



CONSTRUCTION MANAGEMENT  
OWNER'S REPRESENTATIVE  
CONSULTING

56 Lafayette Avenue, Suite 350  
White Plains, NY 10603  
Tel: 914-682-9423  
Fax: 914-682-9420  
[dchen@calgiconstruction.com](mailto:dchen@calgiconstruction.com)  
[www.calgiconstruction.com](http://www.calgiconstruction.com)

## MEMORANDUM ADDENDUM #2

**TO:** All Bidders  
**FROM:** David Chen  
**DATE:** April 7, 2021  
**RE:** Reconstruction to the Dobbs Ferry Springhurst Elementary School and Middle/High

**Addendum #2 consists of 34 pages including this cover sheet**

Attached for your review and information is **ADDENDUM # 2** consisting of Clarifications and Additions to:

- Drawings and Specifications Issued March 15, 2021

### **BID DUE DATE REMINDER**

**Bid Due: Monday, April 12, 2021 4:00 PM**

### **Base Bid "Allowances" Reminder:**

**Refer to Division 01 Section 01 21 00 "Allowances" for description of allowances to be included in each Prime Contractor's Base Bid Sum.**

**MANDATORY: Please sign your name and company below acknowledging receipt of Addendum #2, and email this form back to Calgi Construction Management. (Email: [dchen@calgiconstruction.com](mailto:dchen@calgiconstruction.com))**

Addendum #2 Acknowledgement: \_\_\_\_\_  
Name Company

*Celebrating a Century of Construction Services*

## **ADDENDUM NO. 2 dated April 7, 2021**

### **Reconstruction to the Dobbs Ferry Springhurst Elementary School and Middle/High**

This Addendum forms part of the Contract Documents and modifies the original bidding documents issued for bid. Such modifications shall be incorporated into the Contract Documents as if they had been included in the original bidding documents. Except as may be modified herein, all portions of the Contract Documents shall remain in full force and effect. Any term used herein with initial capital letters that is not otherwise defined herein shall have the same meaning ascribed to such term as defined in the Contract Documents.

### **BIDDERS MUST ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY INDICATES ON THE BID FORM THE NUMBERS RECEIVED.**

#### **I. CLARIFICATIONS:**

- See Attached Bid Addendum No. 2 provided by Tetra Tech Architects and Engineers

#### **II. PROCUREMENT AND CONTRACTING REQUIREMENTS EDITS AND REPLACEMENTS**

- See Attached Bid Addendum No. 2 provided by Tetra Tech Architects and Engineers

#### **III. SPECIFICATION EDITS AND ADDITIONS**

- See Attached Bid Addendum No. 2 provided by Tetra Tech Architects and Engineers

#### **IV. DRAWING**

- See Attached Revised Drawing TL111
- See Attached Bid Addendum No. 2 provided by Tetra Tech Architects and Engineers

#### **V. CONTRACTORS' QUESTIONS AND RESPONSES**

1. **QUESTION:** We're bidding Contract SES-2 (SC) Site Work Construction and I noticed that there is a significant Site Work portion at the middle school site. Please let me know if the MHS-1 (GC) General Construction contract is covering that in their contract, or am I missing a Middle/HS contract/scope of work? I just want to make sure that I'm not missing anything.

**RESPONSE:** Site Work for Middle/High School Project is part of the MHS-1(GC) Contract.

2. **QUESTION:** Please clarify if a Builder's Risk Policy is needed. If so we need information as to what this policy would cover and what the total completed value should be. Please clarify if the Asbestos Abatement Insurance is needed.

**RESPONSE:** Both Builders Risk and Asbestos Abatement Insurance is needed. Please see General Conditions and Supplemental General Conditions Section 00 60 20 for description of coverages needed. The completed value should be based on bid/contract amount.

3. **QUESTION:** Reference Drawing Plate TL111: The Box Schedule has 154 + 254 as X2-L. The Control Riser has 154+254 as X3-M. Verify.

**RESPONSE:** Use X3-M there is no X2-L faceplate on sheet TL131

4. **QUESTION:** Reference TL-151. Which specification section is responsible for the 2-port Ethernet nodes? Specification 116191 or 266111?

**RESPONSE:** Utilize rack nodes for the light plot ENET in box schedule should be changed to DMX.

5. **QUESTION:** Reference TL111. Clarify the following requirements for 'DMX NODES (16) / DMX NODES (8)'. Are you requiring (24) RSN-DMX4-T or (6) RSN-DMX4-T each with four terminal DMX outputs?

**RESPONSE:** 24 DMX out/in configurable and universe addressable at the rack. See note above ENET on stage electrics should be DMX.

6. **QUESTION:** Reference 116191 Are the LED Strip Light/Cyc Light Fixtures Multi-Color to be ColorSource Linear 2 or ChromaQ LED? If ChromaQ is required define model/ length.

**RESPONSE:** See Spec Section 11 61 91 in Bid Specifications. Section 2.3/B/F notes the cyc lights as Colorsource Linear 2 ( 1 meter) (deep blue)

7. **QUESTION:** TL111: Verify the devices JB are the ColorSource Raceway junction boxes or provide model number

**RESPONSE:** Devices are not in Colorsource raceways. Colorsource Raceway requires separate power circuit for DMX active splitter which we do not have. Provide boxes as single gang DMX receptacles mounted to Colorsource Raceway.

8. **QUESTION:** Reference TL111: Is device 159/HL-1 required as new?

**RESPONSE:** Yes

9. **QUESTION:** Reference TL111: Is device 256/HLM-D required as new?

**RESPONSE:** Yes

10. **QUESTION:** Reference BE600 – RELAY RACK, HOUSELT RACK, RELAY RACK each receiving 100A three phase power in Panelboard AUD. Riser TL111 indicates Relay Panel #1 and #2 each receiving 200A power feeds. Please verify the power feeds required for these racks.

**RESPONSE:** Each relay panel to be wired for 200A 3ph 208v infeed power as shown on the riser. There is a total of 300A 208v 3ph to feed both also shown on the riser. Either panel needs to be able to pull a full 200A load, but not both simultaneously. Simultaneously they can only pull 300A minus whatever the house light dimmer rack is pulling

11. **QUESTION:** Reference TL111 Dimmer #1. Please provide rack model number, rack panel schedule, and dimmer module type assignments.

**RESPONSE:** Dimmer #1 is envisioned as an ETC Drd or equivalent series rack with space for up to 12 dimmer modules for controlling the existing house lights circuits when fitted with new LED lamps. Type of module will depend on type of lamp chosen.

12. **QUESTION:** Reference TL111 states Emergency Power – See Electrical Drawings. No Emergency power requirements are located on the Electrical Drawings. Please confirm there are no emergency power or DMX signal management requirements for the TPC system.

**RESPONSE:** The entire dimmer rack #1 should be assumed to be on emergency power for lighting and should be equipped and programmed upon loss of signal to take the fixtures to full. Provide ELTS if required.

13. **QUESTION:** Reference 116191-K: Confirm there are no requirements for Multicables, Break-outs, Fan-outs, and Break-ins in this contract as they are not detailed on the 3.11 Schedule.

**RESPONSE:** Correct, not required. Fixtures utilize daisy chained cabling and raceway as indicated in the drawings.

**END OF ADDENDUM No. 2**

XREFS = TPC-14401;TP-14402;TP-SECTION-CENTERLINE;171651B;AREE

2021.04.07: W:\PROJECTS\2017\171651\DOBBSS\FERRY\171651\REVISED FOR ADDENDUM 2.DWG

BOX #	FACEPLATE	LOCATION	MOUNTING	BOX SIZE	HEIGHT	DIMMER CKT#	DMX ADDRESS	20A RELAY	208V/20A RELAY	DMX IN	DMX OUT	ENET	ARCH	FINISH	NOTES	
<b>POWER RECEPTACLES</b>																
201	E3	SIDE WALL BOOM STAGE RIGHT	SURFACE	6.75"x4.5"x4"	18" AFF	RP1 #1-3	1-3	3							BLACK	
202	E3	SIDE WALL BOOM STAGE LEFT	SURFACE	6.75"x4.5"x4"	18" AFF	RP1 #4-6	4-6	3							BLACK	
203	E3	BALCONY VERTICAL BOOM HOUSE RIGHT	SURFACE	6.75"x4.5"x4"	18" AFF	RP1 #7-9	7-9	3							BLACK	
204	ML1	BALCONY VERTICAL BOOM HOUSE RIGHT	SURFACE	3"x4.5"x4"	18" AFF	RP1 # 26-30	101								BLACK	
205	E3	BALCONY VERTICAL BOOM HOUSE LEFT	SURFACE	6.75"x4.5"x4"	18" AFF	RP1 # 10-12	10-12	3	1						BLACK	
206	ML1	BALCONY VERTICAL BOOM HOUSE LEFT	SURFACE	3"x4.5"x4"	18" AFF	RP1 # 31-33	102								BLACK	
301	JB12/4/2	FIRST ELECTRIC	SURFACE	JBOX	CEILING	RP2 # 1-12, 37-44	37-48, 107-110	12	4	2					BLACK	
302	JB12/4/2	SECOND ELECTRIC	SURFACE	JBOX	CEILING	RP2 #16-27, 29-36	52-63, 111-114	12	4	2					BLACK	
303	JB3+1	THIRD ELECTRIC	SURFACE	JBOX	CEILING	RP2 #13-15	49-51	3		1					BLACK	
304	JB3+2	CYC ELECTRIC	SURFACE	JBOX	CEILING	RP1 # 25-27	25-27	3		2					BLACK	
305	JB12/4/2	FOH LIGHTING PIPE	SURFACE	JBOX	CEILING	RP1 # 13-24, 34-43	13-24, 103-106	12	4	2					BLACK	
<b>TOTAL 20A RELAY CIRCUITS</b>								54								
<b>TOTAL 208V/20A CIRCUITS</b>									14							

