall be in accordance with ASTM E1886 (Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials) and ASTM A1996 (Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Wind Borne Debris in Hurricanes)."

ADD 5-012 SECTION 08 41 10 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

Article 1.2, Paragraph B, Sub-paragraph 3, DELETE the words after "DOOR HARDWARE" and replace with the following:

"for coordination with other hardware requirements."

ADD 5-013 SECTION 08 41 10 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

Article 1.2, Paragraph B, ADD Sub-paragraph 4 per the following:

"4. Section 07 08 00 – COMMISSIONING OF BUILDING ASSEMBLIES for commissioning requirements related to this Section.

ADD 5-014 SECTION 08 44 10 – GLAZED ALUMINUM CURTAIN WALLS

Article 1.2, DESCRIPTION OF WORK, Paragraph A, ADD the following item No 6:

"6. Door hardware necessary for achieving impact rating."

Article 2.3 – DOOR HARDWARE: ADD Paragraph C:

"Furnish and install the necessary door hardware that was tested as part of the impact-rated assembly. This includes continuous aluminum hinges, concealed vertical exit rods, panic exit devices, thresholds and gasketing. The impact testing shall be in accordance with ASTM E1886 (Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials) and ASTM A1996 (Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Wind Borne Debris in Hurricanes)."

ADD 5-015 SECTION 08 44 10 – GLAZED ALUMINUM CURTAIN WALLS

Article 1.2, Paragraph B, ADD Sub-paragraph 4 & 5 per the following:

- "4. Section 07 08 00 COMMISSIONING OF BUILDING ASSEMBLIES for commissioning requirements related to this Section.
- Section 08 71 00 DOOR HARDWARE for coordination with other hardware requirements."

ADD 5-016 SECTION 08 44 10 – GLAZED ALUMINUM CURTAIN WALLS

Page 9, Article 2.1, ADD Paragraph "E" per the following:

"E. U-Value: 0.40 U-Value."

ADD 5-017 SECTION 08 45 23 – FIBERGLASS-SANDWICH-PANEL ASSEMBLIES

Page 1, Article 1.2, After the words "Description of Work" ADD the following words:

"(Also known as 'Translucent Wall Panel' and 'Insulated Translucent Wall Panel System' on the drawings.)"

ADD 5-018 SECTION 08 45 23 – FIBERGLASS-SANDWICH-PANEL ASSEMBLIES

Page 2, Article 1.3, Paragraph D, Sub-paragraph 1, DELETE the words "Limited to 1/60 of clear span" and REPLACE with "Limited to 1/120 of clear span."

ADD 5-019 SECTION 08 45 23 – FIBERGLASS-SANDWICH-PANEL ASSEMBLIES

Page 6, Article 2.3, Paragraph A, DELETE the words "ICBO ES ACO4" and REPLACE with "AC-177."

Page 6, Article 2.3, Paragraph A, Sub-Paragraph 10, DELETE the date "2009" AND REPLACE with "2012"

Page 6, Article 2.3, Paragraph C, Sub-Paragraph 2, REPLACE with the following:

"2. Grid Pattern: Shoji grid pattern: 8" x 20"

ADD 5-020 SECTION 08 45 23 – FIBERGLASS-SANDWICH-PANEL ASSEMBLIES

Page 6, Article 2.4, DELETE the Article, Operable Windows, in its entirety.

ADD 5-021 SECTION 08 45 23 – FIBERGLASS-SANDWICH-PANEL ASSEMBLIES

Page 8, Article 2.6, Paragraph C, REPLACE Sub-Paragraph 1 with the following:

"1. Color and Gloss: Custom Color as selected by Architect, including vibrant and metallics."

ADD 5-022 SECTION 08 51 13 – PROJECTED / FIXED ALUMINUM WINDOWS

ADD this Section, attached, in its Entirety.



SECTION 08 71 00 - DOOR HARDWARE ADD 5-023

Article 8.1, DOOR HARDWARE SETS:

DELETE Hardware Sets 1 through 5 and replace with the following:

Set: 1.0

Doors: A131, S3.1

OT OT
OT
MC
NO
OT
OT
MK
MK
SU
OT
OT
OT
OT

Notes: Door closed & locked at all times. Presenting valid credential outside shunts door position switches & allows for authorized entrance. Operating inside touchpad activates request to exit switch shunting door contact and allowing authorized egress at all times. With loss of power door remains locked.

Set: 1.1

Doors: A105.1

1 Continuous Hinge	By Aluminum Assembly Manufacturer		ОТ
1 Exit Device (nightlatch)	By Aluminum Assembly Manufacturer		ОТ
2 Permanent Core	Medeco X4	26	MC
1 Door Closer	UNI7500	689	NO
Threshold	By Aluminum Assembly Manufacturer		OT
1 Perimeter Gasketing	By Aluminum Assembly Manufacturer		OT
1 ElectroLynx Harness - Frame	QC-C1500P		MK
1 ElectroLynx Harness - Door	QC-CXXX (Size as required)		MK
1 Wiring Diagram	by Security System Supplier		OT
1 Position Switch	by Security System Supplier		OT
1 Card Reader	by Security System Supplier		OT
1 Power Supply	by Security System Supplier		OT

Notes: Door closed & locked at all times. Presenting valid credential outside shunts door position switches & allows for authorized entrance. Operating inside touchpad activates request to exit switch shunting door contact and allowing authorized egress at all times. With loss of power door remains locked.

Set: 2.0

Doors: A133.8, E114, E133, S5.2

2 Continuous Hinge	By Aluminum Assembly Manufacturer		ОТ
1 Concealed Vert Rod Exit	By Aluminum Assembly Manufacturer		ОТ
1 Exit Device (nightlatch)	By Aluminum Assembly Manufacturer		ОТ
3 Permanent Core	Medeco X4	26	MC
2 Door Closer	UNI7500	689	NO
1 Threshold	By Aluminum Assembly Manufacturer		ОТ
1 Perimeter Gasketing	By Aluminum Assembly Manufacturer		ОТ
1 ElectroLynx Harness - Frame	QC-C1500P		MK
1 ElectroLynx Harness - Door	QC-CXXX (Size as required)		MK
1 Wiring Diagram	by Security System Supplier		OT
1 Position Switch	by Security System Supplier		OT
1 Card Reader	by Security System Supplier		OT
1 Power Supply	by Security System Supplier		OT

Notes: Door closed & locked at all times. Presenting valid credential outside shunts door position switches & allows for authorized entrance. Operating inside touchpad activates request to exit switch shunting door contact and allowing authorized egress at all times. With loss of power door remains locked.

Set: 2.1

Doors: B157.1, B162.1

By Aluminum Assembly Manufacturer		ОТ
By Aluminum Assembly Manufacturer		ОТ
By Aluminum Assembly Manufacturer		ОТ
Medeco X4	26	MC
UNI7500	689	NO
6060 / 6070	689	NO
By Aluminum Assembly Manufacturer		OT
5110BL		PE
by Aluminum Assembly Manufacturer		OT
QC-C1500P		MK
QC-CXXX (Size as required)		MK
by Security System Supplier		OT
by Security System Supplier		OT
501		NO
by Security System Supplier		OT
by Security System Supplier		OT
	By Aluminum Assembly Manufacturer By Aluminum Assembly Manufacturer Medeco X4 UNI7500 6060 / 6070 By Aluminum Assembly Manufacturer 5110BL by Aluminum Assembly Manufacturer QC-C1500P QC-CXXX (Size as required) by Security System Supplier by Security System Supplier 501 by Security System Supplier	By Aluminum Assembly Manufacturer By Aluminum Assembly Manufacturer Medeco X4 26 UNI7500 689 6060 / 6070 689 By Aluminum Assembly Manufacturer 5110BL by Aluminum Assembly Manufacturer QC-C1500P QC-CXXX (Size as required) by Security System Supplier by Security System Supplier 501 by Security System Supplier

Notes: . Door closed & locked at all times. Presenting valid credential outside shunts door position switches, activates outside operator paddle & allows for authorized entrance. Operating inside touchpad or inside operator paddle shunts door contact and allows authorized egress at all times. With loss of power door remains locked.

Set: 3.0

Doors: B157.2, B157.3

2	Continuous Hinge	By Aluminum Assembly Manufacturer		ОТ
1	Concealed Vert Rod Exit	By Aluminum Assembly Manufacturer		ОТ
1	Exit Device (nightlatch)	By Aluminum Assembly Manufacturer		ОТ
3	Permanent Core	Medeco X4	26	MC
2	Door Closer	UNI7500	689	NO
1	Threshold	By Aluminum Assembly Manufacturer		OT
1	Perimeter Gasketing	by Aluminum Assembly Manufacturer		OT
1	ElectroLynx Harness - Frame	QC-C1500P		MK
1	ElectroLynx Harness - Door	QC-CXXX (Size as required)		MK
1	Wiring Diagram	by Security System Supplier		OT
1	Position Switch	by Security System Supplier		OT
1	Power Supply	by Security System Supplier		OT

Notes: Exit devices supplied with electric latch retraction feature to allow for remote dogging of touchpads.

Set: 4.0

Doors: B159.1, S1.2, S2.1

2 Continuous Hinge	By Aluminum Assembly Manufacturer		ОТ
1 Concealed Vert Rod Exit	By Aluminum Assembly Manufacturer		ОТ
1 Exit Device (nightlatch)	By Aluminum Assembly Manufacturer		ОТ
3 Permanent Core	Medeco X4	26	MC
2 Door Closer	<u>UNI7500</u>	689	NO
1 Threshold	By Aluminum Assembly Manufacturer		OT
1 Perimeter Gasketing	by Aluminum Assembly Manufacturer		OT
1 ElectroLynx Harness - Frame	QC-C1500P		MK
1 ElectroLynx Harness - Door	QC-CXXX (Size as required)		MK
1 Wiring Diagram	by Security System Supplier		OT
1 Position Switch	by Security System Supplier		OT

Doors: A101.1, C156

1	Continuous Hinge	By Aluminum Assembly Manufacturer		OT
1	Exit Device (nightlatch)	By Aluminum Assembly Manufacturer		ОТ
2	Permanent Core	Medeco X4	26	MC
1	Door Closer	UNI7500	689	NO
1	Threshold	By Aluminum Assembly Manufacturer		ОТ
1	Perimeter Gasketing	by Aluminum Assembly Manufacturer		ОТ
1	ElectroLynx Harness - Frame	QC-C1500P		MK
1	ElectroLynx Harness - Door	QC-CXXX (Size as required)		MK
1	Position Switch	by Security System Supplier		OT

DIVISION 10 - SPECIALTIES

ADD 5-024 Section 10 28 00 - TOILET ACCESSORIES

Page 2, Article 2.2, Paragraph A, After the first sentence ADD the following:

"In addition to where indicated on the Architectural Drawings, provide a coat hook at the following rooms: A112, A117, A123, B111, B103, B134, three at B108, C101, C102, C104, C105, C106, C107, C108, C120, C121, C125, four at C127, C145, C150, C151, C152, C153, C154, D107, D108, D109, two at D123, E148, two at F109, two at F116, B209, three at B213, two at B204, two at C209, two at C212, two at D208, two at D211, and two at E238."

DIVISION 22 – PLUMBING

ADD 5-025 Section 22 05 03 -PIPES AND TUBES FOR PLUMBING PIPING AND EQUIPMENT

Page 5 Articles 2.1: DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING: Revise as follows:

- A. Ductile Iron Pipe 4" and larger: AWWA C151 C104
 - Fittings: AWWA C110, ductile iron, standard thickness.
 - 2. Joints: AWWA C111, rubber gasket with rods.
 - Jackets: AWWA C105 polyethylene jacket Double layer, half lapped, 10 mil polyethylene tape.
- B. Delete Paragraph B completely.
- C. Delete Paragraph C completely.

ADD 5-026 Section 22 05 03 -PIPES AND TUBES FOR PLUMBING PIPING AND EQUIPMENT

Page 5 Articles 2.2: DOMESTIC WATER PIPING ABOVE GRADE: Revise as follows:

- B. Delete Paragraph B.
- C. 3. a. 1). Delete subparagraph completely.
- C. 3. a. 2). Delete subparagraph completely.
- C. 3. a. 3). Delete subparagraph completely.

ADD 5-027 Section 22 05 03 -PIPES AND TUBES FOR PLUMBING PIPING AND EQUIPMENT

Page 6, Article 2.5: CHEMICAL RESISTANT SEWER PIPING: Replace all paragraphs with:

A. Acid waste piping and fittings shall be schedule 40 dimensions per ASTM F1673 and shall be of PVDF material. Fitting layouts shall conform to ASTM D3311 and ASTM F1673. The PVDF material shall conform to ASTM D3222.

B. Joining Methods:

- No-Hub Mechanical Joint®: Pipe and fittings will be joined using the No-Hub method, utilizing all plain end fittings joined with No-Hub couplings. Each No-Hub coupling will have an outer band of 300 series stainless steel with 5/16" bolts, nuts and washers plated to meet a 100-hour salt spray test per ASTM B117. The No-Hub joint will conform to the requirements of ASTM F1673.
- 2. Electrofusion: The system will utilize the same plain end fittings as the No-Hub system, but are to be joined using the CF couplings. The machine will be used to produce a hermetically sealed joint. The joints will conform to ASTM 1290, Technique 1.

ADD 5-028 Section 22 15 00 – GENERAL SERVICE COMPRESSED – AIR SYSTEMS

Page 4, Article 2.1 A: COMPRESSED AIR PIPING: Delete paragraph A. completely and replace with:

- A. Steel Pipe: ASTM A53, Schedule 40 black.
 - 1. Fittings: ASME B16.3, malleable iron, or ASTM A234/A234M, forged steel welding type.
 - 2. Joints: Threaded or Pressure-Sealed for pipe 2 inch and smaller; welded for pipe 2-1/2 inches and larger.

ADD 5-029 Section 22 15 00 -GENERAL SERVICE COMPRESSED -AIR SYSTEMS

Page 7, Articles 2.10: AIR COMPRESSOR: delete paragraphs C and G:

- C. Delete subparagraph completely.
- G. Delete subparagraph completely.

DIVISION 23 – HEATING VENTILATION AND AIR CONDITIONING

ADD 5-030 Section 23 34 00 – HVAC FANS AND DUST COLLECTORS

Page 8, Article 2.9, Delete Article 2.9, Hose Reels completely and replace with:

- "2.9 HOSE REEL RAIL SYSTEM
 - A. Manufacturers:
 - 1. Plymovent HRR or approved equal as manufactured by AQC or Viking.
 - B. System shall be Plymovent's Hose Reel on a Rail system (HRR) with three (3) spring recoil hose reels on a VSR Extraction Rail. System shall allow an operator to slide the hose reel to any location along the rail length. Rail shall be installed wall to wall; nominal 110' length.
 - C. Provide with three (3) SER-450 hose reels with four-inch diameter hoses, thirty (30) feet long.
 - D. Provide each hose reel with:
 - 1. Tailgate adapters: Neoprene rubber, standard size adapter.
 - 2. Tailgate adapters: Provide (2) extra, spare neoprene rubber adapters; (1) standard size and (1) large oval.
 - 3. Direct mounted switch to signal fan on-off."

ADD 5-031 Section 23 09 93 – SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

Page 5, Article 3.7, at paragraph N, delete reference to VEF-2. For VEF-1 add wording: "Fan shall also be capable of starting through a wall mounted switch".

ADD 5-032 Section 23 51 00 – BREECHINGS, CHIMNEYS AND STACKS

Reissued in it's entirely. Includes changes made in Addendum No. 1 and further clarifications. The changes and clarifications correspond with Drawing M1-1-E issued in Addendum No. 1.



AMENDMENTS TO DRAWINGS

GENERAL

ADD 5-033 INFO 1-0 – LIST OF DRAWINGS

Drawing A6-3-10: REVISE drawing name to "TRANSLUCENT WALL PANEL / WINDOW AND LOUVER TYPES."

ARCHITECTURAL

ADD 5-034 A3-2-4 – WALL SECTIONS

Section 1: ADD clarification notes on Outrigger Detail for Gymnasium Bleacher per revision Sketch RA5-03.

ADD 5-035 A3-2-5 – WALL SECTIONS

Section 4: ADDED Outrigger Detail for Gymnasium Bleacher per revision Sketch RA5-04.

ADD 5-036 A6-3-10 – TRANSLUCENT WALL PANEL / WINDOW AND LOUVER TYPES

(previously titled Translucent Wall Panel and Louver Types)

Separated the operable window portion of the Translucent Wall Panels and assigned it to the Aluminum Window System per revision tag RA5-1. Refer to Specification Section 08 51 13, Projected - Fixed Aluminum Windows, included within this Addendum. This occurs at Translucent Wall Panel/Window Types P1 though Type P10.

ADD 5-037 A6-3-20 – TRANSLUCENT WALL PANEL AND LOUVER DETAILS

Detail 1: Revised sill detail from Translucent Wall Panel to Window System

per revision tag RA5-2.

Detail 10: ADD Detail 10, Translucent Wall Panel Sill / Window Head Detail,

per revision tag RA5-2.

Detail 11: ADD Detail 11, Window Jamb Detail, per revision tag RA5-2.

STRUCTURAL

ADD 5-038 DRAWING S1-1-1F – FOUNDATION PLAN – AREA F

ADD "Sim." To section designation "F1/S3-2-2" on grid "3" between "Z" and "AA.8". Note that the precast concrete bearing wall along grid "3" is to be 1'-3" thick and the supporting concrete foundation wall where shown is to be 1'-8" thick.

ADD 5-039 DRAWING S1-1-2A- SECOND FLOOR FRAMING PLAN - AREA A

ADD bleacher restraint framing – refer to Sketch RS5-006.

ADD 5-040 DRAWING S1-1-2E – SECOND FLOOR AND ROOF FRAMING PLAN – AREA E

On the Second Floor and Roof Framing Plan Notes:

Note 1, CHANGE the top of concrete slab elevation FROM 118'-0" TO 117'-0" For Note 2, CHANGE the top of precast elevation FROM 117'-8" TO 116'-8"

ADD 5-041 DRAWING S1-1-2E – SECOND FLOOR AND LOW ROOF FRAMING PLAN – AREA E

ADD section designations per Revision RS5-7. REVISE plan notes #1 and #2 per Revision RS5-8. ADD plan notes #14 and #15 per Revision RS5-9.



ADD 5-042 DRAWING S1-1-3E – ROOF FRAMING PLAN – AREA E

REVISE two designations per Revision RS5-1. ADD section designations per Revision RS5-2. REVISE plank designations per Revision RS5-3. REVISE plan notes #1 and #2 per Revision RS5-4. ADD plan notes #10 and #11 per Revision RS5-5. REVISE dimensions per Revision RS5-6.

ADD 5-043 DRAWING S1-1-3E – ROOF FRAMING PLAN – AREA E

On the Roof Framing Plan Notes:

Note 1, CHANGE the top of concrete slab elevation FROM 132'-3" TO 131'-3" For Note 2, CHANGE the top of precast elevation FROM 131'-11" TO 130'-11"

ADD 5-044 DRAWING S1-1-3F – ROOF FRAMING PLAN – AREA F

Plan notes are revised – refer to Sketch RS5-001.

ADD 5-045 DRAWING S1-1-ME – MEZZANINE FRAMING PLAN – AREA E

ADD wall girts per Revision 12.

ADD 5-046 DRAWING S1-1-MF – MEZZANINE FRAMING PLAN – AREA F

ADD wall girts per Revision 13.

ADD 5-047 DRAWING S2-3-1- PRECAST WALL ELEVATIONS

ADD wall elevation per Revision 11.

ADD 5-048 DRAWING S2-4-1- PRECAST BEAM AND TEE SCHEDULE

REVISE Schedule – refer to Sketch RS5-004.

ADD 5-049 DRAWING S2-4-2- PRECAST PLANK SCHEDULE

REVISE Schedule - refer to Sketches RS5-002 and RS5-003.

ADD 5-050 DRAWING S4-1-1- STRUCTURAL SECTIONS

ADD sections "S7" – refer to Sketch RS5-007.

ADD 5-051 DRAWING S4-1-5— STRUCTURAL SECTIONS

REVISE sections "S1" - refer to Sketch RS5-005.

ADD 5-052 DRAWING S4-2-1- STRUCTURAL SECTIONS

REVISE sections "S5" and "S6" per Revision "10". ADD sections "S7" and "S8" per Revision "14".

MECHANICAL

ADD 5-053 DRAWING M1-1-MF – MEZZANINE MECHANICAL PLAN AREA F

Removed exhaust air ductwork and accessories related to VEF-1 and the vehicle exhaust system / hose reels located in Auto Mechanics. Added hose reel rail system to serve VEF-1 per Revision RM5-1.

Removed exhaust air ductwork and accessories related to VEF-2 and the vehicle exhaust system / hose reels located in Auto Collision F115 per Revision RM5-2.

ADD 5-054 DRAWING M1-2-1F - ROOF MECHANICAL PLAN AREA F

Updated exhaust ductwork related to VEF-1 per Revision RM5-3.

Remove VEF-2 and associated ductwork and accessories per Revision RM5-4.

ADD 5-055 DRAWING M3-1-3 – MECHANICAL SCHEDULES

Updated data related to VEF-1 and deleted VEF-2 from Fan Schedule per Revision RM5-5

ADD 5-056 DRAWING M5-1-3 – MECHANICAL CONTROLS

Added high level water alarm in primary condensate drain pans for air handling units per

Revision RM5-6.

ADD 5-057 DRAWING M5-1-4 – MECHANICAL CONTROLS

Removed controls for VEF-2 per Revision RM5-7.

ELECTRICAL

ADD 5-058 DRAWING E2-1-1F – FIRST FLOOR ELECTRICAL POWER PLAN AREA F

Revised power to the scissor lift (AT-02) on plans and added electrical power key note EP4 associated with power to the control console for the lift, typical of drawing E2-1-1F per Revision RE5-1.

ADD 5-059 DRAWING E2-2-1F – ROOF ELECTRICAL POWER PLAN AREA F

Removed VEF-2 from roof power plans per Revision RE5-2.

ADD 5-060 DRAWING E5-1-2 – ELECTRICAL SCHEDULES

Revised VEF-1 and removed VEF-2 within the motor circuit schedule per Revision RE5-3.

ADD 5-061 DRAWING E5-1-3 – ELECTRICAL TRADE SHOP EQUIPMENT SCHEDULES

Added note to remarks for item AT02 in the Laboratory + Shop Equipment Schedule – Auto Mech per Revision RE5-4.

ADD 5-062 DRAWING E8-1-5 – ELECTRICAL PANELBOARDS

Updated load information for VEF-1 in panelboard MEP1-1 per Revision RE5-5.

Removed VEF-2 from panelboard MEP1-1 and replaced with a spare circuit breaker per Revision RE5-6.

END OF ADDENDUM NO. 5

1. GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Projected out and fixed aluminum architectural windows complete with hardware, related components, and all pertinent accessories as shown on drawings and/or specified in this Section.
 - 2. Exterior perimeter sealant and compressible back-up beads between storefront framing members and abutting dissimilar materials.
 - 3. Operable vents, screens, and hardware within window systems.
 - 4. Pre-finished miscellaneous or custom-formed closures, flashings, and other aluminum brake shapes in conjunction with aluminum windows.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 03 45 00 ARCHITECTURAL PRECAST CONCRETE for embedding the PVC or plastic inserts furnished by this Section.
 - 2. Section 05 50 00 METAL FABRICATIONS for steel angle at head of window.
 - 3. Section 07 08 00 COMMISSIONING OF BUILDING ASSEMBLIES.
 - 4. Section 07 27 00 AIR BARRIERS for membrane flashing at perimeter of aluminum windows.
 - 5. Section 07 92 00 JOINT SEALANTS for installation of joint sealants installed with aluminum-framed systems and for sealants to the extent not specified in this Section.
 - 6. Section 08 41 00 ALUMINU-FRAMED ENTRANCES AND STOREFRONTS for entrance and storefront systems.
 - 7. Section 08 44 10 GLAZED ALUMINUM CURTAIN WALLS for curtain-wall systems that mechanically retain glazing on four sides.
- C. Work Provided under this Section but specified elsewhere:
 - 1. Glass units specified in Section 08 80 00 GLAZING.
- D.Sustainable Design Intent: Comply with project requirements intended to achieve sustainable design, measured and documented according to the Connecticut Building Standard Guidelines Compliance Manual for High Performance Buildings. Refer to Section 018113, SUSTAINABLE DESIGN REQUIREMENTS for these conditions.

1.3 LABORATORY TESTING AND PERFORMANCE REQUIREMENTS

- A. Test Units
 - 1. Air, water, and structural test unit shall conform to requirements set forth in ASTM E 283, ASTM E 331, and ASTM E 330 with manufacturer's standard locking/operating hardware and glazing configuration.

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2. Thermal test unit sizes shall be 24" (609.6 mm) x 60" (1524 mm). Unit shall consist of a projected vent.

B. Test Procedures and Performances

a. Windows shall conform to all AAMA/WDMA/CSA 101/I.S.2/A440-08 requirements for the window type referenced. In addition, the following specific performance requirements shall be met.

b. Life Cycle Testing

a. Test in accordance with AAMA 910. There shall be no damage to fasteners, hardware parts, support arms, activating mechanisms, or any other damage that would cause the window to be inoperable. Air infiltration and water resistance tests shall not exceed specified requirements.

c. Air Infiltration Test

- a. With ventilators closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf (299 Pa).
- b. Air infiltration shall not exceed .10 cfm/SF (.50 l/s•m²) of unit.

d. Water Resistance Test

- a. With ventilators closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 12.0 psf (574 Pa).
- b. There shall be no uncontrolled water leakage.

e. Uniform Load Deflection Test

- a. With ventilators closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 90.23 psf, positive and negative pressure.
- b. No member shall deflect over L/175 of its span.

f. Uniform Load Structural Test

- a. With ventilators closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 135.34 psf, both positive and negative.
- b. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the window to be inoperable.

g. Forced Entry Resistance

a. Windows shall be tested in accordance to ASTM F 588 or AAMA 1302.5 and meet the requirements of performance level 10.

h. Condensation Resistance Test (CRF)

- a. Test unit in accordance with AAMA 1503.1.
- b. Condensation Resistance Factor (CRF) shall not be less than 66 (frame) when glazed with .28 center of glass U-Factor.

Thermal Transmittance Test (Conductive U-Factor)

- With ventilators closed and locked, test unit in accordance with NFRC 100-2010.
- b. Conductive thermal transmittance (U-Factor) shall not be more than .45 BTU/hr•ft²•°F when glazed with .24 center of glass U-Factor.

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- ¹U-Factor and Condensation Resistance (CR) are based on a nominal size of 59" (1500 mm) x 24" (600 mm) using NFRC-100, and 500 2010. ²Intercept® Spacer. ³Based on AAMA 1503.1
- C. Project Wind Loads: The window system shall be engineered and fabricated to withstand the wind pressure, both positive and negative required by the 2016 Connecticut State Building Code and FM Global. Whichever is more stringent shall apply.
 - a. Wind Pressure: Values are based on FM Global Data Sheet 1-28, Section 2.7, for use of ASCE 7-10 values modified to allowable pressures with a safety factor of 2.0. Refer to Structural drawing S0-0-1 (modified in Addendum No.1).
- D. Test criteria for large missile impact per FM Global Data Sheet 1-28 requirements:
 - a. Large Missile Lever (C or D) Impact Test conducted on test units in accordance with TAS 201 or ASTM E 1886/E 1996. Upon completion of the missile impact tests, the test units shall be tested in accordance with TAS 203 or ASTM E 1996 cyclic load test.

1.4 FIELD TESTING AND PERFORMANCE REQUIREMENTS

- A. Windows shall be field tested in accordance with AAMA 502, "Voluntary Specification for Field Testing of Windows and Sliding Glass Doors," using Test Method A.
 - 1. Test one additional window or two percent of the window installation, whichever is greater, for air infiltration and water penetration as specified.
 - Testing shall be by an AAMA accredited testing agency acceptable by the Architect and window manufacturer and employed by the Trade Contractor. Cost for all successful tests, both original and retest shall be paid by the Trade Contractor. All unsuccessful tests, both original and retest, shall be paid by the Trade Contractor. The Owner may employ his own testing agency to conduct additional tests at his own cost.
 - 3. Air infiltration field tests shall be conducted at the same uniform static test pressure as the laboratory test unit. The Maximum allowable rate of air leakage shall not exceed 1.5 times the laboratory test unit for hardware and glazing types consistent with the laboratory test unit. Performance values may be reduced due to deviations from the laboratory test unit such as product size, configuration, hardware selected, and glazing configuration. The field test air leakage rate shall not exceed 1.5 times the maximum allowable laboratory performance specified in the testing criteria listed above for any configuration.
 - 4. Water penetration field tests shall be conducted at a static test pressure of 2/3 of the laboratory test performance values for hardware and glazing types consistent with the laboratory test unit. Performance values may be reduced due to deviations from the laboratory test unit such as product size, configuration, hardware selected, and glazing variations. The field test water test pressure shall not be less than 2/3 of the minimum allowable laboratory performance specified in the testing criteria listed above for any configuration.

1.5 QUALITY ASSURANCE

A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.

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B. Test reports shall be accompanied by the window manufacturer's letter of certification, stating the tested window meets or exceeds the referenced criteria for the appropriate window type.

1.6 REFERENCE

- A. Comply with applicable requirements of the following standards and those others referenced in this Section, under the provisions of Division 01 Section "References".
 - 1. ANSI/AAMA 101-97 Voluntary Specifications for Aluminum and Poly (Vinyl Chloride)(PVC) Prime Windows and Glass Doors.
 - AAMA 2605 Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
 - 3. AAMA 902.2 Voluntary Specification for Sash Balances
 - 4. AAMA 1503.1 Specification for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.
 - 5. ASCA 96 Voluntary Specification for Performance of Organic Coatings on Architectural Aluminum Curtainwall, Extrusions and Miscellaneous Aluminum Components.
 - 6. ASTM B209 Aluminum and Aluminum-Alloy Sheet and Plate.
 - 7. ASTM B221 Aluminum-alloy Extruded Bar, Rod, Wire, Shape, and Tube.
 - 8. ASTM E283 Rate of Air Leakage through Exterior Entrance and vestibule, Curtains Walls and Doors.
 - 9. ASTM E330 Structural Performance of Exterior Entrance and vestibule, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - 10. ASTM E331 Test method of Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - 11. ASTM E405 Wear Testing Rotary Operators for Windows.
 - 12. FS RR-W-356 Wire Fabric.
 - 13. CPSC 16 CFR 1201 Safety Standards for Architectural Glazing Materials.
 - 14. 2016 Connecticut State Building Code.
 - 15. Connecticut Building Standard Guidelines Compliance Manual for High Performance Buildings.

