

# REPLACE 22 ELECTRIC SITES WITH 22 PREMIUM SITES

## TABLE ROCK STATE PARK, CAMPGROUND #2

### BRANSON, MISSOURI

## CONSTRUCTION DOCUMENTS

OWNERS: STATE OF MISSOURI  
MICHAEL L. PARSON, GOVERNOR

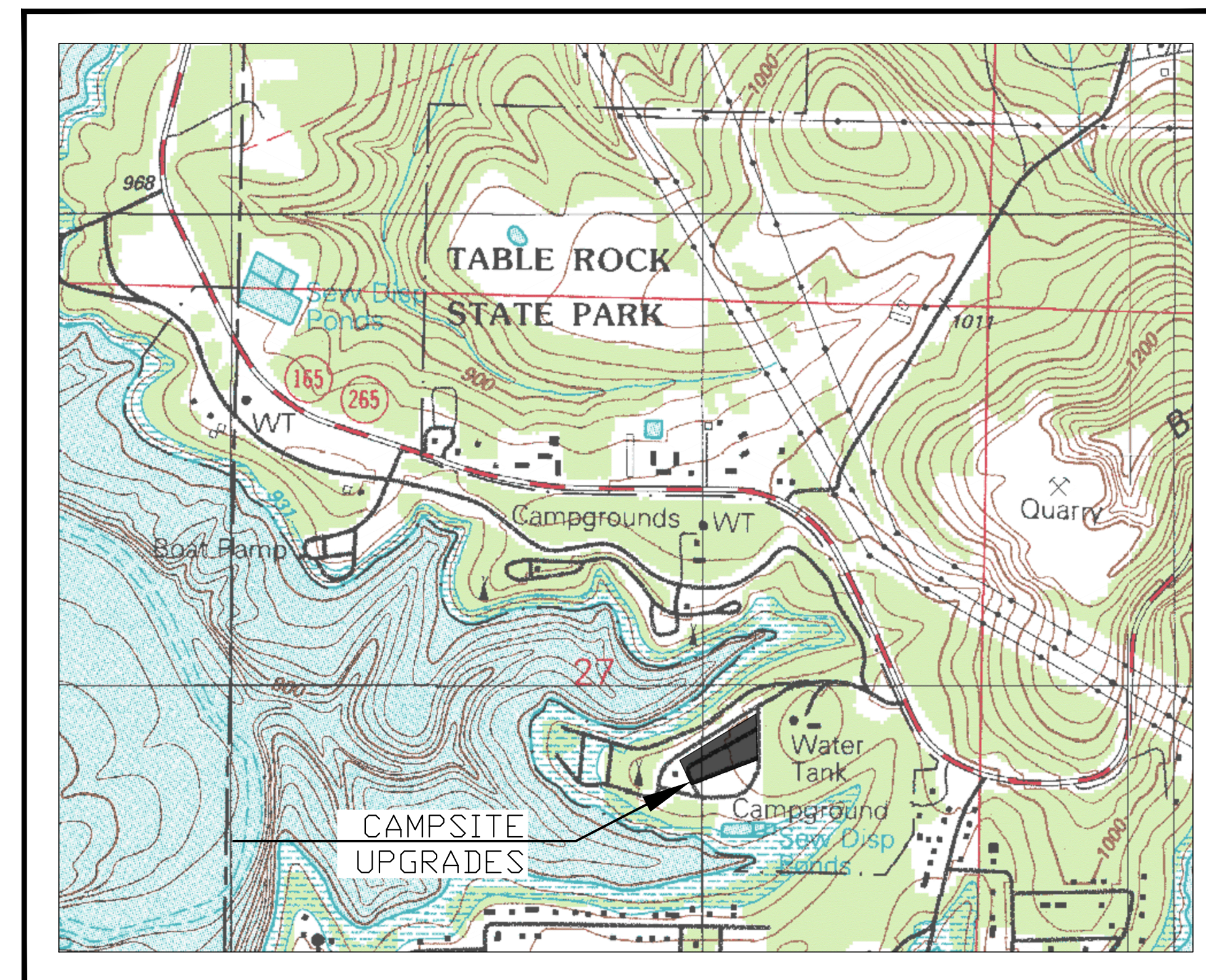
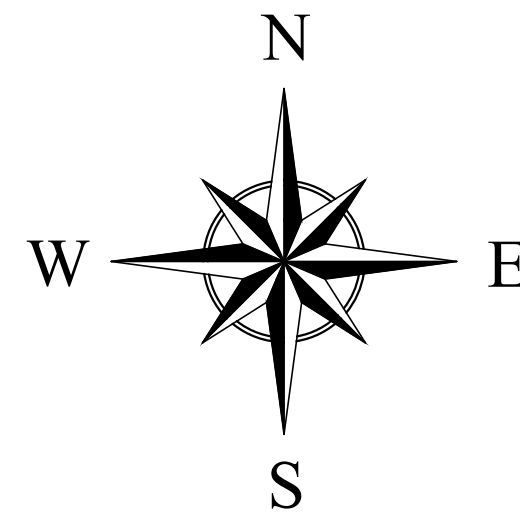
MISSOURI DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES MANAGEMENT,  
DESIGN AND CONSTRUCTION

PROJECT #: X2216-01

SITE #: 5603

ASSET #: 7815603018



SECTION 27, TOWNSHIP 22N, RANGE 22W  
TANEY COUNTY, MISSOURI

### LEGEND

○	IRON PIN SET (TYPICAL) GREAT RIVER 2001011476	⊗	WATER VALVE
●	IRON PIN FOUND, AS NOTED	⊕	FIRE HYDRANT
×	CUT CROSS	⊕	WATER HYDRANT
▲	RIGHT OF WAY MARKER	⊕	IRRIGATION SPRINKLER HEAD
■	STONE	⊕	IRRIGATION CONTROL VALVE
CP	CONTROL POINT	⊕	MAIL BOX
◆	PERMANENT BENCHMARK	⊕	SIGN
---	CONTOUR MAJOR	⊕	POST
- - -	CONTOUR MINOR	⊕	FLAG POLE
⊕	DECIDUOUS TREE, SIZE AS NOTED	⊕	AIR CONDITIONING UNIT
⊕	CONIFER TREE, SIZE AS NOTED	⊕	CABLE TV RISER
⊕	BUSH, SIZE AS NOTED	⊕	BORE HOLE, AS NOTED
⊕	LIGHT POLE	—S—	SANITARY SEWER LINE
⊕	POWER POLE	—O—	FENCE CHAIN-LINK
⊕	ELECTRIC RISER	—X—	WIRE
⊕	ELECTRIC BOX	—D—	WOOD
⊕	ELECTRIC METER	—XX—	WOVEN WIRE
⊕	GUT WIRE ANCHOR	—B—	POLY VINYL
⊕	PEDESTAL, AS NOTED	—OHE—	ELECTRIC LINE
⊕	SANITARY SEWER CLEAN OUT	—UE—	UNDERGROUND ELECTRIC LINE
⊕	GRINDER PUMP	—T—	TELEPHONE LINE
⊕	SEPTIC TANK	—UT—	UNDERGROUND TELEPHONE LINE
⊕	SANITARY SEWER MANHOLE	—CTV—	CABLE TV LINE
⊕	STORM SEWER MANHOLE	—G—	GAS LINE
⊕	TELEPHONE MANHOLE	—W—	WATER LINE
⊕	TELEPHONE RISER	—GW—	GAS & WATER LINE
⊕	GAS VALVE	—FO—	FIBER OPTIC LINE
⊕	GAS METER	—IRR—	IRRIGATION LINE
⊕	WELL	—FM—	FORCE MAIN LINE
⊕	WATER METER	—FL—	FLOWLINE

ID	NORTHING	EASTING	ELEV.	DESCRIPTION
1	272219.3386	1405291.7581	965.17	CP1 60D
2	272098.8723	1405097.0978	957.31	CP2 60D
3	271457.1901	1405287.2088	940.53	CP3 60D
4	271437.3401	1405108.5624	939.23	CP4 60D

HORIZONTAL COORDINATES ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983, CENTRAL ZONE.

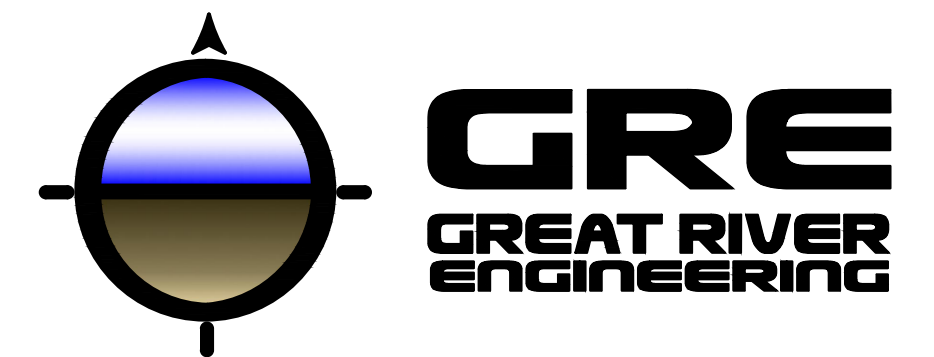
BENCHMARK DATA:  
BM1 - X IN SQUARE CUT OF SOUTHWEST CORNER OF CONCRETE PAD FOR TRASH BIN. BIN LOCATED IMMEDIATELY EAST OF PAD SITE 240.  
ELEVATION = 970.38'

BM2 - X IN SQUARE CUT OF NORTHWEST CORNER OF CONCRETE SIDEWALK ON NORTH SIDE AND WEST END OF SHOWER BUILDING.  
ELEVATION = 962.19'

BM3 - X IN SQUARE CUT OF NORTHWEST CORNER OF CONCRETE PAD FOR WATER HYDRANT LOCATED EAST OF PAD SITE 286 AND IMMEDIATELY SOUTH OF SANITARY SEWER LIFT STATION.  
ELEVATION = 942.04'

VERTICAL DATUM: NAVD88

DESIGNER:  
GREAT RIVER ENGINEERING  
2826 S. INGRAM MILL ROAD  
SPRINGFIELD, MO 65804  
PHONE: (417) 886-7171  
www.greatriv.com



Great River Engineering  
Missouri State Certificate of Authority Numbers:  
Engineering: 2000156885, Land Surveying: 2001011476,  
Landscape Architecture: 2007013673

### SHEET INDEX

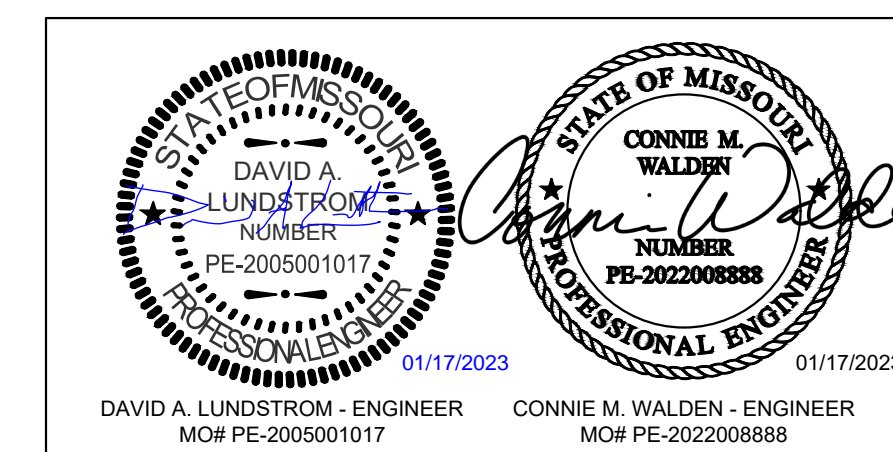
DESCRIPTION	SHEET NO.
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### UTILITY CONTACTS

ELECTRIC  
WHITE RIVER VALLEY ELECTRIC COOPERATIVE  
JOE DONOVAN  
PHONE: (417) 335-9335

WATER & SANITARY SEWER  
TABLE ROCK STATE PARK WATER SYSTEM  
CAYLEN CANTRELL  
PHONE: (417) 334-4704

UTILITY DISCLAIMER  
THE UNDERGROUND UTILITIES DEPICTED ON THIS SURVEY, ARE THOSE DISCOVERED BY FIELD INSPECTION, OR LOCATED BY UTILITY COMPANY REPRESENTATIVES; AND MAY NOT BE ALL THE UTILITIES ON OR NEAR THE PROPERTY. AFTER USING REASONABLE CARE IN THE LOCATION OF THOSE UTILITIES SHOWN, WE REFRAIN FROM WARRANTING EITHER THE LOCATION OF, OR COMPLETENESS OF, THOSE UTILITIES SHOWN, AS BEING ALL UTILITIES POSSIBLY AFFECTING THE SUBJECT PROPERTY.



SHEET NUMBER:

# G-001

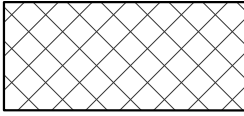
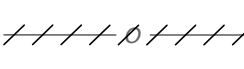




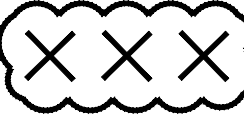
1 OF 18 SHEETS  
JANUARY 17, 2023

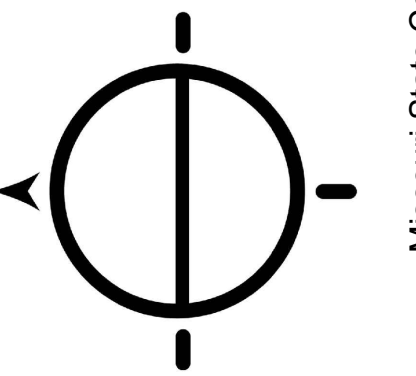
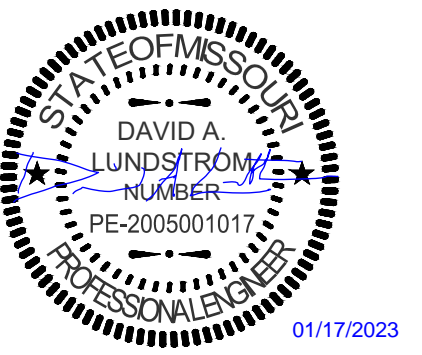
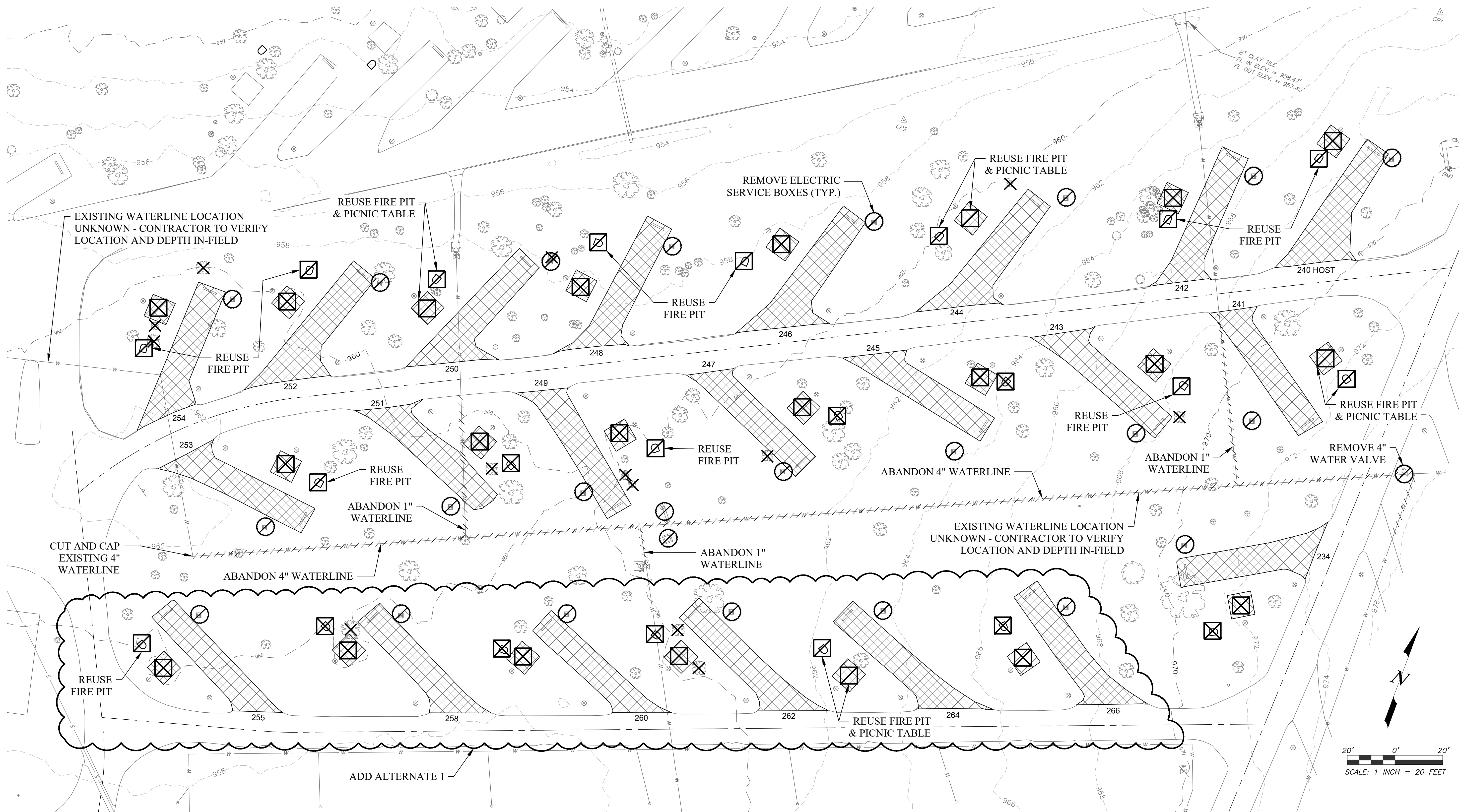


