



COMPLEX PROJECTS
REQUIRE RESOLVE
THRASHER'S GOT IT

**TUSCARAWAS COUNTY COMMISSIONERS
TUSCARAWAS COUNTY, OHIO**

CONTRACT 2 – WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

ADDENDUM #1

FEBRUARY 16, 2023

THRASHER PROJECT #101-010-01120

TO WHOM IT MAY CONCERN:

The following are clarifications and responses to questions posed by contractors for the above-referenced project.

A. DRAWINGS

REPLACE ALL DRAWINGS (sheets 1-76) with the attached.

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 9:45 a.m. on Wednesday, March 8, 2023, at the Office of the Clerk of the Board of the Tuscarawas County Commissioners located at 125 E High Ave, New Philadelphia, OH 44663. Good luck to everyone, and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.



TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS TUSCARAWAS COUNTY, OHIO DECEMBER 2022

CONTRACT #2



VICINITY MAP
1" = 1/2 MILE

WATER TREATMENT PLANT - LATITUDE: 40°38'43.58" LONGITUDE: 81°24'46.33"

METER #1 - LATITUDE: 40°38'23.59" LONGITUDE: 81°27'24.26"

METER #2 - LATITUDE: 40°38'50.29" LONGITUDE: 81°27'36.29"



STEVEN D. HAMIT, P.E. #61595

DATE

PROJECT DESCRIPTION:

IMPROVEMENTS TO THE EXISTING WATER TREATMENT PLANT, INCLUDING THE CONSTRUCTION OF A NEW WELL SITE AND PRESSURE FILTER FACILITY. CONSTRUCTION OF TWO WATER METER VAULTS AT EXISTING DISTRIBUTION SYSTEM INTERCONNECTS.

2019 SPECIFICATIONS:

THE STANDARD SPECIFICATIONS FOR THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

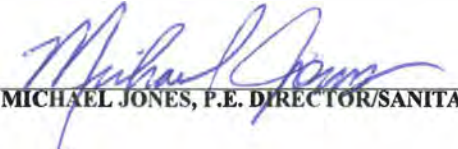
TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT OFFICIALS

CHRIS ABBUHL - COUNTY COMMISSIONER

GREG RESS - COUNTY COMMISSIONER

KRISTIN ZEMIS - COUNTY COMMISSIONER

MICHAEL JONES, P.E. - DIRECTOR/SANITARY ENGINEER


MICHAEL JONES, P.E. DIRECTOR/SANITARY ENGINEER

2/10/23
DATE

PREPARED FOR:

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT
9944 WILKSHIRE BLVD. NE
BOLIVAR, OH 44612

PREPARED BY:

PHONE
(330) 451-2042

THRASHER
400 3rd STREET, CANTON, OHIO 44702

(FAX)
(330) 451-2043

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UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO

Utilities Protection

SERVICE

CALL BEFORE YOU DIG

1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS

UNDERGROUND PROTECTION SERVICE

1-800-925-0988

						SCALE: 3/8" = 1'-0"		THRASHER 400 3rd STREET SE, SUITE 309 CANTON, OHIO 44702 www.thrashereng.com PHONE (330)-451-2042 FAX (330)-451-2043	PHASE No.		TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS		SHEET No.					
				DRAWN: DAC		DATE: JANUARY 2020												
4	SMD	13FEB2023	TUSC COUNTY COMMENTS	CHECKED: RSS		DATE: JANUARY 2020												
3	SMD	2FEB2023	TUSC COUNTY COMMENTS	APPROVED: RSS		DATE: JANUARY 2020												
2	SMD	11JAN2023	TUSC COUNTY COMMENTS	SURVEY DATE:														
1	SMD	8DEC2022	QA/QC REVIEW	SURVEY BY:														
NO.	BY	DATE	DESCRIPTION	FIELD BOOK No.:														

INDEX

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

AEP
301 CLEVELAND AVE. SW
CANTON, OHIO 44702
ATTN: MATHEW McDONALD
P: 330-438-7716

TUSCARAWAS COUNTY METROPOLITAN
SEWER DISTRICT
9944 WILKSHIRE BOULEVARD
BOLIVAR, OHIO 44612
P: 330-874-3262

DOMINION EAST OHIO GAS
320 SPRINGSIDE DRIVE
SUITE 320
AKRON, OHIO 44333
ATTN: DOUG SMITH
P: 330-664-2529

ASPIRE ENERGY
300 TRACY BRIDGE WAY
ORVILLE, OHIO 44667
ATTN: DOUG WARD
P: 330-682-7726

FRONTIER COMMUNICATIONS
6223 NORWALK ROAD
MEDINA, OHIO 44256
ATTN: RANDY HOWARD
P: 330-722-9586

MKE PRODUCING, INC.
5480 CABLE POINT CIRCLE, NW
CANTON, OHIO 44718
P: 330-966-0873

DIVERSIFIED GAS AND OIL PLC
4150 BELDON VILLAGE STREET, NW
SUITE 410
CANTON, OHIO 44718

ERIC DOWNING
REALITY SPECIALIST
U.S. ARMY CORPS OF ENGINEERS
DIVISION OF SURFACE WATER
3434 STATE ROUTE 212
MINERAL CITY, OHIO 44656
ERIC.R.DOWNING@USACE.ARMY.MIL

COLUMBIA GAS OF OHIO
66921-67027 POGUE ROAD
ST. CLAIRSVILLE, OHIO 43950

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

UTILITY COORDINATION

LOCATIONS OF EXISTING UTILITIES WERE DETERMINED FROM FIELD MARKINGS AND RECORD DRAWINGS FROM UTILITY OWNERS AND ARE CONSIDERED APPROXIMATE ONLY. CONTRACTOR TO DETERMINE EXACT LOCATION IN THE FIELD PRIOR TO THE START OF CONSTRUCTION FOR UNDERGROUND UTILITIES. IF THERE IS A CONFLICT, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE UTILITY OWNER.

UTILITY POLES

CONTRACTOR SHALL CONTACT AND COORDINATE WITH UTILITY OWNER FOR TEMPORARY SUPPORT OR RELOCATION OF EXISTING UTILITY POLES CLOSER THAN 7 FEET TO THE PROPOSED TRENCH.

ELECTRICAL

- THE CONTRACTOR WILL NEED TO CAREFULLY EXCAVATE FOR THE PROPOSED NEW FILTER BUILDING SO NOT TO DISTURB THE UNDERGROUND CONDUIT THAT CARRIES THE UNDER GROUND POWER.
- THE CONTRACTOR SHALL INSTALL THE NEW GENERATOR AND PAD PRIOR TO DEMOLITION OF THE EXISTING GENERATOR.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY FUEL CONSUMPTION OF THE GENERATOR ONCE HE MOVES ON SITE. THE WATER PLANT CANNOT BE OUT OF POWER UNLESS SCHEDULED WITH THE OWNER AND ENGINEER FOR MORE THAN (4) HOURS AT A TIME.

TREES:

- TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHEREVER POSSIBLE.
- NO TREE REMOVAL WILL BE PERMITTED OUTSIDE THE TEMPORARY EASEMENT WITHOUT PERMISSION OF THE ENGINEER.
- TREES WHICH ARE NOT REMOVED WILL BE PROTECTED BY ENSURING THAT TREES TO BE REMOVED ARE FELLED SO AS NOT TO INJURE THE REMAINING TREES.
- PRIOR TO CLEARING, THE CONTRACTOR AND ENGINEER, SHALL WALK THE ACQUIRED EASEMENTS IN AN EFFORT TO DESIGNATE THE TREES THAT ARE TO BE SAVED. TREES TO BE SAVED WILL BE CLEARLY MARKED BY PAINT WITH THE LETTER "S". TREES TO BE PROTECTED BY AN APPROPRIATE BARRIER SHALL BE MARKED WITH AN "S" ENCLOSED IN A CIRCLE.
- SOIL AND OTHER MATERIAL WILL NOT BE STORED NEXT TO OR WITHIN THE DRIP-LINE OF TREES.
- PRESERVATION OF LANDSCAPING SHOULD TAKE PRECEDENCE OVER REMOVAL. IF REMOVAL OR DAMAGE IS UNAVOIDABLE, EXISTING VEGETATION SHOULD BE REPAIRED OR REPLACED "IN-KIND" UNLESS THE HOMEOWNER SPECIFIES OTHERWISE.
- IF TREES/SHRUBS CANNOT BE REPLACED IN THE SAME LOCATION DUE TO INSTALLATION OF THE SEWER SYSTEM, RELOCATION SHOULD BE CONSIDERED.
- THE CONTRACTOR'S ARBORIST SHALL REPAIR ALL INJURIES TO BARK, TRUNKS, LIMBS, AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING, BRACING AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS, AND MATERIALS.
- SELECTIVE PRUNING OF TREE LIMBS PRIOR TO INITIATION OF CONSTRUCTION SHOULD ONLY BE USED WITHIN ESTABLISHED EASEMENTS WHERE REMOVAL IS NECESSARY FOR OPERATIONS OF EQUIPMENT.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN THE VICINITY OF EXISTING TREES, TAKING ALL MEASURES POSSIBLE TO PROTECT AND PRESERVE THEM. THE CONTRACTOR SHALL BE GOVERNED BY THE PROVISIONS OF HIS CONTRACT WITH THE COUNTY.

CONNECTION TO EXISTING WATERLINE

WHERE THE PLANS PROVIDE FOR A PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE BEGINNING TO LAY THE PROPOSED PIPE.

THE CONTRACTOR SHALL PROVIDE THE NECESSARY FITTINGS AND ADAPTERS TO MAKE THE CONNECTION FOR ALL EXISTING AND PROVIDE FOR HORIZONTAL AND VERTICAL ALIGNMENT IN CLOSE CONFORMITY TO THE LINES AND GRADES SHOWN ON THE PLANS. THE COST OF LOCATING EXISTING PIPE, AND MAKING THE CONNECTION INCLUDING ADAPTERS AND FITTINGS SHALL BE CONSIDERED INCIDENTAL TO MAKING THE CONNECTION TO THE EXISTING WATERLINE.

CONNECTIONS BETWEEN EXISTING AND NEW PIPE SHALL BE PERFORMED WITH A COUPLING DESIGNED FOR THE PIPE MATERIAL CONNECTING TO.

ARCHAEOLOGICAL/HISTORICAL RESOURCES:

CONTRACTORS AND SUBCONTRACTORS ARE REQUIRED UNDER OHIO REVISED CODE SECTION 149.53 TO NOTIFY THE OHIO HISTORICAL SOCIETY AND THE OHIO HISTORIC SITE PRESERVATION BOARD OF ARCHAEOLOGICAL DISCOVERIES LOCATED IN THE PROJECT AREA, AND TO COOPERATE WITH THOSE ENTITIES IN ARCHAEOLOGICAL AND HISTORIC SURVEYS AND SALVAGE EFFORTS IF SUCH DISCOVERIES ARE UNCOVERED WITHIN THE PROJECT AREA.

CONTACT: STATE HISTORIC PRESERVATION OFFICE
PHONE: 1-614-298-2000

SEQUENCE OF CONSTRUCTION

WILKSHIRE HILLS

- PERFORM SITE CLEARING AND GRUBBING FOR THE NEW WELL HOUSE #1 ADDITION.
- MAINTAIN OPERATION OF THE WTP THROUGH THE DURATION OF CONSTRUCTION.
- UTILITY COMPANY TO RELOCATE EXISTING SERVICE.
- CUT IN AND CONSTRUCT PROPOSED 8”X8” TEE AND GATE VALVES.
- CONSTRUCT 8" DIP WATER LINE TO FIRST GATE VALVE ON PRESSURE INFLUENT LINE.
- CONSTRUCT ALL UNDERGROUND PIPING AND STRUCTURES UNDER THE NEW WELL HOUSE #1 ADDITION.
- CONSTRUCT METER # 1 AND #2 IMPROVEMENTS.
- CONSTRUCT BUILDING FOUNDATIONS, FLOOR SLAB, AND CONCRETE SANITARY PADS.
- INSTALL PRESSURE FILTERS.
- CONSTRUCT BUILDING ADDITION WALLS AND ROOF.
- CONSTRUCT BUILDING EQUIPMENT, PIPING, HVAC SYSTEMS, ELECTRICAL, PLUMBING.
- DISINFECT ALL EQUIPMENT AND PIPING THAT COMES IN CONTACT WITH POTABLE WATER AS PIPE AND EQUIPMENT IS INSTALLED.
- CONSTRUCT NEW MCC'S.
- CONSTRUCT YARD PIPING.
- CONSTRUCT NEW BACKWASH WATER SUPPLY TANK.
- CONSTRUCT NEW SETTLLING TANK.
- CONSTRUCT NEW PUMP STATION AND VALVE VAULT.
- CONSTRUCT NEW FORCE MAIN.
- CONSTRUCT NEW CHLORINE CONTACT TANK.
- FLUSH, PRESSURE TEST, AND DISINFECT ALL POTABLE WATER PIPE, EQUIPMENT, TANKS AND APPURTENANCES.
- TRANSFER EXISTING EQUIPMENT TO THE NEW MCC'S
- PERFORM STARTUP TESTING OF ALL EQUIPMENT.
- PERFORM OPERATIONAL TESTING OF THE PRESSURE FILTERS AND ASSOCIATED EQUIPMENT.
- RECEIVE APPROVAL FOR ALL PIPE, EQUIPMENT, TANKS AND APPURTENANCES.
- MAKE CONNECTION FROM PROPOSED 12" WATERLINE TO EXISTING 12" WATERLINE, UPSTREAM OF PROPOSED 30" CHLORINE CONTACT TANK.
- RELOCATE EXISTING CHLORINE FEED PUMP. UTILIZE EXISTING SODIUM HYPOCHLORITE FEED SYSTEM.
- CONSTRUCT WELL PUMP #1 BYPASS AND PROPOSED PIPING LAYOUT.
- RELOCATE EXISTING SODIUM HYPOCHLORITE FEED SYSTEM.
- CONSTRUCT SITE PAVING IMPROVEMENTS.
- CONSTRUCT IMPROVEMENTS TO THE EXISTING FENCE LINE.
- DEMOLISH EXISTING PIPING AND MCC'S WITHIN WELL HOUSE #1.

								SCALE: 1/4" = 1'-0"				THRASHER 400 3rd STREET SE, SUITE 309 CANTON, OHIO 44702 www.thrashereng.com PHONE (330)-451-2042 FAX (330)-451-2043				PHASE No.		TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS				SHEET No.	
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				SURVEY DATE:						PROJECT No.													
				SURVEY BY:						010-01120		GENERAL NOTES				GN2							
				FIELD BOOK No.:																			

PROHIBITED CONSTRUCTION ACTIVITIES:

1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS, FLOODWAYS, OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.

2. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS.

3. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.

4. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.

5. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS, OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.

6. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM.

7. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.

8. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATER, OR AT UNSPECIFIED LOCATIONS.

9. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.

10. DISCHARGING INJURIOUS SILICA DUST CONCENTRATIONS INTO THE ATMOSPHERE RESULTING FROM BREAKING, CUTTING, CHIPPING, RILLING, BUFFING, GRINDING, POLISHING, SHAPING OR SURFACING CLOSER THAN 200 FEET TO PLACES OF RESIDENCES OR COMMERCIAL, PROFESSIONAL, QUASI-PUBLIC OR PUBLIC PLACES OF HUMAN OCCUPATION.

11. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES.

12. RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE PROPERTY OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF THE ENGINEER.

13. OPERATIONS ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 AM AND 5:00 PM OR OUTSIDE THE HOURS ALLOWED FOR CONSTRUCTION BY LOCAL ORDINANCES OR REGULATIONS.

14. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER, AND CLOSING CLEAR ACCESS.
- BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES.

• BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE.

• BY VEHICLES TO DRIVEWAYS WITHOUT PROVISION OR ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

EROSION AND SEDIMENTATION CONTROLS:

1. SITE CLEARING AND GRUBBING SHALL NOT COMMENCE UNTIL SUCH TIME THAT THE CONTRACTOR IS PREPARED TO START CONSTRUCTION. REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED FOR CONSTRUCTION OF ACTUAL FACILITIES; PROTECT THE REST TO PRESERVE THEIR AESTHETIC, HABITAT, AND EROSION CONTROL VALUES.

2. IMMEDIATELY FOLLOWING SITE AND ACCESS CLEARING, TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED. THEY WILL BE MAINTAINED IN EFFECTIVE OPERATING CONDITIONS DURING CONSTRUCTION UNTIL FINAL SEEDING AND SITE RESTORATION OCCURS.

3. EXISTING 6 INCHES OF TOPSOIL WILL BE STOCKPILED AND REPLACED UPON FINAL GRADING OF THE WTP CONSTRUCTION SITE.

4. SILT FENCE WILL BE CONSTRUCTED AROUND THE WTP CONSTRUCTION SITE TO COLLECT RUNOFF AND PREVENT SILT AND OTHER ERODIBLE MATERIALS FROM ENTERING LOCAL DRAINAGE COURSES.

5. EXTENSIVE AREAS OF STOCKPILED TOPSOIL AT THE WTP CONSTRUCTION SITE ARE TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING COVERING SUCH AS WITH ANCHORED STRAW MULCH. SILT BARRIERS WILL BE INSTALLED DOWN GRADIENT OF THESE AREAS ON CONTOUR AND WITH THEIR ENDS UP SLOPE OF THE CONTOUR TO PREVENT SILT LADEN RUNOFF FROM ENTERING WATERWAYS OR STORM SEWERS. WITHIN 15 DAYS OF COMPLETION OF CONSTRUCTION, ANY REMAINING SOIL MUST EITHER BE REMOVED OR PERMANENTLY STABILIZED.

6. SILT FENCES SHOULD BE TRENCHED SIX TO TWELVE INCHES DEEP, THE FABRIC LAID IN THE TRENCH, AND THE SOIL PROPERLY BACKFILLED INTO THE TRENCH TO PREVENT UNDERCUTTING.

7. WHERE TRENCH EXCAVATIONS OCCURS PARALLEL TO ANY WATERWAY, A VEGETATED BARRIER SHOULD BE MAINTAINED BETWEEN THE STREAM AND THE CONSTRUCTION SITE. ALL TRENCH SPOILS WILL BE STOCKPILED ON THE SIDE OF THE TRENCH AWAY FROM THE WATERWAY, AND A LINE OF SILT BARRIERS WILL BE ESTABLISHED ALONG THE EDGE OF CONSTRUCTION ON THE CONTOUR BETWEEN THE TRENCH AND THE WATERWAY.

8. NO MORE THAN 200 FEET OF TRENCH SHALL BE OPEN AT ANY GIVEN TIME. TRENCH OPENING AND LAYING OF PIPE SHOULD OCCUR SO AS TO MINIMIZE THE AMOUNT OF DISTURBED AREA. ALL TRENCHES ARE TO BE BACKFILLED AND COMPACTED IMMEDIATELY AFTER PIPE INSTALLATION. IMMEDIATELY FOLLOWING THE BACKFILLING OF THE TRENCH, THE GROUND SURFACE WILL BE ROUGH GRADED TO THE EXISTING CONTOURS TO ALLOW FOR PROPER DRAINAGE, AND WILL BE SEEDED AND/OR MULCHED IN STAGES TO PREVENT EROSION.

9. ANY DISTURBED AREA THAT WILL NOT BE ACTIVELY UNDER CONSTRUCTION FOR A PERIOD OF 15 DAYS OR MORE WILL BE TEMPORARILY STABILIZED IMMEDIATELY BY SEEDING AND MULCHING OR BY ANCHORED STRAW MULCH.

10. AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZED EACH DISTURBED AREA IN STAGES WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO OHIO EPA (OR EQUIVALENT) STANDARDS AND SPECIFICATIONS. AFTER FINAL SOIL SETTLING OVER THE WATER LINE AND FORCE MAIN ALIGNMENTS, THE CONTRACTOR SHALL BRING THE TRENCH BACK TO GRADE IF NECESSARY, PLACE TOPSOIL, AND FINE GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY ACTIVITIES ASSOCIATED WITH PRE-CONSTRUCTION TOPOGRAPHY FOR DRAINAGE AND AESTHETIC REASONS.

12. SLOPES EXCEEDING 15 PERCENT OR THAT TEND TO BE UNSTABLE REQUIRE SPECIAL TREATMENT SUCH AS WATER DIVERSION BERMS, SODDING, OR THE USE OF JUTE OR EXCELSIOR BLANKETS.

13. WHEN BORROW MATERIAL IS OBTAINED FROM OTHER THAN COMMERCIAL OPERATED SOURCES, EROSION OF THE BORROW SITE WILL BE SO CONTROLLED BOTH DURING AND AFTER COMPLETION OF THE WORK THAT EROSION WILL BE MINIMIZED AND SEDIMENT WILL NOT ENTER STREAMS OR OTHER BODIES OF WATER. WASTE OR DISPOSAL AREAS AND CONSTRUCTION ROADS SHALL BE LOCATED AND CONSTRUCTED IN A MANNER THAT WILL KEEP SEDIMENT FROM ENTERING STREAMS. TEMPORARY EROSION CONTROL BARRIERS AND LIMITED SITE CLEARING WILL BE USED AS NEEDED.

14. IF WORK IS SUSPENDED FOR ANY REASON, THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION AND SEDIMENTATION CONTROLS IN GOOD OPERATING CONDITION DURING THE SUSPENSION OF THE WORK. ALSO, WHEN SEASONAL CONDITIONS PERMIT AND THE SUSPENSION OF WORK IS EXPECTED TO EXCEED A PERIOD OF ONE MONTH, THE CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL DISTURBED AREAS LEFT EXPOSED WHEN THE WORK IS STOPPED.

15. INSTALL THE ABOVE EROSION AND SEDIMENT CONTROL MEASURES, AS APPROPRIATE, REFERRING TO OHIO EPA, STORM WATER TECHNICAL ASSISTANCE, RAINWATER AND LAND DEVELOPMENT MANUAL STANDARDS AND SPECIFICATIONS (FORMERLY ODNR) OR EQUIVALENT FOR PARTICULAR TECHNIQUES. THESE MEASURES ARE TO BE MAINTAINED IN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. LINK: [HTTPS://EPA.OHIO.GOV/DSW/STORM/TECHNICAL _GUIDANCE](https://epa.ohio.gov/dsw/storm/technical_guidance)

TRAFFIC CONTROL

1. AT LEAST ONE LANE OF TRAFFIC MUST BE MAINTAINED ALONG THE TRAVEL ROUTE THROUGH AND FROM THE CONSTRUCTION ACTIVITY. UNLESS APPROVED IN WRITING BY COUNTY AND ENGINEER

2. ACCESS MUST BE MAINTAINED FOR EMERGENCY VEHICLES AT ALL TIMES.

3. NO TRENCH WILL BE LEFT OPEN AT THE END OF A WORK DAY, WHERE PRACTICAL; ANY OPEN TRENCH WILL BE PROPERLY IDENTIFIED AND BARRICADED FOR SAFETY PURPOSES.

4. ANY CONSTRUCTION EQUIPMENT OR EXCAVATIONS NEAR ROADS MUST BE MARKED WITH APPROPRIATE BARRICADES AND/OR BARRELS WITH LIGHTS AND FLASHERS.

5. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN ALL NECESSARY BARRICADES, WARNING SIGNS, DANGER SIGNALS, FLAG PERSON(S), WATCHERS, AND ALL OTHER APPROPRIATE PRECAUTIONS NECESSARY FOR THE PROTECTION OF THE WORK AND PUBLIC SAFETY.

6. PRIOR TO CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE, OR BOULEVARD, THE CONTRACTOR MUST HAVE CONSENT FROM LOCAL OFFICIALS AND THE ENGINEER.

7. WHERE NECESSARY TO DISTURB PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES. THE DEPTH OF SAW CUT SHALL BE AT LEAST 2 INCHES.

				SCALE: 1/4" = 1'-0"		THRASHER 400 3rd STREET SE, SUITE 309 CANTON, OHIO 44702 www.thrashereng.com PHONE (330)-451-2042 FAX (330)-451-2043	PHASE No.	TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS	SHEET No.
				DRAWN: DAC	DATE: NOVEMBER 2019				GN3
				CHECKED: RSS	DATE:				
				APPROVED:	DATE:				
				SURVEY DATE:					
				SURVEY BY:					
				FIELD BOOK No.:					
	NO.	BY	DATE	DESCRIPTION		PROJECT No.		GENERAL NOTES	

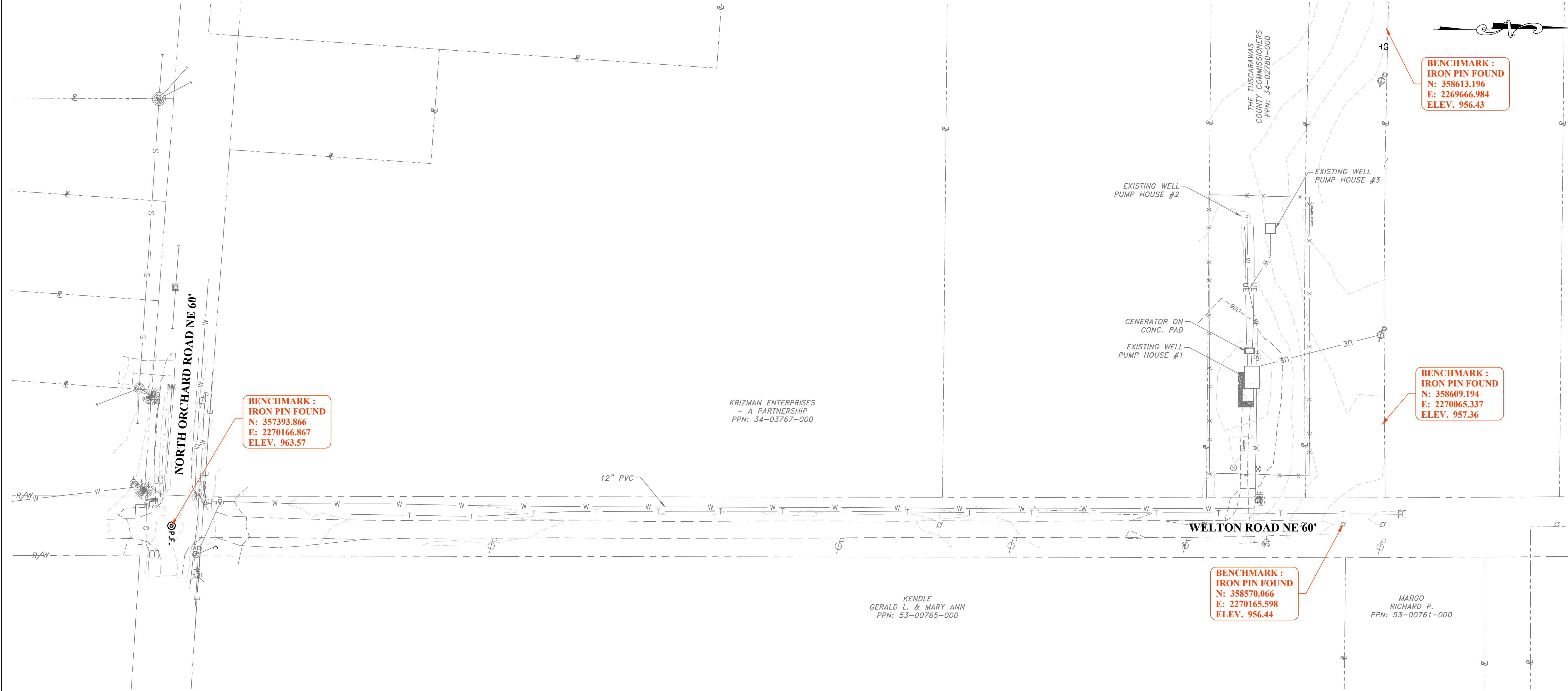
LEGEND

- W WATER LINE
- UE UNDERGROUND ELECTRIC
- T TELEPHONE
- S SEWER
- SD STORM DRAIN
- P- - - - - PROPERTY LINE
- - - - - ROW
- X EXISTING FENCE
- ⊙ POWER POLE
- ⊗ EXISTING POST

USACE BOLIVAR DAM SPILLWAY ELEVATION - 962'

GENERAL NOTES:

- ALL UNDERGROUND PIPING AND UTILITIES SHALL BE IDENTIFIED AND REVIEWED WITH THE ENGINEER PRIOR TO EXCAVATION.
- PROJECT IS LOCATED WITHIN THE USACE BOLIVAR DAM FLOWAGE EASEMENT



BENCHMARK :
IRON PIN FOUND
N: 357393.866
E: 2270166.867
ELEV. 963.57

BENCHMARK :
IRON PIN FOUND
N: 358613.196
E: 2269666.984
ELEV. 956.43

BENCHMARK :
IRON PIN FOUND
N: 358609.194
E: 2270065.337
ELEV. 957.36

BENCHMARK :
IRON PIN FOUND
N: 358570.066
E: 2270165.598
ELEV. 956.44

KRIZMAN ENTERPRISES
- A PARTNERSHIP
PPN: 34-03767-000

KENDLE
GERALD L. & MARY ANN
PPN: 53-00765-000

MARGO
RICHARD P.
PPN: 53-00761-000

NO.	BY	DATE	DESCRIPTION
3	SMD	13FEB2023	TUSC COUNTY REVIEW
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

SCALE: 1" = 50'	
DRAWN: RRS	DATE: JANUARY 2020
CHECKED: RSS	DATE: JANUARY 2020
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SURVEY BY:	
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CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
EXISTING OVERALL SITE PLAN

SHEET No.
1

LEGEND

- W —

WATER LINE
- UE —

UNDERGROUND ELECTRIC
- T —

TELEPHONE
- S —

SEWER
- SD —

STORM DRAIN
- - - P - - -

PROPERTY LINE
- - - ROW - - -

ROW
- X —

EXISTING FENCE
- ⊕

POWER POLE
- ⊗

EXISTING POST
-  B-1

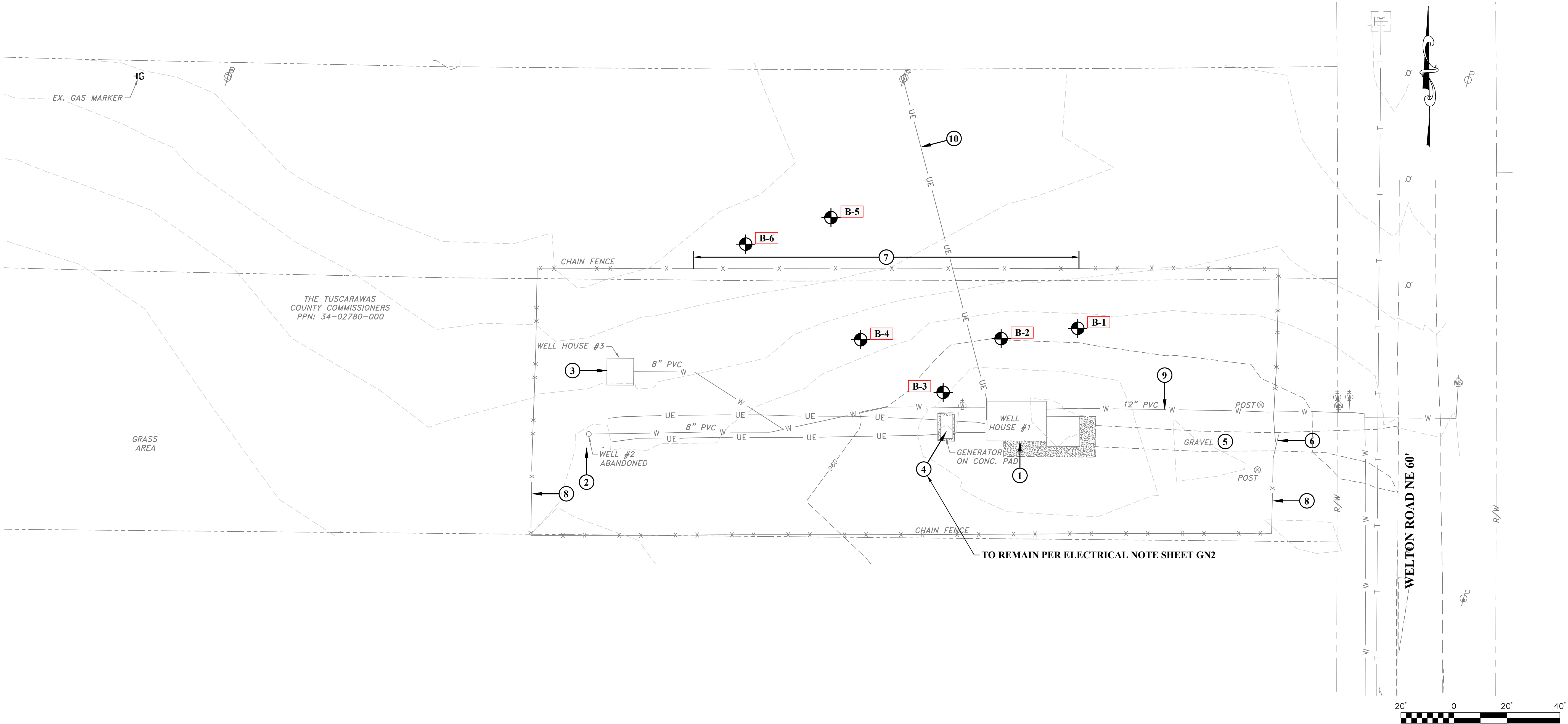
BORE HOLE LOCATION

DEMOLITION NOTES:

- ① EX. WELL HOUSE #1 - SEE SHEET 5 FOR DEMOLITION ACTIVITIES.
- ② EX. WELL HOUSE #2 - ABANDONED.
- ③ EX. WELL HOUSE #3 - TO REMAIN IN SERVICE.
- ④ EX. GENERATOR - TO REMAIN PER ELECTRICAL NOTE SHEET GN2
- ⑤ EX. GRAVEL DRIVE - TO BE REMOVED.
- ⑥ EX. GATE - TO BE REMOVED AND REPLACED WITH NEW FENCE.
- ⑦ EX. FENCE - TO BE REMOVED AND REPLACED WITH NEW FENCE
SEE SHEET 2B FOR NEW FENCE LOCATION.
- ⑧ EX. FENCE - TO BE REMOVED AND REPLACED WITH NEW 16' DOUBLE
SWING GATE.
- ⑨ 12" PVC WATERLINE - TO BE CAPPED AND ABANDONED IN PLACE AFTER
START-UP OF NEW PLANT.
- ⑩ EX. ELECTRICAL SERVICE - COORDINATE WITH SHEET SU1 FOR MORE
DETAILS.

GENERAL NOTES:

1. ALL DEMOLITION SHALL BE COORDINATED WITH THE OWNER.
2. ALL EQUIPMENT REMOVED SHALL BE STORED IN LOCATION AS
DESIGNATED BY OWNER.
3. CONTRACTOR SHALL REFER TO SEQUENCE OF CONSTRUCTION FOR
DEMOLITION ACTIVITIES.
4. EX. WTP SHALL REMAIN IN OPERATION AS CURRENTLY, UNTIL WORK
HAS BEEN ACCEPTED.



1	SMD	11JAN2023	TUSC. COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW
NO.	BY	DATE	DESCRIPTION

SCALE: 1" = 20'	
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SURVEY BY:	
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

EXISTING SITE DEMO PLAN

SHEET No.
1A

LEGEND

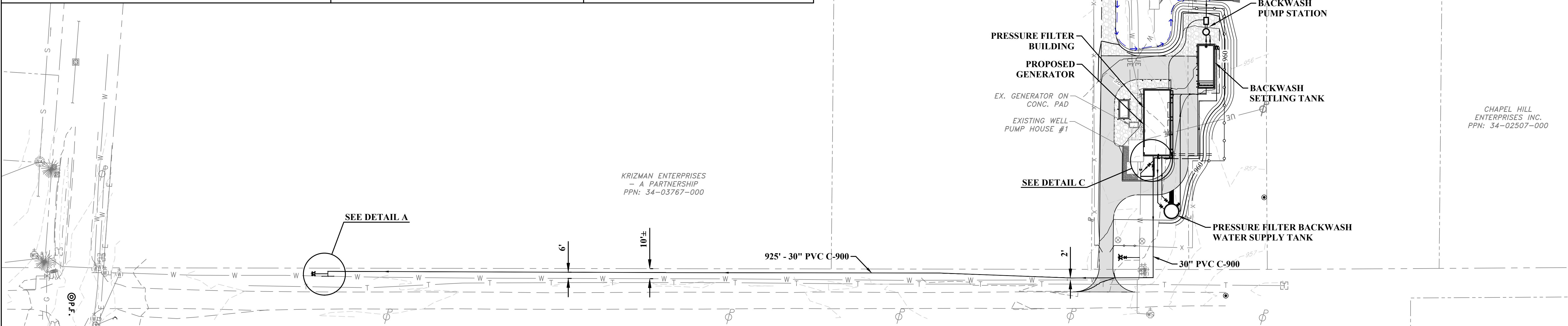
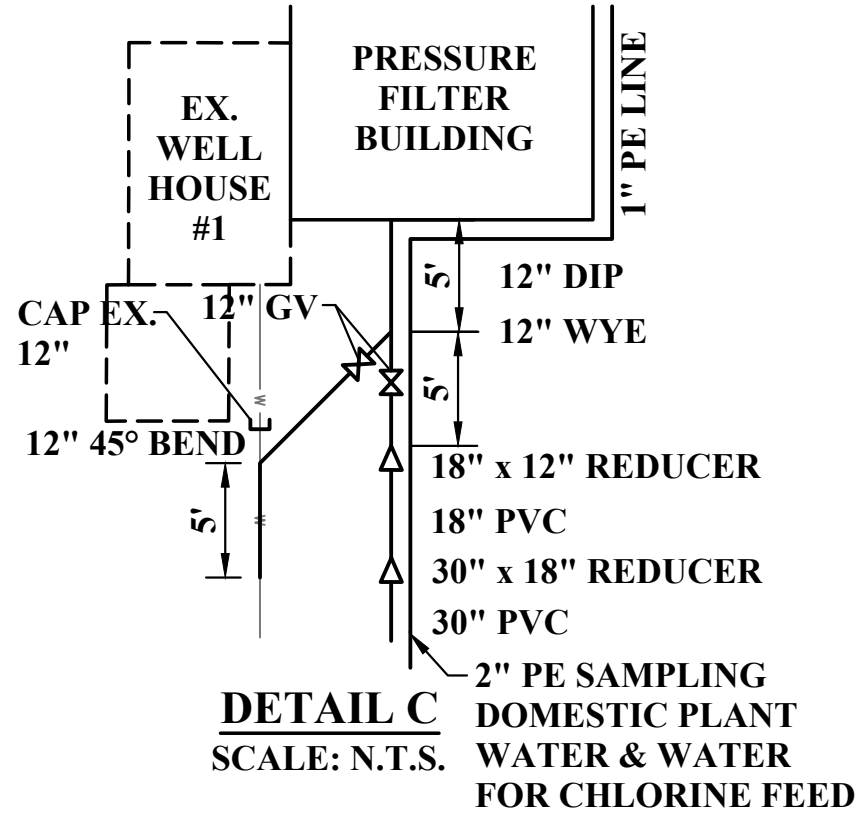
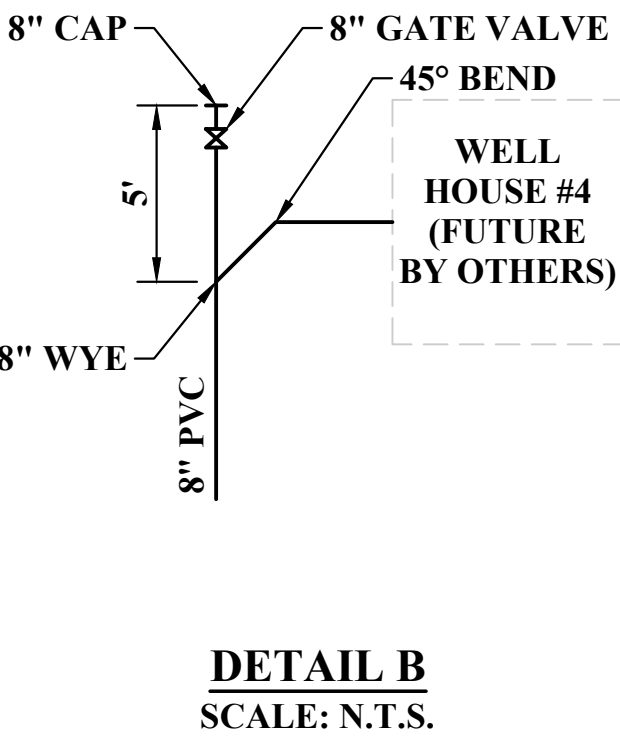
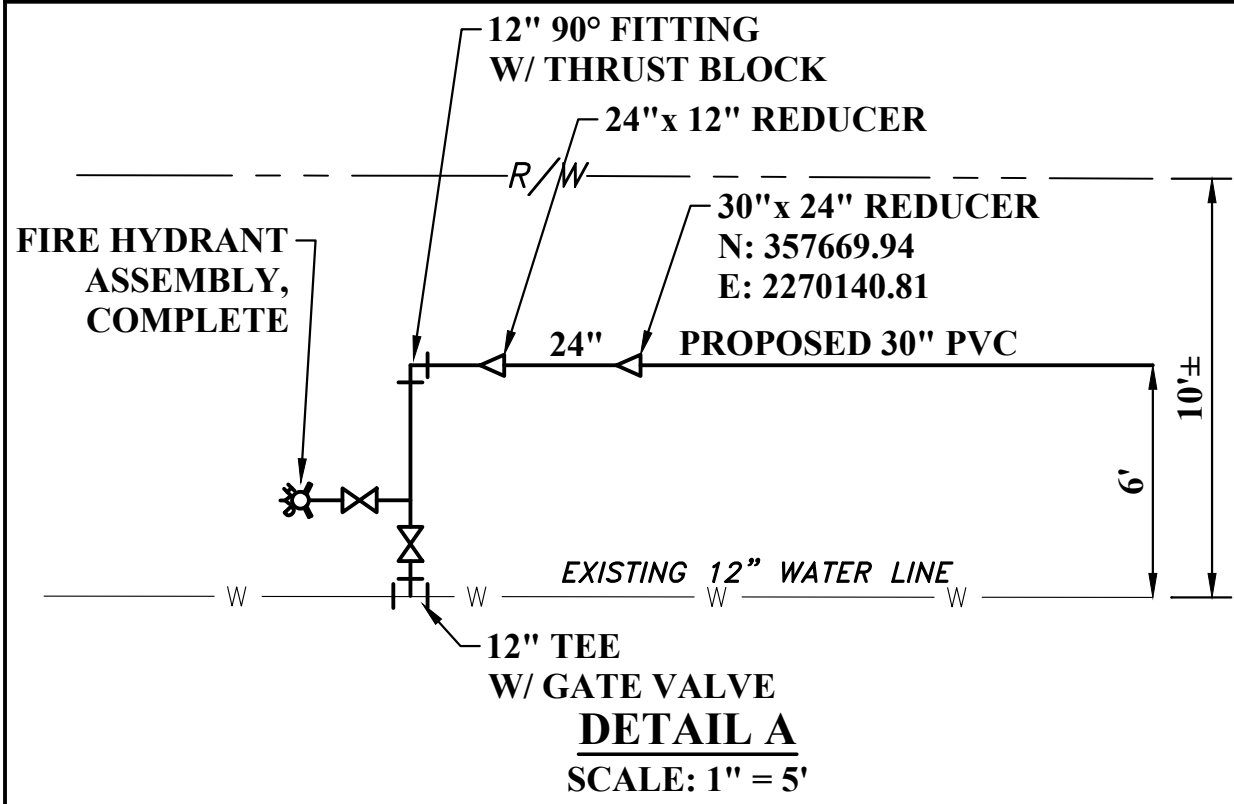
— W —	WATER LINE
— UE —	UNDERGROUND ELECTRIC
— T —	TELEPHONE
— S —	SEWER
— SD —	STORM DRAIN
- - - P - - -	PROPERTY LINE
— — —	ROW
- X -	EXISTING FENCE
⊙	POWER POLE
⊗	EXISTING POST
▨	EXISTING CONCRETE
— — —	PROPOSED PIPING
○ — ○	PROPOSED FENCE
▬	PROPOSED CONCRETE DRIVE
▨	PROPOSED GRAVEL DRIVE
▨	PROPOSED CONCRETE SIDEWALK
●	PROPOSED BOLLARD

GENERAL NOTES:

- ALL UNDERGROUND PIPING AND UTILITIES SHALL BE IDENTIFIED AND REVIEWED WITH THE ENGINEER PRIOR TO EXCAVATION.
- PROJECT IS LOCATED WITHIN THE USACE BOLIVAR DAM FLOWAGE EASEMENT.
- PROPOSED CONTOURS SHOWN ARE AT FINISHED GRADE. FOR SUBGRADE ELEVATIONS, SUBTRACT DEPTH FROM PAVEMENT SECTION OR TOPSOIL DEPTH.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE ON SITE.

MATERIAL VOLUME SUMMARY:

CUT = 25 CY
FILL = 2,267 CY
BORROW MATERIAL CUT = 1,350 CY
EXPORT MATERIAL CUT = 892 CY
NET = 0 CY



KRIZMAN ENTERPRISES
- A PARTNERSHIP
PPN: 34-03767-000

KENDLE
GERALD L. & MARY ANN
PPN: 53-00765-000

MARGO
RICHARD P.
PPN: 53-00761-000



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2	SMD	13FEB2023	TUSC. COUNTY REVIEW
1	SMD	11JAN2023	TUSC. COUNTY REVIEW

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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED OVERALL SITE PLAN

SHEET No.
2

CAD FILE: R:\010\010-1120 - Wilshire Hills Water System Improvements Preliminary Report - Tuscarawas County Sanitary Engineer - Canton\Drawing\004-Proposed Site Plan.dwg
PLOT DATE/TIME: 2/16/2023 12:50 PM
LAYOUT: SHEET 2A
USER: scott m. dotson

LEGEND

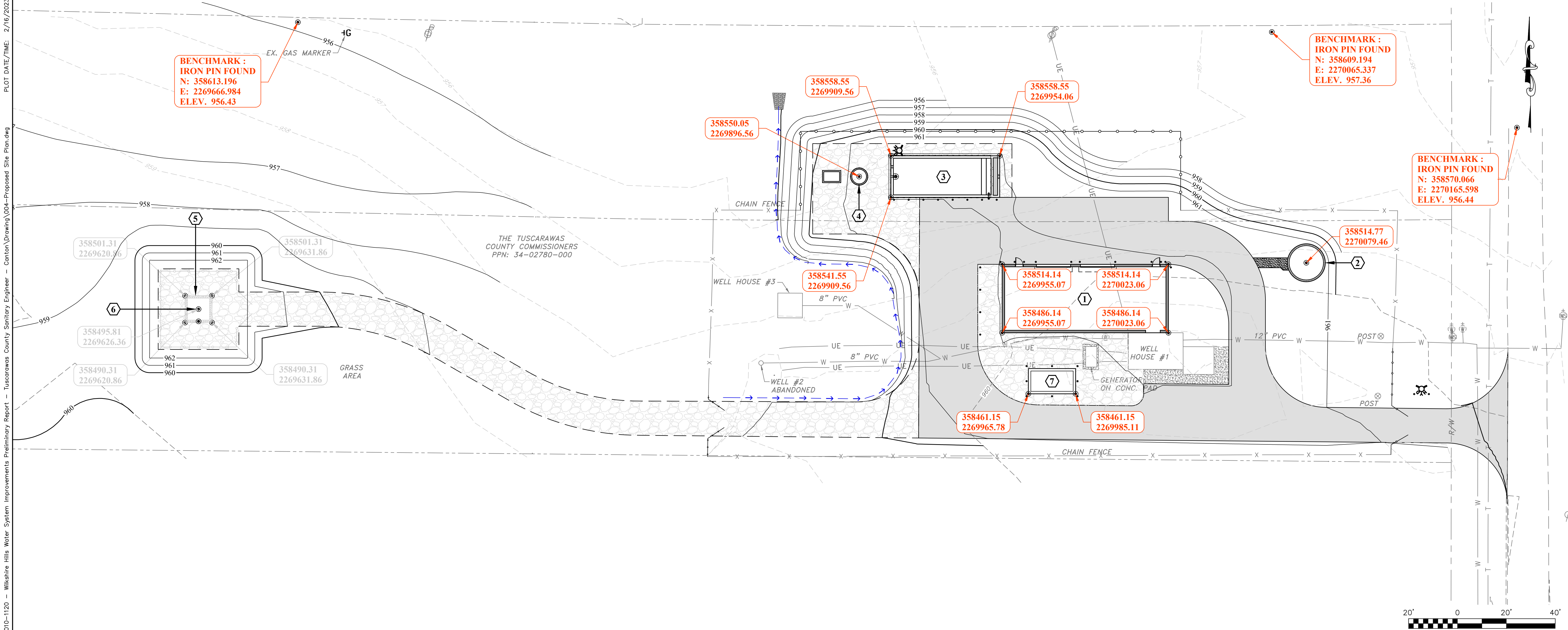
- W WATER LINE
- UE UNDERGROUND ELECTRIC
- T TELEPHONE
- S SEWER
- SD STORM DRAIN
- PROPERTY LINE
- ROW
- X EXISTING FENCE
- ⊕ POWER POLE
- ⊙ EXISTING POST
- ⊙ EXISTING CONCRETE
- PROPOSED PIPING
- PROPOSED FENCE
- █ PROPOSED CONCRETE DRIVE
- █ PROPOSED GRAVEL DRIVE
- █ PROPOSED CONCRETE SIDEWALK
- PROPOSED BOLLARD

GENERAL NOTES:

1. ALL UNDERGROUND PIPING AND UTILITIES SHALL BE IDENTIFIED AND REVIEWED WITH THE ENGINEER PRIOR TO EXCAVATION.

PROPOSED STRUCTURE NOTES:

- 1 PROPOSED PRESSURE FILTER BUILDING.
- 2 PROPOSED PRESSURE FILTER BACKWASH WATER SUPPLY TANK.
- 3 PROPOSED BACKWASH SETTLING TANK.
- 4 PROPOSED BACKWASH PUMP STATION.
- 5 WELL HOUSE #4. (FUTURE BY OTHERS)
- 6 WELL #4. (FUTURE BY OTHERS)
- 7 PROPOSED GENERATOR AND GENERATOR PAD.



1	SMD	2FEB2023	TUSC COUNTY COMMENTS	
NO.	BY	DATE	DESCRIPTION	

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CHECKED: RSS	DATE: JANUARY 2020
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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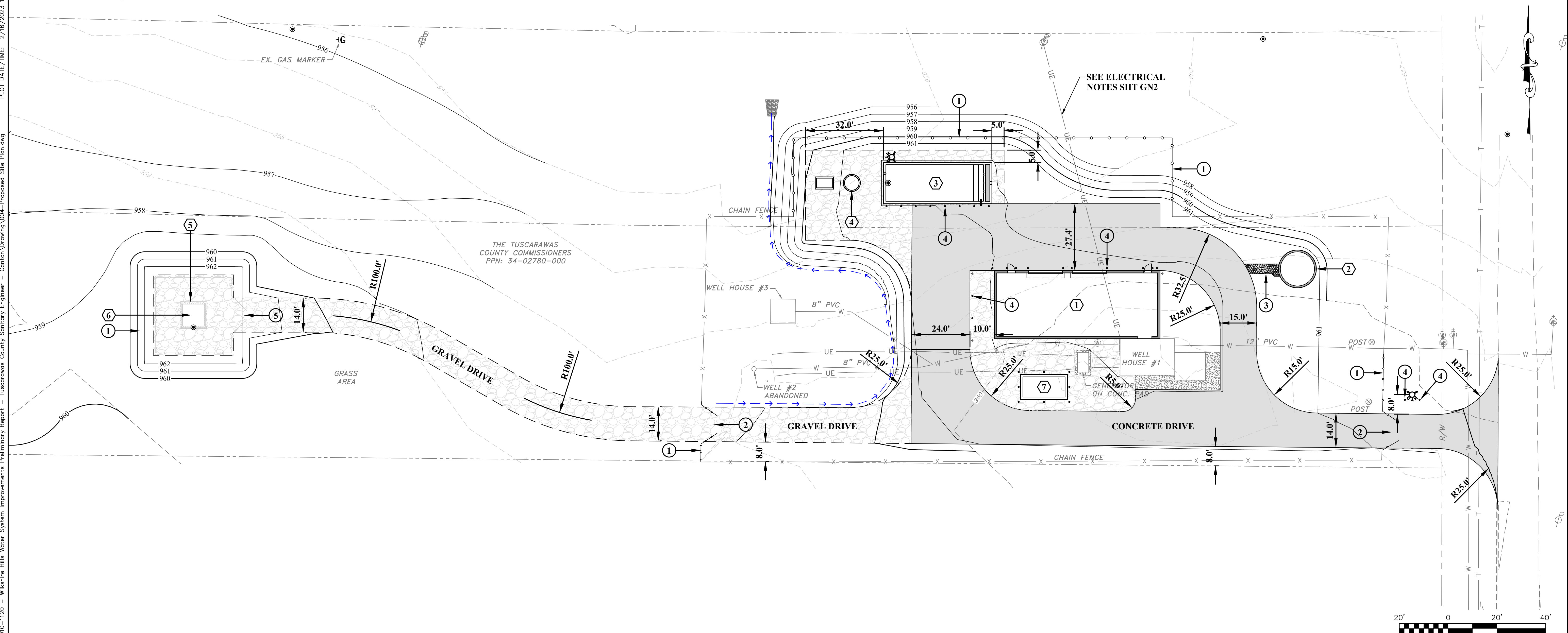
TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED PLANT SITE
PROPOSED COORDINATE PLAN

SHEET No.
2A

	WATER LINE
	UNDERGROUND ELECTRIC
	TELEPHONE
	SEWER
	STORM DRAIN
	PROPERTY LINE
	ROW
	EXISTING FENCE
	POWER POLE
	EXISTING POST
	EXISTING CONCRETE
	PROPOSED PIPING
	PROPOSED FENCE
	PROPOSED CONCRETE DRIVE
	PROPOSED GRAVEL DRIVE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED BOLLARD

- ① 8' HIGH CHAIN LINK FENCE, SEE SHEET DET-5.
- ② 16' WIDE DOUBLE SWING GATE, SEE SHEET DET-5.
- ③ 4'-0" WIDE CONCRETE SIDEWALK, SEE SHEET DET-3.
- ④ 8" BOLLARD, TYP. OF 30, SEE SHEET DET-3.
- ⑤ 8' HIGH CHAIN LINK FENCE W/ 16' WIDE DOUBLE SWING GATE, SEE SHEET DET-5. (FUTURE BY OTHERS)

- ① PROPOSED PRESSURE FILTER BUILDING.
- ② PROPOSED PRESSURE FILTER BACKWASH WATER SUPPLY TANK.
- ③ PROPOSED BACKWASH SETTLING TANK.
- ④ PROPOSED BACKWASH PUMP STATION.
- ⑤ WELL HOUSE #4. (FUTURE BY OTHERS)
- ⑥ WELL #4. (FUTURE BY OTHERS)
- ⑦ PROPOSED GENERATOR. SEE ELECTRICAL SHEETS FOR DETAILS & ELECTRICAL NOTES SHEET GN2



3	SMD	2FEB2023	TUSC COUNTY COMMENTS
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW
NO.	BY	DATE	DESCRIPTION

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CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED PLANT SITE
PROPOSED MATERIALS LAYOUT PLAN

SHEET No.

2B

LEGEND

- W —

WATER LINE
- UE —

UNDERGROUND ELECTRIC
- T —

TELEPHONE
- S —

SEWER
- SD —

STORM DRAIN
- - - PL - - -

PROPERTY LINE
- — —

ROW
- X —

EXISTING FENCE
- ⊕

POWER POLE
- ⊗

EXISTING POST
- EXISTING CONCRETE
- PROPOSED PIPING
- PROPOSED FENCE
- PROPOSED CONCRETE DRIVE
- PROPOSED GRAVEL DRIVE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BOLLARD

PIPING NOTES:

- 1 8" C-900 PVC FROM WELL HOUSE #4.
- 2 8" D.I. WYE FITTING, MJ W/ THRUST BLOCK.
- 3 CONNECT NEW 8" C-900 PVC TO EXISTING 8" PVC FROM EXISTING WELL HOUSE #2.
- 4 CONNECT NEW 8" DIP TO EXISTING 8" DIP.
(SEE SHEET 6 FOR CONNECTION DETAILS)
- 5 8" DIP TO PROPOSED FILTER BUILDING.
- 6 30" PVC C-900 TO EXISTING 12" PVC WATER LINE.
- 7 30" DIP 90° FITTING, MJ W/ THRUST BLOCK.
- 8 12" DIP FILTER BACKWASH DRAIN PIPE FROM PROPOSED FILTER BUILDING TO BACKWASH SETTLING TANK.
- 9 8" DIP FROM BACKWASH SETTLING TANK TO PROPOSED PUMP STATION.
- 10 8" DIP OVERFLOW DRAIN FROM BACKWASH SETTLING TANK TO PUMP STATION.
- 11 4" HDPE DR-11 FORCEMAIN TO DISCHARGE POINT, (HORIZONTAL DIRECTIONAL DRILL).
- 12 8" DIP CL52 FROM PRESSURE FILTER TO BACKWASH WATER SUPPLY TANK.

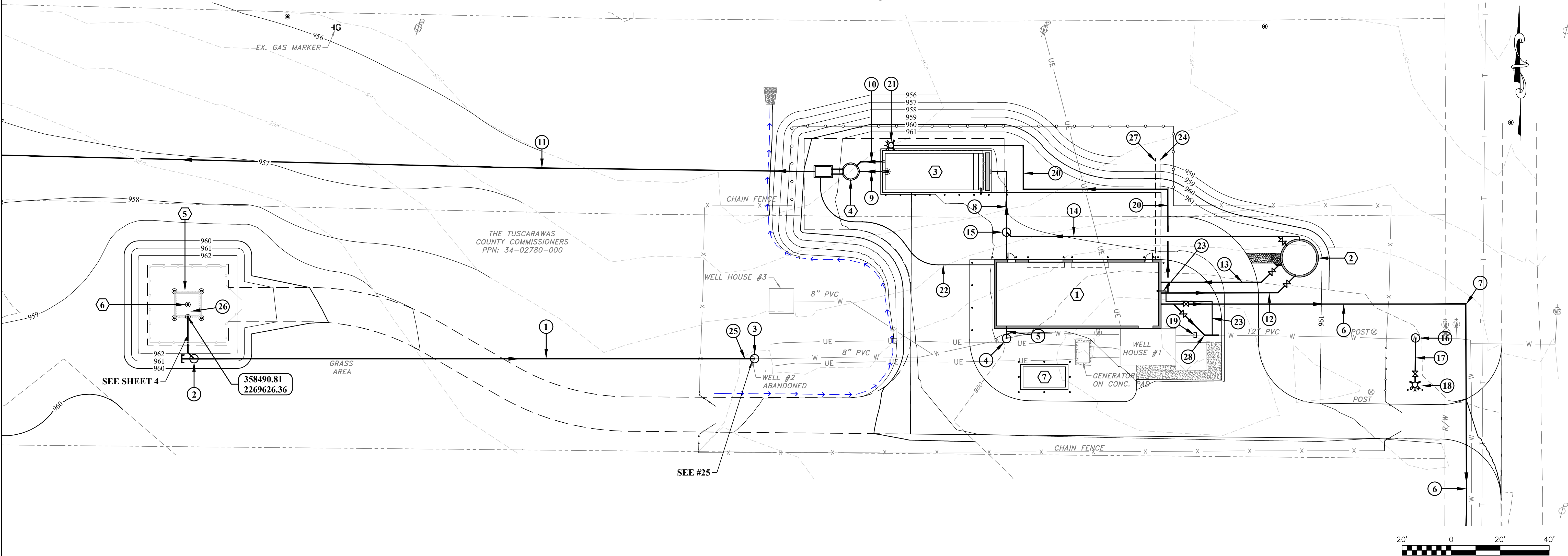
- 13 8" DIP CL52 FROM BACKWASH WATER SUPPLY TANK TO PRESSURE FILTERS.
- 14 8" DIP CL52 DRAIN FROM BACKWASH WATER SUPPLY TANK TO BACKWASH SETTLING TANK.
- 15 CONNECT NEW 8" DIP TO NEW 12" DIP BACKWASH DRAIN LINE.
- 16 CONNECT NEW 6" DIP TO EXISTING 12" D.I. WATER LINE.
- 17 6" DIP TO NEW FIRE HYDRANT W/ 6" GATE VALVE.
- 18 NEW FIRE HYDRANT ASSEMBLY, COMPLETE. 18' OFF ROAD
- 19 CUT AND CAP EXISTING WATER LINE.
- 20 3" HDPE DR-11 WATER LINE.
- 21 NEW YARD HYDRANT, COMPLETE.
- 22 1" BW DECANT PE SAMPLING LINE.
- 23 2" FW PE SAMPLING LINE. (DOMESTIC PLANT WATER & SAMPLING LINE)
- 24 4" SDR 35 FOOTER DRAIN LINE W/ ANIMAL GUARD.
- 25 CONTRACTOR SHALL REMOVE EX. BURIED WELL CASING PIPE & RESEAL WELL CASING ACCORDING TO ODNR STDs TO A MINIMUM OF 18" BELOW PROPOSED 8" PVC WELL LINE.
- 26 8" D.I. 90° FITTING, W/ MJ CAP FOR FUTURE WELL #4.
- 27 3" SCH 40 PVC CHLORINE ROOM DRAIN LINE W/ ANIMAL GUARD.
- 28 12" DI WITH FITTINGS.

GENERAL NOTES:

1. ALL UNDERGROUND PIPING AND UTILITIES SHALL BE IDENTIFIED AND REVIEWED WITH THE ENGINEER PRIOR TO EXCAVATION.
2. WELL HOUSE #4 IS A FUTURE PROJECT THAT WILL BE CONSTRUCTED BY OTHERS.

PROPOSED STRUCTURE NOTES:

- 1 PROPOSED PRESSURE FILTER BUILDING.
- 2 PROPOSED PRESSURE FILTER BACKWASH WATER SUPPLY TANK.
- 3 PROPOSED BACKWASH SETTLING TANK.
- 4 PROPOSED BACKWASH PUMP STATION.
- 5 WELL HOUSE #4. (FUTURE BY OTHERS)
- 6 WELL #4. (FUTURE BY OTHERS)
- 7 PROPOSED GENERATOR. SEE ELECTRICAL SHEETS FOR DETAILS.



NO.	BY	DATE	DESCRIPTION
4	SMD	13FEB2023	TUSC COUNTY COMMENTS
3	SMD	2FEB2023	TUSC COUNTY COMMENTS
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

SCALE: 1" = 20'	DATE: JANUARY 2020
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED PLANT SITE
PROPOSED SITE PIPING PLAN

SHEET No.
2C

LEGEND

- W —

WATER LINE
- UE —

UNDERGROUND ELECTRIC
- T —

TELEPHONE
- S —

SEWER
- SD —

STORM DRAIN
- - - PL - - -

PROPERTY LINE
- — —

ROW
- X —

EXISTING FENCE
- ⊕

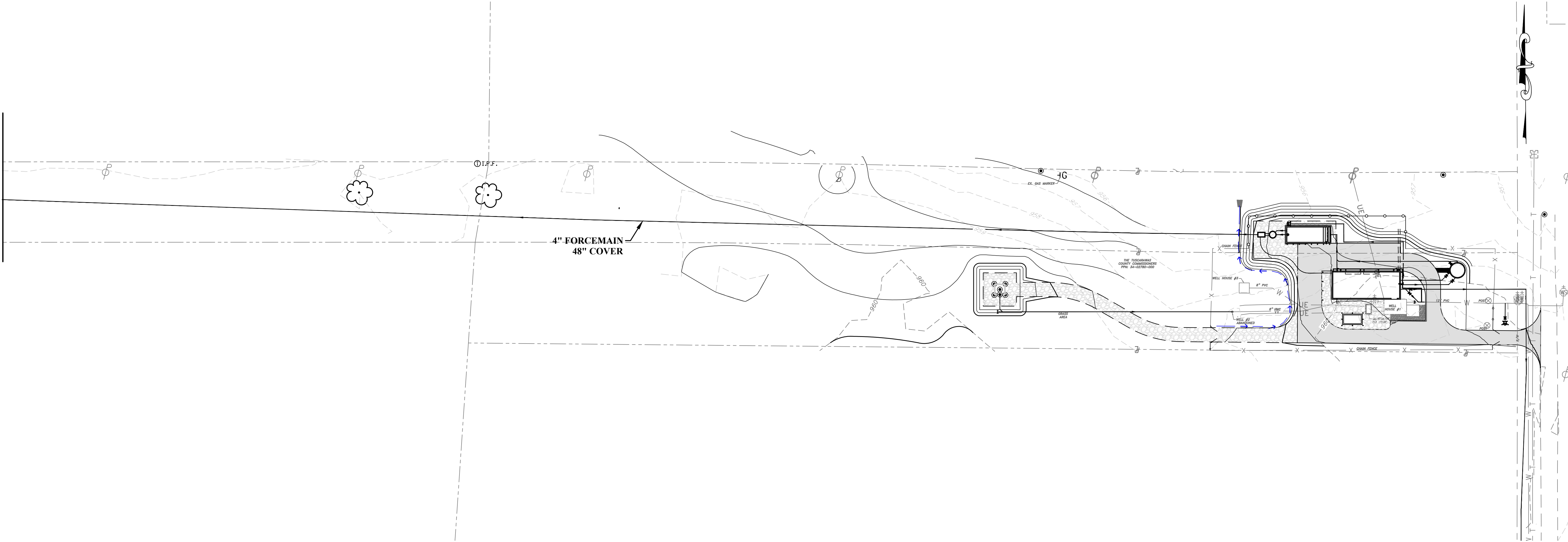
POWER POLE
- ⊙

EXISTING POST
- EXISTING CONCRETE
- PROPOSED PIPING
- PROPOSED FENCE
- PROPOSED CONCRETE DRIVE
- PROPOSED GRAVEL DRIVE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED BOLLARD

GENERAL NOTES:

1. ALL UNDERGROUND PIPING AND UTILITIES SHALL BE IDENTIFIED AND REVIEWED WITH THE ENGINEER PRIOR TO EXCAVATION.
2. CONTRACTOR SHALL CONSTRUCT 4" FORCEMAIN BY MEANS OF HORIZONTAL DIRECTIONAL DRILLING.

MATCHMARK SHEET 2E



NO.	BY	DATE	DESCRIPTION

SCALE: 1" = 50'	
DRAWN: RRS	DATE: JANUARY 2020
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
EFFLUENT FORCEMAIN
PLANVIEW

SHEET No.
2D

LEGEND

- W —

— UE —

— T —

— S —

— SD —

- - - PL - - -

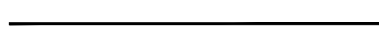
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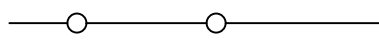
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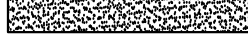














WATER LINE

UNDERGROUND ELECTRIC

TELEPHONE

SEWER

STORM DRAIN

PROPERTY LINE

ROW

EXISTING FENCE

POWER POLE

EXISTING POST

EXISTING CONCRETE

PROPOSED PIPING

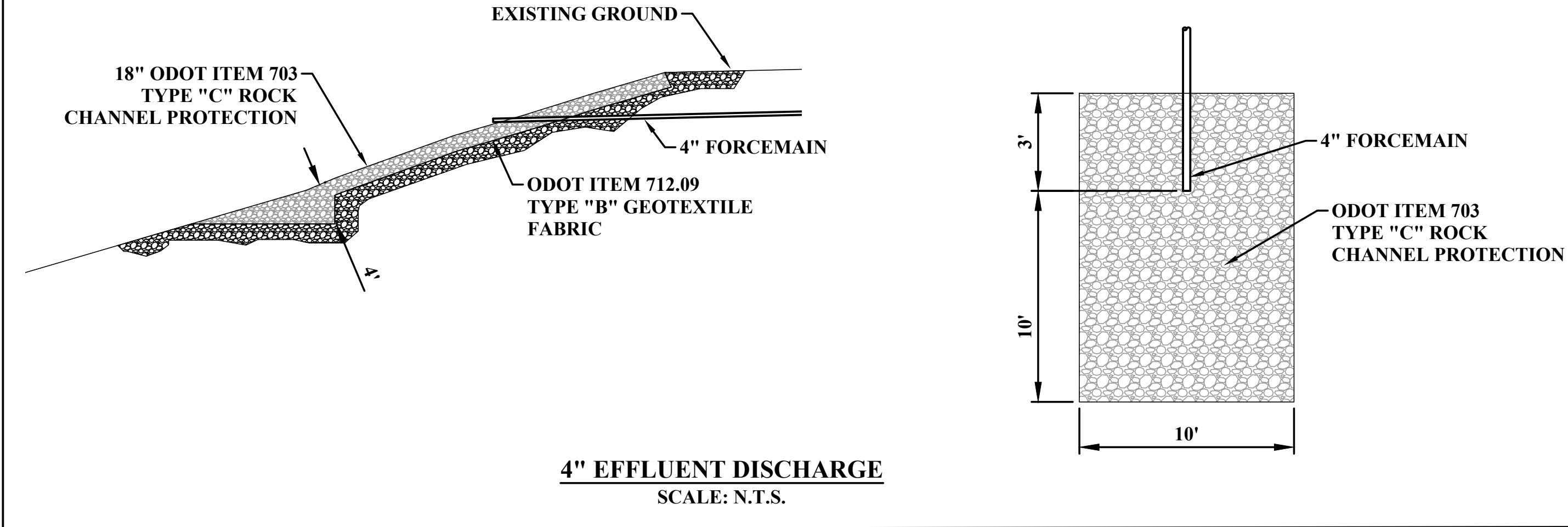
PROPOSED FENCE

PROPOSED CONCRETE DRIVE

PROPOSED GRAVEL DRIVE

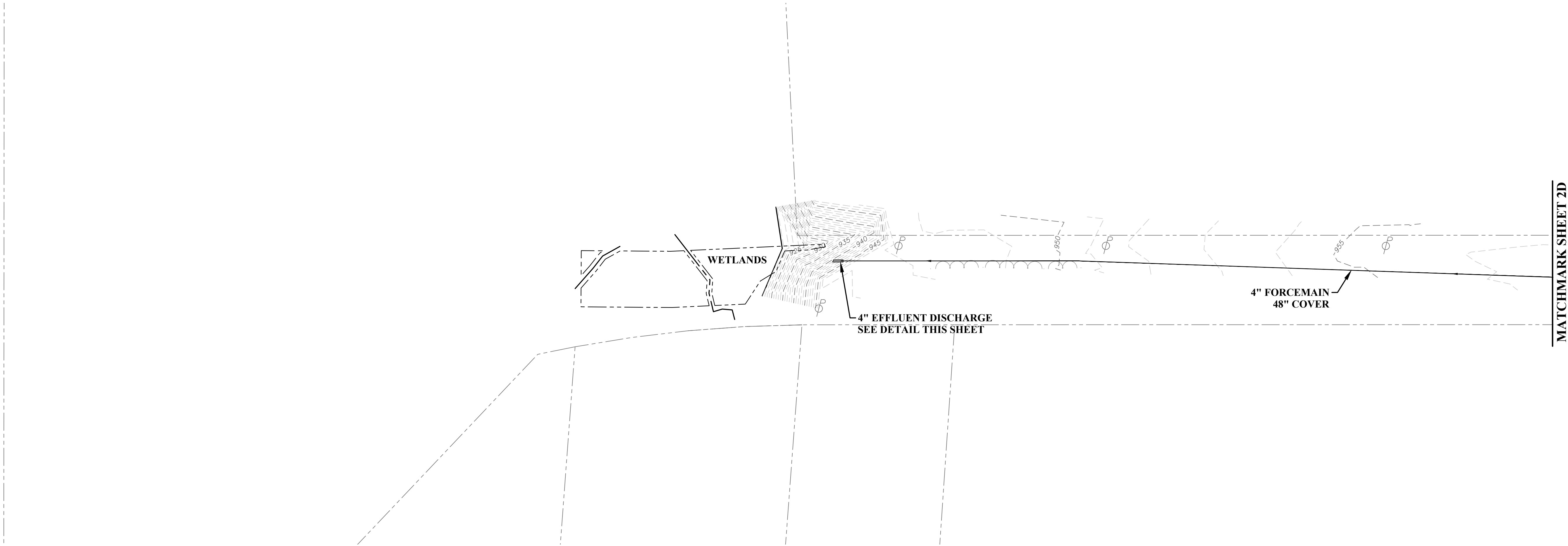
PROPOSED CONCRETE SIDEWALK

PROPOSED BOLLARD



GENERAL NOTES:

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- CONTRACTOR SHALL CONSTRUCT 4" FORCEMAIN BY MEANS OF HORIZONTAL DIRECTIONAL DRILLING.



NO.	BY	DATE	DESCRIPTION

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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
EFFLUENT FORCEMAIN
PLANVIEW

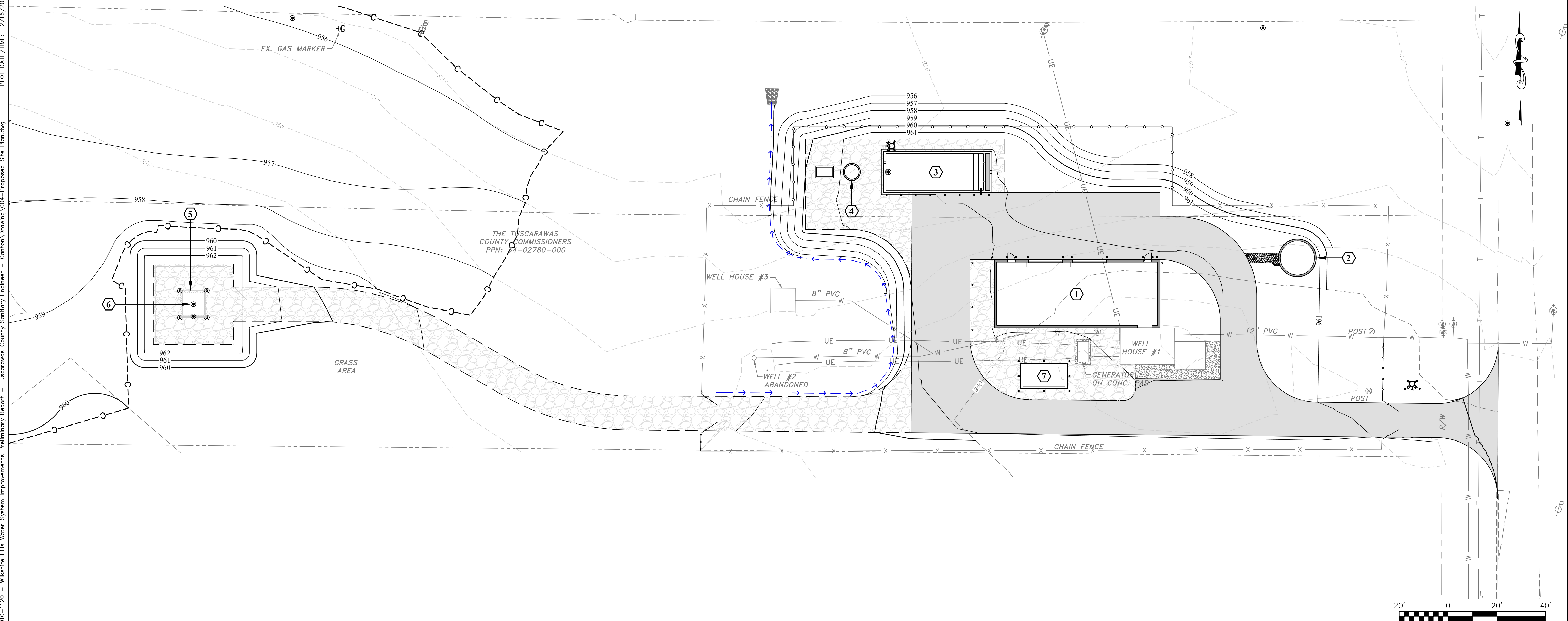
SHEET No.

2E

	WATER LINE
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	EXISTING CONCRETE
	PROPOSED PIPING
	PROPOSED FENCE
	PROPOSED CONCRETE DRIVE
	PROPOSED GRAVEL DRIVE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED BOLLARD

1. ALL UNDERGROUND PIPING AND UTILITIES SHALL BE IDENTIFIED AND REVIEWED WITH THE ENGINEER PRIOR TO EXCAVATION.

- ① PROPOSED PRESSURE FILTER BUILDING.
- ② PROPOSED PRESSURE FILTER BACKWASH WATER SUPPLY TANK.
- ③ PROPOSED BACKWASH SETTLING TANK.
- ④ PROPOSED BACKWASH PUMP STATION.
- ⑤ WELL HOUSE #4. (FUTURE BY OTHERS)
- ⑥ WELL #4. (FUTURE BY OTHERS)
- ⑦ PROPOSED GENERATOR. SEE ELECTRICAL SHEETS FOR DETAILS.



1	SMD	2FEB2023	TUSC COUNTY COMMENTS
NO.	BY	DATE	DESCRIPTION

SCALE: 1" = 20'	
DRAWN: RRS	DATE: JANUARY 2020
CHECKED: RSS	DATE: JANUARY 2020
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

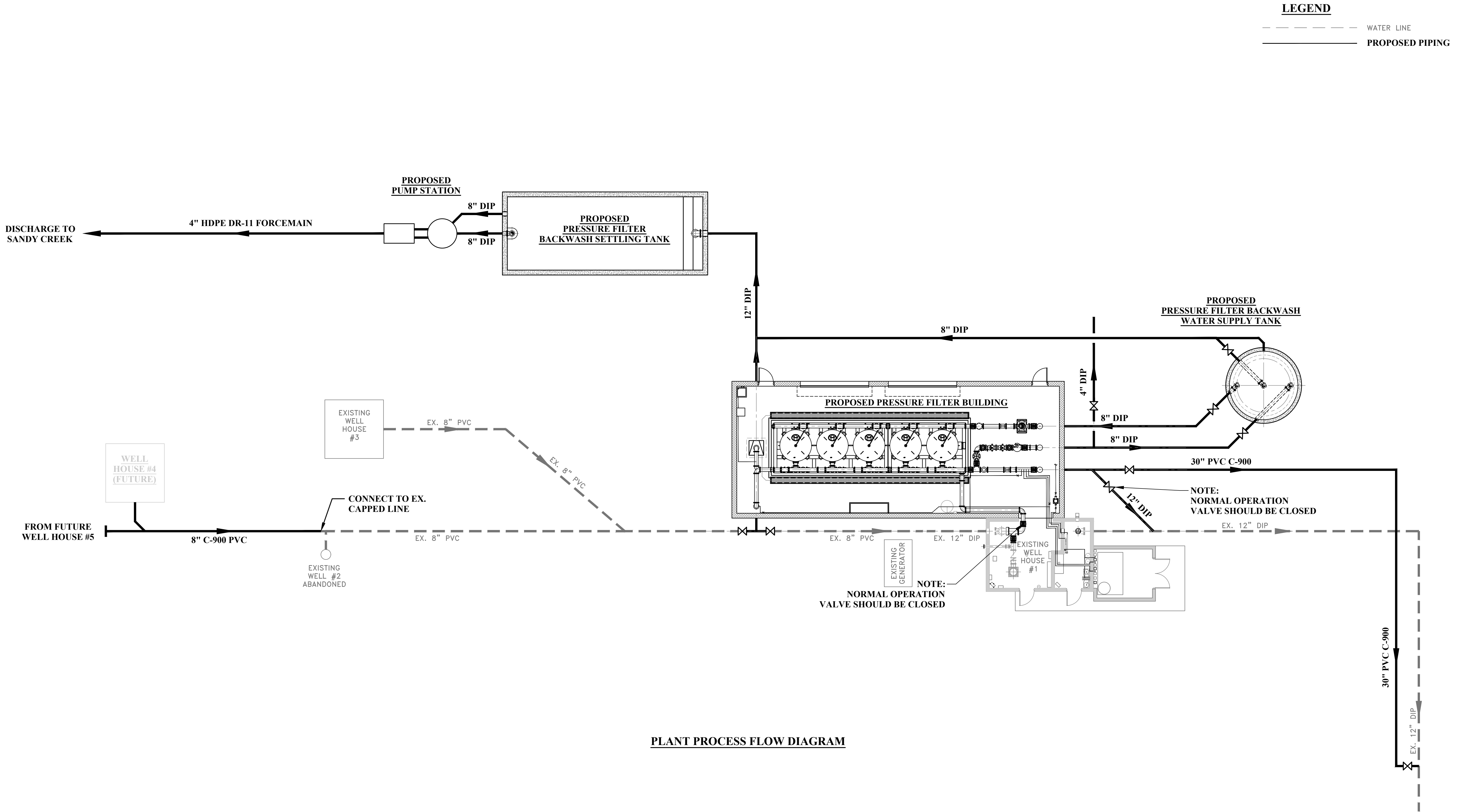
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CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED PLANT SITE
PROPOSED GRADING PLAN

SHEET No.
2F



3	SMD	13FEB2023	TUSC. COUNTY COMMENTS	
2	SMD	2FEB2023	TUSC. COUNTY COMMENTS	
1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE:	
DRAWN: RRS	DATE: APRIL 2020
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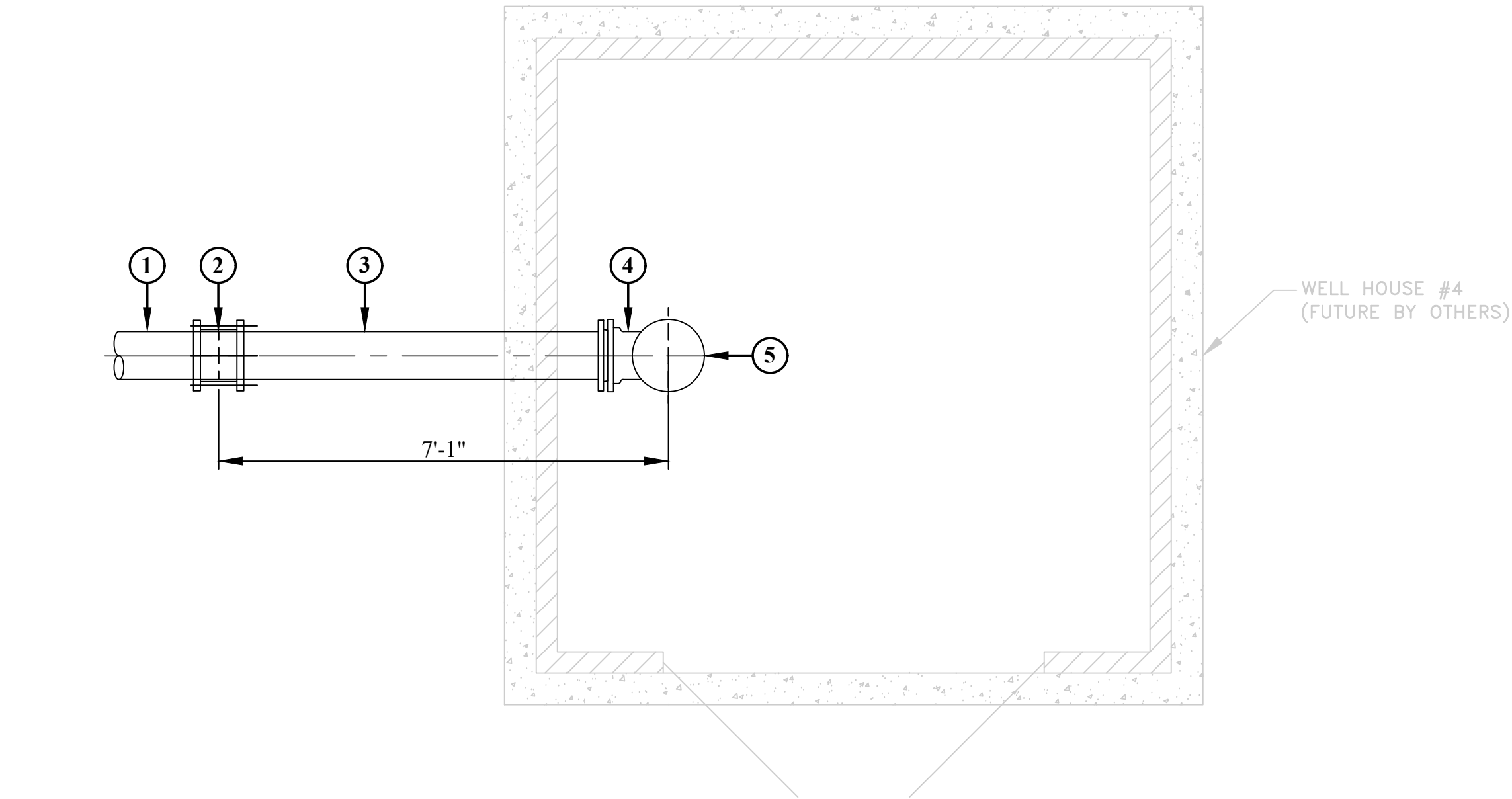
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

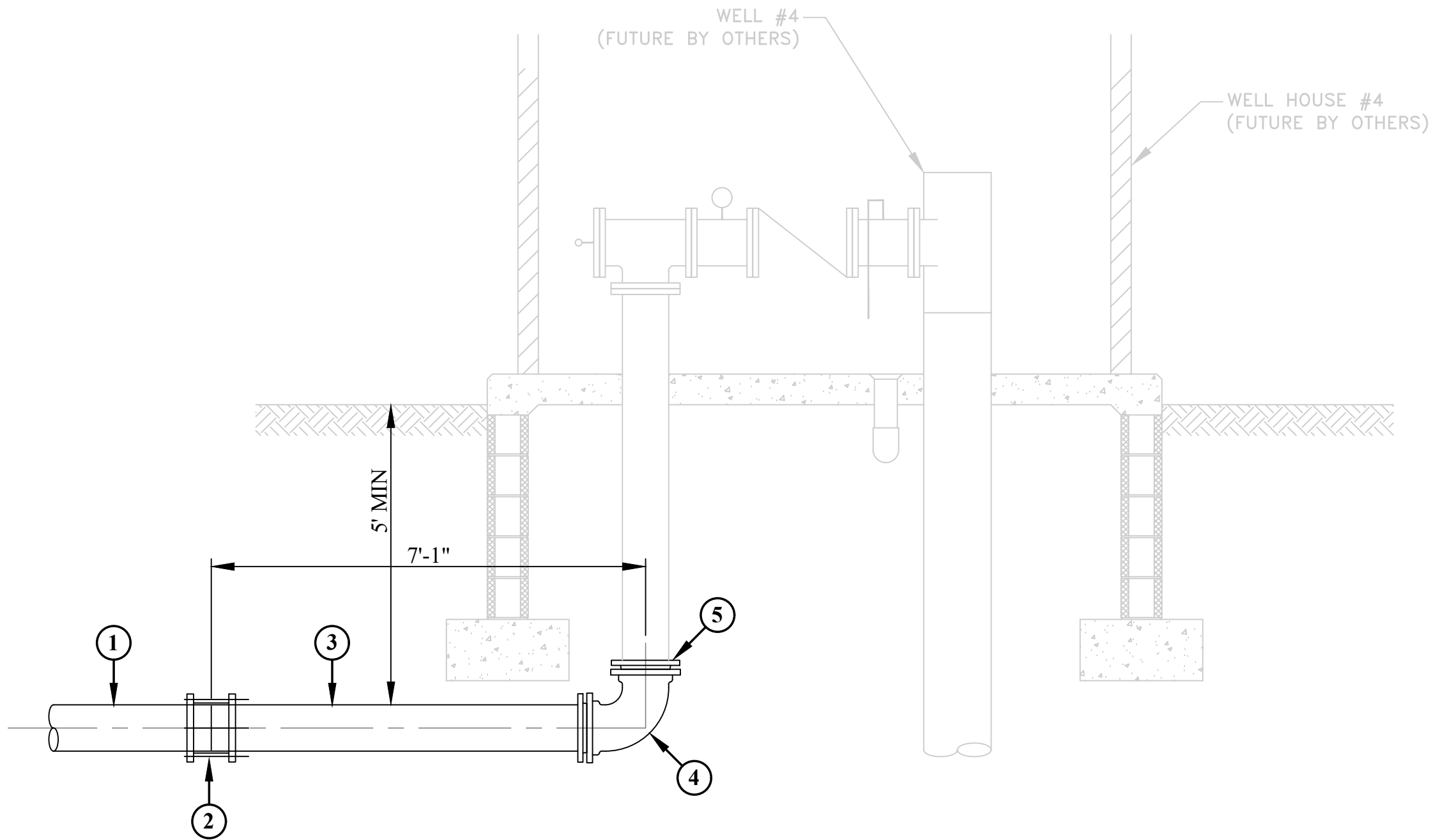
PLANT PROCESS FLOW DIAGRAM

KEY NOTES:

- ① 8" PVC C-900 DR14.
- ② 8" D.I. TRANSITION COUPLING, MJ.
- ③ 8" DIP PER AWWA C150 & CEMENT LINING PER AWWA C104
- ④ 8" D.I. 90° FITTING, MJ.
- ⑤ 8" D.I. CAP, MJ.