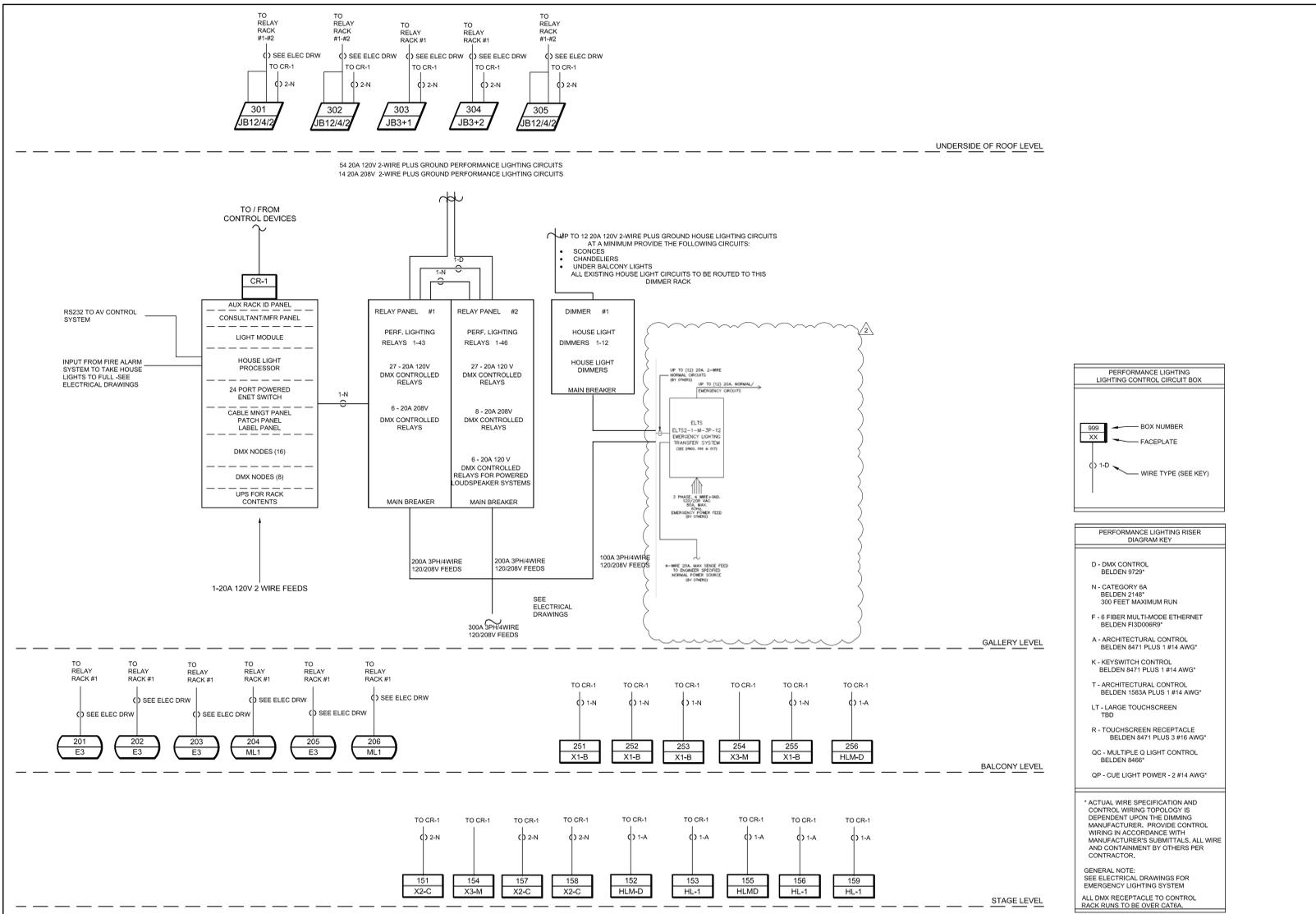
INTEGRATED RACEWAY DMX RECEPTACLES MOUNTED TO RACEWAY SEPARATELY RACEWAY PROVIDED BY DW 11. SEE THE SHEETS FOR DETAILS.

BOX #	FACEPLATE	LOCATION	MOUNTING	BOX SIZE	HEIGHT	DIMMER CKT#	DMX ADDRESS	20A RELAY	208V/20A RELAY	DMX IN	DMX OUT	ENET	ARCH	FINISH	NOTES	
<b>CONTROL RECEPTACLES</b>																
151	X2-C	SIDE WALL STAGE LEFT	FLUSH	2 GANG	48" AFF						2				CUSTOM	
152	HLM-D	UPSTAGE LEFT	FLUSH	PER MFR.	60" AFF								1		CUSTOM	
153	HL-1	HOUSE RIGHT	FLUSH	1 GANG	48" AFF								1		CUSTOM	
154	X2-L	HOUSE RIGHT	FLUSH	5"x4"x4"	48" AFF						2	1			CUSTOM	
155	HLM-D	AUDITORIUM ENTRANCE HOUSE RIGHT	FLUSH	PER MFR.	60" AFF								1		CUSTOM	
156	HL-1	HOUSE LEFT	FLUSH	1 GANG	48" AFF								1		CUSTOM	
157	X2-C	CENTER OF STAGE	FLUSH	2 GANG	48" AFF						2				CUSTOM	
158	X2-C	SIDE WALL STAGE RIGHT	FLUSH	2 GANG	48" AFF						2				CUSTOM	
251	X1-B	SIDE WALL BOOM STAGE RIGHT	FLUSH	1 GANG	48" AFF								1		BLACK	
252	X1-B	SIDE WALL BOOM STAGE LEFT	FLUSH	1 GANG	48" AFF								1		BLACK	
253	X1-B	BALCONY VERTICAL BOOM HOUSE RIGHT	FLUSH	1 GANG	48" AFF								1		BLACK	
254	X2-L	CONTROL BOOTH	FLUSH	5"x4"x4"	48" AFF								1		BLACK	
255	X1-B	BALCONY VERTICAL BOOM HOUSE LEFT	FLUSH	1 GANG	48" AFF								1		BLACK	
<b>TOTAL CONTROL RECEPTACLES</b>											0	14	11	4		

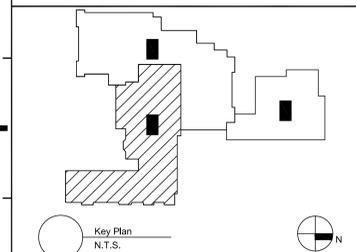
NOTE: HEIGHT IS VERTICAL DISTANCE BETWEEN FINISHED FLOOR AND CENTER OF FACEPLATE.

- GENERAL NOTES:**
- BOX SCHEDULES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIALS, WHETHER SPECIFIED OR NOT, TO PRODUCE A COMPLETE AND WORKING SYSTEM.
  - CONTRACTOR SHALL CONFIRM LOCATIONS, MOUNTING HEIGHTS, AND MOUNTING CONDITIONS WITH ARCHITECT AND THEATRE CONSULTANT PRIOR TO BOX ROUGH-IN.
  - CONTROL RECEPTACLE BACK BOX SIZES MAY VARY FROM SIZES LISTED ON SCHEDULES, DEPENDING ON MANUFACTURER. CONTRACTOR SHALL PROVIDE BACK BOXES IN ACCORDANCE WITH MANUFACTURER'S SUBMITTALS.
  - REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - EMERGENCY LIGHTING SYSTEM DESIGN AND DEVICES SHOWN ON ELECTRICAL DRAWINGS.

**1 BOX SCHEDULE NTS**



**2 CONTROL RISER NTS**



S.E.D. Control No. 66-04-03-03-001-019

Rev. No.	Date	Description
2	4/7/21	ADDENDUM #2

**THEATRE PROJECTS**  
47 Water Street  
South Norwalk  
Connecticut 06854  
United States  
+1 203 299 0830  
www.theatreprojects.com

**Doobs Ferry Union Free School District**  
Doobs Ferry, New York

**Reconstruction To:**  
Middle / High School

**PERFORMANCE LIGHTING-  
PERFORMANCE DIMMING &  
CONTROL BOX SCHEDULE**

Drawn By: TPC	Date: 07/02/2020	Drawing Number: 234903-20001
Project No.:	TL111	



**TETRA TECH**  
ARCHITECTS & ENGINEERS

Cornell Business + Technology Park  
10 Brown Road  
Ithaca, New York 14850  
Tel. (607) 277-7100  
Fax (607) 277-1410

## Addendum

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Dobbs Ferry Union Free School District  
Dobbs Ferry, New York

SED NO. 66-04-03-03-0-004-018  
66-04-03-03-0-001-019

Reconstruction to  
Springhurst Elementary School

Reconstruction to  
Dobbs Ferry Middle School / High School

Tt Project No. 234903-20001

BID Addendum No. 2  
to  
Drawings and Project Manual

April 7, 2021

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To: ALL BIDDERS

This ADDENDUM forms a part of the BIDDING AND CONTRACT DOCUMENTS and modifies the following documents:  
Original DRAWINGS dated July 2, 2020.  
PROJECT MANUAL dated July 2, 2020 and BID ADDENDUM NO. 1, dated March 30, 2021.  
Acknowledge receipt of the ADDENDUM in the space provided on the FORM OF PROPOSAL

