

MUHLENBERG TOWNSHIP PUBLIC WORKS PROPOSED OFFICES/MAINT. GARAGE BUILDING

5400 LEESPORT AVENUE TEMPLE PENNSYLVANIA

GENERAL NOTES:

1. ALL WORK TO BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND HIGHEST QUALITY STANDARDS.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND ESTABLISHING THE COMPATIBILITY OF ALL WORK WITH THE EXISTING CONDITIONS.
3. SCHEDULE AND SEQUENCING OF WORK TO BE REVIEWED WITH OWNER PRIOR TO BEGINNING WORK AND THROUGHOUT THE COURSE OF THE PROJECT IF REQUIRED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION AND CONTINUOUS MAINTENANCE OF ALL WORK FROM DAMAGE AND SHALL PROTECT OWNER'S PROPERTY AND ADJACENT PROPERTIES FROM DAMAGE OR LOSS BY DUST, DIRT, WATER, THEFT, FIRE, OR ANY OTHER PHYSICAL DAMAGE IN CONNECTION WITH THE CONTRACT.
5. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN KEEP IN SERVICE AND PROTECT AGAINST DAMAGE DURING ALL WORK. GENERAL CONTRACTOR TO COORDINATE CONSTRUCTION AROUND EXISTING EQUIPMENT, CONDUIT CABLING AND ETC.
6. PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SEALED WITH UL/FM APPROVED MATERIALS, TO MAINTAIN RATING PROCEDURES AND PRODUCTS SHALL BE COORDINATED WITH THE OWNER AND ARCHITECT.
7. ALL INTERIOR DIMENSIONS ARE FROM FACE OF STUD (OR MASONRY) TO FACE OF STUD (OR MASONRY), UNLESS NOTED OTHERWISE.
8. LOCATE ALL NEW DOOR FRAMES 4" FROM INSIDE CORNER U.N.O.
9. ALL INTERIOR FINISH SURFACES SHALL BE 5/8" G.W.B. MOISTURE RESISTANT G.W.B. SHALL BE USED IN THE ROOMS WITH SHOWERS, BATHS AND JANITOR'S CLOSETS.
10. SUB-CONTRACTORS ARE TO REVIEW ENTIRE SET OF CONSTRUCTION DOCUMENTS AS IT RELATES TO THEIR SCOPE OF WORK. WORK NOT NOTED IN MECH., ELEC., PLUMB., AND SPRINKLER DRAWINGS BUT IS OUTLINED AND OR NOTED IN ARCHITECTURAL DRAWINGS WILL BE PROVIDED AND INSTALLED AS PART OF THE ORIGINAL ACCEPTED BID. ANY DISCREPANCIES FOUND FOR WORK, MATERIALS, EQUIPMENT ETC.... THE MOST STRINGENT AND/OR COSTLY WILL BE UTILIZED FOR THE PROJECT. NO EXTRAS WILL NOT BE CONSIDERED DUE TO DISCREPANCY NOT REPORTED DURING THE BID PHASE. REVIEW ALL DOCUMENTS AND SPECIFICATIONS FOR COMPLETENESS OF WORK AND DESIGN INTENT.



NOVEMBER 27, 2019 ADDENDUM #2

DRAWING INDEX

* = DRAWINGS UPDATED FOR ADDENDUM #2

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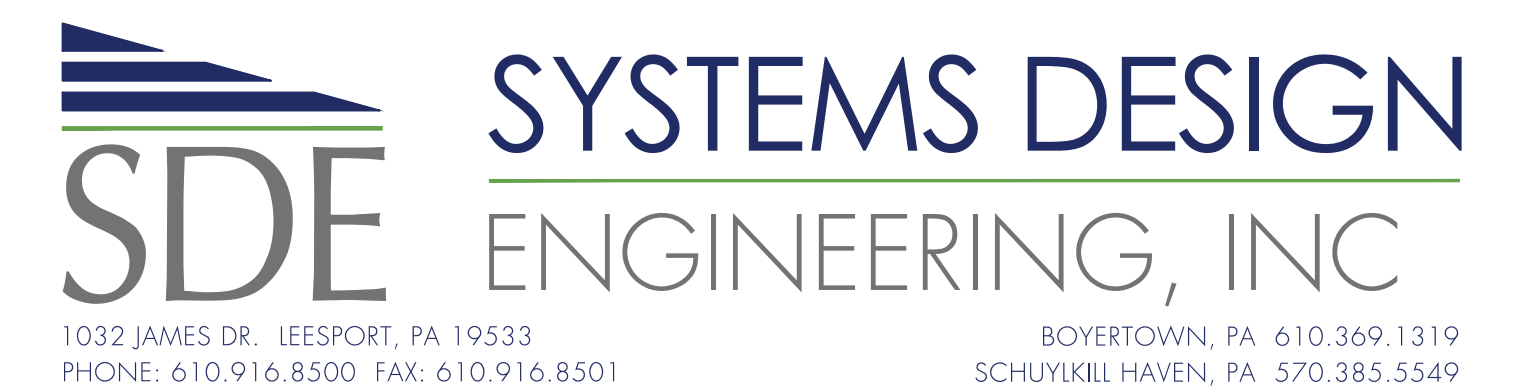
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SHEET 4 OF 4 - H.O.P. PROPOSED CONDITIONS PLAN
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GENERAL NOTES:

- BOUNDARY AND TOPOGRAPHIC SURVEY COMPLETED BY SDEI IN JULY, 2019.
- SOILS INFORMATION WAS TAKEN FROM THE NRCS SOIL SURVEY WEBSITE.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE MUHLENBERG TOWNSHIP MUNICIPAL AUTHORITY AND ITS ENGINEER IF THE SEWER LATERAL CONNECTION IS NOT AS SHOWN ON THESE PLANS.
- PROJECT BENCHMARK: IRON PIN AT THE SOUTHWESTERLY CORNER OF SUBJECT PROPERTY HAVING AN ELEVATION OF 325.75. (DATUM: NAVD 88)
- SANITARY SEWER AND DOMESTIC WATER ARE SUPPLIED BY MUHLENBERG TOWNSHIP AUTHORITY. ALL WASTEWATER DISCHARGED FROM THIS FACILITY SHALL BE IN ACCORDANCE WITH MUHLENBERG TOWNSHIP AUTHORITY REGULATIONS AND TOWNSHIP ORDINANCES.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF MUHLENBERG TOWNSHIP, THE MUHLENBERG TOWNSHIP AUTHORITY, AND PENNDOT.
- STORMWATER COLLECTION AND CONVEYANCE FACILITIES SHOWN HEREON ARE A PERMANENT PART OF THE DEVELOPMENT. SHALL NOT BE REMOVED, ALTERED OR MODIFIED, AND SHALL BE MAINTAINED BY THE PROPERTY OWNER, ITS SUCCESSORS AND ASSIGNS, TO THEIR ORIGINAL DESIGN CONDITION. A BLANKET DRAINAGE EASEMENT IS HEREBY PROVIDED FOR ACCESS TO, AND PROTECTION OF, THE STORMWATER MANAGEMENT FACILITIES BY MUHLENBERG TOWNSHIP AND ITS AUTHORIZED REPRESENTATIVES.
- THE SANITARY SEWER LATERAL MUST BE BURIED A MINIMUM OF 4- FEET BELOW GRADE AND SHALL NOT BE INSTALLED WITHIN 5 FEET HORIZONTALLY OR WITHIN 18 INCHES VERTICALLY OF ANOTHER UTILITY.
- LANDSCAPING TREES AND SHRUBS SHALL NOT BE PLANTED WITHIN 10 FEET OF THE SANITARY SEWER MAIN, SEWER LATERALS AND WITHIN THE UTILITY EASEMENTS.
- THE CONTRACTOR SHALL PROTECT THE SANITARY SEWER LATERAL FROM DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE INSPECTION SERVICES AFTER CONSTRUCTION IS COMPLETE, TO ENSURE THE INTEGRITY OF THE SEWER LATERAL. CERTIFICATION BY THE CONTRACTOR SHALL BE SUBMITTED TO THE TOWNSHIP PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF SUBSTANTIAL COMPLETION.

USER NOTICE

ANY USER OF THESE PLANS IS RESPONSIBLE FOR CONTACTING THE DESIGN ENGINEER IN THE EVENT OF DISCREPANCIES BETWEEN THE PLAN, PLAN DETAILS, SHOP DRAWINGS, CONSTRUCTION STANDARDS, AND FIELD CONDITIONS. THE DESIGN ENGINEER MUST BE CONTACTED AND DISCREPANCIES RESOLVED BEFORE PROPOSED IMPROVEMENTS ARE CONSTRUCTED. THE PREPARER OF THESE PLANS AND ALL REVIEWING AGENCIES ARE NOT LIABLE FOR ANY DISCREPANCIES.

GRADING NOTES

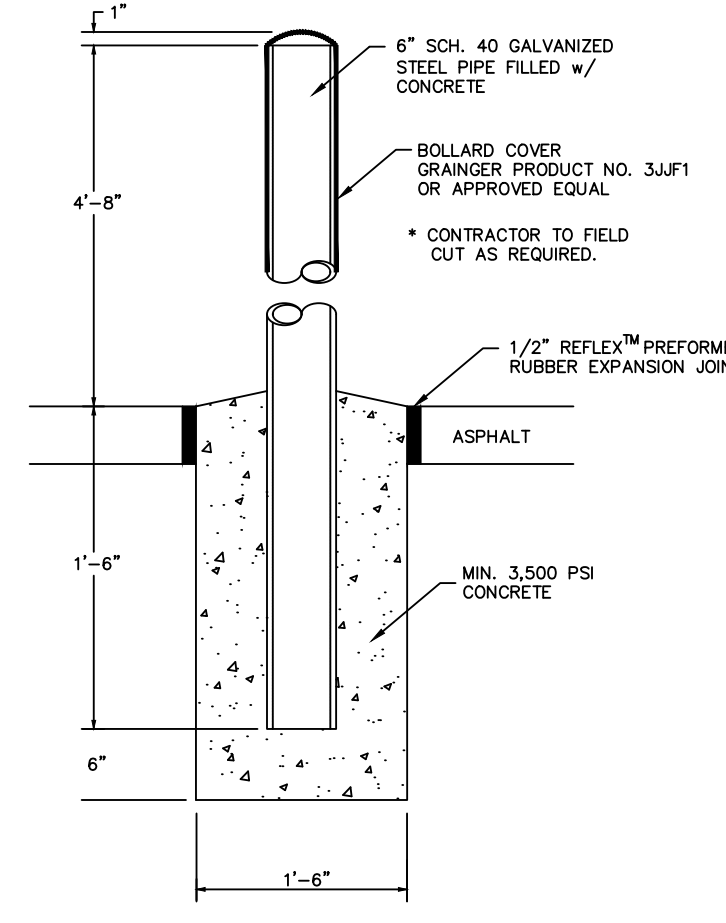
- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- TOPSOIL AND SUBSOIL MATERIAL SHALL BE EXCAVATED AND STOCKPILED SEPARATELY. TOPSOIL CONTAMINATED WITH SUBSOIL SHALL NOT BE USED FOR FINAL GRADING AND SEEDBED PREPARATION WITHOUT SPECIFIC AUTHORIZATION BY THE OWNER. SUBSOIL CONTAMINATED WITH TOPSOIL AND/OR OTHER ORGANIC MATERIAL SHALL NOT BE USED FOR STRUCTURAL FILL, AND MAY ONLY BE USED FOR NON-STRUCTURAL FILL OR SPOILED ON THE SITE WITH SPECIFIC AUTHORIZATION BY THE OWNER. CONTAMINATED SOILS NOT AUTHORIZED FOR USE ON THE SITE SHALL BE HAULED OFF-SITE TO AN APPROVED LOCATION AT NO COST OR LIABILITY TO THE OWNER.
- THE CONTRACTOR SHALL COMPACT AND PREPARE THE SUBGRADE FOR ALL IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, PAVING, CONCRETE PADS, BUILDING PAD AND RETAINING WALLS, (TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER). UNSUITABLE MATERIAL SHALL BE REMOVED DOWN TO APPROVED SUBGRADE OR ACCEPTABLE FILL MATERIAL SHALL BE IMPORTED AND PREPARED.
- ALL FILL MATERIAL SHALL CONSIST OF SUITABLE MATERIAL FREE OF ALL ROOTS, SOD, FROZEN SOIL OR ROCK OVER 3" DIAMETER AND CONTAINING NOT MORE THAN 20% CLAY BY WEIGHT. ALL FILL SHALL BE PLACED IN MAXIMUM 8" LIFTS AT ±2% OPTIMUM MOISTURE CONTENT AND UNIFORMLY COMPACTED TO 98% COMPACTOR FOR FOUNDATIONS AND FLOOR SLABS, 95% FOR PAVEMENTS AND 93% FOR NON-STRUCTURAL FILL (ASTM D-698). ON SITE SOILS MAY NEED TO BE DRIED TO MEET THESE REQUIREMENTS.

CONSTRUCTION NOTES

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITY COMPANY THE REMOVAL, RELOCATION, ABANDONMENT OR INSTALLATION OF ANY PUBLIC UTILITY LINES, POLES, VAULTS, ETC. (GAS, ELECTRIC, TELEPHONE, CABLE TV AND FIBER OPTIC COMMUNICATIONS).
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL INVESTIGATE EXISTING UNDERGROUND UTILITY LOCATIONS, RESEARCH PUBLIC AND SITE UTILITY RECORDS, AND DIG TEST PITS IN AREAS TO THE EXTENT NECESSARY TO VERIFY EXISTING UTILITY DEPTHS AND LOCATIONS AND TO VERIFY THAT STORM DRAINAGE AND UTILITY SYSTEMS PIPE CROSSINGS, EXCAVATION, FILLING AND GRADING MAY BE INSTALLED IN COMPLIANCE WITH ORIGINAL DESIGN CLEARANCES/COVER AND REFERENCED STANDARDS.
- IF THE CONTRACTOR DETERMINES THAT THE LOCATION OF EXISTING UTILITY LINES ARE NOT AS DEPICTED ON THE DRAWINGS (HORIZONTALLY OR VERTICALLY) OR THE ORIGINAL DESIGN IS IN CONFLICT WITH THE EXISTING UTILITIES, HE SHALL IMMEDIATELY NOTIFY THE DESIGN PROFESSIONAL OF SUCH CONFLICT. THE CONTRACTOR IS CAUTIONED NOT TO ORDER ANY MATERIALS OR PERFORM ANY FURTHER WORK UNTIL SUCH VERIFICATION AND/OR DESIGN PROFESSIONAL CLARIFICATION HAS BEEN PROVIDED. THE CONTRACTOR WILL BE REQUIRED TO REPAIR ALL DAMAGED UTILITY LINES AT HIS EXPENSE. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL REQUIRED MUNICIPAL PERMITS.
- CONTRACTOR(S) SHALL BE RESPONSIBLE TO MAINTAIN DETAILED "AS-BUILT" INFORMATION OF LATERALS, BENDS, VALVES, DROP CONNECTIONS, ETC. OF ALL UTILITY LINE CONSTRUCTION. THIS IS TO INCLUDE DIMENSIONED "TIE-DOWNS" OF ALL FITTINGS, VALVES AND WYE CONNECTIONS.
- IF THE CONTRACTOR DETERMINES THAT STRUCTURES OR IMPROVEMENTS CANNOT BE MANUFACTURED OR CONSTRUCTED AS INDICATED ON THE DRAWINGS, OR IF THE DESIGN DRAWINGS INDICATE CONFLICTING INFORMATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN PROFESSIONAL. THE CONTRACTOR IS CAUTIONED NOT TO ORDER ANY MATERIALS OR PERFORM ANY FURTHER WORK UNTIL SUCH VERIFICATION AND/OR DESIGN PROFESSIONAL CLARIFICATION HAS BEEN PROVIDED.
- CONTRACTOR SHALL HAVE ALL PROPERTY LINES LOCATED BEFORE CONSTRUCTION COMMENCES. THE CONTRACTOR SHALL MAKE SURE NO CONSTRUCTION ACTIVITY OCCURS OUTSIDE PROPERTY LIMITS, UNLESS WITHIN DESIGNATED CONSTRUCTION EASEMENTS.
- THESE PLANS WERE PREPARED TO PROVIDE SITE CONSTRUCTION INFORMATION ONLY. CONTRACTOR MUST CONFIRM BUILDING DIMENSIONS PRIOR TO ANY SUCH CONSTRUCTION. BUILDING DIMENSIONS AND DETAILS FOR EXTERIOR STEPS, RAILINGS, ETC. SHOULD BE TAKEN FROM THE ARCHITECTURAL PLANS. DO NOT USE THESE PLANS FOR BUILDING-RELATED CONSTRUCTION.
- ALL PARKING STALLS SHALL BE DELINEATED BY 4" PAINTED WHITE LINES. ALL HANDICAP PARKING SYMBOLS, AISLE HATCHING AND SIGNS SHALL COMPLY WITH CURRENT A.D.A. CONTRASTING COLOR VISIBILITY, DIMENSIONAL AND SIZE REQUIREMENTS AND SPECIFICATIONS.
- ALL PAVING THICKNESSES SHOWN ARE THE COMPACTED THICKNESS.
- ALL CONSTRUCTION IMPROVEMENTS SHALL BE LOCATED, DESIGNED, INSTALLED AND/OR CONSTRUCTED IN ACCORDANCE WITH ALL CURRENT STANDARDS SPECIFIED BY THE MUNICIPALITY. IF NOT COVERED, THEN PENNDOT PUBLICATION 408-SPECIFICATIONS, PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION RC SERIES SHALL APPLY, UNLESS OTHERWISE NOTED ON THE PLANS.
- NO OPENINGS WITHIN THE CLEAR ZONE OF AN OPEN ROAD, ACCESS DRIVE OR PARKING AREA SHALL BE ALLOWED AT THE END OF EACH WORKDAY. IF A TRENCH NEEDS TO BE LEFT OPEN AT THE END OF A WORKDAY, REFER TO PENNDOT SPECIFICATIONS FOR ACCEPTABLE PROTECTION GUIDELINES FOR ALL OPENINGS.
- IF UNFORESEEN SUBSURFACE OR GEOLOGIC CONDITIONS ARE ENCOUNTERED, I.E. DUMPS, FOUNDATIONS, ARCHAEOLOGICAL ARTIFACTS OR FEATURES, SPRINGS, ROCK, SINKHOLE, ETC., THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN AND MUNICIPAL ENGINEERS.
- TREE PROTECTION FENCING SHALL BE PLACED AROUND ALL VEGETATION TO REMAIN, WITHIN THE LIMIT OF DISTURBANCE (SEE E&S PLAN FOR LIMIT OF DISTURBANCE).

STORM SEWER NOTES

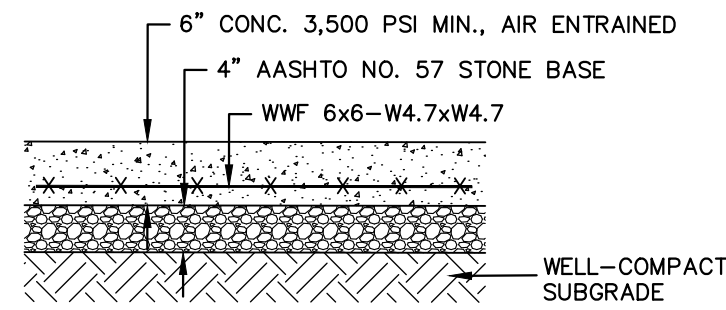
- ALL STORM STRUCTURES AND APPURTENANCES, PIPE MATERIALS AND CONSTRUCTION SHALL MEET CURRENT PENNDOT PUB. 408 AND STANDARDS FOR ROADWAY CONSTRUCTION (RC SERIES) SPECIFICATIONS, UNLESS OTHERWISE DICTATED BY MUNICIPAL SPECIFICATIONS, CODES OR ORDINANCES. ALL PRECAST STRUCTURES AND ASSOCIATED APPURTENANCES MUST BE SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15. HOWEVER, IF SPECIFIED ON THE DRAWINGS, ALTERNATE DIMENSIONS, (I.E. TYPE C TOP UNIT REVEAL, INLET TOP UNIT SIZE, SLAB TOP OR BOX DIMENSIONS, ETC.) ARE PERMITTED AS LONG AS CONSTRUCTION MEETS ALL PENNDOT SPECIFICATIONS PREVIOUSLY NOTED.
- MANHOLE LIDS FOR STORM MANHOLES AND JUNCTION BOXES SHALL HAVE THE WORDS "STORM SEWER" OR "STORM" CAST INTO THE LID.
- ALL STRUCTURES DEEPER THAN 4' SHALL BE PROVIDED WITH STEPS IN ACCORDANCE WITH PENNDOT RC-39M.
- ALL STORM INLETS TO BE STANDARD PENNDOT-APPROVED PRECAST CONCRETE BOXES WITH 2'x4' TYPE C OR TYPE M TOP UNITS, UNLESS NOTED OTHERWISE, WITH STRUCTURAL STEEL BICYCLE-SAFE GRATES.
- TOP OF GRATE ELEVATION NOTED AT CENTER OF TYPE M INLETS AND AT CENTER GUTTERLINE FOR TYPE C INLETS.
- ALL PROPOSED STORM SEWERS SHALL BE SMOOTH-BORE HIGH-DENSITY POLYETHYLENE PIPE (HDPE), UNLESS NOTED OTHERWISE. HDPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 (4"-8") AND M294 (10" AND LARGER). PIPE SHALL BE PROVIDED WITH WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 LAB TEST AND ASTM 1417 FIELD TEST. ADVANCED DRAINAGE SYSTEMS, INC. N-12 WT 18 PIPE, HANCOCK BLUE-SEAL PIPE, OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
- ALL STORM SEWER AND/OR RAINWATER CONDUCTOR PIPES SHALL BE CUT TO CONFORM TO INTERIOR STRUCTURE WALLS.
- THE PROPOSED STORM SEWER PIPE LENGTHS ARE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE.
- ALL RAINWATER CONDUCTORS (RWC) SHALL BE SCHEDULE 40 PVC WITH SOLVENT-WELDED JOINTS, SDR-35 SANITARY SEWER PIPE OR SMOOTH-BORE HDPE CONNECTED DIRECTLY INTO PROPOSED STORM STRUCTURES, UNLESS NOTED OTHERWISE. SLOPES NOTED FOR RWC'S ARE MINIMUMS, UNLESS NOTED OTHERWISE. IF INVERTS ARE NOTED ON THE DRAWINGS, INSTALL RWC'S AS NOTED ON THE DRAWINGS. INSTALLATION OF RWC'S SHALL BE COORDINATED WITH FOUNDATION CONSTRUCTION TO PREVENT CONFLICTS WITH RESPECT TO LOCATION OR TIMING OF INSTALLATION.
- DOWNSPOUT PIPES SHALL TIE INTO RAINWATER CONDUCTORS USING PRE-FAB WYE FITTINGS.
- RWC LOCATIONS PROVIDE GENERAL LAYOUT ONLY; ALL REQUIRED FITTINGS (BENDS, WYES, INCREASERS, ETC.) MAY NOT BE NOTED.



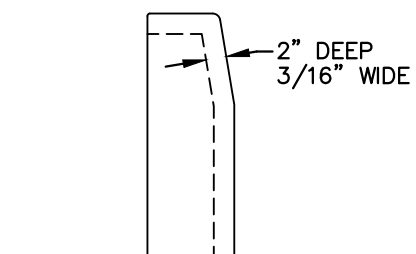
BOLLARD
N.T.S.

ADDITIONAL CONCRETE FINISHING AND CURING NOTES

- THE TOP SURFACES OF SIDEWALKS, CURBS, AND ADA CURB RAMPS SHALL RECEIVE A FLOATED, SLIP-RESISTANT FINISH.
- VERTICAL FACES OF CURB AND ADA CURB RAMPS SHALL BE REPAIRED TO REMOVE ALL HONEYCOMB OR DEFECTIVE AREAS, AND SHALL RECEIVE A UNIFORM SMOOTHED-RUBBED FINISH USING CARBORUNDUM BRICK OR OTHER ABRASIVE.
- IMMEDIATELY AFTER FINISHING, ALL CONCRETE SURFACES SHALL BE CURED BY APPLYING AQUEAL+PLUS SEALER (OR APPROVED EQUAL) IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

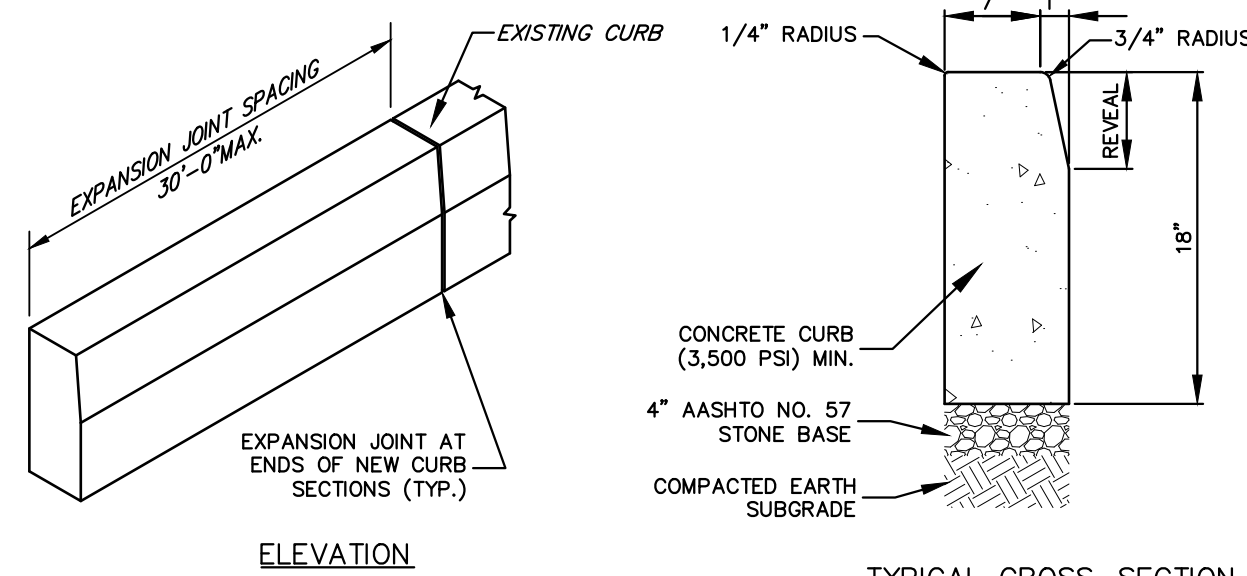


TRASH ENCLOSURE PAD SECTION
N.T.S.



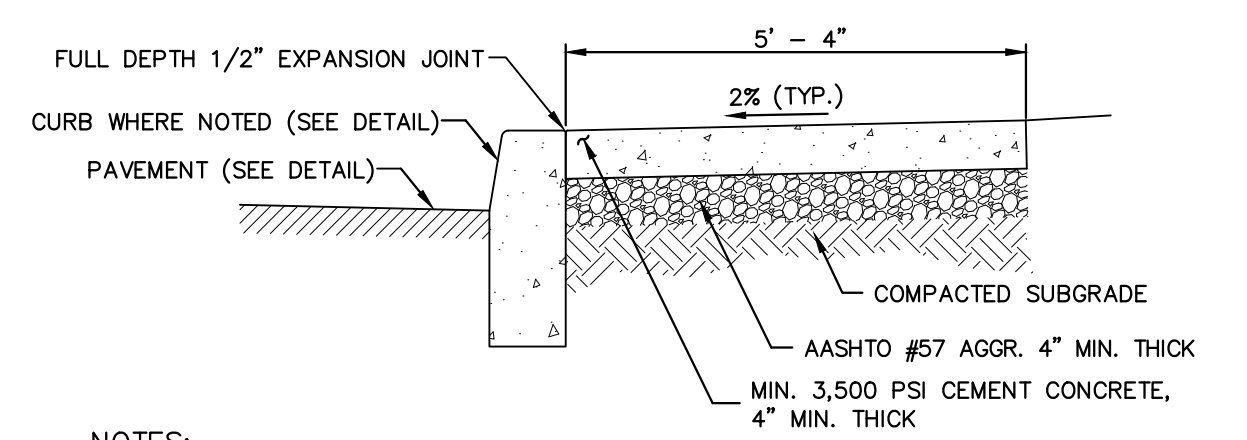
CONTRACTION JOINT

CURB LOCATION	REVEAL
DRIVEWAY	7"
PARKING LOT & AROUND BUILDING	6"



- NOTES:**
- CONCRETE SHALL HAVE 4% TO 6% AIR ENTRAINMENT.
 - PROVIDE FULL DEPTH 1/2" REFLEX™ OR APPROVED EQUAL PREFORMED RUBBER EXPANSION JOINT AT 30 FT. INTERVALS (MAY BE INCREASED TO 50 FT. FOR SLIP FORM CURB).
 - PROVIDE CONTRACTION JOINTS AT 10 FT. INTERVALS BETWEEN EXPANSION JOINTS.
 - IF PERMITTED BY THE TOWNSHIP, SLIP FORM CURB SHALL BE CONSTRUCTED WITH 4,000 PSI MIN. CONCRETE.
 - SEE "ADDITIONAL CONCRETE FINISHING AND CURING NOTES".

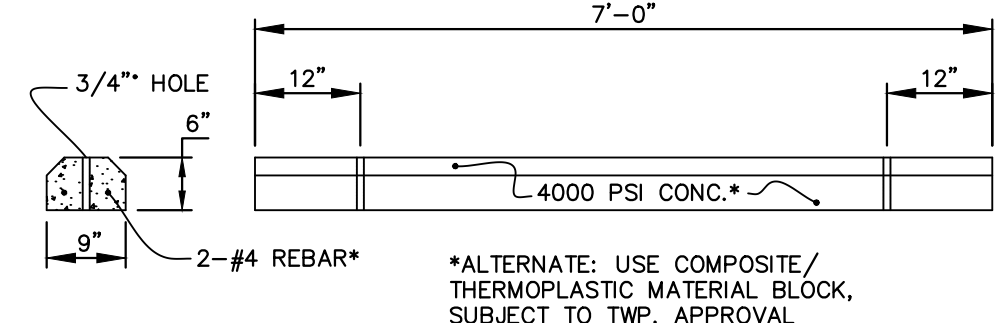
CONCRETE CURB
N.T.S.



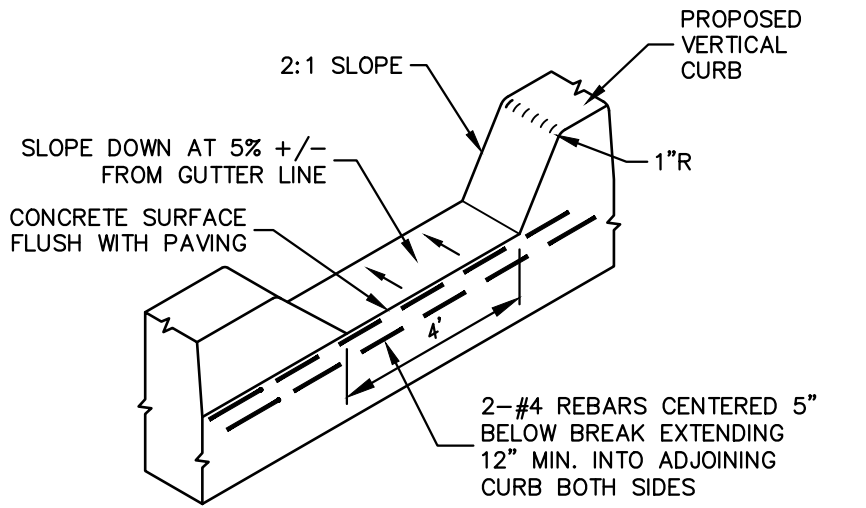
TYPICAL CONCRETE SIDEWALK
N.T.S.

- NOTES:**
- CONCRETE SHALL HAVE 4% TO 6% AIR ENTRAINMENT.
 - INSTALL 1/2" REFLEX™ OR APPROVED EQUAL PREFORMED RUBBER EXPANSION JOINTS AT 30' INTERVALS AND ADJACENT TO CURB RAMPS.
 - PROVIDE SCORED CONTRACTION JOINTS AT 5' INTERVALS BETWEEN EXPANSION JOINTS.
 - SEE "ADDITIONAL CONCRETE FINISHING AND CURING NOTES".

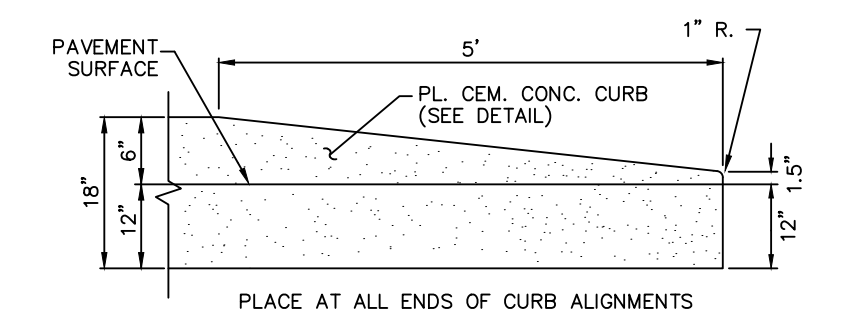
CONCRETE SIDEWALK (ADJACENT TO CURB)



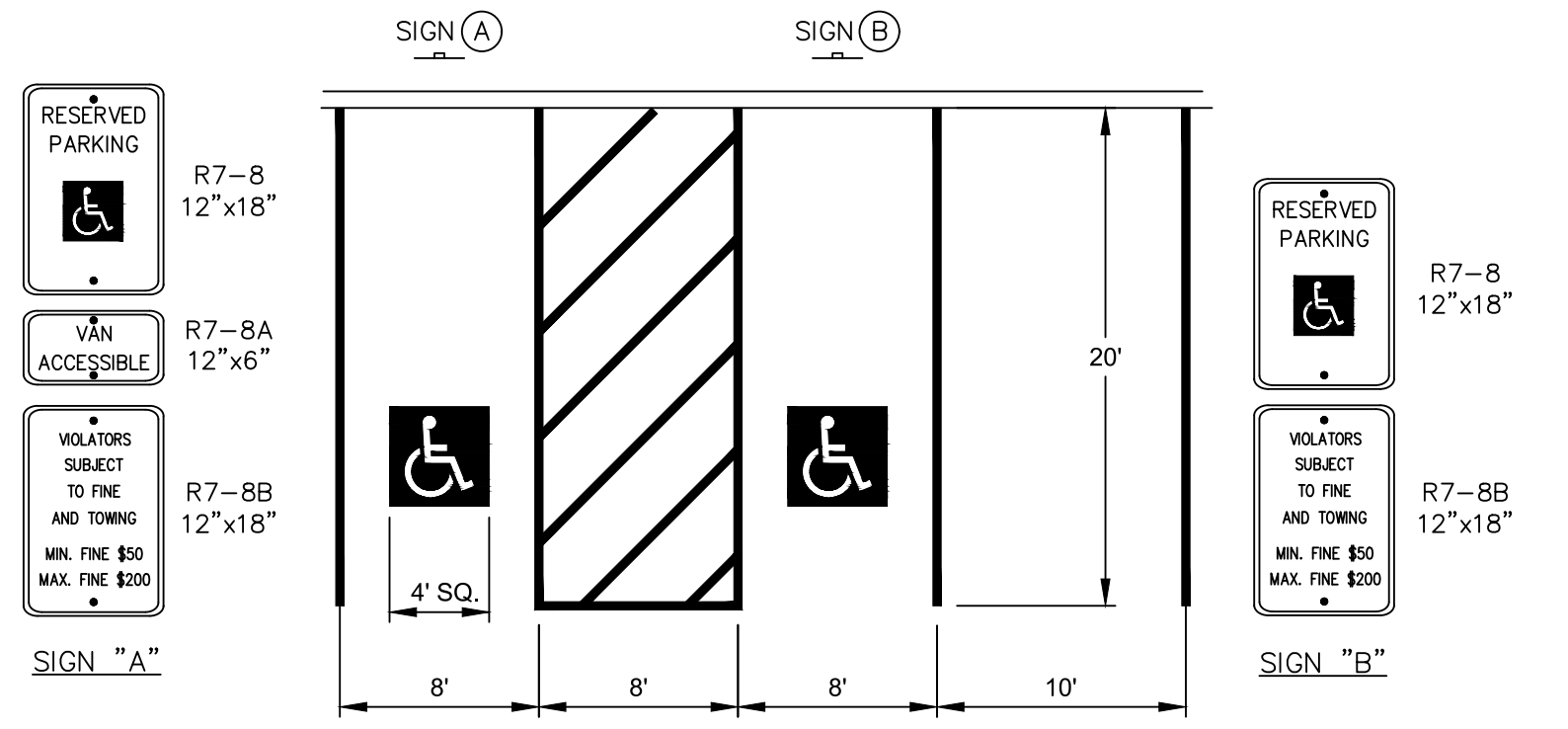
CONCRETE WHEEL STOP
N.T.S.



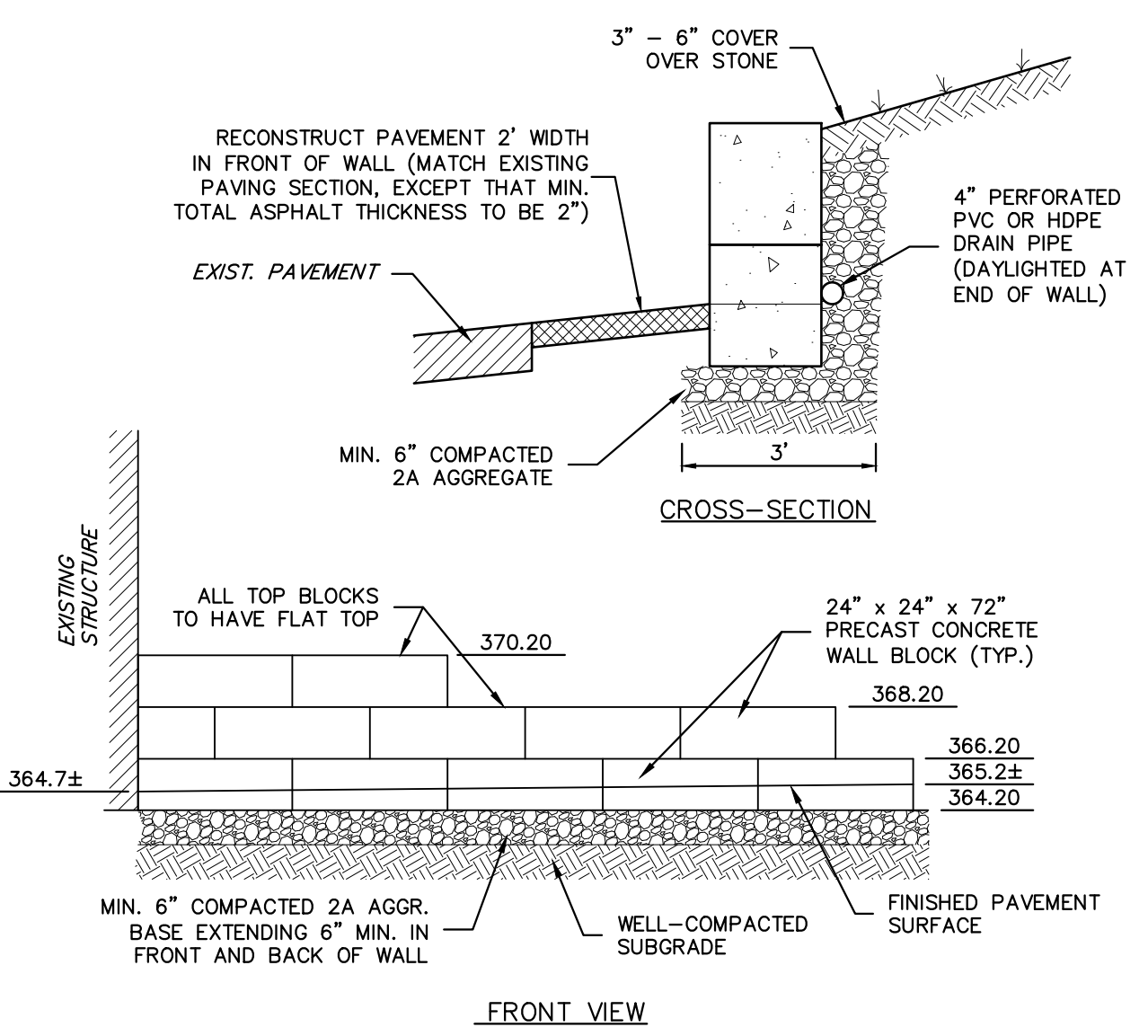
CURB BREAK
N.T.S.



CURB TRANSITION
N.T.S.



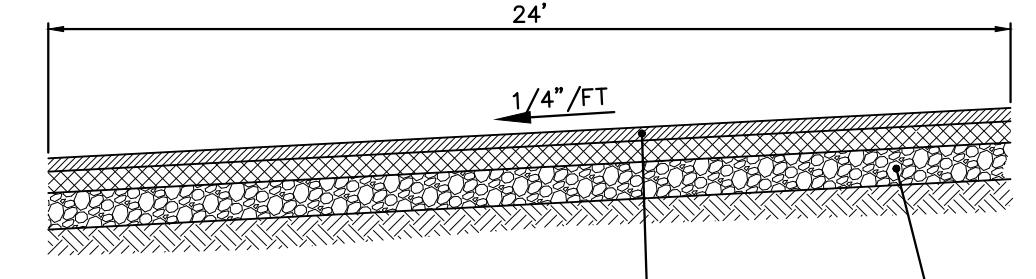
ACCESSIBLE PARKING LAYOUT
N.T.S.



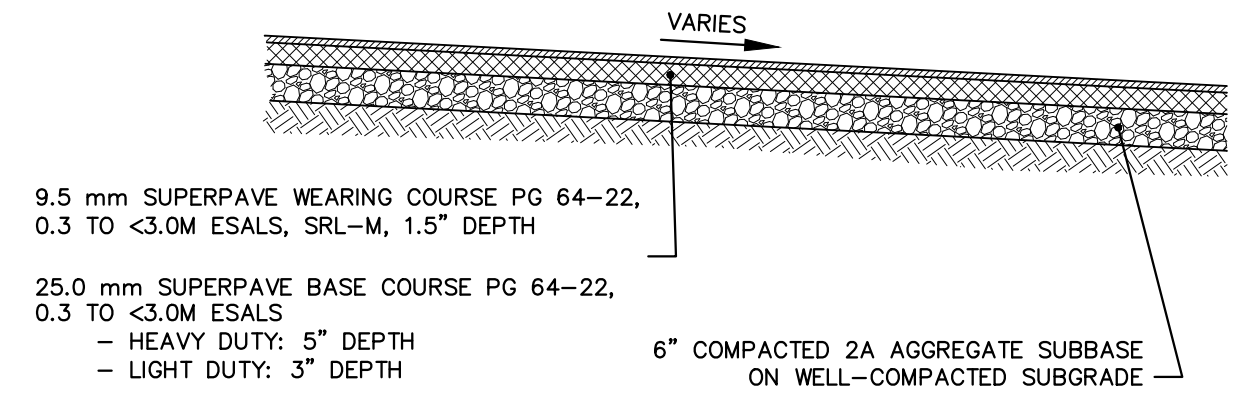
NOTE:
THE BLOCK UNITS DEPICTED REFLECT 6' STRAIGHT V-INTERLOCK BLOCKS SUPPLIED BY ROHRER'S INC., 70 LUTIZ ROAD, P.O. BOX 365, LUTIZ, PA 17543 (717) 626-9760. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER.

