

DATE: July 26, 2023

DEPARTMENT OF GENERAL SERVICES
BUREAU OF CAPITAL PROJECT DESIGN MANAGEMENT
1800 HERR STREETS
HARRISBURG, PENNSYLVANIA

ADDENDUM NO. 35

on

PROJECT NO. DGS C-0211-0005 PHASE 005
PROJECT TITLE - PA State Police Academy - Core Bldgs, BESO & Sitework
PROFESSIONAL:
SOM
7 World Trade Center
New York, NY, 10007

If you submitted a bid prior to this Addendum being issued, your bid has been discarded and you must re-submit your bid(s) prior to the bid opening date and time.

GENERAL CHANGES – ALL CONTRACTS

Item 1 - Please note the following:

This is the final Addendum to be issued for this phase.

Bids are due by Tuesday, August 8, no later than 2:00 PM.

Item 2 - Addendums for this bid begin with Addendum 24. Please note that Addendums 1-23 were issued in the course of the previous bid process and can be disregarded for the purposes of this bid. Items issued in addendums from the previous bid process have been incorporated into the current, re-issued bid documents.

Item 3 - Additional individuals from any bidder wishing to gain access to the bid documents must register through eMarketplace and create an account to access e-Builder. Access cannot be granted in any other fashion.

Item 4 - In response to questions submitted, please note the following:

.1 CONTRACT

- Question 234: Museum : Please provide the average daily traffic count to the Museum.
- Response: Bidders should assume 12 cars per day (throughout the day) of regular Museum walk-in visitors. During guided tours, buses park in the parking lot. Please note, this is only for Museum guests and does not account for the times that the Academy uses the Chapel and parking lot for training purposes.
- Question 242: Marquee Building Structure for Spray Fireproofing : In regards to spray fireproofing for the Marquee Building, is the structure to be considered restrained or unrestrained?
- Response: The Marquee structure should be considered restrained at L2 and below (composite metal deck slabs), and unrestrained above L2 (CLT slabs).
- Question 300: BESO Storage Containers : Spec section 010100 calls for .1 contractor to relocate Beso storage containers. Please clarify what these are as we are not able to locate on drawings. Also, this same scope is listed in the Phase 6 scope. Please advise.

- Response: Scope is included in Phase 5 scope and will be clarified as not in Phase 6 scope in response to question on that project. Existing cadaver storage container is in vicinity of existing BESO Headquarters building, exact location to be verified with PSP. See new BESO Cadaver storage container location on BESO Overall Plan BSO-A-101 and site plan STE-C-404.

.2 CONTRACT

- Question 50: Plumbing RFI : HVAC-19: Addendum 31 dated July 31 changes the insulation jacket spec. 220719-26 3.18 C calls for all concealed pipe insulation to be finished with .020 PVC. 220719-26 3.18 D calls for exposed pipe insulation within 8' AFF to be finished with .024 SS Jacket. There is no need to install a PVC jacket over concealed pipe insulation. The factory applied ASJ jacket is a vapor barrier. And again .024 SS jacket and fittings are EXTREMELY expensive and very time consuming to install over the pipe insulation. We propose to jacket exposed pipe within 8' AFF with either a .016 Aluminum Jacket or .020 PVC Jacket. This is industry standard.
- Response: As per previous responses, Stainless Steel jacketing to be used for exposed piping 8' AFF. The rest of the piping (concealed and exposed) to get PVC jacketing.

.3 CONTRACT

- Question 9: Lavatories in toilet rooms : Plumbing drawings in MAQ, BESO and GYM buildings indicate countertop lavatories in multiple toilet rooms however the architectural drawings do not indicate a countertop in these toilet rooms. Please clarify what fixture will be required in the single toilet rooms of the BESO building, the single toilet rooms in the FTU building, single toilet rooms in the GYM building if a countertop is not indicated on the architectural drawings.
- Response: Refer to revised MAQ-P drawings as issued in Addendum 35. Fixture tags for BESO and GYM were revised previous, refer to revised drawings as issued in Addendum 34. Single toilet rooms to have wall mounted LAVs.
- Question 10: Plumbing Drawing GYM-P-114 : Drawing GYM-P-114 indicates an IM-1 in room G-100E and the fixture schedule indicates this as an ice machine, please clarify if the plumbing contractor is to provide the ice machine or just the connection to the ice machine.
- Response: .3 Plumbing contractor is only providing plumbing connection. .1 General Contractor is responsible for providing ice machine.
- Question 11: Domestic water booster pump specifications : The first bid had specification section 221123.13 for the booster pump however the rebid specifications do not include this section. Please provide specifications for the booster pump.
- Response: Refer to 223000 for domestic water booster pump specification.
- Question 12: Plumbing booster pump : Booster pump specifications section 223000-3 paragraph J indicates providing a booster pump with three pumps however drawing OTV-P-401 indicates a quadruplex booster pump. Please clarify if the schedule is correct or the specifications.
- Response: Provide quantity of equipment as scheduled on plans. Specifications have been updated for clarity as issued in Addendum 35.

SPECIFICATION CHANGES – ALL CONTRACTS

Item 1 - Please refer to the attached documents for updated specifications as described in responses to questions and listed below.

NUMBER / NAME / ACTION

000000 / TABLE OF CONTENTS / Conformed
087100_C / DOOR HARDWARE - ITV / Revised
223000 / PLUMBING EQUIPMENT / Revised

DRAWING CHANGES – ALL CONTRACTS

Item 1 - Please refer to the attached documents for updated drawings as described in responses to questions and listed below.

NUMBER / NAME / ACTION

MAQ-A-812 / FLOOR PART PLAN C - LEVEL 0 - SIGN LOCATION PLAN / Revised (Privacy Vinyl scope clarified - .1 Question 263)
MAQ-A-813 / FLOOR PART PLAN D - LEVEL 0 - SIGN LOCATION PLAN / Revised (Privacy Vinyl scope clarified - .1 Question 263)
MAQ-P-104.2 / MARQUEE -BELOWSLAB FLOOR PART PLAN D -SAN & VENT -LEVEL 0 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-111.1 / MARQUEE -OVERHEAD FLOOR PART PLAN A -SAN & VENT -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-111.2 / MARQUEE -BELOWSLAB FLOOR PART PLAN A -SAN & VENT -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-113.1 / MARQUEE -OVERHEAD FLOOR PART PLAN C -SAN & VENT -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-113.2 / MARQUEE -BELOWSLAB FLOOR PART PLAN C -SAN & VENT -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-114.1 / MARQUEE -OVERHEAD FLOOR PART PLAN D -SAN & VENT -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-114.2 / MARQUEE -BELOWSLAB FLOOR PART PLAN D -SAN & VENT -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-116 / MARQUEE -FLOOR PART PLAN A -DOMESTIC WATER SUPPLY -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-118 / MARQUEE -FLOOR PART PLAN C -DOMESTIC WATER SUPPLY -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-119 / MARQUEE -FLOOR PART PLAN D -DOMESTIC WATER SUPPLY -LEVEL 1 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
MAQ-P-402 / MARQUEE -SCHEDULES 2 OF 2 -PLUMBING / Revised (single-occupant restroom lavatory spec clarified)
BSO-P-401 / BESO -SCHEDULES -PLUMBING / Revised (shower spec clarified)

Opening List

The specifications in this list supersede drawing hardware conflicts.

<u>Opening</u>		<u>Hdw Set</u>
TD1	SINGLE DOOR	SET 02T
TD3	DOUBLE DOOR	SET 01T
TD4	BIFOLD DOOR	BO
TD5	DOUBLE DOOR GLASS	SET 01T
TD6	OH DOOR	BO
TD7	SLIDING DOOR	BO
TD8	SLIDING GLASS DOOR FIRE RATED	BO
F	SINGLE DOOR	EXT01AT
F2	DOUBLE DOOR	EXT02T
BR	BARN/SLIDING DOOR	

<u>OPENING</u>	<u>HDW SET</u>
M-0102 (TD9)	BO
M-0103	03-ITV
M-0104A	BO
M-0104B	BO
M-0109A	04-ITV
M-0109B	04-ITV
M-0111	07-ITV
M-0114	SEC 01 - ITV
M-0115	01B-ITV
M-0116B	03-ITV
M-0117	01-ITV
M-0127	01B-ITV
M-0251	03-ITV
M-0253	07B-ITV
M-0254	07B-ITV
M-0255	07B-ITV
M-0257	03-ITV

SET #01T – each opening to have:

6 Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
2 Manual Flushbolts	3917-12	626	TR
1 Classroom Function Lock	45H-7R15H PATD	630	BE
2 Concealed HD Overhead Stops	910S x LENGTH REQUIRED	626	DM
2 Closers	8916 SDS PUSH SIDE MOUNT STOP ARM	689	DM
2 Kick Plate	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1 Gasketing	5050 B @ HEAD AND JAMBS		NA
1 Meeting Astragal	5070 CL x HEIGHT AS REQUIRED		NA
+2 Door Sweep	200 NA x LENGTH AS REQUIRED		NA
1 Threshold	AS DETAILED		BY

NOTE: Provide additional hinge at doors over 7'6" in height.

SET #02T – each opening to have:

3	Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
1	Classroom Function Lock	45H-7R15H PATD	630	BE
1	Closer	8916 AF89P PUSH SIDE MOUNT	689	DM
1	Concealed HD Overhead Stop	910S x LENGTH REQUIRED	626	DM
1	Kick Plate	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1	Floor Stop	1211	630	TR
21	Door Sweep	200 NA x LENGTH AS REQUIRED		NA
1	Gasketing	5050 B @ HEAD AND JAMBS		NA
1	Threshold	AS DETAILED		BY

NOTE: Provide additional hinge at doors over 7'6" in height.

SET #EXT 01AT – each opening to have:

4	Butt Hinges	FBB199 4.5" x 4.5" NRP	US32D	ST
1	Exit Device	FL2103 x 4903	630	PR
1	Cylinder	BEST CYLINDER AND TEMP CORE AS REQUIRED	626	BE
1	Closer	8916 SDS PUSH SIDE MOUNT STOP ARM	689	DM
1	Kick Plate	KO050 8" x 2" LDW B4E C SUNK HOLES	630	TR
1	Gasketing	700 NA @ HEAD AND JAMBS		NA
1	Door Sweep	200 NA x LENGTH AS REQUIRED		NA
1	Threshold	AS DETAILED		BY

SET #EXT 02T – each opening to have:

6	Butt Hinges	FBB199 4.5" x 4.5" NRP	US32D	ST
2	Manual Flushbolts	3917 12	626	TR
1	Storeroom Function Lock	45H 7D15H PATD	630	BE
2	Closers	8916 SDS PUSH SIDE MOUNT STOP ARM	689	DM
2	Kick Plates	KO050 8" x 2" LDW B4E C SUNK HOLES	630	TR
1	Dust Proof Strike	3910	630	TR
1	Gasketing	700 NA @ HEAD AND JAMBS		NA
1	Meeting Astragal	5070 CL x HEIGHT AS REQUIRED		NA
2	Door Sweeps	200 NA x LENGTH AS REQUIRED		NA
1	Threshold	AS DETAILED		BY

SET #01-ITV

4	Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
1	Lockset	45H-7D15H PATD	630	BE
1	Closer	8916 A89 PUSH SIDE MOUNT	689	DM
1	Kick Plate	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1	Dome Stop	1211	626	
1	Gasketing	5050 B @ HEAD AND JAMBS		NA
1	Threshold	AS DETAILED		

SET#01B-ITV

3	Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
1	Storeroom Function Lock	45H-7D15H PATD	630	BE
1	Closer	8916 AF89P PUSH SIDE MOUNT	689	DM
1	Kick Plate	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1	Dome Stop	1211	626	TR

1 Gasketing	5050 B @ HEAD AND JAMBS		NA
1 Threshold	AS DETAILED		

SET #03-ITV

3 Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
1 Exit Device	FL2114 x 4914A	630	PR
1 Closer	8916 A89 PULL SIDE MOUNT	689	DM
1 Gasketing	5050 B @ HEAD AND JAMBS		NA
1 Threshold	AS DETAILED		BY

SET #04-ITV

6 Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
2 Exit Devices	FL2808 LBR x 4908	630	PR
2 Cylinders	BEST CYLINDER AND TEMP CORE AS REQUIRED	626	BE
2 Closers	8916 SDS PUSH SIDE MOUNT STOP ARM	689	DM
2 Kick Plates	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1 Gasketing	5050 B @ HEAD AND JAMBS		NA
1 Meeting Astragal	5070 CL x HEIGHT AS REQUIRED		NA
1 Threshold	AS DETAILED		

SET #07-ITV

3 Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
1 Privacy Set	45H-0L15H VIB	630	BE
1 Closer	8916 SDS PUSH SIDE MOUNT STOP ARM	689	DM
1 Kick Plate	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1 Gasketing	5050 B @ HEAD AND JAMBS	NA	
1 Threshold	AS DETAILED		BY

SET #07B-ITV

3 Butt Hinges	FBB168 4.5" x 4.5"	19	ST
1 Classroom Function Lock-	45H-7R15H PATD - BLACK	622	BE
1 Closer	8916 AF89P PUSH SIDE MOUNT	693	DM
1 Dome Stop	1211	622	TR
1 Gasketing	5050 B @ HEAD AND JAMBS		NA
1 Threshold	AS DETAILED		BY

SET #SEC 01 – ITV

3 Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
1 Electromechanical Lock	45HW-7DEL15H PATD RQE	626	BE
1 Closer	8916 A89 PULL SIDE MOUNT	689	DM
1 Kick Plate	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1 Power Transfer	EPT-12C		PR
1 Door Position Switch	DPS BY SECURITY VENDOR		BY
1 Access Control Device	ACCESS CONTROL BY SECURITY VENDOR	BY	
1 Dome Stop	1211	626	TR

1 Gasketing	5050 B @ HEAD AND JAMBS	NA
1 Threshold	AS DETAILED	BY

NOTE: Access Control readers, Door Position Switches, and related accessories by Security Vendor. Prep door and frame for door position switch, as required. Door to be connected to Class E System. Coordinate wiring with all trades.