This ADDENDUM consists of (5) pages and the following:

**NEW PROJECT MANUAL SECTIONS**

SECTION 32 18 23.13 - SOFTBALL INFIELD SURFACING

**REISSUED PROJECT MANUAL SECTIONS**

SECTION 32 31 13 – CHAIN LINK FENCES AND GATES

**NEW DRAWINGS (8-1/2 x 11)**

AA02B Window Type W1 – BID ADDENDUM NO 2  
BM02B Hot Water Pump Coil Detail

**NEW DRAWINGS (11 x 17)**

BM01B Partial Roof Plan – Area B (South) Penthouse A  
BM03B Air Handling Unit – Supply Air Temperature Control (AHU-1HS)

## **NEW DRAWINGS (30 x 42)**

BG201 Roof Phasing Plan

## **PROJECT MANUAL MODIFICATIONS**

ITEM 2-C-1: Refer to SECTION 00 01 10 – TABLE OF CONTENTS – VOLUME 2

1. Division 32, ADD the following:  
“32 18 23.13 Softball Infield Surfacing”

ITEM 2-C-2: Refer to SECTION 00 01 15 – LIST OF DRAWING SHEETS

1. Middle High School, Code Compliance, ADD the following:  
“BG201 Roof Phasing Plan”

## **PROJECT MANUAL MODIFICATIONS - ARCHITECTURAL**

ITEM 2-C-3: Refer to SECTION 08 33 13 – COILING COUNTER DOORS

1. Paragraph 2.8, C., AMEND to read as follows:  
“C. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on non-public side of door, finished to match door.”
2. Paragraph 2.9, A., AMEND to read as follows:  
“A. Fire rated stainless steel counter by fire door manufacturer tested and labeled for 1-1/2 hour fire rating for approved use with fire door assembly.”
3. Paragraph 2.11, G., AMEND to read as follows:  
“G. Control Station: Three-button control station in fixed location as indicated on electrical drawings with momentary-contact push-button controls labeled “Open” and “Stop” and sustained- or constant-pressure push-button control labeled “Close”.”

ITEM 2-C-4: Refer to SECTION 08 56 53 – SLIDING SECURITY WINDOWS

1. Paragraph 2.2, F., 1., AMEND to read as follows:
  1. Glass Type SCL: Clear laminated-glass security glazing
    - a. Basis of Design Product: Subject to compliance with requirements, provide Laminated Technologies Inc.; SG5 by School Guard Glass, or comparable product.
    - b. Safety glazing required.”

2. Paragraph 2.6, ADD the following:

“H. Bullet Resistant Speak Thru:

1. Provide Round Level 1 Bullet Resistant Clear Acrylic Speak Thru.
2. Basis of Design: C.R. Laurence Co., Inc., CRL Round Level 1 Clear-Vision Bullet Resistant Acrylic Speak Thru.”

### **PROJECT MANUAL MODIFICATIONS - LANDSCAPE**

ITEM 2-C-5: Refer to SECTION 32 31 13 – CHAIN LINK FENCES AND GATES

1. DELETE section in its entirety and, ADD new section attached to this addendum.

### **DRAWING MODIFICATIONS**

ITEM 2-C-6: Refer to DRAWING G001

1. Middle / High School, Code Compliance, ADD the following:

“BG201 Roof Phasing Plan”

### **DRAWING MODIFICATIONS - ARCHITECTURAL**

ITEM 2-C-7: Refer to DRAWING AA200

1. Detail 2, AMEND the ceiling height tag in Security Vestibule V101a to indicate the ceiling height is 8'-10 ½" VIF.

ITEM 2-C-8: Refer to DRAWING AA400, 1/AA400.

1. Detail 1, AMEND the following in Room Finish Box V101:

“WALL – CWT1\*\*, BASE “CWT1\*\*”

2. Detail 1, below Room Finish Box V101, ADD the following note:

“\*\*PROVIDE FINISHES TO THE NEW WALLS ONLY, REFER TO ELEVATIONS”.

ITEM 2-C-9: Refer to DRAWING BA600

1. Glazing Type for Window Type W1, AMEND to read as follows:

“FC GLAZING”

### **DRAWING MODIFICATIONS – MECHANICAL**

ITEM 2-C-10: Refer to DRAWING AM100

1. Fan Coil Unit (FCU) Schedule, AMEND title to read as follows:

“FAN COIL UNIT (FCU) SCHEDULE (FURNISHED BY OWNER INSTALLED BY GC)”

2. Condensing Unit (RCU) Schedule, AMEND title to read as follows:

“CONDENSING UNIT (RCU) SCHEDULE (FURNISHED BY OWNER INSTALLED BY GC)”

ITEM 2-C-11: Refer to DRAWING AM500

1. Detail 13, AMEND Controls schematic to show the DX coil up stream of the HW coil.

ITEM 2-C-12: Refer to DRAWING BM400

1. Detail 1/BM400, DELETE in its entirety and, ADD Drawing BM01B attached to this addendum.

ITEM 2-C-13: Refer to DRAWING BM501

1. ADD Detail 1, Drawing BM02B attached to this addendum.

ITEM 2-C-14: Refer to DRAWING BM600

1. Glycol Fill Station (GF) Schedule, ADD the following note:

“2. FURNISHED BY OWNER AND INSTALLED BY MC.”

2. Pump Schedule, Pump P-3HS and P-4HS, AMEND to read as follows:

“MODEL: E1510-3EB  
FLOW: 430 GM  
WPD (FT. HD.): 93 FT. HD.  
HP: 20.”

3. Pump Schedule, ADD the following:

“PUMP P-5HS  
LOCATION: PENTHOUSE  
TYPE: WET ROTOR  
MODEL: ECO-CIRC 55-45  
SERVES: AHU-1HS HC  
FLOW: 17.0 GPM  
WPD (FT. HD): 25.0  
SUCTIONS SIZE: 1 ½”  
DISCHARGE SIZE: 1 ½”  
RPM 3338  
HP: ½  
VOLTS: 208  
PHASE: 1  
HZ.: 60  
NOTES: 1,3.”

4. Pump Schedule, ADD the following note:

“3. PROVIDE MANUFACTURERS STANDARD DISCONNECT SWITCH.”

ITEM 2-C-15: Refer to DRAWING BM701

1. Detail 5, DELETE in its entirety and, ADD Drawing BM03B attached to this addendum.

**END OF ADDENDUM**

**SECTION 32 18 23.13 – SOFTBALL INFIELD SURFACING**

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Softball infield mix and additives.

## 1.3 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with the other specified requirements, the most restrictive requirements shall govern.
  - 1. National Federation of State High School Associations (NFSHSA).
  - 2. American Sports Builders Association (ASBA)
  - 3. Manufacture's Data and Recommended Installation Requirements.
  - 4. New York State Public High School Athletic Association Inc. (NYSPHSAA)

## 1.4 SUBMITTALS

- A. General: Submit all action submittals and informational submittals required by this Section concurrently.
- B. Action Submittals:
  - 1. Product Data: For each type of product indicated.
  - 2. Samples for Verification: For each type of softball infield mix indicated.
    - a. Minimum 2-quart sample sealed in a container.
- C. Informational Submittals:
  - 1. Material Certificates: For each type of softball infield mix and additive, from manufacturer.
- D. Closeout Submittals:
  - 1. Field quality-control reports.

2. Maintenance Data: For softball infield system to include in maintenance manuals.

1.5 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit softball infield system installation to be performed according to manufacturers' written instructions.

PART 2 - PRODUCTS

2.1 INFIELD MIX AND ADDITIVES

- A. Softball Diamond Mix: Clean sand, sharp, free from loam, clay lumps, or other deleterious materials, and complying with the following requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
#4	95 to 100
#10	95 to 100
#20	65 to 75
#60	55 to 65
#100	45 to 55
#200	40 to 50

1. Particle Size Analysis:
  - a. Sand: 65 to 75 percent.
  - b. Silt: 10 to 20 percent.
  - c. Clay: 10 to 20 percent.
2. pH Level: Plus or minus 6.8 percent.
3. Color: Orange to reddish orange.
4. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Beam Clay, "Original Premium" or other approved mix by Partec Peat Corporation, Great Meadows, New Jersey.

- B. Softball Mix Conditioner / Drying Agent (Diatomaceous Earth Type): Diatomaceous earth meeting ISO 9002 standards; crushed, dried, kiln-fired and screened to particle size.
  - 1. Basis-of Design Product: Subject to compliance with requirements, provide EP Minerals LLC, PlayBall! Regular Infield Conditioner; or comparable product.
- C. Softball Mix Conditioner / Drying Agent (Calcined Clay Type): Silica, illite clay and montmorillonite blend with 40 to 60 percent minimum amorphous silica, free from dust, loam, clay, or other deleterious materials.
  - 1. Basis-of Design Product: Subject to compliance with requirements, provide Profile Products LLC, Turface MVP; or comparable product.
- D. Softball Base Path Additive: Non-toxic, odorless, non-staining, concentrated organic powder stabilizer binding softball mix together creating natural appearing firm surface.
  - 1. Basis-of Design Product: Subject to compliance with requirements, provide Stabilizer Solutions, Inc., Stabilizer; or comparable product.