1.7 SUBMITTALS

- A. Contractor shall submit shop drawings; finish samples, test reports, and warranties
 - 1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.
- B. An NFRC Component Modeling Approach (CMA) generated label certificate shall be provided by the manufacturer. The label certificate shall be project specific and will contain the thermal performance ratings of the manufacturer's framing combined with the specified glass, and the glass spacer used in the fabrication of the glass, at NFRC standard test size as defined in table 4-3 in NFRC 100-2010.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating aluminum-framed systems

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without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.9 WARRANTIES

- A. Warranty shall be prepared and submitted in accordance with Section 01780 Closeout Submittals.
 - Total System Warranty: The responsible trade contractor shall assume full responsibility and warrant for two year the satisfactory performance of the total storefront system installation. This includes the glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, and other similar items as it relates to air, water and structural adequacy as called for in the specifications and approved shop drawings.
 - 2. Glass Warranty: Glass manufacturer's 10 year written warranty covering glass against defects in materials and workmanship, including failure of seals, and replacement of the same.
 - 3. Finish Warranty: 20 years against deterioration of finish to an extent visible to the unaided eye.
- B. Warranty Period: Warranty period shall be commencing from the date of Substantial Completion. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible trade contractor at his expense during the warranty period.

2. PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. EFCO, a Pella Company.
 - b. Kawneer North America.
 - c. Oldcastle Building Envelope.
- B. Basis of Design: Series 321X, Thermal, Impact Rated, projected out (swing-out) and fixed windows as manufactured by EFCO Corp.

2.2 MATERIALS

- A. Aluminum:
 - 1. Extruded aluminum shall be 6063-T6 alloy and tempered.
- B. Glass
 - 1. Insulating-Glass Units: Provide insulating glass units as indicated on drawings and described in Section 088000 GLAZING.
- C. Weather Stripping:
 - 1. Provide two rows of compression type full-perimeter weather stripping for each operable sash and ventilator; of neoprene / EPDM alloy or santoprene.

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- D. Hardware: Provide the following operating hardware:
 - 1. Window-Operating Hardware: Cam-Type Operators that has meet Impact Testing. Wickets as required to access hardware.
 - a. As selected by Architect from manufacturer's full range of types and styles.
 - b. Limiter: Include devices to limit opening size to less than 4 inches.
 - 2. Hinges: Concealed four- or six-bar friction hinges located on each jamb near top rail; two per ventilator.
 - Insect Screens: Provide removable insect screen on each operable exterior sash, with screen frame finished to match window unit, complying with SMA 1004 or SMA 1201, and as follows:
 - a. Aluminum Wire Fabric: 18-by-18 mesh of 0.013-inch- (0.3-mm-) diameter, coated aluminum wire.

E. Thermal Barrier:

- 1. All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. For the purposes of this specification, a structural thermal barrier is defined as a system that shall transfer shear during bending and, therefore, promote composite action between the exterior and interior extrusions.
- The thermal barrier shall be thermal struts, consisting of glass reinforced polyamide nylon, mechanically crimped in raceways extruded in the exterior and interior extrusions.
- 3. The intermediate rails shall be poured and debridged thermal barrier made of two-part polyurethane.
- F. PVC or Plastic inserts: As recommended by Manufacturer for precast architectural concrete application.

2.3 SEALANT

- A. Sealant and backing materials.
 - 1. Sealant used within system: As recommended by manufacturer.
 - 2. Exterior Perimeter Sealant: Multi-component gun-grade polyurethane sealant Low modulus type, non-sagging, conforming to FS TT-S-000227E, Type II, Class A, and ASTM C 920, Type M, Class 25, Grade NS, use NT, M, A and O with a minimum movement capability of ±50 percent, equal to the following:
 - a. Mameco International, Inc., product "Vulkem 922".
 - Sonneborn Building Products Inc., Minneapolis MN.; product, "Sonolastic NP2".
 - c. Tremco, Beachwood OH.; product, "Dymeric".
 - d. Pecora Corporation, Harleysville PA.; product "Dynatrol II".
 - 3. Compressible joint bead back-up: Compressible closed cell polyethylene, extruded polyolefin foam or polyurethane foam rod, 1/3 greater in diameter than width of joint. Provide one of the following, or equal:
 - a. Sonneborn Building Products Inc., Minneapolis MN.; product "Sonofoam".
 - Applied Extrusion Technologies, Inc., Middletown DE., product "Sof Rod".
 - 4. Primers: Furnish and install joint primers of the types, and to the extent,

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- recommended by the respective sealant manufacturers for the specific joint materials and joint function.
- 5. Bond-breaker tape, and temporary masking tape: Of types as recommended by the manufacturer of the specific sealant and caulking material used at each application, and completely free from contaminants which would adversely affect the sealant and caulking materials.
- 6. Concealed Butyl Sealant: At concealed interface locations between storefront system and air & vapor barrier system as indicated on Drawing, butyl rubber sealant equal to "201" as manufactured by Inland Inc. shall be used.
 - a. Multi-purpose, waterproof and weather resistant rubber based sealant that cures using a solvent release system.
 - b. Withstand joint movement of +-10% without loss of water tightness.
 - c. Remains soft and pliable, "self-healing" when cut.
 - d. Conforms with federal specification TT-S-001657 and ASTM C1085.
- 7. Exterior perimeter sealants for transitions between Aluminum Framing and Air/Vapor Barrier System shall be compatible with Air and Vapor Barrier System.

2.4 FABRICATION

A. General

- 1. All aluminum frame and vent extrusions shall have a minimum wall thickness of 0.125 (3mm).
- 2. Depth of frame and vents shall not be less than 3 ¼" deep.
- 3. Mechanical fasteners, welded components, and hardware items shall not bridge thermal barriers. Thermal barriers shall align at all frame and vent corners

B. Frame

1. Frame components shall be mortise and tenon. Other means of mechanically fastening, i.e. screws shall not be permitted.

2.5 ALUMINUM FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- C. High-Performance Organic Finish (3-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 3-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.
 - 1. Color: Prior to fabrication, obtain Architect's approval on color sample. Color shall be selected by Architect during Submittal Procedures from PPG Duranar XL Coating group (3-coat system: primer, color & clear coat).
 - a. Metallic color.

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3. EXECUTION

3.1 INSPECTION

- A. Inspect all rough openings and surfaces and verify that they are in proper condition to receive the work of this Section. Beginning of installation means acceptance of project conditions.
 - Verify wall openings and adjoining air and vapor seal materials are ready to receive work of this Section.
 - Before proceeding with installation work, inspect all project conditions and all work of
 other trades to assure that all such conditions and work are suitable to satisfactorily
 receive the work of this Section and notify the Contractor in writing of any which are
 not. Do not proceed further until corrective work has been completed.

3.2 INSTALLATION

- A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.
- B. Windows shall be securely anchored in place to a straight, plumb and level condition, without distortion. Weather stripping contact and hardware movement shall be checked, and final adjustments made for proper operation and performance of units.
- C.Apply sealing materials to provide a weather tight installation at all joints within the window system and at the exterior opening perimeters.
- D. Sealing materials specified shall be used in strict accordance with the manufacturer's printed instructions and shall be applied only by mechanics specially trained or experienced in their use. All surfaces must be clean and free of foreign matter before applying sealing materials. Sealing compounds shall be tooled to fill the joint and provide a smooth finished surface.

3.3 ANCHORAGE

A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

3.4 FIELD QUALITY CONTROL

- A. The work of this Section is subject to full building commissioning testing performed by the Owner's Commissioning Agent. Sub-contractor shall cooperate and coordinate with the Commissioning Agent in acquiring required test data. Refer to Section 07 08 00 COMMISSIONING OF BUILDING ASSEMBLIES.
- B. Testing and inspecting of representative areas to determine compliance of installed systems with specified requirements. Do not proceed with installation of the next area until test results for previously completed areas show compliance with requirements.
- C.Repair or remove work where test results and inspections indicate that it does not comply with specified requirements.

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D.Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 PROTECTION AND CLEANING

- A. Clean all window system promptly after installation, exercising care to avoid damage. Thoroughly clean all metal and glass surfaces free from dirt, handling marks, packing tapes, and foreign matter; remove excess sealant. Remove labels from glass surfaces, and clean and polish same.
- B. Touch-up all scratches, abrasions, and other defects in the prefinished metal surfaces with shop-coat finish material, supplied with the various items to be furnished hereunder.
- C.Sub-Contractor shall advise the Installer of protective treatment and other precautions required by him through the remainder of construction to ensure that the work of this Section will be without damage or deterioration at the time of Substantial Completion of the Contract.

END OF SECTION

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PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Breeching and vents.
 - 2. Combustion air intake.
 - **3.** Breeching and vents for boilers and water heaters.
 - **4.** Combustion air intake piping for boilers and water heaters.
 - 5. Breeching and vents and induced draft fans for appliances and equipment at the Plumbing Shop and HVAC Shop (Addendum No. 1).
 - **6.** Breeching and vents for fuel fired heaters.
- B. Related Sections:
 - 1. Section 23 04 00 General Conditions for Mechanical Trades
 - 2. Section 22 34 00 Fuel-Fired Domestic Water Heaters: Water heaters using breeching, chimneys, and stacks.
 - 3. Section 23 52 32 Condensing Boilers

1.2 REFERENCES

- **A.** American National Standards Institute:
 - 1. ANSI Z21.66 Automatic Vent Damper Devices for Use with Gas-Fired Appliances.
 - 2. ANSI Z21.67 Mechanically Actuated Automatic Vent Damper Device.
 - **3.** ANSI Z21.68 Thermatically Actuated Automatic Vent Damper Devices.
 - **4.** ANSI Z95.1 Oil Burning Equipment, Installation.
- **B.** ASTM International:
 - 1. ASTM A240/A240M Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
 - 2. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
 - **3.** ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 4. A1011/A1011M-07 Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
 - 5. ASTM C401 Standard Classification of Alumina and Alumina-Silicate Castable Refractories.
- C. National Fire Protection Association:
 - NFPA 31 Standard for the Installation of Oil-Burning Equipment.
 - 2. NFPA 54 National Fuel Gas Code.
 - 3. NFPA 82 Standard on Incinerators and Waste and Linen Handling Systems and Equipment.
 - 4. NFPA 211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances.
- **D.** Sheet Metal and Air Conditioning Contractors:
 - 1. SMACNA Guide for Steel Stack Construction.
 - 2. SMACNA HVAC Duct Construction Standard Metal and Flexible.
- E. Underwriters Laboratories Inc.:
 - 1. UL 103 Factory-Built Chimneys for Residential Type and Building Heating Appliances.
 - 2. UL 127 Factory-Built Fireplaces.
 - 3. UL 378 Draft Equipment.
 - **4.** UL 441 Gas Vents.
 - **5.** UL 641 Type L Low-Temperature Venting Systems.
 - 6. UL 959 Medium Heat Appliance Factory Built Chimneys.

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1.3 DEFINITIONS

- A. Breeching: Vent Connector.
- B. Chimney: Primarily vertical shaft enclosing at least one vent for conducting flue gases outdoors.
- **C.** Smoke Pipe: Round, single wall vent connector.
- **D.** Vent: Portion of a venting system designed to convey flue gases directly outdoors from a vent connector or from an appliance when a vent connector is not used.
- **E.** Vent Connector: Part of a venting system that conducts the flue gases from the flue collar of an appliance to a chimney or vent, and may include a draft control device.

1.4 DESIGN REQUIREMENTS

A. Design stacks above the roof for per local wind loading velocities

1.5 SUBMITTALS

- A. Section 01 33 00 Submittal Procedures: Submittals procedures.
- B. Shop Drawings: Indicate general construction, dimensions, weights, support and layout of breeching. Submit layout drawings indicating plan view and elevations
- C. Product Data: Submit data indicating factory built chimneys, including dimensional details of components and flue caps, dimensions and weights, electrical characteristics and connection requirements.
- D. Calculations: Submit flue vent calculations based upon submitted product data and shop drawings.
- **E.** Product Data: Submit data on fans and accessories including fan curves with specified operating point plotted, power, RPM, and electrical characteristics and connection requirements.
- F. Manufacturer's Installation Instructions: Submit assembly, support details, and connection requirements.

1.6 QUALITY ASSURANCE

A. Provide factory built vents and chimneys used for venting natural draft appliances complying with NFPA 211 for fuel fired and NFPA 54 for gas fires and UL listed and labeled.

1.7 QUALIFICATIONS

- **A.** Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.
- **B.** Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.

1.8 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 Administrative Requirements: Pre-installation meeting.
- **B.** Convene minimum two weeks prior to commencing work of this section.

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1.9 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 Product Requirements.
- **B.** Maintain water integrity of roof during and after installation of chimney or vent.

1.10 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.11 WARRANTY

A. Section 01 70 00 - Execution and Closeout Requirements: Product warranties and product bonds.

PART 2 PRODUCTS

- 2.1 CENTRAL BOILER ROOM: FLUE VENTS FOR BOILERS B-1, B-2 and B-3 AND WATER HEATERS WH-1 and WH-2 SERVING THE BUILDING. These are the flue vents serving the boilers and water heaters shown in the Boiler Room on Drawing M2-3-1A. (Addendum No. 5)
 - A. Manufacturers:
 - 1. Metal-Fab Inc. Model Corr/Guard
 - 2. Other acceptable manufacturers offering equivalent products.
 - a. Metalbestos
 - b. CB Exhaust Solutions.
 - **B.** Flue shall be positive pressure, double wall metal stack, UL 1738 listed for a high efficiency, condensing, Category IV boiler.
 - **C.** Fabricate with 1 inch (25 mm) annular space. Inner wall shall be constructed of AL29-4C, minimum.015" thickness. Outer wall shall be constructed of Type 304 stainless steel, minimum.018" thickness
 - D. Accessories, UL labeled:
 - Ventilated Wall Thimble: Consists of wall penetration, vent flashing with spacers and storm collar.
 - 2. Stack Cap: Consists of conical rainshield with inverted cone for partial rain protection with low flow resistance.
 - **3.** Fittings: Elbows, wyes, expansion sections, barometric dampers, and accessories as required for a compete installation.
 - **4.** Joints: Seal with sealant as recommended by manufacturer.
- 2.2 PLUMBING SHOP AND HVAC SHOP: FLUE VENTS FOR ALL APPLIANCES SERVED BY INDUCED DRAFT FANS IDF-2 AND IDF-3 (Addendum No. 1). These are the flue vents serving the appliances as identified on the floor plans as by served by IDF-2 and IDF-3 on Drawing M1-1-1E. (Addendum No. 5)
 - A. Manufacturers:
 - 1. Metal-Fab Inc. Model I PIC
 - 2. Other acceptable manufacturers offering equivalent products.
 - a. Metalbestos
 - b. CB Exhaust Solutions
 - c. Cheminee.
 - d. Security Chimneys International.
 - **B.** Flue shall be positive pressure, double wall metal stack, tested to UL 103 and UL listed for use with building heating equipment, in compliance with NFPA.

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- **C.** Fabricate with 1 inch minimum mineral wool insulation between walls. Construct inner jacket of minimum .035" thick Type 304 stainless steel. Construct outer jacket of minimum .025" thick aluminized steel.
- **D.** Accessories, UL labeled:
 - Ventilated Roof Thimble: Consists of roof penetration, vent flashing with spacers and storm collar.
 - 2. Stack Cap: Consists of conical rainshield with inverted cone for partial rain protection with low flow resistance.
 - **3.** Fittings: Elbows, wyes, expansion sections, barometric dampers, and accessories as required for a compete installation.
 - **4.** Joints: Seal with sealant as recommended by manufacturer.
- 2.3 PLUMBING SHOP: FLUE VENTS FOR ALL APPLIANCES SERVED BY INDUCED DRAFT FAN IDF-1 (Addendum No. 1). These are the flue vents serving the appliances as identified on the floor plans as by served by IDF-1 on Drawing M1-1-1E. (Addendum No. 5).
 - A. Manufacturers:
 - 1. Metal-Fab Inc. Model Corr/Guard
 - 2. Other acceptable manufacturers offering equivalent products.
 - a. Metalbestos
 - **b.** CB Exhaust Solutions.
 - **B.** Flue shall be positive pressure, double wall metal stack, UL 1738 listed for a high efficiency, condensing, Category IV boiler.
 - C. Fabricate with 1 inch (25 mm) annular space. Inner wall shall be constructed of AL29-4C, minimum.015" thickness. Outer wall shall be constructed of Type 304 stainless steel, minimum.018" thickness
 - **D.** Accessories, UL labeled:
 - Ventilated Wall Thimble: Consists of wall penetration, vent flashing with spacers and storm collar.
 - 2. Stack Cap: Consists of conical rainshield with inverted cone for partial rain protection with low flow resistance.
 - **3.** Fittings: Elbows, wyes, expansion sections, barometric dampers, and accessories as required for a compete installation.
 - **4.** Joints: Seal with sealant as recommended by manufacturer.
- 2.4 PLUMBING SHOP AND HVAC SHOP: FLUE VENTS AND COMBUSTION AIR INTAKE FOR CONDENSING APPLIANCES. These are the flue vents and combustion air intakes serving appliances as identified on the floor plans as "flues by serving condensing appliances" but not flues served by an IDF (Addendum No. 5).
 - A. PVC Pipe: ASTM D1785, Schedule 40, polyvinyl chloride (PVC) material.
 - 1. Fittings: ASTM D2466, Schedule 40, PVC.
 - Joints: ASTM D2855, solvent weld with ASTM D2564 solvent cement. Prime joints with a contrasting color.
- 2.5 FLUE VENTS (DOUBLE WALL; INSULATED) FOR GAS FIRED INFRA-RED HEATERS
 - A. Manufacturers:
 - 1. Metal-Fab Inc. Model I PIC
 - 2. Other acceptable manufacturers offering equivalent products.
 - a. Metalbestos
 - **b.** CB Exhaust Solutions
 - c. Cheminee.
 - d. Security Chimneys International.
 - **B.** Flue shall be positive pressure, double wall metal stack, tested to UL 103 and UL listed for use with building heating equipment, in compliance with NFPA.

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- **C.** Fabricate with 1 inch minimum mineral wool insulation between walls. Construct inner jacket of minimum .035" thick Type 304 stainless steel. Construct outer jacket of minimum .025" thick aluminized steel.
- **D.** Accessories, UL labeled:
 - Ventilated Roof Thimble: Consists of roof penetration, vent flashing with spacers and storm collar.
 - Stack Cap: Consists of conical rainshield with inverted cone for partial rain protection with low flow resistance.
 - **3.** Fittings: Elbows, wyes, expansion sections, barometric dampers, and accessories as required for a compete installation.
 - **4.** Joints: Seal with sealant as recommended by manufacturer.

2.6 COMBUSTION AIR INTAKE PIPING UNLESS NOTED OTHERWISE ABOVE

A. Galvanized steel: Refer to Spec Section 23 3100.

2.7 INDUCED DRAFT FANS

- A. Manufacturers:
 - 1. ENERVEX
 - 2. Other acceptable manufacturers offering equivalent products.
 - **a.** Tjerlund.
 - **b.** Twin City Fan
- **B.** Fans shall be designed to be part of a chimney flue stack system.
- C. Where fan is top vertical discharge, fan shall be hinged to allow access to the stack.
- **D.** Induced draft fans shall be provided with motors with thermal overload protection, disconnect switch, modulating draft control, relay modules, duct adapters and balancing baffles at each branch.
- **E.** Induced draft fan control panel shall include the following components:
 - **1.** Fan speed control through integral VFD.
 - 2. LCD display
 - 3. BACNET interface
 - **4.** Appliance interlock shutdown.
 - **5.** Stack probe sensors
 - **6.** Outdoor air sensor.
 - **7.** 120 volt / 1 phase power.
 - **8.** Balancing dampers at each branch to individual appliances. (Addendum No. 1).

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with NFPA AND SMACNA Guide for Steel Stack Construction.
- B. Install breeching with minimum of joints. Align accurately at connections, with internal surfaces smooth.
- C. Support breeching from building structure, rigidly with suitable ties, braces, hangers and anchors to hold to shape and prevent buckling. Support vertical breeching, chimneys, and stacks at 12 foot spacing, to adjacent structural surfaces, or at floor penetrations. Refer to SMACNA HVAC Duct Construction Standards Metal and Flexible for equivalent duct support configuration and size.
- **D.** Pitch breeching with positive slope up from fuel-fired equipment to chimney or stack.
- **E.** Coordinate installation of dampers and clean-outs.

PROJECT NO: BI-RT-878-CMR OSCG&R PROJECT NO: 900-0013

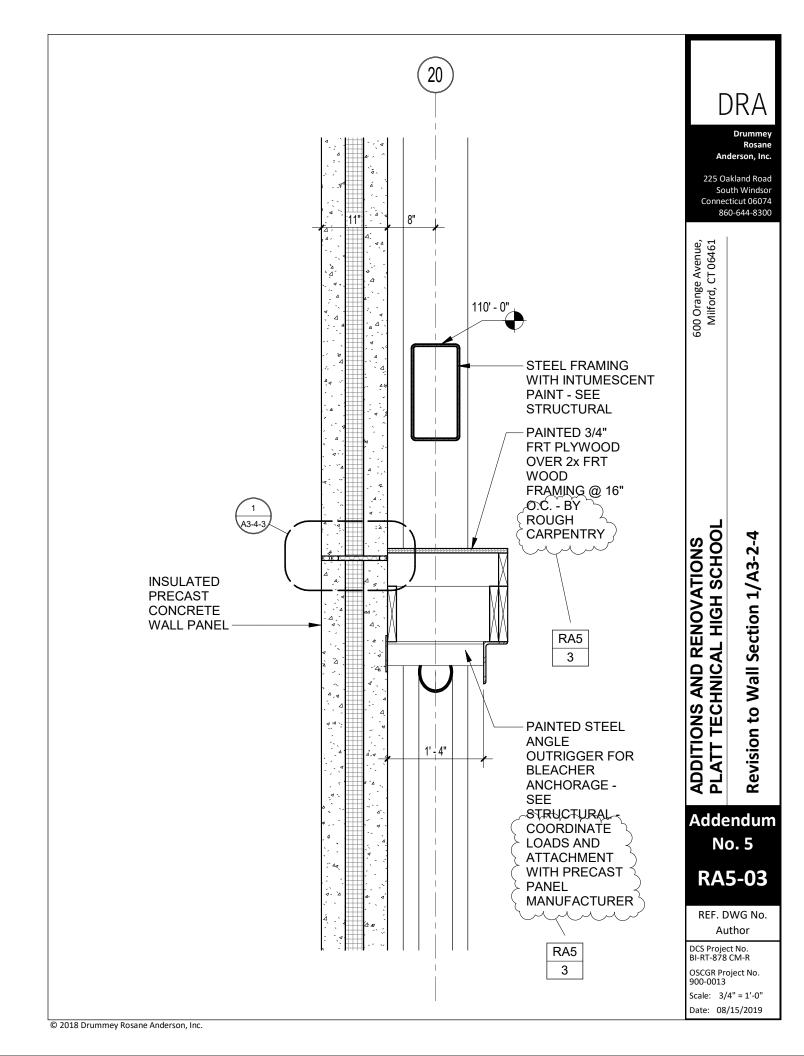
PAGE 6 OF 6

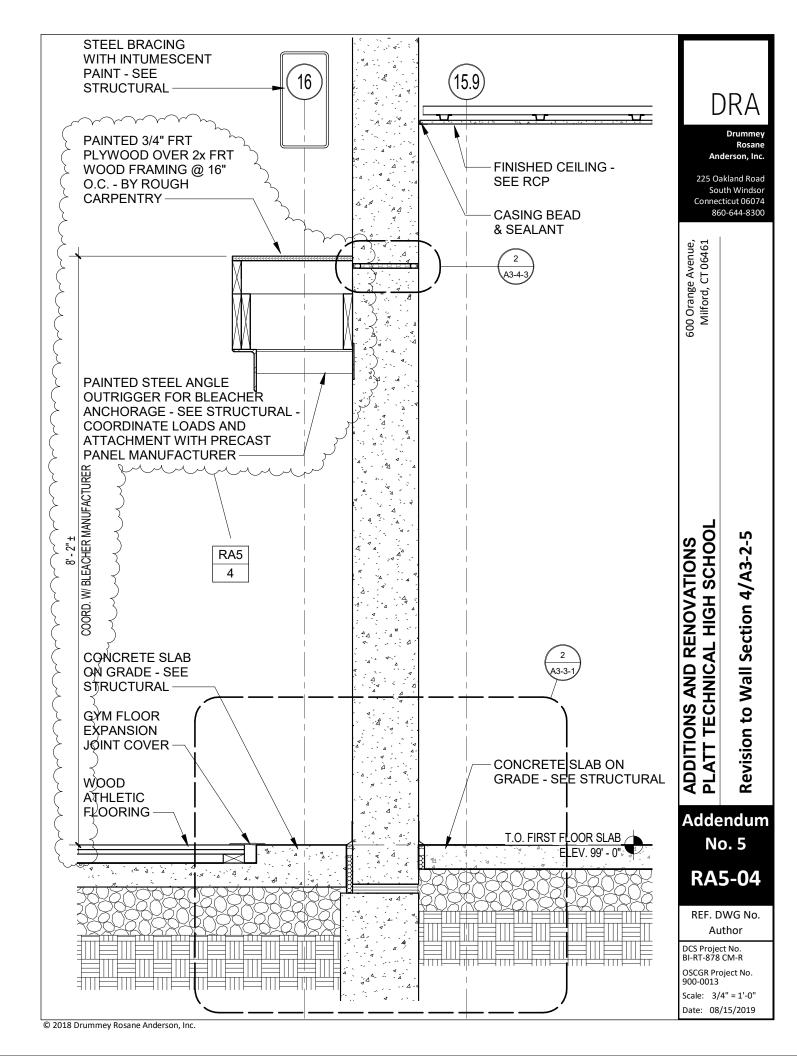
- **F.** Maximum Vent Horizontal Distance: 75 percent of vent vertical distance.
- **G.** Where appliance requires draft hood or barometric control device, install manufacturer furnished listed devices in accordance with manufacturer's instructions and applicable code.
- **H.** Install vent dampers, locating close to draft hood collar, and secured to breeching.
- I. Level and plumb chimney and stacks.
- Clean breeching, chimneys, and stacks during installation, removing dust and debris.
- **K.** Install slip joints allowing removal of appliances without removal or dismantling of breeching, breeching insulation, chimneys, or stacks.
- L. At appliances, provide slip joints permitting removal of appliances without removal or dismantling of breeching, breeching insulation, chimneys, or stacks
- **M.** Provide minimum length of breeching to connect appliance to chimney.
- **N.** Extend vent above roof in accordance with applicable code.