**NOTE**

1. CONTRACTOR SHALL REMOVE ALL DEMOLITION MATERIAL FROM THE SITE AND DISPOSE OF IT IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS. NO SEPARATE PAYMENT WILL BE MADE FOR DISPOSAL.
2. RELOCATE OR REPLACE CAMPFIRE PITS, PICNIC TABLES, AND LANTERN POSTS AS NOTED. NEW REPLACEMENT AMENITIES WILL BE OWNER FURNISHED, CONTRACTOR INSTALLED.
3. RELOCATE HYDRANTS, METERS AND OTHER UTILITY STRUCTURES AND ELEMENTS OUT OF THE NEW PAVEMENT AS INDICATED. ADJUST UTILITY ELEMENTS TO REMAIN TO FINISH GRADE.
4. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION, DISPOSAL, DNR AND ALL OTHER PERMITS NECESSARY TO COMPLETE THE WORK. BURNING OR BURYING OF DEBRIS, RUBBISH, OR OTHER WASTE MATERIAL ON THE PREMISES IS NOT PERMITTED.
5. BLASTING IS PROHIBITED.
6. CONTRACTOR SHALL REMOVE OTHER SITE ELEMENTS WHICH ARE NOT INTENDED FOR DEMOLITION, BUT ARE OBSTACLES TO CONSTRUCTION AND STORE THEM SAFELY DURING THE PROGRESS OF THE WORK. REINSTALL THE TEMPORARILY REMOVED ITEMS TO ORIGINAL LOCATION AND CONDITION. REPLACE ANY DAMAGED ELEMENTS. THERE WILL BE NO ADDITIONAL PAYMENT FOR REPLACEMENT.
7. ALL PAVEMENT AND SIDEWALK REMOVALS SHALL BE MADE TO A CLEAN AND UNIFORM SAWCUT FACE. REMOVE TO AN EXISTING CONSTRUCTION OR EXPANSION JOINT IF WITHIN 3' OF THE PROPOSED SAWCUT.
8. ABANDON EXISTING PIPES, VAULTS AND OTHER UNDERGROUND STRUCTURES BY COMPLETELY REMOVING THEM OR BY COMPLETELY FILLING THE BURIED STRUCTURE WITH SAND AND OR LOW STRENGTH CONCRETE SLURRY.

**LEGEND:**

-  REMOVE CONCRETE OR ASPHALT PAVEMENT
-  LINEAR ITEMS TO BE REMOVED (FENCES, CURBING, ETC.)
-  TREE TO BE REMOVED
-  UTILITIES TO BE REMOVED
-  STRUCTURE TO BE REMOVED AND REPLACED
-  STRUCTURE TO BE RELOCATED
-  GROUP OF TREES TO BE REMOVED



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TABLE ROCK STATE PARK  
REPLACE 22 ELECTRIC SITES  
WITH 22 PREMIUM SITES

TABLE ROCK STATE PARK  
CAMPGROUND #2  
5272 STATE HWY 165  
BRANSON, MISSOURI 65616

PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
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ISSUE DATE: 01/17/2023

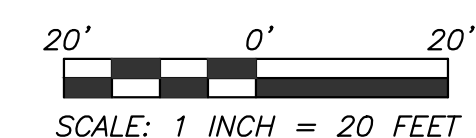
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CHECKED BY: DAL  
DESIGNED BY: ALW

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**DEMOLITION PLAN  
AND EXISTING  
CONDITIONS**

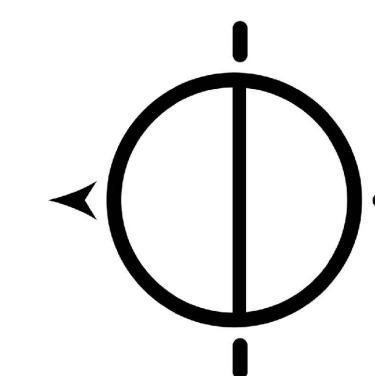
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**C-101**

2 OF 18 SHEETS  
JANUARY 17, 2023







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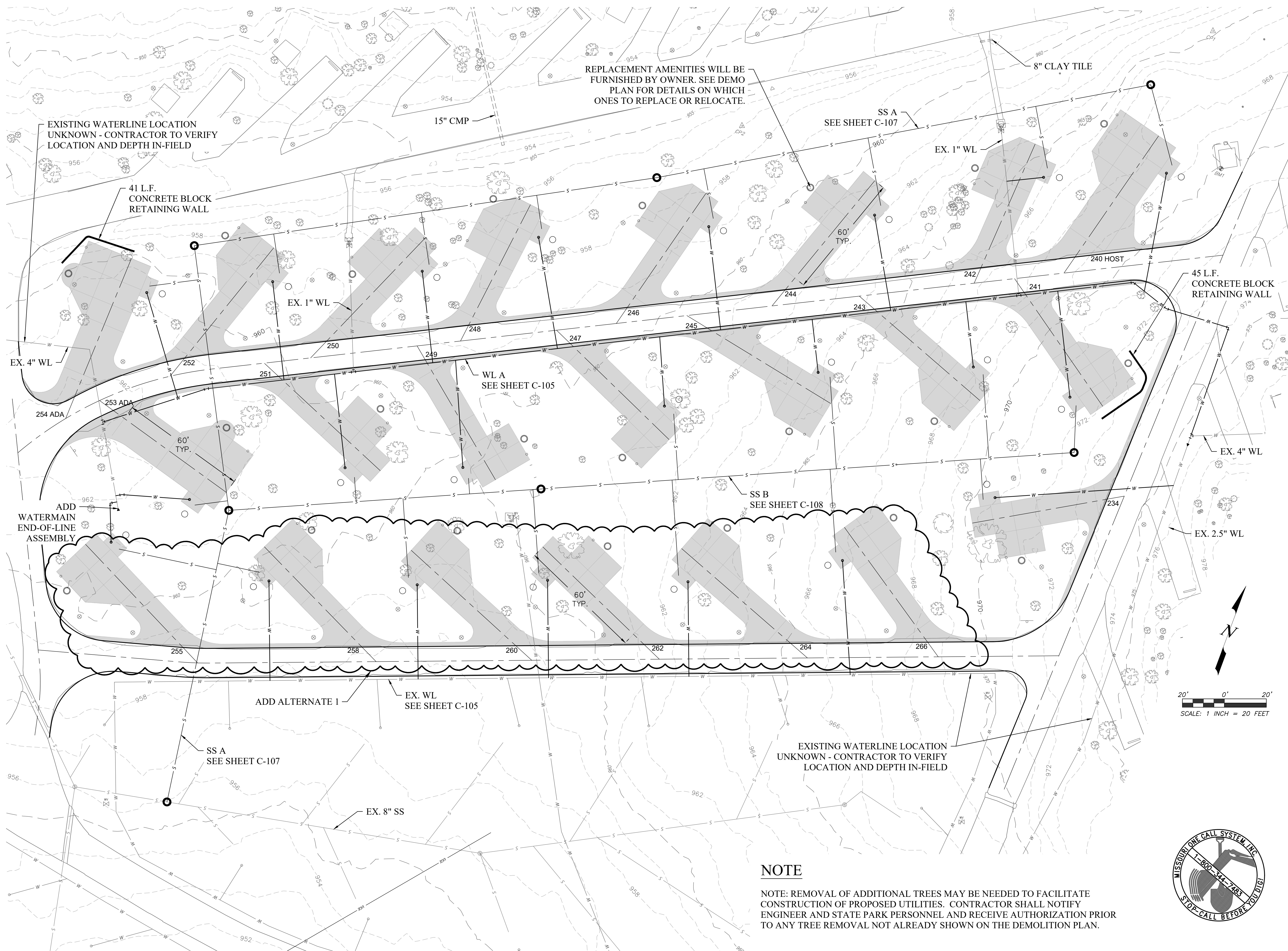
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CHECKED BY: DAL  
DESIGNED BY: ALW

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**SITE LAYOUT**

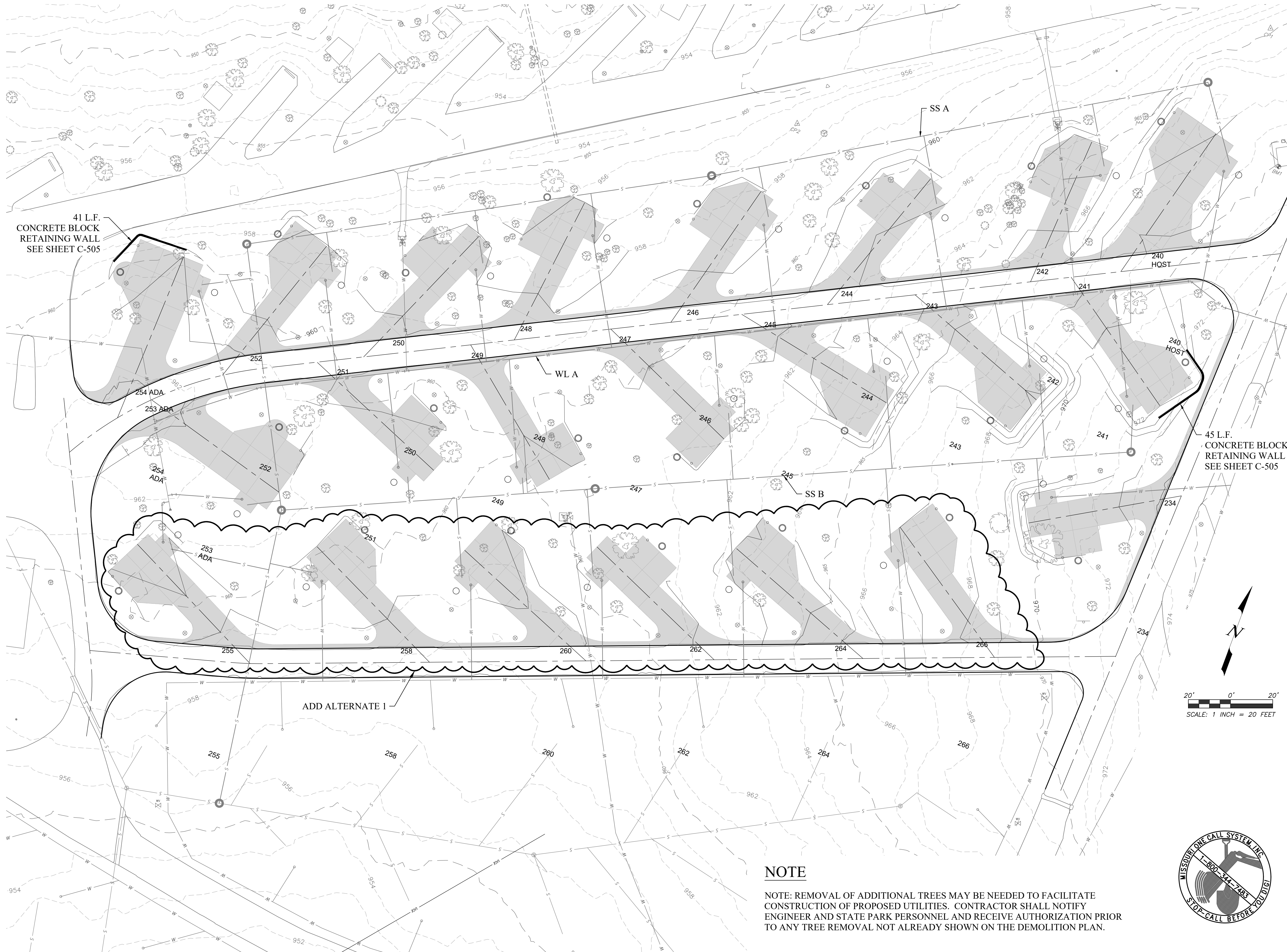
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**C-102**

3 OF 18 SHEETS  
JANUARY 17, 2023







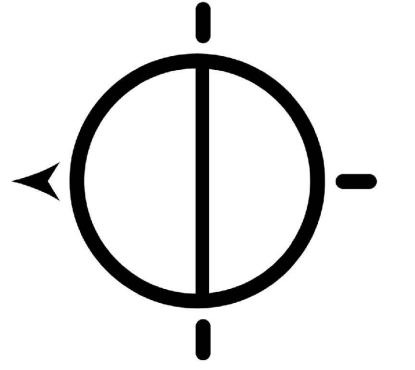
41 L.F.  
CONCRETE BLOCK  
RETAINING WALL  
SEE SHEET C-505

45 L.F.  
CONCRETE BLOCK  
RETAINING WALL  
SEE SHEET C-505

ADD ALTERNATE 1

**NOTE**

NOTE: REMOVAL OF ADDITIONAL TREES MAY BE NEEDED TO FACILITATE CONSTRUCTION OF PROPOSED UTILITIES. CONTRACTOR SHALL NOTIFY ENGINEER AND STATE PARK PERSONNEL AND RECEIVE AUTHORIZATION PRIOR TO ANY TREE REMOVAL NOT ALREADY SHOWN ON THE DEMOLITION PLAN.