PLAN



SECTION

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2	SMD	11JAN2023	TUSC. COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVISIONS
NO.	BY	DATE	DESCRIPTION

SCALE: 3/4" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
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SURVEY BY:	
FIELD BOOK No.:	

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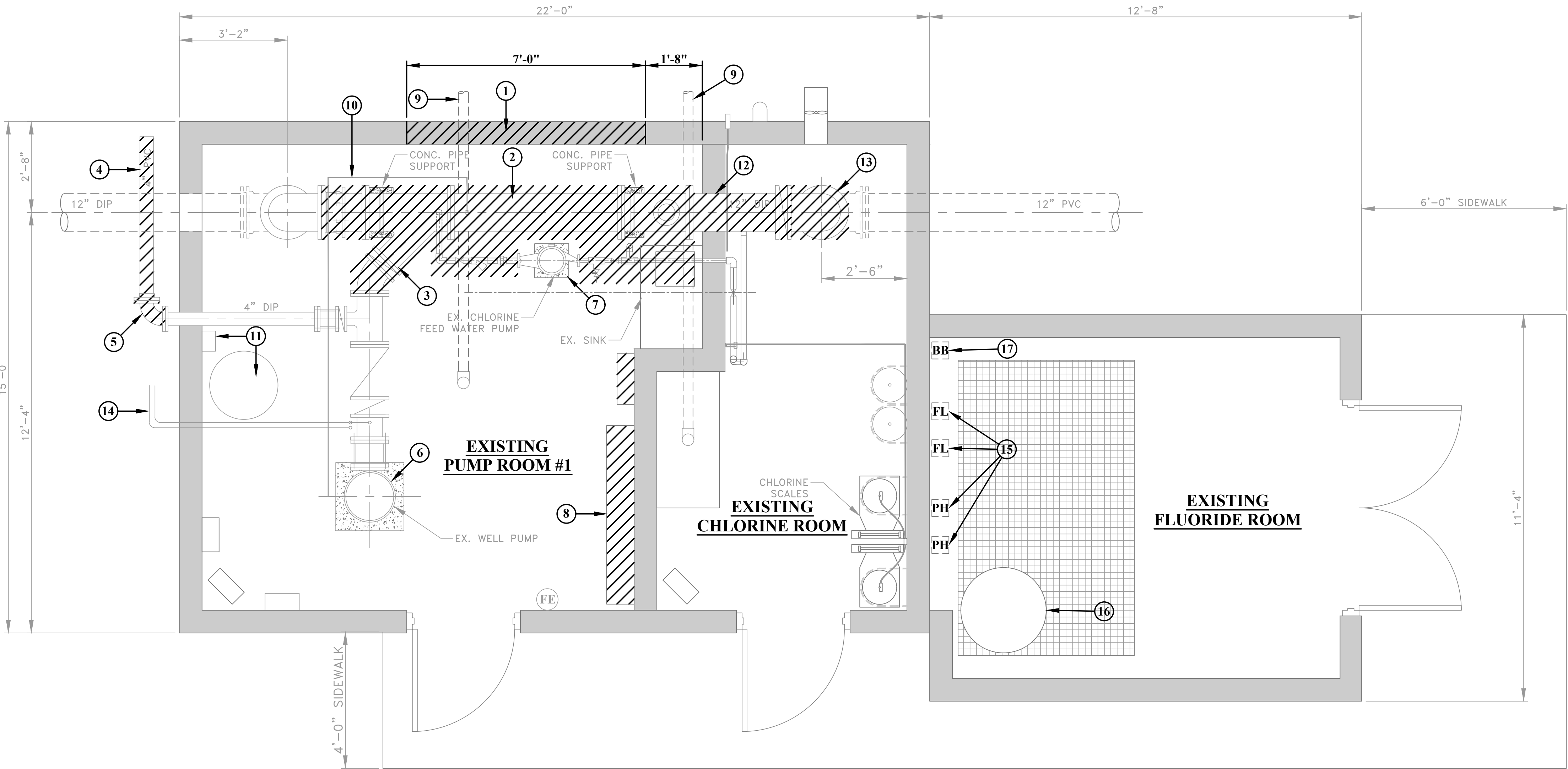
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
LINE TERMINATION AT FUTURE WELL #4

SHEET No.
4



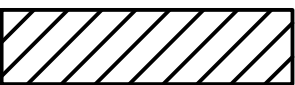
GENERAL NOTES:

1. ALL DEMOLITION SHALL BE COORDINATED WITH THE OWNER.
2. ALL EQUIPMENT TO BE REMOVED FROM SITE AND DISPOSED OF AS REQUIRED BY REGULATORY AGENCIES UNLESS OTHERWISE DESIGNATED.
3. CONTRACTOR SHALL REFER TO SEQUENCE OF CONSTRUCTION FOR DEMOLITION ACTIVITIES.
4. CONTRACTOR SHALL MAINTAIN THE OPERATION OF THE EXISTING WTP THROUGH THE DURATION OF CONSTRUCTION. AFTER THE COMPLETION, TESTING, ACCEPTANCE OF THE WORK, AND THE CONTRACTOR RECEIVES APPROVAL FROM THE OWNER, DEMOLITION OF EXISTING EQUIPMENT, PIPING AND APPURTANANCES CAN BEGIN.

DEMOLITION NOTES:

- ① 7'-0" WIDE WALL OPENING TO BE REMOVED. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR MORE DETAILS.
- ② EX. 12" DIP PIPING, FITTING, FLOW METER, AND CONCRETE PIPE SUPORTS TO BE REMVOED.
- ③ EX. 8" DIP PIPE AND FITTINGS TO BE REMOVED.
- ④ EX. 4" PVC TO BE REMOVED.
- ⑤ EXISTING D.I. 90° FITTING, FL AND FLANGE ADAPTER TO BE REMOVED.
- ⑥ EX. WELL PUMP TO REMAIN IN SERVICE.
- ⑦ EX. CHLORINE FEED PUMP TO BE RELOCATED.
- ⑧ EX. MCC'S TO BE REMOVED.
- ⑨ EX. 3" FLOOR DRAIN TO BE REMOVED AS REQUIRED PER SHEET 5A.
- ⑩ EX. SEAL WATER LINE AND SOLENOID VALVE TO BE RELOCATED.
- ⑪ EX. SODIUM HYPOCHLORITE MIXING TANK AND DOSING PUMP TO BE RELOCATED.
- ⑫ EX. WALL PIPE TO BE REMOVED. OPENING SHALL BE FILLED WITH MASONRY BLOCK AND SEALED
- ⑬ EX. PIPE SHALL BE CUT FLUSH WITH FINISHED FLOOR. REMAINING PIPE SHALL BE FILLED WITH NON-SHRINK GROUT.
- ⑭ TWO (2) EX. 1" PVC WELL SERVICE AIR VALVE DRAIN LINES TO REMAIN. TIE EX. PIPES INTO NEW 4" PVC DRAIN PER DETAIL ON SHEET #5A.
- ⑮ EX. CHEMICAL DOSING PUMPS (SEE SHEET 5A)
- ⑯ EX. POLY TANK
- ⑰ EX. BREAK BOX

LEGEND

 ITEM TO BE REPLACED

NO.	BY	DATE	DESCRIPTION
4	SMD	13FEB2023	TUSC COUNTY COMMENTS
3	SMD	2FEB2023	TUSC COUNTY COMMENTS
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

SCALE: 1/2" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
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SURVEY BY:	
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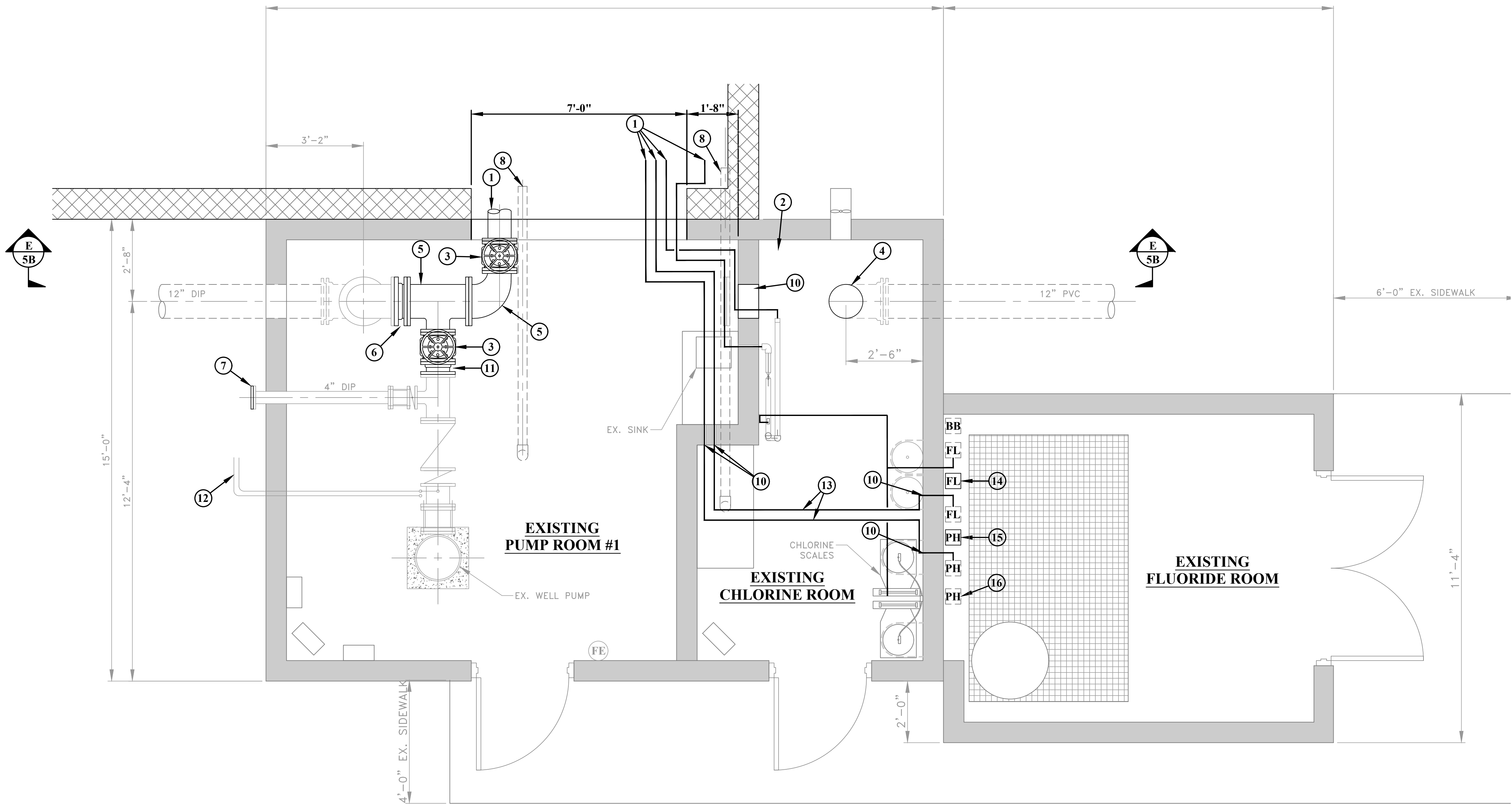
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
EXISTING WATER TREATMENT PLANT
DEMO PLAN

SHEET No.
5



- IMPROVEMENT NOTES:**
- ① SEE SHEET 6 FOR CONTINUATION.
 - ② 8" DIP.
 - ③ 8" D.I. GATE VALVE.
 - ④ GROUT FILLED 12" PIPE OPENING IN FLOOR.
 - ⑤ 12" x 12"x 8" D.I. TEE, FL
 - ⑥ FILLER FLANGE FOR 12" DIP
 - ⑦ 4" D.I. BOLTED BLIND FLANGE WITH GASKET.
 - ⑧ SEE SHEET #P2 FOR TIE-IN AND CONTINUATION.
 - ⑨ PRECISION MANUFACTURED METAL STAIRS AND PLATFORM, 3-STEP, 30" CLEAR OVER, 36" SQ. PLATFORM.
 - ⑩ SEAL WALL PENETRATION(S) WITH MASONRY BLOCK AND NON-SHRINK GROUT.
 - ⑪ FILLER FLANGE FOR 8" DIP.
 - ⑫ (2) EX. 1" DRAIN LINES TO REMAIN.
 - ⑬ PHOSPHATE CHEMICAL LINE & FLUORIDE CHEMICAL LINE. SEE SHEET 6 FOR ROUTING TO INJECTION MANIFOLD.
 - ⑭ WELL #4 FLUORIDE DOSING PUMP. (INSTALL DO NOT TURN ON)
 - ⑮ WELL #4 PHOSPHATE DOSING PUMP. (INSTALL DO NOT TURN ON)
 - ⑯ WELL #3 PHOSPHATE DOSING PUMP.

4	SMD	13FEB2023	TUSC COUNTY COMMENTS	
3	SMD	2FEB2023	TUSC COUNTY COMMENTS	
2	SMD	11JAN2023	TUSC COUNTY REVIEW	
1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
EXISTING WATER TREATMENT PLANT
IMPROVEMENTS PLAN



3	SMD	2FEB2023	TUSC COUNTY COMMENTS
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW
NO.	BY	DATE	DESCRIPTION

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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
EXISTING WATER TREATMENT PLANT
IMPROVEMENTS PLAN

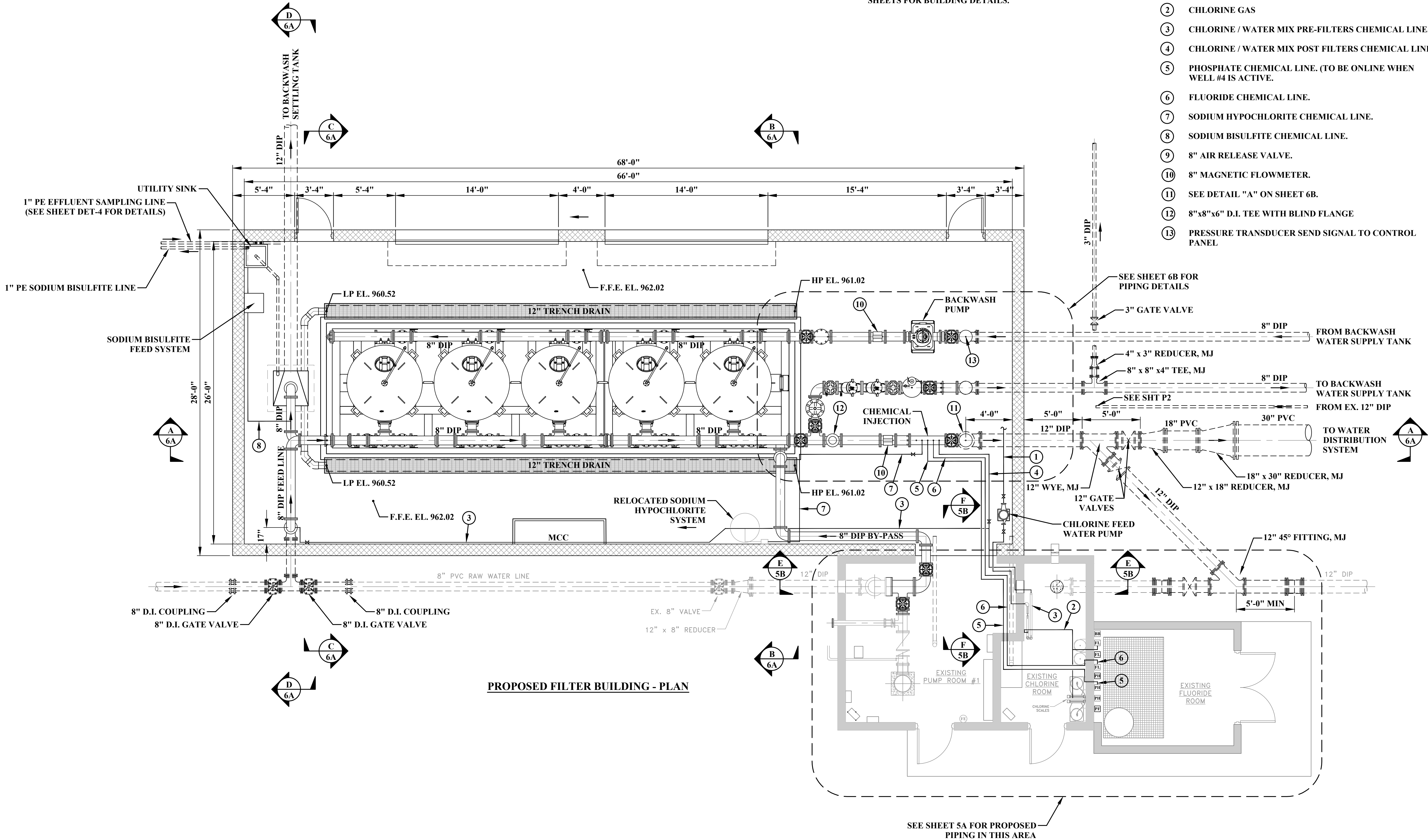
SHEET No.
5B

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL SHEETS FOR BUILDING DETAILS.

CHEMICAL NOTES:

- ① WATER SUPPLY - CHLORINE FEED WATER PUMP
② CHLORINE GAS
③ CHLORINE / WATER MIX PRE-FILTERS CHEMICAL LINE.
④ CHLORINE / WATER MIX POST FILTERS CHEMICAL LINE.
⑤ PHOSPHATE CHEMICAL LINE. (TO BE ONLINE WHEN WELL #4 IS ACTIVE.
⑥ FLUORIDE CHEMICAL LINE.
⑦ SODIUM HYPOCHLORITE CHEMICAL LINE.
⑧ SODIUM BISULFITE CHEMICAL LINE.
⑨ 8" AIR RELEASE VALVE.
⑩ 8" MAGNETIC FLOWMETER.
⑪ SEE DETAIL "A" ON SHEET 6B.
⑫ 8"x8"x6" D.I. TEE WITH BLIND FLANGE
⑬ PRESSURE TRANSDUCER SEND SIGNAL TO CONTROL PANEL



PROPOSED FILTER BUILDING - PLAN

NO.	BY	DATE	DESCRIPTION
4	SMD	13FEB2023	TUSC. COUNTY REVIEW
3	SMD	3FEB2023	TUSC. COUNTY REVIEW
2	SMD	11JAN2023	TUSC. COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

SCALE: 1/4" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
CHECKED: RSS	DATE: APRIL 2020
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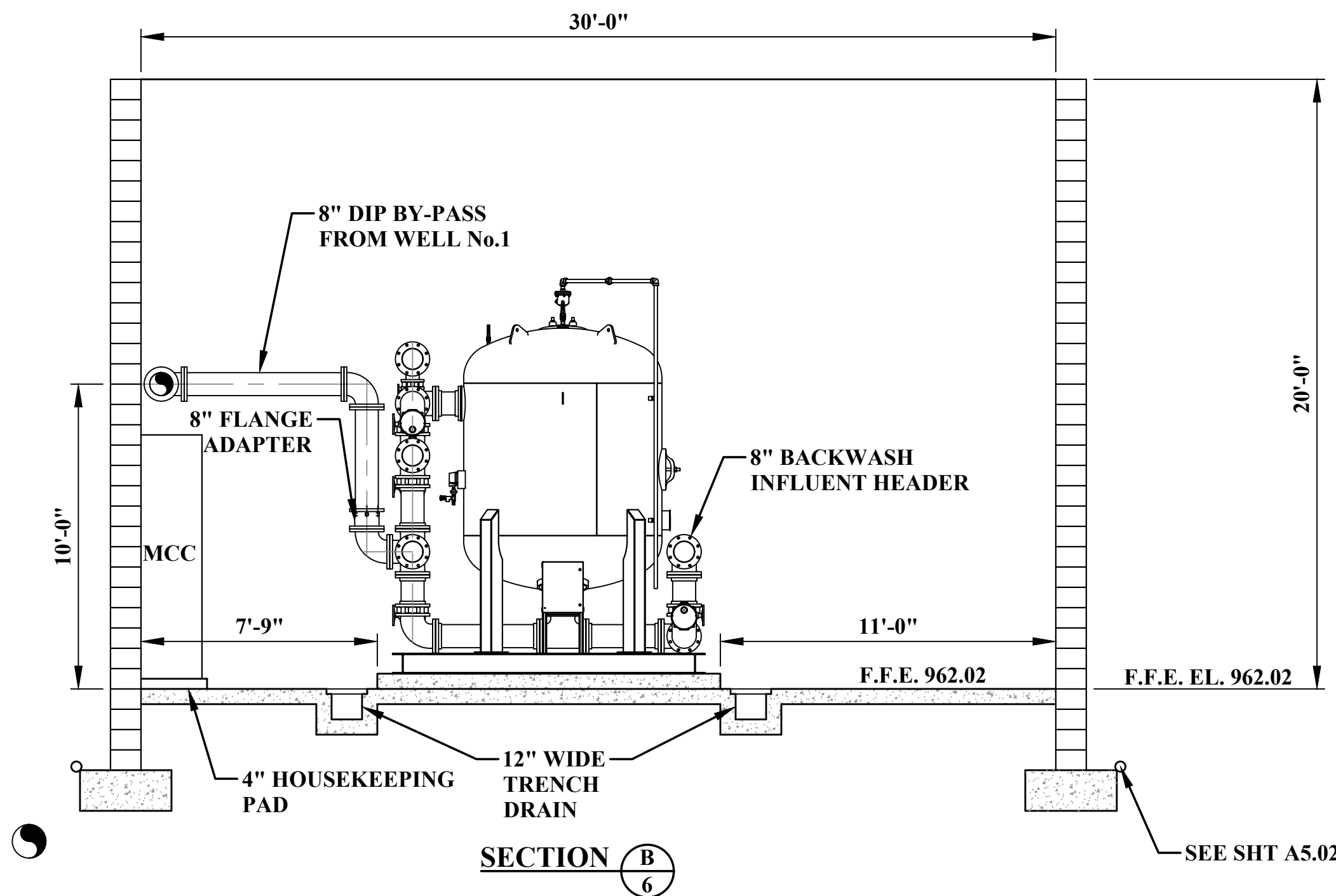
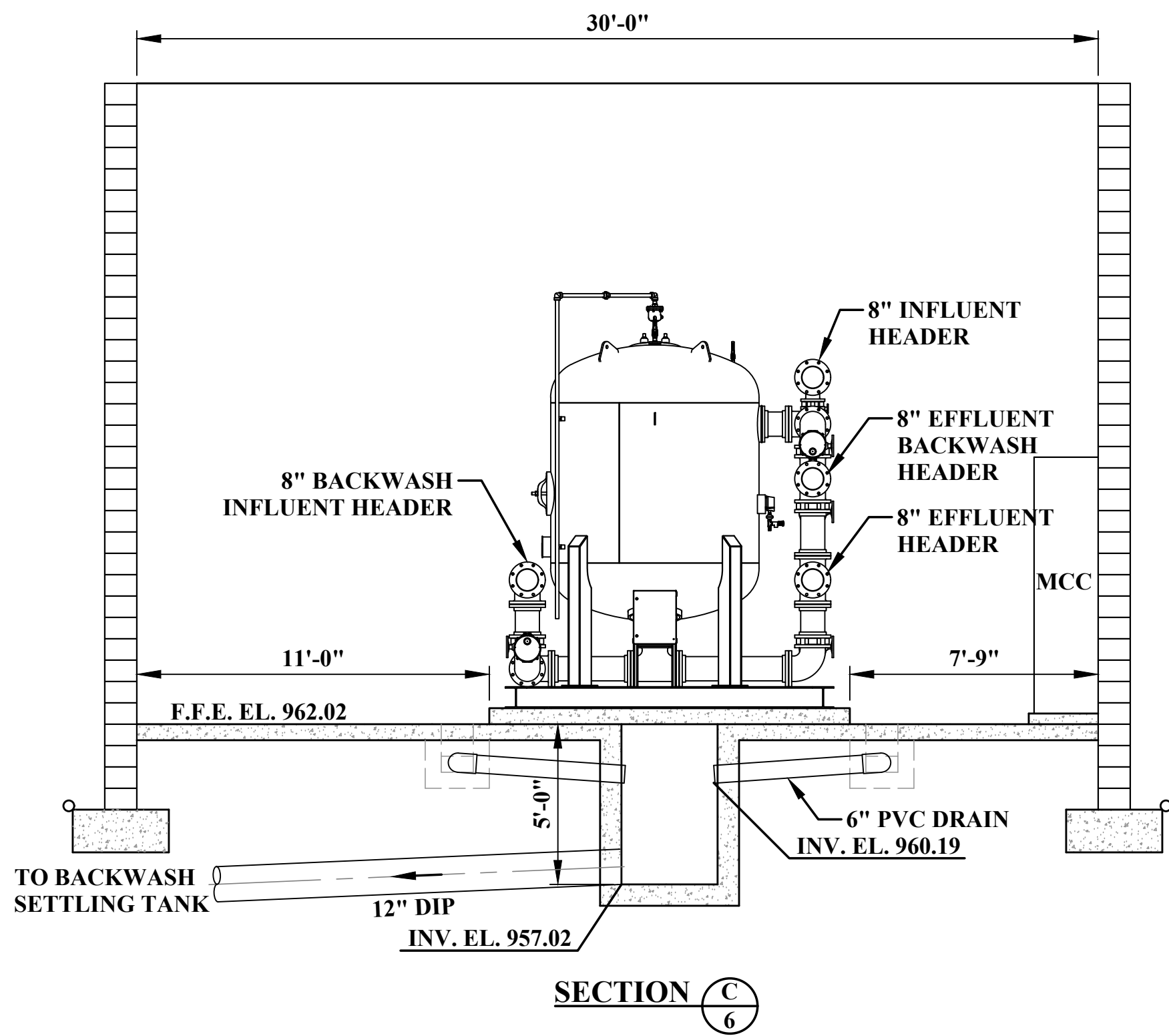
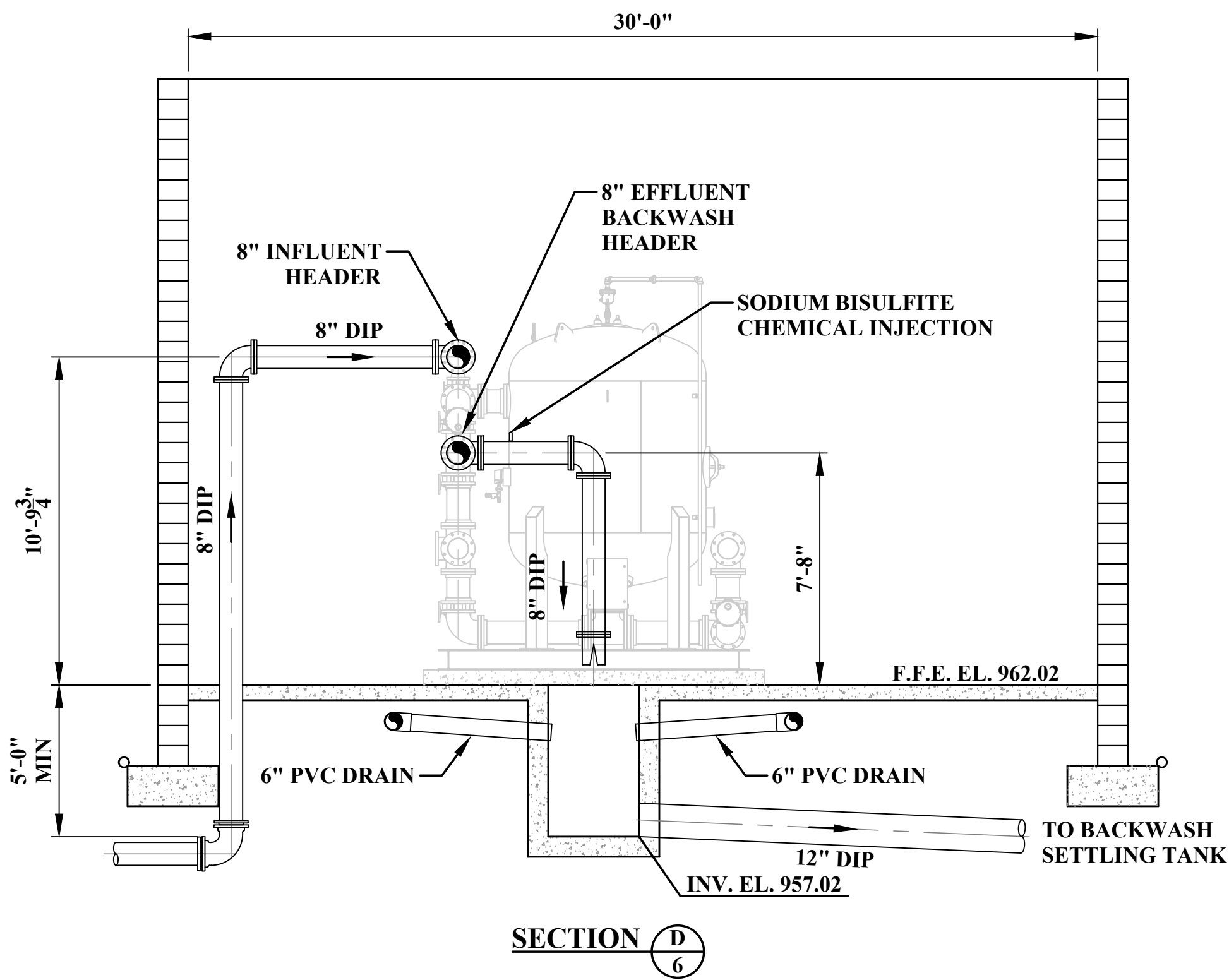
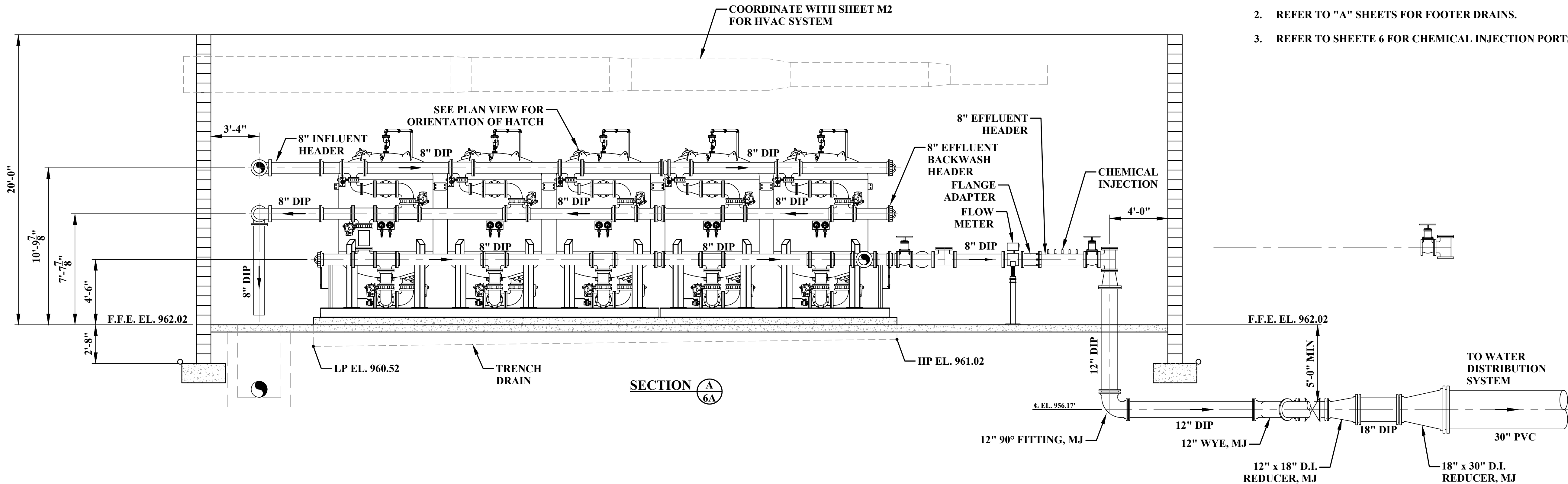
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PROJECT No.
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
PLAN

SHEET No.
6

1. REFER TO SHEET S1.01 FOR FOOTER ELEVATIONS AND LAYOUTS.
2. REFER TO "A" SHEETS FOR FOOTER DRAINS.
3. REFER TO SHEET 6 FOR CHEMICAL INJECTION PORTS.



4	SMD	13FEB2023	TUSC COUNTY REVIEW
3	SMD	3FEB2023	TUSC COUNTY REVIEW
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW
NO.	BY	DATE	DESCRIPTION

SCALE: 1/4" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
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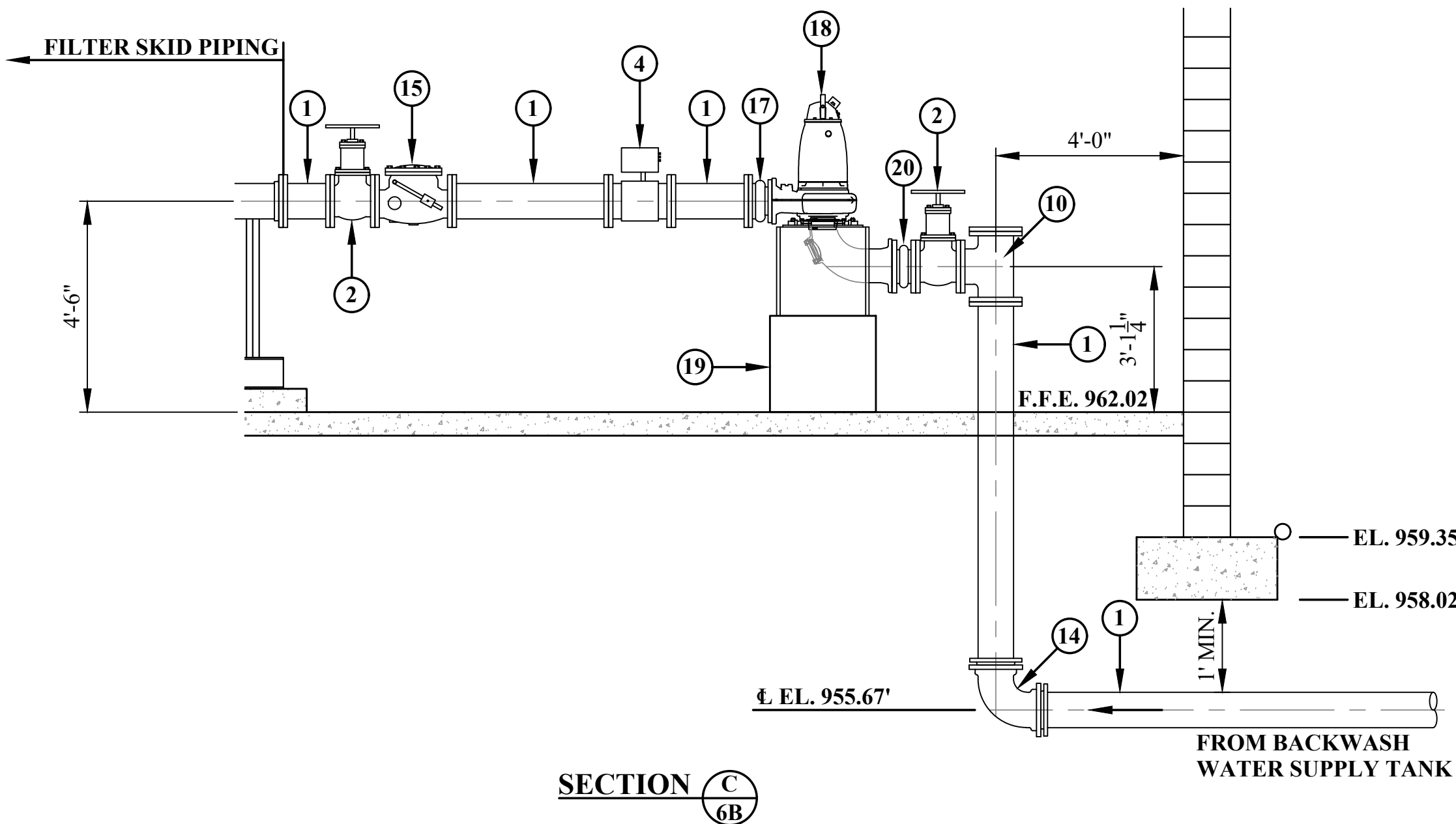
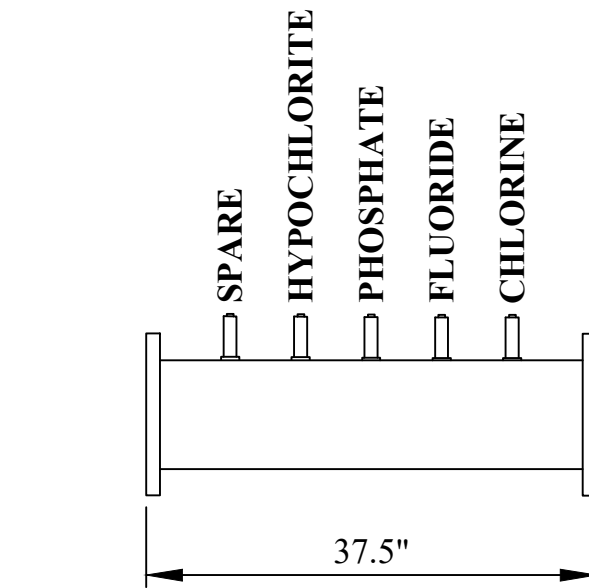
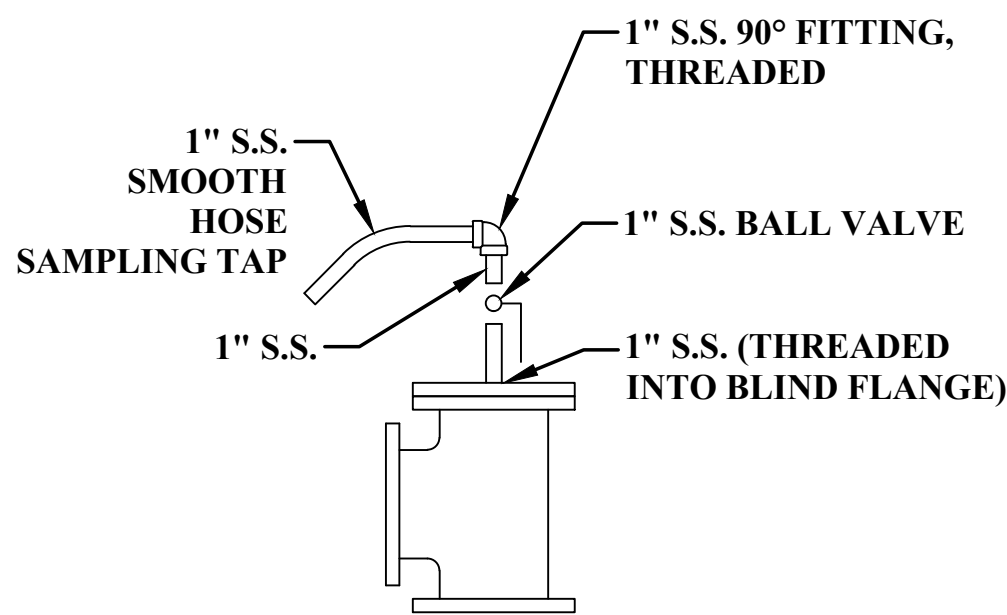
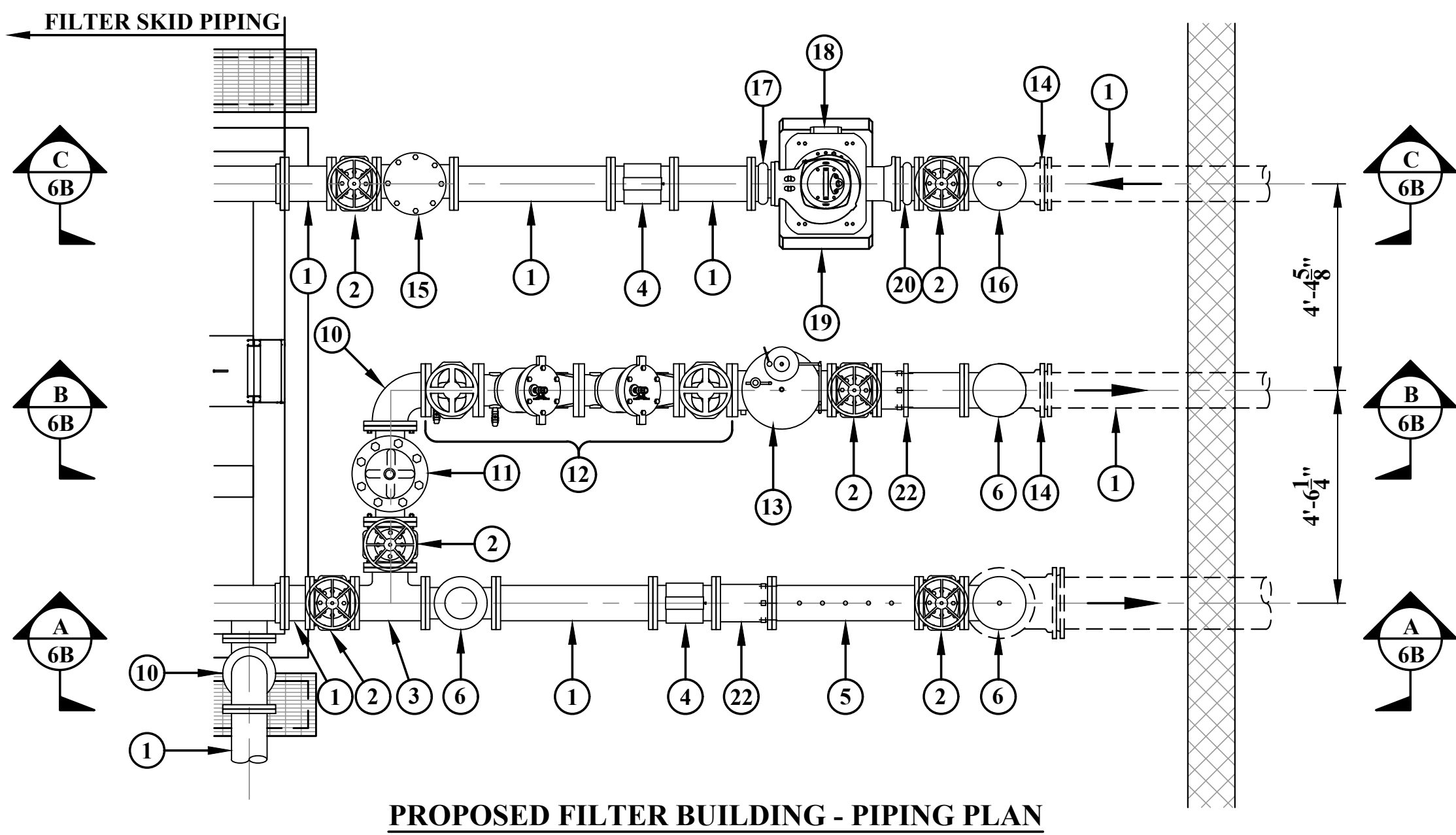
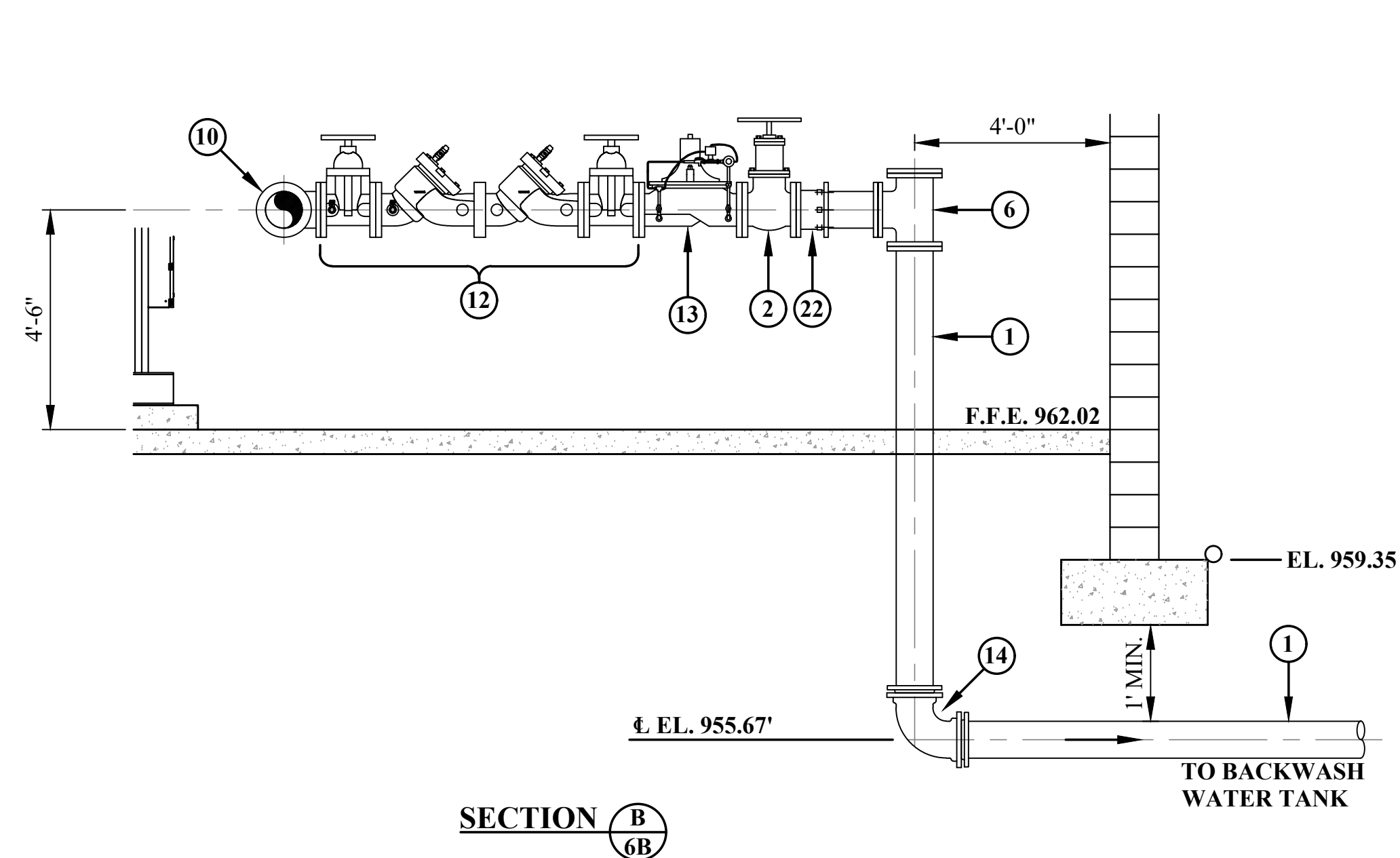
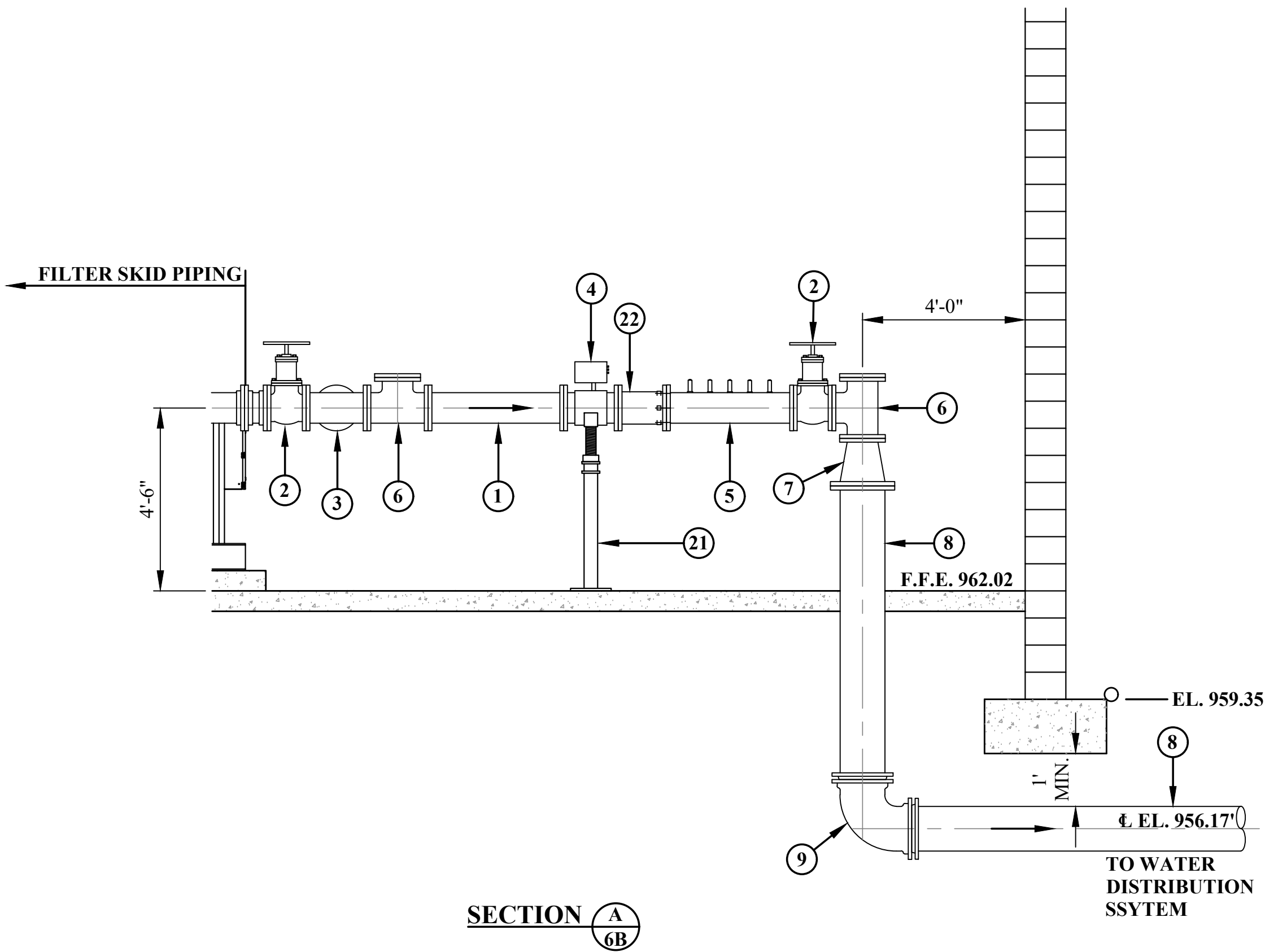
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
SECTIONS

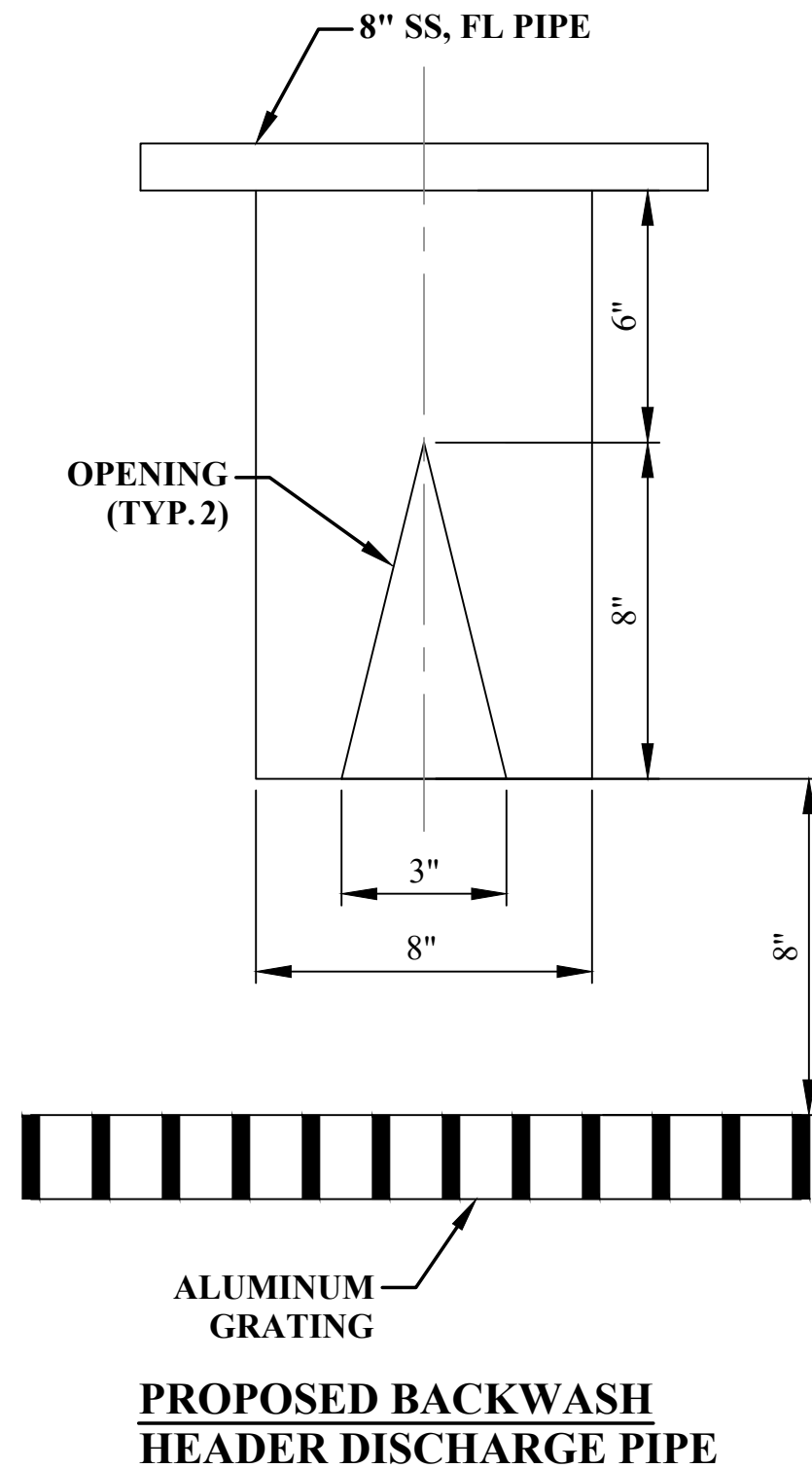
SHEET No.

6A



KEY NOTES:

- 1 8" DIP
- 2 8" D.I. GATE VALVE, FL
- 3 8" D.I. TEE, FL
- 4 8" MAGNETIC FLOW METER. INSTALL PER MANUFACTURE REQUIREMENTS.
- 5 D.I. SPOOL PIECE FOR CHEMICAL INJECTION, SEE DETAIL THIS SHEET.
- 6 8" D.I. TEE, FL W/ BLIND FLANGE.
- 7 8" x 12" D.I. REDUCER, FL.
- 8 12" DIP.
- 9 12" D.I. 90° FITTING, MJ.
- 10 8" D.I. 90° FITTING, FL.
- 11 8" D.I. STRAINER, FL.
- 12 8" BACKFLOW PREVENTER.
- 13 8" ALTITUDE VALVE, FL.
- 14 8" 90° FITTING, MJ.
- 15 8" CHECK VALVE, FL.
- 16 8" D.I. TEE, FL W/BLIND FLANGE, THREADED FOR TRANSDUCER.
- 17 8" x 6" RUBBER EXPANSION JOINT, FL.
- 18 BACKWASH PUMP. (CONTRACTOR TO SUPPLY ONE & SPARE)
- 19 CONCRETE PAD FOR BACKWASH PUMP.
- 20 8" RUBBER EXPANSION JOINT, FL.
- 21 ADJUSTABLE PIPE STAND.
- 22 8" D.I. FLANGE ADAPTER.



NO.	BY	DATE	DESCRIPTION
4	SMD	13FEB2023	TUSC. COUNTY REVIEW
3	SMD	3FEB2023	TUSC. COUNTY REVIEW
2	SMD	11JAN2023	TUSC. COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

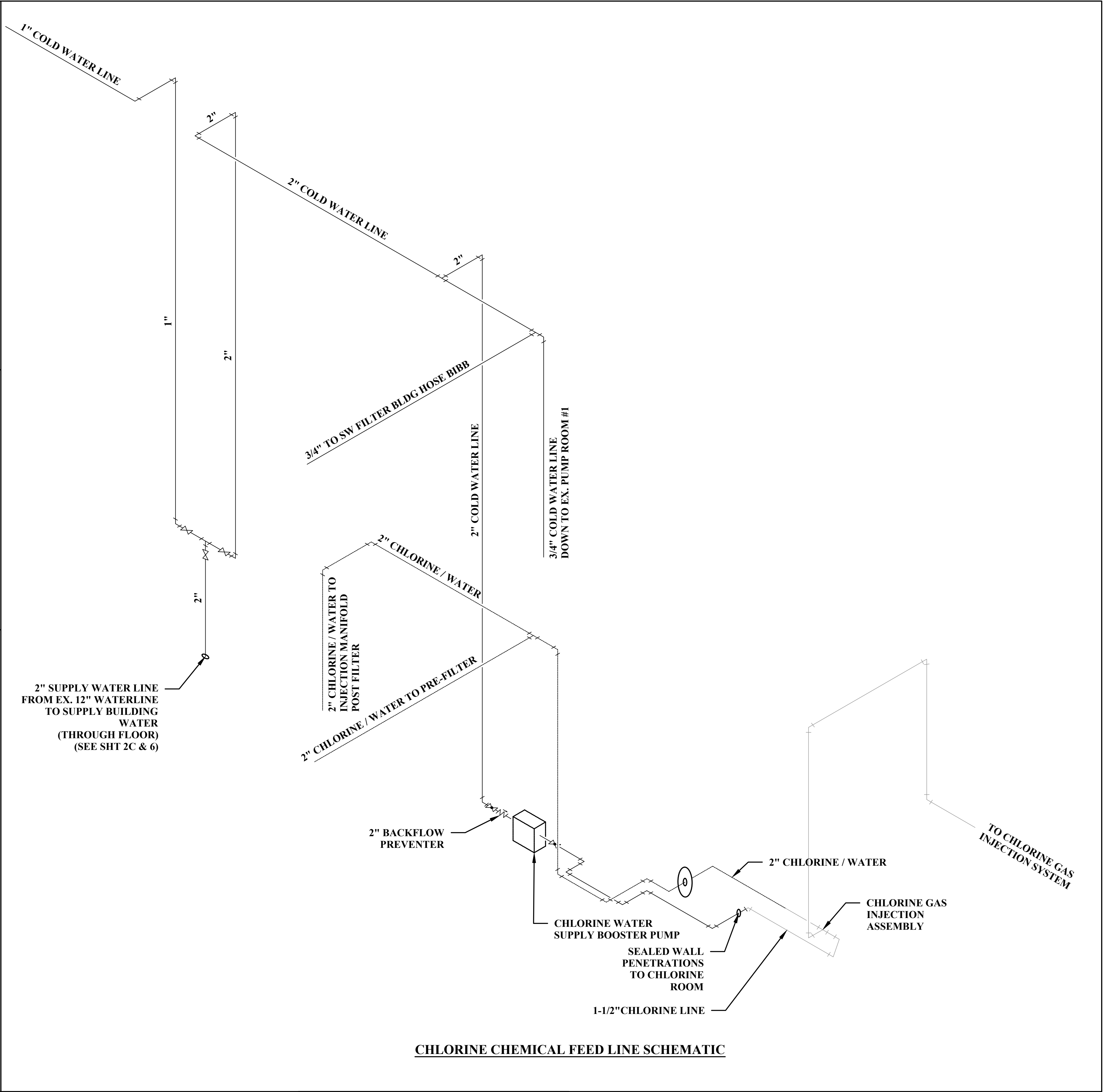
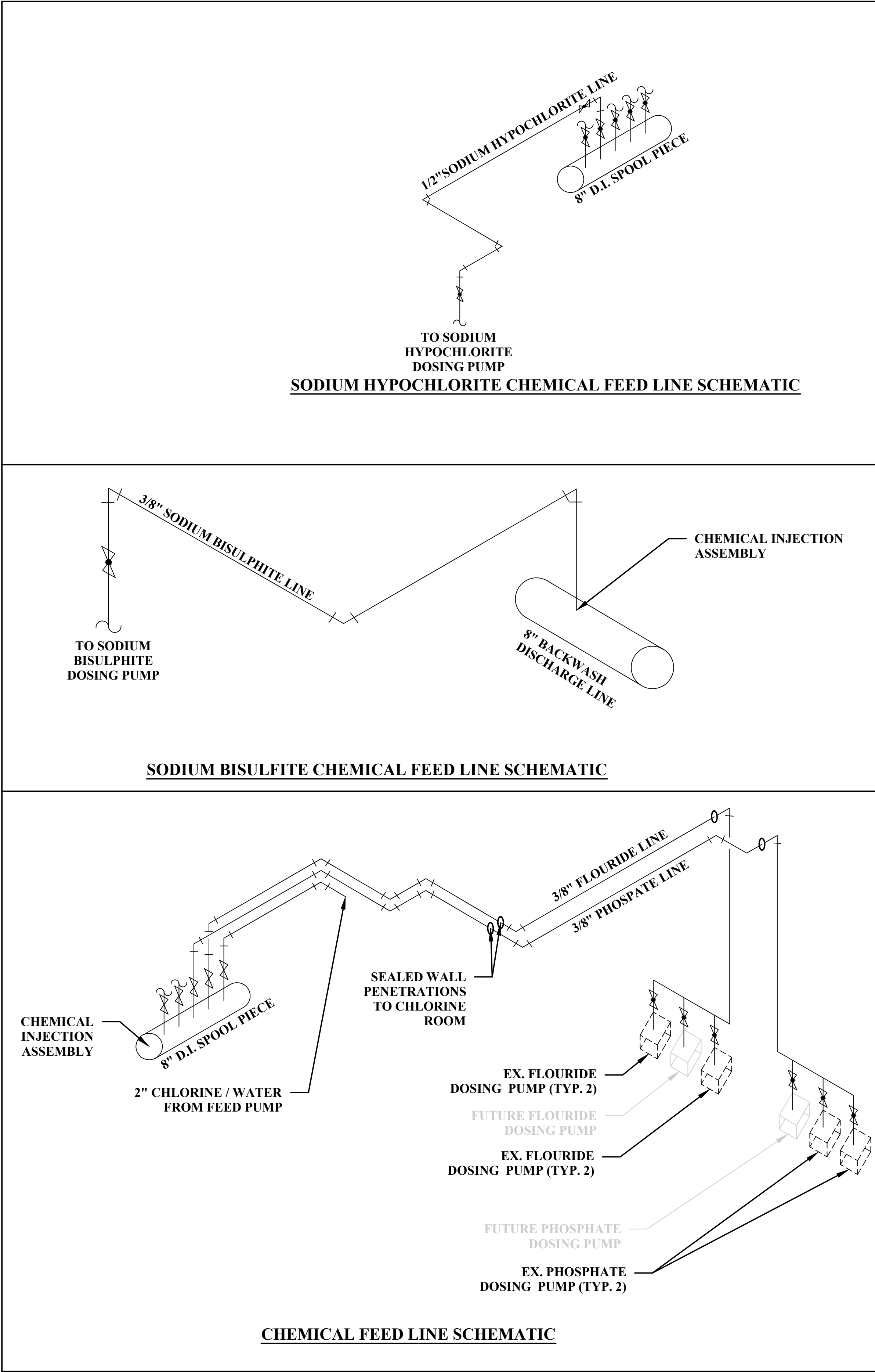
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
PIPING PLAN AND SECTIONS

SHEET No.
6B



3	SMD	13FEB2023	TUSC. COUNTY REVIEW	
2	SMD	3FEB2023	TUSC. COUNTY REVIEW	
1	SMD	11JAN2023	TUSC. COUNTY REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE: NOT TO SCALE	
DRAWN: RRS	DATE: APRIL 2020
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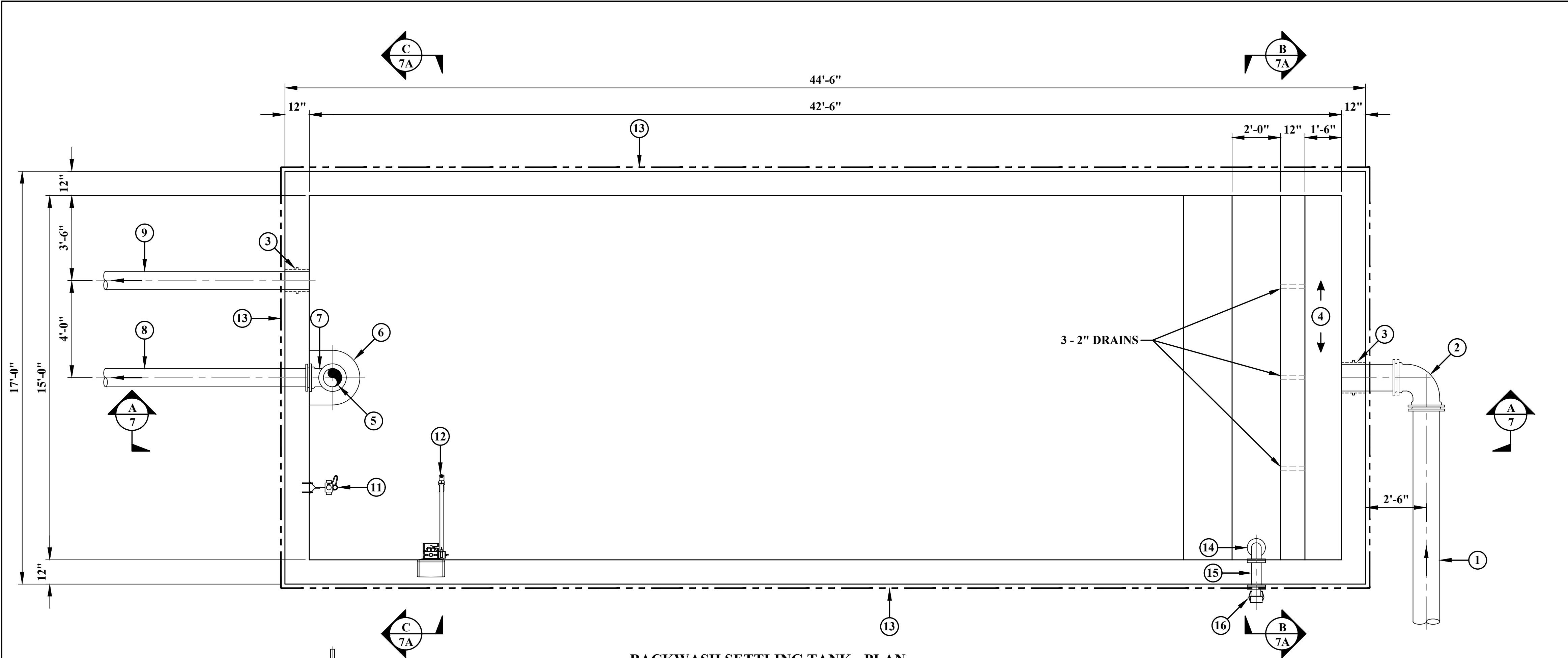
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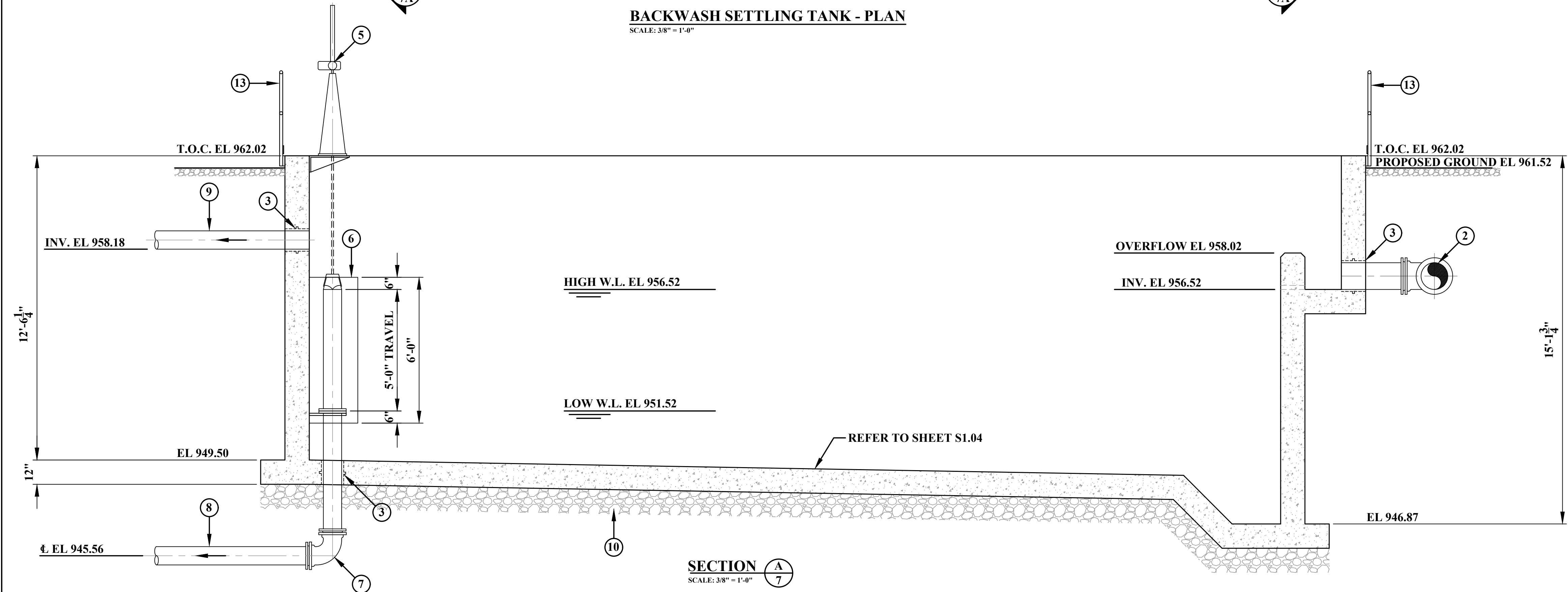
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
CHEMICAL FEED SCHEMATICS

SHEET No.
6C



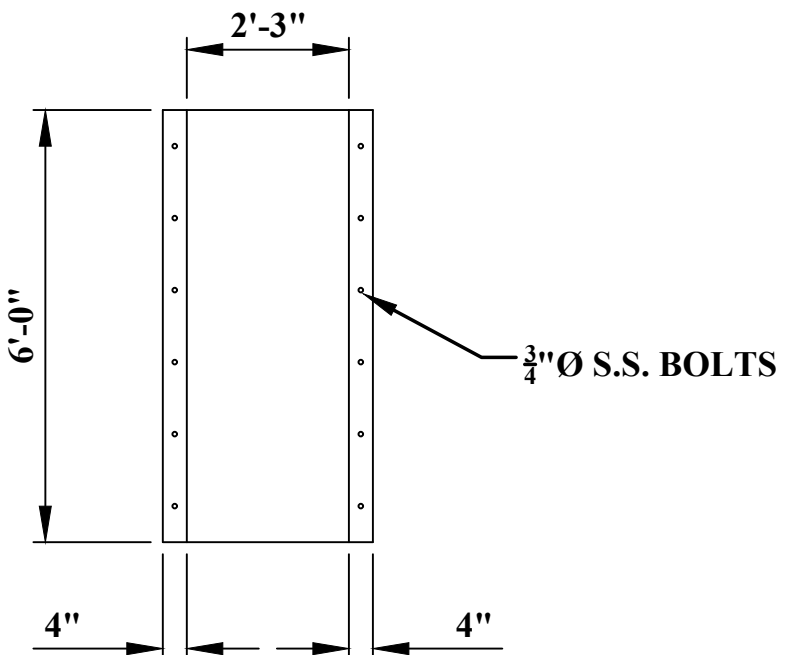
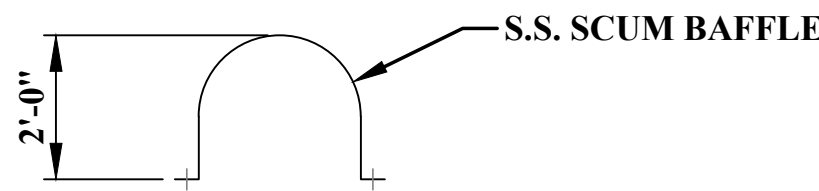
BACKWASH SETTLING TANK - PLAN
SCALE: 3/8" = 1'-0"



SECTION A
SCALE: 3/8" = 1'-0"

KEY NOTES:

- 1 12" DIP FROM FILTER BUILDING.
- 2 12" D.I. 90° FITTING, MJ
- 3 PIPE PENETRATION WITH LINK SEAL. TYPE "D", SEE SHEET DET-1.
- 4 INFLUENT TROUGH W/ (3) 2" DRAINS.
- 5 8" TELESCOPIC VALVE W/ MOTORIZED OPERATOR AND RISING STEM WITH LEXAN COVER.
- 6 S.S. SCUM BAFFLE. SEE DETAIL THIS SHEET.
- 7 8" D.I. 90° FITTING, MJ.
- 8 8" DIP TO PUMP STATION.
- 9 8" DIP OVERFLOW DRAIN TO PUMP STATION.
- 10 12" COMPACTED AGGREGATE BASE IN TWO (2) 6" LIFTS.
- 11 LEVEL TRANSDUCER WITH STILLING WELL.
- 12 TURBIDITY SENSOR.
- 13 ALUMINUM HANDRAIL W/ 4" KICK PLATE.
- 14 4" D.I. 90° FITTING, FL.
- 15 4" DIP
- 16 4" S.S. CAM-LOCK FEMALE FITTING.



SCUM BAFFLE DETAIL
SCALE: 3/8" = 1'-0"

NO.	BY	DATE	DESCRIPTION
2	SMD	2FEB2023	TUSC. COUNTY COMMENTS
1	SMD	8DEC2022	QA/QC REVIEW

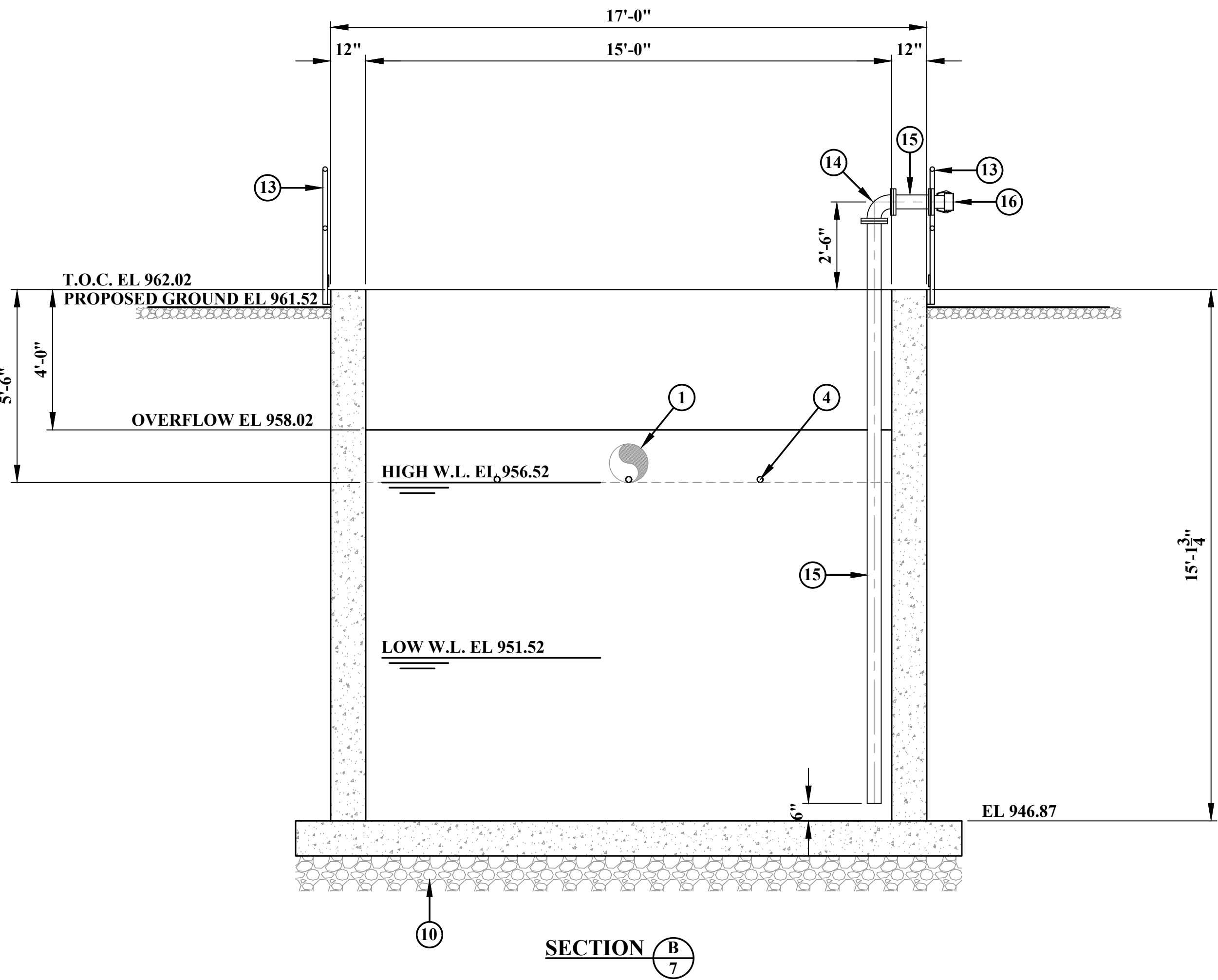
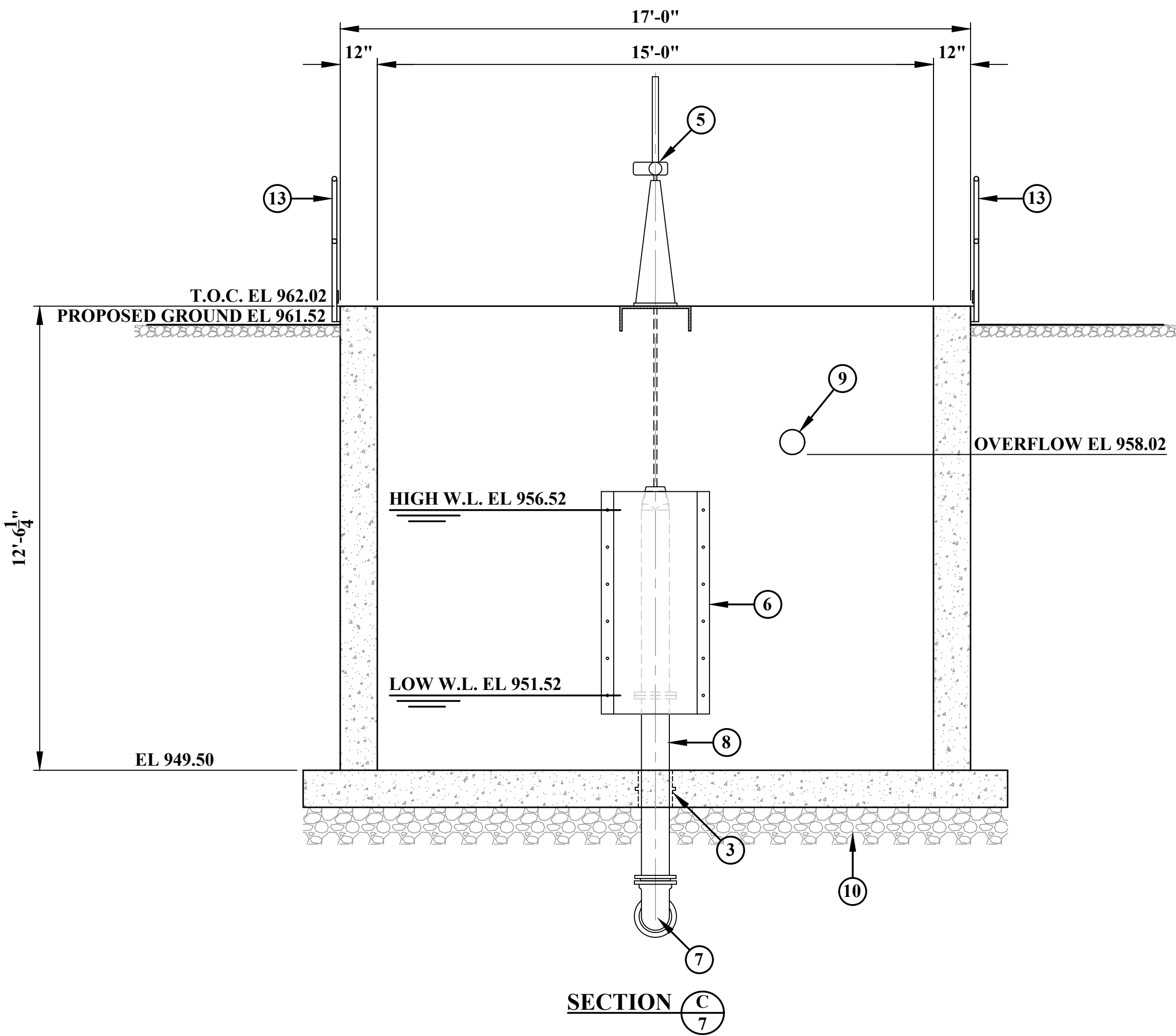
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CONTRACT No.	
PROJECT No.	010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED BACKWASH SETTLING TANK PLAN AND SECTION
--

SHEET No.	7
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KEY NOTES:

- ① 12" DIP FROM FILTER BUILDING.
- ② NOT USED
- ③ PIPE PENETRATION WITH LINK SEALS BOTH SIDES. SEE SHEET DET-1.
- ④ INFLUENT TROUGH W/ (3) 2" DRAINS.
- ⑤ 8" TELESCOPIC VALVE W/ MOTORIZED OPERATOR AND RISING STEM WITH LEXAN COVER.
- ⑥ S.S. SCUM BAFFLE. SEE DETAIL SHEET 7.
- ⑦ 8" D.I. 90° FITTING, MJ.
- ⑧ 8" DIP TO PUMP STATION.
- ⑨ 8" DIP OVERFLOW DRAIN TO PUMP STATION.
- ⑩ 12" COMPACTED AGGREGATE BASE IN TWO (2) 6" LIFTS.
- ⑪ LEVEL TRANSDUCER WITH STILLING WELL. - NOT SHOWN
- ⑫ TURBIDITY SENSOR. - NOT SHOWN
- ⑬ ALUMINUM HANDRAIL W/ 4" KICK PLATE.
- ⑭ 4" D.I. 90° FITTING, FL.
- ⑮ 4" DIP
- ⑯ 4" S.S. CAM-LOCK FEMALE FITTING.

1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE: 3/8" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
CHECKED: RSS	DATE: APRIL 2020
APPROVED: JCC	DATE: MAY 2020
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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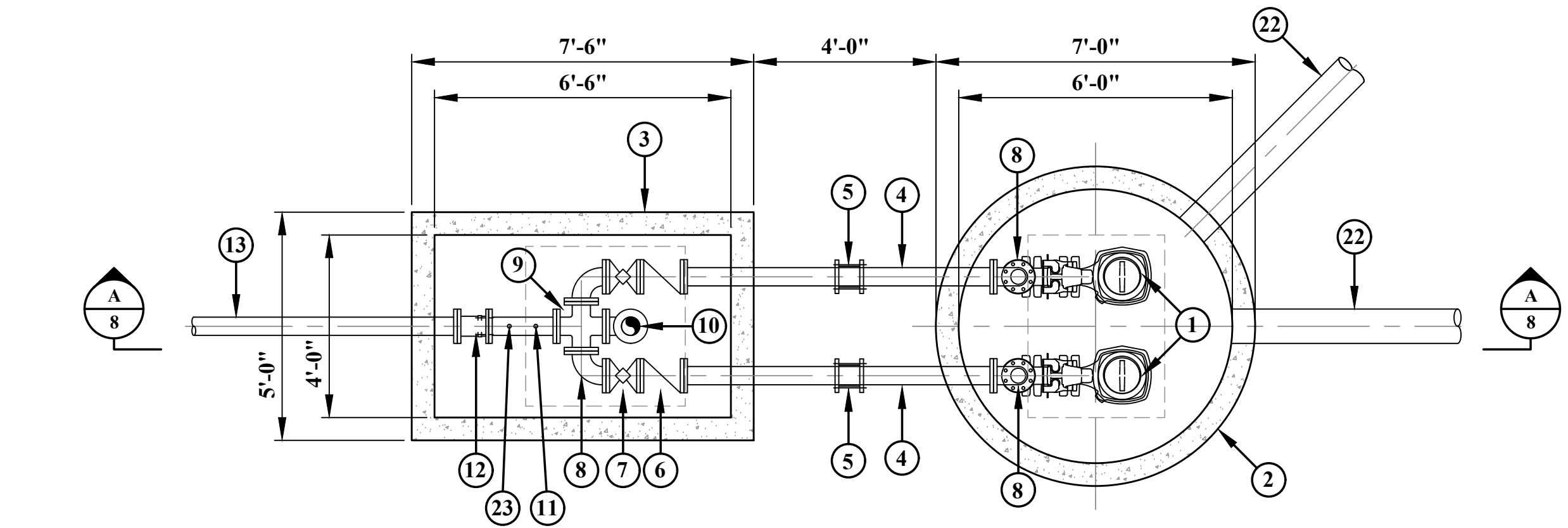
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FAX
(330)-451-2043

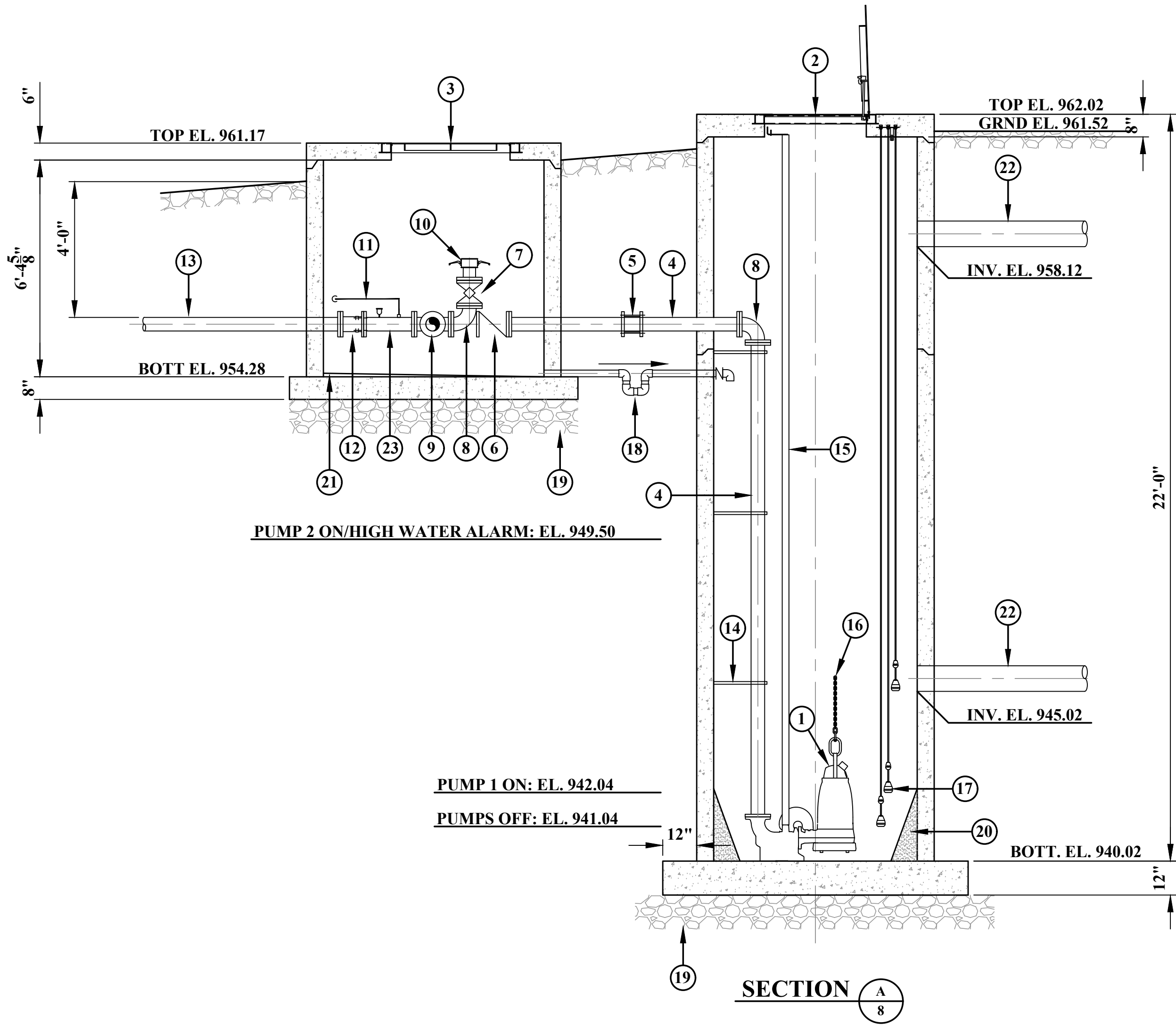
PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED BACKWASH SETTLING TANK
SECTIONS

SHEET No.
7A



PLAN VIEW



SECTION A-8

GENERAL NOTE:

1. OVERFLOW LINE USED AS A VENT FOR THE WET WELL.

PAINTING NOTE:

1. PAINT ALL EXPOSED PIPING, FITTINGS AND VALVES IN THE WET WELL AND VALVE VAULT PER SPECIFICATION SECTION 099010.

KEY NOTES

- 1 TWO (2) SUBMERSIBLE SOLIDS HANDLING PUMPS.
2 PROPOSED 6'-0"Ø WET WELL W/36"x48" ACCESS HATCH.
3 PROPOSED 4'-0" x 6'-6" VALVE VAULT W/42" x 42" ACCESS HATCH
4 4" D.I. DISCHARGE PIPING.
5 4" RESTRAINED COUPLING (TYP. OF 2).
6 4" CHECK VALVE. (TYP. OF 2)
7 4" PLUG VALVE. (TYP. OF 3)
8 4" D.I. 90° BEND. (TYP OF 5)
9 4" D.I. CROSS.
10 4" FEMALE CAM-LOK
11 1" PE SAMPLING LINE TO PRESSURE FILTER BUILDING.
12 4" FLANGE ADAPTER.
13 4" HDPE DR-11 FORCEMAIN.
14 INTERMEDIATE STAINLESS STEEL PIPE SUPPORTS
15 STAINLESS STEEL GUIDERAILS.
16 STAINLESS STEEL LIFTING CHAIN.
17 FLOAT SWITCH. (TYP. OF 3)
18 2" PVC DRAIN W/ THREADED TRAP AND INLINE CHECK VALVE.
19 12" COMPACTED #57 STONE.
20 GROUT FILL SLOPE TO DRAIN.
21 GROUT SLOPE.
22 8" DIP GRAVITY SEWER.
23 4" D.I. SPOOL PIECE, TAPPED FOR 2" NPT AIR/VACUUM RELEASE VALVE.