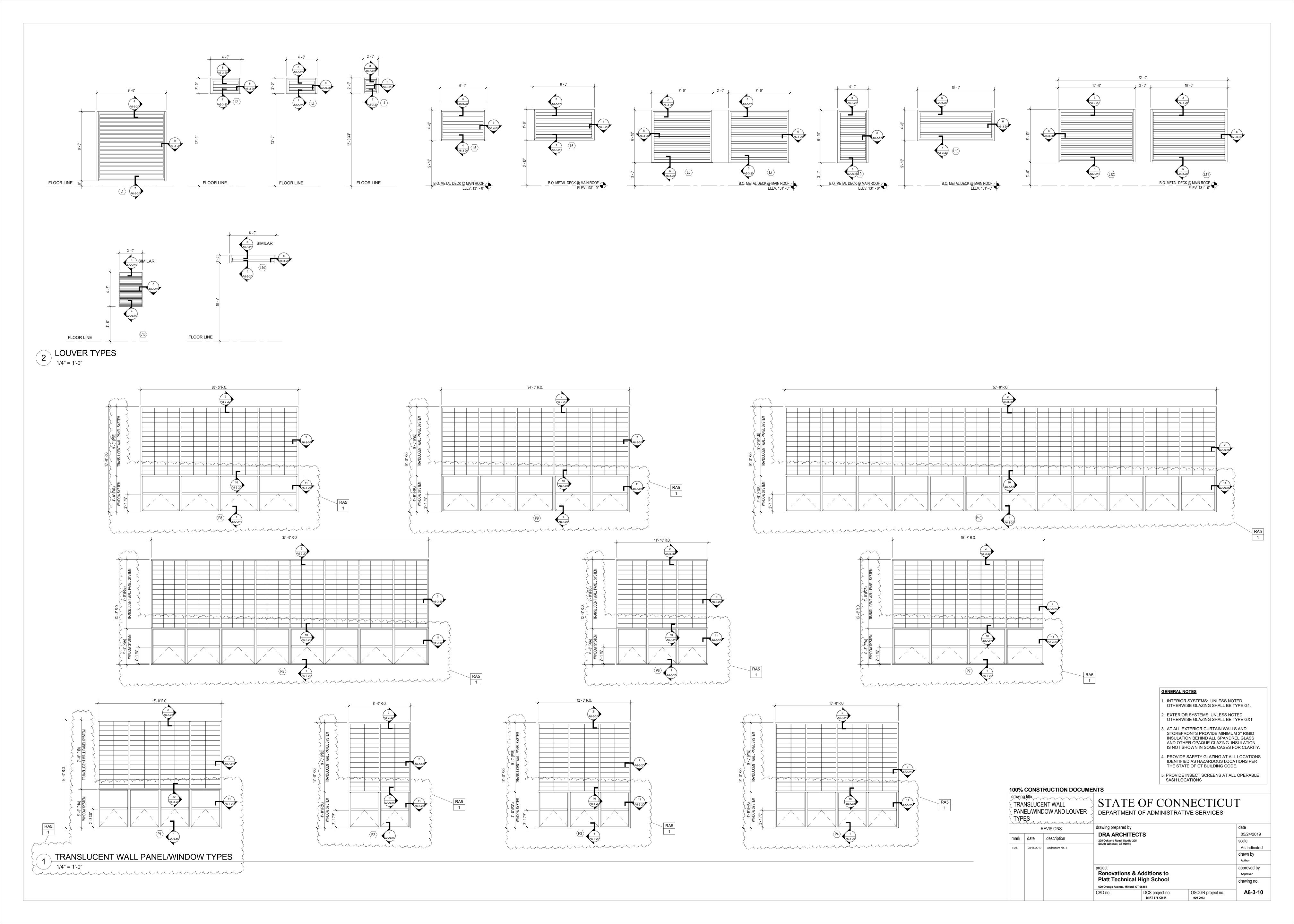
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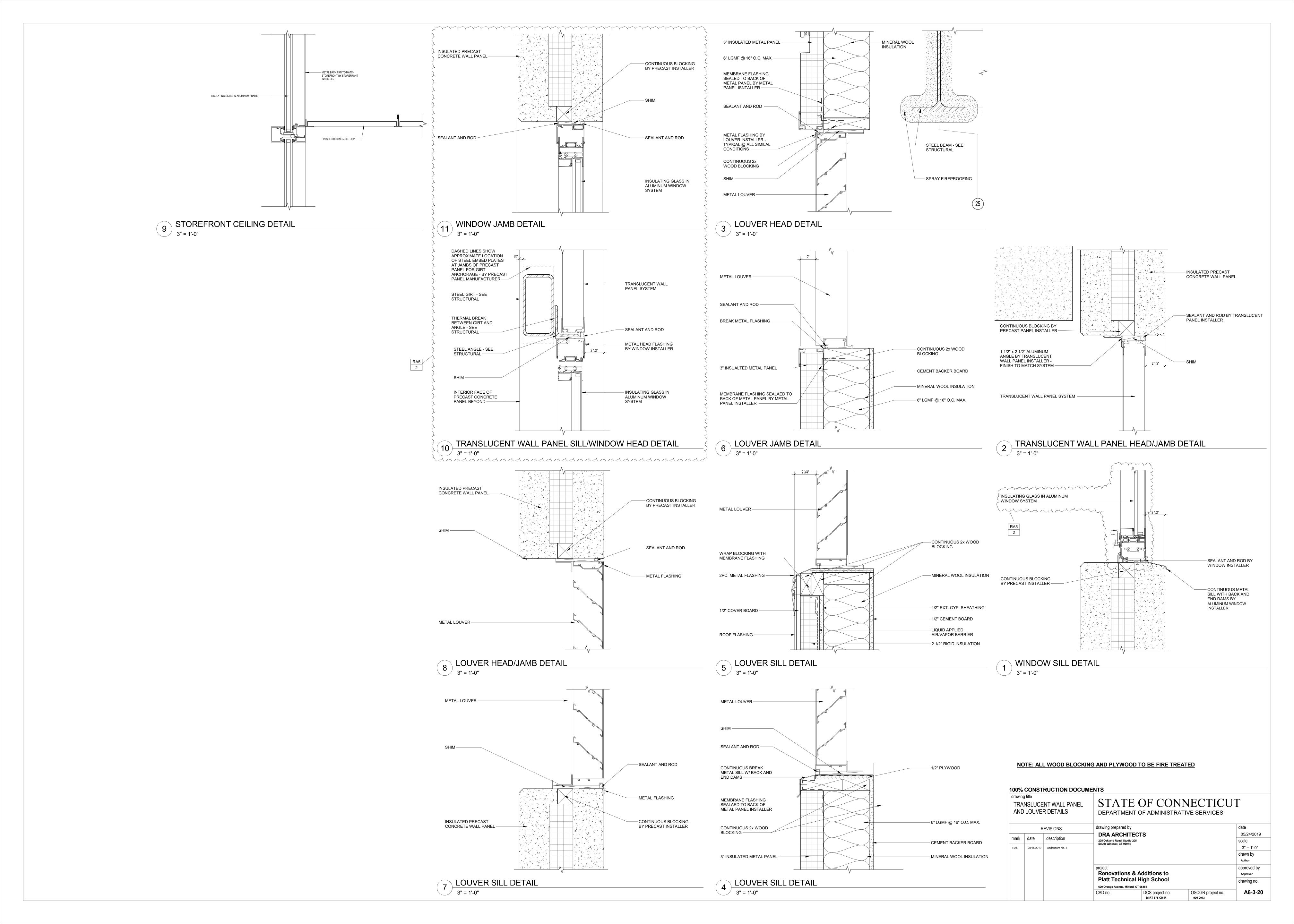
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PROJECT NO: BI-RT-878-CMR
OSCG&R PROJECT NO: 900-0013









DRA

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ADDITIONS AND RENOVATIONS
PLATT TECHNICAL HIGH SCHOOL

ADDENDUM #5

REVISED PLAN NOTES

RS5-001

REF. DWG No. S1-1-2F

DCS Project No. BI-RT-878 CM-R OSCGR Project No.

Scale: 1/8" = 1'-0" Date: 08/14/2019

LOW ROOF FRAMING PLAN NOTES:

- 1. TOP OF CONCRETE TOPPING SLAB SHALL BE AT ELEVATION 121'-7" (+23'-7" A.F.F.). CONCRETE TOPPING SLAB SHALL VARY FROM A MAXIMUM 4" THICKNESS TO A MINIMUM 2" THICKNESS TO ACCOMMODATE A MAXIMUM 2" CAMBER IN PRECAST MEMBERS. REINFORCEMENT TO CONSIST OF 6x6-W4.0xw4.0 WELDED WIRE FABRIC.
- 2. TOP OF PRECAST MEMBERS SHALL BE AT ELEVATION 120'-3" (+23'-3" A.F.F.).
- 3. ALL PRECAST CONCRETE COMPONENTS SHALL BE DESIGNED TO RESIST SELF WEIGHT AND SUPERIMPOSED LOADS AS REQUIRED BY THE STATE OF CONNECTICUT BUILDING CODE. PRECAST COMPONENT DESIGNS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF CONNECTICUT AND ALL SUBMISSIONS SHALL BEAR REGISTRATION SEAL OF THE PRECAST COMPONENT ENGINEER.
- 4. PRECAST/PRESTRESSED DOUBLE TEE MEMBERS SHALL HAVE 34" OVERALL DEPTH WITH MAXIMUM 12'-0" FLANGE WIDTH, RIBS TO BE 30" TALL WITH 6'-0" CENTER/CENTER SPACING. FLANGES TO HAVE 4" THICKNESS.
- 5. "PDT-*" INDICATES PRECAST PRESTRESSED DOUBLE TEE. SEE DOUBLE TEE SCHEDULE ON DRAWING S2-4-1 FOR ADDITIONAL REQUIREMENTS.
- 6. "PB-*" INDICATES PRECAST/PRESTRESSED CONCRETE BEAM SEE PRECAST/PRESTRESSED BEAM SCHEDULE ON DRAWING S2-4-1. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 7. "PW-*" INDICATES PRECAST/PRESTRESSED CONCRETE WALL PANEL. SEE DRAWINGS S2-3-1 AND S2-3-2 FOR ADDITIONAL INFORMATION AND REQUIRMENTS.
- 8. ALL ANCHORS, INSERTS, PLATES AND OTHER STEEL ACCESSORIES REQUIRED FOR CONNECTION OF PRECAST COMPONENTS ARE TO BE PROVIDED BY PRECAST SUPPLIER TYPICAL.
- 9. ALL CONTRACTORS TO COORDINATE ALL WORK WITH PRECAST SUPPLIER.
- 10. PROVIDE PRECAST MOMENT FRAME ALONG GRID 1 TO RESIST ULTIMATE LATERAL SEISMIC FORCES OF ±100 KIPS DISTRIBUTED UNIFORMLY
- 11. SEE DRAWING S2-5-1 FOR SEISMIC LOADS TO BE TRANSFERRED TO PRECAST WALLS.

DESIGNATION	DESIGNATION	TYPE	THICKNESS		PLANK DI	MENSIONS			UNIFORM LOAD		
				А	В	С	D	DEAD LOAD DEAD LOAD LIVE L		APPLIED LIVE LOAD (PSF)	REMARKS
	"PL-206"	С	8"	21'-6"	20'-2 1/2"	8"	7 1/2"	56 PSF	82	35	SEE LOADING "A"
	"PL-207"	Е	8"	19'-9 1/2"	18'-5 1/2"	8"	8"	56 PSF	82	35	SEE LOADING "A"
ROOF	"PL-301"	С	8"	20'-0"	18'-4"	1'-0"	8"	56 PSF	82	35	
	"PI-302"	B	8"	12'-4"	10'-10"	9"	9"	56 PSF	82	100	~
}	"PL-303"	С	8"	12'-4"	11'-0 1/2"	7 1/2"	8"	56 PSF	82	35	
}	"PL-304"	В	8"	11'-1"	10'-0"	6"	7"	56 PSF	82	100	}

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REVISED PRECAST PLANK SCHEDULE ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL

ADDENDUM

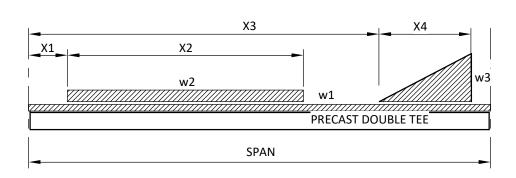
#5 RS5-002

REF. DWG No. Author

DCS Project No. BI-RT-878 CM-R OSCGR Project No.

Scale: 3/4" = 1'-0" Date: 08/14/2019

PRECAST DOUBLE TEE SCHEDULE



1																		
WIDTH "A"	LEFT	LEFT (CONNECTION	RIGHT	RIGHT	CONNECTION	SPAN	w1	K/FT		w2	K/FT			w3	K/FT		DEATA DIE
(FT.)	GRID	TYPE	DIM. "B" (FT.)	GRID	TYPE	DIM. "B" (FT.)	FT.	Dead	Live	X1 (FT)	X2 (FT)	Dead	Live	X3 (FT)	X4 (FT)	Dead	Live	REMARKS
12'-0"	8	Α	2'-0"	9	Α	2'-0"	48'-0"	2.00	0.420									ROOF MEMBER
11'-1"	8	Α	2'-0"	9	Α	2'-0"	48'-0"	1.85	0.390									ROOF MEMBER
12'-0"	8	А	2'-0"	9	А	2'-0"	48'-0"	2.00	0.420									ROOF MEMBER
12'-0"	5	А	2'-0"	6	А	2'-0"	48'-6"	2.00	0.420									ROOF MEMBER
11'-1"	5	Α	2'-0"	6	А	2'-0"	48'-6"	1.85	0.390									ROOF MEMBER
12'-0"	3.6	В	1'-0"	5	Α	2'-0"	47'-5"	2.00	0.420									ROOF MEMBER
12'-0"	3.9	В	1'-3"	5	Α	2'-0"	38'-1 1/2"	2.00	0.420									ROOF MEMBER
11'-1"	3.9	В	1'-3"	5	Α	2'-0"	38'-1 1/2"	1.85	0.390									ROOF MEMBER
12'-0"	7	В	1'-0"	9	Α	2'-0"	58'-6"	2.00	0.420									ROOF MEMBER
10'-11"	~~7	B	1'-0"	~9~	\sim	~~2 ¹ -0"~~	58'-6"	\1. 8 3~	-0.3 9 0,	$\sim\sim$	\sim	~ ~ ~	~ ~ ~	~ ~ ~	~ ~ ~	~ ~ ~	~~~	ROOF, MEMBER
12'-0"	. 7	В	1'-0"	.9	, A	2'-0"	58'-6"	2.00	0.420	11'	40'	0.800	0.500					ROOF MEMBER
12'-0"	5	A	2'-0"	9	A	2'-0"	58'-0"	2.00	0.420									ROOF MEMBER
10'-11"	~5 <u></u>	A-	2'-0"	9	~~A~	2'-0"	58'-0"	~2,00,	0.420	~~	~ ~ ~	~~~	~~~	\ - \	\ - \-	\ \	~~~	ROOF-MEMBER
12'-0"	7	Α	2'-0"	9	Α	2'-0"	58'-0"	2.00	0.420	11'	40'	0.800	0.800					ROOF MEMBER
	(FT.) 12'-0" 11'-1" 12'-0" 11'-1" 12'-0" 11'-1" 12'-0" 12'-0" 12'-0" 12'-0" 12'-0" 12'-0"	(FT.) GRID 12'-0" 8 11'-1" 8 12'-0" 5 11'-1" 5 12'-0" 3.6 12'-0" 3.9 11'-1" 3.9 12'-0" 7 12'-0" 7	(FT.) GRID TYPE 12'-0" 8 A 11'-1" 8 A 12'-0" 5 A 11'-1" 5 A 12'-0" 3.6 B 12'-0" 3.9 B 11'-1" 3.9 B 12'-0" 7 B 12'-0" 5 A	(FT.) GRID TYPE DIM. "B" (FT.) 12'-0" 8 A 2'-0" 11'-1" 8 A 2'-0" 12'-0" 5 A 2'-0" 11'-1" 5 A 2'-0" 12'-0" 3.6 B 1'-0" 12'-0" 3.9 B 1'-3" 11'-1" 3.9 B 1'-3" 12'-0" 7 B 1'-0" 12'-0" 7 B 1'-0" 12'-0" 7 B 1'-0" 12'-0" 5 A 2'-0"	(FT.) GRID TYPE DIM. "B" (FT.) GRID 12'-0" 8 A 2'-0" 9 11'-1" 8 A 2'-0" 9 12'-0" 8 A 2'-0" 9 12'-0" 5 A 2'-0" 6 11'-1" 5 A 2'-0" 6 12'-0" 3.6 B 1'-0" 5 12'-0" 3.9 B 1'-3" 5 11'-1" 3.9 B 1'-3" 5 12'-0" 7 B 1'-0" 9 12'-0" 7 B 1'-0" 9 12'-0" 5 A 2'-0" 9	(FT.) GRID TYPE DIM. "B" (FT.) 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Dead Live X1 (FT) X2 (FT) Dead Live X3 (FT) X4 (FT) Dead 12'-0" 8 A 2'-0" 9 A 2'-0" 48'-0" 2.00 0.420	(FI.) GRID Type DIM. "B" (FI.) FT. Dead Live X1 (FT) X2 (FT) Dead Live X3 (FT) X4 (FT) Dead Live 12'-0" 8 A 2'-0" 9 A 2'-0" 48'-0" 2.00 0.420

DRA

Drummey Rosane Anderson, Inc.

225 Oakland Road South Windsor Connecticut 06074 860-644-8300

600 Orange Avenue Milford, CT 06461

ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL

REVISED PRECAST PLANK SCHEDULE

ADDENDUM

#5

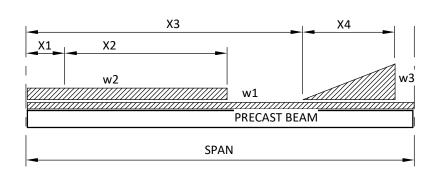
RS5-003

REF. DWG No. Author

DCS Project No. BI-RT-878 CM-R OSCGR Project No.

Scale: 3/4" = 1'-0" Date: 08/14/2019

PRECAST BEAM SCHEDULE



AREA "E" MEXXANINE

BEAM	BEAM	GRID	LEFT	RIGHT	SPAN	w1	K/FT		w2	K/FT			w3	K/FT		
MARK	TYPE		GRID	GRID	FT.	Dead	Live	X1 (FT)	X2 (FT)	Dead	Live	X3 (FT)	X4 (FT)	Dead	Live	REMARKS
"PB-M10"	G	5	W	Υ	24'-0"	4.1	3.8									

NOTES:

- 1. ALL FLOOR LIVE LOADS SHOWN MAY BE REDUCED IN ACCORDANCE WITH THE REQUIREMENTS OF CONNECTICUT STATE BUILDING CODE.
- 2. SPANDREL BEAMS AT EXTERIOR WALLS SHALL HAVE MAXIMUM LONG TERM DEFLECTION LIMITED TO SPAN/480.
- 3. ALL BEAMS SHALL HAVE 5000 PSI, NORMAL WEIGHT CONCRETE.
- 4. SUBMIT SEALED CALCULATIONS FOR ALL BEAM DESIGNS INCLUDING CONNECTIONS.

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PRECAST BEAM SCHEULE - MEZZANINE ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL

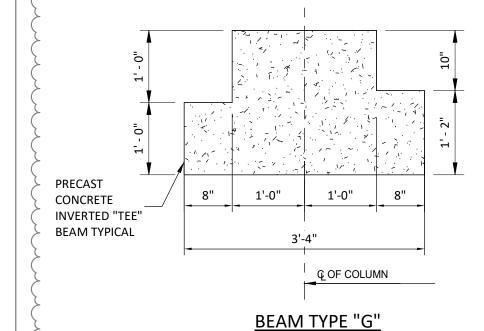
ADDENDUM

#5 RS5-004

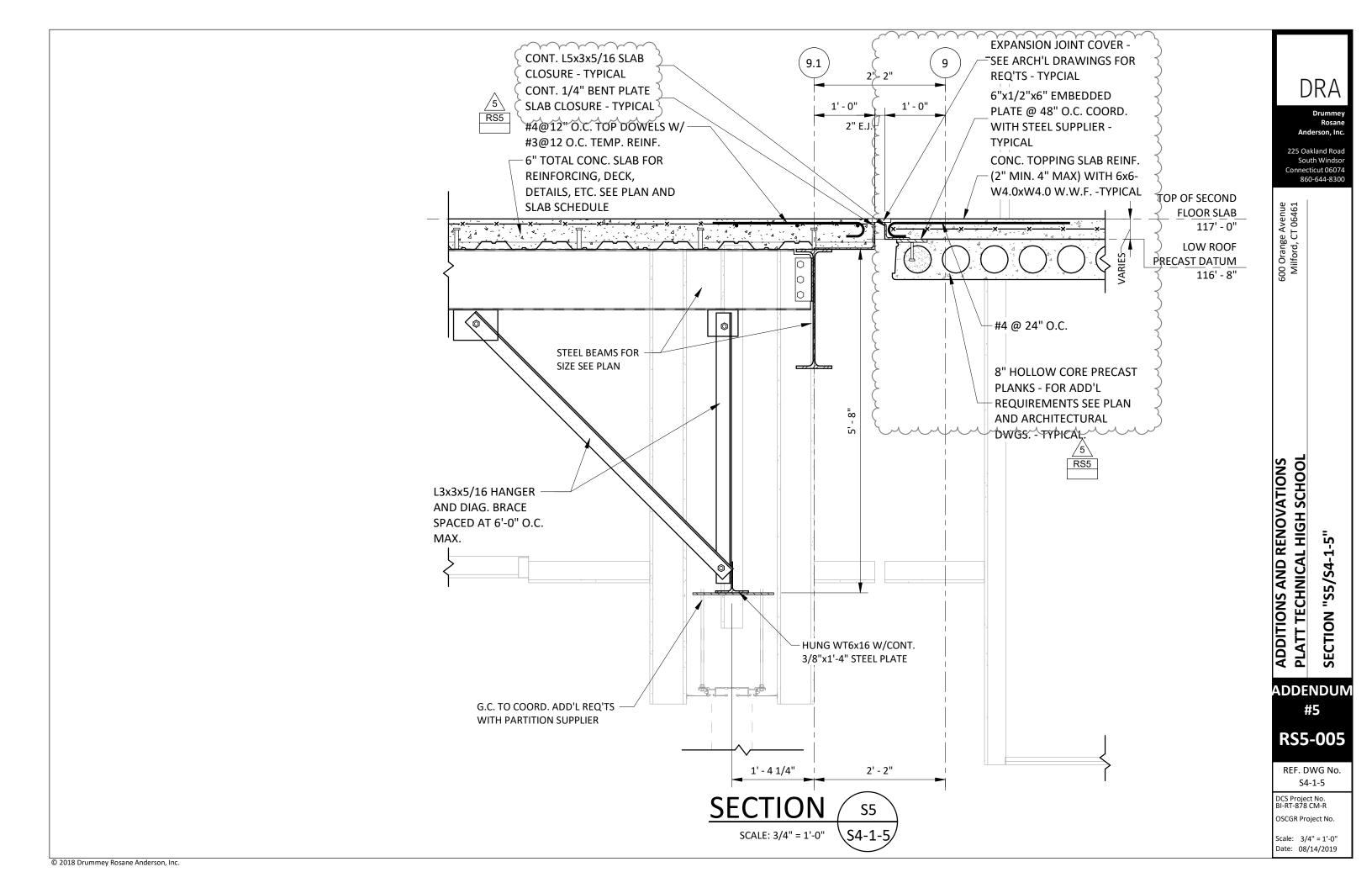
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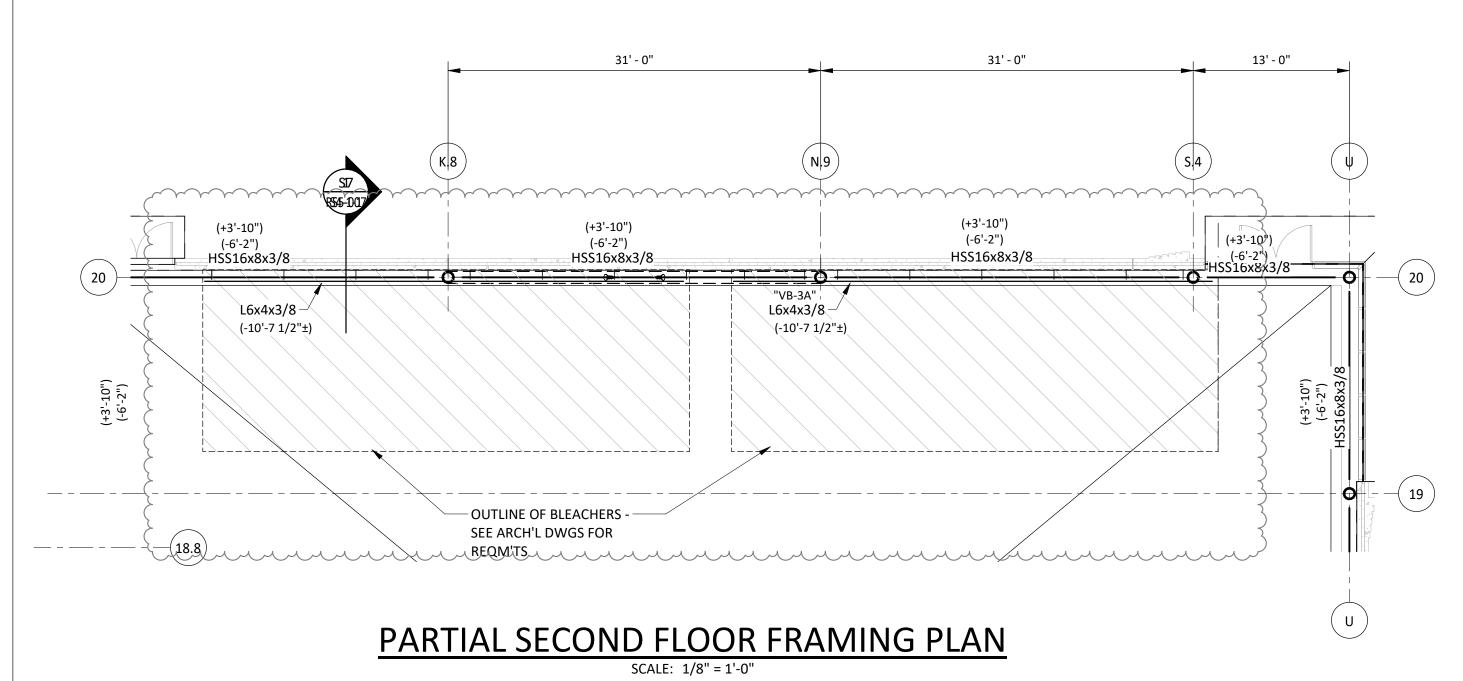
DCS Project No. BI-RT-878 CM-R OSCGR Project No.

Scale: 3/4" = 1'-0" Date: 08/14/2019



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225 Oakland Road Connecticut 06074 860-644-8300

600 Orange Avenue Milford, CT 06461

PLAN AT ADDED BLEACHER RESTRAINT FRAMING ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL

ADDENDUM

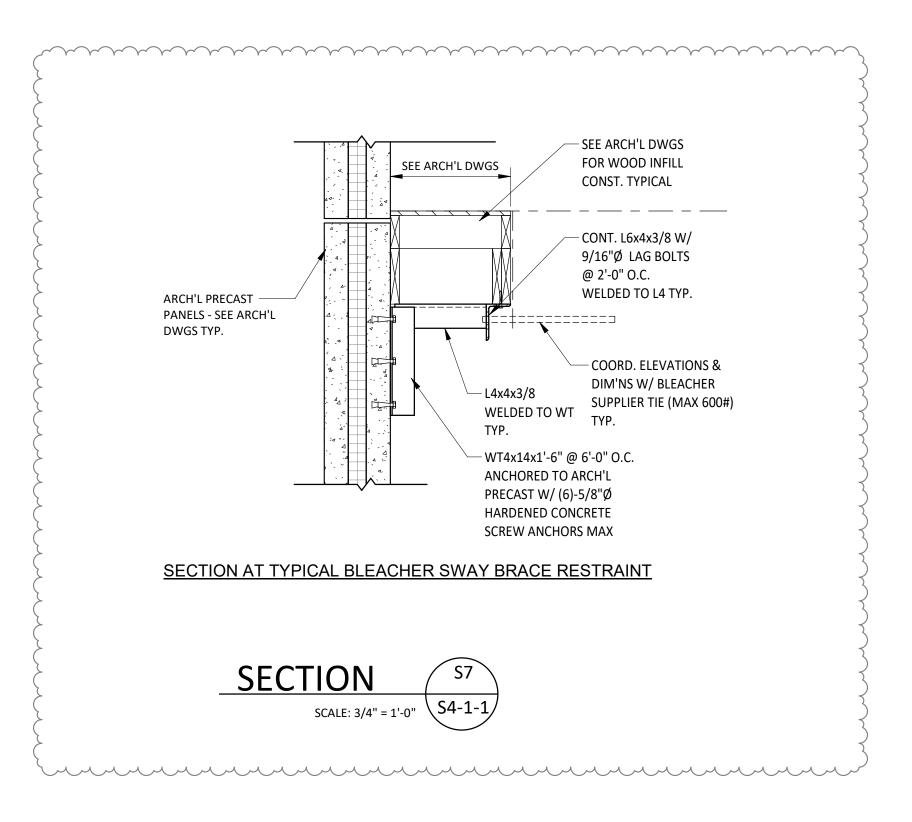
RS5-006

#5

REF. DWG No. S1-1-2A

DCS Project No. BI-RT-878 CM-R OSCGR Project No.