2.2 CONCRETE SAND

- A. Concrete Sand for Softball Diamond: Clean sand, sharp, free from loam, clay, or other deleterious materials, and complying with New York State Department of Transportation (NYSDOT) Standard Specifications, Section 703-07 Concrete Sand. When dry, the fine aggregate shall conform to the following gradation requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
3/8 inch	100 min
No. 4	90 to 100
No. 8	75 to 100
No. 16	50 to 87
No. 30	25 to 62
No. 50	10 to 30
No. 100	1 to 10
No. 200 (Wet)	0 to 3

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content, subgrade and substrate conditions, drainage, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

### 3.2 PREPARATION

- A. General: Prepare substrates to receive surfacing products according to softball infield system manufacturer's written instructions. Verify that substrates are sound, at required elevation, and without high spots, ridges, holes, and depressions.

### 3.3 INSTALLATION

- A. General: Comply with softball infield system manufacturer's written installation instructions. Install softball infield system over area and in thickness indicated, allowing for compaction.
  - 1. Pitcher's Mound: Construct in accordance with system manufacturer's written installation instructions, to meet required height, with a gradual transition to surrounding grade.
- B. Verify that infield subgrade is graded so that the application of infield mix to required depths will meet proposed grades.
- C. Install 6" flexible wood forms at entire edge of skinned area.
- D. Spread layer of sand if required.
- E. Placing: Uniformly spread softball infield system according to manufacturer's written instructions to an even surface free from irregular surface changes as indicated. Grade the edge of the infield where it meets the wood forms to be a flush, level transition to turf.
- F. Install softball mix conditioner in accordance with manufacturer's written installation instructions, at the following rate:
  - 1. Diatomaceous Earth Type: 10 percent of infield mix.
  - 2. Calcined Clay Type: 25 percent of infield mix.
- G. Install first base runway material if required.

- H. Compacting and Grading: Dampen infield with water and uniformly compact and grade softball infield system according to manufacturer's written instructions to an even surface free from irregular surface changes as indicated. Grade edge of infield where it meets turf so that a flush, level transition is achieved.
  - 1. Verify that grades are accurate and repair low and high spots. Make corrections necessary for all water to drain away from infield and for a smooth transition between infield and turf. Verify that no tripping hazards at turf edge are present.
- I. Finish Grading: Drag, rake, or screen to loosen up top surface and achieve a smooth finished surface at required elevations.
- J. If field is completed in the fall, leave wood forms in place through the winter. In the spring before the playing season begins, remove wood forms. Add additional infield mix if required to achieve a smooth transition to turf.
- K. Rake to remove weeds and smooth surface before requesting substantial completion inspection.

### 3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Remove and replace applications of softball infield system where test results indicate that it does not comply with requirements.
- C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with requirements.

### 3.5 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 32 18 23.13

## **SECTION 32 31 13 - CHAIN LINK FENCES AND GATES**

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Chain-link fences.
  - 2. Softball Backstop
  - 3. Gates: Swing.
  - 4. Chain Link Fence Cap
- B. Related Sections:
  - 1. Section 03 30 00 "Cast-in-Place Concrete"
  - 2. Section 31 20 00 "Earth Moving"

#### 1.3 REFERENCES

- A. ASTM A392 Specification for Zinc-Coated Steel Chain-Link Fence Fabric.
- B. ASTM F552 Standard Terminology Relating to Chain Link Fencing.
- C. ASTM F567 Standard Practice for Installation of Chain Link Fence.
- D. ASTM F626 Specification for Fence Fittings.
- E. ASTM F900 Specification for Industrial and Commercial Swing Gates.
- F. ASTM F1083 Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
- G. ASTM F1184 Specification for Industrial and Commercial Horizontal Slide Gates.
- H. CLFMI WLG2445 Chain Link Fence Wind Load Guide for the Selection of Line Post and Line Post Spacing.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Design Wind Load: Comply with applicable requirements of building code in effect for Project including applicable portions of ASCE 7 for Wind Load Pressure and CLFMI WLG 2445 Wind Load Guide for the Selection of Line Post Spacings.

#### 1.5 SUBMITTALS

- A. General: Submit all action submittals (except Samples for Verification) and informational submittals required by this Section concurrently.

B. Action Submittals:

1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates.
  - a. Fence and gate posts, rails, and fittings.
  - b. Chain-link fabric, reinforcements, and attachments.
  - c. Polymer and polyester coatings.
    - 1) Note: Polymer and polyester coated samples and product data are to be submitted simultaneously.
  - d. Accessories:
    - 1) Chain link fence cap
  - e. Gates and hardware.
2. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show accessories, hardware, gate operation, and operational clearances.
3. Samples for Verification:
  - a. Polymer and Polyester Coated Components: In 6-inch lengths for components and on full-sized units for accessories.
    - 1) Note: Polymer and polyester coated samples and product data are to be submitted simultaneously.
  - b. Manufacturer's color charts.
4. Warranty:
  - a. Sample of special warranty
  - b. Sample of manufacturer warranty

C. Informational Submittals:

1. Qualification Data: Submit list of completed projects using products proposed for this Project, including owner's contact and telephone number for each project, demonstrating compliance with "Quality Assurance" article.
2. Product Test Reports: For framing strength according to ASTM F 1043.

D. Closeout Submittals:

1. Operation and Maintenance Data: For the following to include in operation and maintenance manuals:
  - a. Polymer and polyester finishes.

- b. Gate hardware.
- 2. Warranty: Executed special warranty.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum five (5) years' experience in installing chain link fences and gates similar in material, design, and extent to that indicated for this Project in accordance with ASTM F 567, whose work has resulted in construction with a record of successful performance.
- B. Mockups: If required by Architect, build mockups to set quality standards for fabrication and installation.

## 1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

## 1.8 WARRANTY

- A. Special Warranty: Contractor's warranty to repair or replace components of chain-link fences and gates that fail in materials or workmanship within the specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Failure of any component of fence to perform as designed.
    - b. Faulty operation of gate(s) to perform as designed.
  - 2. Warranty Period: Five (5) years from date of Substantial Completion.
- B. Manufacturer warranty: Manufacturer's standard form in which Contractor agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Deterioration of metals, metal finishes, coatings and other materials of the fence components, including fabric, framework and fittings.
  - 2. Warranty Period: Fifteen (15) years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 CHAIN-LINK FENCE FABRIC

- A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle. Comply with CLFMI Product Manual and with requirements indicated below:
1. Fabric Height: As indicated on Drawings.
  2. Steel Wire Fabric:
    - a. General Use: Wire with a diameter of 0.148 inch (9 gauge) minimum. For polymer coated fabric, wire with a diameter of 0.148 inch core (9 gauge core) minimum.
    - b. Softball Backstops and Wings:
      - 1) Up to 6 feet in height (or as indicated on drawings): 0.192 inch (6-gauge) core minimum.
      - 2) Above 6 feet in height (or as indicated on drawings): 0.148 inch (9-gauge) core minimum.
    - c. Dugout Fencing: 0.148 inch (9-gauge) core minimum.
  3. Mesh Size:
    - a. General Use: 2 inches, unless noted otherwise.
    - b. Softball Backstop:
      - 1) Bottom panels: 1-3/4 inch mesh
      - 2) Remaining panels and hood: 2 inch mesh
  4. Coatings:
    - a. Polymer-Coated (Vinyl) Fabric: ASTM F 668, Table 4, Class 2b, fused and adhered over zinc-coated steel wire.
      - 1) Color: Black, complying with ASTM F 934.
      - 2) Basis of Design Manufacturer: Subject to compliance with requirements, polymer coating that may be incorporated into the Work include, but are not limited to, the following:
        - a) Merchants Metals Brighton Colorcoat II fused and adhered polymer coating.
  5. Selvage: Knuckled at both selvages.

## 2.2 FRAMEWORK MATERIALS

- A. Posts and Rails: Comply with ASTM F 1043 for minimum dimensions and wall thickness of framing, including rails, braces, and line; terminal; and corner posts, meeting the following criteria:
1. Heavy Industrial Strength: ASTM F 1043 Group I-C, SS40, round steel electric-resistance-welded pipe galvanized with hot-dip process in accordance with ASTM A653/A653M and ASTM A924/A924M.
  2. Manufactured to meet minimum yield strength of 50,000 psi and coated in accordance with the following standards:
    - a. ASTM F1043, Group IC, Electrical Resistance Welded Round Steel Pipe, heavy industrial weight.
    - b. M181, Type I, Grade 2, Electrical Resistance Welded Steel Pipe
    - c. RR-R 191/3, Class 1, Grade B, Electrical Resistance Welded Steel Pipe.
- B. Coatings:
1. PVC / Polyester Coating Over Zinc Coating:
    - a. Thermoplastic vinyl finish to be 10 mils (minimum) thick.
    - b. Cleaning and Surface Preparation: Consists of a four-stage pretreatment/wash, an iron phosphate coating and immersion in a water based epoxy primer.
    - c. PVC Coating Application: Coating is thermally fused to heated pipe meeting the following standards:
      - 1) ASTM F1043 Group I-C, Heavy Industrial.
      - 2) Federal specification RR-F-191/3E, Class 1
      - 3) Shows satisfactory adhesion in cross-hatch test, Method B, ASTM D3359.
      - 4) Finish shall not crack, blister or split under normal use.
  2. Color: Match chain-link fabric, complying with ASTM F 934, Standard Colors for Polymer-Coated Chain Link Fence Materials.
- C. Basis of Design Manufacturer: Subject to compliance with requirements, framework and coatings that may be incorporated into the Work include, but are not limited to, the following:
1. Merchants Metals Colorbond Chain Link Fence Framework and Coating System.
  2. Master Halco Permafused II Heavy Mil PVC Chain Link Fence Framework and Coating System.
  3. Ameristar PermaCoat PC-40 (industrial weight), manufactured by Ameristar Fence Products ([www.ameristarfence.com](http://www.ameristarfence.com)) Chain Link Fence Framework and Coating System.