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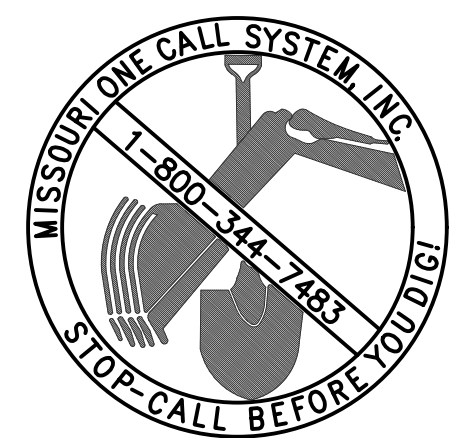
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DRAWN BY: ALW  
CHECKED BY: DAL  
DESIGNED BY: ALW

SHEET TITLE:  
**SITE GRADING**

SHEET NUMBER:

**C-103**

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JANUARY 17, 2023

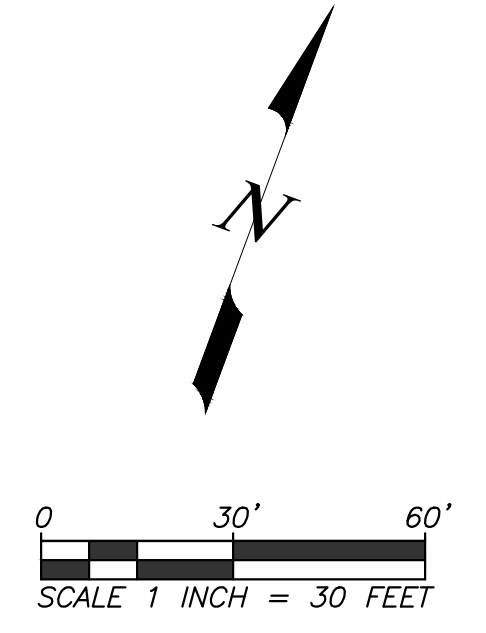






**LEGEND**

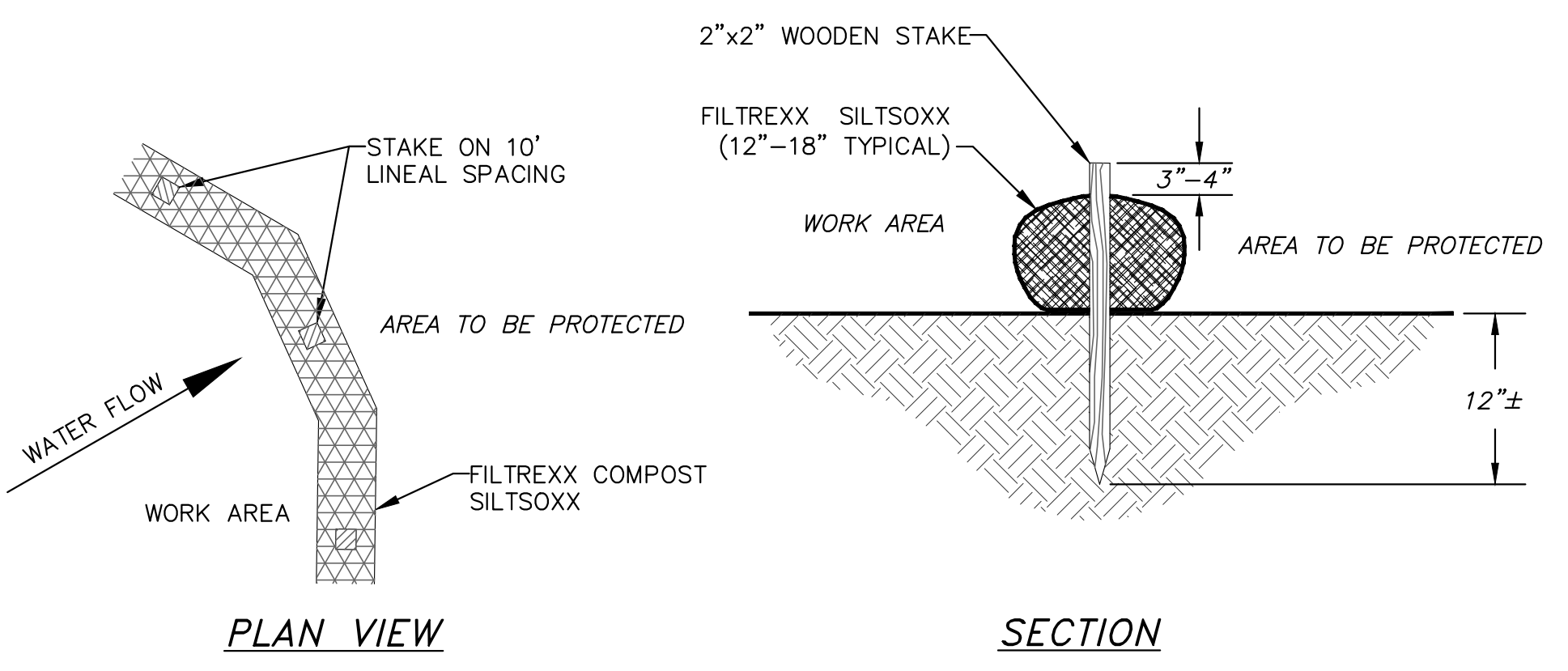
- DISTURBED AREA = 3.12 ACRES
- COMPOST FILTER SOCK
- TEMPORARY RESTROOM
- FLOW DIRECTION
- CONCRETE WASHOUT PIT
- TRASH RECEPTACLE



**GENERAL NOTES FOR SEDIMENTATION & EROSION CONTROL**

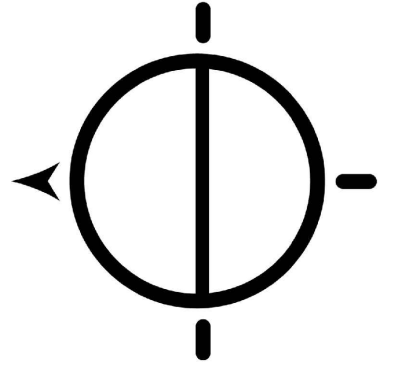
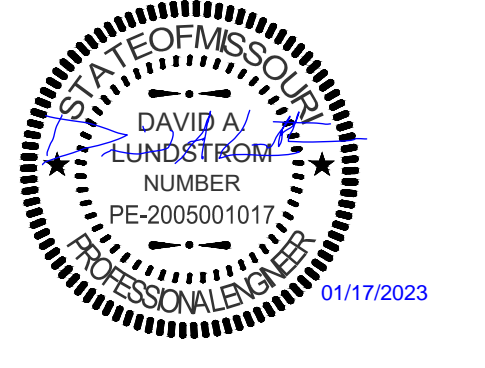
1. THIS PLAN SHOWS THE LOCATION AND DETAILS FOR PRIMARY SEDIMENT CONTROLS TO BE CONSTRUCTED. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING EROSION AND DISCHARGE OF SEDIMENT FROM THE SITE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE NECESSARY MEASURES DURING ALL PHASES OF HIS OPERATIONS REGARDLESS OF WHETHER THEY ARE SPECIFICALLY NOTED ON THIS PLAN AND SHALL MAINTAIN AND REPLACE CONTROLS AS NECESSARY DURING THE COURSE OF HIS OPERATIONS.
2. INITIAL SEDIMENT CONTROLS SHOWN ON THIS PLAN MUST BE INSTALLED PRIOR TO ANY OTHER WORK.
3. THE CONTRACTOR SHALL CLEAN STREETS BOTH INTERIOR AND ADJACENT TO THE SITE, AS NEEDED AFTER EACH RAINFALL, AND AT THE END OF EACH DAY OF CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST DURING CONSTRUCTION AND SHALL WATER CONSTRUCTION AREAS WHENEVER CONDITIONS WARRANT.
5. ALL DISTURBED AREAS NOT RECEIVING OTHER PERMANENT STABILIZATION SUCH AS PAVEMENT, SOD, ETC., SHALL BE SEEDED AND MULCHED, AS SPECIFIED BELOW BEFORE TEMPORARY SEDIMENT CONTROLS CAN BE REMOVED AND PRIOR TO FINAL APPROVAL OF CONSTRUCTION.

- A MINIMUM DEPTH OF 4" OF TOPSOIL (PRIOR TO COMPACTING) SHALL BE SPREAD ON AREAS TO BE SEEDED.
- AFTER TOPSOIL IS SPREAD, LIME SHALL BE SPREAD AT THE RATE OF 800-900 POUNDS, EFFECTIVE NEUTRALIZING MATERIAL (ENM) PER ACRE.
- FERTILIZER SHALL BE SPREAD AT THE RATE OF 400-500 POUNDS PER ACRE, AND SHALL BE 13-13-13 NITROGEN, PHOSPHORUS, AND POTASSIUM.
- SEED MIX SHALL CONSIST OF 60-80 % KENTUCKY 31 TALL FESCUE AND 20-40 % ANNUAL RYE GRASS (GERMINATION SHALL BE AT LEAST 85 SPREAD AT THE RATE OF 400-500 POUNDS PER ACRE).
- ALL AREAS TO BE SEEDED HAVING SLOPES LESS THAN 4:1 SHALL BE MULCHED WITH CEREAL GRAIN MULCH AT THE RATE OF 100 POUNDS PER 1000 SQUARE FEET (4500 POUNDS PER ACRE). CEREAL GRAIN MULCH SHALL MEET THE REQUIREMENTS OF SECTION 802 OF THE MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR TYPE I MULCH. MULCH MAY BE APPLIED BY HAND; HOWEVER, IT MUST BE EVENLY SPREAD. TYPE I MULCH SHALL BE THOROUGHLY WETTED IMMEDIATELY AFTER APPLICATION.
- WHERE SLOPES ARE 4:1 OR STEEPER, TYPE 3 MULCH ("HYDROMULCH") MEETING THE REQUIREMENTS OF SECTION 802 OF THE MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS SHALL BE USED. TYPE 3 MULCH SHALL BE APPLIED AT THE RATE OF 2000 POUNDS PER ACRE.
- PERMANENT SEEDING SEASON RUNS FROM MARCH 1ST TO JUNE 1ST AND AUGUST 15TH TO NOVEMBER 1ST. SEEDING AND MULCHING MUST BE DONE WHENEVER WORK IS COMPLETE REGARDLESS OF THE SEASON. WHENEVER SEEDING AND MULCH IS INSTALLED OUTSIDE OF THE PERMANENT SEEDING SEASON THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLANTING AND MULCHING ANY AREAS WHERE GROWTH HAS NOT BECOME ESTABLISHED DURING THE NEXT PERMANENT SEEDING SEASON.
- ALL AREAS MUST BE MAINTAINED BY THE CONTRACTOR FOR A MINIMUM OF 60 DAYS FOLLOWING INSTALLATION OR 60 DAYS FROM THE START OF THE FIRST PERMANENT SEEDING SEASON AFTER INSTALLATION.



- NOTES**
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS OR EQUAL.
  2. SILT SOXX COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
  3. SILT SOXX DEPICED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
  4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
  5. SILT SOXX TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

*SILT SOXX EROSION CONTROL*  
NOT TO SCALE



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CAD DWG FILE: X2216-01\_C-005  
DRAWN BY: MAF  
CHECKED BY: DAL  
DESIGNED BY: MAF

SHEET TITLE:  
**SEDIMENT &  
EROSION CONTROL  
PLAN**

SHEET NUMBER:

**C-104**

5 OF 18 SHEETS  
JANUARY 17, 2023

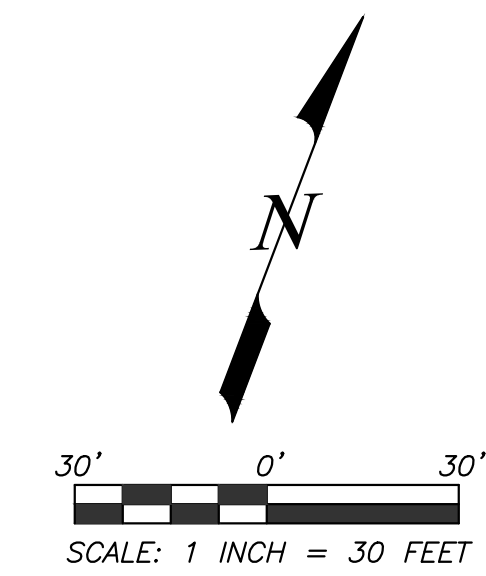




- |   |  |  |  |
|---|--|--|--|
| 1. STA 0+00.00<br>BEGIN 4" WATERLINE<br>WITH 4" X 4" TEE      | 8. STA 1+55.73<br>41 LF 1" SERVICE LINE  | 15. STA 4+12.84<br>28 LF 1" SERVICE LINE                       | 22. STA 5+95.00<br>4" VALVE  |
| 2. STA 0+05.00<br>4" VALVE                                    | 9. STA 1+69.25<br>47 LF 1" SERVICE LINE  | 16. STA 4+41.64<br>CONNECT TO 1" WATERLINE<br>WITH 1" X 4" TEE | 23. STA 6+02.45<br>CONNECT TO EXISTING 4" WATERLINE<br>WITH A 4" X 4" TEE  |
| 3. STA 0+37.66<br>51 LF 1" SERVICE LINE                       | 10. STA 2+18.02<br>51 LF 1" SERVICE LINE | 17. STA 4+57.97<br>47 LF 1" SERVICE LINE                       | 24. STA 6+07.45<br>4" VALVE  |
| 4. STA 0+51.97<br>4" X 11.25° BEND                            | 11. STA 2+66.05<br>29 LF 1" SERVICE LINE | 18. STA 4+96.53<br>4" X 45° BEND                               | 25. STA 6+12.45<br>4" X 2.5" REDUCER<br>CONNECT TO EXISTING 2.5" WATERLINE |
| 5. STA 0+86.22<br>44 LF 1" SERVICE LINE                       | 12. STA 2+94.91<br>46 LF 1" SERVICE LINE | 19. STA 5+03.28<br>52 LF 1" SERVICE LINE                       | 26. STA 6+26.88<br>81 LF 1" SERVICE LINE ON EXISTING<br>2.5" WATERLINE     |
| 6. STA 1+10.15<br>41 LF 1" SERVICE LINE                       | 13. STA 3+38.57<br>22 LF 1" SERVICE LINE | 20. STA 5+16.61<br>4" X 22.5° BEND                             |  |
| 7. STA 1+22.51<br>CONNECT TO 1" WATERLINE<br>WITH 1" X 4" TEE | 14. STA 3+76.39<br>42 LF 1" SERVICE LINE | 21. STA 5+47.73<br>4" X 90° BEND                               |  |

**LEGEND:**

- w — EXISTING WATERLINE
- W — PROPOSED WATERLINE
- WV WATER VALVE
- WH YARD SPIGOT



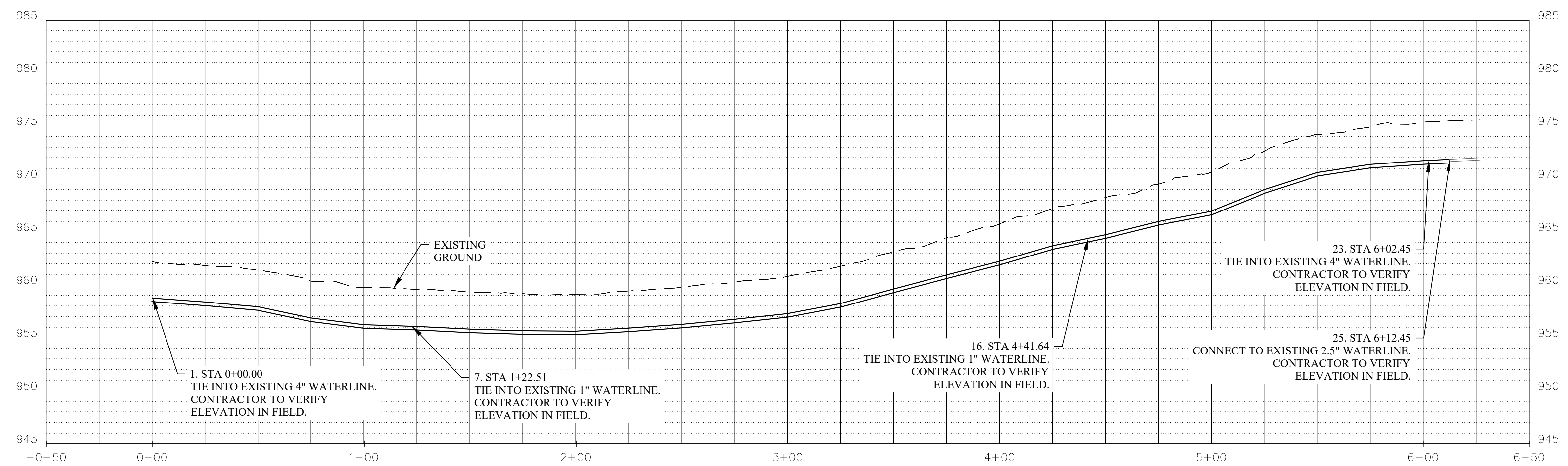
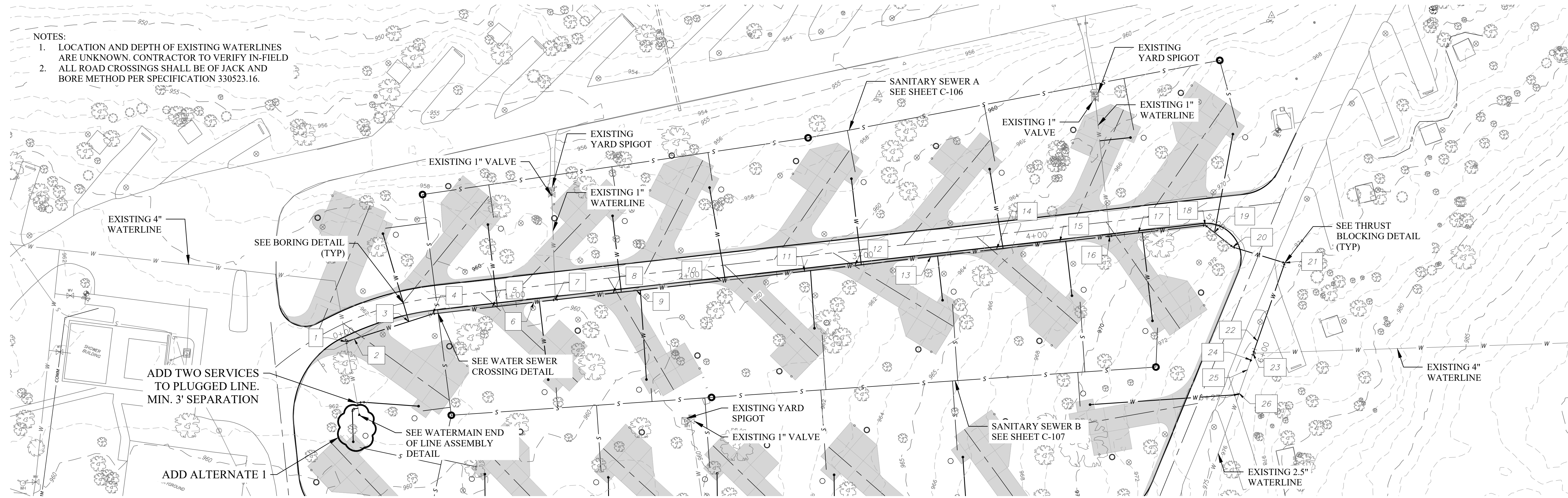
STATE OF MISSOURI  
MICHAEL L. PARSON,  
GOVERNOR



**GRE GREAT RIVER ENGINEERING**

Missouri State Certificate of Authority Numbers:  
Engineering: 2000156885; Land Surveying: 2001011476;  
Landscape Architecture: 2007013673

- NOTES:**
- LOCATION AND DEPTH OF EXISTING WATERLINES ARE UNKNOWN. CONTRACTOR TO VERIFY IN-FIELD
  - ALL ROAD CROSSINGS SHALL BE OF JACK AND BORE METHOD PER SPECIFICATION 330523.16.