Scale: 1/8" = 1'-0" Date: 08/14/2019



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ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL

ADDED SECTION "S7/S4-1-1"

ADDENDUM

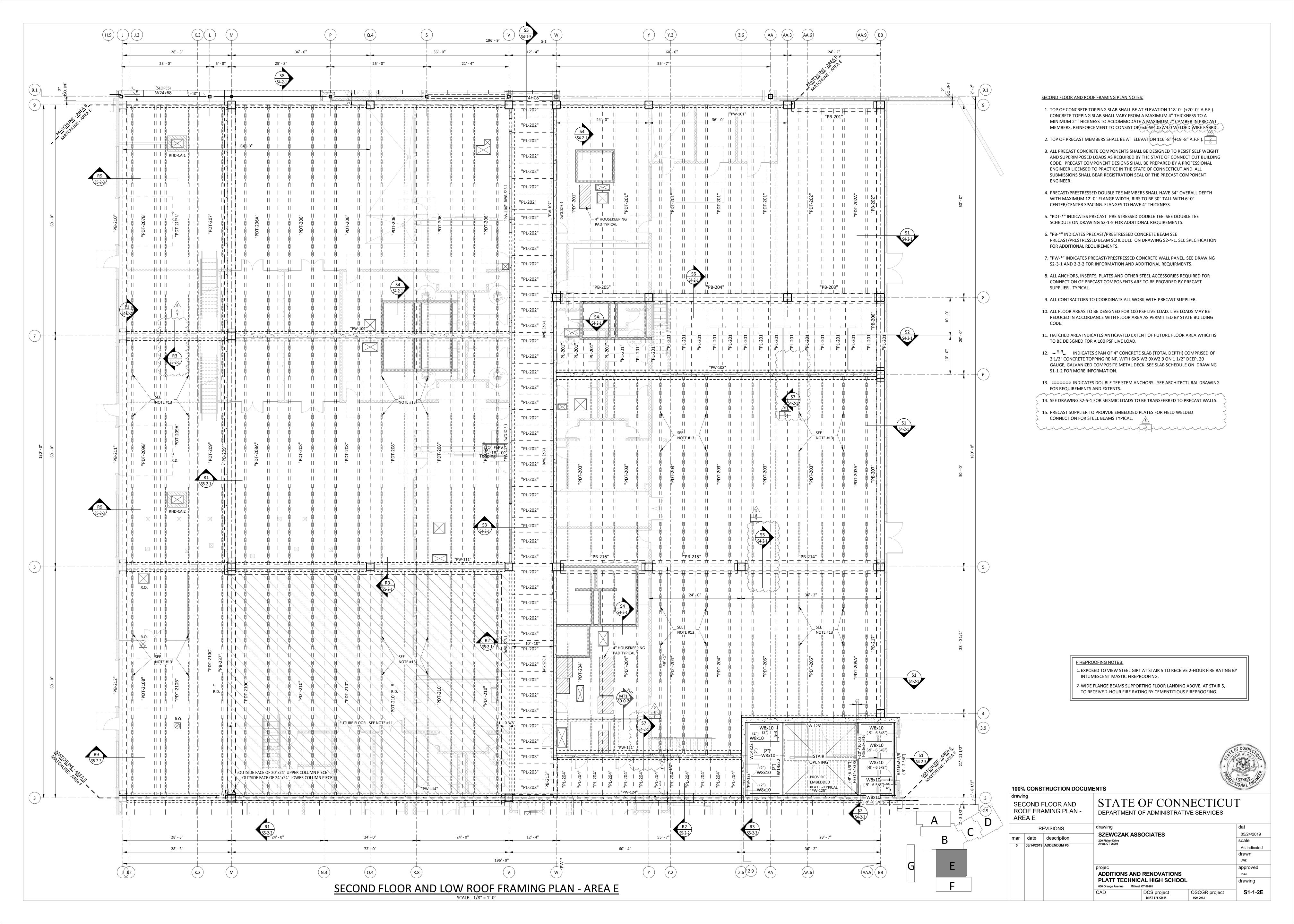
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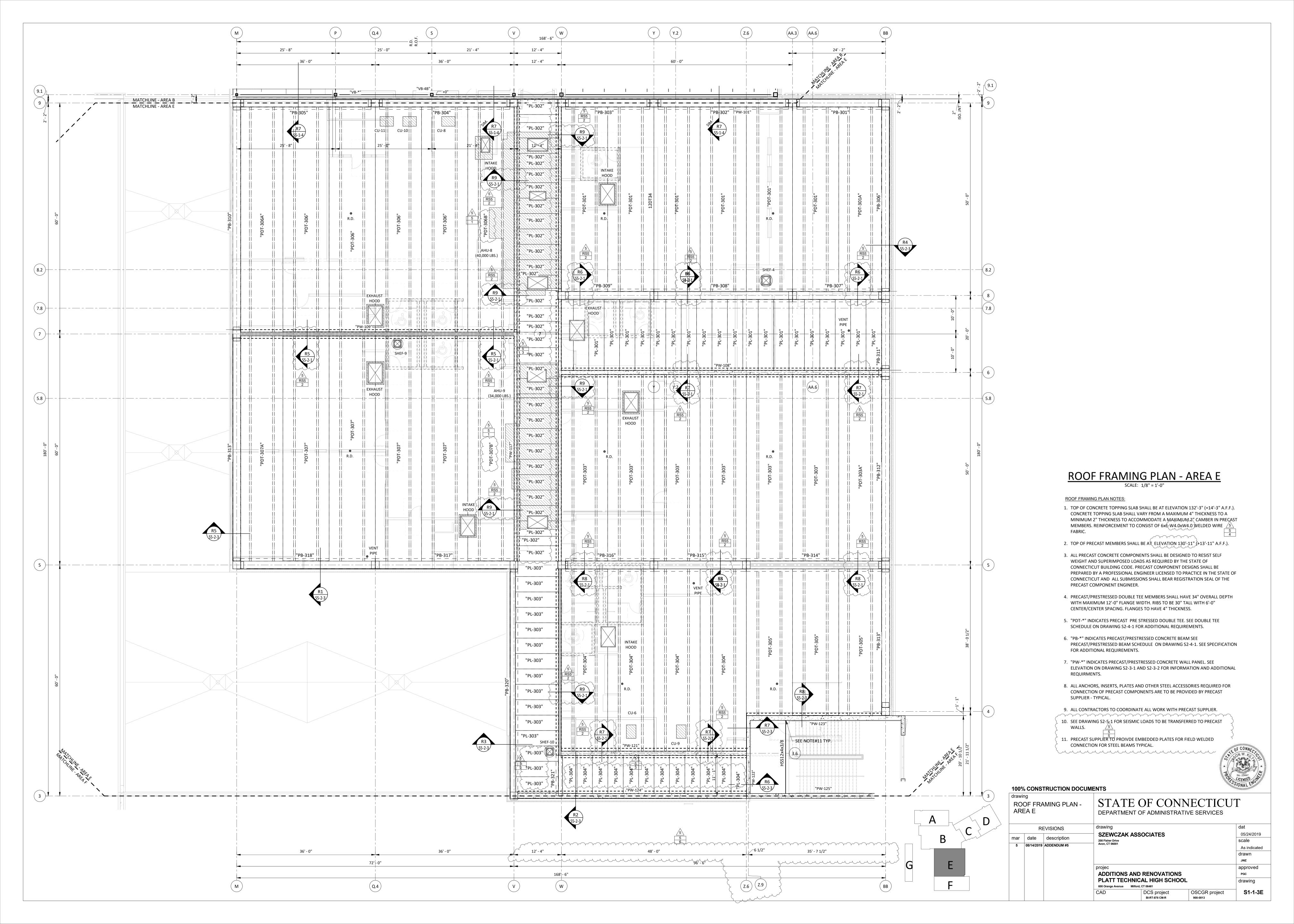
RS5-007

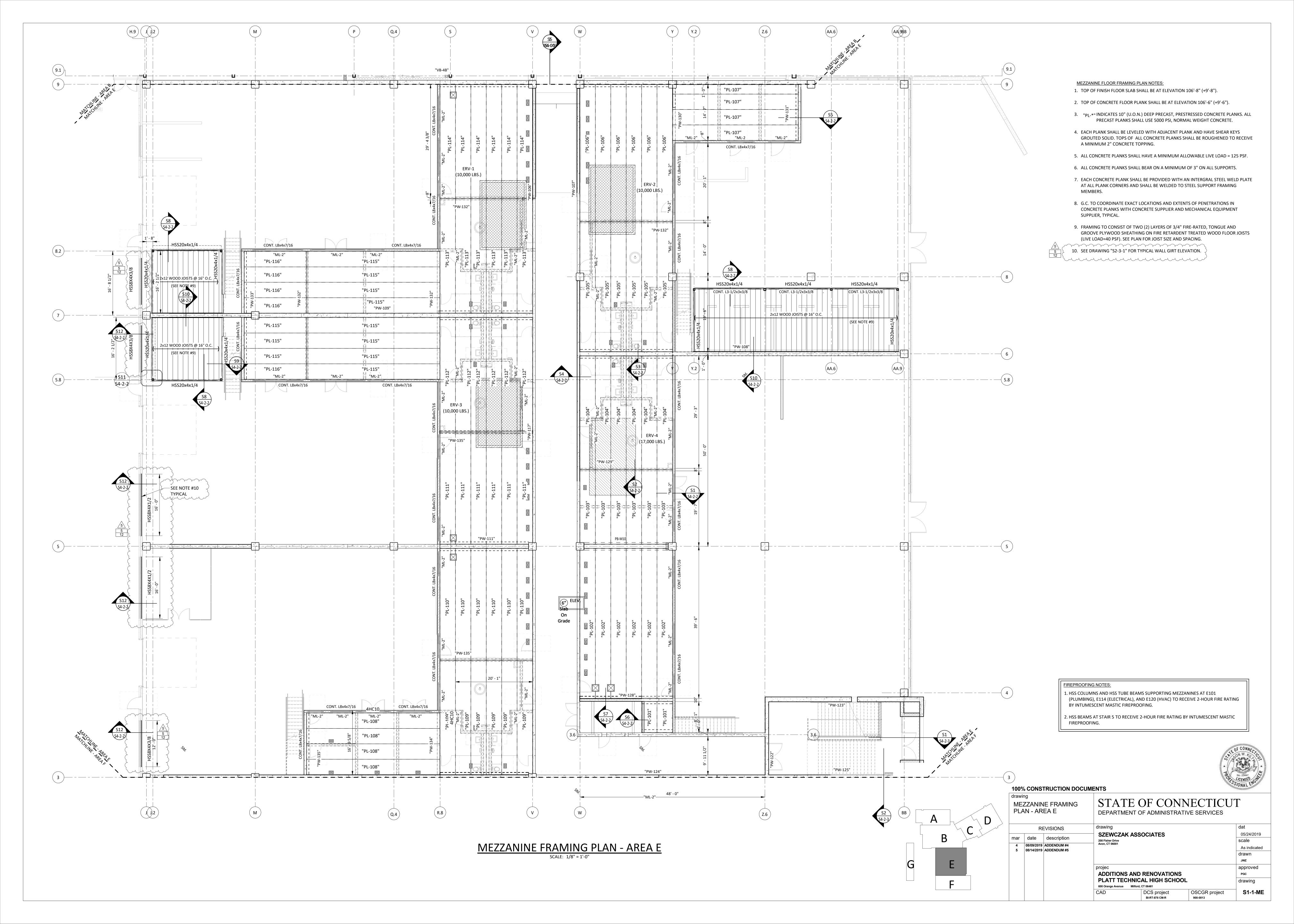
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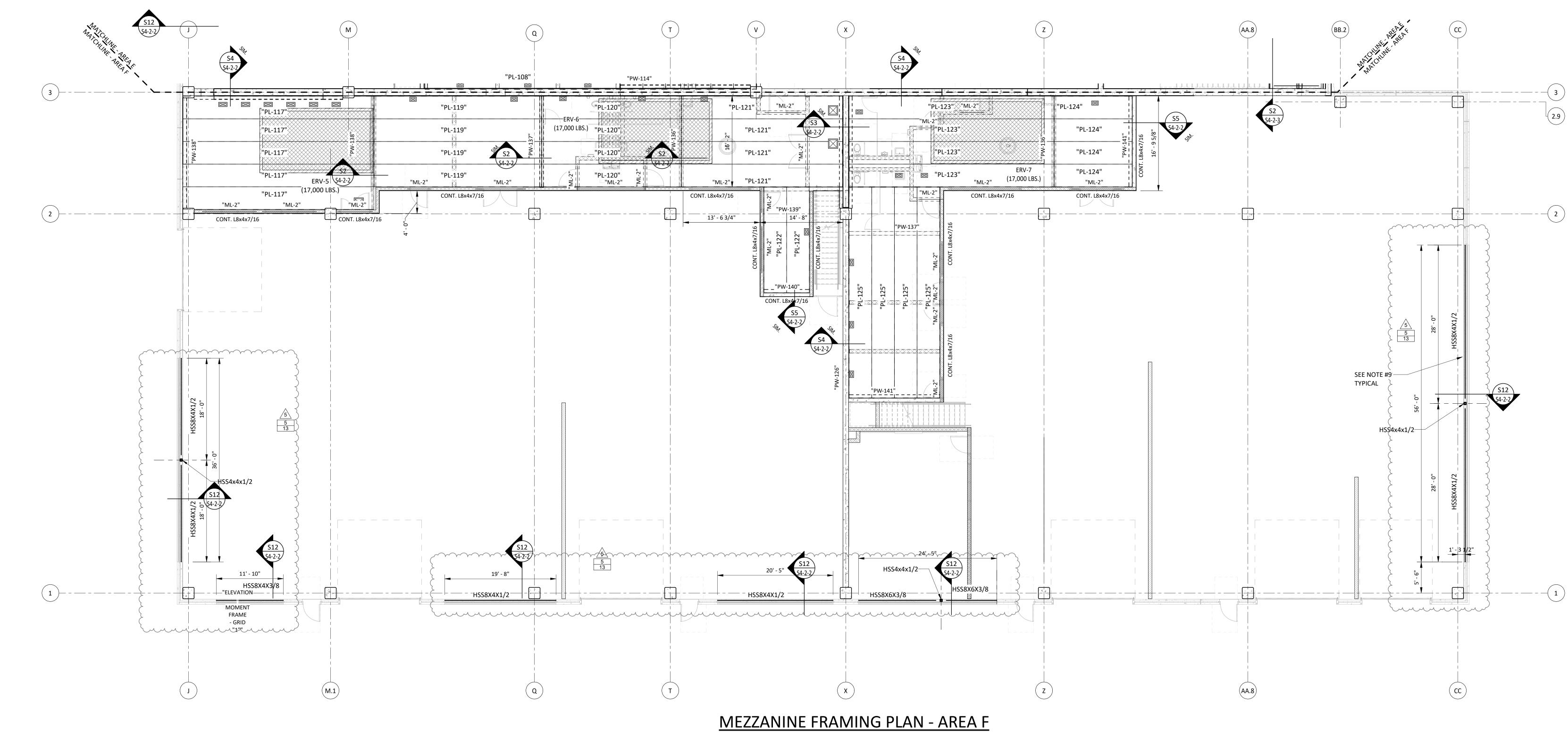
DCS Project No. BI-RT-878 CM-R OSCGR Project No.

Scale: 3/4" = 1'-0" Date: 08/14/2019





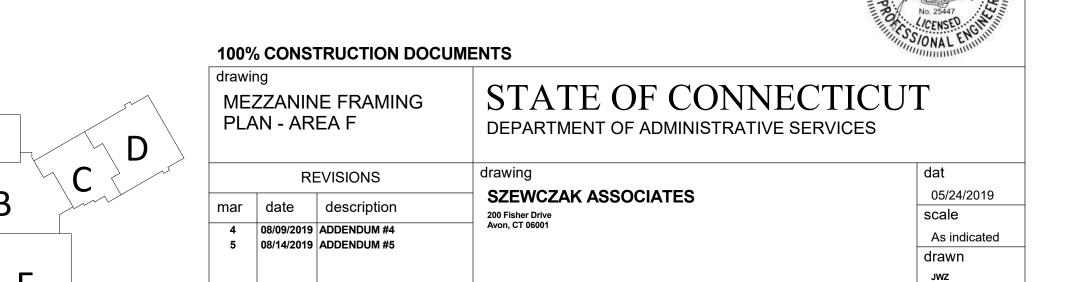




SCALE: 1/8" = 1'-0"

MEZZANINE FLOOR FRAMING PLAN NOTES:

- 1. TOP OF FINISH FLOOR SLAB SHALL BE AT ELEVATION 107'-4" (+10'-4").
- 2. TOP OF CONCRETE FLOOR PLANK SHALL BE AT ELEVATION 107'-2" (+10'-2").
- 3. "PL-*" INDICATES 10" (U.O.N.) DEEP PRECAST, PRESTRESSED CONCRETE PLANKS. ALL PRECAST PLANKS SHALL USE 5000 PSI, NORMAL WEIGHT CONCRETE.
- 4. EACH PLANK SHALL BE LEVELED WITH ADJACENT PLANK AND HAVE SHEAR KEYS GROUTED SOLID. TOPS OF ALL CONCRETE PLANKS SHALL BE ROUGHENED TO RECEIVE A MINIMUM 2" CONCRETE TOPPING.
- 5. ALL CONCRETE PLANKS SHALL HAVE A MINIMUM ALLOWABLE LIVE LOAD = 125 PSF.
- 6. ALL CONCRETE PLANKS SHALL BEAR ON A MINIMUM OF 3" ON ALL SUPPORTS.
- 7. EACH CONCRETE PLANK SHALL BE PROVIDED WITH AN INTERGRAL STEEL WELD PLATE AT ALL PLANK CORNERS AND SHALL BE WELDED TO STEEL SUPPORT FRAMING
- 8. G.C. TO COORDINATE EXACT LOCATIONS AND EXTENTS OF PENETRATIONS IN CONCRETE PLANKS WITH CONCRETE SUPPLIER AND MECHANICAL EQUIPMENT
- TOTALE, THEAL.
- 9. SEE DRAWING "S2-3-1" FOR TYPICAL WALL GIRT ELEVATION.



ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL

DCS project

BI-RT-878 CM-R

600 Orange Avenue Milford, CT 06461

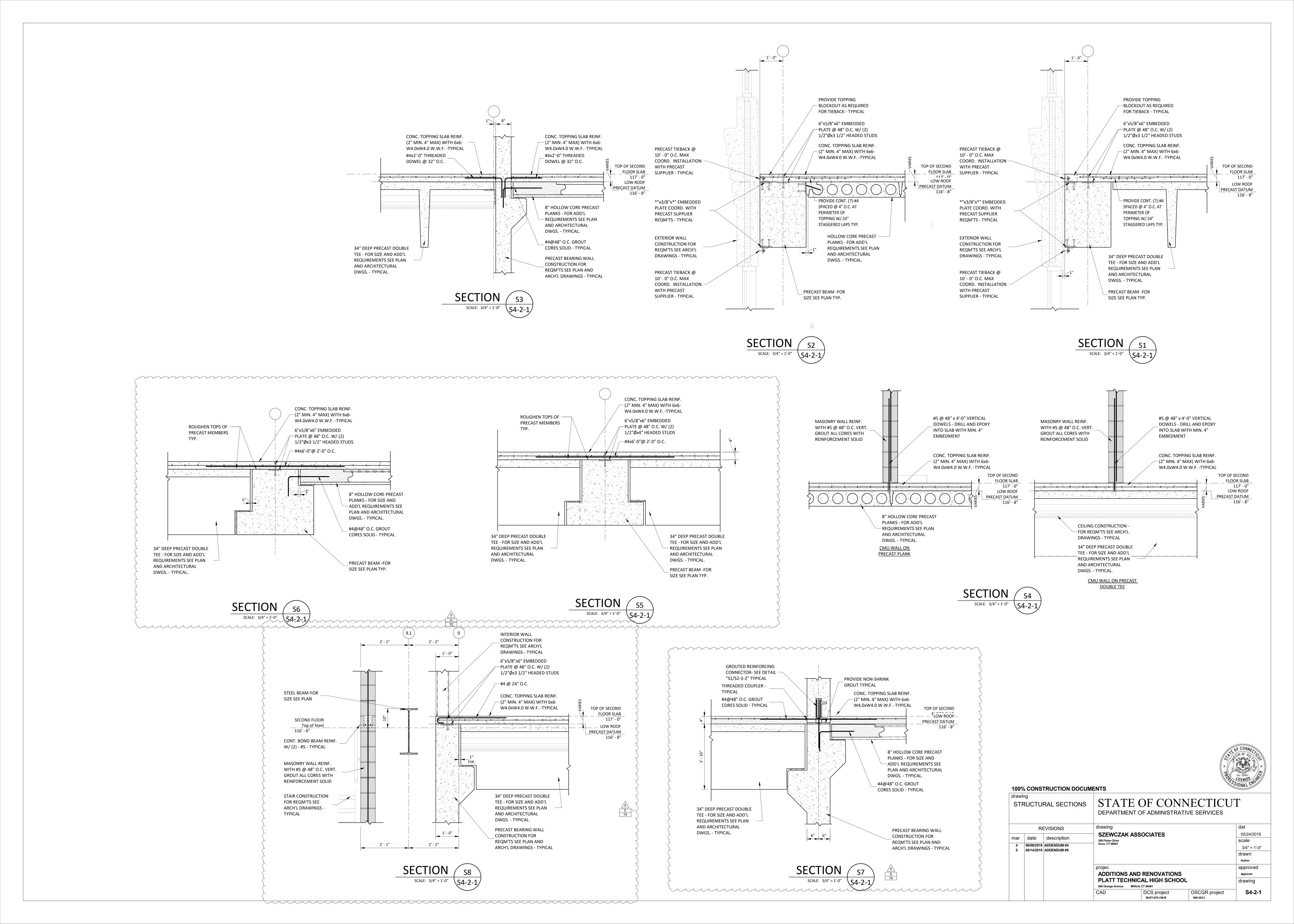
approved

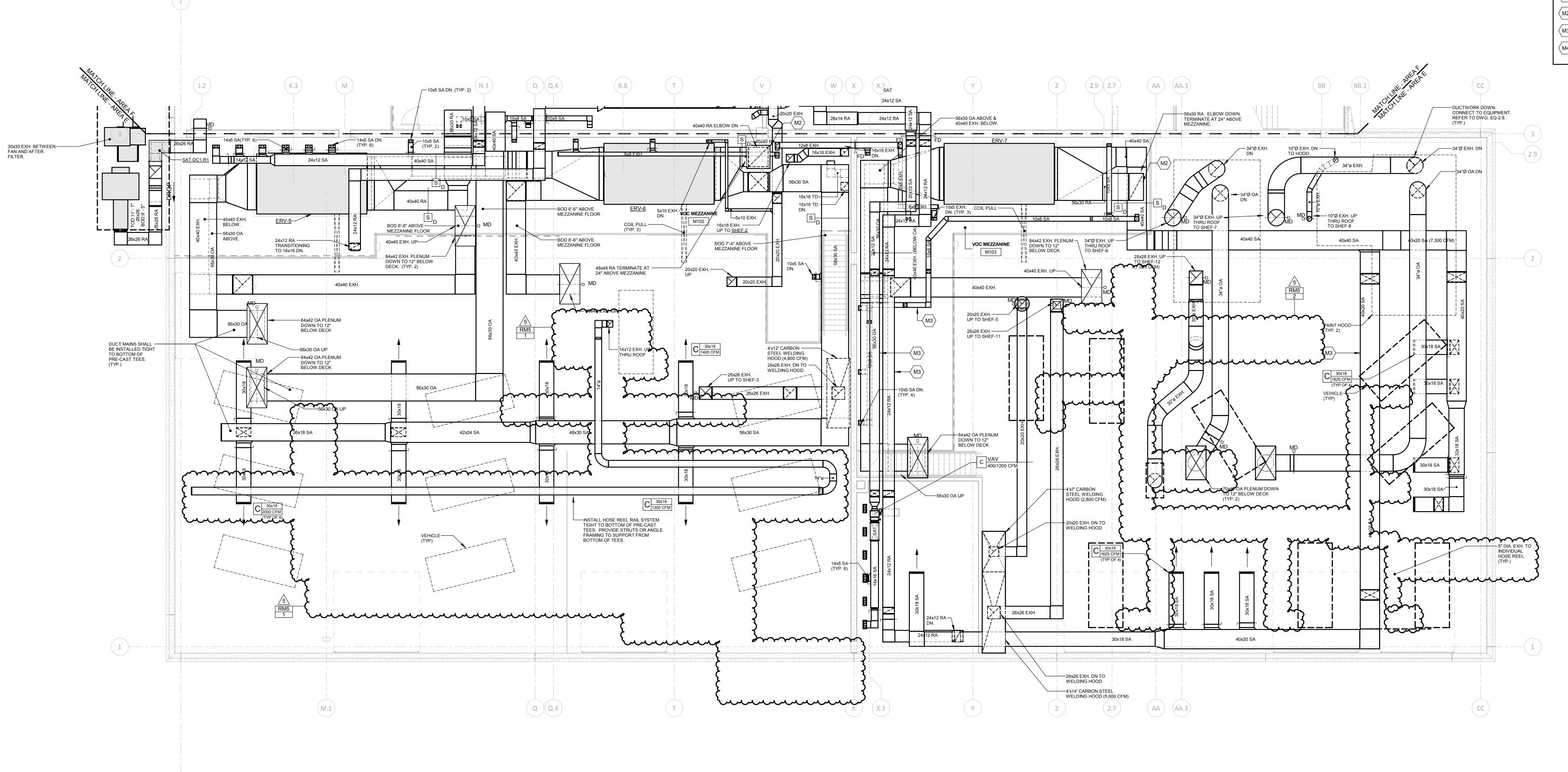
drawing

OSCGR project

900-0013

S1-1-MF





1 MEZZANINE MECHANICAL PLAN - AREA F 1/8" = 1'-0"

MECHANICAL NOTES

- 1. SEE DRAWINGS M3-1-1, M3-1-2 & M3-1-3 FOR SYMBOL LIST AND SCHEDULES.
- 2. SEE DRAWINGS M4-1-1, M4-1-2, M4-1-3 & M4-1-4 FOR DETAILS.
- 3. SEE DRAWINGS M5-1-1, M5-1-2, M5-1-3 & M5-1-4 FOR CONTROLS DIAGRAMS.

CEILINGS WITH STANDARD STEP LADDER.

- 4. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS ON GENERAL CONDITIONS, MATERIAL SPECIFICATIONS AND INSTALLATION.
- 5. PROVIDE CLEARANCE ADJACENT TO EQUIPMENT PER MANUFACTURER'S
 RECOMMENDATIONS AND AS REQUIRED TO PROPERLY MAINTAIN EQUIPMENT. PROVIDE
 MINIMUM 42" CLEARANCE IN FRONT OF EQUIPMENT, PIPE DROPS, ETC. CLEARANCES
- SHALL BE IDENTIFIED ON COORDINATION SHOP DRAWINGS.

 6. PROVIDE REMOTELY CONTROLLED VOLUME DAMPERS AT ALL SHEETROCK AND METAL CEILINGS AND WHERE VOLUME DAMPERS ARE NOT ACCESSIBLE THRU ACCESSIBLE
- 7. VOLUME DAMPERS SHALL BE INSTALLED MINIMUM 8'-0" FROM EACH DIFFUSER, GRILLE AND REGISTER WHERE EVER POSSIBLE. FLEXIBLE CONNECTIONS SHALL NOT EXCEED 8'-0" IN LENGTH.
- 8. NOT ALL BRANCH PIPING TO DEVICES ARE SHOWN. PROVIDE BRANCH PIPING TO ALL DEVICES PER DETAILS AND SCHEDULES. PIPE BRANCHES SHALL BE MINIMUM 3/4" DIAMETER UNLESS NOTED OTHERWISE.
- 9. ALL PENETRATIONS THROUGH FULL HEIGHT CORRIDOR WALLS SHALL BE SEALED.
 REFER TO ARCHITECTURAL DRAWINGS FOR TYPES OF WALLS AND REQUIREMENTS FOR
- 10. DUCTWORK AND PIPING LAYOUTS DO NOT SHOW ALL TRANSITIONS AND OFFSETS THAT WILL BE REQUIRED. PROVIDE COORDINATION DRAWINGS AND OFFSET DUCTWORK AND PIPING AS REQUIRED.

MECHANICAL DUCTWORK KEY NOTES

- OFFSET DUCT IN CEILING SPACE TO INSTALL DUCT IN CENTER OF THE HOLLOW CORE OF THE MEZZANINE FLOOR PLANK.
- TERMINATE DUCT WITH FLANGED CONNECTION AND 1/2"x1/2" GALVANIZED STEEL MESH.
- M3 INSTALL THIS SECTION OF DUCT IN SPACE BETWEEN PRE-CAST TEES.
- PROVIDE 60"X42" PLENUM AT CONNECTION TO ROOF HOOD. PLENUM SHALL TERMINATE 12" BELOW ROOF DECK.

100% CONSTRUCTION DOCUMENTS

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MEC	ig title ZZANINE CHANICA EA F		STATE OF CONNECTICU DEPARTMENT OF ADMINISTRATIVE SERVICES
	F	REVISIONS	drawing prepared by
mark	date	description	Consulting Engineering Services, Inc. 811 Middle St., Middletown, CT 06457
5	08/15/2019	ADDENDUM NO. 5	
			project ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL 600 Orange Avenue Milford, CT 06461

DCS project no.

05/24/2019

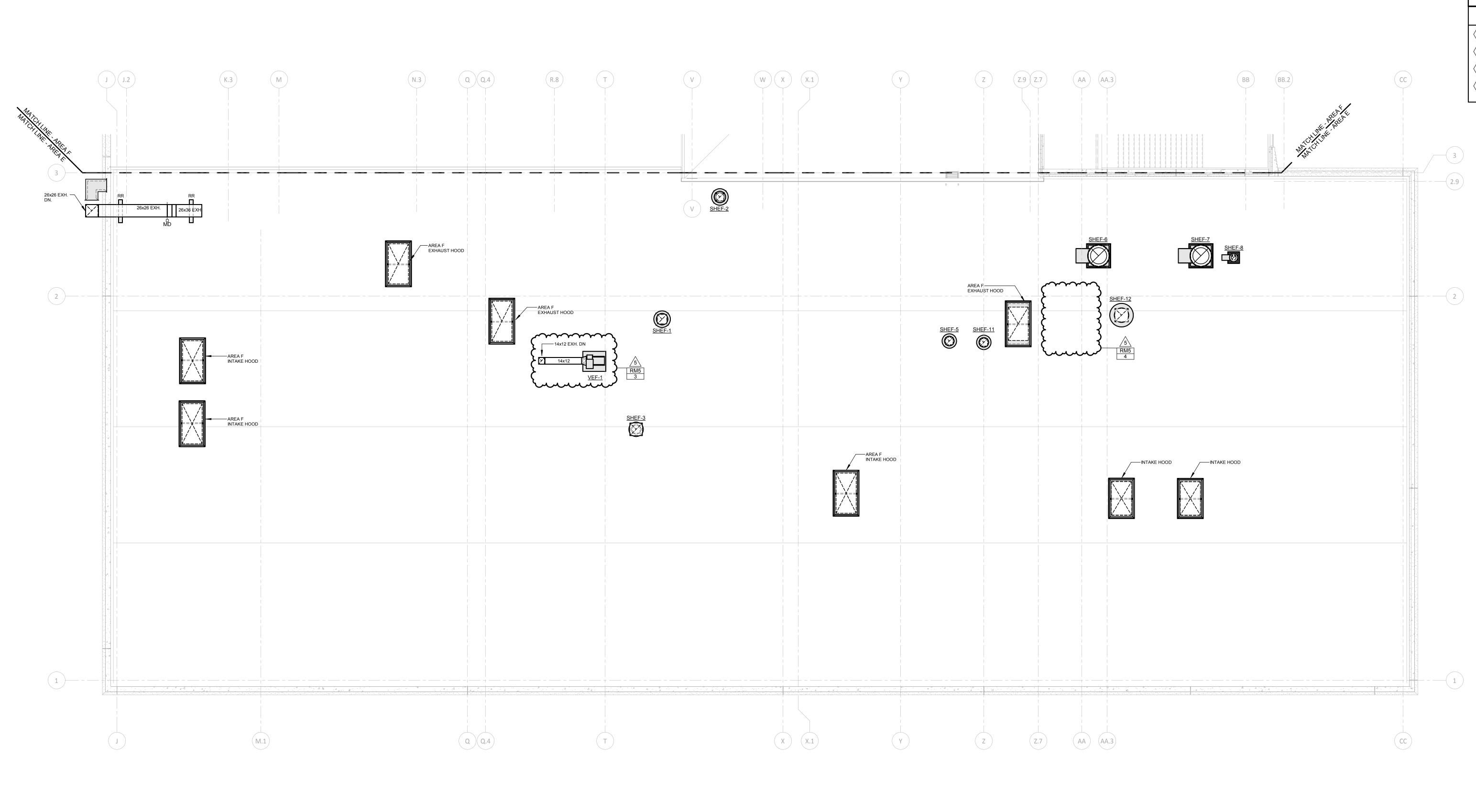
As indicated

approved by

M1-1-MF

OSCGR project no.

900-0013



1 ROOF MECHANICAL PLAN - AREA F 1/8" = 1'-0" **MECHANICAL NOTES**

- 1. SEE DRAWINGS M3-1-1, M3-1-2 & M3-1-3 FOR SYMBOL LIST AND SCHEDULES.
- 2. SEE DRAWINGS M4-1-1, M4-1-2, M4-1-3 & M4-1-4 FOR DETAILS.

CEILINGS WITH STANDARD STEP LADDER.

- 3. SEE DRAWINGS M5-1-1, M5-1-2, M5-1-3 & M5-1-4 FOR CONTROLS DIAGRAMS.
- 4. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS ON GENERAL CONDITIONS, MATERIAL SPECIFICATIONS AND INSTALLATION.
- 5. PROVIDE CLEARANCE ADJACENT TO EQUIPMENT PER MANUFACTURER'S
 RECOMMENDATIONS AND AS REQUIRED TO PROPERLY MAINTAIN EQUIPMENT. PROVIDE
 MINIMUM 42" CLEARANCE IN FRONT OF EQUIPMENT, PIPE DROPS, ETC. CLEARANCES
 SHALL BE IDENTIFIED ON COORDINATION SHOP DRAWINGS.
- SHALL BE IDENTIFIED ON COORDINATION SHOP DRAWINGS.