SET #11- ITV

6 Butt Hinges	FBB168 4.5" x 4.5"	US26D	ST
2 Exit Devices	FL2808 LBR x 4908		
1 set Automatic Flush Bolts	3810 X 3810	626	TR
1 Classroom Function Lock	45H-7R15H PATD	630	BE
2 Closers	8916 SDS PUSH SIDE MOUNT STOP ARM	689	DM
2 Kick Plates	KO050 8" x 2" LDW B4E C-SUNK HOLES	630	TR
1 Dust Proof Strike	3910	630	TR
1 Gasketing	5050 B @ HEAD AND JAMBS	NA	
1 Meeting Astragal	5070 CL x HEIGHT AS REQUIRED		NA
1 Threshold	AS DETAILED		BY

NOTE: Provide additional hinge at doors over 7'6" in height.

Manufacturer List

<u>Code</u>	<u>Name</u>
BE	Best Access Systems
BY	By Others
DM	Dorma Door Controls
NA	National Guard
PR	BEST Precision Exit Devices
ST	BEST Hinges and Sliding
TR	Trimco

Finish List

<u>Code</u>	<u>Description</u>
19	Black Enameled
619	Satin Nickel Plated, Clear
622	Flat Black Coated
626, US26D	Satin Chromium Plated
630, US32D	Satin Stainless Steel
689	Aluminum Painted
693	Black Painted

**SECTION 223000
PLUMBING EQUIPMENT**

PART 1 - GENERAL

1.1 SUMMARY

- A. Work Included:
 - 1. Packaged Domestic Booster Pump System with Variable Speed Drive
 - 2. Hydro-Pneumatic Tank for Booster Pump System

1.2 RELATED SECTIONS

- A. Contents of Division 22, Plumbing and Division 01, General Requirements apply to this Section.

1.3 REFERENCES AND STANDARDS

- A. References and Standards as required by Section 22 00 00, Plumbing Basic Requirements and Division 01, General Requirements.

1.4 SUBMITTALS

- A. Submittals as required by Section 22 00 00, Plumbing Basic Requirements and Division 01, General Requirements.
- B. In addition, provide:
 - 1. Seismic anchor details and calculations signed and stamped by licensed Project Location State structural engineer with equipment data.

1.5 QUALITY ASSURANCE

- A. Quality assurance as required by Section 22 00 00, Plumbing Basic Requirements and Division 01, General Requirements.
- B. In addition, meet the following:
 - 1. NSF 61, Annex G compliant.
 - 2. ISO 9001 Certified.
 - 3. IAPMO Low Lead Certification.
- C. Products approved for installation by state authorizing agency, no exceptions.

1.6 WARRANTY

- A. Warranty of materials and workmanship as required by Section 22 00 00, Plumbing Basic Requirements and Division 01, General Requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Packaged Domestic Booster Pump System with Variable Speed Drive:
 - 1. System: ITT Bell and Gossett Series 70V Booster Pump System as manufactured by FlowTherm Systems.
 - 2. EnviroSep
 - 3. Federal Pump
 - 4. Grundfos
 - 5. QuantumFlo
 - 6. Paco
 - 7. Peerless
 - 8. Precision
 - 9. Syncro Flo
 - 10. Or approved equivalent.
- B. Hydro-Pneumatic Tank for Booster Pump System:
 - 1. Bell and Gossett
 - 2. Amtrol
 - 3. Armstrong
 - 4. American Wheatley
 - 5. Hanson
 - 6. Or approved equivalent.

2.2 GENERAL

- A. Reference Drawings for capacities and specific model numbers.

2.3 PACKAGED DOMESTIC BOOSTER PUMP SYSTEM WITH VARIABLE SPEED DRIVE

- A. System: Domestic Cold Water
- B. Entire unit is to be delivered complete with operating controls and require only plumbing and electrical service connections.
- C. Furnish and install prefabricated water pressure booster system. System capable of automatically providing constant system pressure.
- D. System is based on a design pressure of 27 PSI residual and 35 PSI static. Contractor to field verify flow test numbers are correct.
- E. Pressure for BP-1 set at 35 and 30 PSI - 4-feet above top of highest roof level.
- F. System factory assembled, wired, electrically tested, hydrostatic pressure tested and shipped ready for field piping connection and wiring. Field startup by manufacturer is required for final acceptance.
- G. Factory Test Certification: Factory certifies in writing that water pressure booster system and its component parts have undergone complete electric and hydraulic test prior to shipment. Test includes system operating flow test from zero to 100 percent design flow rate under specified suction and net system pressure conditions. Certification includes copies of test data as recorded by X-Y plotter. System test may be witnessed by Owner, Architect, or Engineer by reporting intent to do so to factory.
- H. System furnished with suction and discharge headers constructed of welded stainless steel Schedule 10 pipe. Header pipe sizing designed for maximum of 8 fps velocity. Connections to headers flanged. Pipe welding performed by ASME Section IX certified welders. Piping built to ASME/ANSI B31.9 specifications.
- I. Pressure gauges supplied on suction and discharge manifold headers and provided with stainless steel cases, glycerin filled, and rated for plus 1 or minus 1 percent accuracy. Gauges selected for operation at mid-scale.
- J. System furnished with pumps as listed on project schedule. Standard Bell and Gossett Series 1531 single stage centrifugal pumps with bronze-fitted construction and internally flushed mechanical seals. Pump casings to have vent and drain ports at top and bottom of casings.
- K. Each pump fitted with isolation valves and union connections or flanges to facilitate future service requirements. Each pump furnished with silent check valve with bronze trim.
- L. Common pump discharge header includes thermally activated purge valve built into header system for booster pumps to allow water to be purged to remote drain in event of system control failure.
- M. Single point disconnect panel skid mounted and factory wired. Factory wiring includes variable frequency drive wiring, motor wiring, differential pressure switch wiring and low

suction pressure switch wiring. Pressure transducer shipped loose for field installation at high point in system as standard for optimal performance. Transducer located next to hydropneumatic tank at 31st Level.

- N. An ITT Bell and Gossett Technologic 500 Pump Logic Controller provided as pressure booster control panel. This is to be combination Pump Controller and Variable Frequency Drive in single enclosure.
- O. Technologic pump logic controller assembly listed by and bear label of Underwriter's Laboratory, Inc. (UL) and Canadian Underwriter's Laboratory (CUL) and CE marked. Controller specifically designed for variable speed pump applications. Controller functions to proven program that safeguards against damaging hydraulic conditioning including:
 - 1. Pump flow surges.
 - 2. Hunting
 - 3. Low suction pressure.
 - 4. System over pressure.
- P. Pump logic controller microcomputer based and hold its software in EPROM. On-line field modified data entries, such as setpoint, stored in EEPROM. EEPROM memory storage prevents accidental loss of data due to voltage surge or spike. In event of complete power outage, field preset values remain stored and able to be recalled by operator.
- Q. Pump logic controller capable of receiving up to two discrete analog inputs from transmitters indicated on Drawings. It will then select analog signal that has deviated greatest amount from its setpoint. This selected signal will be used as command feedback input for hydraulic stabilization function to minimize hunting. Each input signal capable of maintaining different set point value. Controller capable of controlling all pumps in parallel. Scan and compare rate that selects command setpoint and process variable signal continuous and automatically set for optimum operation. Each sensor scanned every 2 milliseconds.
- R. Controller have fused door interlock disconnect, local-off-remote switch, motor overload protection, diagnostic display, manual and automatic alternation, auto start of lag pump on lead failure and accept pump differential pressure switch signals for pump fail notification.
- S. External transmitters furnished by ITT Bell and Gossett powered by Technologic Pump Logic Controller through quality integral 24 volt dc power supply and protected from reverse polarity of analog inputs. Overvoltage and short circuit protection on board. Hydraulic stabilization programs utilize proportional integral derivative control function. Proportional, integral and derivative values user adjustable over an infinite range. Pump logic controller self prompting. Fault messages displayed in plain English. Operator interface have following features:
 - 1. Multi-fault memory and recall of last 10 faults and related operational data.

2. Red fault light, Yellow warning light, and Green power on light.
 3. Soft-touch membrane keypad switches.
- T. Display four lines, with 20 characters on three lines and eight large characters on one line. Actual pump information displayed indicating pump status.
- U. Controller capable of performing the following pressure booster functions:
1. Low suction pressure cut-out to protect pumps against operating with insufficient suction pressure. This function resets automatically.
 2. High system pressure cut-out to protect piping system against high pressure conditions. This function requires manual reset.
 3. No flow shut down to turn the pumps off automatically when system demand is low enough to be supplied by hydropneumatic tank. No flow shutdown requires external flow meters, flow switches, nor pressure switches to determine when no flow condition exists.
- V. The following hardwire communication features provided to BAS:
1. Remote system start/stop non-powered digital input.
 2. Failure of any system component. Output closes to indicate alarm condition.
 3. One 4-20 mA output with selectable output of:
 - a. Frequency
 - b. Process Variable
 - c. Output Current
 - d. Output Power
- W. Entire booster system, including piping, wiring, and controls, UL listed.
- X. Entire system pre-assembled onto heavy duty structural steel frame constructed of 4-inch minimum angle iron with channel iron pump bases. Frame welded in accordance with AWS D1.1 Specifications. Frame includes sturdy lifting and bolt-down clips.
- Y. Provide remote hydropneumatic tank for domestic water system and included as part of booster pump system.
- Z. Components pre-piped, wired, and tested prior to shipment. System hydrostatic tested, cleaned, flushed, and painted with an industrial grade of epoxy based enamel.

- AA. Field plumbing connections required will be system suction and discharge headers, temp probe drain line, piping of hydropneumatic pressure tank with union ball valve, pressure gauge and drain provided.
- BB. Field electrical connections required will be input power supply to the control panel and remote pressure transducer control wiring.
- CC. Coordinate location of unit and electrical characteristics with Division 26, Electrical work.
- DD. Unit mounted on housekeeping pad. Provide seismic anchor calculations for this equipment, stamped and signed by licensed Project Location State structural engineer.
- EE. Manufacturer's representative provides system check and start-up service for the system.

2.4 HYDRO-PNEUMATIC TANK FOR BOOSTER PUMP SYSTEM

- A. System: Domestic Water Booster Pump.
- B. Entire unit is to be delivered complete with operating controls and require only plumbing and electrical service connections.
- C. Remote hydro-pneumatic tank for booster pump system included loose with packaged BP-1 system.
- D. Tank fully acceptance replaceable bladder style and include union isolation valve, tank drain, pressure gauge and drain valve. Tank shipped loose for field installation as indicated on the Drawings.

PART 3 - EXECUTION

3.1 GENERAL

- A. Examine areas and conditions under which equipment is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.
- B. Install equipment in accordance with manufacturer's installation instructions. Install units plumb and level, firmly anchored in locations indicated, and maintain manufacturer's recommended clearances.
- C. Orients so controls and devices needing service and maintenance have adequate access.
- D. Certificates: Submit appropriate Certificates of Shop Inspection and Data Report as required by provisions of ASME Boiler and Pressure Vessel Code.
- E. Connect water piping to units with shutoff valves and unions.
- F. Equipment Rigging: Heavy duty rigging eye bolts for Crosby Group swivel hoist rings installed over pump access covers for removal or maintenance.

G. Equipment Start-Up:

1. Start-up, test, and adjust equipment in accordance with manufacturer's start-up instructions. Check and calibrate controls.
2. Start-up performed by authorized manufacturer's representative or agent. Provide credentials of start-up personnel to Architect and Owner's Authorized Representative for approval.
3. Remove and replace filters when start-up testing is executed.
4. Manufacturer adjusts operating parameters of equipment to compensate to elevation of 500-feet above sea level.
5. Architect, Commissioning Agent, and Owner's Authorized Representative will be notified 10 days prior to start-up and will be present at start-ups.
6. Provide written report from manufacturer's representative on results of start-up within 48 hours.
7. Technical Training of maintenance staff includes two hours minimum per each piece of equipment.
8. Seismic Verification:
 - a. Contractor will retain structural engineer who will submit stamped and signed anchoring and restraint details on plumbing equipment with submittal data in accordance with Division 22, Plumbing requirements.
 - b. Contractor's Structural Engineer will test and verify in writing that seismic restraints have been installed in accordance with their details.

3.2 PACKAGED DOMESTIC BOOSTER PUMP SYSTEM WITH VARIABLE SPEED DRIVE

- A. Examine areas and conditions under which equipment is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.
- B. Install equipment in accordance with manufacturer's installation instructions. Install units plumb and level, firmly anchored in locations indicated, and maintain manufacturer's recommended clearances.
- C. Orients so controls and devices needing service and maintenance have adequate access.
- D. Certificates: Submit appropriate Certificates of Shop Inspection and Data Report as required by provisions of ASME Boiler and Pressure Vessel Code.
- E. Connect water piping to units with shutoff valves and unions.

