

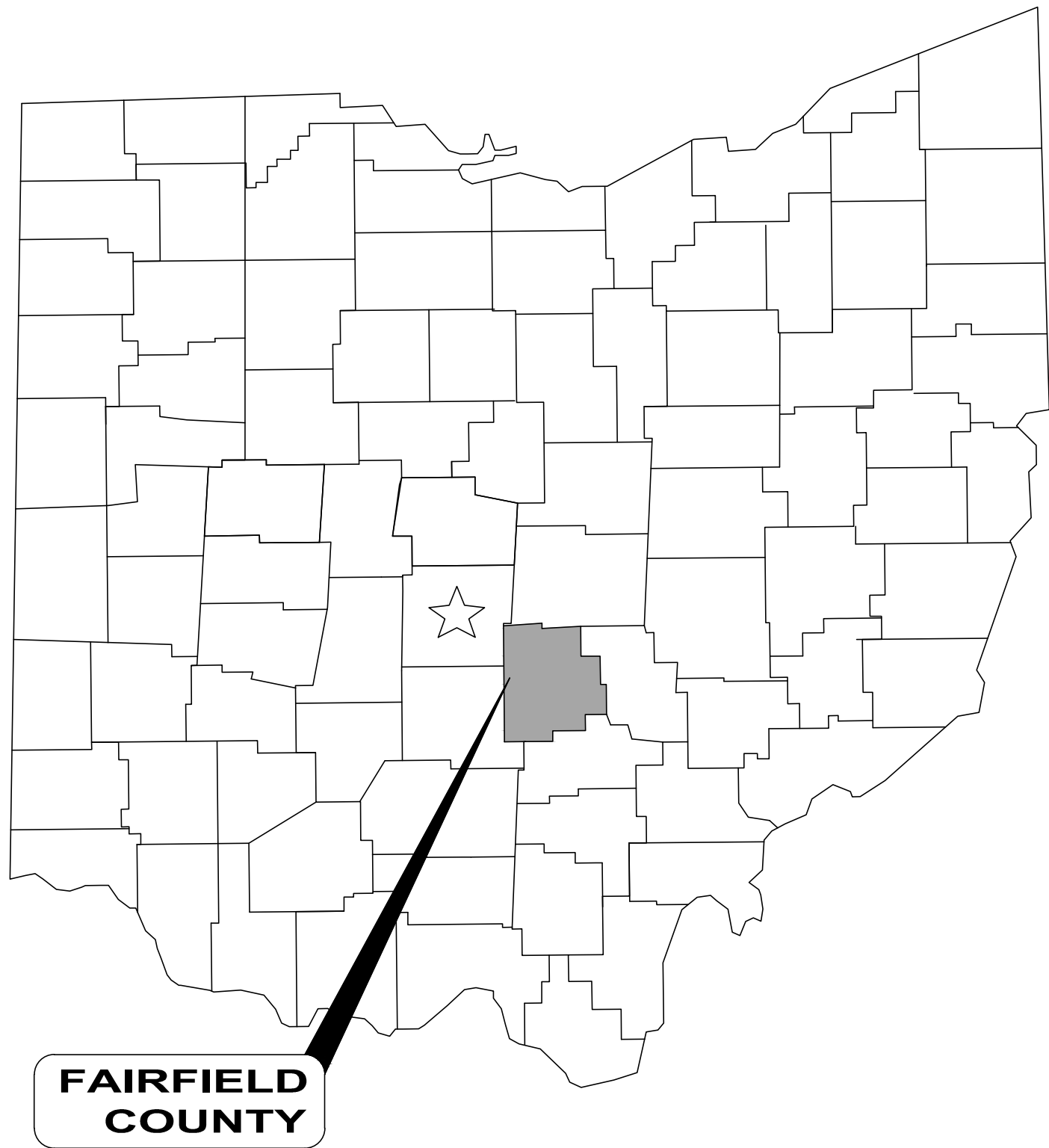
VILLAGE OF LITHOPOLIS

JACKSON LAKE CAMPGROUND

FORCE MAIN INTERCONNECT

FAIRFIELD COUNTY, OHIO

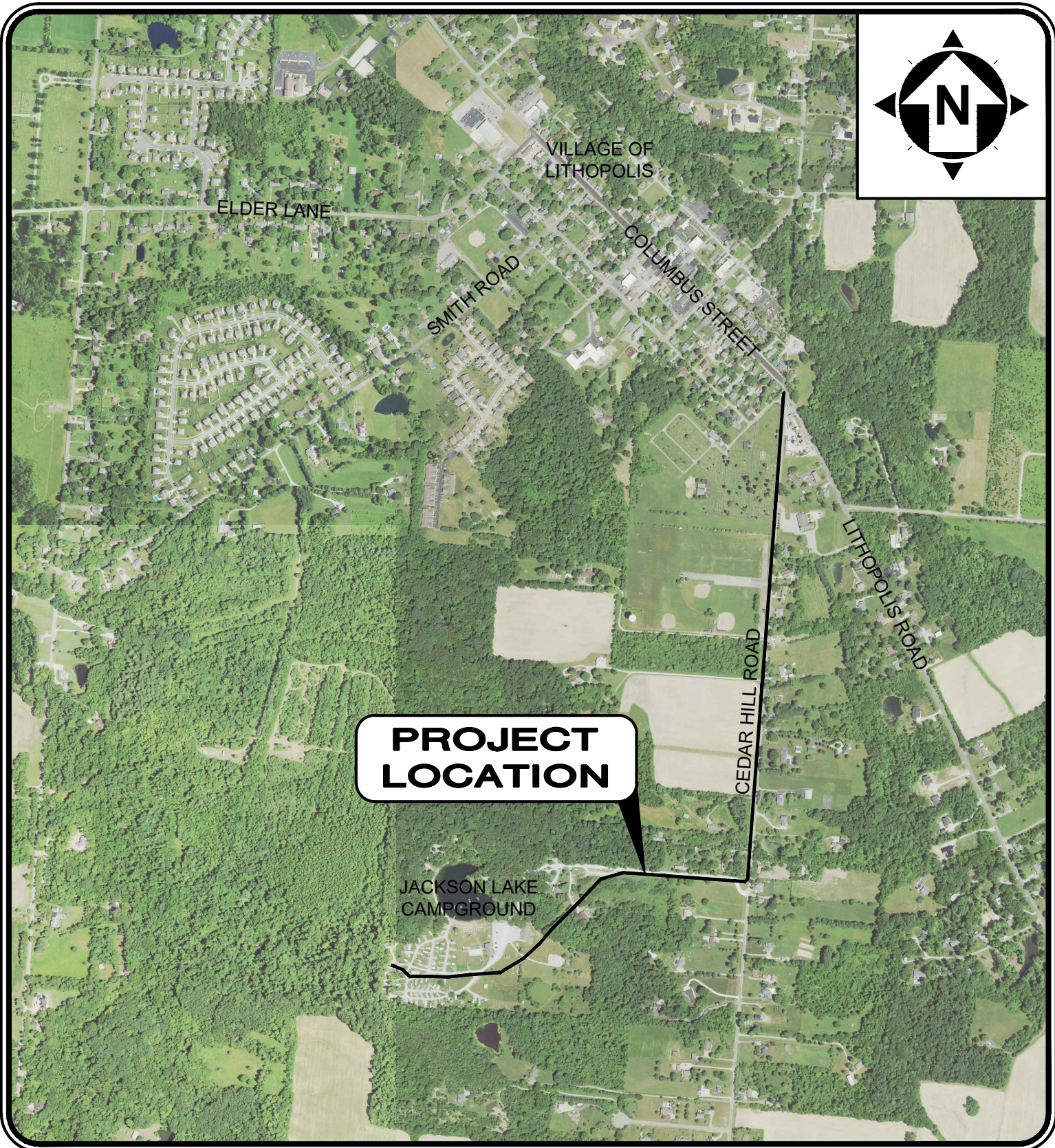
MARCH 2025



FAIRFIELD COUNTY



1. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
2. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



LOCATION MAP

NOT TO SCALE

OWNER:

VILLAGE OF LITHOPOLIS
11820 LITHOPOLIS ROAD NW
LITHOPOLIS, OH 43136

(614) 837-2031 PHONE
(614) 837-2722 FAX

ERIC SANDINE, MAYOR

3/19/25
DATE

AMANDA WOLIN, VILLAGE ADMINISTRATOR

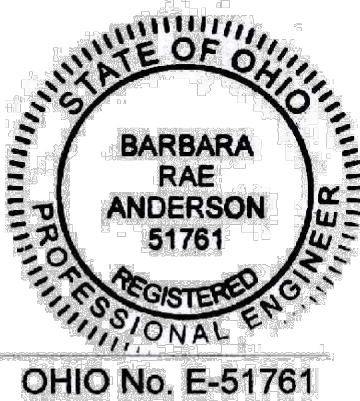
DATE

ENGINEER:

VERDANTAS
6397 EMERALD PARKWAY, SUITE 200
DUBLIN, OH 43016

(614) 793-8777 PHONE

BARBARA R. ANDERSON



3/19/2025
DATE

BID SET

verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	AS NOTED	2	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	BRA	3	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:	AGD			
CHECKED BY:	BRA			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

COVER SHEET

PROJECT NO.	
241569	
DISCIPLINE	
GENERAL	
SHEET NAME	
CVR-SHT	
SHEET	OF
1	24

GENERAL NOTES:

- G-1

GENERAL: THE CURRENT FAIRFIELD COUNTY CONSTRUCTION AND MATERIAL SPECIFICATIONS (FCOMS), INCLUDING ALL SUPPLEMENTS THERETO, WITH THE REQUIREMENTS OF FAIRFIELD COUNTY IN FORCE ON THE DATE OF CONTRACT, SHALL GOVERN ALL MATERIALS, METHODS OF CONSTRUCTION AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN. ANY MODIFICATION TO THE SPECIFICATIONS OR CHANGES TO THE WORK AS SHOWN ON THESE PLANS MUST HAVE PRIOR WRITTEN APPROVAL OF THE OWNER.
- G-2

WORK LIMITS: THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT, EXISTING RIGHTS-OF-WAY, CONSTRUCTION EASEMENTS AND PERMANENT EASEMENTS, AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT THE WRITTEN CONSENT OF THE PROPERTY OWNER. APPROVAL OF THESE PLANS IS CONTINGENT UPON ALL EASEMENTS REQUIRED FOR CONSTRUCTION OF THE WORK BEING SECURED OR PLATTED, AND FURNISHED TO THE OWNER.
- G-3

MISCELLANEOUS WORK: ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SAME SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.
- G-4

FIELD TILE: ALL FIELD TILE AND OTHER DRAINAGE TILE BROKEN DURING EXCAVATION SHALL BE REPLACED TO ITS ORIGINAL CONDITION OR CONNECTED EITHER TO A CURB SUB-DRAIN OR A STORM SEWER SYSTEM, AS DIRECTED BY THE OWNER.
- G-5

SURPLUS EXCAVATION: THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL SURPLUS EXCAVATION.
- G-6

EXISTING UTILITIES: THE INFORMATION SHOWN CONCERNING EXISTING UTILITIES IS NOT REPRESENTED, WARRANTED OR GUARANTEED TO BE COMPLETE OR ACCURATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PHYSICALLY LOCATE AND VERIFY IN THE FIELD, ALL UTILITY LOCATIONS AND ELEVATIONS, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT, PROTECT, AND RESTORE ALL EXISTING UTILITIES AND ASSOCIATED ITEMS TO THE SATISFACTION OF THE UTILITY OWNER.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS, IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE, AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE BEGINNING OF ANY WORK, TO REQUEST UTILITY LOCATIONS, TO COORDINATE THE WORK, AND TO KEEP THE UTILITY OWNERS APPRAISED OF THE CONSTRUCTION SCHEDULE AND REQUIREMENTS UNTIL ALL WORK IS COMPLETED. THE CONTRACTOR SHALL PROVIDE THE COUNTY SANITARY ENGINEER WITH EVIDENCE OF HAVING NOTIFIED THE UTILITY OWNERS OF THE CONSTRUCTION WORK AND SCHEDULE PRIOR TO BEGINNING ANY WORK.

NOTICE SHALL BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE (800-362-2764) FOR THE MEMBER UTILITIES. THE VILLAGE OF LITHOPOLIS IS A MEMBER UTILITY FOR WATER AND SANITARY SEWER UTILITIES. THE FAIRFIELD COUNTY ENGINEER (740-652-2300) AND LOCAL GOVERNMENTAL ENTITY RESPONSIBLE FOR STORM SEWERS ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE AND MUST BE CONTACTED DIRECTLY.
- G-7

SAFETY OF CONSTRUCTION: COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND APPLICABLE OSHA REGULATIONS IS REQUIRED OF ALL CONTRACTORS ON THE PROJECT. EACH CONTRACTOR AND SUBCONTRACTOR IS RESPONSIBLE TO IMPLEMENT, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- G-8

NOTIFICATION: THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF LITHOPOLIS SEVENTY-TWO (72) HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF CONSTRUCTION OF WATER AND/OR SANITARY SEWER UTILITIES. WHEN CONSTRUCTION IS SUSPENDED FOR MORE THAN SEVEN DAYS, THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF LITHOPOLIS SEVENTY-TWO (72) HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO RESUMING CONSTRUCTION. CONSTRUCTION SHALL NOT START PRIOR TO THE REQUIRED NOTICE BEING GIVEN.
- G-9

CLEAN-UP: THE TRACKING OF MUD, DIRT OR DEBRIS UPON ANY PUBLIC ROADWAY IS PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS AND MATERIALS RESULTING FROM THE CONSTRUCTION OPERATION AND RESTORE ALL SURFACES, STRUCTURES, DITCHES, AND PROPERTY TO ITS ORIGINAL CONDITION AND TO THE SATISFACTION OF THE VILLAGE OF LITHOPOLIS AND GOVERNING HIGHWAY AUTHORITY.
- G-10

PERMITS: THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND COUNTY REGULATIONS AND REQUIREMENTS.
- G-11

CROSSINGS: ALL WATER MAINS AND SERVICES SHALL BE CONSTRUCTED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION AND AT LEAST AN 18 INCH VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWERS. WHEN THE 10 FOOT OR 18 INCH CLEARANCE CANNOT BE OBTAINED, THE SANITARY OR STORM SEWER SHALL BE CONSTRUCTED OF WATERLINE MATERIALS AS APPROVED IN THE COUNTY'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND/OR THE WATERLINE MUST BE RELOCATED OR LOWERED AS DIRECTED BY THE VILLAGE OF LITHOPOLIS.
- G-12

TRAFFIC CONTROL: A SUBDIVISION STREET, UNLESS IT IS ALSO A COUNTY OR STATE HIGHWAY, MAY BE CLOSED TO THROUGH TRAFFIC ONE (1) BLOCK AT A TIME FROM 8:00 A.M. TO 4:00 P.M. MONDAY THROUGH FRIDAY. THE CONTRACTOR SHALL SUBMIT A PLAN AND SCHEDULE FOR DETOURING TRAFFIC TEN (10) DAYS PRIOR TO THE CLOSING OF ANY STREET. ANY TEMPORARY CLOSING OF A STREET DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PROVIDE ACCESS TO THE PROPERTY BY EMERGENCY VEHICLES, MAIL/DELIVERY VEHICLES AND THE OWNERS.

WHERE IT IS ANTICIPATED THAT WORK WILL CLOSE A STREET, THE CONTRACTOR SHALL INFORM THE RESIDENTS TO BE AFFECTED, COUNTY SHERIFF'S OFFICE, TOWNSHIP FIRE DEPARTMENT, COUNTY SANITARY ENGINEER, COUNTY ENGINEER, APPLICABLE SCHOOL DISTRICT, AND OTHER APPLICABLE CITY AND TOWNSHIP ENTITIES AS TO THE EXTENT, NATURE, AND TIME OF THE ANTICIPATED WORK. NO STREET SHALL BE CLOSED UNTIL THE SCHEDULE IS APPROVED BY THE COUNTY ENGINEER.

ADEQUATE LIGHTS, SIGNS, AND BARRICADES SHALL BE USED, AS REQUIRED IN ITEM 614 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND OMUTCD, TO SAFEGUARD THE TRAVELING PUBLIC AT ALL ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED WITHIN THE PUBLIC RIGHT-OF-WAY DURING NON-WORKING HOURS.

- G-13

CURB MARKINGS: THE VILLAGE OF LITHOPOLIS REQUIRES THAT THE LETTERS "V" FOR WATER MAIN VALVE, "W" FOR WATER SERVICE LINE AND "S" FOR SANITARY SEWER SERVICE LINE BE EMBEDDED IN THE CONCRETE CURB. FOR STANDARD CURBS, THE LETTER IS TO BE LOCATED IN THE CENTER ON THE TOP FLAT PORTION OF THE CURB. FOR ROLLED CURBS, THE TOP OF THE LETTER IS TO BE LOCATED ON THE FACE OF THE CURB WITHIN ONE AND ONE-HALF (1-1/2) INCHES OF THE CREST. THE LETTER IS TO BE AT LEAST TWO (2) INCHES WIDE, THREE (3) INCHES HIGH AND ONE QUARTER (1/4) INCH DEEP. THE LETTER "V" IS TO BE LOCATED ON THE CURB IMMEDIATELY ADJACENT TO ALL WATER MAIN VALVES. THE LETTERS "W" AND "S" ARE TO BE LOCATED DIRECTLY OVER THE HOUSE SERVICE LINES.
- G-14

SEDIMENT AND EROSION CONTROL: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION AND SEDIMENT RUNOFF FROM THE SITE ALONG WITH PROPER MAINTENANCE AND INSPECTION IN COMPLIANCE WITH THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY. ALL SEDIMENT AND EROSION CONTROL MEASURES REQUIRED IN THE PLANS, THE FAIRFIELD COUNTY CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND THE OHIO EPA STORM WATER REGULATIONS AND GENERAL PERMIT SHALL BE IN PLACE AND OPERATIONAL PRIOR TO CONSTRUCTION BEGINNING IN THE WORK AREA.
- G-15

PROHIBITED CONSTRUCTION ACTIVITIES: THE FOLLOWING CONSTRUCTION ACTIVITIES ARE PROHIBITED ON THE PROJECT.
 - USING ANY SUBSTANCE OTHER THAN WATER TO CONTROL DUST.
 - TRACKING OF MUD, DIRT AND DEBRIS ONTO ANY PUBLIC ROADWAY.
 - OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE PERMIT OR DISPOSING OF THE TREES AND STUMPS.
 - PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM SEWERS.
 - DISCHARGING POLLUTANTS - SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE - AND OTHER HARMFUL WASTE INTO OR ALONGSIDE RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
 - STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED FOR SAID PURPOSES.
 - DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
 - INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, WETLANDS, SURFACE WATERS, OR OUTSIDE THE EASEMENT AREA.
 - PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF A STREAM.
 - REMOVAL OF TREES AND BUSHES, OR DAMAGING VEGETATION OUTSIDE THE LIMITS OF THE CONSTRUCTION AREA.
 - DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.
- G-16

RECORD DRAWINGS: ONE (1) SET OF RECORD CONSTRUCTION DRAWINGS AND A COMPUTER DISK IN AUTOCAD FORMAT AND .TIFF OR .PDF FORMAT SHALL BE PROVIDED TO THE VILLAGE OF LITHOPOLIS AS SOON AS ALL PUBLIC IMPROVEMENTS ARE COMPLETED AND PRIOR TO FINAL ACCEPTANCE.
- G-17

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA, NORTHERN LONG-EARED, AND TRI-COLORED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

UNDERGROUND UTILITIES	
OWNER	CONTACT
OUPS	(800) 362-2764
VILLAGE OF LITHOPOLIS	(614) 837-2031
SOUTH CENTRAL POWER	(740) 422-6166
AT&T	(614) 237-7276
COLUMBIA GAS	(740) 334-1633

SANITARY NOTES:

- SA-1

TESTING: AN INFILTRATION OR EXFILTRATION TEST SHALL BE MADE IN ACCORDANCE WITH THE FAIRFIELD COUNTY SPECIFICATIONS WITH MAXIMUM TEST SECTIONS OF 400 FEET. LEAKAGE THROUGH JOINTS SHALL NOT EXCEED 100 GALLONS PER DAY PER INCH OF SEWER DIAMETER PER MILE OF PIPE. AIR TESTING IS AN ACCEPTABLE ALTERNATE TESTING METHOD FOR LEAKAGE AND SHALL BE MADE IN ACCORDANCE WITH FAIRFIELD COUNTY SPECIFICATIONS AND ASTM F1417-92. SANITARY SEWERS SHALL BE MANDREL TESTED AND LEAKAGE TESTED NO SOONER THAN 60 DAYS AFTER INSTALLATION. AFTER ACCEPTABLE MANDREL AND LEAKAGE TESTING, ALL SANITARY SEWERS SHALL BE VIDEOTAPED IN DVD FORMAT. THE DVD VIDEO SHALL CLEARLY IDENTIFY THE LOCATION OF THE CAMERA WITHIN THE SEWER, DATE AND TIME OF DVD VIDEO, AND BE OF SUFFICIENT QUALITY TO DETERMINE THE CONDITION OF THE SEWERS. ALL SANITARY MANHOLES SHALL BE VACUUM TESTED, IN ACCORDANCE WITH ASTM C1244-93. ALL TEST REPORTS AND DVD VIDEO SHALL BE FURNISHED TO THE VILLAGE OF LITHOPOLIS PRIOR TO ACCEPTANCE OF THE SYSTEM.
- SA-2

WYE POLES: THE CONTRACTOR SHALL FURNISH AND PLACE, AS DIRECTED, APPROVED WYE POLES MADE OF 4" X 4" TREATED HARDWOOD LUMBER AT ALL WYE LOCATIONS, ENDS OF EXTENDED SERVICES, OR AT THE END OF EACH RISER WHERE RISERS ARE REQUIRED, EXTENDING A MINIMUM OF 3 FEET ABOVE FINAL SURFACE GRADES. THE WYE POLES SHALL BE PAINTED WITH TNE MEC ENDURATONE SERIES 1028 HUNTER GREEN.
- SA-3

RISERS: RISERS SHALL BE PLACED ON ALL WYES WHERE THE FLOW LINE DEPTH IS GREATER THAN 12 FEET. TOPS OF RISERS ARE TO BE 10 FEET BELOW GROUND, PLUS OR MINUS ONE FOOT, OR AS OTHERWISE DIRECTED BY THE VILLAGE OF LITHOPOLIS OR HIS DESIGNATED REPRESENTATIVE.
- SA-4

SERVICE CONNECTIONS: SERVICE OR HOUSE CONNECTIONS SHALL NOT BE CONNECTED TO THE LATERAL OR MAIN LINE SEWERS SHOWN HEREON UNTIL FULL APPROVAL OF SAID LATERAL OR MAIN LINE SEWER HAS BEEN RECEIVED.
- SA-5

STORM WATER CONNECTIONS: NO FOUNDATION DRAINS, ROOF DRAINS, OR OTHER STORM WATER DRAINS OF ANY KIND SHALL BE CONNECTED INTO THE SANITARY SEWER SYSTEM.
- SA-6

TRENCH DAMS: THE CONTRACTOR SHALL PLACE A CUT OFF TRENCH DAM OF NATIVE CLAY OR IMPERVIOUS SOIL ACROSS AND ALONG THE TRENCH UPSTREAM FROM THE MAIN LINE SEWER CONNECTION TO RETARD AND RESIST THE MOVEMENT OF GROUNDWATER THROUGH THE TRENCH GRANULAR BEDDING OR BACKFILL MATERIAL. THE TRENCH DAMS SHALL BE CAREFULLY COMPACTED AND SHALL BE SIX (6) FEET IN THICKNESS AS MEASURED LONG THE SERVICE CENTER LINE AND SHALL BE CONSTRUCTED AGAINST THE UNDISTURBED TRENCH SIDES FROM THE SUBGRADE OR BOTTOM OF THE STONE FOUNDATION, WHICHEVER IS LOWER, TO THE LIMIT OF 36 INCHES OVER THE TOP OF THE PIPE, NO MORE THAN TEN (10) FEET FROM THE MAIN LINE SANITARY SEWER. SEE FAIRFIELD COUNTY STANDARD DRAWING SA-S-7 FOR THE SIX (6) INCH SANITARY SEWER SERVICE DETAIL.
- SA-7

MANHOLE SEALING: THE MANHOLE FRAME CASTING AND THE TOP OF THE MANHOLE CONE SHALL BE EXTERNALLY SEALED WITH CCI PIPELINE SYSTEMS WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM.
- SA-8

MANHOLE TOPS: WHERE MANHOLES ARE LOCATED WITHIN ROAD GRADING LIMITS, THE TOPS SHALL BE BUILT TO ELEVATIONS SHOWN ON THE APPROVED PLANS OR DIRECTED BY THE COUNTY SANITARY ENGINEER. ELSEWHERE, MANHOLES SHALL BE BUILT OR SUBSEQUENTLY ADJUSTED TO BE THREE (3) TO SIX (6) INCHES ABOVE FINAL SURFACE GRADES ESTABLISHED FOR THE DEVELOPMENT. ONLY ONE (1) PRECAST GRADE RING UP TO 6" IS ALLOWED FOR ADJUSTMENT. ANY ADJUSTMENT IN EXCESS OF 6" REQUIRES A BARREL CHANGE. ALL SANITARY MANHOLES SHALL BE BACKFILLED WITH GRANULAR MATERIAL FROM BASE TO TOP OF CONE.
- SA-9

CONSTRUCTION AND MATERIAL SPECIFICATIONS: ALL MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE CURRENT FAIRFIELD COUNTY CONSTRUCTION AND MATERIAL SPECIFICATIONS INCLUDING ALL SUPPLEMENTS THERETO. ALL SEWER PIPES SHALL BE LAID WITH STONE OR GRAVEL BACKING AS SHOWN ON STANDARD DRAWING SA-S-1. ALL PIPES SHALL BE PVC PLASTIC PIPE, ASTM D3034, SDR 35 CELL CLASSIFICATION 12454 B OR C UNLESS OTHERWISE NOTED ON THE PLANS. PIPE FOR ALL HOUSE SERVICES SHALL BE SIX (6) INCHES NOMINAL DIAMETER PVC PLASTIC SEWER PIPE, ASTM D3034, SDR 35. SERVICES SHALL BE SUBJECT TO THE INFILTRATION AND EXFILTRATION TESTS. AIR TESTING OF SANITARY SEWERS AND SERVICE LINES IS ACCEPTABLE. ALL SERVICE EXTENSIONS SHALL BE LAID AT A MINIMUM GRADE OF 1/4 INCH PER FOOT (2.08%).