OFFICE OF ADMINISTRATION  
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DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

TABLE ROCK STATE PARK  
REPLACE 22 ELECTRIC SITES  
WITH 22 PREMIUM SITES

TABLE ROCK STATE PARK  
CAMPGROUND #2  
5272 STATE HWY 165  
BRANSON, MISSOURI 65616

PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_C-003  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: ALW

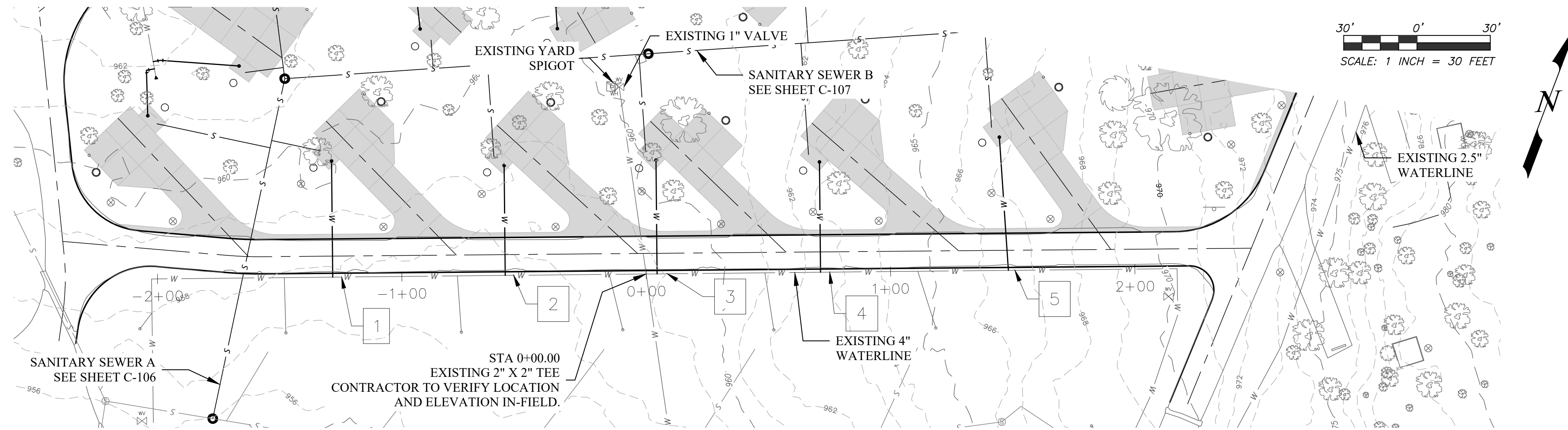
SHEET TITLE:  
**WATER LINE A**

SHEET NUMBER:

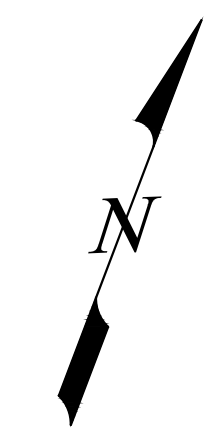
**C-105**

6 OF 18 SHEETS  
JANUARY 17, 2023





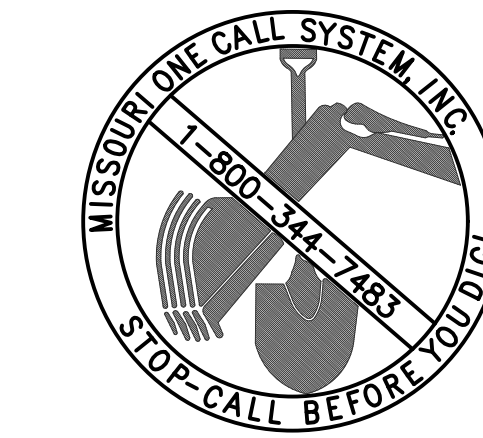
30' 0' 30'  
SCALE: 1 INCH = 30 FEET



**LEGEND:**

- w — EXISTING WATERLINE
- w — PROPOSED WATERLINE
- ⊗ WATER VALVE
- ⊙ YARD SPIGOT

1. STA -1+24.68  
16 LF 1" SERVICE LINE
2. STA -0+54.31  
15 LF 1" SERVICE LINE
3. STA 0+08.47  
16 LF 1" SERVICE LINE
4. STA 0+75.09  
15 LF 1" SERVICE LINE
5. STA 1+50.87  
21 LF 1" SERVICE LINE

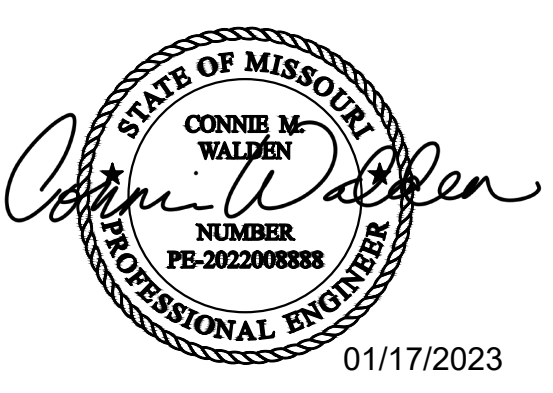


**SERVICES ON EXISTING WATERLINE PLAN - ADD ALTERNATE #1**



75' 0' 75'  
SCALE: 1 INCH = 75 FEET

**WATER SYSTEM FACILITIES AND SEWER CONNECTION TO TANEY COUNTY REGIONAL SEWER DISTRICT**



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PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_C-003  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: ALW

SHEET TITLE:  
**PROPOSED WATER  
AND SEWER**

SHEET NUMBER:  
**C-106**  
7 OF 18 SHEETS  
JANUARY 17, 2023





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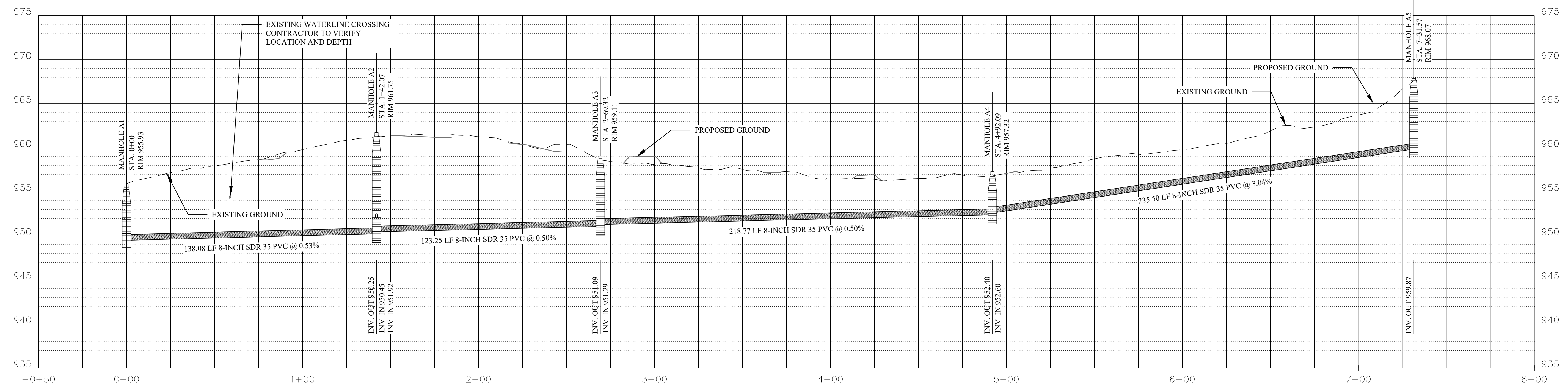
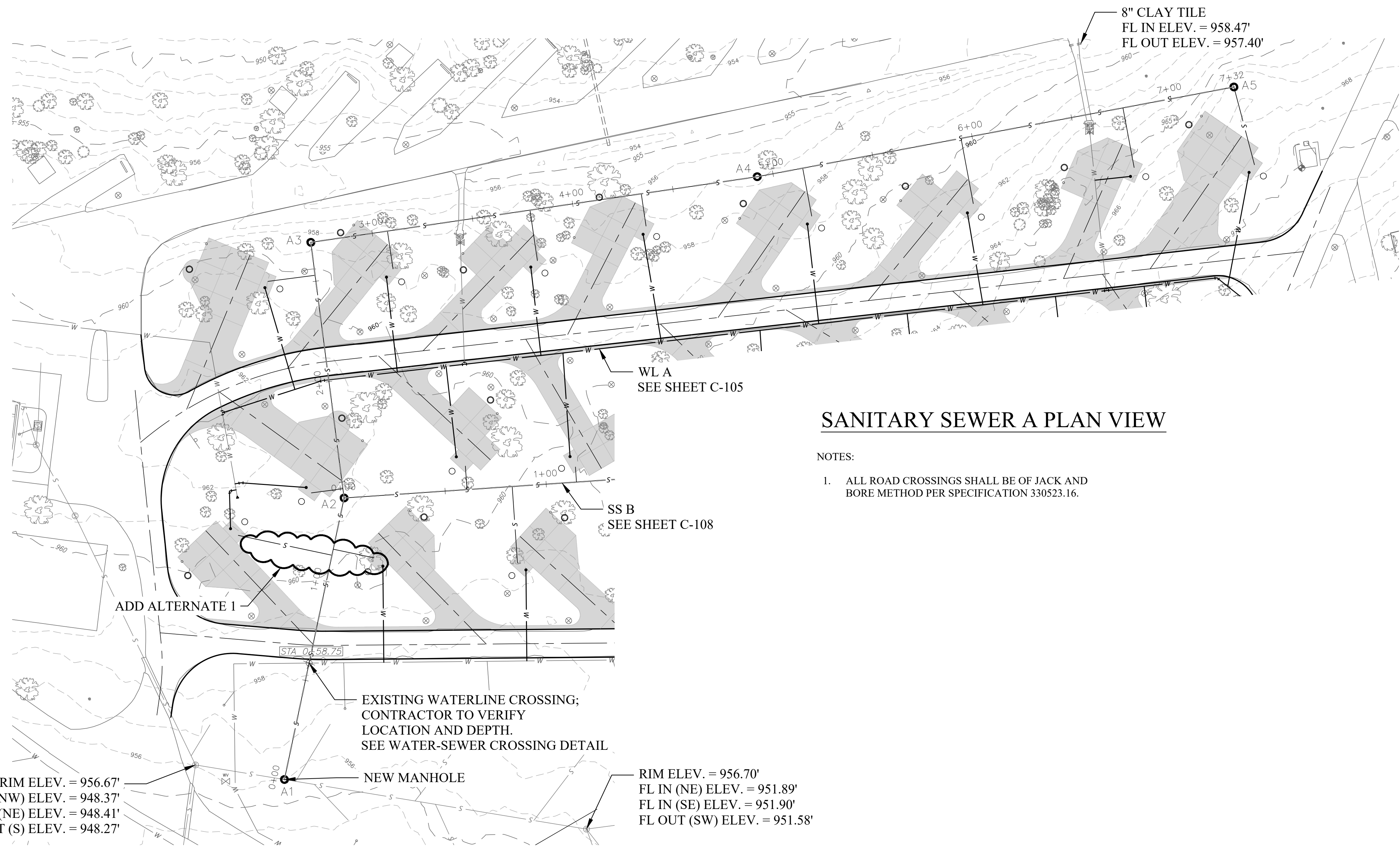
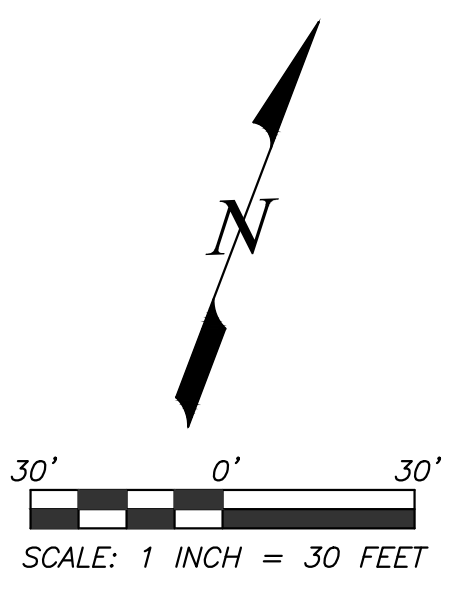
PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_C-004  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: ALW

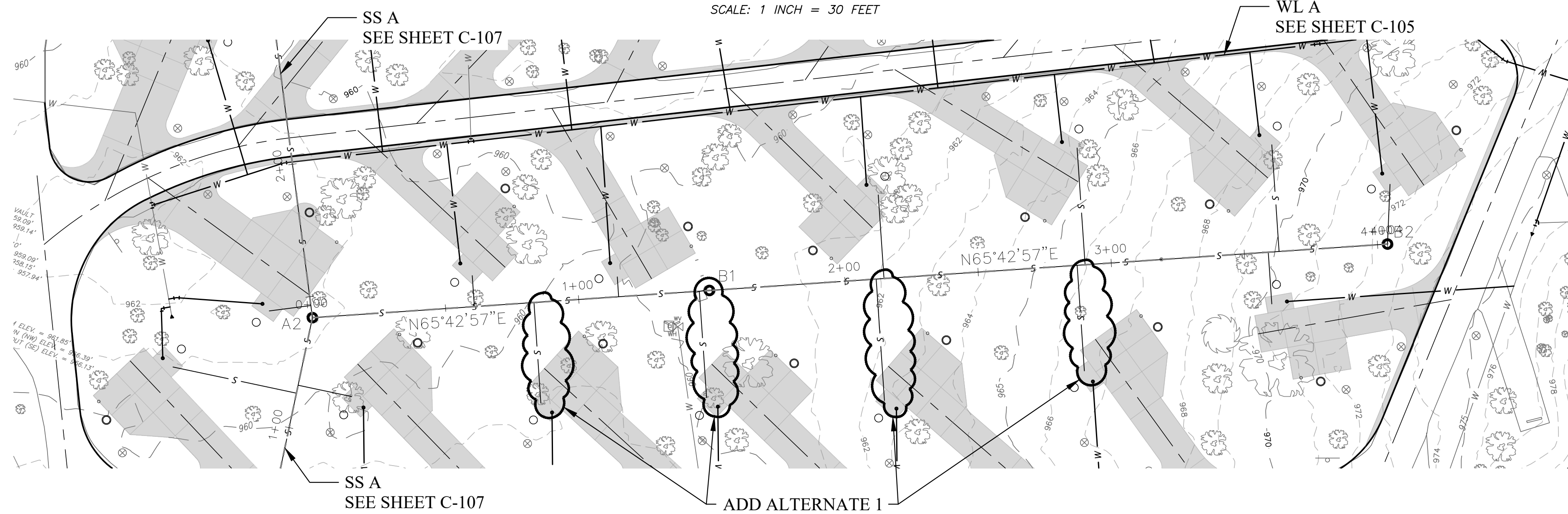
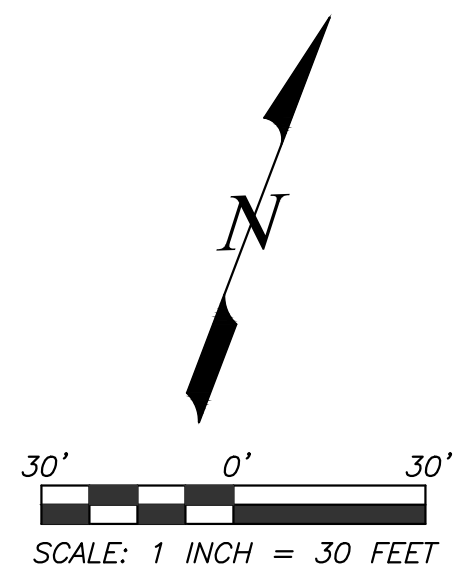
SHEET TITLE:  
**SANITARY SEWER A**