NO.	BY	DATE	DESCRIPTION

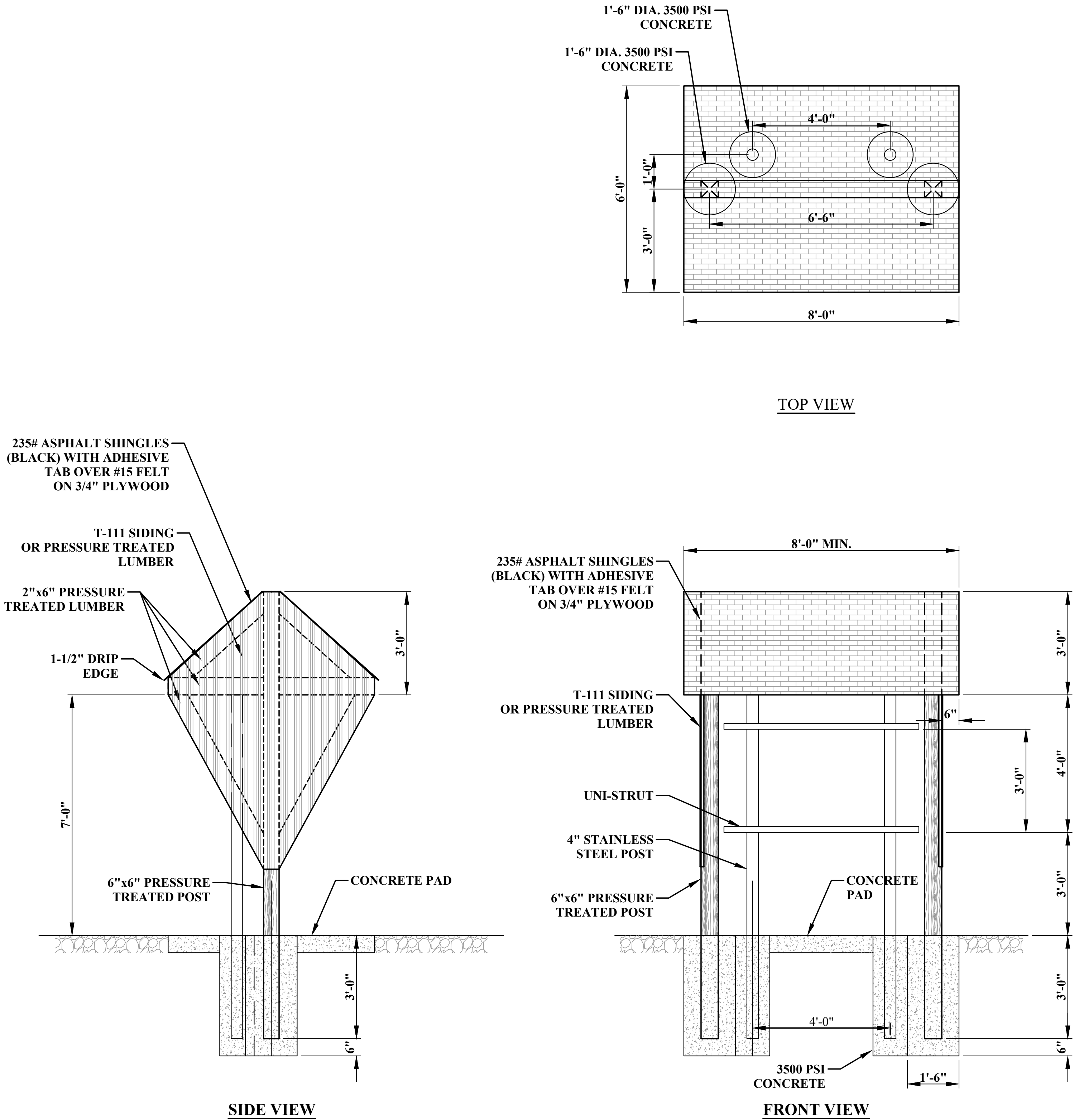
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APPROVED: JCC	DATE: MAY 2020
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TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED BACKWASH PUMP STATION PUMP STATION DETAILS

SHEET No.
8



CONTROL PANEL DETAILS

- NOTE:**
1. CONTRACTOR TO SUBMIT CONTROL PANEL LAYOUT WITH SUBMITTAL PACKAGE PRIOR TO ORDERING MATERIALS.
 2. ALL MATERIALS USED TO BE PRESSURE TREATED

1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE: 3/4" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
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APPROVED: JCC	DATE: MAY 2020
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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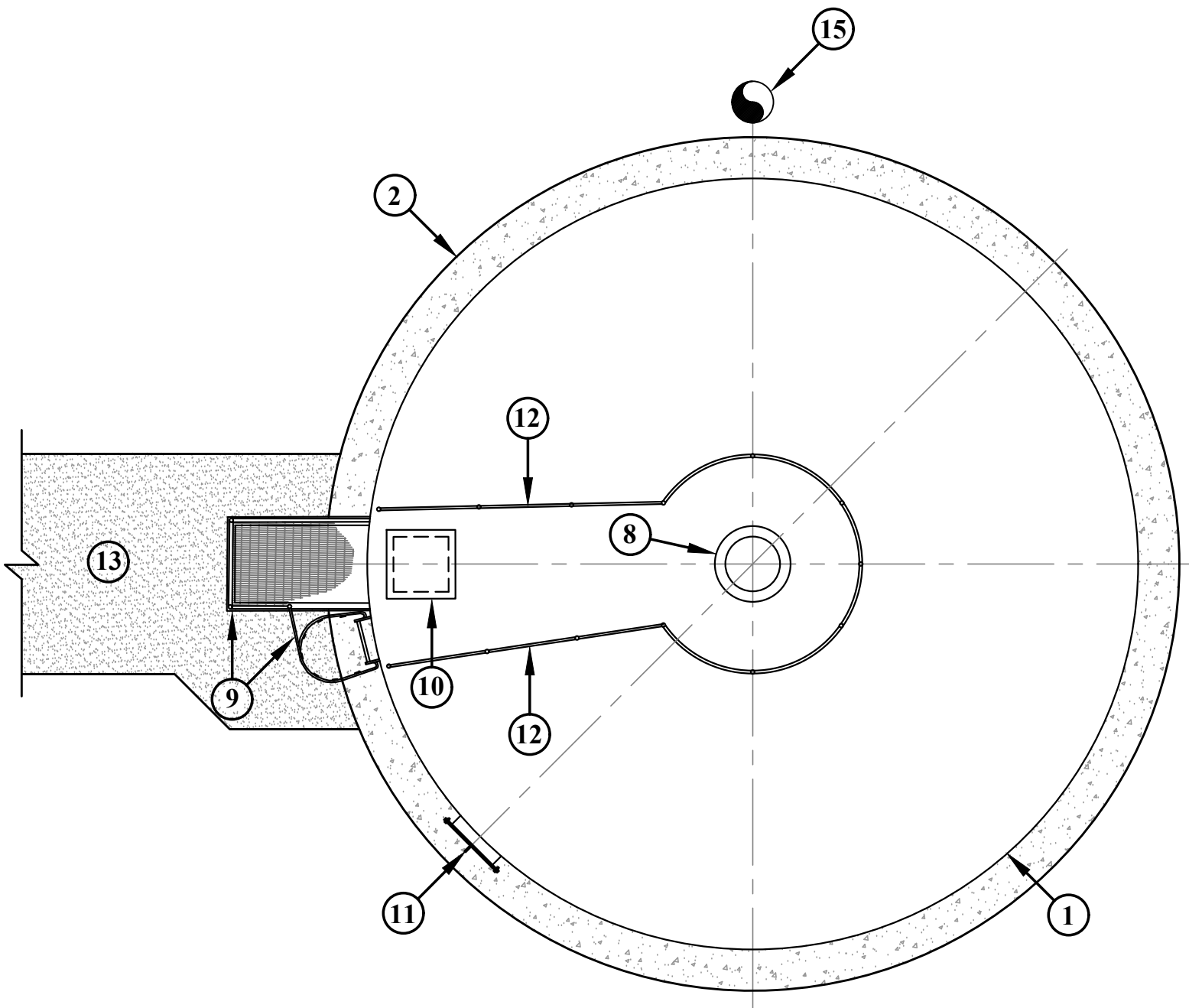
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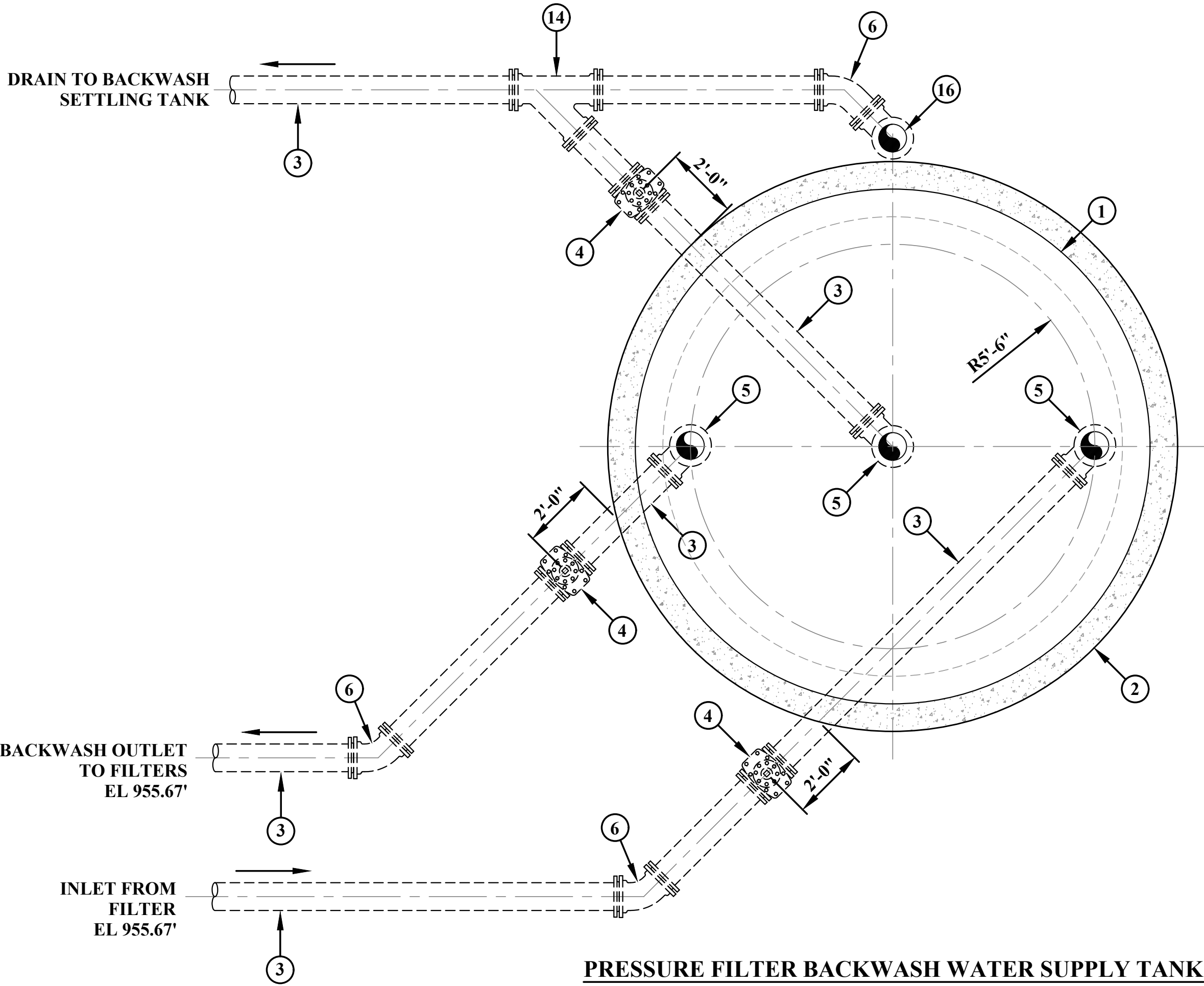
PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED BACKWASH PUMP STATION
PUMP STATION DETAILS

SHEET No.
8A



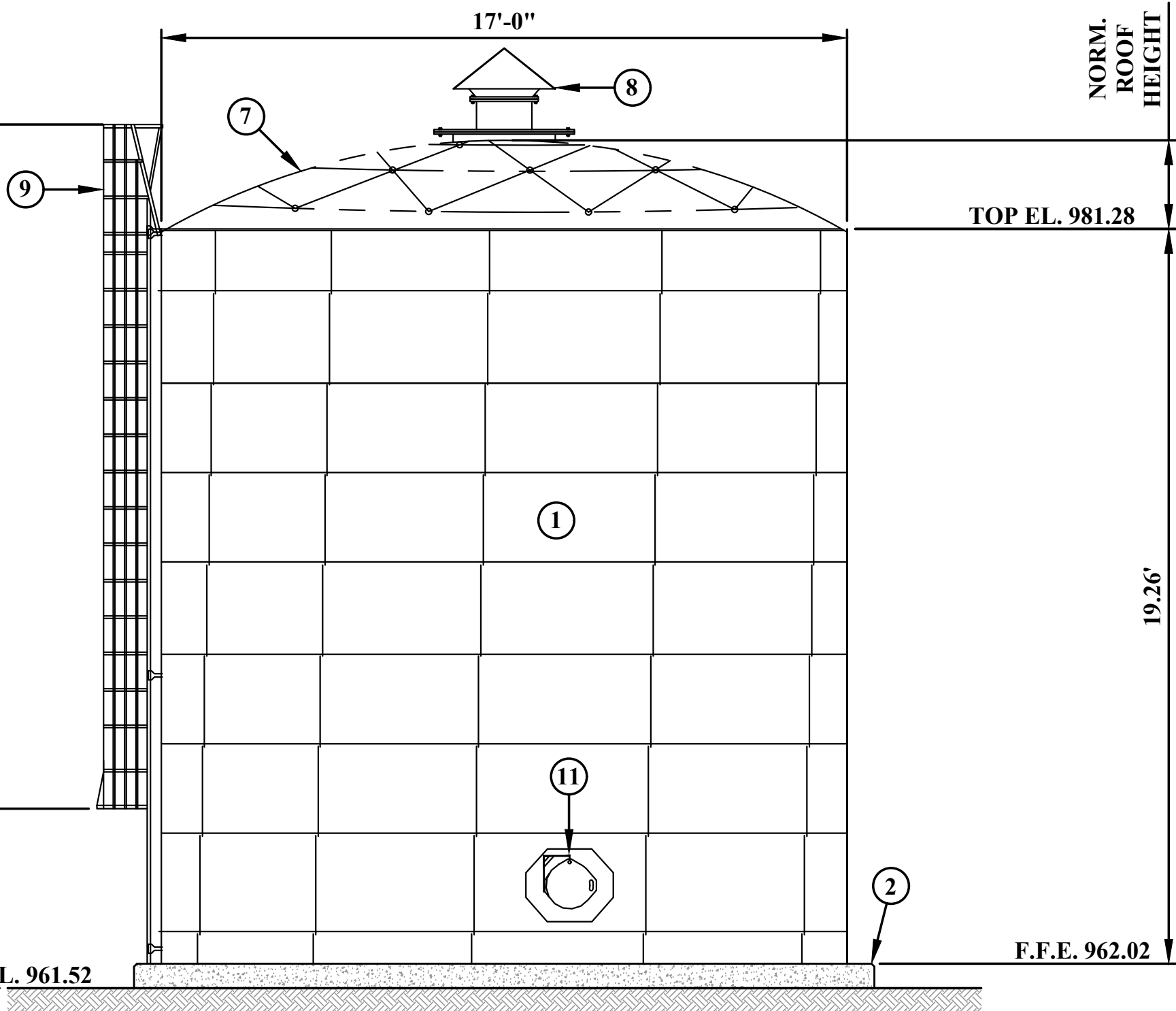
PRESSURE FILTER BACKWASH WATER SUPPLY TANK
ROOF PLAN



PRESSURE FILTER BACKWASH WATER SUPPLY TANK
PLAN

OSHA STANDARD 1926.1053 (A)(18) STATES THAT FIXED LADDERS SHALL BE PROVIDED WITH CAGES, WELLS, LADDER SAFETY DEVICES, OR SELF RETRACTING LIFELINES WHERE THE LENGTH OF THE CLIMB IS LESS THAN 24 FEET BUT THE TOP OF THE LADDER IS AT A DISTANCE GREATER THAN 24 FEET ABOVE LOWER LEVELS.

OSHA 1926.104 FOR LIFELINE APPLICATIONS A MINIMUM 3/4- INCH MANILA OR EQUIVALENT, WITH A MINIMUM BREAKING STRENGTH OF 5,000 LBS, SHALL BE USED. LIFELINES SHALL BE SECURED ABOVE POINT OF OPERATION TO AN ANCHORAGE OR STRUCTURAL MEMBER CAPABLE OF SUPPORTING A MINIMUM DEAD WEIGHT OF 5,400 LBS.



PRESSURE FILTER BACKWASH WATER SUPPLY TANK - ELEVATION

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE COATING SYSTEM AS REQUIRED BY SPECIFICATIONS.
2. THE TANK FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH AWWA STD .D-103, SEISMIC ZONE O, & 100 MPH WIND VELOCITY.
3. CONTRACTOR SHALL ASSUME A 3000 PSF SOIL BEARING CAPACITY.

KEY NOTES:

- ① 17' DIAMETER, 19.26' TALL BOLTED STEEL TANK. (SEE SPECIFICATION)
- ② CONCRETE FOUNDATION. (SEE DETAIL SHEET 9A)
- ③ 8" DIP.
- ④ 8" D.I. GATE VALVE, MJ W/ VALVE BOX AND LID.
- ⑤ 8" D.I. 90° FITTING, MJ.
- ⑥ 8" D.I. 45° FITTING, MJ.
- ⑦ ALUMINUM DOME ROOF.
- ⑧ ROOF VENT.
- ⑨ LADDER AND SAFETY CAGE.
- ⑩ 24" X 24" ROOF HATCH.
- ⑪ MANWAY.
- ⑫ ALUMINUM HANDRAIL.
- ⑬ CONCRETE SIDEWALK.
- ⑭ 8" D.I. WYE FITTING, MJ.
- ⑮ TANK OVERFLOW.

2	SMD	11JAN2023	TUSC. COUNTY REVIEW	
1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

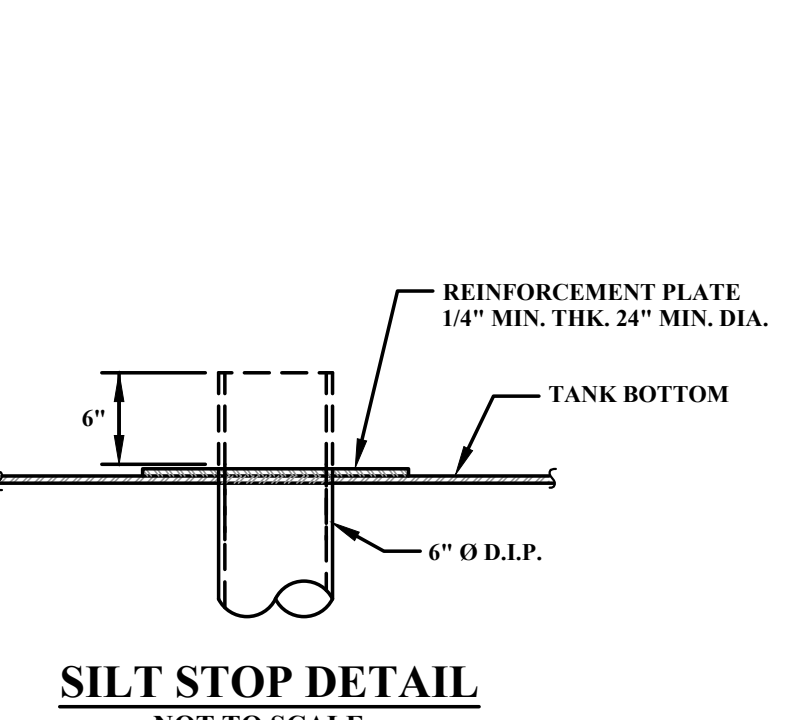
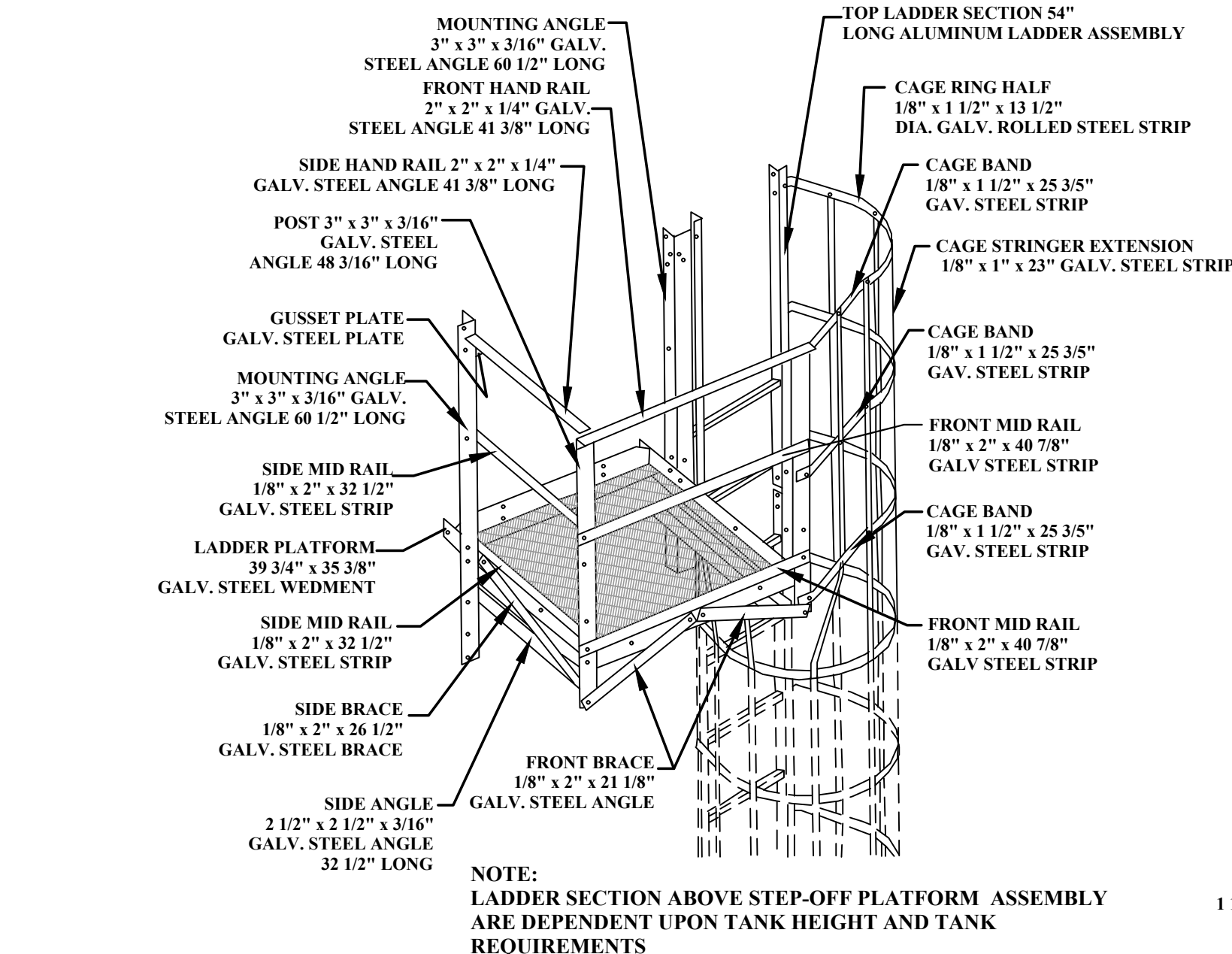
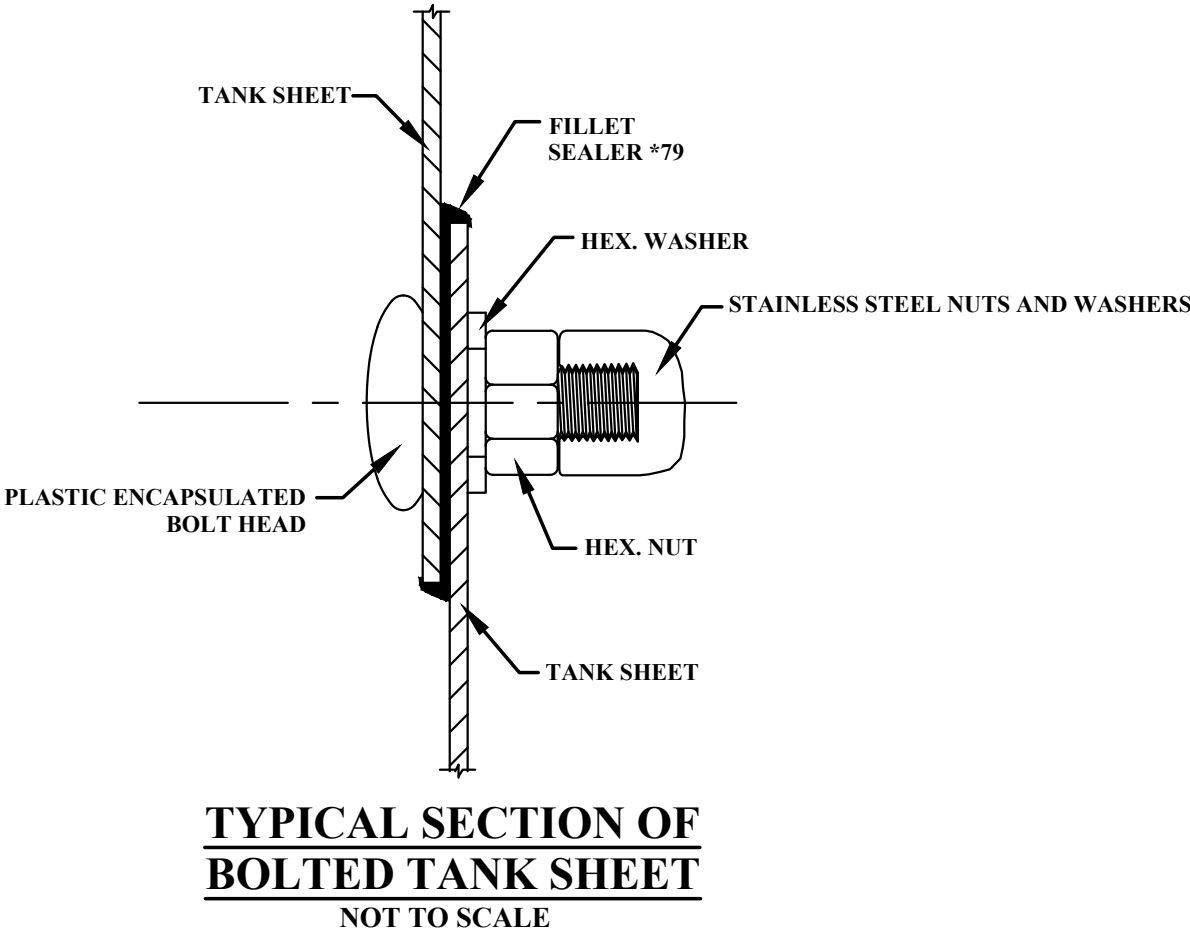
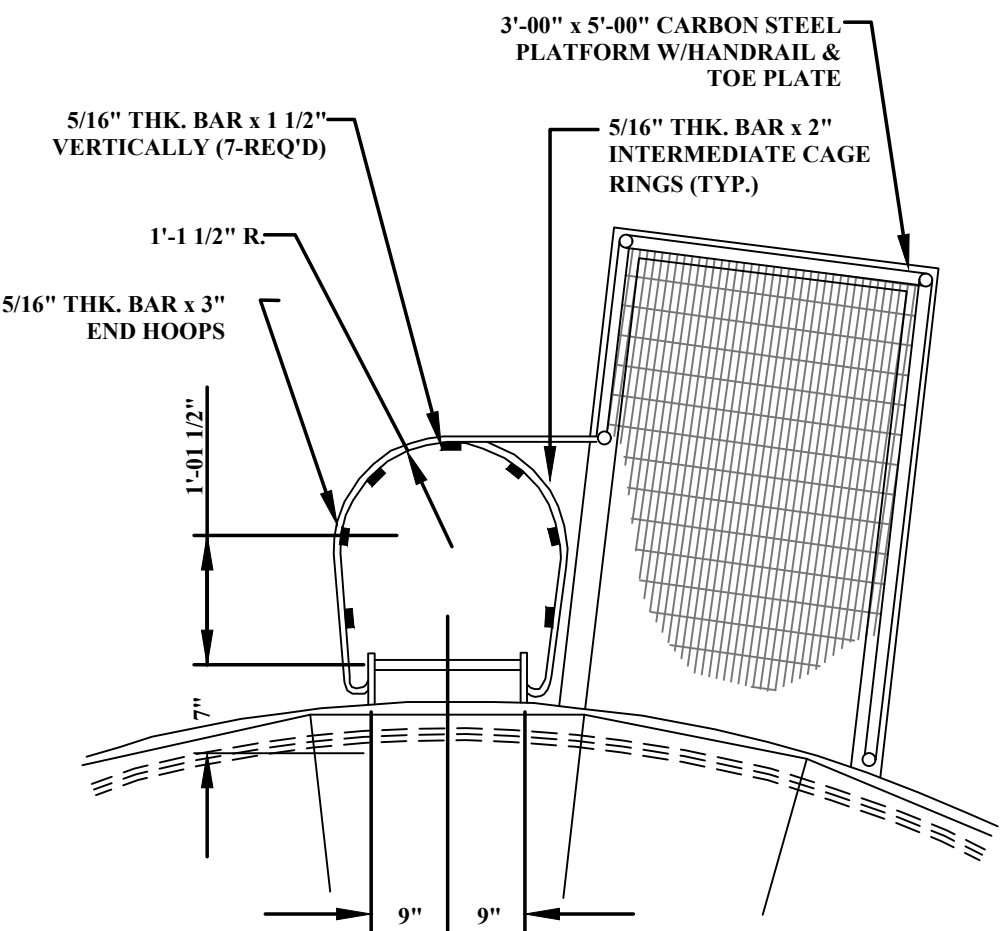
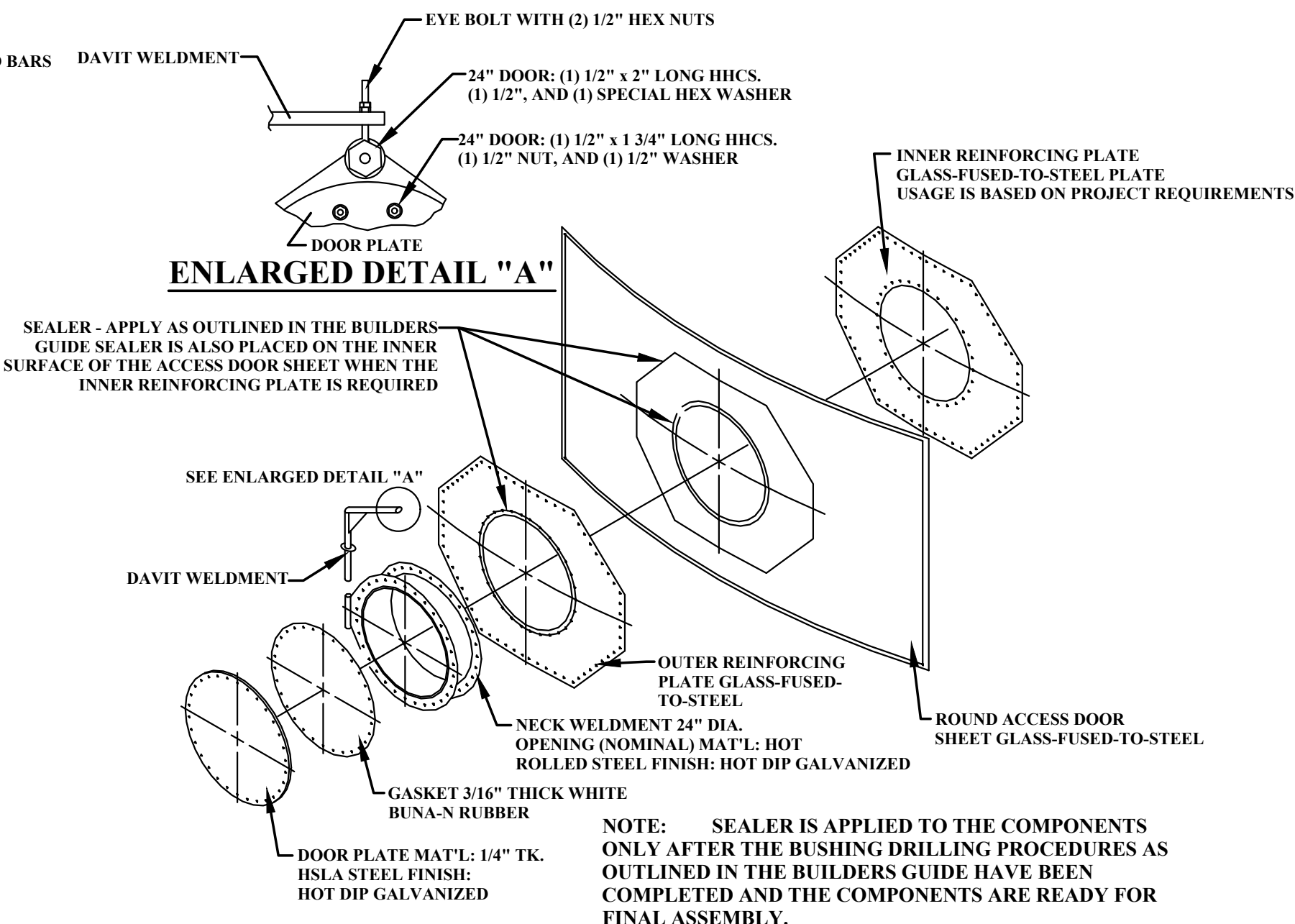
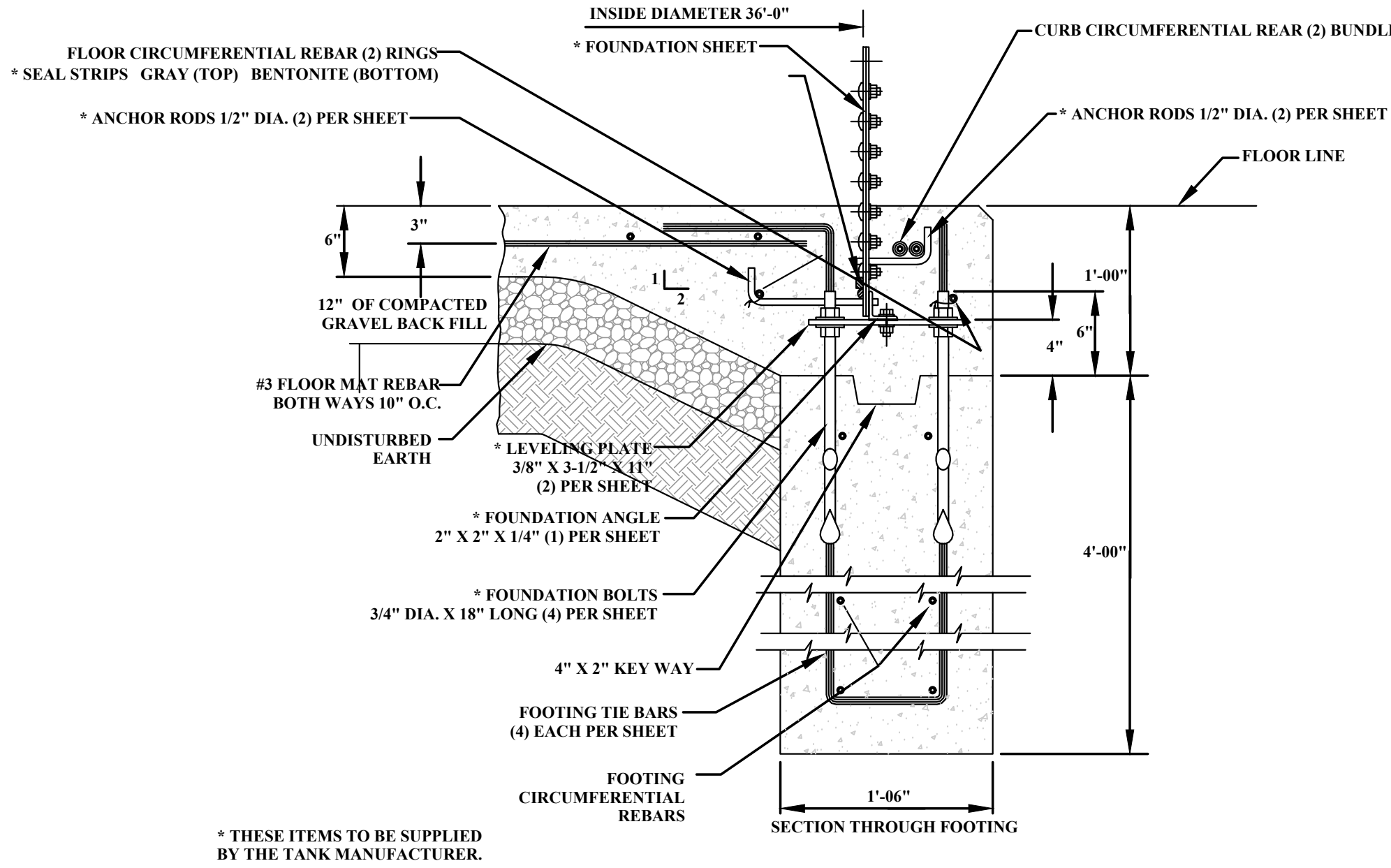
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DRAWN: RRS	DATE: APRIL 2020
CHECKED: RSS	DATE: APRIL 2020
APPROVED: JCC	DATE: MAY 2020
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SURVEY BY:	
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CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED PRESSURE FILTER BACKWASH TANK PLAN AND ELEVATION

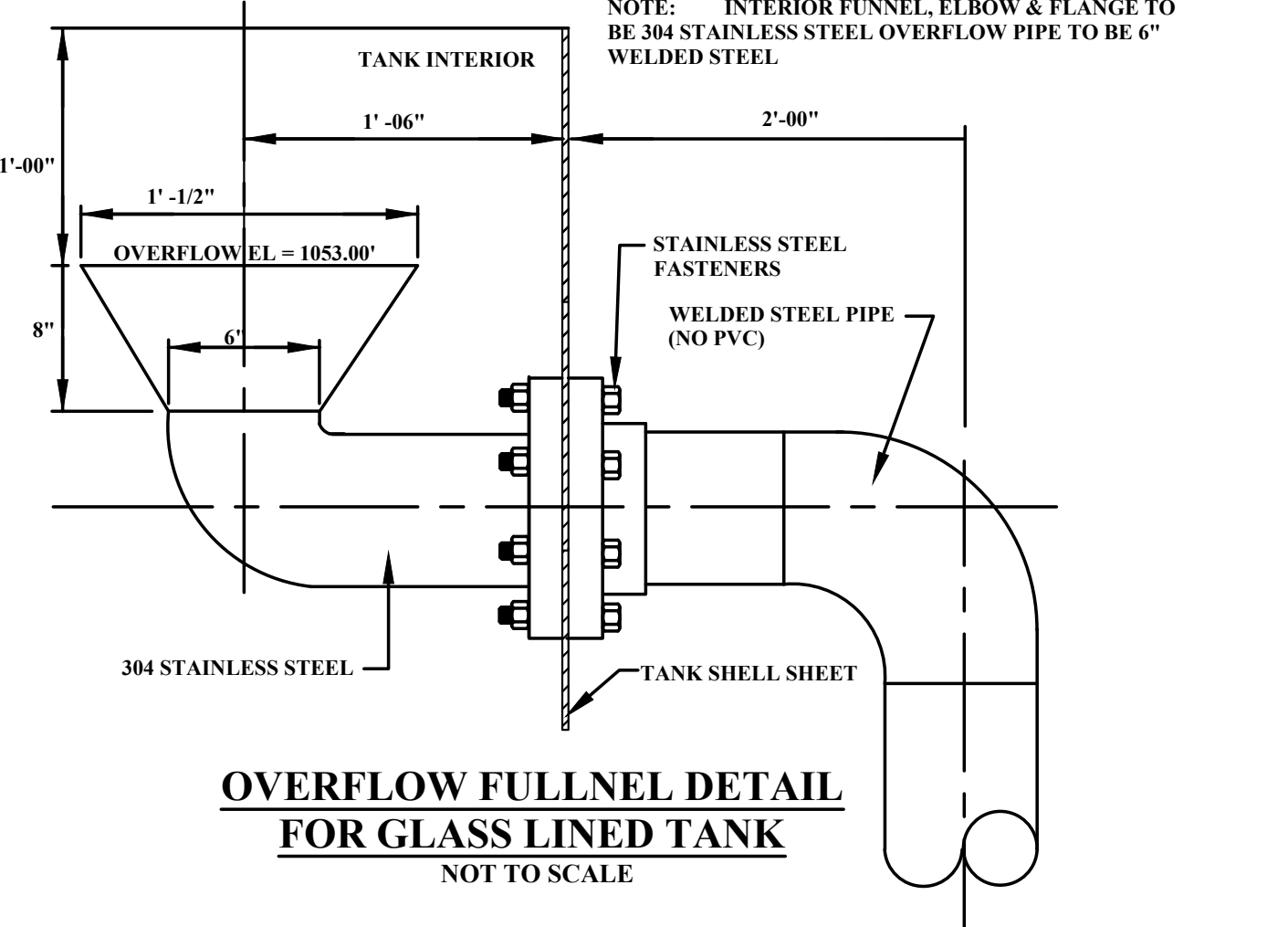
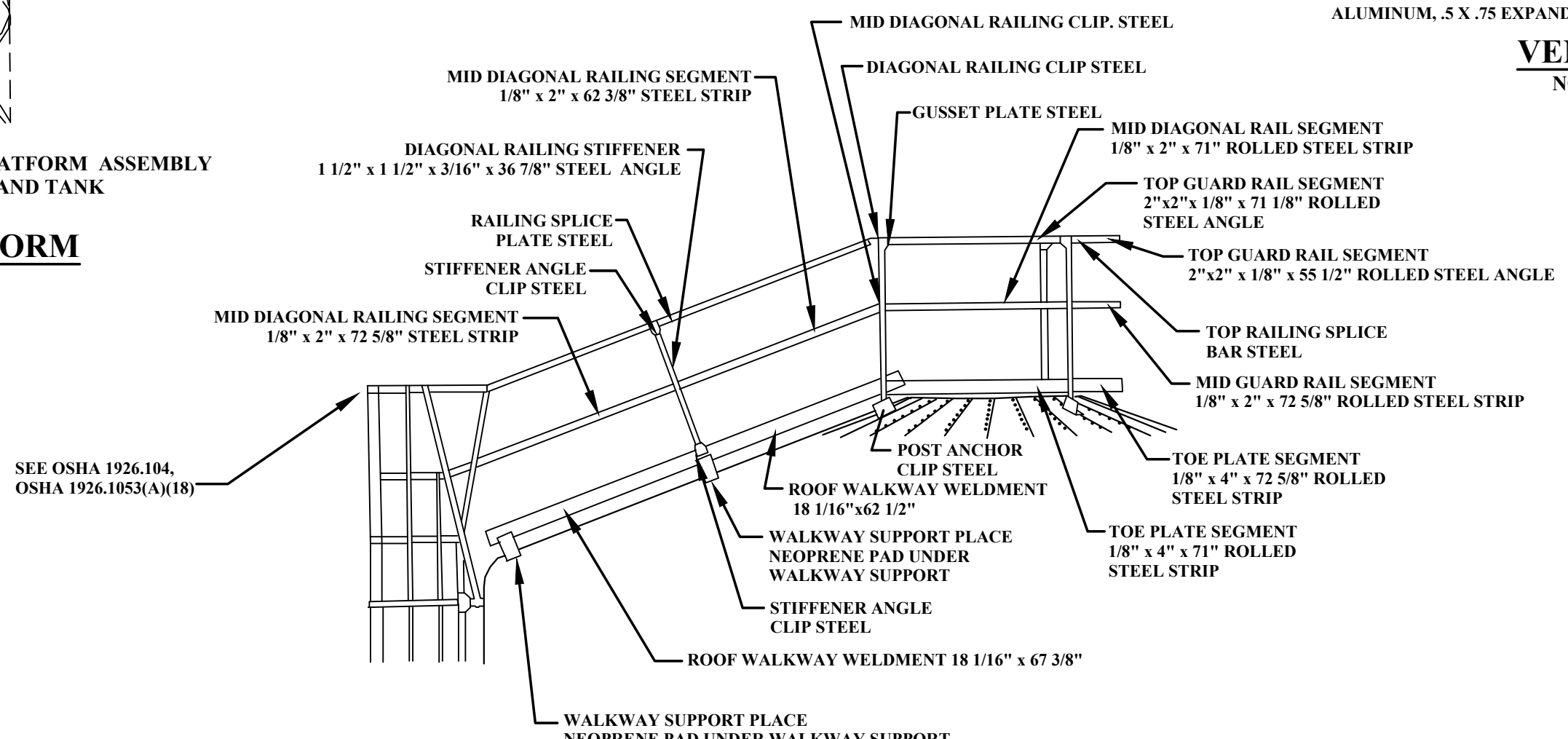
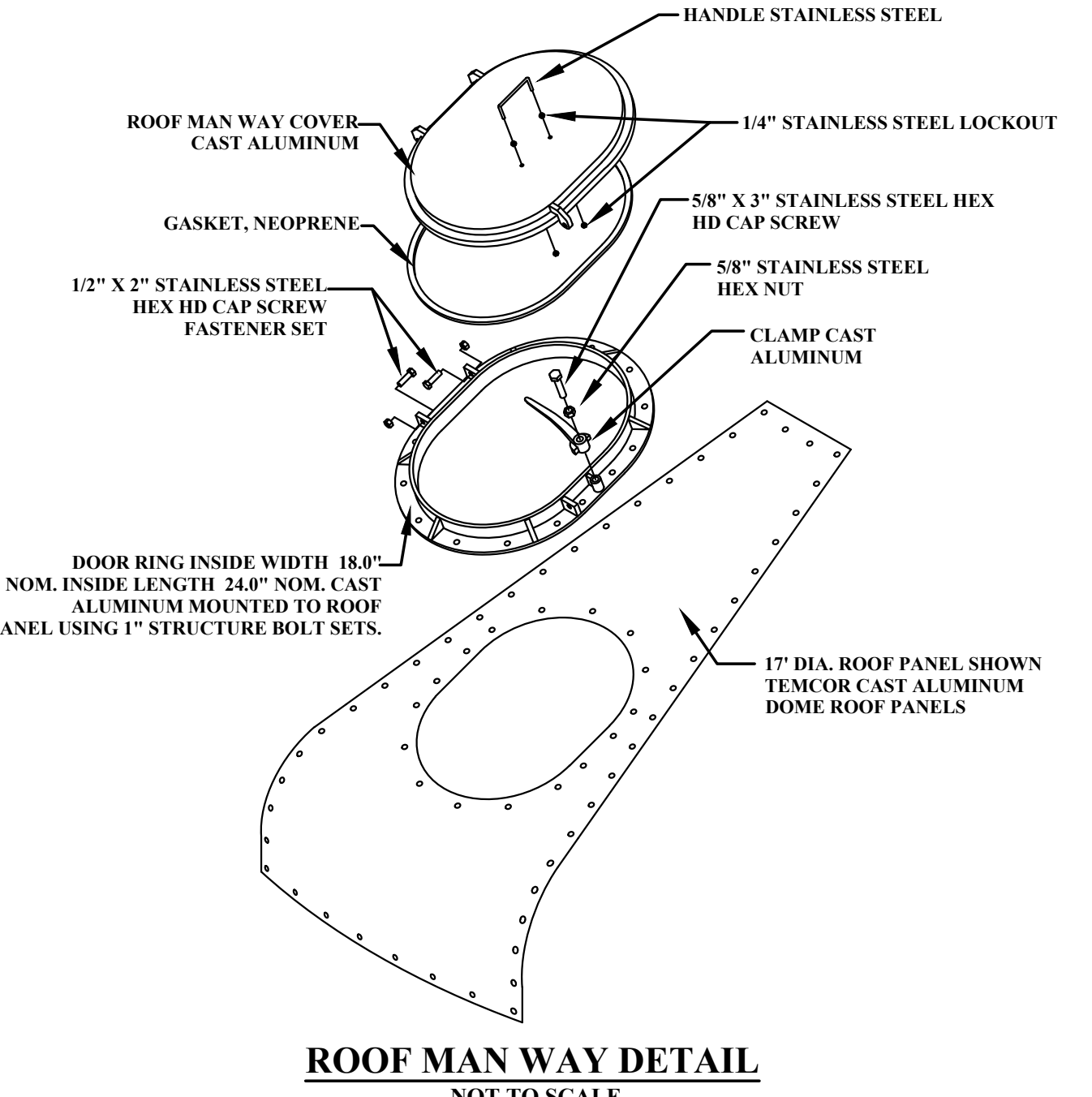
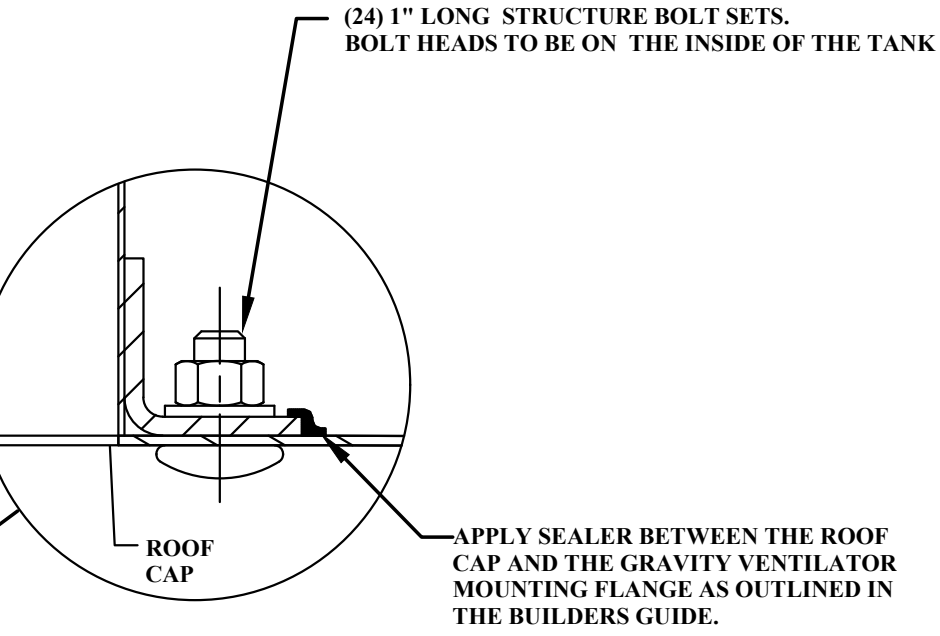
SHEET No.
9



VENT CAPACITY CHART							
VENT THROAT DIAMETER	3.14 SQUARE FEET						
VELOCITY FPM	400	500	600	700	800	900	1000
EXHAUST PRESSURE DROP	.025	.035	.050	.070	.090	.120	.155
SUPPLY PRESSURE DROP	.060	.090	.130	.180	.240	.300	.380
CFM	1258	1511	1885	2200	2515	2830	3140

REMOVE THE (4) FASTENERS AND THE TOP COVER TO OBTAIN ACCESS TO THE TANK INTERIOR. RE-INSTALL AFTER MOUNTING THE VENTILATOR ONTO THE ROOF CAP.

GRAVITY VENTILATOR GENERAL CONSTRUCTION HOUSING COVER AND SUPPORT MEMBERS - ALUMINUM INSECT SCREEN - 23 TO 25 MESH .0135"/.0145" DIA. POLYESTER MONOFILAMENT WIRE BIRD SCREEN - .063 THICK ALUMINUM, .5 X .75 EXPANDED MESH



NO.	BY	DATE	QA/QC REVIEW	DESCRIPTION
1	SMD	8DEC2022	QA/QC REVIEW	

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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED PRESSURE FILTER BACKWASH TANK
DETAILS



NO.	BY	DATE	DESCRIPTION

SCALE: 1" = 200 FEET	
DRAWN: RRS	DATE: APRIL 2020
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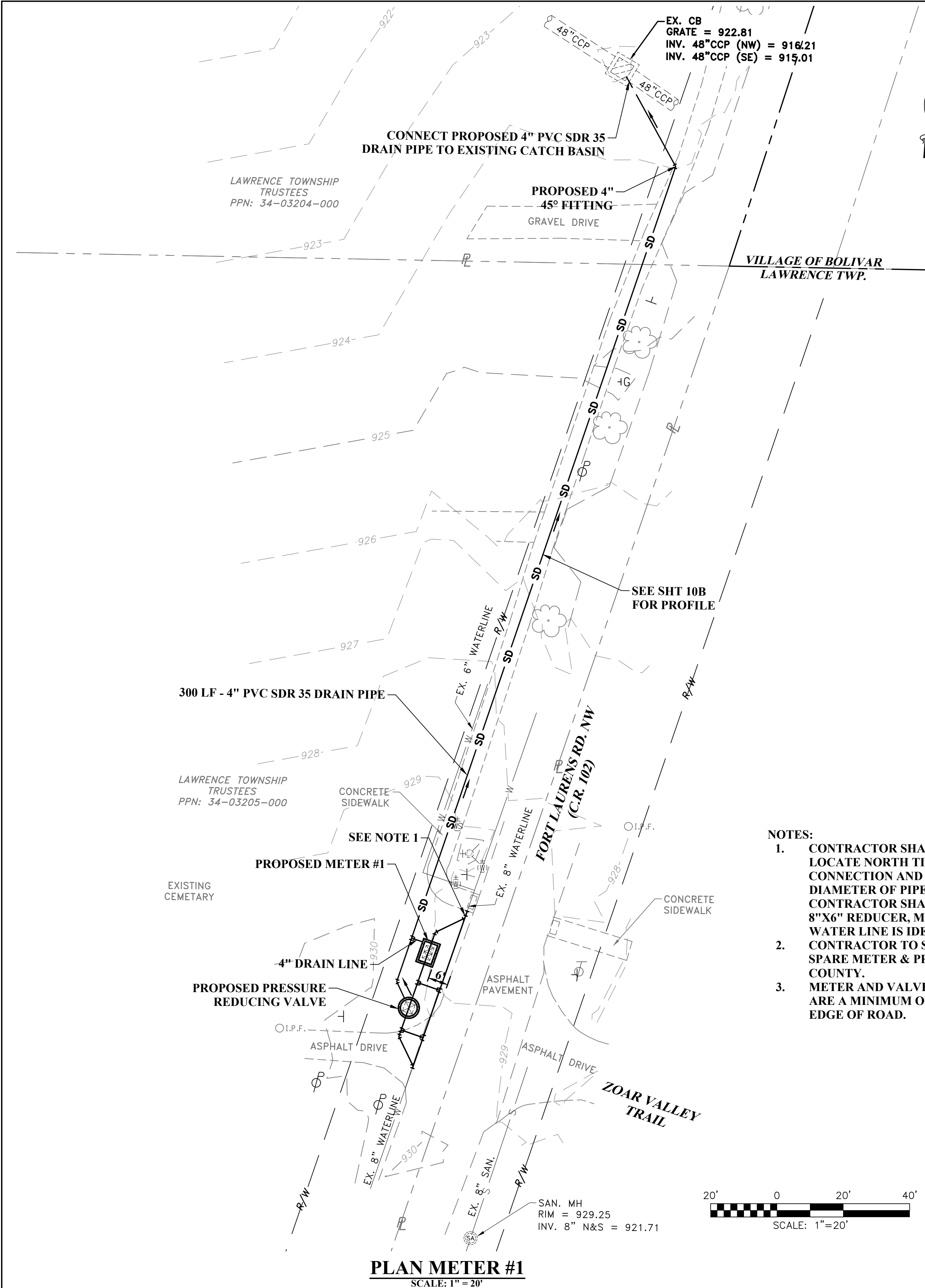
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

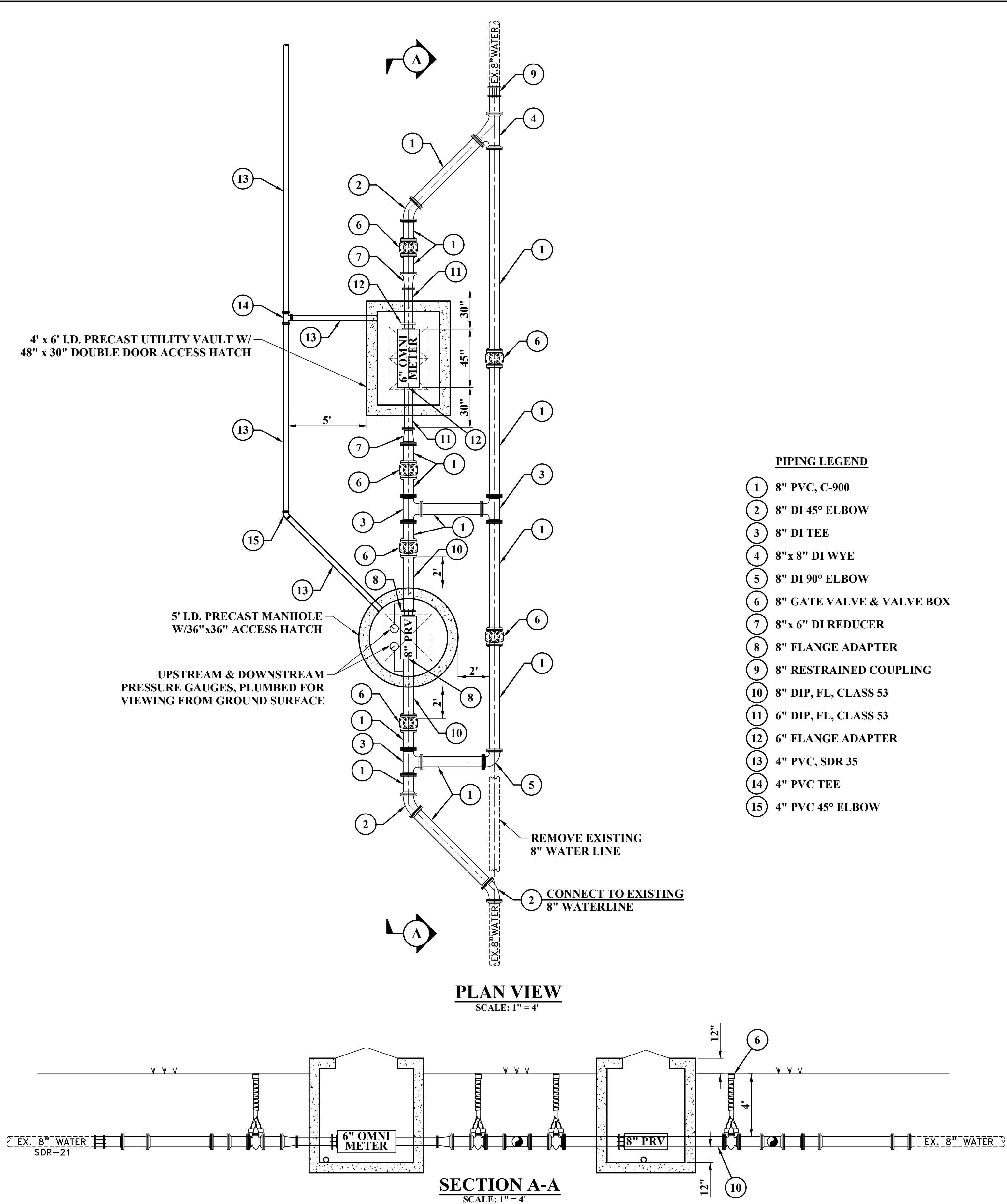
METER LOCATION MAP

SHEET No.
10



NOTES:

1. CONTRACTOR SHALL FIELD LOCATE NORTH TIE-IN CONNECTION AND DETERMINE DIAMETER OF PIPE. CONTRACTOR SHALL PROVIDE 8"X6" REDUCER, MJ IF A 6" WATER LINE IS IDENTIFIED.
2. CONTRACTOR TO SUPPLY SPARE METER & PRV TO COUNTY.
3. METER AND VALVE VAULT ARE A MINIMUM OF 5.5' FROM EDGE OF ROAD.



PIPING LEGEND

- 1 8" PVC, C-900
- 2 8" DI 45° ELBOW
- 3 8" DI TEE
- 4 8"x 8" DI WYE
- 5 8" DI 90° ELBOW
- 6 8" GATE VALVE & VALVE BOX
- 7 8"x 6" DI REDUCER
- 8 8" FLANGE ADAPTER
- 9 8" RESTRAINED COUPLING
- 10 8" DIP, FL, CLASS 53
- 11 6" DIP, FL, CLASS 53
- 12 6" FLANGE ADAPTER
- 13 4" PVC, SDR 35
- 14 4" PVC TEE
- 15 4" PVC 45° ELBOW

NO.	BY	DATE	DESCRIPTION
3	AMF	13FEB2023	COUNTY REVIEW
2	SMD	2FEB2023	QA/QC REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

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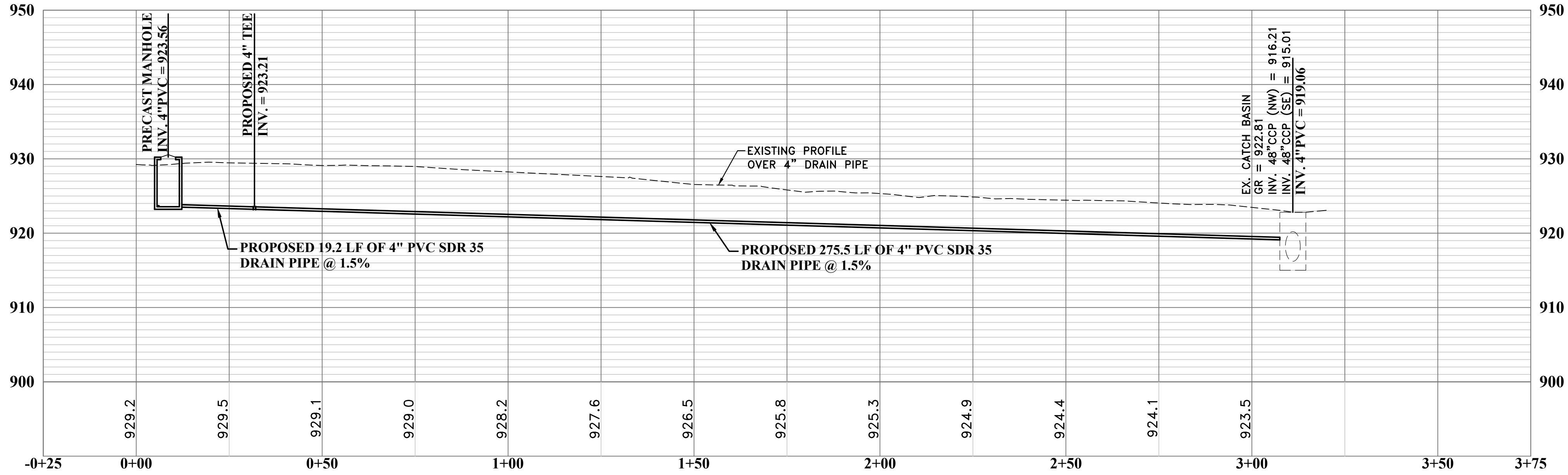
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CONTRACT No.	
PROJECT No.	010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS METER #1 PLAN AND DETAILS

SHEET No.	10A
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CAD FILE: R:\010\010-1120 - Wilshire Hills Water System Improvements Preliminary Report - Tuscarawas County Sanitary Engineer - Canton\Drawing\014-Meters Details.dwg PLOT DATE/TIME: 2/16/2023 12:51 PM LAYOUT: Sheet 10AA USER: scott m. dotson



PROFILE 4" PVC DRAIN PIPE
SCALE: HORIZ:1" = 20' VERT:1" = 10'

1	SMD	8DEC2022	QA/QC REVIEW	
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APPROVED:	DATE:
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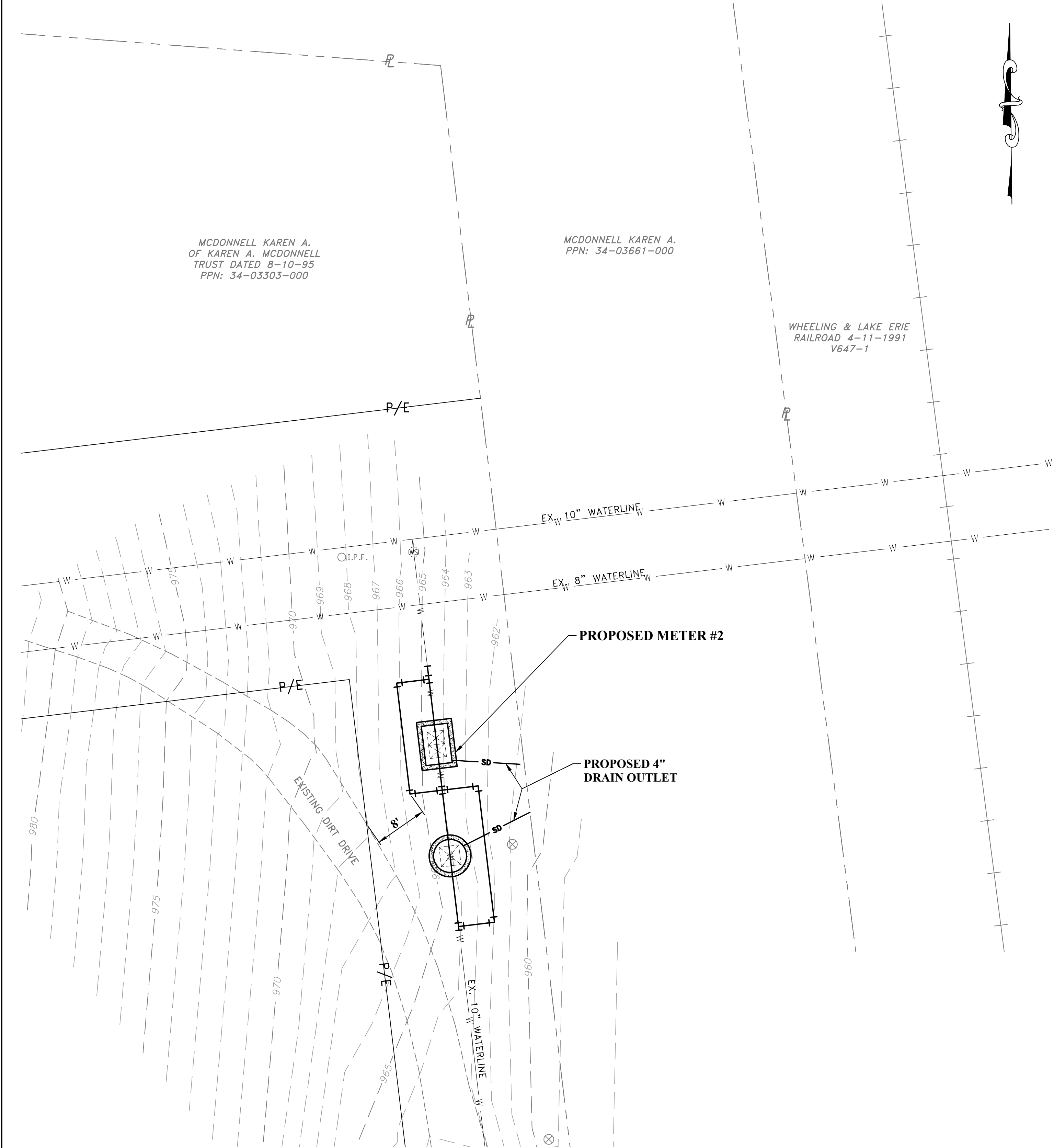
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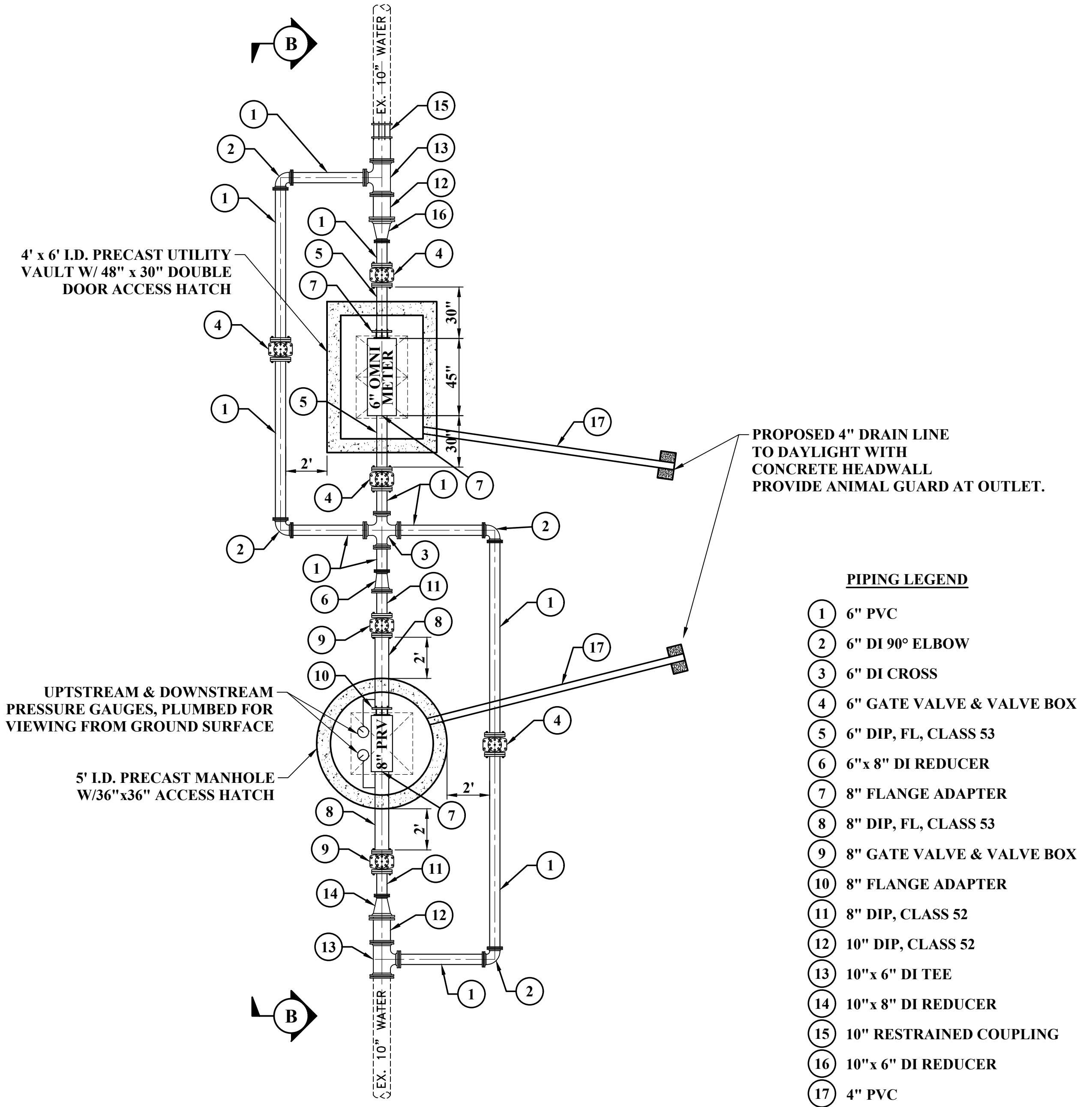
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PROJECT No.
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
METER #1
PROFILE 4" DRIAN PIPE

SHEET No.
10AA



PLAN METER #2
SCALE: 1" = 10'



PLAN VIEW
SCALE: 1" = 4'

SECTION B-B
SCALE: 1" = 4'

1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE: AS NOTED	
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
METER #2
PLAN AND DETAILS