INTERLOCKING PRECAST CONCRETE BLOCK RETAINING WALL
N.T.S.

SHOP DRAWINGS SUBMITTED FOR REVIEW AND APPROVAL MUST BE SEALED BY A PA REGISTERED ENGINEER..



DRIVEWAY CURBED CROSS-SECTION
N.T.S.



(NEW PAVING) PAVING CROSS-SECTION
N.T.S.

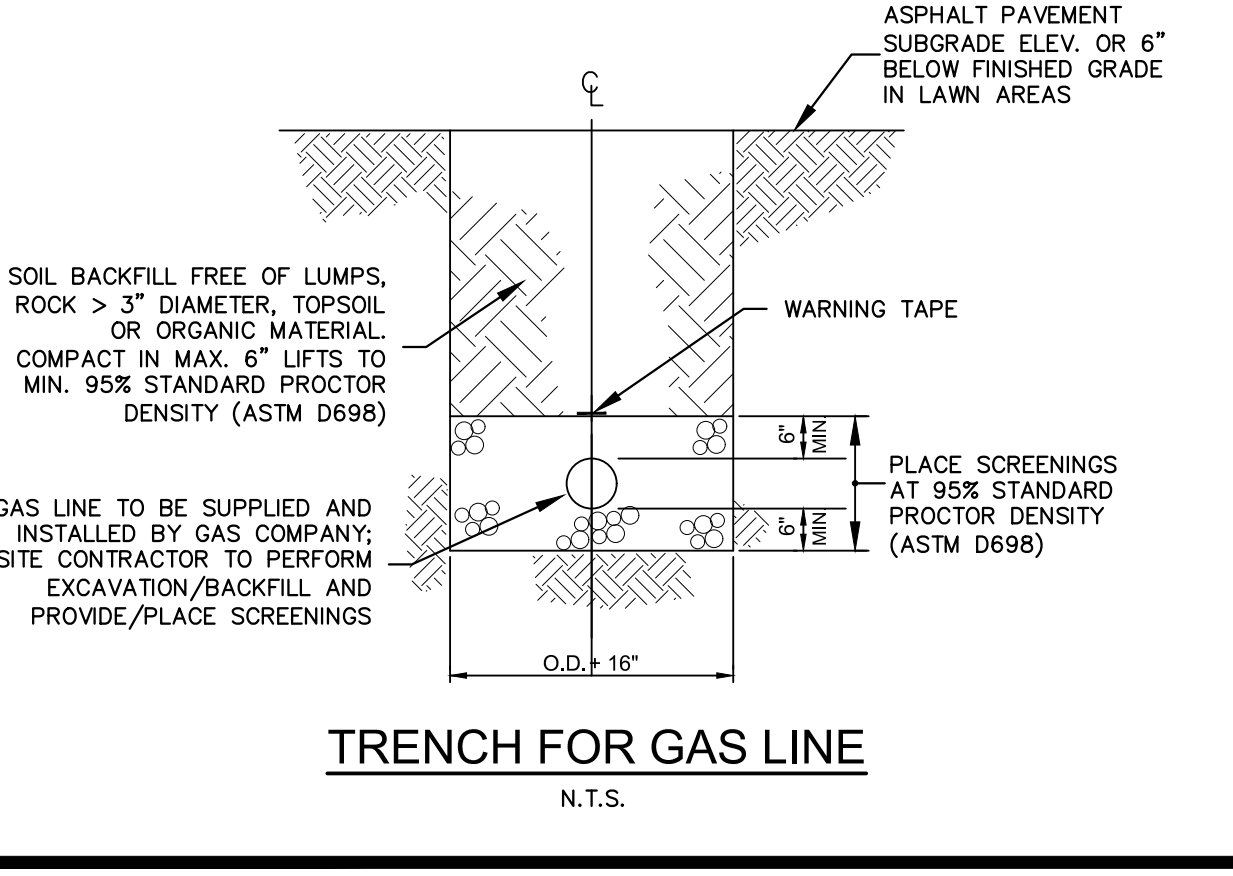
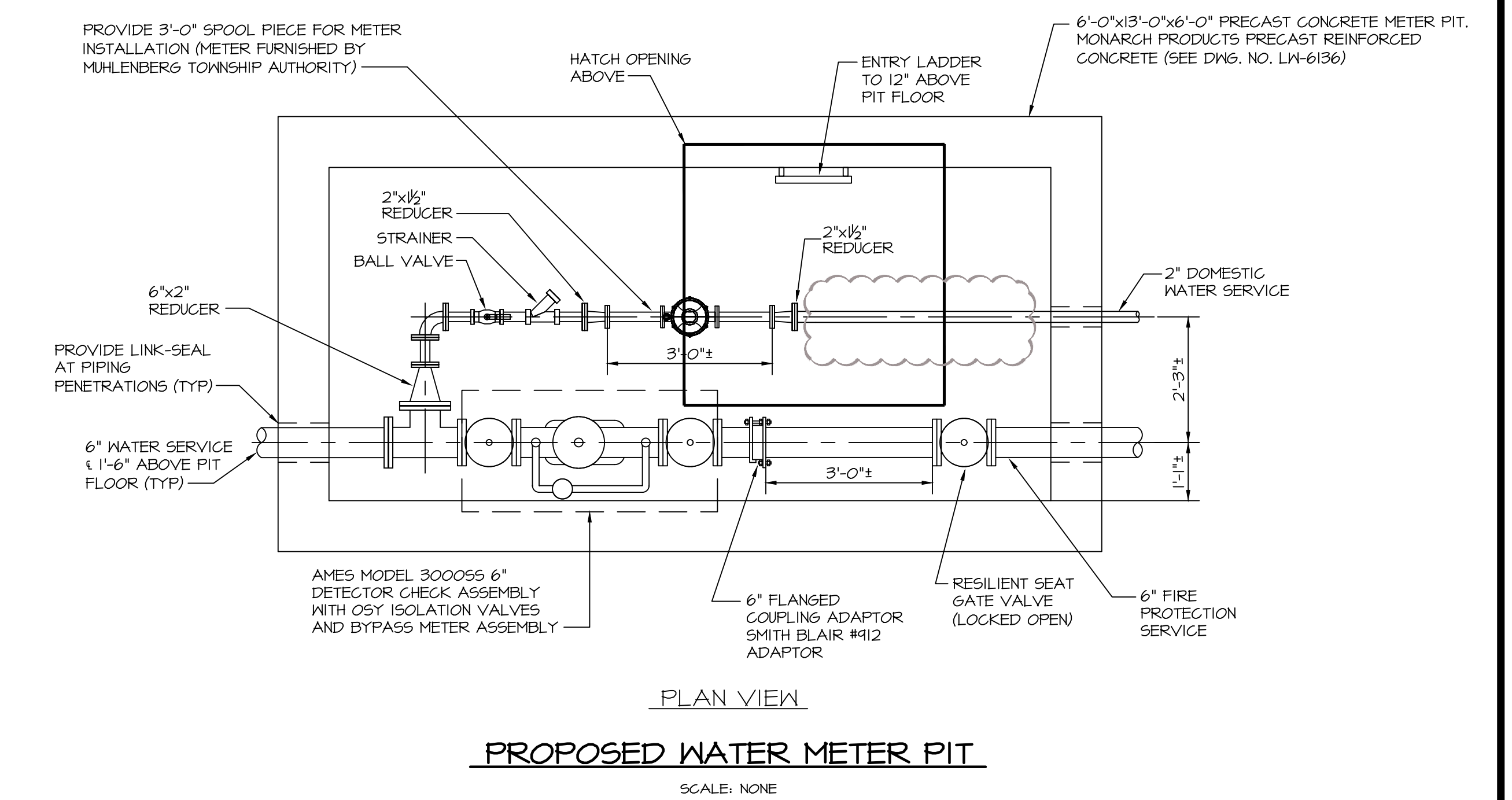
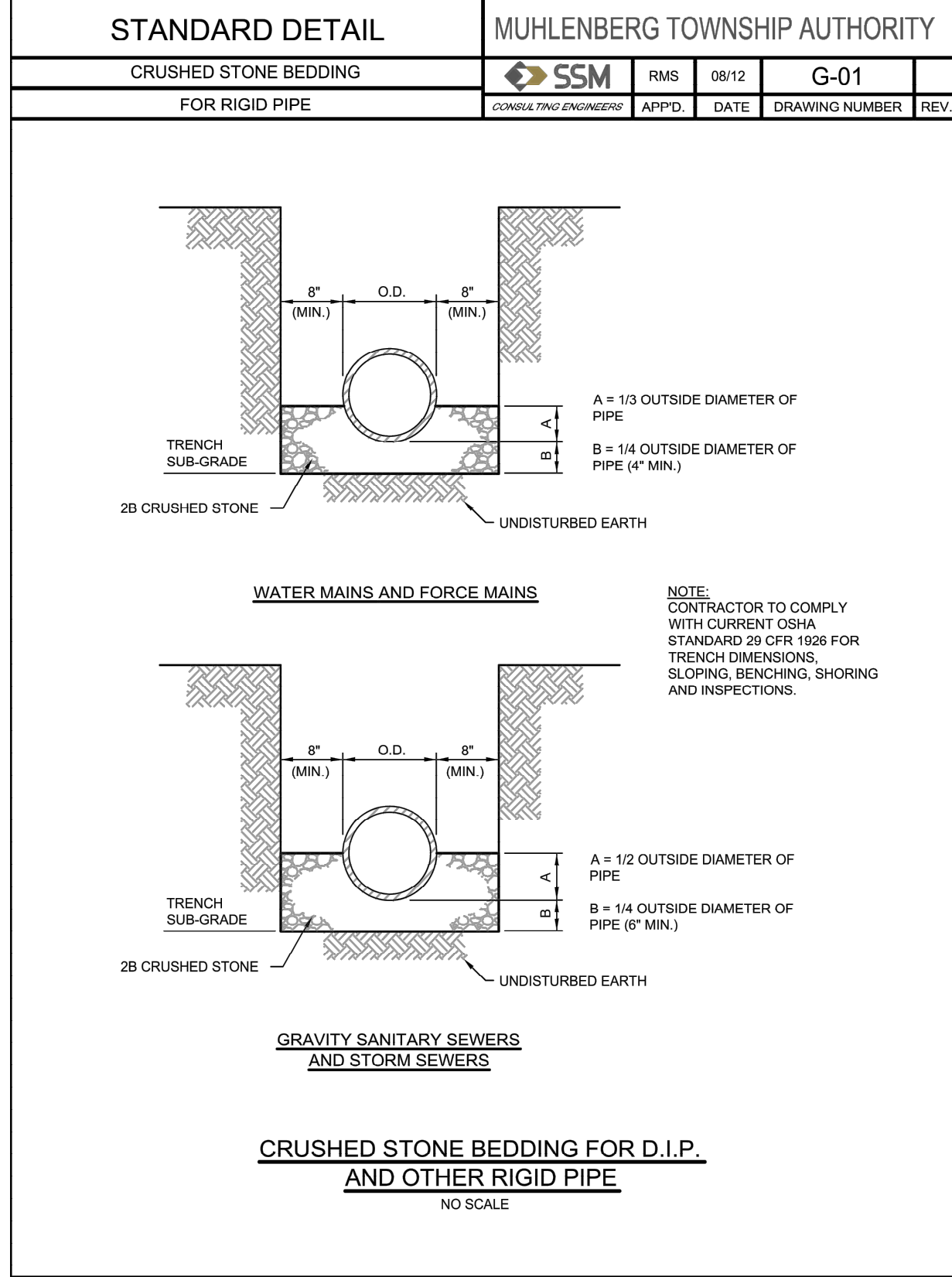
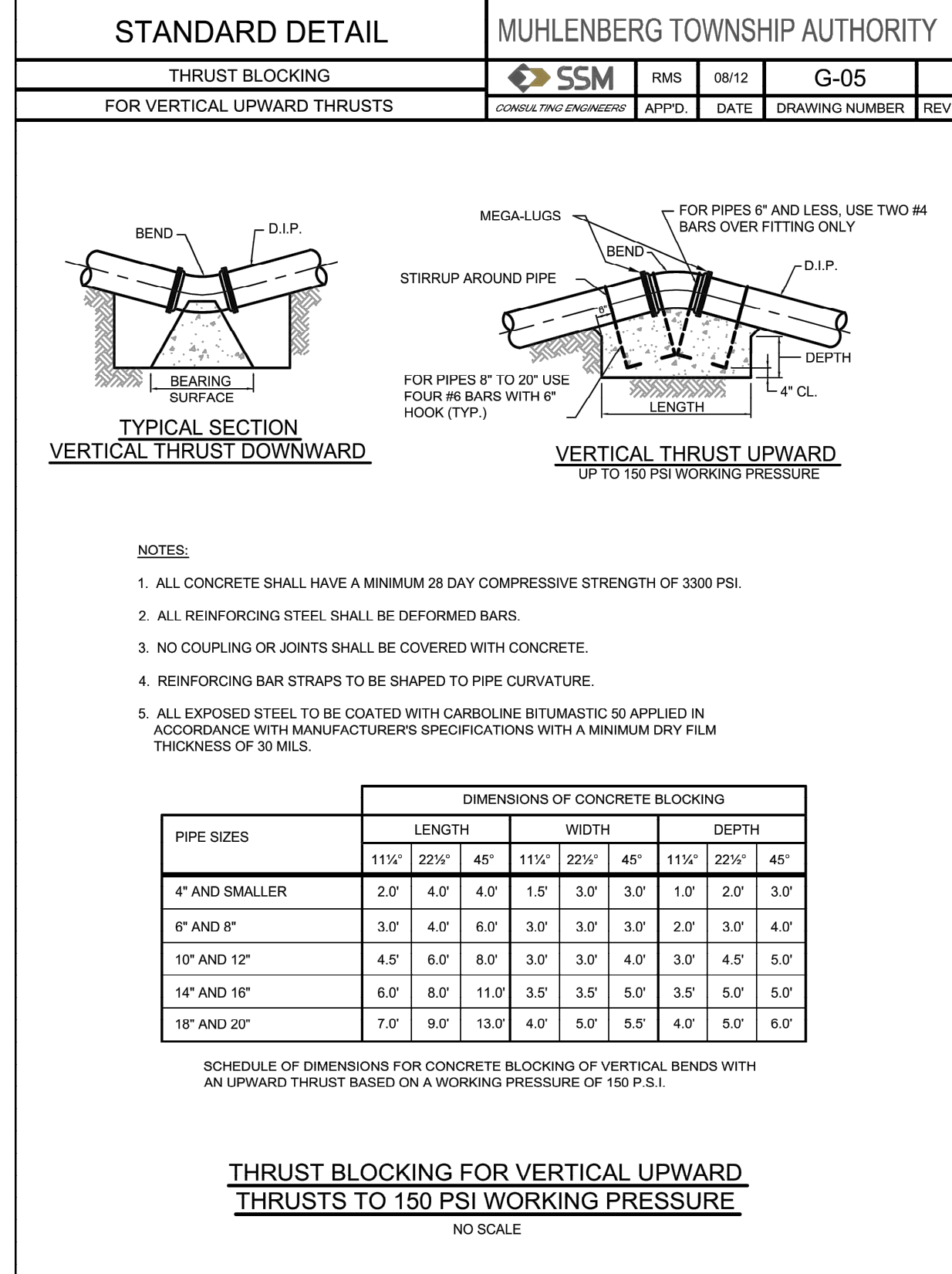
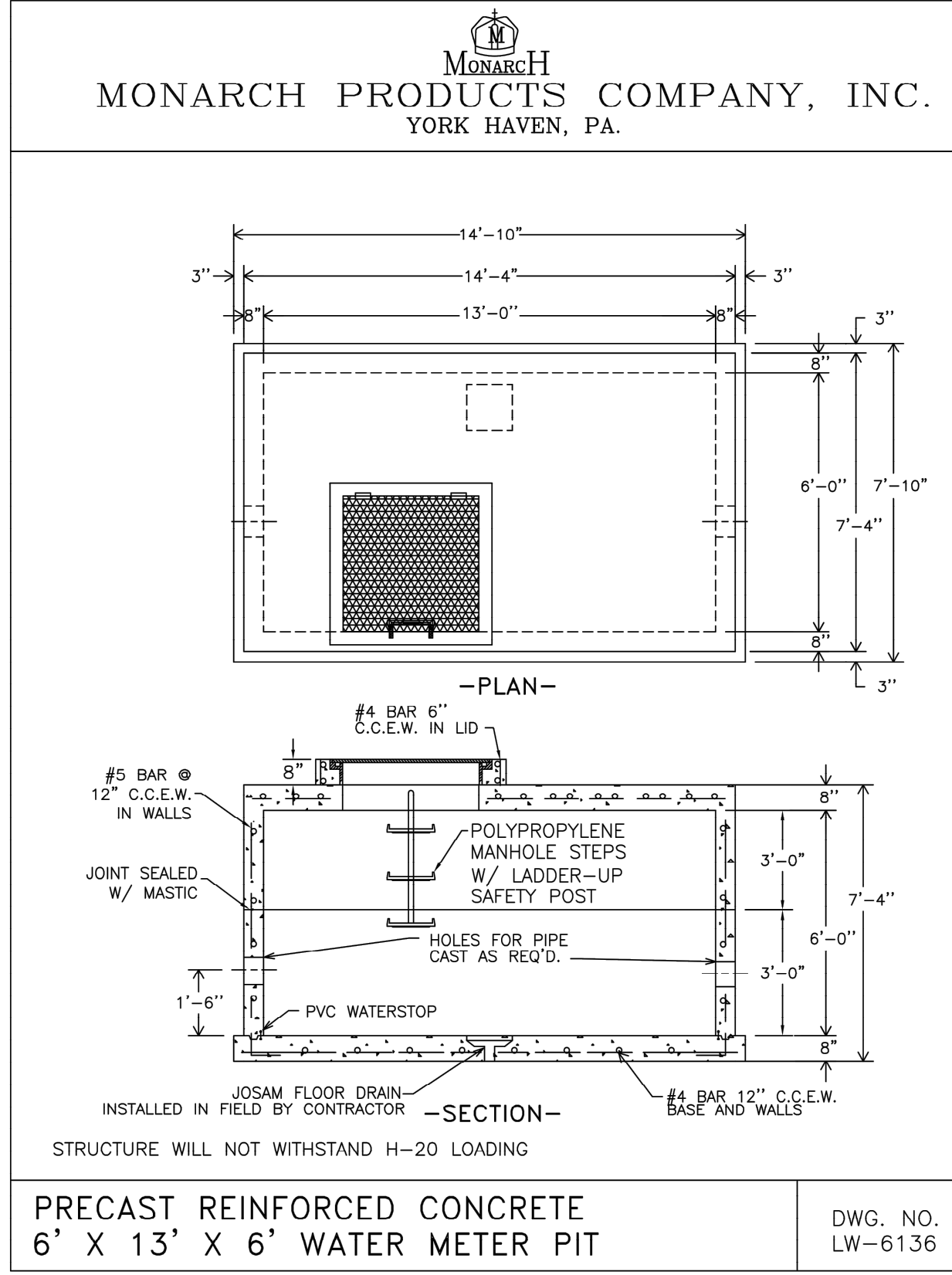
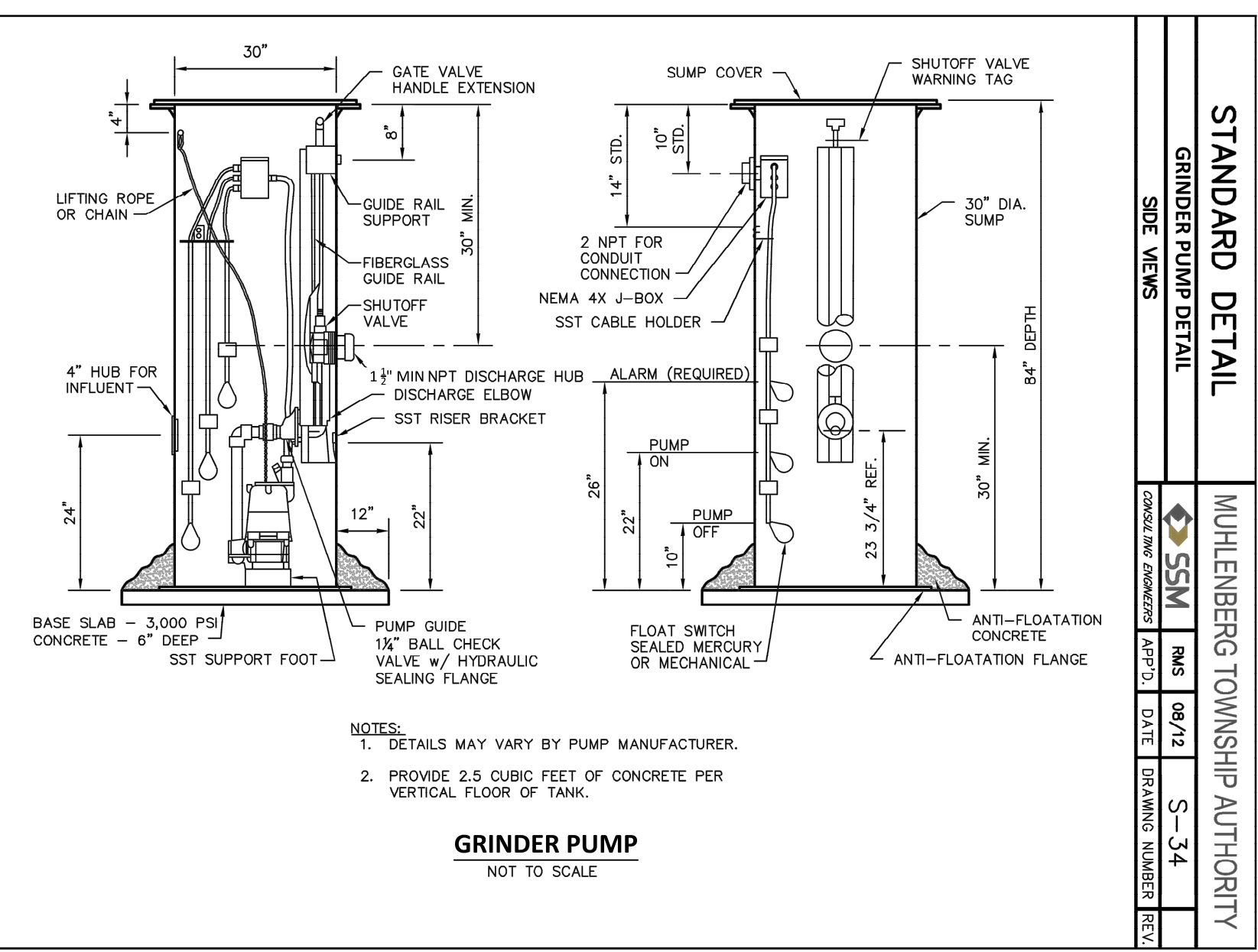
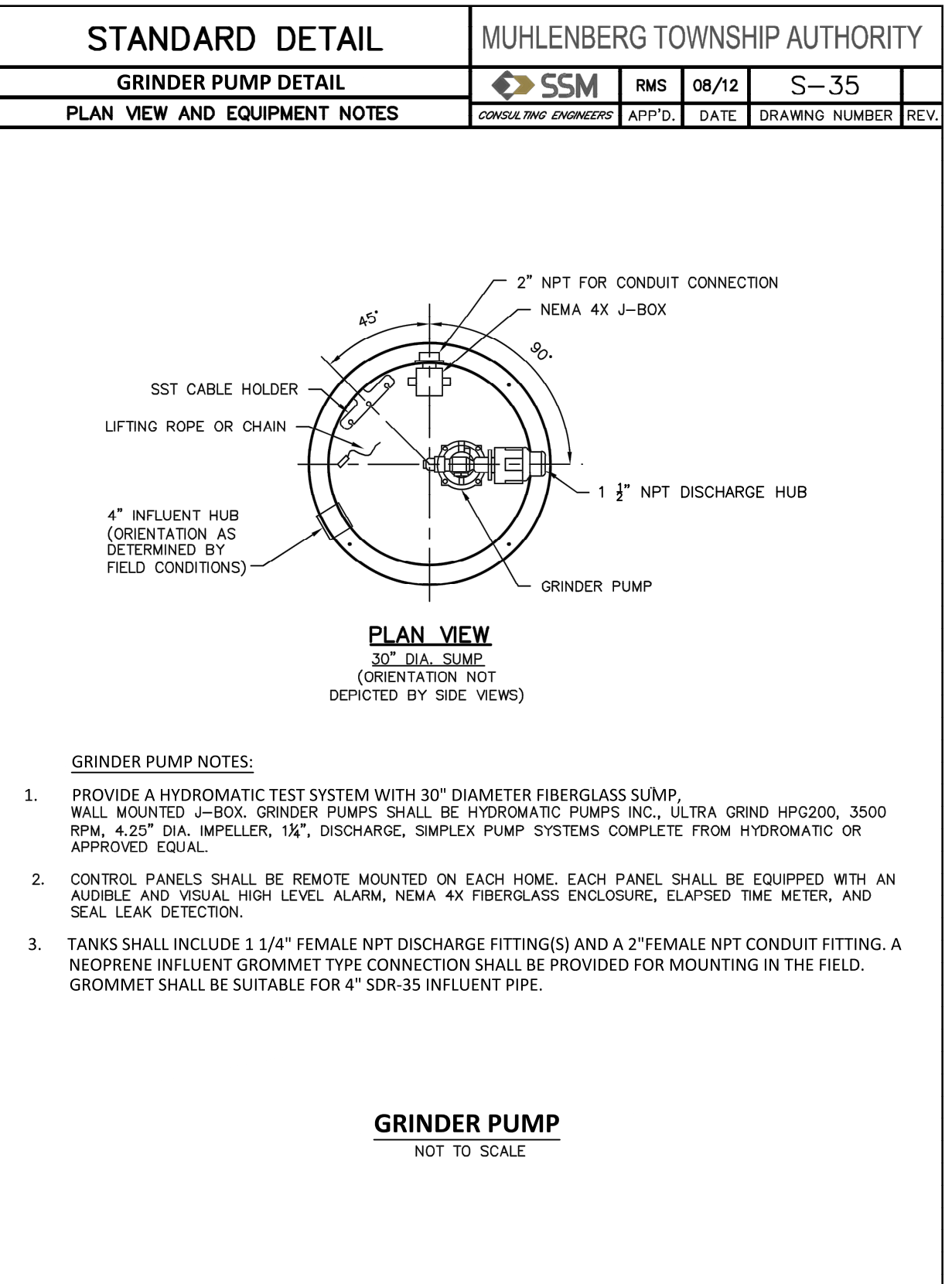
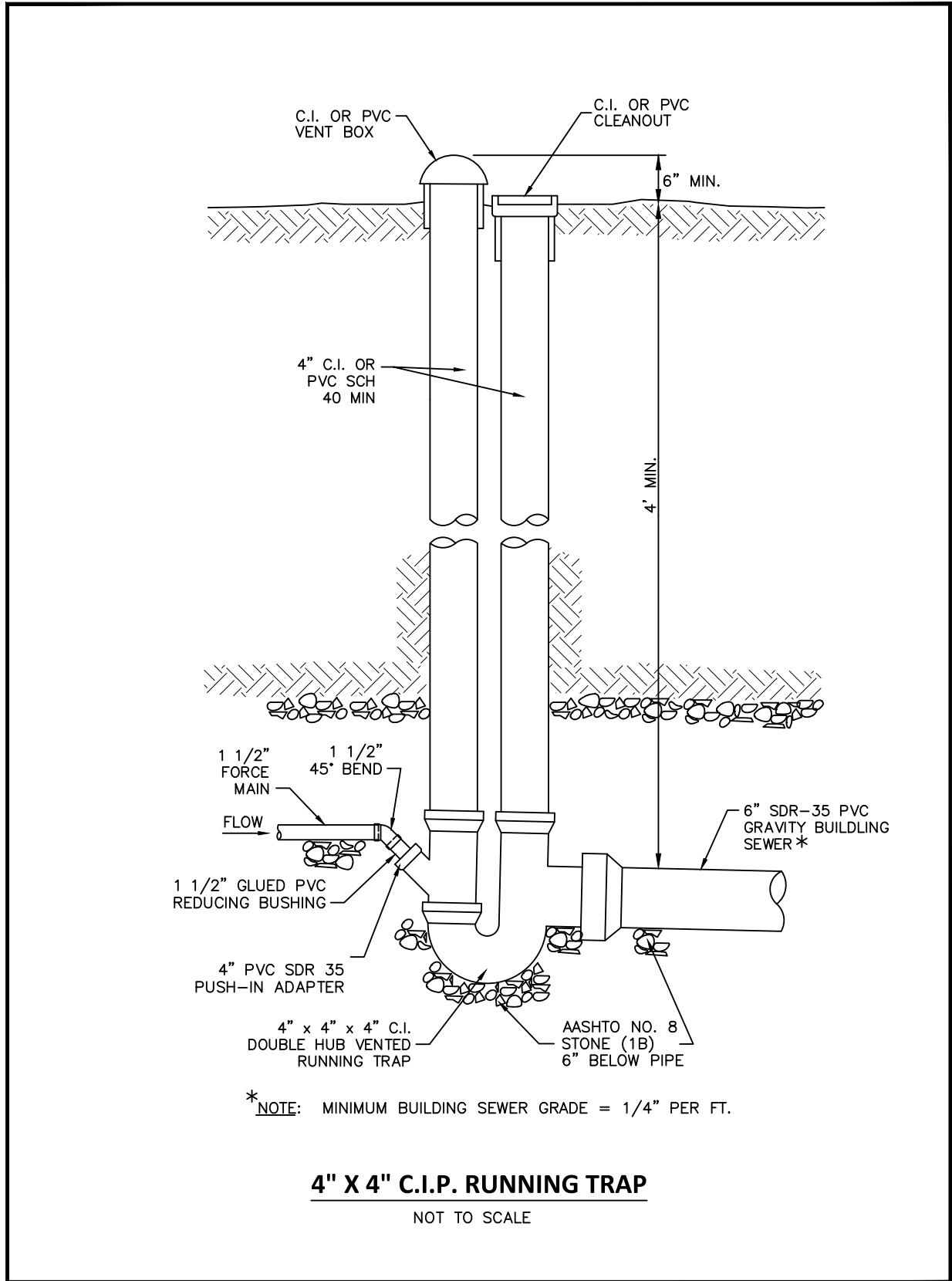
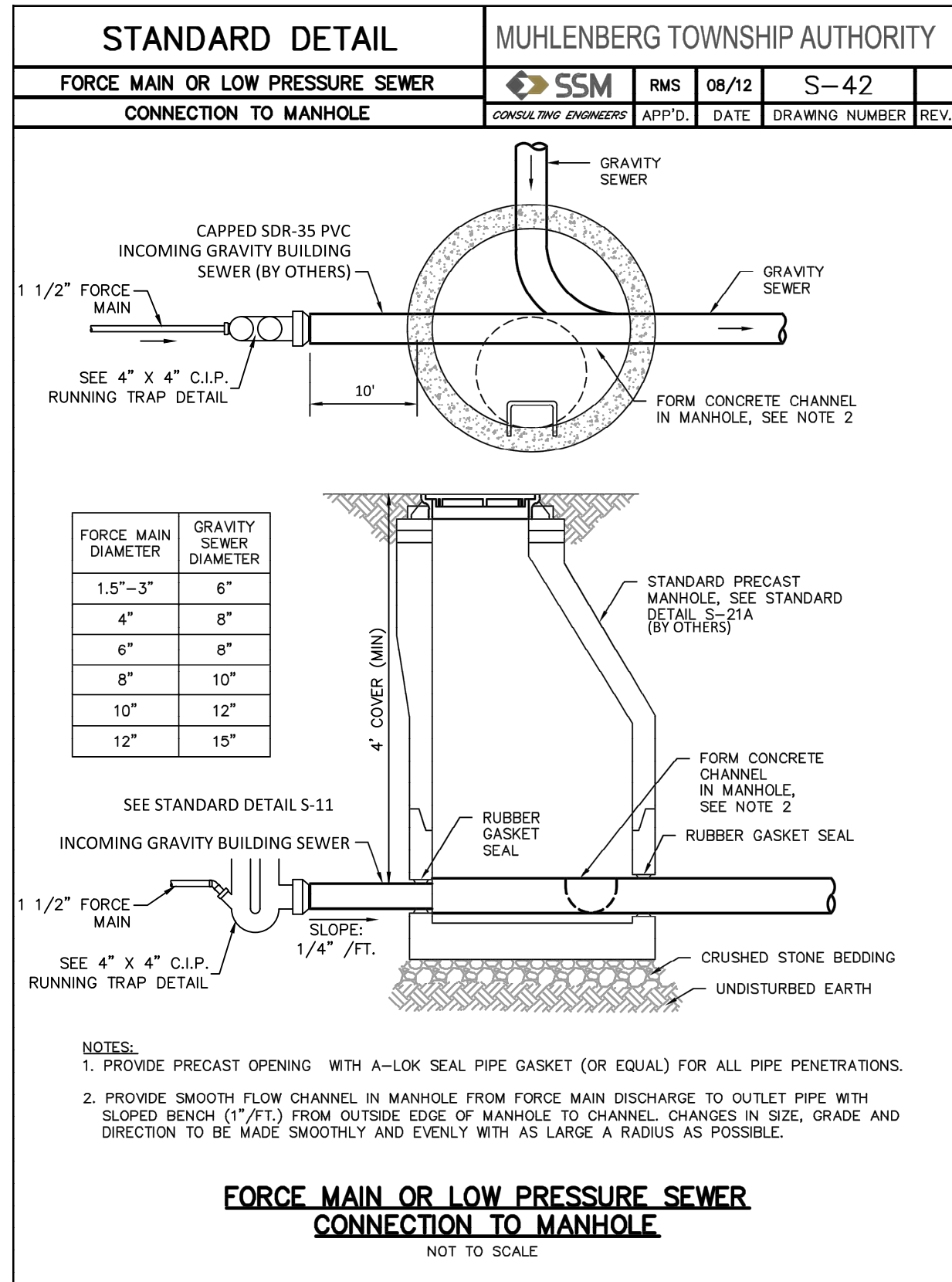
2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

SYSTEMS DESIGN ENGINEERING, INC
1032 JAMES DR. LEESPORT, PA 19533
PHONE: 610.916.8500 FAX: 610.916.8501

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING
DETAILS AND CONSTRUCTION NOTES

SITUATE IN MUHLENBERG TOWNSHIP BERKS COUNTY PENNSYLVANIA

DRAWN BY	CHECKED	APPROVED	CADD FILE NAME
MAL			C301.dwg
DATE	SCALE	DRAWING NUMBER	
8/26/2019	NONE	D-19-0153-0143-C501	



2	11/27/14	ADDENDUM #2	JMS
1	10/25/14	ISSUE FOR BID	JMS
NO.	DATE	REVISION	BY

SYSTEMS DESIGN ENGINEERING, INC.

1032 JAMES DR. LEESPORT, PA 19533
PHONE: 610.916.8500 FAX: 610.916.8501

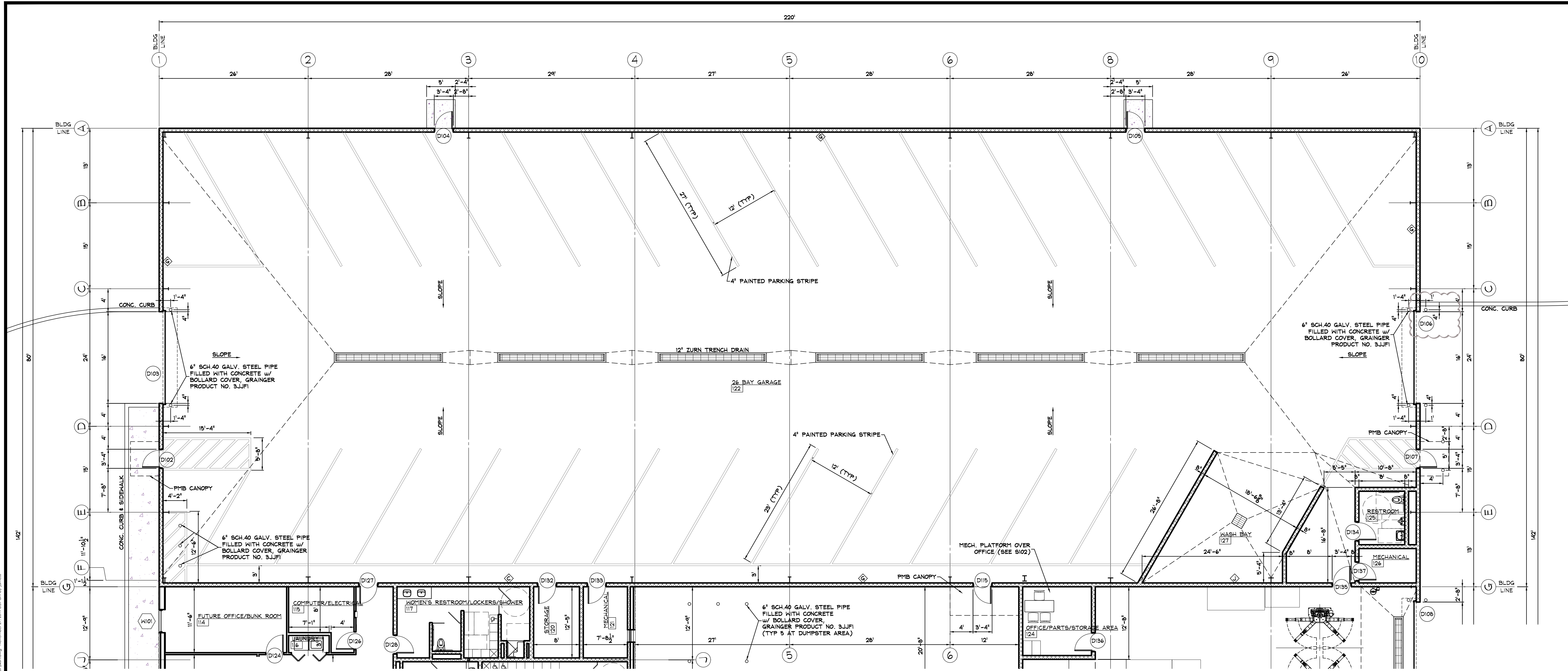
ROYESTOWN, PA 610.369.1310
SCHUYLKILL HAVEN, PA 570.385.5549

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING UTILITY DETAILS

SITUATE IN MUHLENBERG TOWNSHIP BERKS COUNTY PENNSYLVANIA

DATE	SCALE	DRAWING NUMBER
9/20/2019	NONE	D-19-0153-0143-C502

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GARAGE AREA FLOOR PLAN
SCALE: 1/8" = 1'-0"