SHEET NUMBER:  
**C-107**  
8 OF 18 SHEETS  
JANUARY 17, 2023

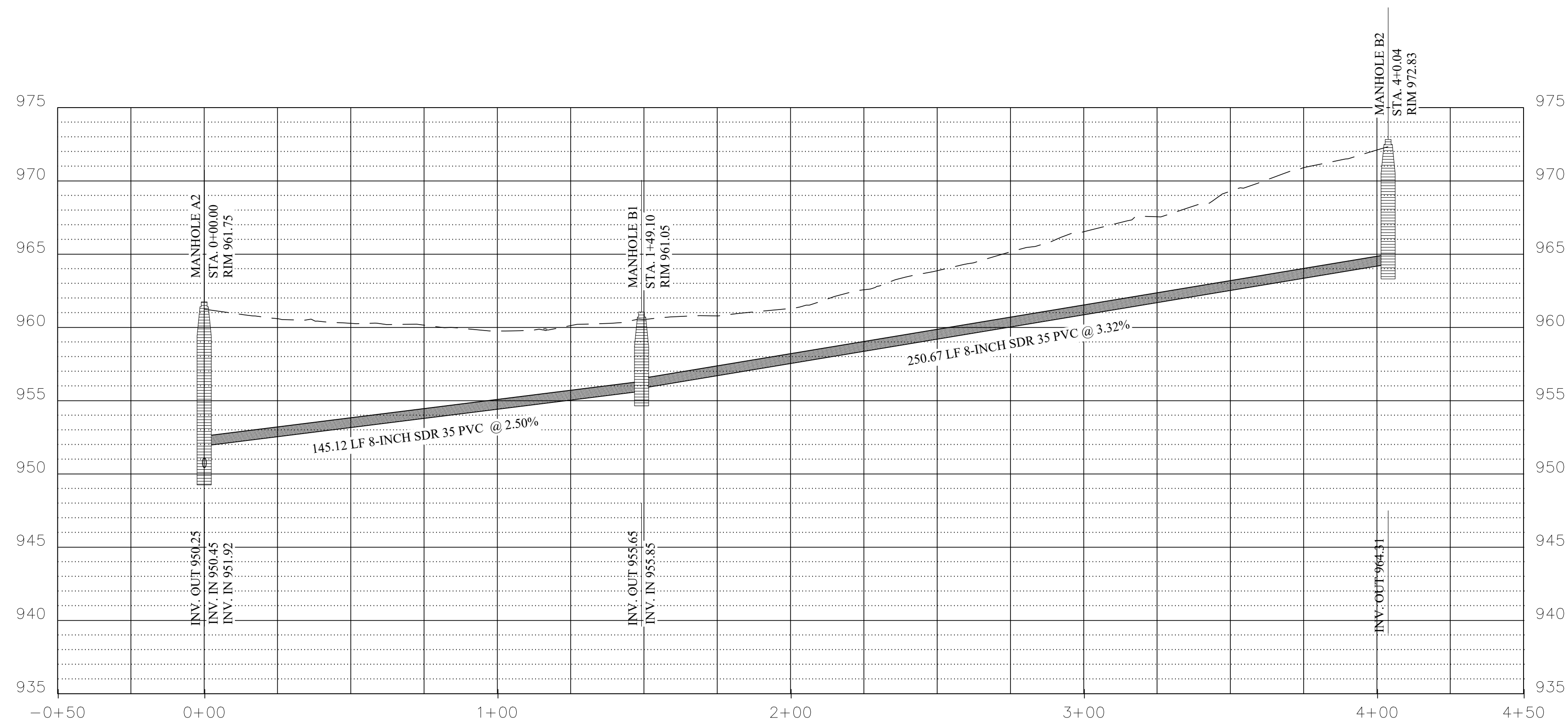


**SANITARY SEWER A PROFILE**

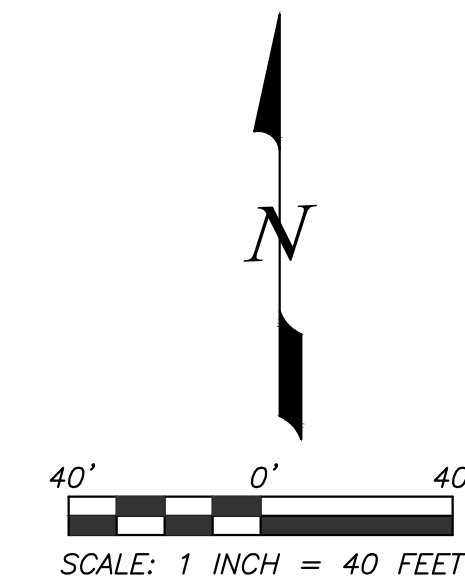




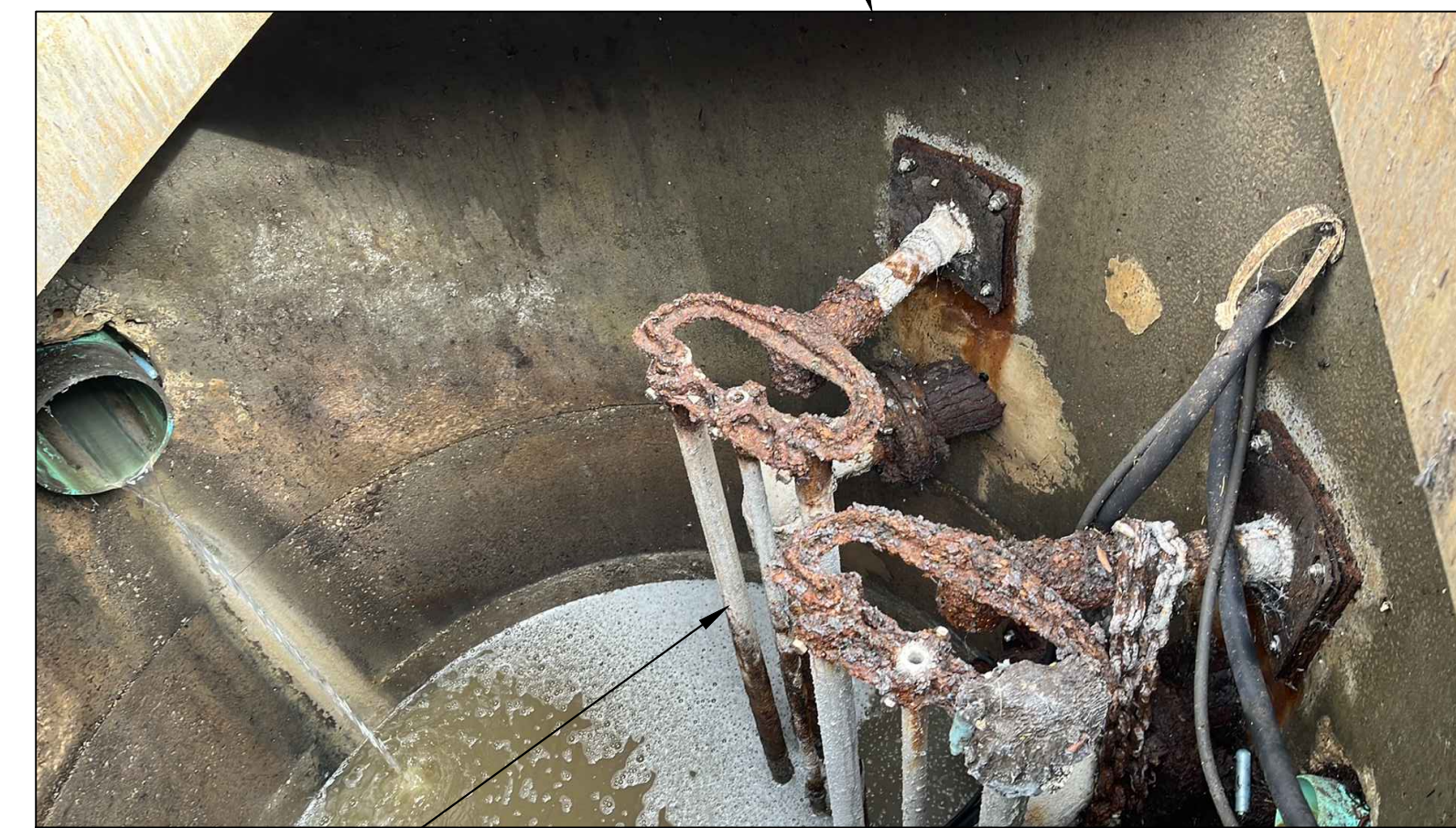
**SANITARY SEWER B PLAN VIEW**



**SANITARY SEWER B PROFILE**

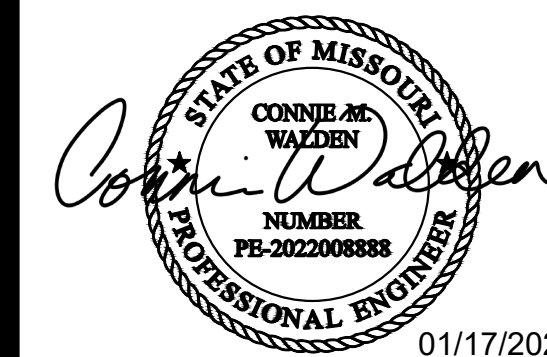


ADD ALTERNATE #2:  
ADD NEW GENERATOR  
AS DESCRIBED IN  
SPECIFICATION 262500



REPLACE LIFT OUT RAIL SYSTEM AS  
DESCRIBED IN SPECIFICATION 333000

**LIFT STATION AT CAMPGROUND #2**



01/17/2023



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Landscape Architecture: 2007013673

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PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_C-004  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: ALW

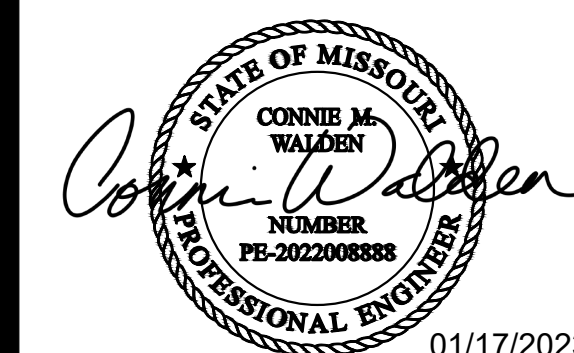
SHEET TITLE:  
**SANITARY SEWER B  
& LIFT STATION  
REPAIRS**

SHEET NUMBER:

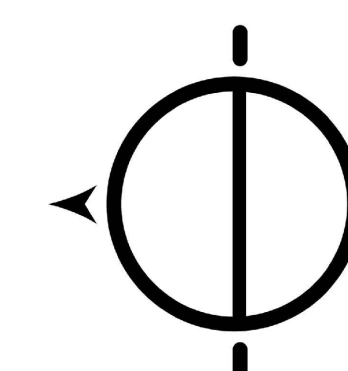
**C-108**

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JANUARY 17, 2023





01/17/2023



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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

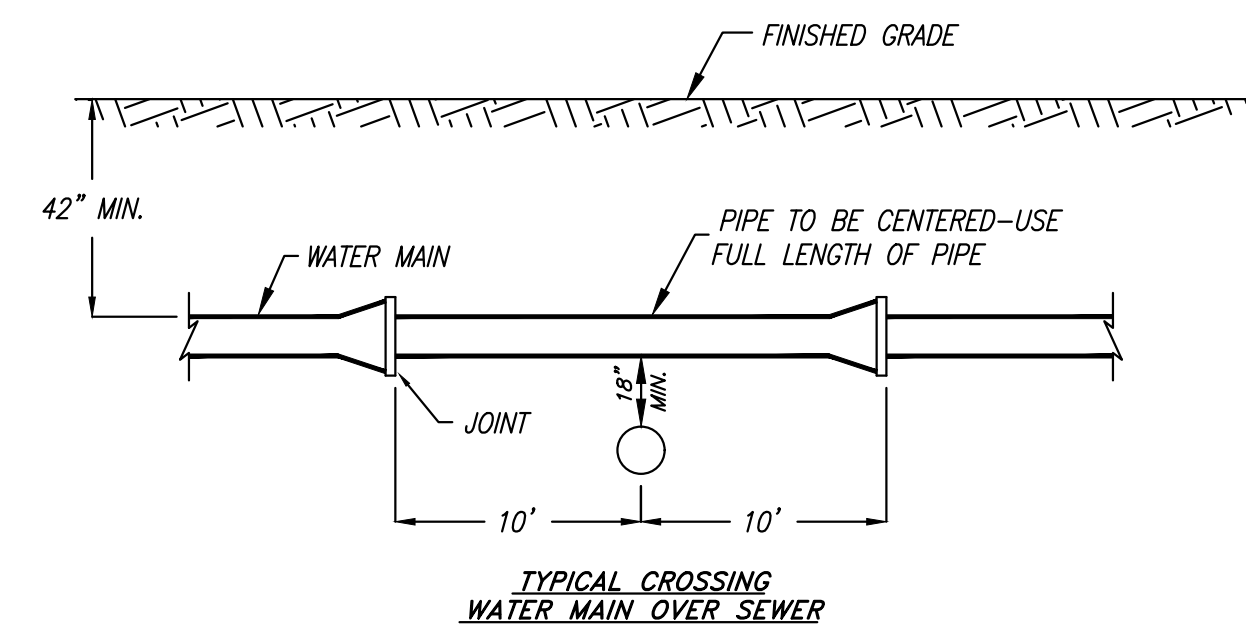
CAD DWG FILE: X2216-01\_C-500  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: CMW

SHEET TITLE:  
**WATER DETAILS**

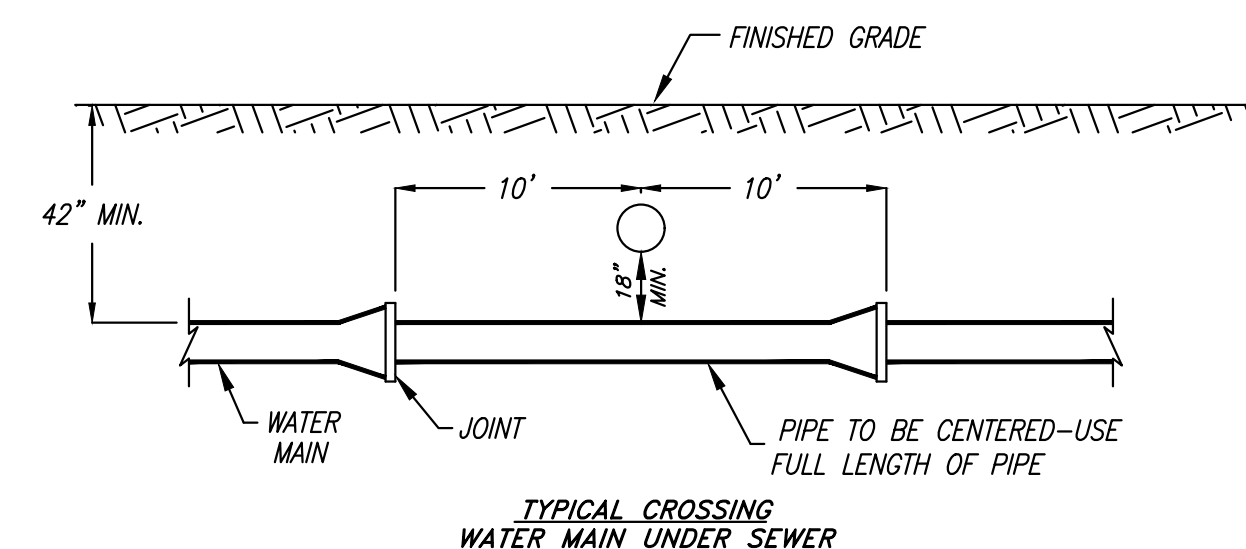
SHEET NUMBER:

**C-501**

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JANUARY 17, 2023

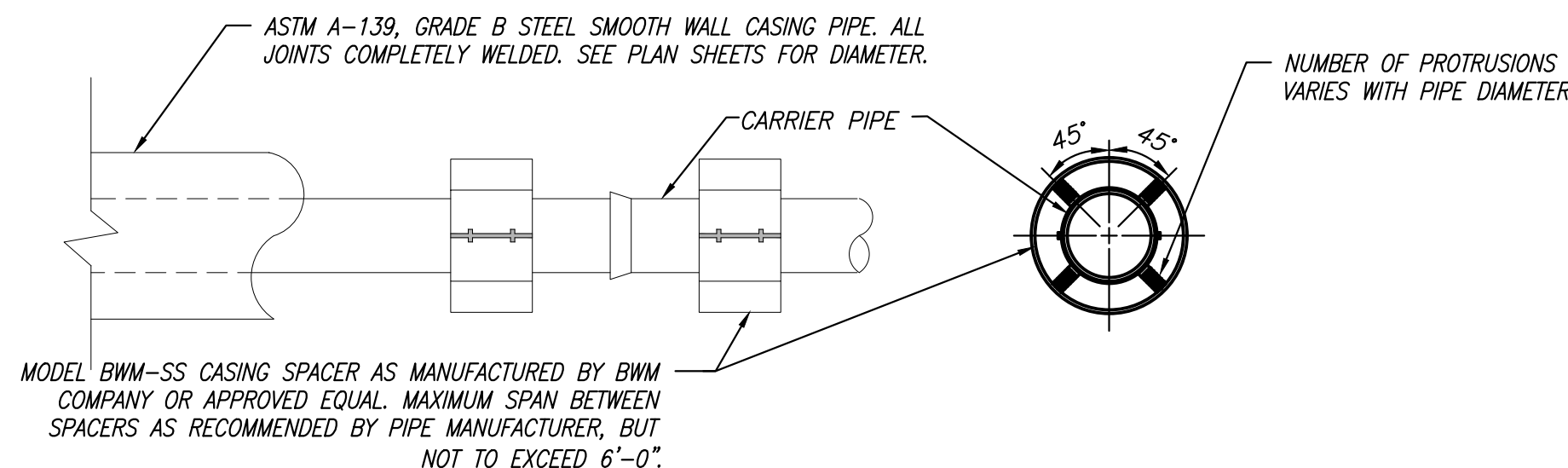


TYPICAL CROSSING  
WATER MAIN OVER SEWER



TYPICAL CROSSING  
WATER MAIN UNDER SEWER

WATER/SEWER CROSSING  
NOT TO SCALE



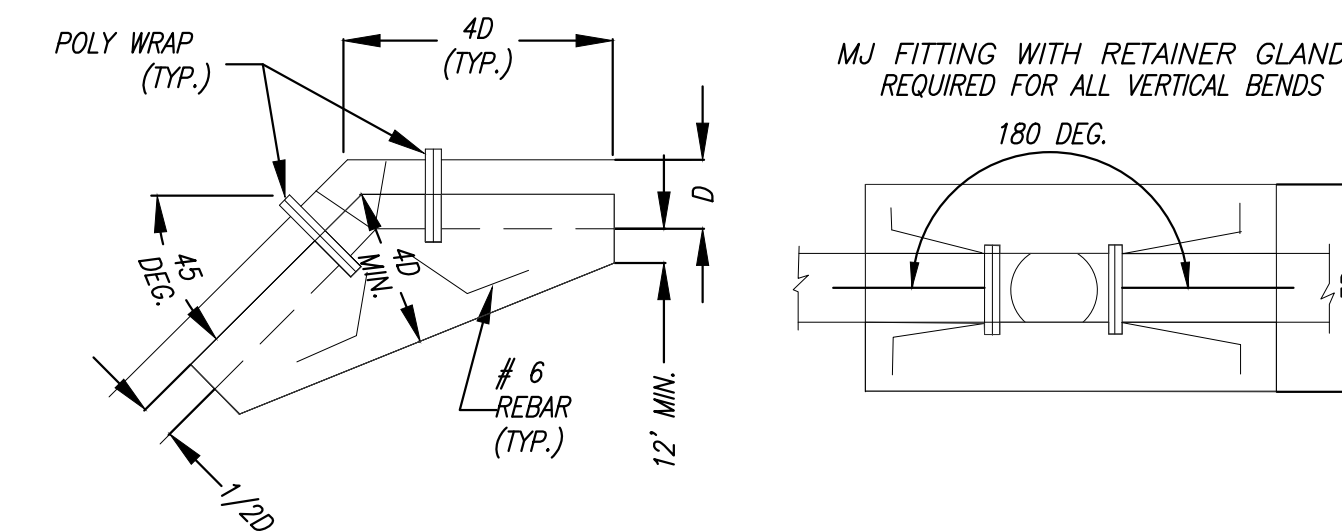
MODEL BWM-SS CASING SPACER AS MANUFACTURED BY BWM COMPANY OR APPROVED EQUAL. MAXIMUM SPAN BETWEEN SPACERS AS RECOMMENDED BY PIPE MANUFACTURER, BUT NOT TO EXCEED 6'-0".

NOTES:

- STEEL CASING REQUIRED.
- EACH END OF CASING TO BE SEALED WITH END SEALS PROVIDED BY THE MANUFACTURER OF CASING SPACERS. END SEALS SHALL BE OF SUFFICIENT LENGTH TO PROVIDE A MINIMUM OF 6" OF LAP ON THE CASING PIPE AND 6" OF LAP ON THE CARRIER PIPE.
- CASING SHALL BE INSTALLED SIMULTANEOUSLY W/ BORING OPERATION. ALL AREAS DISTURBED DURING CONSTRUCTION AND TRENCHES SHALL BE COMPACTED, AND VEGETATED PER SPECIFICATIONS.
- CASING PIPE DIAMETER SHALL FOLLOW TABLE UNLESS SPECIFIED OTHERWISE.

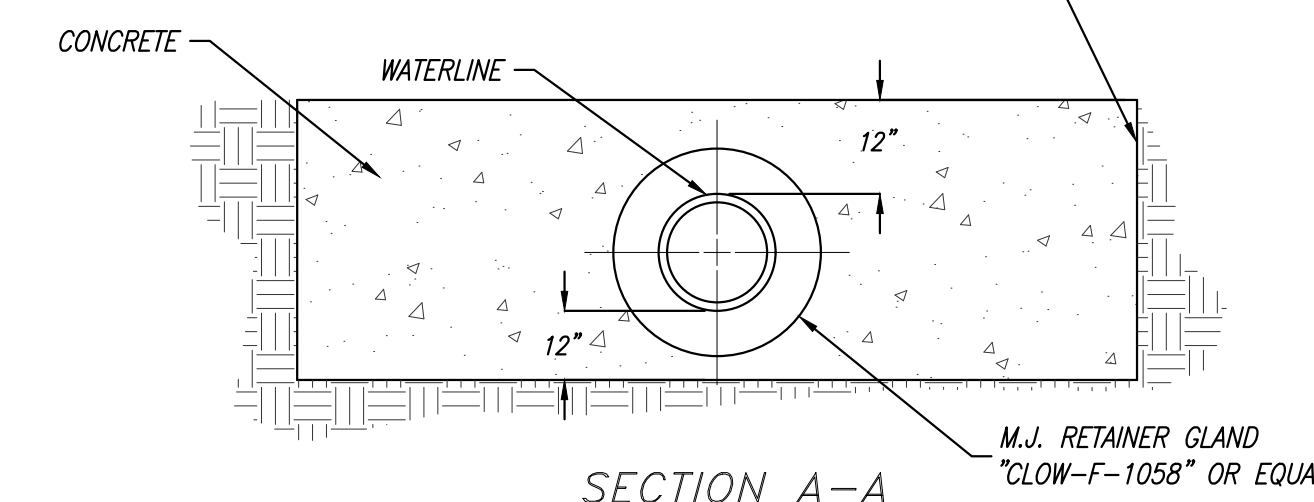
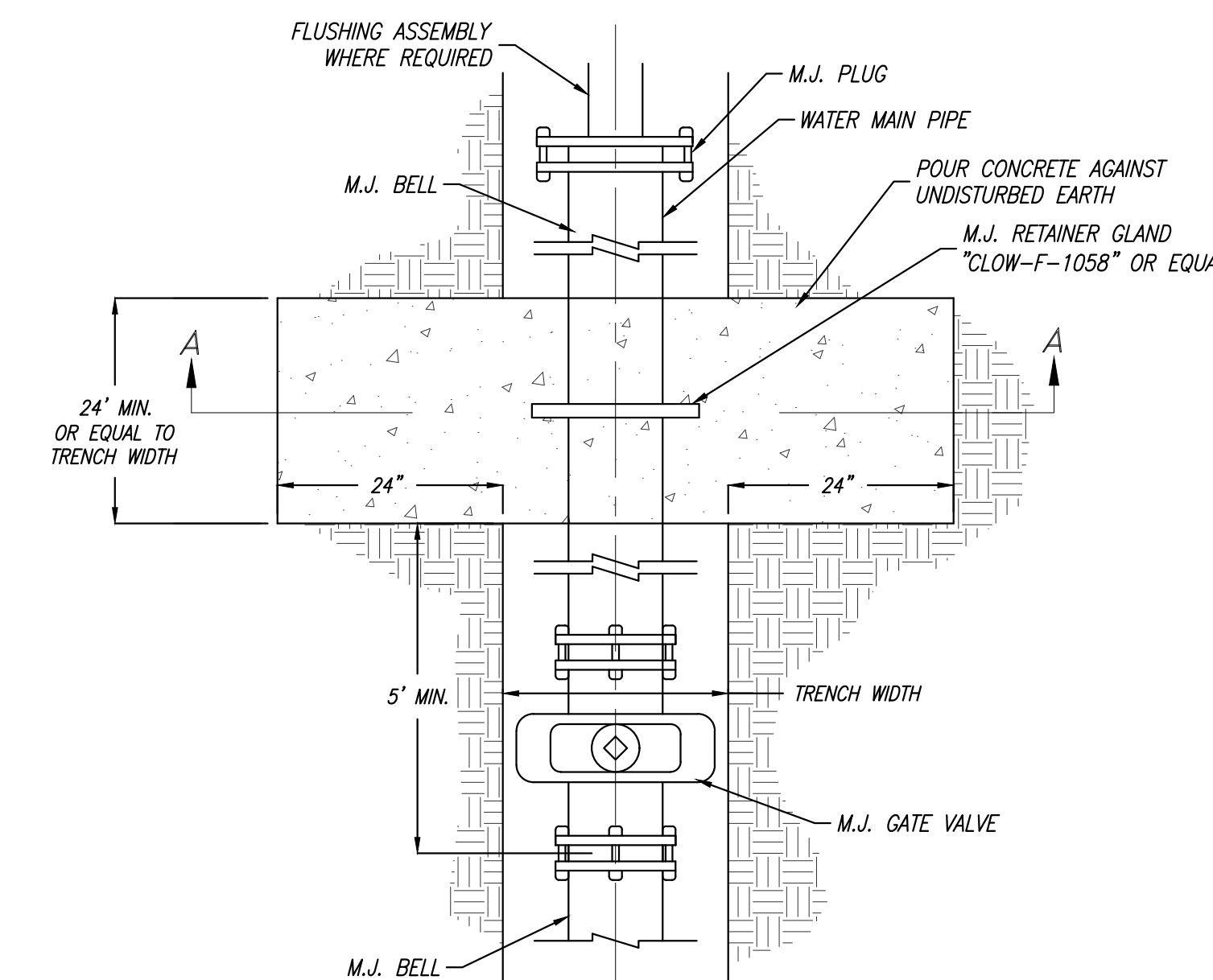
CARRIER PIPE DIA. (PVC)	CASING PIPE DIA. (STEEL)	MIN. WALL THICKNESS (IN.)
2"	4"	0.188
2 1/2"	4"	0.188
3"	6"	0.188
4"	10"	0.188
6"	12"	0.188
8"	14"	0.219
10"	16"	0.281

TYPICAL ROAD BORING DETAIL  
NOT TO SCALE

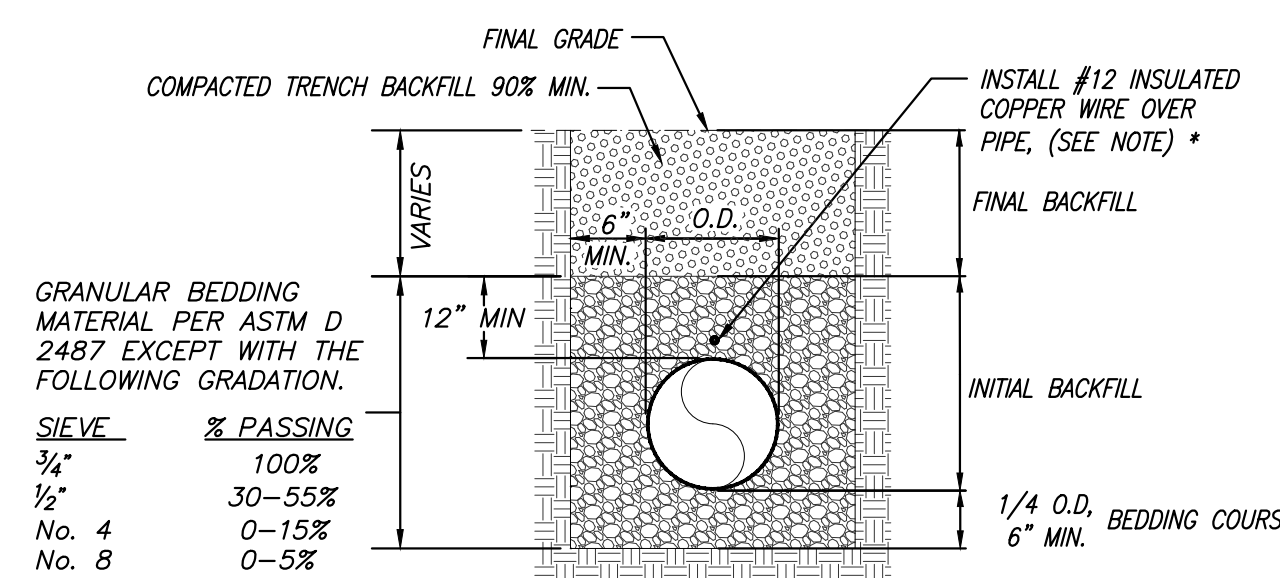


UNLESS NOTED OTHERWISE, THRUST BLOCKS SHALL BE INSTALLED AT ALL FITTING LOCATIONS.