- F. Equipment Rigging: Heavy duty rigging eye bolts for Crosby Group swivel hoist rings installed over pump access covers for removal or maintenance.
- G. Equipment Start-Up:
 1. Start-up, test, and adjust equipment in accordance with manufacturer's start-up instructions. Check and calibrate controls.
 2. Start-up performed by authorized manufacturer's representative or agent. Provide credentials of start-up personnel to Architect and Owner's Authorized Representative for approval.
 3. Remove and replace filters when start-up testing is executed.
 4. Manufacturer adjusts operating parameters of equipment to compensate to elevation of 500-feet above sea level.
 5. Architect, Commissioning Agent, and Owner's Authorized Representative will be notified 10 days prior to start-up and will be present at start-ups.
 6. Provide written report from manufacturer's representative on results of start-up within 48 hours.
 7. Technical Training of maintenance staff includes two hours minimum per each piece of equipment.

3.3 HYDRO-PNEUMATIC TANK FOR BOOSTER PUMP SYSTEM

- A. Examine areas and conditions under which equipment is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.
- B. Install equipment in accordance with manufacturer's installation instructions. Install units plumb and level, firmly anchored in locations indicated, and maintain manufacturer's recommended clearances.
- C. Orients so controls and devices needing service and maintenance have adequate access.
- D. Certificates: Submit appropriate Certificates of Shop Inspection and Data Report as required by provisions of ASME Boiler and Pressure Vessel Code.
- E. Connect water piping to units with shutoff valves and unions.
- F. Equipment Rigging: Heavy duty rigging eye bolts for Crosby Group swivel hoist rings installed over pump access covers for removal or maintenance.
- G. Equipment Start-Up:

1. Start-up, test, and adjust equipment in accordance with manufacturer's start-up instructions. Check and calibrate controls.
2. Start-up performed by authorized manufacturer's representative or agent. Provide credentials of start-up personnel to Architect and Owner's Authorized Representative for approval.
3. Remove and replace filters when start-up testing is executed.
4. Manufacturer adjusts operating parameters of equipment to compensate to elevation of 500-feet above sea level.
5. Architect, Commissioning Agent, and Owner's Authorized Representative will be notified 10 days prior to start-up and will be present at start-ups.
6. Provide written report from manufacturer's representative on results of start-up within 48 hours.
7. Technical Training of maintenance staff includes two hours minimum per each piece of equipment.

END OF SECTION 223000

DOMESTIC WATER HEATER SCHEDULE

TAG	MODEL	BASIS OF DESIGN	BUILDING	LOCATION	ROOM #	TYPE	RECOVER RATE (GPH) @100 °F RISE	BTU/HR INPUT	TURNDOWN	STORAGE (GAL)	STORAGE TEMPERATURE	EFFICIENCY	RELIEF VALVE		ELECTRICAL				MOTOR DATA				GAS		DIRECT VENTING		APPROX. DRY WEIGHT (LBS.)	DIMENSIONS (HXD)	REMARKS	
													PRESSURE (PSI)	TEMP. RATING	AMPS	PHASE	CYCLE	VOLTS	AMPS	PHASE	CYCLE	VOLTS	TYPE	OPERATING PRESSURE (INWC.)	CONNECTION (IN.)	AIR INLET				VENT SIZE
DWH-1	SWA400N	LOCHINVAR	BESO	PLUMBING ROOM	B-133	TANKTYPE	459	399,000	5:1	110	140 °F	96%	150	180 °F	2.5	1	60	120	-	-	-	-	NATURAL	10" - 14"	1"	4"	4"	850	77.5"X34"	1, 2, 3, 4

REMARKS:
 1. PROVIDE MASTER THERMOSTATIC MIXING VALVE AS REQUIRED.
 2. REFER TO MECHANICAL DRAWINGS FOR VENT SIZE AND CONNECTIONS. GC SHALL SUBMIT VENT SHOP DRAWING AND CALCULATION FOR EOR'S REVIEW.
 3. PROVIDE LOCAL 100 db AUDIBLE WATER LEAK DETECTOR ALARM.
 4. TCC SHALL INTEGRATE WATER HEATER'S MODBUS COMMUNICATION TO BMS SYSTEM.

EXPANSION TANK SCHEDULE

TAG	QTY	SERVICE	LOCATION	MANUFACTURER	TYPE	MODEL	SYSTEM VOLUME	MAX TEMP	FLUID TYPE	MAX PRESS (PSIG)	TANK VOL (GAL)	ACCEPT VOL (GAL)	DRY WEIGHT (LBS)	DIA (IN)	HEIGHT (IN)	WORKING PRESSURE (PSIG)	NOTES	BASIS OF DESIGN
ET-1	1	DWH SYSTEM	B-132	BELL & GOSSETT	DIAPHRAGM	PT-5	25	200	WATER	150	2	0.9	5	8	12-5/8	150	1	BELL & GOSSETT

- ASME RATED TANKS
- HVAC DUTY
- POTABLE WATER RATED

PUMP SCHEDULE

PUMP #	LOCATION	TYPE	MODEL	SERVICE	GPM	TDH	MOTOR DATA			BASIS OF DESIGN
							RPM	CYCLE	VOLTS	
P-1	B-133	CIRCULATOR	NBF-36	DWH SYSTEM	2.8	22	4600	60	115	BELL & GOSSETT

- PROVIDE 80 GAL CUSHION TANK FOR PACKAGED DOMESTIC WATER BOOSTER PUMP SYSTEM.
- REFER TO SPECIFICATION 15453 FOR ADDITIONAL INFORMATION.
- PROVIDE ELASTOMETRIC HANGERS: DOUBLE-DEFLECTION TYPE, WITH MOLDED OIL RESISTANT RUBBER OR NEOPRENE ISOLATOR ELEMENTS BONDED TO STEEL HOUSINGS WITH THREADED CONNECTIONS FOR HANGER RODS.

SUMP PUMP SCHEDULE

PUMP #	LOCATION	SERVICE	TYPE	MODEL NO.	GPM	TDH	MOTOR DATA					BASIS OF DESIGN
							RPM	HP	PHASE	CYCLE	VOLTS	
SP-1	B-126	SUMP PUMP	DUPLX	ELKT2EC0538	50	25	3500	1/2	3	60	208	BELL & GOSSET

ELECTRIC BOOSTER WATER HEATER

WATER HEATER	LOCATION	ELECTRICAL DATA				APPROX WEIGHT (LBS)	DIMENSIONS (HxWxD)	MODEL	MANUFACTURER
		KW	PHASE	CYCLE	VOLTS				
BWH-1	B-119	7.2	SINGLE	CYCLE	240	5.8	8"x11.5"x3.75"	DURA-POWER DEL-15	AO SMITH

GRINDER PUMP SCHEDULE

TAG	QTY	GENERAL			PERFORMANCE				MOTOR DATA			
		SERVICE	MANUFACTURE	MODEL	FLOW (GPM)	HEAD (FT.HD)	MAX. SHUT OFF HEAD (FT.HD)	MOTOR (HP)	FLA (AMPS)	SPEED (RPM)	POWER (V/PH/Hz)	WEIGHT (LBS)
GP-1	1	GRINDER SUMP	ZOELLER	7011	50	25	46	2	5.5	3450	460/3/60	137

PLUMBING FIXTURE SCHEDULE

TAG	PLUMBING FIXTURE	CONNECTION SIZE - INCHES						MOUNTING HEIGHT RIM A.F.F.	OPTION 1	OPTION 2	OPTION 3	FAUCET/FLUSH VALVE/TRAP PRIMER OR SEAL			REMARKS
		TRAP	SOIL/WASTE	VENT	COLD WATER	COLD WATER FLUSH...	HOT WATER					OPTION 1	OPTION 2	OPTION 3	
WC-1	WATER CLOSET FLUSHOMETER TYPE	4"	4"	2"	-	1"	-	KOHLER KINGSTON K-4325	ZURN Z5615-BWL	AMERICAN STANDARD AFWALL MILLENNIUM	ZURN ZEM56000AV-IS	ECOS 111	AMERICAN STANDARD 2064196.295		
WC-1A	WATER CLOSET FLUSHOMETER TYPE...	4"	4"	2"	-	1"	-	KOHLER DEXTER K-5016-ET	ZURN Z5730	AMERICAN STANDARD ALLBROOK	ZURN ZEM56003AV-IS	ECOS 186 HW	AMERICAN STANDARD SELECTRONICS 6062		
UR-1	URINAL	2"	2"	2"	-	3/4"	-	Kohler Kathryn K-2297-0	Toto Atherton LT221#01	American Standard Townsend 0330000.020	Kohler Geometric K-13468-CP	Zurn Cumberland Z6956-XL-CV	SLOAN EAF-100		
UR-1A	URINAL ADA	2"	2"	2"	-	3/4"	-	Kohler Kathryn K-2297-0	Toto Atherton LT221#01	American Standard Townsend 0330000.020	Kohler Geometric K-13468-CP	Zurn Cumberland Z6956-XL-CV	SLOAN EAF-100		
LAV-1	LAVATORY	2"	2"	2"	1/2"	-	1/2"	DELTA CLASSIC 400 36"X36" SHOWER BASE	DREAM LINE 36X36 SLIM LINE SINGLE THRESHHOLD...	DURABASE 36" x 36" Double Threshold Shower Base...	Kohler Honesty K-TLS99764-4	Moen 90 Degree Chrome M-CORE 2	Delta Modern Monitor 14 Series		
LAV-1A	LAVATORY ADA	2"	2"	2"	1/2"	-	1/2"	Kohler Sallient K-9055	DREAM LINE SLIMLINE 60"X36"	American Standard Studio A8003L-RHO.020	Kohler Awaken G110 K-99242-G	Moen 3669EP Eco-Performance Handhel...	Delta 3-Setting Slide Bar Handshower		
LAV-2	LAVATORY DORM	2"	2"	2"	1/2"	-	1/2"	MUSTEE-26CF	Skeleton 36"x24"	PROFLS-PPCF4024	Kohler K-14408-4-CP	Zurn Z825B4	Elkay 8KD208513C-733		
LAV-2A	LAVATORY DORM ADA	2"	2"	2"	1/2"	-	1/2"	Florestone 23x23 in	Kohler K-6716	Zurn Z5898	Kohler K-8928-CP	Zurn AquaSpec Z842M1	Speakman SC-5811		
SH-1	SHOWER	2"	2"	2"	1/2"	-	1/2"	Kohler Vault K-3894-4	American Standard Edgewater...	Elkay DRKAD282255	Kohler K-14408-4-CP	Zurn Z825B4	Elkay 8KD208513C-733		
SH-1A	SHOWER ADA	2"	2"	2"	1/2"	-	1/2"	KOHLER WHITBY K-6710	Zurn Z1996-SF	American Standard 8344212	Kohler K-8928-CP	Zurn AquaSpec Z842M1	Speakman SC-5811		
SK-1	DOUBLE LENGTH URINAL SINK	2"	2"	2"	1/2"	-	1/2"	WATTS FD-100-A6	Zurn Z415B	J R Smith 2110	SureSeal Trap Seal	Zurn Z-Shield	Josam TSI Trap Seal		
SK-2	UTILITY SINK	2"	2"	2"	1/2"	-	1/2"	WATTS FD-100-A6	Zurn Z415B	J R Smith 2110	SureSeal Trap Seal	Zurn Z-Shield	Josam TSI Trap Seal		
SK-3	KITCHEN SINK	2"	2"	2"	1/2"	-	1/2"	WATTS FD 230	Zurn Z415B	J R Smith 2110	SureSeal Trap Seal	Zurn Z-Shield	Josam TSI Trap Seal		
JS-1	JANITOR SINK	3"	3"	2"	3/4"	-	3/4"	WATTS FS-730	Zurn Z1900	J R Smith 3130	SureSeal Trap Seal	Zurn Z-Shield	Josam TSI Trap Seal		
FD-1	FLOOR DRAIN	2"	2"	2"	-	-	-	Elkay LZWS-LRPBM28K	Halsey Taylor HTHB-HACG8BLSS-WF	Oasis PG858FSL					
FD-2	FLOOR DRAIN	3"	3"	2"	-	-	-	MAYTAG MHN33	Speed Queen FF7 FF7008WN	WHIRLPOOL CHH9160GW	GUY GRAY B200	LSP OB-502	OATEY 38530		
FD-3	FLOOR DRAIN	4"	4"	2"	-	-	-	MAYTAG MLE26P8BYW	Speed Queen ADEE9R	WHIRLPOOL CED9160GW					
FS-1	FLOOR SINK	2"	2"	2"	-	-	-	NELSON - 1200B	PROHYDRATE STAINLESS STEEL AUTOMATIC DOG WATERER	XL STAINLESS STEEL AUTOMATIC STOCK & PET WATERER					
DF-1	DRINKING FOUNTAIN	2"	2"	2"	3/4"	-	-								
DF-1A	DRINKING FOUNTAIN ADA	2"	2"	2"	3/4"	-	-								
WM-1	COMMERCIAL WASHER	2"	2"	2"	3/4"	-	-								
DR-1	COMMERCIAL ELECTRIC DRYER	-	-	-	-	-	-								
DW-1	DOG WATERER	-	-	-	1/2"	-	-								

REFER TO ARCHITECTURAL DRAWINGS

THERMOSTATIC MIXING VALVE SCHEDULE

UNIT No.	DESCRIPTION	MODEL NO.	INLET WATER TEMPERATURE (°F)	SET POINT WATER TEMPERATURE (°F)	REMARKS
TMV-1	MASTER TMV	LEONARD-XL-150-LF	140 °F	120 °F	①
TMV-2	LOCAL TMV	ACORN-ST-70	120 °F	105 °F	-

- ① PROVIDE SURFACE MOUNTED STAINLESS STEEL CABINET WITH VIEW PORT FOR THERMOMETER INDOOR AND LOCK SET FOR CABINET.