WHERE THE SANITARY SEWER CROSSES UNDER A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER WITH COMPACTED GRANULAR MATERIAL MEETING ODOT ITEM 304, TEN (10) FEET CENTERED ON THE STORM SEWER.

WHERE THE SANITARY SEWER CROSSES A PROPOSED STREET OR ROAD, THE TRENCH BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL, ODOT ITEM 304, FROM THE BOTTOM OF THE TRENCH TO A PLANE SIX (6) INCHES BELOW THE SUBGRADE. THE LIMITS OF PLACEMENT SHALL BE FROM THE RIGHT-OF-WAY LINE TO THE RIGHT-OF-WAY LINE. ALL OTHER TRENCH BACKFILL SHALL BE COMPACTED TYPE C BACKFILL, UNLESS OTHERWISE NOTED ON THE PLANS. THE COST OF BACKFILL IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS.

ALL MANHOLES SHALL HAVE NEENAH R-1762 FRAMES WITH SELF-SEALING LIDS MARKED "SANITARY SEWER". MANHOLES LOCATED WITHIN 100 YEAR FLOOD PLAINS, OR WHERE FLOODING COULD OCCUR, SHALL HAVE NEENAH R-1915-H FRAME WITH BOLT DOWN SEALED LIDS MARKED "SANITARY SEWER". ALL MANHOLES SHALL HAVE POLYPROPYLENE STEPS TO WITHIN ONE (1) FOOT OF THE TOP OF THE MANHOLE. ALL MANHOLE RINGS SHALL BE CONCRETE, SEALED TO PRECAST CHIMNEY SECTIONS WITH SEALER APPROVED BY THE CVILLAGE OF LITHOPOLIS. BRICK RISERS ARE NOT ACCEPTABLE.

GREEN METALLIC FIELD LOCATOR TAPE OF SIX (6) INCH WIDTH SHALL BE PLACED OVER ALL SANITARY SEWER AND FORCE MAIN LINES, WITHIN 12 TO 18 INCHES OF FINISHED GRADE. FOURTEEN GAUGE TRACER WIRE SHALL ALSO BE INSTALLED ON ALL SANITARY FORCE MAINS.
- SA-10

PRESSURE SEWER MATERIAL STANDARDS:
ALL MATERIALS UTILIZED IN THE CONSTRUCTION OF FORCE MAIN PRESSURE SEWER IN THIS PROJECT SHALL CONFORM TO THE LATEST REVISION OF THE APPROPRIATE STANDARDS AS FOLLOWS:

PIPE:
HDPE: DR11, AWWA C906
DIP: PC 350, AWWA C151

JOINT:
HDPE: ASTM F2620
DIP: AWWA C111

INSTALLATION:
HDPE: ASTM D2321
DIP: AWWA C600

GRAVITY SEWER MATERIAL STANDARDS:
ALL MATERIALS UTILIZED IN THE CONSTRUCTION OF GRAVITY SEWER IN THIS PROJECT SHALL CONFORM TO THE LATEST REVISION OF THE APPROPRIATE STANDARDS AS FOLLOWS:

PIPE:
HDPE: SDR35, ASTM D3034

JOINT:
PVC: ASTM D3212

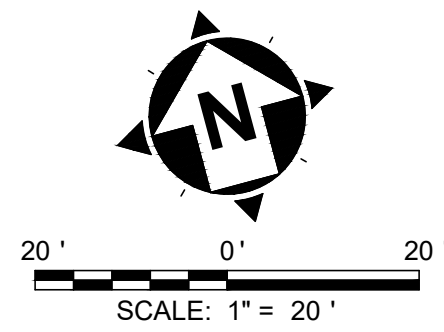
INSTALLATION:
HDPE: ASTM D2321

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5	FORCE MAIN PLAN & PROFILE - 5+00 - 10+00
6	FORCE MAIN PLAN & PROFILE - 10+00 - 15+00
7	FORCE MAIN PLAN & PROFILE - 15+00 - 20+00
8	FORCE MAIN PLAN & PROFILE - 20+00 - 25+00
9	FORCE MAIN PLAN & PROFILE - 25+00 - 30+00
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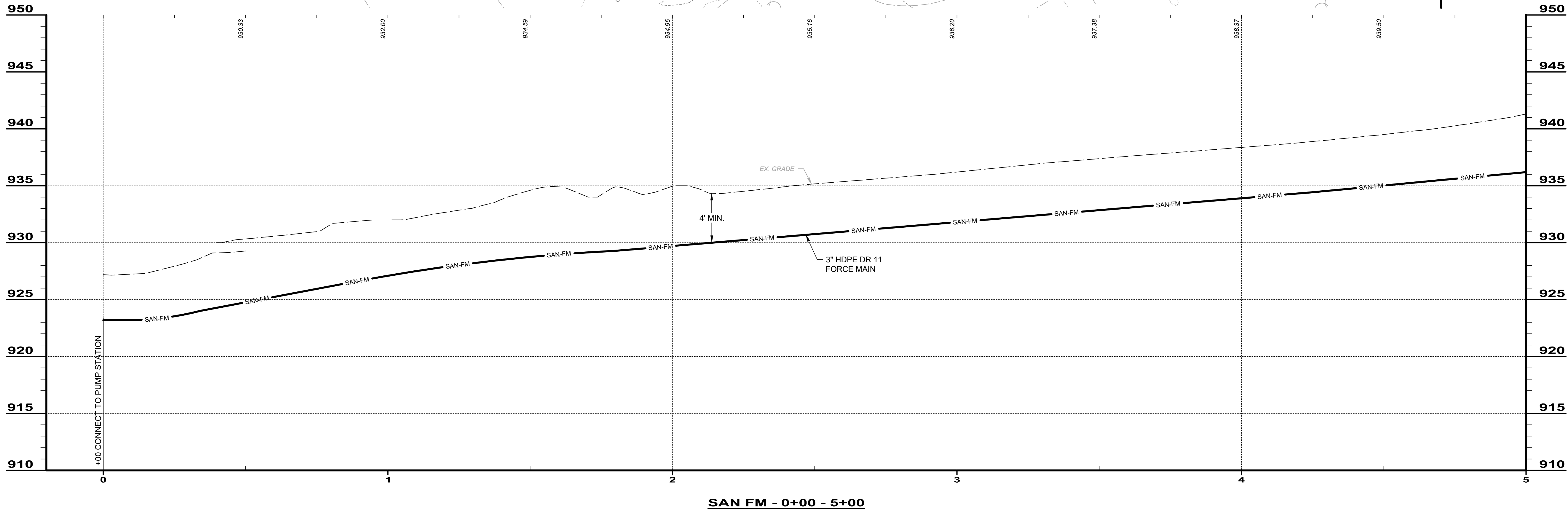
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DATE	7/16/2025	7/30/2025	9/4/2025		
REVISION	REVISED PER OEPA COMMENTS	REVISED PER OEPA COMMENTS	REVISED PER OEPA COMMENTS		
NO	1	2	3		
BIDDING	9/4/25	AS NOTED	BRA	AGD	BRA
ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
JACKSON LAKE CAMPGROUND FORCE MAIN INTERCONNECT - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -					
GENERAL NOTES					
PROJECT NO: 241569					
DISCIPLINE GENERAL					
SHEET NAME GEN-NTS					
SHEET 2		OF 24			



- NOTES:**
- FORCEMAIN SHOWN ON THIS SHEET SHALL BE INSTALLED VIA OPEN CUT METHODS. COORDINATE SITE RESTORATION WITH PROPERTY OWNER.



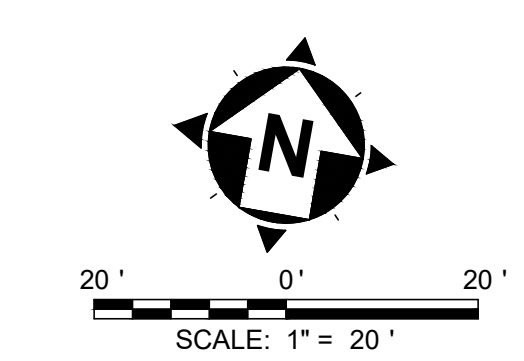
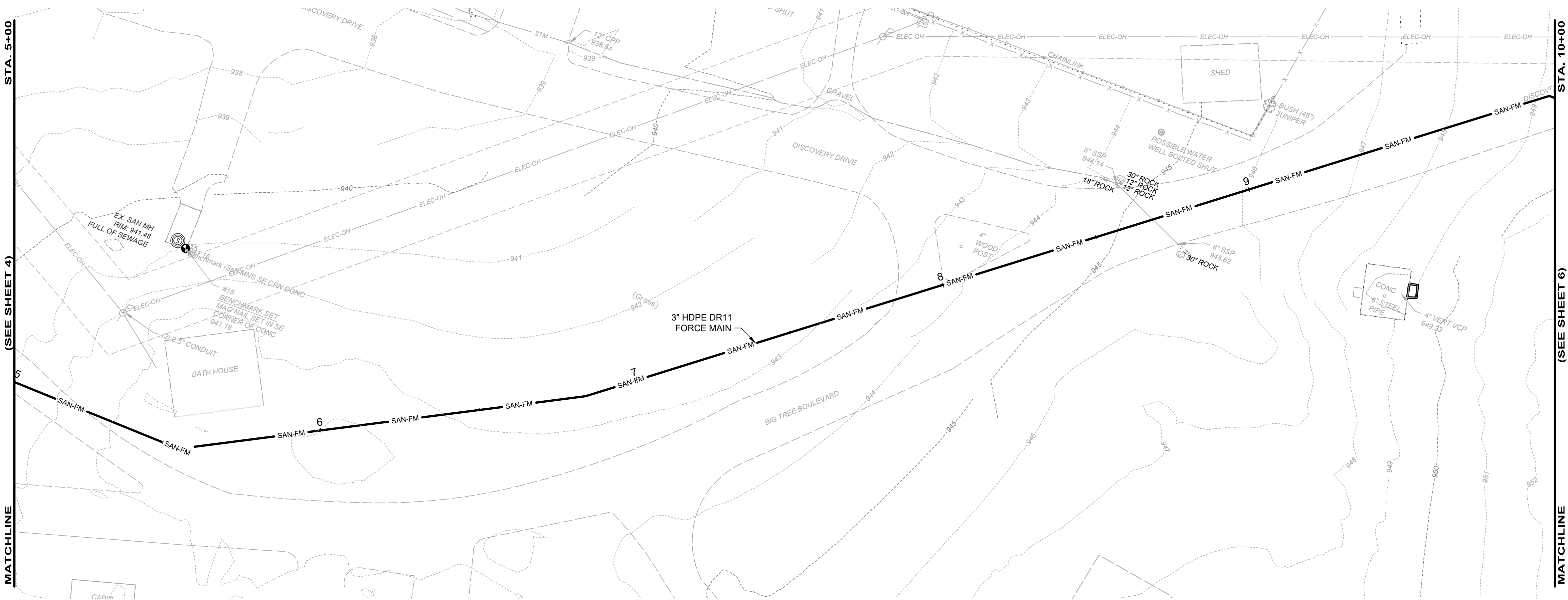
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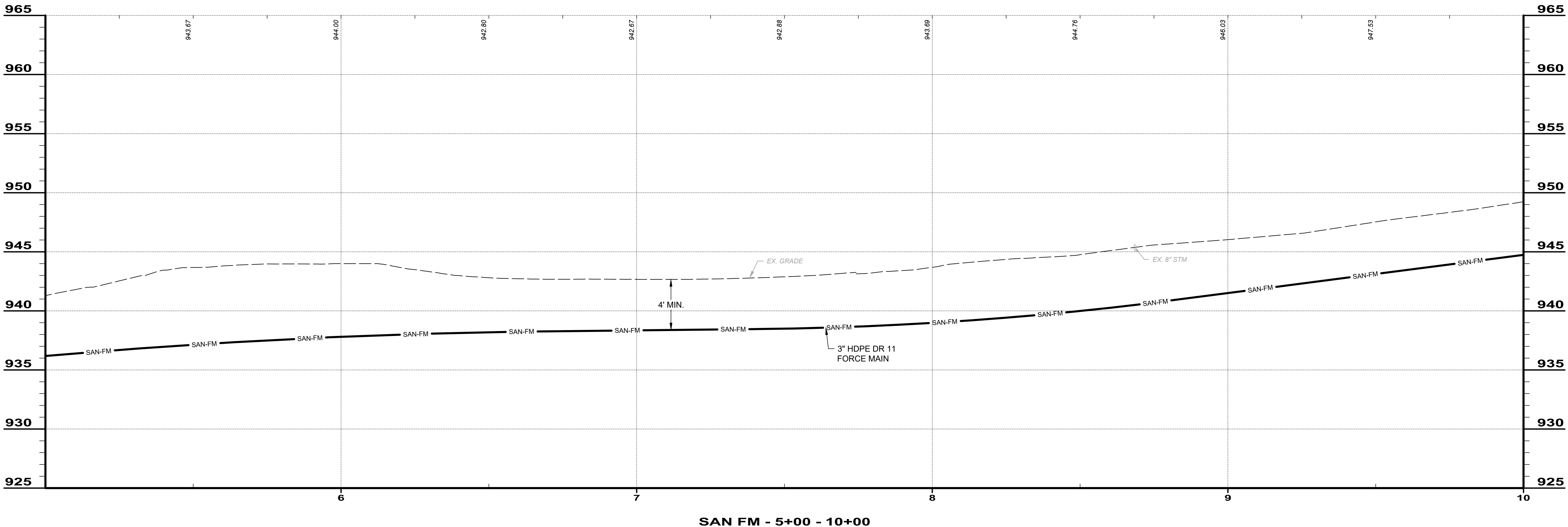
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CHECKED BY:	BRA			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -
FORCE MAIN PLAN & PROFILE - 0+00 - 5+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P1	
SHEET	OF
4	24



NOTES:
1. FORCEMAIN SHOWN ON THIS SHEET SHALL BE INSTALLED VIA OPEN CUT METHODS. COORDINATE SITE RESTORATION WITH PROPERTY OWNER.



SAN FM - 5+00 - 10+00

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DRAWN BY:	AGD			
CHECKED BY:	BRA			

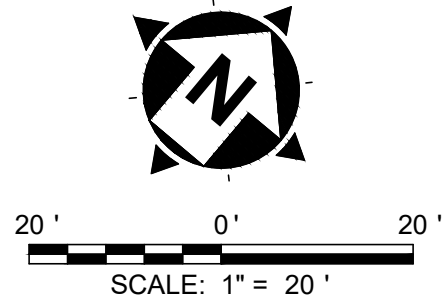
JACKSON LAKE CAMPGROUND

FORCE MAIN INTERCONNECT

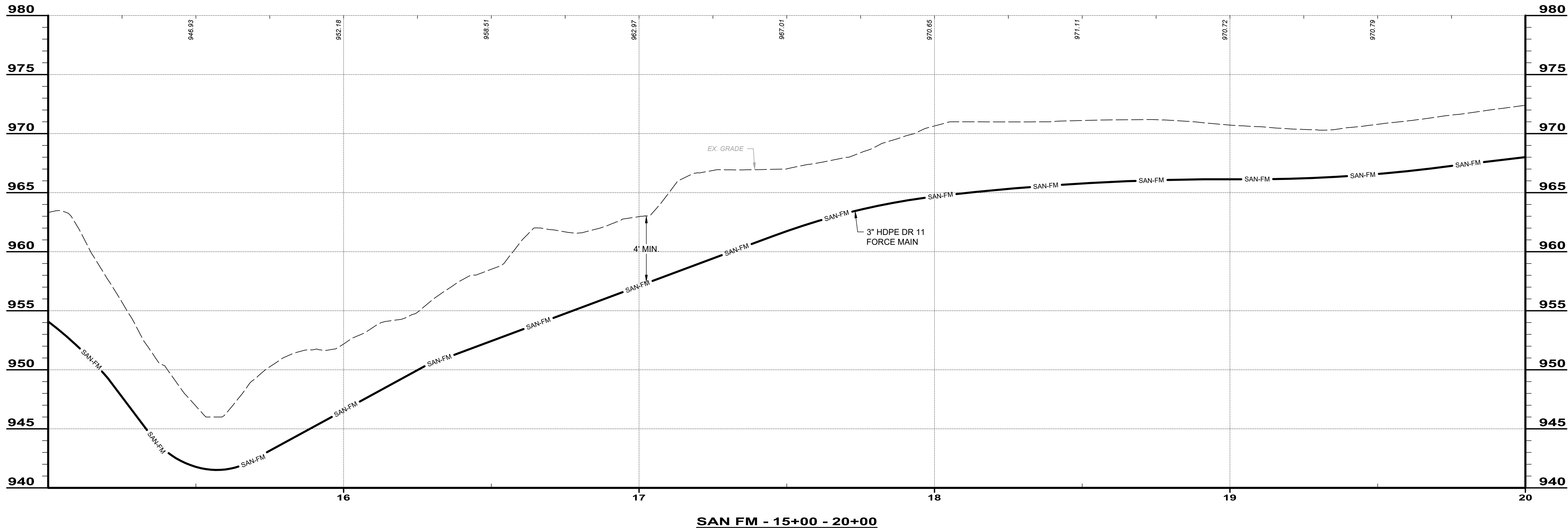
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

FORCE MAIN PLAN & PROFILE - 5+00 - 10+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P2	
SHEET	OF
5	24



- NOTES:**
- FORCEMAIN SHOWN ON THIS SHEET SHALL BE INSTALLED VIA OPEN CUT METHODS. COORDINATE SITE RESTORATION WITH PROPERTY OWNER.



SAN FM - 15+00 - 20+00

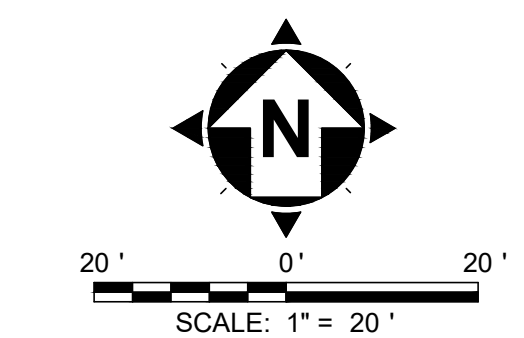
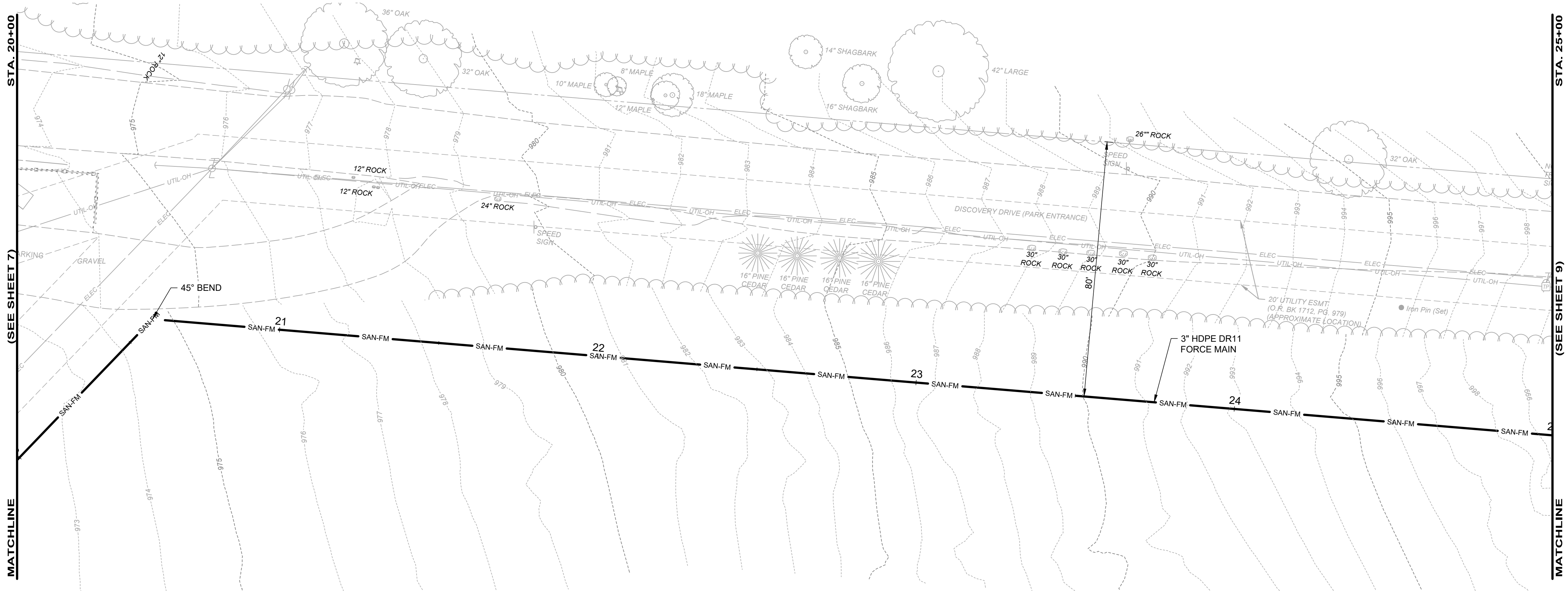
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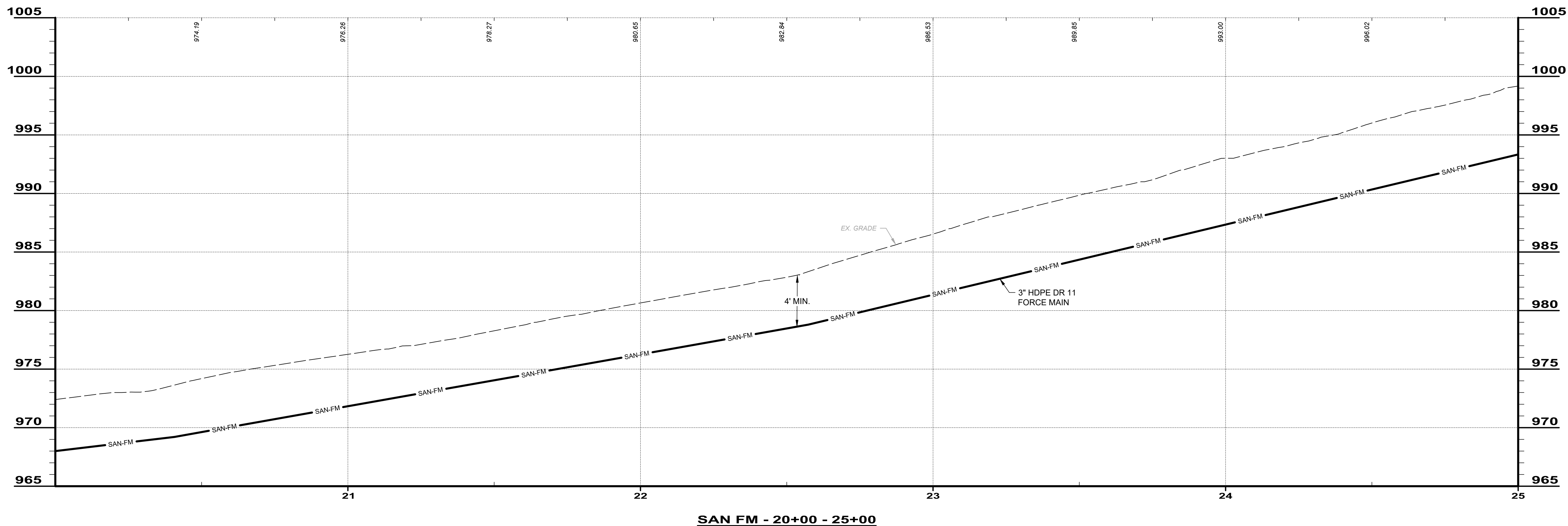
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ISSUE DATE:	1	9/4/25	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	2	AS NOTED	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	3	BRA	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:		AGD		
CHECKED BY:		BRA		

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -
FORCE MAIN PLAN & PROFILE - 15+00 - 20+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P4	
SHEET	OF
7	24



- NOTES:**
- FORCEMAIN SHOWN ON THIS SHEET SHALL BE INSTALLED VIA OPEN CUT METHODS. COORDINATE SITE RESTORATION WITH PROPERTY OWNER.