## 2.3 FRAMEWORK SIZES

### A. Line Post Size (determined by height):

- |    |   |                   |
|----|---|-------------------|
| 1. | 4 feet up to and including 6 feet high:   | 2 inches o.d.     |
| 2. | 7 feet up to and including 9 feet high:   | 2-1/2 inches o.d. |
| 3. | 10 feet up to and including 12 feet high: | 3 inches o.d.     |
| 4. | Over 12 feet to 16 feet high:             | 4 inches o.d.     |

### B. End, Corner and Pull Post:

- |    |   |                   |
|----|---|-------------------|
| 1. | 4 feet up to and including 6 feet high:   | 2-1/2 inches o.d. |
| 2. | 7 feet up to and including 9 feet high:   | 3 inches o.d.     |
| 3. | 10 feet up to and including 12 feet high: | 4 inches o.d.     |
| 4. | Over 12 feet to 16 feet high:             | 4 inches o.d.     |

### C. Softball and Baseball Backstop Posts Sizes: Refer to Drawings and Details.

### D. Horizontal Framework Members: Intermediate, top and bottom rails complying with ASTM F 1043. Size in accordance with the following guidelines unless otherwise indicated on drawings:

1. Top, Intermediate and Bottom Rail: 1.66 inches in diameter.
  - a. Bottom Rail: Provide bottom rail for:
    - 1) Fence 9 feet high and over
    - 2) Fencing at baseball and softball foul lines
  - b. Intermediate Rail: Provide intermediate rail for:
    - 1) Fencing 10 feet high and over,
  - c. Softball and Baseball Backstop horizontal framework sizes: Refer to Drawings and Details.
2. Brace Rails: Comply with ASTM F 1043.

## 2.4 TENSION WIRE

### A. Metallic-Coated Steel Wire: For use on fencing with zinc coated fence fabric. 0.177-inch-diameter (7 gauge), marcelled tension wire complying with ASTM A 817 and ASTM A 824, with the following metallic coating:

1. Type II, zinc coated (galvanized) with the following minimum coating weight:
  - a. Matching chain-link fabric coating weight.

- B. Polymer-Coated Steel Wire: For use on fencing with polymer coated fence fabric. 0.177-inch-diameter (7 gauge core), tension wire complying with ASTM F 1664, Class 2b over zinc-coated steel wire.
  - 1. Color: Match chain-link fabric, complying with ASTM F 934.

## 2.5 FITTINGS

- A. General: Comply with ASTM F 626.
- B. Post Caps: Provide for each post. Post caps to be weather-tight, securely fastened and vandal-resistant.
  - 1. Provide line post caps with loop to receive tension wire or top rail.
- C. Rail and Brace Ends: For each gate, corner, pull, and end post.
- D. Rail Fittings: Provide the following:
  - 1. Top Rail Sleeves: Pressed-steel or round-steel tubing not less than 6 inches long.
  - 2. Rail Clamps: Line and corner boulevard clamps for connecting intermediate and bottom rails in the fence line-to-line posts.
- E. Tension and Brace Bands: Pressed steel.
- F. Tension Bars: Steel. Length not less than 2 inches shorter than full height of chain-link fabric with minimum cross-section of 3/16 inch x 3/4 inch. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.
- G. Truss Rod Assemblies: Steel, hot-dip galvanized after threading. Provide rod and turnbuckle or other means of adjustment.
- H. Tie Wires, Clips, and Fasteners: According to ASTM F 626.
  - 1. Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:
    - a. General Use Fencing including Foul Line, Outfield and Tennis Court Fencing:
      - 1) Aluminum: ASTM B 211; Alloy 1350-H19; 0.148-inch-diameter, mill-finished wire. Coating to match chain-link fence fabric. (Provide coating to match framework.)
    - b. Baseball and Softball Backstops and Dugouts:
      - 1) Hot-Dip Galvanized Steel: 0.148-inch (9 gauge core) diameter wire. Coating to match chain-link fence fabric. Provide coating to match framework.

2. Hog Rings: For attaching chain link fabric to bottom tension wire.
  - a. Material: Aluminum per ASTM B 211; Alloy 1350-H19; 0.192 inch (6 gauge), mill-finished wire.

I. Fitting Finish:

1. Steel or cast iron: Galvanized Coating for Pressed Steel or Cast Iron - Not less than 1.2 oz. /sq. ft. zinc.
  - a. Coating - Vinyl-coated per ASTM F 626.
2. Aluminum: Mill finish with coating to match framework.
3. Color: To match color of fence fabric.

J. Fasteners:

1. Material to be stainless steel.
  - a. Coating - Vinyl-coated per ASTM F 626.
2. Color: To match color of fence fabric.
3. Finish: Install fasteners that are no more than ¼ Inch long.

## 2.6 SWING GATES

A. General: Comply with ASTM F 900 for gate posts and single and double swing gate types.

1. Gate Leaf Width: 48 inches unless otherwise noted on drawings.
2. Gate Fabric Height: As indicated on drawings.

B. Pipe and Tubing:

1. Coating and finish to match fence framing.
2. Gate Post Size:
  - a. For gate heights over 6', and if gate height is equal to fence height, then standard fence framing end post requirements shall apply. Refer to Post and Rail requirements.
  - b. Gate Leaf up to 6 feet Wide: 2.875 inches o.d.; 4.64 lbs./l.f.
  - c. Gate Leaf over 6 feet and under 12 feet wide: 4 inches o.d.; 6.56 lbs./lin. ft. (weight applicable to Group IC SS40 framework only)
  - d. Gate Leaf over 12 feet Wide: 6.625 inches o.d.; 19 lbs./lin. ft.; or 4.5 inches o.d. (applicable to Group IC SS40 material complying with ASTM F 1043 only and upon approval of framework material by Architect.)

C. Frame Corner Construction: Welded.

D. Swing Gate Hardware:

1. Hinges: 180-degree inward swing unless otherwise noted on Drawings.
2. Latches: Commercial latch permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.
3. Padlock and Chain: Owner furnished.
4. Keeper: Provide keeper for all vehicular gates, which automatically engages gate leaf and holds it in open position until manually released. Provide sleeve to insert keeper. For concrete paving, set sleeve directly into concrete. For asphalt paving set sleeve into concrete collar.
5. Double Gates: Provide drop bar for all double gates, consisting of hot-dipped galvanized rod that drops into concrete collar. Provide locking device and padlock eyes as an integral part of the latch, requiring one padlock for locking both gate leaves.
6. Closer: Manufacturer's standard.
7. Color: To match fence fabric.

## 2.7 CHAIN LINK FENCE CAP

A. Description:

1. Basis-of Design-Product: Subject to compliance with requirements, provide "Premium Fence Guard" Fence Cap (Product #01166); or equivalent product supplied by: Mid-America Sports Advantage, Inc. M.A.S.A. / Osborne Innovative Products, 1413 S. Meridian Road, Jasper, Indiana 47546 Telephone: 1-800-264-4519, Web: [www.sportsadvantage.com](http://www.sportsadvantage.com)
2. Product Specification:
  - a. Material: Polyethylene
  - b. Size: 3 inch wide, 4½ inch tall
  - c. Shape: Professional teardrop shaped profile
  - d. Weather-treated and UV protected
  - e. Color:
    - 1) Outfield fence fair territory other than batters eye – Blue.
    - 2) Batter's Eye of outfield fence fair territory – Typical Length 90 ft - Blue.
    - 3) Outfield fence foul territory fence areas - Blue.
    - 4) Sideline fence – Blue.
    - 5) Other locations – Blue.

- f. Installation:
  - 1) On top of chain link fencing. Secure with matching color UV resistant, plastic fence cap ties, installed every two (2) feet.
  - 2) Minimum of a 3 inch overlap of each fence cap section with the adjacent fence cap section.
- g. Thickness: 0.10 inch Wall Thickness
- h. Warranty: Minimum 5 Year

## 2.8 CONCRETE

- A. Concrete Footings: Refer to Division 03 concrete section for cast-in-place concrete, ASTM F 567 Section 5 and Drawings and Details for footing size. Bottom of footing must not be smaller than the top to prevent frost heaving.

## 2.9 GROUT AND ANCHORING CEMENT

- A. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107 and compatible with galvanized and clear coatings. Provide grout, recommended in writing by manufacturer, for exterior applications.
- B. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications. To be compatible with galvanized and clear coatings.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.
  - 1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Beginning installation constitutes Contractor's acceptance of substrates and conditions.

### 3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

### 3.3 INSTALLATION, GENERAL

- A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.
  - 1. Install fencing on established boundary lines inside property line.