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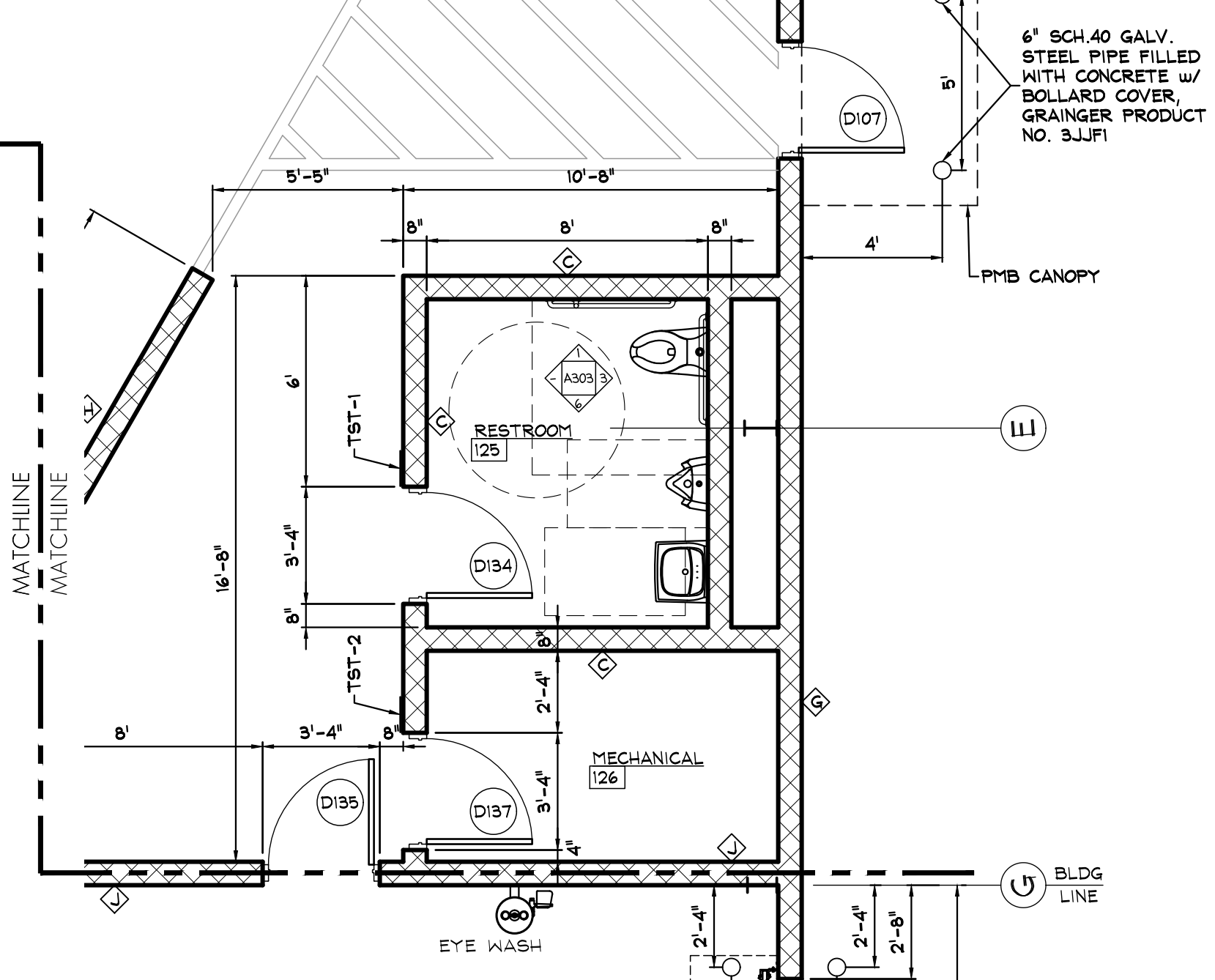
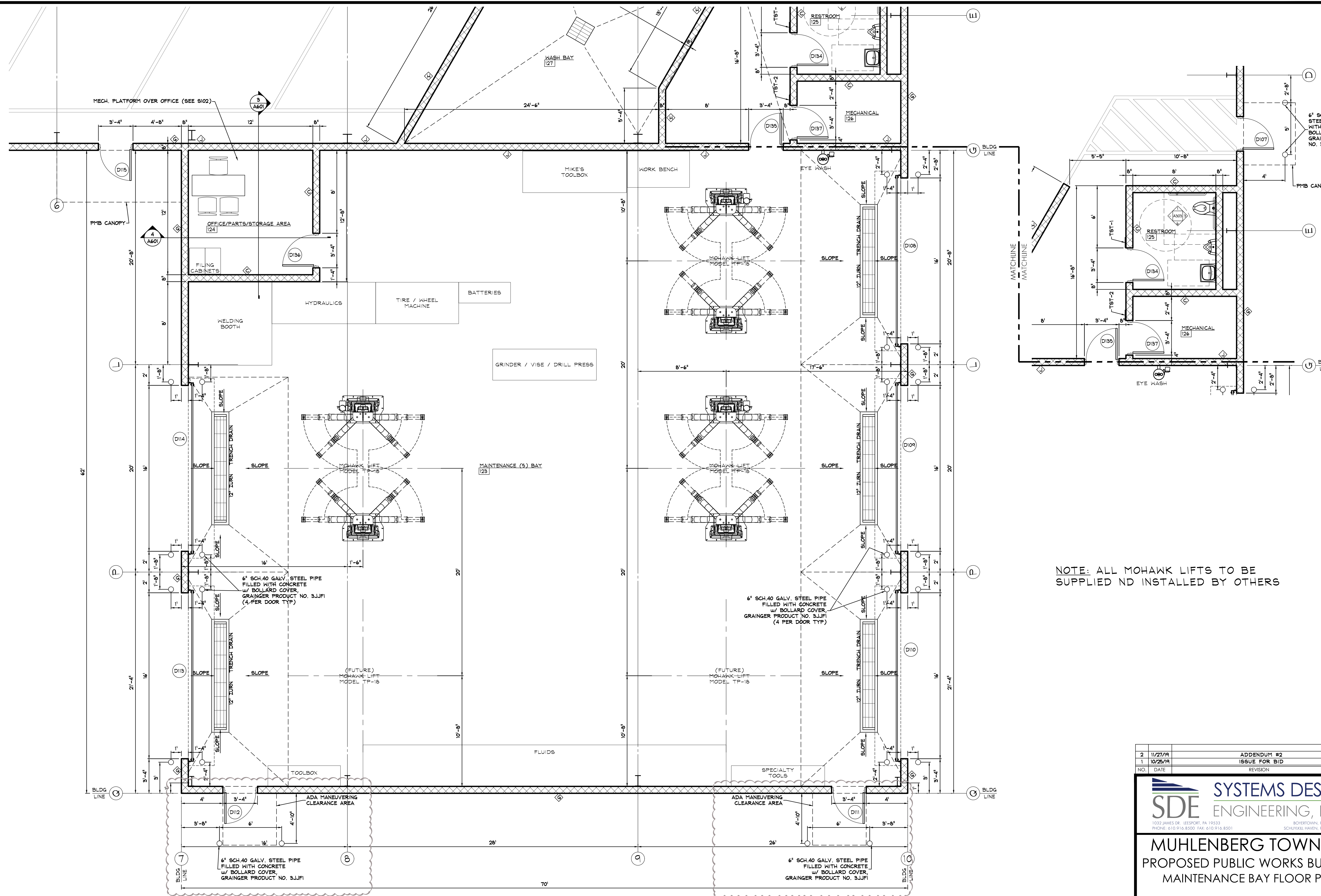
2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

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1032 JAMES DR. HESPORT, PA 19533
PHONE: 610.916.8500 FAX: 610.916.8501

MUHLENBERG TOWNSHIP
PROPOSED PUBLIC WORKS BUILDING
GARAGE AREA FLOOR PLAN

SITUATE IN BERKS COUNTY PENNSYLVANIA

DRAWN BY	CHECKED	APPROVED	CADD FILE NAME
JWS	TSU	TSU	A201 Garage areal floor plan.dwg
DATE	SCALE	DRAWING NUMBER	
08/23/19	1/8" = 1'-0"	D-19-0153-0144-A201	

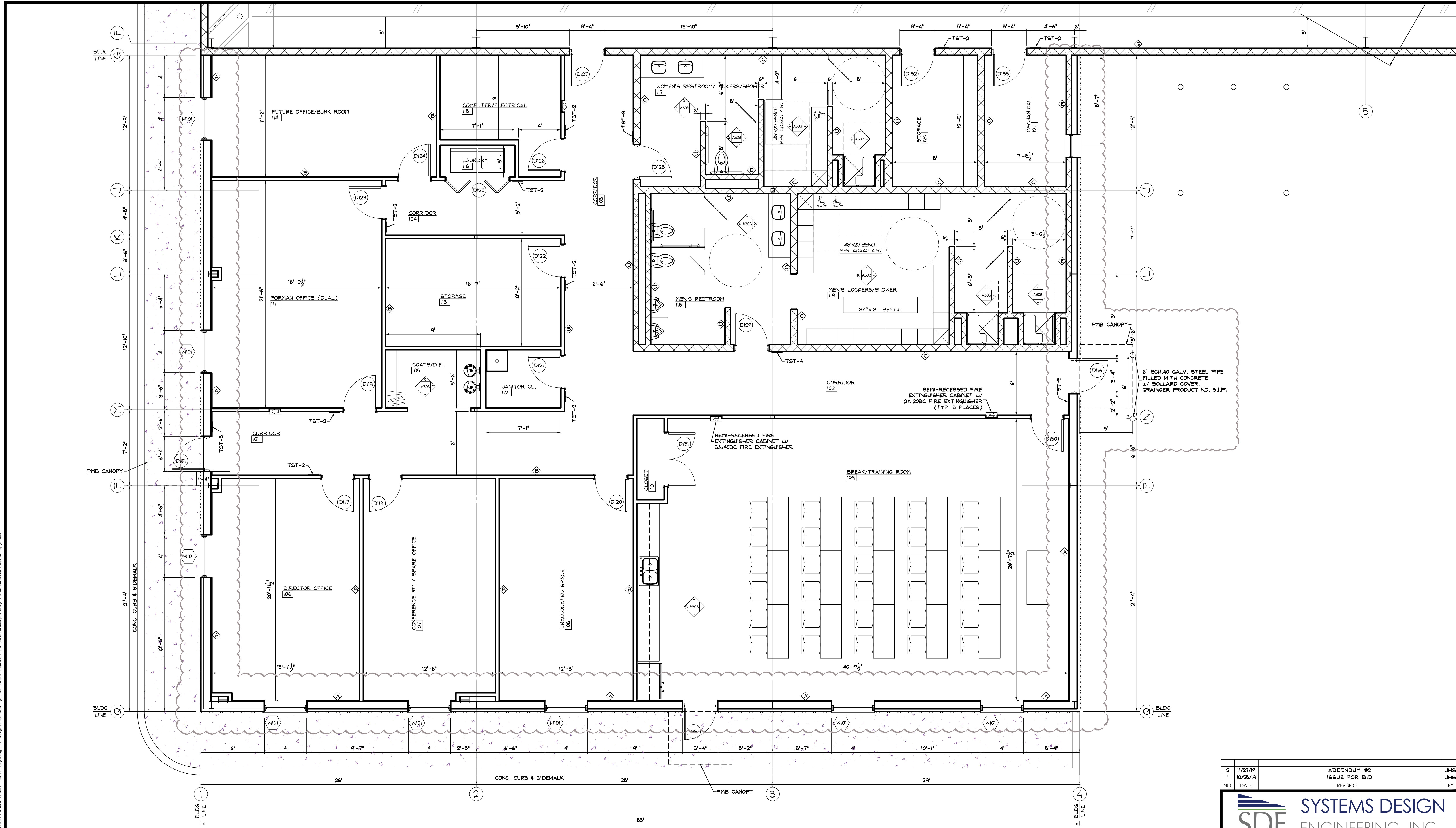


NOTE: ALL MOHAWK LIFTS TO BE SUPPLIED AND INSTALLED BY OTHERS

MAINTENANCE BAY FLOOR PLAN
SCALE: 1/4" = 1'-0"

2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY
 SYSTEMS DESIGN ENGINEERING, INC <small>1032 JAMES DR. HESPORT, PA 19533 801STOWN, PA 610 369 1310 PHONE: 610.916.8500 FAX: 610.916.8501 SCHUYLKILL HAVEN, PA 570.385.5549</small>			
MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING MAINTENANCE BAY FLOOR PLAN			
<small>SITUATE IN BERKS COUNTY PENNSYLVANIA</small>			
<small>DRAWN BY</small> JWS	<small>CHECKED</small> TSU	<small>APPROVED</small> TSU	<small>CADD FILE NAME</small> A202 MaintBay floor plan.dwg
<small>DATE</small> 08/23/19	<small>SCALE</small> 1/4" = 1'-0"	<small>DRAWING NUMBER</small> D-19-0153-0144-A202	

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OFFICE AREA FLOOR PLAN
 SCALE: 1/4" = 1'-0"

2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

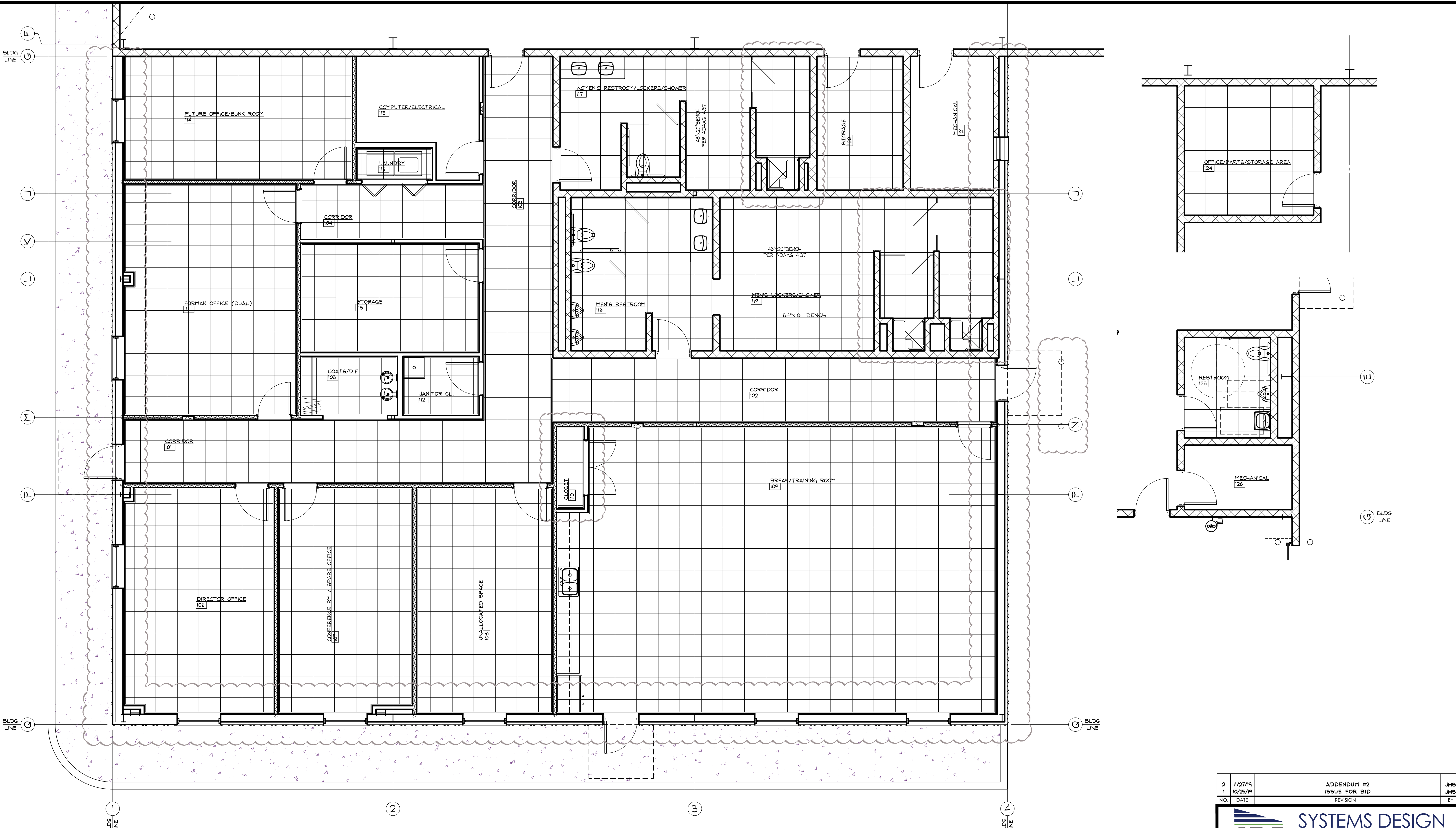
SYSTEMS DESIGN ENGINEERING, INC
 1032 JAMES DR. LEESPORT, PA 19533
 PHONE: 610.916.8500 FAX: 610.916.8501

MUHLENBERG TOWNSHIP
 PROPOSED PUBLIC WORKS BUILDING
 OFFICE AREA FLOOR PLAN

SITUATE IN BERKS COUNTY PENNSYLVANIA

DRAWN BY	CHECKED	APPROVED	CADD FILE NAME
JWS	TSU	TSU	A203 Office area floor plan.dwg
DATE	SCALE	DRAWING NUMBER	
08/23/19	1/4" = 1'-0"	D-19-0153-0144-A203	

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CEILING PLANS
 SCALE: 1/4" = 1'-0"
 NOTE: COORDINATE CEILING GRID WITH ELECTRICAL AND HVAC CONTRACTORS.
 SOUND BATT INSULATION IN THE WALL CAVITY SEE TYPICAL SECTION, SHEET A402

NO.	DATE	REVISION	BY
2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS

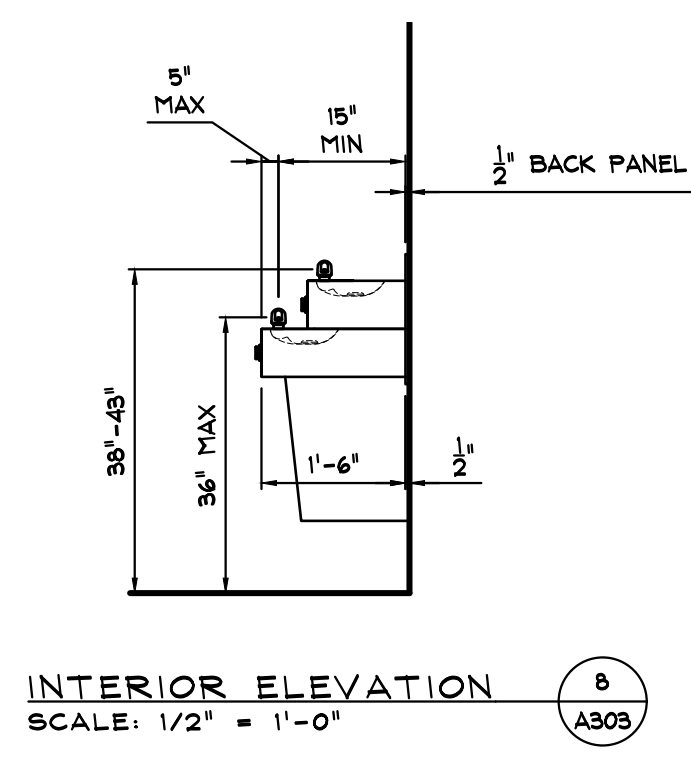
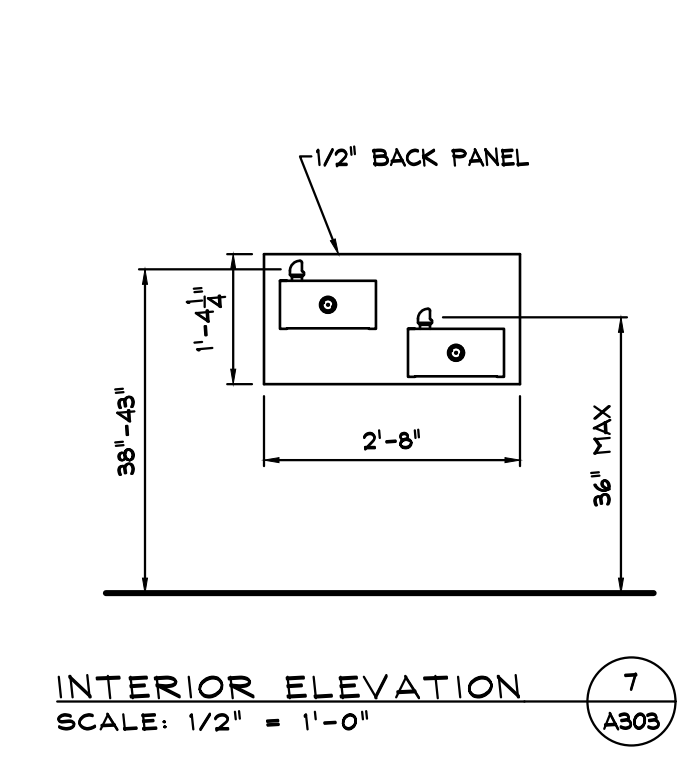
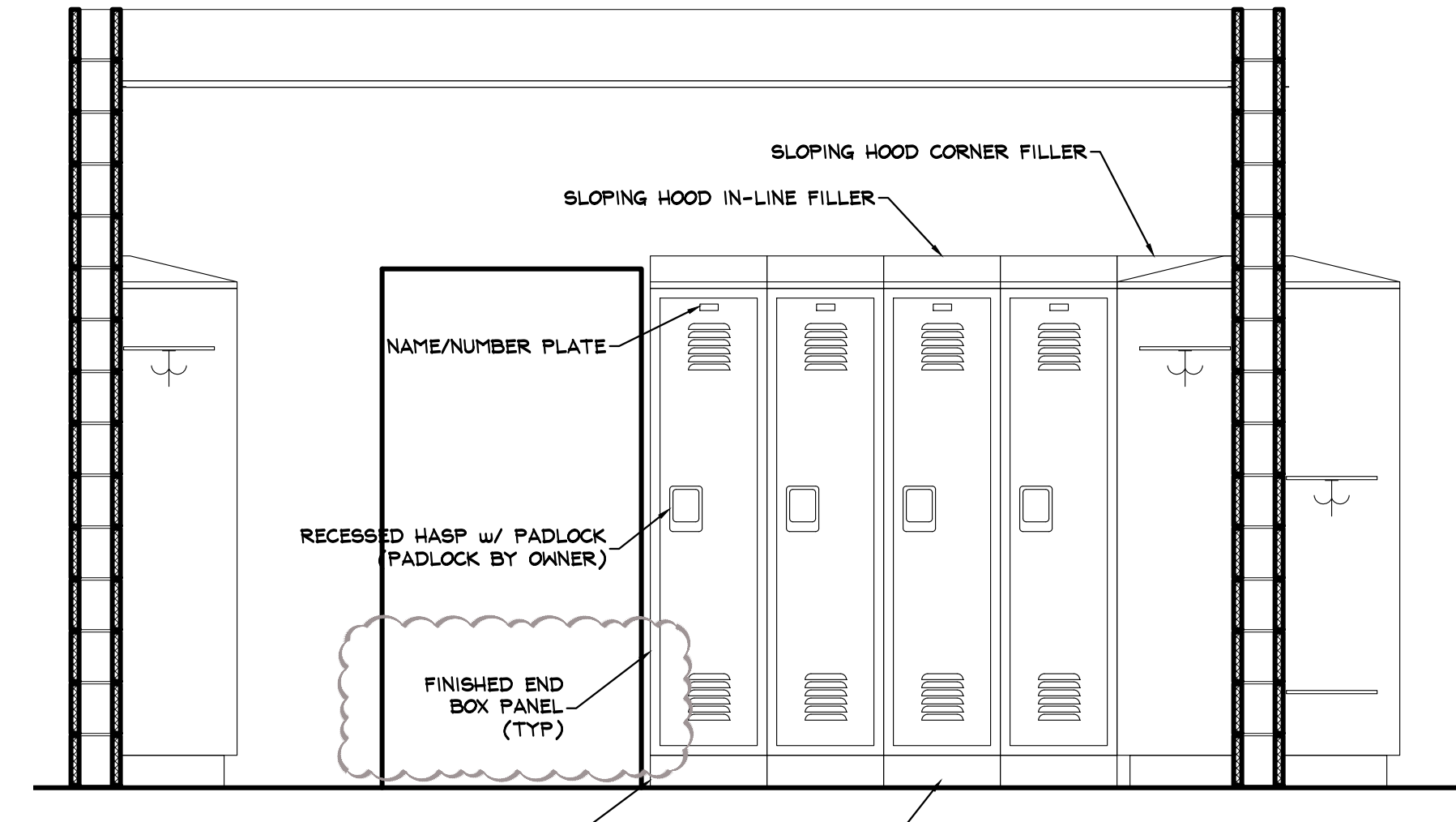
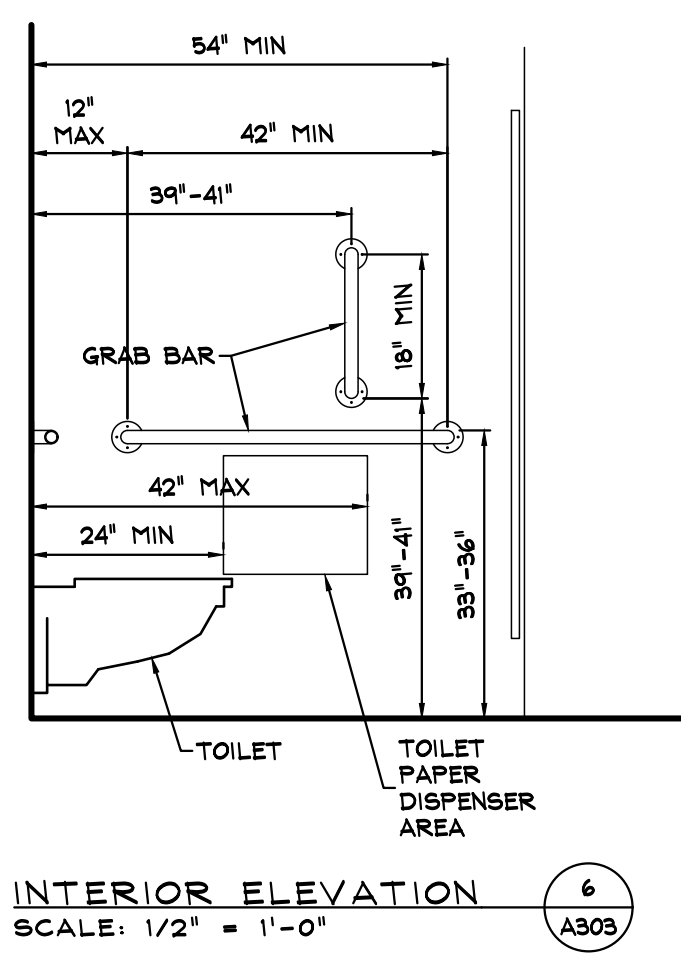
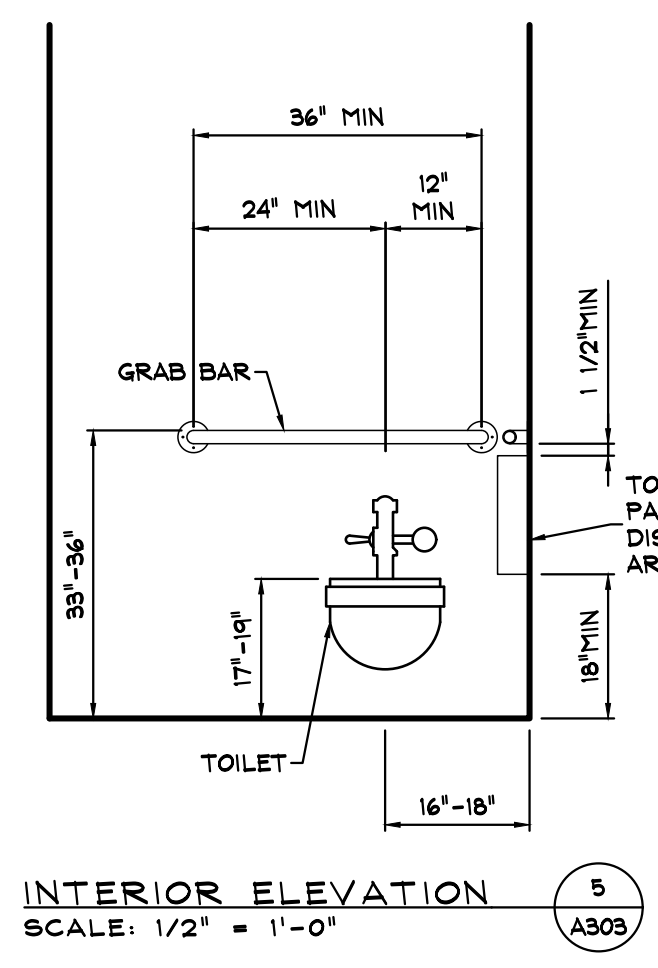
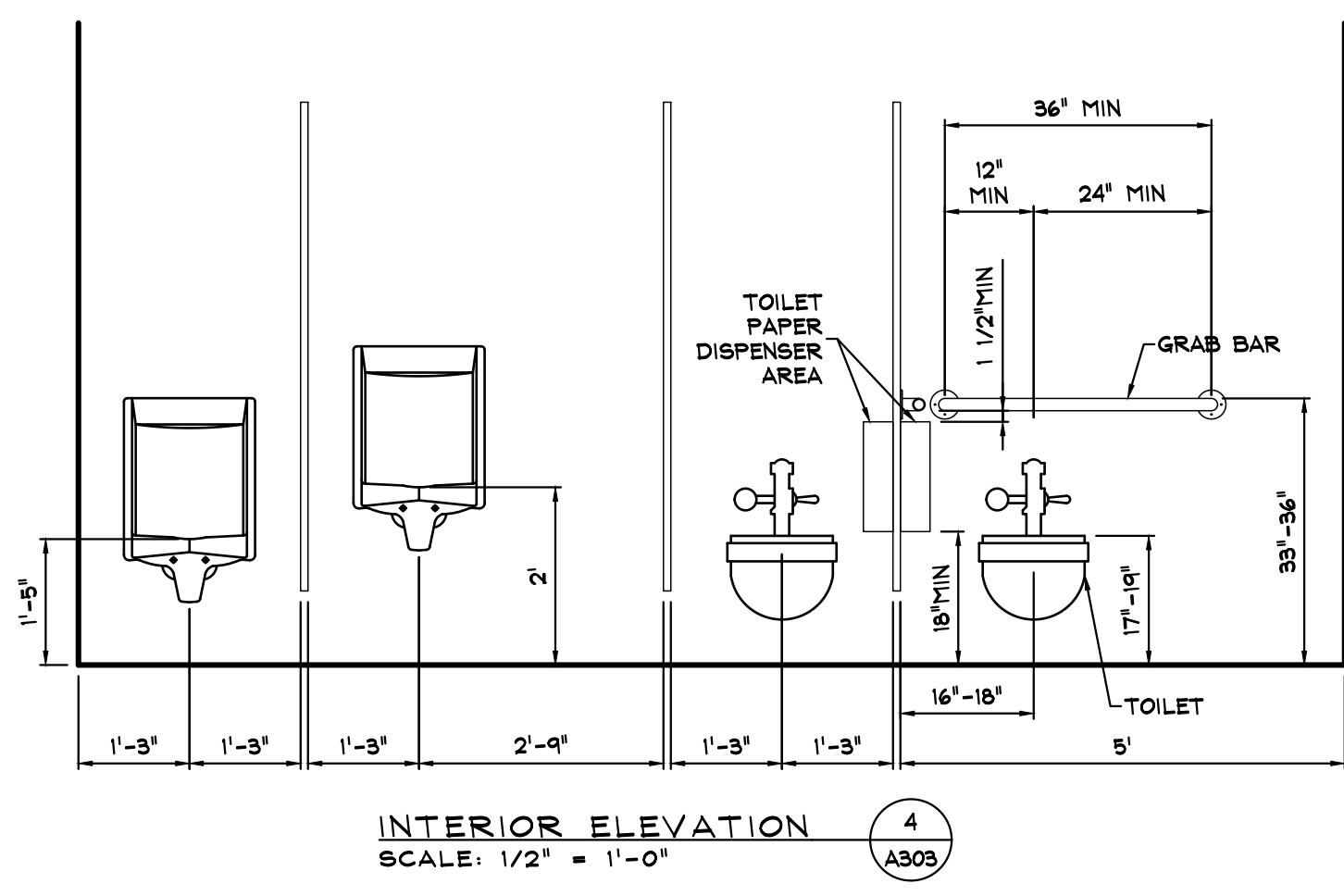
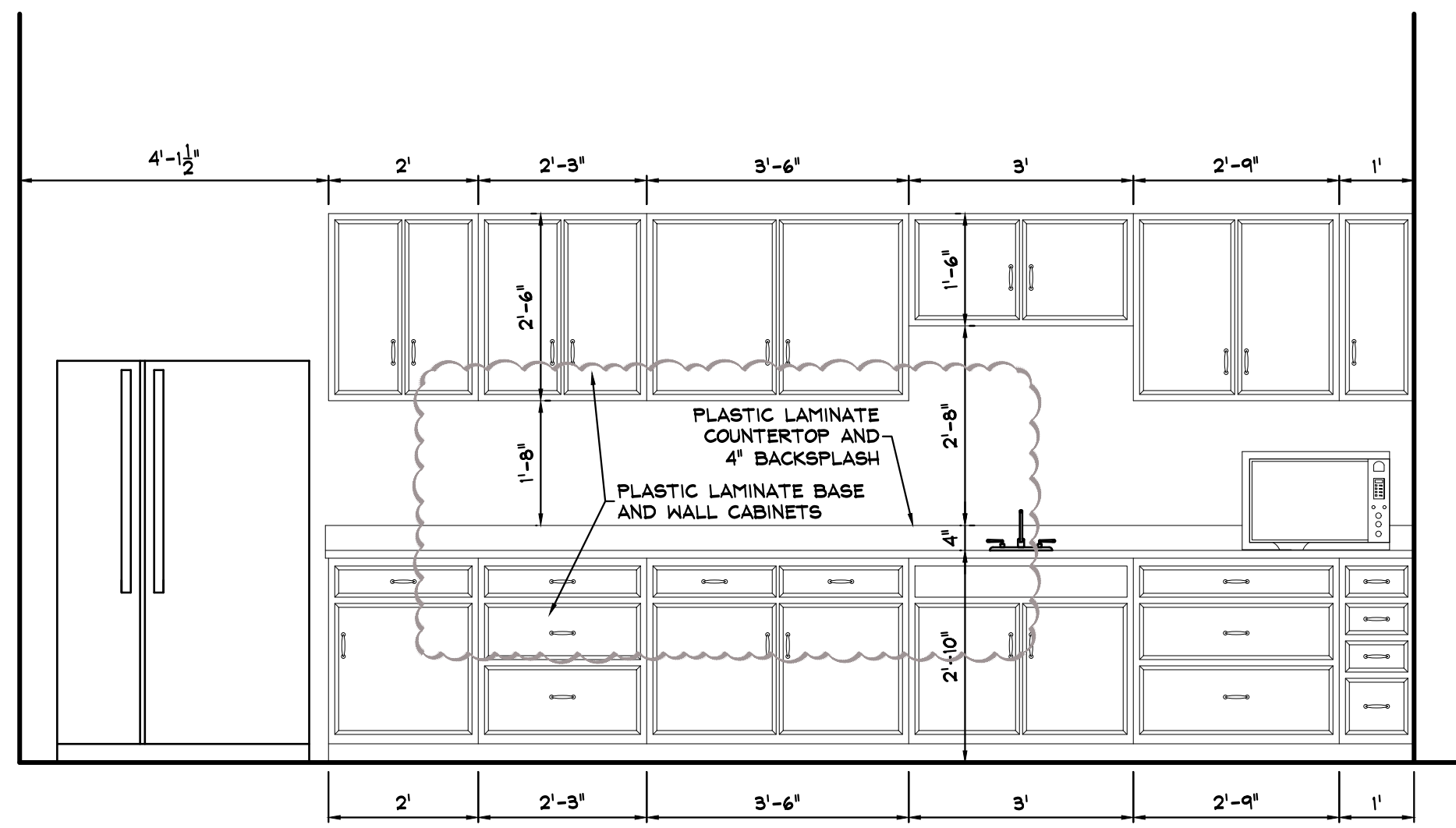
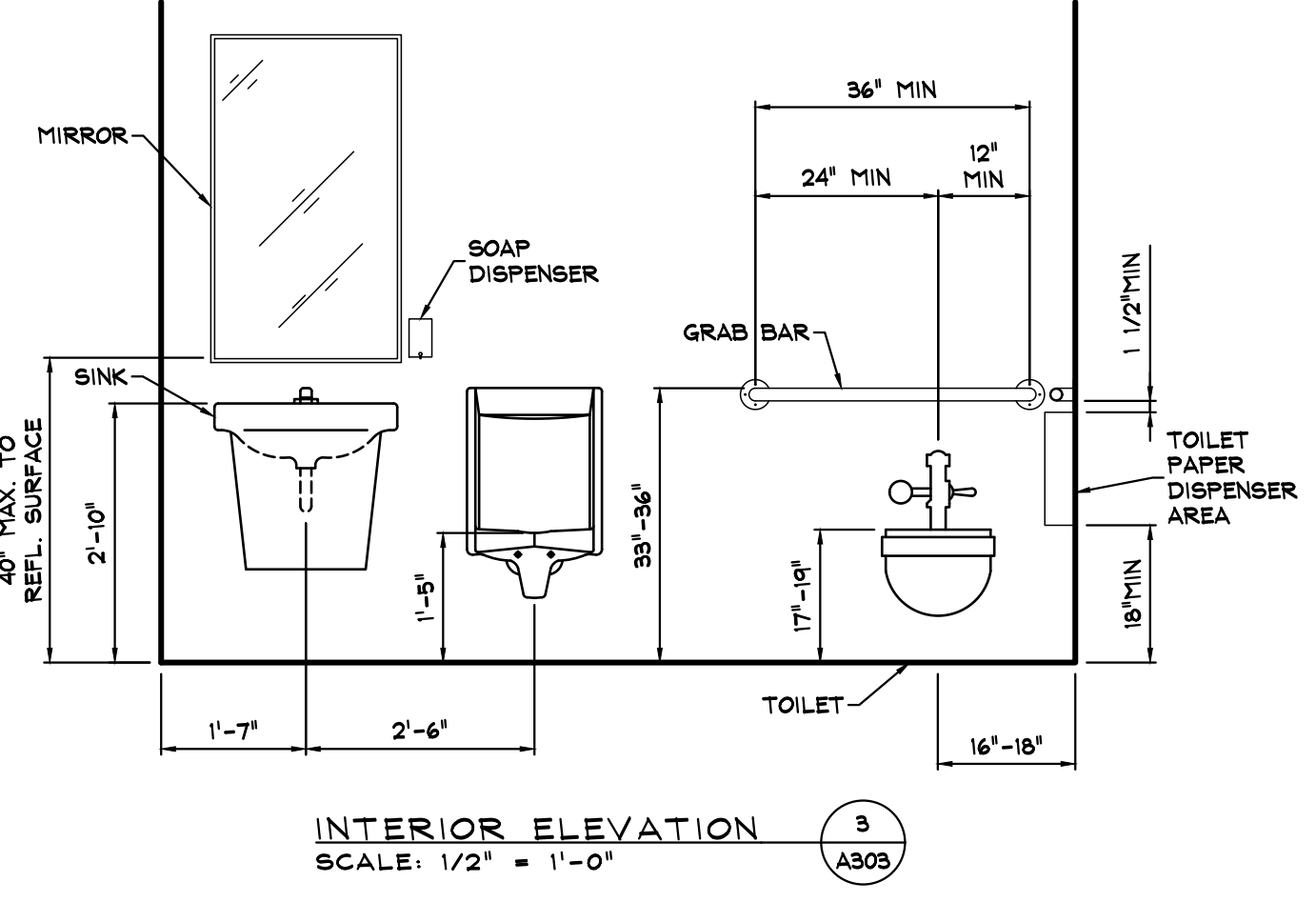
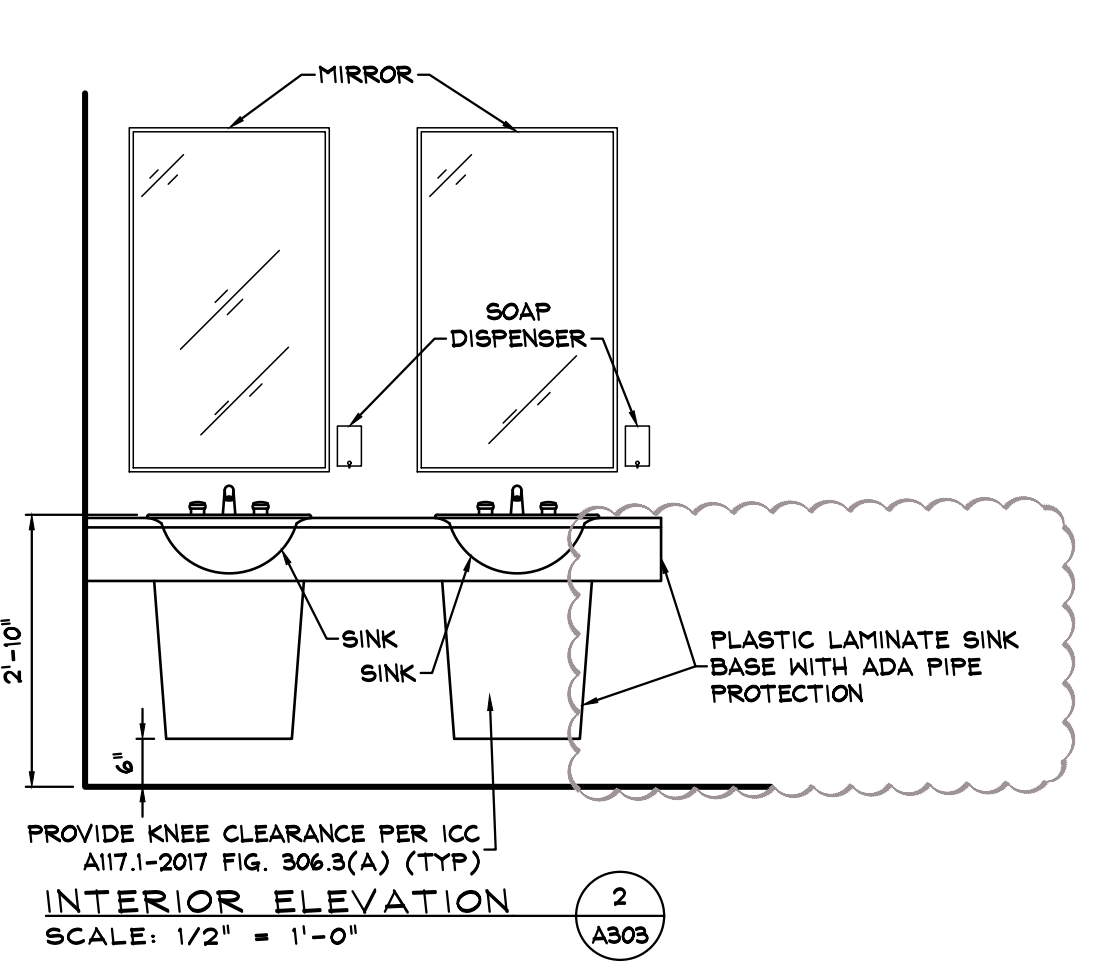
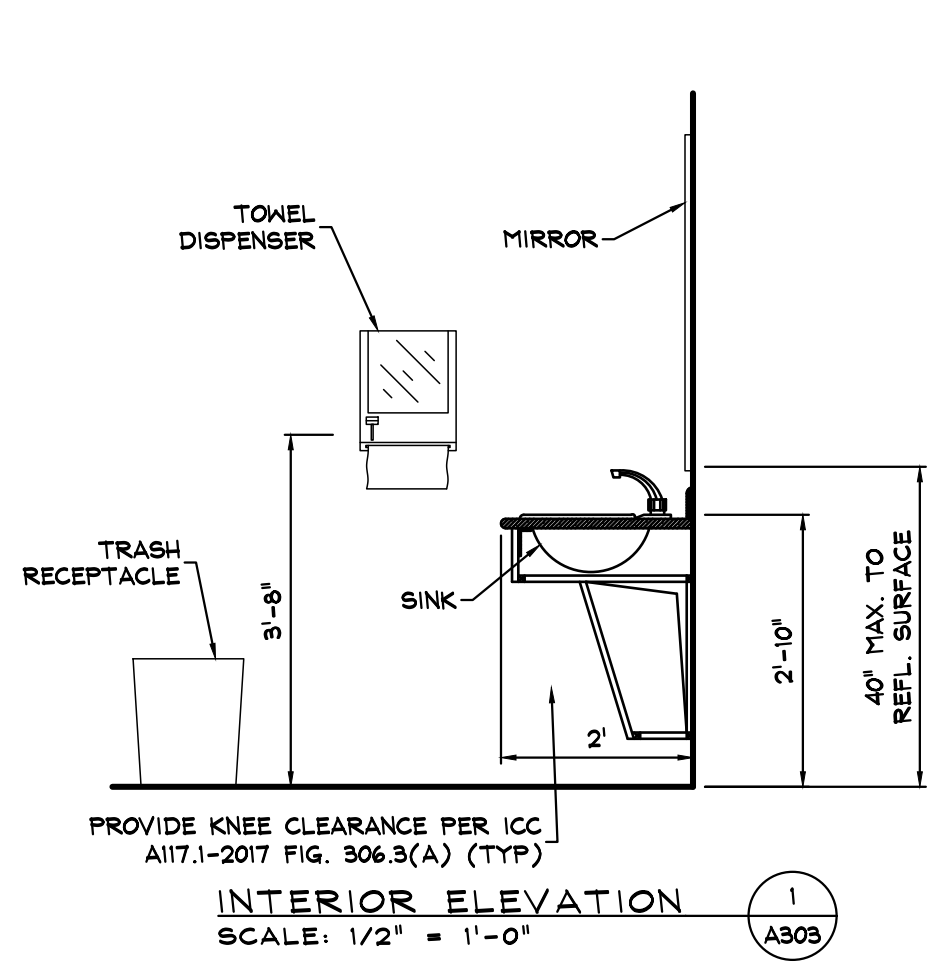
SYSTEMS DESIGN ENGINEERING, INC
 1032 JAMES DR. REEFORT, PA 19533
 PHONE: 610.916.8500 FAX: 610.916.8501