BID SET

verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	AS NOTED	2	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	BRA	3	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:	AGD			
CHECKED BY:	BRA			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

FORCE MAIN PLAN & PROFILE - 20+00 - 25+00

PROJECT NO.
241569

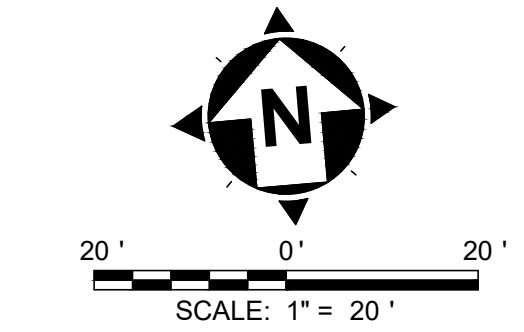
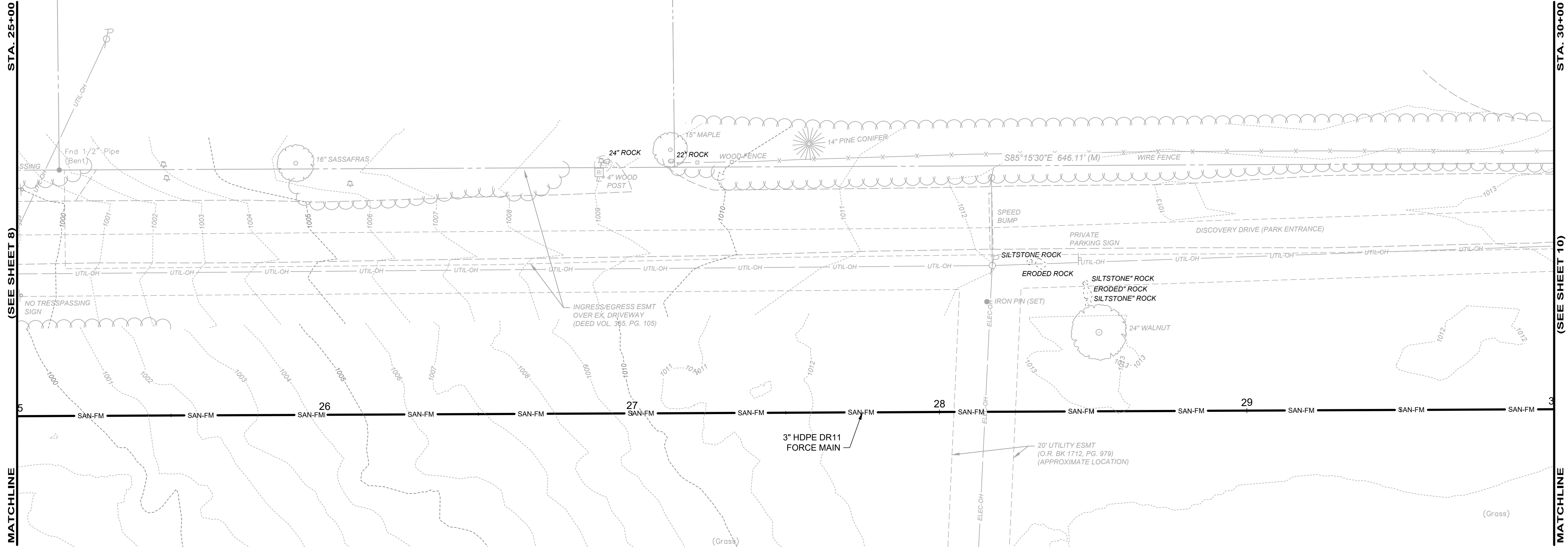
DISCIPLINE
CIVIL

SHEET NAME
SAN-P&P5

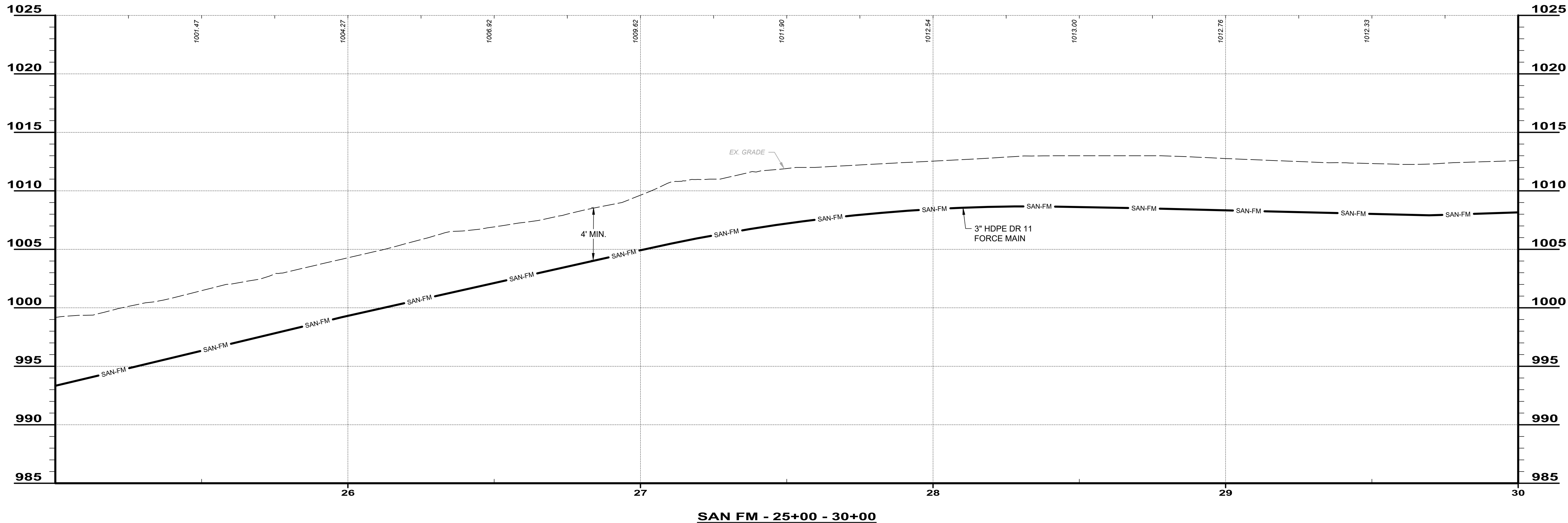
SHEET
8

OF
24

C:\CTCAD\DRIVERS\H32024\1569\DWGS\SHEETS - SAN\241569 - SAN FM PLAN & PROFILES.DWG - SAN-P&P5 - 7/30/2025 4:41:47 PM - ADAM DAWSON



- NOTES:**
- FORCEMAIN SHOWN ON THIS SHEET SHALL BE INSTALLED VIA OPEN CUT METHODS. COORDINATE SITE RESTORATION WITH PROPERTY OWNER.



BID SET

verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
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DRAWN BY:	AGD			
CHECKED BY:	BRA			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -
FORCE MAIN PLAN & PROFILE - 25+00 - 30+00

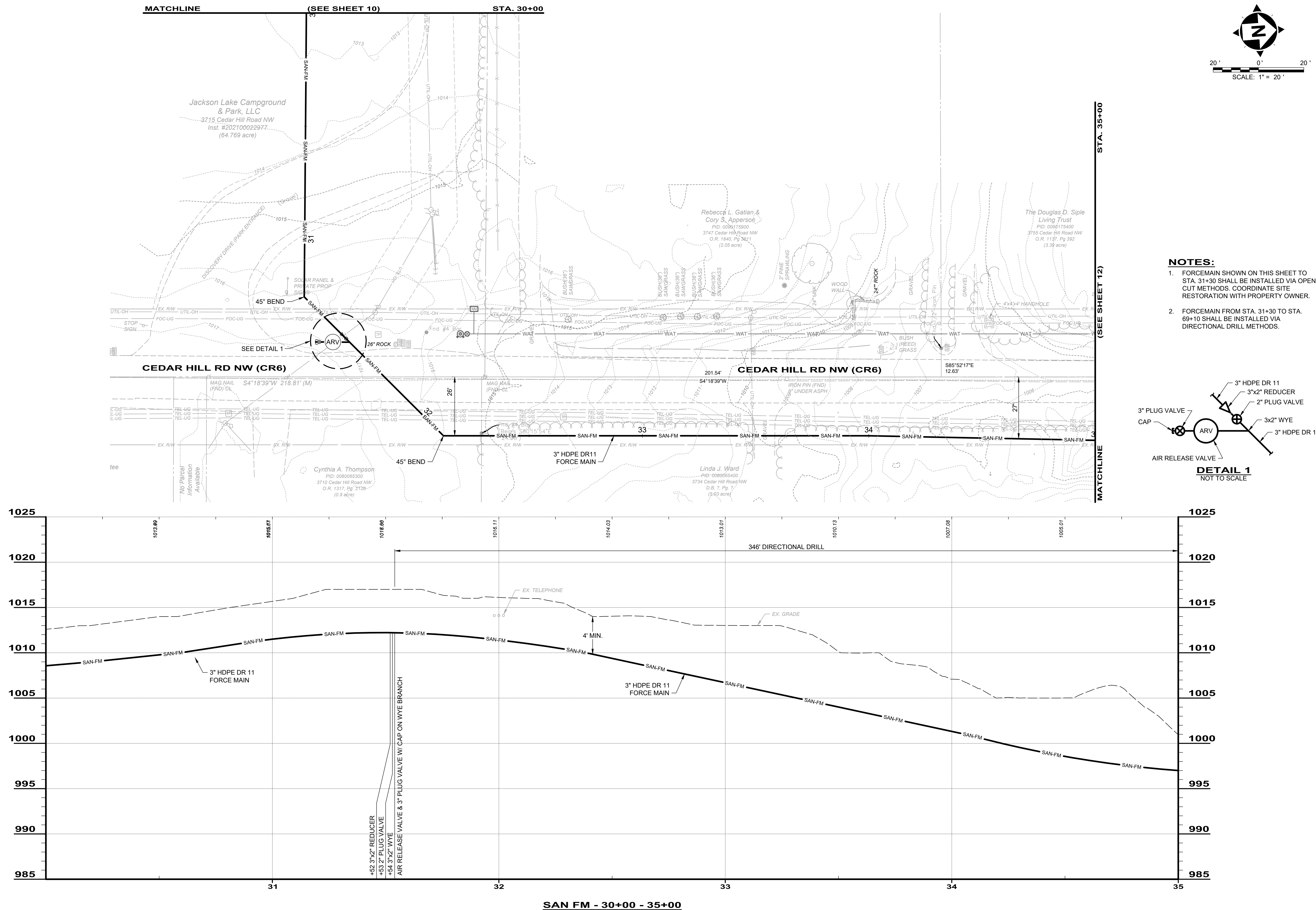
PROJECT NO. 241569	
DISCIPLINE CIVIL	
SHEET NAME SAN-P&P6	
SHEET 9	OF 24

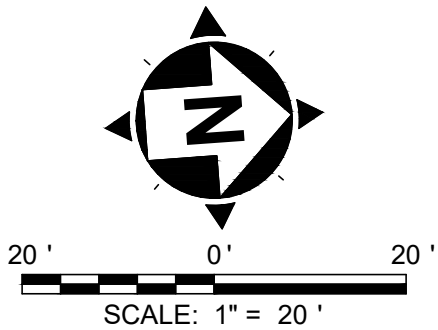
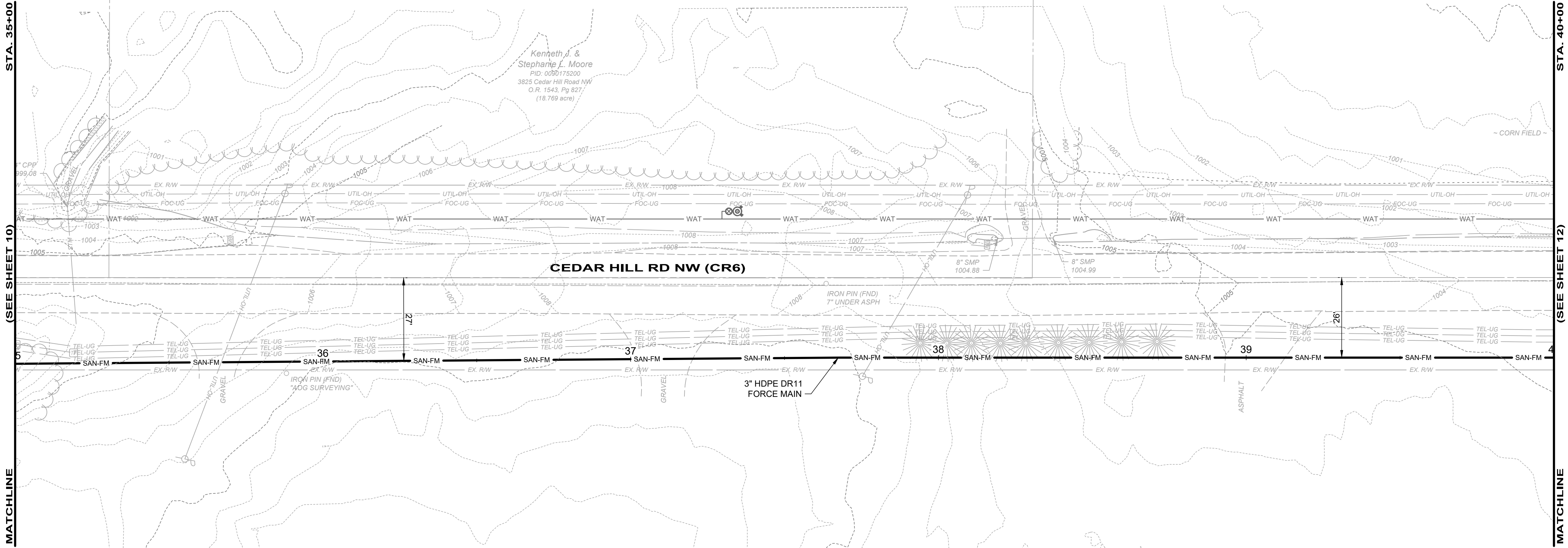
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ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	AS NOTED	2	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	BRA	3	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:	AGD			
CHECKED BY:	BRA			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

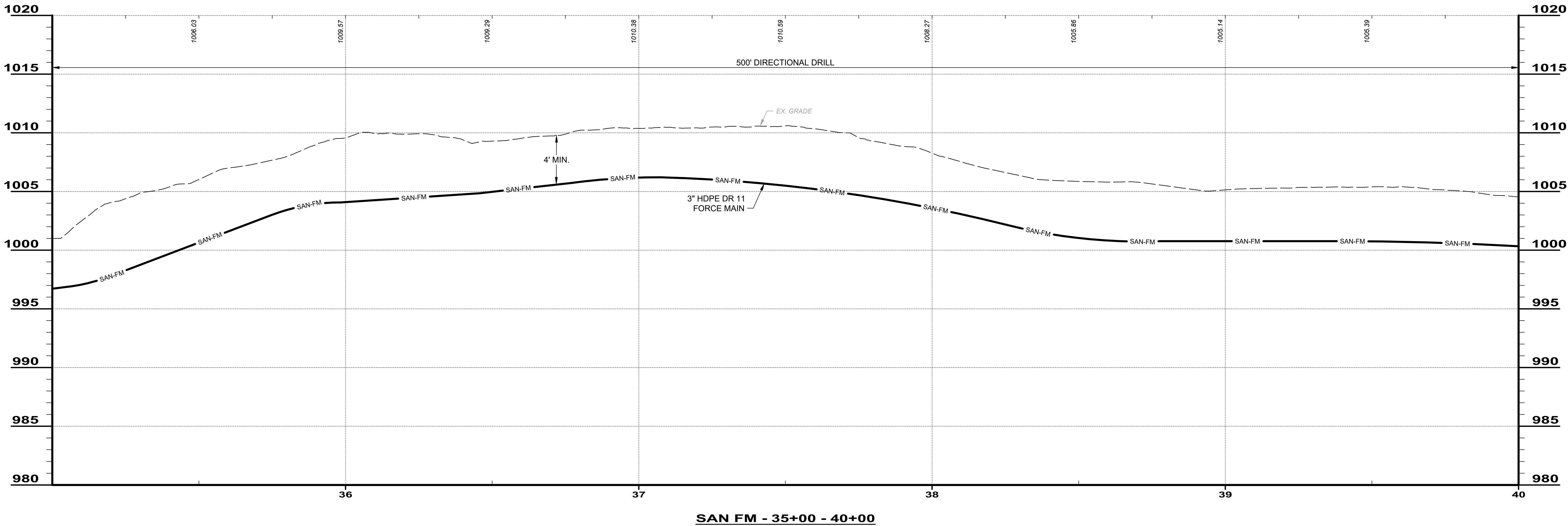
FORCE MAIN PLAN & PROFILE - 30+00 - 35+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P7	
SHEET	OF
10	24





- NOTES:**
- FORCEMAIN FROM STA. 31+30 TO STA. 69+10 SHALL BE INSTALLED VIA DIRECTIONAL DRILL METHODS.



SAN FM - 35+00 - 40+00

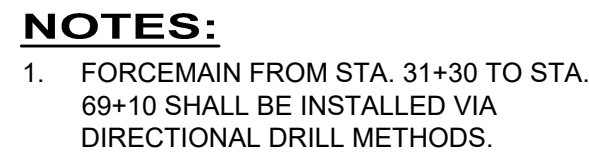
BID SET

verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
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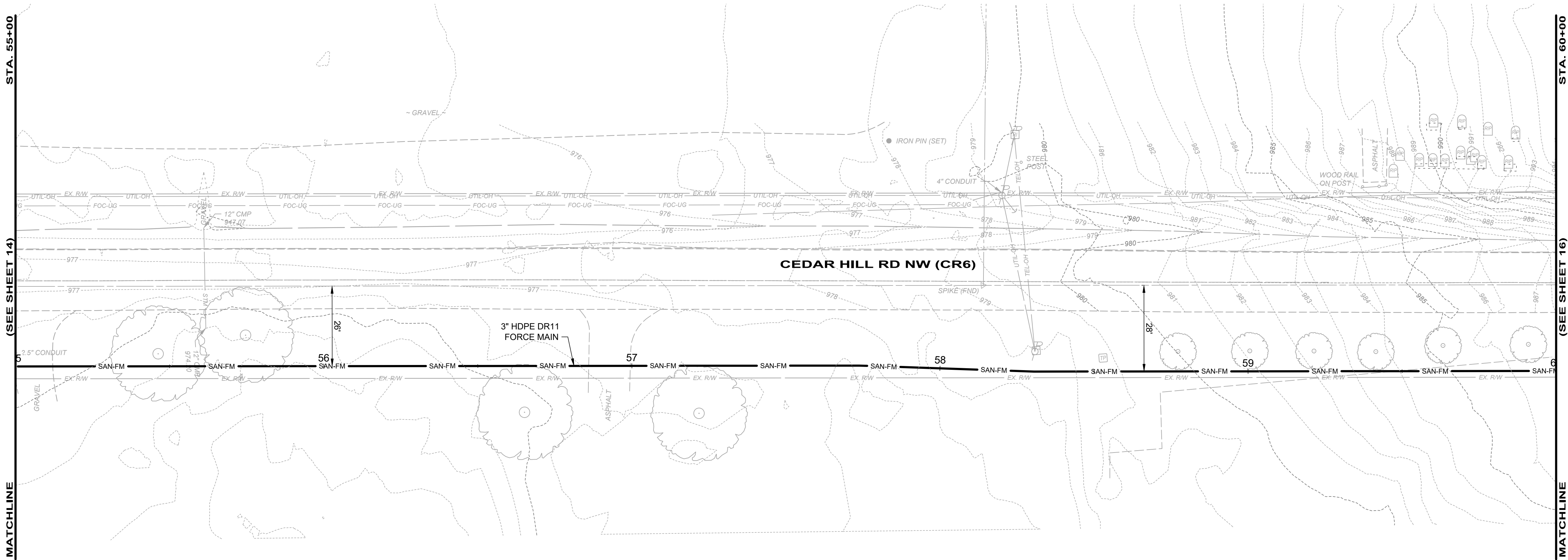
JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -
FORCE MAIN PLAN & PROFILE - 35+00 - 40+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P8	
SHEET	OF
11	24



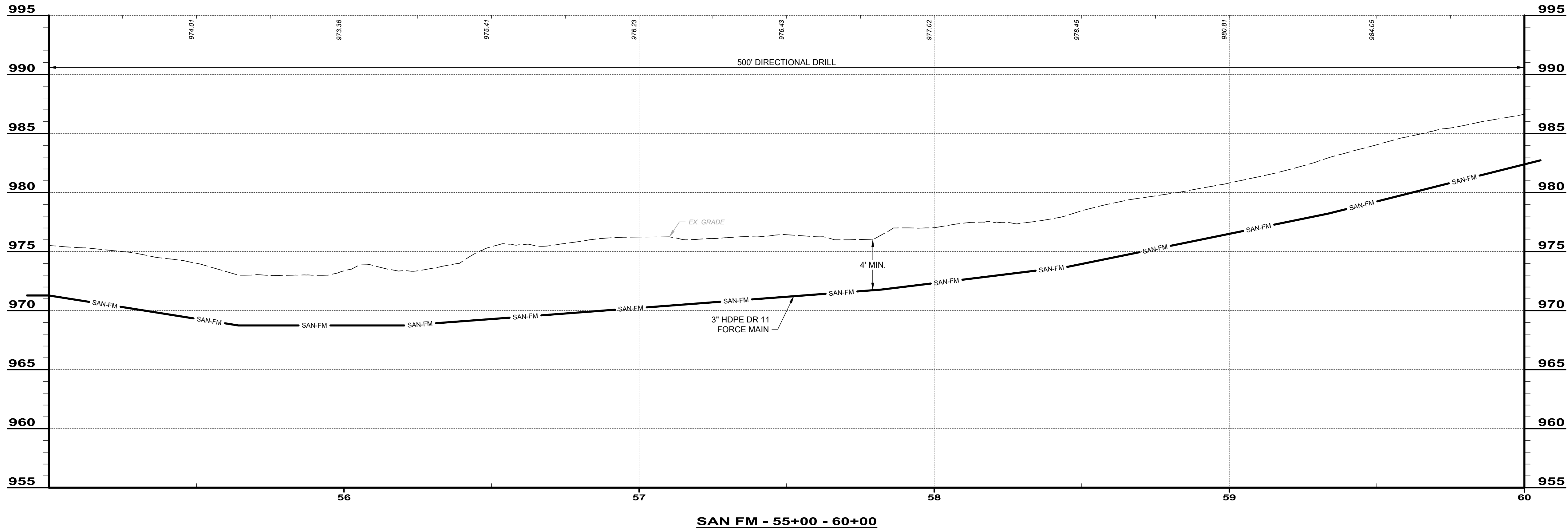
PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P10	
SHEET	OF
13	24

STA. 55+00
(SEE SHEET 14)
MATCHLINE



STA. 60+00
(SEE SHEET 16)
MATCHLINE

- NOTES:**
- FORCEMAIN FROM STA. 31+30 TO STA. 69+10 SHALL BE INSTALLED VIA DIRECTIONAL DRILL METHODS.