### 3.4 CHAIN-LINK FENCE INSTALLATION

- A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- B. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil. Mechanically driven posts only allowed if shown on Drawings or specifically approved by Architect.
  - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
    - a. Concrete Fill: Minimum 28 day compressive strength 3,000 psi (20 MPa). Refer to Division 03 Section "Cast-in-Place Concrete."
    - b. Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
- C. Types of Post Footings: As indicated on Drawing or as approved by Architect.
  - 1. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water.
  - 2. Concealed Concrete: As indicated on Drawings to allow covering with surface material.
  - 3. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.
- D. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.
- E. Line Posts:
  - 1. General Use Fencing: Space line posts uniformly at 10 feet o.c. unless otherwise indicated on Drawings.

- F. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.
1. Locate horizontal braces at midheight of fabric 72 inches or higher, on fences with top rail and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.
- G. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with hog rings spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
1. Extended along bottom of fence fabric. Install bottom within 6 inches of bottom of fabric and tie to each post with tie wires.
- H. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps / loop caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps / loop caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer. Connection sleeves to be located / supported by post caps / loop caps.
- I. Intermediate and Bottom Rails: Install and secure to posts with fittings.
- J. Chain-Link Fabric: Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.
1. Height of fabric between finished grade and bottom selvage.
    - a. General Use: Leave 2 inches between finished grade or surface and bottom of selvage unless otherwise indicated.
  2. Fabric installation on fence posts relative to adjacent use:
    - a. General Use: Apply fabric to inside of enclosing fence posts / framework as indicated on Drawings.
    - b. Baseball and Softball Fencing: Apply fabric to inside (field side) of enclosing fence posts / framework.
    - c. Tension or Stretcher Bars: Thread bar through first row of diamonds of fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.
- K. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Aluminum ties: Both ends of the tie are to make two complete wraps around wire pickets. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

### 3.5 FENCE INSTALLATION ADJACENT TO BUILDING WALL OR COLUMN

- A. Install fencing and gates with maximum 2” gap between fence post and building wall or column unless otherwise noted.

### 3.6 SWING GATE INSTALLATION

- A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

### 3.7 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

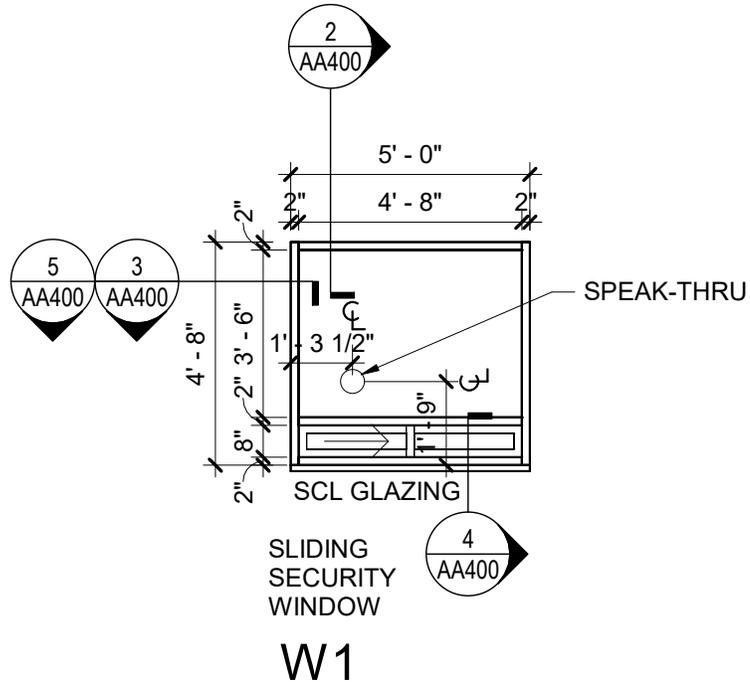
### 3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain chain-link fences and gates.

### 3.9 COMPLETION AND CLEAN UP

- A. Leave the area of installation free of debris and excess soil, concrete, and gravel resulting from installation of the fence. Clean fencing of concrete slurry, hydroseeding overspray and any other excess material. Seed and mulch all areas around the fencing where bare earth is left exposed.

END OF SECTION 32 31 13



THIS DRAWING PARTIALLY SUPERSEDES  
WINDOW TYPE W1 ON AA600



**TETRA TECH**  
ARCHITECTS & ENGINEERS

Tetra Tech Engineers, Architects & Landscape Architects, P.C.

		Proj. No.: 234903-20001
2	04/07/21	Date: 04/05/21
Rev.:	Date:	Drawn By: TLG

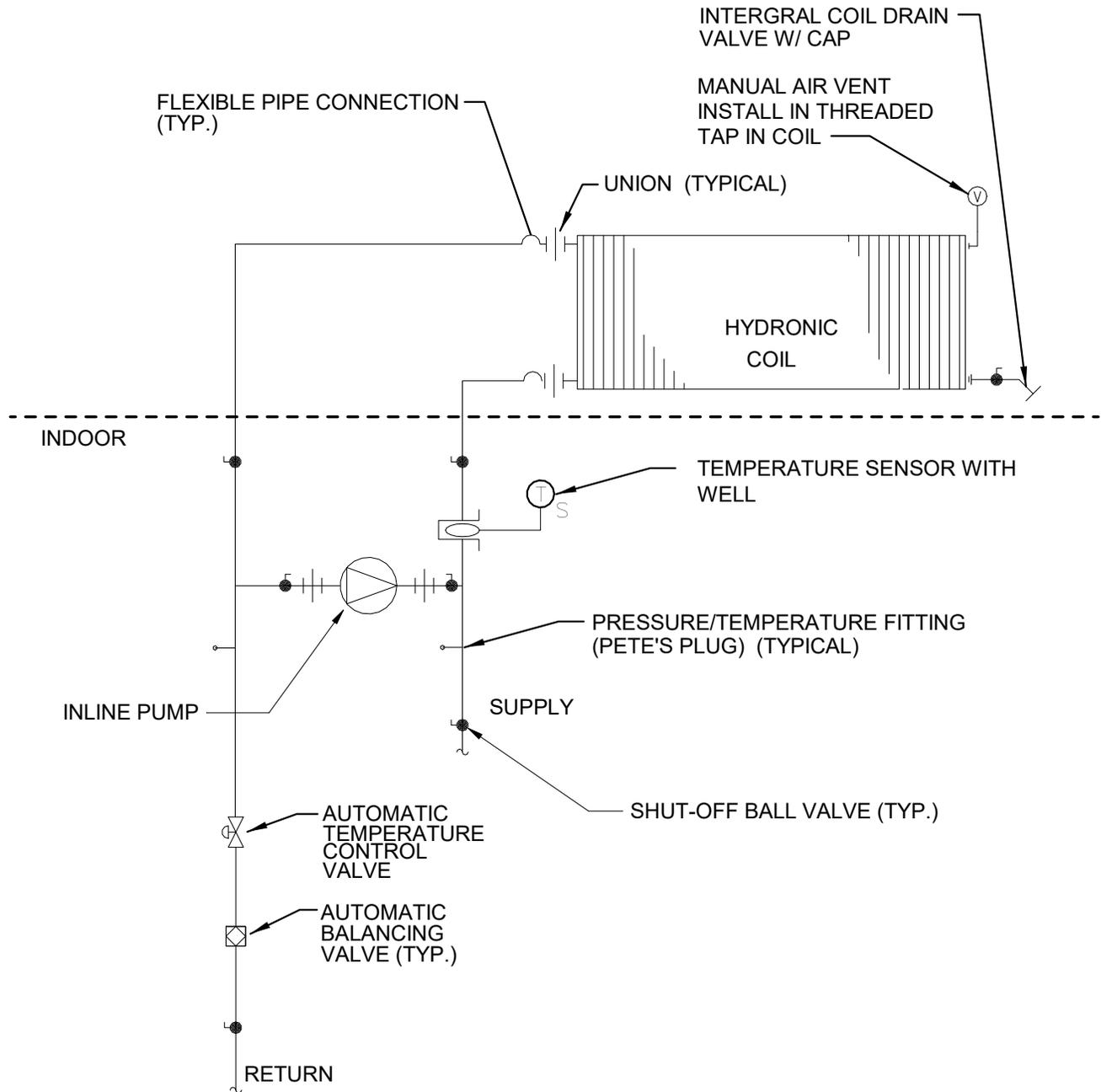
Dobbs Ferry Union Free School District

Springhurst Elementary School

Window Type W1 - BID ADDENDUM NO 2

Drawing No.:

**AA02B**



1 Hot Water Pumped Coil Detail  
NTS



**TETRA TECH**  
ARCHITECTS & ENGINEERS

Tetra Tech Engineers, Architects & Landscape Architects, P.C.