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING CEILING PLAN

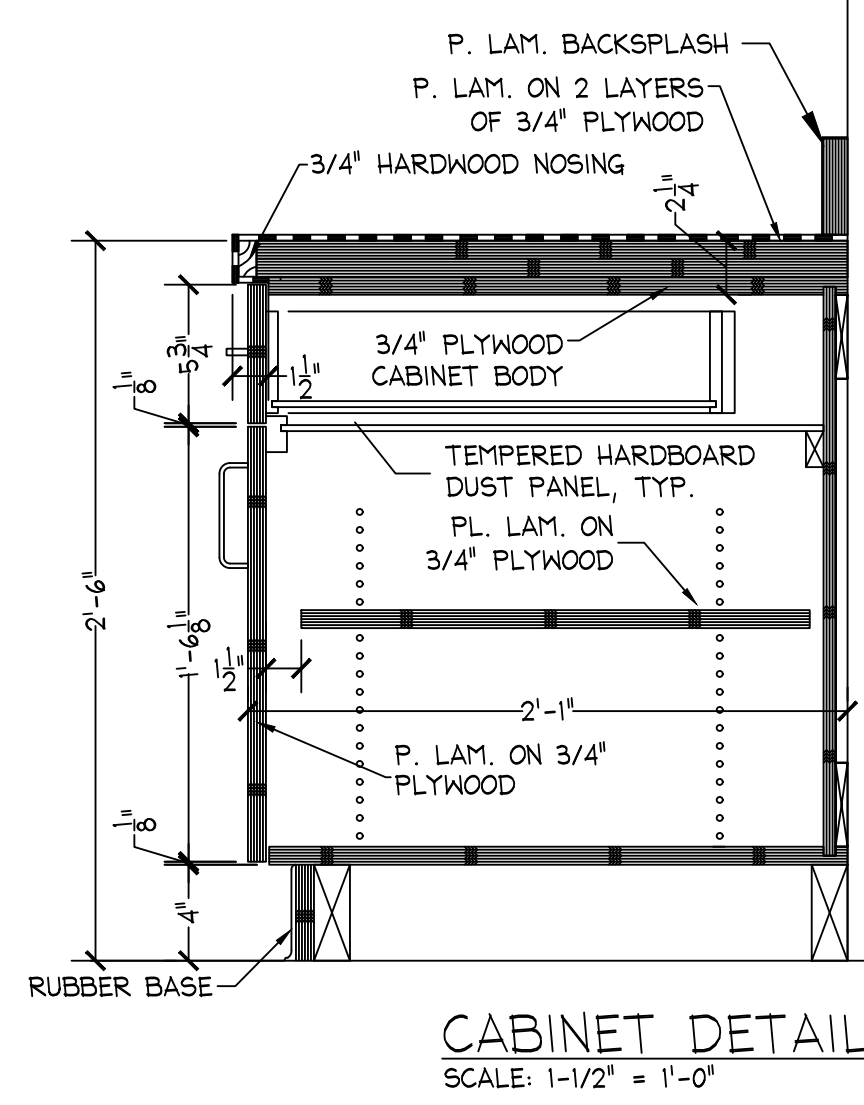
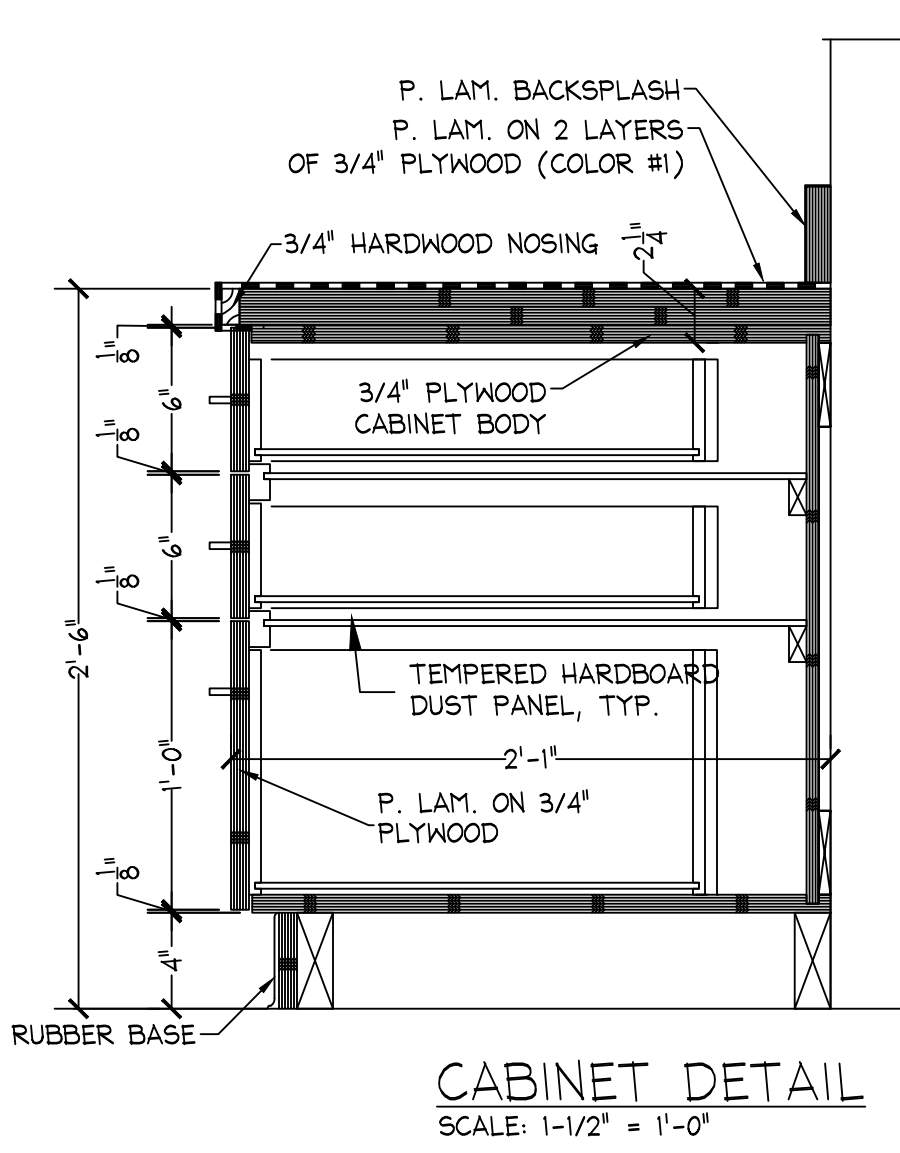
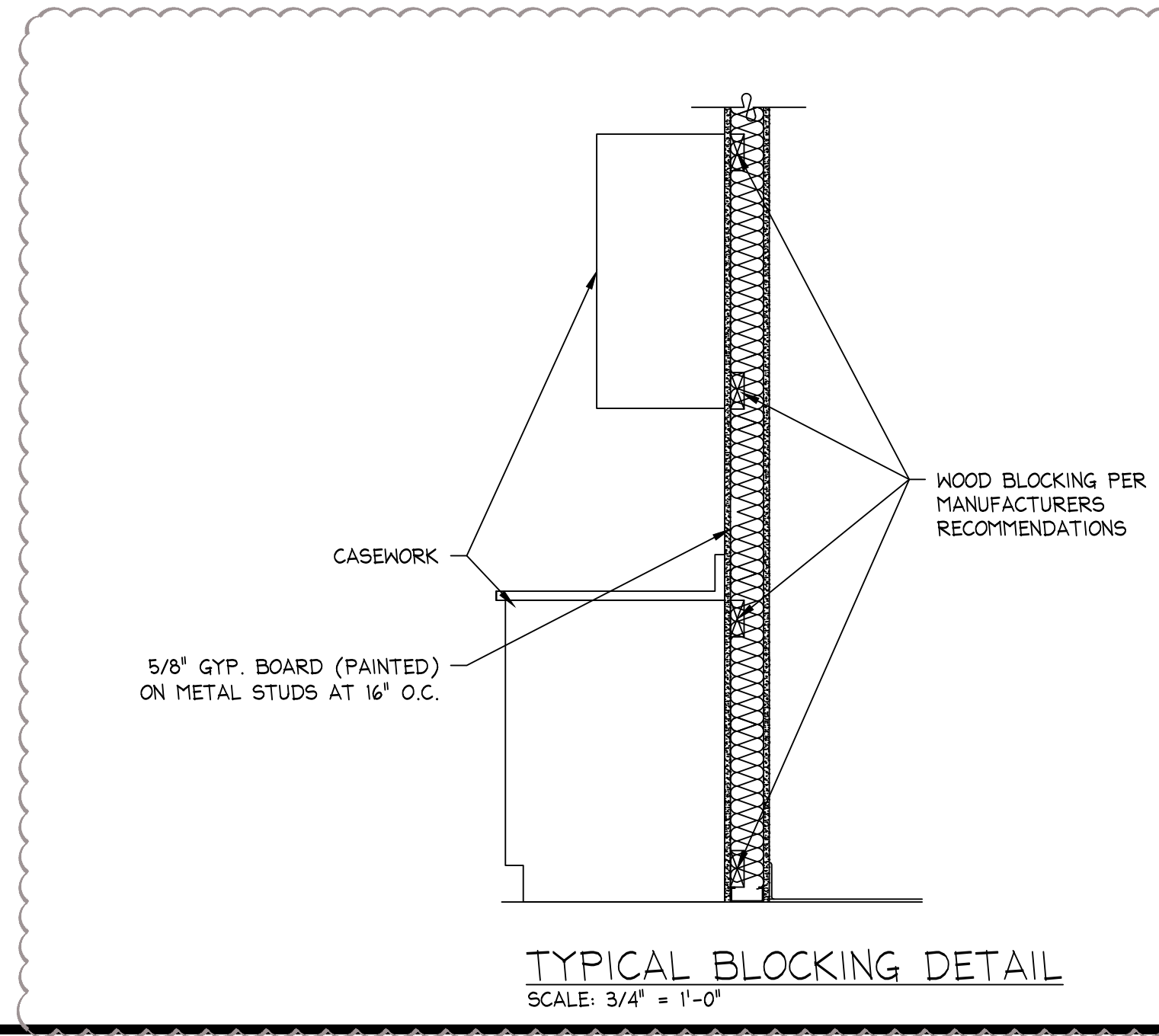
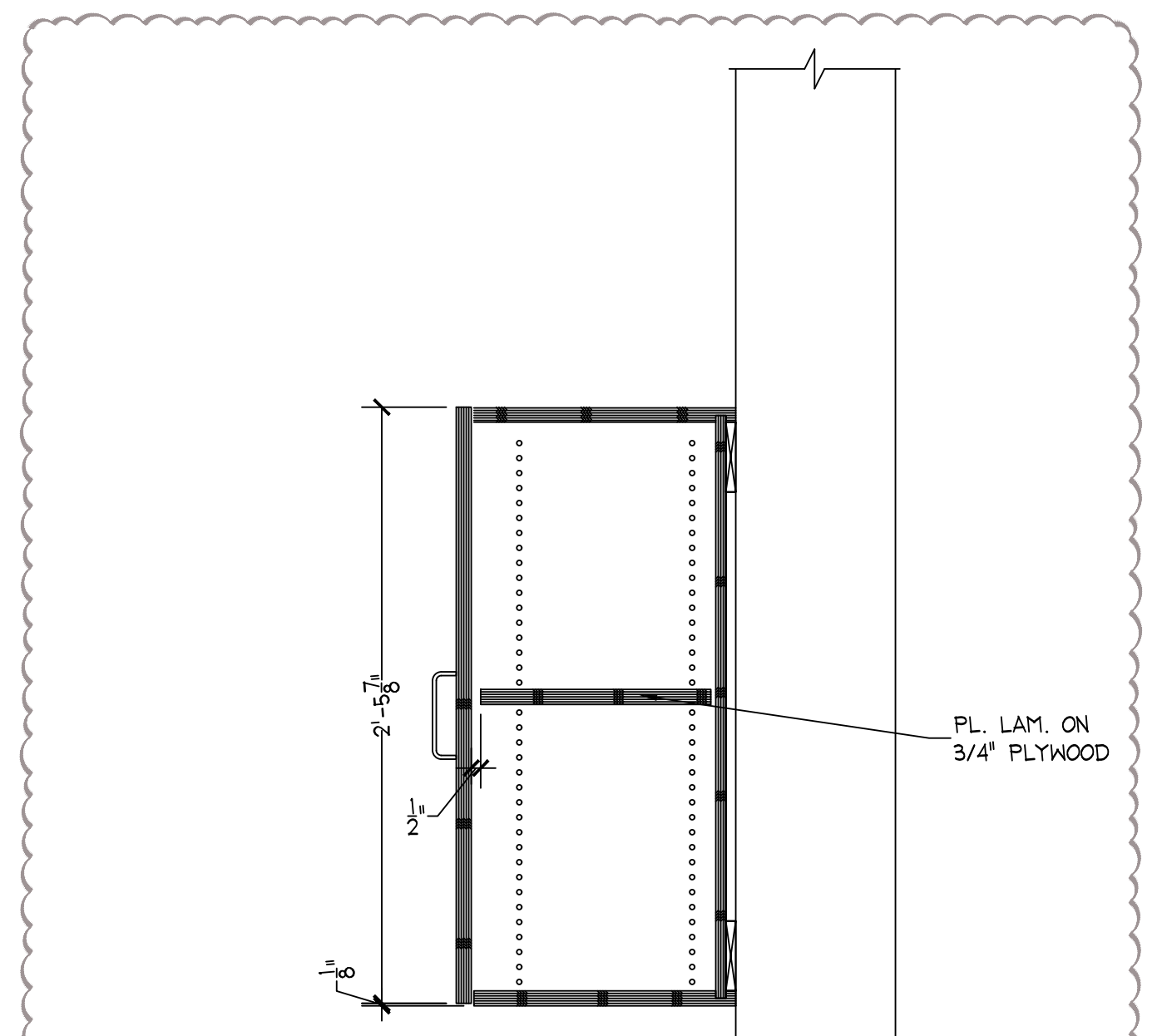
MUHLENBERG TOWNSHIP BERKS COUNTY PENNSYLVANIA

DATE: 08/23/19 SCALE: 1/4" = 1'-0" DRAWING NUMBER: D-19-0153-0144-A204

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RESTROOM ACCESSORIES
 GRAB BARS - AMERICAN SPECIALTIES 3800 SERIES OR APPROVED EQUAL.
 TOILET PAPER DISPENSER - AMERICAN SPECIALTIES 9030 OR APPROVED EQUAL.
 PAPER TOWEL DISPENSER - AMERICAN SPECIALTIES 0210 OR APPROVED EQUAL.
 SOAP DISPENSER - AMERICAN SPECIALTIES 0947 OR APPROVED EQUAL.
 MIRROR - AMERICAN SPECIALTIES 0600 SERIES OR APPROVED EQUAL.
 TRASH RECEPTACLE - AMERICAN SPECIALTIES 0458-9 OR APPROVED EQUAL.



NOTE: CONSTRUCTION OF FOUR DRAWER UNIT SHALL BE SIMILAR TO DETAIL ABOVE.

CONTRACTOR NOTE:
 CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS AND LOCATIONS OF RESTROOM FIXTURES AND ACCESSORIES WITH THE APPLICABLE CODES.

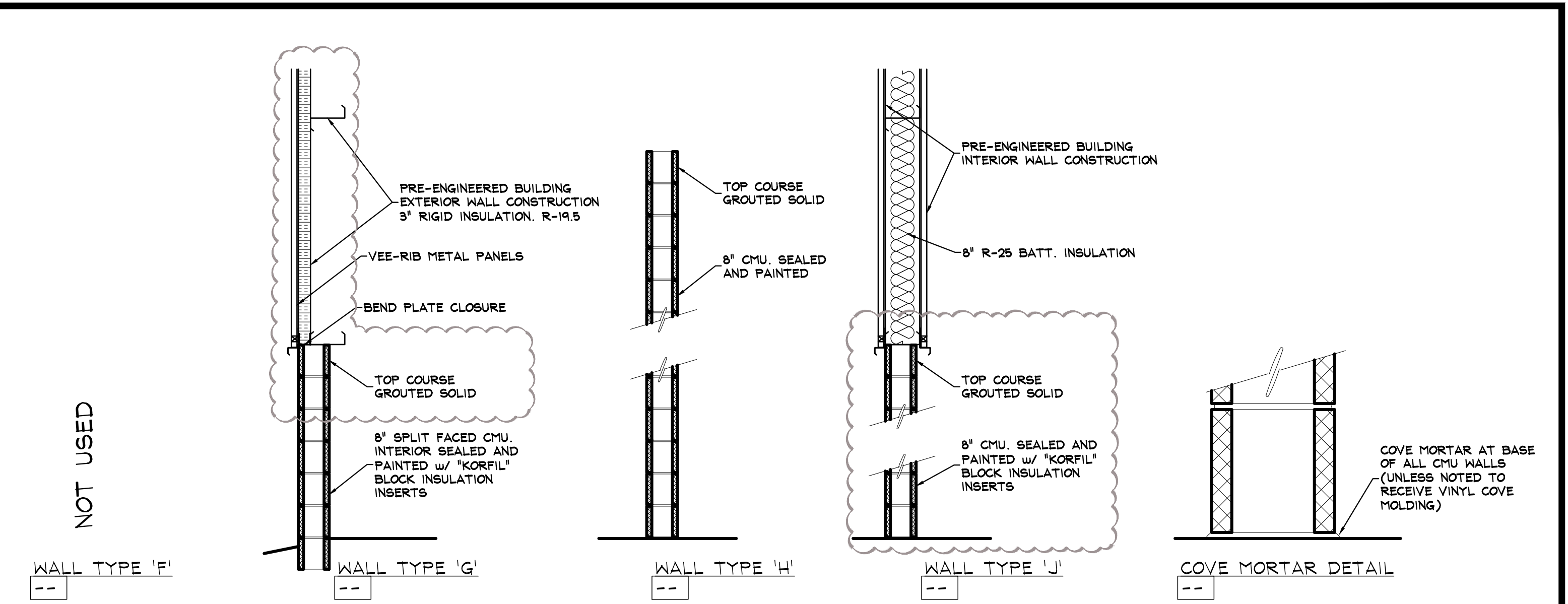
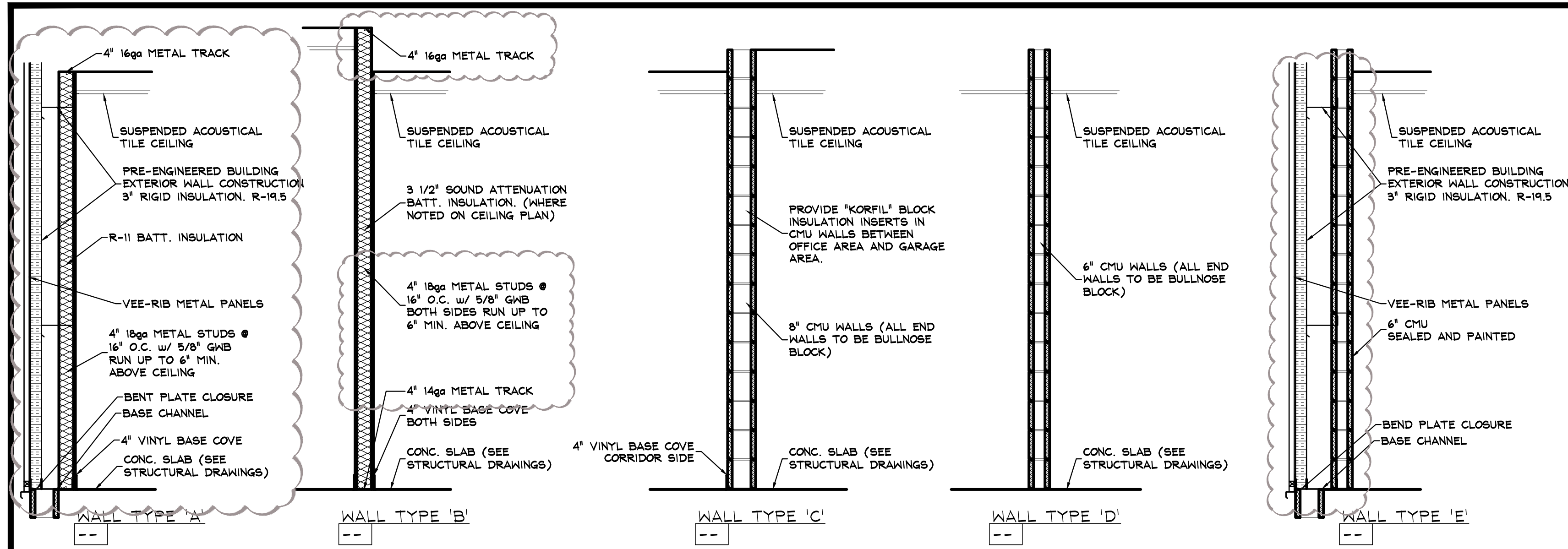
2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

SYSTEMS DESIGN ENGINEERING, INC
 1032 JAMES DR. (EASTPORT, PA 19533) BOYSTOWN, PA 01030-3609 1310
 PHONE: 610.916.8500 FAX: 610.916.8501 SCHUYLKILL HAVEN, PA 570.385.5549

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING INTERIOR ELEVATIONS

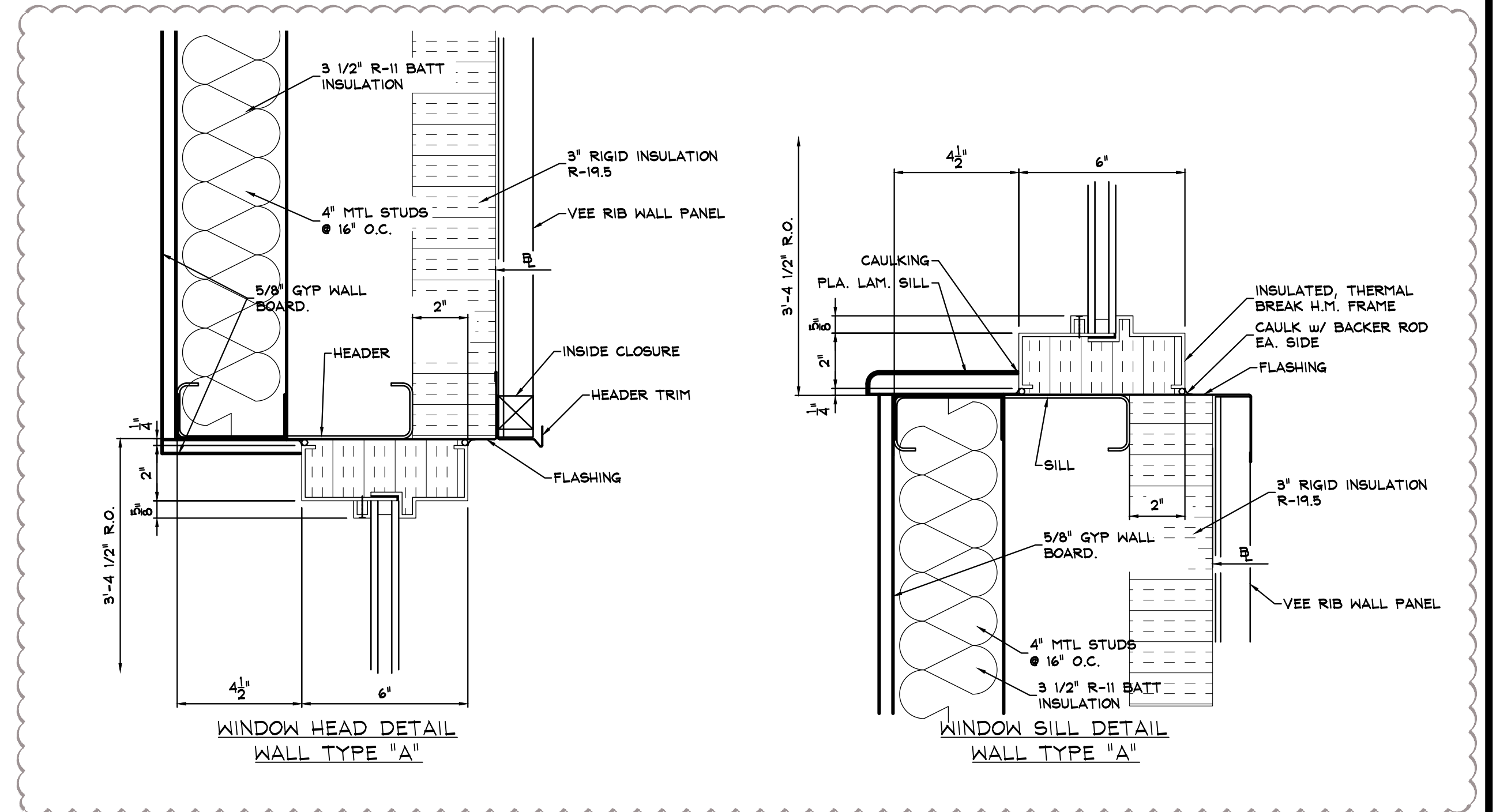
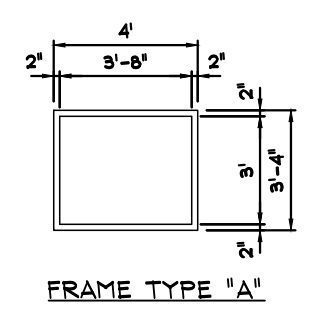
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ROOM #	ROOM	FLOOR	BASE	WALLS	CEILING	REMARKS
				TYPE	HEIGHT	
101	CORRIDOR	C-1	V-1	P-1	CS-1	9'-0"
102	CORRIDOR	C-1	V-1	P-1	CS-1	9'-0"
103	CORRIDOR	C-1	V-1	P-1	CS-1	9'-0"
104	CORRIDOR	C-1	V-1	P-1	CS-1	9'-0"
105	COATS / DRINKING FOUNTAINS	C-2	V-1	P-1	CS-1	10'-0"
106	DIRECTOR'S OFFICE	C-2	V-1	P-1	CS-2	9'-0"
107	CONFERENCE ROOM / OFFICE	C-2	V-1	P-1	CS-2	9'-0"
108	UNALLOCATED SPACE	C-2	V-1	P-1	CS-2	9'-0"
109	BREAK / TRAINING ROOM	C-1	V-1	P-1	CS-3	10'-0"
110	CLOSET	C-2	V-1	P-1	CS-1	9'-0"
111	FORMAN'S OFFICE	C-2	V-1	P-1	CS-1	9'-0"
112	JANITOR'S CLOSET	C-2	V-1	P-1	CS-1	9'-0"
113	STORAGE	C-2	V-1	P-1	CS-1	9'-0"
114	FUTURE OFFICE / BUNK ROOM	C-2	V-1	P-1	CS-1	9'-0"
115	COMPUTER / ELECTRICAL	C-2	V-1	P-1	--	OPEN
116	LAUNDRY	C-2	V-1	P-1	CS-1	9'-0"
117	WOMAN'S RESTROOM / LOCKERS / SHOWER	C-1	--	P-1	CS-4	9'-0"
118	MEN'S RESTROOM	C-1	--	P-1	CS-4	9'-0"
119	MEN'S LOCKERS / SHOWERS	C-1	--	P-1	CS-4	9'-0"
120	STORAGE	C-2	--	P-1	CS-1	9'-0"
121	MECHANICAL	C-2	--	P-1	OPEN	OPEN
122	GARAGE	C-2	--	P-1	OPEN	OPEN
123	MAINTENANCE BAYS	C-2	--	P-1	OPEN	OPEN
124	OFFICE / PARTS / STORAGE	C-2	--	P-1	CS-1	9'-0"
125	RESTROOM	C-2	--	P-1	CS-4	9'-0"
126	MECHANICAL	C-2	--	P-1	OPEN	OPEN
127	WASH BAY	C-2	--	P-1	OPEN	OPEN

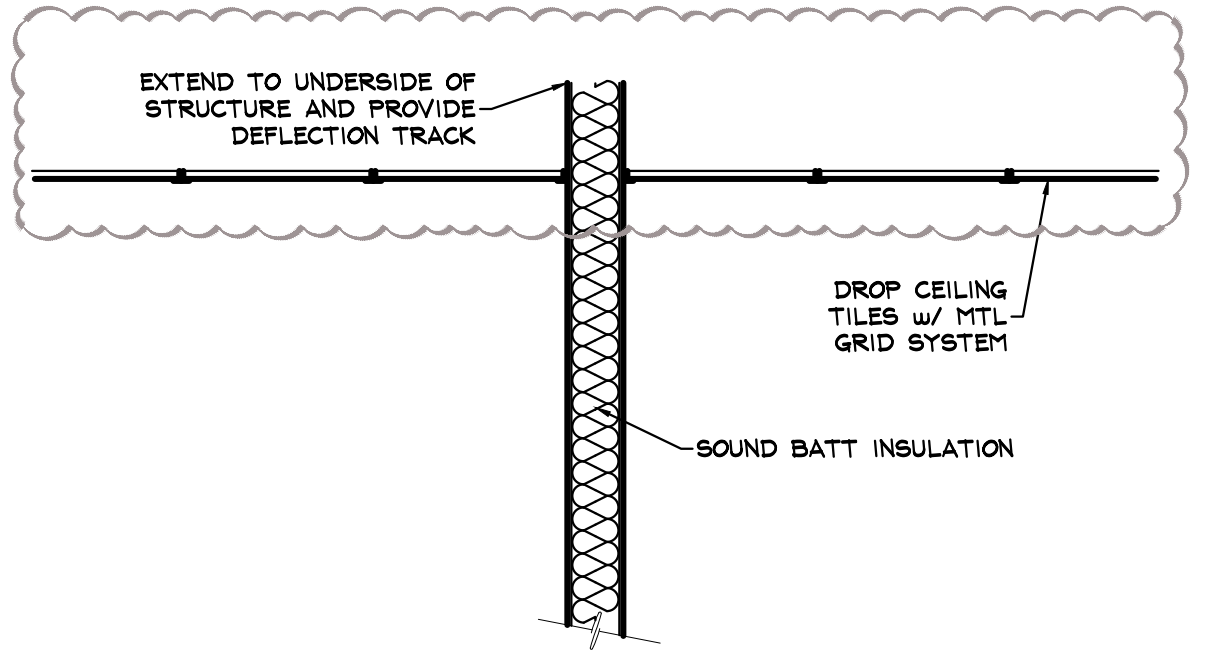
WINDOW SCHEDULE						
MARK	QTY.	SIZE	MATERIAL	TYPE	FRAME DETAILS	REMARKS
W101	B	4'-0" x 3'-4"	H.M.	A	HEAD JAMB SILL MULLION	THERMAL BREAK
CONTRACTOR TO PROVIDE VINYL ROLLER SHADES AT EACH WINDOW						



NOTE:
EXTERIOR FLASHING AND TRIM DETAIL FOR WINDOWS AND DOORS BY PRE-ENGINEERED BUILDING MANUF.

FINISH TYPES:
FLOOR:
 C-1 FINISHED CONCRETE
 - RESINOUS FLOORING
 - REFER SPEC SECTION 096723
 C-2 FINISHED CONCRETE - STEEL TROWEL
 ** ALL CONCRETE FINISHES SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS **
BASE:
 V-1 4" VINYL COVE
PAINT:
 P-1 PAINT
 - REFER SPEC SECTION 09100
CEILING:
 CS-1 ARMSTRONG MODEL #949 TEXTURED w/ PRELUDE 15/16 GRID SYSTEM
 CS-2 ARMSTRONG MODEL #984 RANDOM TEXTURED w/ PRELUDE 15/16 GRID SYSTEM
 CS-3 ARMSTRONG MODEL #492 YUMA WHITE w/ PRELUDE 15/16 GRID SYSTEM
 CS-4 ARMSTRONG MODEL CERAMAGUARD FINE FIGURED w/ PRELUDE PLUS XL 15/16 GRID SYSTEM
TOILET/URINAL PARTITIONS:
 BRADLEY URINAL SCREENS, SOLID HDPE PANEL, WALL HUNG WITH STIRRUP BRACKETS + FLOOR MOUNT
 BRADLEY FLOOR BRACED TOILET PARTITIONS, SOLID HDPE PANEL - BRADMAR MODEL

FINISH NOTES:
 1. CONTRACTOR TO COORDINATE COLOR SELECTION AND PROVIDE SAMPLES TO THE OWNER.
 2. CONTRACTOR TO FOLLOW ALL MANUFACTURERS INSTRUCTIONS PERTAINING TO THE APPLICATION OF FINISHING MATERIALS AND COMPONENTS.
 3. CONTRACTOR AND ALL SUB-CONTRACTORS TO USE COMMON SUPPLIERS OF BUILDING PRODUCTS, COMPONENTS, MATERIALS, ETC., IN ORDER TO MAINTAIN UNIFORM COLOR, FINISHES, AND STYLES.
 4. ALL WALL PAINTING SHALL EXTEND 6" ABOVE SUSPENDED CEILING SYSTEMS.
 5. ALL FINISHES AND FINISHED MATERIALS SHALL BE PROTECTED AND STORED BY CONTRACTOR UNTIL TIME OF INSTALLATION. CONTRACTOR TO PROTECT ALL INSTALLED FINISHES, MATERIALS, FIXTURES, ETC., TO PREVENT PREMATURE WEAR, DAMAGE, AND SOILING PRIOR TO THE OCCUPANCY OF THE BUILDING. CONTRACTOR IS RESPONSIBLE FOR CLEANING, REPLACING, OR REPAIRING OF WORN, DAMAGED, AND SOILED MATERIALS, FIXTURES, COMPONENTS, ETC., PRIOR TO THE OCCUPANCY OF THE BUILDING.
CEILING NOTES:
 1. ALL CEILING HEIGHTS ARE TAKEN FROM TOP OF FINISHED SLAB.
 2. ALL LIGHTING FIXTURES SHOWN WITHIN SUSPENDED CEILING GRID ARE TO BE MOUNTED INTO OPEN METAL GRID SYSTEM PRIOR TO INSTALLATION OF CEILING PANELS. CONTRACTOR TO NOTIFY ELECTRICAL CONTRACTOR 24 HRS. IN ADVANCE TO START OF GRID INSTALLATION.
 3. CONTRACTOR TO PROVIDE CEILING GRID LAYOUT TO ARCHITECT/ENGINEER FOR APPROVAL. THE ORIENTATION OF GRID BEAMS, RUNNERS, ETC. MAY BE ADJUSTED TO DECREASE THE AMOUNT OF WASTED CEILING MATERIALS.
 4. MECHANICAL AND ELECTRICAL CONTRACTORS TO SUPPLY AND INSTALL REQUIRED FIXTURES IN THE SUSPENDED CEILING SYSTEM AT REQUIRED LOCATIONS AND QUANTITIES.



TYPICAL SOUND WALL SECTION
 SCALE: 1/2" = 1'-0"

2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

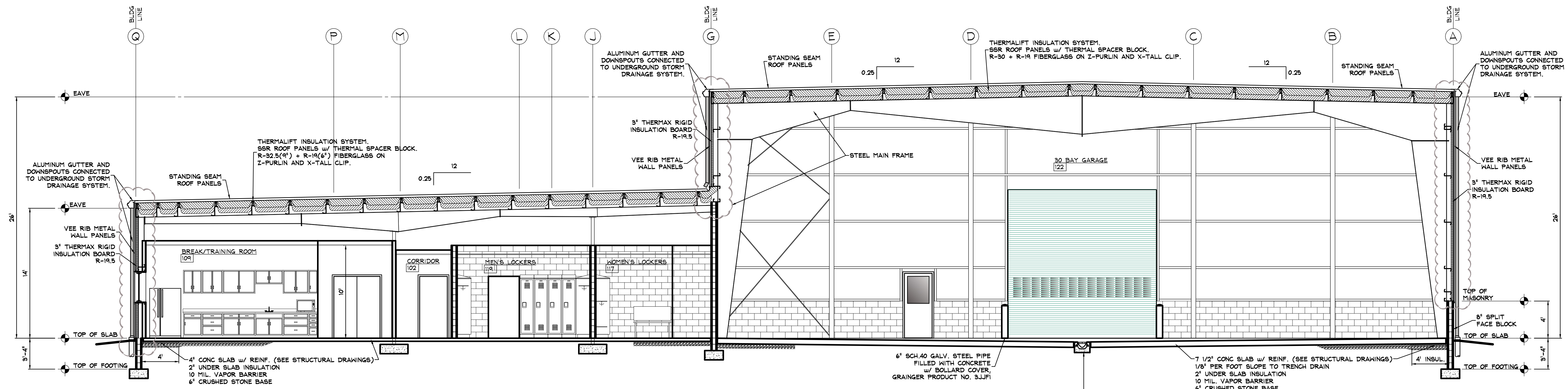
SDE SYSTEMS DESIGN ENGINEERING, INC
 1032 JAMES DR. HESOPOL, PA 19533
 PHONE: 610.916.8500 FAX: 610.916.8501
 ROYSTOWN, PA 010.369.1319
 SCHUYLKILL HAVEN, PA 570.385.5549

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING FINISH/WINDOW SCHEDULES - WALL TYPES

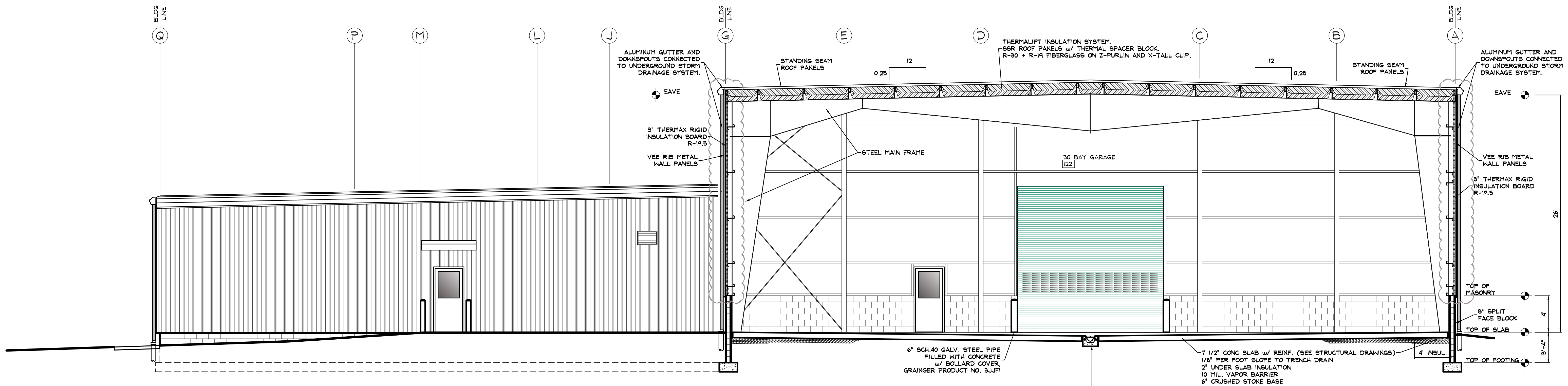
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MUHLENBERG TOWNSHIP BERKS COUNTY PENNSYLVANIA

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BUILDING CROSS SECTION 1
SCALE: 3/16" = 1'-0"



BUILDING CROSS SECTION 2
SCALE: 3/16" = 1'-0"

2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

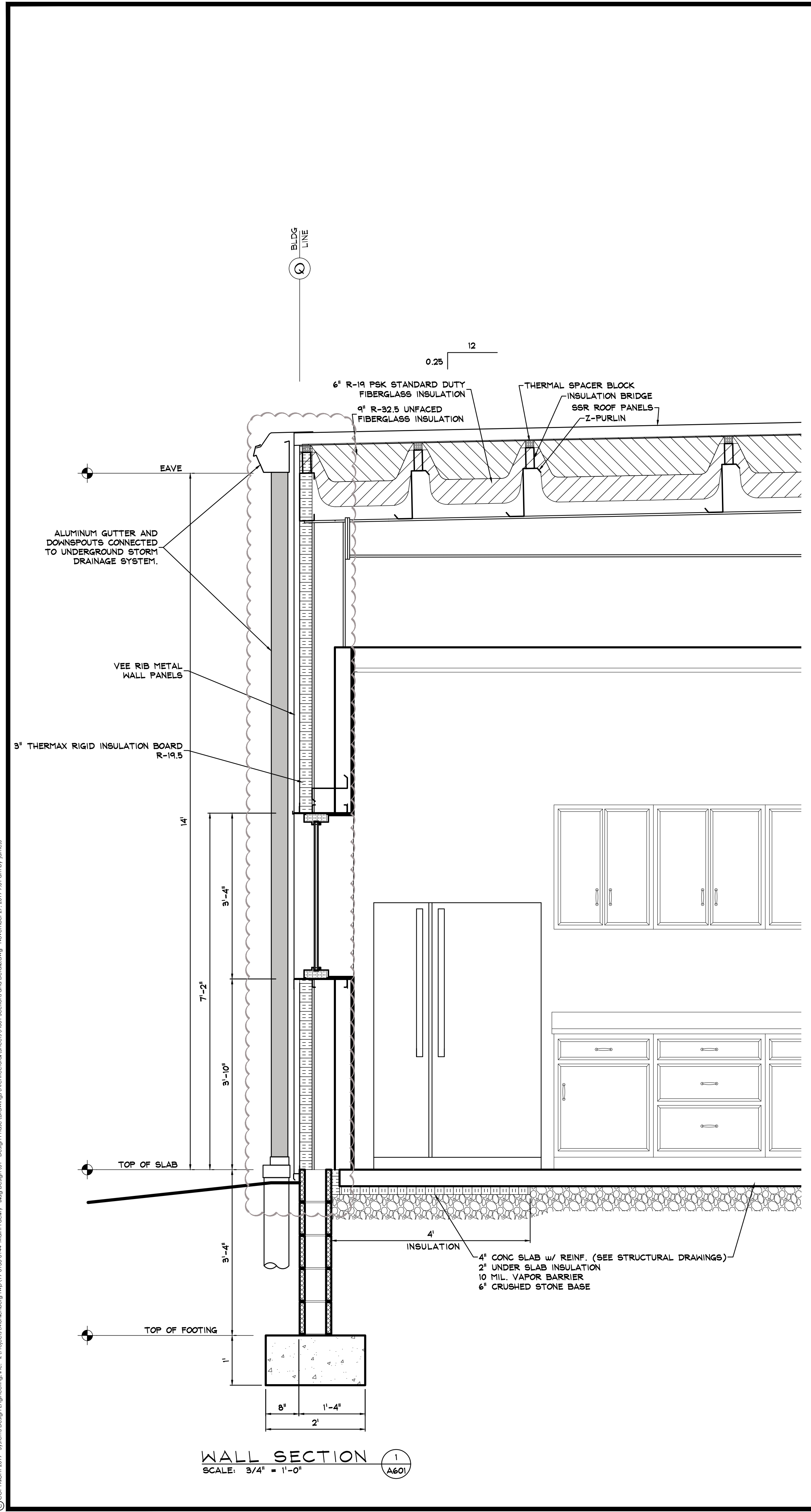
SD ENGINEERING, INC
1032 JAMES DR. LEESPORT, PA 19533
PHONE: 610.916.8500 FAX: 610.916.8501