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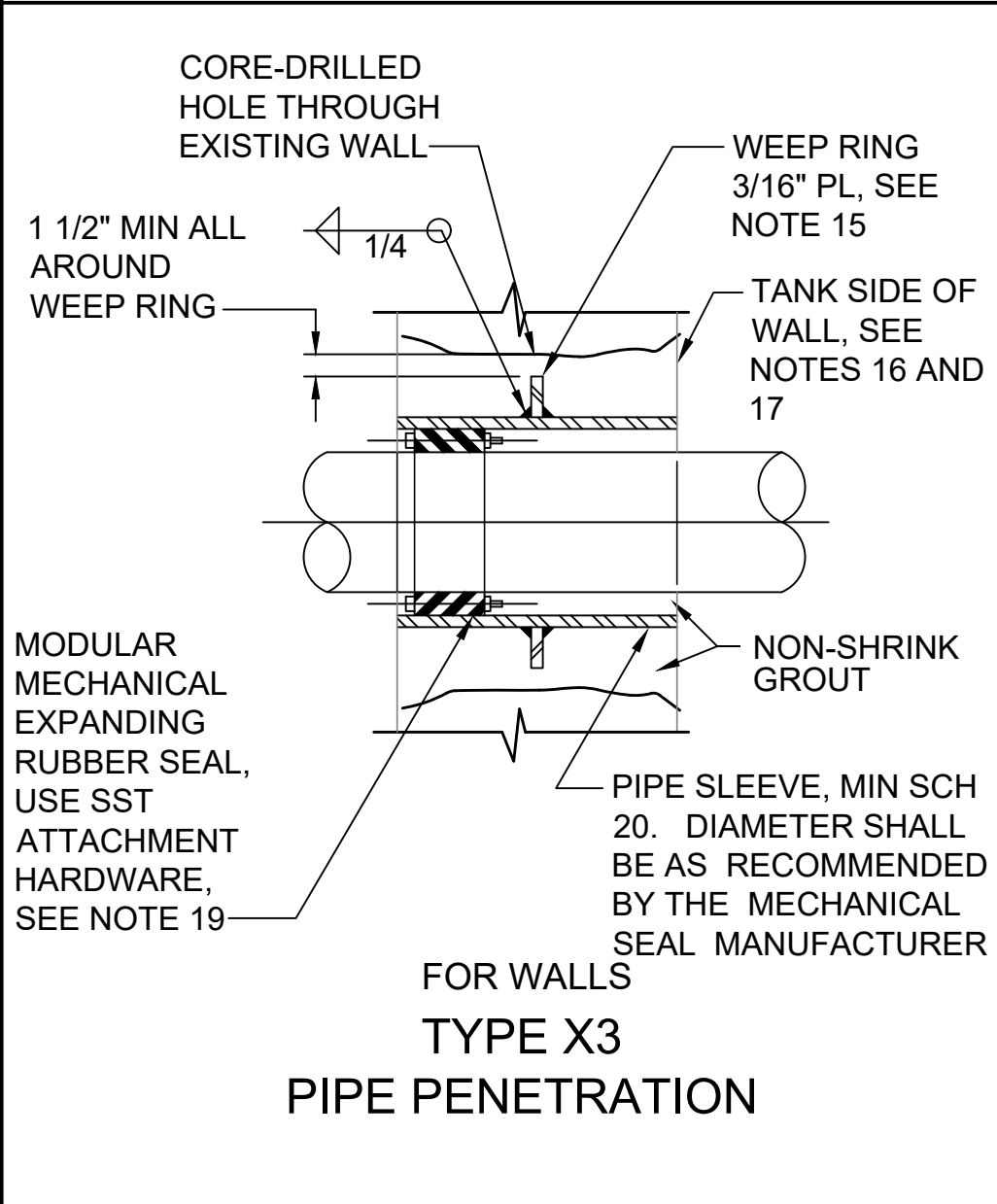
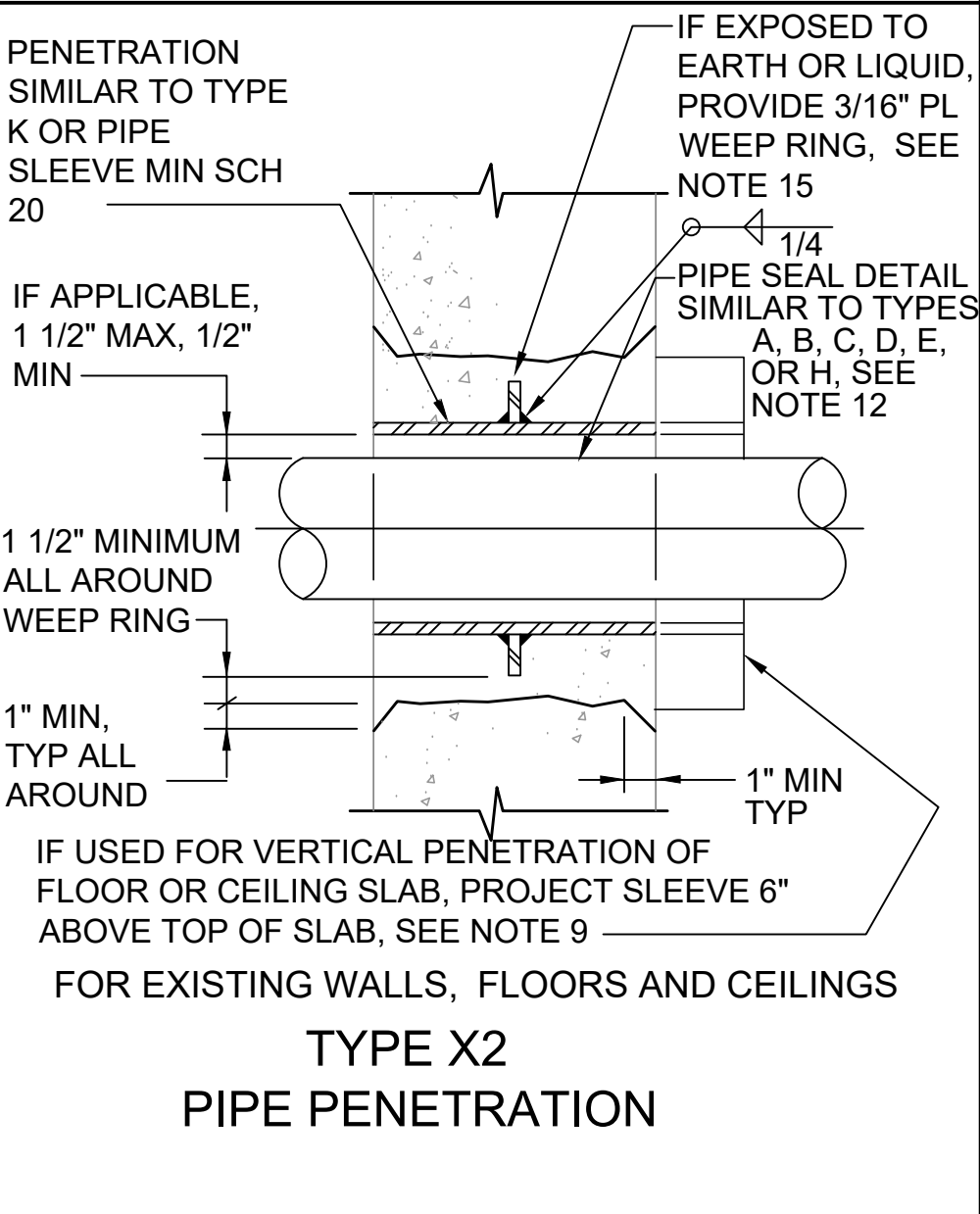
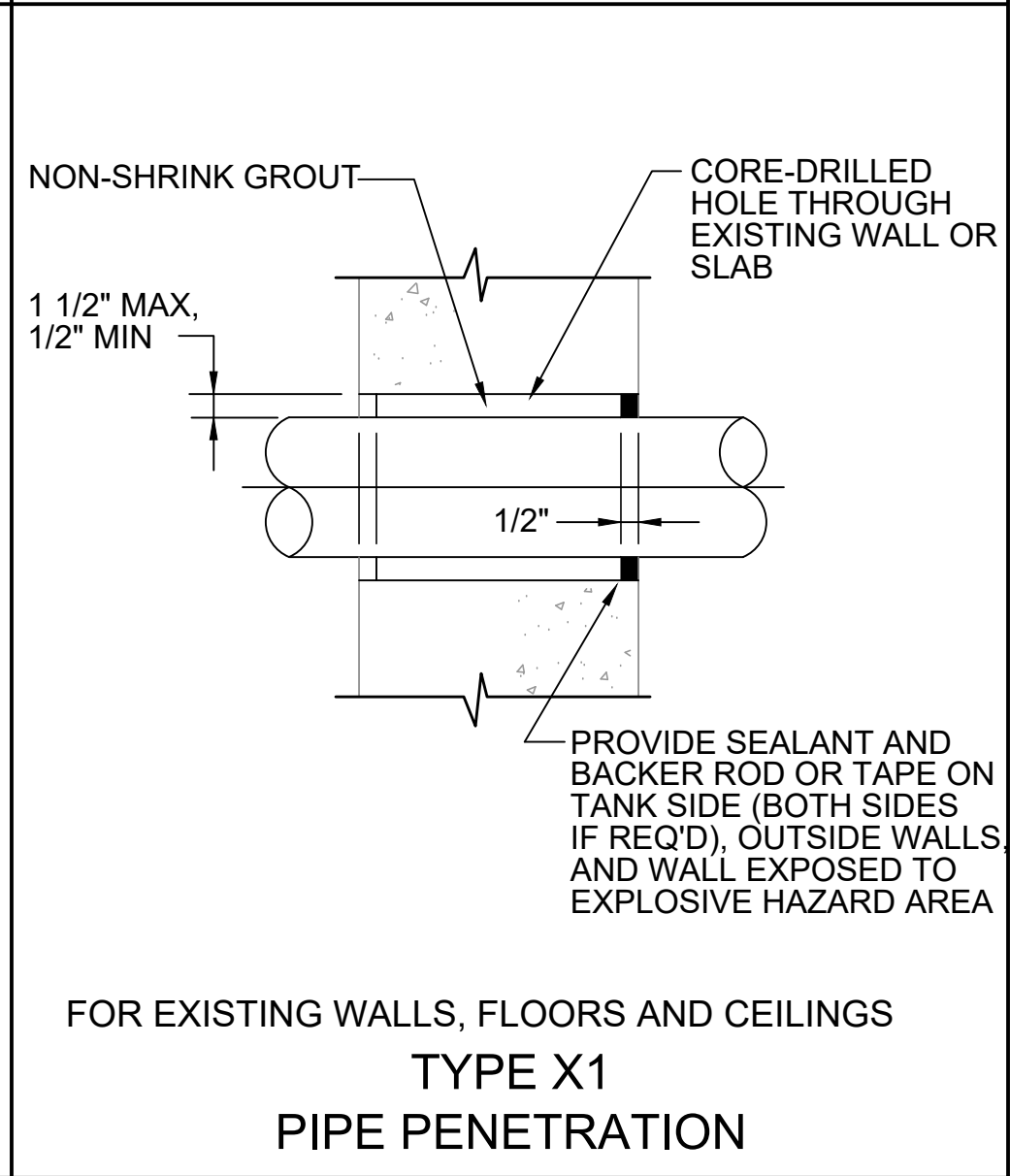
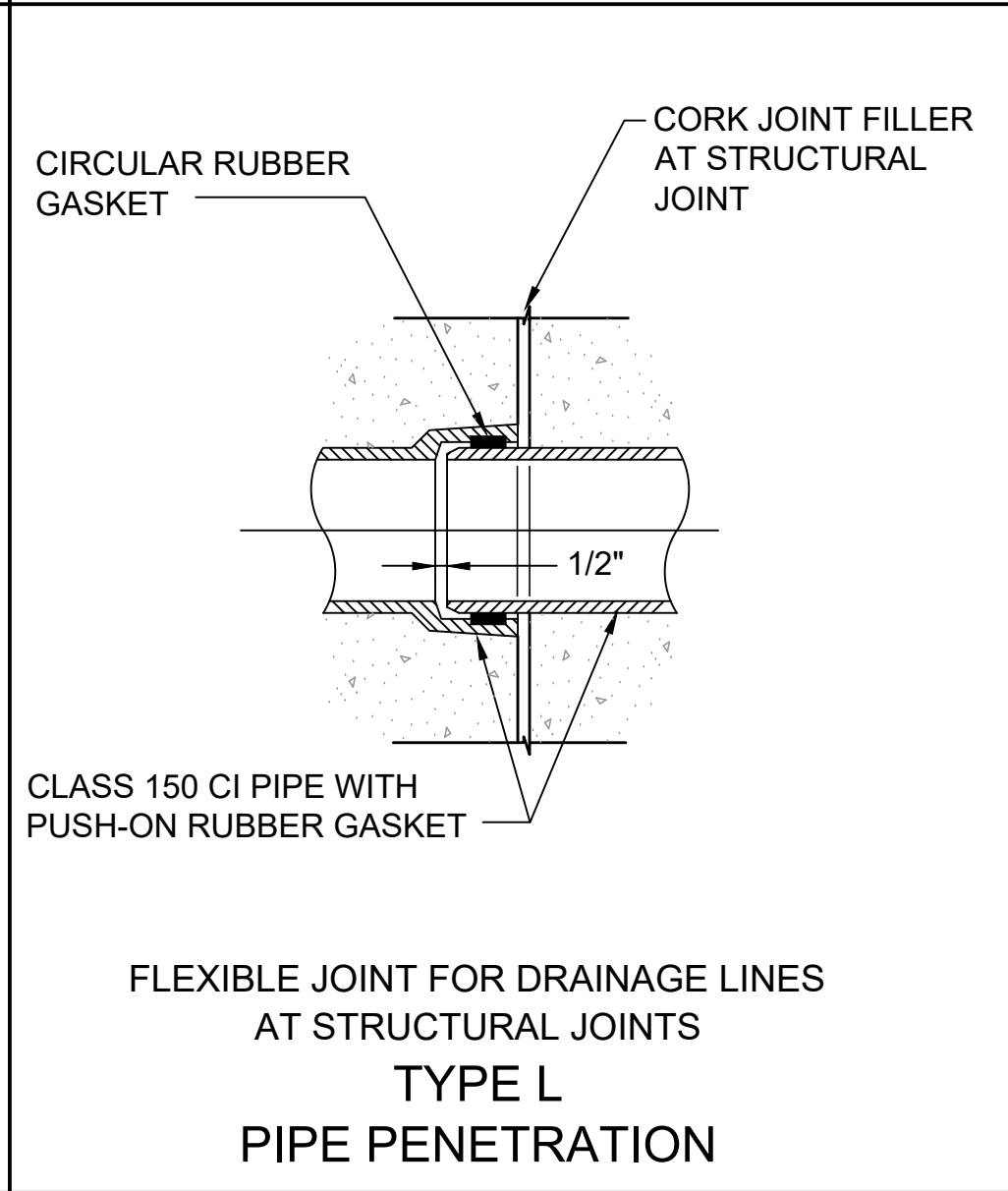
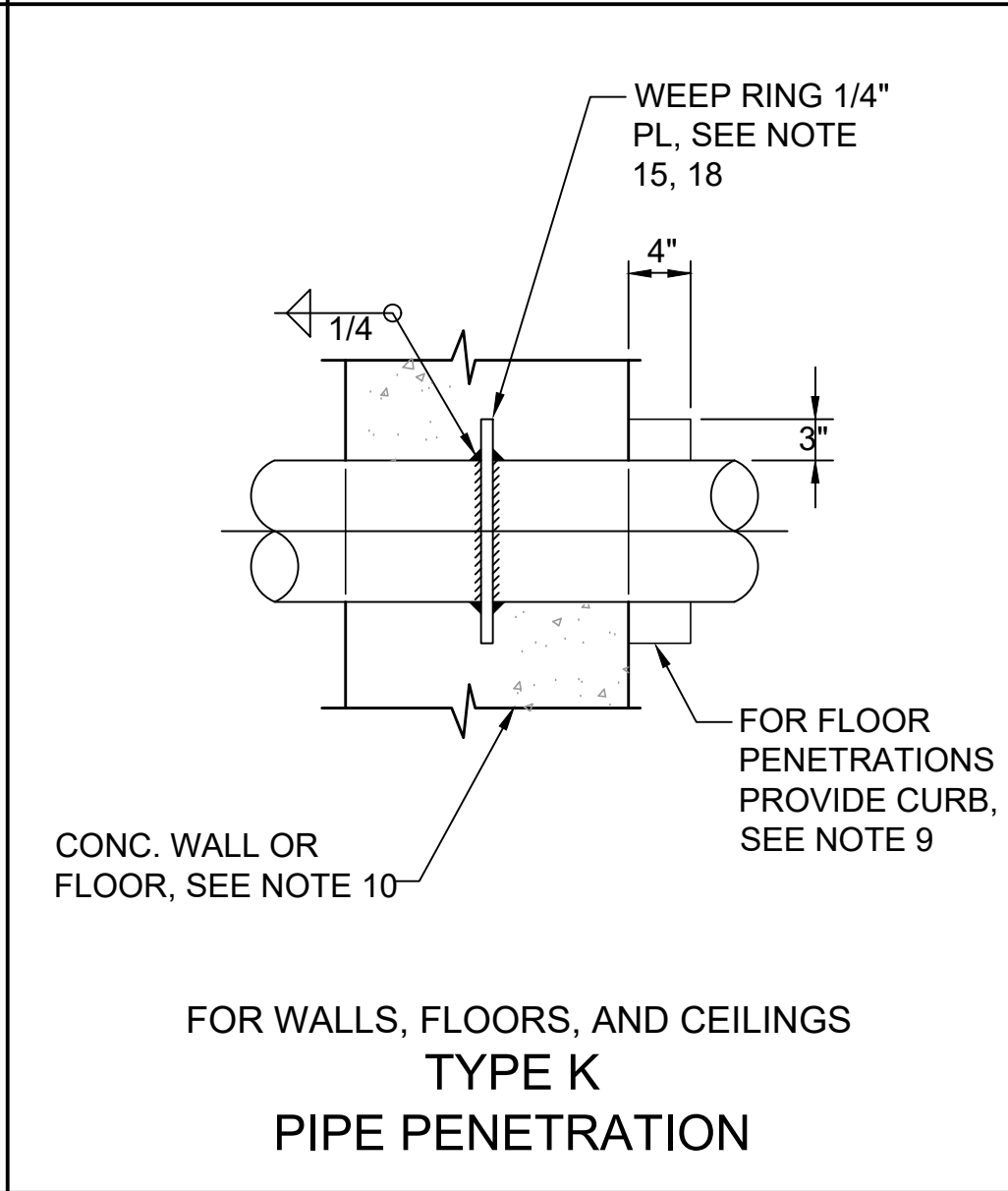
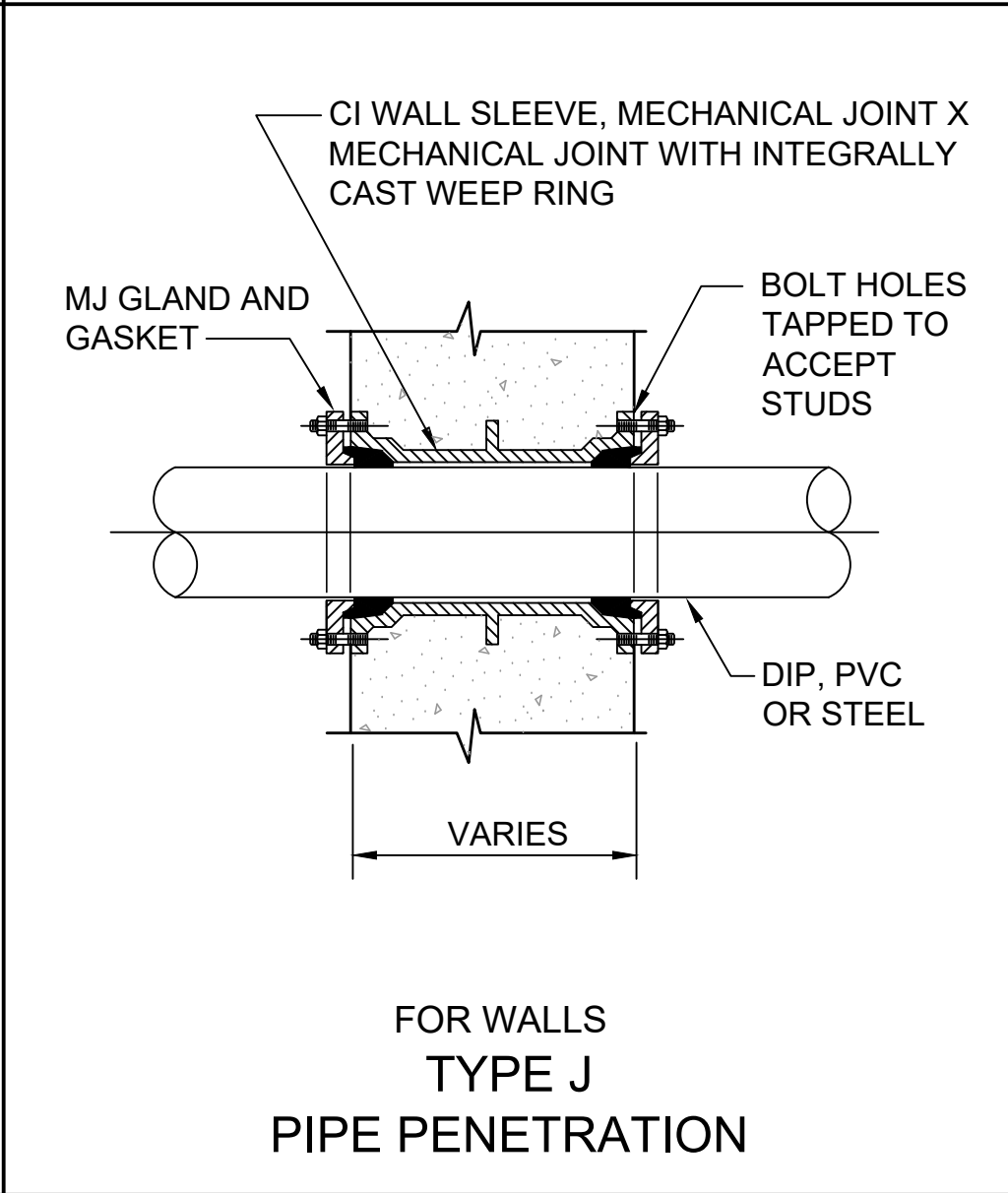
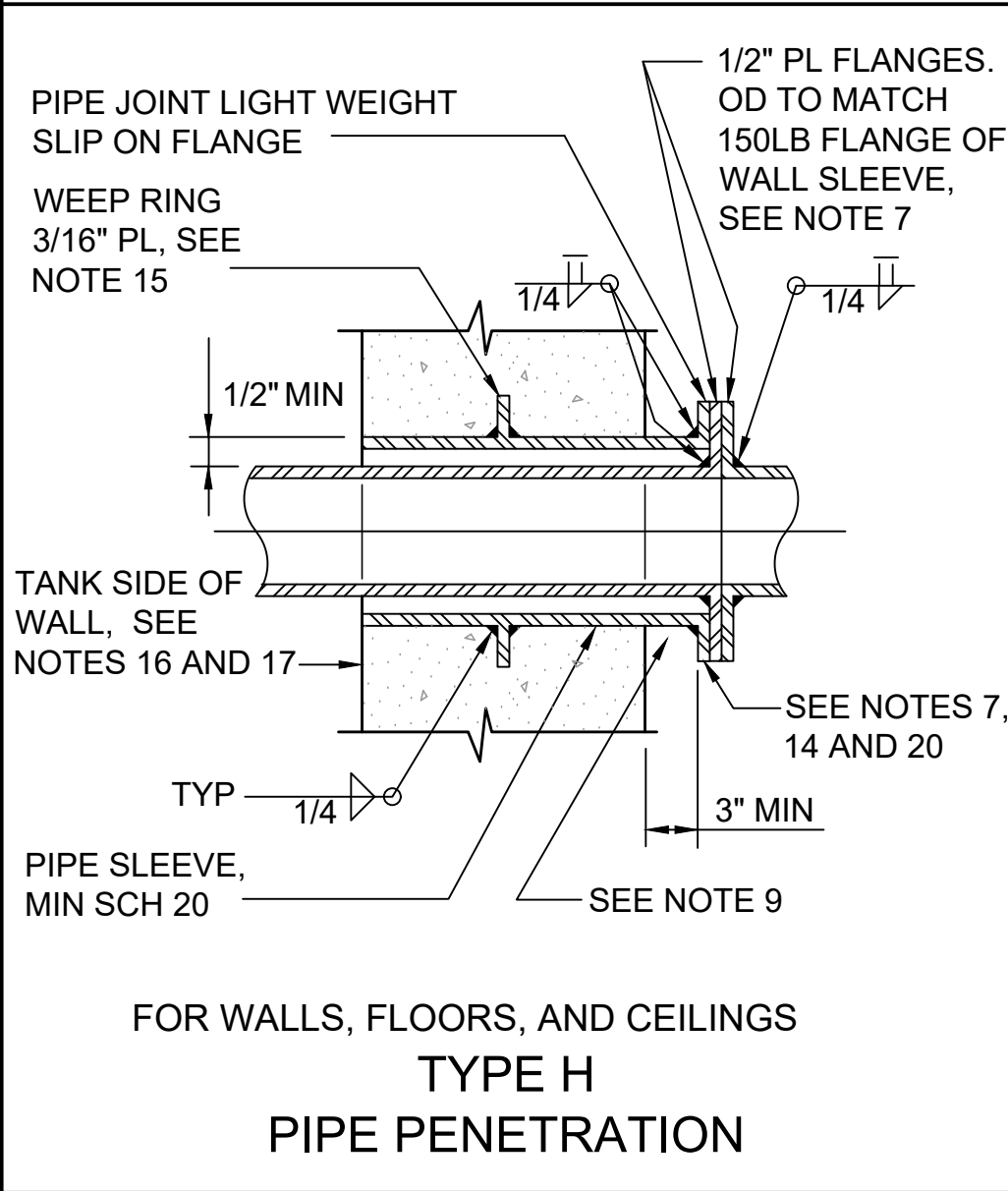
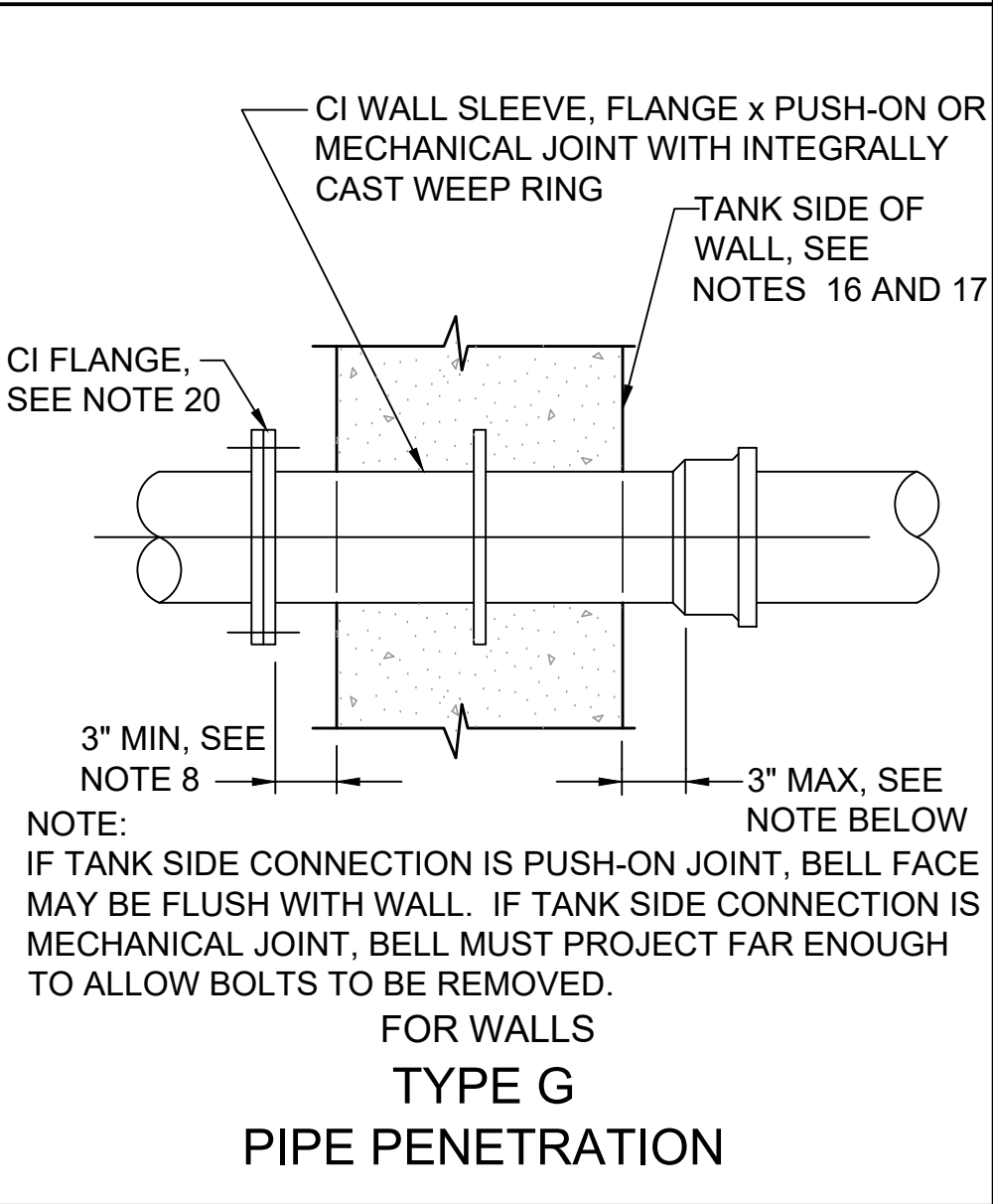
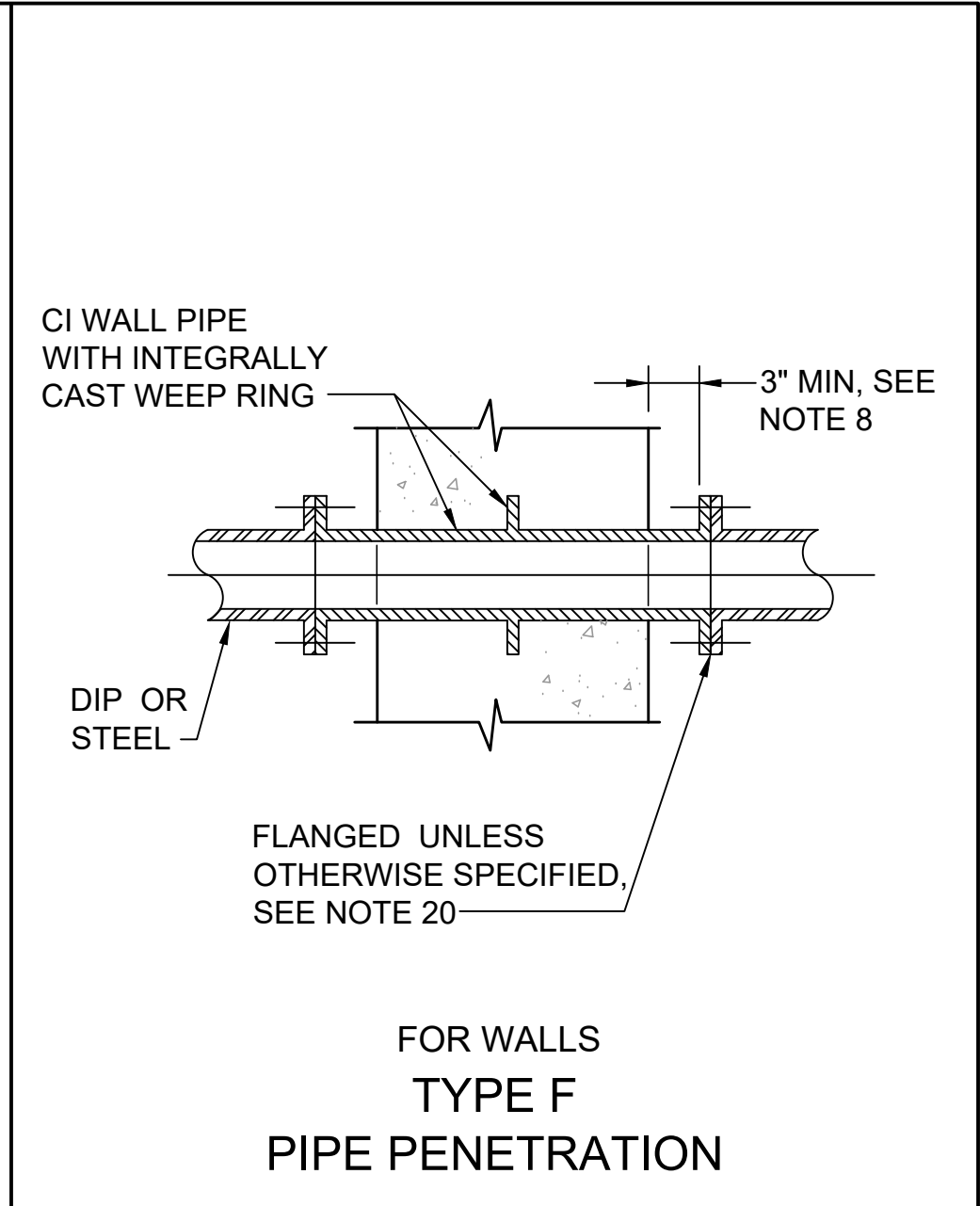
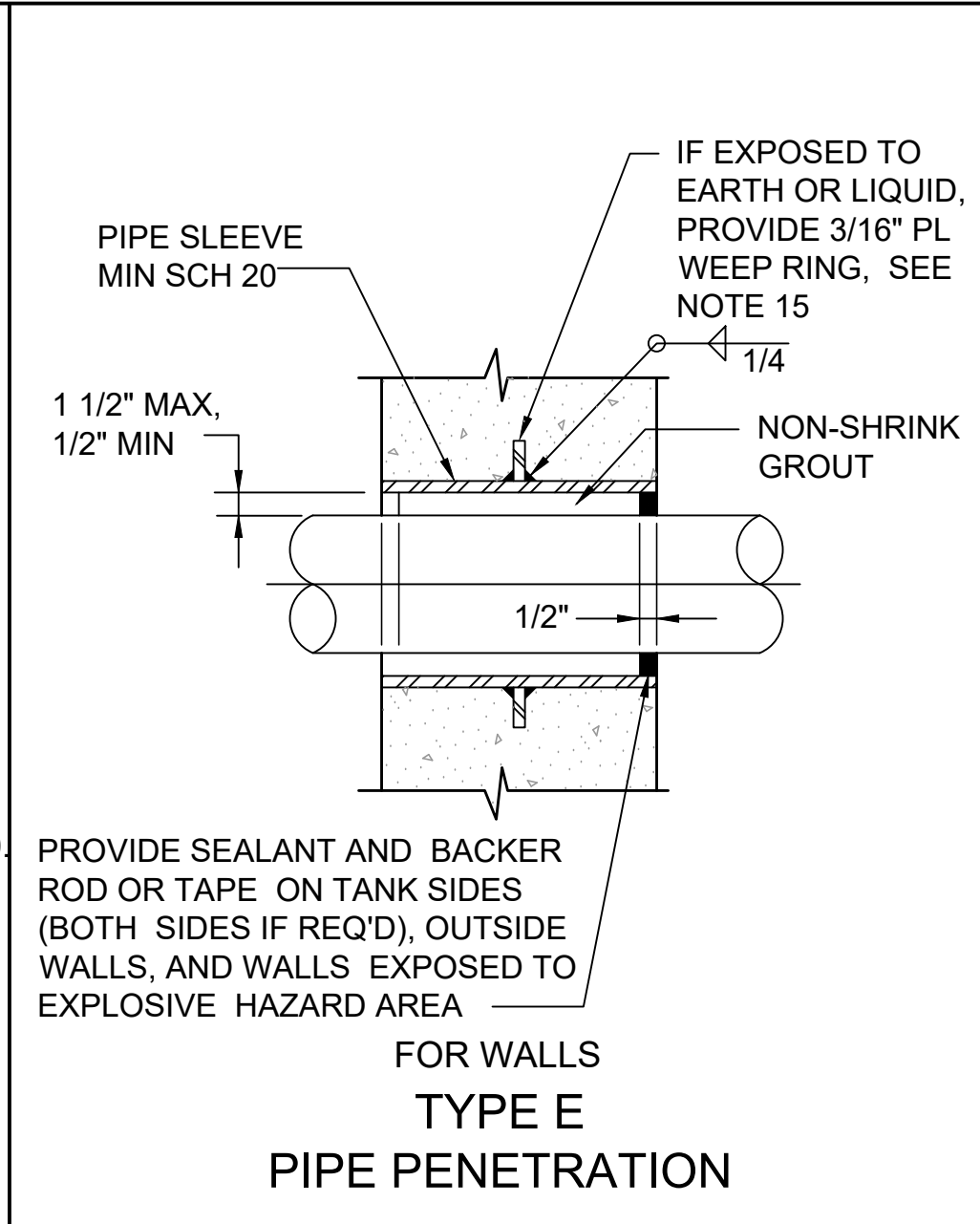
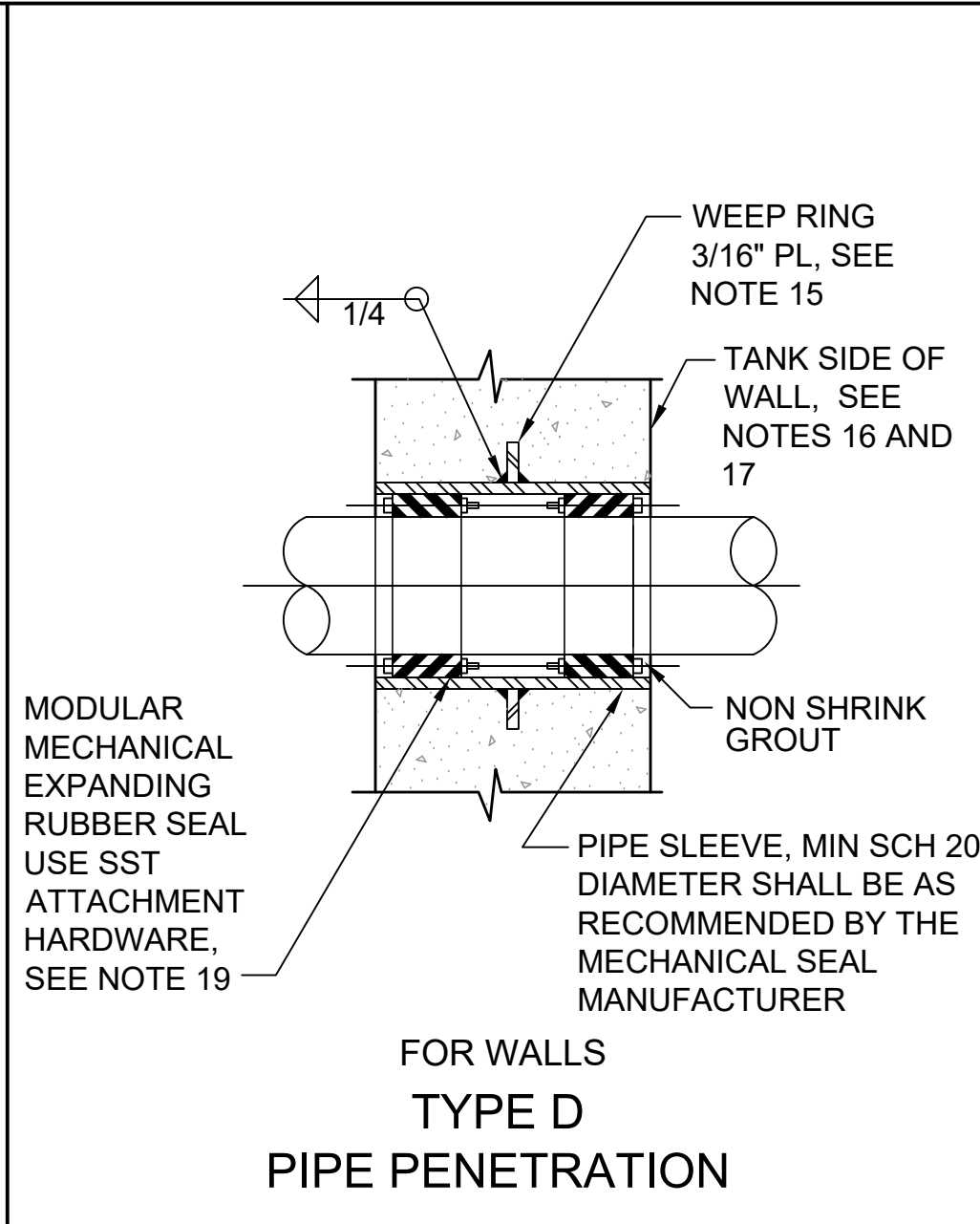
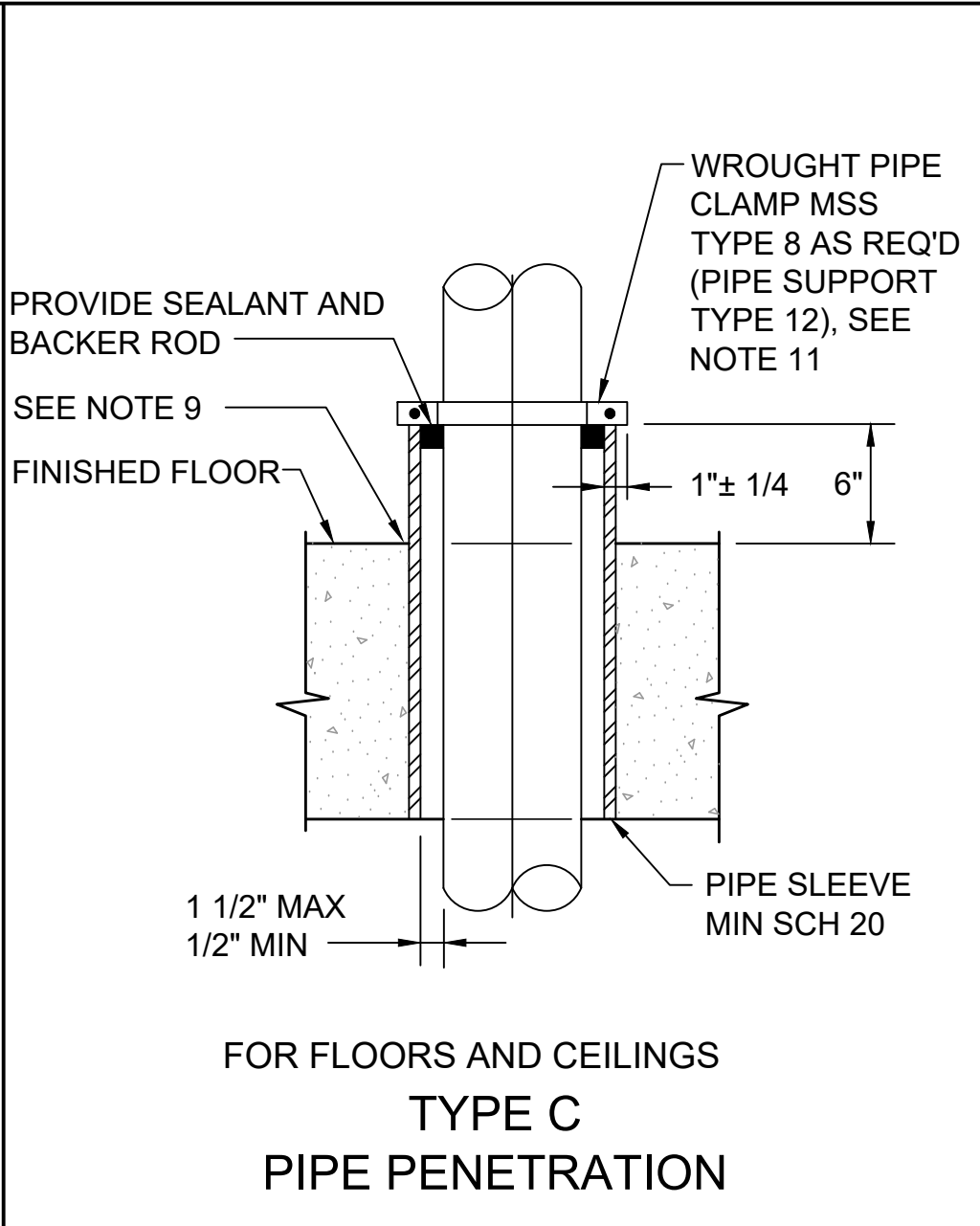
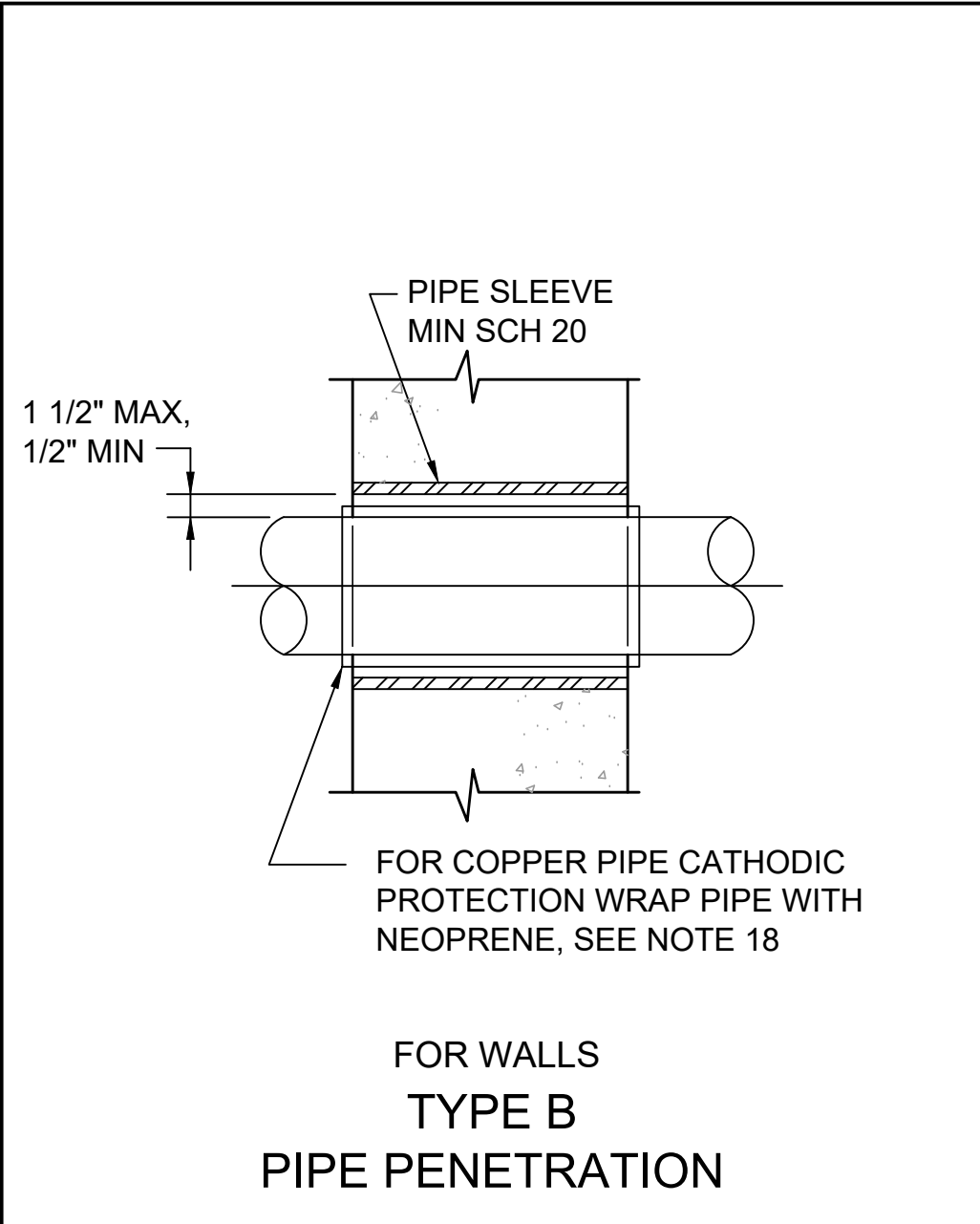
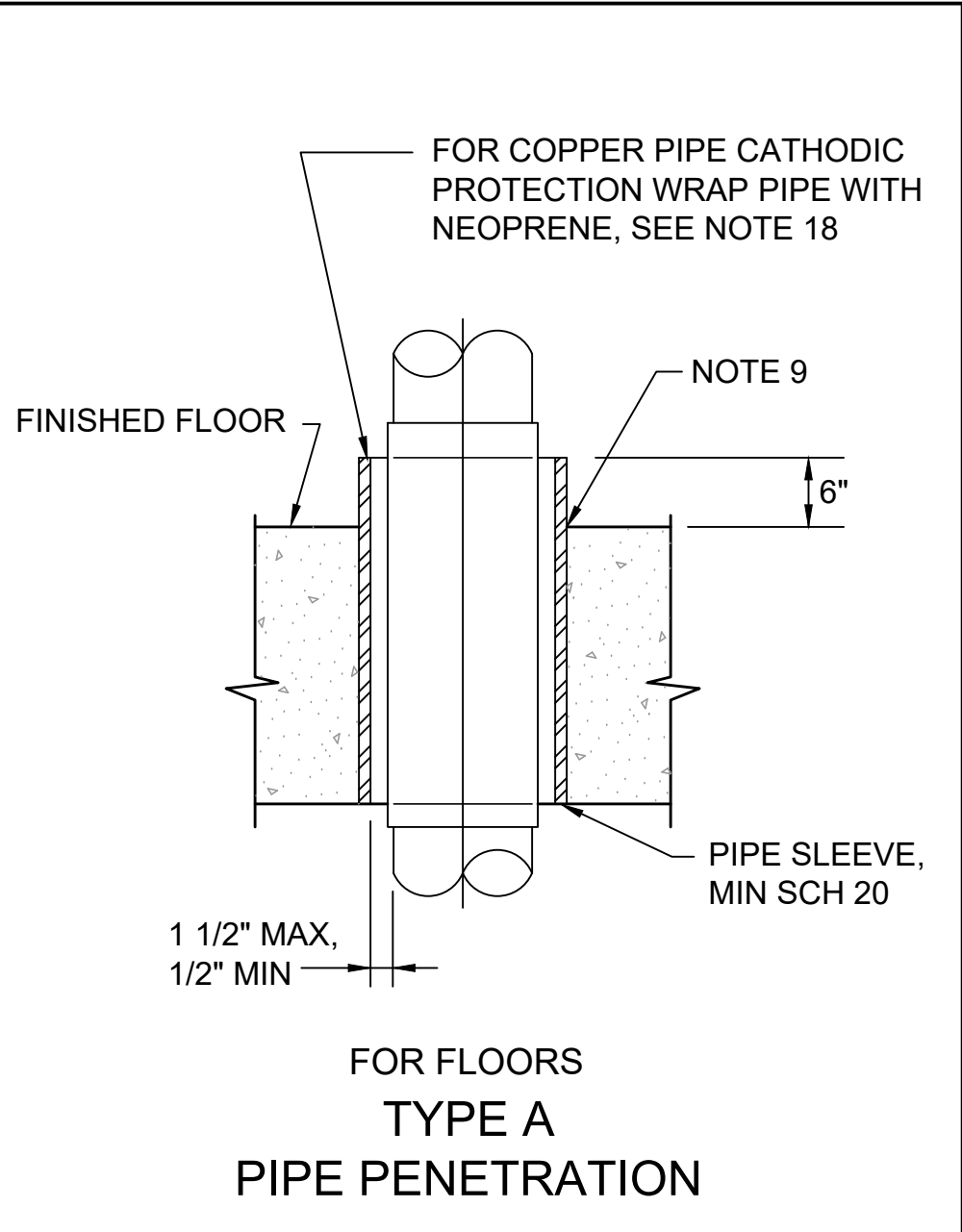


TABLE OF PIPE PENETRATION TYPES							
CONDITION			PIPE MATERIAL TYPE				
	FROM	TO	STATUS	STEEL	CAST IRON	COPPER	PLASTIC
1	TANK	TANK BELOW WS	NEW	D,E,H,J OR K	D,E,F,G OR J	D OR E	D,E OR J
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2
2	TANK	TANK ABOVE WS	NEW	D OR E	D OR E	D OR E	D OR E
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2
3	PASSAGE	TANK BELOW WS	NEW	D,E,H,J OR K	D,E,F,G OR J	D OR E	D,E OR J
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2
4	PASSAGE	TANK ABOVE WS	NEW	A,C,D OR E	A,C,D OR E	D OR E	A,C,D OR E
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2
5	PASSAGE	PASSAGE SEE NOTE 6	NEW	A, B OR C	A, B OR C	A, B OR C	A, B OR C
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2
6	PASSAGE	OUTSIDE WALL	NEW	D,E OR J	D,E,G OR J	D OR E	D,G OR J
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2
7	PASSAGE	ROOF	AS SHOWN				
8	TANK	OUTSIDE WALL	NEW	D,E,F OR J	D,E,F,G OR J	D OR E	D,E OR J
			EXIST	X1 OR X2	X1 OR X2	X1 OR X2	X1 OR X2

GENERAL NOTE:
1.THE MATERIAL PRESENTED ON THIS DRAWING IS FOR REFERENCE USE. SOME OF THE DETAILS OR INFORMATION PRESENTED MAY NOT BE REQUIRED AS PART OF THIS CONTRACT.

- PIPE PENETRATION NOTES:
- WHERE PIPES PASS THROUGH WALLS, FLOORS, OR CEILINGS, PENETRATIONS SHALL CONFORM TO TABLE AT LEFT, EXCEPT AS OTHERWISE SPECIFIED.
 - IN TABLE AT LEFT, "TANK" SHALL MEAN ANY PART OF A STRUCTURE CONTAINING LIQUID OR IN CONTACT WITH THE EARTH.
 - IN TABLE AT LEFT, "PASSAGE" SHALL MEAN ANY ROOM, GALLERY, TUNNEL, OR SIMILAR ENCLOSURE.
 - IN TABLE AT LEFT, WATER SURFACE "WS" SHALL MEAN AN ELEVATION 9-INCHES ABOVE MAXIMUM WATER SURFACE SHOWN.
 - ALL STEEL SLEEVES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 - IN CONDITION 5, TYPE D,E,H,J, OR K SHALL BE USED WHERE ONE SIDE CONTAINS EXPLOSION PROOF EQUIPMENT, WHERE FLOODING IS POSSIBLE, OR WHERE SPECIFIED (TYPE D OR E ONLY FOR COPPER).
 - SEAL FLANGES SHALL BE FACED AND DRILLED TO 150 POUND STANDARD, EACH JOINT SHALL BE FULL FACE GASKETED.
 - WHERE SPECIFIED, CAST IRON FLANGES MAY BE INSTALLED FLUSH WITH WALL AND TAPPED FOR STUDS.
 - PROVIDE CURB WHERE PENETRATING FLOOR, EXCEPT FOR PENETRATION TYPES A, C, AND H. CURB SHALL BE 4" HIGH BY 3" WIDE.
 - PROVIDE A MINIMUM OF 3" CLEARANCE BETWEEN REINFORCING STEEL AND FERROUS METAL PENETRATIONS.
 - WHEN MSS TYPE 8 PIPE CLAMP IS USED FOR COPPER PIPE, CLAMP SHALL BE PLASTIC COATED BY MANUFACTURER.
 - TYPE X2 PENETRATION FOR EXISTING STRUCTURES SHOWS SLEEVE INSTALLATION DETAIL ONLY. USE TYPE A,B,C,D,E,H OR K DETAILS FOR ACTUAL PENETRATION.
 - INSULATION SHALL NOT EXTEND THROUGH SLEEVES, UNLESS OTHERWISE SPECIFIED.
 - WHERE CAST IRON PIPE IS EMBEDDED IN CONCRETE AT AN EXPANSION JOINT, USE TYPE L PENETRATION DETAIL.
 - WEEP RINGS SHALL HAVE A MINIMUM DIAMETER 3 INCHES GREATER THAN THE OUTSIDE PIPE DIAMETER.
 - "TANK SIDE OF WALL" SHALL MEAN SIDE OF WALL NORMALLY EXPOSED TO LIQUID, EARTH, OR OUTSIDE ATMOSPHERE.
 - SEAL WITH MASTIC SEALANT WHERE WALL IS EXPOSED TO LIQUID, EARTH OR AN EXPLOSION HAZARD AREA.
 - FOR COPPER PIPE IN A "PASSAGE" TO "PASSAGE" CONDITION (SEE TABLE AT LEFT), PROVIDE A FULL 360 DEGREE WRAP OF 1/16 INCH THICK NEOPRENE. BOND NEOPRENE TO PIPE WITH A COMPATIBLE WATERPROOF ADHESIVE. EXTEND NEOPRENE 1 INCH MINIMUM BEYOND LIMITS OF PENETRATION SLEEVE.
 - WHEN MODULAR MECHANICAL EXPANDING RUBBER SEAL IS USED ON COPPER PIPE, PROVIDE GLASS REINFORCED NYLON PRESSURE PLATES IN PLACE OF STANDARD STEEL UNITS.
 - FLANGE BOLT HOLES SHALL EQUALLY STRADDLE THE VERTICAL CENTER-LINE OF THE FLANGE TO ASSURE PROPER CONNECTION TO ADJOINING PIPE, VALVES AND FITTINGS.

NO.	BY	DATE	DESCRIPTION

SCALE: NOT TO SCALE	
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SURVEY DATE:	
SURVEY BY:	
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PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

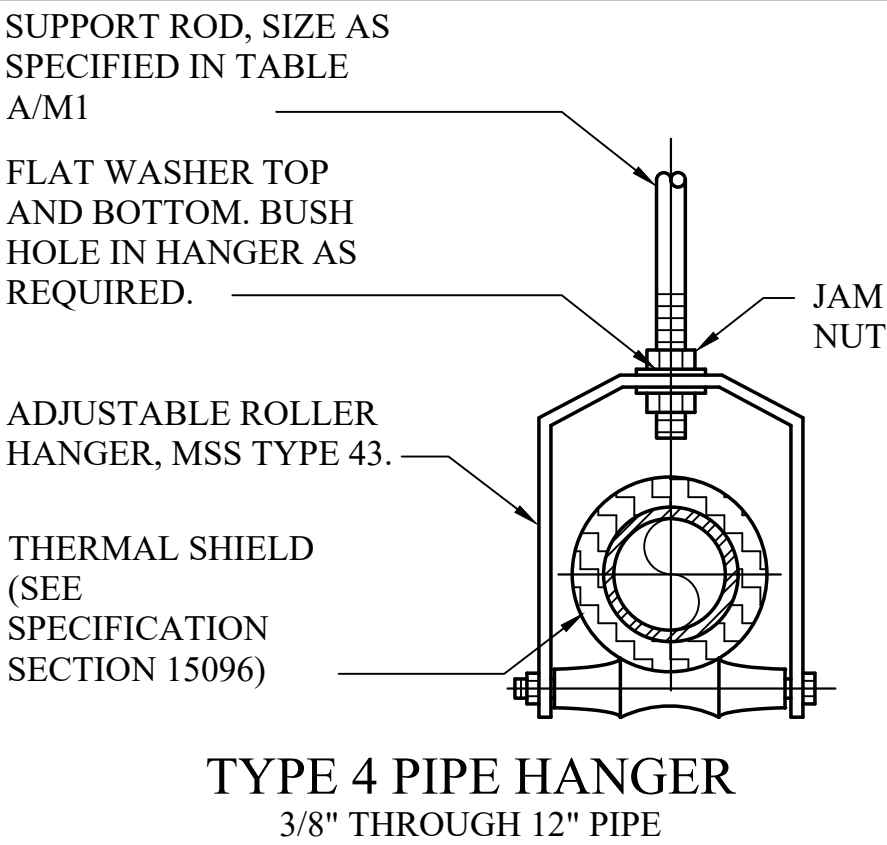
STANDARD DETAILS

SHEET No.

DET-1

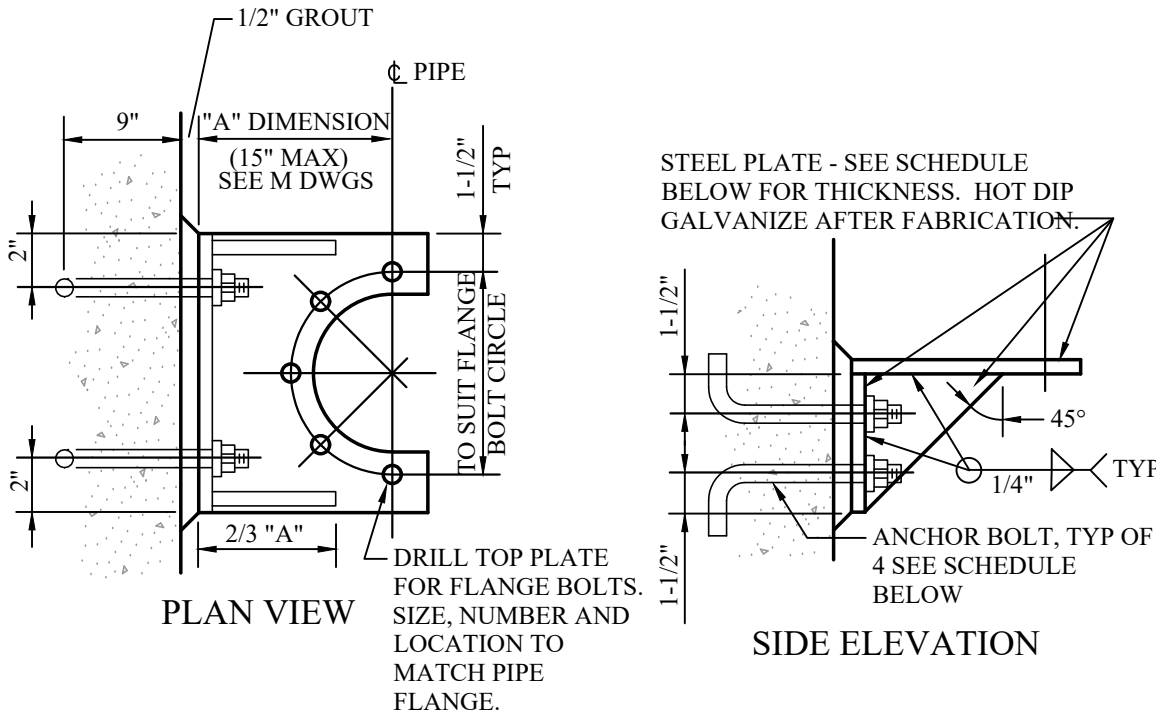
1. SEE SPECIFICATION SECTION 400507.00 FOR DESIGN OF PIPE SUPPORTS SYSTEM.

FOR EXISTING CONCRETE, NEW PRECAST CONCRETE, OR NEW CONCRETE MASONRY UNITS, USE SURFACE MOUNT FRAMING CHANNEL, STRUCTURAL ATTACHMENT TYPE "D".
2. FOR ALL CAST-IN-PLACE CONCRETE PLACED UNDER THIS CONTRACT, USE EMBEDDED CONCRETE INSERT FRAMING CHANNEL, WITH END CAPS.
3. PIPE SUPPORT AND HANGER BRACKET COMPONENTS MAY BE INTERCHANGED WHERE COMPATIBLE AND APPROPRIATE.
4. THE CONTRACTOR SHALL NOT USE EPOXY ADHESIVE ANCHOR BOLTS OR EXPANSION ANCHORS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE CONSTRUCTION MANAGER, UNLESS OTHERWISE SPECIFIED.
5. THE CONTRACTOR SHALL LOCATE HANGERS AND SUPPORTS TO ENSURE THAT CONNECTIONS TO EQUIPMENT, TANKS, ETC. ARE SUBSTANTIALLY FREE FROM LOADS TRANSMITTED BY THE PIPING.
6. CAST FITTINGS WITH FOOT-TYPE SUPPORTS ARE PROHIBITED. WHEN PIPING IS CONNECTED TO EQUIPMENT, VALVES, PIPING ASSEMBLY, ETC, THAT WILL REQUIRE REMOVAL FOR MAINTENANCE, THE PIPING SHALL BE SUPPORTED IN SUCH A MANNER THAT TEMPORARY SUPPORTS SHALL NOT BE NECESSARY FOR THIS PROCEDURE.
- 7.



L	LOAD
6"	1800 LBS
12"	1000 LBS
18"	700 LBS
24"	500 LBS

TYPE L
STRUCTURAL ATTACHMENT



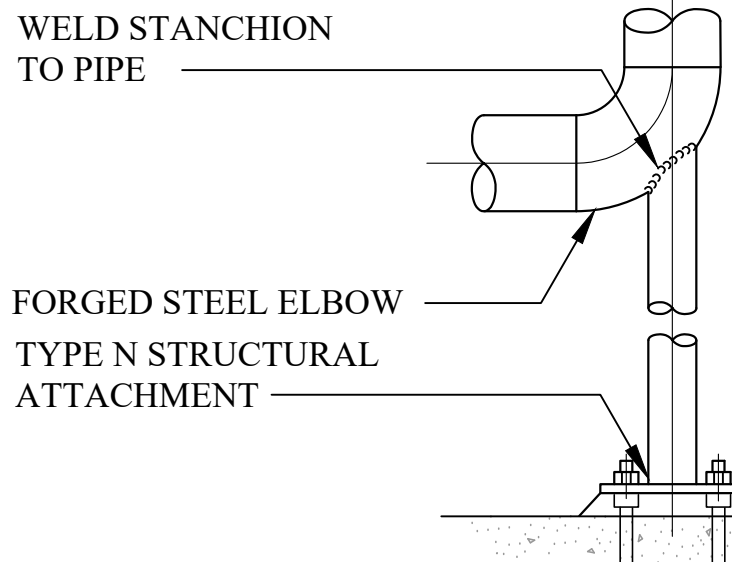
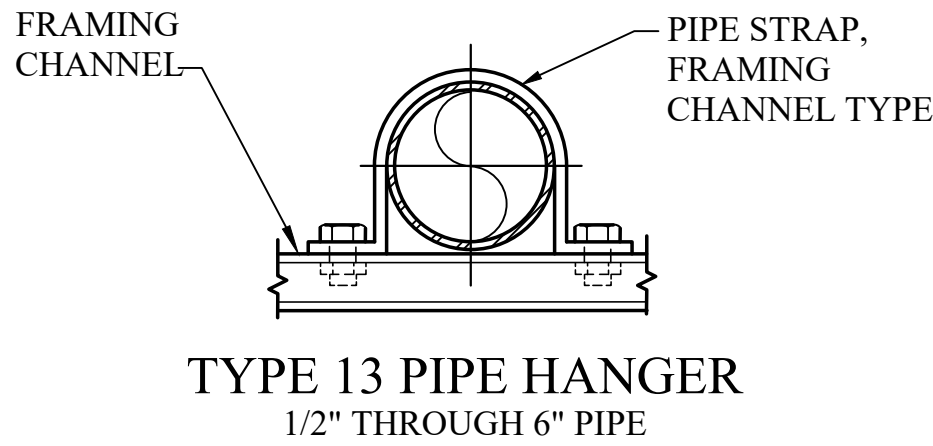
COMPONENT SCHEDULE						
PIPE SIZE (INCHES)	2 & 2-1/2	3 TO 6	8 TO 12	14 TO 16	18 TO 20	24 TO 30
BOLT SIZE (INCHES)	3/8	1/2	5/8	3/4	7/8	1
PLATE THICKNESS (INCHES)	1/4	3/8	3/8	1/2	5/8	3/4

USE TYPE T ONLY WHERE SPECIFIED ON THE DRAWINGS
SPACING SHALL BE AS REQUIRED, BUT SHALL NOT EXCEED SPANS
SHOWN IN TABLE A/M1.

TYPE T STRUCTURAL ATTACHMENT

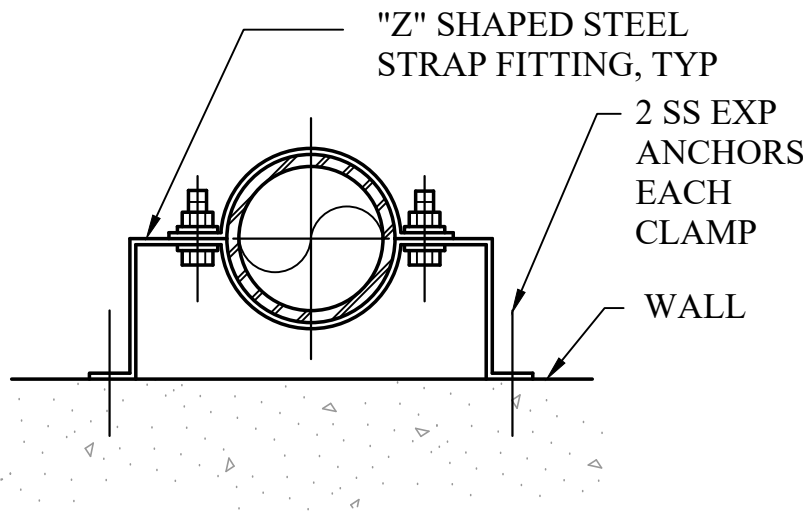


PIPE SIZE (INCHES)	NPS DIA (INCHES)	PIPE SIZE (INCHES)	NPS DIA (INCHES)
2	1 1/2	12	6
2 1/2 3	1 1/2	14	6
4	2	16	6
6	3	18	8
8	3	20	8
10	4	24	8
	4	30	10

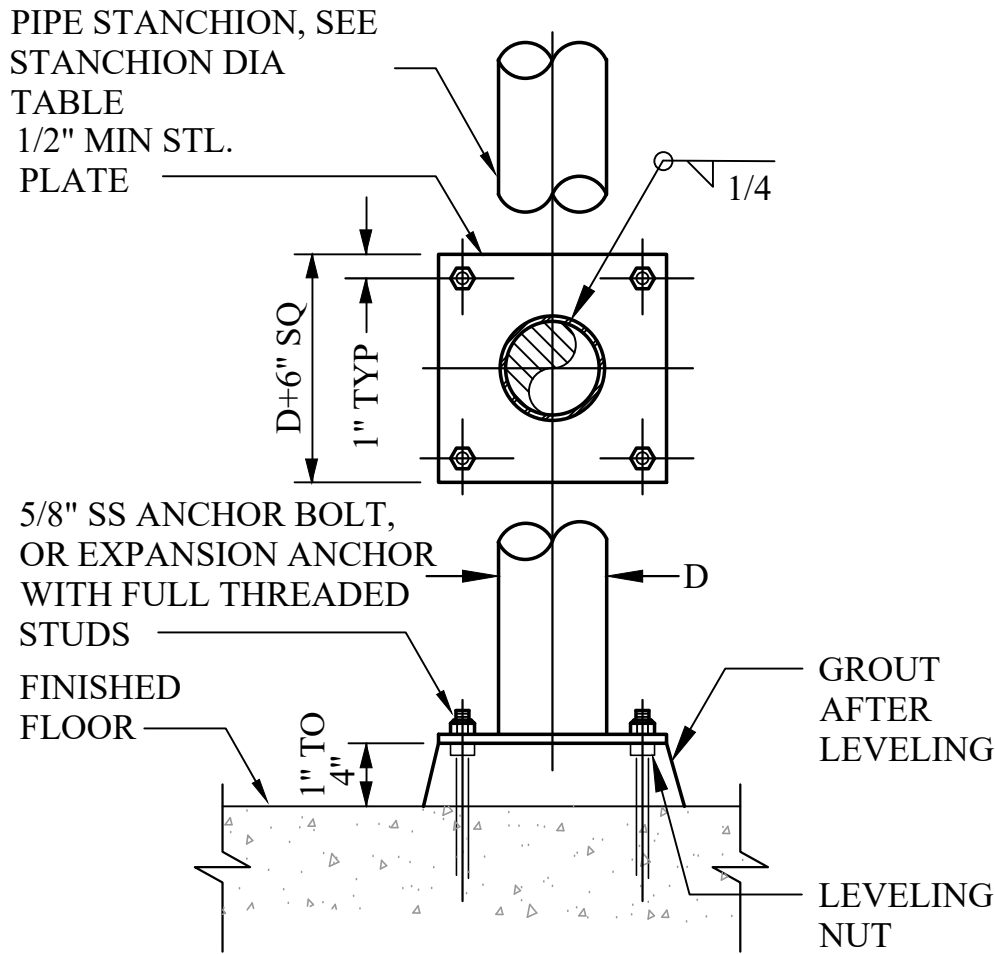


TYPE 9 PIPE HANGER

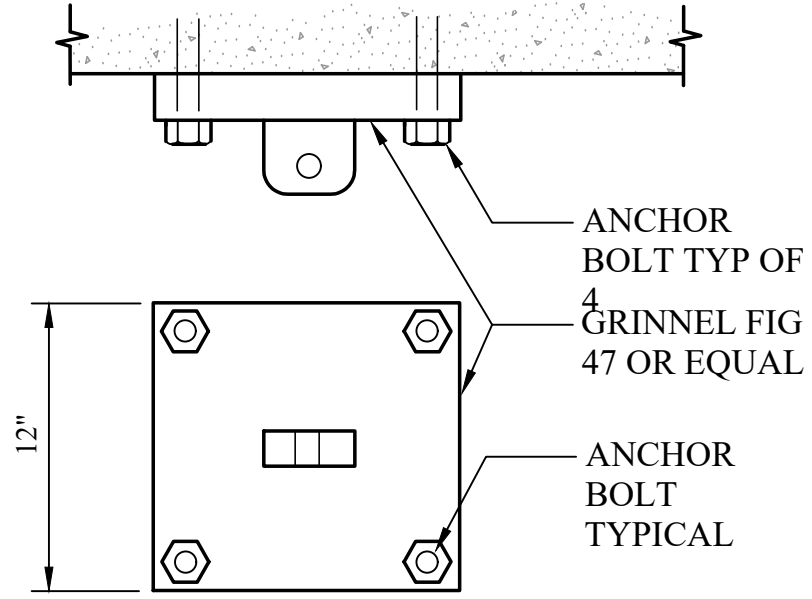
2 1/2" THROUGH 14" PIPE



FOR VERTICAL PIPE ONLY
TYPE 11 PIPE HANGER
3/4" THROUGH 8" PIPE



TYPE N
STRUCTURAL ATTACHMENT



MAXIMUM ALLOWABLE LOAD:			
PLATE THICKNESS	ROD SIZE	BOLT SIZE	LOAD
3/4"	1"	3/4"	4960 LB
1"	1 1/4"	7/8"	8000 LB
1"	1 1/2"	1"	11630 LB

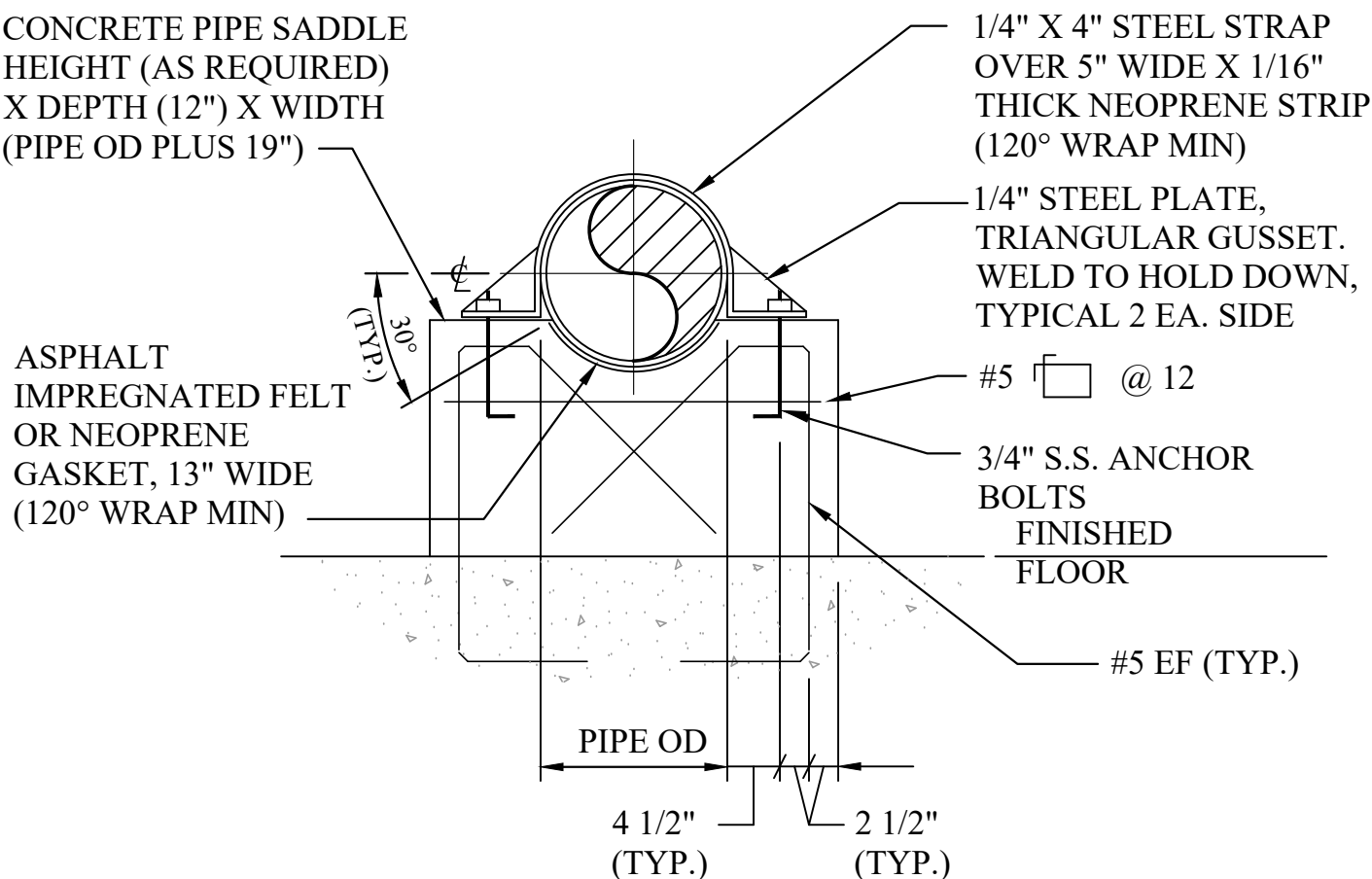
TYPE P
STRUCTURAL ATTACHMENT

TABLE A - SUPPORT SPACING AND ALLOWABLE ROD LOADS						
NOMINAL PIPE SIZE (INCHES)	SUPPORT ROD SIZE AND MAXIMUM LOAD PER ROD-SEE NOTES 1 AND 2		MAXIMUM SUPPORT SPACING (FEET)			
	ROD SIZE (INCHES)	MAX LOAD (POUNDS)	STEEL	COPPER	PLASTIC SEE NOTE 4	CAST IRON SEE NOTE 5
3/8 TO 3/4	3/8	610	5	5	CONTINUOUS	---
1	3/8	610	5	5	5	---
1-1/4	3/8	610	5	5	5	---
1-1/2	3/8	610	5	5	5	---
2	3/8	610	10	5	5	12 FEET FOR PRESSURE PIPE
2-1/2	3/8	610	10	10	5	
3	3/8	610	10	20	5	
4	1/2	1130	10	20	5	
6	5/8	1810	15	20	5	
8	3/4	2710	15	20	5	10 FEET FOR SOIL PIPE
10	3/4	2710	20	---	5	
12	1	4960	20	---	10	

TABLE A NOTES:

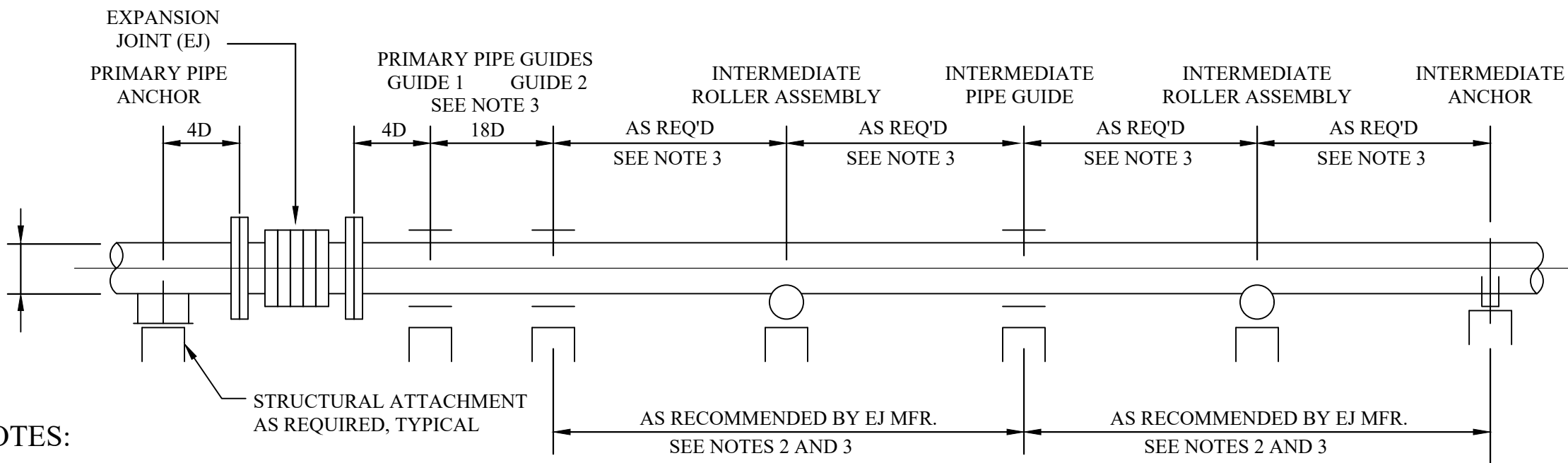
1. DESIGN WEIGHT SHALL BE TWICE THE WEIGHT OF THE PIPE FULL OF WATER PLUS THE WEIGHTS OF VALVES, FITTINGS, INSULATING MATERIALS AND SUSPENDED HANGER COMPONENTS ON THE RUN OF PIPE BEING SUPPORTED.
2. ROD SIZES SHOWN ARE FOR THE SUPPORT OF A SINGLE PIPE. WHEN SUPPORTING MORE THAN ONE PIPE, ROD SHALL BE SIZED USING DESIGN WEIGHTS (SEE NOTE 1) TO DETERMINE THE TOTAL DESIGN LOAD. THE TOTAL DESIGN LOAD SHALL NOT EXCEED THE MAXIMUM LOADS IN THE TABLE ABOVE.
3. PIPE SHALL NOT HAVE POCKETS FORMED IN THE SPAN DUE TO SAGGING OF THE PIPE BETWEEN SUPPORTS CAUSED BY THE WEIGHT OF THE PIPE, MEDIUM IN THE PIPE, INSULATION, VALVES AND FITTINGS.
4. SPAN SHOWN IS FOR SCHEDULE 80 PVC PIPE AT 100°F. SPANS FOR OTHER PLASTICS, OTHER PVC PIPE SCHEDULES AND PIPES AT HIGHER TEMPERATURES SHALL BE SHORTENED IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. "CONTINUOUS" MEANS PIPE SHALL BE IN UNISTRUT OR SIMILAR CHANNEL.
5. PROVIDE A MINIMUM OF ONE HANGER PER PIPE LENGTH, WITHIN 4-INCHES OF THE BELL.
6. PIPE HANGER AND SUPPORT SELECTION SHALL BE IN ACCORDANCE WITH TABLE A AND SPECIFICATION SECTION 400507.00.

THIS SHEET IS FOR REFERENCE ONLY.
CONTRACTOR SHALL PROVIDE ALL
SUPPORT SIZING AND ATTACHMENTS PER
SPEC SECTION 400507.00.



TYPE 24

CONCRETE SADDLE PIPE SUPPORT



TYPICAL EXPANSION JOINT INSTALLATION



2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW
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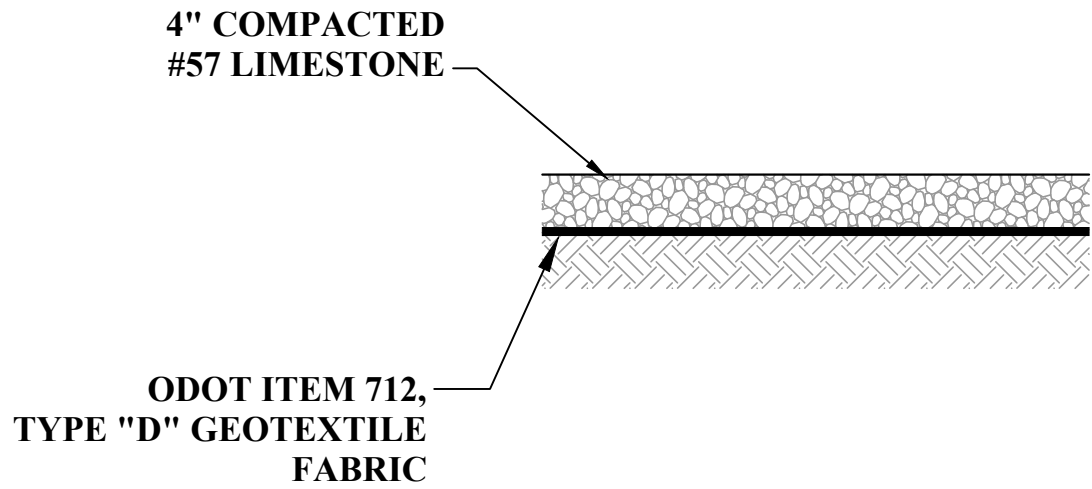
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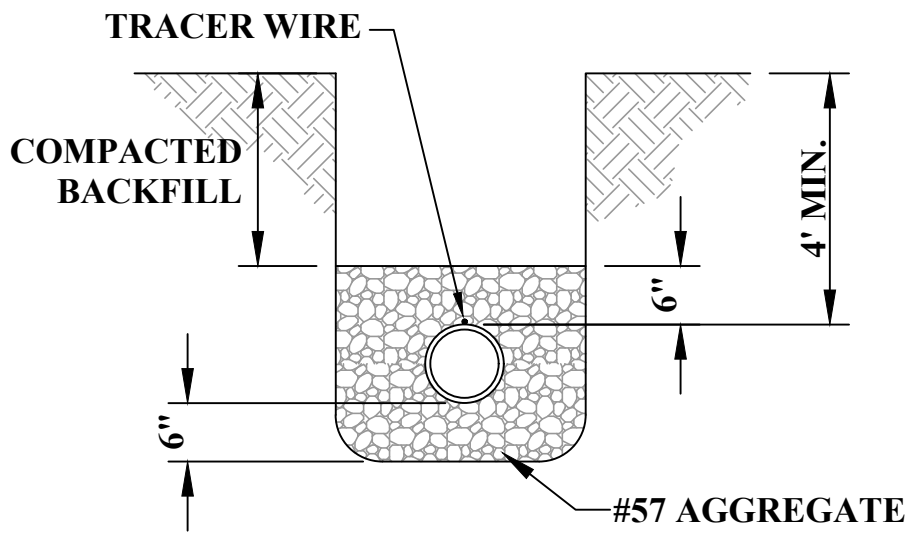
TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
STANDARD DETAILS

SHEET No.

DET-2



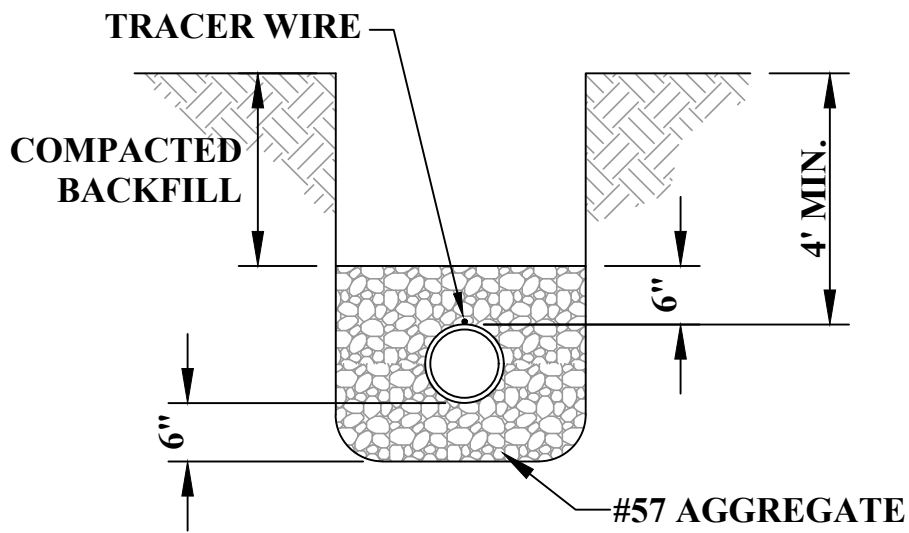
GRAVEL PAVEMENT DETAIL
NOT TO SCALE



BEDDING FOR RIGID PIPE

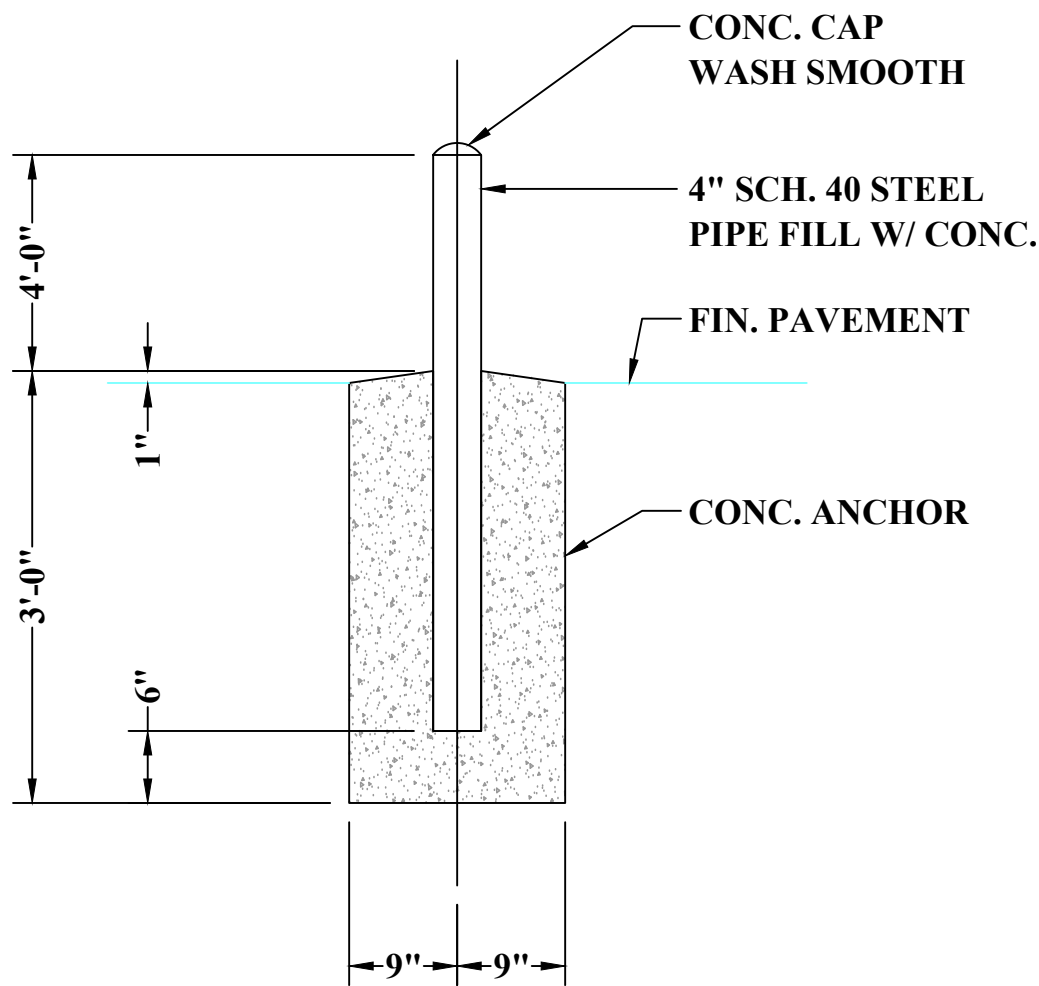
NOTE: ALL LINES AND/OR CASINGS SHALL BE INSTALLED UNDER OR AROUND DRAINAGE STRUCTURES IN A MANNER THAT WILL NOT OBSTRUCT THE MAINTENANCE, REPLACEMENT, OR FREE FLOW OF WATER.

TRACER WIRE SHALL BE ATTACHED TO PIPE, BY DUCT TAPE, AT 5' O.C.