		Proj. No.: 234903-20001
		Date: 04/06/21
Rev.:	Date:	Drawn By: DPM/jtk

Dobbs Ferry Union Free School District

Middle / High School

Hot Water Pumped Coil Detail

Drawing No.:

**BM02B**

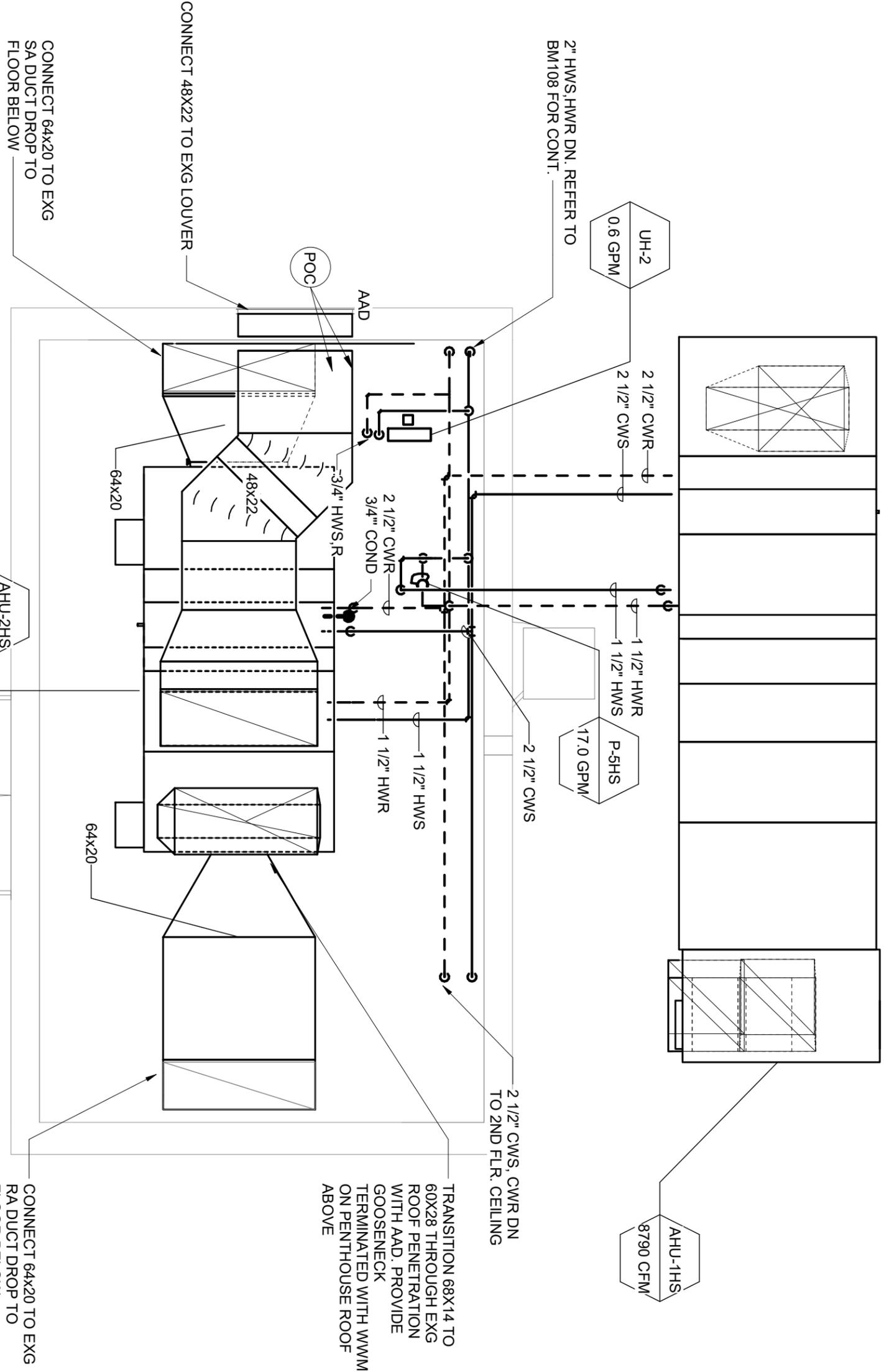
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1 2 3 4 5 6 7

1

Partial Roof Plan - Area B (South) Penthouse A

1/4" = 1'-0"



NOTE: MOUNT ALL CONTROL VALVES, BALANCE VALVES, SHUT-OFF VALVES WITHIN THE PENTHOUSE.



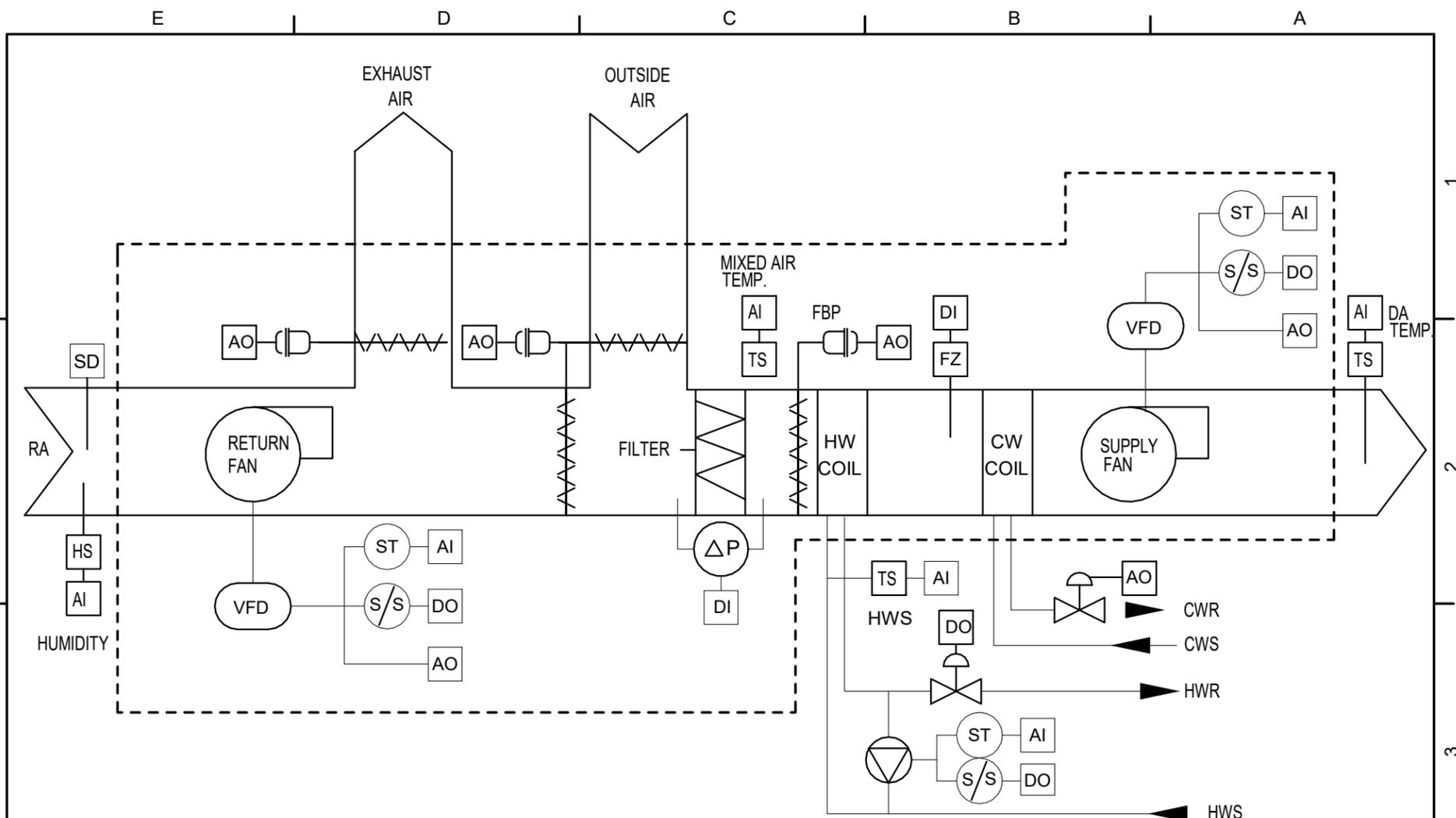
**TETRA TECH**  
ARCHITECTS & ENGINEERS

Tetra Tech Engineers, Architects & Landscape Architects, P.C.

Rev.:	Date:	Description:

Dobbs Ferry Union Free School District  
Middle / High School  
Partial Roof Plan - Area B (South) Penthouse A

Proj. No.: 234903-20001  
Date: 03/29/21  
Drawn By: Author  
Drawing No.:  
**BM01B**



**AIR HANDLING UNIT - HOT WATER/FACE & BYPASS AND CHILLED WATER VALVE CONTROL - SEQUENCE OF OPERATIONS:**

NOTE: ALL CONTROL DEVICES WITHIN DASHLINE BOUNDARY WILL BE FACTORY INSTALLED AND WIRED TO A CONTROL TERMINAL STRIP WITHIN THE UNIT OR EXTENSION TO THE BUILDING AUTOMATION SYSTEM

**1. OCCUPIED MODE:**

- a. SUPPLY FAN AND ASSOCIATED RETURN FAN SHALL RUN CONTINUOUSLY.
- b. THE OUTSIDE AIR DAMPER SHALL OPEN TO THE POSITION REQUIRED TO MAINTAIN THE MINIMUM OUTSIDE AIR QUANTITY INDICATED. OUTSIDE AIR DAMPER SHALL NEVER BE POSITIONED BELOW THIS MINIMUM POSITION EXCEPT IN CASE OF ALARM.
- c. THE RETURN FAN VFD SHALL TRACK THE SUPPLY FAN VFD AT 80% (ADJ.) OF THE SUPPLY FAN VFD SPEED AND NEVER DROP BELOW 20%.
- d. WHEN THE OUTSIDE AIR TEMPERATURE IS 50 DEG. F. OR LOWER, START COIL PUMP AND OPEN HOT WATER VALVE.
- e. THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE FACE AND BYPASS DAMPER TO MAINTAIN A SUPPLY TEMPERATURE SETPOINT OF 55 DEG. F. (ADJ.).
- f. THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN A SETPOINT 2 DEG. F. (ADJ.) LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT. THE OUTSIDE AIR DAMPER SHALL NEVER BE BELOW THE MINIMUM OUTSIDE AIR SETPOINT.
- g. AS THE MIXED AIR TEMPERATURE CONTINUES TO RISE AND THE OUTSIDE AIR CAN NO LONGER PROVIDE ECONOMIZER COOLING, RETURN THE OUTSIDE AND RETURN AIR DAMPERS TO MINIMUM POSITION AND OPEN THE CHILLED WATER CONTROL VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT.