MUHLENBERG TOWNSHIP
PROPOSED PUBLIC WORKS BUILDING
BUILDING SECTIONS

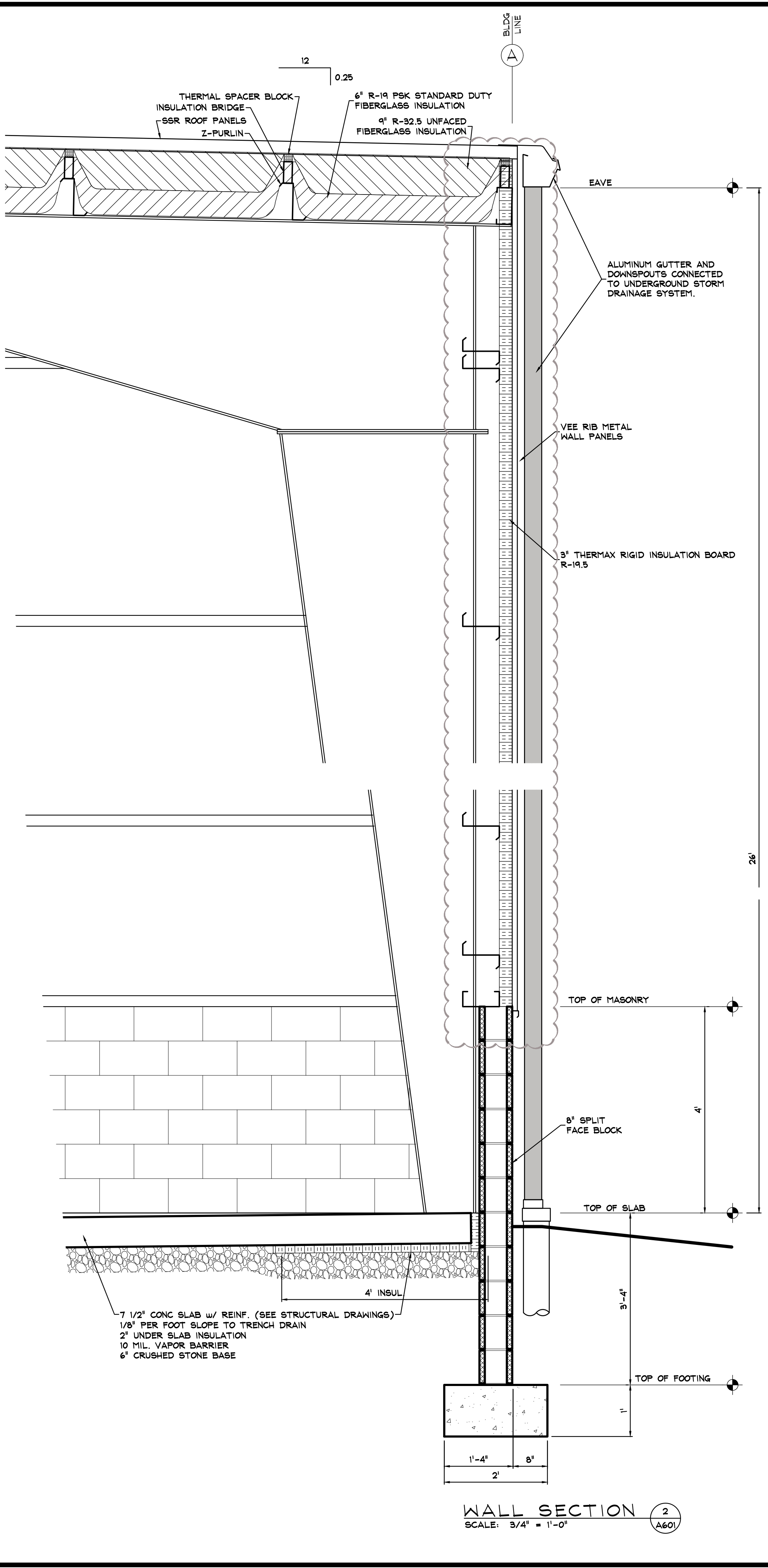
SITUATE IN BERKS COUNTY PENNSYLVANIA

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DATE	SCALE	DRAWING NUMBER	
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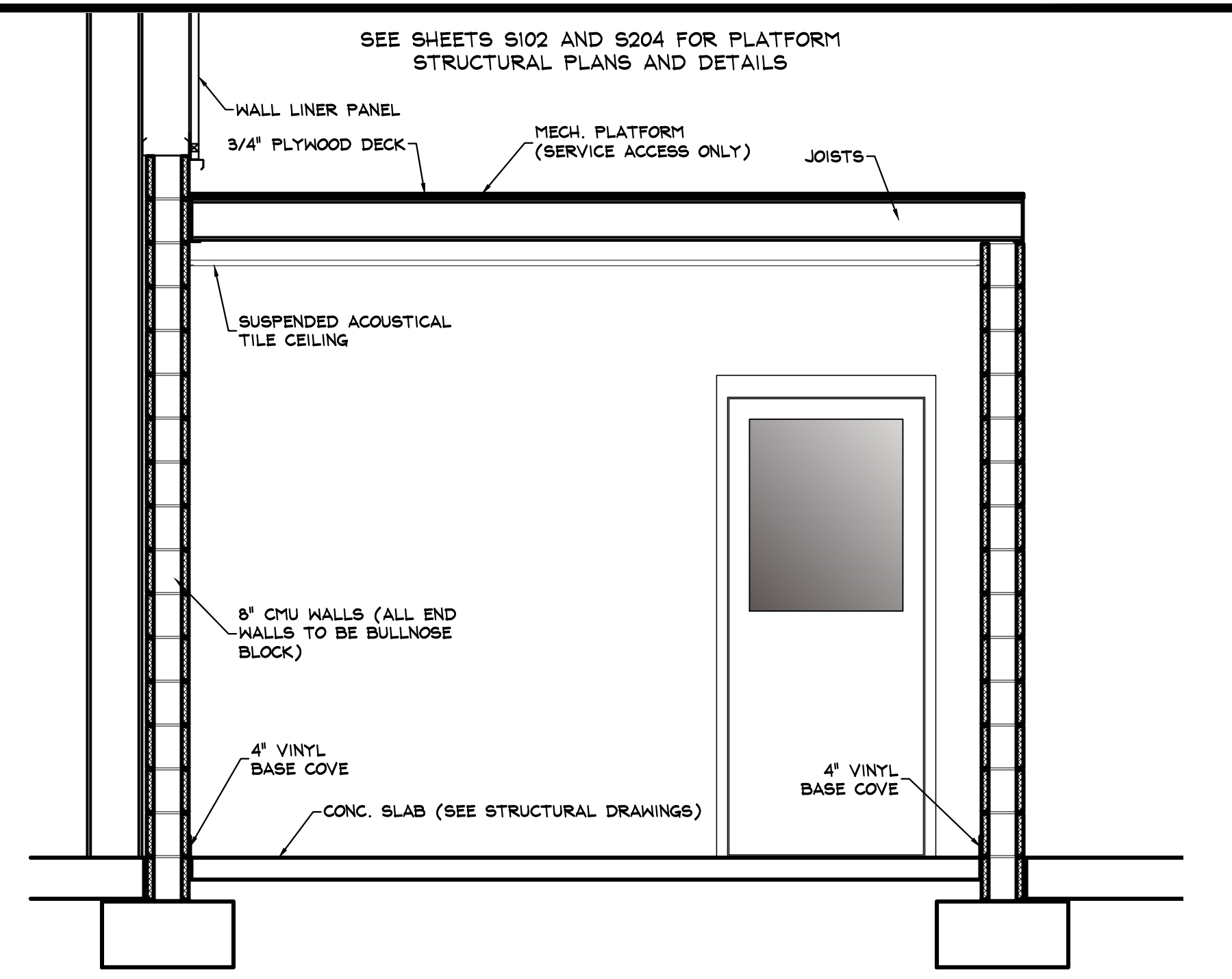
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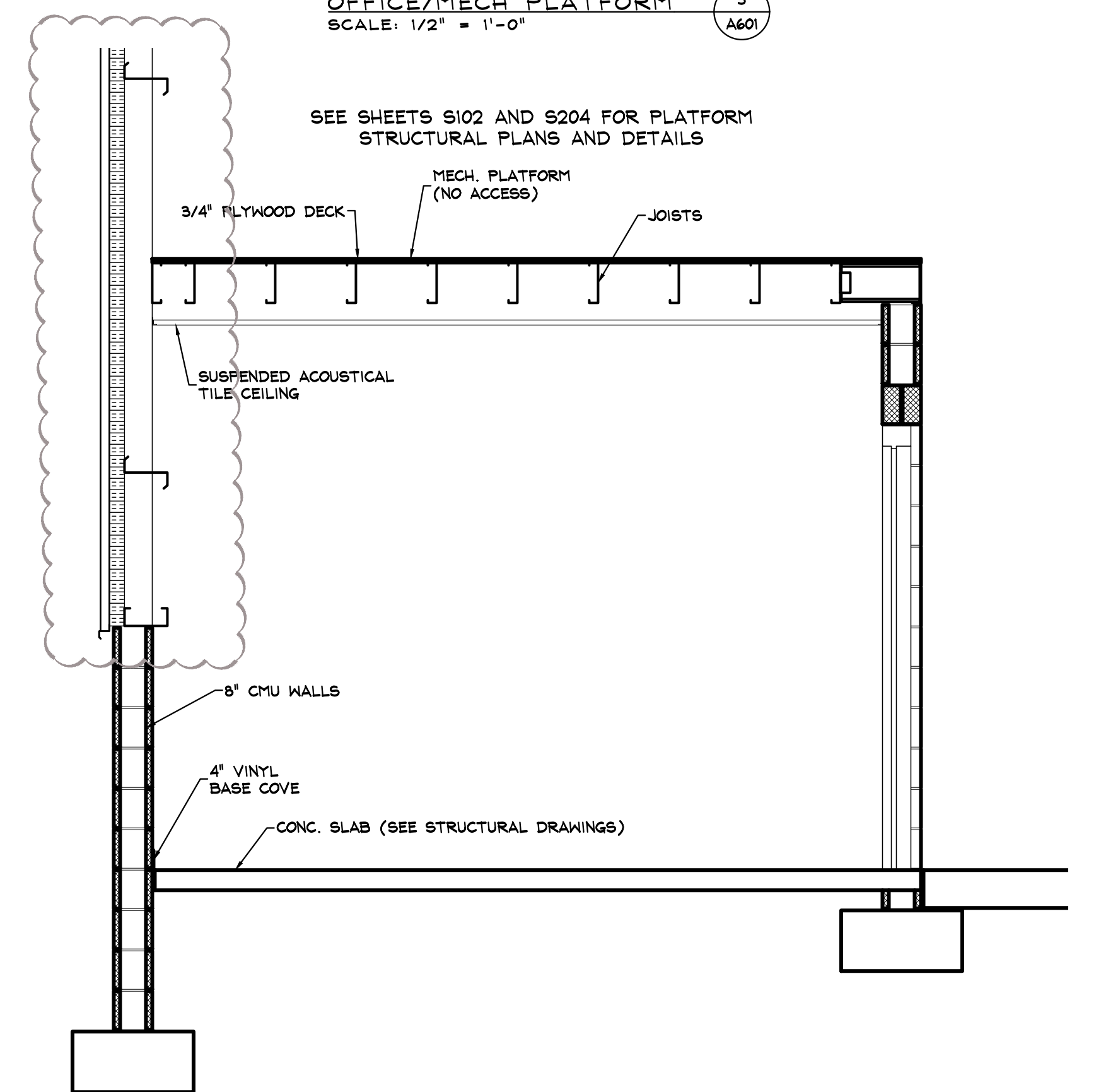
WALL SECTION 1
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WALL SECTION 2
SCALE: 3/4" = 1'-0"



SECTION THROUGH MAINT. OFFICE/MECH PLATFORM 3
SCALE: 1/2" = 1'-0"



SECTION THROUGH MAINT. OFFICE/MECH PLATFORM 4
SCALE: 1/2" = 1'-0"

NO.		DATE	REVISION	BY
2		11/27/19	ADDENDUM #2	JWS
1		10/25/19	ISSUE FOR BID	JWS

		1032 JAMES DR. LEESPORT, PA 19533 PHONE: 610.916.8500 FAX: 610.916.8501	
3015 TOWNSHIP RD. SUITE 100 SCHUYLKILL, PA 17888		3015 TOWNSHIP RD. SUITE 100 SCHUYLKILL, PA 17888	

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING SECTIONS AND DETAILS			
MUHLENBERG TOWNSHIP BERKS COUNTY PENNSYLVANIA		SITUATE IN BERKS COUNTY PENNSYLVANIA	
DRAWN BY JWS	CHECKED TSU	APPROVED TSU	CADD FILE NAME A601 Sections and Details.dwg
DATE 08/23/19	SCALE AS NOTED	DRAWING NUMBER D-19-0153-0144-A601	

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STRUCTURAL NOTES:

GENERAL

- 1. PRIOR TO STARTING WORK, REVIEW EXISTING UTILITIES WITHIN CONTRACT LIMITS OF WORK SITE AND IDENTIFY UNDERGROUND LOCATIONS, IF POSSIBLE. NOTIFY ENGINEER IF UTILITIES INTERFERE WITH NEW CONSTRUCTION.
2. PRIOR TO ANY EXCAVATION WORK, COMPLY WITH THE REQUIREMENTS OF PENNSYLVANIA ACT 287 OF 1974, AS AMENDED BY ACT 181 OF 2006, REGARDING UNDERGROUND UTILITY LOCATION.
3. PRODUCTS ARE LISTED TO ESTABLISH REQUIRED QUALITY AND STRENGTHS. OTHER PRODUCTS MAY BE USED, PROVIDED SUFFICIENT EVIDENCE IS SUBMITTED TO ESTABLISH THEY ARE ACCEPTABLE "EQUAL PRODUCTS."
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO START OF WORK. NOTIFY ENGINEER OF ANY SUBSTANTIAL CHANGES IN DIMENSIONS OR CONDITIONS.
5. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
-ICC "INTERNATIONAL BUILDING CODE (IBC)", 2015
-OSHA STANDARDS, CODE OF FEDERAL REGULATIONS, LATEST EDITION
-ACI "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)"
-ACI "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 309)"
-ACI "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530)"
-ACI "SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1)"
-AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISII 8100)"
-ALL APPLICABLE LOCAL CODES AND STANDARDS
-ALL REFERENCED STANDARDS SHALL INCLUDE CURRENT EFFECTIVE REVISIONS.
6. CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND TEMPORARY SUPPORT FOR WALLS, ETC. TO PROTECT PERSONNEL AND PROPERTY.
7. CONTRACTOR SHALL PROVIDE ALL NECESSARY WARNING SIGNS, BARRICADES, ETC, AROUND EXCAVATIONS TO PROTECT PERSONNEL AND PROPERTY.
8. REMOVE ALL DEBRIS FROM SITE AND DISPOSE IN A LEGAL MANNER.

DESIGN LOADS

- 1. SEE "PRE-ENGINEERED METAL BUILDING NOTES" FOR BUILDING DESIGN LOADS.
2. GARAGE AND MAINTENANCE GRADE SLAB DESIGN CONSIDERED A TRUCK WITH A 39,000lb TOTAL WEIGHT (LOADED), 95% OF WEIGHT TO REAR AXLE, WITH REAR WHEELS 6' APART (CENTER TO CENTER), 100psi TIRE PRESSURE.
3. MAINTENANCE AREA EQUIPMENT PLATFORM DESIGN CONSIDERED A MECHANICAL ALLOWANCE OF 5psf, AND A LIVE LOAD OF 80psf.

FOUNDATIONS

- 1. REMOVE ANY SOFT, UNCONSOLIDATED, OR ORGANIC MATERIAL BENEATH FOOTINGS AND GRADE SLABS, AND BACKFILL WITH COMPACTED CRUSHED STONE TO REQUIRED FOOTING/SLAB SUBGRADE ELEVATION. REPORT ANY SOFT OR UNSUITABLE SUBGRADE TO ENGINEER.
2. NO FOOTINGS SHALL BE PLACED ON SOFT, WET, FROZEN, OR LOOSE SOIL.
3. THE BOTTOM OF FOOTINGS SHALL BEAR ON SUITABLE VIRGIN MATERIAL HAVING A MINIMUM BEARING CAPACITY OF 2000psf.
4. SLABS SHALL BE PLACED ON SUITABLE MATERIAL HAVING A MINIMUM WESTERGAARD SUBGRADE MODULUS OF 150psi.
5. ALL FOOTINGS SHALL BEAR ON UNDISTURBED VIRGIN SOIL OR CONTROLLED COMPACTED FILL WITH A MINIMUM ALLOWABLE BEARING CAPACITY = 3,000 PSF. BEARING CAPACITY SHALL BE VERIFIED BY AN APPROVED GEOTECHNICAL TESTING AGENCY UNDER THE SUPERVISION OF A LICENSED GEOTECHNICAL ENGINEER.
6. CONTRACTOR SHALL VERIFY ANCHOR BOLT AND BASE PLATE LAYOUT WITH METAL BUILDING MANUFACTURER'S ERECTION DRAWINGS PRIOR TO START OF CONSTRUCTION. ANY BASE PLATES NOT FITTING ON PIER SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER.

CONCRETE

- 1. FOOTING AND TENSION TIE CONCRETE SHALL HAVE f'c=3000psi, AND SHALL BE AIR ENTRAINED FOR MODERATE EXPOSURE. PIER AND TRENCH DRAIN ENGAGEMENT CONCRETE SHALL HAVE f'c=4500psi, AND SHALL BE AIR ENTRAINED FOR MODERATE EXPOSURE.
2. INTERIOR GRADE SLAB CONCRETE AND CONCRETE FOR INTERIOR WALL DOOR SILLS SHALL HAVE f'c=5000psi. EXTERIOR GRADE SLAB CONCRETE AND CONCRETE FOR EXTERIOR WALL DOOR SILLS SHALL HAVE f'c=4500psi, AND SHALL BE AIR ENTRAINED FOR SEVERE EXPOSURE.
3. MAXIMUM SLUMP (WITHOUT WATER REDUCING ADMIXTURE) IS 4". USE WATER REDUCING ADMIXTURE TO INCREASE SLUMP AS REQUIRED.
4. AIR ENTRAINING ADMIXTURE SHALL CONFORM TO ASTM C260. WATER REDUCING ADMIXTURE SHALL CONFORM TO ASTM C494 TYPE A. ALL ADMIXTURES SHALL BE COMPATIBLE.
5. REINFORCING SHALL BE ASTM A615 GRADE 60 DEFORMED BARS.
6. WELDED WIRE FABRIC (W/WF) SHALL BE ASTM A195.
7. PROVIDE ANCHOR BOLTS (SIZE, NUMBER, LOCATION, MATERIAL) IN ACCORDANCE WITH PRE-ENGINEERED METAL BUILDING REQUIREMENTS. ANCHOR BOLTS SHALL BE HEADED, HOT-DIPPED GALVANIZED, WITH 12" MINIMUM EMBEDMENT.
8. DRAINAGE FILL BASE BENEATH GRADE SLABS SHALL BE WASHED AND EVENLY GRADED CRUSHED STONE WITH 100% PASSING A 1 1/2" SIEVE AND NOT MORE THAN 5% PASSING A NO. 4 SIEVE.
9. DIAMOND PLATE DONNELS SHALL BE 3/8" x 4 1/2" x 4 1/2" STEEL PLATE, ASTM A36, ZINC ELECTROPLATED TO MEET ASTM B693, TYPE II. DIAMOND PLATE DONNELS SHALL HAVE MATCHING HIGH DENSITY ABS PLASTIC POCKET FORMERS WITH INTERNAL COLLAPSIBLE PINS AND SPACERS. INSTALL AT MID-HEIGHT OF SLAB.
10. GRADE SLAB CONCRETE SHALL BE CURED BY SPRAY APPLIED DISSIPATING CLEAR CURING COMPOUND COMPLYING WITH ASTM C309, TYPE I. CURING COMPOUND SHALL BE COMPATIBLE WITH ALL CONCRETE ADMIXTURES, ETC. REMOVE RESIDUAL COMPOUND AS REQUIRED PRIOR TO THE APPLICATION OF FINISHES, COATINGS, ETC.
11. CONTINUOUS REINFORCING SHALL BE CONTINUOUS AROUND CORNERS, ETC.
12. SUPPORT GRADE SLAB REINFORCING ACCURATELY IN POSITION WITH CHAIRS OR OTHER SUPPORTS.
13. PROVIDE ANCHOR BOLT LOCATIONS AND TOP OF PIER ELEVATIONS/SURFACES TO TOLERANCES REQUIRED BY PRE-ENGINEERED METAL BUILDING MANUFACTURER FOR COLUMN BASE INSTALLATION WITHOUT GROUT, LEVEL PLATES, ETC.
14. ANCHOR ADHESIVE FOR REINFORCING SHALL BE HILTI "HIT-HY 200" ANCHOR ADHESIVE SYSTEM. PROVIDE HOLE SIZE, CLEAN HOLE, AND INSTALL ADHESIVE AND REINFORCING IN ACCORDANCE WITH HILTI'S INSTRUCTIONS.

MASONRY

- 1. CONCRETE MASONRY UNITS (CMU) SHALL BE ASTM C90, HOLLOW LOAD BEARING, NORMAL WEIGHT. 8" SOLID CMU UNITS SHALL BE THIN VENEER UNITS, OR FACE SHELLS CUT FROM STANDARD 8" OR 4" UNITS, WITH ACTUAL THICKNESS OF 3/4" (MAX)
2. MORTAR FOR CMU SHALL BE ASTM C270 TYPE M OR S, TO PROVIDE A MINIMUM COMPRESSIVE STRENGTH OF MASONRY (f'm) = 2000psi.
3. HORIZONTAL JOINT REINFORCING SHALL BE ASTM A951, LADDER TYPE, HOT DIPPED GALVANIZED, WITH (2) #4 GA SIDE RODS & CROSS RODS AT 16" CENTERS. PROVIDE HORIZONTAL JOINT REINFORCING IN CMU, 16" o.c. MAXIMUM.
4. REINFORCING SHALL BE ASTM A615 GRADE 60 DEFORMED BARS. ALL VERTICAL REINFORCING SHALL BE IN FULLY GROUTED CORES.
5. ALL CMU GROUT SHALL DEVELOP A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 2000psi.
6. LINTELS FOR INTERIOR 8" CMU WALLS SHALL BE (2) 4"x8" REINFORCED CMU LINTELS WITH 6" MINIMUM BEARING, EACH END. FULLY GROUT CMU BELOW LINTEL BEARINGS.
7. CMU SHALL BE INSTALLED IN RUNNING BOND.
8. IN ADDITION TO GENERAL VERTICAL WALL REINFORCING AND JAMB REINFORCING, PROVIDE #4's VERTICAL AT CORNERS, CONTROL JOINTS (EACH SIDE), JAMBS, & ENDS OF WALLS.
9. FOUNDATION WALLS SHALL BE BACKFILLED EVENLY DURING CONSTRUCTION TO AVOID UNBALANCED BACKFILL CONDITIONS.

PRE-ENGINEERED METAL BUILDING NOTES

- 1. THE PRE-ENGINEERED METAL BUILDING (PMB) STRUCTURE SHALL BE A STAND-ALONE STEEL STRUCTURE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE 2015 "INTERNATIONAL BUILDING CODE (IBC)." PRIMARY FRAMES SHALL BE MOMENT RESISTING FRAMES. PROVIDE BRACED FRAMES AND PORTAL FRAMES WHERE INDICATED ON THE FOUNDATION PLAN.

DESIGN LOADS SHALL NOT BE LESS THAN THE FOLLOWING - DEAD LOAD, CONSISTENT WITH COMPLETE PMB PACKAGE LIVE LOAD: 2000lb CONCENTRATED LOAD AT ANY POINT ALONG PRIMARY MEMBERS MECHANICAL LOADS: OPERATING WEIGHT OF ROOF-TOP AIR HANDLING UNITS, PLUS 20% VIBRATION MECHANICAL ALLOWANCE, 10psf SNOW LOADS:

BASIC ROOF SNOW (CORRESPONDING TO 40psf GROUND SNOW, RISK CATEGORY II STRUCTURE), 20psf ADDITIONAL SNOW, MORE CRITICAL OF THE FOLLOWING (WHEN ADDED TO BASIC ROOF SNOW), 12psf OR SNOW DRIFT (IN ACCORDANCE WITH IBC). WIND LOADS: PRESSURES CORRESPONDING TO 115mph BASIC WIND SPEED, EXPOSURE C. SEISMIC LOADS: LOADS CORRESPONDING TO Ss = 0.19, Si = 0.061, TL = 6s, SITE CLASS D, RISK CATEGORY II STRUCTURE

- 2. TOTAL VERTICAL DEFLECTION OF ROOF SYSTEM SHALL BE LESS THAN L/240. TOTAL LATERAL DEFLECTION OF FRAMES AT EAVE DUE TO 10 YEAR WIND SHALL BE LESS THAN Heave/200. TOTAL HORIZONTAL DEFLECTION OF GIRTS PROVIDING LATERAL SUPPORT FOR CMU WALLS DUE TO 10 YEAR WIND SHALL BE LESS THAN L/240, 1.5" MAXIMUM.
3. DESIGN AND CONSTRUCTION SHALL MEET OR EXCEED CURRENT METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA) PROCEDURES. DESIGN SHALL BE CERTIFIED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE COMMONWEALTH OF PENNSYLVANIA. SUBMIT DRAWINGS AND DESIGN CALCULATIONS SEALED AND SIGNED BY THE CERTIFYING ENGINEER.
4. SUBMIT ANCHOR BOLT PLACEMENT PLAN AND COLUMN REACTIONS PRIOR TO FOUNDATION CONSTRUCTION. SEE FOOTING DESIGN LOAD SCHEDULE.

MAXIMUM COLUMN ECCENTRICITIES (FROM CENTERLINE OF PIERS/FOOTINGS) USED FOR PIER AND FOOTING DESIGN ARE SHOWN ON FOOTING DESIGN LOAD SCHEDULE. IF FINAL COLUMN ECCENTRICITIES EXCEED THOSE USED FOR DESIGN, PROVIDE REVISED PIER/FOOTING DESIGNS, AS REQUIRED, FOR FINAL ECCENTRICITIES.

PROVIDE VERIFICATION REPORT THAT FINAL COLUMN DESIGN LOADS (MAXIMUMS, UPLIFTS) ARE LESS THAN THOSE USED FOR FOOTING DESIGNS. IF DESIGN LOADS EXCEED THOSE USED FOR DESIGN, PROVIDE REVISED FOOTINGS, DESIGNED FOR FINAL LOADS.

PROVIDE VERIFICATION REPORT THAT PIER DESIGNS ARE ADEQUATE FOR FINAL COLUMN DESIGN LOADS (MAXIMUMS, UPLIFTS), AND ANCHOR BOLT SIZES/LOCATIONS/EMBEDMENTS. IF PIER DESIGNS ARE INADEQUATE, PROVIDE REVISED PIER REINFORCING, DESIGNED FOR FINAL LOADS.

VERIFICATION REPORTS AND DESIGN OF REVISED FOOTINGS AND PIER REINFORCING SHALL BE PROVIDED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE COMMONWEALTH OF PENNSYLVANIA. SUBMIT REPORTS AND DESIGN CALCULATIONS SEALED AND SIGNED BY THE CERTIFYING ENGINEER.

- 5. COORDINATE PIER REINFORCING WITH ANCHOR BOLT SIZES/LOCATIONS/EMBEDMENTS.
6. THE BASIS OF DESIGN FOR THE PRE-ENGINEERED BUILDING AND FOUNDATIONS IS MANUFACTURER VARCO-PRUDEN BUILDINGS. IF A MANUFACTURER OTHER THAN VARCO-PRUDEN IS ACCEPTED BY THE OWNER, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING CONSTRUCTION PLANS THAT ARE SIGNED AND SEALED BY A PA PROFESSIONAL ENGINEER. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ANY CHANGES TO THE PLANS INCLUDING BUT NOT LIMITED TO PRE-ENGINEERED STEEL, FOUNDATIONS, ANCHOR BOLTS, ETC.

COLD-FORMED LIGHT GAUGE STEEL (CFS)

- 1. STEEL JOISTS AND TRACK SHALL BE LIGHT GAUGE GALVANIZED STEEL SECTIONS. PROPERTIES AND STRENGTHS SHALL BE IN ACCORDANCE WITH AISI 8100.
2. SECTIONS SHALL HAVE THE FOLLOWING MINIMUM DIMENSIONS, THICKNESSES, PROPERTIES, AND STRENGTHS:
JOISTS - 8" x 1 5/8" x 14ga (68), 8" WEB x 1 5/8" FLANGE W/ 1/2" LIP, 14ga (0.0713"), Fy=50ksi A = 0.8356in², Ixe = 7.0844in⁴, Ixd = 45.1041in⁴ TRACK - 8" x 1 1/2" x 16ga (54), 8.198" WEB x 1 1/2" FLANGE, 16ga (0.0566"), Fy=50ksi Ixe = 4.7449in⁴, Ixd = 25.266in⁴, Ixy = 1.095in⁴
3. SCREW ANCHORS SHALL BE HILTI "KWIK HUB-EZ (KH-EZ)" CONCRETE ANCHORS. INSTALL IN ACCORDANCE WITH HILTI'S INSTRUCTIONS.
4. SCREWS SHALL BE ITW BUILDEX "TEKS" SELF-DRILLING FASTENERS. #10 SCREWS SHALL BE 10-16, 0.1907" (NOM), WITH NOMINAL TENSILE STRENGTH OF 2,654lbs & NOMINAL SHEAR STRENGTH OF 1,718lbs
5. PLYWOOD FOR EQUIPMENT PLATFORM SHALL BE 23/32" PLYWOOD SHEATHING, C-D PLUGGED, EXP 1, WITH A 48/24 SPAN RATING, CONFORMING TO VOLUNTARY PRODUCT STANDARD PS-1, FASTEN TO CFS WITH FLUSH FASTENERS, 6" o.c. ALONG PANEL EDGES, AND 12" o.c. ALONG INTERMEDIATE SUPPORTS.
6. INSTALL THE FOLLOWING CONNECTORS IN ACCORDANCE WITH THE CONNECTOR MANUFACTURER'S INSTRUCTIONS: DIETRICH CONNECTORS FROM CLARKDIETRICH BUILDING SYSTEMS - "X545 EASYCLIP" SUPPORT CLIP, INSTALLED WITH (3)#10 SCREWS TO JOIST, (2) 1/4" SCREW ANCHORS TO CMU
7. CONNECTORS SHALL BE GALVANIZED.
8. JOIST WEB HOLES (PUNCHOUTS) SHALL NOT BE WITHIN THE END BEARING LENGTHS.
9. TRACK SHALL BE CONTINUOUS (NO SPLICES).
10. WHERE SPECIFIC CFS CONNECTIONS OR FASTENING IS NOT SHOWN, PROVIDE MINIMUM IN ACCORDANCE WITH IBC.

FOOTING DESIGN LOAD SCHEDULE

Table with columns: FTG MARK, Loc, Case, Working Loads (Pmax, Hperp, Hpar, Pmax, Huperp, Hupar), Minimum Column Loads (k) For Uplift (Loc, Case, Pmin, kLup, kLHperp), Maximum Column Eccentricity.

DESIGN LOADS ARE PMB COLUMN BASE LOADS ON PIERS. Pmax, Pmax = VERTICAL LOADS (+ DOWNWARD) Hperp, Huperp = HORIZONTAL LOADS, PERPENDICULAR TO ADJACENT BUILDING LINE (+ OUTWARD) Hpar, Hupar = HORIZONTAL LOADS, PARALLEL TO ADJACENT BUILDING LINE Pmin = MINIMUM "IN-PLACE" VERTICAL DEAD LOAD (+ DOWNWARD) kLup = VERTICAL WIND UPLIFT LOAD, W (+ UPWARD) kLHperp = HORIZONTAL PERPENDICULAR WIND LOAD, OCCURRING WITH WIND UPLIFT LOAD, CONSIDERED FOR UPLIFT DESIGN

- * - BASE LOAD TRANSFERRED TO TENSION TIE. FOOTING DESIGN INCLUDED CONSIDERATION OF MOMENT DUE TO DISTANCE OF TIE REINFORCING (1'-4") FROM TOP OF PIER. TIE LOADS VARY. SEE TIE DETAIL FOR DESIGN TIE LOADS.
** - BASE LOAD TRANSFERRED TO ADJACENT GRADE WALL. NO FOOTING DESIGN MOMENT CONSIDERED. BASE LOADS ONLY OCCUR AT COLUMNS ADJACENT TO BRACED BAYS / PORTAL FRAME. BASE LOADS VARY. SEE GRADE WALL DETAILS FOR DESIGN GRADE WALL LOADS.
*** - BASE LOAD TRANSFERRED TO ADJACENT FOUNDATION WALL. NO FOOTING DESIGN MOMENT CONSIDERED. BASE LOADS ONLY OCCUR AT CORNER COLUMNS. BASE LOADS VARY. ADJACENT FOUNDATION WALL IS DESIGNED FOR A 2.5K MAXIMUM IN-PLANE HORIZONTAL BASE LOAD (ASD).

FOOTING SCHEDULE

Table with columns: MARK, SIZE, REINFORCING, NOTES.

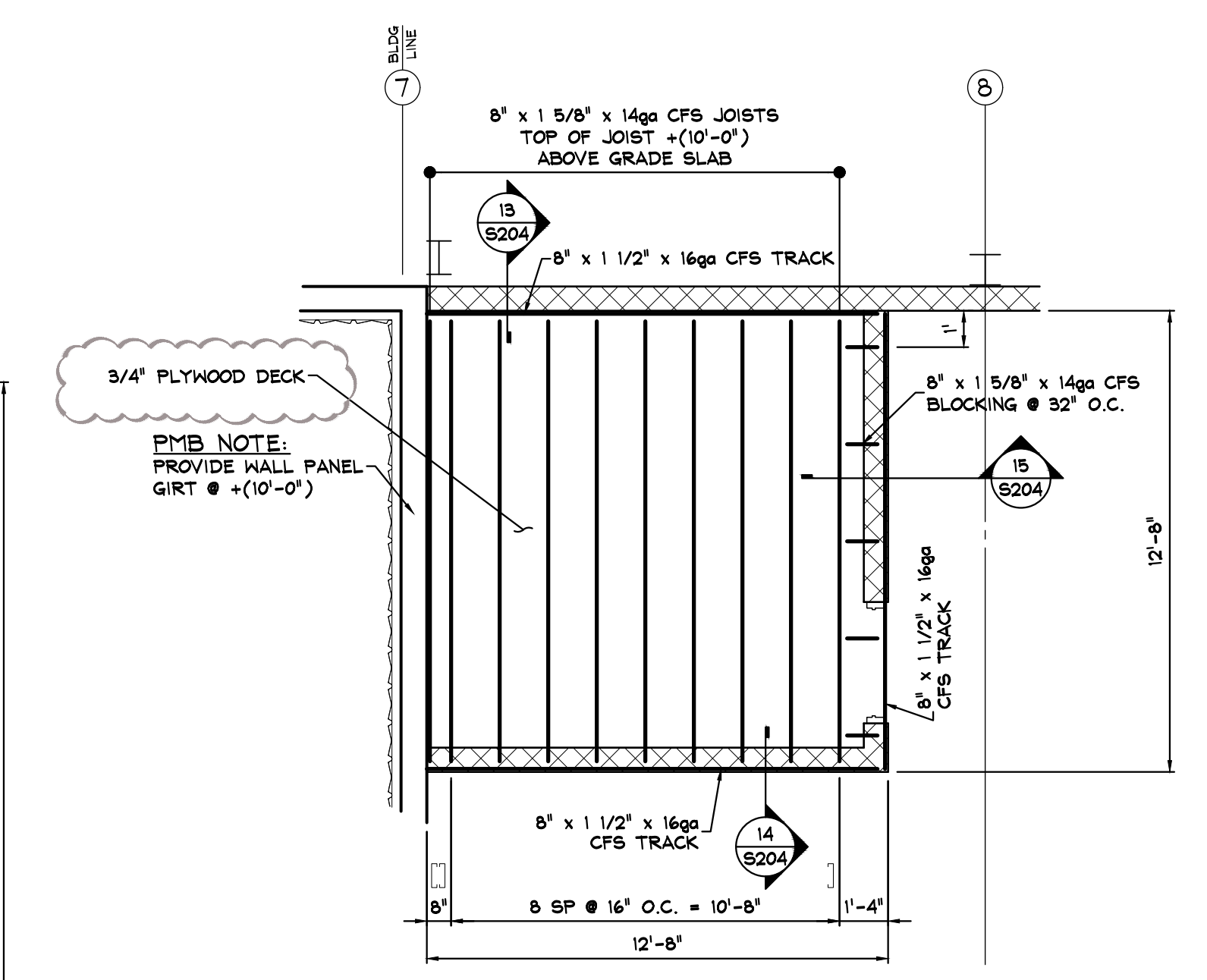
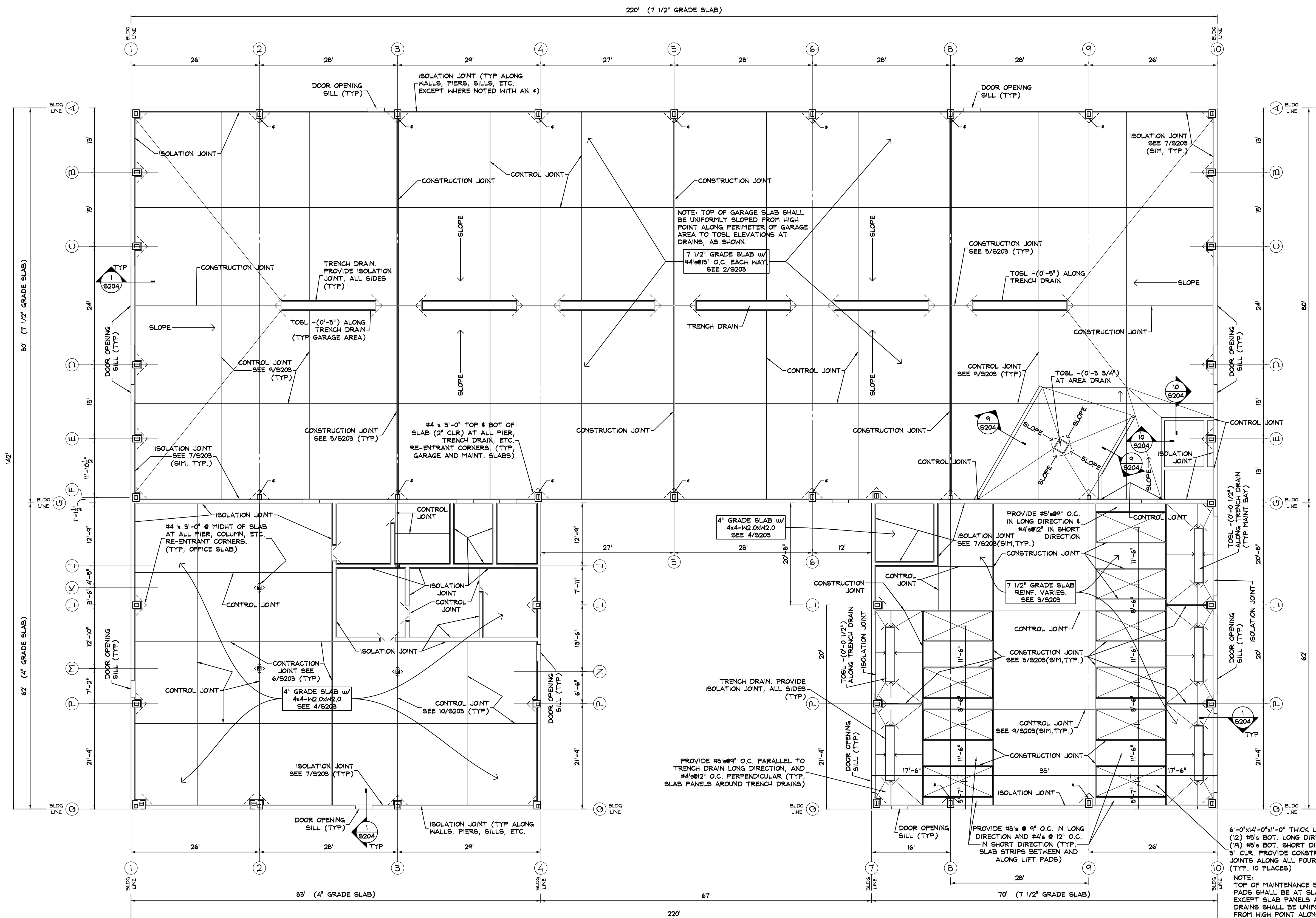
- NOTES: 1. REINFORCING NOTED "E.W." SHALL BE INSTALLED EACH WAY. 2. REINFORCING NOTED "L.D." SHALL BE INSTALLED IN THE LONG DIRECTION. 3. REINFORCING NOTED "S.D." SHALL BE INSTALLED IN THE SHORT DIRECTION. 4. REINFORCING SHALL BE EVENLY SPACED. 5. SEE PIER DETAILS FOR FOOTING LAYOUT. 6. SEE TYPICAL COLUMN FOOTING DETAIL.

PIER SCHEDULE

Table with columns: MARK, SIZE, REINFORCING DETAILS, NOTES.