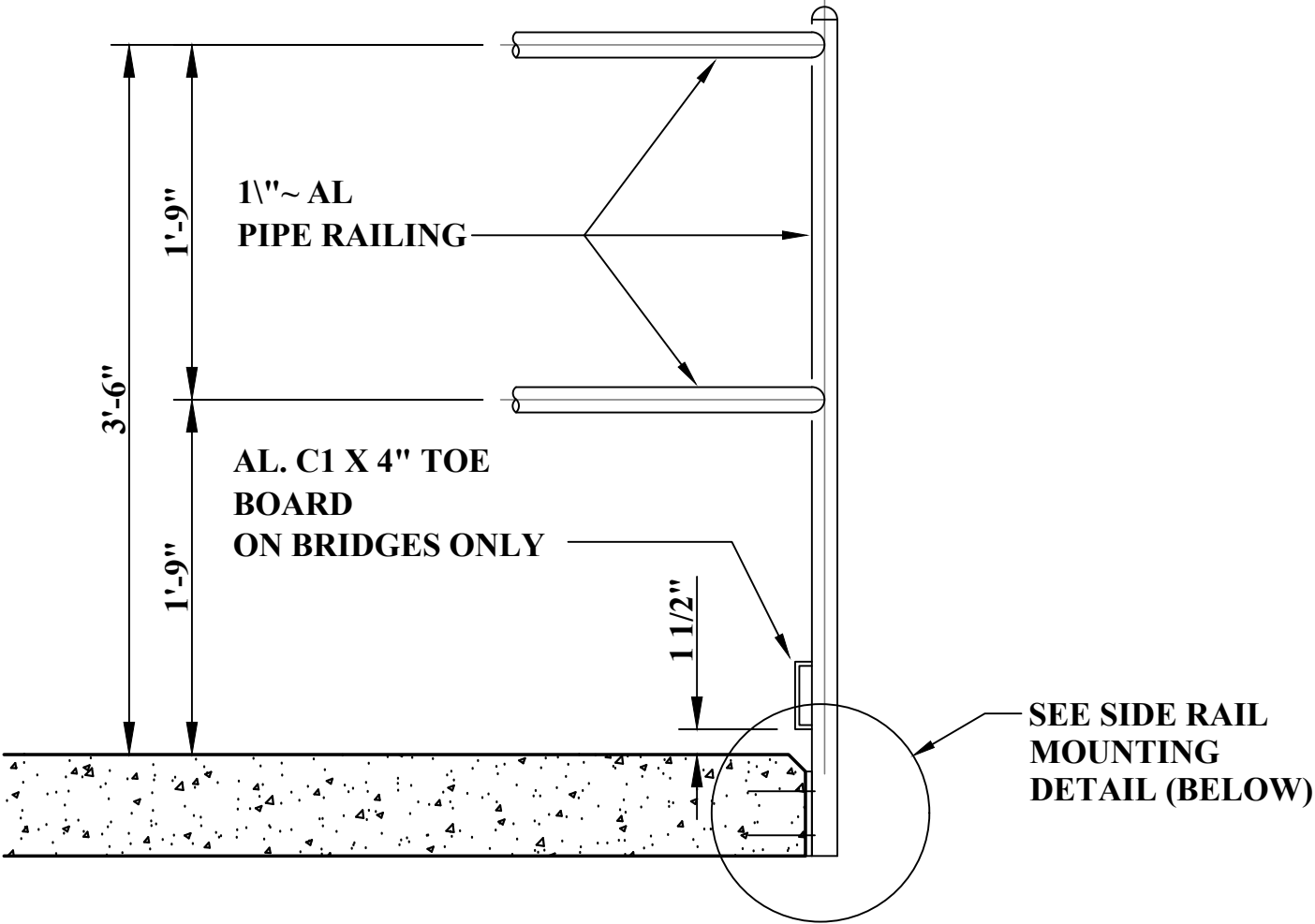


BEDDING FOR NON-RIGID PIPE

TYPICAL CROSS SECTION OF TRENCHES
NOT TO SCALE

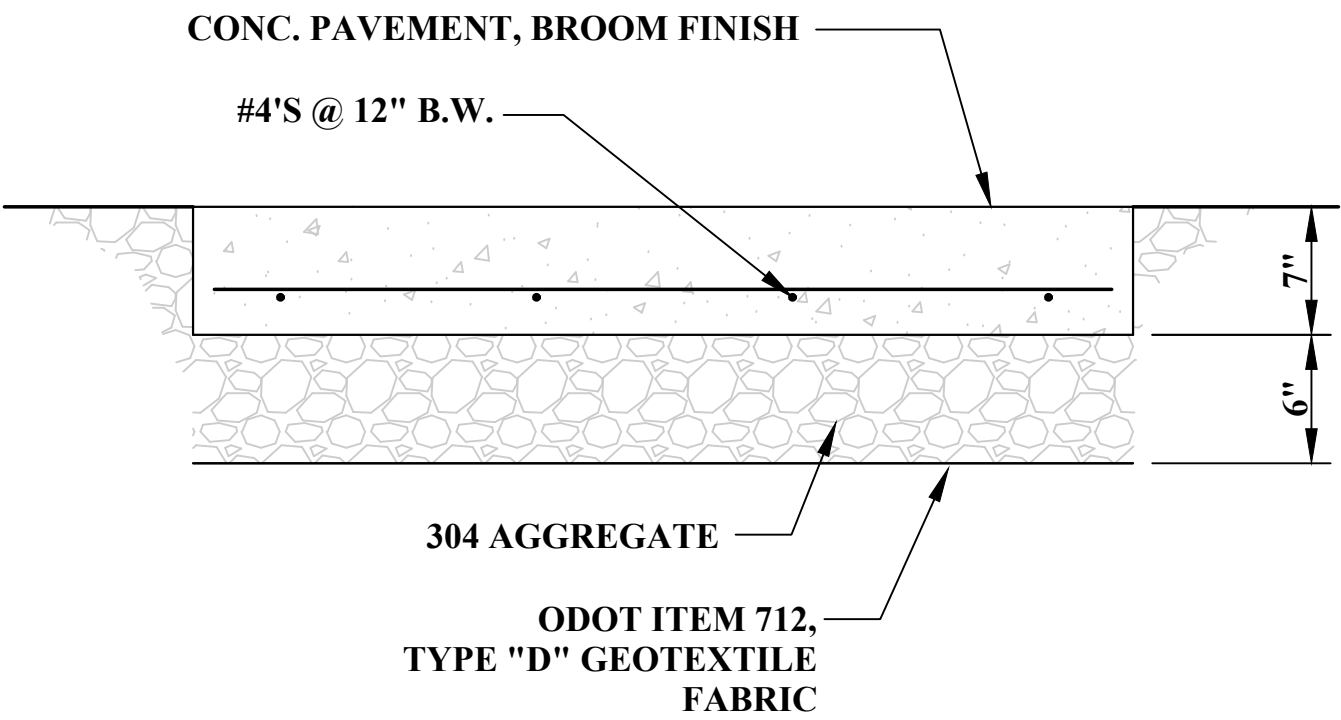


BOLLARD DETAIL
NOT TO SCALE



NOTE:
ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE ISOLATED WITH BITUMINUS COATING OR RUBBER GASKETS

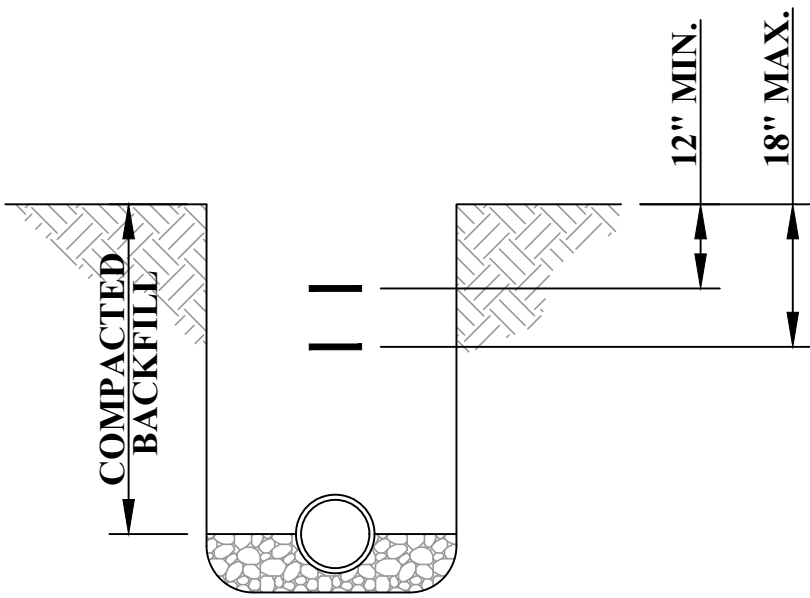
ALUMINUM RAILING DETAIL
NOT TO SCALE



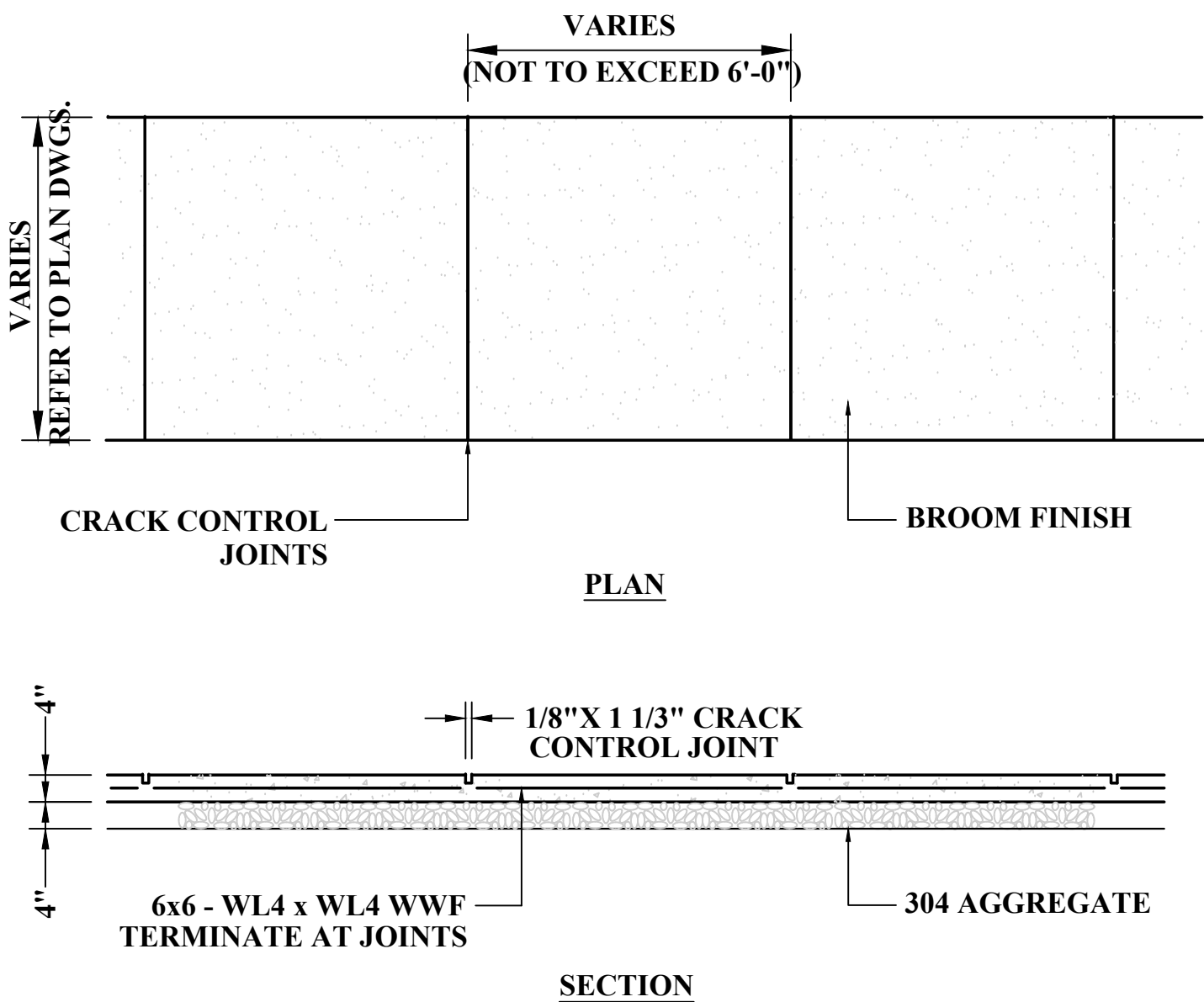
CONCRETE PAVEMENT
NOT TO SCALE

- | | |
|--------|-----------|
| RED | ELECTRIC |
| YELLOW | GAS |
| ORANGE | TELEPHONE |
| BLUE | WATER |
| GREEN | SEWER |

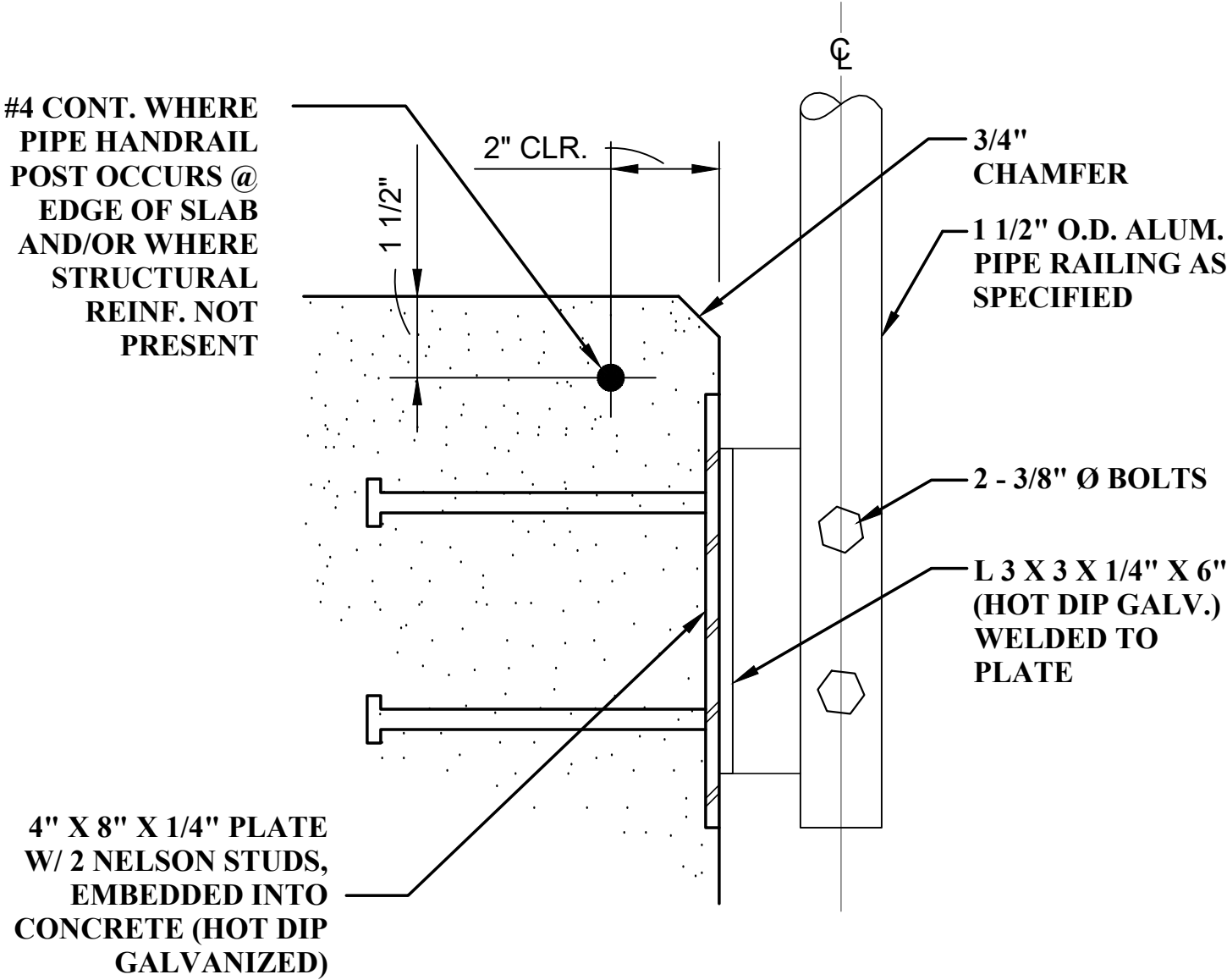
**COLOR CODES FOR UTILITY LOCATING
MAGNETIC WARNING TAPE**
NOT TO SCALE



**MAGNETIC WARNING
TAPE DETAIL**
NOT TO SCALE



CONCRETE WALK DETAILS
NOT TO SCALE



SIDE RAIL MOUNTING DETAIL
NOT TO SCALE

NO.	BY	DATE	DESCRIPTION	

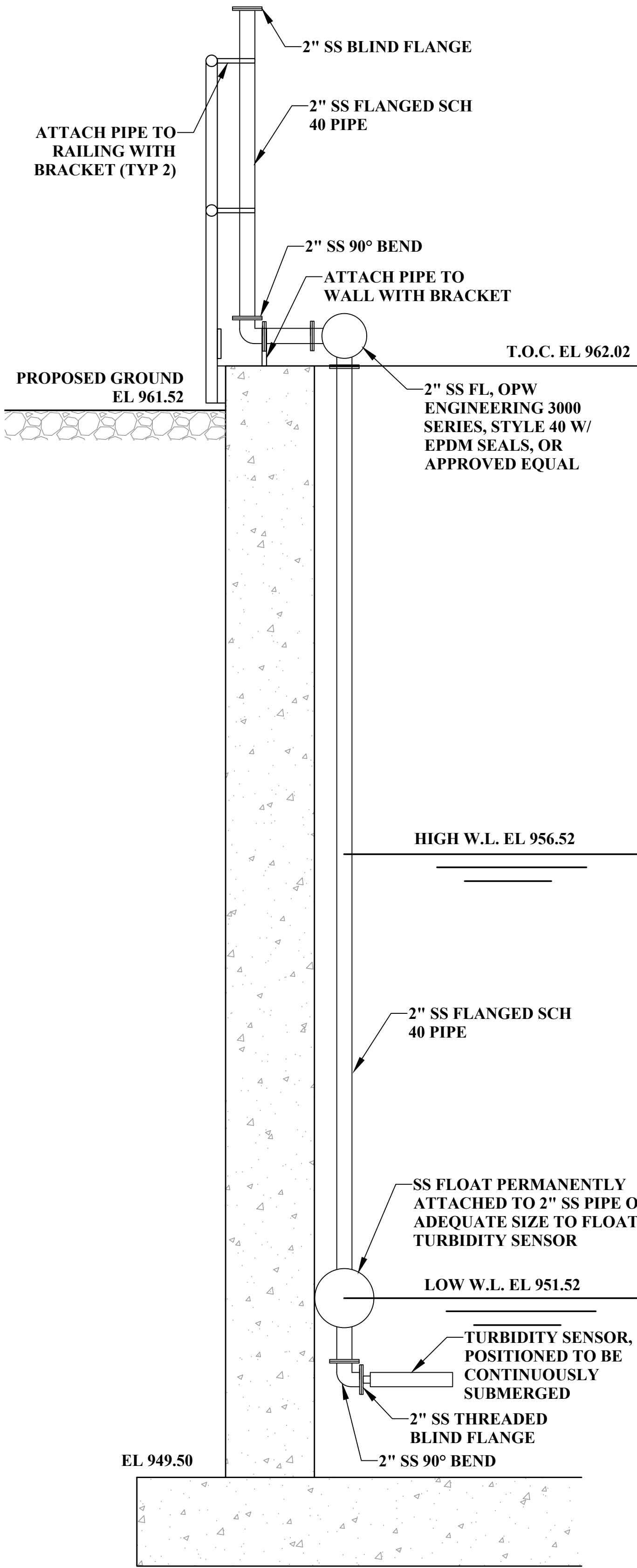
SCALE: NOT TO SCALE	
DRAWN: RRS	DATE: APRIL 2020
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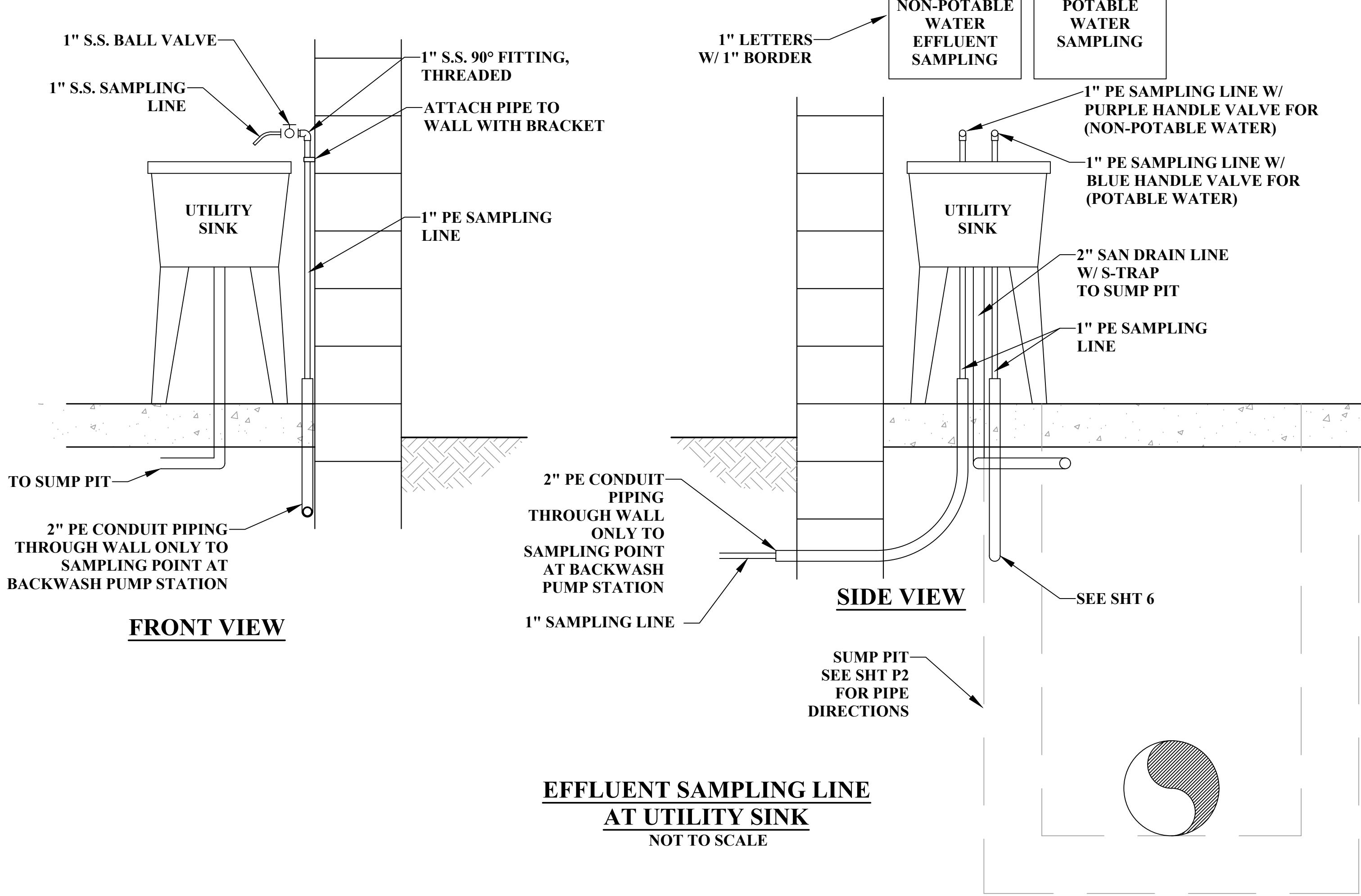
PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
STANDARD DETAILS

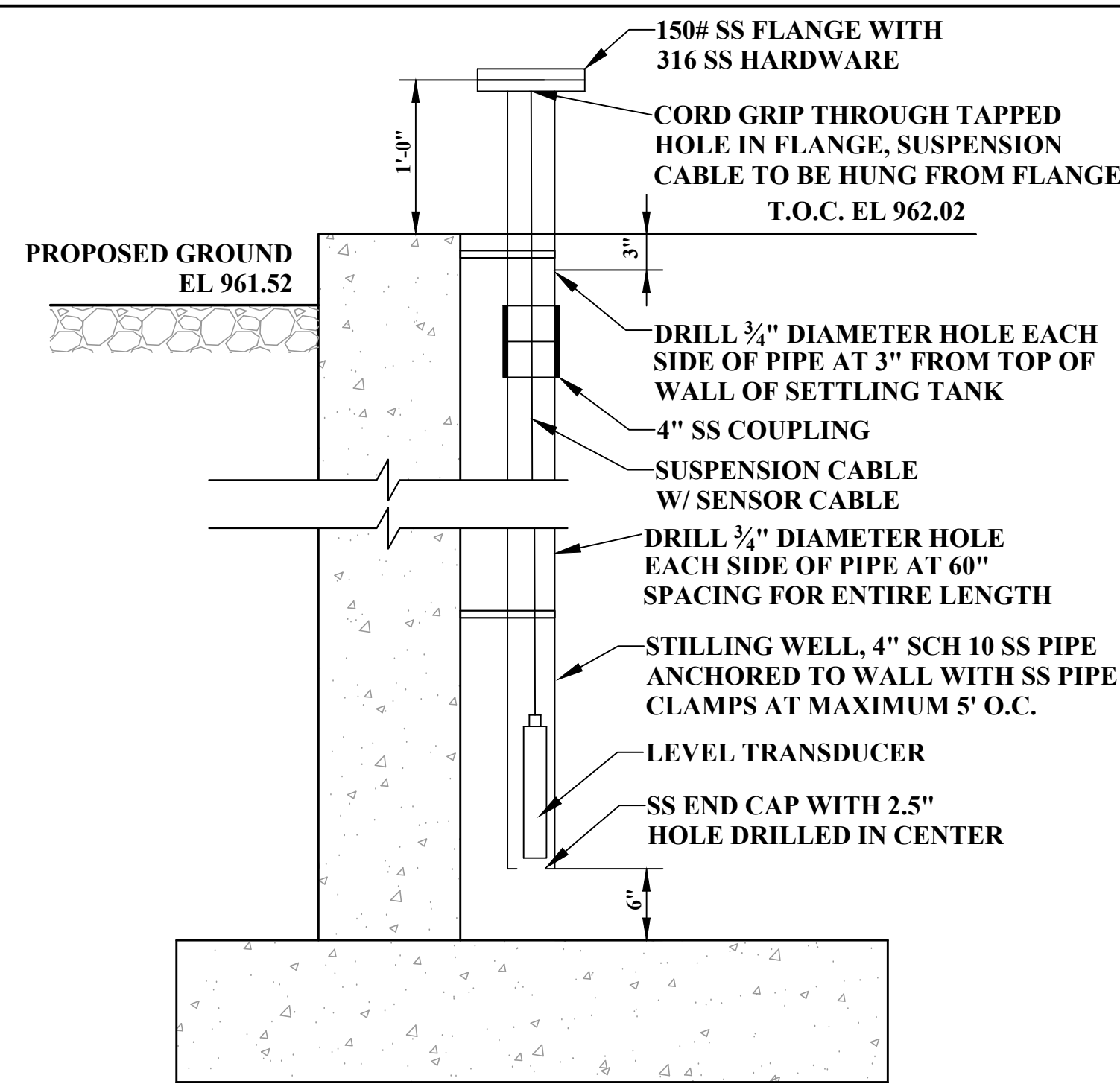
SHEET No.
DET-3



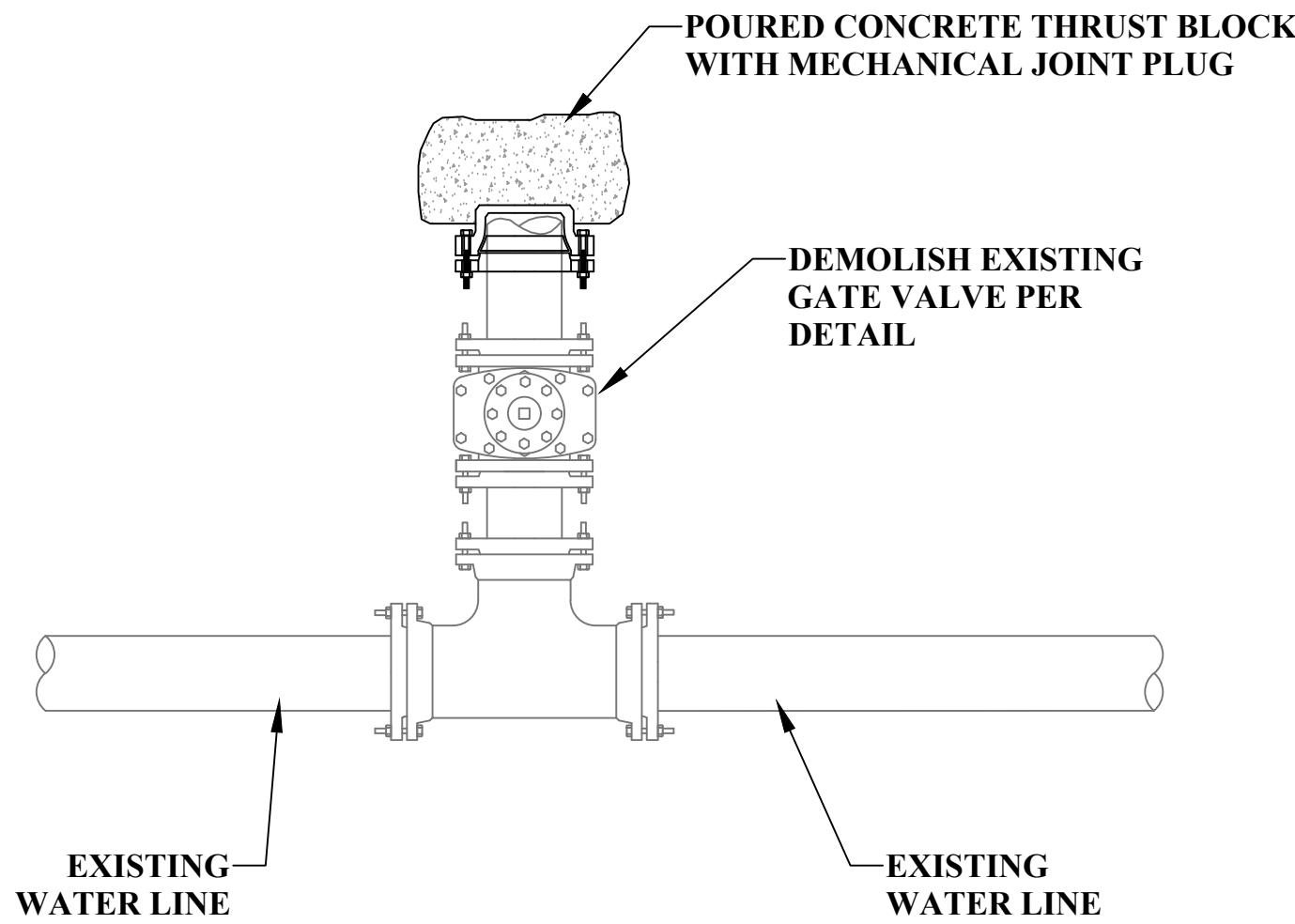
TURBIDITY SENSOR ARM DETAIL
NOT TO SCALE



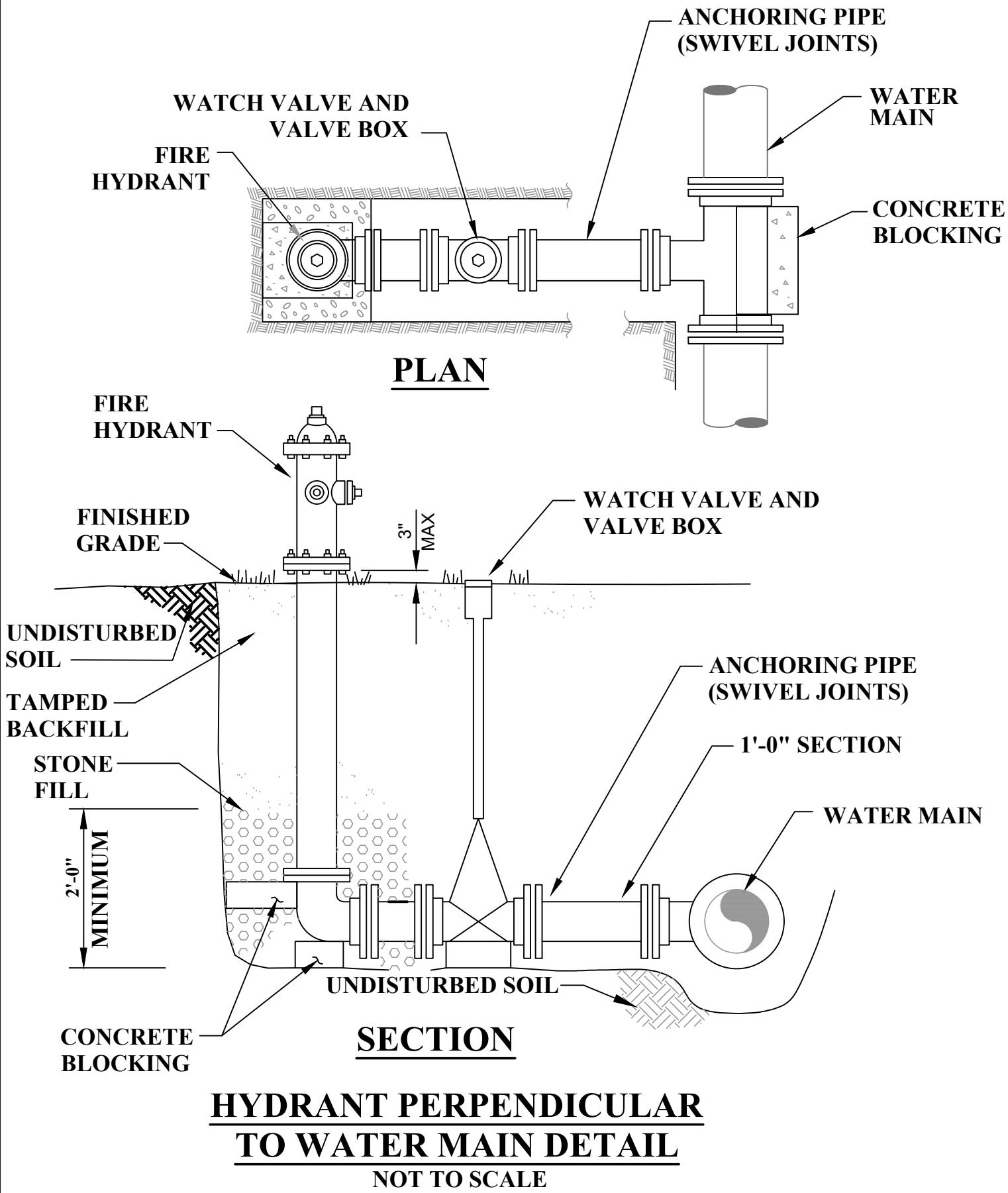
**EFFLUENT SAMPLING LINE
AT UTILITY SINK**
NOT TO SCALE



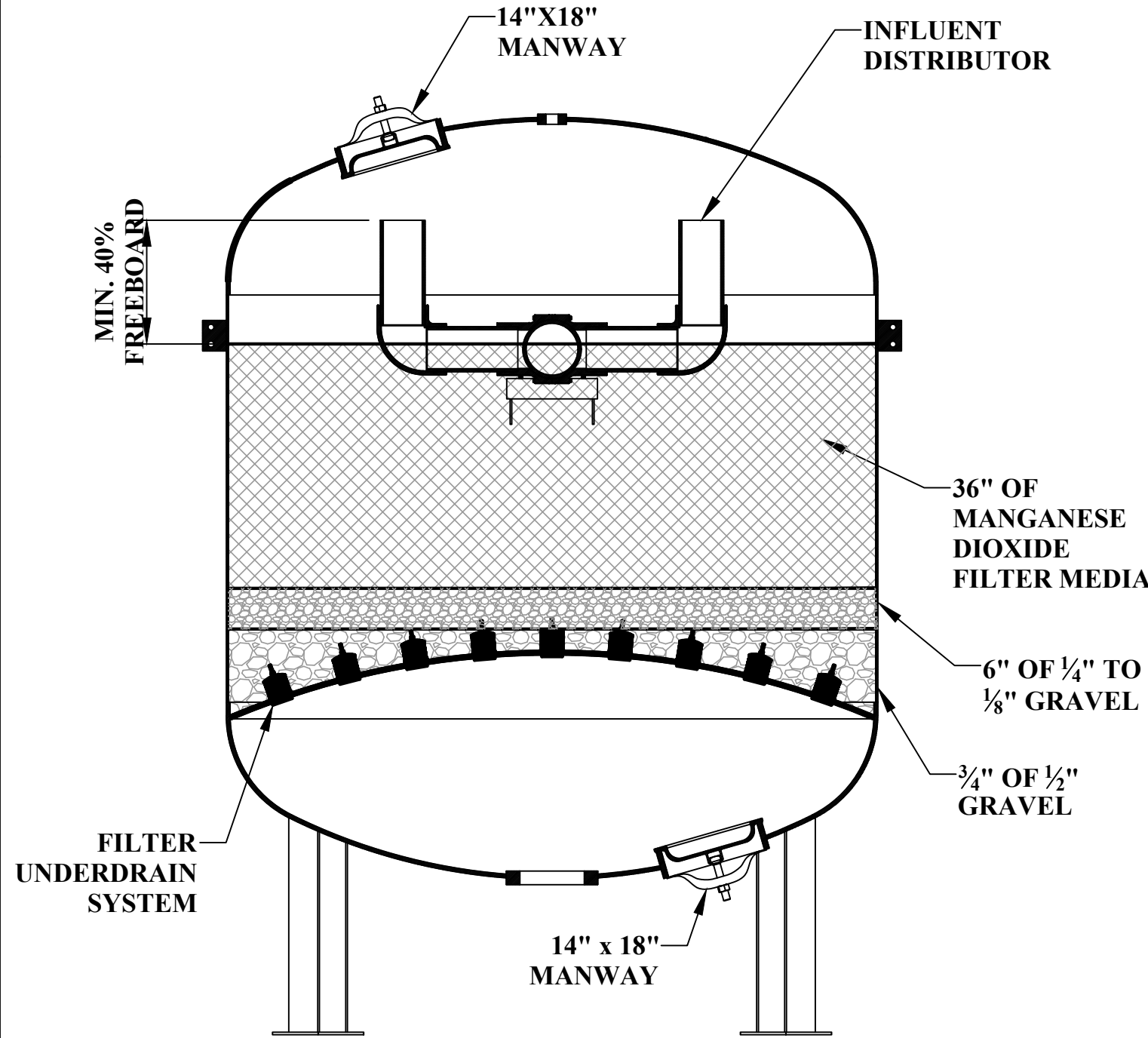
STILLING WELL DETAIL
NOT TO SCALE



CUT AND PLUG DETAIL
NOT TO SCALE



**HYDRANT PERPENDICULAR
TO WATER MAIN DETAIL**
NOT TO SCALE



VERTICAL PRESSURE FILTER LOADING DETAIL
NOT TO SCALE

NO.	BY	DATE	DESCRIPTION
2	SMD	11JAN2023	TUSC. COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW

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TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS	STANDARD DETAILS
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SHEET No.	DET-4
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THRUST BLOCKING

1. THE THRUST BLOCKING SHALL BE FORMED AGAINST A SOLID TRENCH WALL. THE FITTING AREAS SHALL BE EXCAVATED BY HAND BECAUSE MECHANICAL EQUIPMENT WILL DAMAGE THE BEARING SURFACE OF THE TRENCH WALL.
2. THE SIZE AND TYPE OF THRUST BLOCK DEPENDS ON THE PIPE SIZE, LINE PRESSURE, TYPE OF FITTING, DEGREE OF BEND AND TYPE OF SOIL. IN MOST CASES, THE SIZE AND TYPE OF THRUST BLOCK WILL BE DETERMINED BY THE ENGINEER. THRUST BLOCK SIZE MAY BE CALCULATED BY THE PROCEDURES SHOWN AT RIGHT.

THRUSTS IN SOFT UNSTABLE SOILS

1. IN SOFT, UNSTABLE SOILS SUCH AS MUCK OR PEAT, THRUSTS ARE RESISTED BY RUNNING CORROSION-RESISTANT TIE-RODS TO SOLID FOUNDATIONS OR BY REMOVING THE SOFT MATERIAL AND REPLACING IT WITH BALLAST OF SUFFICIENT SIZE AND WEIGHT TO RESIST THRUSTS DEVELOPED.

UPWARD THRUSTS AT FITTINGS

1. WHERE A FITTING IS USED TO MAKE A VERTICAL BEND, ANCHOR THE FITTING TO A THRUST BLOCK BRACED AGAINST THE UNDISTURBED SOIL. THE THRUST BLOCK SHALL HAVE ENOUGH RESISTANCE TO WITHSTAND UPWARD AND OUTWARD THRUSTS AT THE FITTING.

SIDE THRUST ON CURVES

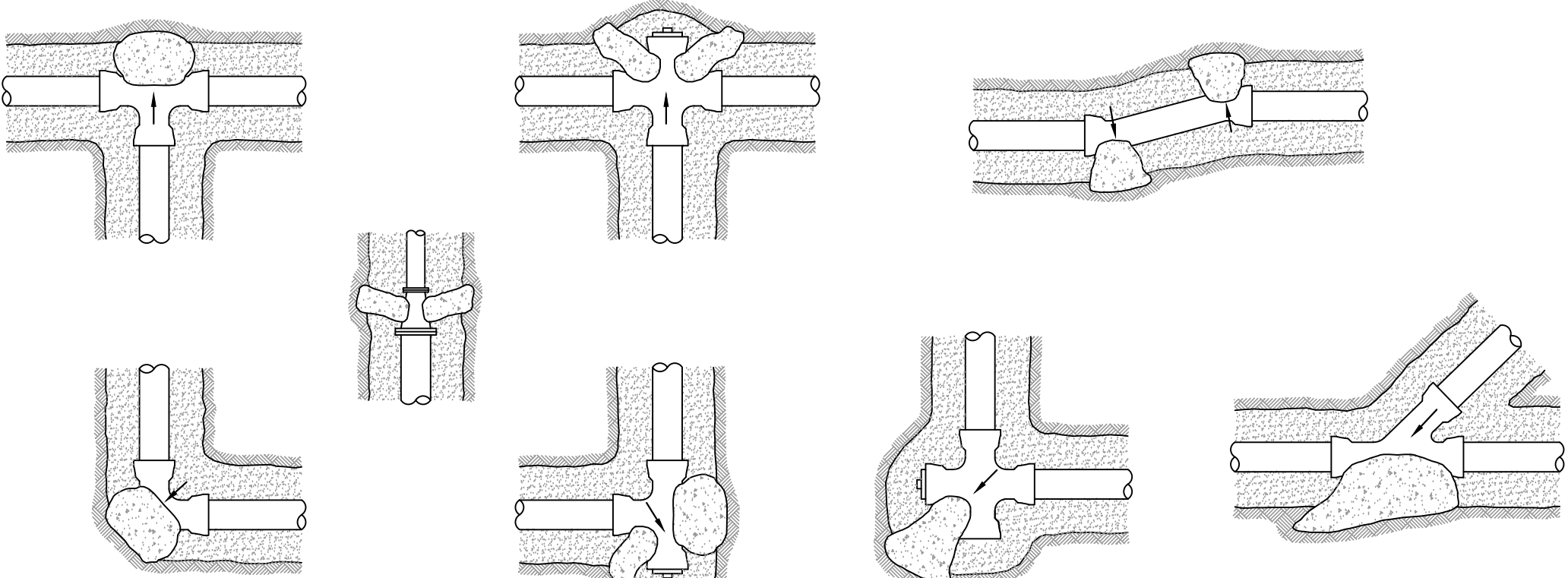
1. AN OUTWARD PRESSURE EXISTS ON ALL DEFLECTIONS FROM A STRAIGHT LINE. GOOD SOIL, PROPERLY TAMPED, IS SUFFICIENT TO HOLD SIDE THRUST UNLESS SOIL CONDITIONS ARE UNSTABLE. IN THAT CASE, TO ANCHOR AGAINST THIS SIDE THRUST, THE BLOCKING SHOULD BE PLACED AGAINST THE PIPE ON EACH SIDE OF THE COUPLING. DO NOT THRUST BLOCK THE COUPLING ITSELF.

SIDE THRUST

PIPE SIZE INCHES	SIDE THRUST POUNDS PER DEGREE
1 1/2"	5.1
2"	7.9
2 1/2"	11.6
3"	17.1
3 1/2"	22.4
4"	28.3
5"	43.1
6"	60.8
8"	103.0
10"	160.0
12"	225.0

BASED ON SIDE THRUST PER 100 POUNDS PER SQUARE INCH (PSI) PRESSURE PER DEGREE OF DEFLECTION

MULTIPLY SIDE THRUST POUNDS BY DEGREE OF DEFLECTION TIMES POUNDS OF PRESSURE DIVIDED BY 100 TO OBTAIN TOTAL SIDE THRUST IN POUNDS.



HORIZONTAL FITTINGS

CONCRETE THRUST BLOCK DETAILS

NOT TO SCALE

STEP No. 1:

MULTIPLY THE PRESSURE LEVEL DESIRED FOR TESTING BY THE APPROPRIATE VALUE SHOWN IN THE FOLLOWING TABLE:

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
1.5"	2.94	4.16	2.25	1.15
2"	4.56	6.45	3.50	1.78
2.5"	6.65	9.40	5.10	2.60
3"	9.80	13.9	7.51	3.82
3.5"	12.8	18.1	9.81	4.99
4"	16.2	23.0	12.4	6.31
5"	24.7	35.0	18.9	9.63
6"	34.8	49.2	26.7	13.6
8"	59.0	83.5	45.2	23.0
10"	91.5	130.0	70.0	35.8
12"	129.0	180.0	98.5	50.3

BASED ON POUNDS THRUST PER PSI WORKING PRESSURE

STEP No. 2:

DETERMINE THE BEARING STRENGTH OF THE SOIL FROM THE TABLE BELOW:

SOILS AND SAFE BEARING LOADS	LBS SQ. FT.
SOUND SOILS	10,000
CEMENTED GRAVEL AND SAND DIFFICULT TO PICK	4,000
COURSE AND FINE COMPACT SAND	3,000
MEDIUM CLAY THAT CAN BE SPADED	2,000
SOFT CLAY	1,000
MUCK	0

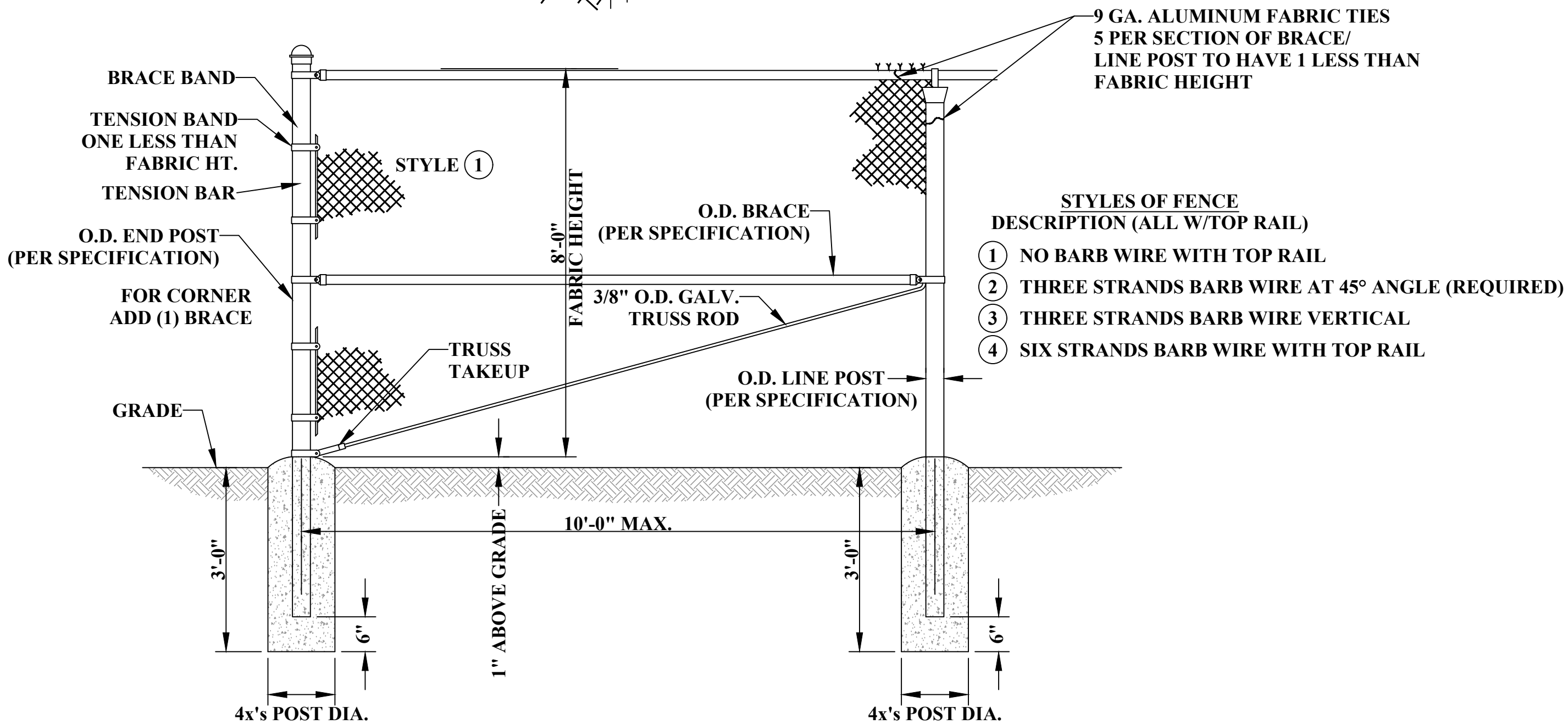
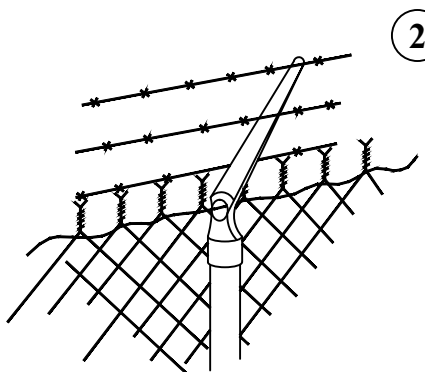
STEP No. 3:

DIVIDE THE TOTAL THRUST OBTAINED IN STEP 1 BY THE BEARING STRENGTH OF SOIL THIS GIVES THE SQUARE FEET OF THE AREA NEEDED.

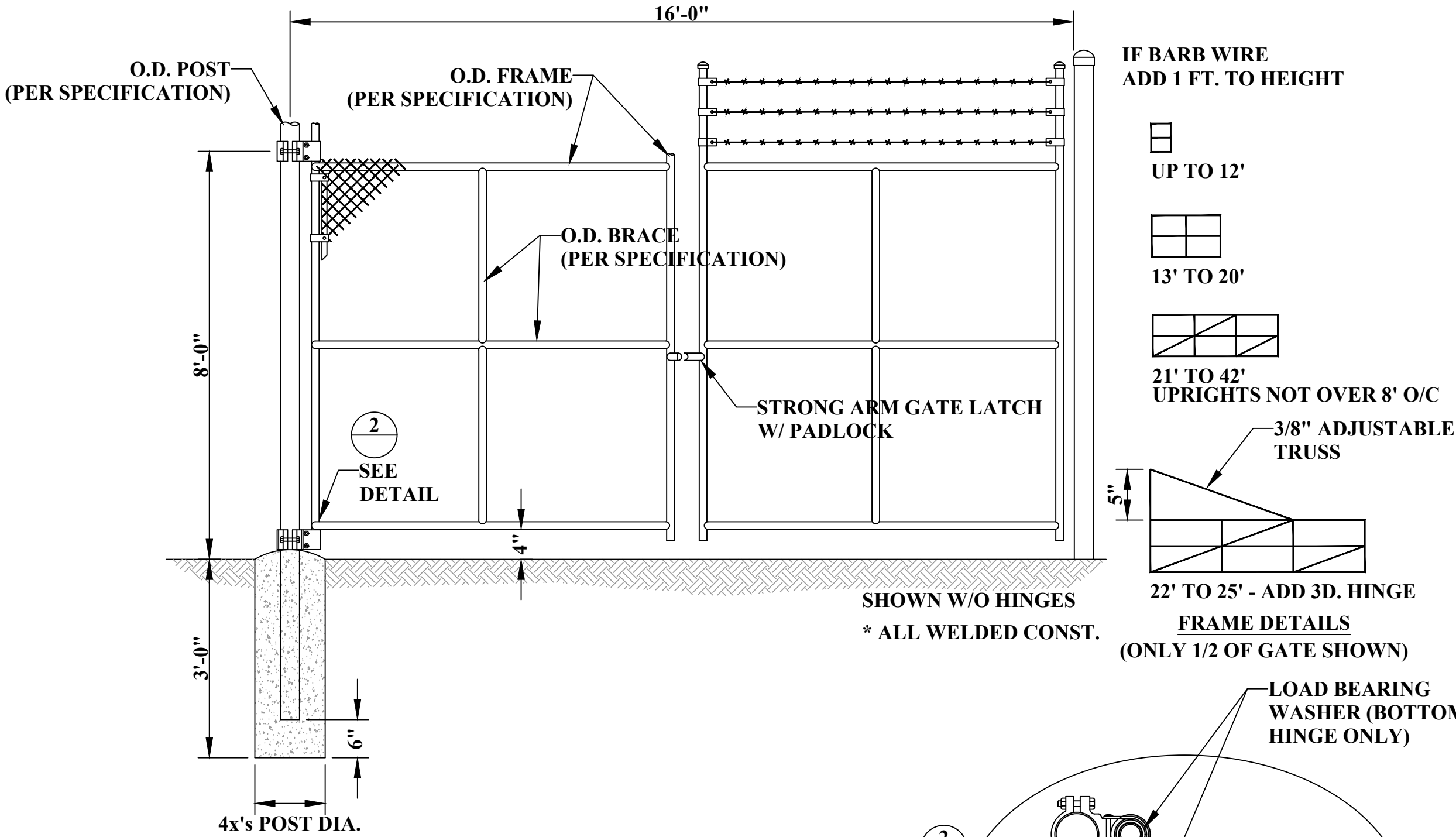
THRUST BLOCK GENERAL NOTES:

1. ALL CONCRETE THRUST BLOCKING SHALL MEET 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. ALL FITTINGS SHALL BE WRAPPED WITH 4 MIL PLASTIC PRIOR TO PLACING CONCRETE THRUST BLOCK.

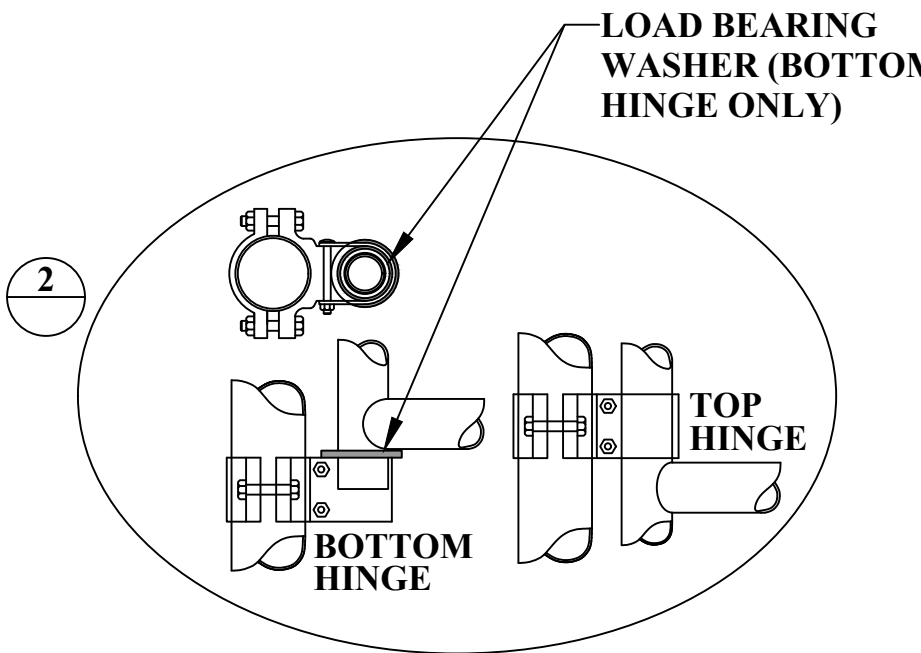
VERTICAL FITTINGS



STANDARD FENCE DETAIL
WITH TOP RAIL
NOT TO SCALE



STANDARD DOUBLE DRIVE
GATE DETAIL
NOT TO SCALE



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TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
STANDARD DETAILS

SHEET No.
DET-5

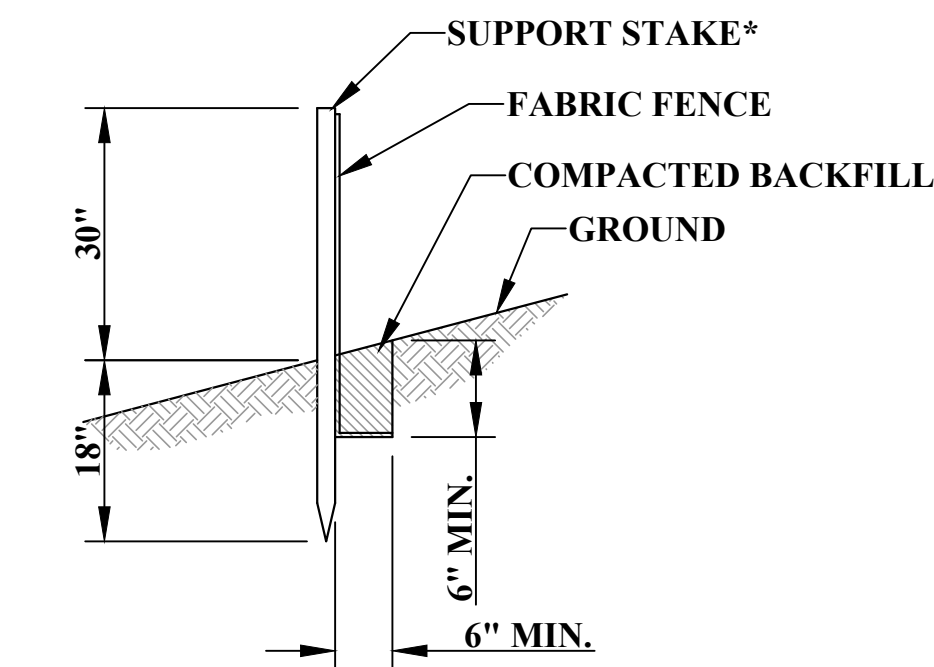
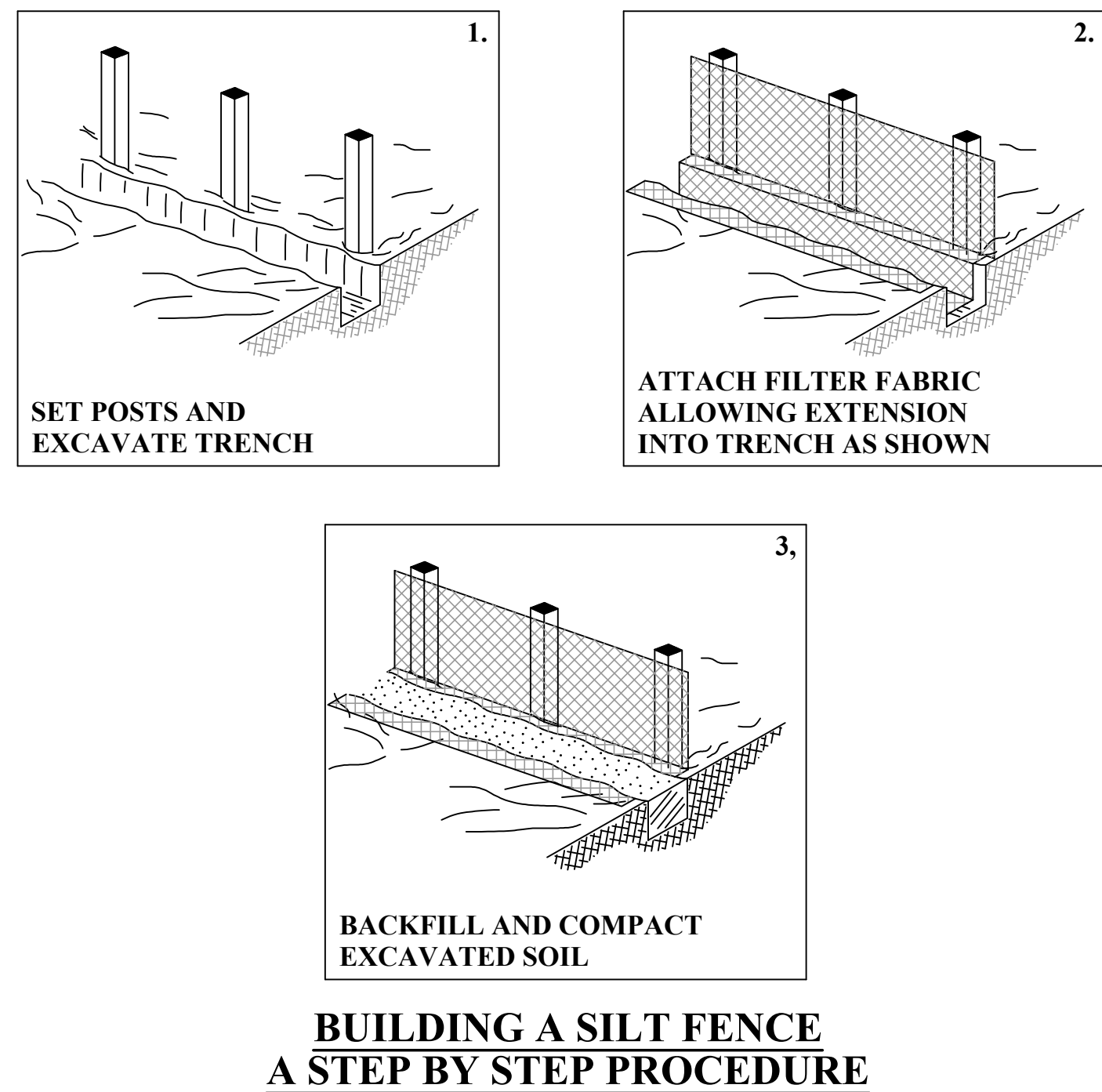


FIGURE 17
STANDARD FILTER FABRIC FENCE (30" HIGH)



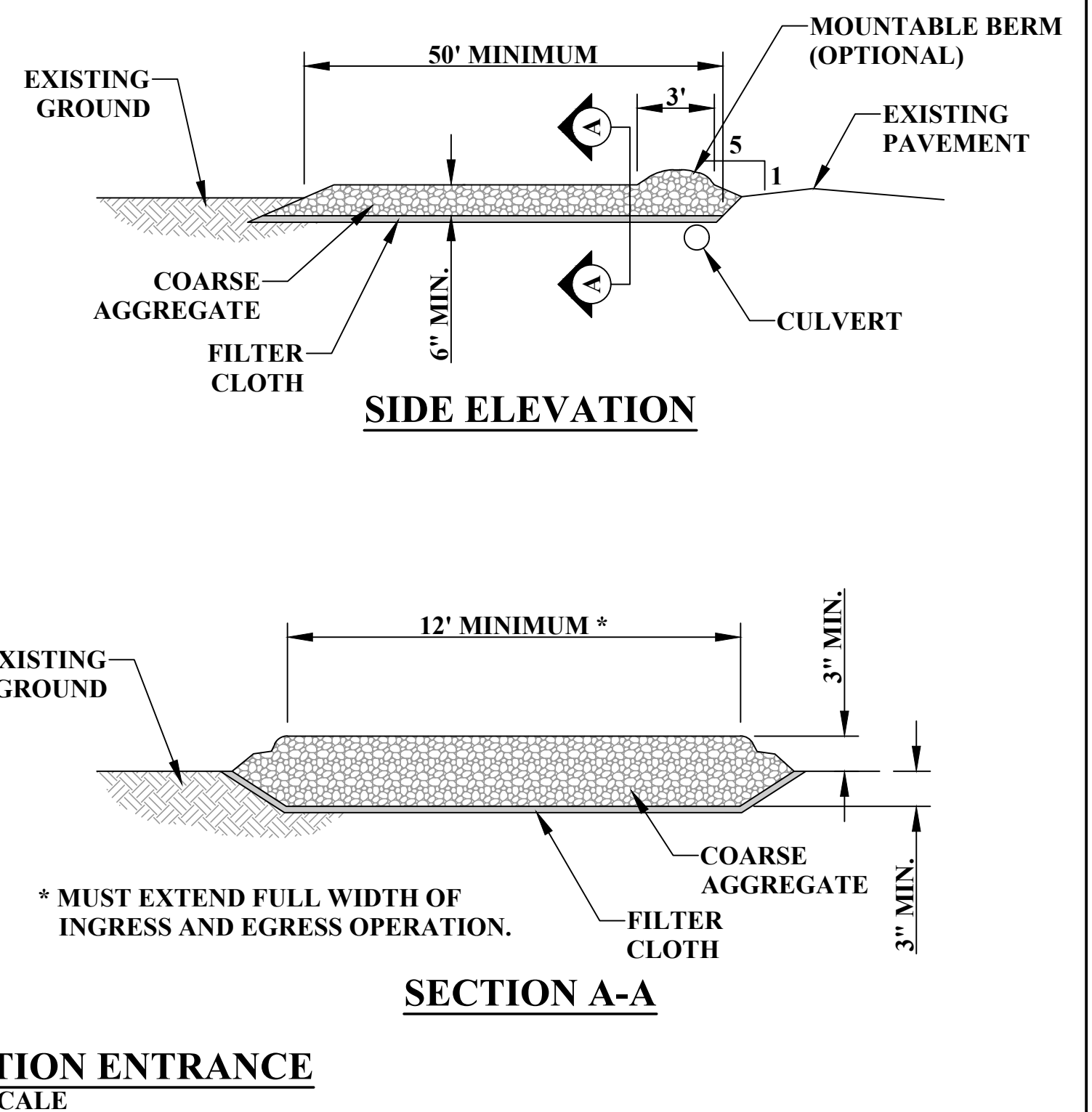
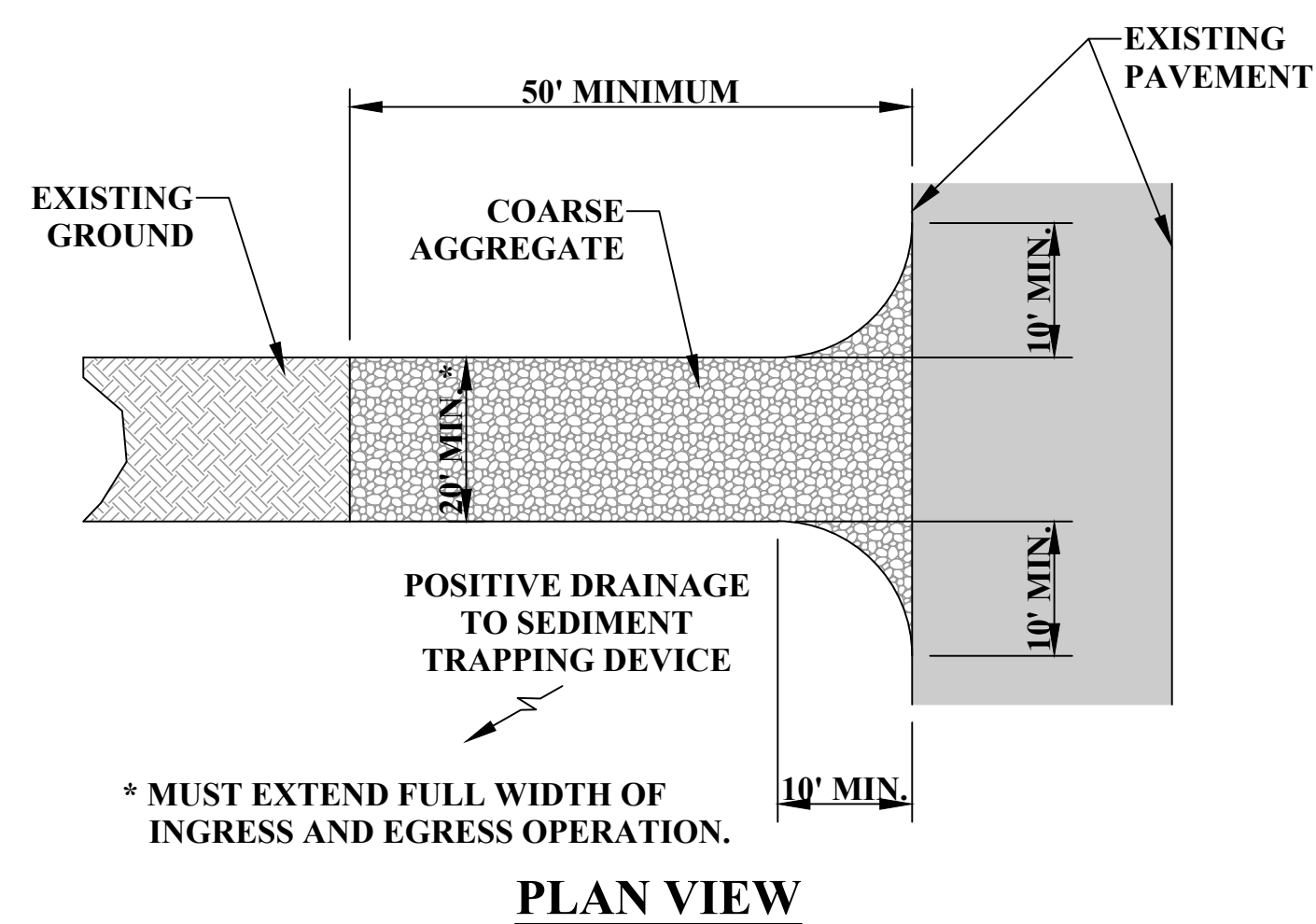
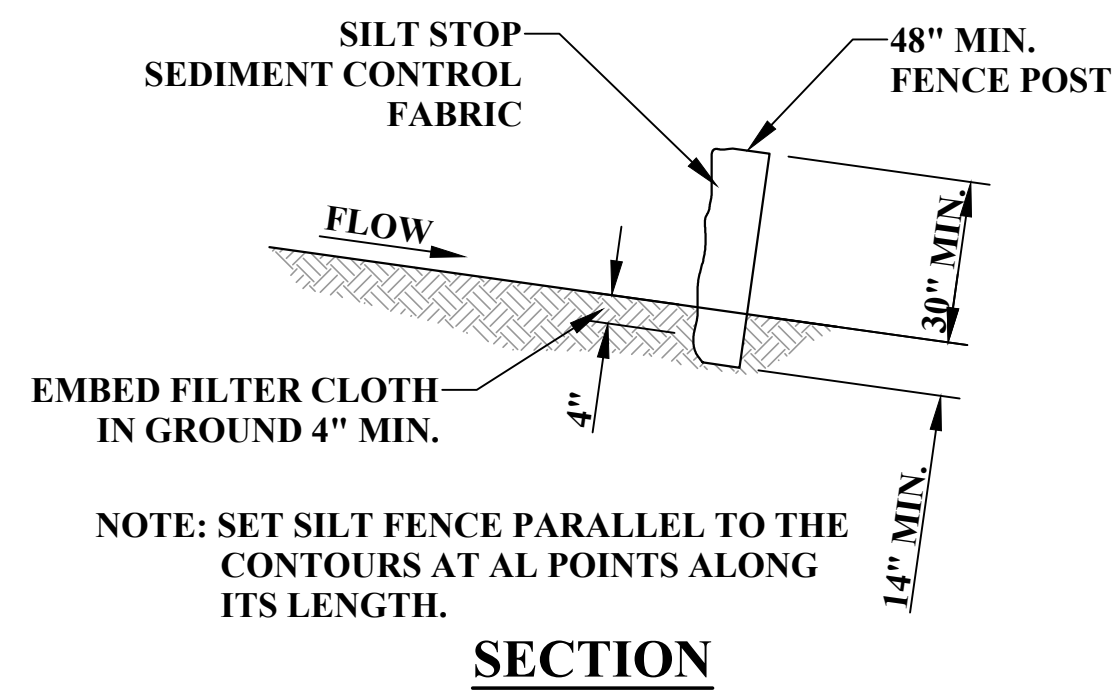
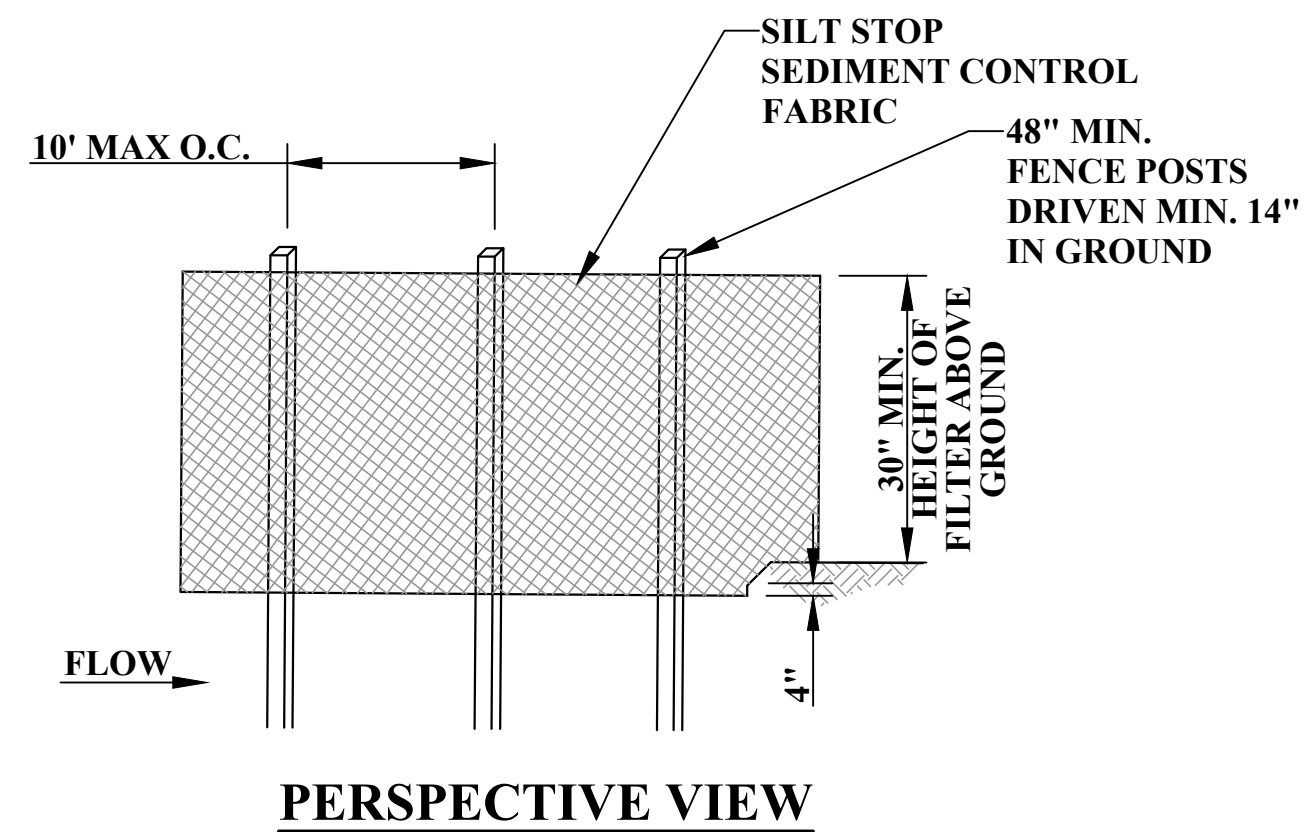
SLOPE - PERCENT	MAXIMUM SLOPE LENGTH (FT) ABOVE FENCE 30" HIGH FENCE
2 (OR LESS)	500
5	250
10	150
15	100
20	70
25	55
30	45
35	40
40	35
45	30
50	25

FIGURE 18
MAX. SLOPE LENGTHS FOR
FILTER FABRIC FENCE TABLE

REINFORCED 30" HIGH FENCE SEE FIGURE 17 FOR STANDARD FILTER FABRIC FENCE DETAIL.

WHEREVER THERE IS A BREAK OR CHANGE IN SLOPE ABOVE THE SILT FENCE, THE MAX. ALLOWABLE SLOPE LENGTH SHOULD BE DETERMINED BY THE FOLLOWING METHOD.

- (A) DETERMINE THE LENGTH AND PERCENT OF SLOPE SEGMENT IMMEDIATELY ABOVE THE FENCE.**
- (B) SUBTRACT THE LENGTH OF THIS SEGMENT FROM THE ALLOWABLE SLOPE LENGTH FOR THAT PERCENT SLOPE SHOWN IN ABOVE TABLE. IF THE RESULT IS POSITIVE, FIND THE PERCENTAGE OF THE ALLOWABLE LENGTH THAT HAS BEEN USED (SLOPE LENGTH ÷ ALLOWABLE SLOPE LENGTH).**
- (C) SUBTRACT THE RESULT FROM 1.00 TO DETERMINE THE UNUSED PERCENTAGE OF ALLOWABLE SLOPE LENGTH.**
- (D) DETERMINE THE MAXIMUM ALLOWABLE SLOPE LENGTH FOR THE PERCENT SLOPE OF THE REMAINING SEGMENT FROM ABOVE TABLE.**
- (E) MULTIPLY THIS ALLOWABLE SLOPE LENGTH BY THE REMAINDER FROM STEP (C) ABOVE.**
- (F) ADD THE RESULT FROM STEP (B) TO THAT FROM STEP (E). THIS IS THE MAX. SLOPE LENGTH FOR THE ENTIRE SLOPE.**



NO.	BY	DATE	DESCRIPTION

SCALE:	
DRAWN: RRS	DATE: APRIL 2020
CHECKED: RSS	DATE: APRIL 2020
APPROVED: JCC	DATE: MAY 2020
SURVEY DATE:	
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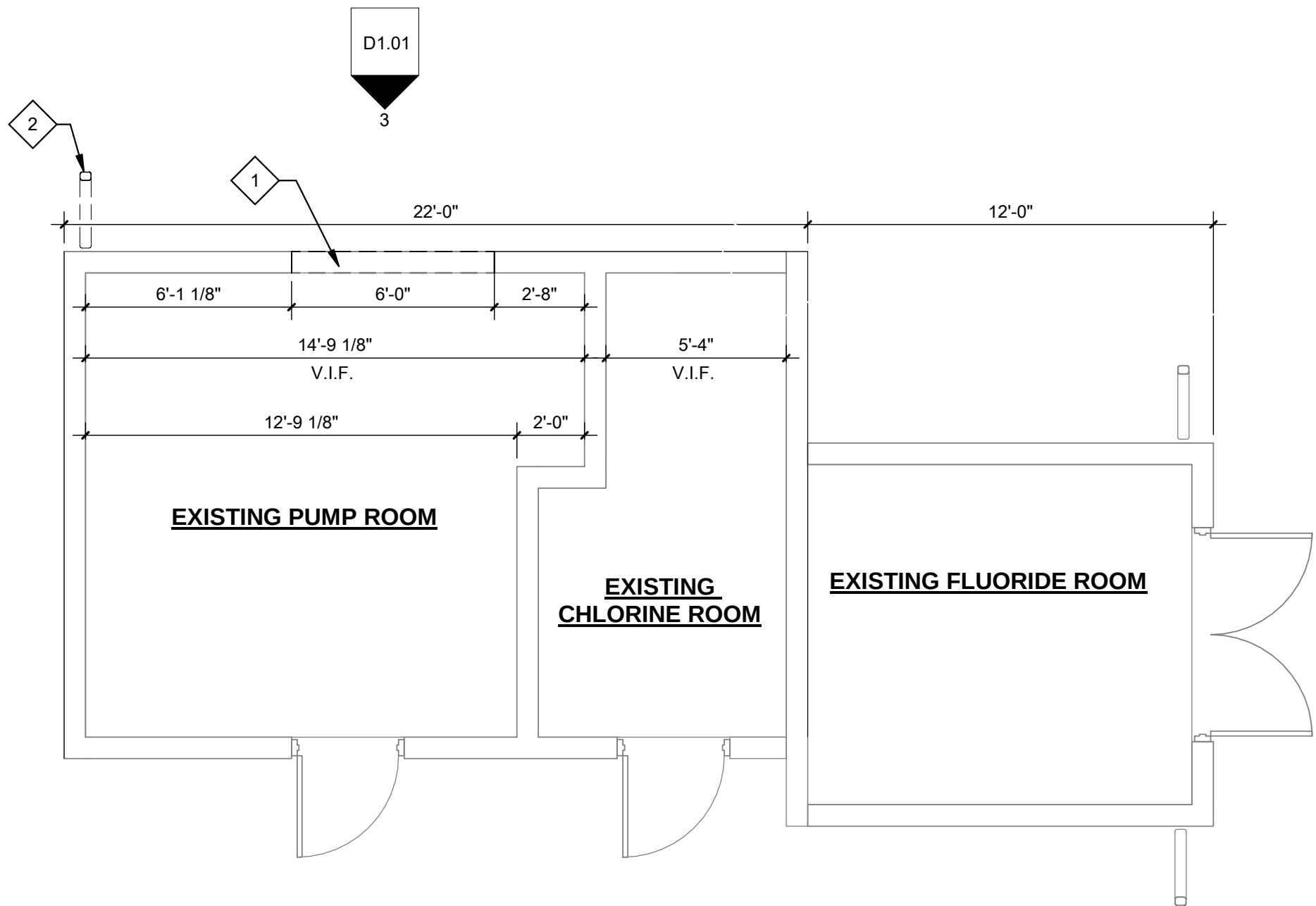
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(330)-451-2043

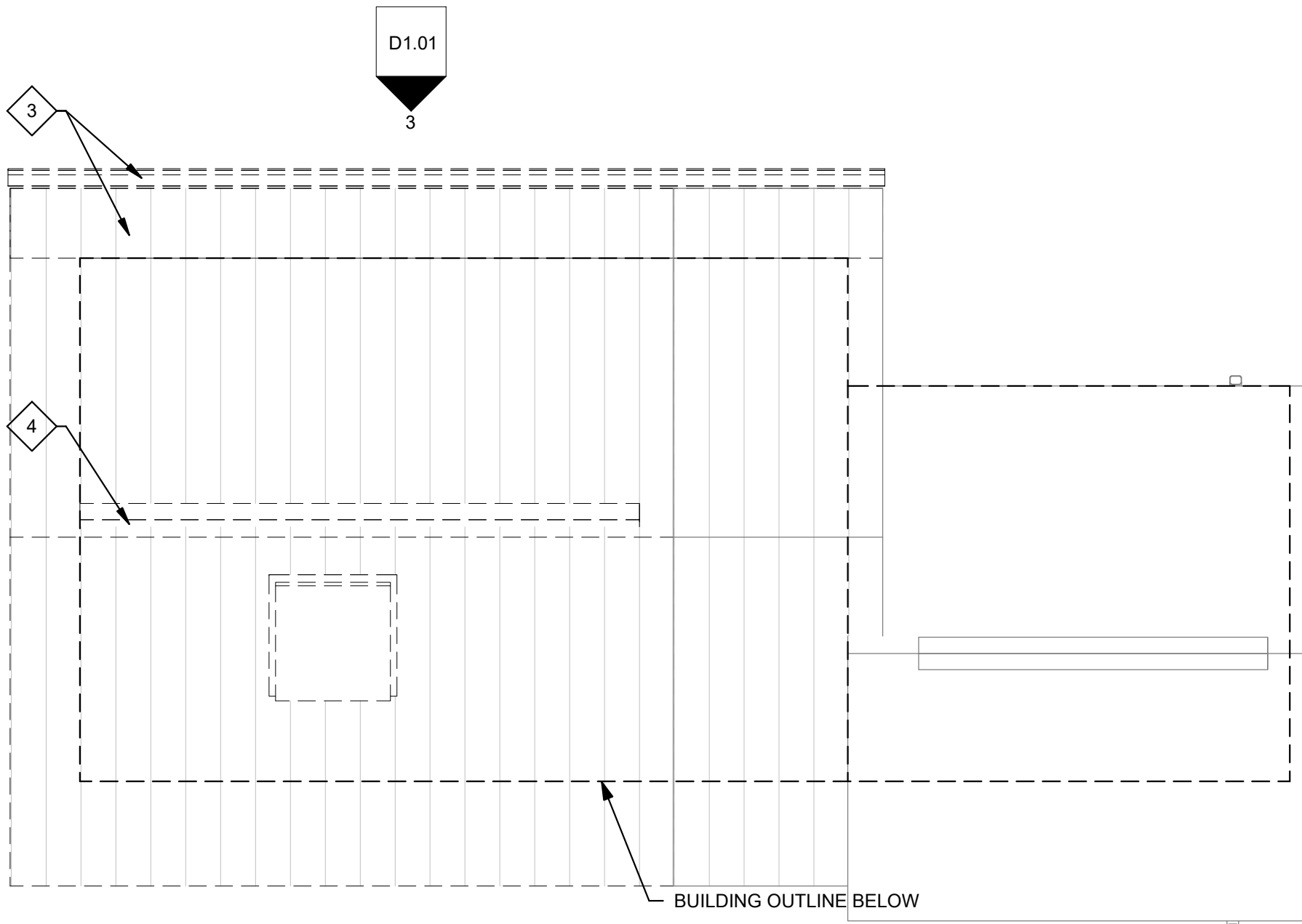
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CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS EROSION AND SEDIMENTATION DETAILS		
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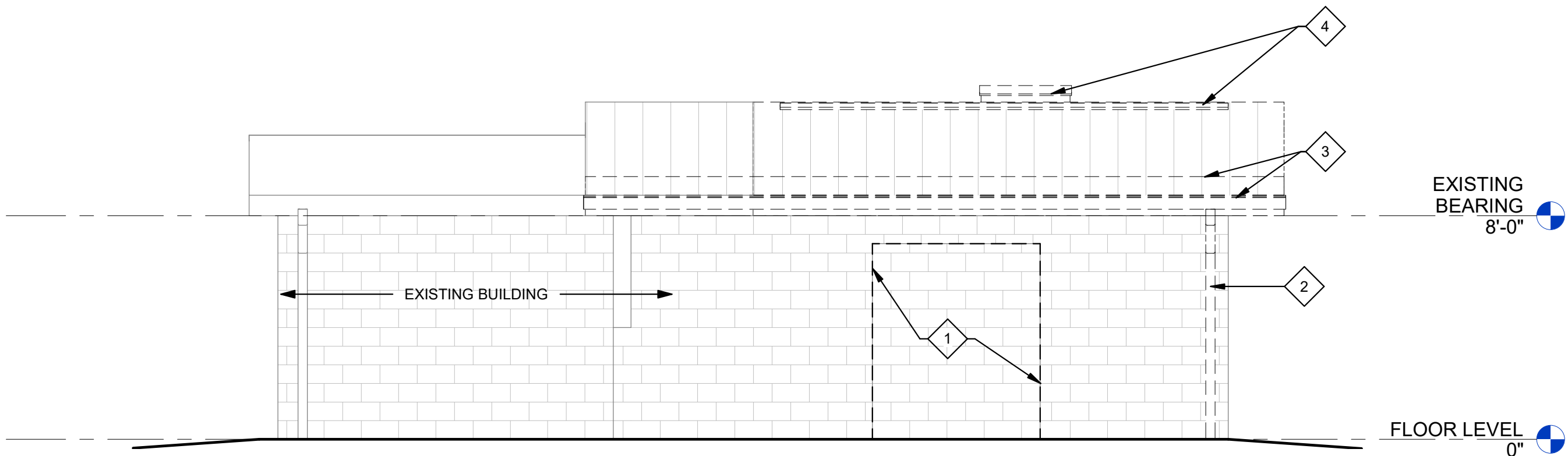
ES-1



1 DEMOLITION FLOOR PLAN
D1.01 1/4" = 1'-0" 0' 2'-6" 5' 10'



2 DEMOLITION ROOF PLAN
D1.01 1/4" = 1'-0" 0' 2'-6" 5' 10'



3 DEMOLITION ELEVATION
D1.01 1/4" = 1'-0" 0' 2'-6" 5' 10'



EXISTING PHOTO
1:1

#	DEMOLITION NOTES
NOTE #	DESCRIPTION
1	REMOVE EXISTING UTILITY BRICK FOR 6'-0" W. x 7'-0" TALL OPENING INTO NEW SPACE
2	REMOVE EXISTING DOWNSPOUT AND DISPOSE OF LEGALLY.
3	REMOVE EXISTING ROOFING, SHEATHING, FASCIA AS REQ'D TO CUT BACK WOOD TRUSS TO ALLOW FOR NEW BUILDING ADDITION.
4	REMOVE PORTION OF EXISTING RIDGE VENT AND ROOF

GENERAL DEMOLITION NOTES

-THE INTENT OF THE DEMOLITION PLANS IS TO SHOW THE GENERAL NATURE OF THE DEMOLITION SCOPE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VISITING THE JOB SITE AND VERIFYING THE EXISTING CONDITIONS. THE GENERAL CONTRACTOR SHOULD NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DEMOLITION.

- REMOVE ALL EXISTING CONSTRUCTION AND FINISHES NECESSARY FOR THE COMPLETION OF THE NEW RENOVATION WORK AS DEPICTED ON THE DRAWINGS. INCLUDING BUT NOT LIMITED TO, ITEMS SHOWN ON THE PLANS WITH DASHED LINES. NECESSARY DISCONNECTS AND ALTERATIONS TO EXISTING MECHANICAL, ELECTRICAL, FIRE PROTECTION AND ALARM SYSTEMS SHALL BE INCLUDED. PATCH AS REQUIRED ALL CONSTRUCTIONS TO REMAIN IN ACCORDANCE WITH THE CONTRACT DRAWINGS. WHERE CONTRACTOR IS DESIGNATED TO MAKE REMOVALS, DISPOSAL OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. VERIFY WITH OWNER, THE DISPOSAL AND REMOVAL OF ANY COMPONENTS OF SALVAGEABLE VALUE.

- ALL REMOVALS AND SALVAGE: SALVAGEABLE ITEMS SHALL FIRST BE OFFERED TO THE OWNER. SALVAGEABLE ITEMS THAT ARE NOT RETAINED BY THE OWNER SHALL BECOME PROPERTY OF THE CONTRACTOR & SHALL BE LEGALLY DISPOSED OF OFF SITE.

-REMOVE ONLY NON-LOAD BEARING CONSTRUCTION AND PARTITIONS. CONTRACTOR TO VERIFY AND CONTACT ARCHITECT IF REQUIRED FOR VERIFICATION, PRIOR TO REMOVAL, THAT NO STRUCTURAL COMPONENTS, I.E. BEARING WALLS, BEAMS, HEADERS, ETC., SUPPORTING FLOOR, ROOF OR CEILING JOISTS ARE DESIGNATED FOR REMOVAL. CONTACT THE ARCHITECT PRIOR TO REMOVAL OF ANY CONSTRUCTION IN QUESTION OR DEVIATING FROM THE DESIGN INTENT. CONTRACTOR'S NON-CONTACT OF ARCHITECT PRIOR TO REMOVAL OF ANY WORK INDICATES HIS COMPLETE UNDERSTANDING THAT NO LOAD BEARING OR STRUCTURAL WORK IS BEING ALTERED UNDER THIS CONTRACT.