BACK FLOW PREVENTERS SCHEDULE

LEGEND	QTY	LOCATION	SERVICE	SIZE	BASIS OF DESIGN
DCDA	1	PLUMBING / FIRE PROTECTION ROOM B-132	FIRE SERVICE	6"	WILKINS 350ADA
RPZ	1	PLUMBING / FIRE PROTECTION ROOM B-132	DOMESTIC WATER	4"	WILKINS 375A

FLOOR DRAIN IDENTIFICATION

FLOOR DRAIN TYPE	LOCATION
A	TOILET ROOMS/SHOWER STALL
S	MECHANICAL SPACES ON GRADE

WATER HAMMER ARRESTOR

UNIT No.	WHA-1
LOCATION	AS SHOWN ON DRAWINGS
SERVING	DOMESTIC COLD WATER
MANUFACTURER	WATTS INDUSTRIES, INC.
MODEL	#15M2
SIZE	1/2"

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.

231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects

1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP

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MECHANICAL AVIT ENGINEER

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Cerami

1001 Ave of the Americas, 4th Floor, New York, NY 10018

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CCI

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Langan

1818 Market St #3300, Philadelphia, PA 19103

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LANDSCAPE

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MCLA

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FOOD SERVICE

Hopkins Foodservice Specialists, Inc.

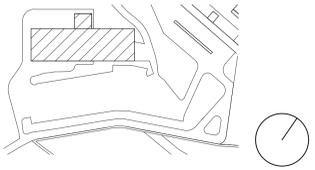
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International

7536 N. La Cholla Blvd Tucson, AZ 85741

KEYPLAN



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	25 JULY 2023	ADDENDUM 35			
1	21 JULY 2023	ADDENDUM 34			
1	19 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS



SIGNATURE: *Jitendra K. Agarwal* DATE: 2023-07-25

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
 250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF GENERAL SERVICES
 HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**
Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
 PENNSYLVANIA STATE POLICE
 HERSHEY, DAUPHIN COUNTY, PA

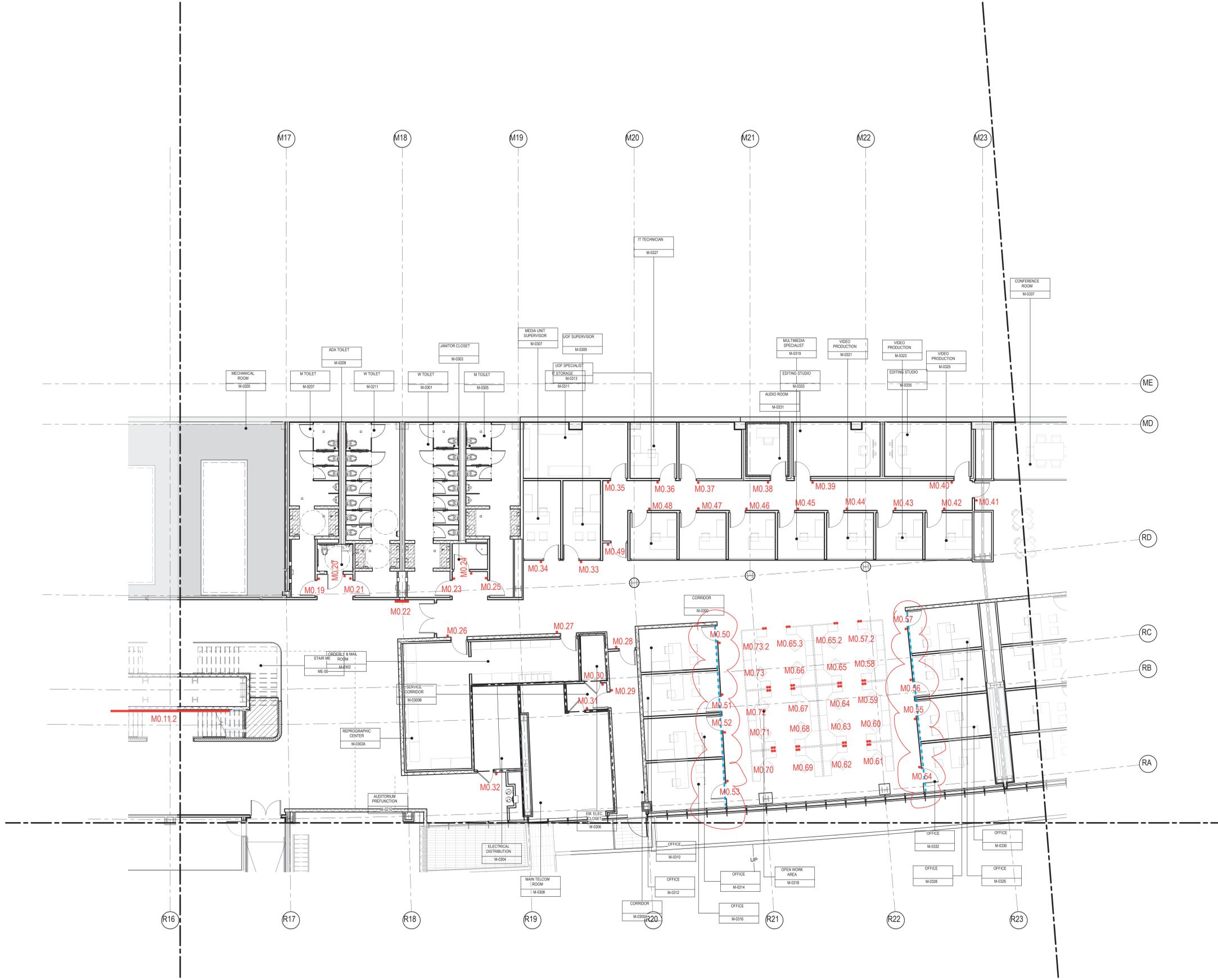
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SHEET No.	DATE	SCALE
BSO-P-401		AS NOTED

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DRAWN BY: JG/HP CHECKED BY: HS/JKA



LEGEND

- F1.00 Sign Location Number
- Wayfinding Sign
- Room Sign
- Cubicle Sign
- Fire Evac Sign
- Privacy Vinyl
- Refer to GEN-A-806

TACTICAL TRAINING DESIGN

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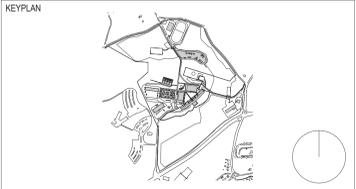
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NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
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1	17 MAY 2023	ISSUED FOR BID			

RECORD REVISIONS

SIGNATURE _____ DATE _____

ARCHITECT

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250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

**Pennsylvania State Police Academy
Core Buildings, BESO & Sitework**
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

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SHEET No. **MAQ-A-812**

DRAWN BY Author	CHECKED BY Checker	DATE SEPT 2022	SCALE AS NOTED
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1 FLOOR PART PLAN - LEVEL 0C SIGN LOCATION PLAN
SCALE: 1/8" = 1'-0"
0 16'-0" 32'-0" 64'-0" 128'-0"



- GENERAL NOTES:**
- ALL UNDERGROUND STORM WATER PIPING SHALL HAVE MINIMUM OF 1/4" PER FOOT OF SLOPE.
 - ALL UNDERGROUND SANITARY PIPING SHALL HAVE MINIMUM OF 1/4" PER FOOT OF SLOPE.
 - ALL PENETRATIONS THROUGH FOUNDATION WALLS SHALL BE PROVIDED WITH LINK-SEAL TYPE PIPE SEAL FOR HYDROSTATIC SEAL.
 - ALL BENDS, CROSS CONNECTIONS UNDERGROUND SHALL BE MADE USING LONG SWEEP ELBOWS AND WYE FITTINGS.
 - REFER TO STRUCTURAL AND SITE/CIVIL DRAWINGS FOR UNDERGROUND PIPE TRENCH BACKFILL MATERIAL AND COMPACTION DETAILS.
 - ALL UNDERGROUND JOINTS SHALL BE BELL AND SPIGOT WITH LEAD AND OKUM TYPE.
 - ELEVATIONS AND INVERTS SHOWN HERE ARE APPROXIMATE FOR PRELIMINARY COORDINATION ONLY.
 - CONTRACTOR SHALL SUBMIT SHOP-DRAWING FOR AOR REVIEW AFTER COORDINATING WITH OTHER TRADES AND PRIOR TO COMMENCING ANY WORK.
 - ALL INSTALLATION ARE SUBJECT TO GETTING APPROVED BY AUTHORITY HAVING JURISDICTION (AHJ).
 - ALL WALL AND FLOOR CLEANOUTS, SERVING 4" AND SMALLER, SHALL BE THE SAME SIZE AS THE PIPING SYSTEM THEY SERVE. CLEANOUTS SERVING 5" AND 6" PIPE SYSTEM SHALL BE 4". CLEANOUTS SERVING 8" PIPING SYSTEM SHALL BE 6".
 - PROVIDE ACCESS PANELS IN HARD CEILINGS AND WALL FOR ACCESS TO ALL PLUMBING EQUIPMENT, ISOLATION VALVES, ETC. THE ACCESS PANELS SHALL BE 24" X 24" MINIMUM. PAINT THE PANELS WITH COLOR MATCHING WALL OR CEILING PAINT COLOR SURROUNDING.

- SHEET NOTES:**
- TERMINATE SECONDARY ROOF DRAIN ABOVE GRADE USING WALL DOWNSPOUT NOZZLE. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR DOWNSPOUT INSTALLATION. DETAIL: DOWNSPOUT NOZZLE SHALL HAVE INTEGRAL BIRD SCREEN.
 - REFER TO SITE/CIVIL DRAWINGS FOR CONTINUATION.

RECORD REVISIONS

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	25 JULY 2023	ADDENDUM 35			
1	21 JULY 2023	ADDENDUM 34			
	19 MAY 2023	ISSUED FOR BID			

SIGNATURE: *Jitendra K. Agarwal* DATE: 2023-07-25

ARCHITECT: **SOM**
 Skidmore, Owings & Merrill LLP
 250 Greenwich St., New York, 10007
 COMMONWEALTH OF PENNSYLVANIA
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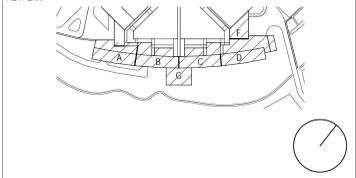
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SHEET NO: **MAQ-P-104.2**
 DRAWN BY: NV/KT CHECKED BY: HS/JKA DATE: AS NOTED

1 MARQUEE - BELOWSLAB FLOOR PART PLAN D - SAN & VENT - LEVEL 0 - PLUMBING
 SCALE: 1/8" = 1'-0"
 0 4'-0" 8'-0" 16'-0" 32'-0"

- TACTICAL TRAINING DESIGN
- Tactical Design North, Inc.**
231 E. Buffalo St #502, Milwaukee, WI 53202
- LOCAL ARCHITECT
- Jacobs Wyper Architects**
1232 Chancellor St, Philadelphia, PA 19107
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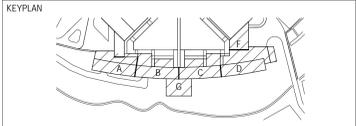
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1. ALL UNDERGROUND STORM WATER PIPING SHALL HAVE MINIMUM OF 1/4" PER FOOT OF SLOPE.
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11. PROVIDE ACCESS PANELS IN HARD CEILINGS AND WALL FOR ACCESS TO ALL PLUMBING EQUIPMENT, ISOLATION VALVES, ETC. THE ACCESS PANELS SHALL BE 24" X 24" MINIMUM. PAINT THE PANELS WITH COLOR MATCHING WALL OR CEILING PAINT COLOR SURROUNDING.

SHEET NOTES:

1. TERMINATE SECONDARY ROOF DRAIN ABOVE GRADE USING WALL DOWNSPOUT NOZZLE. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR DOWNSPOUT INSTALLATION DETAIL. DOWNSPOUT NOZZLE SHALL HAVE INTEGRAL BIRD SCREEN.
2. PROVIDE HOUSE TRAP OUTSIDE BUILDING. COORDINATE WITH SITE/CIVIL DRAWINGS FOR LOCATION.
3. PROVIDE 8W/6 OF HEAT TRACING ON DOWNSPOUT. REFER TO GEN-P-503 FOR HEAT TRACING DETAILS.