 6. PROVIDE REMOTELY CONTROLLED VOLUME DAMPERS AT ALL SHEETROCK AND METAL CEILINGS AND WHERE VOLUME DAMPERS ARE NOT ACCESSIBLE THRU ACCESSIBLE
- 7. VOLUME DAMPERS SHALL BE INSTALLED MINIMUM 8'-0" FROM EACH DIFFUSER, GRILLE AND REGISTER WHERE EVER POSSIBLE. FLEXIBLE CONNECTIONS SHALL NOT EXCEED
- 8. NOT ALL BRANCH PIPING TO DEVICES ARE SHOWN. PROVIDE BRANCH PIPING TO ALL DEVICES PER DETAILS AND SCHEDULES. PIPE BRANCHES SHALL BE MINIMUM
- 3/4" DIAMETER UNLESS NOTED OTHERWISE.

 9. ALL PENETRATIONS THROUGH FULL HEIGHT CORRIDOR WALLS SHALL BE SEALED.
 REFER TO ARCHITECTURAL DRAWINGS FOR TYPES OF WALLS AND REQUIREMENTS FOR
- 10. DUCTWORK AND PIPING LAYOUTS DO NOT SHOW ALL TRANSITIONS AND OFFSETS THAT WILL BE REQUIRED. PROVIDE COORDINATION DRAWINGS AND OFFSET DUCTWORK AND PIPING AS REQUIRED.

MECHANICAL DUCTWORK KEY NOTES

- OFFSET DUCT IN CEILING SPACE TO INSTALL DUCT IN CENTER OF THE HOLLOW CORE
- OF THE MEZZANINE FLOOR PLANK.

 TERMINATE DUCT WITH FLANGED CONNECTION AND 1/2"x1/2" GALVANIZED STEEL MESH.
- M3 INSTALL THIS SECTION OF DUCT IN SPACE BETWEEN PRE-CAST TEES.
 - interpretation of the state of
- PROVIDE 60"X42" PLENUM AT CONNECTION TO ROOF HOOD. PLENUM SHALL TERMINATE 12" BELOW ROOF DECK.

100% CONSTRUCTION DOCUMENTS

ROOF
MECHANICAL PLAN
AREA F

REVISIONS

mark date description

5 08/15/2019 ADDENDUM NO. 5

ROOF
MECHANICAL PLAN
AREA F

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
drawing prepared by

date

600 Orange Avenue Milford, CT 06461

REVISIONS

date description

8/15/2019 ADDENDUM NO. 5

drawing prepared by

Consulting Engineering Services, Inc.

811 Middle St., Middletown, CT 06457

Scale
As indicated drawn by
BEK

project
ADDITIONS AND RENOVATIONS
PLATT TECHNICAL HIGH SCHOOL

date
05/24/2019
Scale
As indicated
drawn by
BDW
drawing no.

DCS project no.

M1-2-1F

OSCGR project no.

900-0013

	GA	S FIRE	D INFR	RA-RED) HEATER	R SCHEDU	ЛЕ			
SYMBOL	MANUFACTURER/	STAGES	LENGTH	FUEL	BTUH INPUT	BTUH INPUT	GAS PRESSURE	Е	ELECTRICA	L
	MODEL NUMBER		(FEET)		(LOW FIRE)	(HIGH FIRE)	PRESSURE	AMPS	VOLTS	PHASE
RH-1	SUPERIOR RADIANT MODEL WTS100	2	40	NATURAL GAS	75,000	100,000	5" TO 14"	12	120	1
RH-2	SUPERIOR RADIANT MODEL 100	2	40	NATURAL GAS	75,000	100,000	5" TO 14"	12	120	1
RH-3	SUPERIOR RADIANT MODEL 100	2	40	NATURAL GAS	75,000	100,000	5" TO 14"	12	120	1
RH-4	SUPERIOR RADIANT MODEL 100	2	40	NATURAL GAS	75,000	100,000	5" TO 14"	12	120	1

FURNISH RADIANT HEATERS WITH INTERFACE TO BMS.
 FURNISH RADIANT HEATERS WITH ALL REQUIRED MOUNTING HARDWARE.

3. FURNISH RADIANT HEATERS WITH BLACK COATED ALUMINIZED STEEL BURNER WITH HOT SURFACE IGNITION. 4. PROVIDE OUTDOOR COMBUSTION INTAKE ROOF CAPS.

5. PROVIDE FACTORY PRE & POST PURGE CONTROLS AND MICRO-PROCESSOR CIRCUITY.

6. PROVIDE WITH ALUMINUM REFLECTOR. 7. DISCONNECT SWITCHES SHALL BE BY DIVISION 26.

	(CASS	ETTE	AIR C	CONDI	TION	ING U	JNIT	SCHE	DUL	E		
		TOTAL	OENIO	AIR	SIDE		WATE	R SIDE		M	IOTOR DAT	ГА	
SYMBOL	MANUFACTURER/ MODEL NUMBER	TOTAL CAP (MBH)	SENS CAP (MBH)	FLOW (CFM)	EAT (°F) DB/WB	FLOW (GPM)	EWT (°F)	LWT (°F)	PD (FT HD)	MCA	VOLTS	PH	BRANCH PIPE SIZE
CAC-1	MODINE SCW-20	12.3	11.7	630	75.0/ 62.5	3.0	45	55	3.5	1.0	208	1	3/4"
CAC-2	MODINE SCW-20	12.3	11.7	630	75.0/ 62.5	3.0	45	55	3.5	1.0	208	1	3/4"
CAC-3	MODINE SCW-20	12.3	11.7	630	75.0/ 62.5	3.0	45	55	3.5	1.0	208	1	3/4"

REMARKS: 1. DISCHARGE PATTERN SHALL BE 4-WAY.

UNLESS NOTED OTHERWISE.

2. FILTERS SHALL BE MERV 8. 3. PROVIDE EACH WITH INTEGRAL CONDENSATE PUMP.

				F	AN SC	HEDU	 Л.Б.							
SYMBOL	MANUFACTURER/ MODEL NUMBER	TYPE	LOCATION	AREA SERVING	AIR FLOW	SP (IN WG)	FAN SPEED (RPM)	DRIVE	BHP		OTOR DA		WEIGHT (LBS)	REMARKS
EF-A	LOREN COOK /	IL I	PENTHOUSE C30	1 C	(CFM) 900	1.0	1832	D	0.314	1/2	VOLTS 115	PH 1	130	1,2,5
EF-1	SQN-D 100 VF LOREN COOK / ACRU-D 165R VF	RMUBF	ROOF	В	3,200	0.5	1364	D	0.869	1.5	480	3	200	1,5
EF-2	LOREN COOK / ACRU-D 150R VF	RMUBF	ROOF	В	1,600	1.0	1281	D	0.47	3/4	480	3	110	1,5
EF-3	LOREN COOK / ACE-D 120C VF	RMDBF	ROOF	A	1,400	0.5	1558	D	0.267	1/2	115	1	100	1,5
EF-4	LOREN COOK / SQN-D 135 VF	IL	MECH. B201	B (2nd FLOOR)	1,200	0.5	1150	D	0.201	1/3	115	1	200	1,2,5
EF-5	LOREN COOK / SQN-D 165 VF	IL	PENTHOUSE C30	,	3,000	0.5	1340	D	0.736	1.5	480	3	300	1,2,5
EF-6	LOREN COOK /	RMDBF	ROOF	A	250	0.5	1308	D	53 (W)	1/4	115	1	60	1,5
EF-7	ACE-D 100C EC FANTECH /	IL	STORAGE	В	75.2	1.23	2318	D	0.54 (A)	1/10	115	1	30	1,2
EF-8	DBF 110 FANTECH /	IL	B101 STORAGE	В	75.2	1.23	2318	D	0.54 (A)	1/10	115	1	30	1,2
EF-K1	DBF 110 LOREN COOK / SQN-D 100 VF	IL	B101 MECH.	В	600	0.8	1855	D	0.2	1/3	115	1	100	1,2,5
EF-V1	LOREN COOK /	RMUBF	B201 ROOF	В	4,200	1.5	1386	D	1.92	3	480	3	500	1,7
EF-V2	ACRU-D-HP 210 LOREN COOK /		PENTHOUSE C30		2,000	1.5	1595	D	0.94	1.5	480	3	400	1,7
EF-V3	SQN-D 165 LOREN COOK /	IL.	MECH.	В	2,000	1.2	1518	D	0.801	1.5	480	3	400	1,2
EF-V4	SQN-D 165 LOREN COOK /	RMUBF	B201 ROOF	(2nd FLOOR)	2,100	0.8	1131	D	0.525	1.0	480	3	160	1,7
KEF-1	ACRU-D 165R VF LOREN COOK /	RMUBF	ROOF	В	3,131	2.0	1352	В	1.9	3	480	3	375	1,7
KEF-2	210 VCR-HP LOREN COOK /	RMUBF	ROOF	В	3,915	2.0	1285	В	2.41	3	480	3	400	
KEF-3	225 VCR-HP LOREN COOK /	RMUBF	ROOF	В	8,443	2.0	993	В	5.29	7.5	480	3	700	1,4
KEF-4	365 VCR-XP LOREN COOK /	RMUBF	ROOF	В	7,635	2.0	869	В	4.73	7.5	480	3	700	1,4
KEF-5	330 VCR-HP LOREN COOK /			В	2,208	2.0	1356	В	1.27	1.5	480	3	400	1,4
	225 VCR-XP LOREN COOK /	RMUBF	ROOF											1,4
LEF-1 LEF-2	120TCNHBLE07 LOREN COOK /	HPDF	ROOF	D D	1,020	1.0	2360	В	0.829	1.5	208	3	1200	1,8
	120TCNHBLE09 LOREN COOK /	HPDF		D	1,400			В						1,8
LEF-3	135TCNHBLE09 LOREN COOK /	HPDF	ROOF	E&F	1,500	1.0	2002	В	0.992	1.5	208	3	1300	1,8
SHEF-1	ACRU-D 165R VF LOREN COOK /	RMUBF	ROOF		2,200	0.8	1131	D	0.525	1.0	480	3	120	1,5,7
SHEF-2	ACRU-D-HP 150RH VF	RMUBF	ROOF	F	500	0.8	1140	D	0.142	1/4	115	1	125	1,5
SHEF-3	ACRU-D 195R VF	RMUBF	ROOF	F	4,800	1.0	1212	D	1.65	3.0	480	3	400	1,5,7
SHEF-4	ACRU-D-HP 150RH VF	RMUBF	ROOF	E	1,000	1.0	1,519	D	0.36	3/4	480	3	220	1,5,7
SHEF-5	ACRU-D 180R VF	RMUBF	ROOF	F	2,800	1.0	1141	D	0.938	2.0	480	3	280	1,5,7
SHEF-6	LOREN COOK / 245QMXU	RMUBF	ROOF	F	10,000	1.5	1144	В	4.23	5.0	208	3	2000	1,7,9
SHEF-7	LOREN COOK / 245QMXU	RMUBF	ROOF	F	10,000	1.5	1144	В	4.23	5.0	208	3	2000	1,7,9
SHEF-8	LOREN COOK / 90QMXU	RMUBF	ROOF	F	1,150	1.5	2982	В	0.609	1.0	208	3	600	1,7,9
SHEF-9	ACRU-D-HP 150RH VF	RMUBF	ROOF	E	700	0.8	1244	D	0.197	1/3	115	1	150	1,5
SHEF-10	LOREN COOK / ACRU-D-EC 101R	RMUBF	ROOF	E	600	0.5	1522	D	92 (W)	1/4	115	1	150	1,5
SHEF-11	LOREN COOK / ACRU-HP 245RH10B	RMUBF	ROOF	F	5,600	1.0	1031	В	1.93	3.0	480	3	400	1,7
SHEF-12	LOREN COOK / ACRU-XP 365RX11B	RMUBF	ROOF	F	7,000	2.0	891	В	3.97	5.0	480	3	500	1,7
SHEF-13	LOREN COOK / 195 CPS	CUF	ROOF	E	5,600	1.0	1349	В	2.11	3	480	3	600	1,6,7
SHEF-14	LOREN COOK /	CUF	ROOF	E	1,300	0.5	1618	B	0.279	1/2	480	3	300	1,6,7
VEF-1	PLYMOVENT / TEV-585	CUF	ROOF	F	1,200	10.0	3500	D	5.5	7.5	480	3	750	1,6,7
سب	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	ىرىرى			~ ~ ~	رسسر	سب	س بد	~~	~~	. ادر ادر	•••	uuu	~ ~ ~
EF-BG1	ACRU-B 330R	RMUBF	ROOF	BG	10,000	0.5	508	В	1.78	2.0	208	3	560	1
EF-BG2	LOREN COOK / ACRU-D 150R VF	RMUBF	ROOF	BG	2,000	0.5	1224	D	0.401	3/4	208	3	160	1,5
EF-BG3	LOREN COOK / 90SQND-EC	IL	MEP G102	BG	300	0.5	1569	D	75 (W)	1/6	115	1	150	1,2,5
PDF = 1 JF = (MDBF = 1	IN-LINE HIGH PLUME DISCHARGI CENTRIFUGAL UTILITY F ROOF MOUNTED DOWNE ROOF MOUNTED UPBLA:	AN BLAST FAN		DRIVE: B = BELT D D = DIRECT		2. PROV 3. NOT U 4. FAN S	IDE WITH D IDE WITH V JSED. SHALL SERV	IBRATION E GREASI	ISOLATO	ORS. AND SH <i>I</i>			ED. ER AND ECM	MOTOR.

SPARK RESISTANT RATING.

PROVIDE WITH EXPLOSION PROOF MOTOR AND CONSTRUCTED TO MEET AMCA "A"

													Al	IR HAN	NDLIN	G UNI	T SCHE	DULE	Ξ													
			NO.				S	UPPLY FAI	N DATA (F	PER FAN))						ECONOMIZER						EXHAUS	T / RETUR	N FAN DA	ATA (PER	FAN)			RA		MAX
SYMBOL	MFR MODEL NO	SA DUCT CONNECTION SIZE	SA	TOTAL SA CFM	CFM	ESP	TSP	SPEED		N	MOTOR DA	λTA		ACCESS SECTION (LENGTH)	HEATING COIL SECTION	FILTER SECTION	AND MIXING BOX		NO. FANS	TOTAL EXH.	CFM	ESP	TSP	SPEED		МС	OTOR DA	ιΤΑ		DUCT CONNECTION	OPERATING WEIGHT (LBS	HEIGHT INCLUDING NOTES BASE
		SIZL			OI W	(IN WG)	(IN WG)	(RPM)	BHP	HP	RPM	VOLTS	PH	(LENGTH)	SECTION		SECTIONS		FAINS	CFM	OI W	(IN WG)	(IN WG)	(RPM)	BHP	HP	RPM	VOLTS		SIZE		RAIL
ERV-M1	XeteX XHR-30-78-BP-HW	84"x18"	1	8,000	8,000	1.5	3.95	2,075	7.74	10	1,800	460	3	MIN 18"	HWC-EM1	REMARK #1	YES	PER-EM1	1 1	7,000	7,000	1.0	2.8	1,784	4.91	7.5	1,800	460	3	84"x16"	10,000	60
ERV-1	XeteX XHR-30-78-BP-HW	84"x18"	1	8,000	8,000	1.5	3.95	2,075	7.74	10	1,800	460	3	MIN 18"	HWC-E1	REMARK #1	YES	PER-1	1	7,000	7,000	1.0	2.8	1,784	4.91	7.5	1,800	460	3	84"x16"	10,000	60
ERV-2	XeteX XHR-30-78-BP-HW	84"x18"	1	8,000	8,000	1.5	3.95	2,075	7.74	10	1,800	460	3	MIN 18"	HWC-E2	REMARK #1	YES	PER-2	1	7,000	7,000	1.0	2.8	1,784	4.91	7.5	1,800	460	3	84"x16"	10,000	60
ERV-3	XeteX XHR-30-78-BP-HW	84"x18"	1	8,000	8,000	1.5	3.95	2,075	7.74	10	1,800	460	3	MIN 18"	HWC-E3	REMARK #1	YES	PER-3	1	7,000	7,000	1.0	2.8	1,784	4.91	7.5	1,800	460	3	84"x16"	10,000	60
ERV-4	XeteX XHR-40-80- RC-BP-HW	100"x28"	2	10,000	5,000	1.5	4.25	2,075	4.67	7.5	1,800	460	3	MIN 18"	HWC-E4	REMARK #1	YES	PER-4	1	9,000	9,000	1.0	2.95	1,784	4.91	7.5	1,800	460	3	100"x28"	16,000	72
ERV-5	XeteX XHR-59-90-BP-HW	126"x32"	2	15,000	7,500	1.5	4.4	2,066	7.69	10	1,800	460	3	MIN 18"	HWC-E5	REMARK #1	YES	PER-5	2	14,000	7,000	1.0	3.35	1,862	5.62	7.5	1,800	460	3	126"x36"	17,000	96
ERV-6	XeteX XHR-59-90-BP-HW	126"x32"	2	15,000	7,500	1.5	4.4	2,066	7.69	10	1,800	460	3	MIN 18"	HWC-E6	REMARK #1	YES	PER-6	2	14,000	7,000	1.0	3.35	1,862	5.62	7.5	1,800	460	3	126"x36"	17,000	96
ERV-7	XeteX XHR-59-90-BP-HW	126"x32"	2	15,000	7,500	1.5	4.4	2,066	7.69	10	1,800	460	3	MIN 18"	HWC-E7	REMARK #1	YES	PER-7	2	14,000	7,000	1.0	3.35	1,862	5.62	7.5	1,800	460	3	126"x36"	17,000	96

REMARKS APPLY TO ALL UNITS:

1. FILTERS SHALL BE MERV 12 FILTERS (2" DEEP) AT OA AND RA AND SHALL BE ANGLE FILTER ARRANGEMENT.

2. PROVIDE EACH FAN MOTOR WITH INDIVIDUAL VFD AND DISCONNECT SWITCH. EACH FAN SHALL BE PROVIDED WITH SHAFT GROUNDING RING. 3. PROVIDE EACH FAN WITH BACKDRAFT DAMPER WHERE UNIT IS SERVED BY TWO FANS.

4. PROVIDE WITH MODULATING FACE AND BYPASS DAMPERS AT ER SECTION. 5. PROVIDE WITH MODULATING RA/EXHAUST AIR DAMPERS.

6. PROVIDE DAMPERS AT OUTSIDE AIR AND EXHAUST AIR; DAMPERS SHALL BE REMOTE MOUNTED AT OUTSIDE AIR INTAKE HOOD AND EXHAUST AIR HOOD. 7. ALL FANS SHALL BE PROVIDED WITH INTERNAL SPRING ISOLATORS WITH MINIMUM 1.5" STATIC DEFLECTION.

					EN	VERGY	REC	OVERY	SCHI	EDULI	Ξ				
					WINTER PERFORMANO	CE					SUMM	MER PERFOR	MANCE		
SYMBOL			VENTIL	ATION AIR			EXHAUST A	IR		VENTIL	ATION AIR			EXHAUST A	IR
STINIBOL	TYPE	FLOW (CFM)	EAT (°F) DB	LAT (°F) DB	PD (IN WG)	FLOW (CFM)	EAT (°F) DB	PD (IN WG)	FLOW (CFM)	EAT (°F) DB/WB	LAT (°F) DB/WB	PD (IN WG)	FLOW (CFM)	EAT (°F) DB/WB	PD (IN WG)
PER-M1	PLATE TYPE	8,000	6	38.9	1.24	7,000	70	1.0	8,000	91/74	82.8/70.5	1.24	7,000	75/63	1.0
PER-1	PLATE TYPE	8,000	6	38.9	1.24	7,000	70	1.0	8,000	91/74	82.8/70.5	1.24	7,000	75/63	1.0
PER-2	PLATE TYPE	8,000	6	38.9	1.24	7,000	70	1.0	8,000	91/74	82.8/70.5	1.24	7,000	75/63	1.0
PER-3	PLATE TYPE	8,000	6	38.9	1.24	7,000	70	1.0	8,000	91/74	82.8/70.5	1.24	7,000	75/63	1.0
PER-4	PLATE TYPE	10,000	6	38.9	1.24	9,000	70	1.0	8,000	91/74	82.8/70.5	1.24	7,000	75/63	1.0
PER-5	PLATE TYPE	15,000	6	45.5	1.73	14,000	70	1.54	15,000	91/74	81.2/68.9	1.73	14,000	75/63	1.54
PER-6	PLATE TYPE	15,000	6	45.5	1.73	14,000	70	1.54	15,000	91/74	81.2/68.9	1.73	14,000	75/63	1.54
PER-7	PLATE TYPE	15,000	6	45.5	1.73	14,000	70	1.54	15,000	91/74	81.2/68.9	1.73	14,000	75/63	1.54
NOTES:															

NOTES:

1. PRESSURE DROP DATA IS MAXIMUM PRESSURE DROP ACROSS ENTIRE ENERGY RECOVERY SECTION.

							MAKE-U	JP AI	R UNIT SC	HED	ULE							
S	YMBOL	MANUFACTURER/ MODEL NUMBER	TYPE	LOCATION	FUEL	IGNITION TYPE	INPUT (CAPACITY (MBH)		CAPACITY AIR TEMP RISE (°F)	% OA	ESP (IN. WG)	MOTOR HP	MCA	MOCP	VOLT	PHASE	WEIGHT (LBS)	REMARKS
P	MAU-1	TRANE GRBA 80	I	ROOF	NG	ELECTRONIC	800	7,500	78	100	1.2	7.5	15	25	480	3	3,000	ALL

<u>TYPE:</u> I = INDIRECT FIRED

1. PROVIDE WITH INTERFACES WITH BMS PER SPEC SECTION 23 0393. 2. PROVIDE WITH UNIT MOUNTED FUSED DISCONNECT SWITCH.

3. PROVIDE WITH SA FAN WITH VFD.

2. PROVIDE WITH STAINLESS STEEL DRAIN PANS.

4. PROVIDE WITH MERV 8 FILTERS.
5. PROVIDE PACKAGED FACTORY CONTROLS AIRFLOW PROVING SWITCH AND MODULATING GAS CONTROL VALVE.
6. PROVIDE CUSTOM ROOF CURBS. REFER TO SPEC SECTION 23 0548.

						FAN	COI	LUN	NIT S	SCHE	DUI	E					
	MAANU IEA OTU DED	LINUT			S	SUPPLY FA	N DATA					COOLING	HEATING	ANGLE	OUTSIDE	OPERATING	
SYMBOL	MANUFACTURER/ MODEL NUMBER	UNIT SIZE	CFM	ESP	TSP	SPEED	BHP		МОТО	R DATA		COIL SECTION	COIL SECTION	FILTER SECTION	AIR (CFM)	WEIGHT (LBS)	REMARKS
			CFIVI	(IN WG)	(IN WG)	(RPM)	БПР	HP	RPM	VOLTS	PH	SECTION	SECTION	SECTION	(CI WI)	(LBS)	
FCU-1	TRANE BCHD090G2	90	3,000	0.7	2	2531	2.062	3	1750	480	3	CHWC-F1	HWC-F1	NOTE #1	600	2500	ALL
FCU-2	TRANE BCHD090G2	90	3,000	0.7	2	2531	2.062	3	1750	480	3	CHWC-F2	HWC-F2	NOTE #1	600	2500	ALL
REMARK 1. FILTER	<u> S:</u> RS SHALL BE 2" PLEAT	ED, MERV 1	i 13. INITIAL A	ND FINAL PR	RESSURE DR	OPS AT 50	0 FPM S	HALL BE	0.43" AN	D 1.0".		1		1	1	I	

				CF	HILLED	WAT	ER CO	IL SC	HEDUI	E				
			TOTAL	OENO	MAX.		AIR	SIDE		3	0% GLYC	DL SOLUTI	ON SIDE	OLIMOAD.
SYMBOL	MANUFACTURER/ MODEL NUMBER	TYPE	TOTAL CAP (MBH)	SENS CAP (MBH)	FACE VELOCITY (FPM)	FLOW (CFM)	EAT (°F) DB/WB	LAT (°F) DB	PD (IN WG)	FLOW (GPM)	EWT (°F)	LWT (°F)	PD (FT HD)	BRANCH SIZE
CHWC-F1	TRANE	UM	116	86	480	3,000	80/66.5	54.0	-	28.5	45	53.8	23.2	2"
CHWC-F2	TRANE	UM	116	86	480	3,000	80/66.5	54.0	-	28.5	45	53.8	23.2	2"
TYPES:	r mounted					REMAR		OLUTION O	IALL DE 00%	DD 0 D) // EN	E 01.V001			
OIVI - OIVI I	INCONTED					ı. VVA I L	-R/G 1 COL S	OLU HON SI	HALL BE 30%	PROPYLEN	E GLYCOL			

2. LAT IS SATURATED

		FI	LTER	SCHE	DULE			
SYMBOL	MANUFACTURER/ MODEL NUMBER	SIZE (L x W)	DEPTH	MIN EFF (%)	FACE VELOCITY (FPM)	CLEAN PD (IN WG)	FINAL PD (IN WG)	REMARKS
F-DC1	AIRGUARD LEGACY LOADTECH	4'0" x 2'6"	4"	MERV 14	500	0.44"	1.5"	1,2
F-DC2	AIRGUARD LEGACY LOADTECH	4'0" x 4'0"	4"	MERV 14	500	0.44"	1.5"	1,2

	EH-2	QMARK QMKC	8533	2500 - 208 -1	8'	1
	EH-3	QMARK QMKC	8533	2500 - 208 -1	8'	1
				INTERFACING WITH BM OR APPROVED EQUAL		OR MARLEY.

8533

QMARK QMKC

EH-1

ELECTRIC BASEBOARD SCHEDULE

MANUFACTURER/ OUTPUT ELECTRICAL DATA LENGTH MODEL NUMBER BTU/HR WATT-VOLTS-PHASE LF

2500 - 208 -1 8'

			TOTAL	MAXIMUM		All	RSIDE		30%	GLYCOL S	OLUTION	SIDE	LIMOAD
SYMBOL	MANUFACTURER	TYPE	CAP (MBH)	FACE VELOCITY (FPM)	FLOW (CFM)	EAT (°F)	LAT (°F)	PD (IN WG)	FLOW (GPM)	EWT (°F)	LWT (°F)	PD (FT HD)	HWS&R BRANCH SIZE
HWC-EM1	XeteX	UM	764.7	485	8,000	6	94.1	0.23	50	140	110	9.2	2"
HWC-E1	TRANE	UM	764.7	485	8,000	6	94.1	0.23	50	140	110	9.2	2"
HWC-E2	TRANE	UM	764.7	485	8,000	6	94.1	0.23	50	140	110	9.2	2"
HWC-E3	TRANE	UM	764.7	485	8,000	6	94.1	0.23	50	140	110	9.2	2"
HWC-E4	TRANE	UM	964.6	497	10,000	6	94.9	0.36	64	140	110	9.42	2-1/2"
HWC-E5	XeteX	UM	1401.3	526	15,000	6	92.1	0.22	100	140	110	15.0	3"
HWC-E6	TRANE	UM	1401.3	526	15,000	6	92.1	0.22	100	140	110	15.0	3"
HWC-E7	TRANE	UM	1401.3	526	15,000	6	92.1	0.22	100	140	110	15.0	3"
HWC-F1	TRANE	UM	162.7	480	3,000	50	100	-	31	140	129	12.04	2"
HWC-F2	TRANE	UM	162.7	480	3,000	50	100	-	31	140	129	12.04	2"
HWC-DC1	US COIL & AIR	DM	155.5	500	4,800	60	90	0.2	10.38	140	110	10	1-1/4"
HWC-DC2	US COIL & AIR	DM	259.2	500	8,000	60	90	0.2	17.28	140	110	10	1-1/2"

SYMBOL	MANUFACTURER/	TYPE	LOCATION	SYSTEM	MEDIA	FLOW RATE	FLOW PRESSURE		MOT	OR DATA		REMARKS
STIVIBUL	MODEL NUMBER	ITPE	LOCATION	SERVING	IVIEDIA	(GPH)	(PSI)	HP	RPM	VOLTAGE	PHASE	REWARKS
FOTP-1	PREFERRED UTILITIES/ MODEL 101	ES	HVAC E120	HVAC & PLUMBING	#2 FUEL OIL	20	100	1/3	1725	208	1	1, 2
FOTP-2	PREFERRED UTILITIES/ MODEL 101	ES	HVAC E120	HVAC & PLUMBING	#2 FUEL OIL	20	100	1/3	1725	208	1	1, 2
DTP-1	PREFERRED UTILITIES	IL	PLUMBING E101	PLUMBING SHOP	#2 FUEL OIL	20	100	1/3	1725	120	1	
DTP-2	PREFERRED UTILITIES	IL	HVAC E120	HVAC SHOP	#2 FUEL OIL	20	100	1/3	1725	120	1	
TYPE: ES = END IL = IN-LI	D SUCTION NE			FUEL OIL PIPE REFER TO FUE	<u>SIZES:</u> IL OIL PIPING DIAGR	AM FOR FUE	EL PIPE SIZES		•	,		

	1											
	RM1 20		INDUC	ED DRA	FT FA	N SCI	HEDU	LE				
SYMBOL	MANUFACTURER/	TYPE	LOCATION	AREA	AIR FLOW	SP	DRIVE	N	MOTOR DAT	A	WEIGHT	REMARKS
OTWIDOL	MODEL NUMBER	1112	LOOMION	SERVING	(CFM)	(IN WG)	DITIVE	HP	VOLTS	PH	(LBS)	TEMPITAL
IDF-1	ENERVEX MODEL RSV 200	RMUBF	ROOF	PLUMBING SHOP	200	0.3	D	1/2	120	1 {	75.0	1,3
IDF-2	ENERVEX MODEL RSV 200	RMUBF	ROOF	PLUMBING SHOP	100 RM	1	D	1/2	120	1	75.0	1,3
IDF-3	MODEL IPVB	IL	SHOP	HVAC SHOP	300	0.3	D	1/2	120	1 }	75.0	1,2
	IN-LINE ROOF MOUNTED UPBLA	ST FAN		DRIVE: B = BELT D D = DIRECT	RIVE DRIVE	2. PROV 3. INSTA	IDE WITH I	VIBRATI RATION	NECT SWIT ON ISOLAT ISOLATION CTION 2305	ORS. I ROOF	CURB AS	RM1 20

mark date description

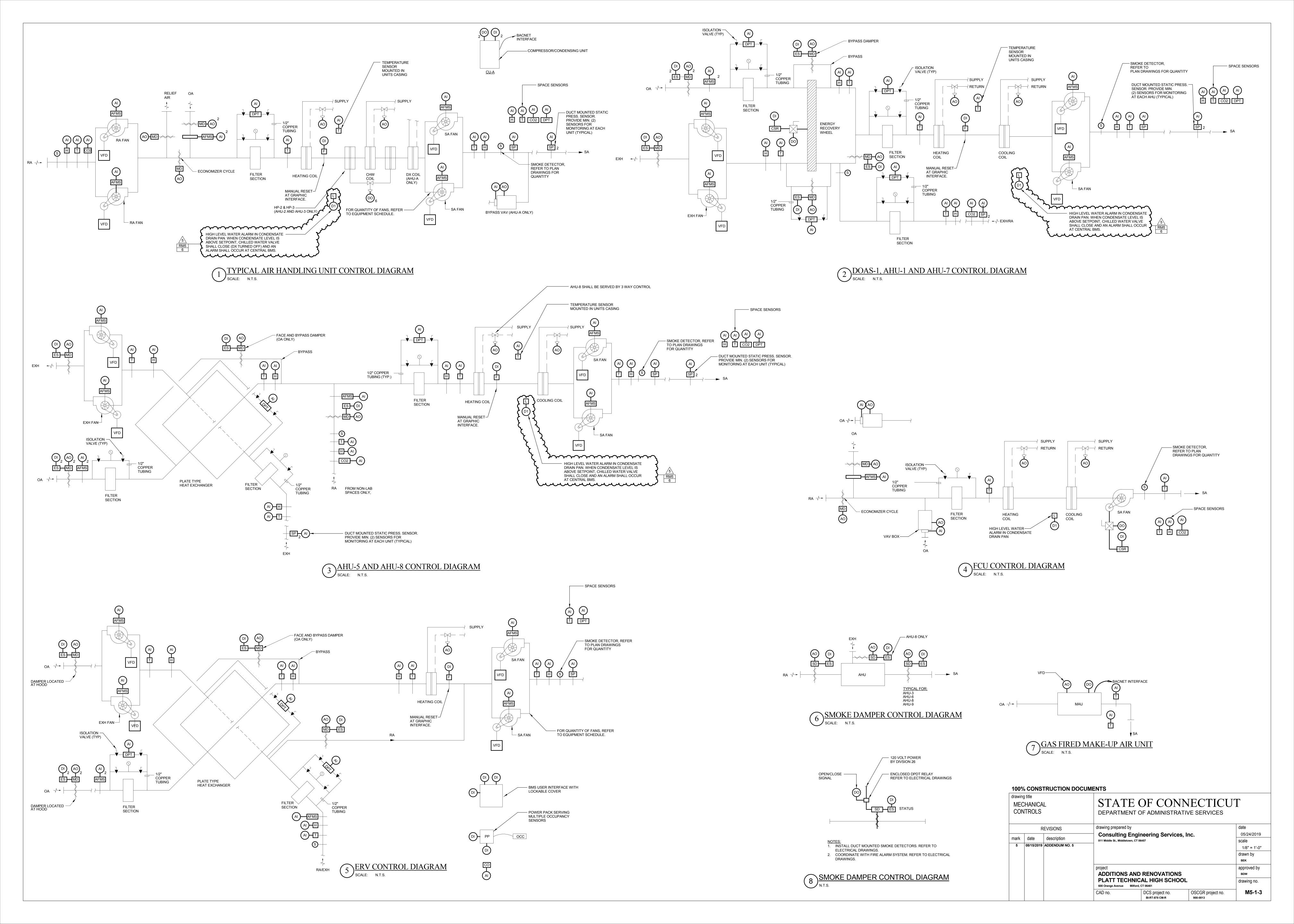
2. PROVIDE A LINE SIZE ANTI-SIPHON VALVE ON FUEL OIL INLET PIPE.