- NOTES: 1. SEE PIER DETAILS FOR PIER LAYOUT. 2. SEE TYPICAL COLUMN FOOTING DETAIL.

ADDENDUM #2 ISSUE FOR BID JWS JWS NO. DATE REVISION BY
SDE SYSTEMS DESIGN ENGINEERING, INC
1032 JAMES DR. LEESPORT, PA 19333 BERKS COUNTY, PENNSYLVANIA
PHONE: 610.916.8500 FAX: 610.916.8501 SCHUYLKILL HAVEN, PA. 570.385.5549
MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING NOTES AND SCHEDULES
MULHENBERG TOWNSHIP BERKS COUNTY PENNSYLVANIA
DRAWN BY JWS CHECKED BY RAS APPROVED BY TSU CADD FILE NAME: S001 Notes and Schedules.dwg
DATE: 08/23/19 SCALE: NONE DRAWING NUMBER: D-19-0153-0144-S001



**OFFICE/PARTS/STORAGE AREA [124]
EQUIPMENT PLATFORM
FRAMING PLAN**
SCALE: 1/4" = 1'-0"

NOTE: PROVIDE GUARD ALONG OPEN SIDES OF EQUIPMENT PLATFORM. GUARD SHALL BE DESIGNED AND INSTALLED/ANCHORED TO CMU WALL (BOND BEAM) IN ACCORDANCE WITH OSHA REQUIREMENTS.

CONCRETE SLAB PLAN
SCALE: 3/32" = 1'-0"

- NOTES:
1. TOP OF SLAB (TOSL) ELEVATIONS ARE REFERENCED TO TOP OF GRADE SLAB ELEVATION (HIGH POINT).
 2. * * PROVIDE CONTACT JOINT ALONG FACE OF PIERS FOR PMB MOMENT FRAME COLUMNS (ABOVE TENSION TIES). SEE 8/S203.
 3. LOCATE OFFICE AREA GRADE SLAB CONTROL JOINTS BENEATH PARTITIONS WHERE POSSIBLE.

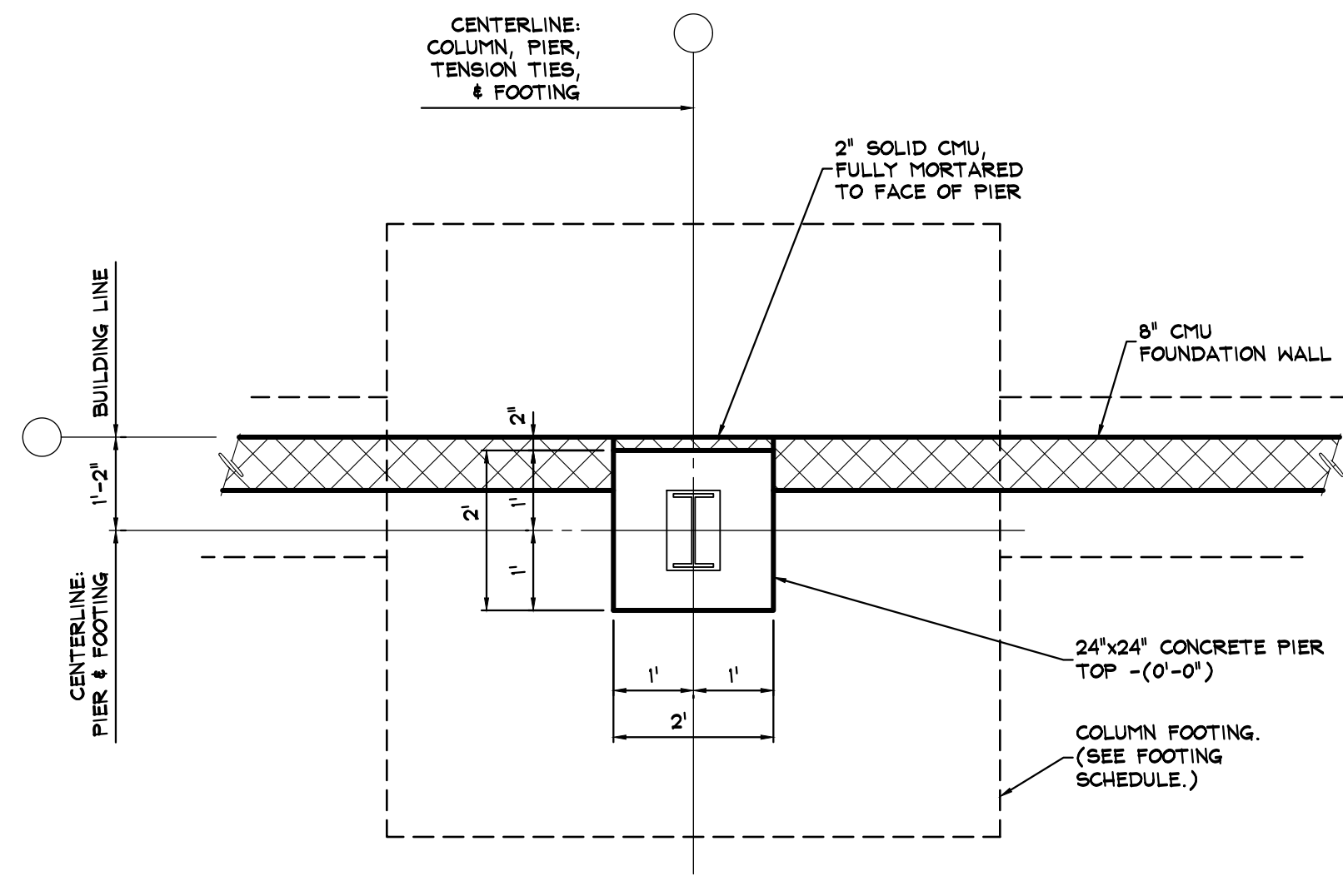
6'-0"x14'-0"x1'-0" THICK LIFT PAD. (12) #5'S BOT. LONG DIRECTION, (19) #5'S BOT. SHORT DIRECTION, 3" CLR. PROVIDE CONSTRUCTION JOINTS ALONG ALL FOUR SIDES. (TYP. 10 PLACES)

NOTE:
TOP OF MAINTENANCE BAY SLAB/LIFT PADS SHALL BE AT SLAB HIGH POINT, EXCEPT SLAB PANELS AROUND TRENCH DRAINS SHALL BE UNIFORMLY SLOPED FROM HIGH POINT ALONG PANEL PERIMETER TOSL ELEVATIONS AT DRAINS, AS SHOWN.

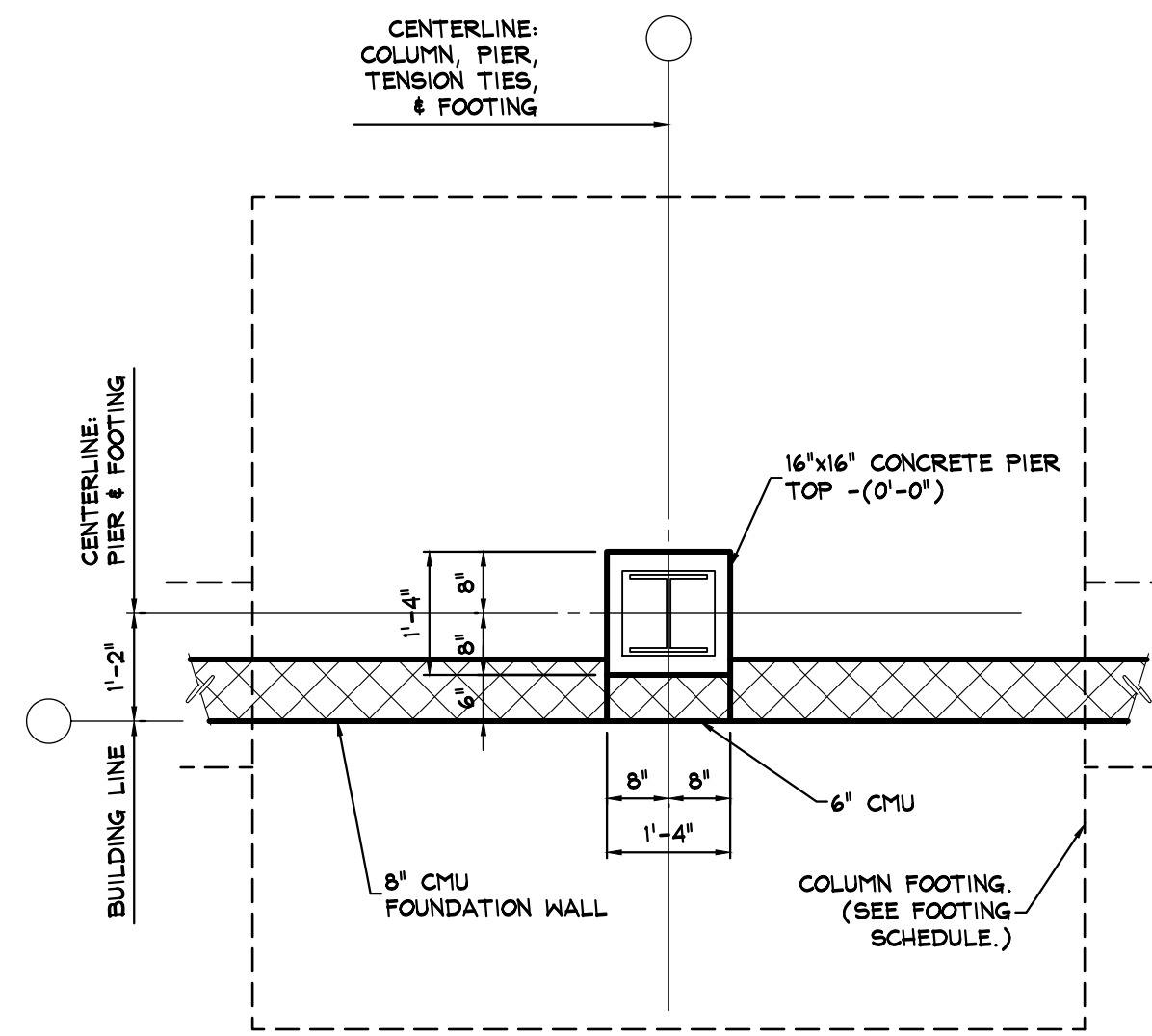
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1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

		SYSTEMS DESIGN ENGINEERING, INC	
		1032 JAMES DR. HESPORT, PA 19533 PHONE: 610.915.8500 FAX: 610.916.8501	BOSTONTOWN, PA 610.369.1319 SCHUYLKILL HAVEN, PA 570.385.5549
MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING CONCRETE SLAB PLAN EQUIPMENT PLATFORM FRAMING PLAN			
MUHLENBERG TOWNSHIP		BERKS COUNTY	PENNSYLVANIA
DRAWN BY JWS	CHECKED RAS	APPROVED TSU	CADD FILE NAME S102.Slab Plan.dwg
DATE 08/23/19	SCALE 3/32" = 1'-0"	DRAWING NUMBER D-19-0153-0144-S102	

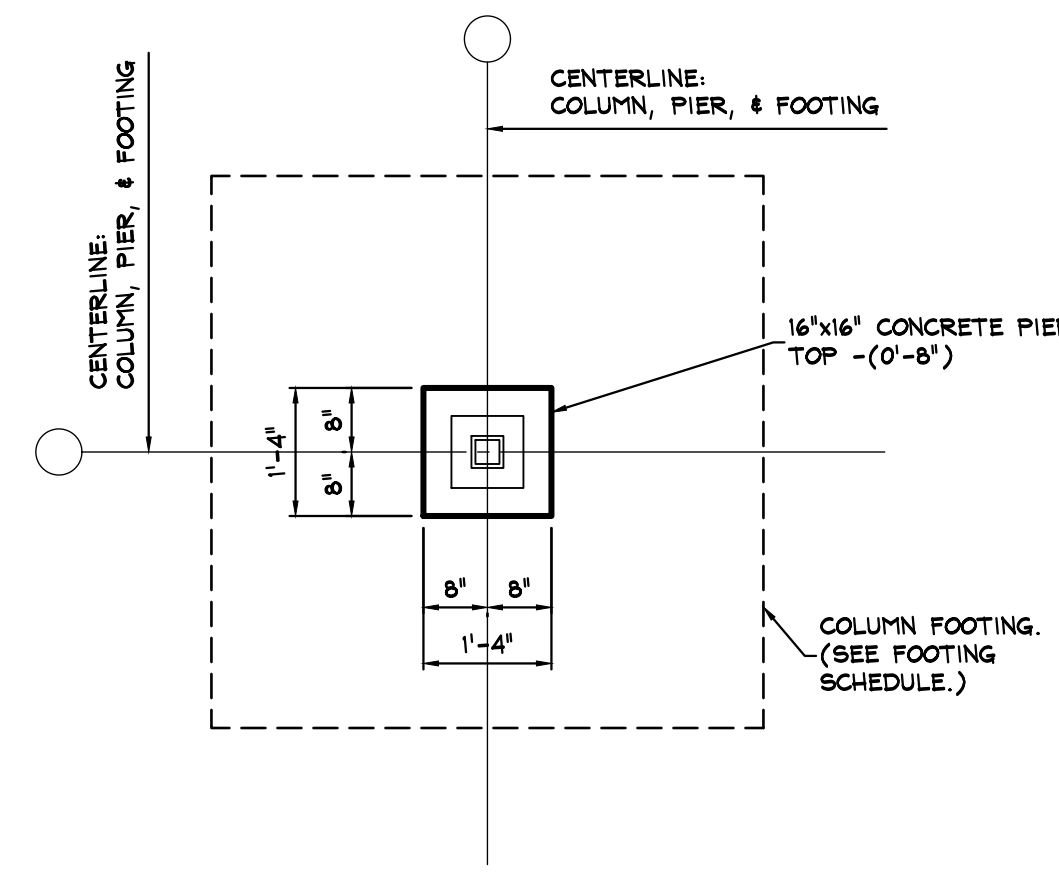
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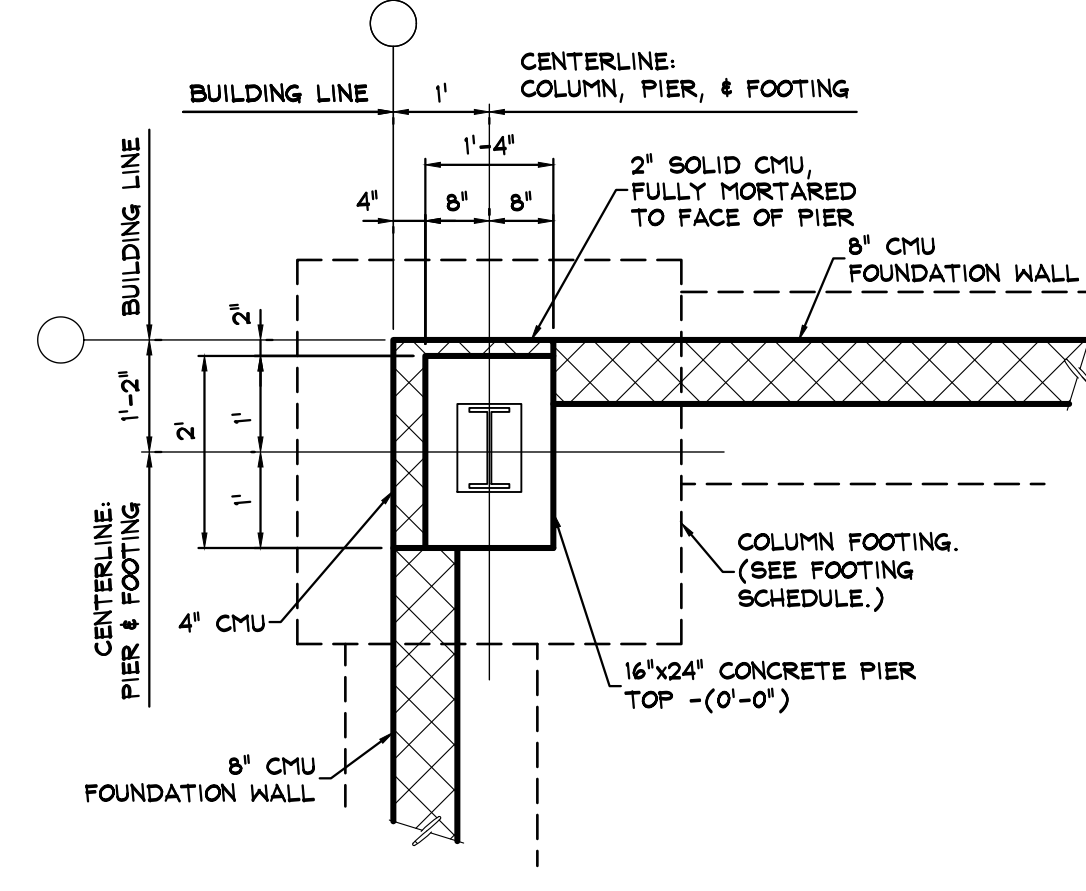
PIER P1 DETAIL
SCALE: 1/2" = 1'-0"



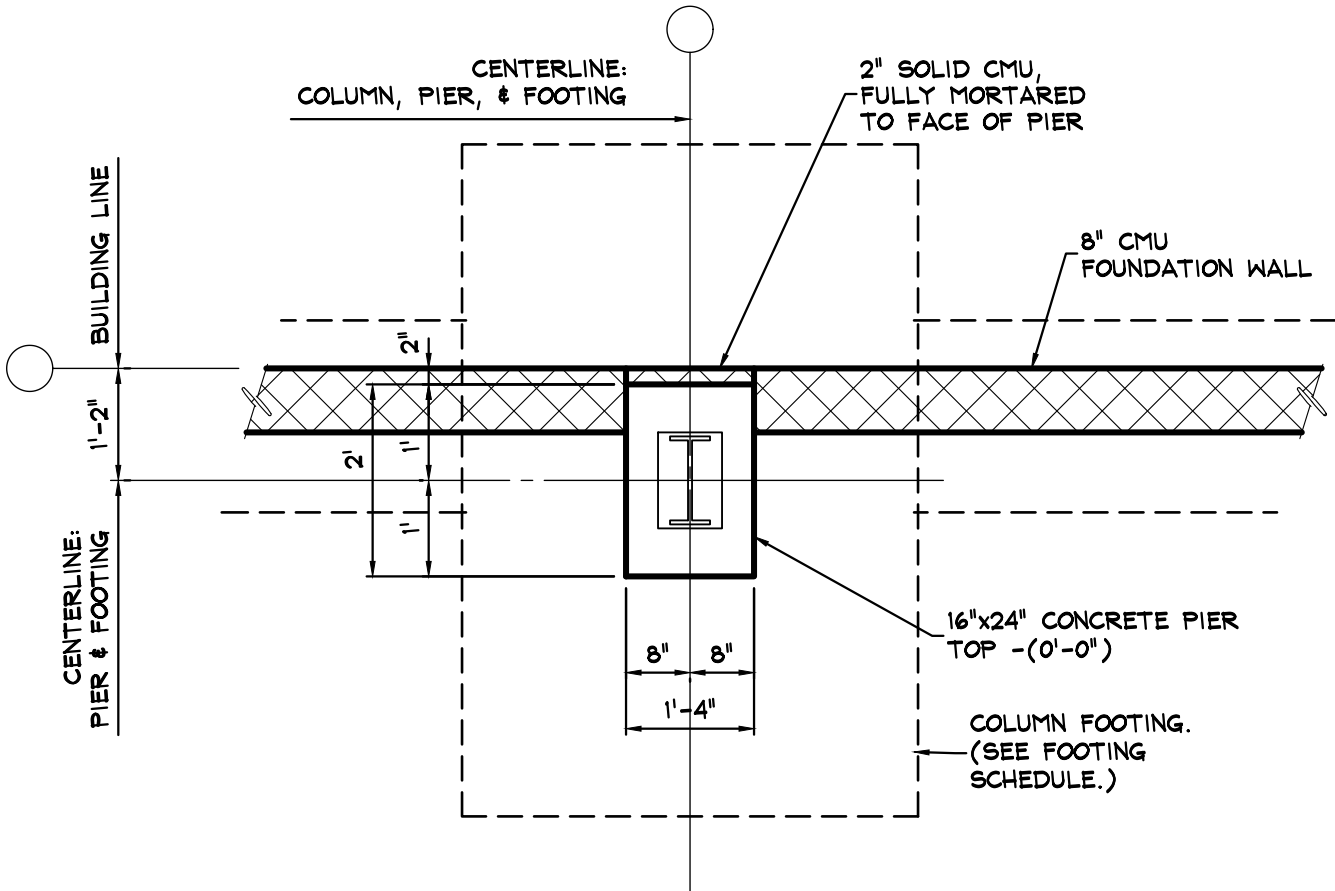
PIER P2 DETAIL
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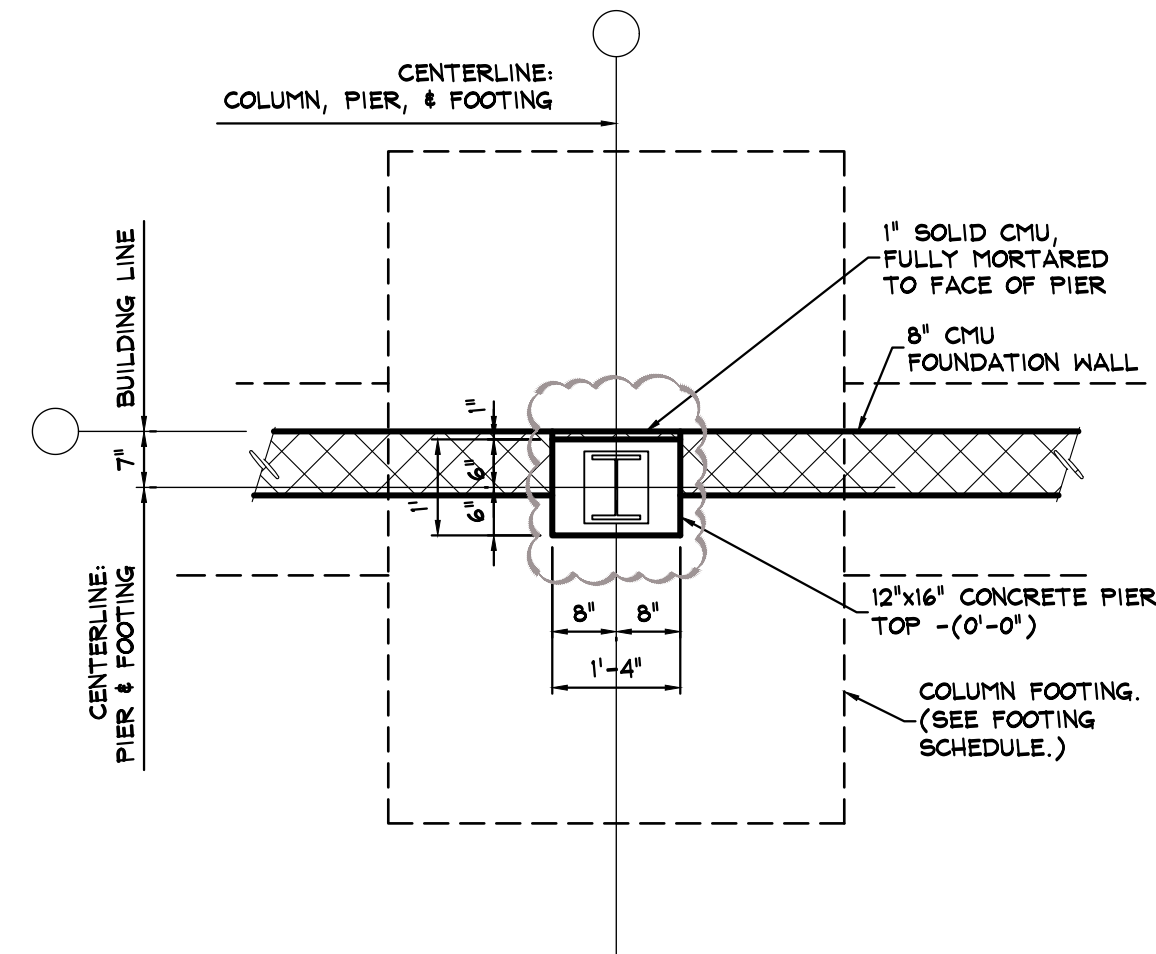
PIER P3 DETAIL
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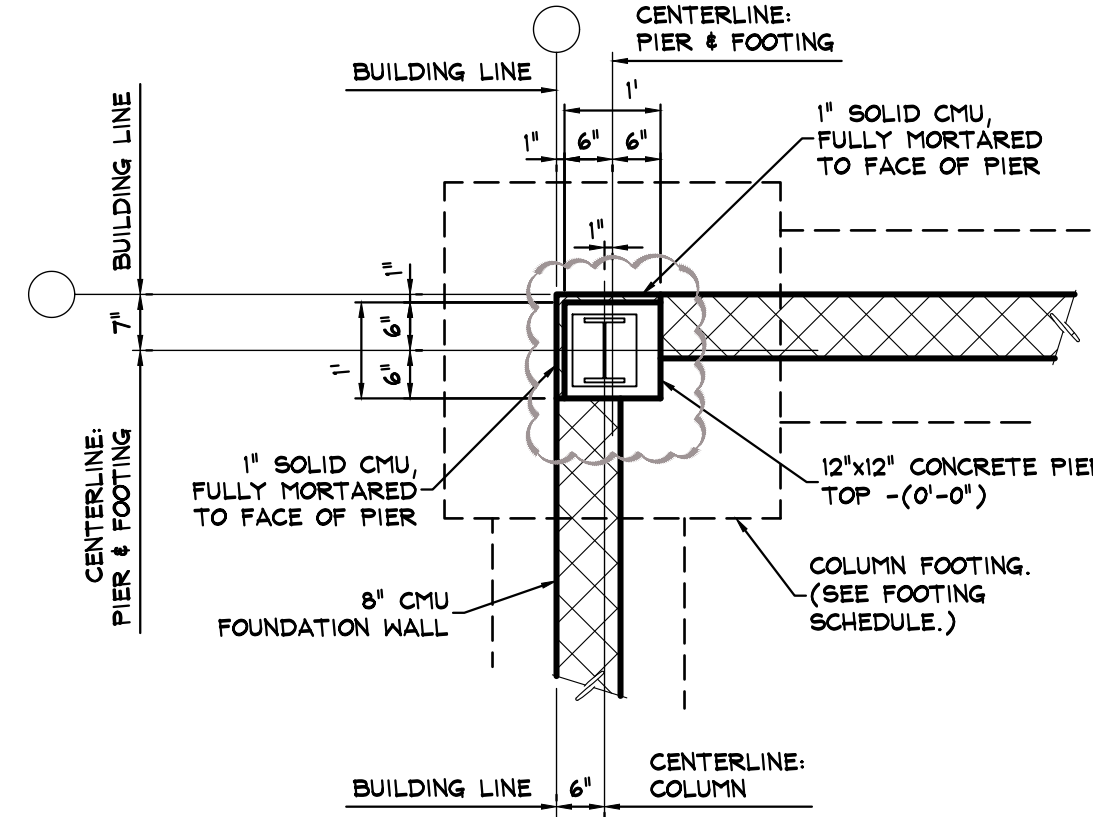
PIER P4 DETAIL
SCALE: 1/2" = 1'-0"
NOTE: CMU WALL LOCATIONS MAY BE OPPOSITE HAND.



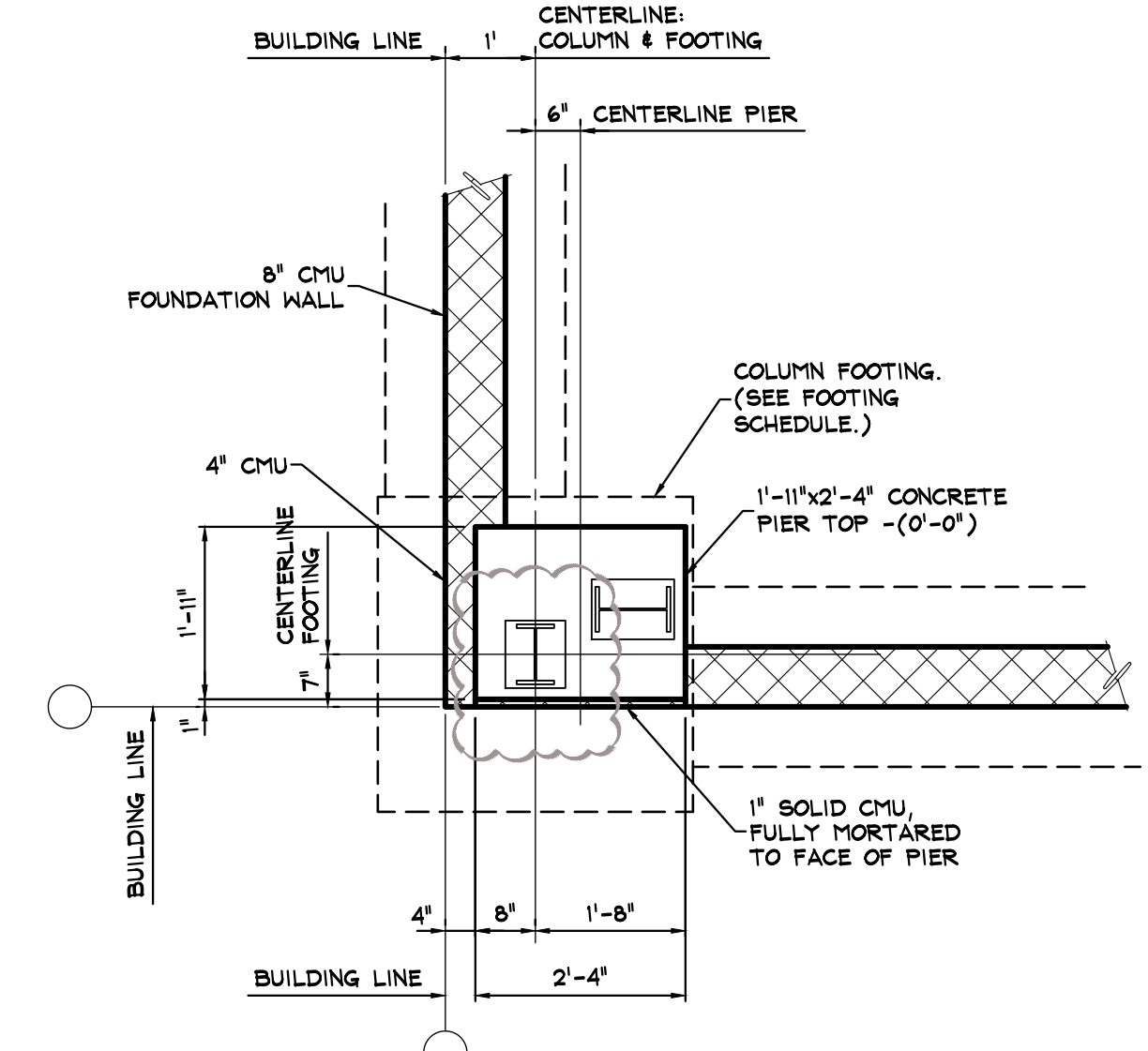
PIER P5 DETAIL
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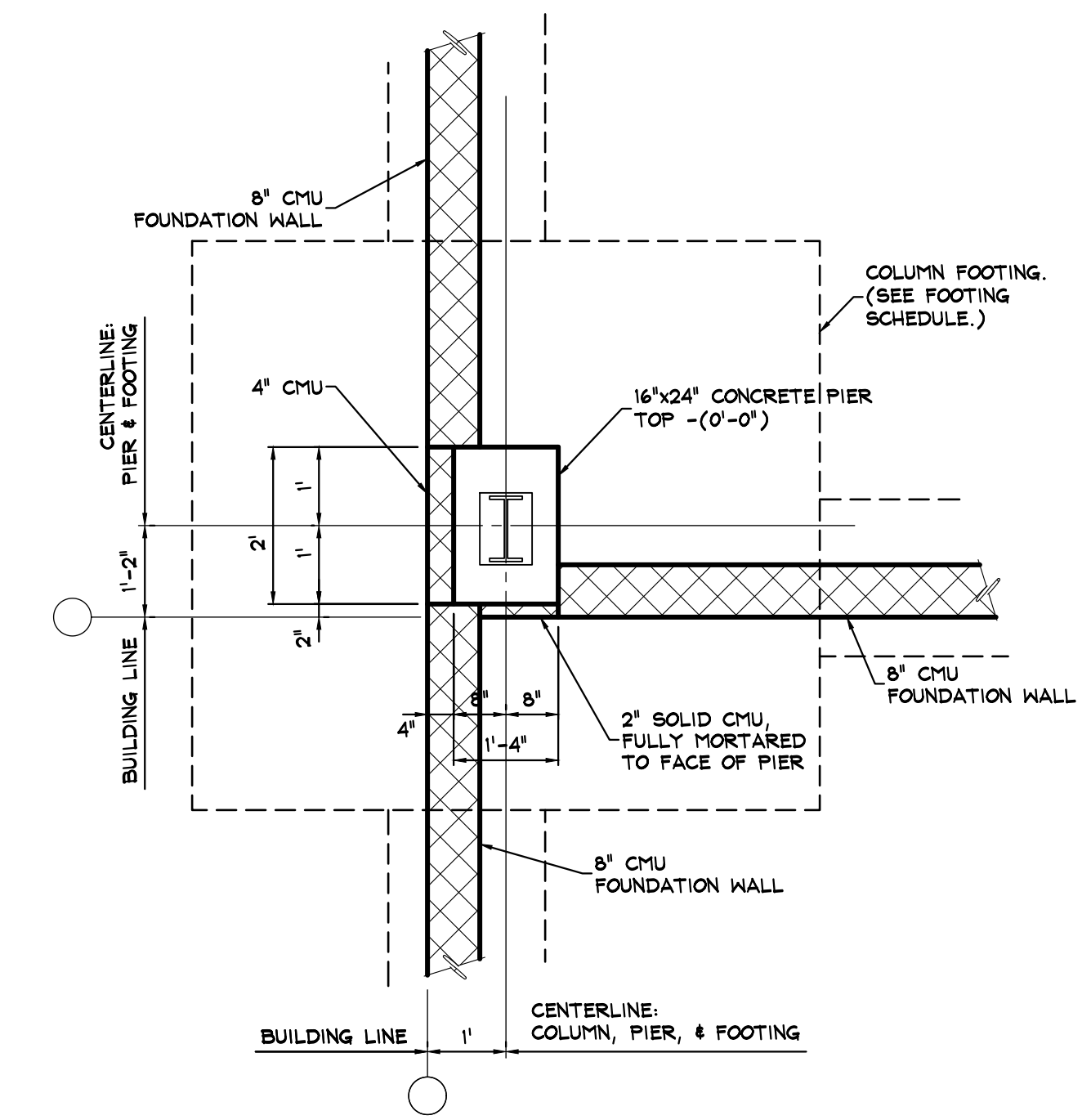
PIER P6 DETAIL
SCALE: 1/2" = 1'-0"



PIER P7 DETAIL
SCALE: 1/2" = 1'-0"



PIER P8 DETAIL
SCALE: 1/2" = 1'-0"
NOTE: PIER # 1/Q AS SHOWN, PIER # 2/Q, SIMILAR, OPPOSITE HAND.



PIER P9 DETAIL
SCALE: 1/2" = 1'-0"

2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY

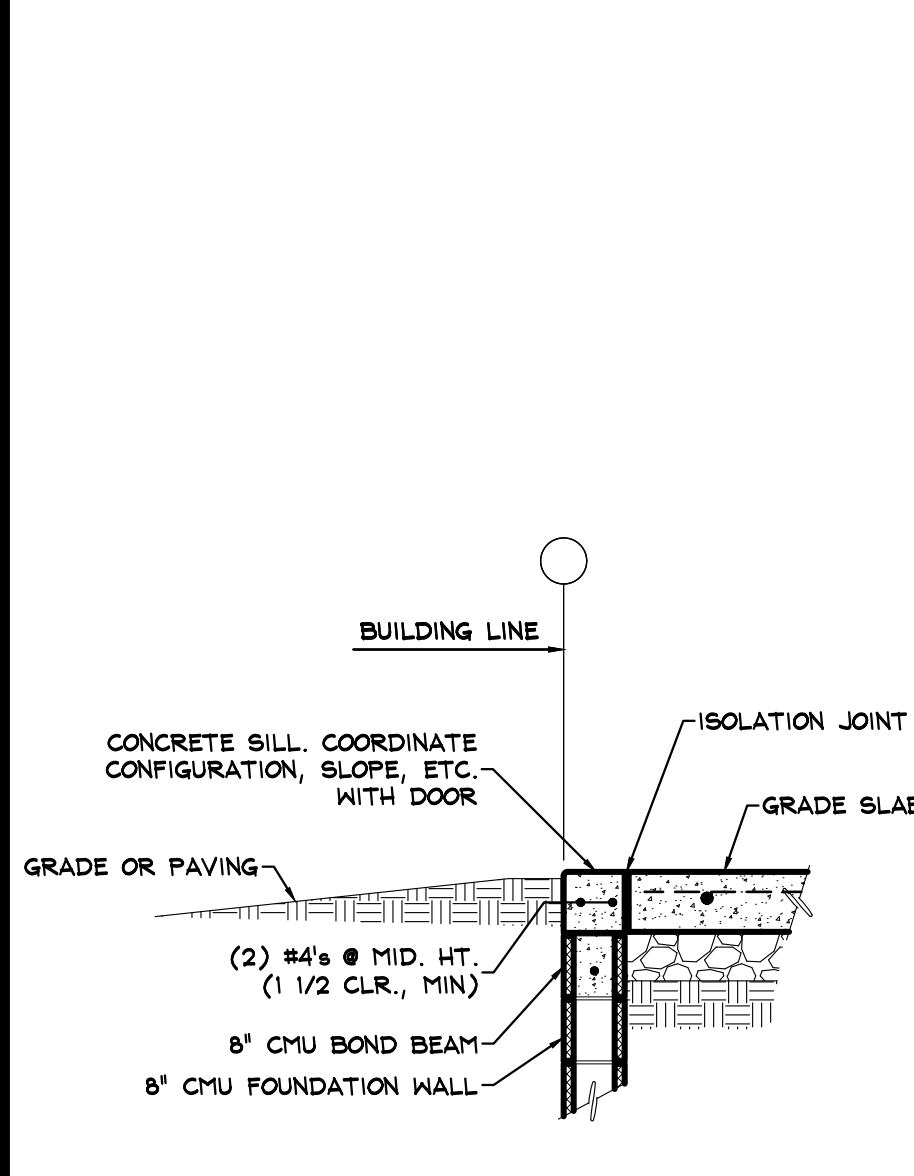
SYSTEMS DESIGN ENGINEERING, INC
 1032 JAMES DR. HESPORT, PA 19533
 PHONE: 610.916.8500 FAX: 610.916.8501

MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING PIER LOCATION DETAILS

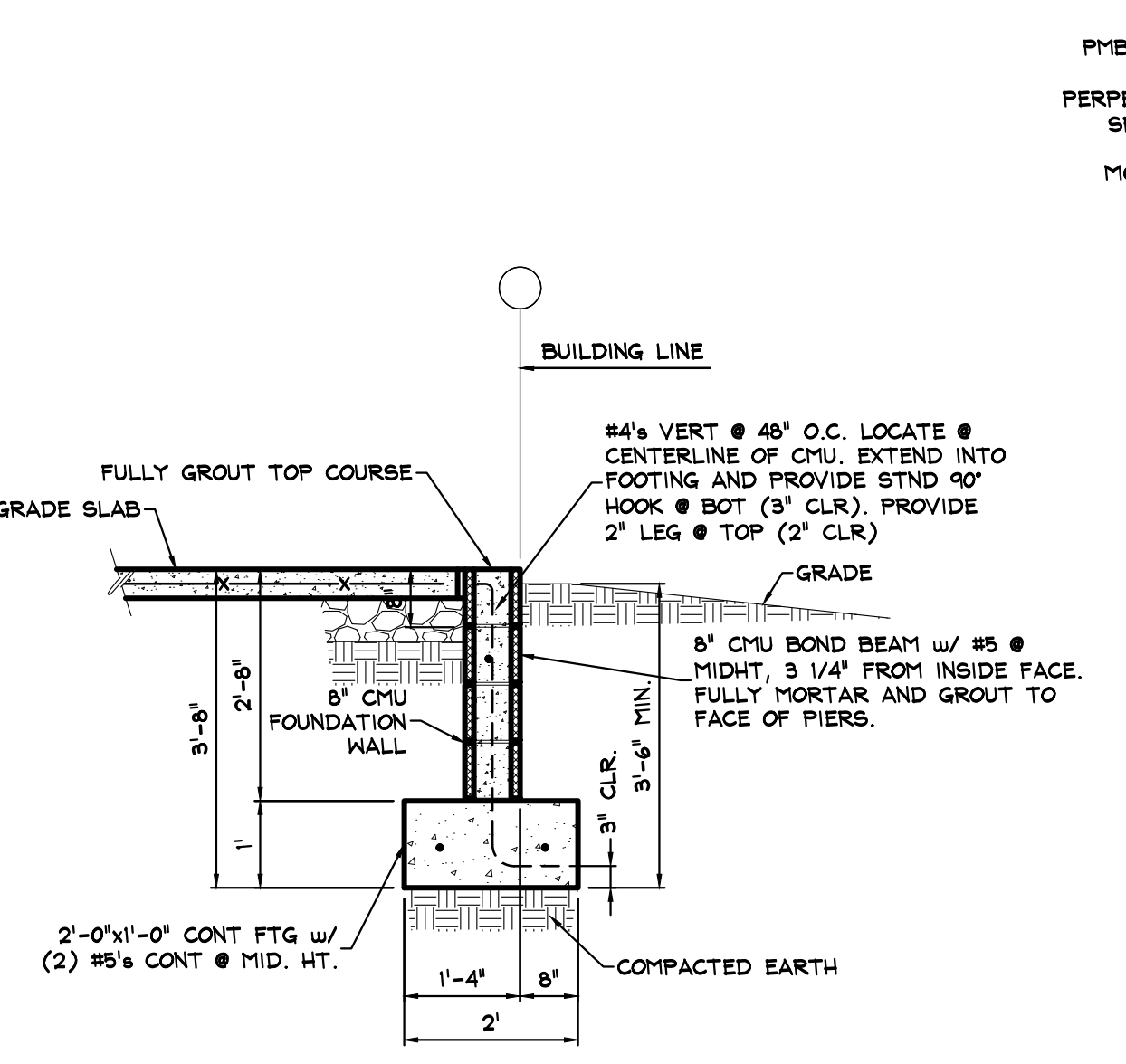
SITUATE IN BERKS COUNTY PENNSYLVANIA

DRAWN BY	CHECKED	APPROVED	CADD FILE NAME
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DATE	SCALE	DRAWING NUMBER	
08/23/19	AS NOTED	D-19-0153-0144-S201	