TACTICAL TRAINING DESIGN			
Tactical Design North, Inc. 231 E. Buffalo St #502, Milwaukee, WI 53202			
LOCAL ARCHITECT			
Jacobs Wyper Architects 1232 Chancellor St, Philadelphia, PA 19107			
STRUCTURAL ENGINEER			
Skidmore, Owings & Merrill LLP 250 Greenwich St, New York, NY 10007			
ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER			
A & J Consulting Engineering Services, P.C. 164 Brighton Rd, Clifton, NJ 07012			
MECHANICAL, AVIATION ENGINEER			
Interface Engineering, Inc. 2000 M Street NW, Suite 270, Washington, DC 20036			
ACOUSTICAL ENGINEER			
Cerami 1001 Ave of the Americas, 4th Floor, New York, NY 10018			
CODE CONSULTING			
CCI 215 W 40th St, 10th Floor, New York, NY 10018			
CIVIL ENGINEER			
Langan 1818 Market St #3300, Philadelphia, PA 19103			
VERTICAL TRANSPORT			
Michael Blades & Associates Ltd. 5409 Rapihan Ct, Lothian, MD 20711			
SIGNAGE CONSULTANT			
Patricia Hord Graphik Design 119 S. St. Asaph St, Alexandria, VA 22314			
LANDSCAPE			
Lee and Associates, Inc. 638 I Street NW, Washington, DC 20001			
LIGHTING			
MCLA 1000 Potomac St NW, Suite 121, Washington, DC 20007			
FOOD SERVICE			
Hopkins Foodservice Specialists, Inc. 7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818			
POOL DESIGN			
Aqua Design International 7536 N. La Cholla Blvd Tucson, AZ 85741			



NO. DATE DESCRIPTION NO. DATE DESCRIPTION			
1	25 JULY 2024	ADDENDUM 35	
2	19 MAY 2023	ISSUED FOR BID	
RECORD REVISIONS			

JITENDRA K. AGARWAL
 ENGINEER
 2023-07-25
 SIGNATURE DATE

SOM
 Skidmore, Owings & Merrill LLP
 250 Greenwich St, New York, 10007
 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF GENERAL SERVICES
 HARRISBURG, PENNSYLVANIA
 D.G.S. PROJECT NO.
C-0211-0005 PHASE 5
 Pennsylvania State Police Academy
 Core Buildings, BESO & Sitework
 PENNSYLVANIA STATE POLICE
 HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE
 BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING: 0 1
 IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY
 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.
 SHEET NO. **MAQ-P-111.1**
 DRAWN BY NV/KT CHECKED BY HS/JKA DATE AS NOTED SCALE AS NOTED

1 MARQUEE - OVERHEAD FLOOR PART PLAN A - SAN & VENT - LEVEL 1 - PLUMBING
 SCALE: 1/8" = 1'-0"
 4'-0" 8'-0" 16'-0" 32'-0"



GENERAL NOTES:

1. ALL UNDERGROUND STORM WATER PIPING SHALL HAVE MINIMUM OF 1/4" PER FOOT OF SLOPE.
2. ALL UNDERGROUND SANITARY PIPING SHALL HAVE MINIMUM OF 1/4" PER FOOT OF SLOPE.
3. ALL PENETRATIONS THROUGH FOUNDATION WALLS SHALL BE PROVIDED WITH LINK-SEAL TYPE PIPE SEAL FOR HYDROSTATIC SEAL.
4. ALL BENDS, CROSS CONNECTIONS UNDERGROUND SHALL BE MADE USING LONG SWEEP ELBOWS AND WYE FITTINGS.
5. REFER TO STRUCTURAL AND SITE/CIVIL DRAWINGS FOR UNDERGROUND PIPE TRENCH BACKFILL MATERIAL AND COMPACTION DETAILS.
6. ALL UNDERGROUND JOINTS SHALL BE BELL AND SPIGOT WITH COMPRESSION GASKET.
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9. ALL INSTALLATION ARE SUBJECT TO GETTING APPROVED BY AUTHORITY HAVING JURISDICTION (AHJ).
10. ALL WALL AND FLOOR CLEANOUTS, SERVING 4" AND SMALLER, SHALL BE THE SAME SIZE AS THE PIPING SYSTEM THEY SERVE. CLEANOUTS SERVING 5" AND 6" PIPE SYSTEM SHALL BE 4". CLEANOUTS SERVING 8" PIPING SYSTEM SHALL BE 6".
11. PROVIDE ACCESS PANELS IN HARD CEILINGS AND WALL FOR ACCESS TO ALL PLUMBING EQUIPMENT, ISOLATION VALVES, ETC. THE ACCESS PANELS SHALL BE 24" X 24" MINIMUM. PAINT THE PANELS WITH COLOR MATCHING WALL OR CEILING PAINT COLOR SURROUNDING.

SHEET NOTES:

1. TERMINATE SECONDARY ROOF DRAIN ABOVE GRADE USING WALL DOWNSPOUT NOZZLE. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR DOWNSPOUT INSTALLATION DETAIL. DOWNSPOUT NOZZLE SHALL HAVE INTEGRAL BIRD SCREEN.
2. PROVIDE HOUSE TRAP OUTSIDE BUILDING. COORDINATE WITH SITE/CIVIL DRAWINGS FOR LOCATION.

TACTICAL TRAINING DESIGN

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LANDSCAPE

Lee and Associates, Inc.
638 I Street NW, Washington, DC 20001

LIGHTING

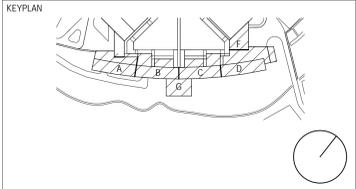
MCLA
1000 Potomac St NW, Suite 121, Washington, DC 20007

FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
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	19 MAY 2023	ISSUED FOR BID			

REGISTERED PROFESSIONAL ENGINEER
PENNSYLVANIA
JITENDRA K AGARWAL
ENGINEER
PE0331786

2023-07-25
DATE

ARCHITECT

SOM
Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No.
C-0211-0005 PHASE 5

Pennsylvania State Police Academy
Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

BAR IS ONE (1) INCH LONG
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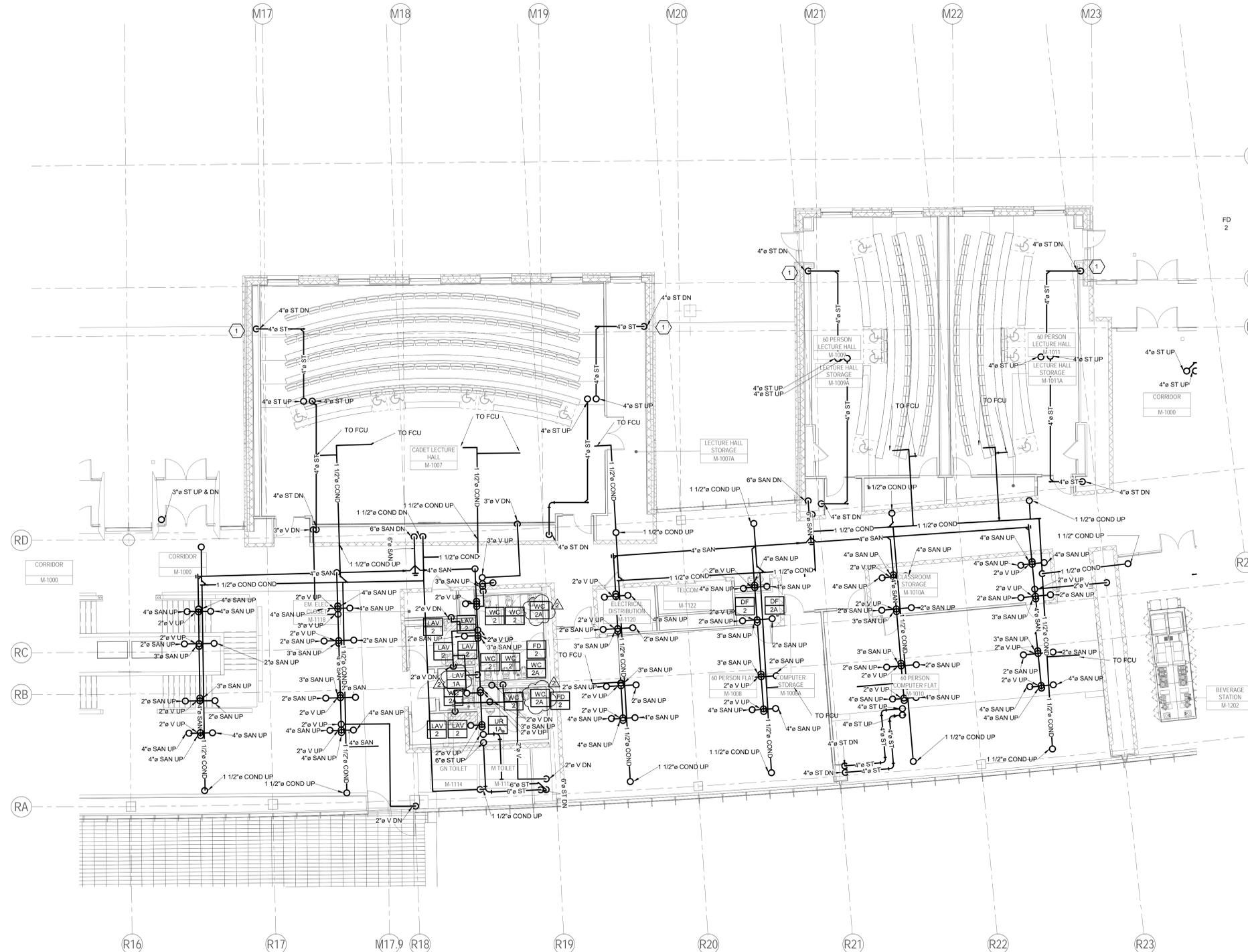
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MARQUEE - BELOWSLAB FLOOR
PART PLAN A - SAN & VENT - LEVEL 1
- PLUMBING

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.

SHEET No. **MAQ-P-111.2**

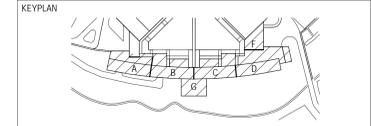
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1 MARQUEE - OVERHEAD FLOOR PART PLAN C - SAN & VENT - LEVEL 1 - PLUMBING
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1	21 JULY 2023	ADDENDUM 34			
1	19 MAY 2023	ISSUED FOR BID			



SIGNATURE: *Jitendra K. Agarwal* DATE: 2023-07-25

ARCHITECT
SOM
 Skidmore, Owings & Merrill LLP
 250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF GENERAL SERVICES
 HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No:
C-0211-0005 PHASE 5

Pennsylvania State Police Academy
 Core Buildings, BESO & Sitework
 PENNSYLVANIA STATE POLICE
 HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

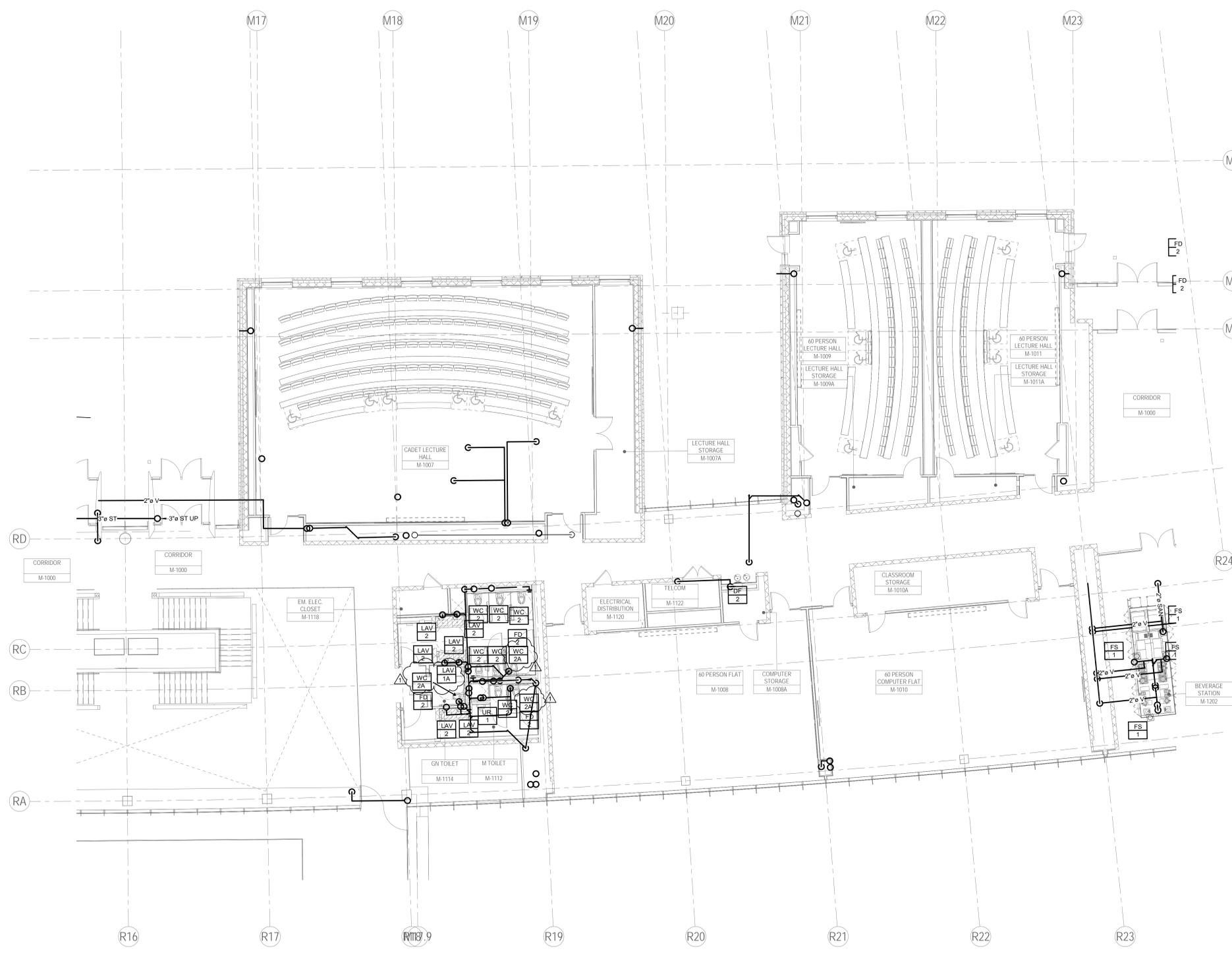
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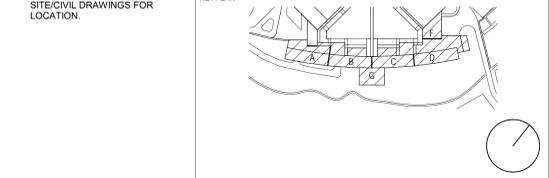
SHEET No: **MAQ-P-113.1**

DRAWN BY: NV/KT CHECKED BY: HS/JKA DATE: AS NOTED



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- VERTICAL TRANSPORT:**
- Cerami**
1001 Ave of the Americas, 4th Floor, New York, NY 10018
 - CCI**
215 W 40th St, 10th Floor, New York, NY 10018
 - Langan**
1818 Market St #3300, Philadelphia, PA 19103
 - Michael Blades & Associates Ltd.**
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RECORD REVISIONS			
NO.	DATE	DESCRIPTION	NO. DATE DESCRIPTION
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	19 MAY 2023	ISSUED FOR BID	

Professional Engineer Seal for Jitendra K. Agarwal, Commonwealth of Pennsylvania, License No. PE0331786, dated 2023-07-25.