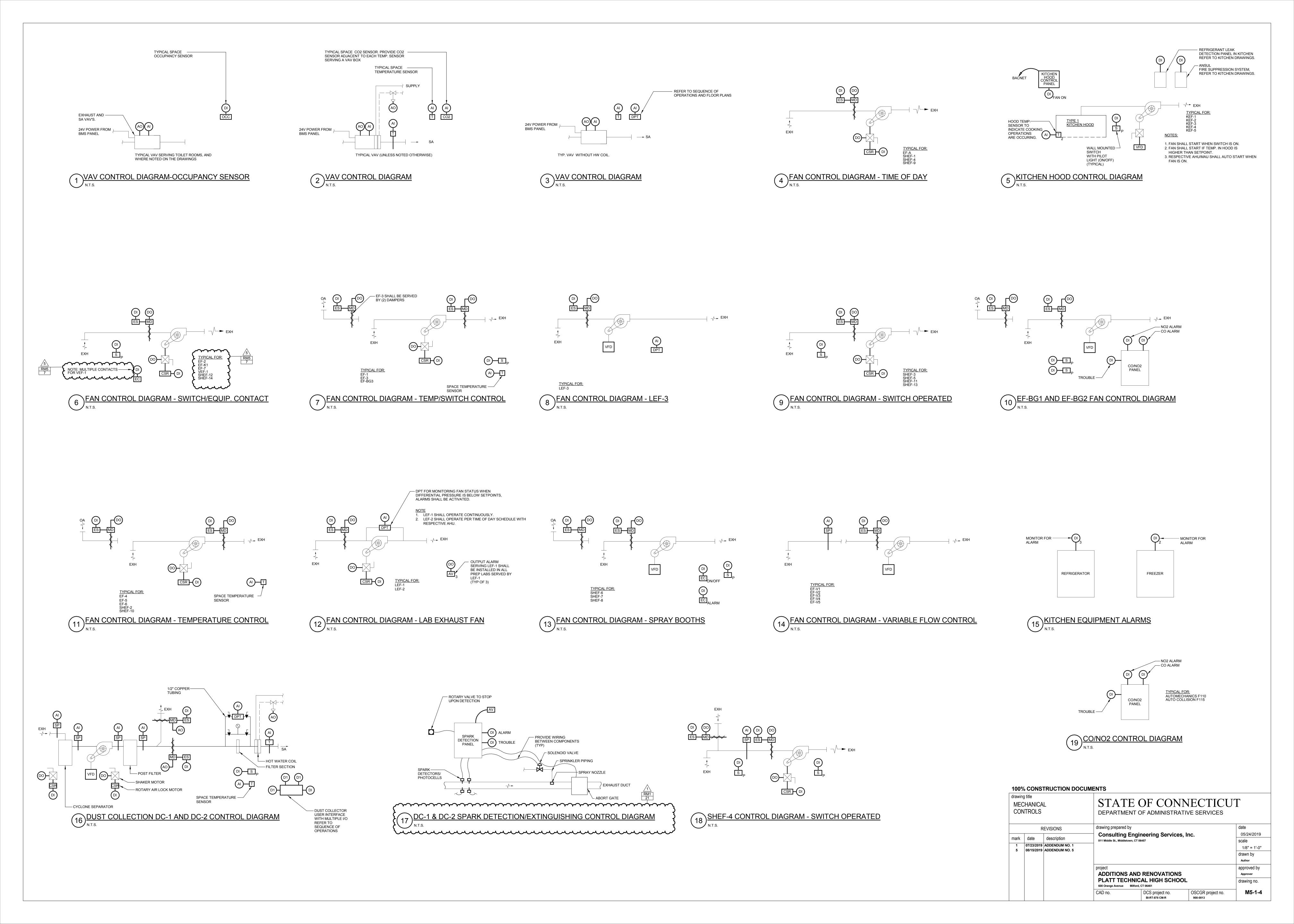
100% CONSTRUCTION DO	OCUMENTS	
drawing title MECHANICAL SCHEDULES	STATE OF CONNECTICUT DEPARTMENT OF ADMINISTRATIVE SERVICES	
REVISIONS	drawing prepared by	date

Consulting Engineering Services, Inc.
811 Middle St., Middletown, CT 06457 05/24/2019 scale 1 07/23/2019 ADDENDUM NO. 1 1/8" = 1'-0" 5 08/15/2019 ADDENDUM NO. 5 drawn by approved by ADDITIONS AND RENOVATIONS BDW PLATT TECHNICAL HIGH SCHOOL drawing no. 600 Orange Avenue Milford, CT 06461 M3-1-3 DCS project no. OSCGR project no. BI-RT-878 CM-R 900-0013

PROVIDE WITH FILTER FRAMES WITH FLANGED DUCTWORK CONNECTIONS, SIDE ACCESS DOORS AT BOTH

SIDES, SLIDE RAIL GUIDES AND RATING FOR MINIMUM 5" WG. PROVIDE DIFFERENTIAL PRESSURE GAUGE WITH TWO SHUT OFF VALVES.





KEY NOTES - ELECTRICAL POWER ALL RECEPTACLE BRANCH CIRCUIT HOMERUNS SERVING A SPACE SHALL BE IN CONDUIT. REFER TO SPECIFICATIONS FOR ALLOWABLE USE OF MC CABLE. LAB CASEWORK, FIRST FLOOR: GFI RECEPTACLES INTEGRAL TO FURNITURE. PROVIDE JUNCTION BOX IN FLOOR AT FURNITURE CHASE LOCATION. PROVIDE 1" CONDUIT IN FLOOR FROM JUNCTION BOX TO ABOVE ACCESSIBLE CEILING. ROUTE FMC FROM JUNCTION BOX THROUGH FURNITURE TO GFI RECEPTACLE ALL PANELBOARD FEEDERS SHALL BE IN CONDUIT. 0. IN ALL LOCATIONS WHERE AN ELECTRICAL DEVICE IS MOUNTED ON A PRECAST WALL, PROVIDE BACKBOXES, LOCATIONS. COORDINATE LOCATION OF JUNCTION BOX IN FIELD. SEE EQUIPMENT CONSULTANT'S CONDUIT, CONCEALED WIRING AND TERMINATIONS WITHIN PRECAST CONCRETE PANELS. SEE DETAILED CASEWORK DRAWINGS FOR ADDITIONAL INFORMATION. SPECIFICATIONS FOR ADDITIONAL INFORMATION. LAB CASEWORK, SECOND FLOOR: GFI RECEPTACLES INTEGRAL TO FURNITURE. PROVIDE JUNCTION BOX BELOW FLOOR WITH 3/4" CONDUIT SLEEVE THROUGH FLOOR AND TRANSITION TO FMC AT FLOOR. ROUTE . IN ALL LOCATIONS WHERE AN ELECTRICAL DEVICE IS MOUNTED ON AN ALUMINUM STORE FRONT, PROVIDE FMC THROUGH FURNITURE TO GFI RECEPTACLE LOCATIONS. COORDINATE LOCATION OF JUNCTION BOX BACKBOXES, CONDUIT, CONCEALED WIRING AND TERMINATIONS WITHIN STORE FRONT. SEE SPECIFICATIONS IN FIELD. SEE EQUIPMENT CONSULTANT'S DETAILED CASEWORK DRAWINGS FOR ADDITIONAL INFORMATION. 2. REFER TO "EQ" SERIES DRAWINGS AND ELECTRICAL TRADE SHOP EQUIPMENT SCHEDULES ON DRAWING E5-1-3 FOR ADDITIONAL WIRING AND DEVICE LOCATIONS AND REQUIREMENTS. ELECTRICAL DEVICES ALONG THIS WALL SHALL BE MOUNTED IN PRECAST PANELS. REFER TO GENERAL NOTE #10 FOR ADDITIONAL INFORMATION. CONTROL CONSOLE FOR ALIGNMENT LIFT. PROVIDE 208V 1-PHASE POWER TO CONSOLE AS SCHEDULED. FEED POWER TO CONTROL CONSOLE FROM BELOW WITH CONDUIT UNDER SLAB AND UP NEAREST WALL AS SHOWN. ROUTE 4"C WITH NYLON PULL STRING BENEATH CONSOLE TO LIFT DEPRESSION WITHIN FLOOR - CONDUIT FOR HYDRAULIC LINES AND INTRINSICALLY SAFE CONTROL WIRING PROVIDED BY LIFT MANUFACTURER. TYPICAL CONTROL CONSOLE LOCATION SHOWN, COORDINATE FINAL LOCATION IN ⊗□¹ DC-1 FAN CONDUIT IN TRENCH TO JUNCTION BOX ABOVE 79, PP1-1 ACCESSIBLE CEILING TOOL CRIB F102 F103 DC-1 SHAKER TOOL CRIB -EPO REMOTE CONTROLLED FOR ADDITIONAL INFORMATION SWITCH - ASCO 911 SERIES 225A-3P - SEE DETAIL 6/E6-1-2 FOR ADDTIONAL DANIEL WOODHEAD #9383 CABLE REEL - PROVIDE 20A PENDANT OUTLET BOX WITH (2) DUPLEX RECEPTACLES WIRE TO RECEPTACLE AT UNDERSIDE OF STRUCTURAL STEEL FOR DISCONNECTION MEANS COORDINATE LOCATION IN FIELD WITH EQUIPMENT (TYP. WHERE SHOWN) OVERHEAD DOOR MOTOR, PUSHBUTTON STATION AND SAFETY INSTALLATION AND WIRING BY CONTRACTOR - COORDINATE ALL WIRING IN FIELD (TYP.) 17, SP-2 SEE GENERAL NOTE #10 FOR -ADDITIONAL INFORMATION. F110 F118 68, PP1-1 SEE GENERAL NOTE #10 FOR ADDITIONAL INFORMATION. 8, SP-2 SEE GENERAL NOTE #10 FOR -ADDITIONAL INFORMATION. 14,16,18, PP1-1A 20,22,24, PP1-1A 13,15,17, PP1-1A 19,21,23, PP1-1A 25,27,29, PP1-1A -OVERHEAD SEE GENERAL NOTE #10 FOR ---SEE GENERAL NOTE #10 FOR -----SEE GENERAL NOTE #10 FOR -SEE GENERAL NOTE #10 FOR SEE GENERAL NOTE #10 FOR ----SEE GENERAL NOTE #10 FOR ----SEE GENERAL NOTE #10 FOR —— ADDITIONAL INFORMATION. ADDITIONAL INFORMATION. ADDITIONAL INFORMATION. ADDITIONAL INFORMATION. ADDITIONAL INFORMATION. ADDITIONAL INFORMATION. ADDITIONAL INFORMATION.

1 FIRST FLOOR ELECTRICAL POWER PLAN - AREA F 1/8" = 1'-0"

100% CONSTRUCTION DOCUMENTS drawing title STATE OF CONNECTICUT FIRST FLOOR **ELECTRICAL POWER** DEPARTMENT OF ADMINISTRATIVE SERVICES PLAN AREA F drawing prepared by REVISIONS Consulting Engineering Services, Inc.
811 Middle St., Middletown, CT 06457 05/24/2019 mark date description scale 5 08/15/2019 ADDENDUM NO. 5 As indicated drawn by VJM approved by ADDITIONS AND RENOVATIONS PLATT TECHNICAL HIGH SCHOOL drawing no. 600 Orange Avenue Milford, CT 06461 OSCGR project no. E2-1-1F DCS project no. BI-RT-878 CM-R 900-0013

GENERAL NOTES - ELECTRICAL POWER

ALL CIRCUITS SHALL BE 2#12,#12G.,3/4"C., TO NEW 20A-1P CIRCUIT BREAKER IN PANEL INDICATED UNLESS

REFER TO ARCHITECTS REFLECTED CEILING PLAN FOR EXACT LOCATION OF CEILING MOUNTED ELECTRICAL

ALL 120VAC BRANCH CIRCUITS EXCEEDING 150' IN LENGTH SHALL BE 2#10,#10G., 3/4"C. UNLESS NOTED

ALL DEVICES SHALL BE LABELED WITH SOURCE PANEL AND CIRCUIT NUMBER(S).

REFER TO DRAWING E5-1-2 FOR MOTOR CIRCUIT SCHEDULE.

REFER TO DRAWING E5-1-1 FOR ELECTRICAL SYMBOLS, LEGENDS, AND ABBREVIATIONS.

ALL RECEPTACLES LOCATED WITHIN 6' OF A SOURCE OF WATER SHALL BE GFCI TYPE.

NOTED OTHERWISE.

LIGHTNING PROTECTION KEY NOTES

PROVIDE A GROUND RING CONDUCTOR (COUNTERPOISE) EXTENDING AROUND THE PERIMETER OF THE BUILDING. BURY COUNTERPOISE NOT LESS THAN 30-INCHES BELOW GRADE AND 5-FEET FROM BUILDING

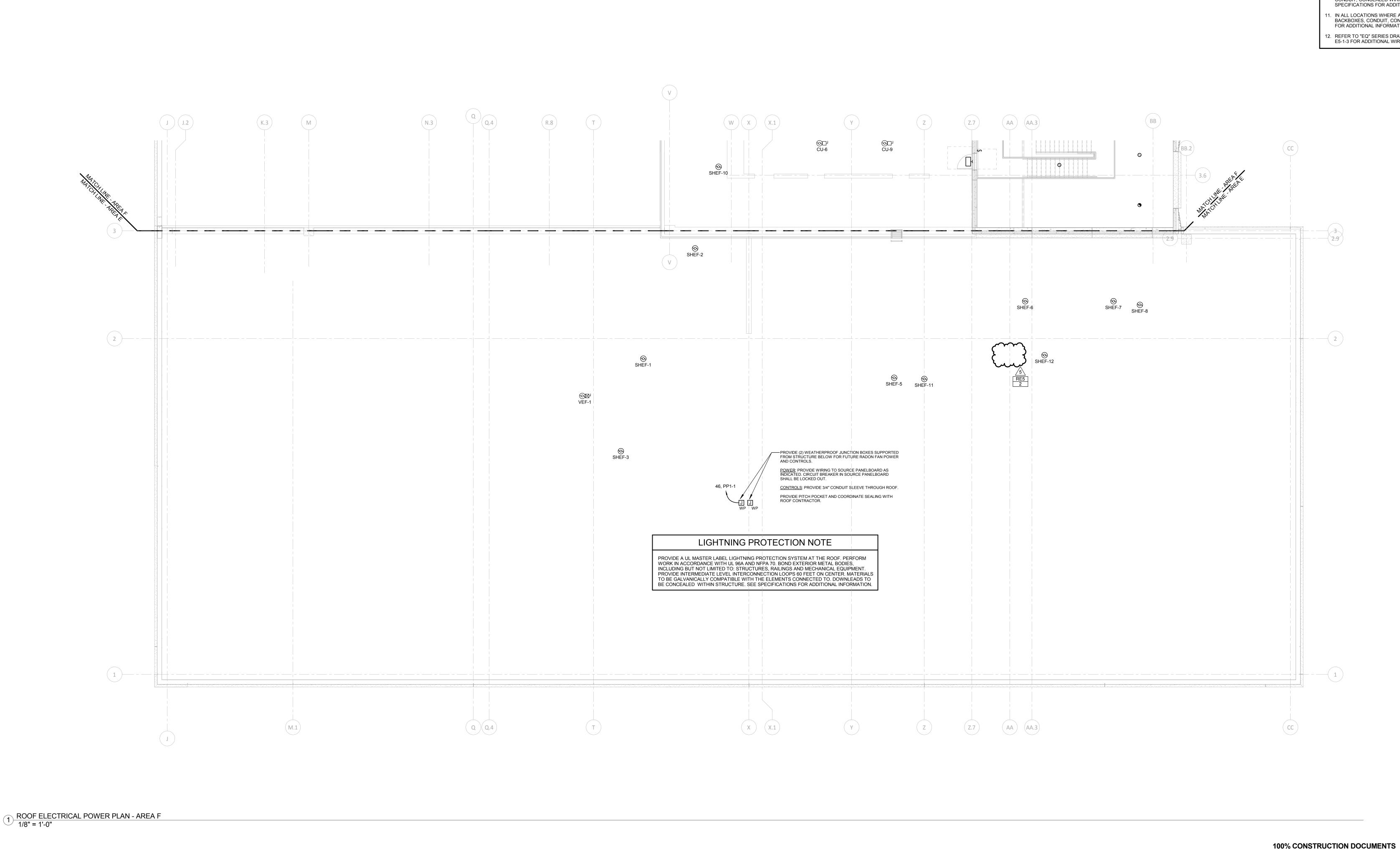
FOUNDATION. USE #4/0 AWG FOR COUNTERPOISE AND FOR TAP TO BUILDING STEEL. COUNTERPOISE

LIGHTNING PROTECTION DOWNLEAD FROM THE LIGHTNING PROTECTION SYSTEM ON THE ROOF TO A GROUND ROD. GROUND RODS SHALL BE LOCATED IN COUNTERPOISE TRENCH AND SHALL BE ATTACHED TO COUNTERPOISE WITH A TYPE GY (CONDUCTOR-TO-ROD) BY ERICO AND AN XB (CONDUCTOR-TO-

ROOF LIGHTING PROTECTION SYSTEM. (TYPICAL WHERE SHOWN).

CONDUCTOR TRENCH SHALL BE FILLED WITH 1" OF ERICO G.E.M. ABOVE AND BELOW CONDUCTOR (TYPICAL

CONDUCTOR) CONNECTION BY ERICO. TOP OF GROUND ROD SHALL NOT BE LESS THAN 24" BELOW GRADE. THE CONDUCTOR THAT ATTACHES THE ROD TO THE COUNTERPOISE SHALL BE RUN CONTINUOUS TO THE



GENERAL NOTES - ELECTRICAL POWER

- . ALL CIRCUITS SHALL BE 2#12,#12G.,3/4"C., TO NEW 20A-1P CIRCUIT BREAKER IN PANEL INDICATED UNLESS NOTED OTHERWISE.
- 2. ALL 120VAC BRANCH CIRCUITS EXCEEDING 150' IN LENGTH SHALL BE 2#10,#10G., 3/4"C. UNLESS NOTED OTHERWISE.
- . ALL DEVICES SHALL BE LABELED WITH SOURCE PANEL AND CIRCUIT NUMBER(S).
- REFER TO ARCHITECTS REFLECTED CEILING PLAN FOR EXACT LOCATION OF CEILING MOUNTED ELECTRICAL
- 5. REFER TO DRAWING E5-1-1 FOR ELECTRICAL SYMBOLS, LEGENDS, AND ABBREVIATIONS. 6. REFER TO DRAWING E5-1-2 FOR MOTOR CIRCUIT SCHEDULE.
- 7. ALL RECEPTACLES LOCATED WITHIN 6' OF A SOURCE OF WATER SHALL BE GFCI TYPE.
- . ALL RECEPTACLE BRANCH CIRCUIT HOMERUNS SERVING A SPACE SHALL BE IN CONDUIT. REFER TO SPECIFICATIONS FOR ALLOWABLE USE OF MC CABLE.
- 9. ALL PANELBOARD FEEDERS SHALL BE IN CONDUIT.

drawing title

ROOF

C

PLAN AREA F

ELECTRICAL POWER

mark date description

5 08/15/2019 ADDENDUM NO. 5

REVISIONS

- 10. IN ALL LOCATIONS WHERE AN ELECTRICAL DEVICE IS MOUNTED ON A PRECAST WALL, PROVIDE BACKBOXES, CONDUIT, CONCEALED WIRING AND TERMINATIONS WITHIN PRECAST CONCRETE PANELS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 1. IN ALL LOCATIONS WHERE AN ELECTRICAL DEVICE IS MOUNTED ON AN ALUMINUM STORE FRONT, PROVIDE BACKBOXES, CONDUIT, CONCEALED WIRING AND TERMINATIONS WITHIN STORE FRONT. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 2. REFER TO "EQ" SERIES DRAWINGS AND ELECTRICAL TRADE SHOP EQUIPMENT SCHEDULES ON DRAWING E5-1-3 FOR ADDITIONAL WIRING AND DEVICE LOCATIONS AND REQUIREMENTS.

STATE OF CONNECTICUT

05/24/2019

As indicated drawn by VJM

approved by

drawing no.

OSCGR project no. 900-0013

E2-2-1F

scale

DEPARTMENT OF ADMINISTRATIVE SERVICES

Consulting Engineering Services, Inc.
811 Middle St., Middletown, CT 06457

ADDITIONS AND RENOVATIONS

PLATT TECHNICAL HIGH SCHOOL
600 Orange Avenue Milford, CT 06461

DCS project no.

drawing prepared by

							Ŋ	MOTOR CIRC	UIT SC	HEDULE					
			# OF		LOCAL DISC.			TARTER			LO				
EQUIPMENT	PANEL	OCP	POLES	BRANCH CIRCUIT	SW		YPE	LOCATION	HP	MCA	FLA	MOP	PHASE	VOLT	REMARKS
AC-1 AC-2	MEP1-1 MEP5-1	90 A 110 A	3	3#2, #8G., 1 1/4"C. 3#2, #6G., 1 1/4"C.	100A/3P 200A/3P		VFD VFD	AT UNIT AT UNIT	40 60	-	-	-	3	480 V 480 V	SEE NOTE 10 SEE NOTE 10
AHU-1 - RA-1	MEP3-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-1 - RA-2 AHU-1 - SA-1	MEP3-2 MEP3-2	20 A 40 A	3	3#12, #12G., 3/4"C. 3#8, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	7.5 15	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-1 - SA-1	MEP3-2	40 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-2 - RA-1	MEP3-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-2 - RA-2 AHU-2 - SA-1	MEP3-2 MEP3-2	15 A 40 A	3	3#12, #12G., 3/4"C. 3#8, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	5 15	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-2 - SA-1	MEP3-2	40 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-3 - RA-1	MEP3-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-3 - RA-2 AHU-3 - SA-1	MEP3-2 MEP3-2	15 A 40 A	3	3#12, #12G., 3/4"C. 3#8, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	5 15	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-3 - SA-2	MEP3-2	40 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-4 - RA-1	MEP8-3	25 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-4 - RA-2 AHU-4 - SA-1	MEP8-3 MEP8-3	25 A 15 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	10 5	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-4 - SA-2	MEP8-3	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-5 - RA-1	MEP7-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-5 - RA-2 AHU-5 - SA-1	MEP7-2 MEP7-2	20 A 40 A	3	3#12, #12G., 3/4"C. 3#10, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	7.5 15	-	-		3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-5 - SA-2	MEP7-2	40 A	3	3#10, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-6 - RA-1	MEP8-3	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-6 - RA-2 AHU-6 - SA-1	MEP8-3 MEP8-3	20 A 40 A	3	3#12, #12G., 3/4"C. 3#8, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	7.5 15	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-6 - SA-2	MEP8-3	40 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	15	-		-	3	480 V	SEE NOTES 1 & 3
AHU-7 - RA-1	MEP7-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	3	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-7 - RA-2 AHU-7 - SA-1	MEP7-2 MEP7-2	15 A 20 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	7.5	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-7 - SA-2	MEP7-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-8 - RA-1	MEP3-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-8 - RA-2 AHU-8 - SA-1	MEP3-2 MEP3-2	20 A 60 A	3	3#12, #12G., 3/4"C. 3#4, #10G., 1"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	7.5 20	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-8 - SA-2	MEP3-2	60 A	3	3#4, #10G., 1"C.	DIV 23	-	VFD	AT UNIT	20	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-9 - RA-1	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-9 - RA-2 AHU-9 - SA-1	MEP2-2 MEP2-2	20 A 40 A	3	3#12, #12G., 3/4"C. 3#8, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	7.5 15	-	-		3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-9 - SA-2	MEP2-2	40 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-A - RA-1	MEP8-3	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	3	-	-	-	3	480 V	SEE NOTES 1 & 3
AHU-A - RA-2 AHU-A - SA-1	MEP8-3 MEP8-3	15 A 15 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	<u>3</u> 5	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
AHU-A - SA-2	MEP8-3	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	5	-	-	-	3	480 V	SEE NOTES 1 & 3
B-1	EPH5-1	15 A	3	3#12, #12G., 3/4"C.	30A/3P		IV 23	DIV 23	5	-	-	-	3	480 V	
B-2 B-3	EPH5-1 EPH5-1	15 A 15 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	30A/3P 30A/3P		IV 23 IV 23	DIV 23 DIV 23	5 5	-	-	-	3	480 V 480 V	
BHWP-1	EPH5-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	5	-	-	-	3	480 V	SEE NOTES 1,3 & 7
BHWP-2	EPH5-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	5	-	-	-	3	480 V	SEE NOTES 1,3 & 7
BHWP-3 CH-1	EPH5-1 MSB-2	15 A 500 A	3	3#12, #12G., 3/4"C. 6#250, 2#2G., (2) 2-1/2"C.	DIV 23 DIV 23		VFD IV 23	AT UNIT DIV 23	5	320 A	-	500 A	3	480 V 480 V	SEE NOTES 1,3 & 7 SEE NOTE 3
CH-2	MSB-2	500 A	3	6#250, 2#2G., (2) 2-1/2"C.	DIV 23		IV 23	DIV 23	-	320 A	-	500 A	3	480 V	SEE NOTE 3
CSP-1 CT-1	MEP5-1	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	DIV 23	5	-	-	-	3	480 V	SEE NOTE 3
CT-2	MEP5-1 MEP5-1	40 A 40 A	3	3#8, #10G., 3/4"C. 3#8, #10G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	15 15	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
CU-1 / AC-1	EP3-2	20 A	2	2#12, #12G., 3/4"C.	2PTS	- D	IV 23	DIV 23	-	18.3 A	-	-	1	208 V	SEE NOTE 8
CU-2 / AC-2 CU-3 / AC-3	EP3-2 EP3-2	20 A 15 A	2 2	2#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	2PTS 2PTS		IV 23 IV 23	DIV 23 DIV 23	-	18.3 A 12.2 A	-	-	1	208 V 208 V	SEE NOTE 8 SEE NOTE 8
CU-4 / AC-4	EP3-2	15 A	2	2#12, #12G., 3/4 °C.	2PTS		IV 23	DIV 23	<u>-</u>	12.2 A	-	-	1	208 V	SEE NOTE 8
CU-5 / AC-5	EP7-2	15 A	2	2#12, #12G., 3/4"C.	2PTS		IV 23	DIV 23	-	12.2 A	-	-	1	208 V	SEE NOTE 8
CU-6 / AC-6 CU-7 / AC-7	EP2-2 EP7-2	15 A 15 A	2	2#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	2PTS 2PTS		IV 23 IV 23	DIV 23 DIV 23	-	12.2 A 12.2 A	-	-	1 1	208 V 208 V	SEE NOTE 8 SEE NOTE 8
CU-8 / AC-8	EP3-2	15 A	2	2#12, #12G., 3/4 °C.	2PTS		IV 23	DIV 23	-	12.2 A	-	-	1	208 V	SEE NOTE 8
CU-9 / AC-9	EP2-2	15 A	2	2#12, #12G., 3/4"C.	2PTS	- D	IV 23	DIV 23	-	12.2 A	-	-	1	208 V	SEE NOTE 8
CU-10 / AC-10 CU-11 / AC-11	EP2-2 EP3-2	15 A 15 A	2	2#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	2PTS 2PTS		IV 23 IV 23	DIV 23 DIV 23	-	12.2 A 12.2 A	-	-	1 1	208 V 208 V	SEE NOTE 8 SEE NOTE 8
CU-A1	MEP8-3	50 A	3	3#6, #10G., 3/4"C.	60A/3P		IV 23	DIV 23	-	40 A	-	50 A	3	480 V	SEE NOTE 8
CWP-1	MEP5-1	60 A	3	3#4, #10G., 1"C.	DIV 23	-	VFD	AT UNIT	20	-	-	-	3	480 V	SEE NOTES 1,3 & 7
CWP-2 CWP-3	MEP5-1 MEP5-1	60 A 60 A	3	3#4, #10G., 1"C. 3#4, #10G., 1"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	20	-	-	-	3	480 V 480 V	SEE NOTES 1,3 & 7 SEE NOTES 1,3 & 7
DC-1 FAN	MEP5-1 MEP1-1	70 A	3	3#4, #10G., 1°C.	100A/3P		VFD VFD	AT UNIT	25	-	-	-	3	480 V 480 V	SEE NOTE 1
DC-1 ROTARY	MEP1-1	15 A	3	3#12, #12G., 3/4"C.	30A/3P		VNR	AT UNIT	2	-	-	-	3	480 V	SEE NOTES 2 & 4
DC-1 SHAKER DC-2 FAN	PP1-1 MEP1-1	15 A 90 A	3	2#12, #12G., 3/4"C. 3#2, #8G., 1-1/4"C.	1PTS 100A/3P		VNR VFD	AT UNIT AT UNIT	1/4 40	-	-	-	3	120 V 480 V	SEE NOTES 2 & 4 SEE NOTES 1,3 & 7
DC-2 ROTARY	MEP1-1	15 A	3	3#12, #12G., 3/4"C.	30A/3P	<u> </u>	VID	AT UNIT	2	-	-	-	3	480 V	SEE NOTES 2 & 4
DC-2 SHAKER	MEP1-1	15 A	3	3#12, #12G., 3/4"C.	30A/3P		VNR	AT UNIT	3/4	-	-	-	3	480 V	SEE NOTES 2 & 4
DOAS-1 - EF DOAS-1 - ER-1	MEP3-2 MEP3-2	25 A 15 A	3	3#10, #10G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23		VFD VFD	AT UNIT AT UNIT	10	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
DOAS-1 - ER-1	MEP3-2	40 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1 & 3
EF-1	EPDP-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23	- D	IV 23	DIV 23	1.5	-	-	-	3	480 V	SEE NOTE 3
EF-2 EF-3	MEP5-1 PP3-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23		IV 23 IV 23	DIV 23 DIV 23	3/4 1/2	-	-	-	3	480 V 120 V	SEE NOTE 3 SEE NOTE 3
EF-4	PP3-2	20 A 15 A	1	2#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	DIV 23 DIV 23		IV 23	DIV 23	1/2	-	-	-	1 1	120 V	SEE NOTE 3 SEE NOTE 3
EF-5	MEP8-3	15 A	3	3#12, #12G., 3/4"C.	DIV 23	- D	IV 23	DIV 23	1.5	-	-	-	3	480 V	SEE NOTE 3
EF-6	PP3-2	15 A	1	2#12, #12G., 3/4"C.	DIV 23	<u> </u>	IV 23	DIV 23	1/4	-	-	-	1	120 V	SEE NOTE 3
EF-A EF-BG1	PP7-2 GPL	15 A 15 A	3	2#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23		VFD	DIV 23 AT UNIT	1/2 2	-	-	-	3	120 V 208 V	SEE NOTE 3 SEE NOTES 1 & 3
EF-BG2	GPL	15 A	3	3#12, #12G., 3/4"C.	DIV 23	- D	IV 23	DIV 23	3/4	-	-	-	3	208 V	SEE NOTE 3
EF-BG3	GPL	15 A	1	2#12, #12G., 3/4"C.	DIV 23		IV 23	DIV 23	1/6	-	-	-	1	120 V	SEE NOTE 3
EF-K1 EF-V1	PP3-2 MEP5-1	15 A 15 A	3	2#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23		VFD	DIV 23 AT UNIT	1/3 3	-	-	-	3	120 V 480 V	SEE NOTE 3 SEE NOTES 1 & 3
EF-V2	MEP8-3	15 A	3	3#12, #12G., 3/4"C.	DIV 23	 	VFD	AT UNIT	1.5	_			3	480 V	SEE NOTES 1 & 3
EF-V3	MEP3-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	1.5	-	-	-	3	480 V	SEE NOTES 1 & 3