DEMOLITION PLAN LEGEND	
---	PROJECT BOUNDARY
----	EXISTING TO BE DEMOLISHED
----	EXISTING TO REMAIN
-----	EXTENTS TO BE DEMOLISHED
-----	ITEMS TO BE RELOCATED

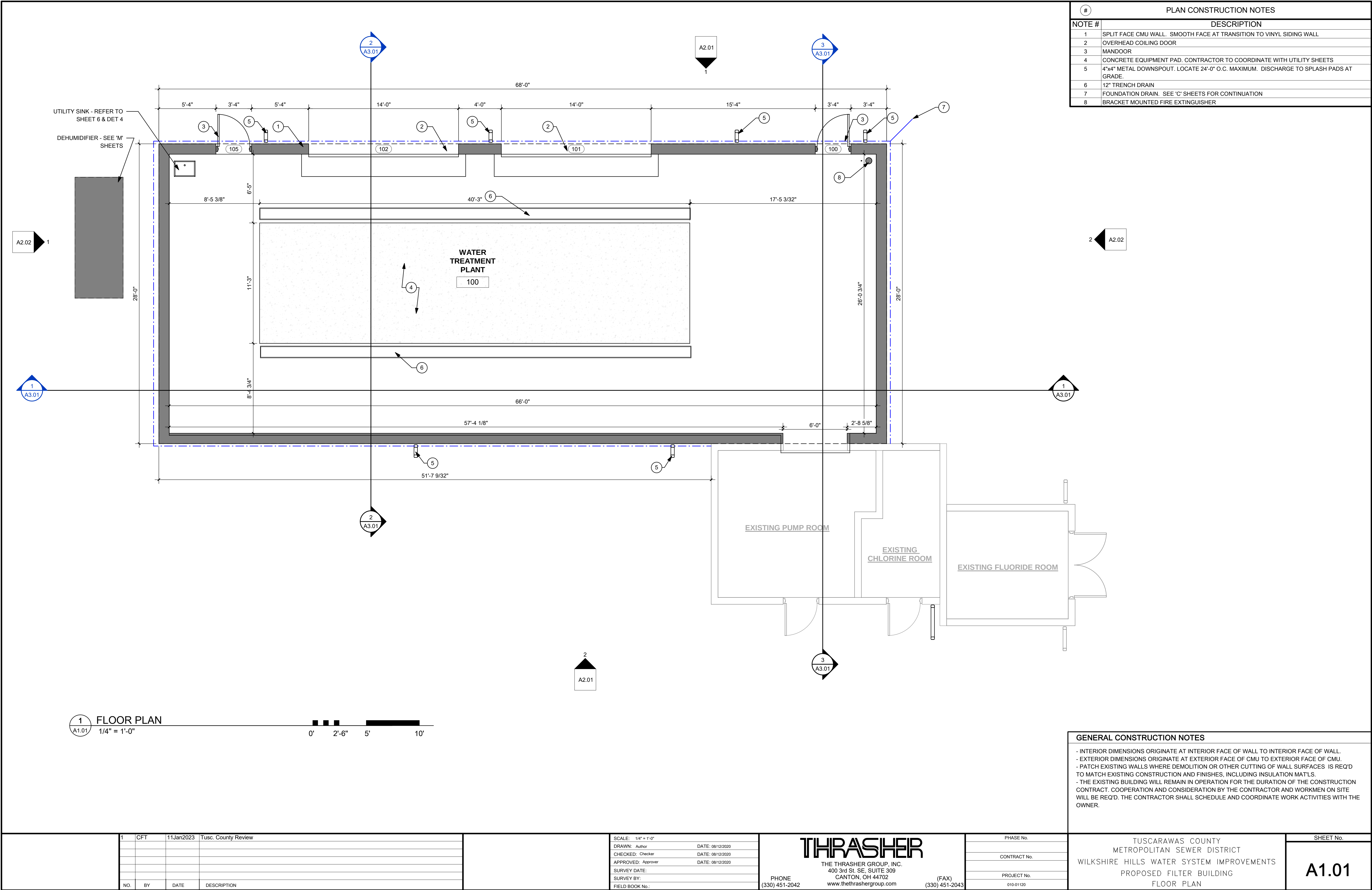
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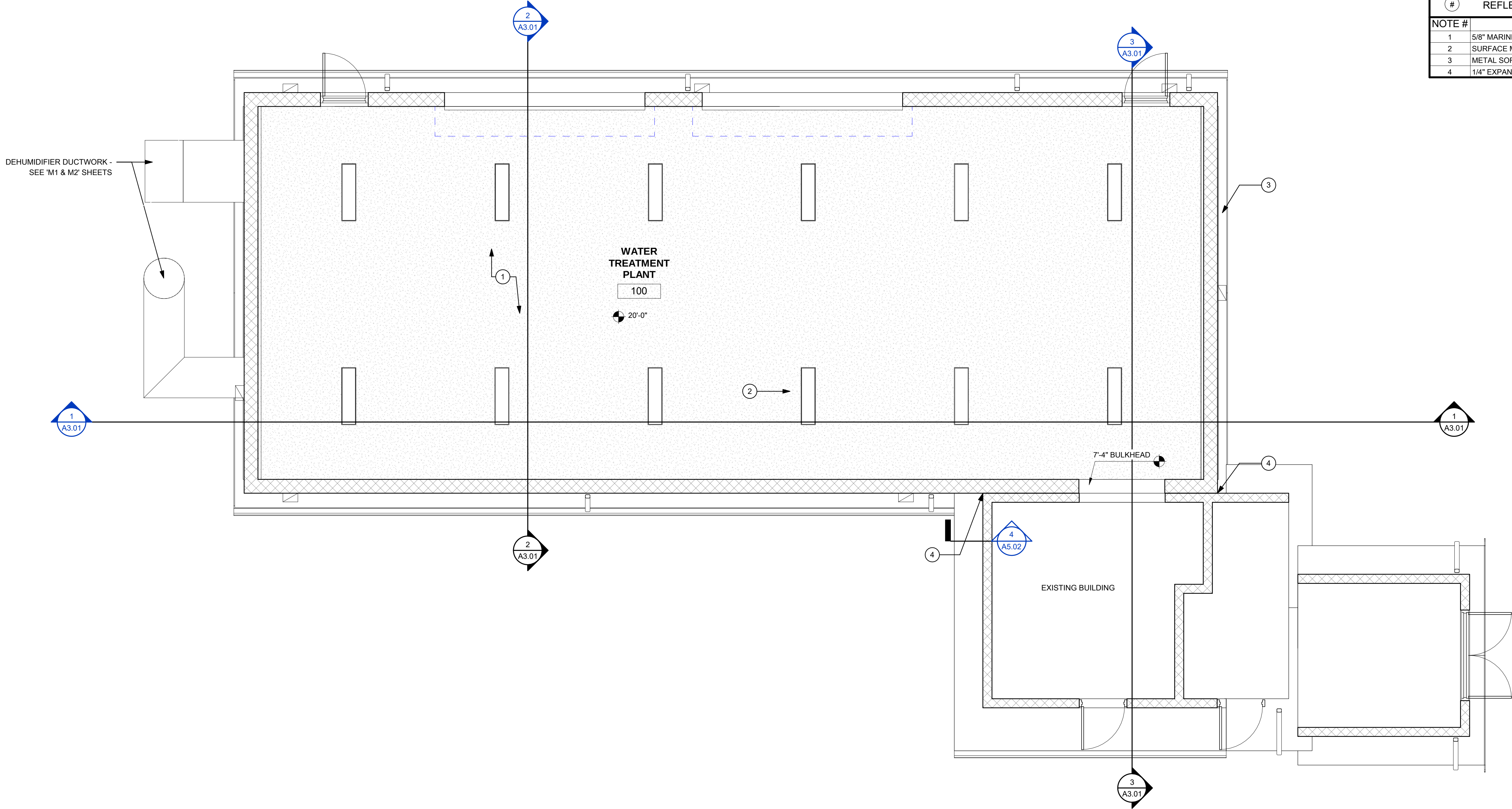
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CHECKED: Checker	DATE: 08/12/2020
APPROVED: Approver	DATE: 08/12/2020
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SURVEY BY:	
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www.thrashergroup.com	

PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED FILTER BUILDING DEMOLITION FLOOR PLAN	SHEET No. D1.01
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#	REFLECTED CEILING PLAN CONSTRUCTION NOTES
NOTE #	DESCRIPTION
1	5/8" MARINE GRADE PLYWOOD ATTACHED TO UNDERSIDE OF STRUCTURE
2	SURFACE MOUNTED LIGHTING - SEE E. SHEETS
3	METAL SOFFIT PANEL
4	1/4" EXPANSION JOINT. INSTALL BACKER ROD & JOINT SEALANT

1 REFLECTED CEILING PLAN
1/4" = 1'-0"



REFLECTED CEILING PLAN LEGEND	
NOTE: CONTRACTOR TO COORDINATE RCP BETWEEN ARCHITECTURAL AND MEP DRAWINGS	
	2'x2' LAY-IN CEILING TILE
	2'x4' LAY-IN CEILING TILE
	2'x4' LIGHT FIXTURE
	2'x2' LIGHT FIXTURE
	2'x4' EMERGENCY LIGHT FIXTURE
	2'x2' EMERGENCY LIGHT FIXTURE
	LINEAR CEILING MOUNTED LIGHT
	LINEAR CEILING MOUNTED EMERGENCY LIGHT FIXTURE
	GYPSUM BOARD CEILING
	DIFFUSERS
	RETURN GRILL
	EXHAUST GRILL
	BULK HEAD
	WALLS BELOW
	EXIT SIGN
	SMOKE DETECTOR

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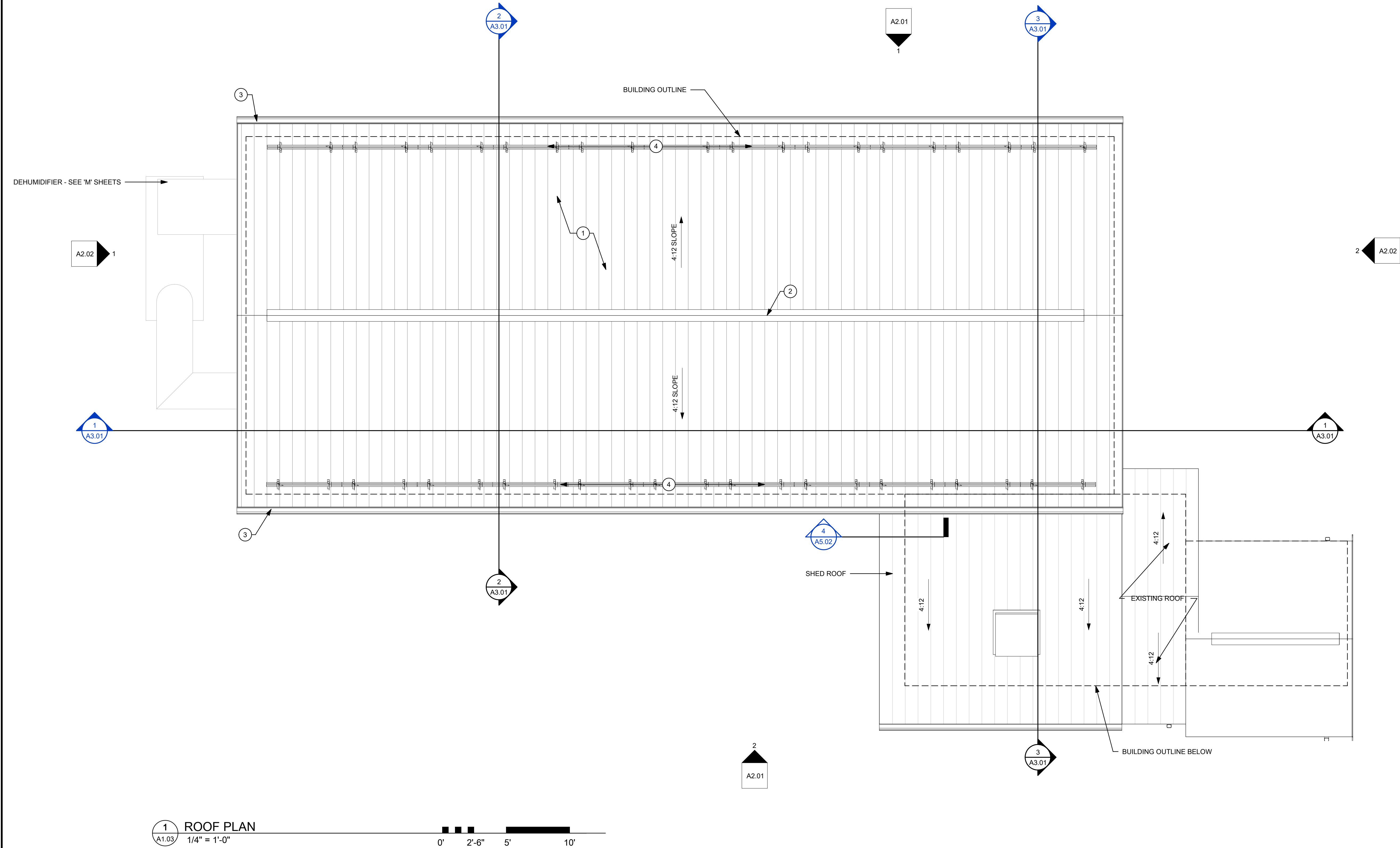
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CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
RCP

SHEET No.
A1.02

#	ROOF PLAN CONSTRUCTION NOTES
NOTE #	DESCRIPTION
1	STANDING SEAM METAL ROOF
2	RIDGE VENT
3	COMMERCIAL METAL GUTTER AND DOWNSPOUT SYSTEM
4	SNOW GUARDS FULL LENGTH OF BUILDING. FINAL LOCATION AND ARRANGEMENT DETERMINED BY MANUFACTURER

GENERAL NOTES:
- SEE M. & P. SHEETS FOR ROOF PENETRATIONS AND PENETRATION DETAILS



1 ROOF PLAN
1/4" = 1'-0"

0' 2'-6" 5' 10'

1	CFT	11Jan2023	Tusc. County Review
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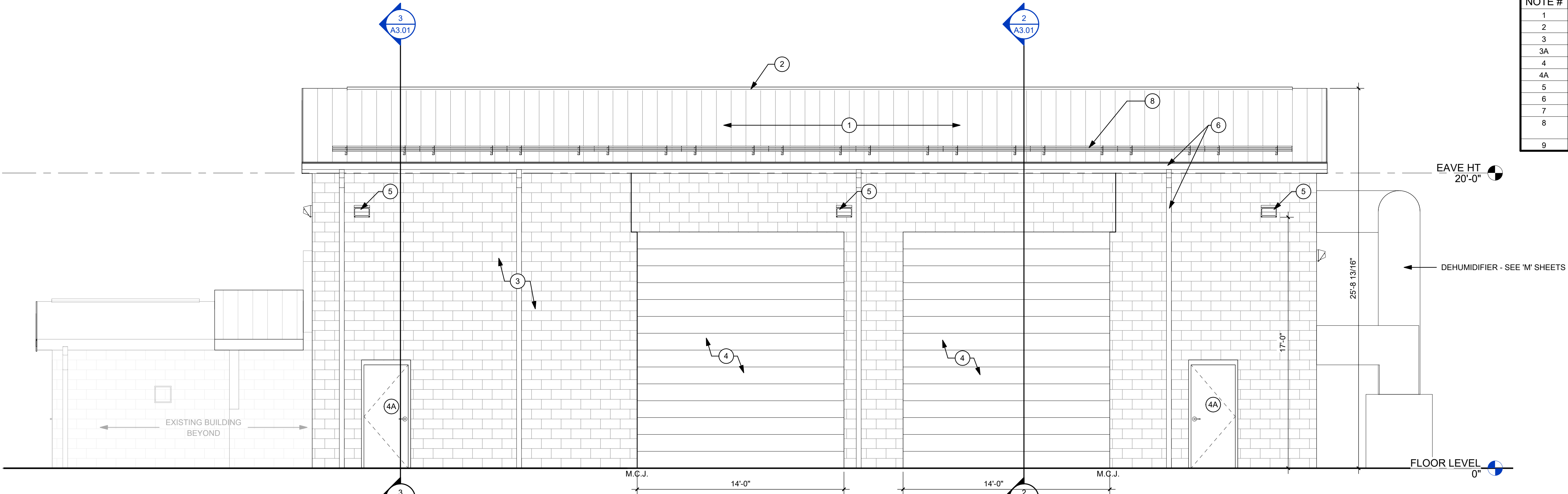
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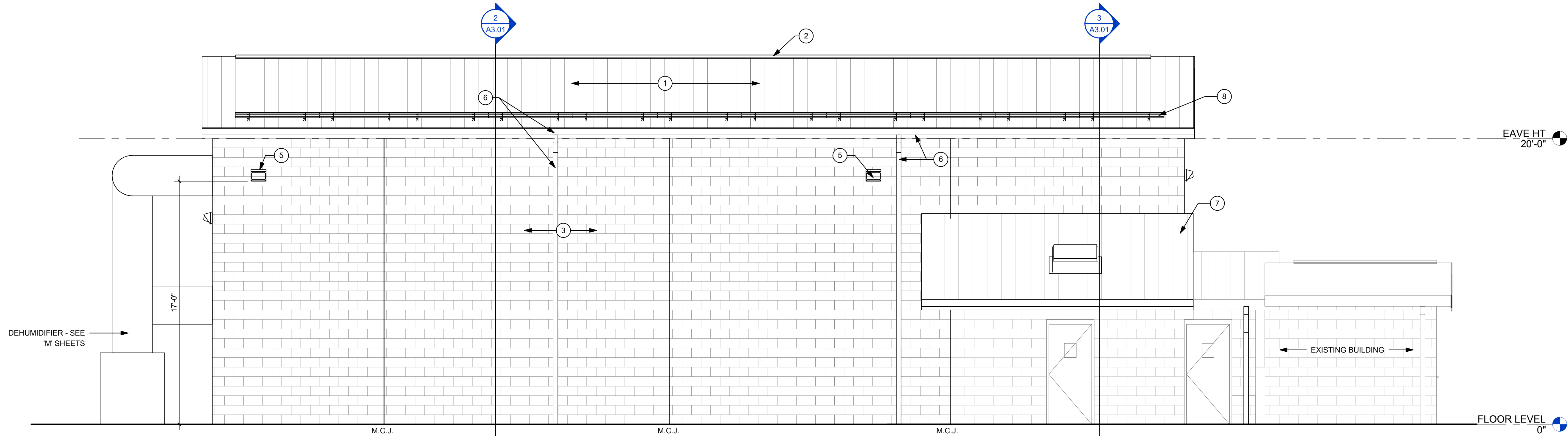
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
ROOF PLAN

SHEET No.
A1.03



1 FRONT ELEVATION
A2.01 1/4" = 1'-0"



2 BACK ELEVATION
A2.01 1/4" = 1'-0"

#	ELEVATION CONSTRUCTION NOTES
NOTE #	DESCRIPTION
1	STANDING SEAM METAL ROOF
2	RIDGE VENT
3	SPLIT FACE BLOCK TO MATCH EXISTING
3A	VINYL SIDING FINISH
4	OVERHEAD COILING DOOR
4A	MANDOOR
5	WALL PACK LIGHT - SEE E. SHEETS
6	GUTTER AND DOWNSPOUT SYSTEM. SLOPE GUTTER AT 1/4" PER FOOT
7	NEW ROOF - SEE DETAILS
8	SNOW GUARDS FULL LENGTH OF BUILDING. FINAL LOCATION AND ARRANGEMENT DETERMINED BY MANUFACTURER
9	ATTIC VENT

1	CFT	11Jan2023	Tusc. County Review
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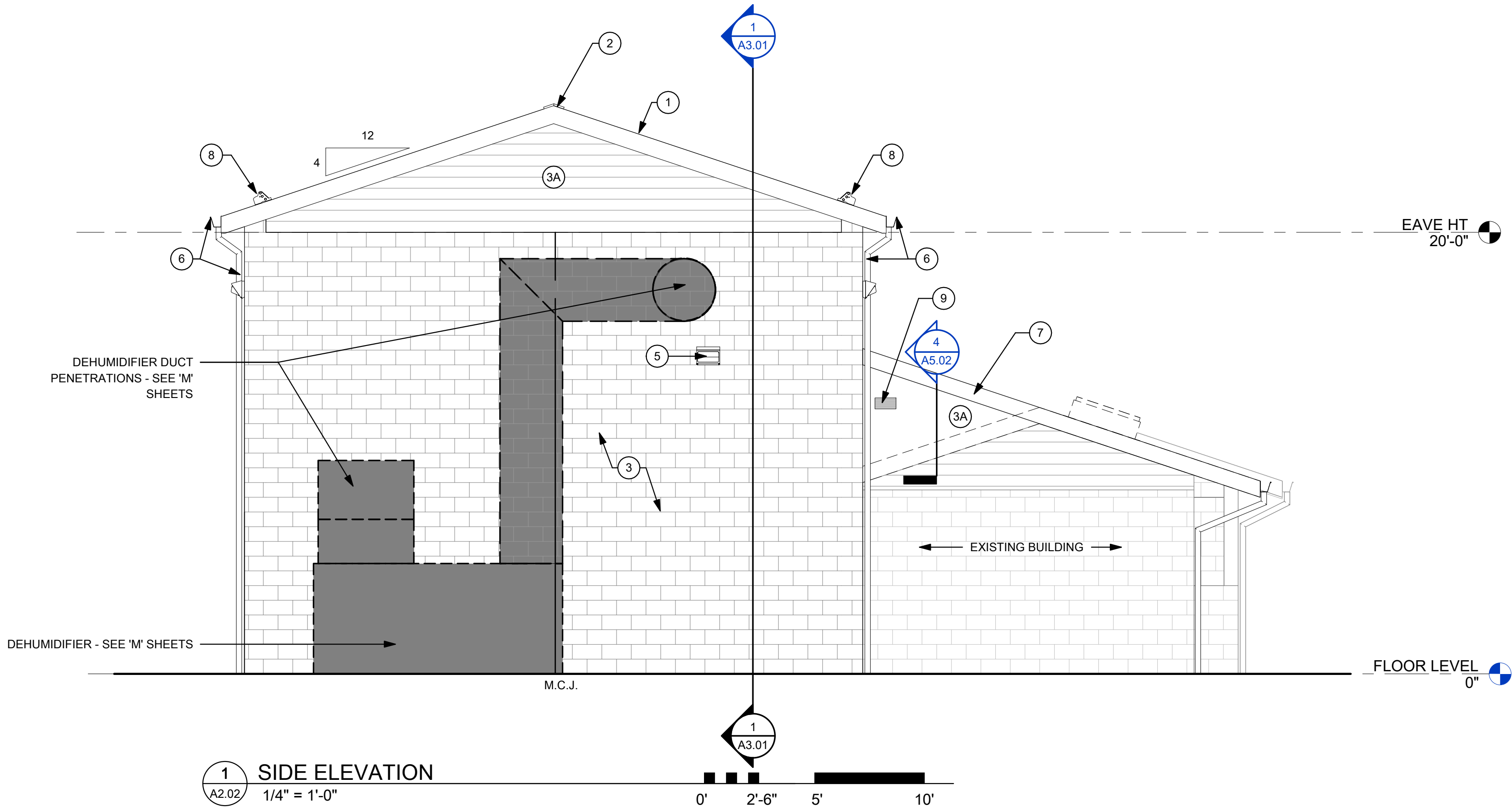
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APPROVED: Approver	DATE: 08/12/2020
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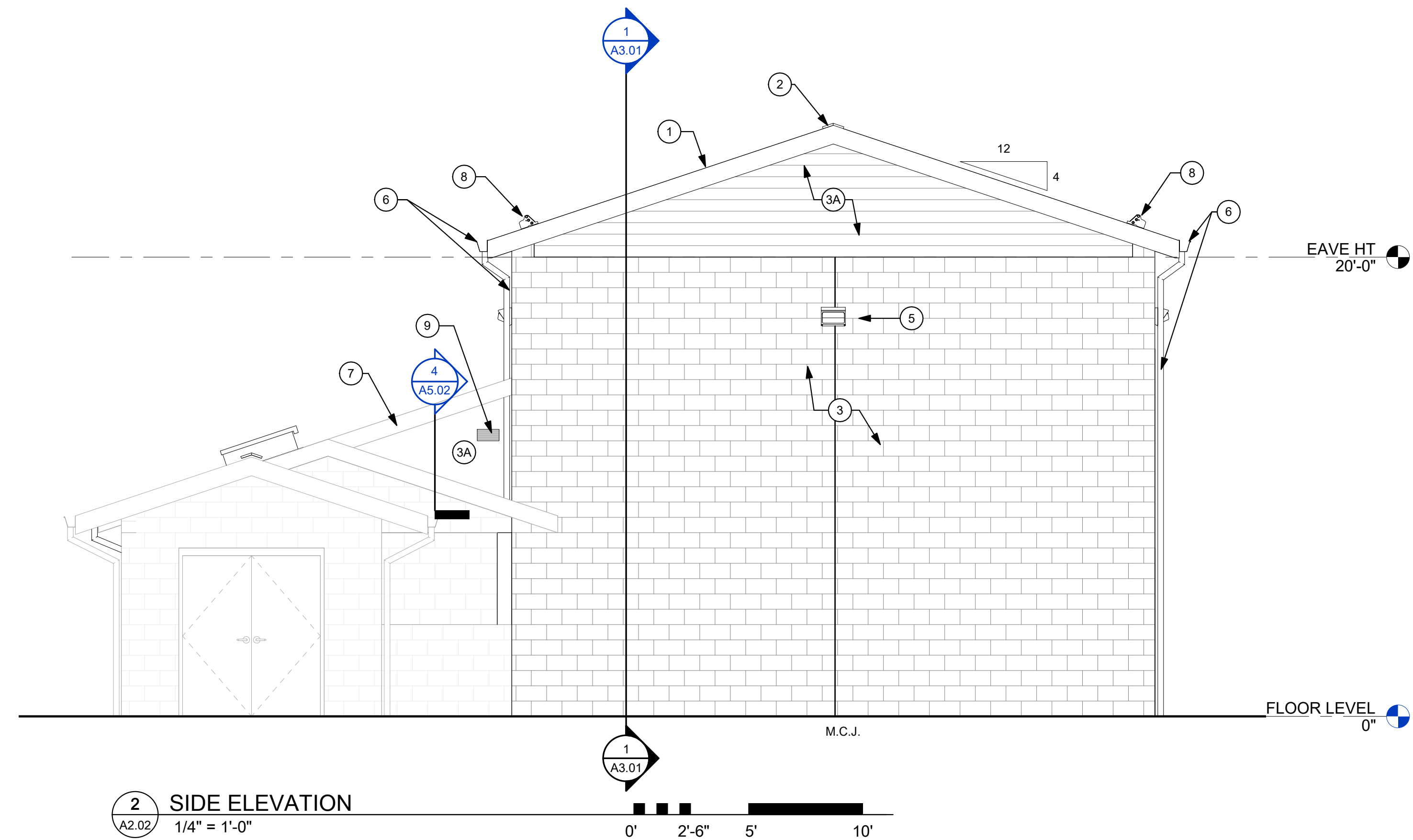
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PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED FILTER BUILDING BUILDING ELEVATIONS
--

SHEET No.
A2.01



#	ELEVATION CONSTRUCTION NOTES
NOTE #	DESCRIPTION
1	STANDING SEAM METAL ROOF
2	RIDGE VENT
3	SPLIT FACE BLOCK TO MATCH EXISTING
3A	VINYL SIDING FINISH
4	OVERHEAD COILING DOOR
4A	MANDOOR
5	WALL PACK LIGHT - SEE E. SHEETS
6	GUTTER AND DOWNSPOUT SYSTEM. SLOPE GUTTER AT 1/4" PER FOOT
7	NEW ROOF - SEE DETAILS
8	SNOW GUARDS FULL LENGTH OF BUILDING. FINAL LOCATION AND ARRANGEMENT DETERMINED BY MANUFACTURER
9	ATTIC VENT



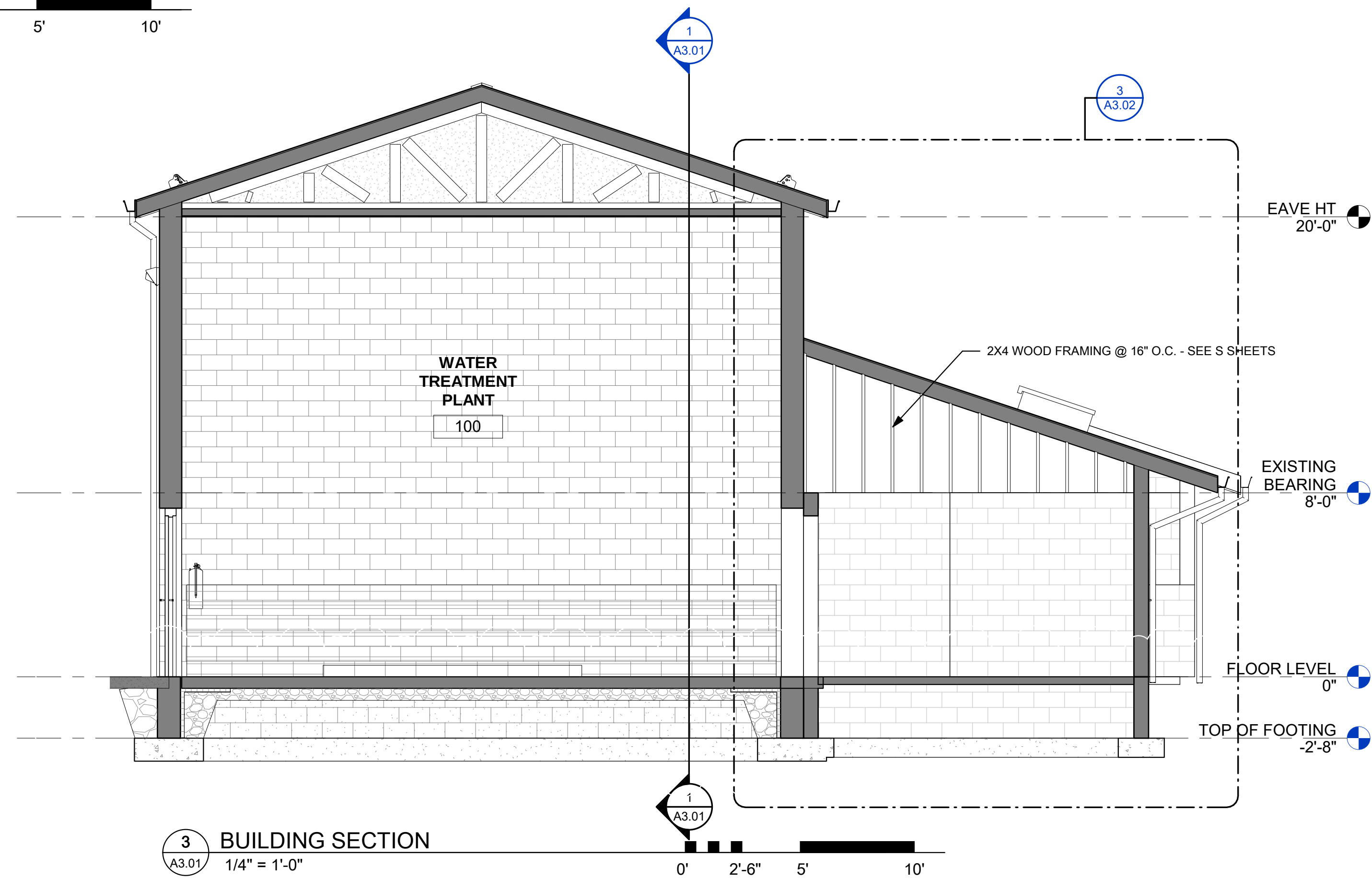
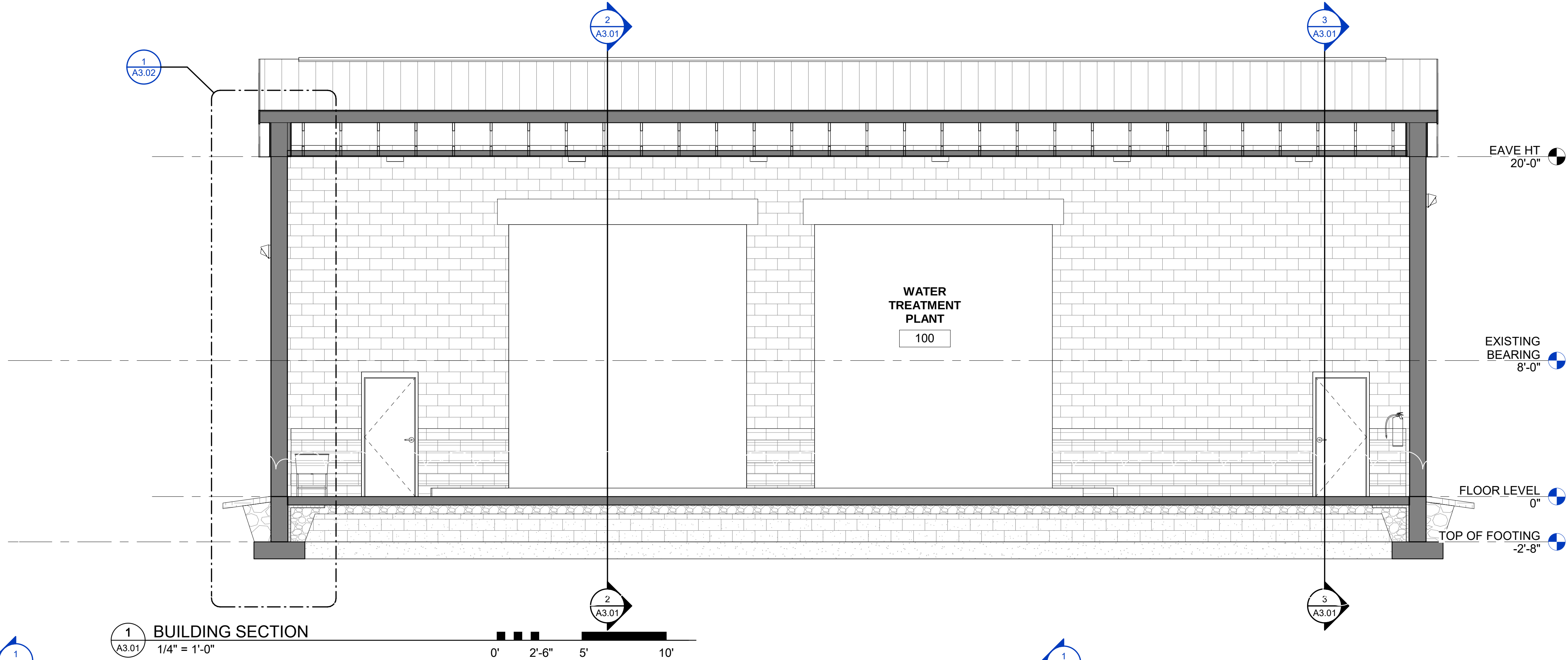
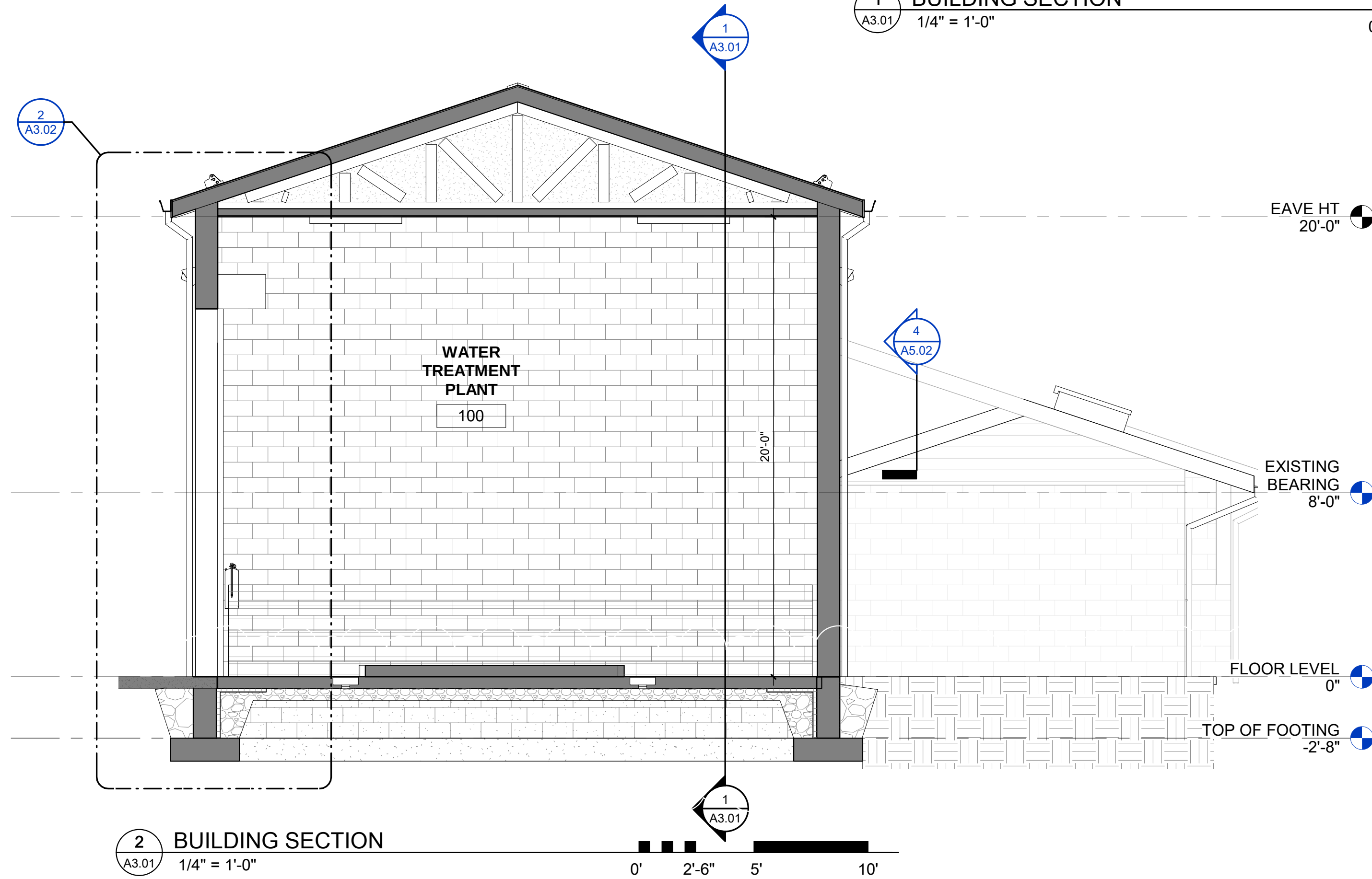
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TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED FILTER BUILDING BUILDING ELEVATIONS
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SHEET No.
A2.02



1	CFT	11Jan2023	Tusc. County Review
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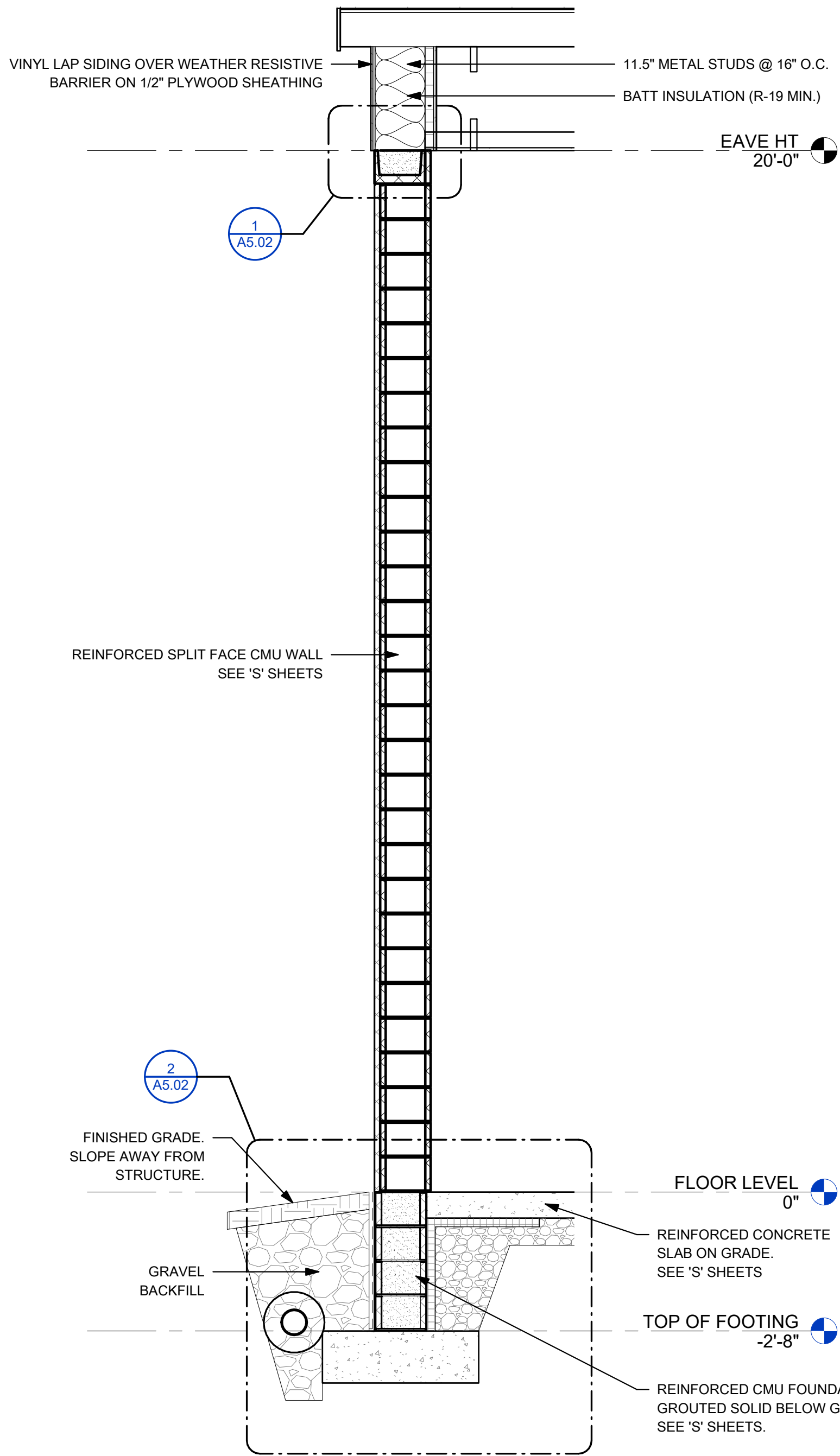
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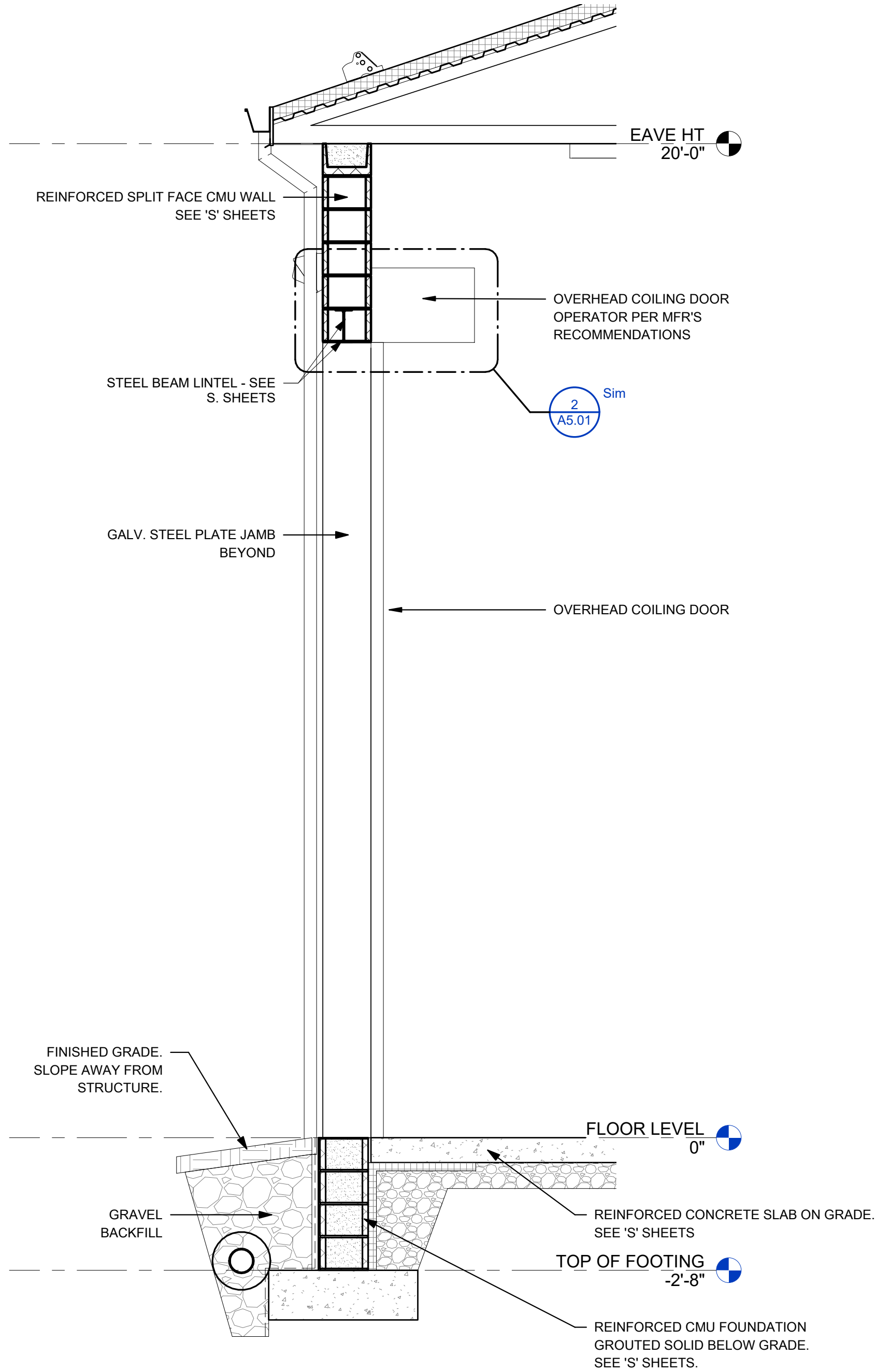
TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
BUILDING SECTIONS

SHEET No.

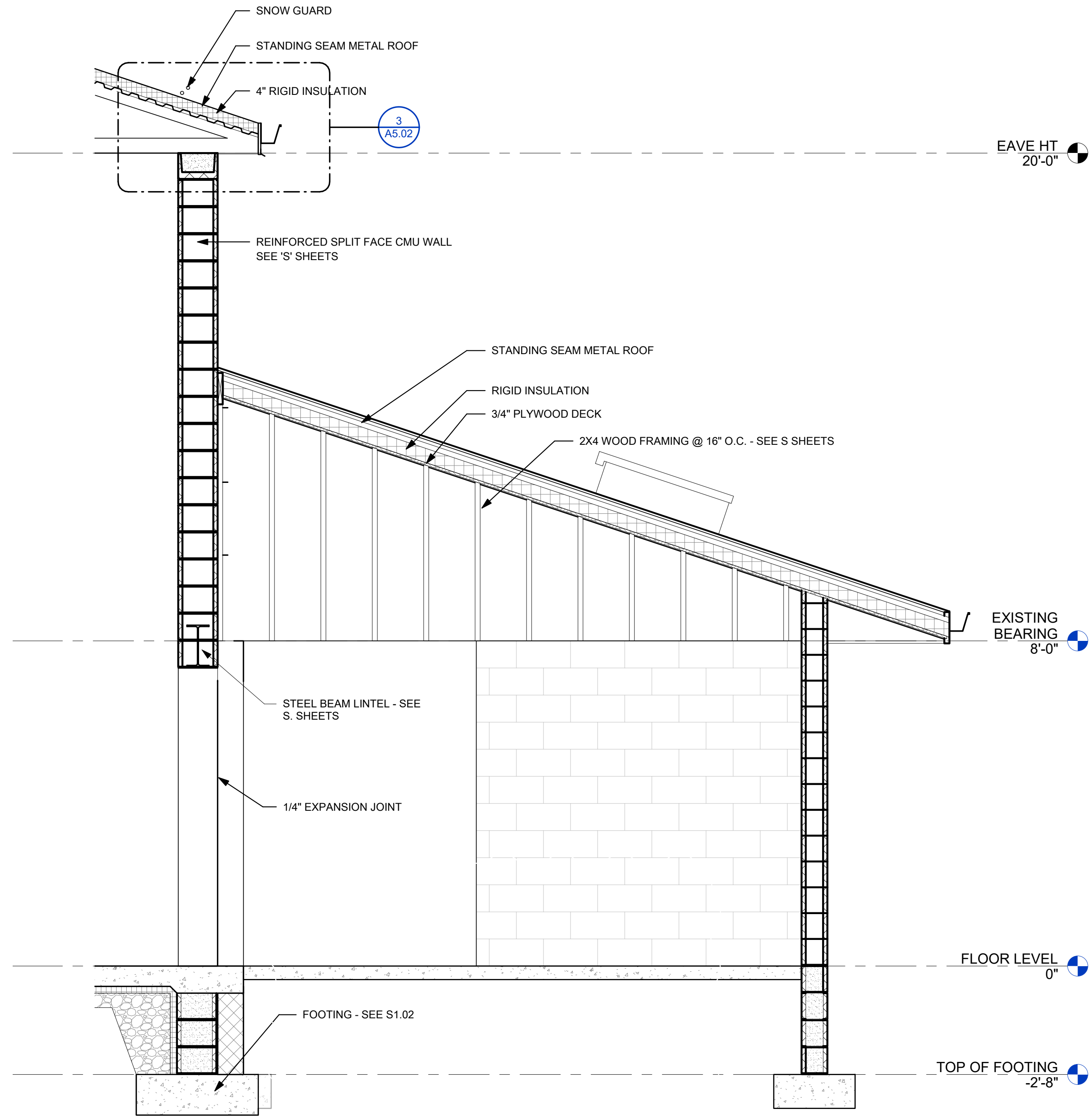
A3.01



1 WALL SECTION
A3.02 1/2" = 1'-0"



2 WALL SECTION
A3.02 1/2" = 1'-0"



3 WALL SECTION
A3.02 1/2" = 1'-0"

1	CFT	11Jan2023	Tusc. County Review
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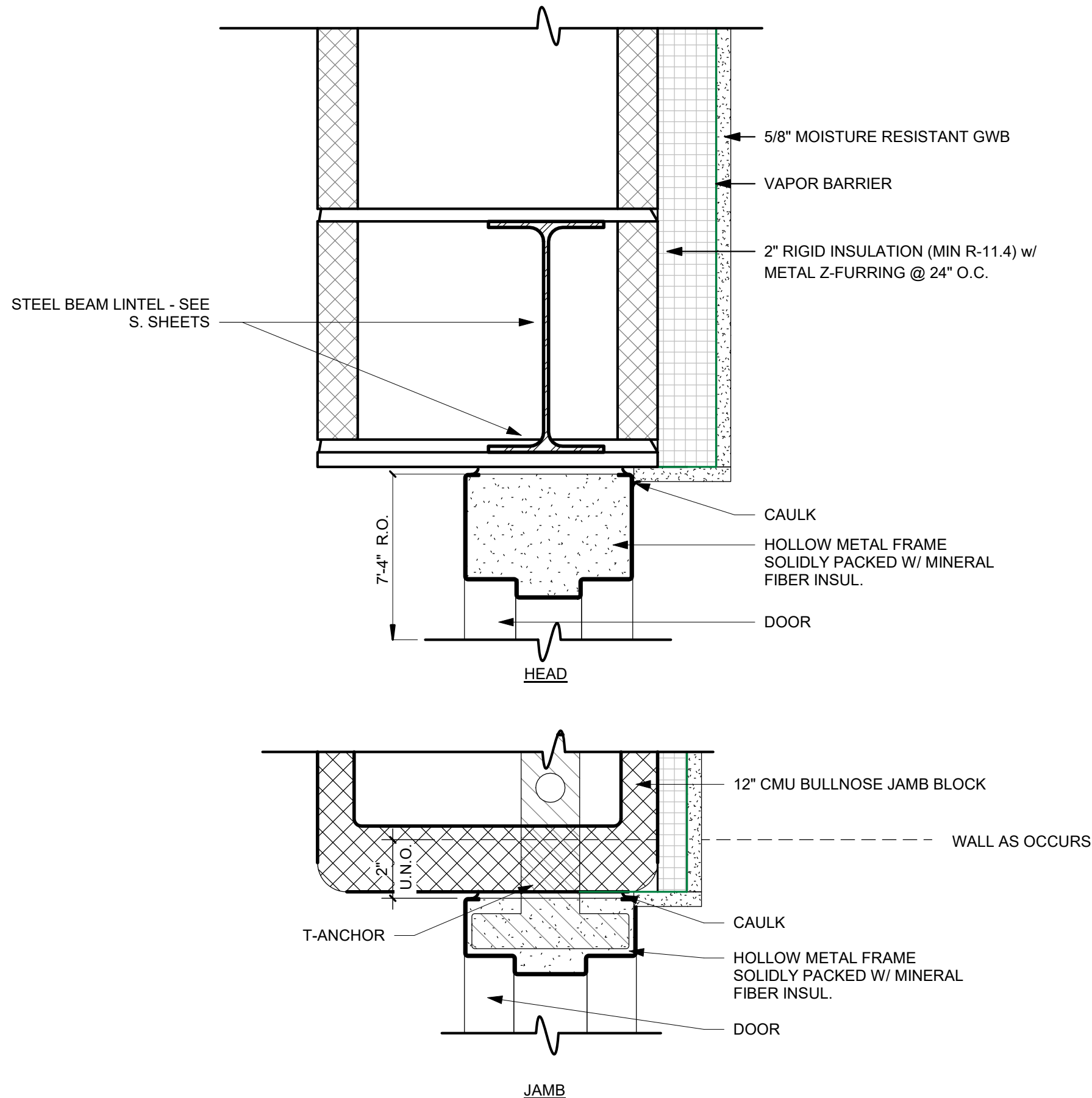
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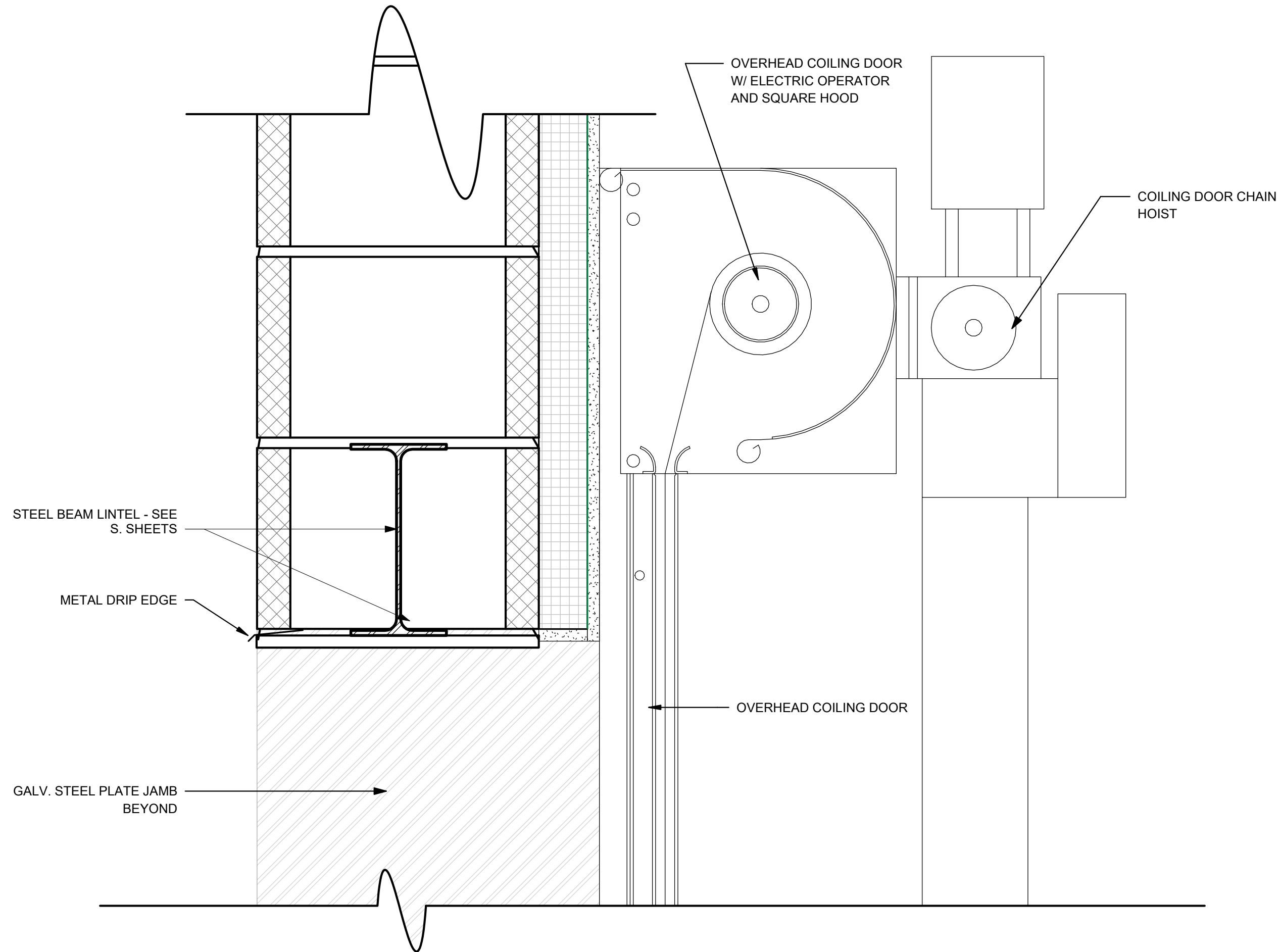
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WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
WALL SECTIONS

SHEET No.

A3.02



1 DOOR DETAIL - TYP. DOOR HEAD & JAMB DETAILS
A5.01 3" = 1'-0"



2 DOOR DETAIL - TYP. EXT. GARAGE DOOR HEAD & JAMB DETAIL
A5.01 3" = 1'-0"

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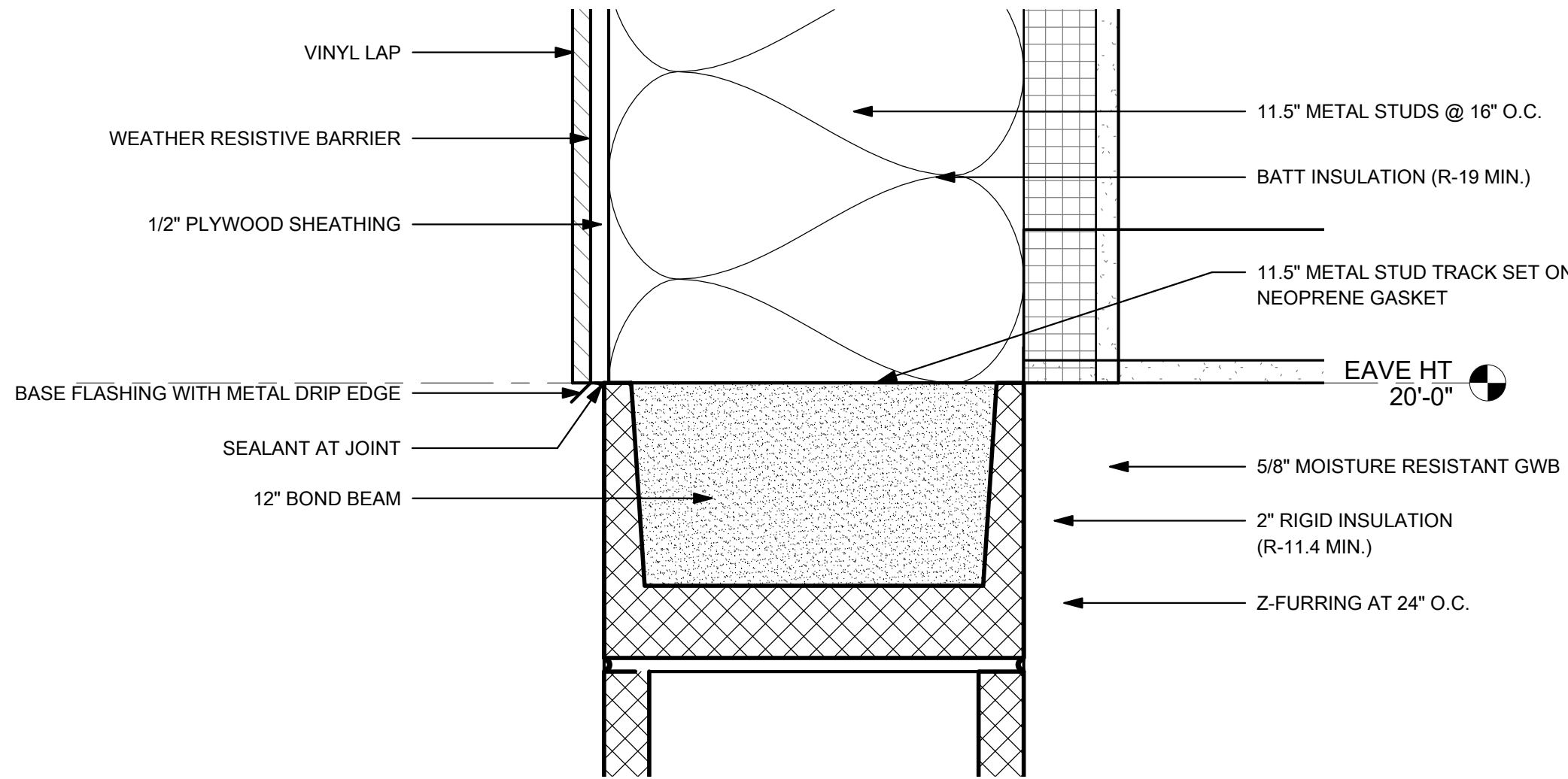
SCALE: 3" = 1'-0"	DATE: 08/12/2020
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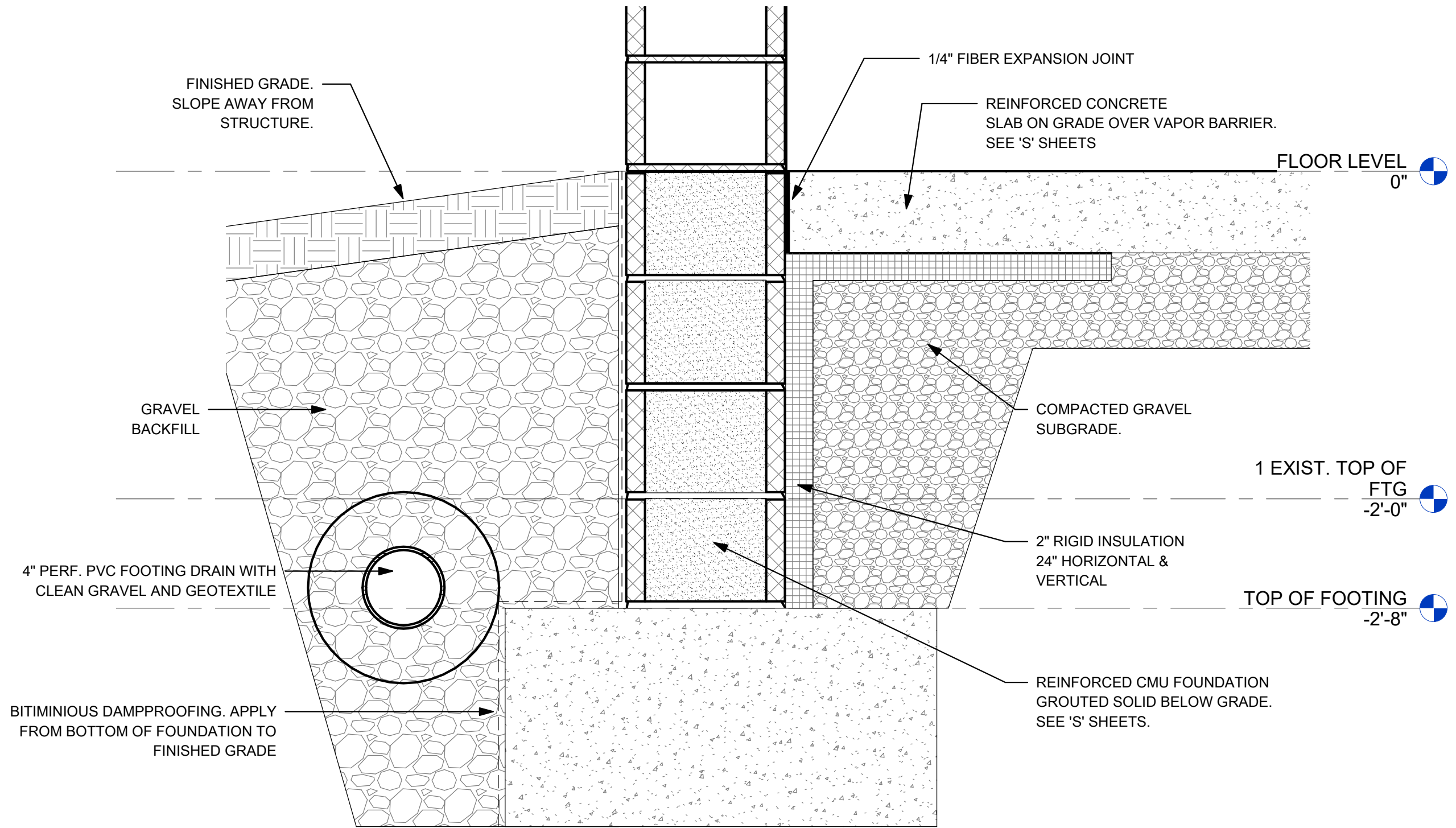
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PROJECT No.	010-01120

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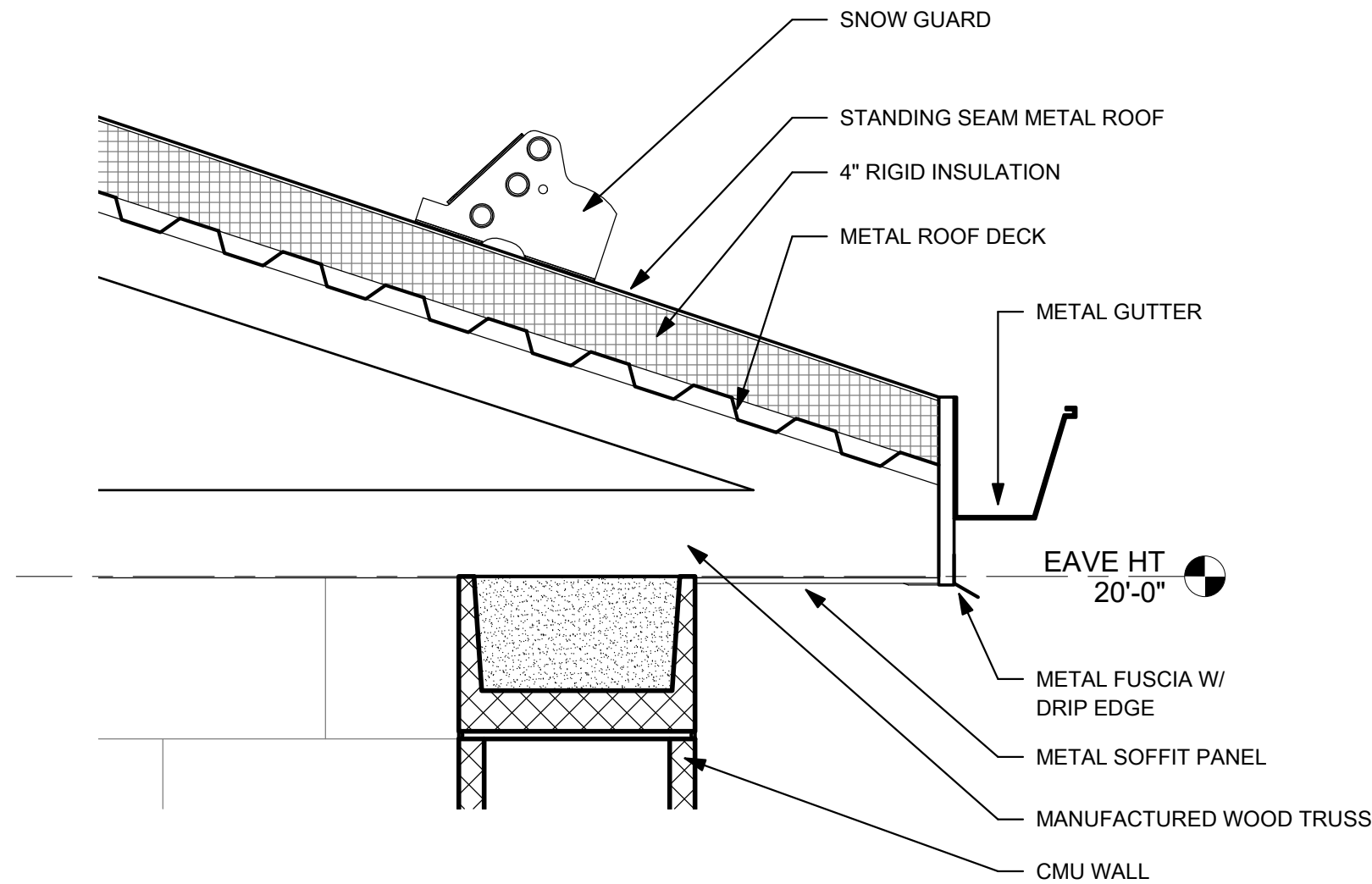
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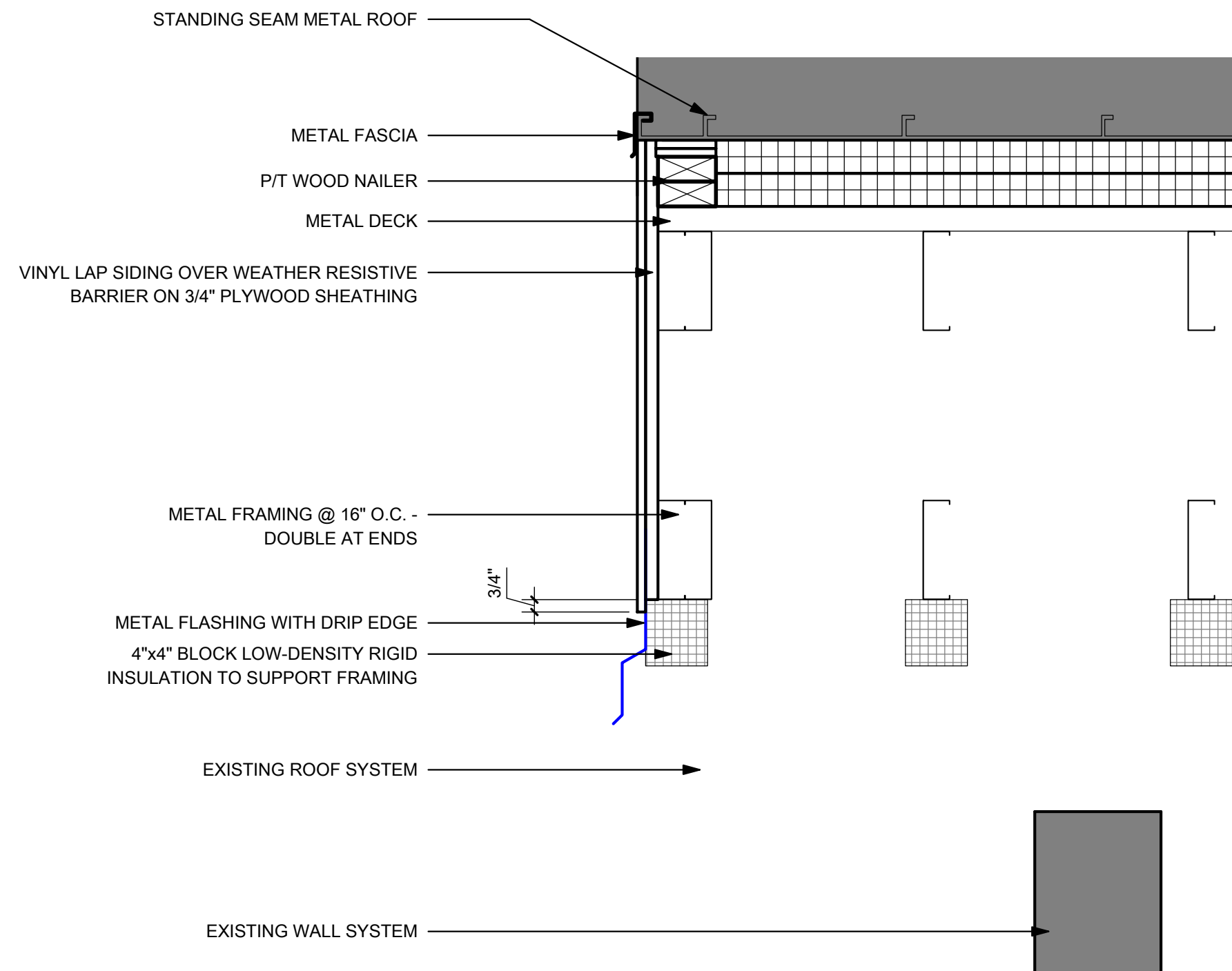
1 WALL TRANSITION DETAIL
3" = 1'-0"



2 FOUNDATION DETAIL
1 1/2" = 1'-0"



3 ROOF DETAIL
1 1/2" = 1'-0"



4 INFILL SHED ROOF RAKE DETAIL
1 1/2" = 1'-0"

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CONTRACT No.	
PROJECT No.	010-01120

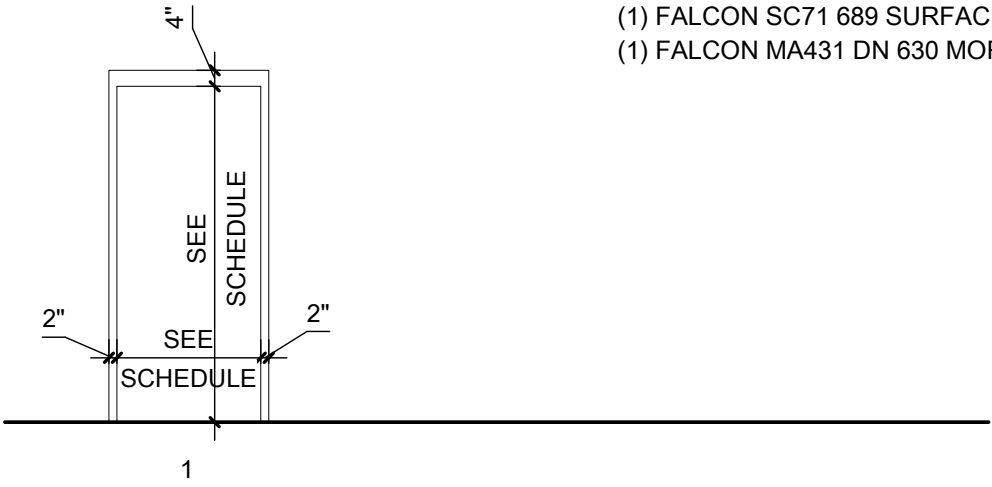
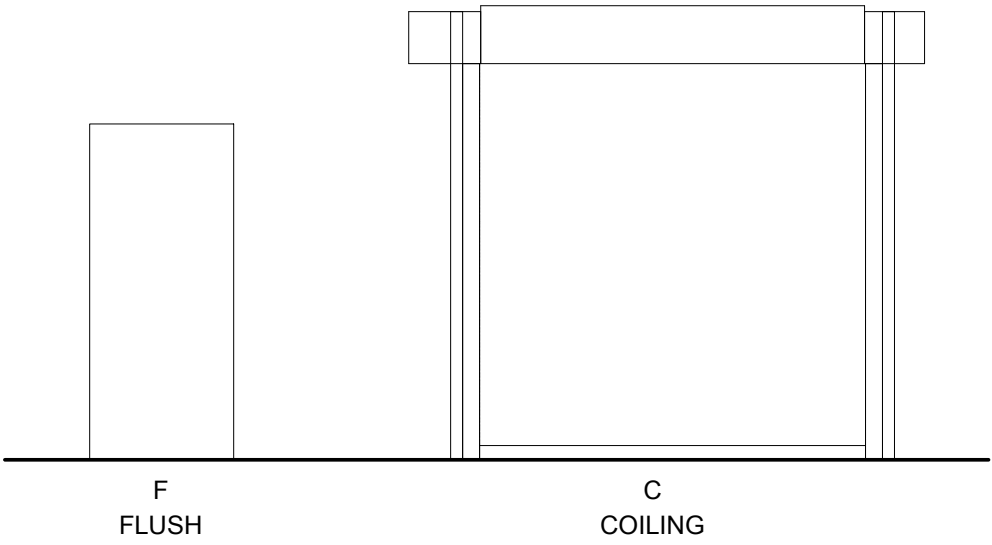
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SHEET No.	A5.02
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DOOR, FRAME, & HARDWARE SCHEDULE

#	DOOR						FRAME				ASSEMBLY			
	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE	FRAME DEPTH	FRAME MATERIAL	FRAME FINISH	FIRE RATING	HARDWARE SET	KEYROOM	REMARKS
100	F	3'-0"	7'-0"	1 3/4"	GALV. H.M.	PAINT	1	5 3/4"	GALV. H.M.	PAINT		1		
101	OH	14'-0"	16'-0"	3"										
102	OH	14'-0"	16'-0"	3"										
105	F	3'-0"	7'-0"	1 3/4"	GALV. H.M.	PAINT	1	5 3/4"	GALV. H.M.	PAINT		1		

DOOR HARDWARE LEGEND:
HARDWARE SET #1:
(3) IVES 58B1HW 4.5"x4.5" 652 HINGES
(1) PEMKO S88D 17" D WEATHER GASKET
(1) PEMKO 307APK 3" A DOOR SWEEP
(1) FALCON SC71 689 SURFACE CLOSER
(1) FALCON MA431 DN 630 MORTISE LOCK



DOOR TYPE LEGEND
1/4" = 1'-0"

FRAME TYPE LEGEND
1/4" = 1'-0"

ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR FINISH	BASE	WALL FINISH				CEILING HEIGHT	CEILING FINISH	REMARKS
				NORTH	EAST	SOUTH	WEST			
100	WATER TREATMENT PLANT	SEALED CONCRETE	N/A	PAINT	PAINT	PAINT	PAINT	20'-0"	GWB	

1	CFT	11Jan2023	Tusc. County Review
NO.	BY	DATE	DESCRIPTION

SCALE: 1/4" = 1'-0"
DRAWN: Author DATE: 08/12/2020
CHECKED: Checker DATE: 08/12/2020
APPROVED: Approver DATE: 08/12/2020
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

PHONE (330) 451-2042
THE THRASHER GROUP, INC.
400 3rd St. SE, SUITE 308
CANTON, OH 44702
www.thrashergroup.com
(FAX) (330) 451-2043

PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
SCHEDULES & DIAGRAMS

SHEET No.
A6.01



1 3D VIEW - FRONT
A9.01



2 3D VIEW - BACK
A9.01

1	CFT	11Jan2023	Tusc. County Review
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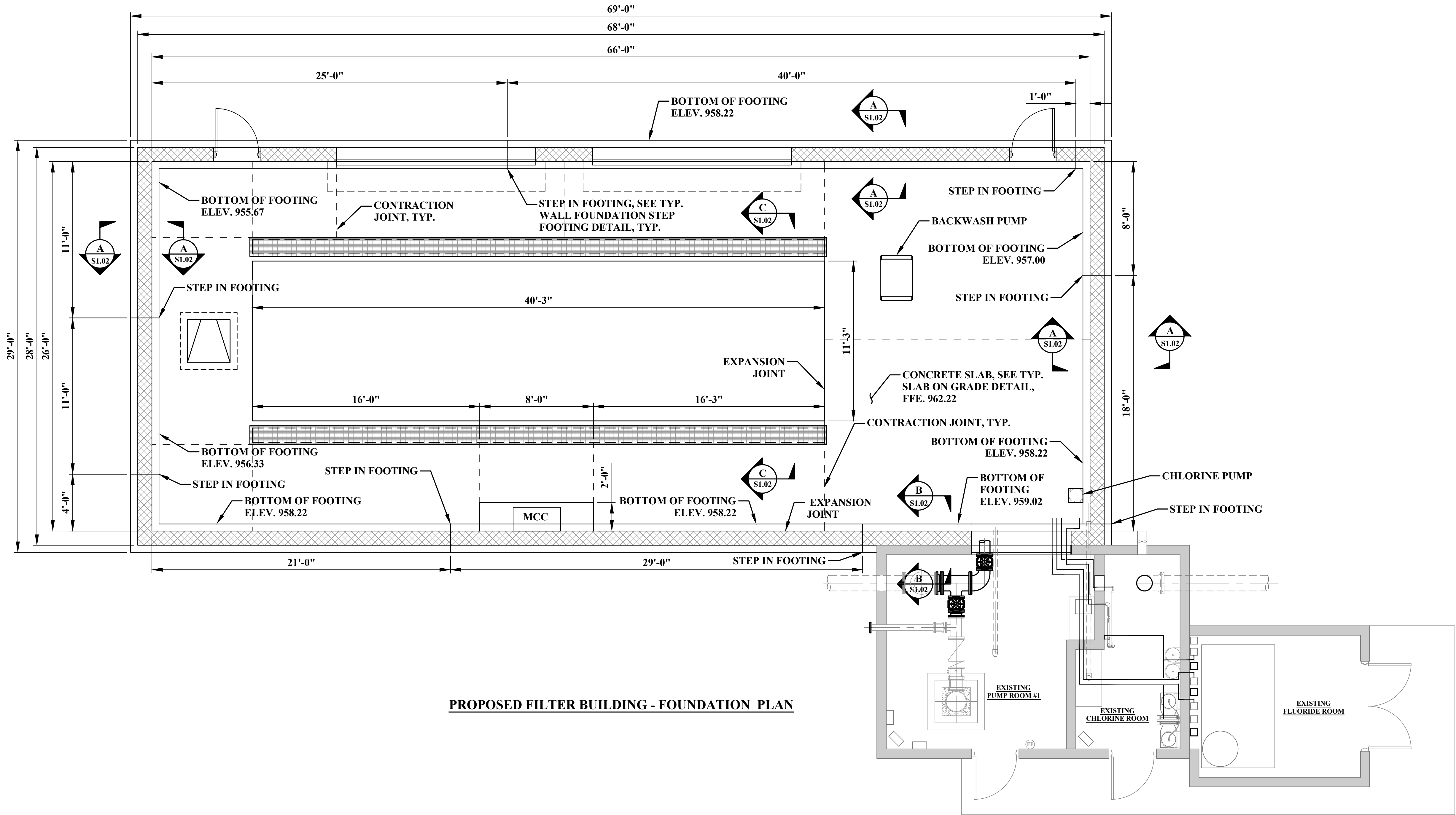
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PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
3D VIEWS

SHEET No.
A9.01



PROPOSED FILTER BUILDING - FOUNDATION PLAN

2	SMD	2FEB2023	TUSC. COUNTY COMMENTS	
1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE: 1/4" = 1'-0"	
DRAWN: RRS	DATE: APRIL 2020
CHECKED: RSS	DATE: APRIL 2020
APPROVED: JCC	DATE: MAY 2020
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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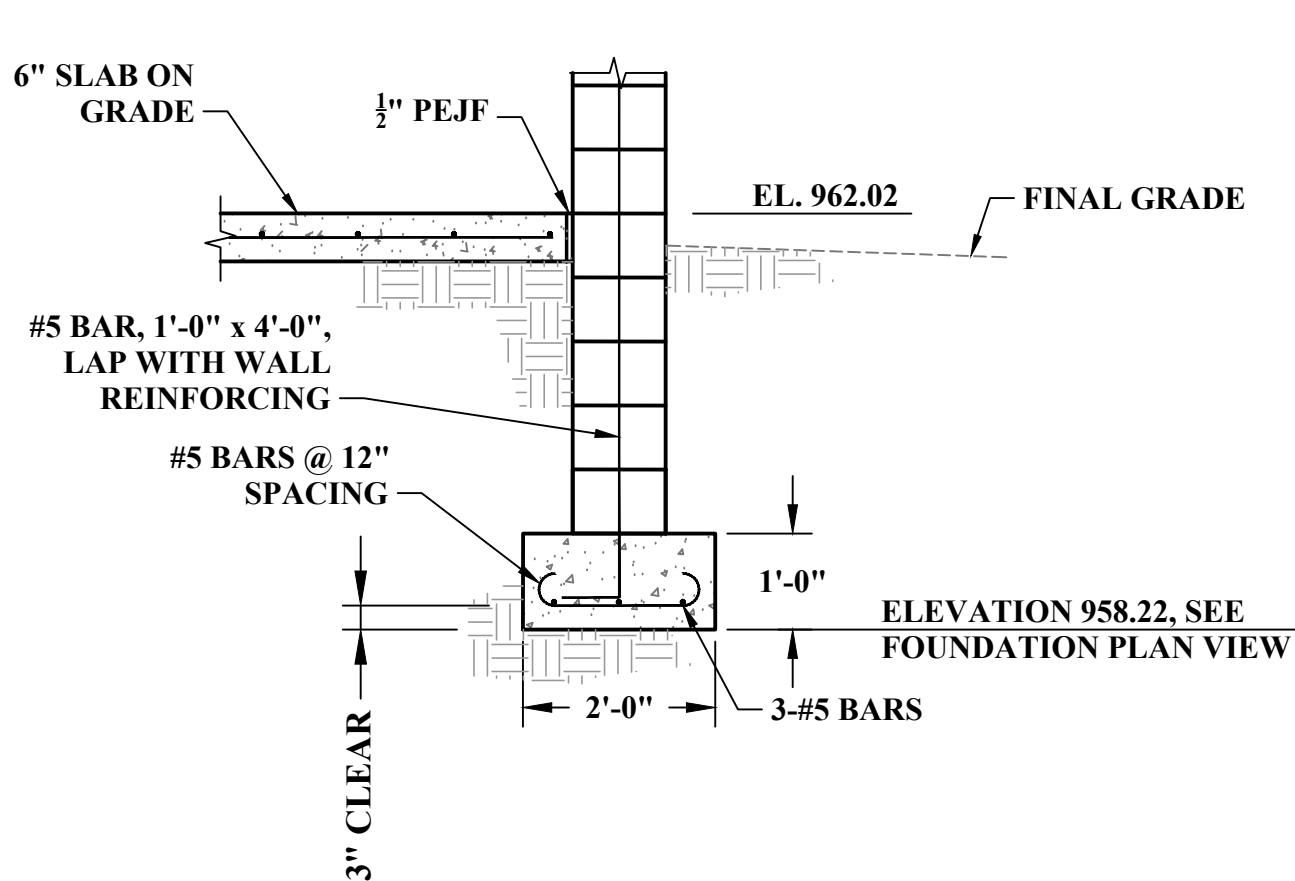
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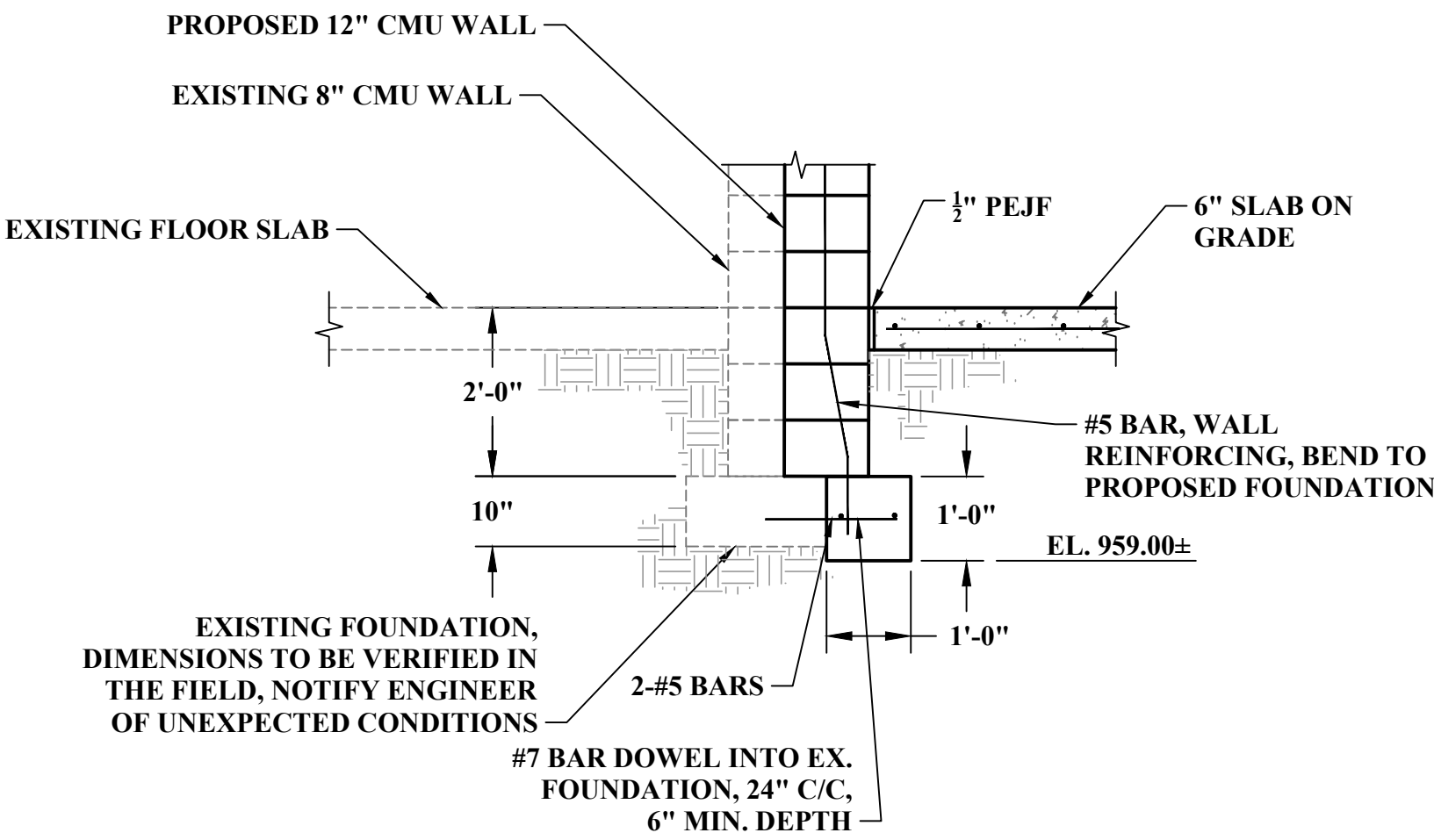
PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
STRUCTURE PLAN

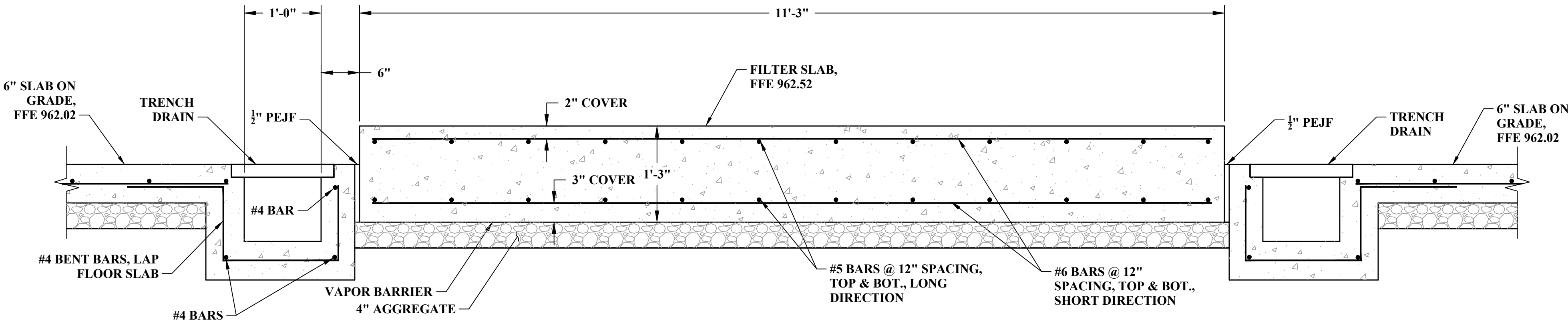
SHEET No.
S1.01



A
S1.02
FOOTING DETAIL
NOT TO SCALE



B
S1.02
FOOTING AT EXISTING BUILDING DETAIL
NOT TO SCALE



C
S1.02
FILTER SLAB DETAIL
NOT TO SCALE

NOTES:
PEJF = PREFORMED EXPANSION JOINT FILLER

1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

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DRAWN: RRS	DATE: APRIL 2020
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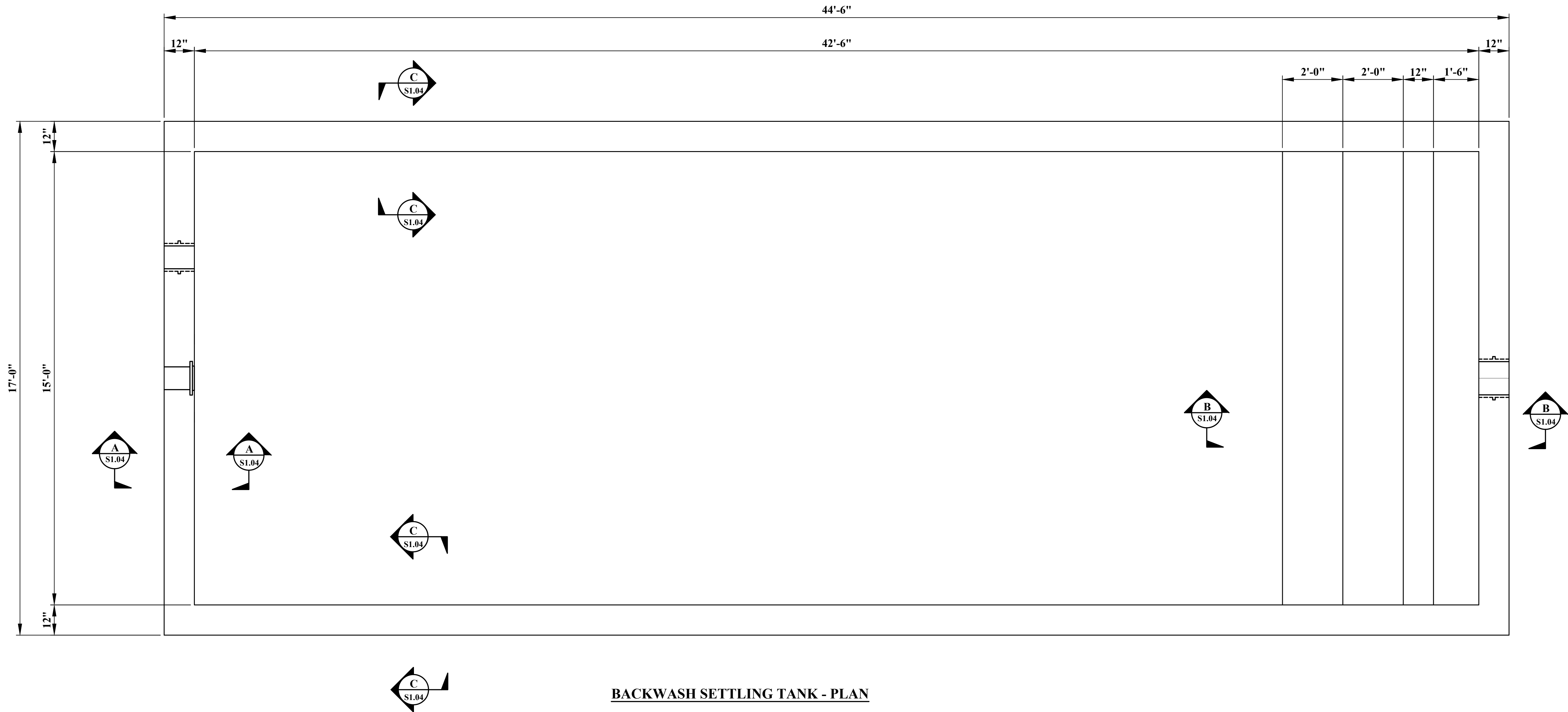
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PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
STRUCTURE PLAN