ARCHITECT: SOM - Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

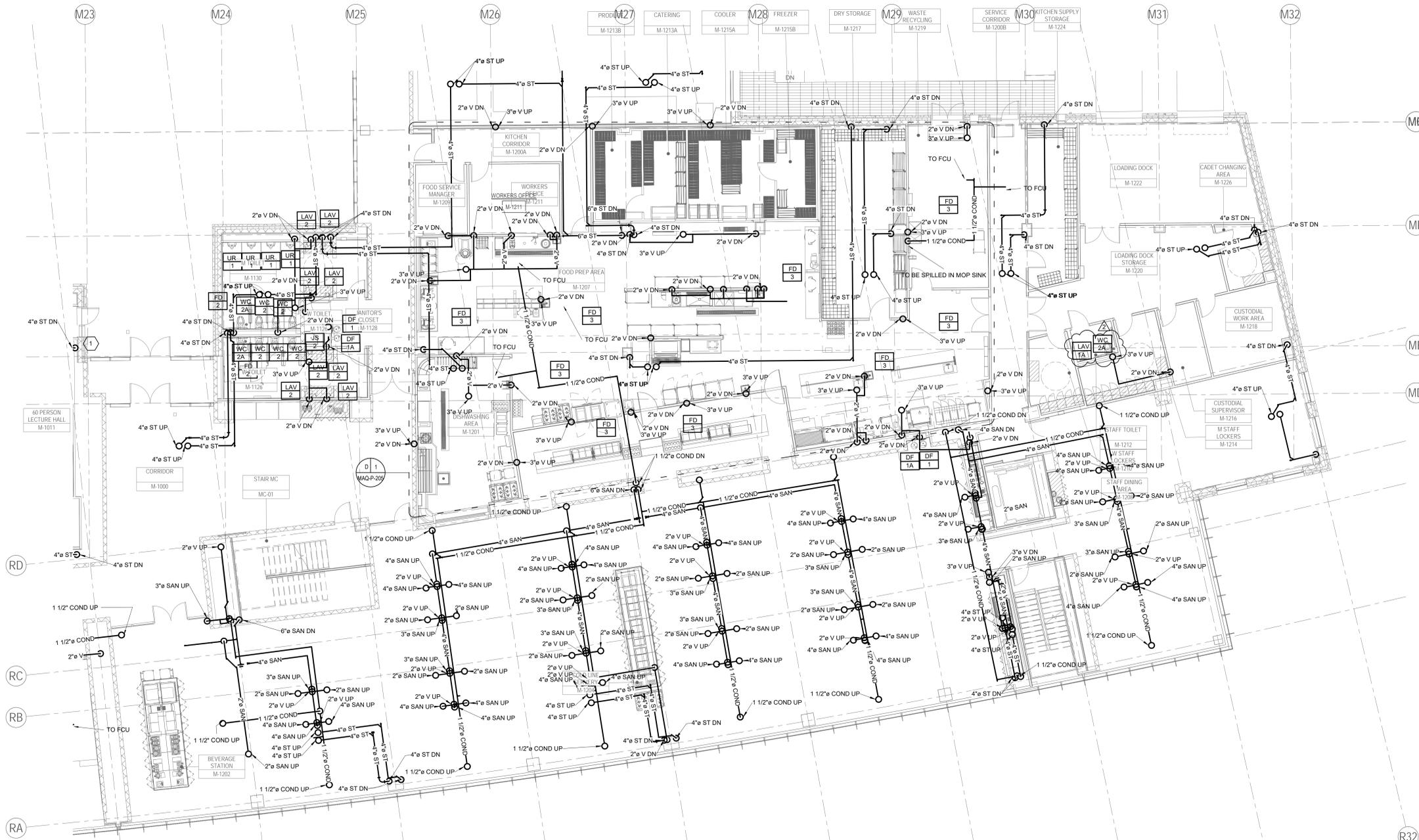
COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No: C-0211-0005 PHASE 5
Pennsylvania State Police Academy Core Buildings, BESO & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE:
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SHEET No: MAQ-P-113.2

DRAWN BY: NV/KT	CHECKED BY: HSI/JKA	DATE:	SCALE: AS NOTED
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KEY PLAN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
2	25 JULY 2023	ADDENDUM 35			
1	21 JULY 2023	ADDENDUM 34			
	19 MAY 2023	ISSUED FOR BID			



SIGNATURE: *J. Agarwal* DATE: 2023-07-25

ARCHITECT

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Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, 10007

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF GENERAL SERVICES
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. **C-0211-0005 PHASE 5**

Pennsylvania State Police Academy
Core Buildings, BES0 & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE

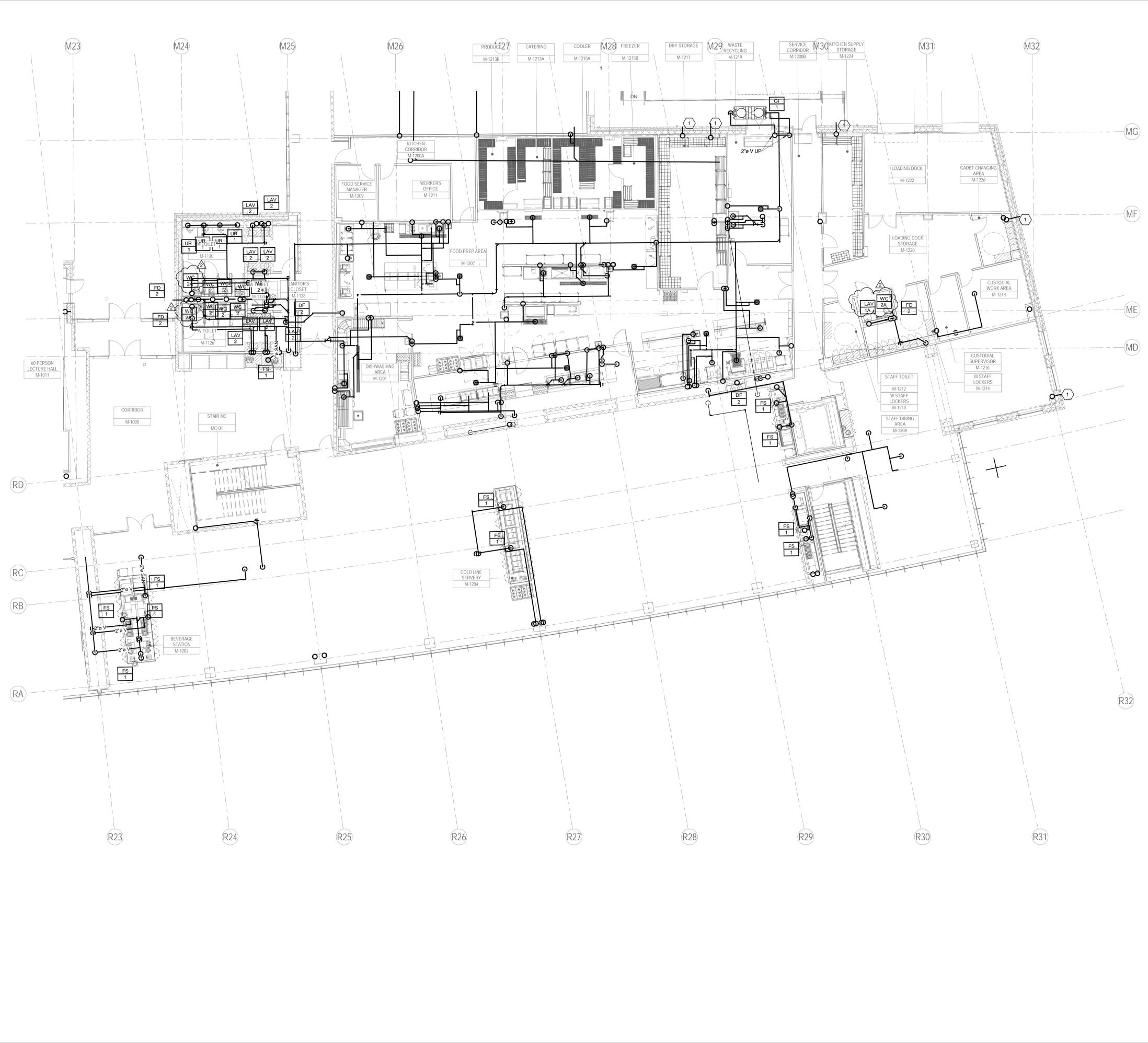
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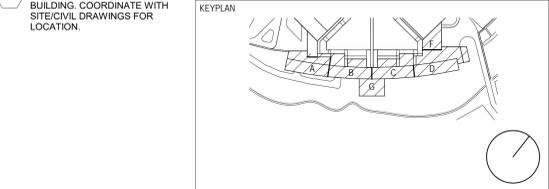
SHEET No. **MAQ-P-114.1**

DRAWN BY: NV/KT	CHECKED BY: HS/JKA	DATE:	SCALE: AS NOTED
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
JITENDRA K. AGARWAL
 ENGINEER
 P.E. 00331786
 PENNSYLVANIA

2023-07-25
 SIGNATURE DATE

SOM
Skidmore, Owings & Merrill LLP
 250 Greenwich St., New York, 10007

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 DEPARTMENT OF GENERAL SERVICES
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SHEET No. **MAQ-P-114.2**

DRAWN BY	CHECKED BY	DATE	SCALE
NV/KT	HS/JKA		AS NOTED



- GENERAL NOTES:**
1. ALL PIPING SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID FREEZING. ALL WATER PIPING SHALL BE INSTALLED BELOW ATTIC/ROOF INSULATION AND NO PIPING SHALL BE INSTALLED WITHIN EXTERIOR WALLS.
 2. THE INSTALLATION OF PLUMBING SYSTEMS SHALL IN NO WAY CRUSH OR COMPROMISE BUILDING INSULATION AND ALL BELOW GRADE WATER PIPING SHALL BE INSTALLED NO LESS THAN 6" BELOW FROST DEPTH.
 3. ALL PIPING SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING LINES. THEY SHALL BE SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION.
 4. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES OR OPEN CEILING SPACES.
 5. INSULATION AND VAPOR BARRIER SHALL BE PROVIDED ON ALL PIPING AND/OR EQUIPMENT SUBJECT TO HEAT LOSS, CONDENSATION OR CONSTITUTING A POTENTIAL BURN HAZARD.
 6. ACCESS DOORS AND/OR PANELS SHALL BE PROVIDED AT ALL MAINTENANCE AND SERVICE LOCATIONS FOR CONCEALED CONTROL DEVICES, VALVES AND PLUMBING EQUIPMENT/DEVICES. UNLESS SIZE OF ACCESS DOOR IS SPECIFICALLY NOTED, PANELS SHALL BE SIZED 18" X 18" MINIMUM AND SHALL BE PAINTED WITH SAME COLOR AS SURROUNDING PAINT COLOR.
 7. ALL PIPING SHALL BE SUPPORTED DIRECTLY FROM STRUCTURAL ELEMENTS. NO OTHER COMPONENTS SHALL BE SUPPORTED FROM PLUMBING PIPING.
 8. PROVIDE LOCAL TEMPERING VALVES FOR ALL LAVATORIES, SHOWERS AND HAND SINKS. TEMPERING VALVES SHALL CONFORM WITH ASSE 1070.
 9. PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSING VALVES WITH ISOLATION VALVE AND WITH ACCESS OR ACCESS PANELS.
 10. ALL THREADED HOSE CONNECTIONS TO DOMESTIC WATER SYSTEM SHALL HAVE AN APPROVED VACUUM BREAKER, I.E. HOSE BIBBS, WALL HYDRANTS, SYSTEM DRAINS, EQUIPMENT DRAINS, ETC.
 11. PROVIDE INDIVIDUAL SHUT-OFF VALVES FOR EACH PLUMBING FIXTURE, INCLUDING DRINKING FOUNTAINS.
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LOCAL ARCHITECT

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STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

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164 Brighton Rd, Clifton, NJ 07012

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Cerami
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LIGHTING

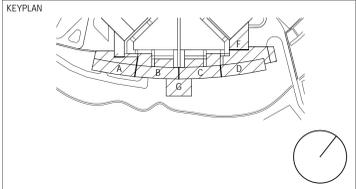
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POOL DESIGN

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NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	25 JULY 2023	ADDENDUM 35			
	19 MAY 2023	ISSUED FOR BID			