			# OF		LOCAL DISC.	I	MOTOR S	TARTER			LOA	νD			
EQUIPMENT	PANEL	OCP	POLES	BRANCH CIRCUIT	SW	SIZE	TYPE	LOCATION	HP	MCA	FLA	MOP	PHASE	VOLT	REMARKS
1 -1	GPL	20 A	2	2#12, #12G., 3/4"C.	2PTS	-	-	-	-	-	12 A	-	1	208 V	
H-2 H-3	GPL GPL	20 A 20 A	2	2#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	2PTS 2PTS	-	-	-	-	-	12 A 12 A	-	1	208 V 208 V	
RV-1 - EXH	MEP3-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-		3	480 V	SEE NOTES 1 & 3
RV-1 - SA	MEP3-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-2 - EXH	MEP3-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-2 - SA	MEP3-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	1	3	480 V	SEE NOTES 1 & 3
RV-3 - EXH	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-3 - SA	MEP2-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-4 - EXH	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-4 - SA-1 RV-4 - SA-2	MEP2-2 MEP2-2	20 A 20 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23	-	VFD	AT UNIT AT UNIT	7.5 7.5	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
RV-5 - EXH-1	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	<u> </u>		3	480 V	SEE NOTES 1 & 3
RV-5 - EXH-2	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23		VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-5 - SA-1	MEP2-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-5 - SA-2	MEP2-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-6 - EXH-1	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-6 - EXH-2	MEP2-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-6 - SA-1	MEP2-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-6 - SA-2 RV-7 - EXH-1	MEP2-2 MEP2-2	25 A	3	3#10, #10G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23	-	VFD VFD	AT UNIT AT UNIT	7.5	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
RV-7 - EXH-1 RV-7 - EXH-2	MEP2-2 MEP2-2	20 A 20 A	3	3#12, #12G., 3/4°C.	DIV 23	-	VFD VFD	AT UNIT	7.5	-	-	-	3	480 V 480 V	SEE NOTES 1 & 3 SEE NOTES 1 & 3
RV-7 - LATI-2 RV-7 - SA-1	MEP2-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	10	-		-	3	480 V	SEE NOTES 1 & 3
RV-7 - SA-2	MEP2-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-M1 - EXH	MEP3-2	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTES 1 & 3
RV-M1 - SA	MEP3-2	25 A	3	3#10, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	10	-	-	-	3	480 V	SEE NOTES 1 & 3
CU-1	MEP5-1	20 A	3	3#12, #12G., 3/4"C.	30A/3P	0	FVNR	AT UNIT	3	-	-	-	3	480 V	
CU-2	MEP5-1	20 A	3	3#12, #12G., 3/4"C.	30A/3P	0	FVNR	AT UNIT	3	-	-	-	3	480 V	
P AIR COMPRESSOR	EP5-1	15 A	1	2#12, #12G., 3/4"C.	1PTS 30A/2P	-	- DIV 23	AT UNIT	1/3 3/4	-	-	-	1	120 V	BUS GARAGE ALTERNATE #2 ONLY
GMU-1 GMU-2	PP5-1	25 A 25 A	1	2#10, #10G., 3/4"C. 2#10, #10G., 3/4"C.	30A/2P 30A/2P		DIV 23	DIV 23 DIV 23	3/4	-	<u>-</u>	-	1	120 V 120 V	
IWRP-1	EP5-1	15 A	3	3#12, #12G., 3/4"C.	15A/3P	00	FVNR	AT UNIT	3/4	-	<u> </u>		3	208 V	
IWRP-2	EP5-1	15 A	3	3#12, #12G., 3/4"C.	15A/3P	00	FVNR	AT UNIT	3/4	-	-	-	3	208 V	
DF-1	PP2-2	20 A	1	2#12, #12G., 3/4"C.	1PTS	-	DIV 23	DIV 23	1/2	-	-	-	1	120 V	
DF-2	PP2-2	20 A	1	2#12, #12G., 3/4"C.	1PTS	-	DIV 23	DIV 23	1/2	-	-	-	1	120 V	
EF-1	MEP5-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	3	-	-	-	3	480 V	SEE NOTE 9
EF-2	MEP5-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	3	-	-	-	3	480 V	SEE NOTE 9
(EF-3	MEP5-1	20 A	3	3#12, #12G., 3/4"C.	DIV 23	-	VFD	AT UNIT	7.5	-	-	-	3	480 V	SEE NOTE 9
(EF-4 (EF-5	MEP5-1 MEP5-1	15 A 15 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23	-	VFD VFD	AT UNIT AT UNIT	1.5	-	-	-	3	480 V 480 V	SEE NOTE 9 SEE NOTE 9
EF-1	EP7-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23	00	FVNR	AT UNIT	1.5	-	<u>-</u>	-	3	208 V	SEE NOTE 9 SEE NOTES 2, 3 & 4
EF-2	EP7-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23	00	FVNR	AT UNIT	1.5	_	_	_	3	208 V	SEE NOTES 2, 3 & 4
EF-3	EP7-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23	00	FVNR	AT UNIT	1.5	-	-	-	3	208 V	SEE NOTES 2, 3 & 4
CHWP-1	MEP5-1	40 A	3	3#8, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1,3 & 7
CHWP-2	MEP5-1	40 A	3	3#8, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	15	-	-	-	3	480 V	SEE NOTES 1,3 & 7
CHWP-1	MSB-2	125 A	3	3#1, #6G., 1-1/2"C.	DIV 23	-	VFD	AT UNIT	75	120 A	96 A	125 A	3	480 V	SEE NOTES 1,3 & 7
CHWP-2	MSB-2	125 A	3	3#1, #6G., 1-1/2"C.	DIV 23	-	VFD	AT UNIT	75	120 A	96 A	125 A	3	480 V	SEE NOTES 1,3 & 7
HEF-1 HEF-2	MEP1-1 PP1-1	15 A 15 A	3	3#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	DIV 23 DIV 23	-	DIV 23 DIV 23	DIV 23 DIV 23	1/4	-	-	-	3	480 V 120 V	SEE NOTE 3 SEE NOTE 3
HEF-3	MEP1-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23	<u> </u>	DIV 23	DIV 23	3	-	<u> </u>	-	3	480 V	SEE NOTE 3
HEF-4	MEP2-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23		DIV 23	DIV 23	3/4	-	<u>-</u>		3	480 V	SEE NOTE 3
HEF-5	MEP1-1	15 A	3	3#12, #12G., 3/4"C.	DIV 23	-	DIV 23	DIV 23	2	-	-	-	3	480 V	SEE NOTE 3
HEF-6	EP1-1	35 A	3	3#8, #10G., 3/4"C.	DIV 23		VFD	AT UNIT	5				3	208 V	SEE NOTES 1 & 3
HEF-7	EP1-1	35 A	3	3#8, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	5	-	-	-	3	208 V	SEE NOTES 1 & 3
HEF-8	EP1-1	15 A	3	3#8, #10G., 3/4"C.	DIV 23	-	VFD	AT UNIT	1	-	-	-	3	208 V	SEE NOTES 1 & 3
HEF-9	PP3-2	15 A	1	2#12, #12G., 3/4"C.	DIV 23	-	DIV 23	DIV 23	1/3	-	-	-	1	120 V	SEE NOTE 3
HEF-10	PP2-2	15 A	1	2#12, #12G., 3/4"C.	DIV 23	-	DIV 23	DIV 23	1/4	-	-	-	1	120 V	SEE NOTE 3
HEF-11 HEF-12	MEP1-1 MEP1-1	15 A 20 A	3	3#12, #12G., 3/4"C. 3#12, #12G., 3/4"C.	DIV 23 DIV 23	0	FVNR FVNR	AT UNIT AT UNIT	3 5	-	-	-	3	480 V 480 V	SEE NOTES 3 & 4 SEE NOTES 3 & 4
HEF-13	MEP3-2	15 A	3	3#12, #12G., 3/4 °C.	DIV 23	00	FVNR	AT UNIT	3	-	<u> </u>	-	3	480 V	SEE NOTES 3 & 4
HEF-14	MEP3-2	15 A	3	3#12, #12G., 3/4"C.	DIV 23	00	FVNR	AT UNIT	1/2	_	-	_	3	480 V	SEE NOTES 3 & 4
HWP-1	EPDP-1	110 A	3	3#3, #6G., 1-1/4"C.	DIV 23	-	VFD	AT UNIT	60	96.25 A	77 A	110 A	3	480 V	SEE NOTES 1,3 & 7
HWP-2	EPDP-1	110 A	3	3#3, #6G., 1-1/4"C.	DIV 23		VFD	AT UNIT	- 60 -	96.25 A	77 A	110 A	3	480 V	SEE NOTES 1,3 & 7
							E) (1) E		^ ~ ~ \				1 -	400.14	
EF-1 /H-1	MEP1-1 EP5-1	20 A 20 A	3	3#12, #12G., 3/4"C. 2#12, #12G., 3/4"C.	DIV 23 1PTS	0	FVNR	AT UNIT AT UNIT	7.5	- 13.75 A	- 11 A	-	3	480 V 120 V	SEE NOTES 2, 3 & 4

MOTOR CIRCUIT SCHEDULE GENERAL NOTES:

DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE. ABBREVIATIONS:

DIV. 23 - EQUIPMENT FURNISHED BY DIV. 23 CONTRACTOR FVNR - FULL VOLTAGE NON-REVERSING

MAN - MANUAL STARTER WITH THERMAL OVERLOADS S.P.C. - SINGLE POINT EQUIPMENT CONNECTION. COORDINATE WITH DIV. 23 CONTRACTOR

VFD - VARIABLE FREQUENCY DRIVE 1PTS - 1-POLE MOTOR RATED TOGGLE SWITCH

2PTS - 2-POLE MOTOR RATED TOGGLE SWITCH O.C.P DEVICE (OVERCURRENT PROTECTIVE) SHALL BE MOLDED CASE CURCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.

PROVIDE WEATHERPROOF DISCONNECT SWITCHES WHERE LOCATED OUTSIDE OR IN WET LOCATIONS. STARTERS SHALL BE SQUARE D CLASS 8536 OR APPROVED EQUAL.

PROVIDE MANUAL STARTER WITH AUX. INPUTS FOR BMS CONTROL. PROVIDE CERUS INDUSTRIES MODEL 'BAS-1P' OR APPROVED EQUAL.

REFER TO PANEL SCHEDULES FOR SOURCE PANEL/CIRCUIT INFORMATION. SEE MECHANICAL PLANS FOR EXACT LOCATIONS OF EQUIPMENT.

9. REFER TO MECHANICAL SCHEDULES AND FLOOR PLANS FOR ALL MOTOR LOCATIONS AND ELECTRICAL REQUIREMENTS.

EACH VRF UNIT INCLUDES A DEDICATED "BS" BRANCH SELECTOR BOX. PROVIDE POWER TO "BS" BOX AND A MANUAL DISCONNECT SWITCH AT EACH BOX. POWER FROM SAME CIRCUIT ASSOCIATED WITH VRF UNIT. COORDINATE LOCATION IN FIELD. WIRE VRF UNITS IN THE SAME AREA FROM A SINGLE CIRCUIT. PROVIDE FUSIBLE DISCONNECT SWITCH AT EACH VRF UNIT, DISCONNECT SWITCH TO DISCONNECT BOTH VRF'S AND BRANCH SELECTOR SWITCHES. PROVIDE (2) 10A DUAL ELEMENT TIME DELAY FUSES IN FUSIBLE DISCONNECT SWITCH.

MOTOR CIRCUIT SCHEDULE REFERENCED NOTES:

SEE NOTES 1 & 3

VFD FURNISHED AND INSTALLED BY DIVISION 23. POWER WIRING FROM SOURCE TO VFD BY DIVISION 26. POWER WIRING BETWEEN VFD AND MOTORS BY DIVISION 26. CONTROL WIRING BY DIVISION 23. STARTER/CONTROLLER IS PREWIRED TO MOTORS AND FURNISHED BY DIVISION 23.

LOCAL DISCONNECT SWITCH FURNISHED BY DIVISION 23 AS AN INTEGRAL PART OF EQUIPMENT. PROVIDE MANUAL STARTER WITH AUX. INPUTS FOR BMS CONTROL (CERUS INDUSTRIES MODEL 'BAS-1P' OR APPROVED EQUAL).

PROVIDE 120V POWER TO AC UNIT CONDENSATE PUMP FROM NEAREST UNSWITCHED 120V RECEPTACLE CIRCUIT. POWER TO INDOOR UNIT (AC-X) DERIVED FROM CONDENSING UNIT (CU-X). COORDINATE POWER AND CONTROL WIRING BETWEEN UNITS WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE SINGLE-PHASE, 208V POWER TO VRV UNITS FROM PANELBOARD INDICATED ON DRAWINGS. WIRE VAV UNITS IN SAME AREA FROM A SINGLE CIRCUIT. PROVIDE FUSIBLE DISCONNECT SWITCH AT EACH UNIT WITH

(2) 10A DUAL ELEMENT TIME DELAY FUSES. PROVIDE GROUNDING RING AT PUMP SHAFT. PROVIDE 120V POWER TO AC UNIT CONDENSATE PUMP FROM NEAREST 120V RECEPTACLE CIRCUIT. POWER TO INDOOR UNIT (AC-X) DERIVED FROM OUTDOOR CONDENSING UNIT (CU-X). COORDINATE POWER AND

CONTROL WIRING BETWEEN UNITS WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE LOCAL DISCONNECT SWITCH (AS SCHEDULED) AT BOTH THE INDOOR AND OUTDOOR UNITS. VFD FURNISHED AND INSTALLED BY KITCHEN EQUIPMENT CONTRACTOR. POWER WIRING FROM SOURCE TO VFD BY DIVISION 26. POWER WIRING BETWEEN VFD AND MOTORS BY DIVISION 26. CONTROL WIRING BY KITCHEN EQUIPMENT CONTRACTOR.

VFD FURNISHED AND INSTALLED BY DIVISION 22. POWER WIRING FROM SOURCE TO VFD BY DIV 26. POWER WIRING BETWEEN VFD AND MOTORS BY DIVISION 26. CONTROL WIRING BY DIVISION 22.

MOTOR CIRCUIT SCHEDULE - BUS GARAGE ONLY (SUPPLEMENTAL BID #2) LOCAL DISC. MOTOR STARTER EQUIPMENT NUMBER PANEL OCP POLES BRANCH CIRCUIT SW SIZE TYRE LOCATION HP MCA FLA MOR PHASE VOLT
RH-1 8 GPL 15 A 1 2#12,#12G., 3/4"C. 1PTS - AT UNIT - 1.0 A - 1 120 V
RH-2 9 GPL 15 A 1 2#12,#12G., 3/4"C. 1PTS - AT UNIT - - 1.0 A - 1 120 V REMARKS , www..... Z#1Z, #1ZG., 3/4°C. 1 TP1S - - YAT UNIT 1 - 1.0 A - 1.0 A

100% CONSTRUCTION DOCUMENTS

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			CAD no.	DCS project no. BI-RT-878 CM-R	OSCGR project no.	E5-1-2

			1	SHOP EQUIPMI		יטטו			<u>.C</u>	
ITEM	DESCRIPTION	DISCONNECT SW/FUSE SIZE @ BUSDUCT INDICATED	CIRCUIT BREAKER SIZE @ PANEL SP-5	BRANCH CIRCUIT	LOCAL DISCONNECT	HP	LO.	AD PH	VOLTS	REMARKS
/HV \06	DRILL PRESS		30A-1P	2#10, #12G, 3/4"C.	C&P		15.0	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
(00) /HV (07)	PEDESTAL GRINDER		20A-1P	2#12, #12G, 3/4"C.	C&P		7.0	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
(HV) \10	POWER SHEAR - 12'	60A-3P/35A		3#8, #10G, 1"C.	60A-3P	5	21.0	3	208	Egon WEITI
/HV \15	PLASMA CUTTER - 4'X4'		35A-2P	2#8, #10G, 1"C.	60A-3P		10.3	1	208	
HV 16	PLASMA CAM		40A-3P	3#8, #10G, 3/4"C.	60A-3P		31.0	3	208	
HV 17	LOCKFORMER		20A-2P	2#10, #12G, 3/4"C.	C&P	1		1	208	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
HV 18	SLIP AND DRIVE	30A-3P/20A		3#12, #12G, 3/4"C.	30A-3P	3	11.8	3	208	Eggi MEIV
HV 26a	SPOT WELDER		50A-2P	2#8, #10G, 1"C.	C&P		25.0	1	208	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
HV 26b	SPOT WELDER		50A-2P	2#8, #10G, 1"C.	C&P		25.0	1	208	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
HV 27a	SPLIT SYSTEM (INDOOR)			2#12, #12G, 3/4"C.	INTEGRAL			1	208	POWERED FROM CONDENSING UNIT
HV 27b	SPLIT SYSTEM (INDOOR)			2#12, #12G, 3/4"C.	INTEGRAL			1	208	POWERED FROM CONDENSING UNIT
HV 27c	SPLIT SYSTEM (INDOOR)			2#12, #12G, 3/4"C.	INTEGRAL			1	208	POWERED FROM CONDENSING UNIT
HV\ 27Aa	SPLIT SYSTEM (OUTDOOR)			2#12, #12G, 3/4"C.	INTEGRAL			1	208	POWERED FROM CONDENSING UNIT
HV\ ?7Ab	SPLIT SYSTEM (OUTDOOR)			2#12, #12G, 3/4"C.	INTEGRAL			1	208	POWERED FROM CONDENSING UNIT
HV\ 7Ac	SPLIT SYSTEM (OUTDOOR)			2#12, #12G, 3/4"C.	INTEGRAL			1	208	POWERED FROM CONDENSING UNIT
HV\	OIL FIRED FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		9.2	1	120	
28A/ HV\	OIL FIRED FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		9.2	1	120	
28B/ HV\	OIL FIRED FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		9.2	1	120	
28C/ HV\	OIL FIRED FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		9.2	1	120	
28D/ HV\	OIL FIRED FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		9.2	1	120	
28E [/] HV\	OIL FIRED FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		9.2	1	120	
28F/ HV\	AIR HANDLER - 2-TON		50A-2P	2#10, #10G, 3/4"C.	60A-3P		21.8	1	208	
<u>29A</u> ∕ HV∖	AIR HANDLER - 2-TON		50A-2P	2#10, #10G, 3/4"C.	60A-3P		21.8	1	208	
29B [/] HV∖	AIR HANDLER - 2-TON		50A-2P	2#10, #10G, 3/4°C.	60A-3P		21.8	1	208	
29C [/] HV\	AIR HANDLER - 2-TON		50A-2P	2#10, #10G, 3/4°C.	60A-3P			1	208	
29D/ HV\				, ,			21.8	•		
30A [/] HV\	AIR HANDLER - 2-TON		50A-2P	2#10, #10G, 3/4"C.	60A-3P		22.0	1	208	
30B) HV\	AIR HANDLER - 2-TON		50A-2P	2#10, #10G, 3/4"C.	60A-3P		22.0	1	208	
31A [/] HV\	GAS FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		4.8	1	120	
31B [/] HV\	GAS FURNACE		15A-1P	2#12, #12G, 3/4"C.	INTEGRAL		4.8	1	120	CONDENSING UNIT POWERS AIR
32A ⁾ HV\	HEAT PUMP		20A-2P	2#12, #12G, 3/4"C.	30A-3P		11.4	1	208	CONDITIONING UNIT CONDENSING UNIT POWERS AIR
32B HV\	HEAT PUMP		20A-2P	2#12, #12G, 3/4"C.	30A-3P		11.4	1	208	CONDITIONING UNIT CONDENSING UNIT POWERS AIR
33A HV\	HEAT PUMP		20A-2P	2#12, #12G, 3/4"C.	30A-3P		11.4	1	208	CONDENSING UNIT FOWERS AIR CONDENSING UNIT POWERS AIR
33B/	HEAT PUMP		20A-2P	2#12, #12G, 3/4"C.	30A-3P		15.0	1	208	CONDITIONING UNIT
HV 34A	GAS FURNACE		20A-1P	2#12, #12G, 3/4"C.	INTEGRAL		15.0	1	120	
HV 34B	GAS FURNACE		20A-1P	2#12, #12G, 3/4"C.	INTEGRAL		15.0	1	120	
/HV\ 35A\	HEAT PUMP		20A-2P	2#12, #12G, 3/4"C.	30A-3P		15.0	1	208	CONDENSING UNIT POWERS AIR CONDITIONING UNIT
/HV 35B	HEAT PUMP		20A-2P	2#12, #12G, 3/4"C.	30A-3P		15.0	1	208	CONDENSING UNIT POWERS AIR CONDITIONING UNIT

		CIRCUIT		LOCAL		LO	AD.		
EM	DESCRIPTION	BREAKER SIZE @ PANEL SP-7	BRANCH CIRCUIT	LOCAL DISCONNECT	HP	AMPS	PH	VOLTS	REMARKS
	WALL HUNG CONDENSING GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. POWER CONSUMPTION: 205W
2	WALL HUNG CONDENSING GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. FUSE SIZE: 15 AMPS
3	WALL HUNG CONDENSING GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. POWER CONSUMPTION: 205W
i)	WALL HUNG GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. FUSE SIZE: 15 AMPS
5	WALL HUNG GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL		6.3	1	120	
5	WALL HUNG CONDENSING GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL		6.0	1	120	
7	STEAM NATURAL GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL		0.20	1	120	
3	OIL BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL		2.5	1	120	
5	GAS BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL	1/6		1	120	MAX. FUSE SIZE: 15 AMPS
	LP BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. FUSE SIZE: 15 AMPS
	OIL BOILER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. FUSE SIZE: 15 AMPS
	OIL WATER HEATER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL			1	120	MAX. FUSE SIZE: 15 AMPS
3	LP WATER HEATER	15A-1P	2#12, #12G, 3/4"C	C&P		3.1	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
	GAS WATER HEATER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL		8.0	1	120	MAX. FUSE SIZE: 10 AMPS
	GAS WATER HEATER	15A-1P	2#12, #12G, 3/4"C	INTEGRAL		8.0	1	120	
	ELECTRIC WATER HEATER	30A-2P	2#10, #12G, 3/4"C	INTEGRAL		21.6	1	208	
	HEAT PUMP ELECTRIC WATER HEATER	30A-2P	2#10, #12G, 3/4"C	INTEGRAL		21.6	1	208	
	MIG WELDER	50A-1P	2#6, #10G, 1"C	C&P		20.0	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
	PLASMA CUTTER	60A-3P PNL MEP1-1	3#6, #10G, 1"C	60A-3P		37.0	3	480	PROVIDE 20A, 208V, 1-PH, 4W CIRCUIT FOR FAN CONTROLLER
5	MIG WELDER	50A-1P	2#6, #10G, 1"C	C&P		24.3	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
5	WELDER	60A-3P PNL MEP1-1	3#6, #10G, 1"C	60A-3P		26.6	3	480	
,	1224 PIPE THEADING MACHINE	25A-1P	2#10, #12G, 3/4"C	C&P	1 1/2	20.0	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
	535 PIPE THREADING MACHINE	20A-1P	2#12, #12G, 3/4"C	C&P	1/2	9.8	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
	300 PIPE THREADING MACHINE	20A-1P	2#12, #12G, 3/4"C	C&P	1/2	9.8	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
	PEDESTAL GRINDER	20A-1P	2#12, #12G, 3/4"C	C&P	3/4	7.0	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
1)	DRILL PRESS	20A-1P	2#12, #12G, 3/4"C.	C&P	1	15.0	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
9	SUMP PIT EJECTOR PUMP	20A-1P	2#12, #12G, 3/4"C.	C&P			1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT
	PORTABLE PLASMA CUTTER	20A-1P	2#12, #12G, 3/4"C.	C&P		10	1	120	PROVIDE RECEPTACLE TO MATCH EQUIPMENT