**2. UNOCCUPIED MODE:**

- a. SUPPLY FAN AND ASSOCIATED EXHAUST FAN SHALL BE OFF.
- b. THE OUTSIDE AIR DAMPER AND ASSOCIATED RELIEF HOOD DAMPER SHALL BE FULLY CLOSED.
- c. WHERE SPACE HAS FINNED TUBE RADIATION, RADIATION SHALL PROVIDE FIRST STAGE UNOCCUPIED HEATING.
- d. ON DROP IN SPACE TEMPERATURE BELOW THE UNOCCUPIED SETPOINT, CYCLE THE FAN ON AND MODULATE THE RESPECTIVE ZONE HEATING COIL CONTROL VALVE AS REQUIRED TO MAINTAIN REDUCED SPACE TEMPERATURE SETPOINT. USE 5 DEG. F (ADJUSTABLE) DEADBAND AS REQ'D TO MINIMIZE SHORT CYCLING.
- e. A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO OCCUPIED MODE FOR 1 HOUR (ADJUSTABLE). AT EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE.

**3. WARM-UP MODE:**

- a. THE UNIT SHALL START PER AN OPTIMUM START PROGRAM.
- b. THE OUTSIDE AIR DAMPER AND ASSOCIATED RELIEF HOOD DAMPER SHALL BE FULLY CLOSED AND THE ASSOCIATED EXHAUST FAN SHALL BE OFF.
- c. THE SUPPLY FAN SHALL RUN AND THE FACE AND BYPASS SHALL MODULATE TO MAINTAIN DISCHARGE AIR SETPOINT.

**4. SAFETIES**

- a. A SEPARATE LOW LIMIT FREEZE STAT WITH AUTOMATIC RESET SHALL BE INSTALLED WITH SENSING ELEMENT SERPENTINED ACROSS THE FACE OF THE COIL; WHENEVER COIL FREEZE-UP CONDITIONS ARISE (36 DEG. F ADJUSTABLE) THE SUPPLY FAN SHALL STOP, THE OUTSIDE AIR DAMPER SHALL CLOSE 100%, AND FACE AND BYPASS DAMPER SHALL OPEN TO 100% FACE POSITION. AN ALARM SHALL ALSO BE ACTIVATED.
- b. FIRE ALARM SHUTDOWN

**1 Air Handling Unit - With Supply Air Temperature Control & Coil Pump (AHU-1HS)**  
NTS



**TETRA TECH**  
ARCHITECTS & ENGINEERS

Tetra Tech Engineers, Architects & Landscape Architects, P.C.

Rev.:      Date:      Description:

Proj. No.:234903-20001

Date:04/05/21

Drawn By: DPM/jtk

Drawing No.:

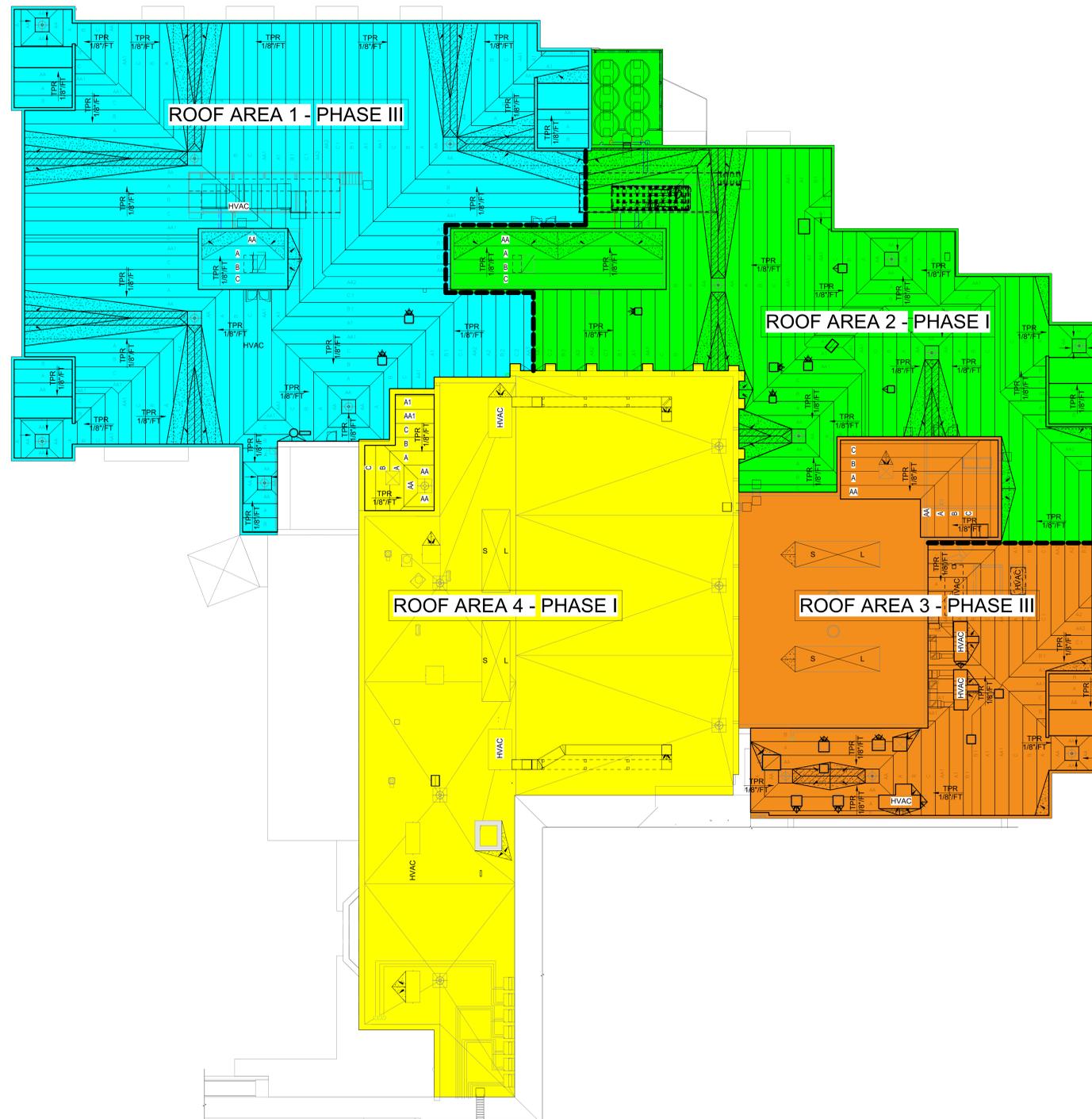
**Dobbs Ferry Union Free School District**

**Middle / High School**

**Air Handling Unit - Supply Air Temperature Control**

**(AHU-1HS)**

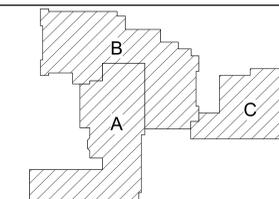
**BM03B**



1 Roof Phasing Plan  
1/16" = 1'-0"

**GENERAL PHASING NOTES**

- A. THIS DRAWING HAS BEEN PREPARED BASED UPON INFORMATION SUPPLIED BY THE CONSTRUCTION MANAGER, CALGI CONSTRUCTION COMPANY, INC.
- B. ROOFING PHASING AREAS MUST BE COORDINATED WITH EXISTING CONDITIONS TO ENSURE POSITIVE ROOF SLOPE AND DRAINAGE TO ROOF DRAINS IS MAINTAINED IN BOTH NEW AND EXISTING ROOFING AREAS AT ALL TIMES.
- C. ROOF PHASING MUST BE COORDINATED WITH ROOFING SHOP DRAWINGS TO ENSURE APPROPRIATE START AND STOP LOCATIONS BETWEEN PHASES IS DEVELOPED.
- D. ROOFING AREAS COMPLETED IN ONE PHASE MAY REQUIRE PENETRATIONS AND ADDITIONAL WORK IN ANOTHER PHASE DEPENDENT UPON SEQUENCES OF WORK.
- E. THE ROOF PHASING AREAS ARE APPROXIMATE AREAS. COORDINATION WILL BE REQUIRED WITH THE CONSTRUCTION MANAGER AND OTHER TRADES RESPECTIVE TO THE PROPOSED IMPROVEMENTS INCLUDING BUT NOT LIMITED TO ADJUSTMENTS TO ROOF SLOPES, REMOVAL AND INSTALLATION OF MECHANICAL IMPROVEMENTS AND PROPOSED STRUCTURAL REINFORCEMENT TO THE ROOF DECK.



Key Plan  
N.T.S.

S.E.D. Control No. 66-04-03-03-0-001-019

Rev. No.	Date	Description
2	03/07/21	BID ADDENDUM NO 2



complex world  
CLEAR SOLUTIONS

Tetra Tech Engineers, Architects & Landscape Architects, P.C.

**BID SET**



Dobbs Ferry Union Free School District  
Dobbs Ferry, New York

Reconstruction To:  
Middle / High School

Roof Phasing Plan

Drawn By: TTAE	Date: 07/02/2020	Drawing Number:
Project No.: 234903-20001	BG201	