SIGNATURE: *Jitendra K. Agarwal* DATE: 2023-07-25

ARCHITECT

SOM
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COMMONWEALTH OF PENNSYLVANIA
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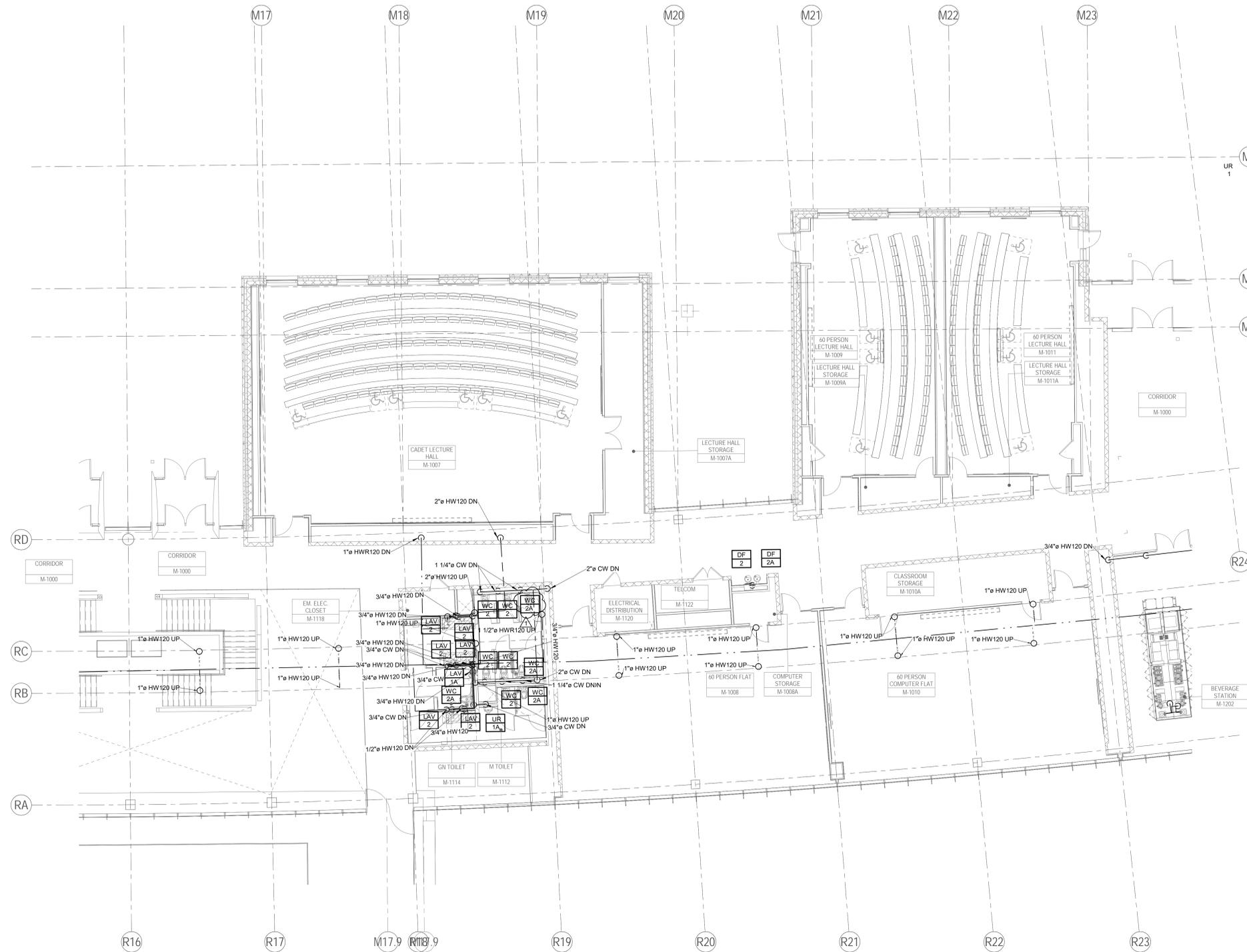
D.G.S. PROJECT No.
C-0211-0005 PHASE 5

Pennsylvania State Police Academy
Core Buildings, BES0 & Sitework
PENNSYLVANIA STATE POLICE
HERSHEY, DAUPHIN COUNTY, PA

VERIFY SCALE		SHEET No.	
BAR IS ONE (1) INCH LONG	ON ORIGINAL DRAWING: 1	MAQ-P-116	
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY		DRAWN BY: NV/KT	CHECKED BY: HS/JKA
CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.		DATE:	SCALE: AS NOTED

1 MARQUEE - FLOOR PART PLAN A - DOMESTIC WATER SUPPLY - LEVEL 1 - PLUMBING

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



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 6. ACCESS DOORS AND/OR PANELS SHALL BE PROVIDED AT ALL MAINTENANCE AND SERVICE LOCATIONS FOR CONCEALED CONTROL DEVICES, VALVES AND PLUMBING EQUIPMENT/DEVICES. UNLESS SIZE OF ACCESS DOOR IS SPECIFICALLY NOTED, PANELS SHALL BE SIZED 18" X 18" MINIMUM AND SHALL BE PAINTED WITH SAME COLOR AS SURROUNDING PAINT COLOR.
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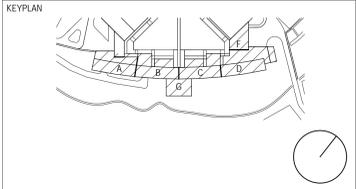
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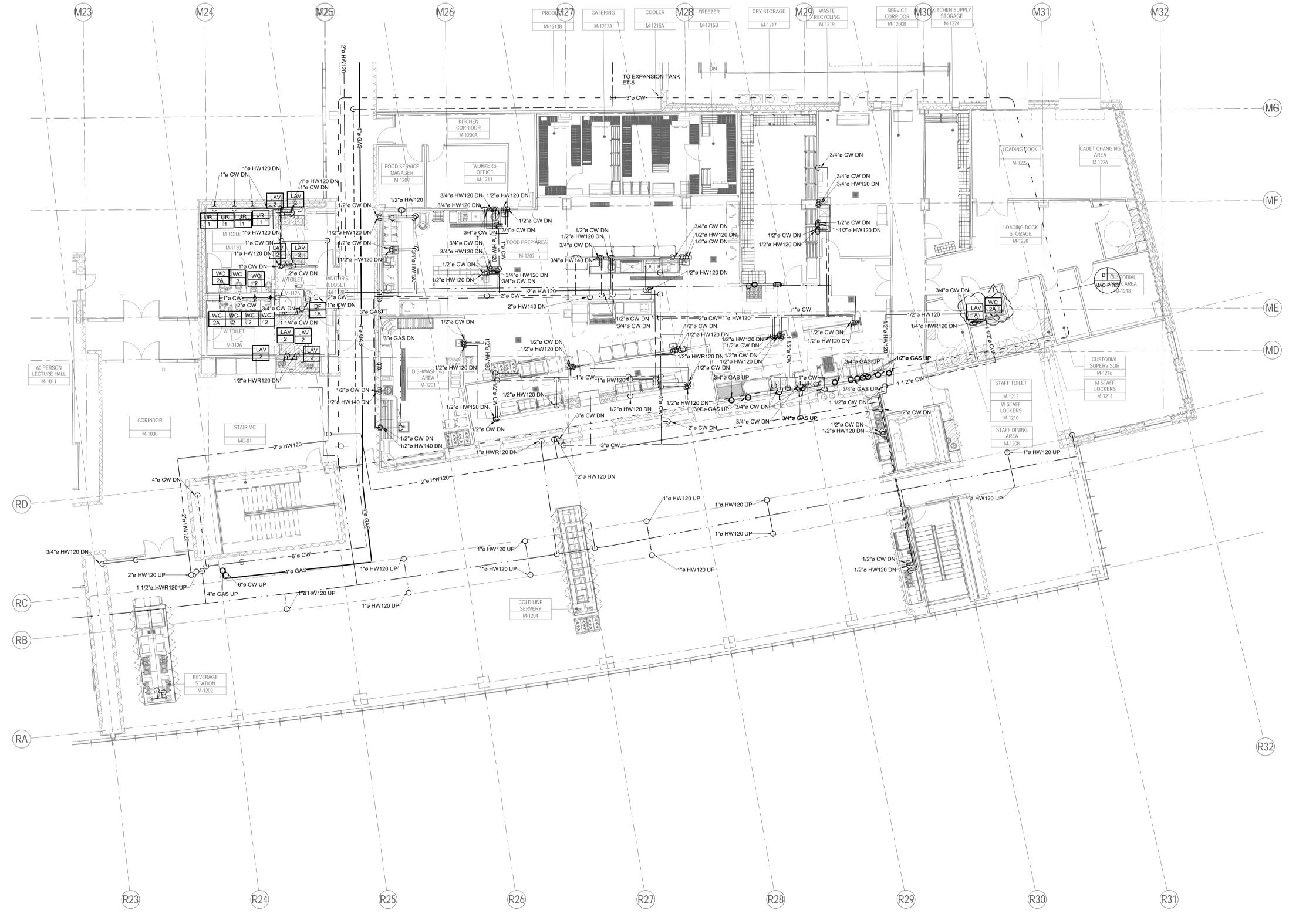
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CHECKED BY: HSI/JKA
DATE: _____
SCALE: AS NOTED

1 MARQUEE - FLOOR PART PLAN C - DOMESTIC WATER SUPPLY - LEVEL 1 - PLUMBING

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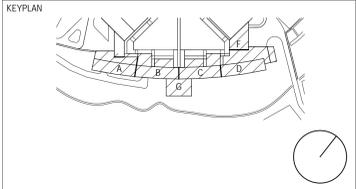
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PLUMBING FIXTURE SCHEDULE

TAG	PLUMBING FIXTURE	CONNECTION SIZE - INCHES							MOUNTING HEIGHT RIM A.F.F.	OPTION 1			OPTION 2			OPTION 3			REMARKS
		TRAP	SOIL/WASTE	VENT	COLD WATER	COLD WATER FLUSH VALVE	HOT WATER	THERMOSTATIC MIXING VALVE		OPTION 1	OPTION 2	OPTION 3	OPTION 1	OPTION 2	OPTION 3				
WC-1	WATER CLOSET DORM TANK TYPE	4"	4"	2"	3/4"	-	-	-	KOHLER BETELLO COMFORT HEIGHT K-20197	ZURN Z5555-K	AMERICAN STANDARD CHAMPION RIGHT EHEIGHT 7478A_1075C								
WC-1A	WATER CLOSET DORM TANK TYPE ADA	4"	4"	2"	3/4"	-	-	-											
LAV-1	LAVATORY DORM	2"	2"	2"	1/2"	-	1/2"	1/2"	Duravit D-Neo Washbasin 236655	Kohler Soho	American Standard Decorum	Kohler Honesty K-99760-4	Moen 6900 Rizon	AMERICAN STANDARD TIMES SQUARE					
LAV-1A	LAVATORY DORM ADA	2"	2"	2"	1/2"	-	1/2"	1/2"											
SH-1	SHOWER	2"	2"	2"	1/2"	-	1/2"	1/2"	DELTA CLASSIC 400 36"x36" SHOWER BASE	DREAM LINE 36"x36" SLIM LINE SINGLE THRESHHOLD...	DURABASE 36" x 36" Double Threshold Shower Base 3636DTM	Kohler Honesty K-TL599764-4	Moen 90 Degree Chrome M-CORE 2	Delta Modern Monitor 14 Series					
SH-1A	SHOWER ADA	2"	2"	2"	1/2"	-	1/2"	1/2"											
SK-1	LAUNDRY SINK	2"	2"	2"	1/2"	-	1/2"	1/2"	Kohler Sallient K-9055	DREAM LINE SLIMLINE 60"x36"	American Standard Studio A8003L-RHO.020	Kohler Awaken G110 K-99242-G	Moen 3669EP Eco-Performance Handheld...	Delta 3-Setting Slide Bar Handshower					
SK-1A	LAUNDRY SERVICE SINK	2"	2"	2"	1/2"	-	1/2"	1/2"	Duravit D-Neo Washbasin 236655	Kohler Soho K-3084	American Standard Decorum	Kohler Geometric K-13468-CP	Zurn Cumberland Z6956-XL-CV	American Standard Selectronic 7755303.002					
SK-2	DAY ROOM SINK	2"	2"	2"	1/2"	-	1/2"	1/2"	Kohler K-6719 Bannon	Zurn Z5880	American Standard Lakewell	Kohler K-14408-4-CP	Zurn Z825B4	Elkay 8KD208513C-733					
DF-1	DRINKING FOUNTAIN DORM	2"	2"	2"	1/2"	-	-	-	Kohler Vault K-3894-4	American Standard Edgewater...	Elkay DRKAD282255								
DF-1A	DRINKING FOUNTAIN DORM ADA	2"	2"	2"	1/2"	-	-	-	Elkay LZWS-LRPBM28K	Halsey Taylor HTHB-HACG8BLS5-WF	Oasis PG858FSL								
WC-2	WATER CLOSET FLUSHOMETER TYPE	4"	4"	2"	-	1"	-	-	KOHLER KINGSTON...	ZURN Z5615-BWL	AMERICAN STANDARD AFWALL MILLENNIUM	ZURN ZEM56000AV-IS	ECOS 111	AMERICAN STANDARD 2064196.295					
WC-2A	WATER CLOSET FLUSHOMETER TYPE ADA	4"	4"	2"	-	1"	-	-	KOHLER DEXTER K-5016-ET	ZURN Z5730	AMERICAN STANDARD ALLBROOK	ZURN ZEM56003AV-IS	ECOS 186 HW	AMERICAN STANDARD SELECTRONICS 6062					
UR-1	URINAL	2"	2"	2"	-	3/4"	-	-	Kohler Kathryn K-2297-0	Toto Atherton LT221R01	American Standard Townsend 0330000.020	Kohler Geometric K-13468-CP	Zurn Cumberland Z6956-XL-CV	SLOAN EAF-100					
UR-1A	URINAL ADA	2"	2"	2"	-	3/4"	-	-											
LAV-2	LAVATORY	2"	2"	2"	1/2"	-	1/2"	1/2"											
LAV-2A	LAVATORY ADA	2"	2"	2"	1/2"	-	1/2"	1/2"											
JS-1	JANITOR SINK	3"	3"	2"	3/4"	-	3/4"	3/4"	KOHLER WHITBY K-6710	Zurn Z5850	American Standard 7741000.020	Kohler K-8928-CP	Zurn AquaSpec Z842M1	Speakman SC-5811					
JS-2	JANITOR SINK	3"	3"	2"	3/4"	-	3/4"	3/4"	Zurn Z1996-24	American Standard MSBID2424100	Mustee 63M								
FD-1	FLOOR DRAIN	3"	3"	2"	-	-	-	-	WATTS FD-100-A6	Zurn Z415B	J R Smith 2110								
FD-2	FLOOR DRAIN	3"	3"	2"	-	-	-	-	WATTS FD-100-A6	Zurn Z415B	J R Smith 2110	SureSeal Trap Seal	Zurn Z-Shield	Josam TSI Trap Seal					
FD-3	FLOOR DRAIN	4"	4"	2"	-	-	-	-	WATTS FD-100-A6	Zurn Z415B	J R Smith 2110								
FS-1	FLOOR SINK	2"	2"	2"	1/2"	-	-	-	WATTS FS-730	Zurn Z1900	J R Smith 3130								
TD-1	TRENCH DRAIN	4"	4"	2"	1/2"	-	-	-	WATTS DEAD LEVEL D	Zurn Z886	JR SMITH 9940	Precision Plumbing Products P-1	MIFAB MI-500	Sioux Chief 695 Series					
DF-2	DRINKING FOUNTAIN	2"	2"	2"	3/4"	-	-	-	Elkay LZWS-LRPBM28K	Halsey Taylor HTHB-HACG8BLS5-WF	Oasis PG858FSL								
DF-2A	DRINKING FOUNTAIN ADA	2"	2"	2"	3/4"	-	-	-											
WM-1	COMMERCIAL WASHER	2"	2"	2"	3/4"	-	3/4"	-	MAYTAG MHN33	Speed Queen FF7 FF7008WN	WHIRLPOOL CHW9160GW	GUY GRAY B200	LSP OB-502	OATEY 38530					
DR-1	COMMERCIAL ELECTRIC DRYER	-	-	-	-	-	-	-	MAYTAG MLE26PRBYW	Speed Queen ADEE9R	WHIRLPOOL CED9160GW								