SAN FM - 55+00 - 60+00

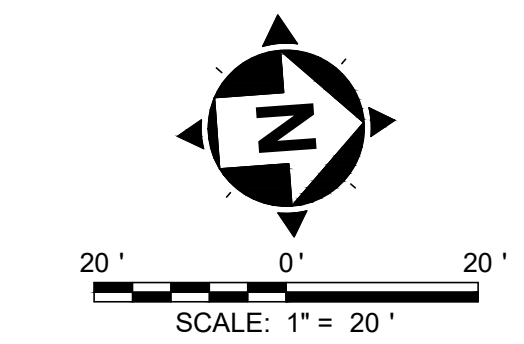
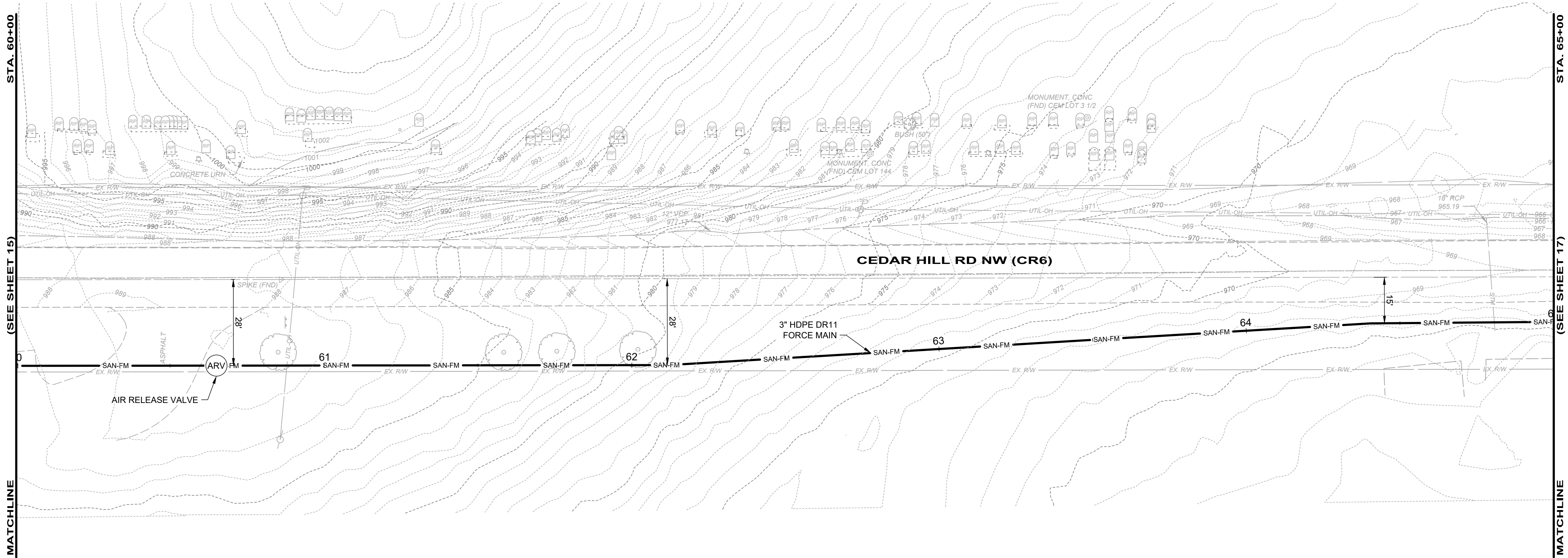
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verdantas

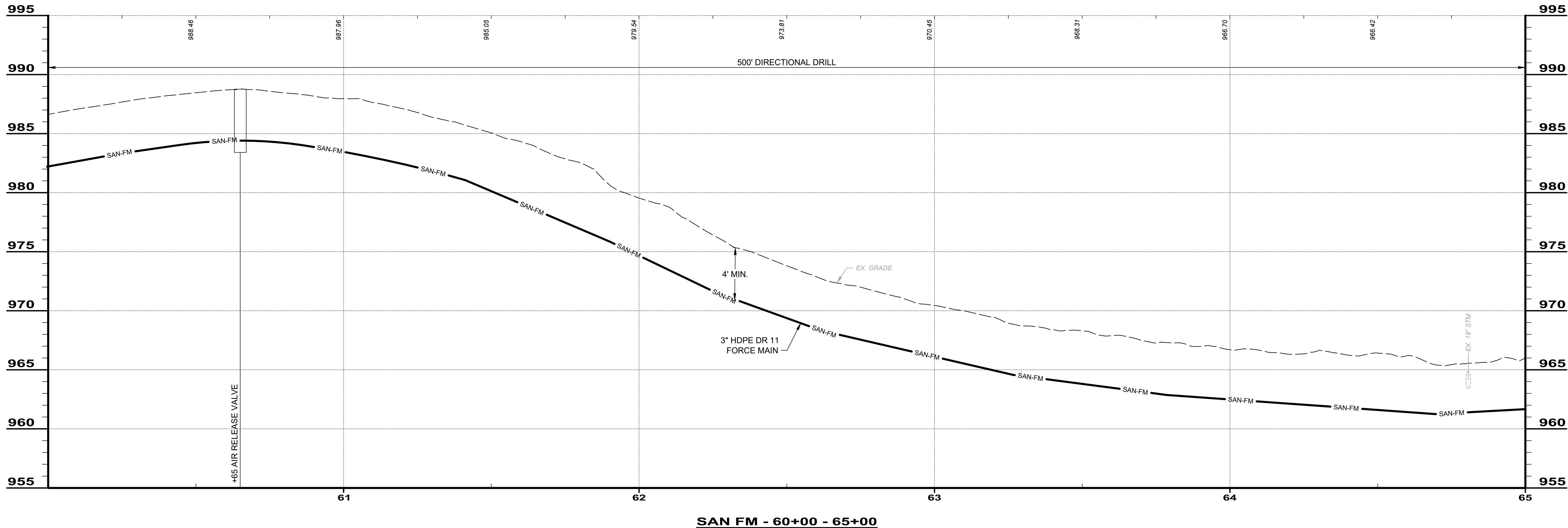
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JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -
FORCE MAIN PLAN & PROFILE - 55+00 - 60+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P12	
SHEET	OF
15	24



- NOTES:**
- FORCEMAIN FROM STA. 31+30 TO STA. 69+10 SHALL BE INSTALLED VIA DIRECTIONAL DRILL METHODS.



BID SET

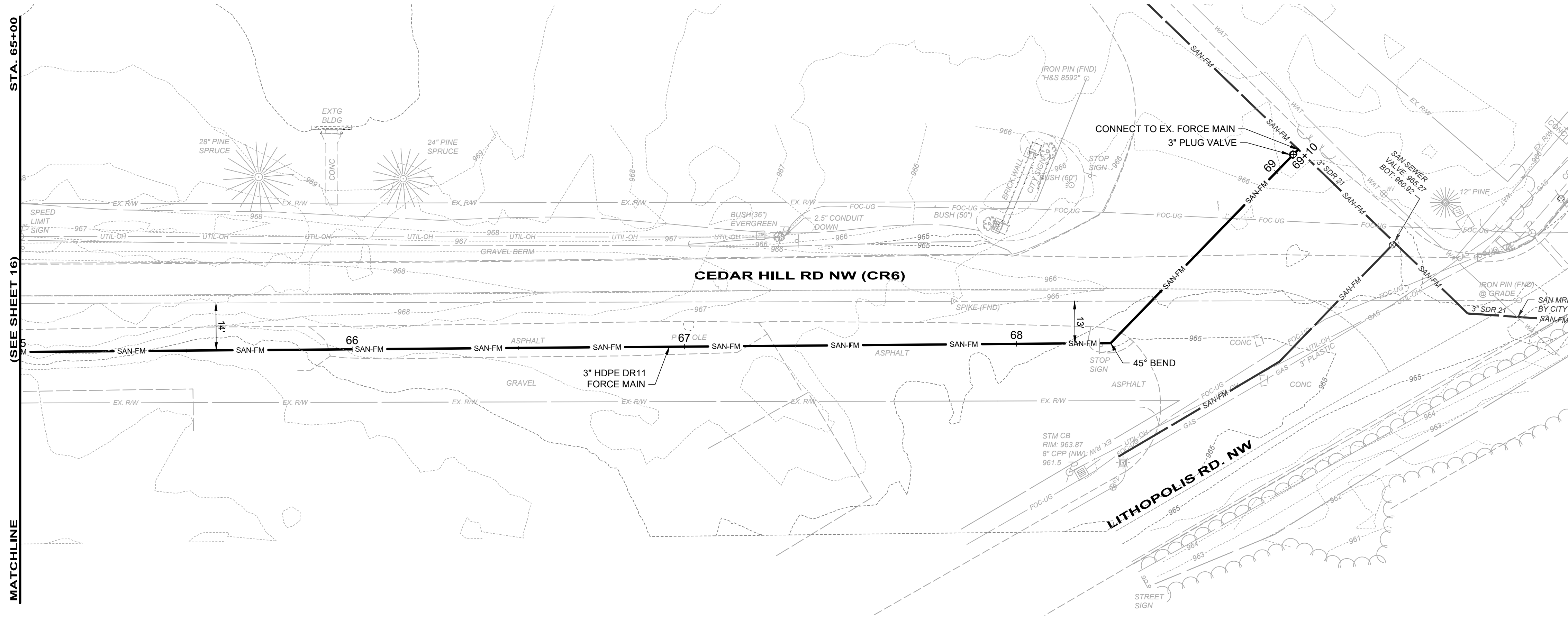
verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
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DESIGNED BY:	3	BRA	REVISED PER OEPA COMMENTS	9/4/2025
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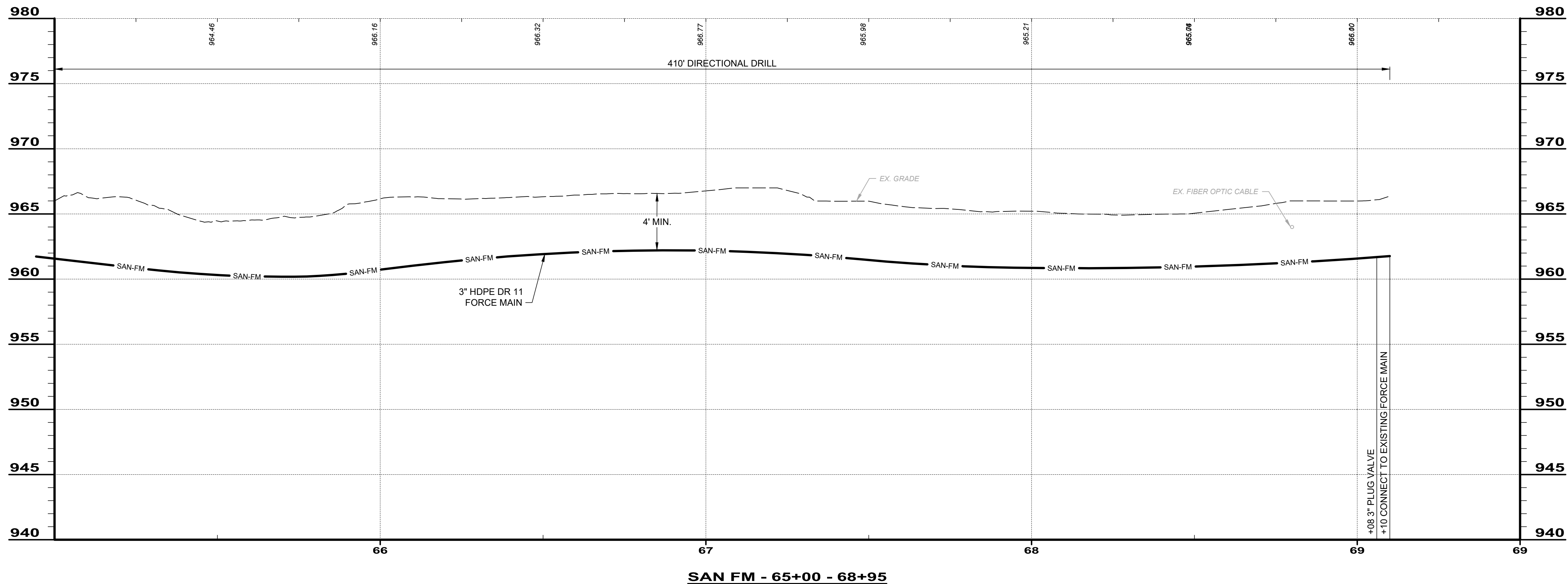
JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

FORCE MAIN PLAN & PROFILE - 60+00 - 65+00

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P13	
SHEET	OF
16	24



- NOTES:**
- FORCEMAIN FROM STA. 31+30 TO STA. 69+10 SHALL BE INSTALLED VIA DIRECTIONAL DRILL METHODS.



BID SET

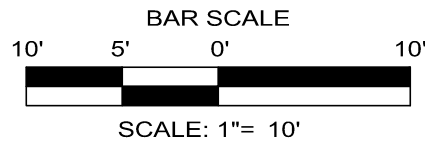
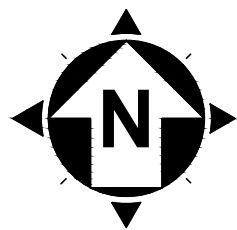
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ISSUED FOR:	BIDDING	NO	REVISION	DATE
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DRAWN BY:		AGD		
CHECKED BY:		BRA		

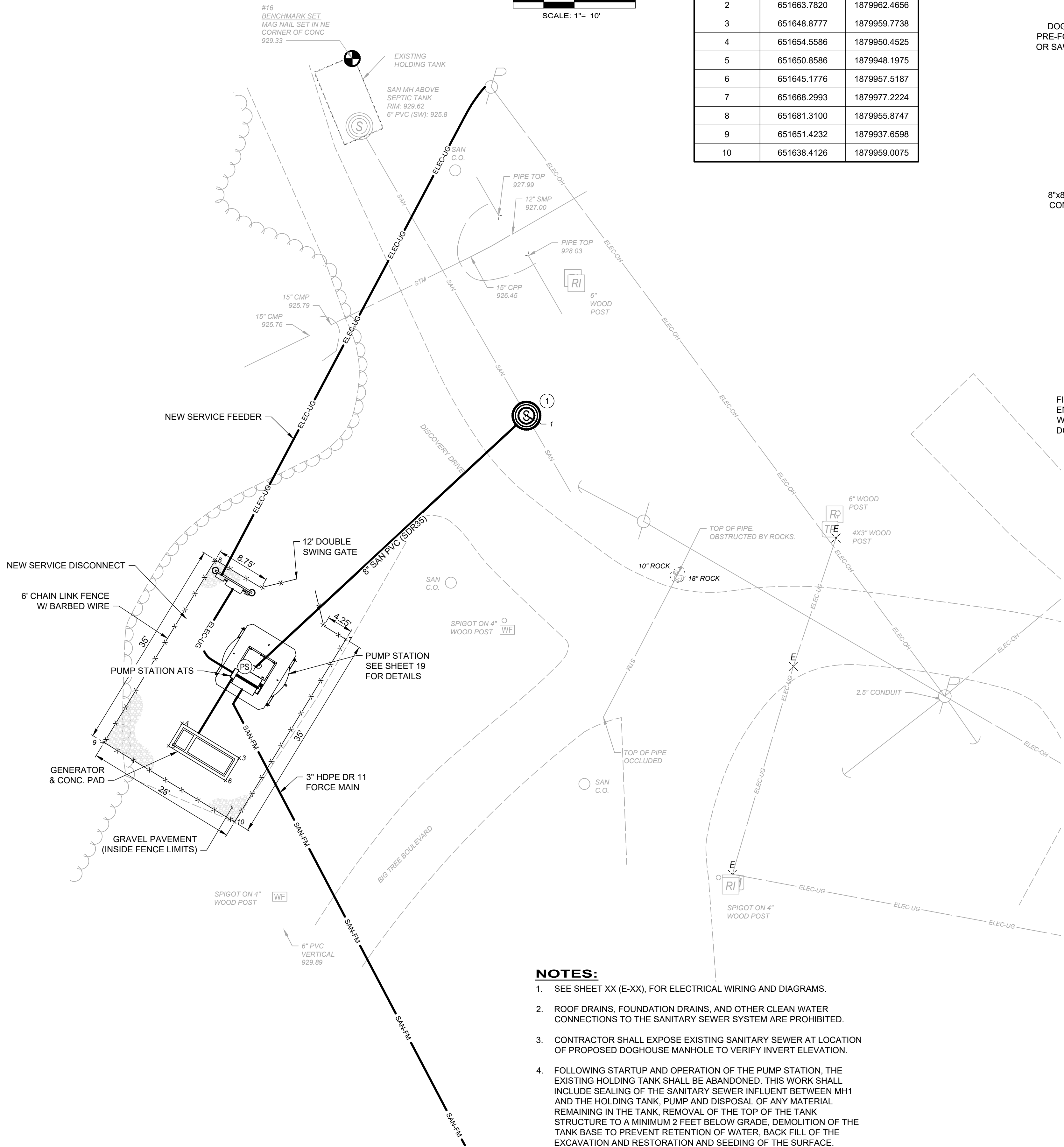
JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

FORCE MAIN PLAN & PROFILE - 65+00 - 68+95

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
SAN-P&P14	
SHEET	OF
17	24



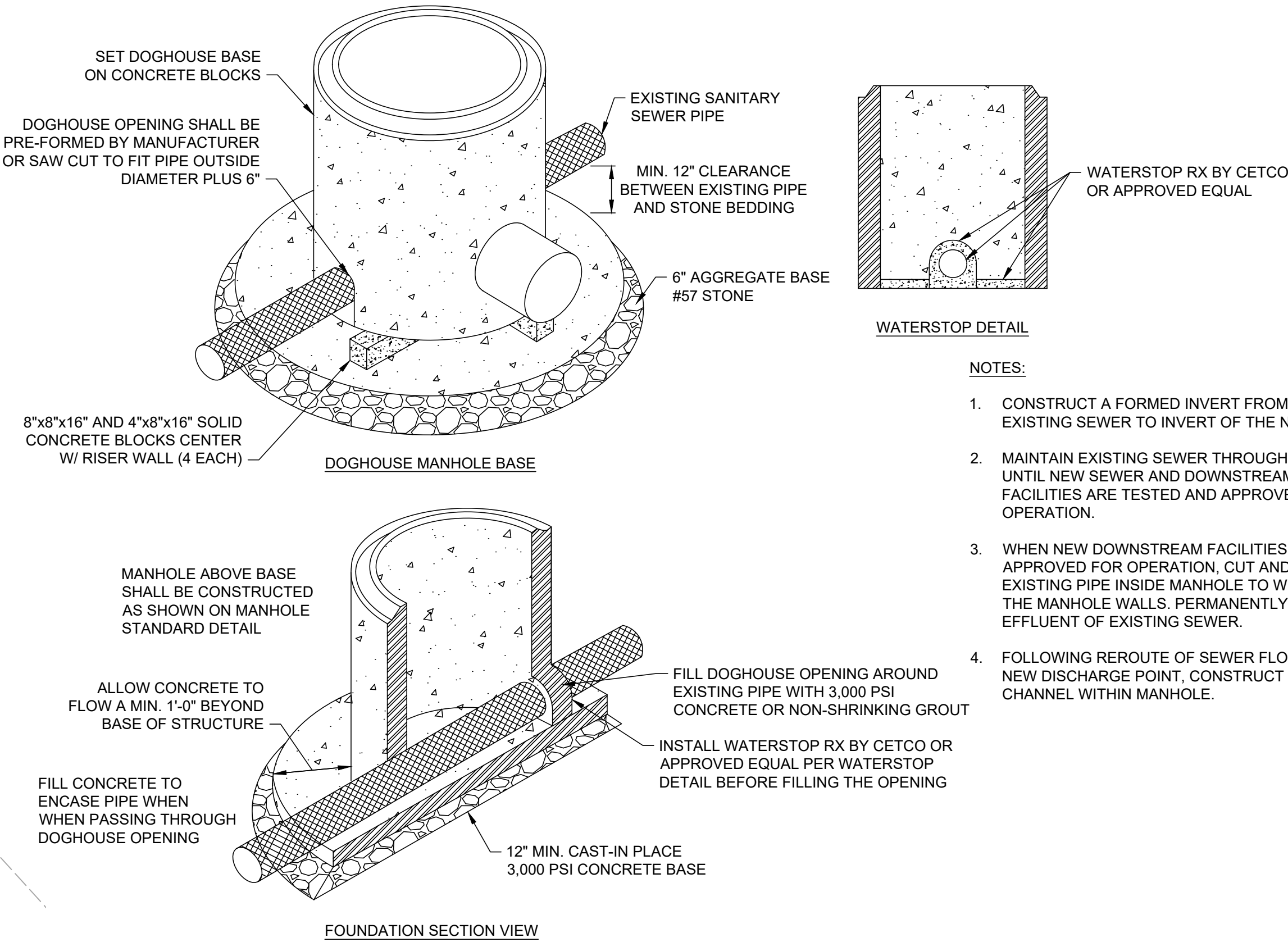
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POINT #	NORTHING	EASTING
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3	651648.8777	1879959.7738
4	651654.5586	1879950.4525
5	651650.8586	1879948.1975
6	651645.1776	1879957.5187
7	651668.2993	1879977.2224
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NOTES:

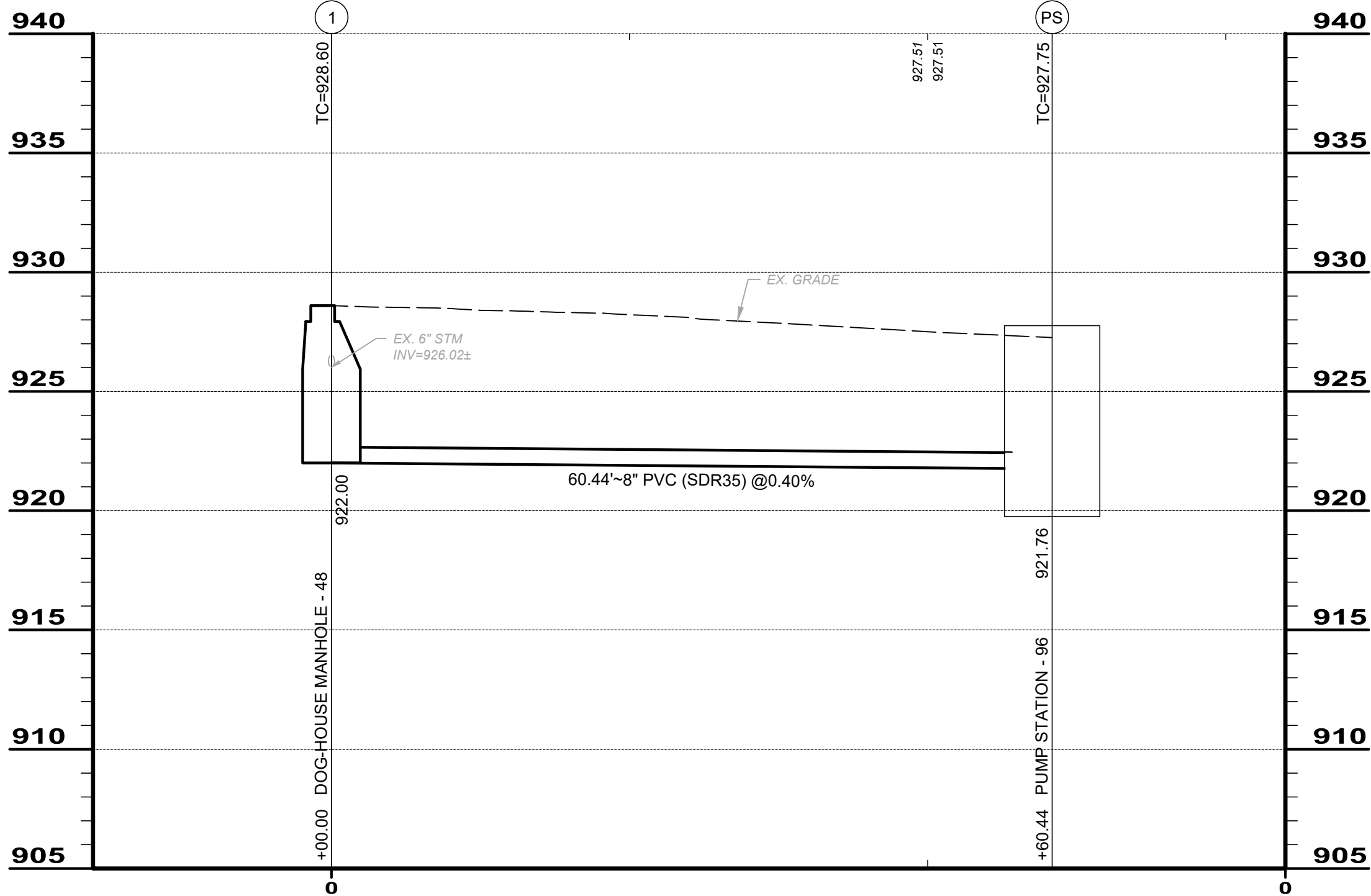
- SEE SHEET XX (E-XX), FOR ELECTRICAL WIRING AND DIAGRAMS.
- ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- CONTRACTOR SHALL EXPOSE EXISTING SANITARY SEWER AT LOCATION OF PROPOSED DOGHOUSE MANHOLE TO VERIFY INVERT ELEVATION.
- FOLLOWING STARTUP AND OPERATION OF THE PUMP STATION, THE EXISTING HOLDING TANK SHALL BE ABANDONED. THIS WORK SHALL INCLUDE SEALING OF THE SANITARY SEWER INFLUENT BETWEEN MH1 AND THE HOLDING TANK; PUMP AND DISPOSAL OF ANY MATERIAL REMAINING IN THE TANK; REMOVAL OF THE TOP OF THE TANK STRUCTURE TO A MINIMUM 2 FEET BELOW GRADE; DEMOLITION OF THE TANK BASE TO PREVENT RETENTION OF WATER; BACK FILL OF THE EXCAVATION AND RESTORATION AND SEEDING OF THE SURFACE.

PRECAST CONCRETE MANHOLE BASES SHALL BE FABRICATED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.



MANHOLE BASE "DOGHOUSE" INSTALLATION

SCALE: NONE



MH1 - PS PROFILE VIEW

BID SET

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ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	1	1	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	2	2	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	3	3	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:				
CHECKED BY:				

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

PUMP STATION SITE PLAN

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
PS-SITE	
SHEET	OF
18	24

BID SET

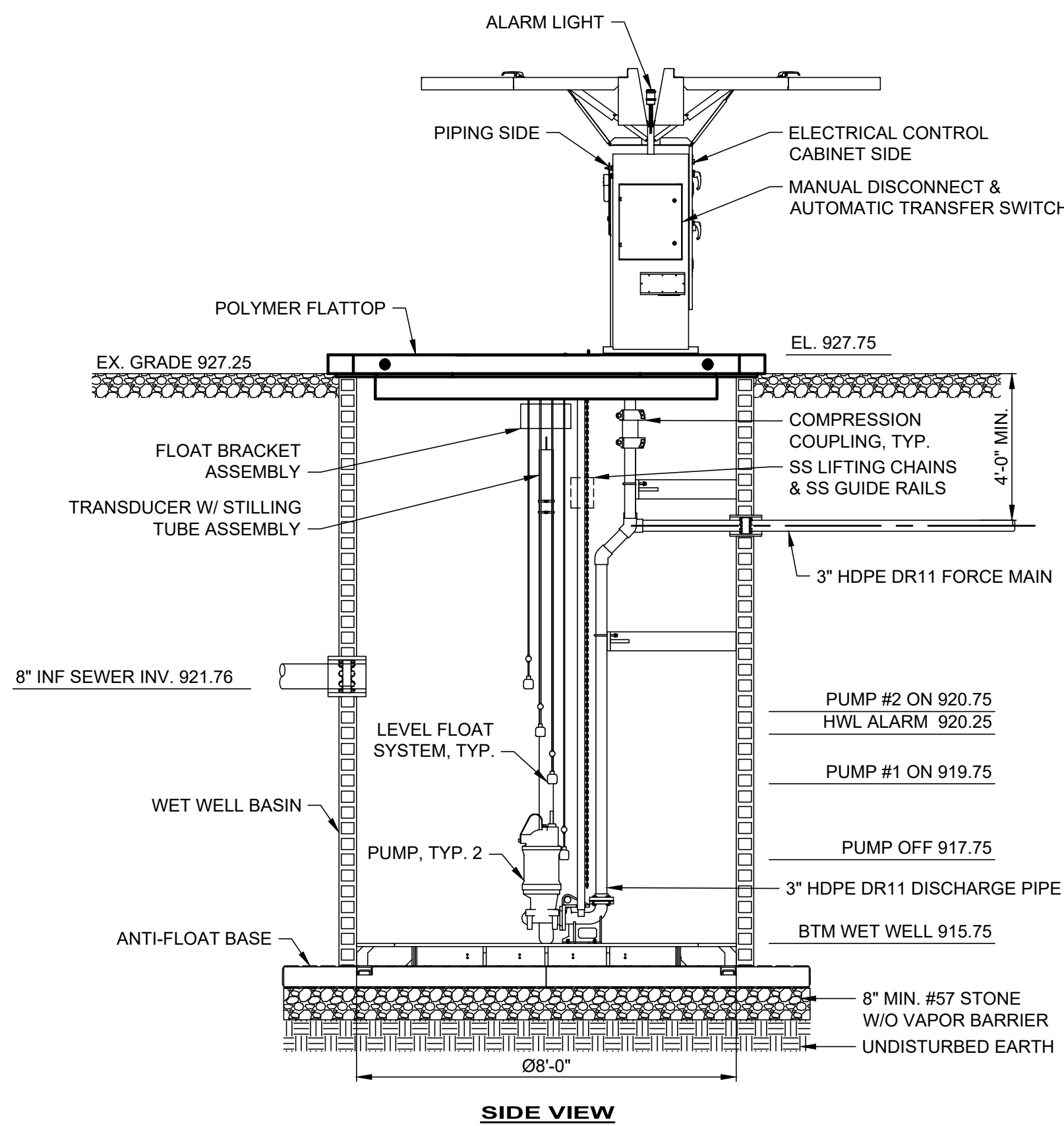
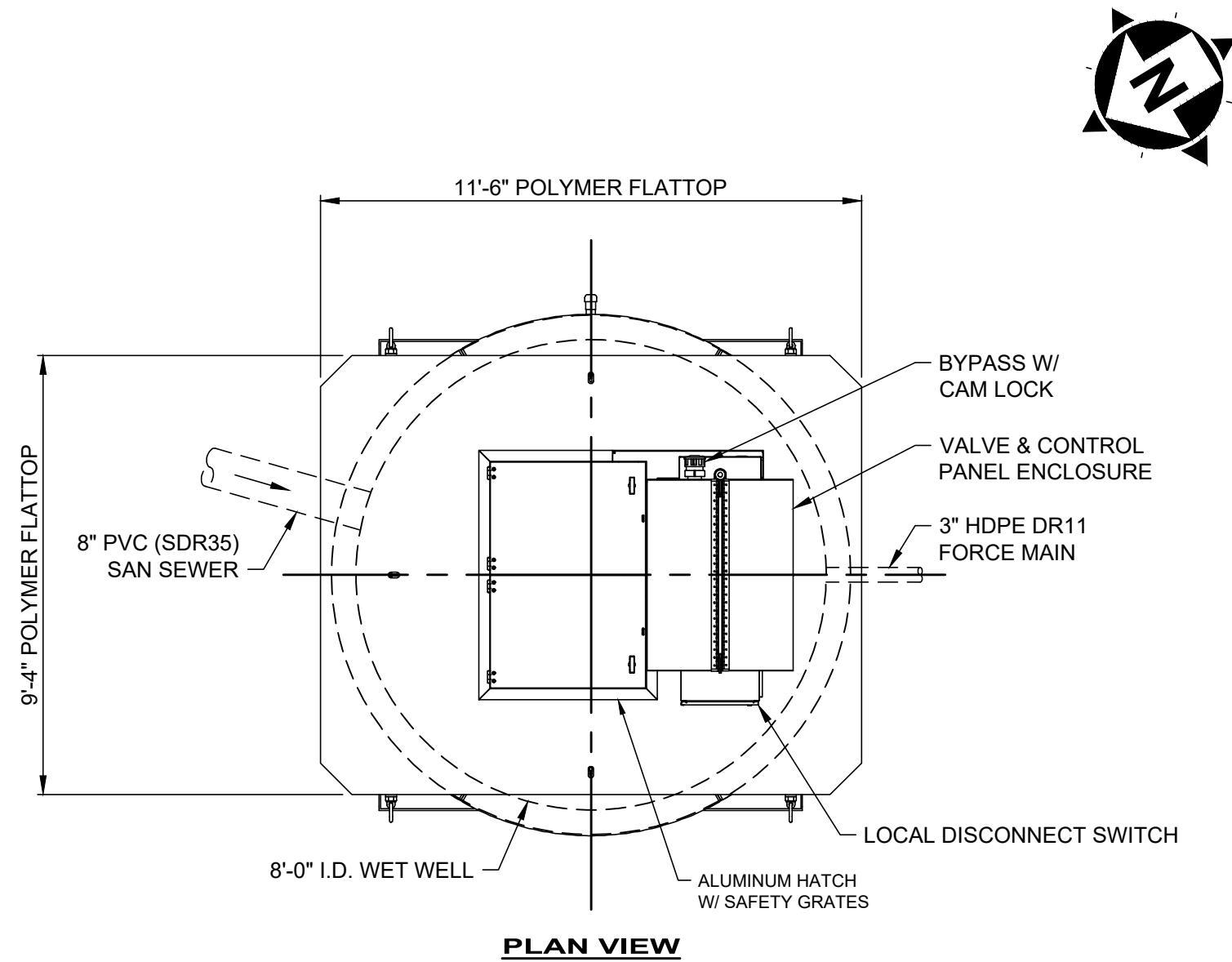
verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
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DRAWN BY:	AGD			
CHECKED BY:	BRA			

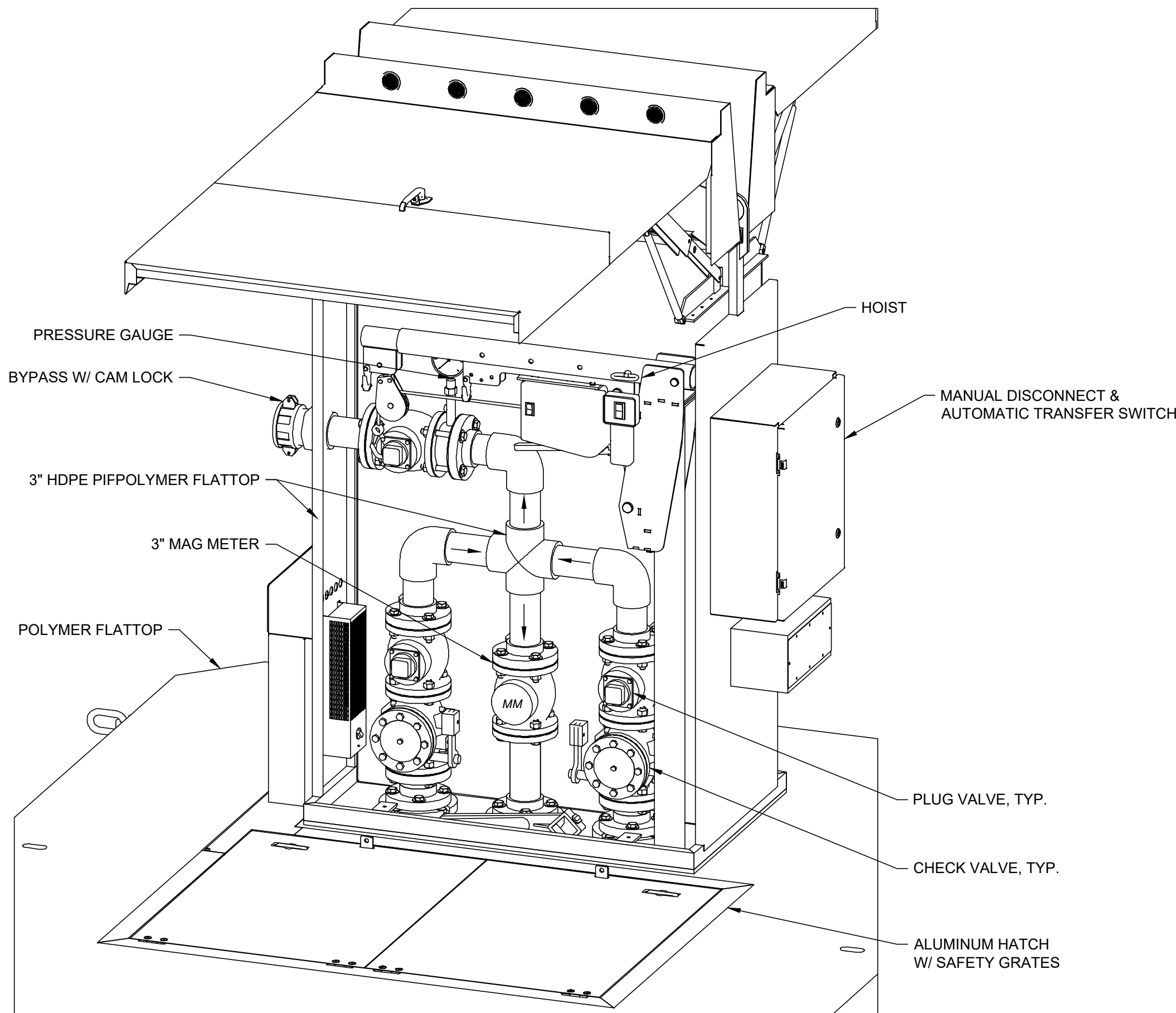
JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

PUMP STATION DETAILS

PROJECT NO.	
241569	
DISCIPLINE	
CIVIL	
SHEET NAME	
PS-DETS	
SHEET	OF
19	24



PUMP STATION DETAILS
SCALE: N.T.S.

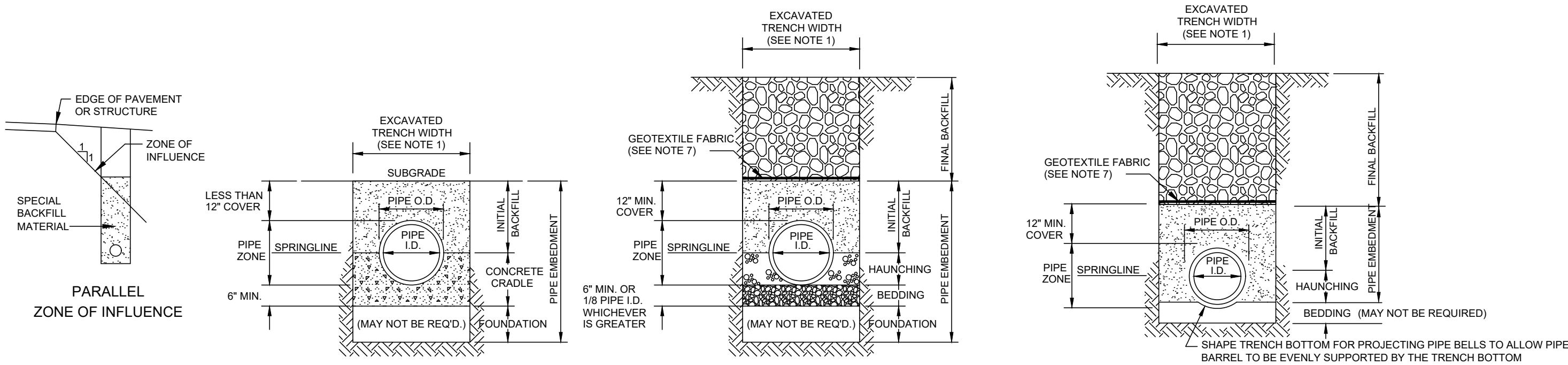


VALVE & CONTROL PANEL ENCLOSURE ISOMETRIC VIEW
SCALE: N.T.S.

GRINDER STATION DESIGN INFORMATION	
NUMBER OF PUMPS	2
DESIGN PUMP FLOW (GPM)	54
DESIGN PUMP TDH (FT)	125'
PUMP SPEED (RPM)	1750
CONSTANT OR VARIABLE	VARIABLE
MOTOR HORSEPOWER	7.5

NOTES:

- ALL EXCAVATED AREAS TO RECEIVE STRUCTURAL BACKFILL. SEE SPECIFICATION.
- ALL ELECTRICAL COMPONENTS SHALL BE MOUNTED TO PROVIDE A MINIMUM 3 FOOT CLEARANCE ABOVE THE 100-YEAR FLOOD.
- CONTRACTOR SHALL PROVIDE ALL CONDUIT AND CONDUCTORS TO INTERFACE COMPONENTS.
- PANEL SHALL BE SIZED TO ALLOW A MINIMUM 9" LATERAL CLEARANCE BETWEEN MAJOR COMPONENTS.
- UNLESS OTHERWISE SPECIFIED ENCLOSURES SHALL BE NEMA 4X STAINLESS STEEL.
- ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- PUMPS SHALL BE SET UP TO RUN ALTERNATELY AFTER EACH CYCLE.



CLASS 'A' PIPE EMBEDMENT

NOTES:

1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.
2. FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.
3. PIPE EMBEDMENT:
CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

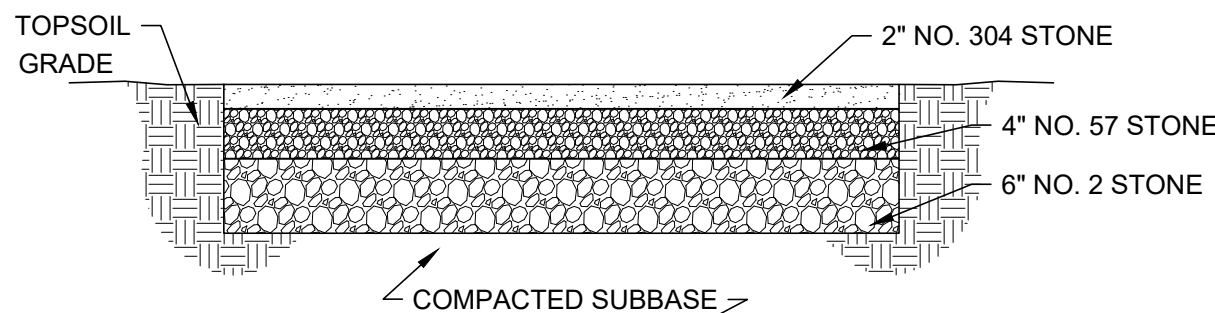
CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE. WHERE ROCK OR SHALE IS ENCOUNTERED, A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

4. FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.
5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 310000CT - EARTHWORK.
6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.
7. GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.
8. DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.