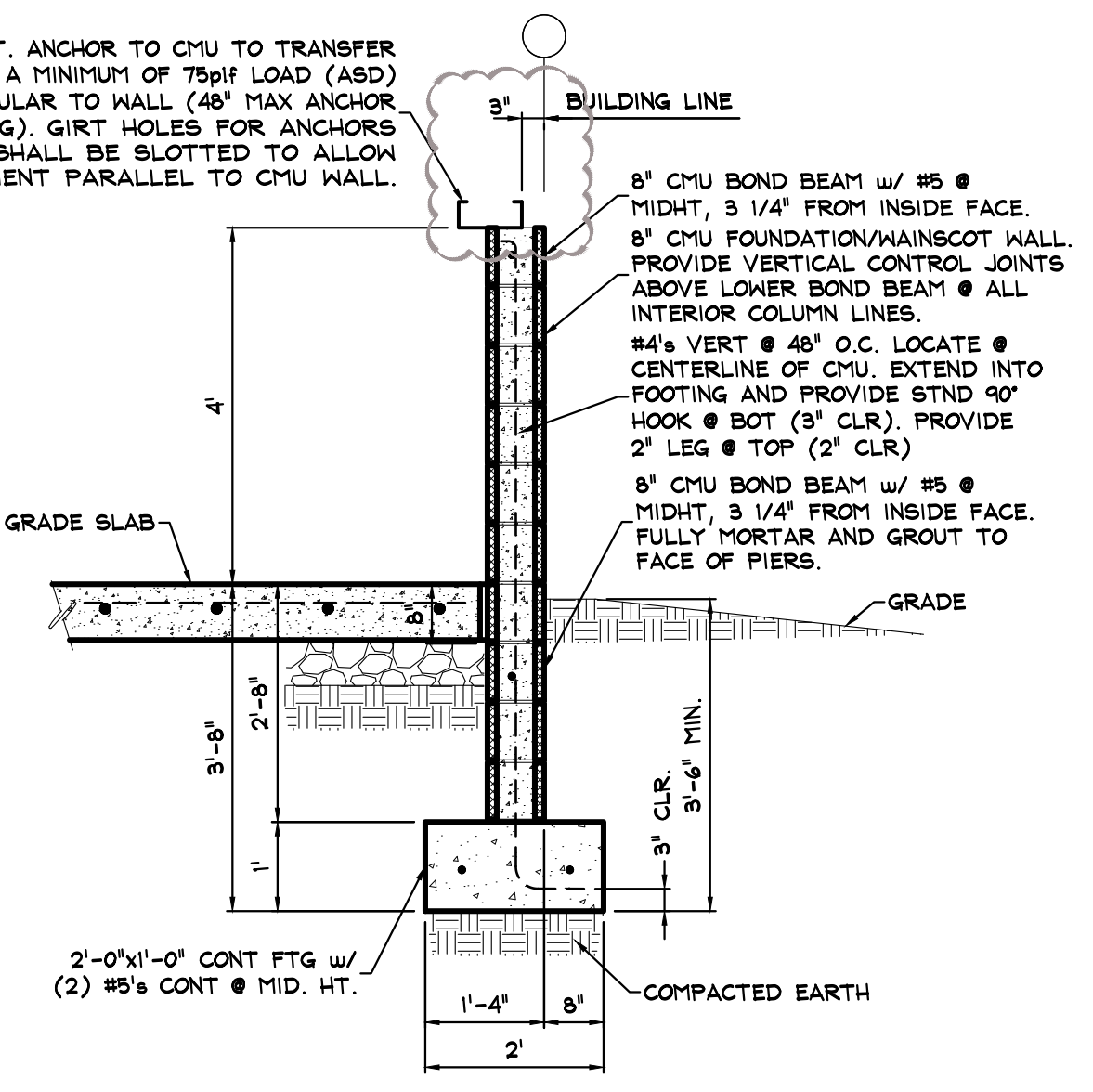
© COPYRIGHT 2019 - Systems Design Engineering, Inc. - All Rights Reserved. Design Project: 19-0153-0144 - North Facility - BMJ Design, Inc. - Design Phase: Structural SHEETS 0201 Pier Location Details.dwg - November 27, 2019 9:52 am by jones



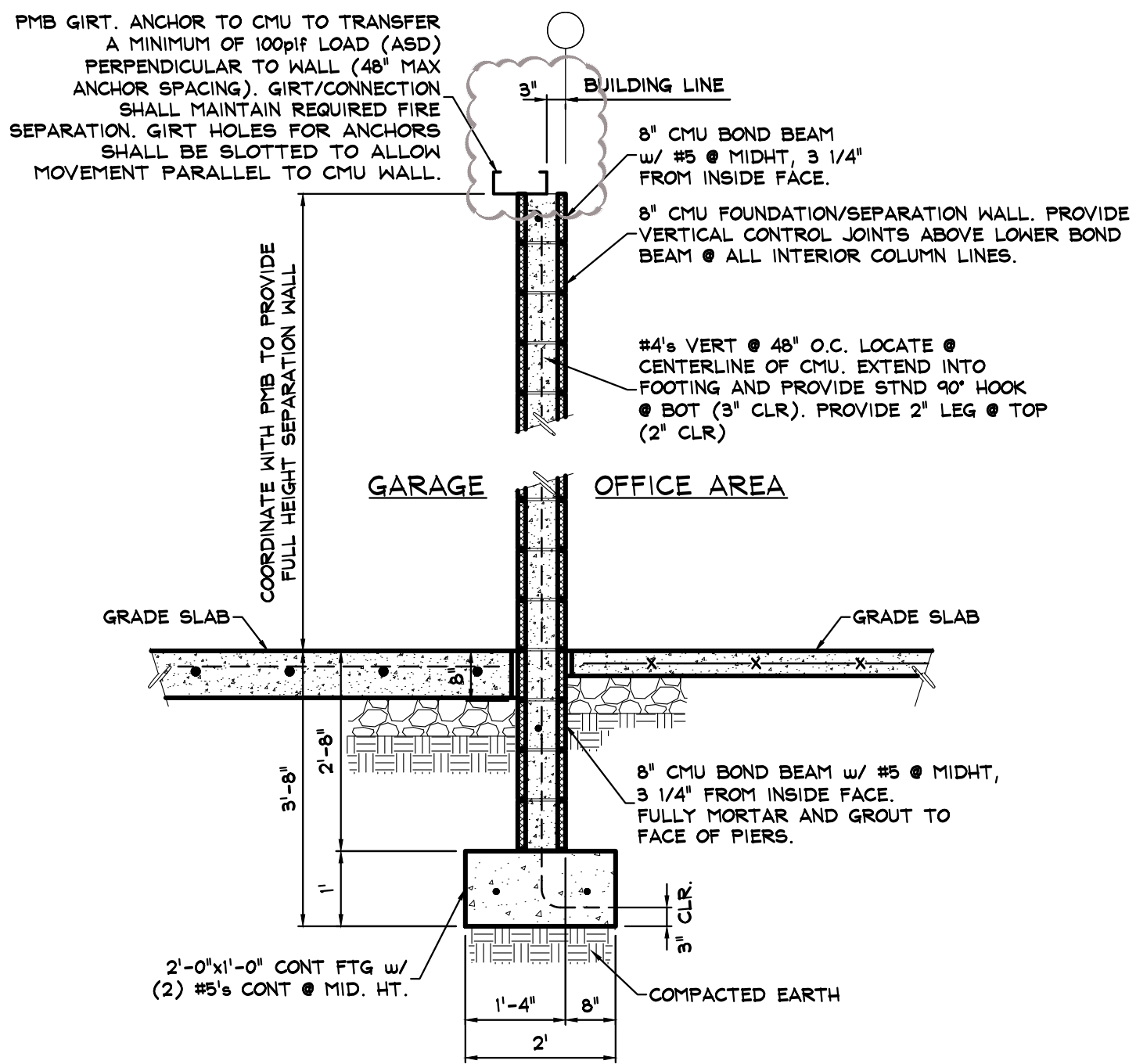
DOOR OPENING SILL (1)
SCALE: 1/2" = 1'-0"



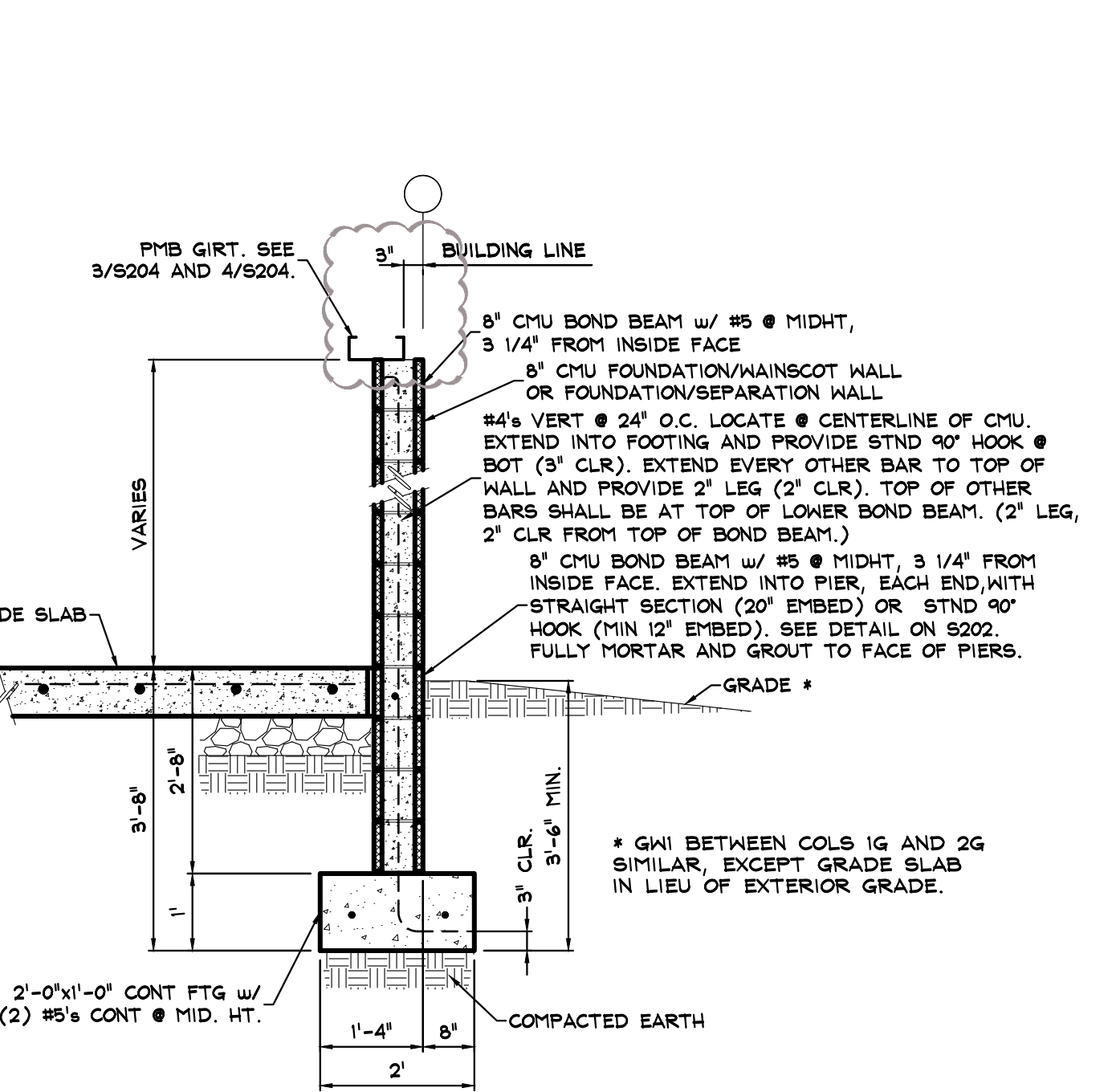
FOUNDATION WALL (2)
SCALE: 1/2" = 1'-0"



FOUNDATION/WAINSCOT WALL (3)
SCALE: 1/2" = 1'-0"



FOUNDATION/SEPARATION WALL ALONG OFFICE (4)
SCALE: 1/2" = 1'-0"

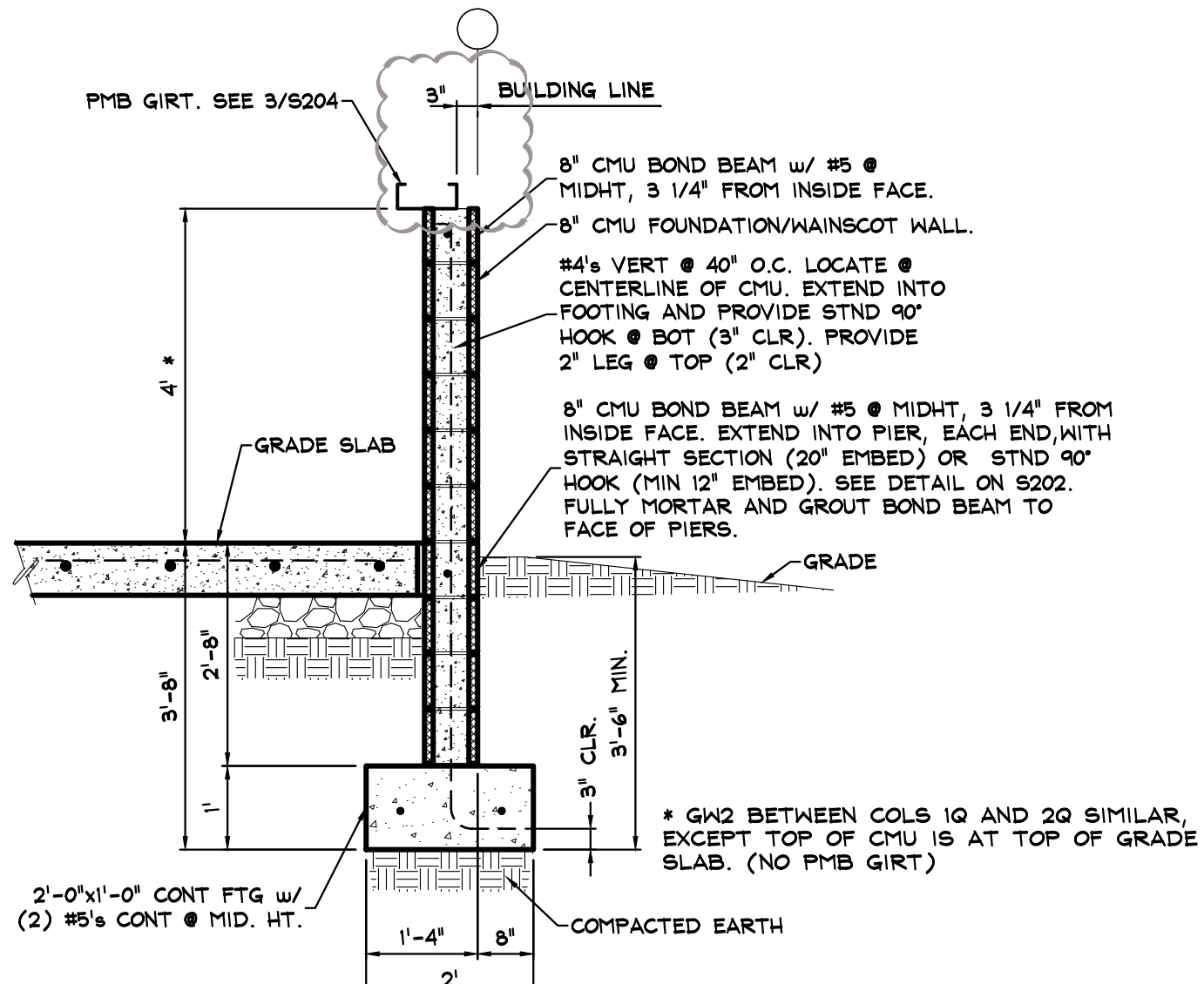


GRADE WALL GW1 (5)
SCALE: 1/2" = 1'-0"

NOTE: FOR BAYS ADJACENT TO CORNER PIERS (EXCEPT WHERE NOTED AS 'GRADE WALL'), PROVIDE ADDITIONAL #4'S BETWEEN EACH GENERAL #4 VERT. TO PROVIDE #4'S VERT. @ 24" O.C. EACH ADDITIONAL BAR SHALL BE LOCATED AND HOOKED AS SHOWN FOR GENERAL VERTS. EXTEND #5 BOND BEAM REINFORCING INTO CORNER PIER AND PROVIDE STND 90° HOOK, MIN 12" EMBED (EXCEPT 4" EMBED AT PIER P7). SEE DETAIL ON S202.

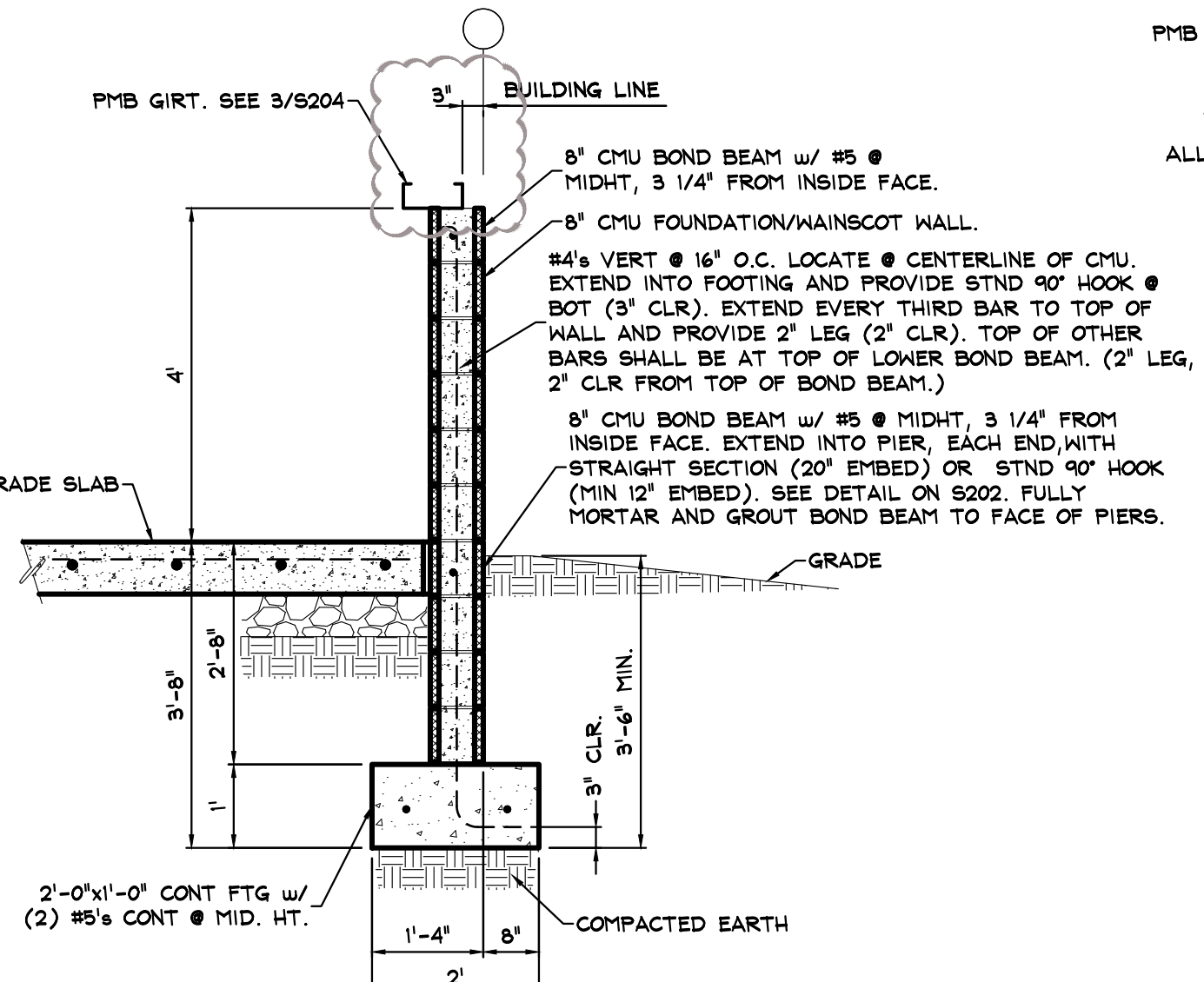
NOTE: FOR BAYS ADJACENT TO CORNER PIERS (EXCEPT WHERE NOTED AS 'GRADE WALL'), PROVIDE ADDITIONAL #4'S BETWEEN EACH GENERAL #4 VERT. TO PROVIDE #4'S VERT. @ 24" O.C. EACH ADDITIONAL BAR SHALL BE LOCATED AND HOOKED AS SHOWN FOR GENERAL VERTS., EXCEPT TOP OF BARS SHALL BE AT TOP OF LOWER BOND BEAM (2' LEG, 2' CLR FROM TOP OF BOND BEAM) EXTEND #5 BOND BEAM REINFORCING INTO CORNER PIER AND PROVIDE STND 90° HOOK, MIN 12" EMBED. SEE DETAIL ON S202.

NOTE: GRADE WALL IS DESIGNED FOR AN 8.6K MAXIMUM IN-PLANE HORIZONTAL BASE REACTION (ASD) FROM THE ADJACENT BRACED BAY COLUMN.



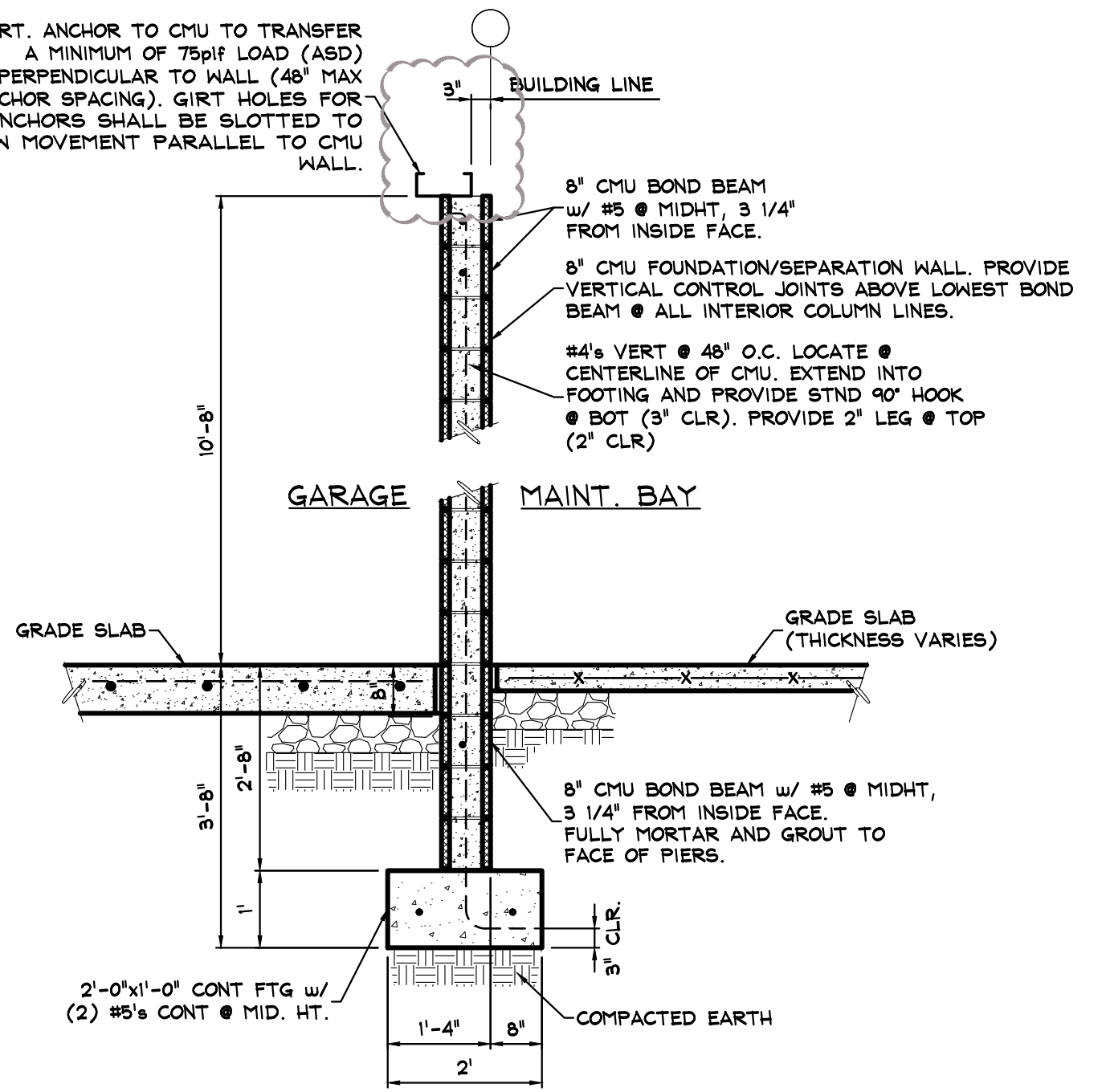
GRADE WALL GW2 (6)
SCALE: 1/2" = 1'-0"

NOTE: GRADE WALL IS DESIGNED FOR A 2.9K MAXIMUM IN-PLANE HORIZONTAL BASE REACTION (ASD) FROM THE ADJACENT BRACED BAY/PORTAL FRAME COLUMN.

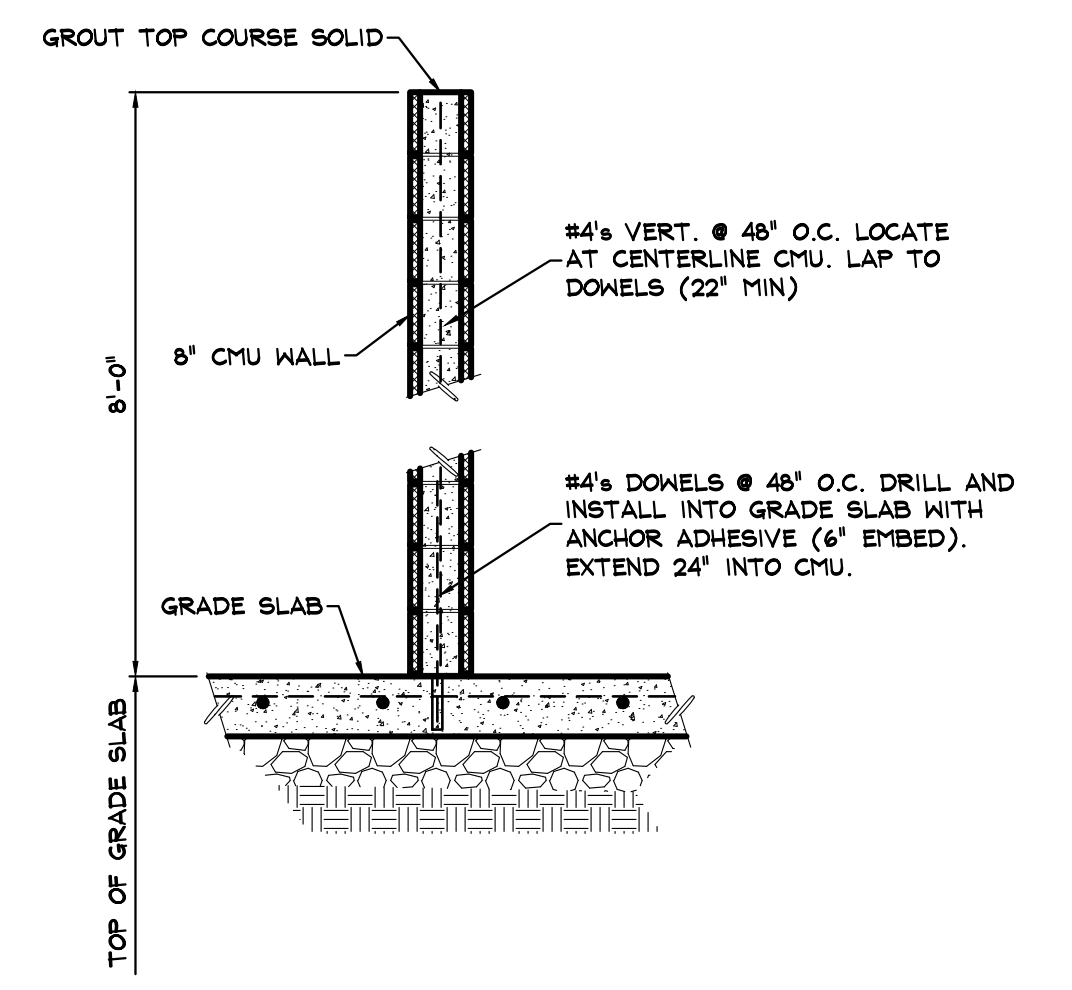


GRADE WALL GW3 (7)
SCALE: 1/2" = 1'-0"

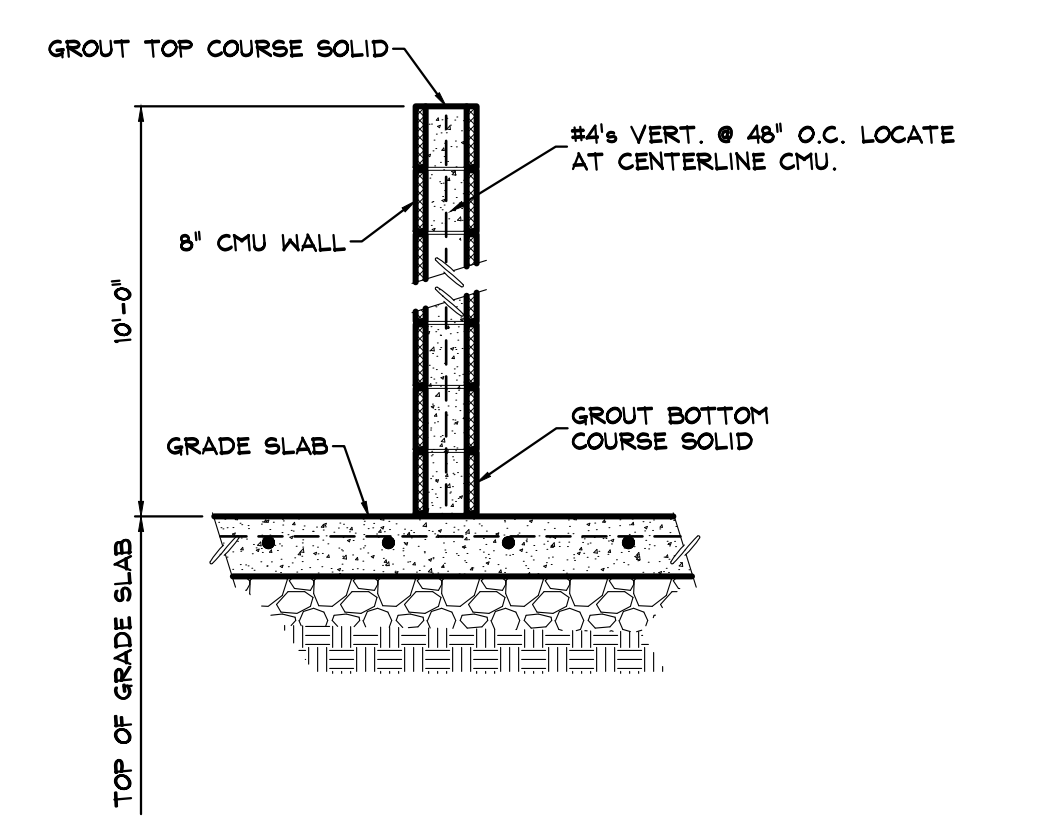
NOTE: GRADE WALL IS DESIGNED FOR A 4.7K MAXIMUM IN-PLANE HORIZONTAL BASE REACTION (ASD) FROM THE ADJACENT BRACED BAY COLUMN.



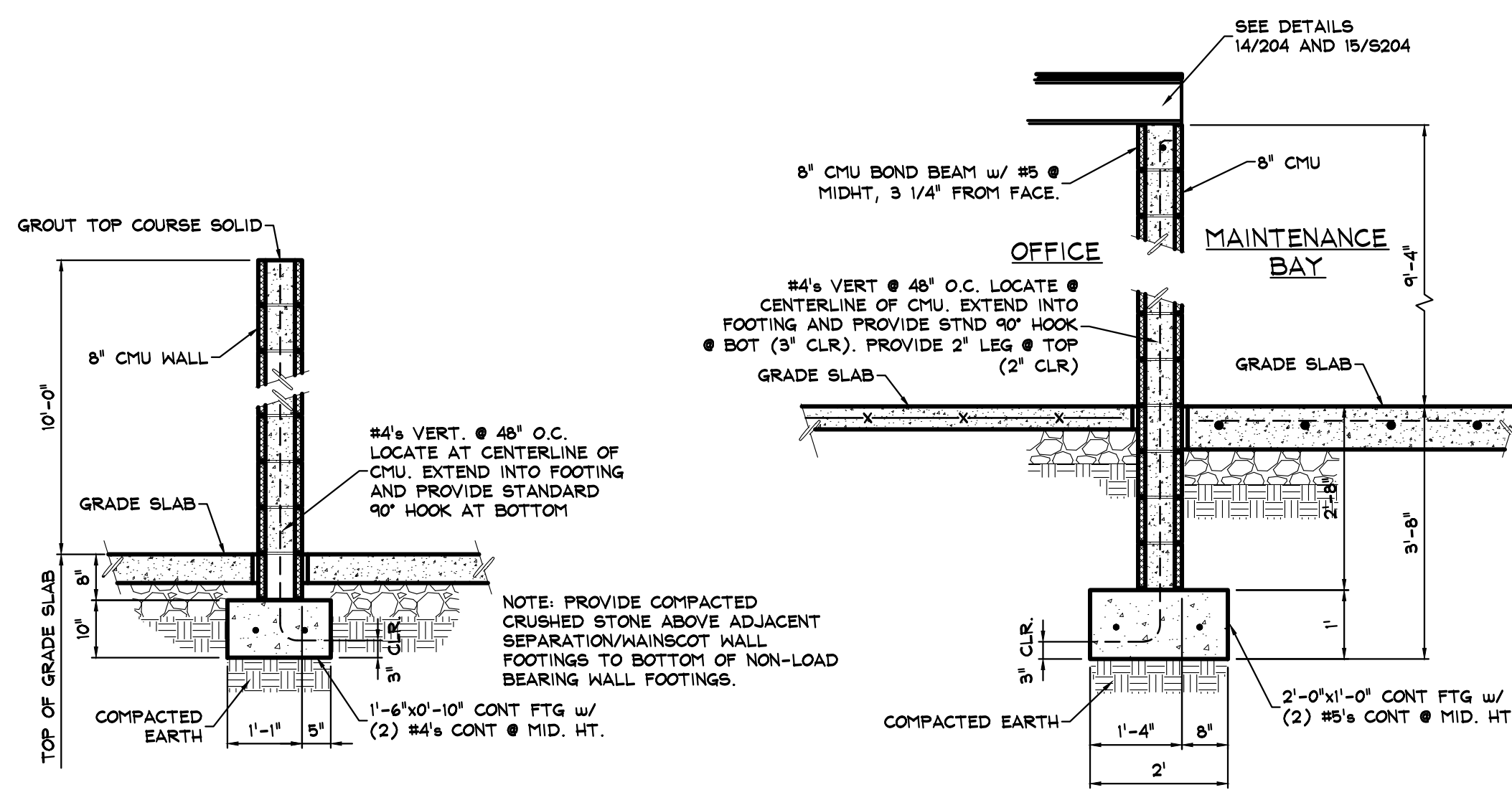
FOUNDATION/SEPARATION WALL ALONG MAINTENANCE BAY (8)
SCALE: 1/2" = 1'-0"



GARAGE WASH BAY WALLS (9)
SCALE: 1/2" = 1'-0"

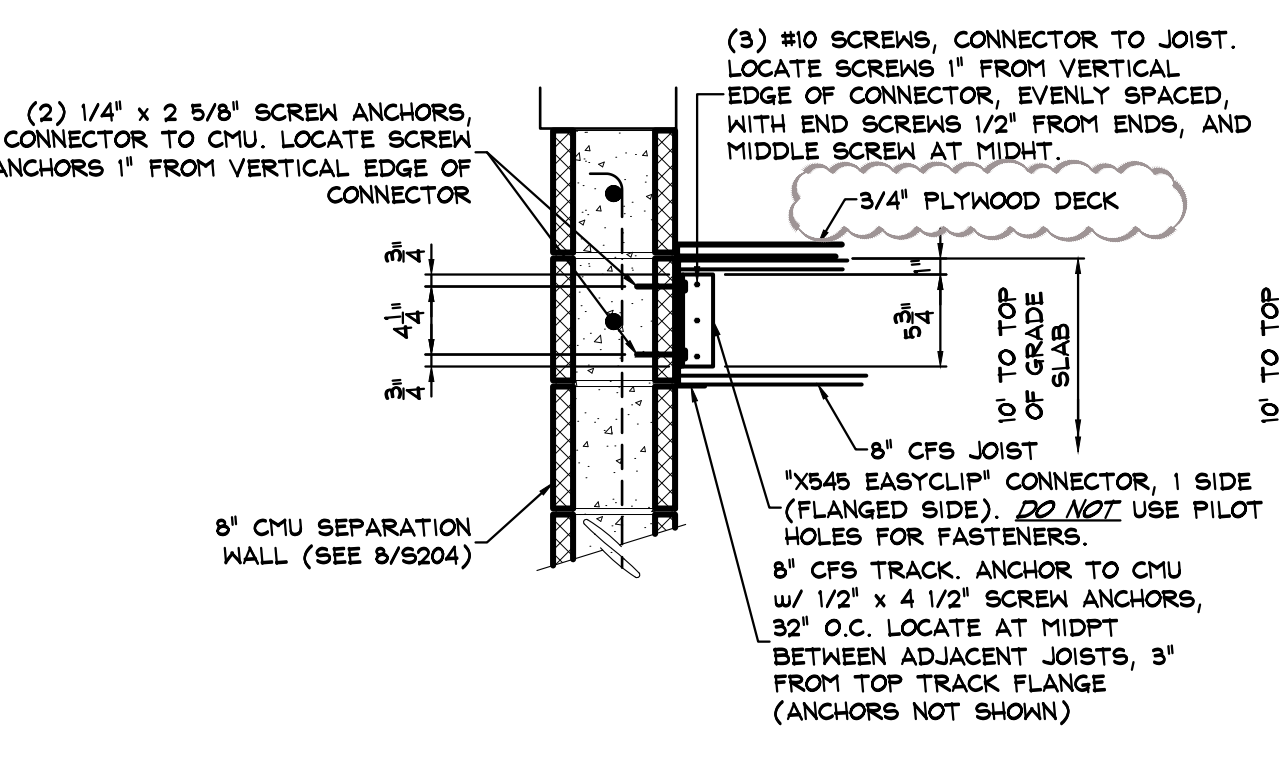


GARAGE RESTROOM / MECHANICAL ROOM WALLS (10)
SCALE: 1/2" = 1'-0"

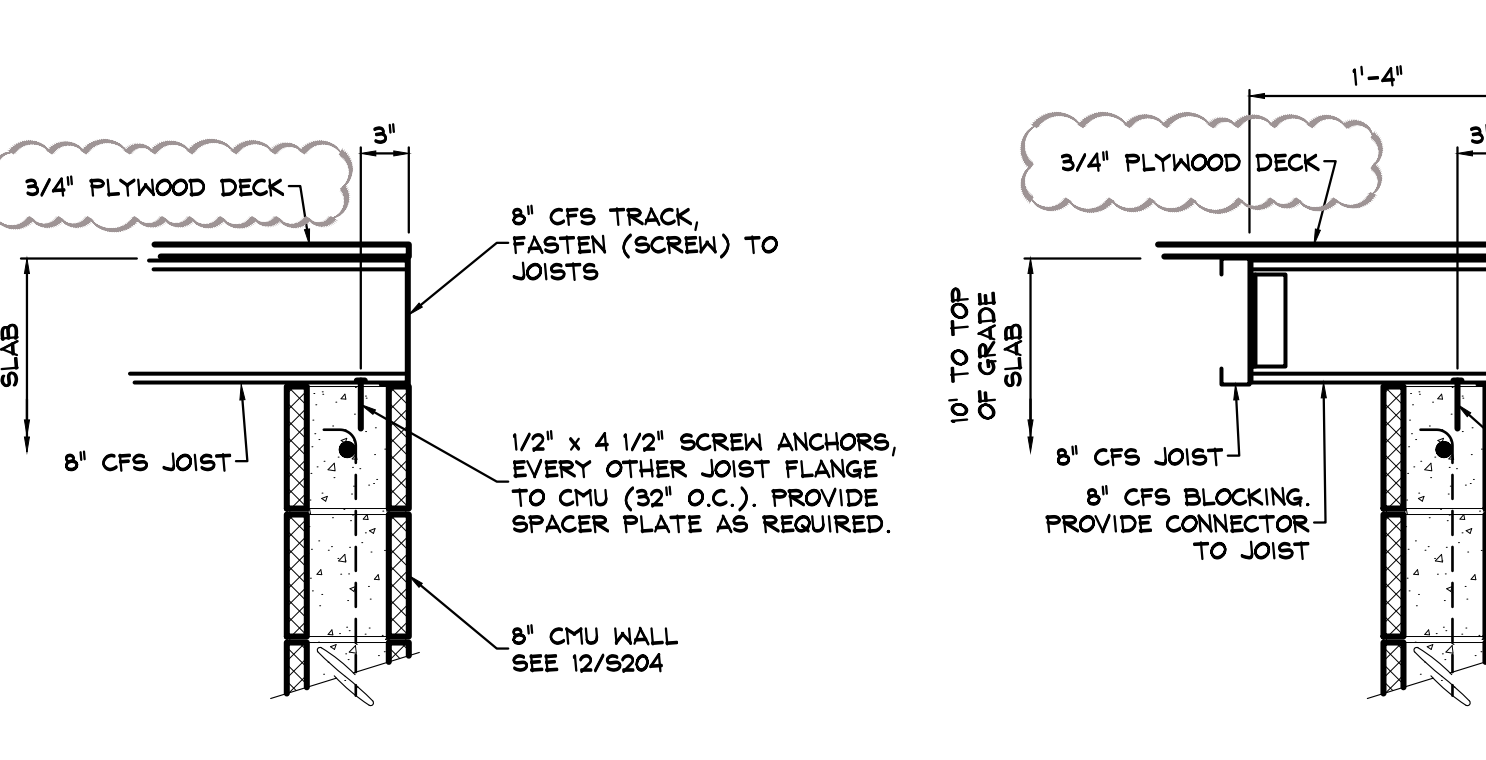


OFFICE AREA INTERIOR NON-LOAD BEARING WALLS (11)
SCALE: 1/2" = 1'-0"