REFER TO ARCHITECTURAL DRAWINGS

GREASE INTERCEPTOR SCHEDULE

GREASE...	GPM...	INTERCEPTOR...	CONNECTIONS		GREASE...	MANUFACTURER...
			INLET	OUTLET		
GI-1	100	87" L x 33" W x 44" H	4"	4"	260	SCHIER MODEL #GB250

WALL HYDRANT SCHEDULE

TAG	PLUMBING FIXTURE	PIPE SIZE	BUILDING	OPTION 1	OPTION 2	OPTION 3	REMARKS
WH -1	WALL HYDRANT	3/4"	MAQ	ZURN Z1341	JAY R. SMITH 5670	Wade 8605	

ROOF DRAIN SCHEDULE

TAG	BUILDING	TYPE	SIZE	PROJECTED ROOF AREA (SQFT)	MODEL	BASIS OF DESIGN	REMARKS
RD-1	MAQ	Primary	4"	3185	RD2130-NH4-C-CI	ZURN	
ORD-1	MAQ	Secondary	4"	3185	ZURN		
RD-2	MAQ	Primary	4"	3235	RD2130-NH4-C-CI	ZURN	
ORD-2	MAQ	Secondary	4"	3235	ZURN		
RD-3	MAQ	Primary	4"	2175	RD2130-NH4-C-CI	ZURN	
ORD-3	MAQ	Secondary	4"	2175	ZURN		
RD-4	MAQ	Primary	4"	3216	RD2130-NH4-C-CI	ZURN	
ORD-4	MAQ	Secondary	4"	3216	ZURN		
RD-5	MAQ	Primary	6"	4310	2164	ZURN	
ORD-5	MAQ	Secondary	6"	4310	ZURN		
RD-6	MAQ	Primary	6"	4177	2164	ZURN	
ORD-6	MAQ	Secondary	6"	4177	ZURN		
RD-7	MAQ	Primary	4"	3280	RD2130-NH4-C-CI	ZURN	
ORD-7	MAQ	Secondary	4"	3280	ZURN		
RD-8	MAQ	Primary	4"	2158	RD2130-NH4-C-CI	ZURN	
ORD-8	MAQ	Secondary	4"	2158	ZURN		
RD-9	MAQ	Primary	4"	3225	RD2130-NH4-C-CI	ZURN	
ORD-9	MAQ	Secondary	4"	3225	ZURN		
RD-10	MAQ	Primary	4"	3205	RD2130-NH4-C-CI	ZURN	
ORD-10	MAQ	Secondary	4"	3205	ZURN		
RD-11	MAQ	Primary	4"	1082	RD2130-NH4-C-CI	ZURN	
ORD-11	MAQ	Secondary	4"	1082	ZURN		
RD-12	MAQ	Primary	4"	1080	RD2130-NH4-C-CI	ZURN	
ORD-12	MAQ	Secondary	4"	1080	ZURN		
RD-13	MAQ	Primary	4"	1640	RD2130-NH4-C-CI	ZURN	
ORD-13	MAQ	Secondary	4"	1640	ZURN		
RD-14	MAQ	Primary	4"	1848	RD2130-NH4-C-CI	ZURN	
ORD-14	MAQ	Secondary	4"	1848	ZURN		
RD-15	MAQ	Primary	4"	2122	RD2130-NH4-C-CI	ZURN	
ORD-15	MAQ	Secondary	4"	2122	ZURN		
RD-16	MAQ	Primary	4"	1080	RD2130-NH4-C-CI	ZURN	
ORD-16	MAQ	Secondary	4"	1080	ZURN		
RD-17	MAQ	Primary	4"	1156	RD2130-NH4-C-CI	ZURN	
ORD-17	MAQ	Secondary	4"	1156	ZURN		
RD-18	MAQ	Primary	4"	1160	RD2130-NH4-C-CI	ZURN	
ORD-18	MAQ	Secondary	4"	1160	ZURN		
RD-19	MAQ	Primary	4"	1168	RD2130-NH4-C-CI	ZURN	
ORD-19	MAQ	Secondary	4"	1168	ZURN		
RD-20	MAQ	Primary	4"	1324	RD2130-NH4-C-CI	ZURN	
ORD-20	MAQ	Secondary	4"	1324	ZURN		
RD-21	MAQ	Primary	4"	1288	RD2130-NH4-C-CI	ZURN	
ORD-21	MAQ	Secondary	4"	1288	ZURN		
RD-22	MAQ	Primary	4"	1085	RD2130-NH4-C-CI	ZURN	
ORD-22	MAQ	Secondary	4"	1086	ZURN		
RD-23	MAQ	Primary	4"	1078	RD2130-NH4-C-CI	ZURN	
ORD-23	MAQ	Secondary	4"	1078	ZURN		
RD-24	MAQ	Primary	4"	1410	RD2130-NH4-C-CI	ZURN	
ORD-24	MAQ	Secondary	4"	1410	ZURN		
RD-25	MAQ	Primary	4"	528	RD2130-NH4-C-CI	ZURN	
ORD-25	MAQ	Secondary	4"	528	ZURN		
RD-26	MAQ	Primary	4"	1512	RD2130-NH4-C-CI	ZURN	
ORD-26	MAQ	Secondary	4"	1512	ZURN		
RD-27	MAQ	Primary	4"	1378	RD2130-NH4-C-CI	ZURN	
ORD-27	MAQ	Secondary	4"	1338	ZURN		
RD-28	MAQ	Primary	4"	1662	RD2130-NH4-C-CI	ZURN	
ORD-28	MAQ	Secondary	4"	1662	ZURN		
RD-29	MAQ	Primary	4"	1662	RD2130-NH4-C-CI	ZURN	
ORD-29	MAQ	Secondary	4"	1662	ZURN		
RD-30	MAQ	Primary	4"	868	RD2130-NH4-C-CI	ZURN	
ORD-30	MAQ	Secondary	4"	868	ZURN		
RD-31	MAQ	Primary	4"	432	RD2130-NH4-C-CI	ZURN	
ORD-31	MAQ	Secondary	4"	432	ZURN		
RD-32	MAQ	Primary	4"	1508	RD2130-NH4-C-CI	ZURN	
ORD-32	MAQ	Secondary	4"	1508	ZURN		
RD-33	MAQ	Primary	4"	1516	RD2130-NH4-C-CI	ZURN	
ORD-33	MAQ	Secondary	4"	1516	ZURN		
RD-34	MAQ	Primary	4"	1338	RD2130-NH4-C-CI	ZURN	
ORD-34	MAQ	Secondary	4"	1338	ZURN		
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ORD-35	MAQ	Secondary	4"	1510	ZURN		
RD-36	MAQ	Primary	4"	1510	RD2130-NH4-C-CI	ZURN	
ORD-36	MAQ	Secondary	4"	1510	ZURN		
RD-37	MAQ	Primary	4"	1510	RD2130-NH4-C-CI	ZURN	
ORD-37	MAQ	Secondary	4"	1510	ZURN		
RD-38	MAQ	Primary	4"	1510	RD2130-NH4-C-CI	ZURN	
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RD-39	MAQ	Primary	4"	1510	RD2130-NH4-C-CI	ZURN	
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RD-40	MAQ	Primary	4"	1510	RD2130-NH4-C-CI	ZURN	
ORD-40	MAQ	Secondary	4"	1510	ZURN		

TACTICAL TRAINING DESIGN

Tactical Design North, Inc.
231 E. Buffalo St #502, Milwaukee, WI 53202

LOCAL ARCHITECT

Jacobs Wyper Architects
1232 Chancellor St, Philadelphia, PA 19107

STRUCTURAL ENGINEER

Skidmore, Owings & Merrill LLP
250 Greenwich St, New York, NY 10007

ELECTRICAL, PLUMBING, FIRE PROTECTION, FIRE ALARM ENGINEER

A & J Consulting Engineering Services, P.C.
164 Brighton Rd, Clifton, NJ 07012

MECHANICAL AVIT ENGINEER

Interface Engineering, Inc.
2000 M Street NW, Suite 270, Washington, DC 20036

ACQUISITIAL ENGINEER

Cerami
1001 Ave of the Americas, 4th Floor, New York, NY 10018

CODE CONSULTING

CCI
215 W 40th St, 10th Floor, New York, NY 10018

CIVIL ENGINEER

Langan
1818 Market St #3300, Philadelphia, PA 19103

VERTICAL TRANSPORT

Michael Blades & Associates Ltd.
5409 Rapiand Ct, Lothian, MD 20711

SIGNAGE CONSULTANT

Patricia Hord Graphik Design
119 S. St. Asaph St, Alexandria, VA 22314

LANDSCAPE

Lee and Associates, Inc.
6381 I Street NW, Washington, DC 20001

LIGHTING

MCLA
1000 Potomac St NW, Suite 121, Washington, DC 20007

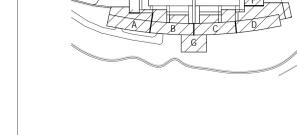
FOOD SERVICE

Hopkins Foodservice Specialists, Inc.
7906 MacArthur Blvd, Suite 100, Cabin John, MD 20818

POOL DESIGN

Aqua Design International
7536 N. La Cholla Blvd Tucson, AZ 85741

KEYPLAN



NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	25 JULY 2023	ADDENDUM 35			

**PENNSYLVANIA STATE POLICE ACADEMY
CORE BUILDINGS, BESO & SITEWORK**

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AJ	Architecture	Jacobs Wyper Associates (JWA)
AC	Acoustics	Cerami
C	Civil	Langan
CL	Code / Life Safety	Code Consultants, Inc. (CCI)
CM	Communications / AIS / IT	Interface Engineering
FP	Fire Protection	A&J Consulting Engineering Services, P.C.
FD	Food Service	Hopkins Food Service Specialists, Inc.
G	Geotechnical	Langan
H	Hazmat	Langan
LA	Landscape Architecture	Lee & Associates
LT	Lighting	MCLA
M	Mechanical	Interface Engineering
E	Electrical	A&J Consulting Engineering Services, P.C.
P	Plumbing	A&J Consulting Engineering Services, P.C.
O	Owner	PSP
SP	Pool	Aqua Design International
R	Radon Mitigation	BL Companies
S	Structure	Skidmore, Owings & Merrill (SOMS)
SG	Signage	Patricia Hord Graphik Design
SU	Sustainability	Skidmore, Owings & Merrill (SOMSu)
AT	Tactical Design	Tactical Design North (TDN)
VT	Vertical Transportation	Michael Blades & Associates, LTD
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