DESCRIPTION	DISCONNECT SW/FUSE SIZE	CIRCUIT BREAKER	DDANICH CIDCUIT	LOCAL		LO	AD	
DESCRIPTION	@ BUSDUCT INDICATED	SIZE @ PANEL SP-4	BRANCH CIRCUIT	DISCONNECT	HP	AMPS	PH	VOLT
KNEE MILL	30A-3P/25A (BD-B)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-B)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
KNEE MILL	30A-3P/25A (BD-A)		3#10, #10G, 3/4"C.	INTEGRAL	3		3	208
CNC TOOLROOM LATHE	60A-3P/40A (BD-B)		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A (BD-B)		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A (BD-B)		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A (BD-B)		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC TOOLROOM LATHE	60A-3P/40A		2#8, #10G, 1"C.	INTEGRAL	10		1	208
CNC LATHE MACHINE	100A-3P/70A		3#8, #10G, 1"C.	INTEGRAL	15		3	208
TOOLROOM MILL	100A-3P/70A		3#4, #8G, 1 1/4"C.	INTEGRAL	15		3	208
TOOLROOM MILL	100A-3P/70A		3#4, #8G, 1 1/4"C.	INTEGRAL	15		3	208
SURFACE GRINDER	30A-3P/25A		3#12, #12G, 3/4"C.	30A-3P	7.5		3	208
SURFACE GRINDER	30A-3P/25A		3#12, #12G, 3/4"C.	30A-3P	7.5		3	208
SURFACE GRINDER	30A-3P/25A		3#12, #12G, 3/4"C.	30A-3P	7.5		3	208
SURFACE GRINDER	30A-3P/25A		3#12, #12G, 3/4"C.	30A-3P	7.5		3	208
MINI MILL	60A-3P/40A		3#8, #10G, 1"C.	INTEGRAL	7.5		3	208
SUPER MINI MILL	100A-3P/70A		3#4, #8G, 1 1/4"C.	INTEGRAL	15		3	208
CNC TURNING CENTER	60A-3P/40A		3#8, #10G, 1"C.	INTEGRAL	8		3	208
CNC TURNING CENTER	60A-3P/40A		3#8, #10G, 1"C.	INTEGRAL	8		3	208
CNC TURNING CENTER	60A-3P/40A		3#8, #10G, 1"C.	INTEGRAL	8		3	208
CNC LATHE	60A-3P/40A		3#8, #10G, 1"C.	INTEGRAL		20	3	208
CNC TURNING CENTER	100A-3P/70A		3#4, #8G, 1 1/4"C.	INTEGRAL	15		3	208
CNC TURNING CENTER	100A-3P/70A		3#4, #8G, 1 1/4"C.	INTEGRAL	15		3	208
POWER SAW	(BD-C)	20A-3P	3#12, #12G, 3/4"C.	30A-3P	2		3	208
VERTICAL BAND SAW		20A-3P	3#12, #12G, 3/4"C.	30A-3P	3		3	208
EDM		20A-3P	3#6, #10, 1"C.	30A-3P		7	3	208
DUST COLLECTOR		20A-1P	2#12, #12G, 3/4"C.	C&P	0.5		1	120
DUST COLLECTOR		20A-1P	2#12, #12G, 3/4"C.	C&P	0.5		1	120
DUST COLLECTOR		20A-1P	2#12, #12G, 3/4"C.	C&P	0.5		1	120
DUST COLLECTOR		20A-1P	2#12, #12G, 3/4"C.	C&P	0.5		1	120
	100A-3P/70A			1				208
CNC LATHE	(BD-C)		3#4, #8G, 1 1/4"C.	INTEGRAL	7.5		3	2
	KNEE MILL CNC TOOLROOM LATHE CNC TOOLROOM MILL TOOLROOM MILL SURFACE GRINDER SURFACE GRINDER SURFACE GRINDER SURFACE GRINDER SURFACE GRINDER CNC TURNING CENTER CNC TURNING CEN	DESCRIPTION SW/FUSE SIZE	DESCRIPTION	DESCRIPTION SWFUSS IZE SIZE SIZE SIZE SIZE SIZE PANEL SP-4 KNEE MILL 30A-3PIZSA - 3#10, #10G, 34*C. KNEE MILL 30A-3PIZSA - 3#10, #10G, 1*C. KNEE MILL 30A-3PIZSA - 3#10, #10G, 1*C. COC TOOLROOM LATHE 30A-3PIZSA - 3#10, #10G, 1*C. COC TOOLROOM LATHE 30A-3PIZSA - 3#10G, 1*C. COC TOOLROOM LATHE 30A-3PIZSA - 2#8, #10G, 1*C. COC TOOLROOM LATHE 30A-3PIZSA - 2#8, #10G, 1*C. COC TOOLROOM LATHE 30A-3PIZSA - 2#8, #10G, 1*C. COC TOOLROOM LATHE 30A-3PIZSA - 3#12, #12G, 34*C. COC TOOLROOM LATHE 30A-3PIZS	DESCRIPTION SWIFTURE SUB- BRANCH CIRCUIT DISCONNECT REDISCOUNT PARTE SPACE SP	DESCRIPTION SWIFFLISS SIZE BREAKER SHOULD SECONNECT HPP	DESCRIPTION SIMPLE SIMPLE BRANCH GIROLT DIOCALE DIA MIPS MIPS	DESCRIPTION SWANDS SUR SUR SWANDS SWAN

ITEM	DESCRIPTION	DISCONNECT SW/FUSE SIZE	CIRCUIT BREAKER	BRANCH CIRCUIT	LOCAL		LO	AD	
I I EIVI	DESCRIPTION	@ BUSDUCT INDICATED	SIZE @ PANEL SP-2	BRANCH CIRCUIT	DISCONNECT	HP	AMPS	PH	VOLTS
CP 01	NORTHFIELD 30" PLANER	100A-3P/70AF (BD-B)		3#3, 8G, 1-1/4"C	100A-3P		37	3	208
CP 02	JOINTER 8"	30A-3P/20AF (BD-A)		3#10, #12G, 3/4"C	30A-3P		10	3	208
CP 03	STRIAGHTLINE RIP SAW 10"	60A-3P/50AF (BD-C)		3#6, #10, 1"C	60A-3P		30	3	208
$\left\langle \begin{array}{c} CP\\04 \end{array} \right\rangle$	10" TABLE SAW 36" RIP	60A-3P/35AF (BD-C)		3#6, #10, 1"C	60A-3P		15	3	208
$\left\langle \begin{array}{c} CP \\ 05 \end{array} \right\rangle$	10" TABLE SAW 52" RIP	60A-3P/35AF (BD-C)		3#6, #10, 1"C	60A-3P		15	3	208
$\left\langle \begin{array}{c} CP\\06 \end{array} \right\rangle$	BAND SAW 20"	30A-3P/20AF (BD-C)		3#10, #12G, 3/4"C	30A-3P		10	3	208
CP 07	BAND SAW 27"	30A-3P/20AF (BD-A)		3#10, #12G, 3/4"C	30A-3P		10	3	208
CP 08	HOLLOW CHISEL MORTISER	30A-3P/20AF (BD-A)		3#10, #12G, 3/4"C	30A-3P		10	1	208
$\langle \frac{CP}{09A} \rangle$	DRILL PRESS		20A-1P	2#12, #12G, 3/4"C	C&P		5	1	120
⟨CP⟩ 09B⟩	DRILL PRESS		20A-1P	2#12, #12G, 3/4"C	C&P		5	1	120
CP 11	PEDESTAL GRINDER/ SHARPENER		20A-1P	2#12, #12G, 3/4"C	C&P		4	1	120
$\langle \frac{CP}{13A} \rangle$	BAND SAW 14"		20A-1P	2#12, #12G, 3/4"C	C&P		10	1	120
⟨ <u>CP</u> ⟩	BAND SAW 14"		20A-1P	2#12, #12G, 3/4"C	C&P		10	1	120
$\left\langle \begin{array}{c} CP \\ 14 \end{array} \right\rangle$	18" UPCUT/RADIAL SAW	60A-3P/50AF (BD-A)		3#6, #10G, 1"C	60A-3P		30	3	208
$\left\langle \begin{array}{c} CP \\ 15 \end{array} \right\rangle$	COPY LATHE	60A-3P/50AF (BD-C)		3#6, #10G, 1"C	60A-3P		29	3	208
⟨CP⟩ 17A⟩	SCROLL SAW		20A-1P	2#12, #12G, 3/4"C	C&P		8	1	120
⟨CP⟩ 17B⟩	SCROLL SAW		20A-1P	2#12, #12G, 3/4"C	C&P		8	1	120
CP 19	VERTICAL PANEL SAW	30A-3P/25AF (BD-C)		3#10, #12G, 3/4"C	30A-3P		15	3	208
$\langle \overline{CP} \rangle$	JOINTER 16"	30A-3P/30AF (BD-B)		3#10, #12G, 3/4"C	30A-3P		20	3	208
CP 22	COMB EDGE/SPINDLE SANDER	30A-3P/25AF (BD-B)		3#10, #12G, 3/4"C	30A-3P		18	3	208
CP 23	DOOR MACHINE		60A-3P	3#6, #10G, 1"C	60A-3P		36	3	208
CP 24	WIDE BELT SANDER 37"	100A-3P/100AF (BD-B)		3#3, #8G, 1-1/2"C	100A-3P		63	3	208
CP 26	CNC ROUTER*		110A-3P 80A-3P	3#2, #8G, 1-1/2"C 3#4, #8G, 1-1/4"C	200A-3P 100A-3P		70 46	3	480
CP 28	EDGE BANDING PACKAGE		20A-3P	3#12, #12G, 3/4"C	30A-3P	1		3	208

20A-1P 2#12, #12G, 3/4"C. C&P -- 1 120

*CNC ROUTER REQUIRES (2) FEEDS: 110A-3P IS FOR THE MACHINE, 80A-3P IS FOR VACUUM PUMP.

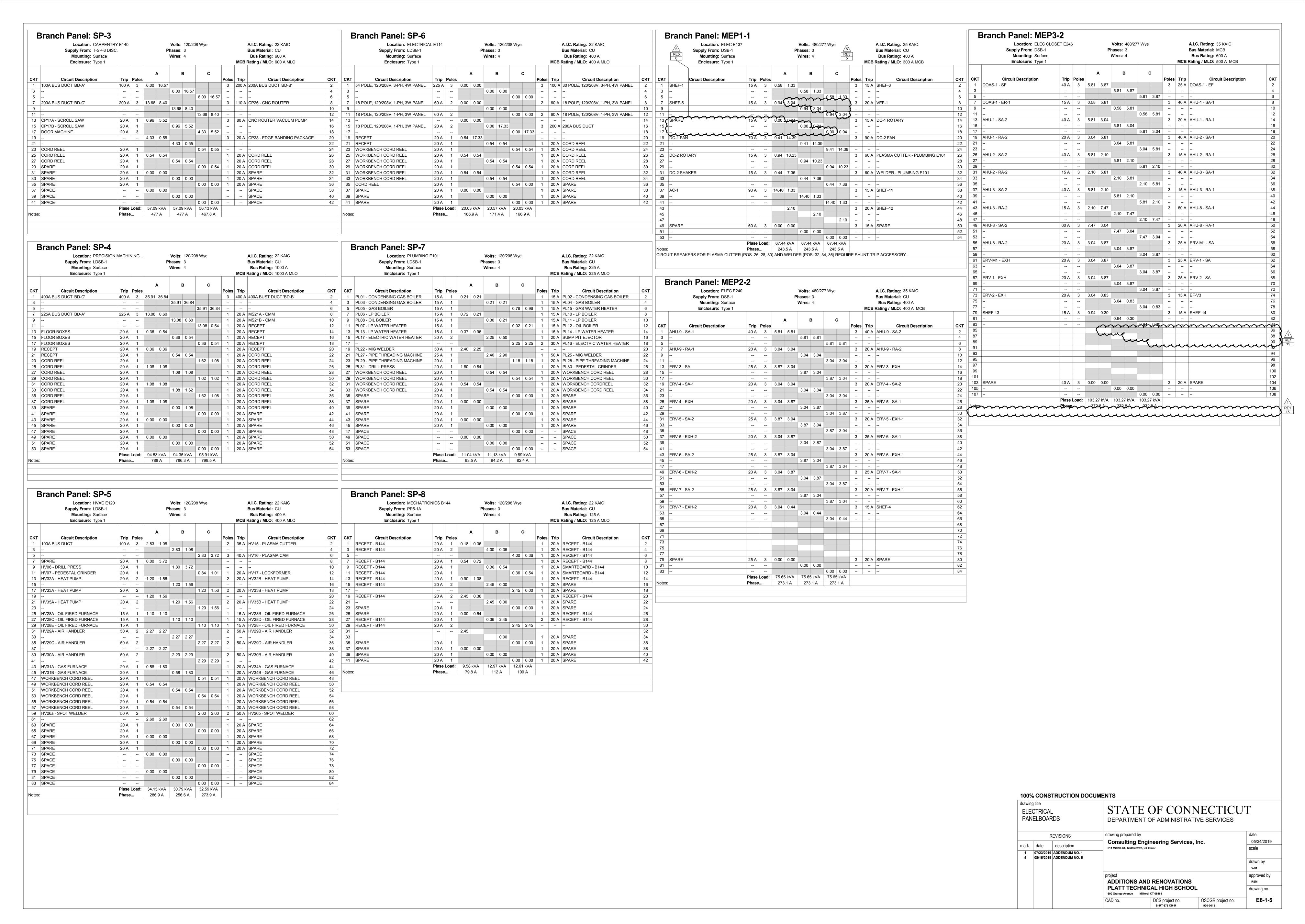
	LADONATO		P EQUIPMEN	TOOTILDO	, L L -	- AU I	O IV		<u>.</u>
TEM	DESCRIPTION	CIRCUIT BREAKER SIZE @ PANEL SP-1	BRANCH CIRCUIT	LOCAL DISCONNECT	HP	LOA	AD ——— PH	VOLTS	REMARKS
AT\	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	PROVIDE TWIST LOCK CONNE
01A [/] /AT\	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	WITH BUS CABLE DROP FROM OVERHEAD JUNCTION BOX -
01B [/] AT\	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	TERMINATE WITH NEMA L6-20 SEE PLANS FOR ADDITIONAL
01C/ AT\							<u> </u>		REQUIREMENTS (TYP. FOR 8 L
01D ⁾ /AT\	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	
01E AT	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	
<u>\01F</u> /	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	5
AT 01G	ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	RE5 4
(AT) 02	ALIGNMENT LIFT	35A-2P	2#10, #10G, 3/4"C.	60A-3P		26.0	1	208	CONTROL CONSOLE SEPERATE FROM LIFT. SEE NOTE EP4 ON DRAWING E2-1-1F FOR ADDITI INFORMATION.
AT 03	ALIGNMENT MACHINE - SENSORS AND PC	20A-1P	2#12, #12G, 3/4"C.	C&P		20.0	1	120	PROVIDE NEMA 5-20R
AT 05	TIRE CHANGER	20A-2P	2#12, #12G, 3/4"C.	C&P		15.0	1	208	PROVIDE NEMA L6-20R
AT 06	TIRE BALANCER	20A-2P	2#12, #12G, 3/4"C.	C&P		10.0	1	208	PROVIDE NEMA L6-20R
AT 07A	BRAKE LATHE	20A-1P	2#12, #12G, 3/4"C.	C&P		16.0	1	120	PROVIDE NEMA 5-20R
AT 07B	BRAKE LATHE	20A-1P	2#12, #12G, 3/4"C.	C&P		16.0	1	120	PROVIDE NEMA 5-20R
AT 08A	DRILL PRESS	20A-1P	2#12, #12G, 3/4"C.	C&P	1	15.0	1	120	PROVIDE NEMA 5-20R
AT 08B	DRILL PRESS	20A-1P	2#12, #12G, 3/4"C.	C&P	1	15.0	1	120	PROVIDE NEMA 5-20R
AT 09	HYDRAULIC PRESS	20-1P	2#12, #12G, 3/4"C.	C&P			1	120	PROVIDE NEMA 5-20R
AT 10A	PEDESTAL GRINDER	20A-1P	2#12, #12G, 3/4"C.	C&P	.75	7.0	1	120	PROVIDE NEMA 5-20R
AT 10B	PEDESTAL GRINDER	20A-1P	2#12, #12G, 3/4"C.	C&P	.75	7.0	1	120	PROVIDE NEMA 5-20R
/AT \ 11 \	HEAVY-DUTY ABOVE GROUND LIFT	20A-2P	2#12, #12G, 3/4"C.	C&P	2	13.2	1	208	SEE REMARKS FOR ABOVE GROUND LIFTS
AT 13A	MIG WELDER	50A-1P	2#8, #10G, 1"C.	C&P		20.0	1	120	PROVIDE RECEPTACLE TO MA
AT 13B	MIG WELDER	50A-1P	2#8, #10G, 1"C.	C&P		20.0	1	120	PROVIDE RECEPTACLE TO MA
AT 14	TIRE BALANCER	20A-2P	2#12, #12G, 3/4"C.	C&P		3.0	1	208	PROVIDE NEMA L6-20R
AT 15	TIRE CHANGER	20A-2P	2#12, #12G, 3/4"C.	C&P		20.0	1	208	PROVIDE NEMA L6-20R
AT 16	PORTABLE LIFT	20A-1P	2#12, #12G, 3/4"C.	C&P		20.0	1	120	PROVIDE NEMA 5-20R
AT 17	SAND BLAST CABINET	20A-1P	2#12, #12G, 3/4"C.	C&P		20.0	1	120	PROVIDE NEMA 5-20R
AT \ 18	ON-CAR ROTOR LATHE	20A-1P	2#12, #12G, 3/4"C.	C&P		20.0	1	120	PROVIDE NEMA 5-20R
AT 19	MIG WELDER	50A-2P	2#8, #10G, 1"C.	C&P		19.2	1	208	PROVIDE NEMA L6-50R

LABORATORY + SHOP EQUIPMENT SCHEDULE - AUTO COLLISION									
ITEM	DESCRIPTION	DESCRIPTION CIRCUIT BREAKER BRANCH CIRCUIT BROOMING			LOAD				REMARKS
I I LIVI	DESCRIPTION	SIZE @ PANEL SP-2	BIVANOITCINGOIT	DISCONNECT	HP	AMPS	PH	VOLTS	KLIWAKKO
AB 01	LIFT	25A-2P	2#10, 1#12G, 3/4"C	30A-3P	2		1	208	
AB 03	WELDING BENCH WITH HOOD EXHAUST	XX-XX	XX-XX	XX-XX	XX	xx	1	120	
$\left\langle \overline{AB} \right\rangle$	MINI SPRAY BOOTH EXHAUST	20A-3P	3#12, #12G, 3/4"C	30A-3P	2		3	208	
AB 04a	MINI SPRAY BOOTH LIGHTS	20A-1P	2#12, #12G, 3/4"C			4.0	1	120	
AB 05	SPRAY BOOTH								EQUIPMENT BY OWNER
AB 05a	SPRAY BOOTH INTAKE/EXHAUST	55A-3P	3#6, #10G, 1"	60A-3P	7.5/5	43.9	3	208	55.0 MCA, SINGLE-POINT CONNECTION, INTAKE AND EXHAUST
AB 05b	SPRAY BOOTH LIGHTS	30A-1P	2#10, #10G, 3/4"C			30.0	1	120	
AB 05A	PAINT MIXING ROOM								EQUIPMENT BY OWNER
√AB \ 0 <u>5A</u> a	PAINT MIXING ROOM EXHAUST	20A-1P	2#12, #12G, 3/4"C	MAN	0.5	9.8	1	120	
AB\ 05Ab	PAINT MIXING ROOM LIGHTS	20A-1P	2#12, #12G, 3/4"C			2.0	1	120	
AB 06	PREP BOOTH								EQUIPMENT BY OWNER
AB 06a	PREP BOOTH INTAKE/EXHAUST	55A-3P	3#6, #10G, 1"	60A-3P	7.5/5	43.9	3	208	55.0 MCA, SINGLE-POINT CONNECTION, INTAKE AND EXHAUST
$\left\langle \overline{AB} \right\rangle$	PREP BOOTH LIGHTS	30A-1P	2#10, #10G, 3/4"C		-	30.0	1	120	
$\left\langle \begin{array}{c} AB \\ 07 \end{array} \right\rangle$	PEDESTAL GRINDER	20A-1P	2#12, #12G, 3/4"C	C&P	.75	13.0	1	120	PROVIDE NEMA 5-20R
AB 08	DRILL PRESS	20A-1P	2#12, #12G, 3/4"C	C&P	1	15.0	1	120	PROVIDE NEMA 5-20R
AB 09	SAND BLAST CABINET	20A-1P	2#12, #12G, 3/4"C	C&P		1.0	1	120	PROVIDE NEMA 5-20R
$\left\langle \overline{AB} \right\rangle$	MIG WELDER	50A-2P	2#8, #10G, 3/4"C	C&P		19.2	1	208	PROVIDE NEMA L6-50R

SHOP EQUIPMENT SCHEDULE NOTES

- 1. REFER TO EQUIPMENT DRAWINGS AND SCHEDULES FOR ADDITIONAL INFORMATION.
- 2. COORDINATE ALL CONNECTIONS WITH SHOP EQUIPMENT INSTALLATION. 3. COORDINATE ALL RECEPTACLE TYPES AND RATINGS WITH SHOP EQUIPMENT PRIOR TO INSTALLATION.
- 4. C&P = CORD AND PLUG CONNECTION. 5. MAN = MANUAL STARTER (TOGGLE SWITCH WITH THERMAL OVERLOADS).

100%	6 CONS	TRUCTION DOCU	IMENIS					
	CTRICAL	TRADE SHOP SCHEDULES		E OF CON	NECTICU ATIVE SERVICES	JT		
	R	EVISIONS	drawing prepared by			date		
			Consulting E	Consulting Engineering Services, Inc.				
mark date description 811 Middle St., Middletown, CT 06457				CT 06457		scale		
5	08/15/2019	ADDENDUM NO. 5				N.T.S.		
						VJM		
			project ADDITIONS A	project ADDITIONS AND RENOVATIONS				
				NICAL HIGH SCHO lford, CT 06461	OL	drawing no.		
			CAD no.	DCS project no.	OSCGR project no.	E5-1-3		



		Question / Assumption	DWG REF in	SPEC REF in	
A alala sa alsosa			Question and/or	Question and/or	DECODARCE
Addendum ADD-5	5-01	Does the work shown on C-630 with details on C-631 fall in the SB1 Bid?	Answer	Answer	The work shown on sheets C-630 and C-631 pertains to Supplemental Bid No. 1.
ADD-5	5-02	The specified Efco D300 Aluminum door for the interior Storefronts are 1 ¾" door thickness . The door schedule for some of the interior door list the door thickness as 2" . Can you confirm that all interior Aluminum doors are 1 ¾" thick?		Bid Package No.8 Windows	Refer to Addendum No.3, Item ADD 3019 & ADD3-011. Door Series is a 2" thick door.
ADD-5	5-03	Please verify that all gas piping, valves, fittings & regulators will be furnished and installed by the plumbing contractor up to and including connection to HVAC mechanical equipment?		Bid Package No. 15 Plumbing Bid Package No.16 HVAC	Natural gas and propane piping is shown on Plumbing Drawings and is specified in Section 221123. If piping is shown on Mech drawings, it is for coordination purposes.
ADD-5	5-04	Curtainwall supplier in regards to UValue & building code: The specs do not call out the thermal requirements, only that they must meet the values required by code. Do you know what UValue will be required by the building code? The basis of design is the equivalent of our standard curtainwall and I just want to make sure we are not going to have any issues meeting the UValue with it.		Curtainwall	Refer to Addendum No.5.
ADD-5	5-05	Precast Wall Elevations indicate the Top of Slab @ Shop Level @ el. 97'-0" and the Mezzanine Level @ el. 106'-6" which match the elevations noted on the Structural layout drawings. However there appears to be a discrepancy between the drawings in the elevation of the Roof Precast Datum elevation and the Low Roof Precast Datum elevation. a. Precast wall elevations show Low Roof Precast Datum Elevation @ el. 116'-8" and Structural layout drawing S1-1-2E indicates the top of precast members @ el. 117'-8". Please advise. b. Precast wall elevations show Roof Precast Datum Elevation @ el. 130'-11" and Structural layout drawing S1-1-3E indicates top of precast members @ el. 131'-11". Please advise.	S2-3-1 S2-3-2	Pre-cast	Refer to Addendum No.5.
ADD-5	5-06	Equal or Substitution Request: Section 11 68 43.03, Baseball & Softball Scoreboards Electro-Mech Scoreboard LX1620 submitted for consideration as an equal to OES Scoreboards Model 7928.		11 68 43.03 Baseball & Softball Scoreboards	Specification to remain with the three scoreboard manufactures as specified.

		Question / Assumption	DWG REF in	SPEC REF in	
			Question and/or	Question and/or	
Addendum	Item		Answer	Answer	RESPONSE
ADD-5	5-07	Equal or Substitution Request: Section 11 68 43.06, Football Scoreboard Electro-Mech Scoreboard LX3340 submitted for consideration as an equal to Daktronics FB-2018.		11 68 43.06 Multisport Scoreboards	Specification to remain with the three scoreboard manufactures as specified.
ADD-5	5-08	Equal or Substitution Request: Section 11 66 43, Basketball Scoreboards Electro-Mech Scoreboard LX2665-1ft & LX 2160 submitted for consideration as an equal to Daktronics BB-2155 & BB-2114.		11 66 43 Scoreboards	Specification to remain with the three scoreboard manufactures as specified.
ADD-5	5-09	Please confirm that the Dust Collector systems (Dust Collectors, Fans & Cyclone Separators) shown on M1-1-1E, M1-1-ME, M1-1-MF & M1-2-1E are to be furnished and installed by the HVAC Contractor with any and all electrical work performed by the Electrical Contractor?	M1-1-1E M1-1-ME M1-1-MF M1-2-1	23 34 00	Duct collectors and accessories are shown on the Mechanical Drawings and specified in Sections 233100 and 232400. Electrical power to support the equipment (i.e. motors and power to control panels) is shown on the Electrical Drawings. Control wiring for the equipment is shown on Drawing M5-1-1 through M5-1-4.
ADD-5	5-10	Please verify that the Food Service Contractor will be furnishing and installing all Kitchen Hoods, and the HVAC Contractor/sheet metal subcontractor is only responsible for furnishing and installing any ductwork tie-ins to the kitchen hoods?			Mechanical Drawings and specifications outline scope of work for ductwork; the hoods are not specified in Division 23.
ADD-5	5-11	For clarity purposes amongst the sheet metal subcontractors and the HVAC piping contractors, could you clarify which specific flues/combustion air systems should be installed using Schedule 40 PVC? All other spec'd material would be by the sheet metal contractor, but trying to organize the few PVC systems that would be installed by the HVAC Contractor? Some of the spec'd condensing appliances (PVC) seem to also correlate to the spec'd vent/combustion air for IDF fans (double wall S.S. & galvanized per other spec paragraph).			Refer to Addendum No. 5.
ADD-5	5-12	Addendum 3 has updated the scope for Platt to impact. The Addendum continued to call out the doors as Thermal. However, if we are using impact systems the doors need to be switched to impact as well. The impact doors testing does include the specified hardware, which we will need to provide in order for the testing to be applicable but as you know the hardware sets include custom hardware. Would you like for		08 41 10 08 44 10	Refer to Addendum No.5.

Addendum	Item	Question / Assumption	DWG REF in Question and/or Answer	SPEC REF in Question and/or Answer	RESPONSE
ADD-5	5-13	The Addendum continued to call out the doors as Thermal, but if we are using impact systems we will need to switch the doors to impact as well. The impact doors testing does include specified hardware, which we will need to provide in order for the testing to be applicable but as you know the hardware sets include custom hardware. Would you like for us to provide tested hardware, or just preps for the custom hardware sets and qualify? Tested hardware is attached.		08 41 10 08 44 10	Refer to Addendum No.4 and No.5
ADD-5	5-14	Drawing A4-1-4 Toilet Accessory Schedule CH -Coat Hook It calls for hooks to be installed in all offices, please clarify which offices.	A4-1-4		Refer to Addendum No.5
ADD-5	5-15	Alternate # 2 Free Standing Garage Building and all associated Utilities: Section 13 34 19 refers to Alternate #2 Free Standing Garage Building, 1.2 A.1 D. Doors & Frames. Question: Are the Overhead Doors included in the General Trades Scope of work? Which trade is handling the Prewire connections or is the Electrical package responsible for the prewire aspect?		13 34 19	Yes, the Overhead Doors are included with the General Trades Bid Package. Electrical Bid Package Sub-contractor to Electrical shown on Electrical Drawings for these doors. General Trades to provide all other Electrical work required to complet the doors to ensure they are functional. ELECTRICAL BID PACAKGE SUBCONTRACTOR TO ELECTRICAL
ADD-5	5-16	Please confirm that the fire protection subcontractor provides all tamper, flow and electric bells only and the electrical subcontractor provides all 120 VAC and fire alarm wiring from those devises.			The scope as described is correct.

		Question / Assumption	DWG REF in	SPEC REF in	
			Question and/or	Question and/or	
Addendum	Item		Answer	Answer	RESPONSE
ADD-5	5-17	Section 075400 1.9.B, warranty is specified for "wind speed as required by Code or as indicated on the Drawings." The are NO requirement for manufacturer's warranties in the building code "On the Drawings" would bring you back to Dwg S0-0, (criteria used for ASCE 7-10 calculations – code related)DESIGN PARAMETERS - LIVE, WIND, SNOW, AND EARTHQUAKE that correctly notes 135 mph v.ult for code related DESIGN windspeed (from Appendix N in current CT code for Risk Category III Building) Since no membrane roof manufacturers offer 135 mph warranties as standard, and since the design/installation enhancements would be cost-prohibitive, I doubt this was the intent Also important to recognize that every low slope roof manufacturer's warranty has a hurricane disclaimer, that essentially means that any winds over 72 mph become an insurance claim rather than compensation via manufacturer's warranty If possible, can a reasonable an attainable windspeed warranty be added to Warranty Section 1.9.B in next (last) Addendum? (note: none of this would impact the FM wind requirements, that will overlay whatever the manufacturer's warranty requirements are – contractor needs to cover both)		07 54 00	Refer to Addendum No.5.
ADD-5	5-18	Re: Precast wall thickness along grid line '3' Addendum #3 - Indicates p/c wall along grid line '3' to be 12" thick - indicated in Detail F1 on drawing S3-2-2. Addendum #4 - Indicates p/c wall along grid line '3' to be 15" thick - indicated in Details R1, R2, R3 on drawing S5-2-2 & Detail R2 on drawing S5-2-3.		Pre-cast	Refer to Addendum No.5
ADD-5	5-19	Per the information on S0-0-1 Wind Data Box Ultimate Basic Velocity Pressure we will use 38.8 PSF for the wind load. Advise if incorrect.		08 45 23 Fiberglass-Sandwich- Panel Assemblies	Structural drawing S0-0-1 was re-issued in Addendum No.1. The chart entitled "Components and Cladding Design Wind Pressures (PSF) Magnified Loads for Use with FM 1-28 Designs" applies to wall cladding materials, such as Fiberglass Sandwich-Panel Assemblies.

Addendum ADD-5	Item 5-20		Question and/or Answer	SPEC REF in Question and/or Answer 08 45 23 Fiberglass-Sandwich- Panel Assemblies	RESPONSE Refer to Addendum No.5
ADD-5	5-21	with FM requirements. Note that the change of face sheets in Addendum #4 will void out the Hiimpact and Missile D changes given in Addendum #3.		08 45 23 Fiberglass-Sandwich- Panel Assemblies	Refer to Addendum No.5
ADD-5	5-22	Since AC-177 is not listed as the acceptance panel criteria we will use L/60 for the deflection as noted in the spec.		08 45 23 Fiberglass-Sandwich- Panel Assemblies	Refer to Addendum No.5