SHEET No.
S1.02



NO.	BY	DATE	DESCRIPTION

SCALE: NTS	
DRAWN: CMK	DATE: MAY 2020
CHECKED:	DATE:
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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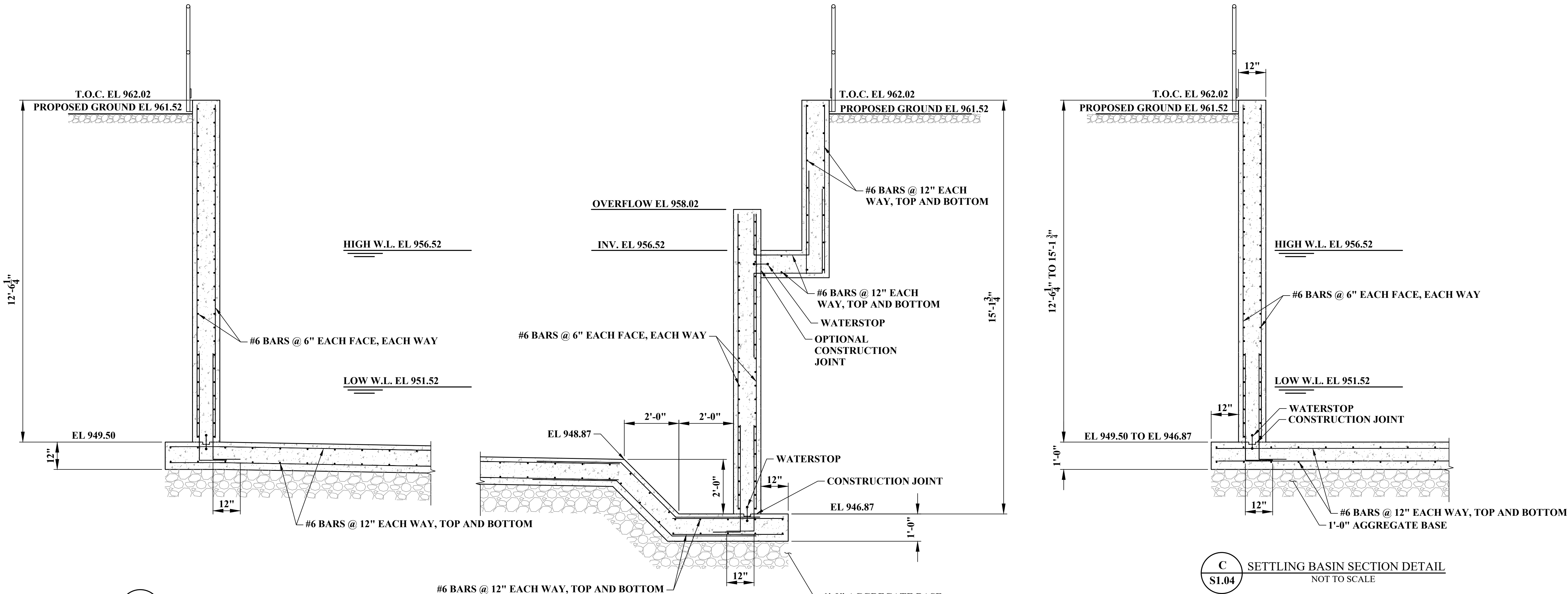
PHONE
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FAX
(330)-451-2043

PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED BACKWASH SETTLING TANK
STRUCTURE PLAN

SHEET No.
S1.03



NO.	BY	DATE	DESCRIPTION

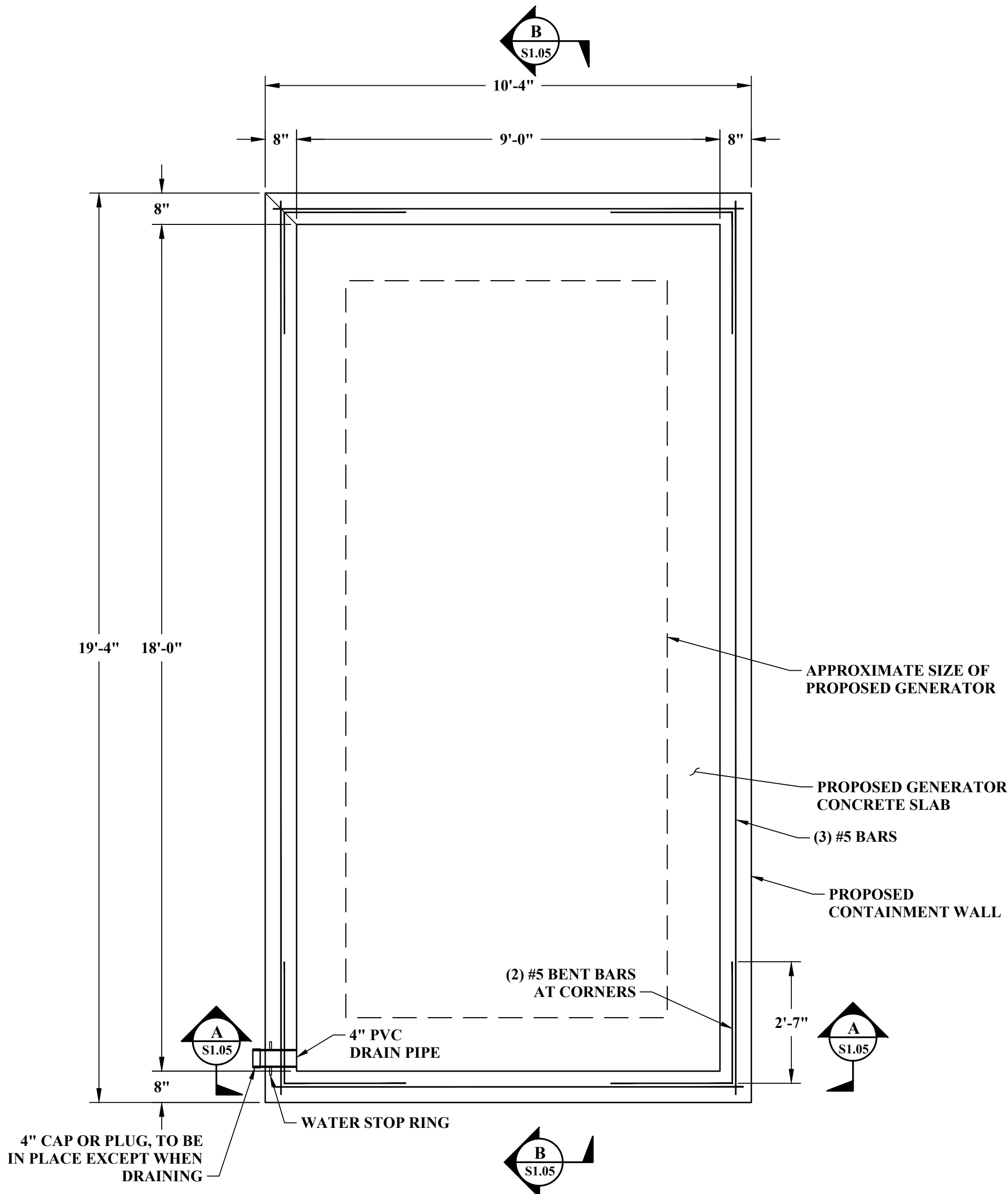
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DRAWN: CMK	DATE: MAY 2020
CHECKED:	DATE:
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED BACKWASH SETTLING TANK STRUCTURE PLAN
--

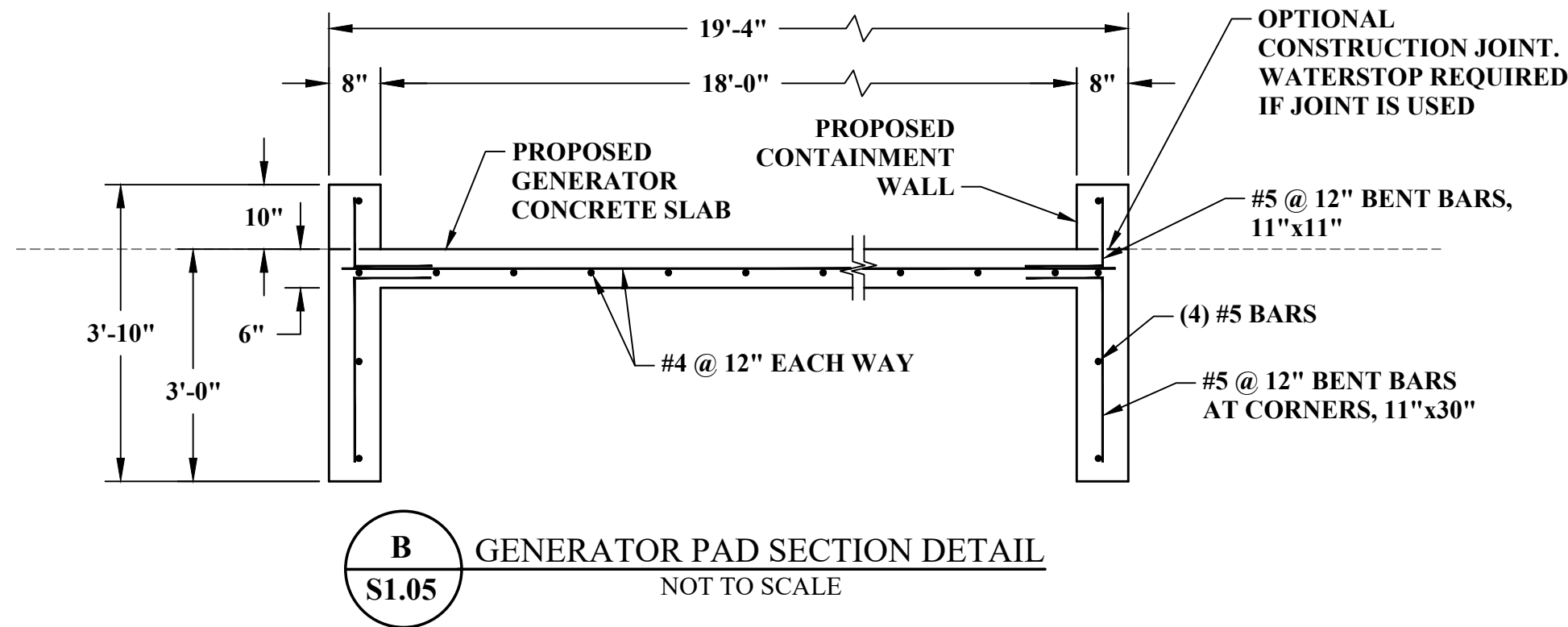
SHEET No.
S1.04



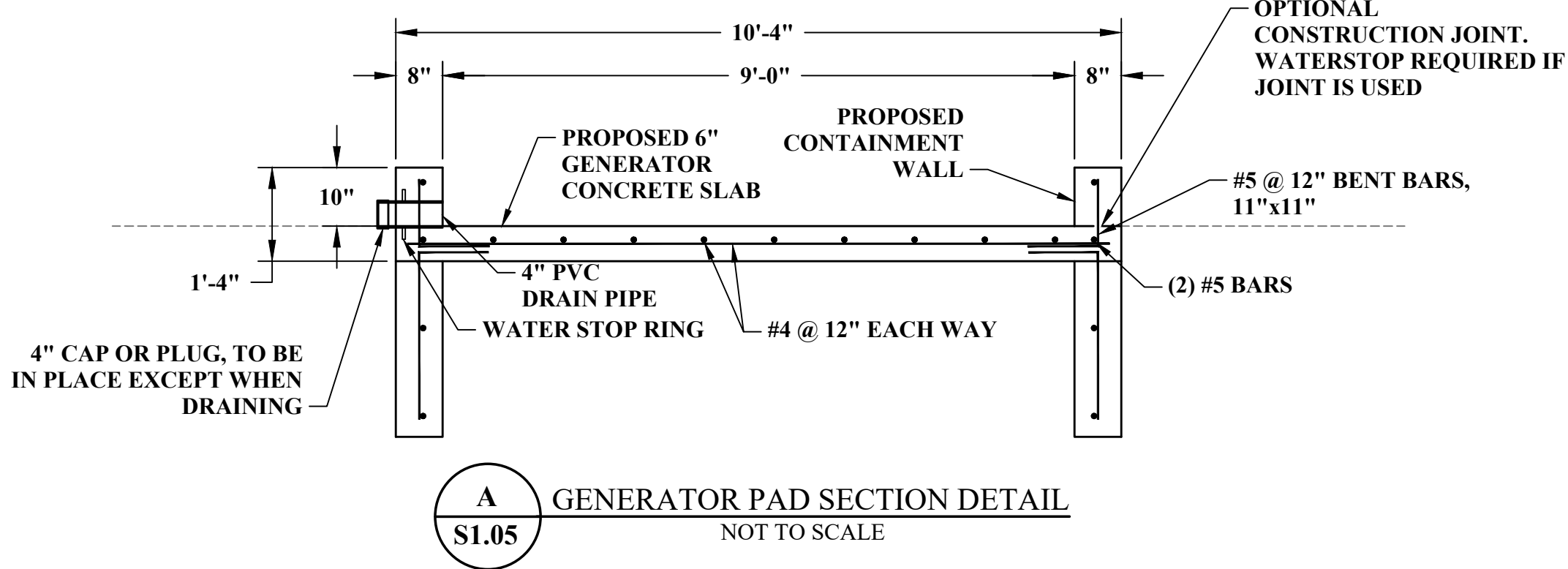
SECONDARY CONTAINMENT CALCULATION
REQUIRED VOLUME:
500 GAL TANK = 66.84 CF
110% = 73.52 CF
25YR 24-HOUR STORM 4.35" FROM NOAA
9.00'x18.00'x4.35"/12 = 58.73 CF
73.52 + 58.73 = 132.25 CF REQUIRED

PROVIDED VOLUME:
9.00'x18.00'x10" = 135 CF

**PROPOSED GENERATOR PAD
PLAN DETAIL**
NOT TO SCALE



GENERATOR PAD SECTION DETAIL
NOT TO SCALE



GENERATOR PAD SECTION DETAIL
NOT TO SCALE

1	SMD	8DEC2022	QA/QC REVIEW	
NO.	BY	DATE	DESCRIPTION	

SCALE: NTS	
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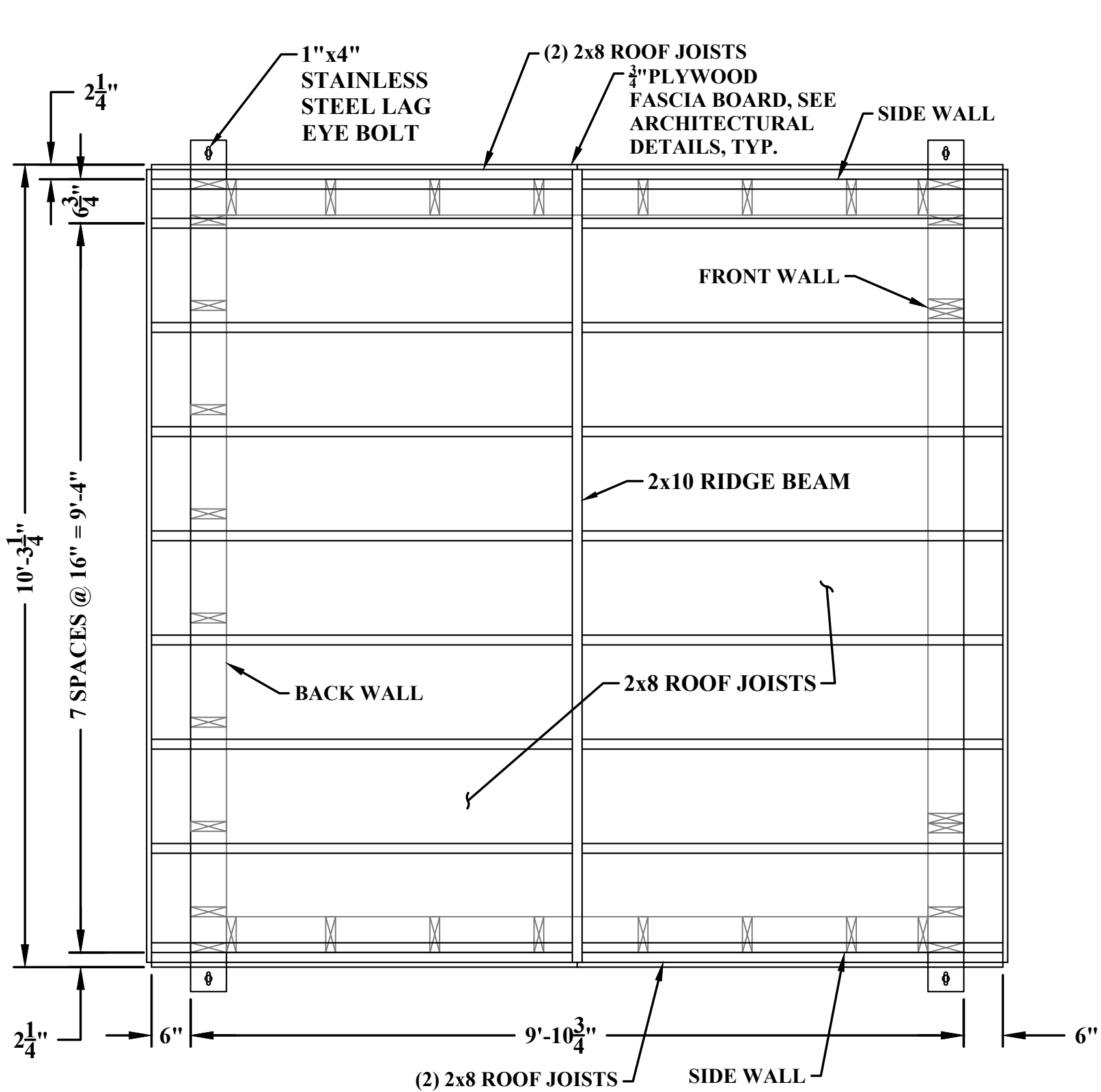
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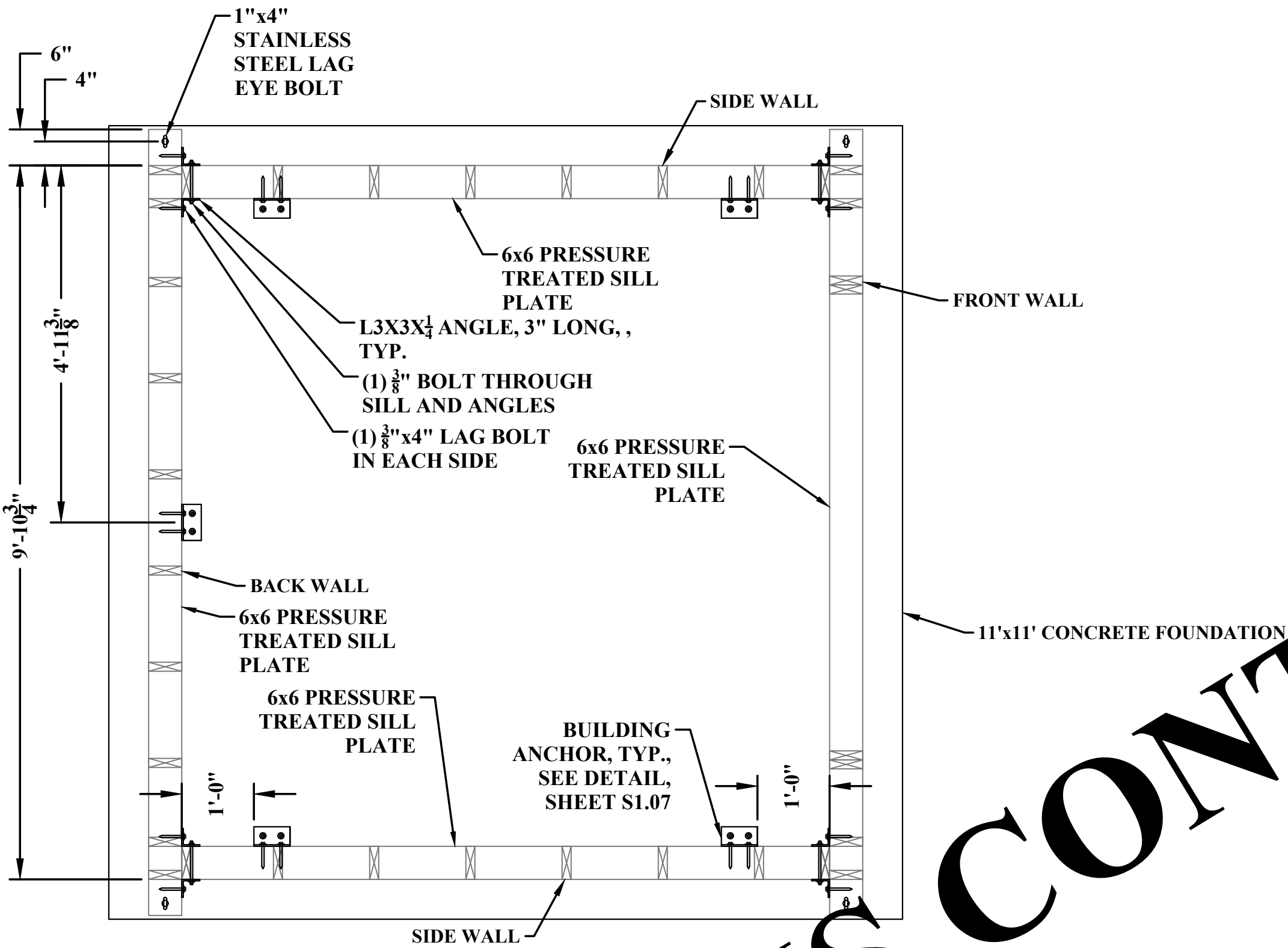
PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
GENERATOR PAD
STRUCTURE PLAN

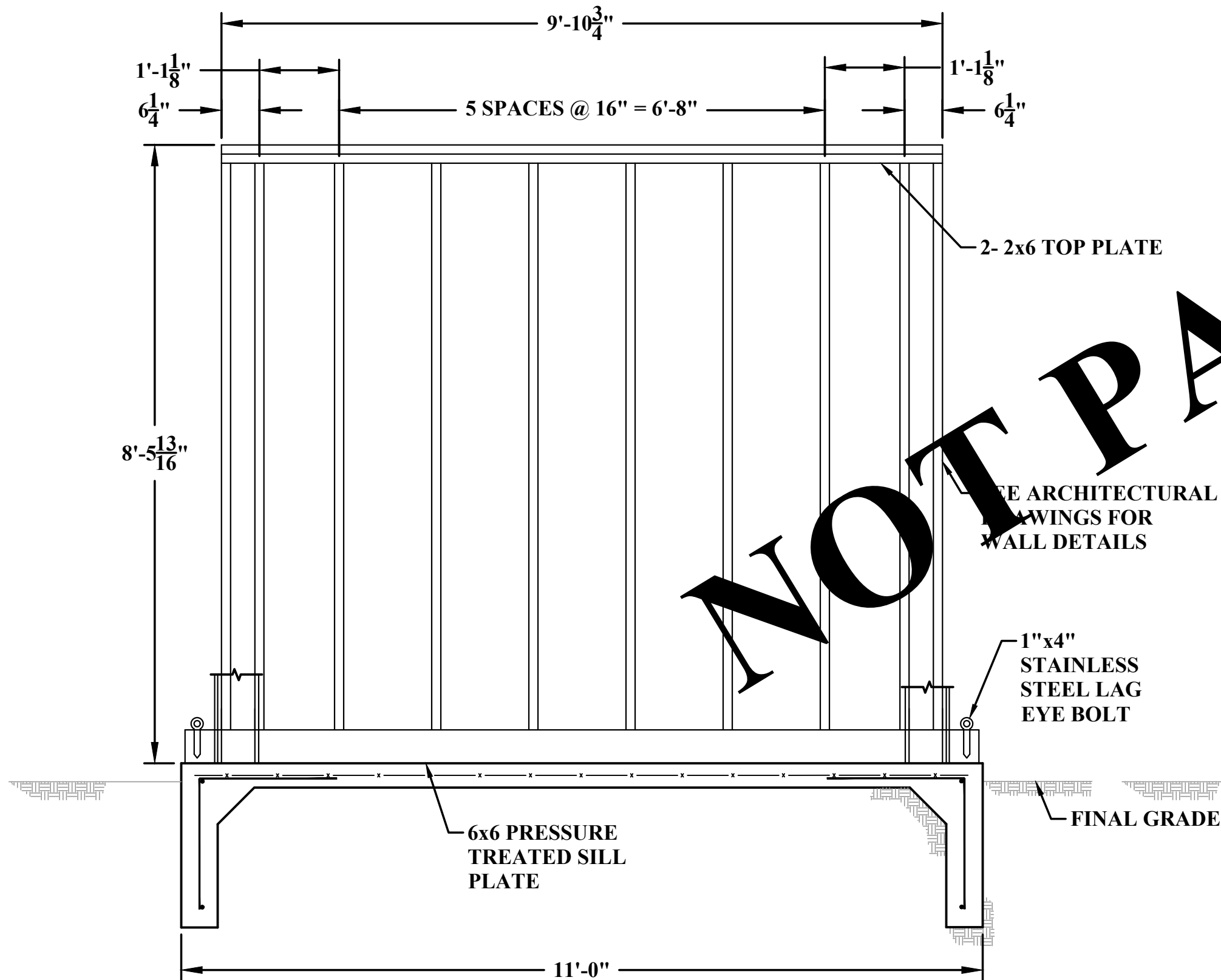
SHEET No.
S1.05



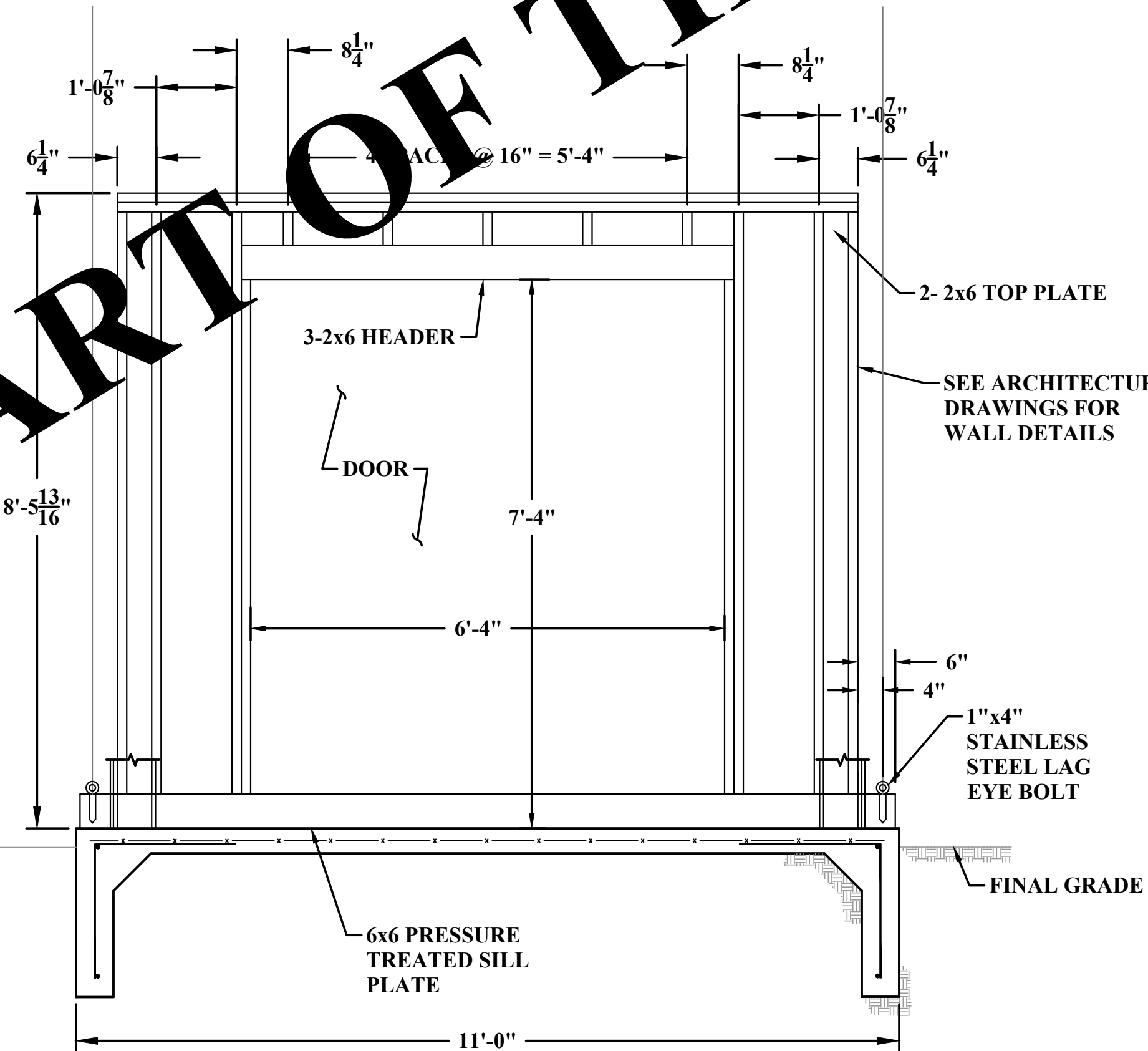
CONTROL BUILDING ROOF FRAMING PLAN
SCALE: N.T.S.



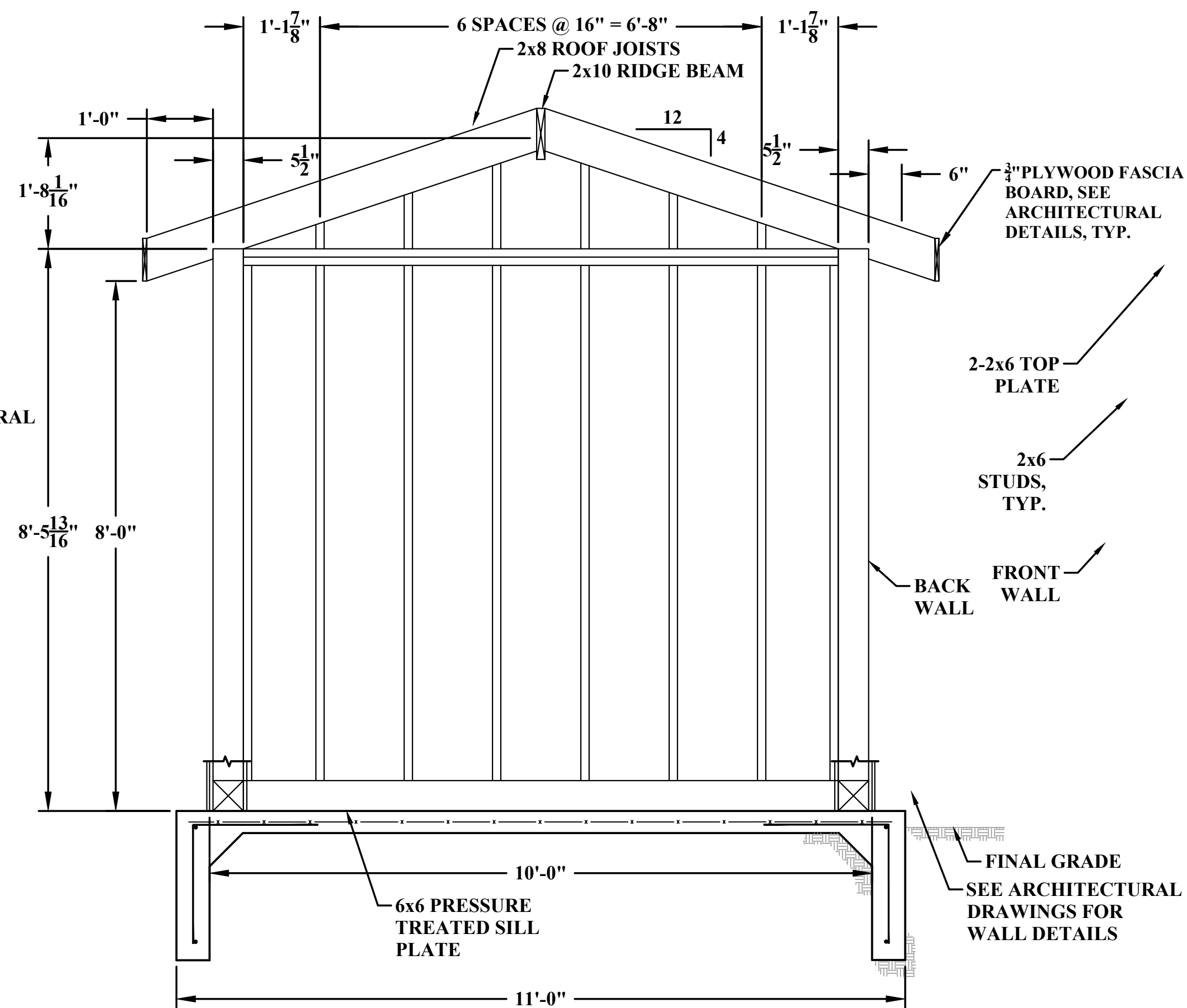
PUMPHOUSE #4 BUILDING ANCHOR BOLT PLAN
SCALE: N.T.S.



WELL HOUSE #4 BACK WALL FRAMING ELEVATION
SCALE: N.T.S.



WELL HOUSE #4 FRONT WALL FRAMING ELEVATION
SCALE: N.T.S.



WELL HOUSE #4 SIDE WALL FRAMING ELEVATION
SCALE: N.T.S.

- NOTES:**
- SILL PLATES ARE TO BE PRESSURE TREATED SOUTHERN PINE, GRADE NO. 1 OR BETTER. ALL OTHER WOOD IS TO BE SOUTHERN PINE, GRADE NO. 2 OR BETTER
 - STEEL LAG EYE BOLT IS TO HAVE A MINIMUM WORKING LOAD OF 2600 LB.

NO.	BY	DATE	DESCRIPTION
1	SMD	2FEB2023	TUSC. COUNTY COMMENTS

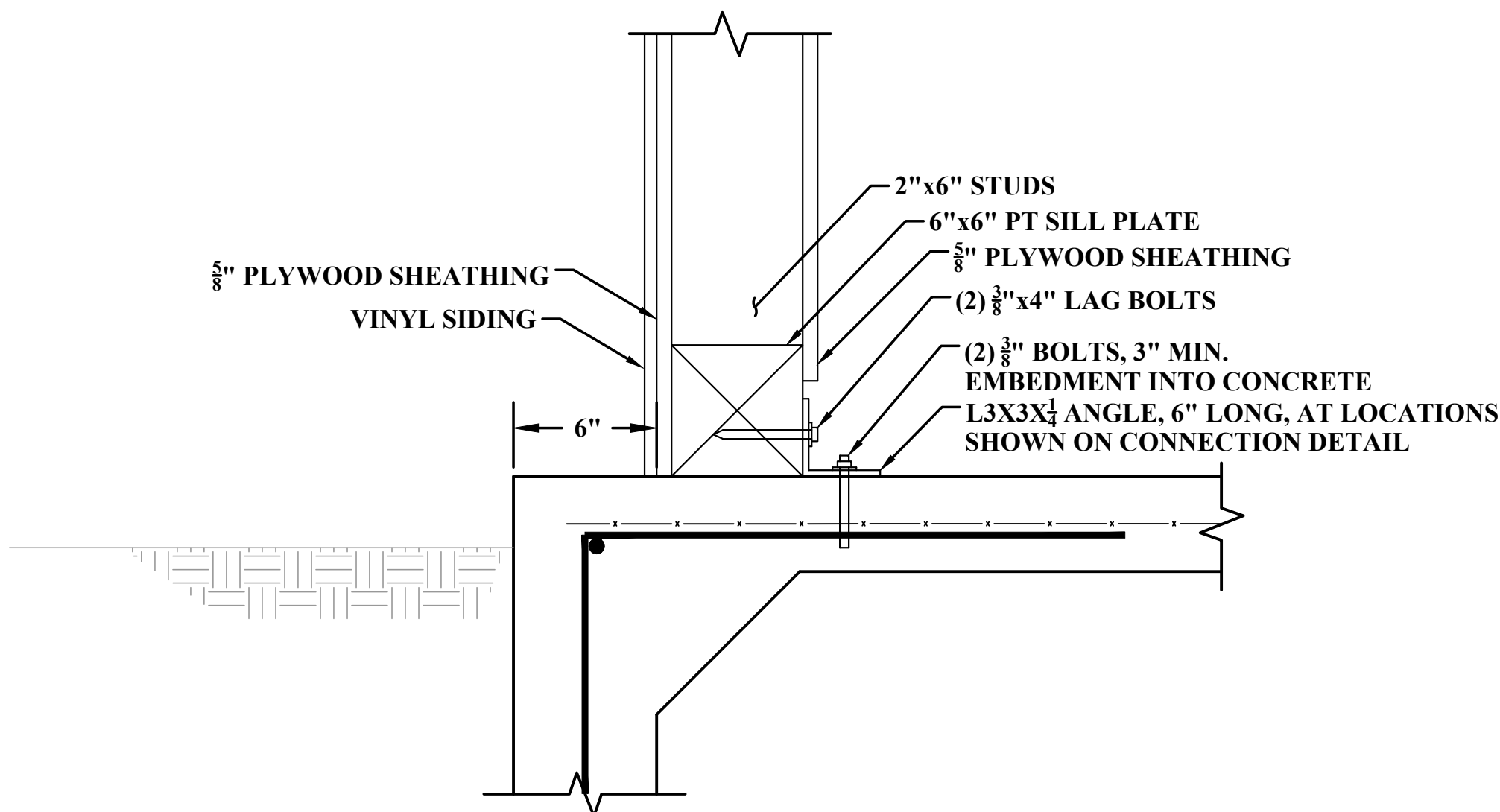
SCALE: NTS	DATE: MAY 2020
DRAWN: CMK	DATE:
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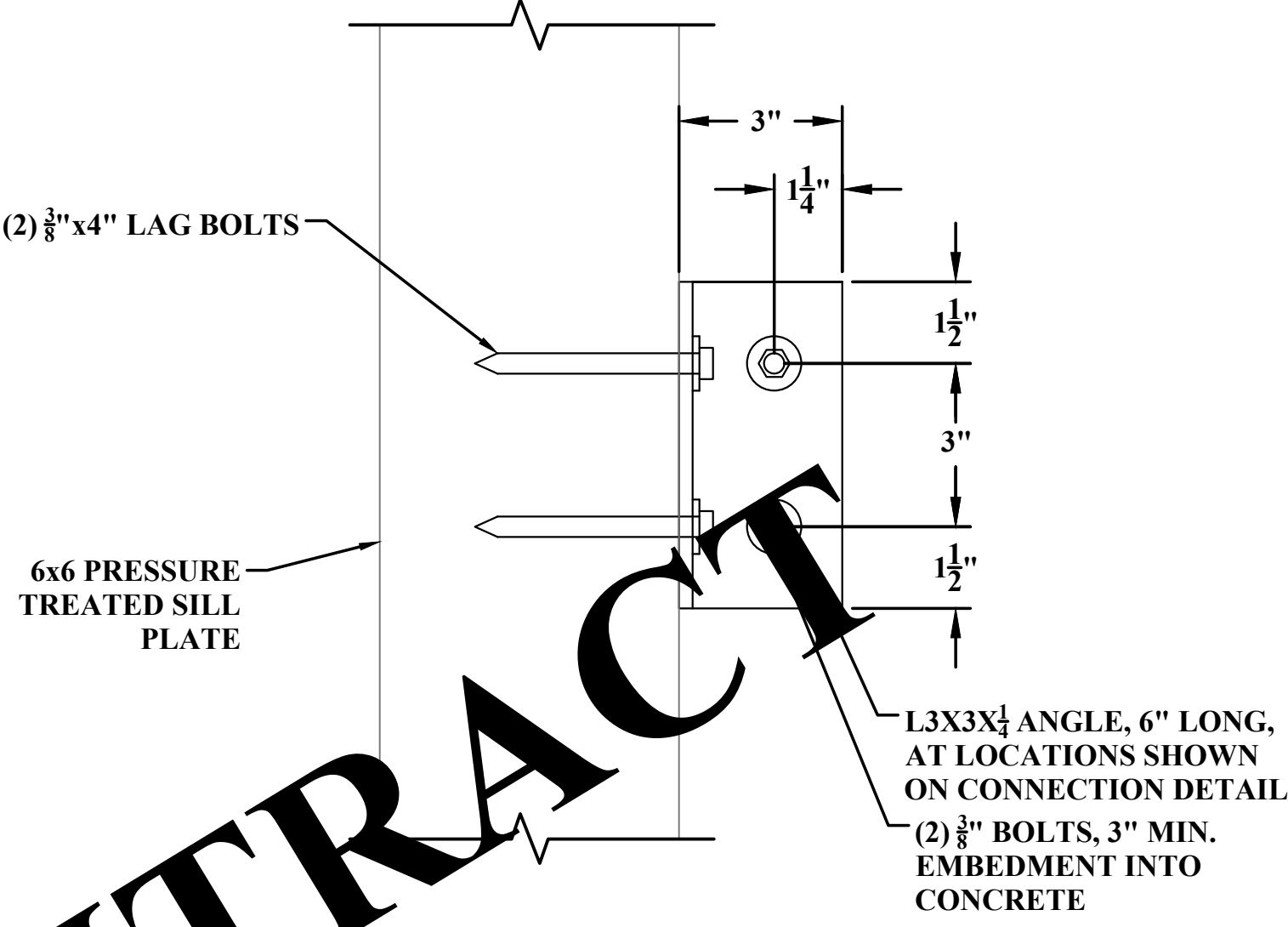
PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED WELL HOUSE #4 STRUCTURE PLAN

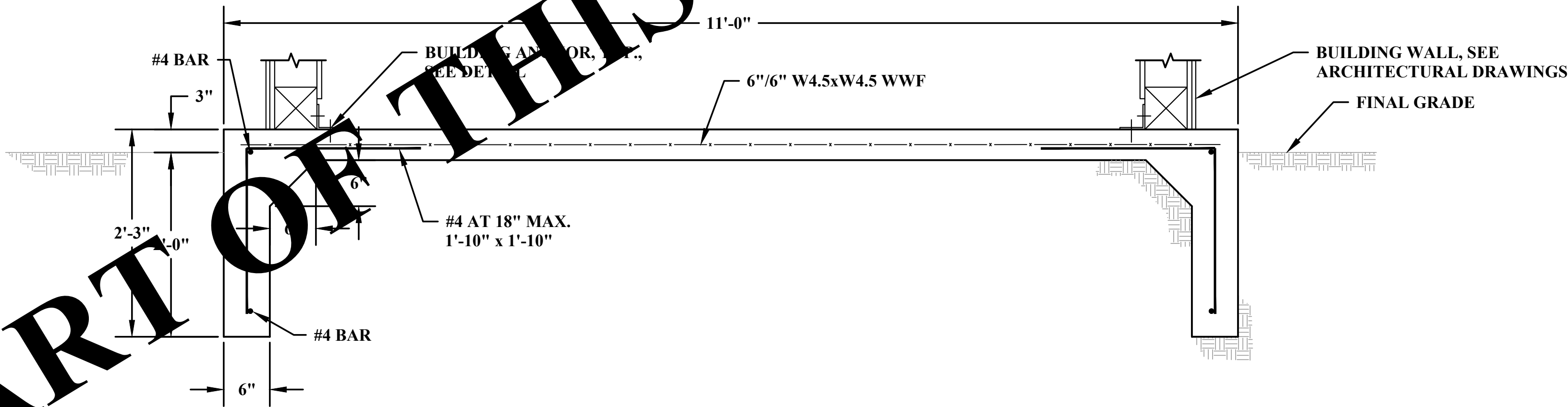
SHEET No.
S1.06



WELL HOUSE #4 BUILDING ANCHOR BOLT DETAILS
SCALE: N.T.S.



WELL HOUSE #4 BUILDING ANCHOR BOLT DETAIL - PLAN
SCALE: N.T.S.



FOUNDATION FOR WELL HOUSE #4 11'-0" X 11'-0"
SCALE: N.T.S.

1	SMD	2FEB2023	TUSC. COUNTY COMMENTS	
NO.	BY	DATE	DESCRIPTION	

SCALE: NTS	
DRAWN: CMK	DATE: MAY 2020
CHECKED:	DATE:
APPROVED:	DATE:
SURVEY DATE:	
SURVEY BY:	
FIELD BOOK No.:	

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PHASE No.
CONTRACT No.
PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED WELL HOUSE #4
STRUCTURE PLAN

SHEET No.
S1.07

GENERAL STRUCTURAL NOTES

1.

THESE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENTS.
2.

THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT SHALL CONFORM TO THE REFERENCED CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITH THE LATEST EDITIONS SHALL APPLY UNLESS NOTED.
3.

BUILDING CODE: INTERNATIONAL BUILDING CODE - 2015
4.

DEAD LOADS:
PER ASCE 7-16
FILTERS

43K EMPTY, 133K OPERATING
5.

DESIGN LIVE LOADS:

(NO LIVE LOAD REDUCTIONS - SNOW DRIFT LOADS CONSIDERED WHERE APPLICABLE)

SNOW:

25 PSF GROUND SNOW LOAD,
37 PSF MAX. DRIFT TO LOWER ROOF

ROOF LIVE LOAD:

20 PSF

INSIDE SPACE:

125 PSF (LIGHT MANUFACTURING)
6.

LATERAL LOADS - WIND:
MAIN WIND FORCE RESISTING SYSTEM
BASIC WIND SPEED (3-SEC. GUST):
WIND EXPOSURE CATEGORY:
WIND IMPORTANCE FACTOR:

CONCRETE MASONRY BLOCK WALLS
120 MPH
C
3.0
7.

LATERAL LOADS - SEISMIC:
SOIL SITE CLASS
SPECTRAL RESPONSE COEFFICIENT:
S_s
S₁

D

0.100
0.005

OCCUPANCY CATEGORY
BASIC SEISMIC-FORCE-RESISTING SYSTEM:
ANALYSIS PROCEDURE:

III
REINFORCED MASONRY BLOCK WALLS
EQUIVALENT LATERAL LOAD
8.

ALL CONTRACTOR PROPOSED STRUCTURAL SUBSTITUTIONS, INCLUDING CONCRETE ADDITIVES, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY PERTINENT WORK AND PRIOR TO THE AWARD OF A SUBCONTRACTOR.
9.

SHOP DRAWINGS, TEST REPORTS, AND CERTIFICATIONS ARE REQUIRED FOR THE FOLLOWING STRUCTURAL ITEMS:
A. CONCRETE CYLINDER TESTS
B. CONCRETE MIX DESIGNS
C. GROUT MIX DESIGNS
D. REINFORCING STEEL SHOP DRAWINGS
E. MISCELLANEOUS AND STRUCTURAL STEEL SHOP DRAWINGS
F. TIMBER TRUSS SHOP DRAWINGS
G. CONCRETE MASONRY UNIT CERTIFICATION AND DATA
I. MORTAR CERTIFICATION AND DATA
10.

CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.
11.

COORDINATION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO VERIFY THE LOCATIONS AND SIZES OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS ARE THE CONTRACTOR'S RESPONSIBILITY. ALL REQUIRED OPENINGS, SLEEVES OR OTHER COMPONENTS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.
12.

IMPOSED CONSTRUCTION LOADS, INCLUDING CRANE LOADS. IN EXCESS OF THE STATED DESIGN LOADS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE IMPOSITION OF SUCH LOADS.
13.

IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
14.

IN CASE OF A CONFLICT BETWEEN THE GENERAL NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.

GENERAL FOUNDATION/GEOTECHNICAL NOTES

1.

THE MAXIMUM ALLOWABLE BEARING PRESSURE SHALL BE 3,000 PSF FOR SPREAD FOUNDATIONS, TO BE VERIFIED BY THE GEOTECHNICAL ENGINEER.
2.

VERIFY LOCATIONS OF UNDERGROUND UTILITIES, ETC., WITH ALL DRAWINGS PRIOR TO PLACEMENT OF FOUNDATIONS.
3.

THE BOTTOM OF ALL FOOTINGS SHALL EXTEND 1'-0" MINIMUM INTO UNDISTURBED SOIL ENGINEERED FILL HAVING A BEARING CAPACITY OF 3,000 PSF. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL EXTEND 3'-0" BELOW FINISHED GRADE.
4.

ALL FOUNDATION AND SLAB-ON-GRADE SUB GRADES ARE TO BE FIELD INSPECTED BY AN EXPERIENCED QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE ALLOWABLE BEARING PRESSURE IS ACHIEVED AND THAT THE SUB GRADES ARE SUITABLE FOR SUPPORT OF THE FOUNDATIONS AND SLAB-ON-GRADE. THE GEOTECHNICAL ENGINEER SHALL ALSO VERIFY FOUNDATION ELEVATIONS PRIOR TO PLACEMENT OF FOUNDATION ELEMENTS.
5.

UNLESS DETERMINED OTHERWISE BY GEOTECHNICAL EVALUATION, FILL MATERIAL FOR SLAB AND FOOTING AREAS SHALL BE PLACED IN LAYERS NOT EXCEEDING 9 INCHES (UNCOMPACTED THICKNESS) AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698. FILL SHOULD CONSIST OF NON-ORGANIC SOIL / ROCK MATERIAL WITH MAXIMUM PARTICLE SIZE OF 4".
6.

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO BRACE FOUNDATION WALLS WHEN BACK FILLING AND WHEN THERE IS A POSSIBILITY OF DAMAGE BY EXCESS WATER.
7.

COMPACTION OF BACKFILL WITHIN 2 FEET OF FOUNDATION WALLS SHALL BE ACCOMPLISHED WITH HAND EQUIPMENT. WHERE FILL IS REQUIRED ON BOTH SIDES OF FOUNDATION WALL, BRING THE FILL UP EACH SIDE SIMULTANEOUSLY AND UNIFORMLY.
8.

THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
9.

IT IS LIKELY THAT ANY GROUNDWATER ENCOUNTERED DURING EXCAVATION CAN BE REMOVED BY PUMPING FROM STRATEGICALLY LOCATED SUMP PITS. THE CONTRACTOR SHALL FURNISH AND INSTALL "WELL POINTS" AS NECESSARY TO HANDLE GROUNDWATER DURING CONSTRUCTION OF THE TANK AND ANY BELOW GROUND STRUCTURES.

MASONRY

1.

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

"BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES",
(ACI 530-08/ASCE 5-08/TMS 402-08) AND
"SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530-08/ASCE 6-08/TMS 602-08).

LOAD BEARING CONCRETE
MASONRY UNITS

ASTM C90, TYPE 1, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 1900 PSI)
NORMAL (MEDIUM LIGHT) WEIGHT

IVANY OPEN END BLOCK

ASTM C901 (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3000 PSI)

MORTAR

ASTM C270, TYPE S ABOVE GRADE:
TYPE S BELOW GRADE

CONCRETE BUILDING
BRICK

ASTM C55, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA - 3500 PSI)

CMU GROUT

ASTM C476, (IN. COMPRESSIVE STRENGTH AT 28 DAYS = 2000 PSI)

IVANY GROUT

ASTM C476, (MIN. COMPRESSIVE STRENGTH AT 28 DAYS - 3000 PSI)

CMU PRISM STRENGTH

F'm = 1500 PSI PER ACI 530/ASCE 5/TMS 402
UNIT STRENGTH METHOD

IVANY PRISM STRENGTH

F'm = 2800 PSI PER SCI 530/ASCE 5/TMS 402
UNIT STRENGTH METHOD

HORIZONTAL JOINT REINFORCING

ASTM A82, 9 GA. GALVANIZED TRUSS TYPE UNO.

REINFORCING BARS

ASTM A615, GRADE 60

2.

PROVIDE GALVANIZED HORIZONTAL JOINT REINFORCING IN ALL WALLS AT 24" O.C.. PROVIDE ONE PIECE PREFABRICATED "T" AND "L" SHAPE UNITS AT 8" O.C. AT ALL WALL CORNERS AND INTERSECTIONS.

3.

IN GROUTED AND/OR REINFORCED MASONRY WALLS, USE MASONRY UNITS WITH CORES THAT ALIGN VERTICALLY. PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR REINFORCEMENT PLACEMENT AND GROUTING.

4.

ALL REINFORCING STEEL SHALL BE PLACED AND TIED IN THE PROPER POSITION AS THE WALLS ARE CONSTRUCTED. LOWERING THE BARS IN FROM THE TOP OF A COMPLETED WALL OR SECTION OF WALL IS NOT ALLOWED.

5.

LAP SPLICES FOR REINFORCING BARS SHALL BE 50 BAR DIAMETERS UNLESS NOTED OTHERWISE.

6.

CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT FOR ALL MASONRY WORK UNTIL PERMANENT ROOF FRAMING IS IN PLACE.

7.

DO NOT APPLY UNIFORM FLOOR OR ROOF LOADS FOR AT LEAST 12 HOURS AND CONCENTRATED LOADS FOR AT LEAST 3 DAYS AFTER BUILDING MASONRY WALLS OR COLUMNS.

8.

PROVIDE VERTICAL MASONRY CONTROL JOINTS AT APPROXIMATELY 20'-0" O.C., AND IN ACCORDANCE WITH RECOMMENDATIONS IN THE MASONRY DESIGNER'S GUIDE, REFER TO ARCHITECTURAL PLANS FOR LOCATIONS, OR IF NOT SHOWN, COORDINATE LOCATIONS WITH THE ENGINEER.

9.

WATERPROOFING OF THE FOUNDATION WALLS SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND OR SPECIFICATIONS.
- CAST-IN-PLACE CONCRETE
1.

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-19",
AMERICAN CONCRETE INSTITUTE

"ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 5", LATEST EDITION

"MANUAL OF STANDARD PRACTICE", CONCRETE REINFORCING STEEL INSTITUTE

"CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, ACI 350-06", AMERICAN CONCRETE INSTITUTE (FOR CONCRETE TANKS)

CEMENT

ASTM C150: TYPE I OR III

AGGREGATES

ASTM C33 NORMAL WEIGHT

DEFORMED REINFORCING BARS

ASTM A615 GRADE 60

WELDED WIRE FABRIC

ASTM A185

FIBER REINFORCEMENT

ASTM C176, TYPE III

AIR-ENTRAINING ADMIXTURE:

ASTM C260

IN ADDITION TO THE REQUIREMENTS SET FORTH IN ACI 318-19, THE FOLLOWING MINIMUM STRENGTH REQUIREMENTS SHALL BE MET.

WALL FOUNDATIONS

INTERIOR SLAB ON GRADE

STRUCTURAL CONCRETE

F'c @ 28 DAYS

3,000 PSI

4,000 PSI

4,000 PSI

2.

SLABS-ON-GRADE SHALL BE PLACED ON A VAPOR BARRIER OVER 4" MINIMUM OF WELL GRADED CRUSHED STONE (NO. 57) OVER COMPACTED SUBGRADE.

3.

CHAMFER ALL EXPOSED CONCRETE CORNERS UNLESS SHOWN ON THE DRAWINGS.

4.

ALL FORM WORK, SHORING AND RESHORING SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION.

5.

PROVIDE ISOLATION JOINTS IN SLABS AS FOLLOWS:
BETWEEN SLABS-ON-GRADE AND FOUNDATION WALLS.
BETWEEN SLABS AND INSERTS SUCH AS PIPES.
AROUND CONCRETE COLUMNS.

6.

PROVIDE CONTRACTION JOINTS IN CONTINUOUS FLOOR SLABS ON GROUND IN A SQUARE PATTERN LOCATED AT NOT MORE THAN 20'-0" O.C. IN BOTH DIRECTIONS, U.N.O..

7.

CONCRETE COVER REQUIREMENTS:

SLABS AND JOISTS:
TOP AND BOTTOM BARS FOR DRY CONDITIONS:
#14 AND #18 BARS
#11 BARS AND SMALLER

1 1/2 IN.
3/4 IN.

WALLS:
FOR DRY CONDITIONS:
#11 BARS AND SMALLER
#14 AND #18 BARS

3/4 IN.
1 1/2 IN.

FORMED CONCRETE SURFACES EXPOSED TO EARTH,
WATER, OR WEATHER AND OVER OR IN CONTACT
WITH WATER AND FOR BOTTOM BEARING ON WORK
MAT, OR SLABS SUPPORTING EARTH COVER:

#5 BARS AND SMALLER
#6 THROUGH # 18 BARS

1 1/2 IN.
2 IN.

CIRCULAR TANKS WITH RING TENSION
ALL OTHERS

2 IN.
2 IN.

BEAMS AND COLUMNS:
FOR DRY CONDITIONS:

STIRRUPS, SPIRALS AND TIES
PRINCIPAL REINFORCEMENT

1 1/2 IN.
2 IN.

AT FORMED SURFACES AND BOTTOMS
BEARING ON CONCRETE WORK MAT

2 IN.

EXPOSED TO EARTH, WATER, SEWAGE OR WEATHER:

STIRRUPS AND TIES
PRINCIPAL REINFORCEMENT

2 IN.
2 1/2 IN.

AT UNFORMED SURFACES AND BOTTOMS
IN CONTACT WITH EARTH

3 IN.

TOP OF FOOTINGS - SAME AS SLABS
OVER TOP OF PILES

2 IN.

LAP SPLICE LENGTHS:

BAR

F'c = 3000PSI

F'c = 4000PSI

#3

1'-10"

1'-7"

#4

2'-5"

2'-1"

#5

3'-0"

2'-7"

#6

3'-7"

3'-1"

#8

6'-0"

5'-2"

NO.	BY	DATE	DESCRIPTION	

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PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

STRUCTURE NOTES

SHEET No.

S2.01

STRUCTURAL STEEL

1. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:
"MANUAL OF STEEL CONSTRUCTION - AISC 325-05 THIRTEENTH EDITION, 2005, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (INCLUDING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS AND AISC CODE OF STANDARD PRACTICE).
"DETAILING FOR STEEL CONSTRUCTION" AISC 326-09, AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
"SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, ANSI/AISC 341-05" AMERICAN INSTITUTE OF STEEL CONSTRUCTIONS. "STRUCTURAL WELDING CODE ANSI/AWS DU/DLM-2004", AMERICAN WELDING SOCIETY.
- W SHAPES
PLATES AND OTHER SHAPES
STRUCTURAL TUBING
STRUCTURAL PIPE
HIGH-STRENGTH BOLTS
ANCHOR RODS
THREADED ROD
HEADED SHEAR STUDS
WELDED ELECTRODES
EXPANSION BOLTS

ASTM A992
ASTM A36, GRADE 50 Fy = 50 KSI
ASTM A500, GRADE B, Fy = 46 KSI
ASTM A53, GRADE B, Fy = 35 KSI OR ASTM A501, Fy = 36 KSI
ASTM A325-N
ASTM F1554
ASTM A36
ASTM 108
AWS A5.1 OR A5.5 E70XX
HILTI KWIK-BOLT II, ITW RAMSET/REDHEAD TRU-BOLT OR APPROVED EQUAL, UNO.
HILTI HIT HY 150 SYSTEM, ITW RAMSET/REDHEAD EPCON SYSTEM OR APPROVED EQUAL, UNO.
2. ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATIONS. ALL CONNECTIONS MADE WITH UNMARKED NUTS AND BOLTS SHALL BE REJECTED. ALL BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS.
3. ALL CONNECTIONS SHALL CONFORM TO AISC REQUIREMENTS AND SHALL BE DESIGNED FOR 100% OF THE MAXIMUM WEB SHEAR INDICATED IN THE AISC MANUAL OF STEEL CONSTRUCTION AISC 325-05 THIRTEENTH EDITION "MAXIMUM TOTAL UNIFORM LOADS ON BEAMS", PAGES 3-33 TO 3-95.
4. ALL STEEL AT AND BELOW FINISHED GRADE OR FLOOR SLAB SHALL RECEIVE TWO COATS OF BITUMINOUS PAINT OR 3" MINIMUM CONCRETE COVER.
5. THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL DESIGNER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
6. THE FRAMING SHOWN ON THE COMPLETED DRAWINGS HAS BEEN DESIGNED FOR THE LOADS INDICATED ON THE DRAWINGS. THE FABRICATOR AND ERECTOR ARE SOLELY RESPONSIBLE FOR THE DESIGN OF TEMPORARY BRACING AND RECOMMENDED ERECTION PROCEDURES.
7. CUTTING OR BURNING OF STRUCTURAL STEEL IN THE FIELD IS NOT ALLOWED, UNLESS BY WRITTEN APPROVAL BY THE ENGINEER.
8. ONE SHOP COAT OF PAINT SHALL BE APPLIED TO ALL STRUCTURAL MEMBERS EXCEPT:
A. MEMBERS ENCASED IN CONCRETE.
B. MEMBERS RECEIVING SPRAY FIREPROOFING.
C. SURFACES TO BE FIELD WELDED.
D. GALVANIZED SURFACES.
9. THE STEEL FABRICATOR SHALL DESIGN ALL STEEL TO STEEL CONNECTIONS NOT SHOWN ON THE DRAWINGS.
10. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED.
11. FOR MISCELLANEOUS STEEL NOT SHOWN ON THESE DRAWINGS, SEE ALL OTHER ENGINEERING DRAWINGS.
12. CONTRACTOR AND ERECTOR ARE RESPONSIBLE FOR COMPLYING WITH ALL OSHA REGULATIONS.

PRE-ENGINEERED TIMBER TRUSSES

1. PRE-ENGINEERED TIMBER TRUSSES SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH N.I.M.A. STANDARDS AND TPI SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES. LATEST EDITION.
2. ALL TRUSS CORDS SHALL BE No.2 SOUTHERN PINE OR APPROVED EQUAL (KILN DRIED @ 15% MC).
3. ALL WEB MATERIAL SHALL BE No.2 SOUTHERN PINE OR APPROVED EQUAL (KILN DRIED @ 15%).
4. TRUSSES SHALL BE FABRICATED WITH NECESSARY CAMBER AT MID-SPAN.
5. CALCULATIONS, JOINT STRENGTH INFORMATION, LOAD TEST DATA AND TRUSS JOINT DETAIL SHALL BE SUBMITTED WITH TRUSS SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
6. TRUSS DESIGN SHALL BE CERTIFIED BY A REGISTERED ENGINEER IN THE STATE OF WEST VIRGINIA AND SHALL BE SHOP INSPECTED BY AN APPROVED INDEPENDENT TESTING LABORATORY.
7. TRUSS LOADING:

TOP CHORD - LL = 25 PSF
DL = 10 PSF
BOTTOM CHORD - LL = 0 PSF
DL = 10 PSF
8. TRUSS SHALL BE HANDLED, ERECTED AND BRACED IN STRICT ACCORDANCE WITH THE BUILDING COMPONENT SAFETY INFORMATION GUILD BC81 1-03.
9. METAL DECK ABOVE TRUSSES IS TO HAVE A MINIMUM LIVE LOAD OF 25 PSF AND DEAD LOAD OF 10 PSF.

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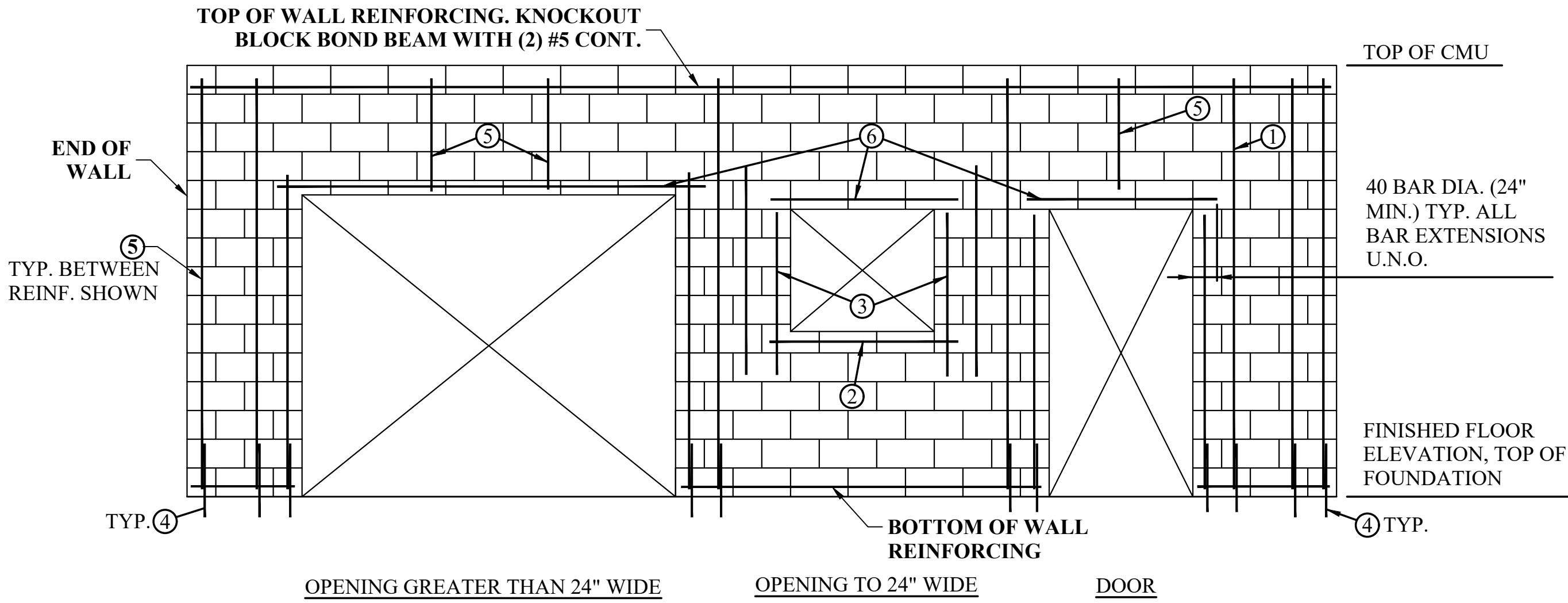
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

STRUCTURE NOTES

SHEET No.
S2.02



OPENING GREATER THAN 24" WIDE OPENING TO 24" WIDE DOOR

TYP. MASONRY WALL REINFORCEMENT LAYOUT DETAIL

SCALE: N.T.S.

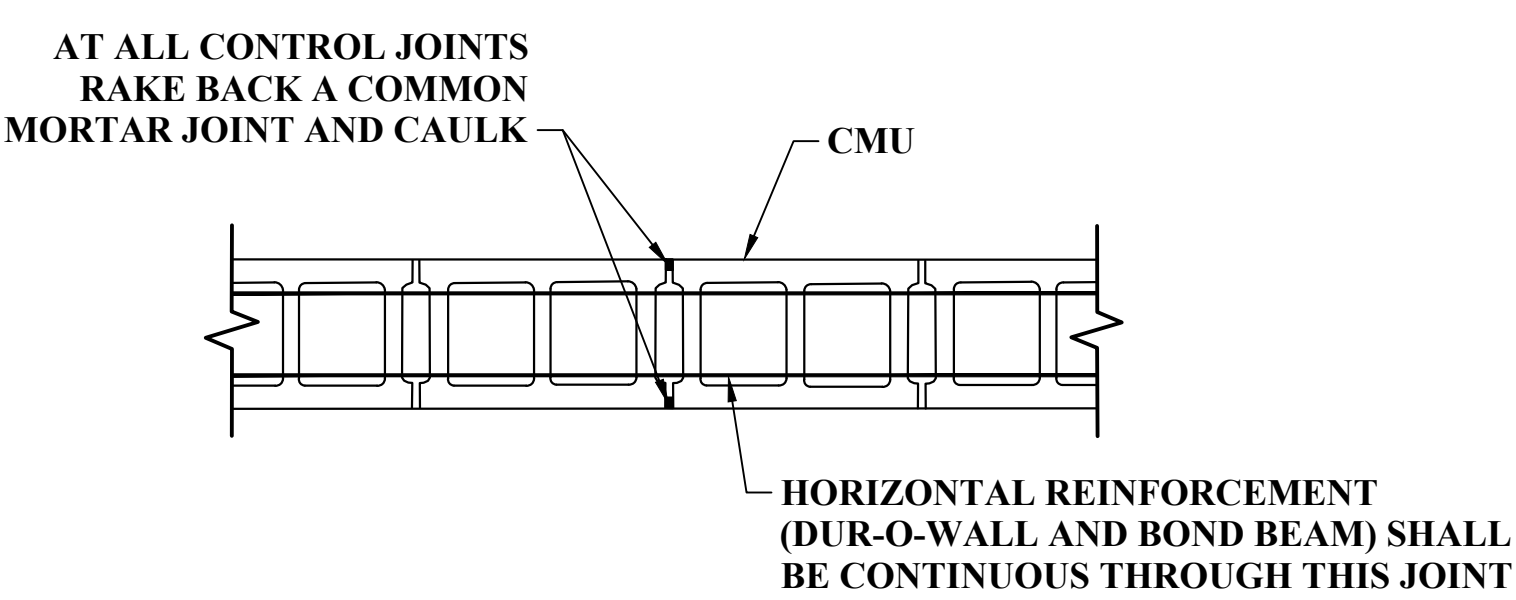
- ① SEE TYPICAL ADDITIONAL REINFORCING AT CMU WALL OPENING DETAIL, THIS SHEET. BARS IN CORES DIRECTLY ADJACENT TO OPENING EXTENDED TO UNDERSIDE OF LINTEL BEARING. BARS IN CORES 12" IN FROM OPENINGS EXTEND FULL HEIGHT OF WALL, TYP.
- ② SILL BARS. KNOCK OUT BLOCK BOND BEAM WITH (2) #5 CONT.
- ③ (1) #5 EACH SIDE
- ④ SEE TYPICAL CMU WALL REINFORCING NOTE
- ⑤ BETWEEN BARS SHOWN, PROVIDE TYPICAL WALL REINFORCING PER TYP. WALL REINFORCING NOTE
- ⑥ SEE LINTEL SCHEDULE

TYPICAL CMU WALL REINFORCING
ALL EXTERNAL CMU WALLS SHALL BE 12" BLOCK REINFORCED VERTICALLY WITH #5 BARS AT 24 INCHES ON CENTER.

UNLESS NOTED OTHERWISE REINFORCE HORIZONTALLY WITH STANDARD LADDER TYPE DUR-O-WALL, AT 16 INCHES ON CENTER. HORIZONTAL BOND BEAMS SHALL BE REINFORCED WITH 2 #5 BARS. VERTICAL REINFORCEMENT SHALL EXTEND TO THE TOP OF ALL WALLS. PROVIDE REINFORCEMENT BARS ALL AROUND ALL OPENINGS, EXTENDING 2 FEET PAST EACH CORNER. REFER TO THE LINTEL SCHEDULE FOR ADDITIONAL REINFORCEMENT. ALL TOP COURSES SHALL HAVE A HORIZONTAL BOND BEAM. ALL REINFORCEMENT BARS IN CMU WALLS SHALL BE PROVIDED WITH 1" CONCRETE GROUT COVER.

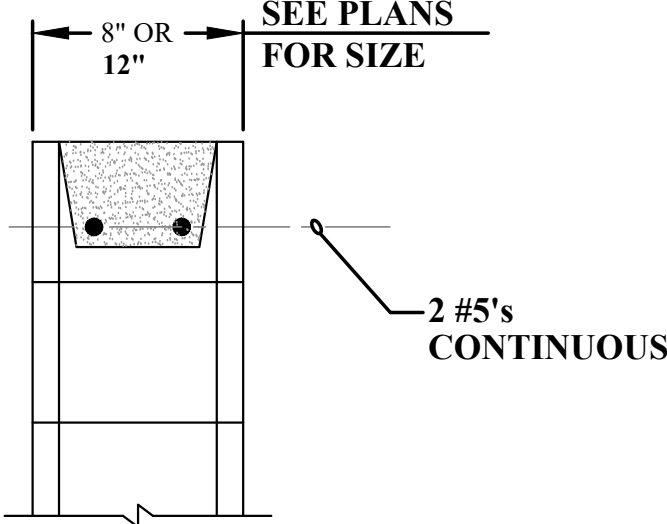
WALLS BELOW GRADE ARE TO BE GROUTED SOLID.

MIN. LAP LENGTH, #5 BARS: 32" VERTICAL



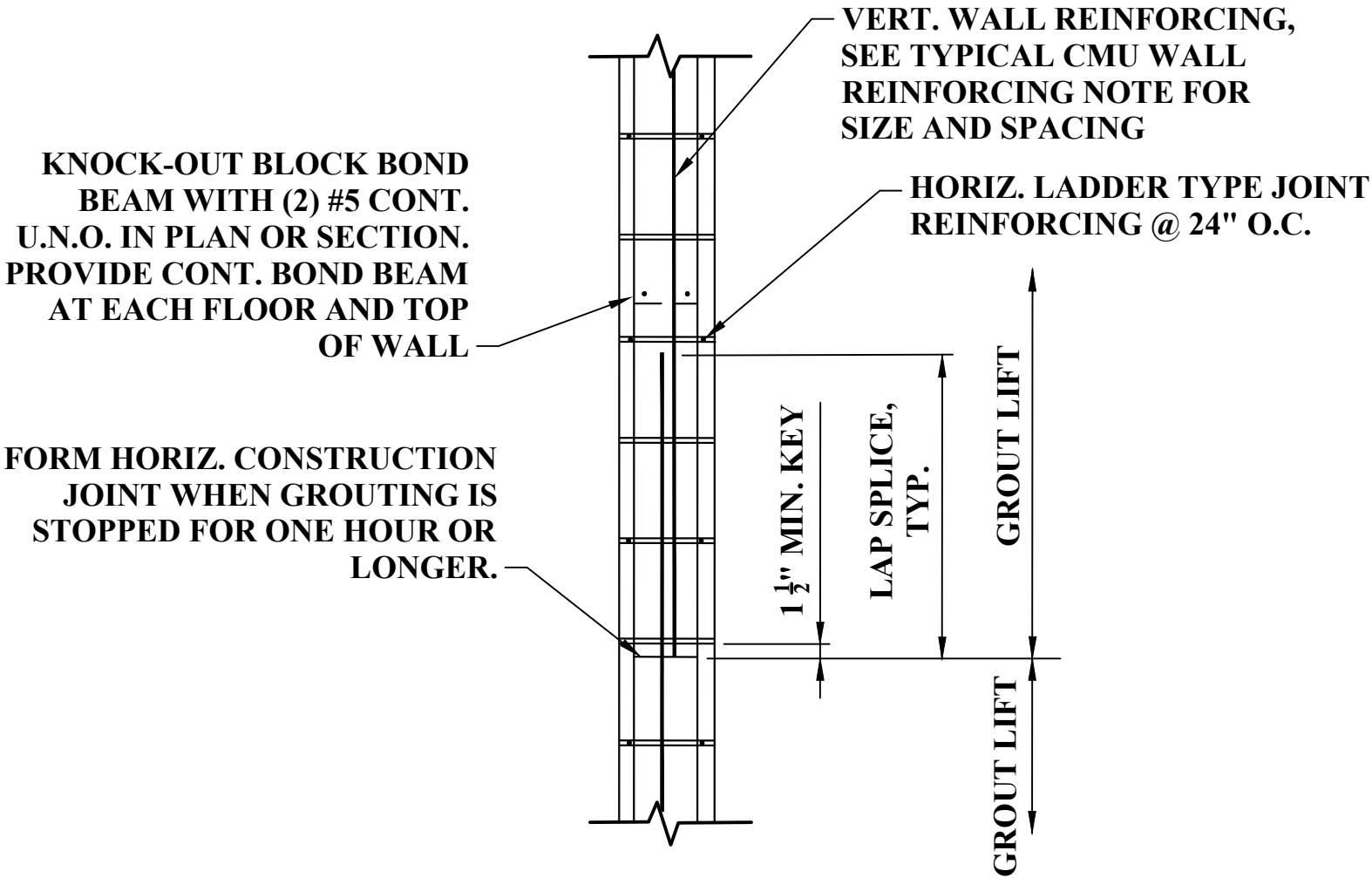
**TYP. MASONRY BOND BEAM
DETAIL AT CONTROL JOINT**

SCALE: N.T.S.



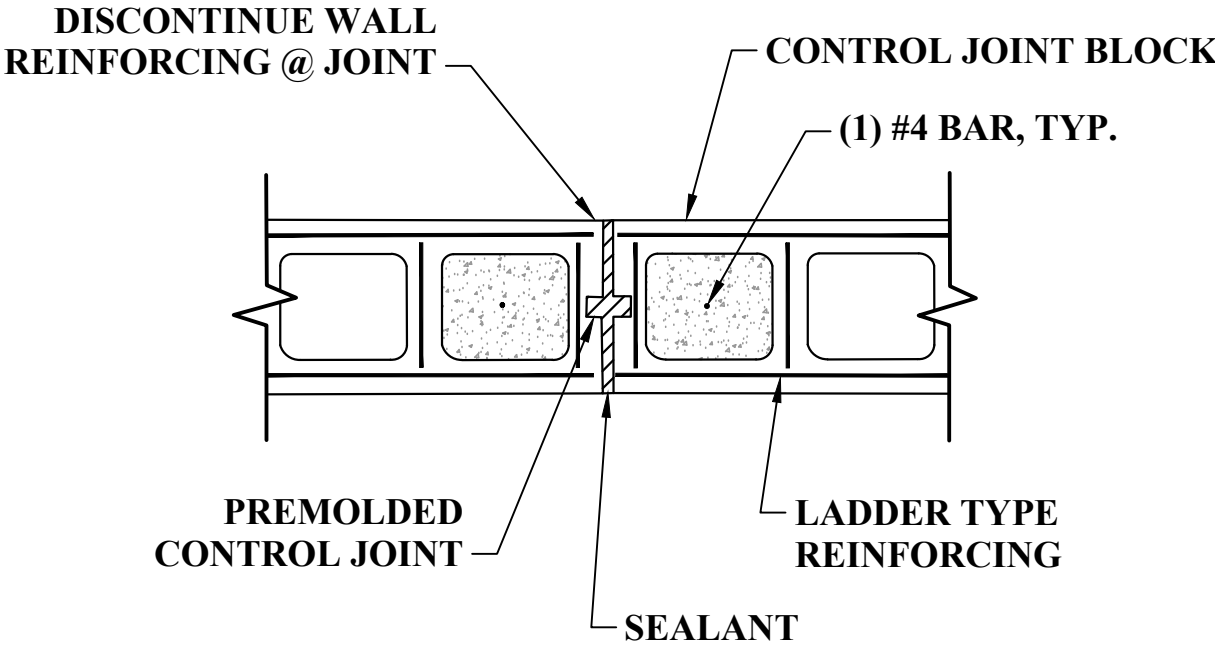
TYP. BOND BEAM DETAIL

SCALE: N.T.S.



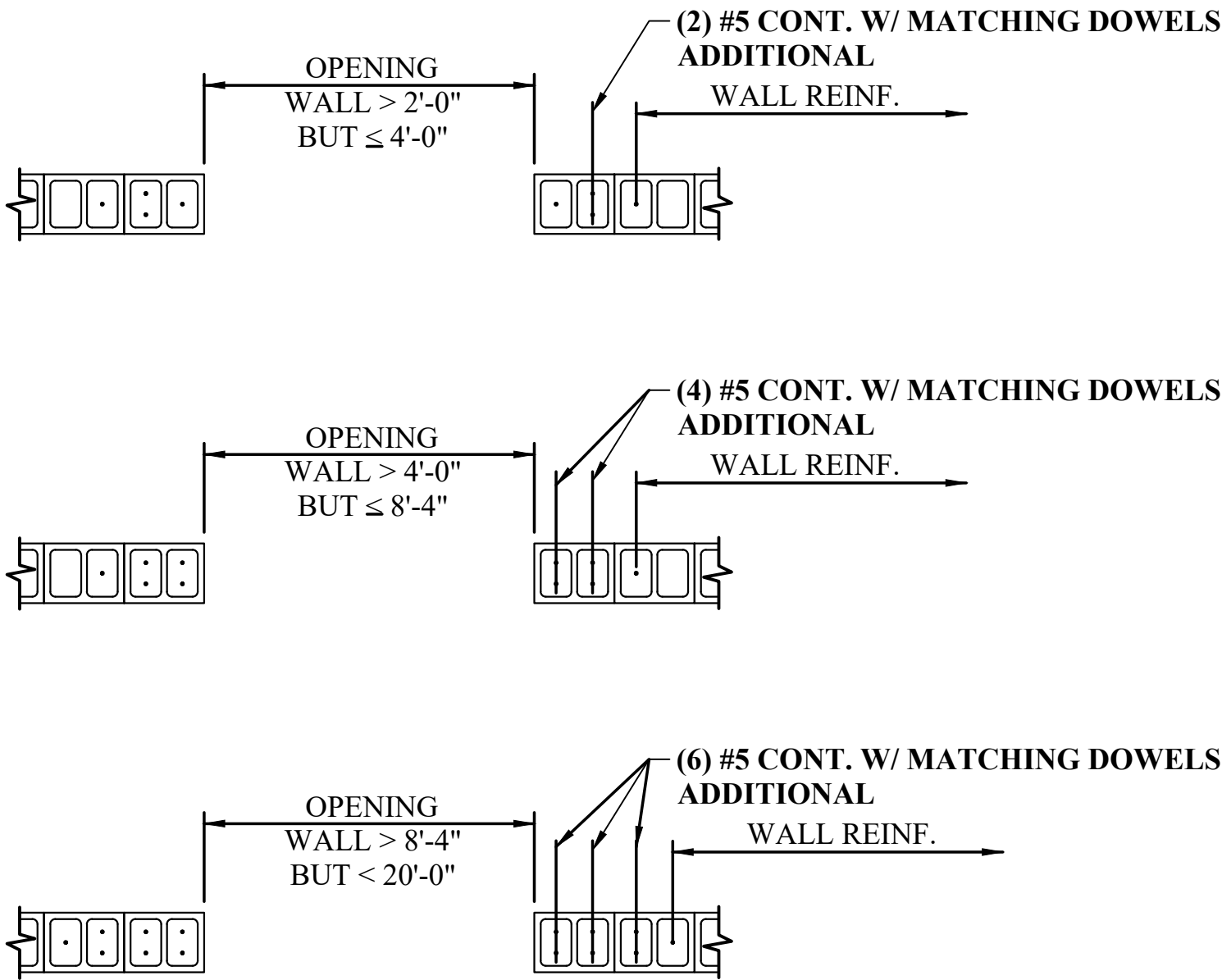
TYP. MASONRY WALL VERTICAL DETAIL

SCALE: N.T.S.



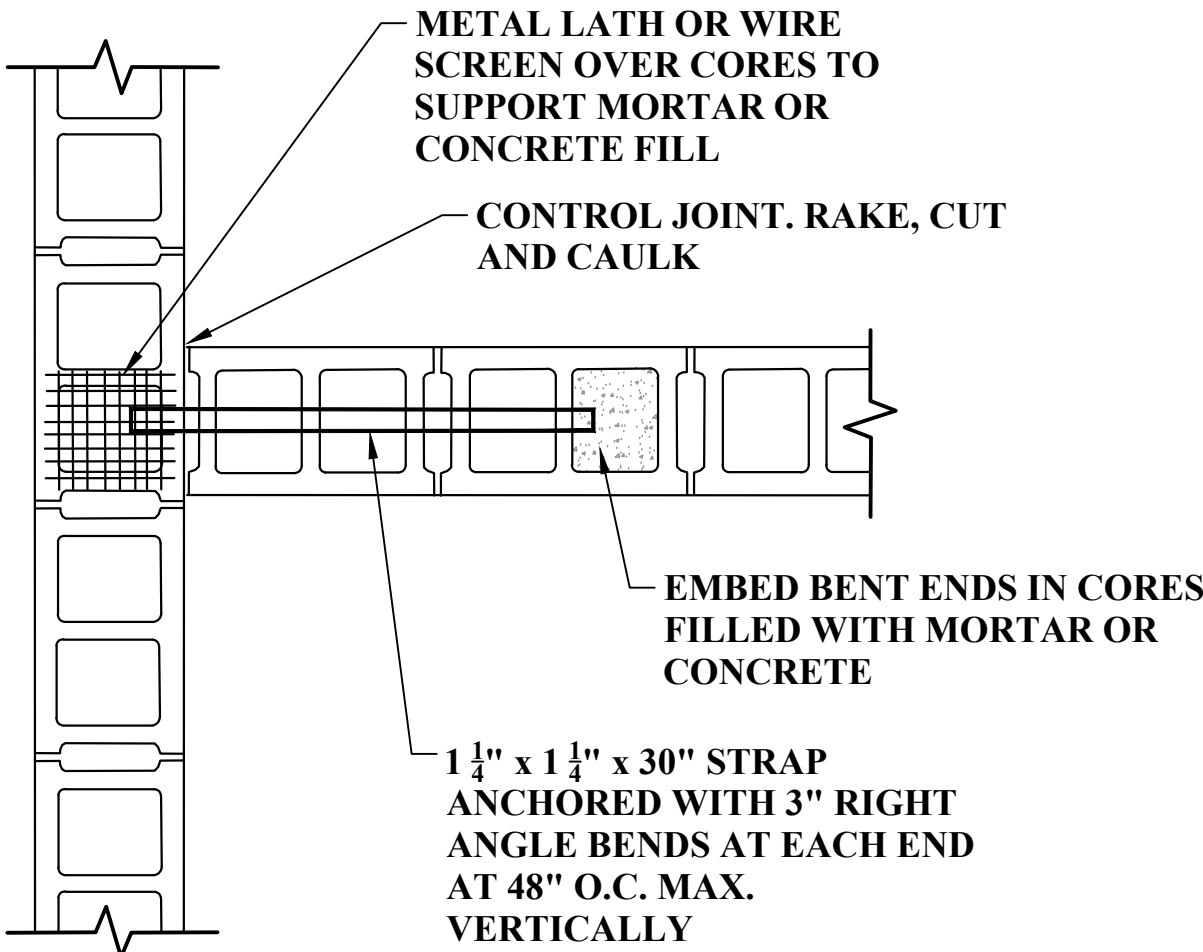
TYP. MASONRY CONTROL JOINT DETAIL

SCALE: N.T.S.



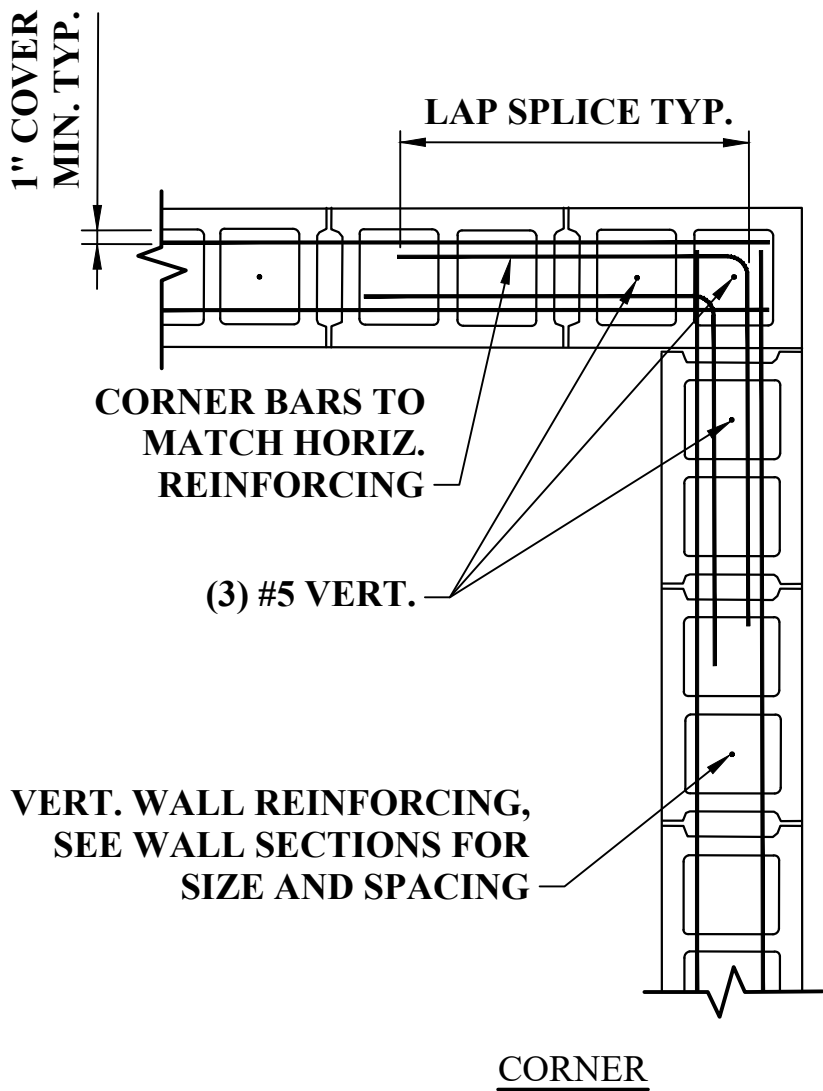
TYP. ADDITIONAL REINFORCING AT CMU OPENING

SCALE: N.T.S.



TYP. MASONRY DETAIL AT INTERSECTION

SCALE: N.T.S.



TYP. BOND BEAM DETAILS

SCALE: N.T.S.