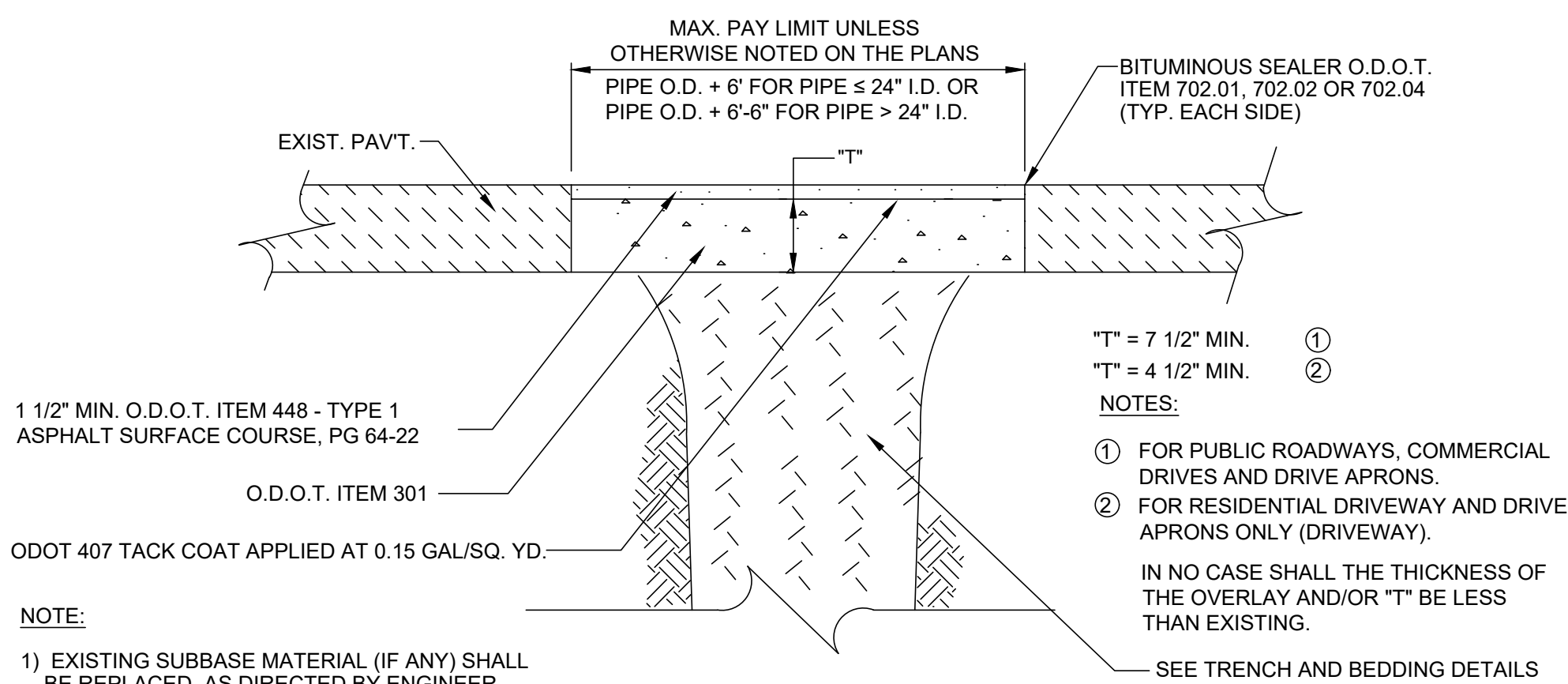
TRENCHING, EMBEDMENT AND BACKFILL DETAIL

SCALE: NONE



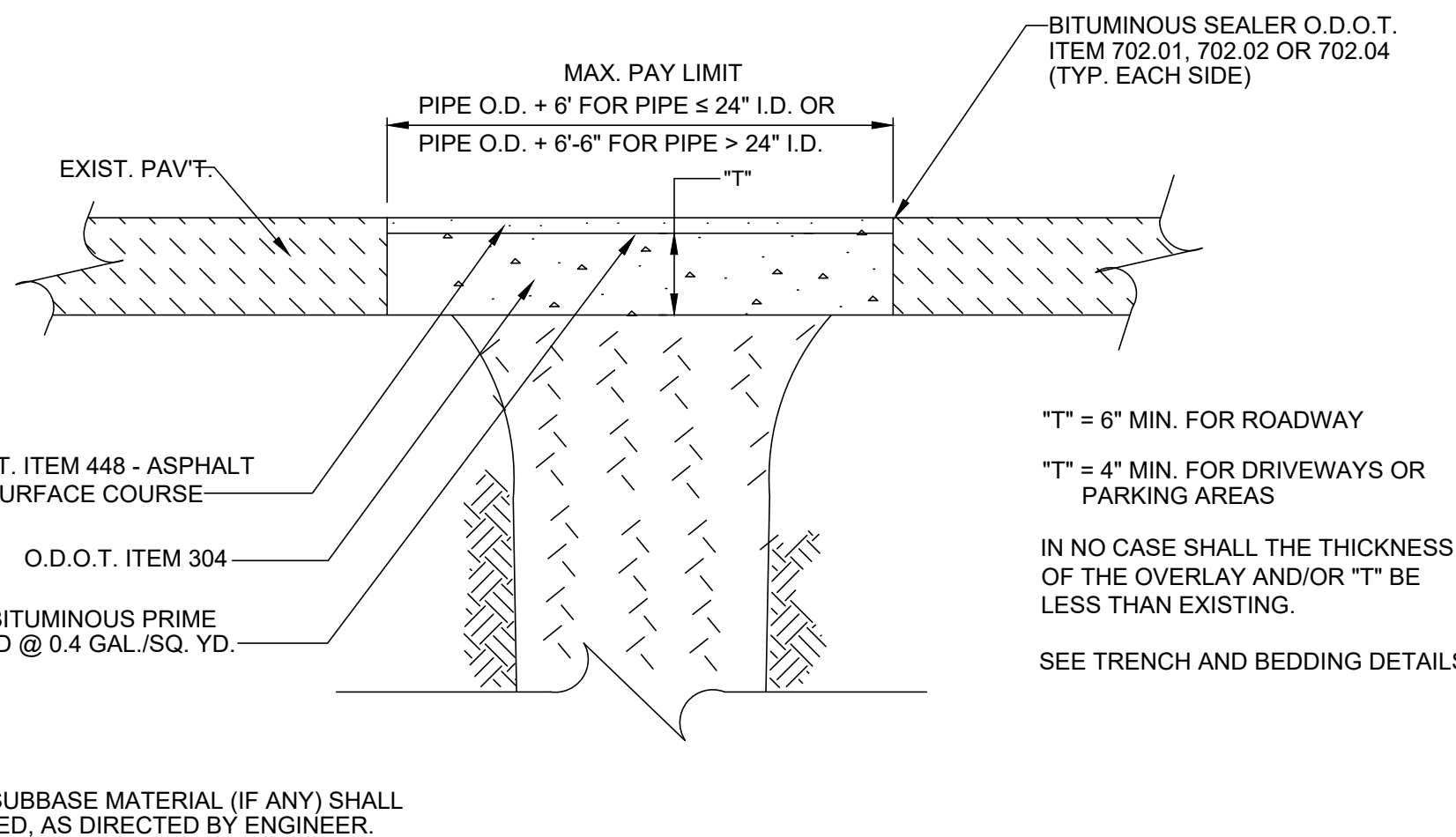
GRAVEL PAVEMENT DETAIL

SCALE: NONE



TYPE C PAVEMENT REPLACEMENT (ASPHALT)

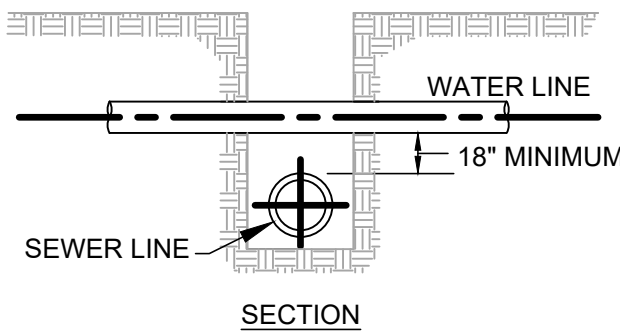
SCALE: NONE



TYPE D PAVEMENT REPLACEMENT (ASPHALT OVER STONE BASE)

SCALE: NONE

SIZING SCHEDULE		BEARING FACE (X Y) IN SQ. FT. CONCRETE VOLUME IN CU. YD.					
PIPE SIZE	22 1/2° BEND SOIL BEARING CAPACITY			45° BEND SOIL BEARING CAPACITY			
	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.	
4	1.40	0.46	0.26	2.70	0.90	0.54	
	0.14	0.09	0.08	0.12	0.06	0.06	
6	2.80	0.93	0.56	5.50	1.83	1.10	
	1.15	0.10	0.07	0.15	0.10	0.07	
8	4.80	1.60	0.96	9.60	3.20	1.92	
	0.20	0.13	0.09	0.23	0.15	0.09	
10	7.90	2.63	1.96	15.70	5.23	3.14	
	0.53	0.34	0.22	0.34	0.20	0.13	
12	11.30	3.76	2.26	22.30	7.43	4.46	
	0.62	0.40	0.26	0.75	0.49	0.32	
14	15.30	5.10	3.06	30.20	10.06	6.04	
	0.74	0.48	0.31	0.98	0.64	0.42	
16	19.80	6.60	3.96	39.10	13.03	7.82	
	1.17	0.76	0.49	1.21	0.79	0.51	
	90° BEND SOIL BEARING CAPACITY			TEE OR DEAD END SOIL BEARING CAPACITY			
	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.	
4	4.90	1.63	0.96	3.50	1.16	0.70	
	0.14	0.09	0.06	0.12	0.06	0.06	
6	10.20	3.40	2.04	7.20	2.40	1.44	
	0.22	0.14	0.09	0.17	0.11	0.07	
8	17.70	5.54	3.54	12.50	4.16	2.50	
	0.35	0.23	0.15	0.25	0.16	0.14	
10	28.90	9.60	5.76	20.40	6.80	4.06	
	0.54	0.35	0.23	0.38	0.25	0.16	
12	41.10	13.70	8.22	29.10	9.70	5.82	
	1.31	0.85	0.55	0.97	0.63	0.42	
14	55.80	18.60	11.16	39.50	13.16	7.90	
	1.70	1.11	0.72	1.22	0.79	0.51	
16	72.20	24.06	14.44	51.10	17.03	10.22	
	2.14	1.39	0.90	1.54	1.00	0.65	

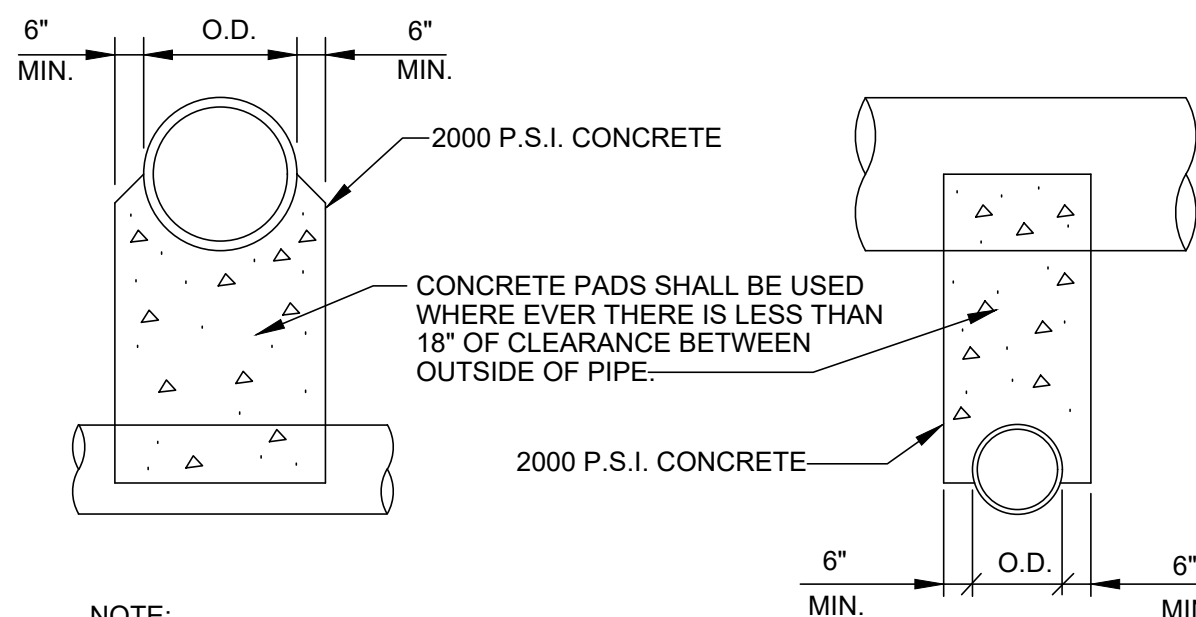


NOTES:

1. IF JOINT ON WATER MAIN IS WITHIN LIMITS OF SEWER TRENCH, INSTALL MECHANICAL BELL JOINT CLAMP
2. IF CLEARANCE IS LESS THAN 18", ENCASE SEWER PIPE 6 FT. EACH SIDE OF WATER MAIN. COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ALL ITEMS IN THE PROPOSAL.
3. IN NO CASE SHALL THE SEWER PIPE CONTACT ANY WATER MAIN, SERVICE LINE OR APPURTENANCE.

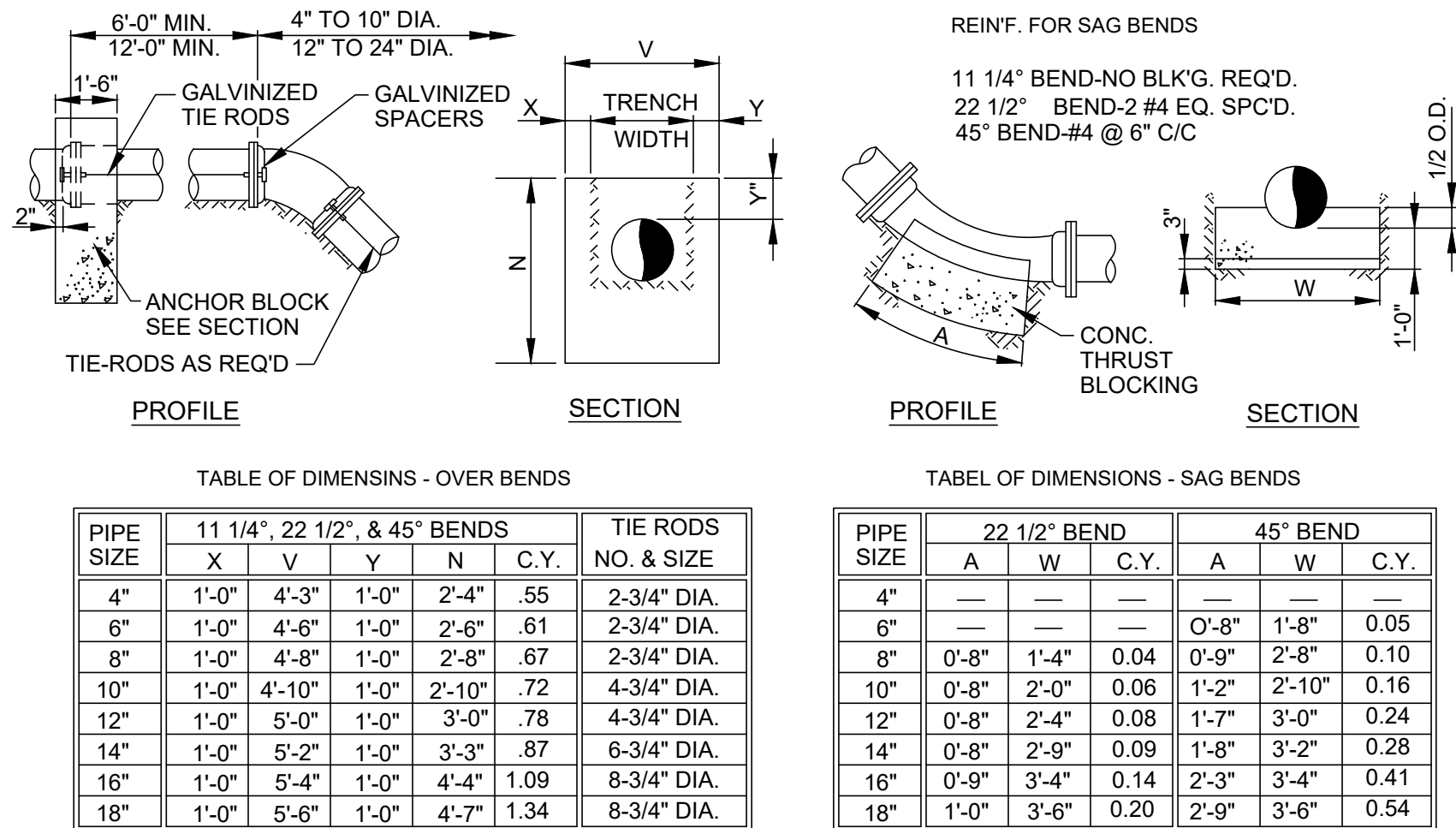
VERTICAL WATER MAIN CLEARANCE

SCALE: NONE



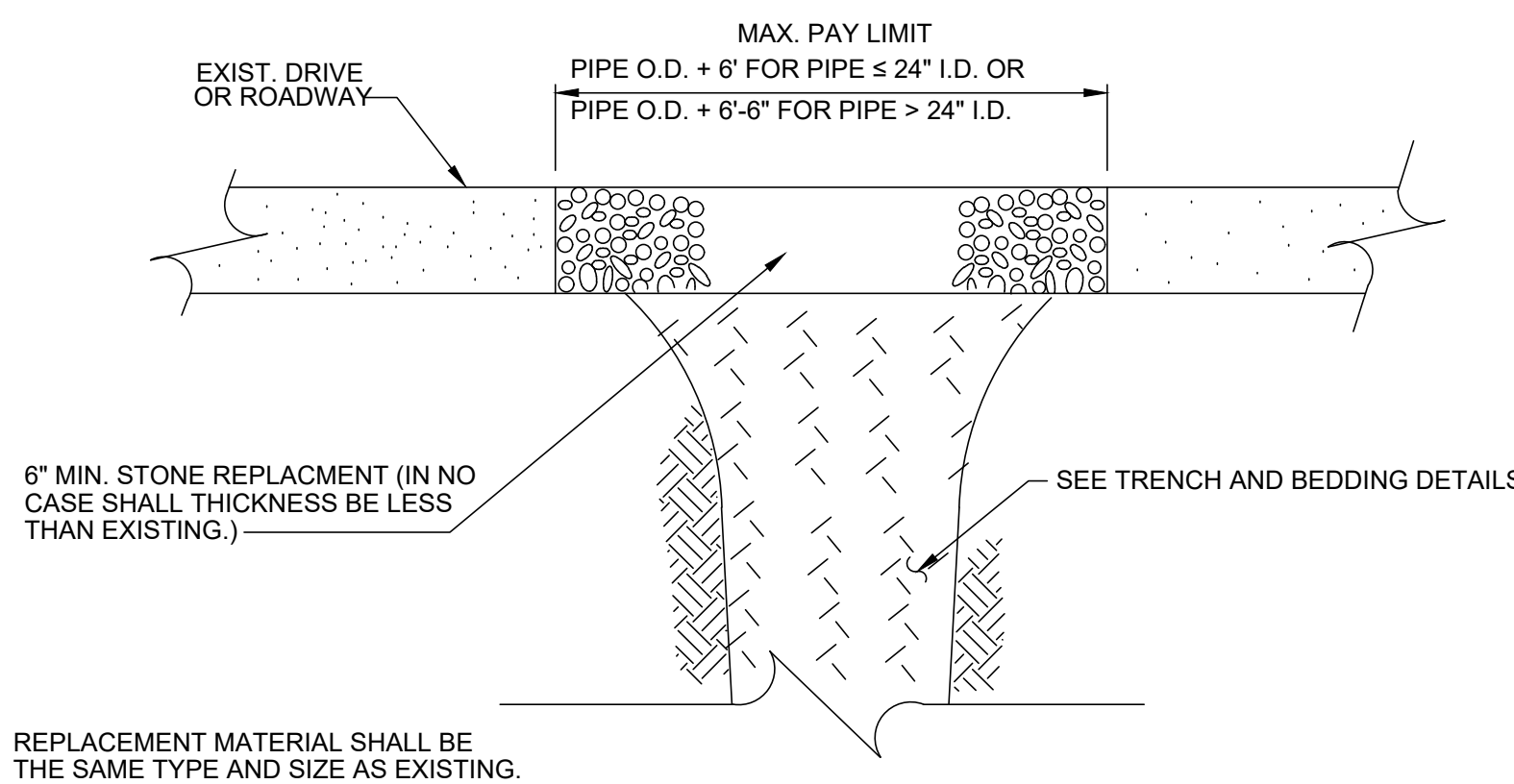
PIPE CROSSING DETAIL

SCALE: NONE



OVER & SAG BEND THRUST BLOCKING DETAILS

SCALE: NONE



TYPE F PAVEMENT REPLACEMENT (STONE)

SCALE: NONE

BID SET

verdantas

ISSUED FOR:	REVISION	DATE
1	REVISED PER OEPA COMMENTS	7/16/2025
2	REVISED PER OEPA COMMENTS	7/30/2025
3	REVISED PER OEPA COMMENTS	9/4/2025

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1	REVISED PER OEPA COMMENTS	7/16/2025
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PROJECT NO.	241569
DISCIPLINE	DETAILS
SHEET NAME	DETS1
SHEET	20
OF	24

ELECTRICAL SYMBOLS - PLAN:

	HOME RUN TO PANEL
	MOTOR
	MOTOR CONTROLLER
	FUSIBLE SAFETY SWITCH
	NON-FUSIBLE DISCONNECT SWITCH
	SIMPLEX RECEPTACLE, EXPLOSION PROOF
	DUPLEX RECEPTACLE
	QUADPLEX RECEPTACLE
	DATA PORT, RJ45
	SPECIAL RECEPTACLE, NEMA TYPE NOTED
	SINGLE-POLE SWITCH, "3" INDICATES 3-WAY, "OS" INDICATES OCCUPANCY SENSING
	DRY-TYPE TRANSFORMER
	PUSHBUTTON STATION
	LOUVER OPERATOR
	JUNCTION BOX
	SOLENOID VALVE
	LIMIT SWITCH
	FLOW: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
	LEVEL: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
	PRESSURE: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
	TEMPERATURE: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
	OTHER SENSOR / INDICATING TRANSMITTER AS NOTED
	HAZARDOUS AREA LIGHT FIXTURE
	OUTDOOR CANOPY LIGHT FIXTURE
	EXTERIOR WALL-PACK LIGHT FIXTURE
	HIGH BAY LIGHT FIXTURE
	LINEAR LED LIGHT FIXTURE
	EXIT SIGN
	EMERGENCY REMOTE HEAD
	EMERGENCY WALL-PACK
	FIRE ALARM PULL STATION, STROBE, HORN-STROBE
	FIRE ALARM AREA SMOKE DETECTOR

ELECTRIC SYMBOLS - UTILITIES:

EX:	PR:	
		AIR CONDITIONING UNIT
		ELECTRIC CONTROL BOX
		ELECTRIC JUNCTION BOX
		ELECTRIC PULL BOX
		ELECTRIC RISER BOX
		ELECTRIC VAULT BOX
		ELECTRIC LIGHT - GROUND
		ELECTRIC LIGHT - POST
		ELECTRIC MARKER POST
		ELECTRIC METER
		ELECTRIC MANHOLE - 48"
		ELECTRIC MANHOLE - 48" - ADJUST
		ELECTRIC MANHOLE - LID
		ELECTRIC PAINT MARK
		ELECTRIC PEDESTAL
		ELECTRIC TRANSFORMER

SINGLE LINE, ELEMENTARY, & INTERCONNECTION DIAGRAMS (ONLY) SYMBOLOGY:

	DISCONNECT SWITCH - AMP RATING		N.O. LIMIT SWITCH		CONTACT - NORMALLY OPEN
	FUSE - AMP RATING		N.O. FLOW SWITCH		CONTACT - NORMALLY CLOSED
	CIRCUIT BREAKER - AMP RATING		N.O. LEVEL SWITCH		SOLENOID COIL
	TRANSFORMER		N.O. PRESSURE SWITCH		PILOT LIGHT - PUSH TO TEST (COLOR)
	MOTOR W / HORSEPOWER INDICATED		N.O. TEMPERATURE SWITCH		GROUND
	AMMETER		N.O. TIME DELAY AFTER ENERGIZATION		CAPACITOR
	VOLT METER		N.C. TIME DELAY AFTER ENERGIZATION		2 POSITION SELECTOR SWITCH
	POWER FACTOR METER		N.C. TIME DELAY AFTER DE-ENERGIZATION		3 POSITION SELECTOR SWITCH
	GROUND FAULT RELAY		N.O. TIME DELAY AFTER DE-ENERGIZATION		EQUIPMENT FIELD TERMINAL
	RELAY COIL		N.O. SWITCH (GENERAL)		
	TIMING RELAY COIL		START PUSHBUTTON NORMALLY OPEN		
	MOTOR STARTER COIL		STOP PUSHBUTTON NORMALLY CLOSED		
	ELAPSED TIME TOTALIZER				
	GROUNDING BUS				
	TRANSIENT VOLTAGE SURGE SUPPRESSOR				

ABBREVIATIONS:

A	AMPERES	IAW	IN ACCORDANCE WITH	PT	POTENTIAL TRANSFORMER
AF	AMPERE FRAME	ICP	INSTRUMENTATION & CONTROL PANEL	R	RELAY
AI	ANALOG INPUT (PLC)	IPP	INSTRUMENT POWER PANEL	RCP	REINFORCED CONCRETE PIPE
AL	ALUMINUM	JB	JUNCTION BOX	RVSS	REDUCED VOLTAGE SOFT STARTER
AM	AMMETER	JBC	JUNCTION BOX-CONTROL	SCP	SURGE CONTROL PANEL
AO	ANALOG OUTPUT (PLC)	JBM	JUNCTION BOX-METERING	SCR	SILICON-CONTROLLED RECTIFIER
AP	ALARM PANEL	JBP	JUNCTION BOX-POWER	SEC	SECONDARY
AT	AMPERE TRIP	KCM	KILO (1000) CIRCULAR MILL	SF	SUPPLY FAN
AWG	AMERICAN WIRE GAUGE	kVA	KILOVOLT AMPERES	SHLD	SHIELDED
C	CONDUIT	KVAR	KILOVOLT AMPERES-REACTIVE	SP	SHEAR PIN SWITCH
CAP	CAPACITOR	kW	KILOWATT	SPK	SPEAKER
CB	CIRCUIT BREAKER	LA	LIGHTNING ARRESTOR	SS	SELECTOR SWITCH OR STAINLESS STEEL
CJB	CONTROL JUNCTION BOX	LGT	LIGHT	SSOR	SOLID STATE OVERLOAD RELAY
CP	CONTROL PANEL	LOR	LOCAL/OFF/REMOTE SELECTOR SWITCH	SSPB	START/STOP PUSHBUTTON
CPT	CONTROL POWER TRANSFORMER	LP	LIGHTING PANEL	SSS	SOLID STATE STARTER
CR	CONTROL RELAY	LS	LEVEL SWITCH	STD	STANDARD
CS	CONTROL STATION	MCC	MOTOR CONTROL CENTER	STP	SHIELDED TWISTED PAIR
CT	CURRENT TRANSFORMER	MCP	MOTOR CIRCUIT PROTECTOR	STR	STARTER
Cu	COPPER	MDP	MAIN DISTRIBUTION PANEL	SV	SOLENOID VALVE
DB	DUCT BANK	MJB	METERING JUNCTION BOX	SW	SWITCH
DI	DIGITAL INPUT (PLC)	NEC	NATIONAL ELECTRICAL CODE	T	TELEPHONE
DO	DIGITAL OUTPUT (PLC)	NEMA	NATIONAL ELECTRICAL MFR ASSOC.	TB	TERMINAL BOARD
EAG	ELECTRICALLY ACTIVATED GATE	NEU	NEUTRAL	TC	TIME CLOCK
EAV	ELECTRICALLY ACTIVATED VALVE	NFDS	NON-FUSED DISCONNECT SWITCH	TD	TRENCH DUCT
EF	EXHAUST FAN	OCSS	OPEN/CLOSE SELECTOR SWITCH	TEB	TELEPHONE EQUIPMENT BACKBOARD
ESPB	EMERGENCY STOP PUSHBUTTON (MAINTAINED)	OL	OVERLOAD	TEMP	TEMPERATURE
ETM	ELAPSED TIME MONITOR	OOSS	ON/OFF SELECTOR SWITCH	TOR	THERMAL OVERLOAD RELAY
EWD	ELEMENTARY WIRING DIAGRAM	OS	OCCUPANCY SENSING	TR	TIMING RELAY
FDS	FUSED DISCONNECT SWITCH	OTS	OVER TORQUE SWITCH	TSTAT	THERMOSTAT
FLA	FULL LOAD AMPERES	P	POLE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
FS	FLOW SWITCH	PB	PUSHBUTTON	UH	UNIT HEATER
FVC	FULL VOLTAGE CONTACTOR	PBC	PULLBOX-CONTROL	UNO	UNLESS NOTED OTHERWISE
FNVR-1	FULL VOLTAGE NON-REVERSING STARTER, SIZE 1	PBM	PULLBOX-METERING	UPS	UNINTERRUPTIBLE POWER SUPPLY
GFI	GROUND FAULT INTERRUPTER	PBP	PULLBOX-POWER	UTP	UNSHIELDED TWISTED PAIR
GND	GROUND	PE	PHOTOEYE	V	VOLTS
GFR	GROUND FAULT RELAY	PF	POWER FACTOR	VC	VOLUME CONTROL
HOA	HAND/OFF/AUTO SELECTOR SWITCH	PH	PHASE	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	PLC	PROGRAMMABLE LOGIC CONTROLLER	VM	VOLT METER
HTR	HEATER	PJB	POWER JUNCTION BOX	XP	EXPLOSION PROOF
HTS	HIGH TORQUE SWITCH	PP	POWER PANEL	XF	TRANSFORMER
Hz	HERTZ	PRI	PRIMARY	WP	WATERPROOF
		PS	PRESSURE SWITCH	ZS	LIMIT SWITCH

ELECTRICAL LINE SYMBOLOGY:

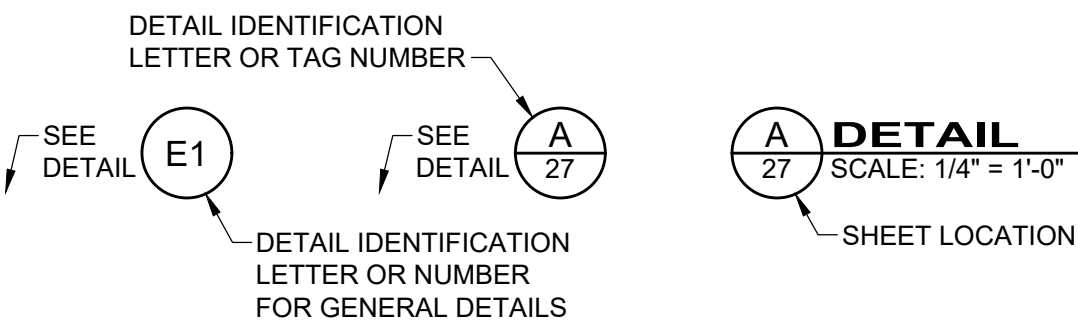
PROPOSED:	
	CONDUIT AND WIRE RUN EXPOSED
	CONDUIT AND WIRE BELOW GRADE
	ELECTRIC LINE
	ELECTRIC LINE - OVERHEAD
	ELECTRIC LINE - UNDERGROUND
	ELEC SERVICE
	ELEC SERVICE - OVERHEAD
	ELEC SERVICE - UNDERGROUND
	ELEC LIGHTING - OVERHEAD
	ELEC LIGHTING - UNDERGROUND

EXISTING:	
	ELECTRIC LINE
	ELECTRIC LINE - ABANDONED
	ELECTRIC LINE - OVERHEAD
	ELECTRIC LINE - UNDERGROUND
	ELECTRIC SERVICE
	ELECTRIC SERVICE - OVERHEAD
	ELECTRIC SERVICE - UNDERGROUND
	ELECTRIC LIGHTING - OVERHEAD
	ELECTRIC LIGHTING - UNDERGROUND
	ELECTRIC DUCT

ELECTRICAL CODED NOTES:

	NEW WORK - NOTE 1		DEMOLITION - NOTE 1		REVISION - NOTE 1
	NEW WORK - NOTE 2		DEMOLITION - NOTE 2		REVISION - NOTE 2
	NEW WORK - NOTE 3		DEMOLITION - NOTE 3		REVISION - NOTE 3

ELECTRICAL DETAIL REFERENCE:



ELECTRICAL GENERAL NOTES:

- ALL ELECTRICAL EQUIPMENT AND MATERIALS WILL BE SELECTED AND INSTALLED IN COMPLIANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL FIRE CODES, INCLUDING BUT NOT LIMITED TO ALL PERTINENT NFPA REGULATIONS. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLIANCE WITH THESE CODES.
- DO NOT INSTALL DEVICES SCALED FROM THESE DRAWINGS. ALL DEVICES SHALL BE INSTALLED AT LOCATIONS SHOWN IN THE APPROVED CONDUIT/DEVICE LAYOUT DRAWINGS AND WITH DIMENSIONS TAKEN IN THE FIELD.
- ELECTRICIAN TO VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID.
- NO DUCTWORK OR PIPING TO BE RUN ABOVE ELECTRICAL PANELS OR THROUGH ELECTRICAL EQUIPMENT ROOMS. ELECTRICIAN SHALL COORDINATE WITH ALL TRADES FOR EQUIPMENT LAYOUTS PRIOR TO ROUGH-IN OF ALL SYSTEMS.
- MANUFACTURERS AND CATALOG NUMBERS SHOWN IN THE LIGHT FIXTURE SCHEDULE ARE PROVIDED TO INDICATE DESIRED LIGHT FIXTURE CHARACTERISTICS. IT IS THE INTENT OF THE DOCUMENTS TO ALLOW ALTERNATE MANUFACTURERS TO PROVIDE LIGHTING PRODUCTS FOR THE PROJECT, AS LONG AS PROPOSED ALTERNATES PROVIDE THE SAME GENERAL DESIGN AND LIGHTING CHARACTERISTICS AS NOTED IN THE LIGHT FIXTURE DESCRIPTION.
- ELECTRICIAN TO CONFIRM LOCATIONS OF ALL ELECTRICAL EQUIPMENT AND ELECTRICAL CHARACTERISTICS OF PROCESS EQUIPMENT PROVIDED BY OTHER TRADES PRIOR TO INSTALLING ROUGH-INS AS SHOWN ON THE ELECTRICAL PLANS. ALL SHOP DRAWING REQUIREMENTS WILL BE CONSIDERED AS THE MEANS AND METHODS OF INSTALLATION.
- THIS PROJECT INVOLVES WORK AT AN INDUSTRIAL FACILITY AND THE CONTRACTOR IS EXPECTED TO PROVIDE CRAFTSMANSHIP REFLECTING THE NATURE OF THE FACILITY. CONDUITS IN PROCESS AREAS ARE TO BE SURFACE MOUNTED RIGID GALVANIZED STEEL (RGS). IN CLASSIFIED AREAS SEAL ALL CONDUITS TO RESTRICT THE PASSAGE OF GASSES AND VAPORS, AND ARRANGE SEALING FITTING DRAINS IN CONDUIT SYSTEMS TO PREVENT ACCUMULATION OF CONDENSATE ABOVE SEALS. ALL CONDUITS ENTERING OR LEAVING A MOTOR CONTROL CENTER, CONTROL PANEL, VALVE ACTUATOR, INSTRUMENT, A BUILDING, OR A PANELBOARD SHALL BE MADE WATERTIGHT USING AN INFLATABLE SEALED BLADDER DUCT SEALING SYSTEM, RAYCHEM 'RAYFLATE' DUCT SEALING SYSTEM RDSS OR APPROVED EQUAL. ALL HARDWARE IS TO BE STAINLESS STEEL UNLESS OTHERWISE DIRECTED.

ALL ENCLOSURES ARE TO BE RATED AS FOLLOWS (UON):

- OUTDOORS: NEMA 4X (STAINLESS STEEL)
 - CLASSIFIED AREAS: NEMA 7
 - INDOORS (CORROSIVE AREAS): NEMA 4X (STAINLESS STEEL)
 - INDOORS (CONTROLLED ENVIRONMENT) NEMA 12
- ELECTRICIAN SHALL REVIEW ALL OTHER TRADES' CONSTRUCTION DOCUMENTS AND/OR COORDINATE WITH OTHER TRADES AND VERIFY IF THERE ARE ANY ADDITIONAL ELECTRICAL REQUIREMENTS NOT SHOWN ON ELECTRICAL DRAWINGS. COST FOR WORK SHOWN ON OTHER TRADES' DRAWINGS SHALL BE INCLUDED IN BASE BID. ALL FIELD WIRING AND TERMINATIONS OF PROCESS EQUIPMENT AND INSTRUMENTATION AND CONTROLS SHALL BE THE RESPONSIBILITY OF THE ELECTRICIAN. ALL CABLES AND WIRES PROVIDED BY VENDORS SHALL BE INSTALLED AND TERMINATED BY THE ELECTRICIAN. WIRE ALL MISCELLANEOUS POWER AND CONTROLS AS REQUIRED TO PROVIDE A COMPLETE FUNCTIONING SYSTEM.
 - ELECTRICAL WIRES SHALL BE MINIMUM #12 AWG, COPPER, 600 V RATED. #14 AWG COPPER SHALL BE PERMISSIBLE FOR CONTROL CIRCUITRY. AMPACITY RATINGS SHALL BE BASED UPON 75°C RATINGS.
 - #14, #12, AND #10 AWG CONDUCTORS SHALL BE "THHN/THWN".
 - #8 AND LARGER SHALL BE STRANDED "THHN/THWN".
 - A 4-20mA SIGNAL IS AN ANALOG SIGNAL USED TO TRANSMIT DATA (LEVEL, FLOW, ETC.) FOR PROCESS CONTROLS. THE ELECTRICIAN SHALL PROVIDE, INSTALL, AND TERMINATE SHIELDED TWISTED PAIRS (STP) WIRING IN RIGID GALVANIZED STEEL CONDUIT (RGS). RGS IS USED IN AN ATTEMPT TO REDUCE THE DISTORTION AFFECT FROM EMI AND RFI. BELOW GRADE CONDUITS SHALL BE PVC SCHED-40, PARALLEL RUNS OF DATA CONDUITS AND POWER CONDUITS SHALL BE SEPARATED BY 2 FEET. THE STP SHIELD SHALL BE GROUNDED AT THE CONTROL PANEL ONLY (DO NOT GROUND AT BOTH ENDS).
 - THE ELECTRICIAN SHALL BE RESPONSIBLE FOR LAYOUT AND COORDINATION OF OPENINGS AND CHASES AND SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED TO INSTALL THEIR WORK. ALL CONCRETE HOUSE KEEPING PADS SHALL BE FRAMED AND POURED BY THE ELECTRICIAN. PADS SHALL HAVE A 45 DEGREE, 1" CHAMFER AROUND UPPER EDGE.
 - THE ELECTRICIAN SHALL INSTALL & DISTRIBUTE TEMPORARY POWER SERVICE FOR THE DURATION OF THIS PROJECT AS DEFINED IN DIVISION 1 SPECIFICATIONS. ALL COSTS ASSOCIATED WITH THE INSTALLATION, DISTRIBUTION AND MAINTENANCE OF THE TEMPORARY POWER IS THE RESPONSIBILITY OF THE ELECTRICIAN. THERE SHALL BE 120/240V, 1PH, 3W POWER AVAILABLE AT ALL LOCATIONS OF CONSTRUCTION AS DIRECTED IN FIELD AND AS SPECIFIED. ALL TEMPORARY EQUIPMENT, CONDUITS & CONDUCTORS SHALL BE COMPLETELY REMOVED AT COMPLETION OF PROJECT.
 - ALL ELECTRICAL EQUIPMENT, DEVICES, LIGHTING FIXTURES, CONDUIT, AND WIRING SHOWN ON THE ELECTRICAL DRAWINGS IS NEW UNLESS CLEARLY CALLED OUT AS EXISTING. ALL EXISTING ELECTRICAL EQUIPMENT THAT IS CALLED OUT TO BE REUSED SHALL BE INSPECTED IN THE FIELD BY THE ELECTRICIAN AND THE CONSTRUCTION MANAGER TO DETERMINE ITS CONDITION PRIOR TO STARTING ANY WORK. PROVIDE DOCUMENTATION TO OWNER INDICATING CONDITION OF THE EXISTING EQUIPMENT, AND REUSE EXISTING EQUIPMENT ONLY IF ALL PARTIES AGREE THE CONDITION IS ACCEPTABLE. ALL EXISTING EQUIPMENT DETERMINED TO BE UNUSABLE SHALL BE REPLACED WITH LIKE KIND AS DIRECTED BY THE OWNER. ANY OF THE OWNERS EQUIPMENT DETERMINED TO BE REUSED THAT IS DAMAGED BY ANY CONTRACTOR DURING SWITCHOVER SHALL BE REPLACED BY THAT CONTRACTOR. ALL EXISTING EQUIPMENT IS THE PROPERTY OF THE OWNER (NOT THE CONTRACTOR) AND SHALL BE TREATED ACCORDINGLY.
 - THE ELECTRICIAN SHALL BE HELD RESPONSIBLE TO ENSURE ALL CONTROLLERS TO BE INSTALLED ARE CAPABLE OF LOCKOUT / TAGOUT PRIOR TO INSTALLATION.
 - CONFORM TO THE NEC, OSHA, FIRE MARSHAL, BUILDING DEPARTMENT AND OTHER APPLICABLE CODES AND REGULATIONS. OBTAIN PERMITS, PAY ALL FEES, AND ARRANGE FOR REQUIRED INSPECTIONS.
 - ALL LIGHTING AND RECEPTACLE WIRING TO BE #12 XHHW WITH EQUIPMENT GROUND IN 3/4" C UNLESS OTHERWISE NOTED.
 - DO NOT MOUNT ANY LIGHT FIXTURE DIRECTLY OVER PIPING OR EQUIPMENT THAT WILL INTERFERE WITH NORMAL LIGHTING DISTRIBUTION.
 - SIZE JUNCTION BOXES AS REQUIRED PER NEC. PROVIDE BARRIER TYPE TERMINAL STRIPS, AND ALL WIRING TO BE IN CONDUIT.
 - SIZE PULL BOXES (PB) AS REQUIRED PER NEC.
 - PROVIDE SEPARATE PB'S FOR CONTROL AND POWER.
 - MOTOR OVERLOAD SETTING SHALL BE FIELD SELECTED PER MOTOR NAME PLATE CURRENT AND INSTALLED ACCORDINGLY.
 - MOUNT LOCAL CONTROLS AND SERVICE DISCONNECTS ON WALL NEAREST EQUIPMENT WHERE POSSIBLE. (MAXIMUM 60" ABOVE FINISHED FLOOR OR FINAL GRADE, MAXIMUM LATERAL DISTANCE FROM WALL TO EQUIPMENT - 10 FEET).
 - ALL FEEDERS RUN BELOW GRADE SHALL BE RUN IN PVC CONDUIT AT MINIMUM 3'-0" BELOW FINISHED GRADE, TRANSITION TO ABOVE GRADE SHALL BE MADE USING FACTORY PVC COATED RIGID STEEL CONDUIT SWEEPS.

BID SET

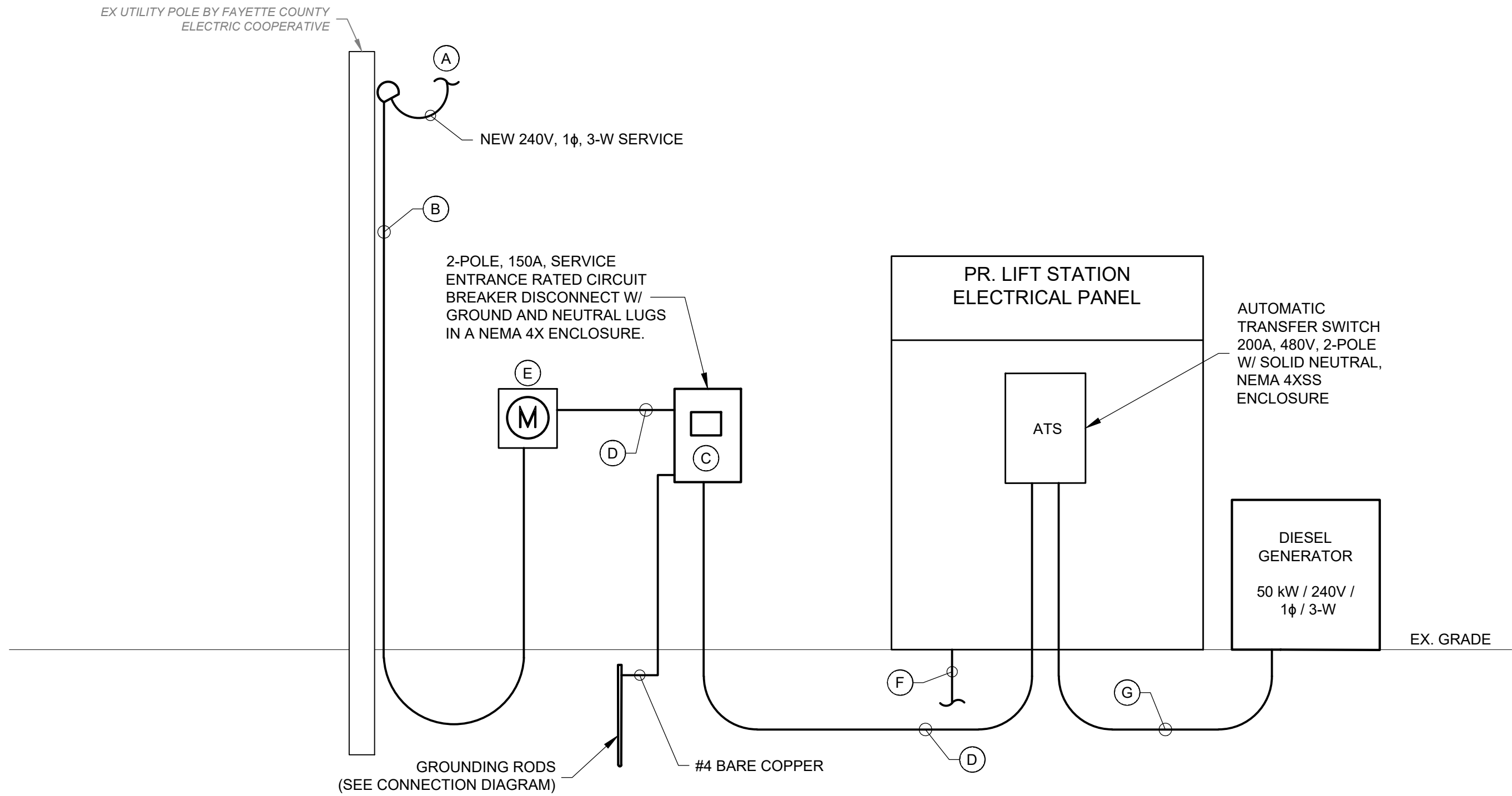
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ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	AS NOTED	2	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	JPB	3	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:	JPB			
CHECKED BY:	JPB			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

ELECTRICAL LEGEND & GENERAL NOTES

PROJECT NO.	241569
DISCIPLINE	ELECTRICAL
SHEET NAME	E-01
SHEET	OF
22	24



JACKSON LAKE CAMPGROUND LIFT STATION RISER DIAGRAM

ONE-LINE SCHEDULE							
LS NAME	(A) VOLTS / PH / HP	(B) WIRE AND CONDUIT SIZE	(C) SERVICE ENTRANCE RATED CIRCUIT BREAKER DISCONNECT	(D) WIRE AND CONDUIT SIZE	(E) METER SOCKET RATING	(F) WIRE AND CONDUIT SIZE TO PUMPS	(G) WIRE AND CONDUIT SIZE FROM GENERATOR
JACKSON LAKE CAMPGROUND LS	240V / 1φ / 2 @ 10 HP	(2) #3/0 + (1) #3/0 NEU IN 2" C	200 AMP / 150 AMP	(2) #1/0 + (1) #1/0 NEU + (1) #4 GND IN 2" C	PER UTILITY	(3) #10 & (1) #10 GND + (2) #18 IN 1-1/2" C	(2) #1/0 + (1) #1/0 NEU + (1) #6 GND IN 2" C

GENERAL NOTES:

1. CONFORM TO THE NEC, OSHA, FIRE MARSHAL, BUILDING DEPARTMENT AND OTHER APPLICABLE CODES AND REGULATIONS. OBTAIN PERMITS, PAY ALL FEES, AND ARRANGE FOR REQUIRED INSPECTIONS.

2. COMPLY WITH ALL COUNTY/VILLAGE STANDARDS, UTILITY CO. REQUIREMENTS, SPECIFICATIONS, AND THE REQUIREMENTS OF THE CONTRACT AS SPECIFIED BY ENGINEER, PROJECT MANAGER OR OWNER.

3. CONTACT OUPS, VISIT SITE, AND VERIFY EXISTING CONDITIONS AND TAKE INTO CONSIDERATION IN BID.

4. SYSTEMS ARE TO BE COMPLETE AND WORKABLE IN ALL RESPECTS. INSTALL PER MANUFACTURERS AND PROPERLY ADJUST AND START UP.

5. DRAWINGS ARE DIAGRAMMATIC. FIELD VERIFY EXISTING CONDITIONS AND CONNECTION POINTS PRIOR TO STARTING WORK. FULLY COORDINATE WORK WITH OTHER TRADES. APPROVED SHOP DRAWINGS ARE TO BE CONSIDERED AS THE MEANS AND METHODS OF INSTALLATION.

6. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, CONSTRUCTION SEQUENCES, AND WORKERS SAFETY.

7. PERFORM ALL DEMOLITION WORK REQUIRED FOR PROJECT AND DISPOSE OF DEMOLITION MATERIALS IN CODE APPROVED MANNER.

8. ALL CUTTING, TRENCHING, BACKFILLING AND PATCHING OF EXISTING SURFACES INCIDENTAL TO THIS WORK SHALL BE PERFORMED BY THIS CONTRACTOR. CUTTING AND PATCHING SHALL BE PERFORMED IN COMPLIANCE WITH THE PROJECT REQUIREMENTS. ALL BELOW GRADE CONDUITS SHALL BE 24" BELOW GRADE.

9. ALL ELECTRICAL EQUIPMENT AND WIRING AND OTHER ELECTRICALLY CONDUCTIVE MATERIAL. LIKELY TO BECOME ENERGIZED SHALL BE BONDED AND GROUNDED PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.