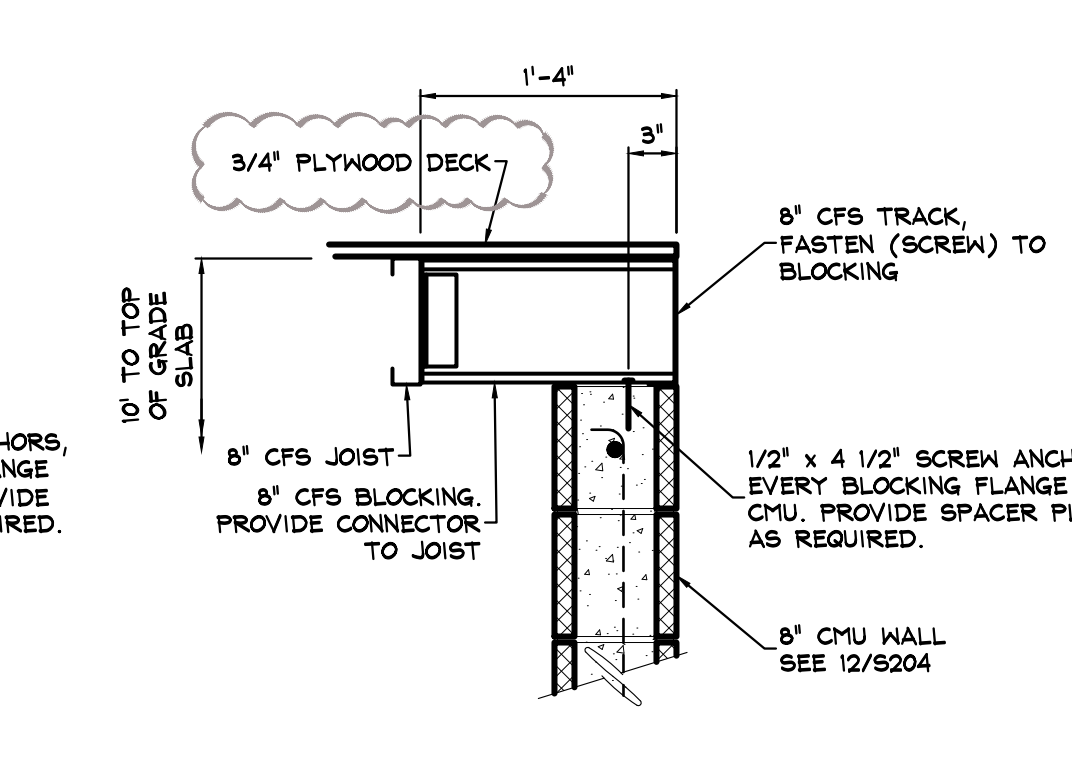
MAINTENANCE BAY OFFICE WALL (12)
SCALE: 1/2" = 1'-0"



MECH PLATFORM SECTION (13)
SCALE: 1" = 1'-0"



MECH PLATFORM SECTION (14)
SCALE: 1" = 1'-0"

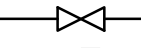

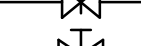


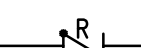

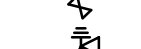
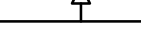
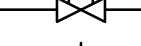
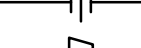


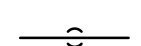
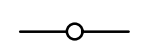
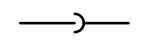
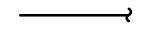
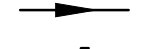
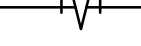
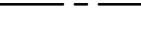

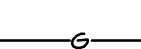
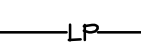


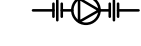
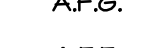
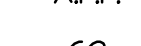





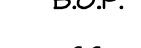
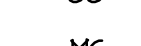










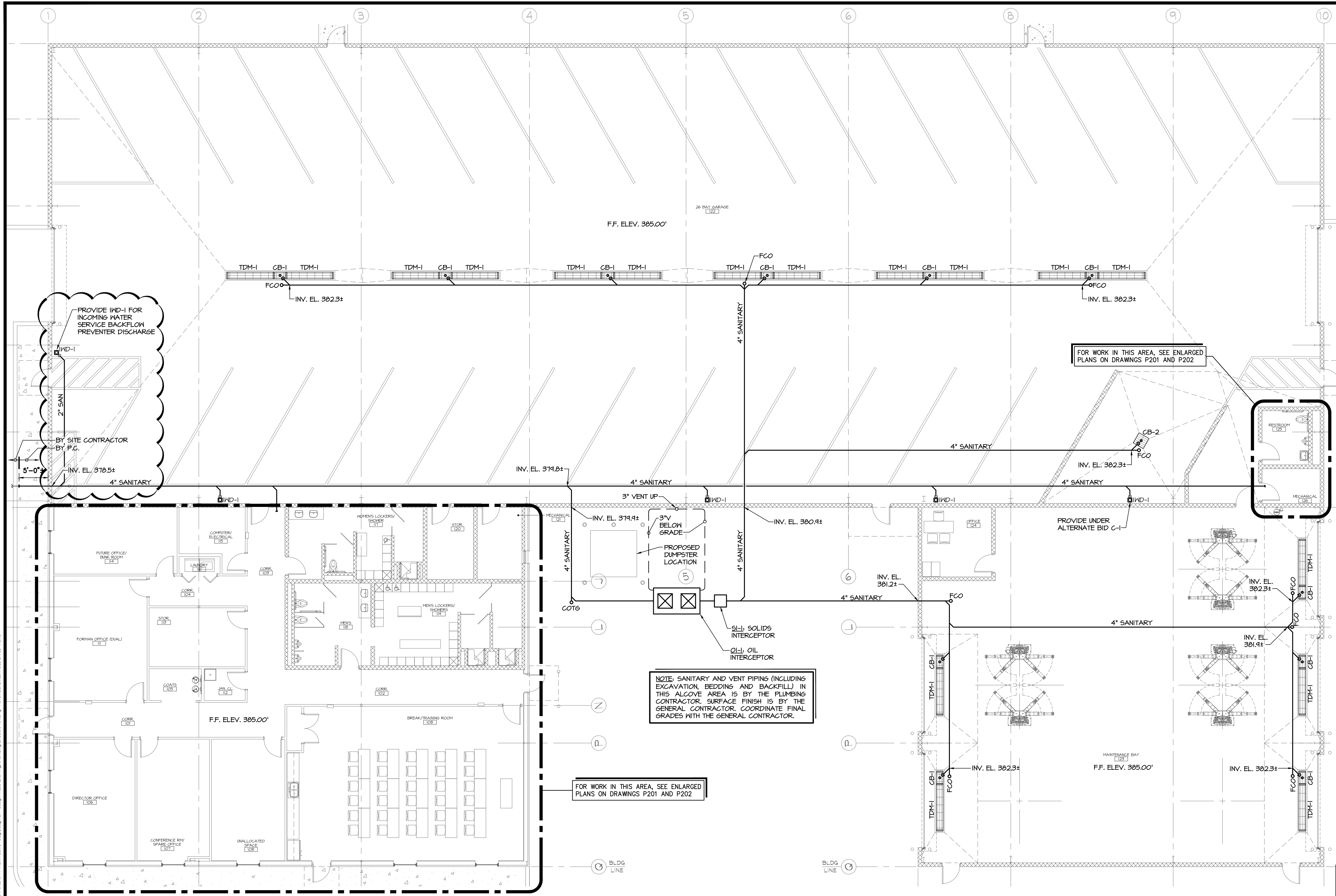
MECH PLATFORM SECTION (15)
SCALE: 1" = 1'-0"

2	11/27/19	ADDENDUM #2	JWS
1	10/25/19	ISSUE FOR BID	JWS
NO.	DATE	REVISION	BY
MUHLENBERG TOWNSHIP PROPOSED PUBLIC WORKS BUILDING FOUNDATION DETAILS			
MUHLENBERG TOWNSHIP DRAWN BY: JWS CHECKED: RAS DATE: 08/23/19		SITUATE IN BERKS COUNTY PENNSYLVANIA APPROVED: TSU CADD FILE NAME: S204 Foundation Details.dwg DRAWING NUMBER: D-19-0153-0144-S204	

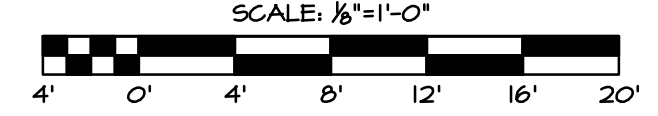
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PLUMBING LEGEND

-  SHUTOFF VALVE
-  BALL VALVE
-  BUTTERFLY VALVE
-  GATE VALVE
-  PRESSURE REDUCING VALVE
-  CHECK VALVE
-  REDUCED PRESSURE BACKFLOW PREVENTER
-  STRAINER W/ BLOCKDOWN
-  RELIEF VALVE
-  CALIBRATED BALANCING VALVE
-  UNION
-  REDUCER
-  PIPING UP
-  PIPING DOWN
-  TEE DOWN
-  TEE UP
-  45 - ELBOW
-  CONTINUATION
-  FLOW ARROW
-  GAS COCK
-  DOMESTIC COLD WATER PIPING
-  DOMESTIC HOT WATER PIPING
-  DOMESTIC HOT WATER RECIRC.
-  NATURAL GAS PIPING
-  LP GAS PIPING
-  SANITARY PIPING BELOW GRADE
-  VENT PIPING
-  REGULATOR PUMP
-  A.F.G.
-  A.F.F.
-  C.O.
-  F.C.O.
-  W.C.O.
-  C.O.T.G.
-  H.B.
-  V.T.R.
-  B.O.P.
-  G.C.
-  M.C.
-  E.C.
-  A.F.F.
-  I.N.
-  W.H.A.



PLUMBING FLOOR PLAN - SANITARY



2	11/27/19	ADDENDUM #2	MEC
1	10/25/19	ISSUE FOR BID	JMB
NO.	DATE	REVISION	BY

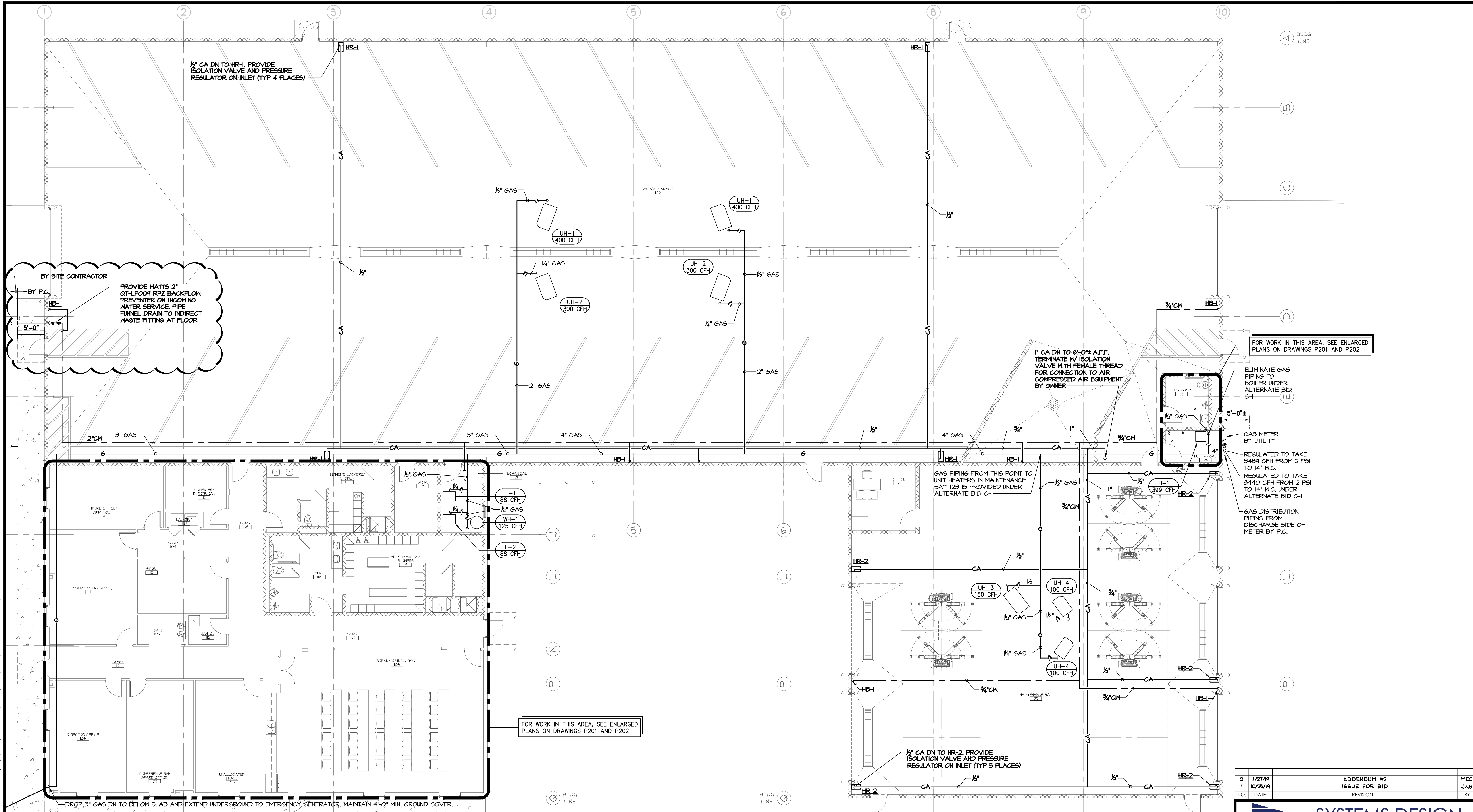
SYSTEMS DESIGN ENGINEERING, INC
 1032 JAMES DR. LEESPORT, PA 17533
 PHONE: 610.916.8500 FAX: 610.916.8501

BOYERTOWN, PA 610.269.1319
 SCHUYLKILL HAVEN, PA 570.385.5549

**MUHLENBERG TOWNSHIP
 PROPOSED PUBLIC WORKS BUILDING
 PLUMBING FLOOR PLAN**

DRAWN BY		CHECKED		APPROVED		CADD FILE NAME	
MEC		DTB		TSU		P101.dwg	
DATE		SCALE		DRAWING NUMBER			
08/23/19		AS NOTED		D-19-0153-0144-P101			

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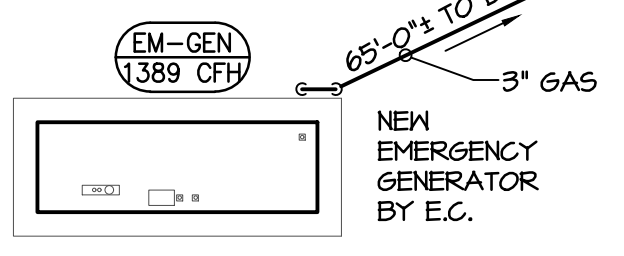
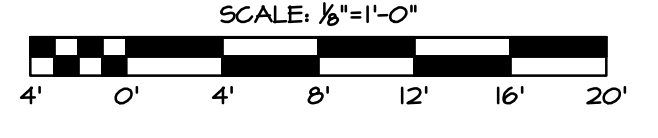
BY SITE CONTRACTOR
 BY P.C.
 PROVIDE WATTS 2" GT-FLOOR RPZ BACKFLOW PREVENTER ON INCOMING WATER SERVICE. PIPE FUNNEL DRAIN TO INDIRECT WASTE FITTING AT FLOOR

FOR WORK IN THIS AREA, SEE ENLARGED PLANS ON DRAWINGS P201 AND P202

FOR WORK IN THIS AREA, SEE ENLARGED PLANS ON DRAWINGS P201 AND P202

DROP 3" GAS DN TO BELOW SLAB AND EXTEND UNDERGROUND TO EMERGENCY GENERATOR. MAINTAIN 4'-0" MIN. GROUND COVER.

PLUMBING FLOOR PLAN - DOMESTIC WATER AND GAS



NOTE: GAS LINE INSTALLATION TO EMERGENCY GENERATOR (INCLUDING EXCAVATION, BEDDING AND BACKFILL) IS BY THE PLUMBING CONTRACTOR. SURFACE FINISH IS BY THE GENERAL CONTRACTOR. COORDINATE FINAL GRADES WITH THE GENERAL CONTRACTOR.

2	11/27/19	ADDENDUM #2	MEC
1	10/25/19	ISSUE FOR BID	JMB
NO.	DATE	REVISION	BY

SD ENGINEERING, INC
 1022 JAMES DR. LEESPORT, PA 17533
 PHONE: 610.916.8500 FAX: 610.916.8501

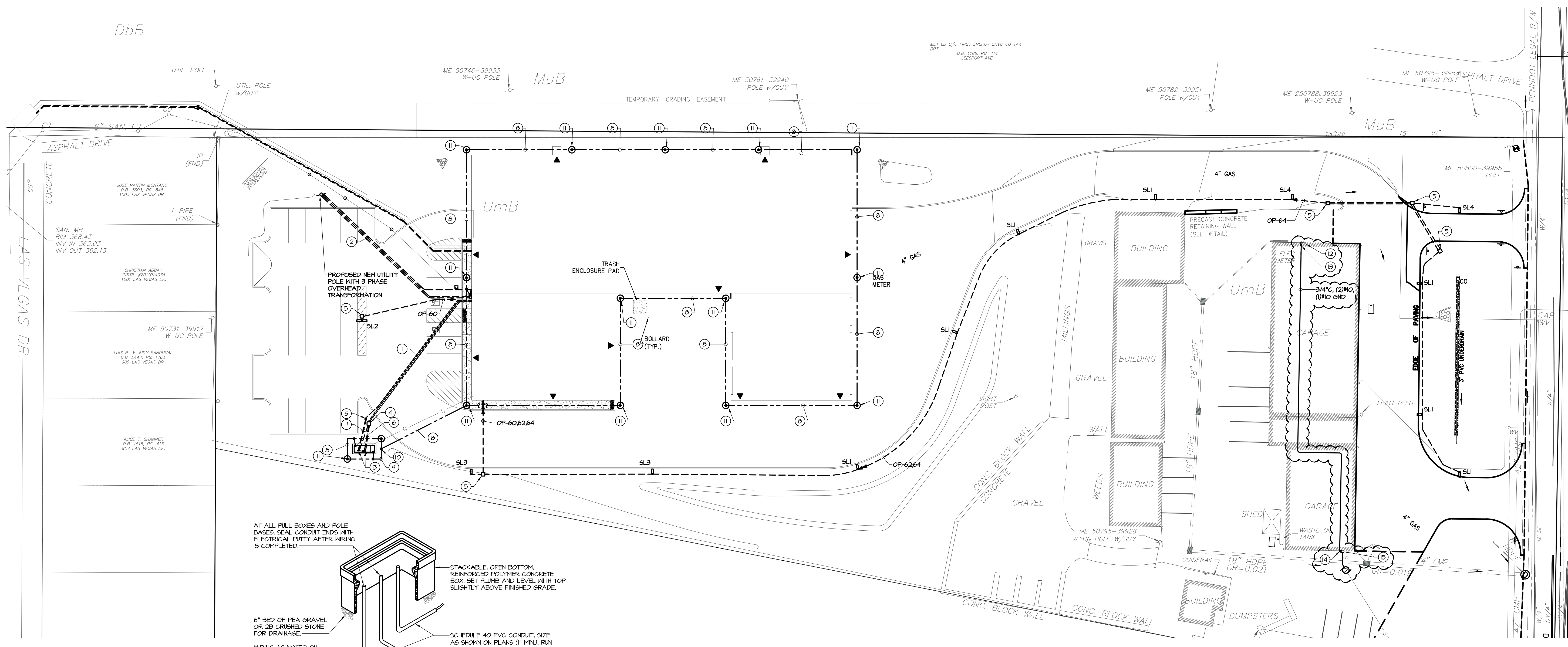
BOYERTOWN, PA 610.269.1319
 SCHUYKILL HAVEN, PA 570.385.5549

MUHLENBERG TOWNSHIP
 PROPOSED PUBLIC WORKS BUILDING
 PLUMBING FLOOR PLAN

MUHLENBERG TOWNSHIP		SITUATE IN BERKS COUNTY		PENNSYLVANIA	
DRAWN BY	CHECKED	APPROVED	CADD FILE NAME		
MEC	DTB	TSU	P102.dwg		
DATE	SCALE	DRAWING NUMBER			
08/23/19	AS NOTED	D-19-0153-0144-P102			

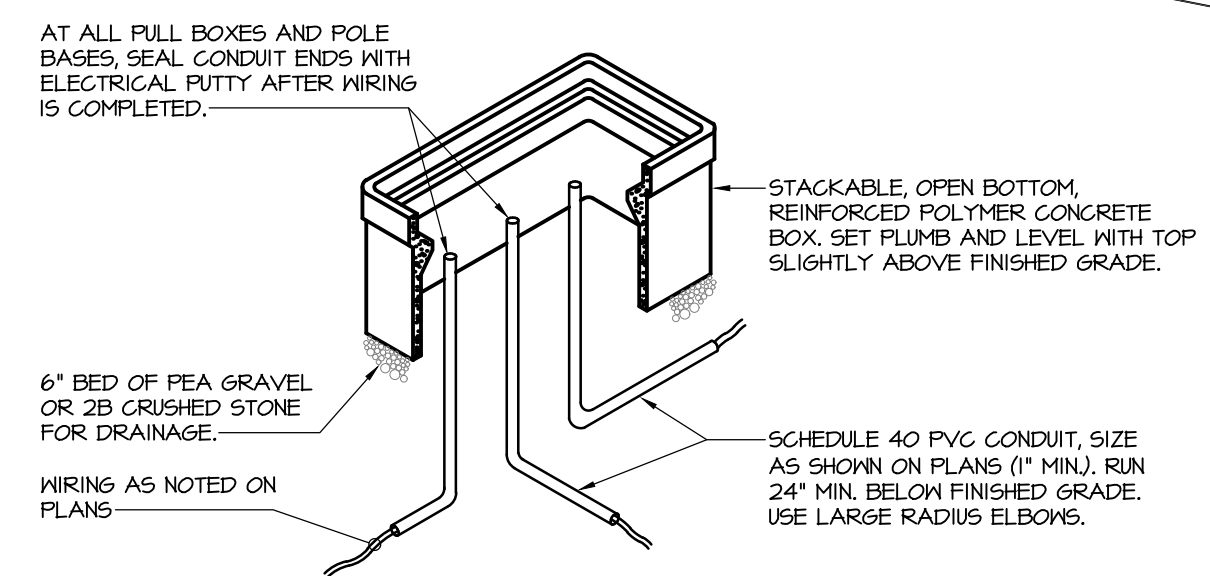
COPYRIGHT 2019 - Systems Design Engineering, Inc. - 1\Projects\Muhlenberg\pws\1910153-0144 - Normal Facility - Bldg Design\01 - Design Phase Drawings\Plumbing Sheets\102.dwg - November 27, 2019 8:27 am by JMB/AC

DbB



KEYED DRAWING NOTES

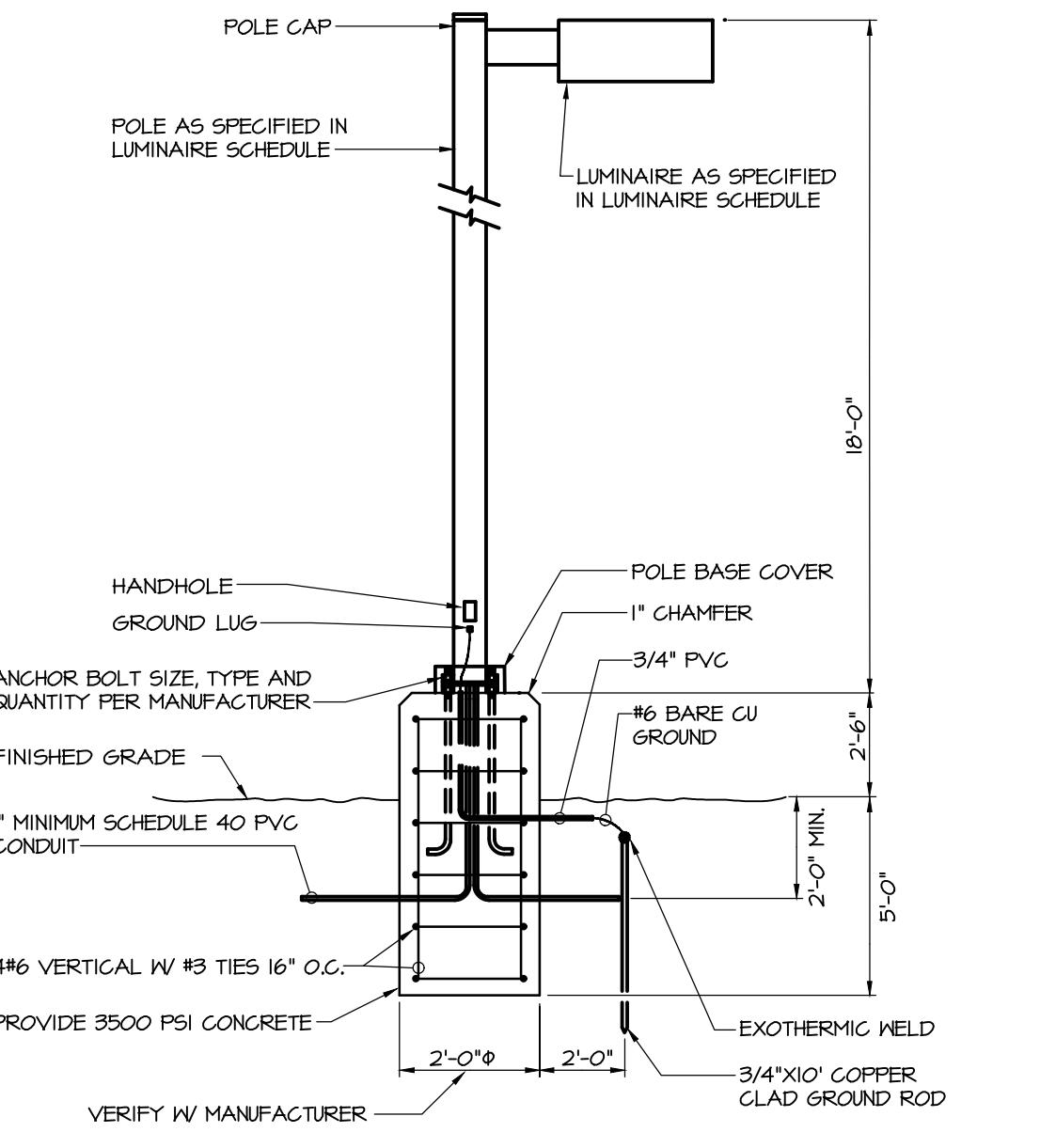
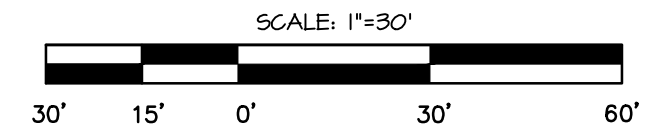
- 1 REFER TO 'GENERATOR DUCT BANK' THIS DRAWING.
- 2 REFER TO 'ELECTRICAL SERVICE LATERAL' THIS DRAWING.
- 3 LOCATIONS FOR STUB-UPS FOR GENERATOR CONNECTIONS ARE APPROXIMATE. VERIFY ACTUAL LOCATIONS BASED ON ACTUAL GENERATOR SUPPLIED.
- 4 PROVIDE 24" SQ. x 24" DEEP IN-GRADE PULL BOX. REFER TO 'IN-GRADE PULL BOX DETAIL', THIS DRAWING.
- 5 PROVIDE 12" SQ. x 12" DEEP, TIER 15 IN-GRADE PULL BOX. REFER TO 'IN-GRADE PULL BOX DETAIL', THIS DRAWING.
- 6 (2) 1", ONE FOR GENERATOR BLOCK HEATER, ONE FOR BATTERY CHARGER CIRCUIT.
- 7 (2) 1", ONE FOR GENERATOR STARTING CONTROLS, ONE FOR REMOTE ANNUNCIATOR CABLE.
- 8 #2/0 AWG GROUND LOOP 24" BELOW FINISHED GRADE.
- 9 #2 AWG TAP FROM MAIN GROUND LOOP.
- 10 EXOTHERMIC WELD (TYPICAL)
- 11 3/4" DIAMETER x 10' LONG GROUND ROD (TYPICAL). WHERE GROUND ROD IS INSTALLED IN A PAVED AREA, INSTALL IN A 12" SQ. x 12" DEEP IN-GRADE PULL BOX TO ALLOW FOR CONTINUED ACCESS TO GROUNDING TERMINATIONS.
- 12 EXISTING TROUGH CONTAINING ELECTRICAL SERVICE CONDUCTORS.
- 13 PROVIDE NEW 30 AMP 2 POLE ENCLOSED CIRCUIT BREAKER, UL LISTED AS SERVICE ENTRANCE EQUIPMENT ABOVE EXISTING TROUGH. PROVIDE 3/4" x 2" x 1/4" GND. IN/D THROUGH AND PROVIDE TAP TO EXISTING SERVICE CONDUCTORS.
- 14 PROVIDE 30 AMP 2 POLE, NEMA 3R NON-FUSED DISCONNECT SWITCH.
- 15 SEWAGE GRINDER CONTROL PANEL, PROVIDED AND MOUNTED BY S.G. EXTEND 1" CONDUIT FROM CONTROL PANEL TO SEWAGE GRINDER FOR MANUFACTURER SUPPLIED POWER CABLES. PROVIDE UL LISTED SEALING FITTING IN CONDUIT BELOW CONTROL PANEL. GRINDER SHALL BE 208 VOLTS, SINGLE PHASE.



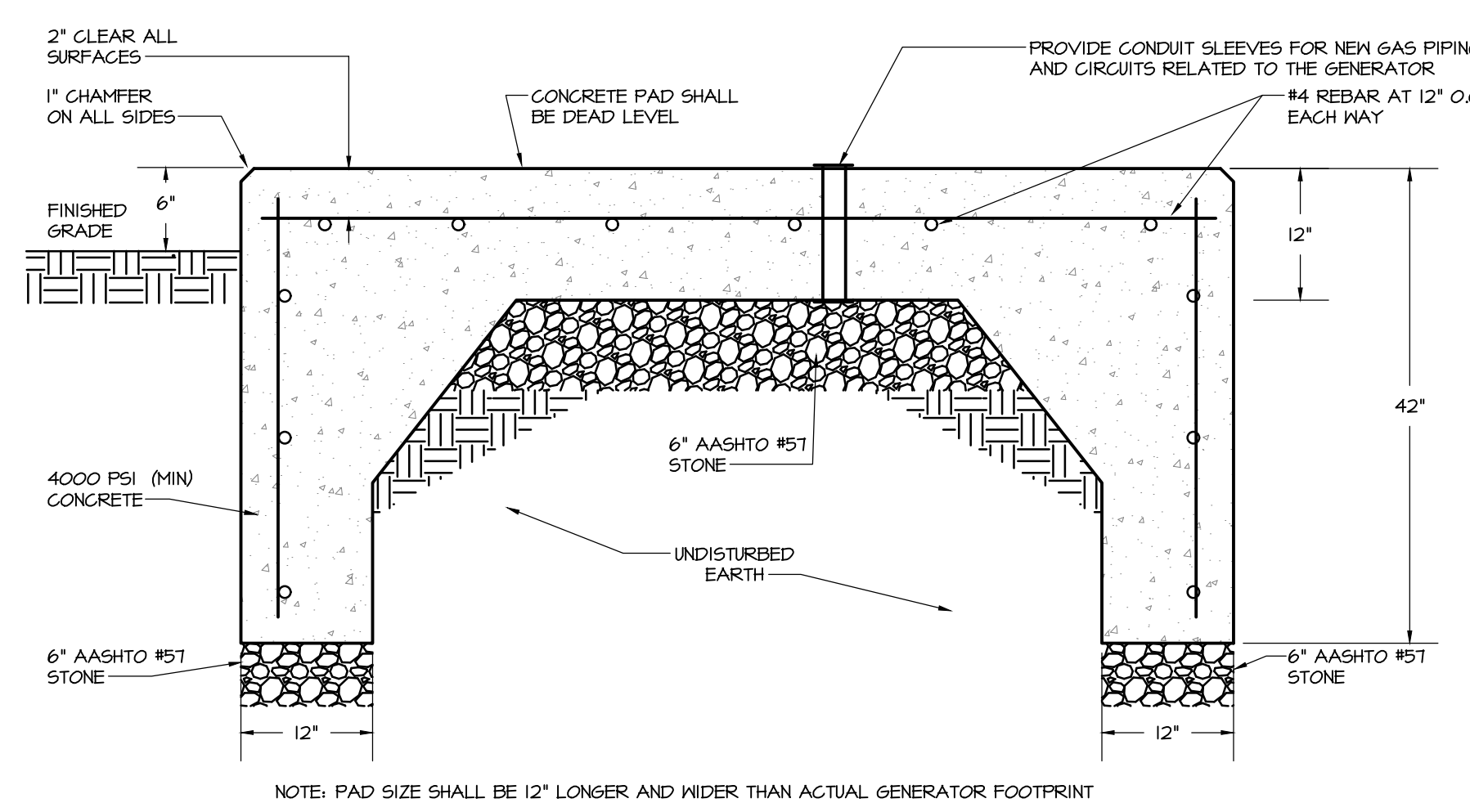
IN-GRADE PULL BOX DETAIL

- NOT TO SCALE
1. CONDUITS NOT TERMINATING IN OR AT PULL BOXES NEED NOT RUN THROUGH PULL BOXES UNLESS REQUIRED TO MAINTAIN NEC PULLING DISTANCES.
 2. PROVIDE TIER 22 GASKETED BOX W/ HEAVY DUTY BOLTED, GASKETED COVER LABELED 'ELECTRIC'. QUARTZ 'PSI' STYLE OR EQUAL. BOX SIZE AS NOTED ON PLANS. PROVIDE BOX EXTENSIONS AS REQUIRED.

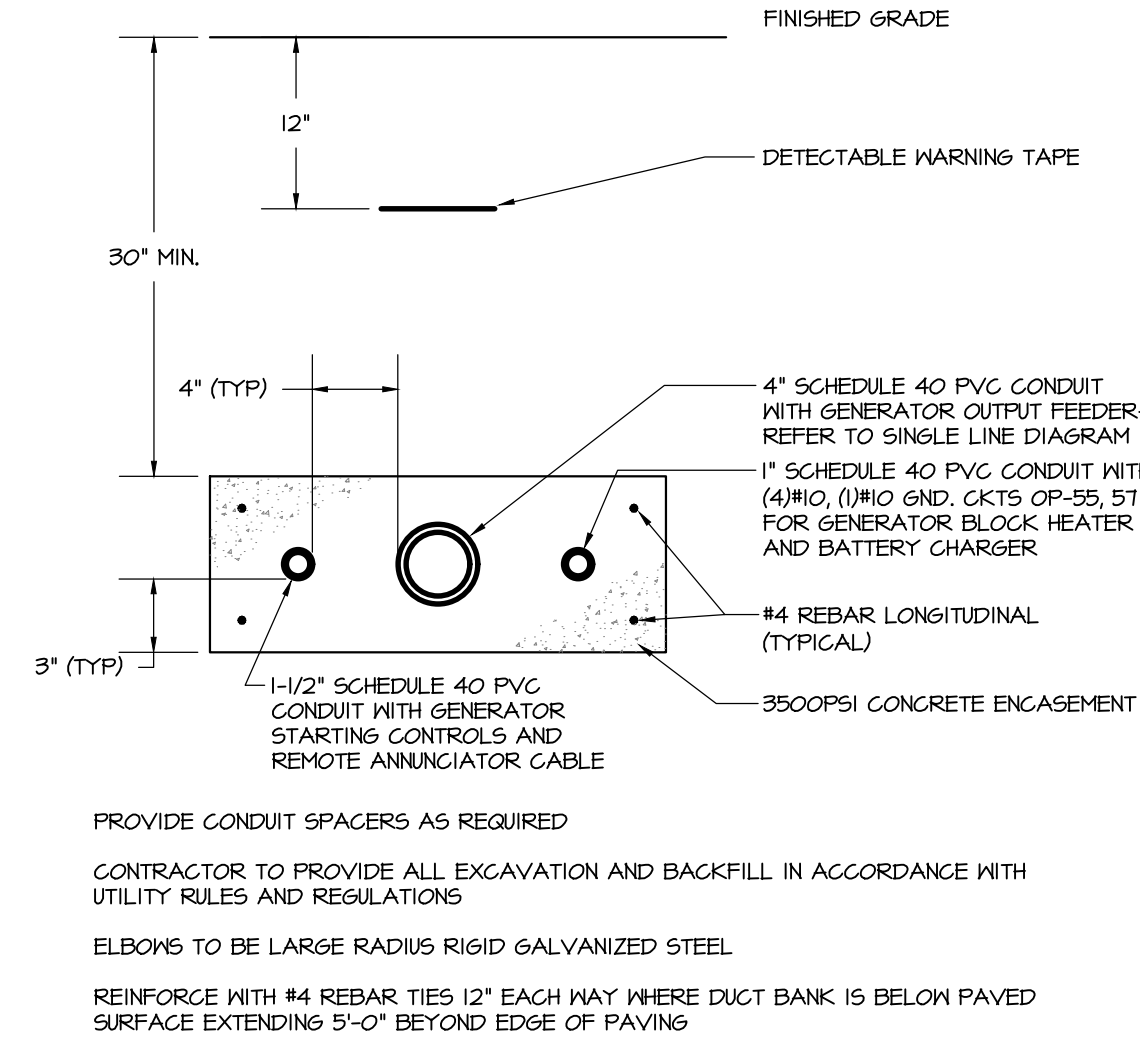
ELECTRICAL SITE PLAN



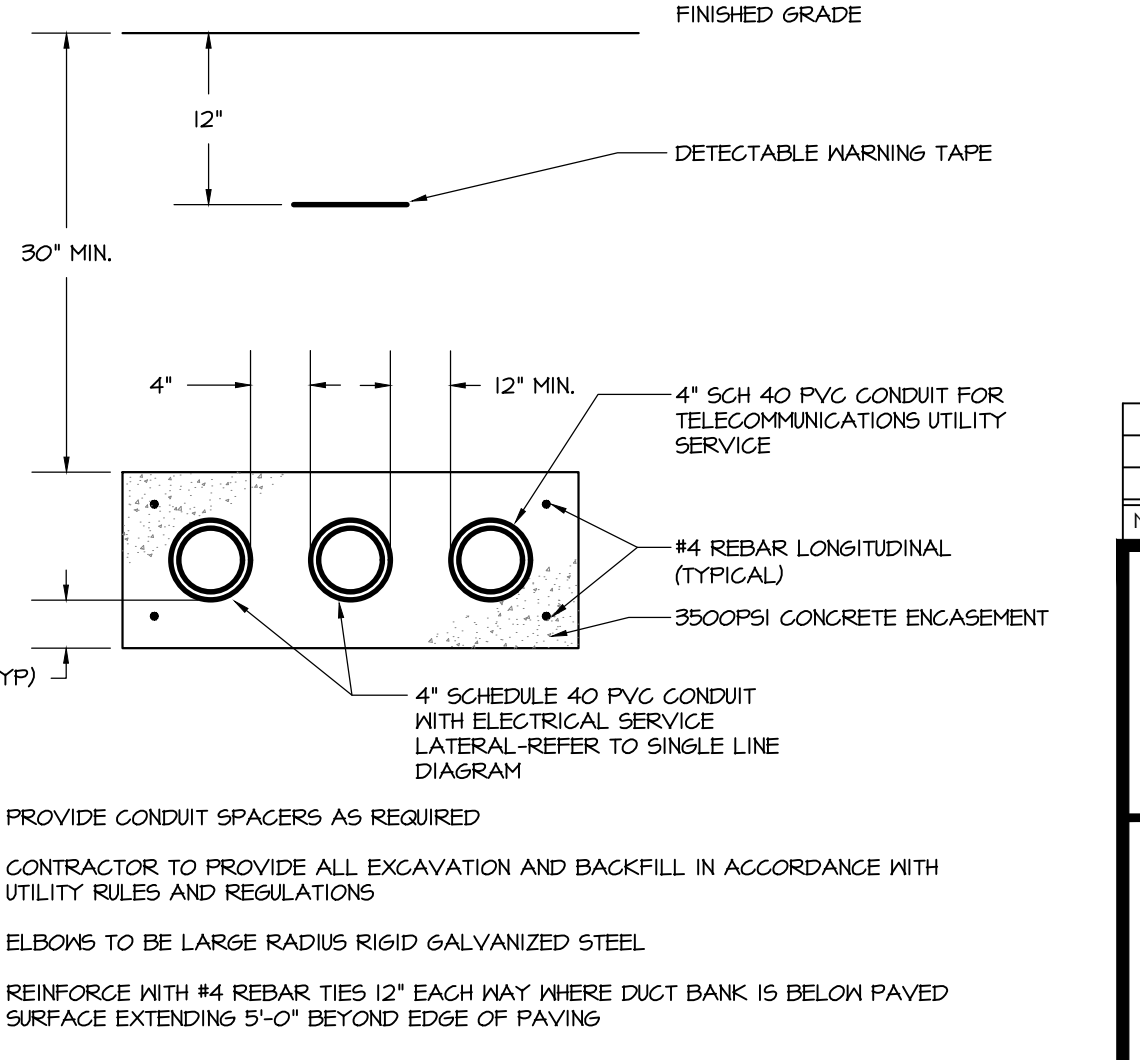
POLE MOUNTED SITE LIGHT DETAIL



EMERGENCY GENERATOR PAD DETAIL



GENERATOR DUCT BANK



UTILITY SERVICE DUCT BANK

2	11/27/19	REVISED FOR ADDENDUM 2	SBG
1	10/25/19	ISSUE FOR BID	JMS
NO.	DATE	REVISION	BY

SDE ENGINEERING, INC

1032 JAMES DR. | ESSEPORT, PA 19533 | SCHUYLKEL HAVEN, PA 570-385-5549

MUHLENBERG TOWNSHIP
PROPOSED PUBLIC WORKS BUILDING
ELECTRICAL SITE PLAN

MULHENBERG TOWNSHIP		SITUATE IN BERKS COUNTY PENNSYLVANIA	
DRAWN BY: SBG	CHECKED: SG	APPROVED: TSU	CADD FILE NAME: ES101.dwg
DATE: 10/25/2019	SCALE: AS NOTED	DRAWING NUMBER: D-19-0153-0144-ES101	

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