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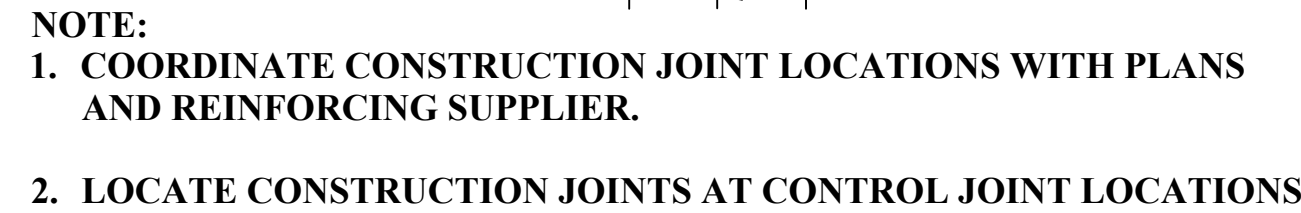
TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

STRUCTURE DETAILS

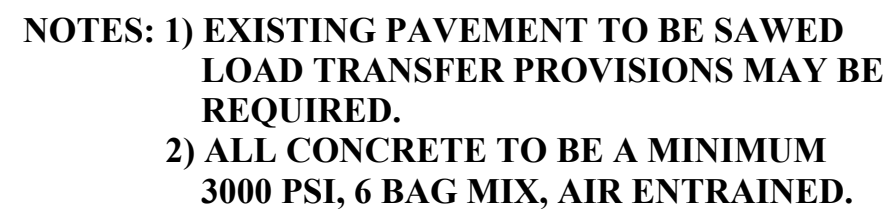
SHEET No.
S3.01



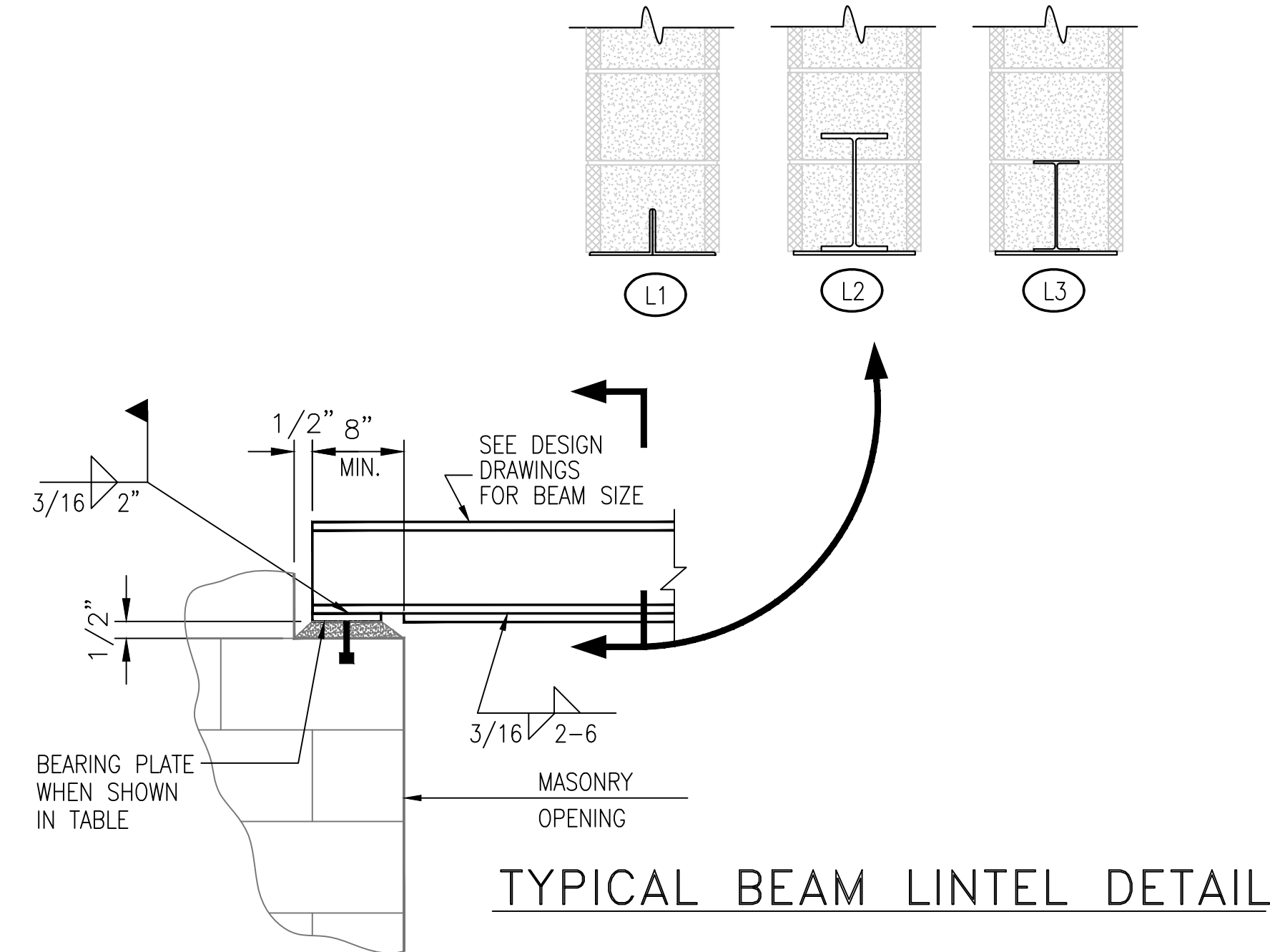
TYP. SLAB ON GRADE
DETAIL
SCALE: N.T.S.



TYP. SLAB ON GRADE
CONSTRUCTION JOINT DETAIL
SCALE: N.T.S.



JOINT SEALER DETAIL
SCALE: N.T.S.



TYPICAL BEAM LINTEL DETAIL

LINTEL SCHEDULE

LINEL NUMBER	MEMBER SIZE	CMU SIZE	MASONRY OPENING	BEARING EACH END	BEARING PLATE SIZE	REMARKS
L1	(2) L-5 $\frac{1}{2}$ "x4"x $\frac{1}{4}$ "	12"	3'-4" TO 6'-0"	8"	NONE	HOT DIP GALV.
L2	W12x26 W/ 5/16" BOT. PLATE	12"	12'-0"	12"	PLATE 1/2x8"x0'-8" W/ (2) 1/2"Øx4" LG. HEADED STUDS	HOT DIP GALV.
L3	W10x8 W/ 5/16" BOT. PLATE	12"	7'-0"	12"	PLATE 1/2x8"x0'-8" W/ (2) 1/2"Øx4" LG. HEADED STUDS	HOT DIP GALV.

NOTES:

1. INTERIOR LINTELS ARE NOT SHOWN ON STRUCTURAL PLANS.
2. ALL HORIZONTAL LINTEL ELEMENTS SUPPORTING EXTERIOR BLOCKS OF MASONRY SHALL BE HOT DIP GALVANIZED.
3. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
4. ALL ANGLES SCHEDULED ABOVE SHALL BE ORIENTED WITH LONG LEGS VERTICAL U.O.
5. TACK WELD BACK-TO-BACK VERTICAL LEGS OF MULTIPLE ANGLE LINTELS.



NOTE:

USE ABOVE REINFORCING AROUND OPENING 1'-0" AND LARGER UNLESS NOTED OTHERWISE ON DRAWINGS. FOR OPENINGS LESS THAN 1'-0", NO ADDITIONAL REINFORCING IS REQUIRED UNLESS NOTED OTHERWISE ON DRAWINGS.

TYP. REINFORCING AT
RECTANGULAR AND CIRCULAR
OPENINGS IN SLABS AND WALLS
SCALE: N.T.S.

1	CMK	11JAN2023	TUSCARAWAS COUNTY REVIEW
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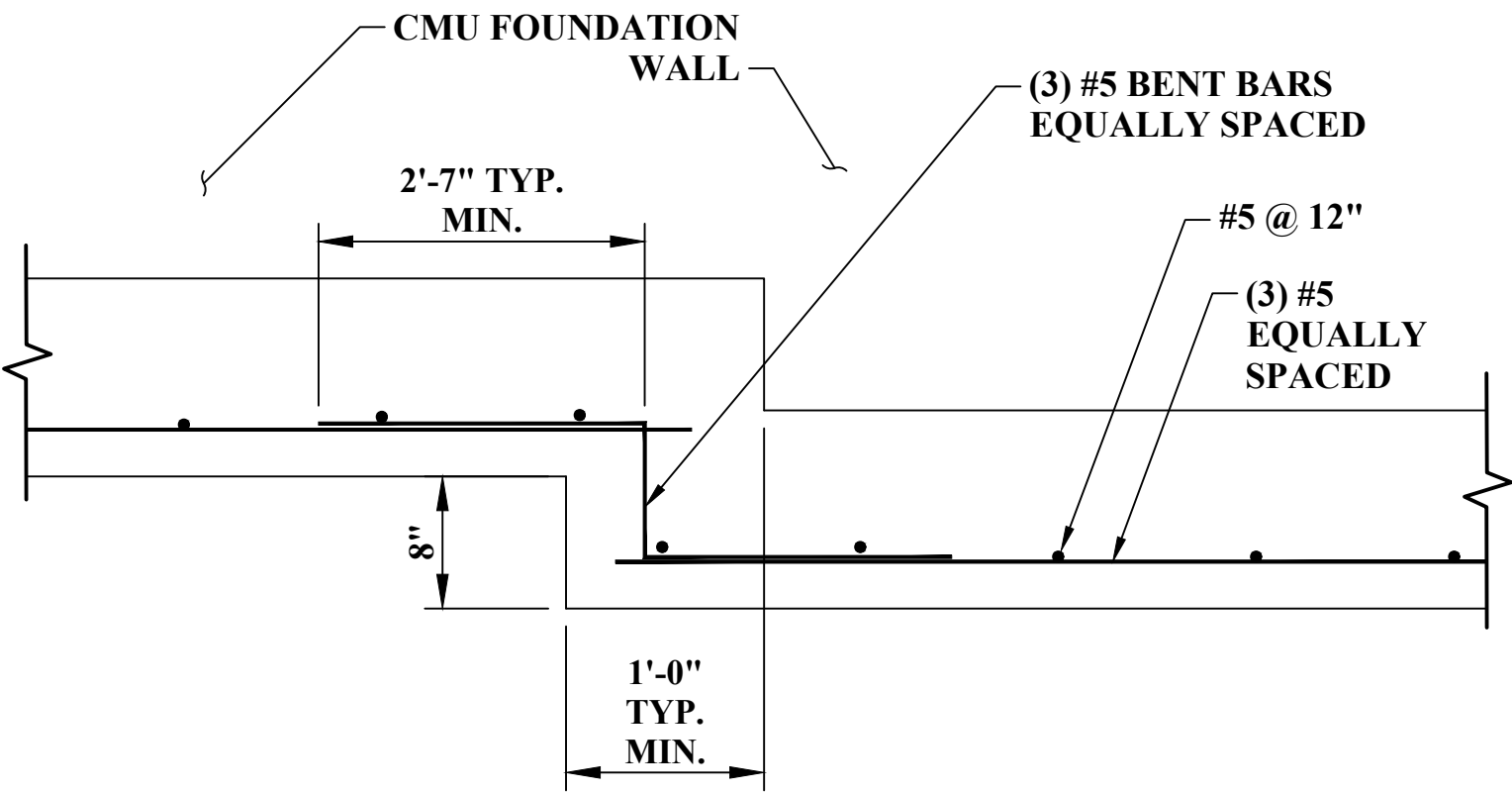
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STRUCTURE DETAILS

SHEET No.

S3.02



TYP. WALL FOUNDATION STEP DETAIL
SCALE: N.T.S.

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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

STRUCTURE DETAILS

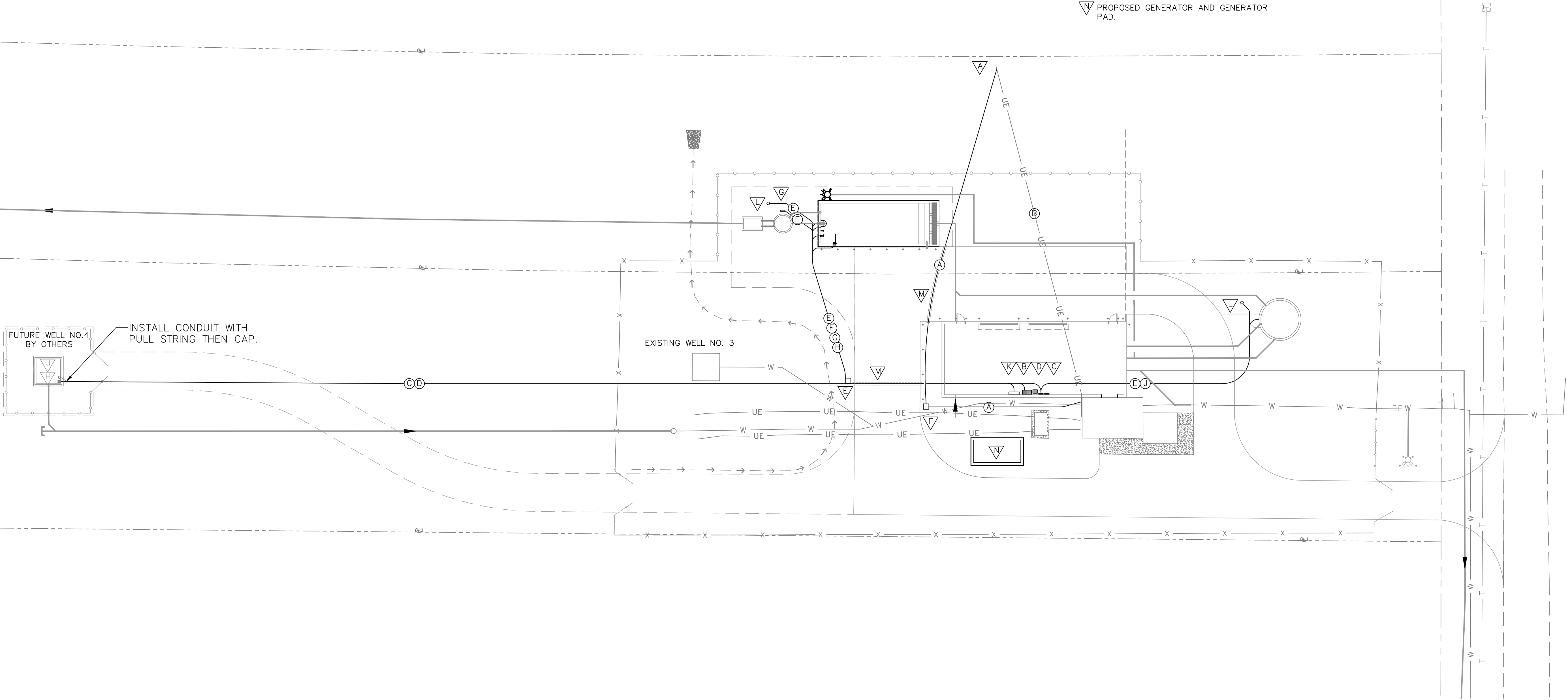
SHEET No.
S3.03

CONDUIT AND CONDUCTORS NOTES:

- Ⓐ 4" CONDUIT WITH 4-500MCM CABLES.
- Ⓑ REMOVE EXISTING SERVICE CONDUCTORS AND ABANDON EXISTING CONDUIT BELOW GRADE.
- Ⓒ CIRCUIT NO. MCC-2C. (FUTURE WELL #4 BY OTHERS) INSTALL CONDUIT WITH PULL STRING AND CAP.
- Ⓓ CIRCUIT NO. MCC-2JL. (FUTURE WELL #4 BLDG BY OTHERS) INSTALL CONDUIT WITH PULL STRING AND CAP.
- Ⓔ CIRCUIT NO. FF-5.
- Ⓕ CIRCUIT NO. F-8,10,12.
- Ⓖ CIRCUIT NO. FF-10.
- Ⓗ CIRCUIT NO. FF-11.
- Ⓙ CIRCUIT NO. FF-12.

EQUIPMENT KEY NOTES:

- ▽ EXISTING POWER POLE WITH TRANSFORMERS.
- ▽ MOTOR CONTROL CENTER-"MCC".
- ▽ PANEL-"F".
- ▽ PANEL-"FF".
- ▽ ELECTRICAL/CONTROL PULL BOX. SEE DETAIL.
- ▽ ELECTRICAL PULL BOX. SEE DETAIL.
- ▽ PUMP STATION CONTROL PANEL.
- ▽ PANEL-"PP". (FUTURE BY OTHERS)
- ▽ FUSED SAFETY SWITCH. (FUTURE BY OTHERS)
- ▽ FILTER CONTROL PANEL.
- ▽ POLE LIGHT FIXTURE TYPE "L3".
- ▽ ENCASED CONDUIT UNDER PAVEMENT AREA IN 3" THICK CONCRETE ALL AROUND.
- ▽ PROPOSED GENERATOR AND GENERATOR PAD.



3	SMD	2FEB2023	TUSC COUNTY COMMENTS
2	SMD	11JAN2023	TUSC COUNTY REVIEW
1	SMD	8DEC2022	QA/QC REVIEW
NO.	BY	DATE	DESCRIPTION

SCALE: 1" = 20'	
DRAWN: R. STANDISH	DATE: JANUARY 2020
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS

SITE UTILITY PLAN

SHEET No.
SU1

[illegible]

SCALE: NOT TO SCALE	
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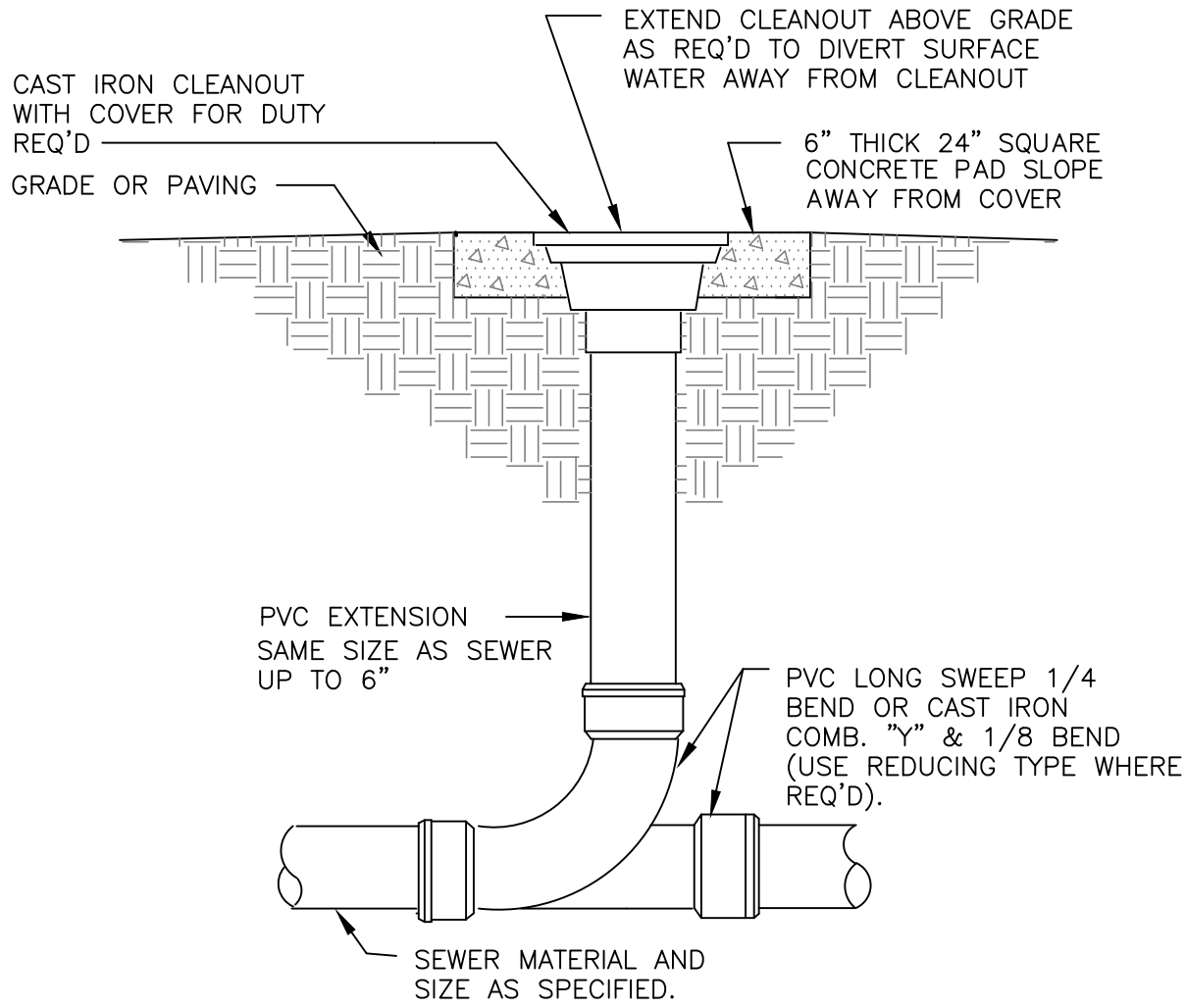
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
SITE UTILITY PLAN
DETAILS

SHEET No.
SU2



SURFACE CLEANOUT

NOT TO SCALE

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE INTERNATIONAL PLUMBING CODE & LOCAL AUTHORITIES HAVING JURISDICTION.
- ALL PIPING IN EXTERIOR WALLS TO BE RUN ON BUILDING SIDE OF INSULATION.
- PIPING LAYOUT IS SCHEMATIC, EXACT LOCATIONS OF PIPES TO BE COORDINATED WITH BUILDING STRUCTURE AND WORK OF OTHER TRADES.
- MINIMUM PIPE SLOPE ON THE DRAINAGE AND VENT SYSTEM WITHIN THE BUILDING:
 - ALL PIPE UP TO AND INCLUDING 3" SHALL SLOPE AT LEAST 1/4" PER FOOT.
 - ALL PIPE 4" AND LARGER SHALL SLOPE AT LEAST 1/8" PER FOOT.
- PIPING SHALL NOT BE ROUTED ABOVE ELECTRIC PANELS.
- COORDINATE PIPING IN TOILET AREAS WITH RECESSED TOILET ACCESSORIES. OFFSET PIPING AS REQUIRED TO ALLOW RECESS OF THESE ITEMS. SEE ENLARGED TOILET PLANS FOR LOCATIONS.

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
---	COLD WATER LINE
—SAN—	SANITARY SEWER
—	VENT
US-1	FIXTURE DESIGNATION
⊙	CONNECT TO EXISTING
Ⓐ	PLAN NOTE
WH]—	WALL HYDRANT
HB +	HOSE BIB
○—	TURN UP OR FROM BELOW
└—	TURN DOWN
└—	BALL VALVE
FCO	FLOOR CLEANOUT
SCO	SURFACE CLEANOUT
FD	FLOOR DRAIN WITH TRAP

FIXTURE SCHEDULE

MARK	DESCRIPTION	HW	CW	SAN	VENT	MOUNTING HEIGHT
US-1	EL MUSTEE MODEL #17F LAUNDRY TUB ONE-PIECE MOLDED CONSTRUCTION USING DURASTONE, A BLEND OF NATURAL CRUSHED STONE AND POLYESTER RESINS MOLDED WITH MATCHED METAL MOLDS UNDER EXTREME HEAT AND PRESSURE. TUB TO INCLUDE BUILT-IN SCRUB BOARD, INTEGRALLY MOLDED DRAIN ASSEMBLY, WALL MOUNTING HARDWARE, HEAVY GAUGE STEEL LEGS WITH BUILT-IN LEVELERS. 19 GALLON CAPACITY TUB, 13" DEEP. SHALL MEET ANSI SPECIFICATION Z 124-2011. COLOR: WHITE.	-	-	1 1/2"	1 1/2"	FLOOR AND WALL

SPECIALTY SCHEDULE

MARK	MANUFACTURE	MODEL	DESCRIPTION	REMARKS
WH	ZURN	Z1300	RECESSED WALL HYDRANT (CW)	BRONZE NICKEL PLATED QUARTER TURN NON-FREEZE HYDRANT WITH HOSE CONNECTION, INTEGRAL VACUUM BREAKER, "T" HANDLE KEY, AND STAINLESS STEEL BOX WITH FULL 180° COVER OPENING.
HB	WOLFORD	MODEL 21	SURFACE/WALL	CHROME PLATED CASTING, POLYCARBONATE HANDLE, VACUUM BREAKER WITH HOSE CONNECTION AND 3/4" INLET.
FCO	ZURN	ZN1400	FLOOR CLEANOUT	ADJUSTABLE FLOOR CLEANOUT CAST IRON BODY W/ GAS & WATER TIGHT ABS TAPERED THREAD PLUG AND ROUND NICKEL BRONZE ADJUSTABLE TOP.
SCO	ZURN	Z1400	SURFACE CLEANOUT	ADJUSTABLE CLEANOUT CAST IRON BODY WITH GAS & WATER TIGHT ABS TAPERED THREAD PLUG AND ROUND SCORIATED COVER
FD	PROSET SYSTEMS	T35630-F-P-SQ	GENERAL PURPOSE FLOOR DRAIN	PVC COATED BODY WITH BOTTOM OUTLET, ANCHOR FLANGE AND WEEP HOLES, NICKEL BRONZE STRAINER, VANDAL RESISTANT, SMOOTH, SOFT, FLEXIBLE, ELASTOMERIC PVC MATERIAL MOLDED INTO SHAPE OF DUCK'S BILL, OPEN ON TOP WITH CURL CLOSURE AT BOTTOM ALLOWS WASTEWATER TO OPEN AND ADEQUATELY DISCHARGE FLOOR DRAIN THROUGH ITS INTERIOR THEN CLOSES AND RETURNS TO ORIGINAL MOLDED SHAPE AFTER WASTEWATER DISCHARGE IS COMPLETE.

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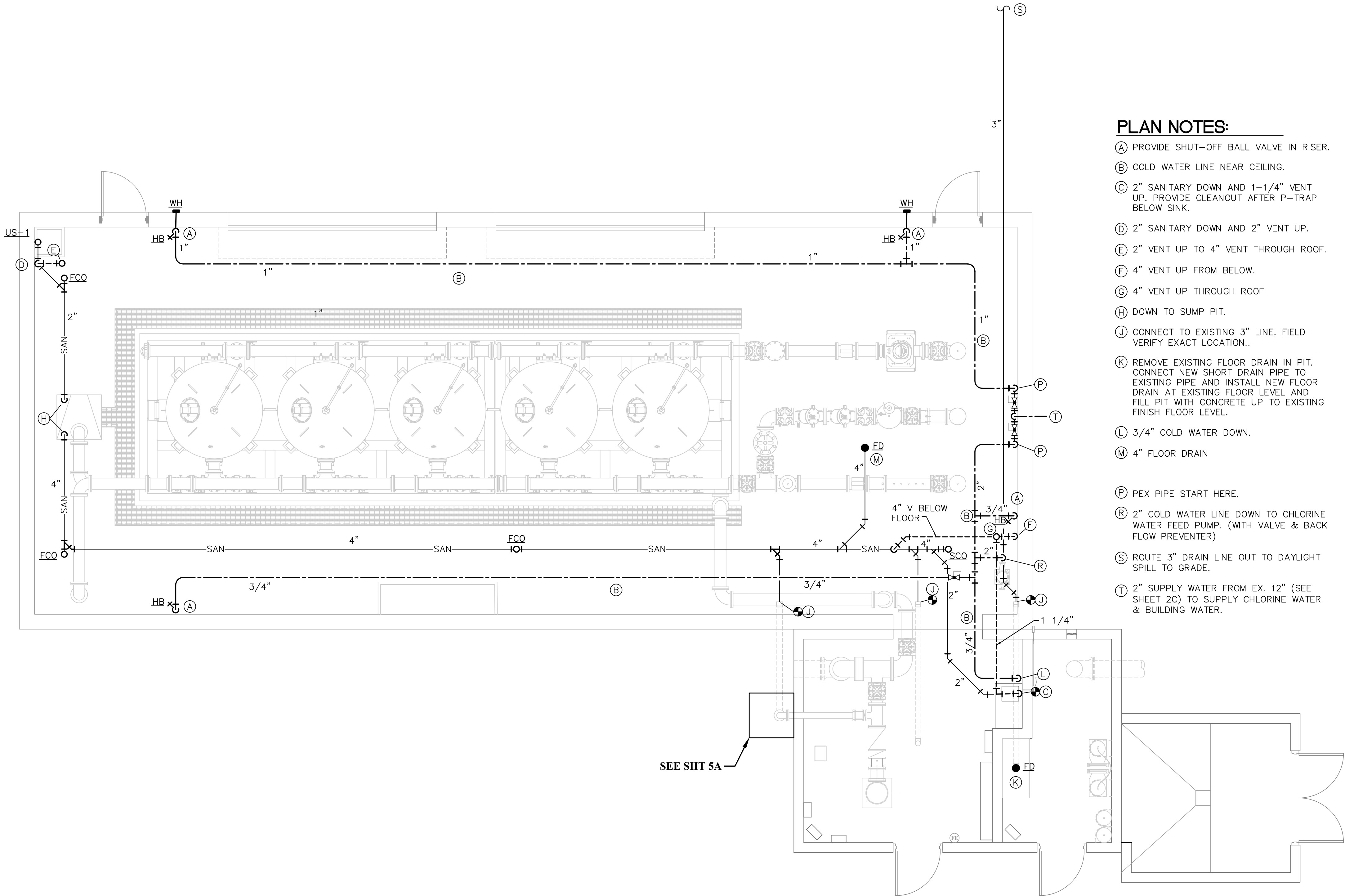
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TUSCARAWAS COUNTY METROPOLITAN SEWER DISTRICT WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS PROPOSED FILTER BUILDING GENERAL NOTES, SCHEDULES AND DETAILS

SHEET No.

P1



- PLAN NOTES:**
- (A) PROVIDE SHUT-OFF BALL VALVE IN RISER.
 - (B) COLD WATER LINE NEAR CEILING.
 - (C) 2" SANITARY DOWN AND 1-1/4" VENT UP. PROVIDE CLEANOUT AFTER P-TRAP BELOW SINK.
 - (D) 2" SANITARY DOWN AND 2" VENT UP.
 - (E) 2" VENT UP TO 4" VENT THROUGH ROOF.
 - (F) 4" VENT UP FROM BELOW.
 - (G) 4" VENT UP THROUGH ROOF
 - (H) DOWN TO SUMP PIT.
 - (J) CONNECT TO EXISTING 3" LINE. FIELD VERIFY EXACT LOCATION..
 - (K) REMOVE EXISTING FLOOR DRAIN IN PIT. CONNECT NEW SHORT DRAIN PIPE TO EXISTING PIPE AND INSTALL NEW FLOOR DRAIN AT EXISTING FLOOR LEVEL AND FILL PIT WITH CONCRETE UP TO EXISTING FINISH FLOOR LEVEL.
 - (L) 3/4" COLD WATER DOWN.
 - (M) 4" FLOOR DRAIN
 - (P) PEX PIPE START HERE.
 - (R) 2" COLD WATER LINE DOWN TO CHLORINE WATER FEED PUMP. (WITH VALVE & BACK FLOW PREVENTER)
 - (S) ROUTE 3" DRAIN LINE OUT TO DAYLIGHT SPILL TO GRADE.
 - (T) 2" SUPPLY WATER FROM EX. 12" (SEE SHEET 2C) TO SUPPLY CHLORINE WATER & BUILDING WATER.

4	SMD	13FEB2023	TUSC COUNTY COMMENTS	
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PROJECT No.
010-01120

TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
FILTER BUILDING - PLUMBING PLAN

SHEET No.
P2

GENERAL MECHANICAL NOTES:

1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE HVAC SYSTEM AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. CERTAIN ITEMS SUCH AS RISES AND DROPS IN DUCTWORK, ACCESS DOORS, VOLUME DAMPERS, ETC., ARE INDICATED FOR CLARITY IN CERTAIN AREAS. THIS DOES NOT RELIEVE THE CONTRACTOR OF PROVIDED THESE ITEMS NOT SHOWN IN OTHER AREAS AS REQUIRED FOR A COMPLETE INSTALLATION.
3. UNLESS NOTED OTHERWISE, LOCATE ALL ROOM THERMOSTATS 5'-0" ABOVE FINISH FLOOR.
4. ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS.
5. ALL DUCTWORK DIMENSIONS, AS SHOWN ON DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS. DUCT SIZE SHALL BE INCREASED IN SIZE TO COMPENSATE FOR INTERNAL LININGS.
6. COORDINATE DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL PLANS, LIGHTING, AND OTHER ITEMS LOCATED IN CEILING.
7. LOCATE ALL MECHANICAL EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, AND VALVING.
8. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION UNLESS NOTED OTHERWISE.
9. RUNS OF FLEXIBLE DUCTWORK SHALL NOT EXCEED 5 FEET.
10. ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS.
11. TURNING VANES SHALL BE INSTALLED IN ALL RECTANGULAR DUCT ELBOWS THAT EXCEED 45° CHANGE IN DIRECTION.
12. INSTALL 1" DUCTLINER IN FIRST 15' OF ALL RETURN AIR DUCTS.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MAU	MAKE-UP AIR UNIT
BF	BELOW FLOOR	MH	MOUNTING HEIGHT
BCU	BLOWER COIL UNIT	MBH	THOUSAND BTU/HR
CFM	CUBIC FEET PER MINUTE	MOD	MOTORIZED DAMPER
COP	COEFFICIENT OF PERFORMANCE	NIC	NOT INCLUDED IN CONTRACT
CU	CONDENSING UNIT	NTS	NOT TO SCALE
DN	DOWN	O.A.	OUTSIDE AIR
DB	DRY BULB	PC	PLUMBING CONTRACTOR
DU	DUCTLESS UNIT	PD	PRESSURE DROP
EA	EXHAUST AIR	RA	RETURN AIR
EAT	ENTER AIR TEMPERATURE	RH	RELATIVE HUMIDITY
EC	ELECTRICAL CONTRACTOR	RPM	REVOLUTIONS PER MINUTE
ECH	ELECTRIC CEILING HEATER	RTU	ROOFTOP UNIT
EER	ENERGY EFFICIENCY RATIO	SA	SUPPLY AIR
EF	EXHAUST FAN	SD	SMOKE DAMPER
ESP	EXTERIOR STATIC PRESSURE	SF	SUPPLY FAN
EUH	ELECTRIC UNIT HEATER	STR	STARTER (MOTOR)
EWB	ELECTRIC WALL HEATER	TS	TIP SPEED
FD	FIRE DAMPER	TSP	TOTAL STATIC PRESSURE
FPD	FLUID PRESSURE DROP	(TYP)	TYPICAL
FPM	FEET PER MINUTE	TZ	TRANSFORMER
GC	GENERAL CONTRACTOR	UNO	UNLESS NOTED OTHERWISE
HP	HORSEPOWER	WH	WATER HEATER
KW	KILOWATTS	W/	WITH
L	LOUVER	WB	WET BULB
LAT	LEAVING AIR TEMPERATURE	W/O	WITHOUT
		WP	WEATHER PROOF

DEHUMIDIFIER UNIT SCHEDULE

OUTDOOR DEHUMIDIFIER UNIT																				
MARK	MANUFACTURER	MODEL NO.	WEIGHT (LBS)	CFM			ESP (IN)	FAN HP	COOLING CAPACITY MBH		TOTAL MOIST. REMOVAL (LB/HR)	TOTAL HEAT OF REJECTION MBH	INDOOR AIR DESIGN (WINTER CONDITION)			ELECTRICAL DATA				NOTES NO.
				SA	RA	OA			TOTAL	SENSIBLE			EAT Fdb	EAT Fwb	GRAINS (Gr/Lb)	VOLTS/ PHASE	FLA	MCA	MOCP	
DHU-1	DESERT AIRE	LW12BN4HNEUNNDL	1680	6,900	6,675	225	0.5	5	142.4	94.1	45.8	172.4	64.0	55.7	--	460/3	--	36	50	1

NOTES:

1) VERTICAL FLOW DEHUMIDIFIER FOR LOW TEMPERATURE APPLICATION WITH FILTERS, WALL MOUNTED REMOTE DISPLAY TERMINAL WITH WALL MOUNTED TEMPERATURE / HUMIDITY SENSOR; UNIT MOUNTED SMOKE DETECTOR AND 14" HIGH CURB.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

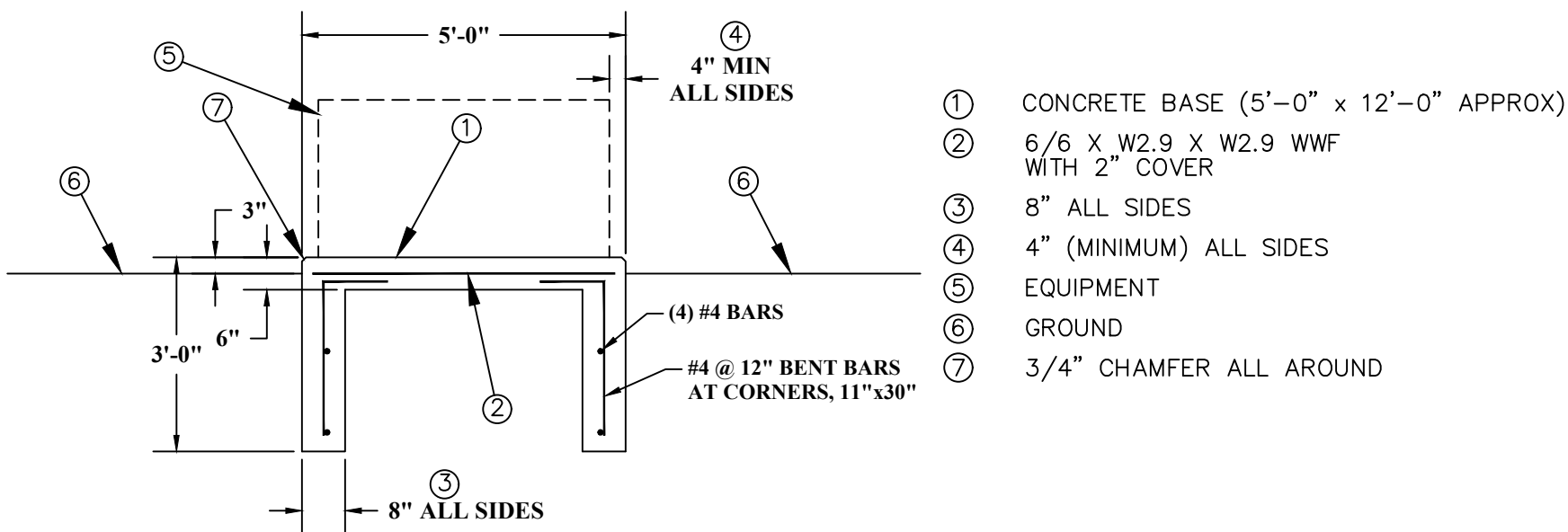
MARK	MANUFACTURER	MODEL NO.	USE	DESCRIPTION	NOTES
D1	TITUS	DL	SUPPLY	ADJUSTABLE DRUM LOUVER REGISTER WITH FRAME TYPE 1 FOR SURFACE MOUNT.	1,2
NOTES: 1. ALUMINUM 2. WHITE FINISH				GENERAL NOTES: A. SIZE OF NECK FOR ABOVE ARE SHOWN ON PLAN. B. SIZE OF GRILLE FOR ABOVE ARE SHOWN ON PLAN.	

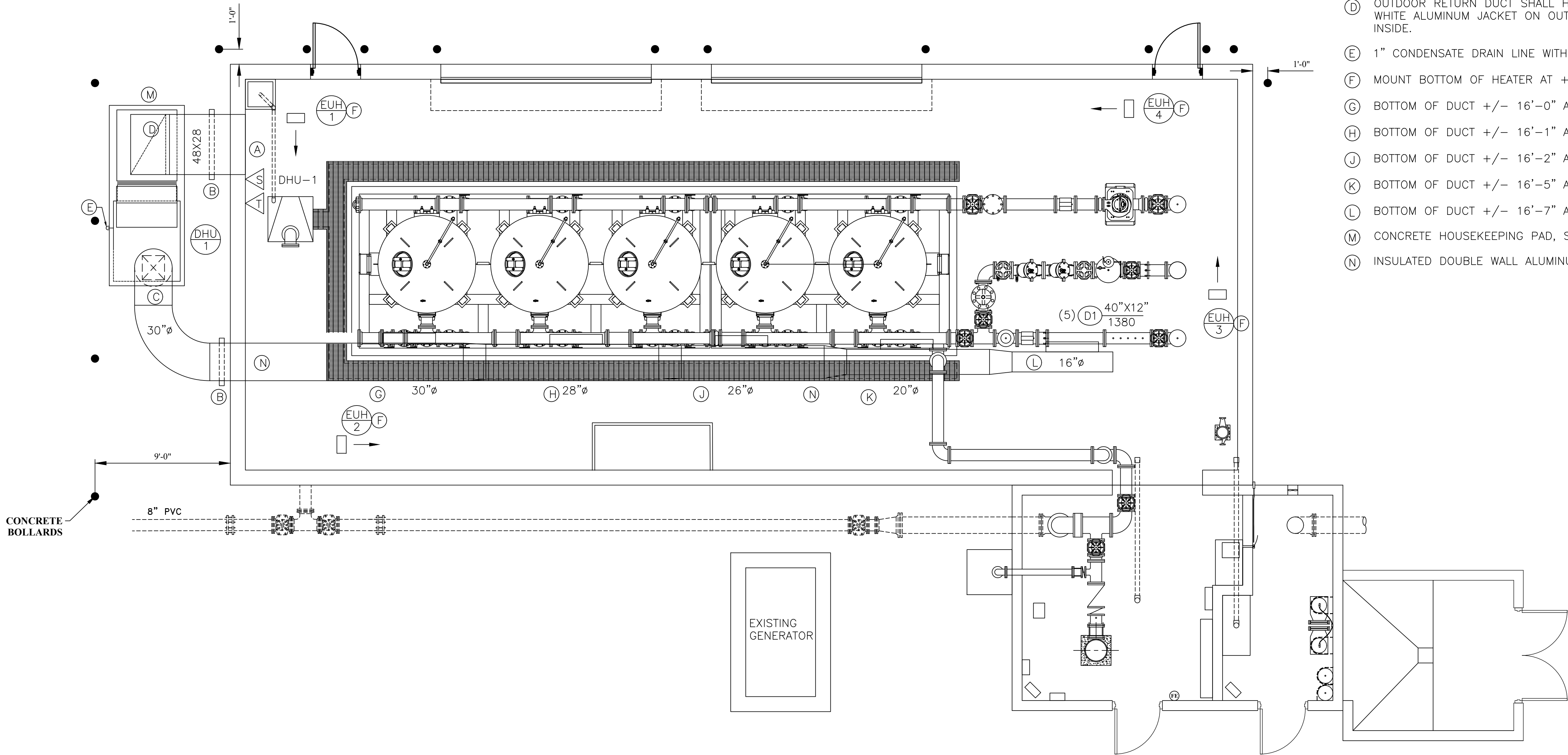
ELECTRIC UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL NO.	WEIGHT (LBS)	CFM	KW	MBH	EAT (F)	LAT (F)	VOLTS/PHASE	FLA	MCA	MOP	NOTES
EUH-1-4	QMARK	MUH05-81	27	350	5.0	17.0	40	85	208/3	24.0	-	-	1
NOTES: 1) ELECTRIC UNIT HEATER WITH POWER DISCONNECT; UNIT MOUNT THERMOSTAT; WALL MOUNTING BRACKET.													

MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
	EQUIPMENT SYMBOL - SEE LIST ON DWGS.
	TEMPERATURE / HUMIDITY SENSOR
	REMOTE DISPLAY TERMINAL
	PLAN NOTE





PLAN NOTES:

- (A) 48X28 OPENING WITH BIRD SCREEN. BOTTOM OF OPENING TO BE ±7'-0" A.F.F.
- (B) UNISTRUT DUCT SUPPORT, SEE DETAIL.
- (C) OUTDOOR SUPPLY DUCT SHALL HAVE 2" RIGID INSULATION WITH WHITE ALUMINUM JACKET ON OUTSIDE AND ALUMINUM DUCT INSIDE.
- (D) OUTDOOR RETURN DUCT SHALL HAVE 2" RIGID INSULATION WITH WHITE ALUMINUM JACKET ON OUTSIDE AND ALUMINUM DUCT INSIDE.
- (E) 1" CONDENSATE DRAIN LINE WITH TRAP.
- (F) MOUNT BOTTOM OF HEATER AT +/- 10' AFF.
- (G) BOTTOM OF DUCT +/- 16'-0" AFF.
- (H) BOTTOM OF DUCT +/- 16'-1" AFF.
- (J) BOTTOM OF DUCT +/- 16'-2" AFF.
- (K) BOTTOM OF DUCT +/- 16'-5" AFF.
- (L) BOTTOM OF DUCT +/- 16'-7" AFF.
- (M) CONCRETE HOUSEKEEPING PAD, SEE DETAIL.
- (N) INSULATED DOUBLE WALL ALUMINUM SUPPLY DUCT.

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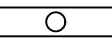
TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
MECHANICAL PLAN

SHEET No.
M2

GENERAL ELECTRICAL NOTES

- COORDINATE LOCATIONS OF CEILING-MOUNTED LIGHTING FIXTURES, SPEAKERS AND OTHER ITEMS WITH THE CEILING PATTERN AND MECHANICAL EQUIPMENT.
- LOCATE SNAP SWITCHES APPROXIMATELY 4 TO 6 INCHES FROM THE LATCH SIDE OF THE RELATED DOOR FRAME WHERE POSSIBLE, EXCEPT AS NOTED OTHERWISE.
- LOCATE SNAP SWITCHES DIRECTLY UNDER THERMOSTATS WHERE THEY ARE SHOWN IN CLOSE PROXIMITY (SEE MECHANICAL DRAWINGS).
- LOCATE WALL BOXES APPROXIMATELY AS INDICATED, EXACTLY AS DIRECTED OR AS NECESSARY TO ACHIEVE SYMMETRY AND COORDINATED WITH THE BUILDING, FINISHES AND EQUIPMENT.
- LOCATE ALL BOXES TO BE ACCESSIBLE.
- MOUNT FLUSH BOXES WITH THEIR FRONT EDGES EVEN WITH THE FINISHED SURFACE OF COMBUSTIBLE MATERIALS, WITHIN 1/4 INCH OF NON-COMBUSTIBLE MATERIALS.
- MOUNT SINGLE-GANG BOXES WITH THE LONGER DIMENSION VERTICAL EXCEPT AS NOTED OTHERWISE. MOUNT ALL BOXES AND PLATES PLUM.
- DO NOT INSTALL BOXES BACK TO BACK ON BOTH SIDES OF A PARTITION. OFFSET BOXES A MINIMUM OF 6 INCHES EXCEPT AS NOTED OTHERWISE.
- LOCATE ALL RACEWAYS TO AVOID INTERFERENCE WITH DUCTS, PIPES, MECHANICAL EQUIPMENT, WITH THE REMOVAL OF CEILING TILE, OR WITH ACCESS TO EQUIPMENT THAT REQUIRES PERIODIC ADJUSTMENT OR MAINTENANCE.
- DO NOT SUPPORT RACEWAYS OR EQUIPMENT FROM PIPES, DUCTS, OR A CEILING SUSPENSION SYSTEM.
- BRACH CIRCUIT AND FEEDERS ARE DESIGNATED BY A NUMBER AND LETTER.
- INSTALL FEEDER RACEWAYS WITH NO MORE THAN 3 CURRENT-CARRYING CONDUCTORS PLUS A NEUTRAL CONDUCTOR, PLUS A GROUND CONDUCTOR.
- INDICATED BRANCH CIRCUIT CONDUCTOR SIZES ARE BASED ON NO MORE THAN 3 CURRENT-CARRYING CONDUCTORS AND A NON-CURRENT-CARRYING NEUTRAL CONDUCTOR IN EACH RACEWAY. WHERE THE NUMBER OF CONDUCTORS EXCEEDS THIS AMOUNT, ADJUST THE CONDUCTOR SIZES IF AND AS NECESSARY TO ACCOUNT FOR DERATING THEIR AMPACITY IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
- FOR EACH INDICATED CONNECTION TO EQUIPMENT PROVIDE AN OUTLET BOX AND FLEXIBLE CONDUIT AS APPROPRIATE FOR THE ASSOCIATED EQUIPMENT. WHERE THE EQUIPMENT INCLUDES A CORD AND PLUG, PROVIDE A COMPATIBLE RECEPTACLE. WHERE REQUIRED BE CODE PROVIDE AN ADJACENT DISCONNECT SWITCH.
- FROM EACH FLUSH MOUNTED PANELBOARD EXTEND A MINIMUM OF THREE EMPTY 3/4" CONDUITS TO ABOVE AN ACCESSIBLE CEILING AND CAP.
- PROVIDE AN ADJACENT DISCONNECT SWITCH FOR EACH ELECTRIC UNIT HEATER.
- IN MECHANICAL ROOMS ADJUST LIGHTING FIXTURE LOCATIONS AS NECESSARY TO COORDINATE WITH EQUIPMENT AND TO PROVIDE OPTIMUM ILLUMINATION.
- PROVIDE WEATHERPROOF ADJUSTABLE PHOTOCELL CONTROL UNIT IN ACCESSIBLE ROOF LOCATIONS TO PROVIDE AUTOMATIC LIGHT CONTROLS AS INDICATED. PROVIDE ASSOCIATED RELAYS AND/OR CONTACTORS AS NECESSARY. LOCATE CONTACTORS OR RELAYS ABOVE ACCESSIBLE CEILINGS OR ON WALLS IN MECHANICAL ROOMS.
- COORDINATE OUTLET LOCATIONS AND CIRCUIT RATINGS WITH THE EQUIPMENT SHOWN ON THE MECHANICAL AND PLUMBING DRAWINGS AND WITH ALL EQUIPMENT AND FURNISHINGS SHOWN ON THE ARCHITECTURAL DRAWINGS.
- EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH SPECIFICATIONS AND AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
- ALL WORK SHALL COMPLY WITH NFPA 70.
- ELECTRICAL BRANCH CIRCUITS SHALL NOT SHARE A COMMON NEUTRAL.
- SIZE ALL FUSES FOR FUSED SAFETY SWITCHES WITH EQUIPMENT MANUFACTURER.

ELECTRICAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	WALL MOUNTED LED LIGHTING FIXTURE
	LED LIGHTING FIXTURE
	LED EXIT SIGN WITH BATTERY PACK
	LED REMOTE HEAD
	SINGLE POLE SNAP SWITCH
	THREE-WAY SNAP SWITCH
	FOUR-WAY SNAP SWITCH
	DUPLEX CONVENIENCE RECEPTACLE
	PLAN NOTE
	MECHANICAL EQUIPMENT NOTATION
	MOTOR CONNECTION
	FUSED SAFETY SWITCH
GFI	GROUND FAULT INTERRUPTER
WP	WEATHERPROOF
	DIRECT CONNECTION

WIRE AND CONDUIT SIZE SCHEDULE

BREAKER	WIRE	GROUND	CONDUIT SIZE WITH GROUND		
AMP SIZE	SIZE	SIZE	1-POLE	2-POLE	3-POLE
20	#12	#12	3/4"	3/4"	3/4"
30	#10	#10	3/4"	3/4"	3/4"
40	#8	#10	3/4"	3/4"	3/4"
50	#8	#10	3/4"	3/4"	3/4"
60	#6	#8	3/4"	3/4"	3/4"
70	#4	#8	1"	1"	1"
80	#4	#8	-	1"	1"
90	#3	#8	-	1 1/4"	1 1/4"
100	#2	#8	-	1 1/4"	1 1/4"
110	#2	#6	-	1 1/4"	1 1/4"
125	#1	#6	-	1 1/4"	1 1/4"
150	#1/0	#6	-	1 1/2"	1 1/2"
175	#2/0	#6	-	1 1/2"	2"
200	#3/0	#6	-	1 1/2"	2"
225	#4/0	#4	-	-	2-1/2"
250	250MCM	#3	-	-	2 1/2"
300	350MCM	#3	-	-	3"
350	500MCM	#3	-	-	3 1/2"
400	500MCM	#3	-	-	3 1/2"

CONTRACTOR IS RESPONSIBLE FOR INCREASING WIRE SIZE AS REQUIRED FOR MAXIMUM VOLTAGE DROP OF 3%.

LIGHTING FIXTURE SCHEDULE

MARK	LAMPS/TYPE	MOUNTING	MANUFACTURER	SERIES	DESCRIPTION	NOTES
L1	LED	SURF/PEND	COOPER		4' LED ENCLOSED AND GASKETED LENS	120 VOLT
			LITHONIA	FEML486000LM		
			HUBBELL		1 - ELECTRONIC DRIVER	
L2	LED	WALL	COOPER		OUTDOOR GLASS LENS/ALUM HOUSING WET LOCATION, DARK BRONZE FINISH LUMEN OUTPUT SET AT #7	120 VOLT
			LITHONIA	TWR1LEDAL050K		
L3	LED	POLE	COOPER		POLE MOUNT SINGLE HEAD 25" SQUARE POLE WITH HINGED BASE WET LOCATION RATED	120 VOLT
			LITHONIA	KAX1LEDP350KR4		
			HUBBELL			
R1	LED	UNIVERSAL	COOPER	LEMR1	EXIT LIGHT REMOTE EGRESS LIGHT THERMOPLASTIC HOUSING WET LOCATION RATED	
			LITHONIA	ELAQ		
X1	LED	UNIVERSAL	COOPER	LPX70RW	EXIT LIGHT WITH SEALED NICAD BATTERY RED LETTER WITH WHITE HOUSING POLYCARBONATE HOUSING SINGLE OR DUAL FACED	120 VOLT
			LITHONIA	LHQM LED R HORO		
			MCPHILBEN	CXXL-3-R-W		

GENERAL NOTES PERTAINING TO ALL FIXTURES:

- LIGHTING FIXTURES SHALL COME COMPLETE WITH NECESSARY MOUNTING HARDWARE.

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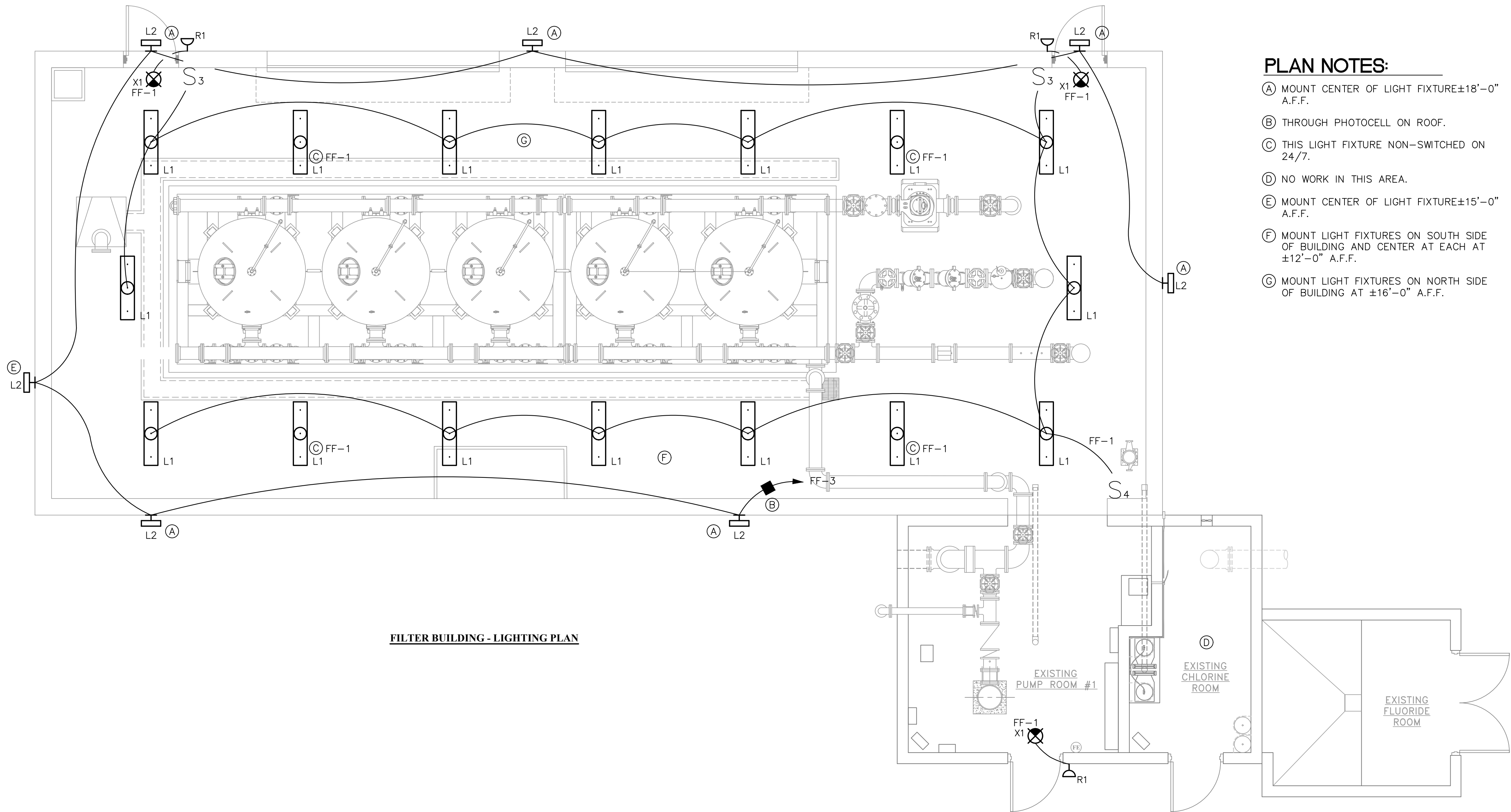
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TUSCARAWAS COUNTY
METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
GENERAL NOTES, LEGEND AND SCHEDULE



PLAN NOTES:

- (A) MOUNT CENTER OF LIGHT FIXTURE±18'-0" A.F.F.
- (B) THROUGH PHOTOCELL ON ROOF.
- (C) THIS LIGHT FIXTURE NON-SWITCHED ON 24/7.
- (D) NO WORK IN THIS AREA.
- (E) MOUNT CENTER OF LIGHT FIXTURE±15'-0" A.F.F.
- (F) MOUNT LIGHT FIXTURES ON SOUTH SIDE OF BUILDING AND CENTER AT EACH AT ±12'-0" A.F.F.
- (G) MOUNT LIGHT FIXTURES ON NORTH SIDE OF BUILDING AT ±16'-0" A.F.F.

FILTER BUILDING - LIGHTING PLAN

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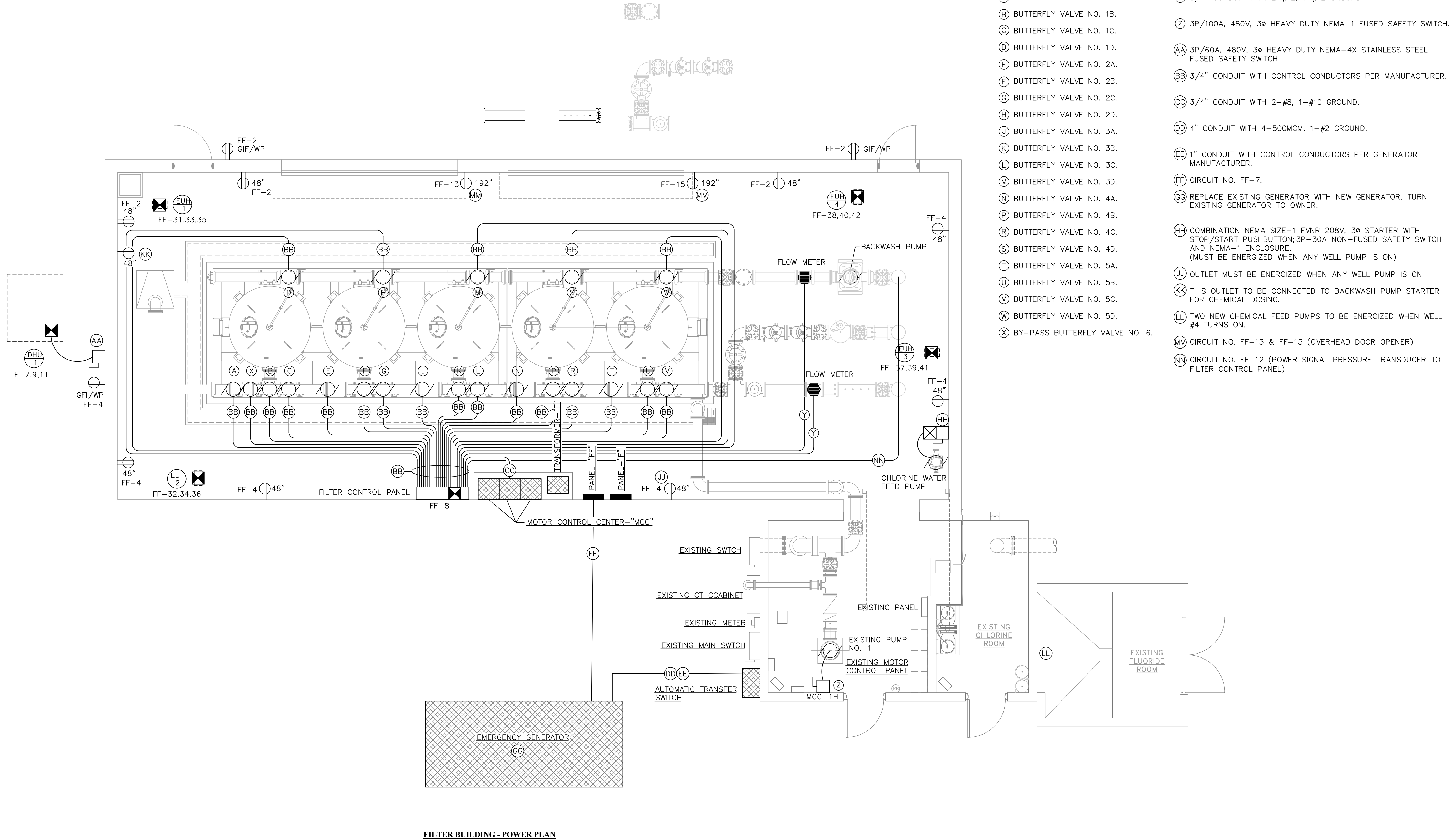
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PROPOSED FILTER BUILDING
FILTER BUILDING - LIGHTING PLAN

SHEET No.
E2



FILTER BUILDING - POWER PLAN

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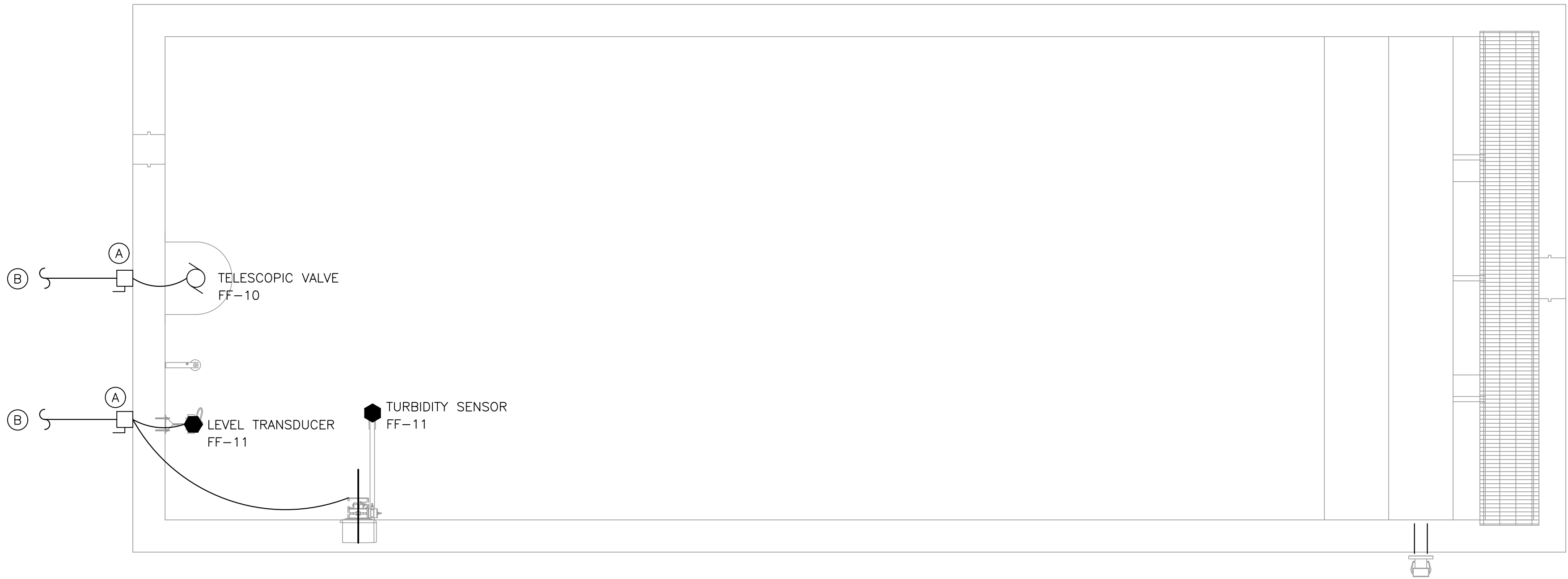
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METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
FILTER BUILDING - POWER PLAN**

SHEET No.
E3



PLAN NOTES:

- (A) 2P/30A, 120V, 1Ø HEAVY DUTY NEMA-4X STAINLESS STEEL FUSED SAFETY SWITCH.
- (B) SEE SHEET SU1 FOR CONTINUATION.

BACKWASH SETTLING TANK - ELECTRICAL PLAN

2	SMD	3FEB2023	TUSC. COUNTY REVIEW	
1	SMD	11JAN2023	TUSC. COUNTY COMMENTS	
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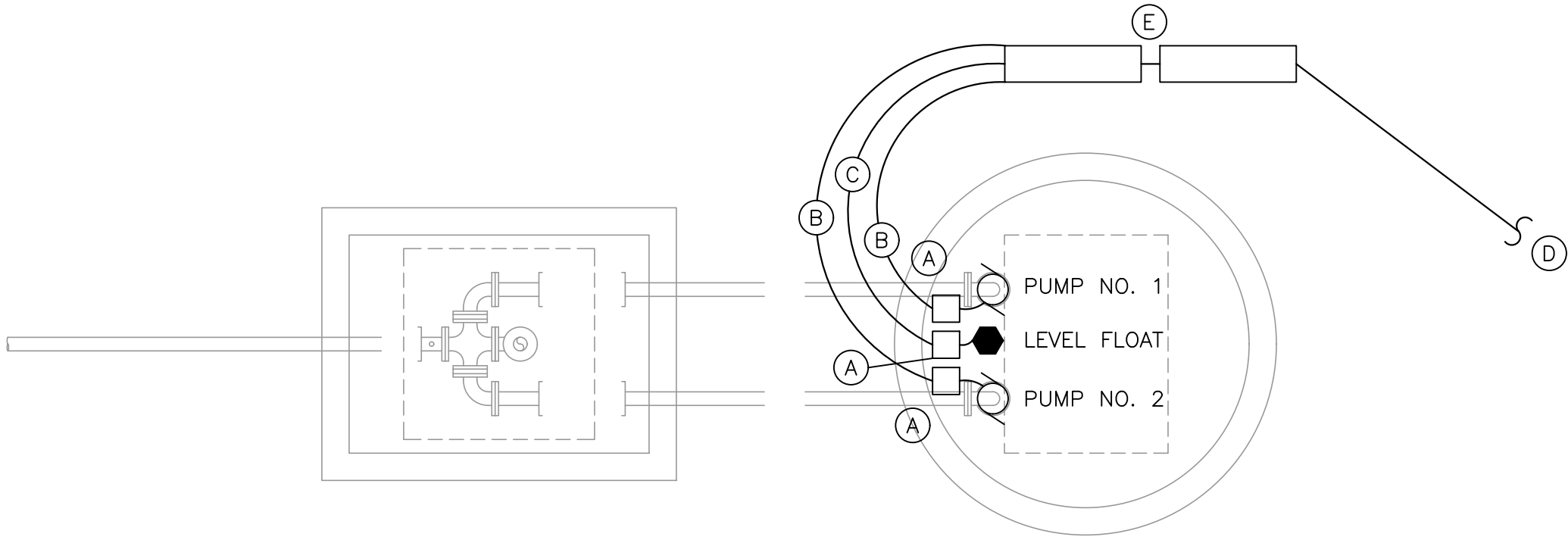
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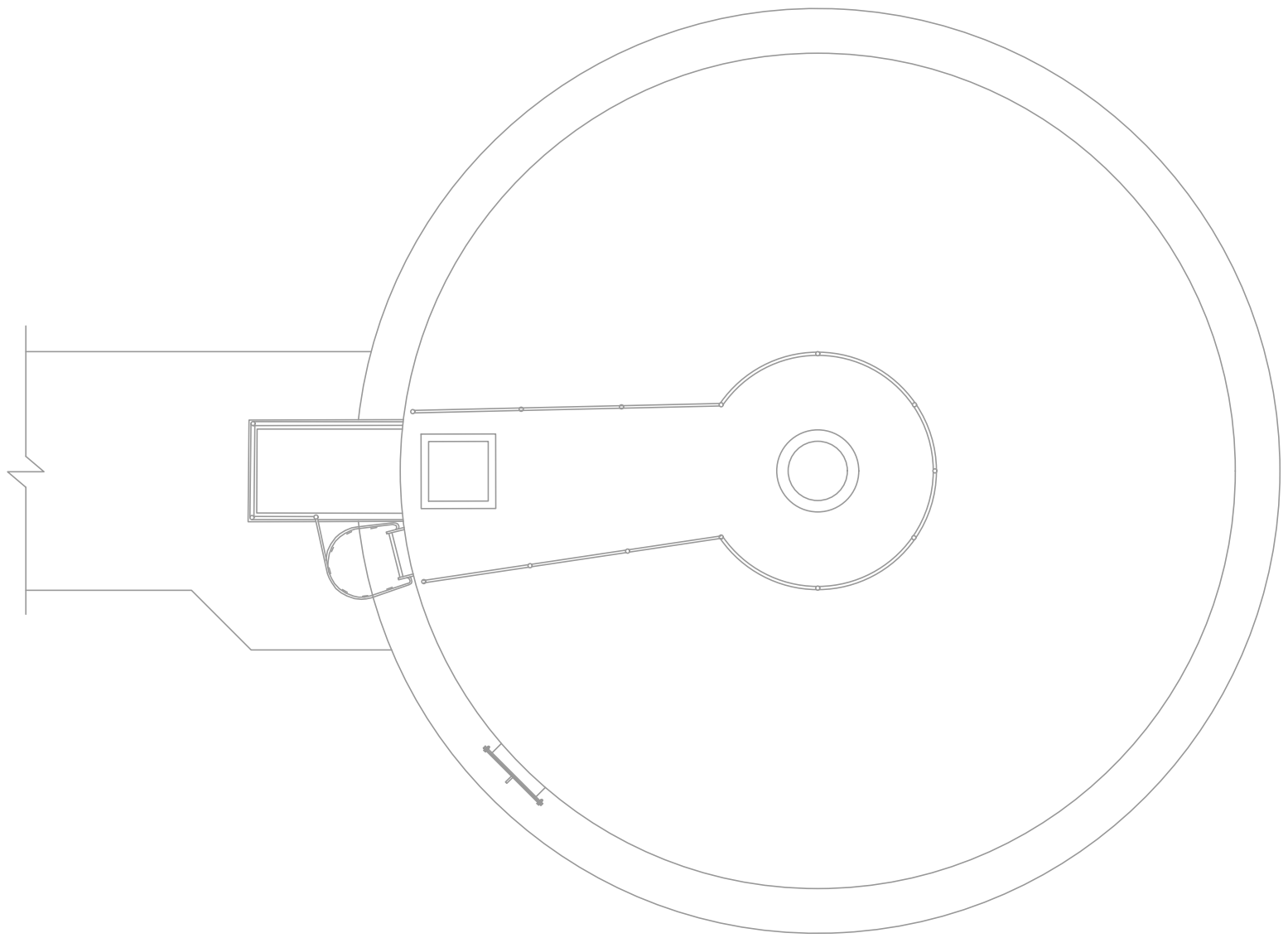
SHEET No.
E4



**BACKWASH PUMP STATION -
ELECTRICAL PLAN**

PLAN NOTES:

- (A) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX.
- (B) 1" CONDUIT WITH 3-#10, 1-#10 GROUND.
- (C) 1" CONDUIT WITH CONTROL CONDUCTORS PER MANUFACTURER.
- (D) SEE SHEET SU1 FOR CONTINUATION.
- (E) PUMP STATION CONTROL PANEL WITH SERVICE DISCONNECT.



**PRESSURE FILTER BACKWASH
TANK - ELECTRICAL PLAN**

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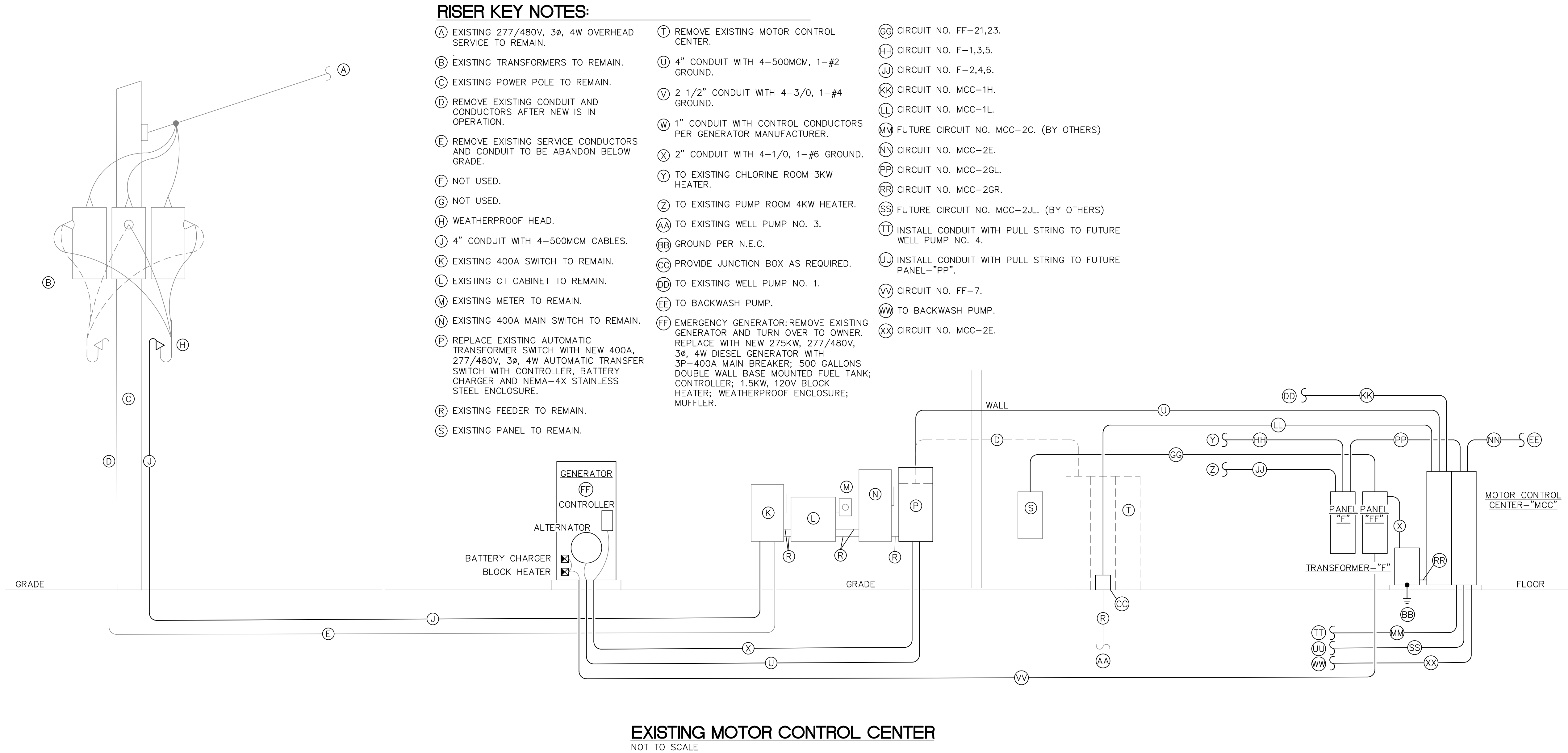
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WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
WELL PUMP #4 BLDG., BW PUMP STATION &
PRESSURE FILTER BW TANK - ELEC. PLAN

SHEET No.
E5



EXISTING MOTOR CONTROL CENTER
NOT TO SCALE

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METROPOLITAN SEWER DISTRICT
WILKSHIRE HILLS WATER SYSTEM IMPROVEMENTS
PROPOSED FILTER BUILDING
ELECTRICAL RISER DIAGRAM

SHEET No.
E6

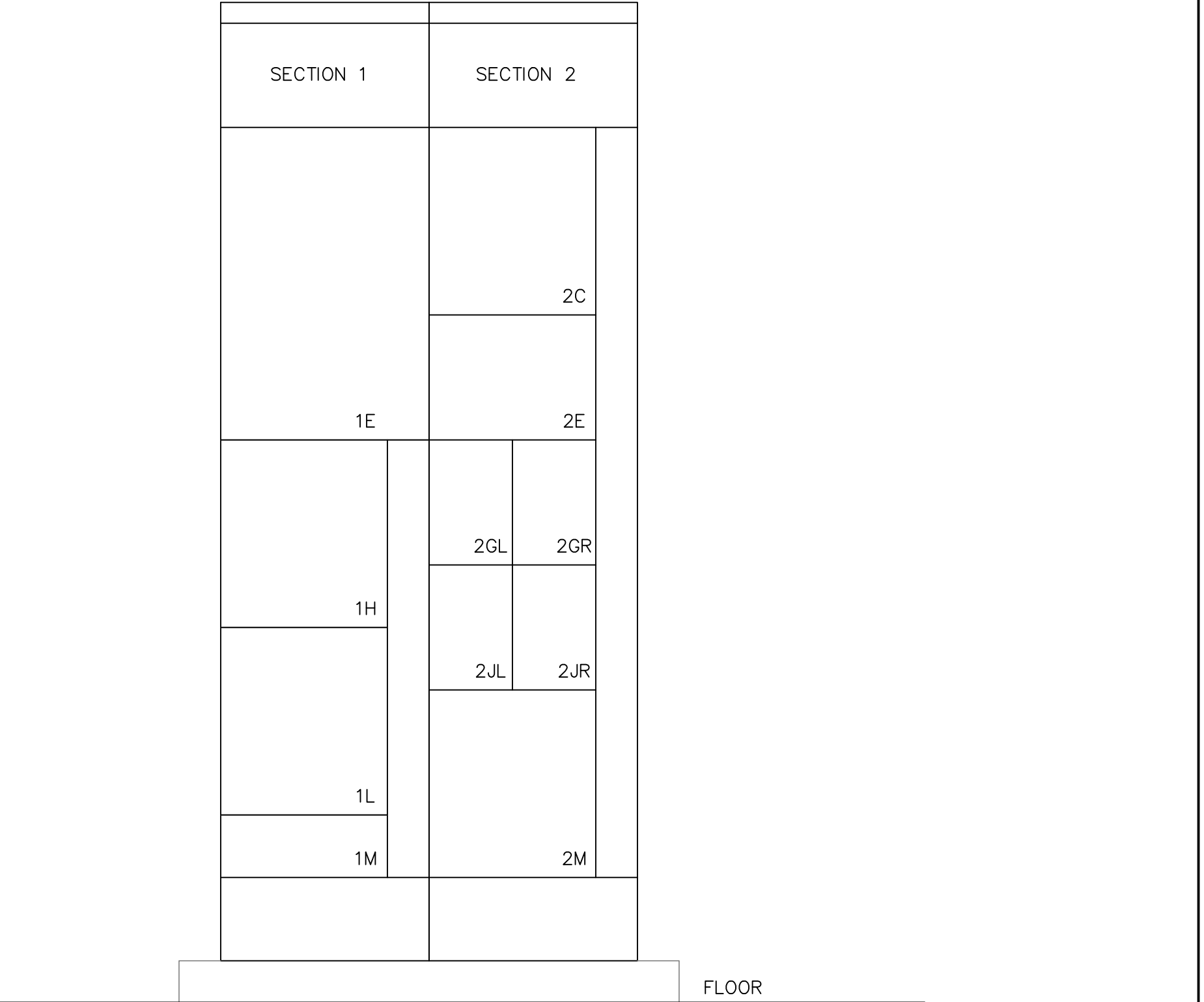
CAD FILE: R:\010\010-1120 - Wilkshire Hills Water System Improvements Preliminary Report - Tuscarawas County Sanitary Engineer - Canton\Drawing\020-Electrical.dwg PLOT DATE/TIME: 2/16/2023 12:53 PM LAYOUT: E7 USER: scott m. dolson

TRANSFORMER SCHEDULE							
TRANS	KVA	ø	PRIMARY	SECONDARY		GROUND ELECTRODE CONDUCTOR	NOTES
			VOLTS	VOLTS	FEEDER		
F	45	3	480	208/120	2" CONDUIT WITH 4-1/0, 1-#6 GND.	6	2,4,6
NOTES: 1) WALL MOUNTED 4) DRY TYPE 7) NEMA-3R 2) FLOOR MOUNTED 5) OIL TYPE 3) PAD MOUNTED 6) NEMA-1							

		Panel: F															
		X NEMA-1 NEMA-3R NEMA-4X Stainless Steel															
		Location: 480/277 Volts, 3 Phase, 4 Wire															
		X Main Lug Only Main Breaker															
		Bus Rating: 250 Amps Main Breaker: Amps															
		Minimum Interrupting Capacity: 42,000 Amps Sym.															
		Flush Mount X Surface Mount															
		Provide if checked: Isolated Ground Bus															
		X Equipment Ground Bus Gutter Taps															
		Sub-Feed Lugs Through-Feed Lugs															
Serving	Load (Watts)	Cond. Size 2	Wire Size 1	O/B Trip Amps	Cr. No.	Key Notes	A	B	C	Key Notes	Cr. No.	O/B Trip Amps	Wire Size 1	Cond. Size 2	Load (Watts)	Serving	
Existing Chlorine Room Heater	1000				1		X			2					1333	Existing Pump Room Heater	
	1000			3P20A	3			X		4		3P20A			1333		
	1000				5				X	6					1333		
Dehumidifier Unit DHU-1	8000				7		X			8					2100	Pump Station Control Panel	
	8000		8	3P50A	9			X		10		3P30A	10	1"	2100		
	8000				11				X	12					2100		
Space					13	5	X			5	14					Space	
Space					15	5		X		5	16					Space	
Space					17	5			X	5	18					Space	
Space					19	5	X			5	20					Space	
Space					21	5		X		5	22					Space	
Space					23	5			X	5	24					Space	
Space					25	5	X			5	26					Space	
Space					27	5		X		5	28					Space	
Space					29	5			X	5	30					Space	
Total Load-Odd Circuit (Watts)	27000	1. All wire size: #12 AWG minimum except as noted. 9. Breaker lock-on clip. 2. All conduit size: 3/4 inch minimum except as noted.														10299	Total Load-Even Circuit (Watts)
Total Load-Panel (Watts)	37299	3. Ground fault interrupting circuit breaker. 4. Spare circuit breaker.														44.9	Total Connected Full Load Amps
		5. Space only. 6. Shunt-trip circuit breaker. 7. Arc-fault circuit breaker. 8. Solenoid operated circuit breaker.														58.1	Total Derated Connected Full Load Amps

		Panel: FF																	
		X NEMA-1 NEMA-3R NEMA-4X Stainless Steel																	
		Location: 208/120 Volts, 3 Phase, 4 Wire																	
		Main Lug Only X Main Breaker																	
		Bus Rating: 225 Amps Main Breaker: 150 Amps																	
		Minimum Interrupting Capacity: 22,000 Amps Sym.																	
		Flush Mount Surface Mount																	
		Provide if checked: Isolated Ground Bus																	
		X Equipment Ground Bus Gutter Taps																	
		Sub-Feed Lugs Through-Feed Lugs																	
Serving	Load (Watts)	Cond. Size 2	Wire Size 1	O/B Trip Amps	Cr. No.	Key Notes	A	B	C	Key Notes	Cr. No.	O/B Trip Amps	Wire Size 1	Cond. Size 2	Load (Watts)	Serving			
Lighting	800			1P20A	1		X				2	1P20A			900	Receptacles			
Lighting	700			1P20A	3			X			4	1P20A			1060	Receptacles			
Pole Lights	300	1"	10	1P20A	5				X	4	6	1P20A				Spare			
Block Heater & Battery Charger	1500	1"	10	1P20A	7		X				8	1P50A	8		4000	Filter Control Panel			
Spare				1P20A	9	4		X			10	1P20A	10	1"	1180	Telescopic Valve			
Level Transd. & Turidity Sensor	500	1"	10	1P20A	11				X		12	1P20A				Spare			
Overhead Door (West)	25	1"	10	1P30A	13	2	X			4	14	1P20A				Spare			
Overhead Door (East)	25	1"	10	1P30A	15	2		X		4	16	1P20A				Spare			
Space					17	5			X	5	18					Space			
Space					19	5	X			5	20					Space			
Existing Panel	2500				21				X	5	22					Space			
	2500		10	2P30A	23				X	5	24					Space			
Space					25	5	X			5	26				900	Chlorine Pump			
Space					27	5		X		5	28	3P20A			900				
Space					29	5			X	5	30				900				
Electrical Unit Heater EUH-1	1666				31		X			32					1666	Electrical Unit Heater EUH-2			
	1666			3P20A	33			X		34	3P20A				1666				
	1666				35				X	36					1666				
Electrical Unit Heater EUH-3	1666				37		X			38					1666	Electrical Unit Heater EUH-4			
	1666			3P20A	39			X		40	3P20A				1666				
	1666				41				X	42					1666				
Total Load-Odd Circuit (Watts)	18846	1. All wire size: #12 AWG minimum except as noted. 9. Breaker lock-on clip. 2. All conduit size: 3/4 inch minimum except as noted.														19836	Total Load-Even Circuit (Watts)		
Total Load-Panel (Watts)	38682	3. Ground fault interrupting circuit breaker. 4. Spare circuit breaker.														107.5	Total Connected Full Load Amps		
		5. Space only. 6. Shunt-trip circuit breaker. 7. Arc-fault circuit breaker. 8. Solenoid operated circuit breaker.														134.4	Total Derated Connected Full Load Amps		

MOTOR CONTROL CENTER SCHEDULE – "MCC"															
EQUIPMENT		MOTOR	OR	ELECT. HEATER		CIRCUIT BREAKER				STARTER		WIRING			REMARKS NO.
SECT.	COMP	HP,KW FLA	Ø	SERVING		POLE	FRAME	TRIP	INTER. RMS. RATING SYM. AMPS	NEMA SIZE	TYPE	WIRE	EQUIP GND	CONDUIT	
400A., 480/277V, 3Ø, 4W WITH GROUND BUS 65,000 A. RMS BRACING															
1	E	—	—	----- -----		—	—	—	-----	—	---	---	---	----	MAIN LUG COMPARTMENT
1	H	50 HP	3	WELL PUMP NO. 1		3	100	100	65,000	—	SS	3—#2	1—#6	1 1/4"	1,2,3,5,7,9,10
1	L	50 HP	3	WELL PUMP NO. 3		3	100	100	65,000	—	SS	3—#2	1—#6	1 1/4"	1,2,3,5,7,9,10
1	M	—	—	----- -----		—	—	—	-----	—	---	---	---	----	6" SPACE FOR FUTURE
2	C	50 HP	3	WELL PUMP NO. 4 (FUTURE BY OTHERS)		3	100	100	65,000	—	SS	3—#2	1—#6	1 1/4"	1,2,3,5,7,9,10
2	E	20 HP	3	BACKWASH PUMP		3	100	50	65,000	1	FVNR	3—#8	1—#10	3/4"	1,2,3,5,7,9,10
2	GL	40.0 KW	3	PANEL—"F"		3	100	60	65,000	2	FVNR	3—#6	1—#8	1"	1
2	GR	45 KVA	3	TRANSFORMER—"F"		3	100	70	65,000	—	---	3—#4	1—#8	1 1/4"	1
2	JL	3.0 KW	1	PANEL—"PP" (FUTURE BY OTHERS)		2	100	20	65,000	—	---	2—#10	1—#10	1"	1
2	JR	—	—	----- -----		—	—	—	-----	—	---	---	---	----	12" SPACE FOR FUTURE
2	M	—	—	----- -----		—	—	—	-----	—	---	---	---	----	18" SPACE FOR FUTURE
REMARKS NO. (NOT ALL REMARK NO'S. ARE USED)															
1) UNIT NAME PLATE. 2) GREEN ON PILOT LIGHT. 3) RED STOP PILOT LIGHT. 4) HAND-OFF AUTO. SWITCH 5) 120V AC CONTROL TRANSFORMER. 6) MELTING ALLOY OVERLOAD RELAY. 7) RUNNING TIME METER. 8) 24 HOUR PROGRAMMABLE TIMER. 9) START/STOP PUSH BUTTON. 10) SOLID STATE OVERLOAD															
STARTER TYPE: (NOT ALL TYPES ARE USED) FVNR = FULL VOLTAGE NON-REVERSING MAINTAIN STARTER VFD = VARIABLE FREQUENCY DRIVE W/ BY-PASS FVR = FULL VOLTAGE REVERSING MAINTAIN STARTER SS = SOLID STATE MAINTAIN STARTER															



ELEVATION OF MOTOR CONTROL CENTER-"MCC"
NOT TO SCALE

1	SMD	13FEB2023	TUSC COUNTY REVIEW		
NO.	BY	DATE	DESCRIPTION		

SCALE: 3/8" = 1'-0"	
DRAWN: R. STANDISH	DATE: MAY 2020
CHECKED: R. STANDISH	DATE: MAY 2020
APPROVED: JCC	DATE: MAY 2020
SURVEY DATE:	
SURVEY BY:	