10. WIRES SHALL BE:

10.1. #12 AWG AND #10 SOLID OR STRANDED CONDUCTOR COPPER, 600V, TYPE THWN/THHN, WHHM OR THW (75/90°C)

10.2. #8 AWG TO AND INCLUDING 600 MCM AWG, STRANDED CONDUCTOR, 600V, TYPE THWN/THHN, WHHM OR THW (75/90°C)

10.3. COLOR CODE ALL WIRES PER NEC. GROUND CONDUCTORS SHALL BE GREEN. ALL WIRING SHALL BE IN CONDUIT, RIGID GALVANIZED STEEL ABOVE GRADE AND SCHEDULE 40 PVC BELOW GRADE.
11. ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED FOR THE PURPOSE AND ENVIRONMENT AND SHALL BE NOTED AS SUCH.

12. 75°C CONDUCTOR RATINGS HAVE BEEN APPLIED UP TO 100 AMPS. ALL EQUIPMENT TERMINATION PROVISIONS SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C CONNECTIONS PER NEC 110-14C

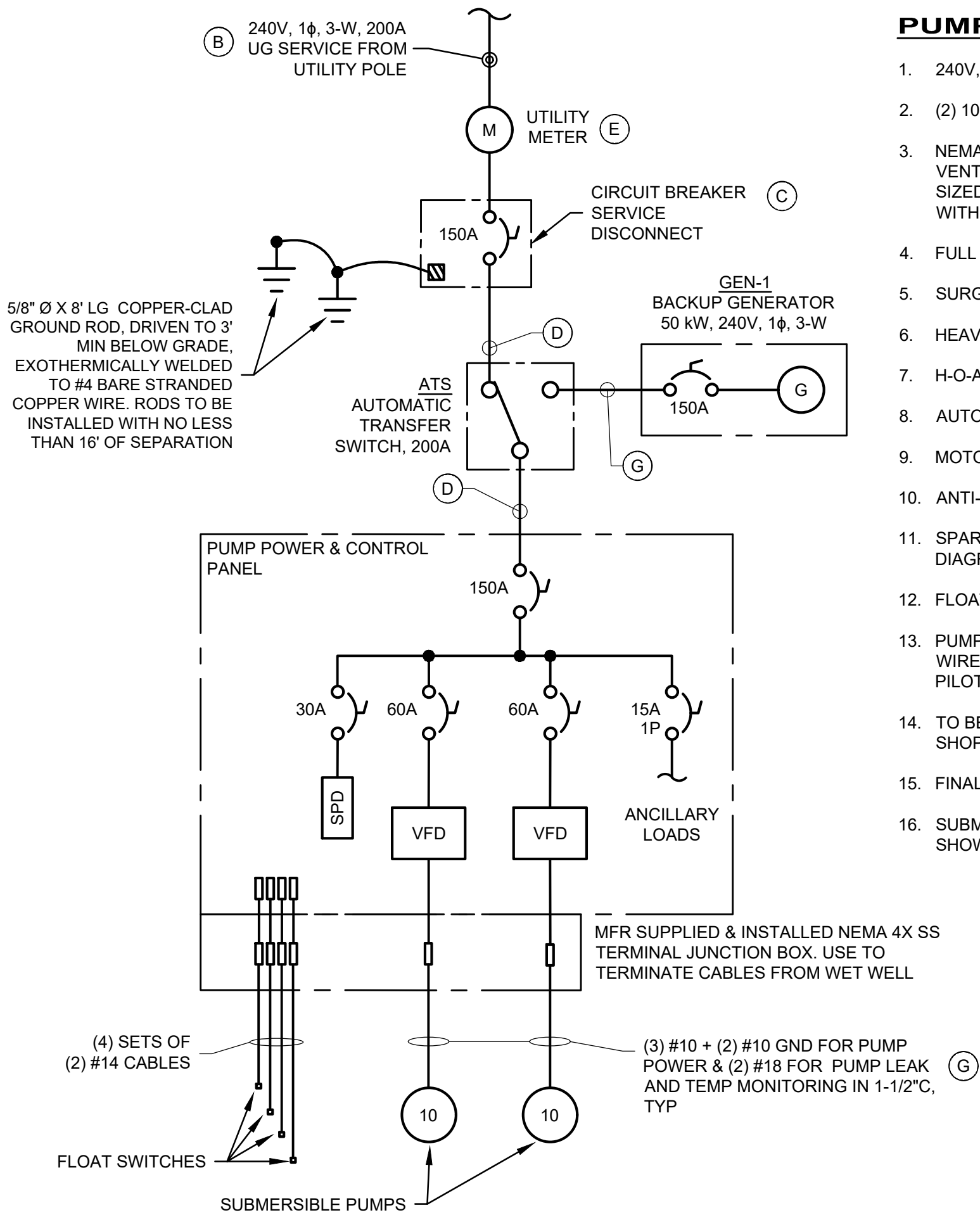
13. ALL EXISTING CIRCUITS REQUIRED TO REMAIN ACTIVE SHALL BE REWORKED OR MAINTAINED AS REQUIRED.

14. ALL ELECTRICAL EQUIPMENT, DEVICES, CONDUIT, AND WIRING SHOWN ON THE ELECTRICAL DRAWINGS IS NEW UNLESS CLEARLY CALLED OUT AS EXISTING. ALL EXISTING ELECTRICAL EQUIPMENT THAT IS CALLED OUT TO BE REUSED SHALL BE INSPECTED IN THE FIELD BY THE ELECTRICAL CONTRACTOR AND THE CONSTRUCTION MANAGER TO DETERMINE ITS CONDITION PRIOR TO STARTING ANY WORK. PROVIDE DOCUMENTATION TO OWNER INDICATING CONDITION OF THE EXISTING EQUIPMENT AND REUSE EXISTING EQUIPMENT ONCE ALL PARTIES AGREE THE CONDITION IS ACCEPTABLE. ALL EXISTING EQUIPMENT DETERMINED TO BE UNUSABLE SHALL BE REPLACED WITH LIKE KIND AS DIRECTED BY THE OWNER. ANY OF THE OWNERS EQUIPMENT DETERMINED TO BE REUSED THAT IS DAMAGED BY ANY CONTRACTOR DURING SWITCHOVER SHALL BE REPLACED BY THAT CONTRACTOR. ALL EXISTING EQUIPMENT IS THE PROPERTY OF THE OWNER (NOT THE CONTRACTOR) AND SHALL BE TREATED ACCORDINGLY.

15. ALL CABLES ARE TO BE CLEARLY MARKED WITH BRADY TYPE LABELS AND RECORD DRAWINGS SHALL INDICATED THE INDIVIDUAL MARKINGS.

GENERAL DETAIL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A STAINLESS STEEL UNISTRUT STRUCTURE W/ ALL S.S. HARDWARE.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THIS SYSTEM SIZED BASED ON THE APPROVED SHOP DRAWINGS AND AS NEEDED TO INSTALL ACTUAL EQUIPMENT PROVIDED.
3. BASE DETAIL IS TYPICAL FOR STANDARD SOIL BEARING. WHERE NON-STANDARD SOIL OCCURS, CONSULT CIVIL ENGINEER FOR BASE DESIGN PRIOR TO INSTALLATION.
4. THE WIDTH OF THE RACK WILL VARY BASED ON SERVICE SIZES. THE OWNER WOULD LIKE THIS TO BE AS SHORT AS POSSIBLE. PROVIDE CHANNEL ON BOTH SIDES SO THAT THE EQUIPMENT CAN BE MOUNTED ON THE FRONT AND ON THE BACK. ALL PANELS AND DEVICES SHALL BE A MINIMUM OF 18 INCHES ABOVE GRADE.
5. VFD'S SHALL BE SELECTED BASED UPON ANTICIPATED AMPERAGE DRAW OF THE PUMPS AND UPON A SINGLE PHASE FEED.
6. PUMP HORSEPOWER REFLECTED WITHIN THE ELECTRICAL DETAILS IS REFLECTIVE OF THE PUMP AMPERAGE DRAW FOR THIS APPLICATION. ALL DEVICES, CONDUCTORS, CONDUIT, ETC., SHALL BE SELECTED BASED UPON THE ANTICIPATED AMPERAGE DRAW.



PR. PUMP STATION CONNECTION DIAGRAM

PUMP CONTROL PANEL:

1. 240V, 1φ, 60 HZ, 3-W POWER INPUT
2. (2) 10 HP, 240V, 3φ PUMPS
3. NEMA 4X SS ENCLOSURE W/ SUNSHIELD AND VENTILATION. ENCLOSURE AND VENTILATION SIZED TO ALLOW OPERATION IN 100°F AMBIENT WITH NO DAMAGE TO MOTOR DRIVES
4. FULL INNER DOOR
5. SURGE PROTECTION
6. HEAVY DUTY VFDs FOR MOTOR CONTROL
7. H-O-A AND RUNNING PILOT LIGHTS
8. AUTOMATIC PUMP ALTERNATING
9. MOTOR RUNTIME MONITORS
10. ANTI-CONDENSATION HEATER
11. SPARE BREAKERS FOR AUX LOADS PER DIAGRAM
12. FLOAT LEVEL CONTROL CIRCUIT
13. PUMP FAIL, VFD FAIL, HIGH LEVEL, ALARMS WIRED TO TERMINALS & COMMON RED ALARM PILOT LIGHT
14. TO BE FABRICATED BY UL/CSA APPROVED PANEL SHOP
15. FINAL PANEL DESIGN BY THE FABRICATOR
16. SUBMERSIBLE PRESSURE TRANSDUCER IS NOT SHOWN

BID SET

verdantas

ISSUED FOR:	BIDDING	NO	REVISION	DATE
ISSUE DATE:	9/4/25	1	REVISED PER OEPA COMMENTS	7/16/2025
SCALE:	AS NOTED	2	REVISED PER OEPA COMMENTS	7/30/2025
DESIGNED BY:	JPB	3	REVISED PER OEPA COMMENTS	9/4/2025
DRAWN BY:	JPB			
CHECKED BY:	JPB			

JACKSON LAKE CAMPGROUND
FORCE MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

ELECTRICAL DETAILS

PROJECT NO. 241569	
DISCIPLINE ELECTRICAL	
SHEET NAME E-02	
SHEET 23	OF 24

BID SET

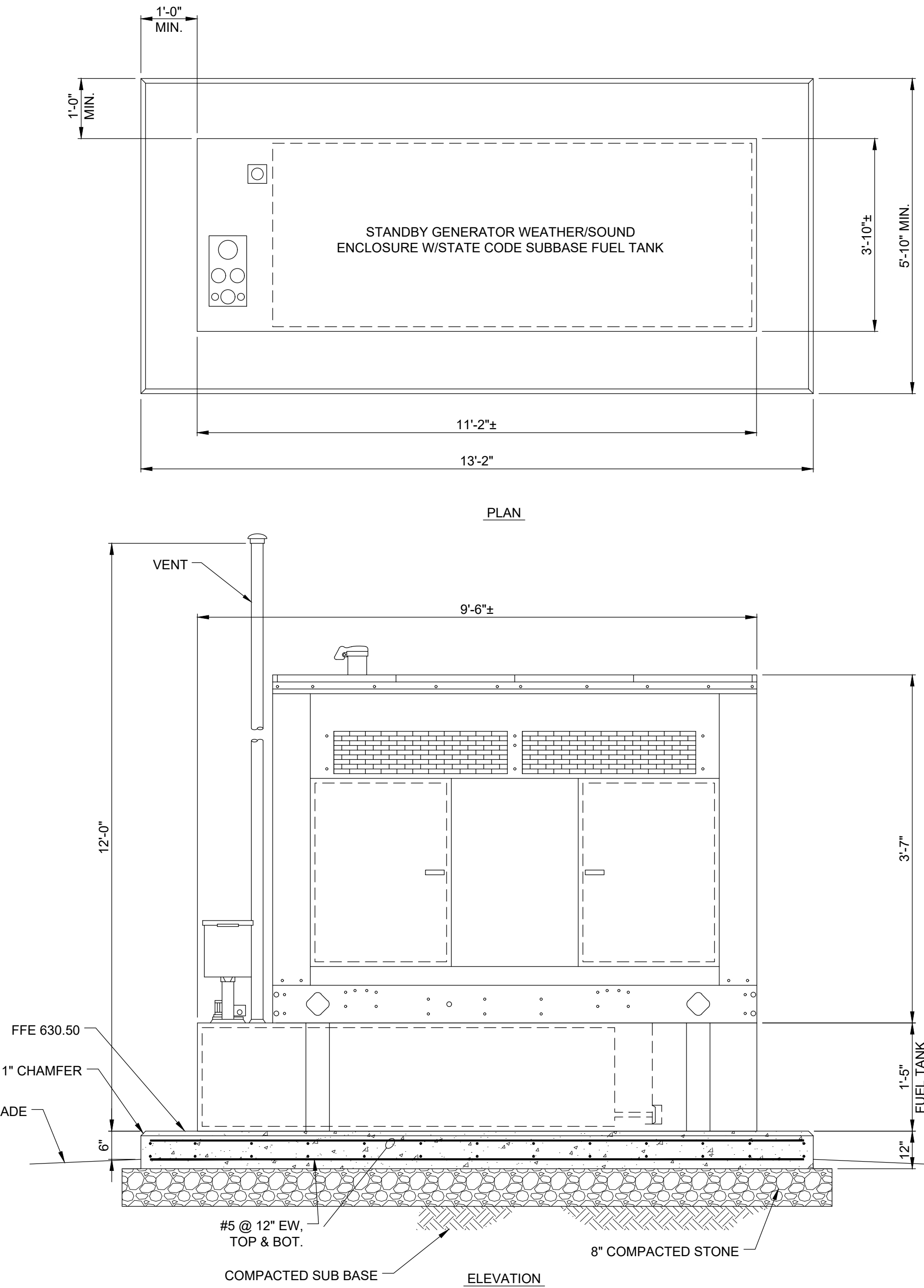
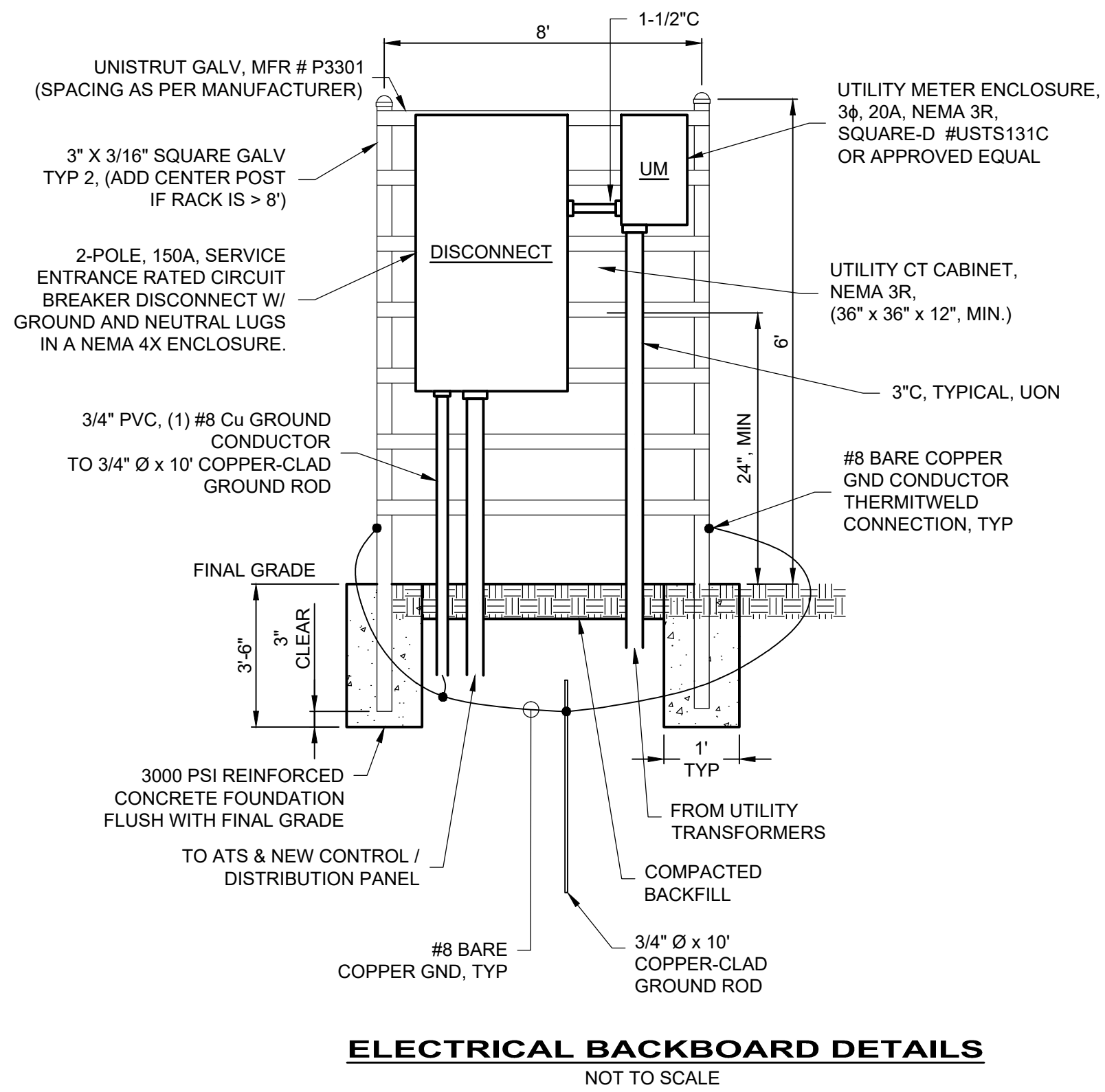
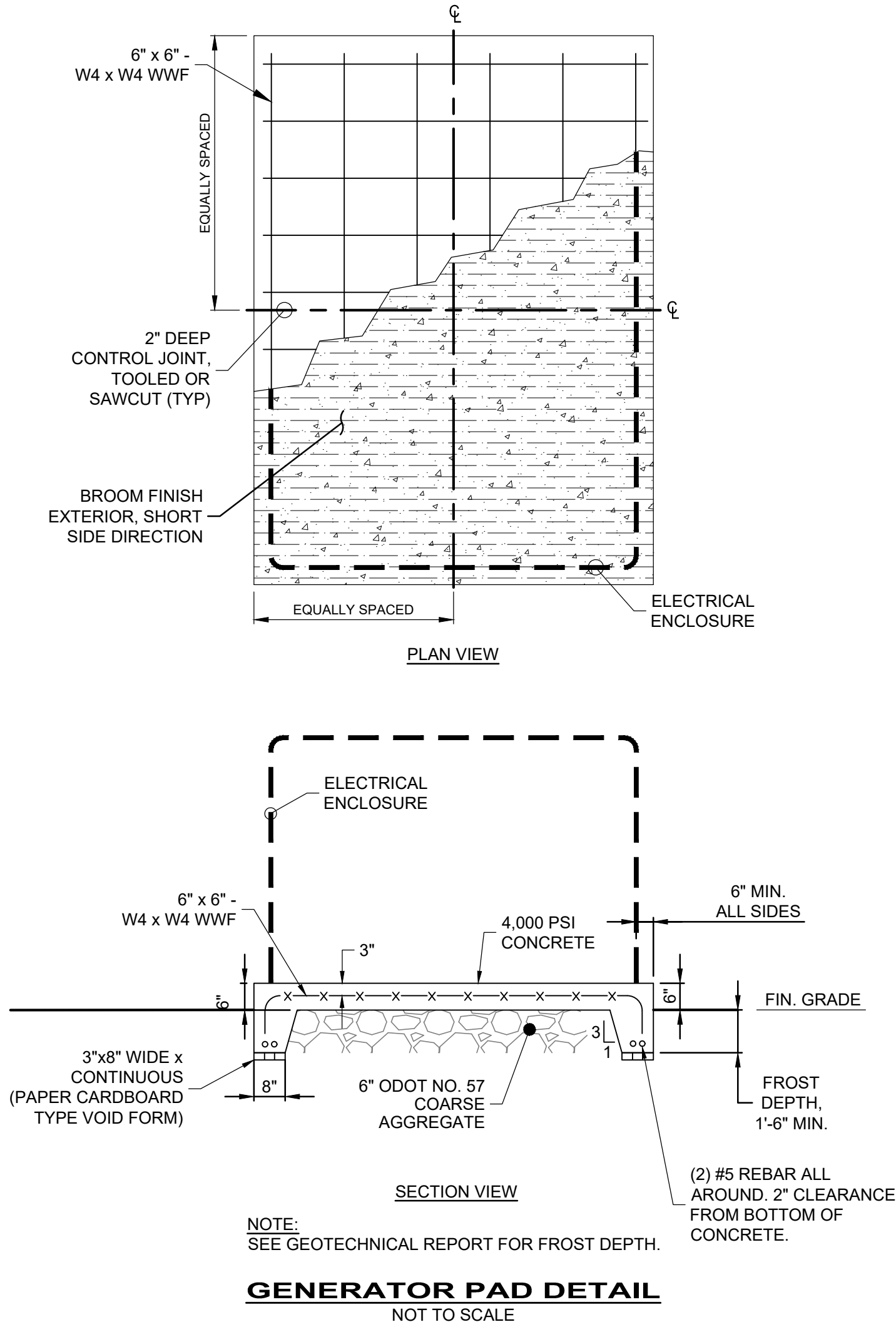
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JACKSON LAKE CAMPGROUND
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- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

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PROJECT NO.	
241569	
DISCIPLINE	
ELECTRICAL	
SHEET NAME	
E-03	
SHEET	OF
24	24



- NOTES:
- CONCRETE PAD TO BE STEEL REINFORCED AS SHOWN. CONCRETE TO BE AIR-ENTRAINED, ODOT CLASS QCI. REINFORCING STEEL CLEARANCE TO BE 2" MINIMUM TOP AND SIDES, 3" MINIMUM BOTTOM. TOP SURFACE TO BE BEVELED SO THAT WATER DOES NOT POOL UNDER EQUIPMENT. WHEN PAD IS LOCATED ON SLOPING TERRAIN, THICKEN PAD SO THAT PAD EXTENDS 6" ABOVE GRADE AT THE HIGHEST GROUND ELEVATION ON THE PERIMETER OF THE PAD AND 6" BELOW GRADE AT THE LOWEST GROUND ELEVATION ON THE PERIMETER OF THE PAD.
 - PLAN DIMENSIONS ARE APPROXIMATE. MINIMUM FINAL DIMENSIONS IN PLAN SHALL CAUSE THE FOUNDATION TO EXTEND TWO FEET BEYOND LARGEST DIMENSIONS OF SUB BASE FUEL TANK. WORK FROM APPROVED SUB BASE FUEL TANK DRAWINGS.
 - POSITION CONDUIT WITHIN FOUNDATION SLAB AS REQUIRED TO RISE INTO PERMITTED SPACES OF GENERATOR ENCLOSURE/SUB BASE FUEL TANK. DO NOT PLACE FOUNDATION CONCRETE WITHOUT CONDUIT INSTALLED BASED UPON APPROVED SHOP SUBMITTALS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING THE PERMIT AND FOR ANY TESTING FOR THE PROPOSED SUB BASE FUEL TANK FROM THE STATE OF OHIO, DEPARTMENT OF COMMERCE, STATE FIRE MARSHALL'S OFFICE.
 - THE PROPOSED SUB BASE FUEL TANK SHALL BE LISTED FOR ABOVE GROUND USE FOR CONTAINING FLAMMABLE AND COMBUSTIBLE LIQUIDS AND SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH NFPA 30 (2008), SECTION 21.4.2 AND OTHER APPLICABLE CODES AND STANDARDS.
 - SUB BASE FUEL TANK SHALL BE UL-142 LISTED.
 - SUB BASE FUEL TANK SHALL BE PRESSURE TESTED ON SITE PRIOR TO FILLING.
 - CONTRACTOR TO SUPPLY A MINIMUM OF 215 GALLONS OF DIESEL FUEL AT TIME OF STARTUP.