VERTICAL BEND CONCRETE THRUST BLOCK DETAIL  
NOT TO SCALE



WATER MAIN END-OF-LINE ASSEMBLY  
NOT TO SCALE



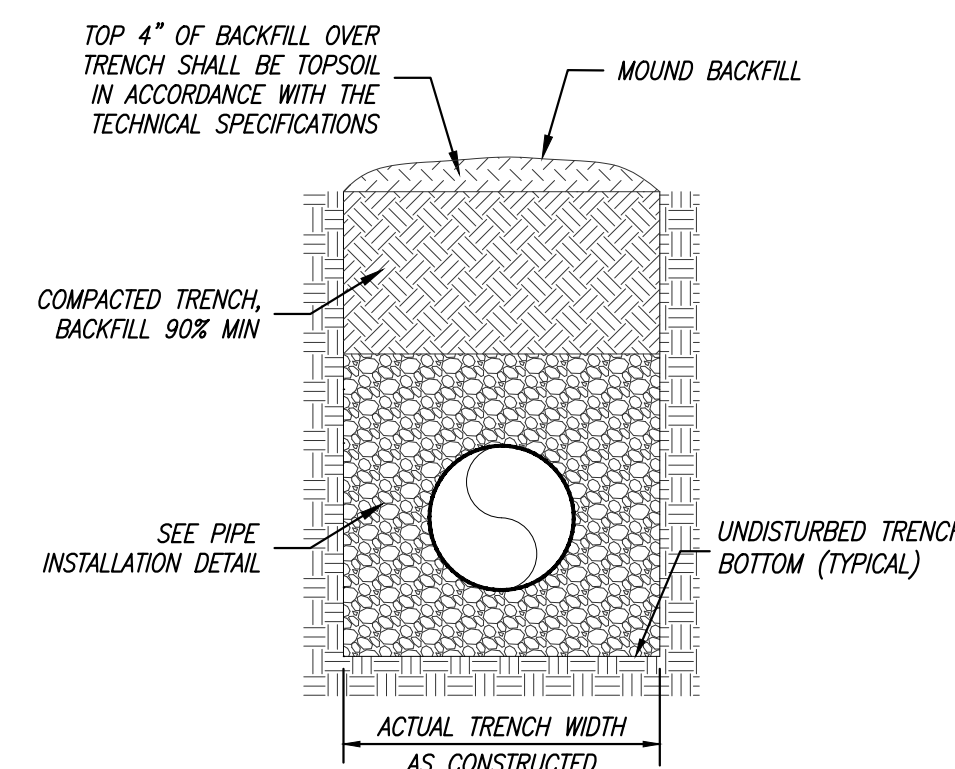
GRANULAR BEDDING MATERIAL PER ASTM D 2487 EXCEPT WITH THE FOLLOWING GRADATION.

SIEVE	% PASSING
3/4"	100%
1/2"	30-55%
No. 4	0-15%
No. 8	0-5%

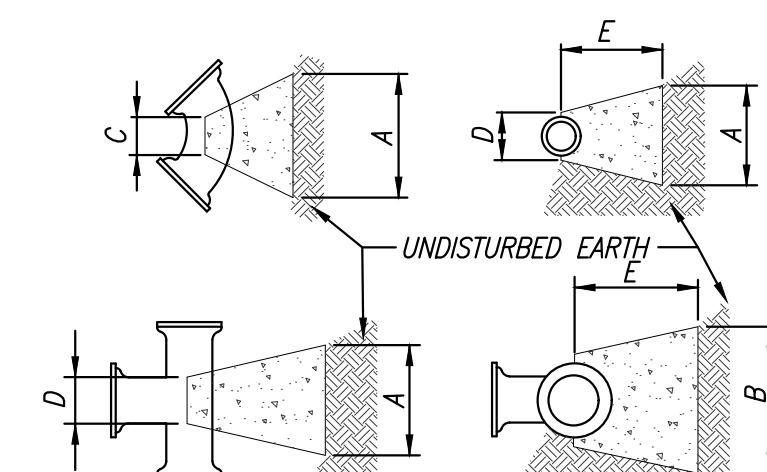
SINGLE PIPE IN TRENCH

\* NOTE:  
ENDS OF LOCATOR WIRE SHALL BE PLACED IN A 6" DIP RISER PIPE WITH CAST IRON LIDS AT 500' MIN. SPACING AND SHALL BE GROUNDED TO A 4x1/2" DIA. COPPER ROD AT RISERS. ALL WIRE SPLICES SHALL USE BRASS/COPPER SPLIT-BOLT CONNECTORS.

PIPE INSTALLATION DETAIL  
NOT TO SCALE



SEEDED AREA  
NOT TO SCALE



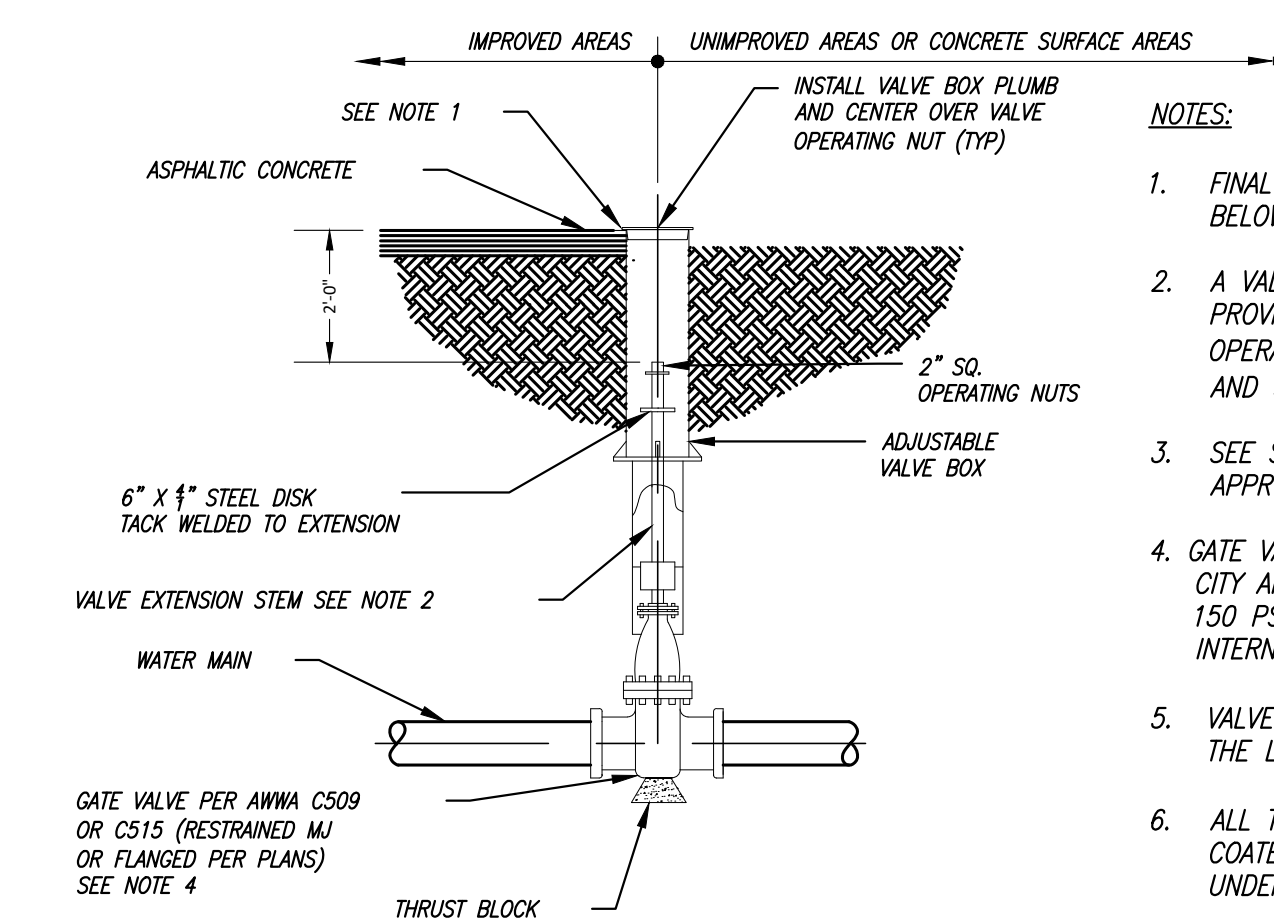
CONCRETE THRUST BLOCK  
NOT TO SCALE

PIPE SIZE	FITTING	DISTANCE IN INCHES				
		A	B	C	D	E
4" AND SMALLER	11.25 & 22.5"	9	9	8	8	6
	45"	18	9	8	8	12
	90"	21	12	8	8	12
6"	TEE/PLUG	15	12	8	8	12
	11.25 & 22.5"	12	12	8	10	12
	45"	27	12	8	10	12
8"	90"	33	18	8	10	12
	TEE/PLUG	24	18	8	10	12
	11.25 & 22.5"	18	15	8	10	12
8"	45"	33	15	8	10	18
	90"	42	24	8	10	18
	TEE/PLUG	30	24	8	10	18

NOTES:

- THRUST BLOCKS ARE BASED ON A WORKING PRESSURE OF 200 P.S.I. PLUS 0% SURGE, & 2000 P.S.F. ALLOWABLE SOIL BEARING PRESSURE.
- FOR PIPE SIZES NOT SHOWN USE DIMENSIONS FOR NEXT LARGER SIZE.
- USE 3/8" PLYWOOD SEPARATOR BETWEEN BLOCKS AND PLUGS TO PROVIDE FOR FUTURE REMOVAL.
- WRAP ALL FITTINGS W/6 MIL POLY PRIOR TO PLACEMENT OF CONCRETE THRUST BLOCKING.

THRUST BLOCKING DETAIL  
NOT TO SCALE



SECTION VIEW  
NOT TO SCALE

TYPICAL GATE VALVE DETAIL



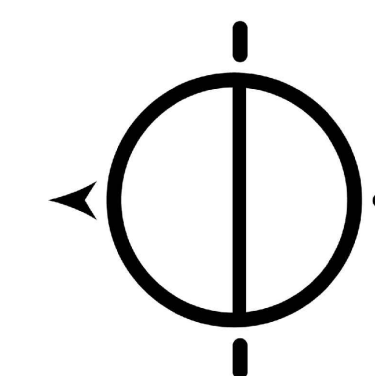








01/17/2023



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ISSUE DATE: 01/17/2023

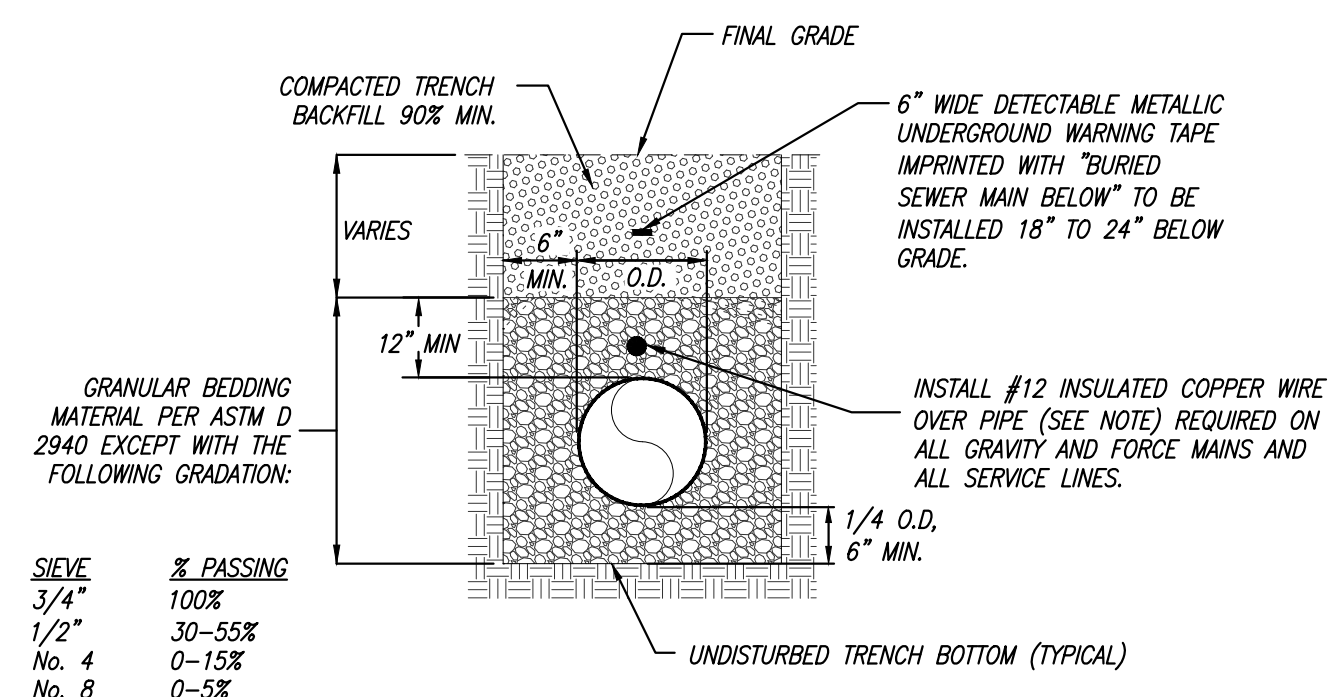
CAD DWG FILE: X2216-01\_C-500  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: CMW

SHEET TITLE:  
**SEWER DETAILS**

SHEET NUMBER:

**C-503**

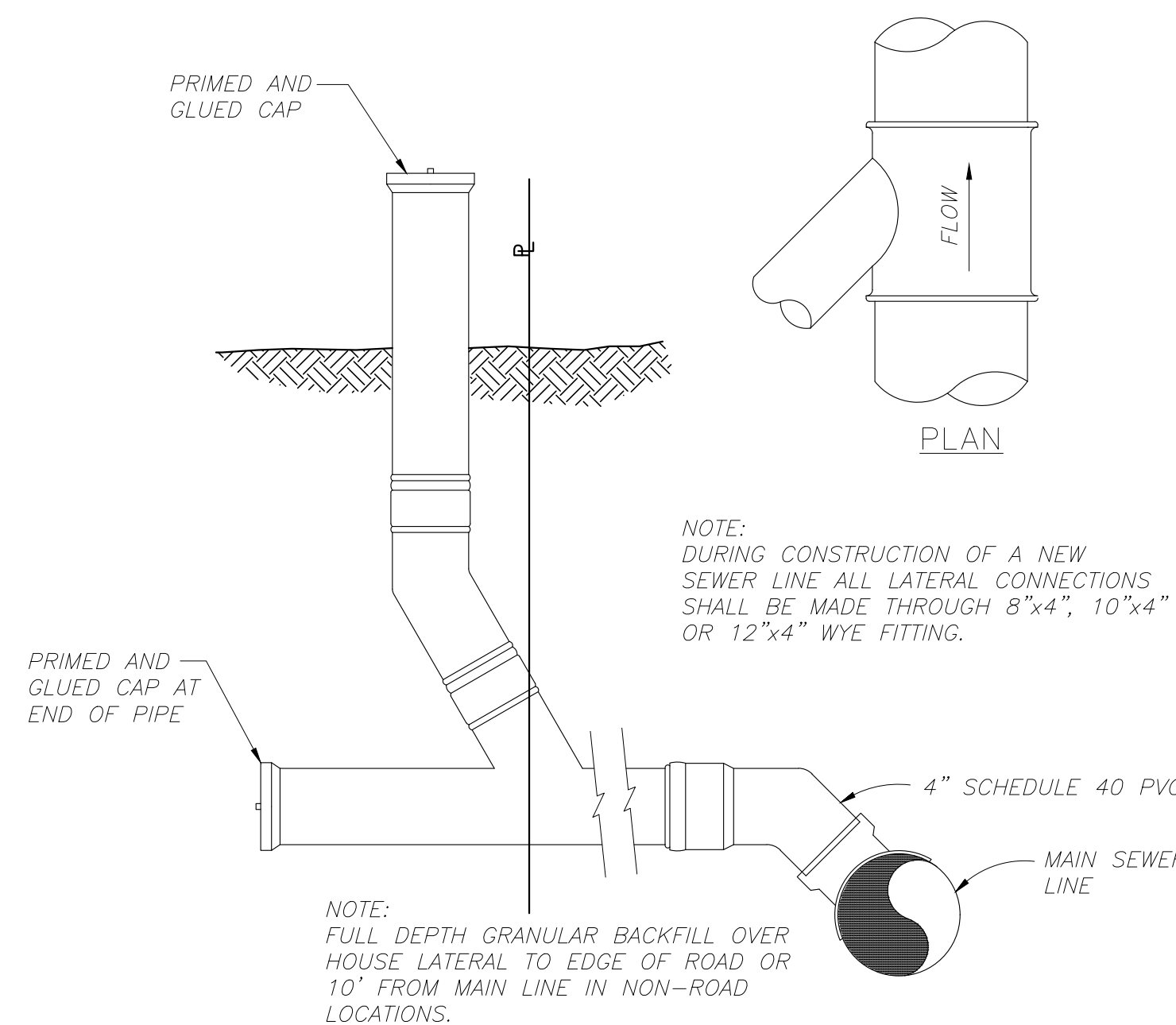
12 OF 18 SHEETS  
JANUARY 17, 2023



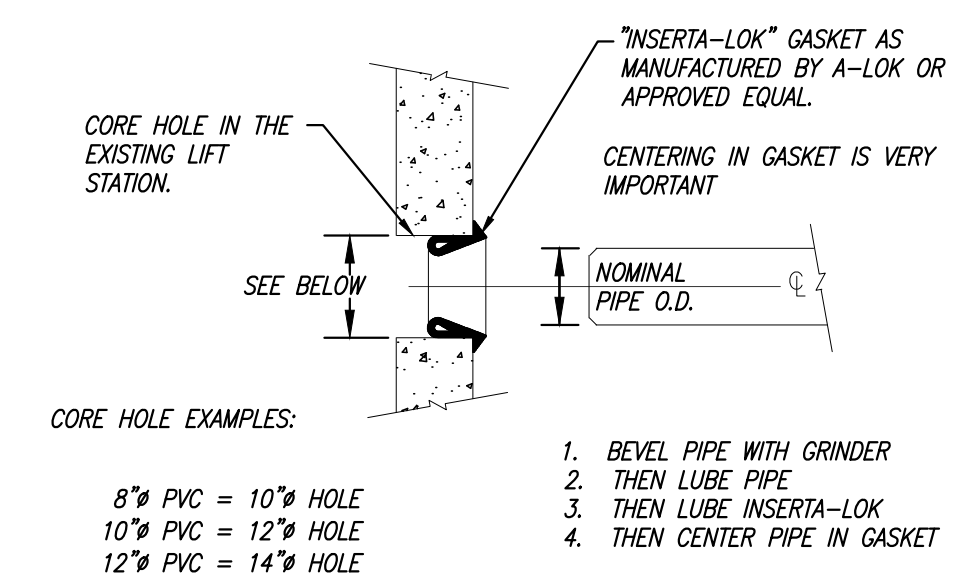
SINGLE PIPE IN TRENCH

PIPE INSTALLATION DETAIL  
NOT TO SCALE

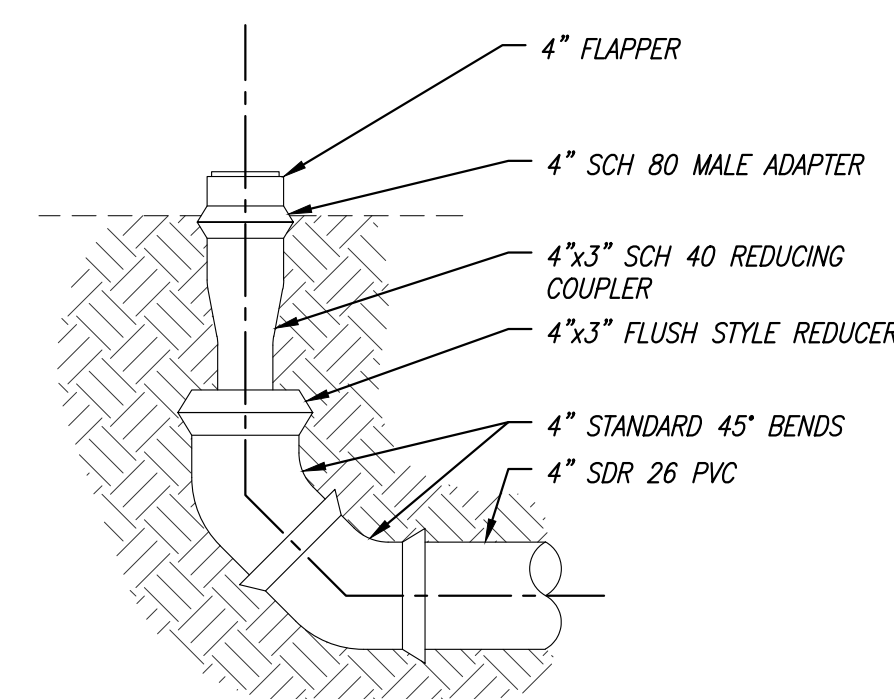
NOTE:  
ENDS OF LOCATOR WIRE SHALL BE PLACED IN A 6" DIP RISER PIPE WITH CAST IRON LIDS AT 500' MIN. SPACING AND SHALL BE GROUNDED TO A 4x1/2" DIA. COPPER ROD AT RISERS. ALL WIRE SPLICES SHALL USE BRASS/COPPER SPLIT-BOLT CONNECTORS. RISERS AND GROUNDED RODS FOR LOCATOR WIRE ON SERVICE LATERALS SHALL BE PLACED, AT A MINIMUM, AT ROW AND FINAL CLEANOUT LOCATION ON THE PROPERTY.



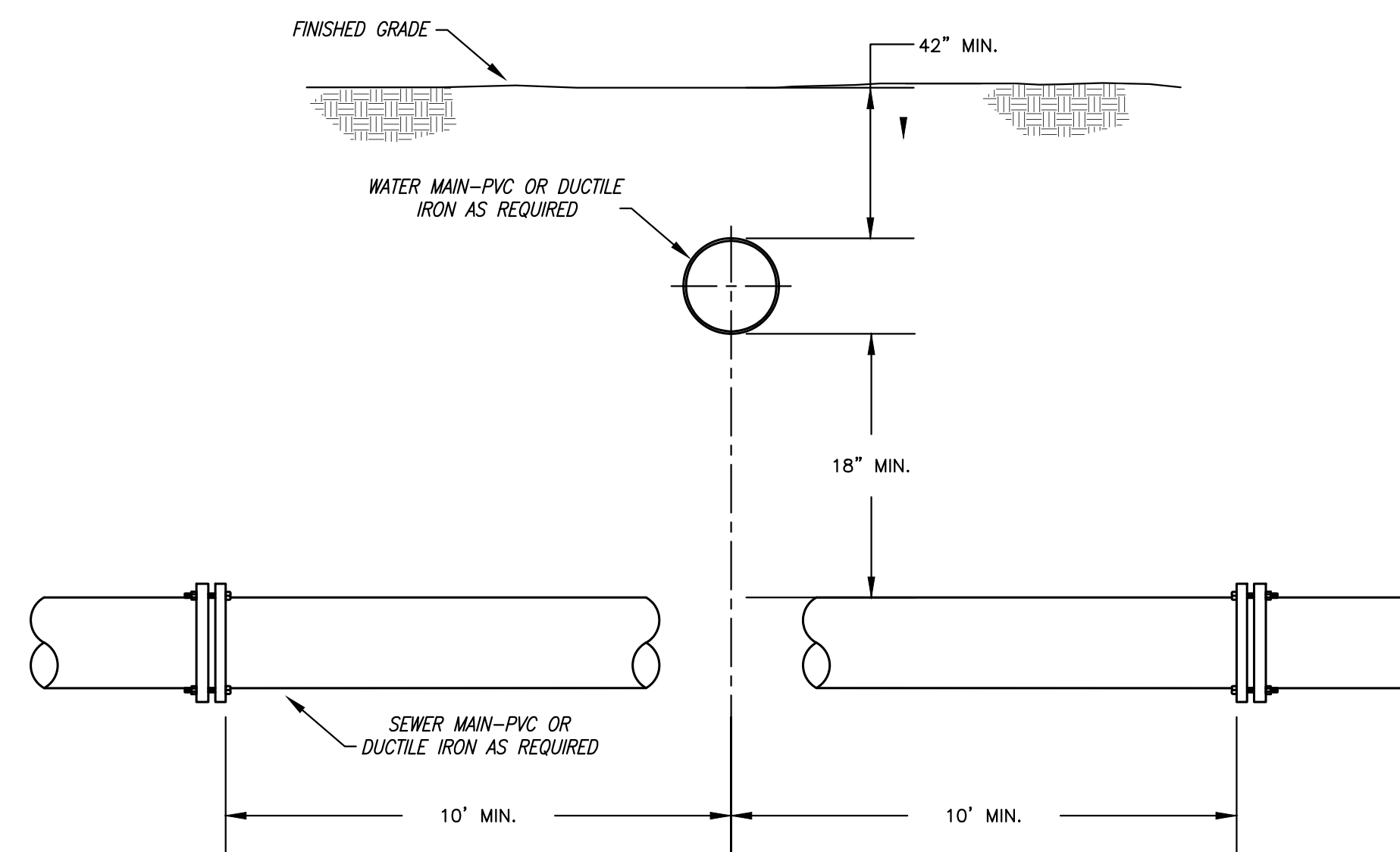
4" LATERAL CONNECTION  
NOT TO SCALE



CONNECTION TO EXISTING MANHOLE  
NOT TO SCALE



CAMPER SEWER CONNECTION  
NOT TO SCALE



NOTES:  
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.  
2. IN AREAS WHERE THE RECOMMENDED SEPARATIONS CANNOT BE OBTAINED, EITHER THE WATER LINE OR THE SEWER LINE SHALL BE CONSTRUCTED OF MECHANICAL JOINT PIPE OR CASING IN A CONTINUOUS CASING.

WATER CROSSING DETAIL  
WATER OVER SEWER  
NOT TO SCALE

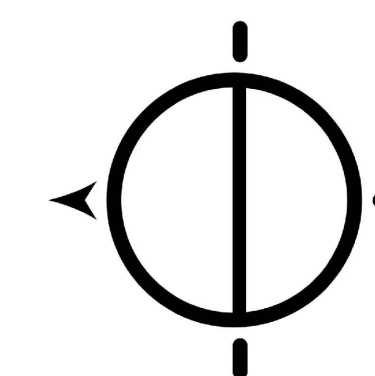




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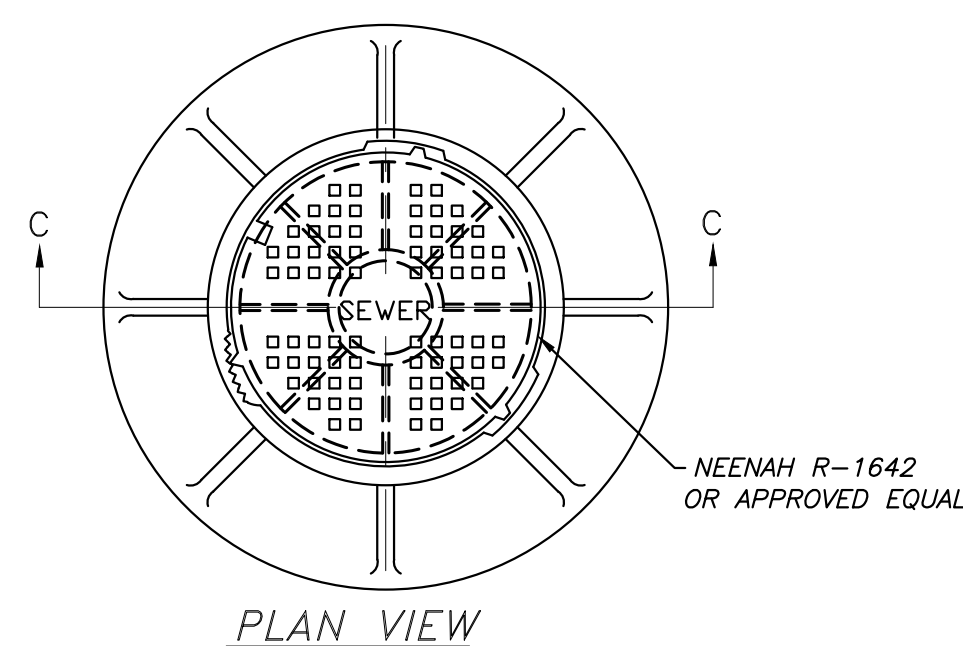
CAD DWG FILE: X2216-01\_C-500  
DRAWN BY: ALW  
CHECKED BY: CMW  
DESIGNED BY: CMW

SHEET TITLE:  
**SEWER DETAILS**

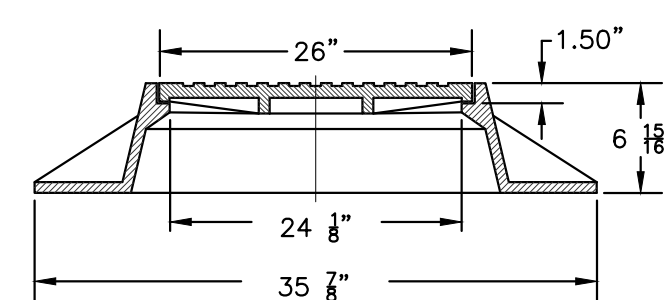
SHEET NUMBER:

**C-504**

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JANUARY 17, 2023

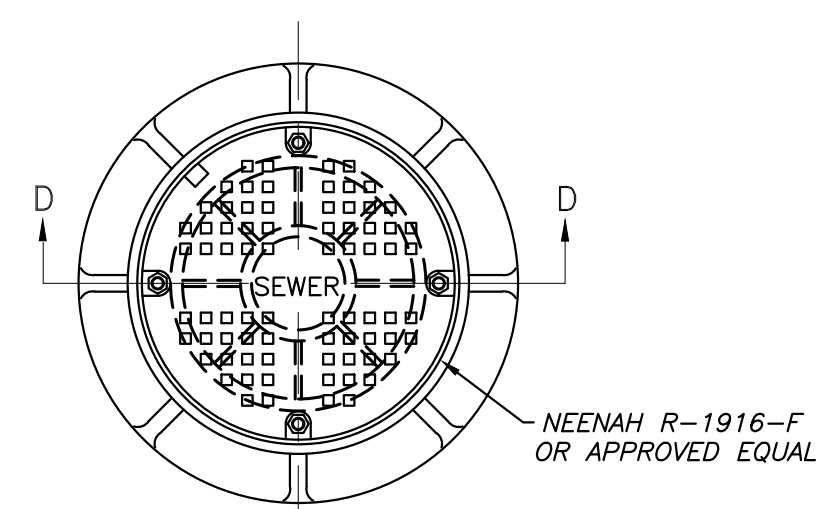


PLAN VIEW

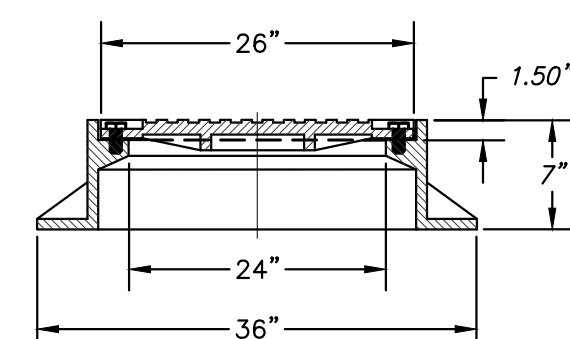


SECTION C-C

STANDARD MANHOLE  
FRAME & LID  
NOT TO SCALE

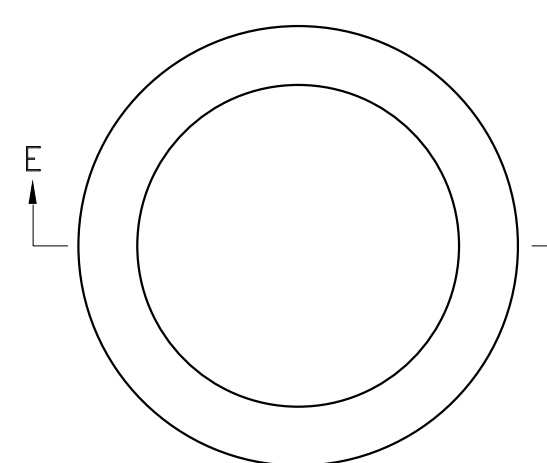


PLAN VIEW

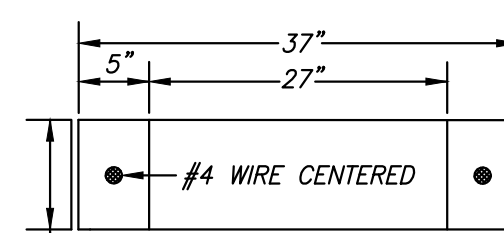


SECTION D-D

WATERTIGHT MANHOLE FRAME & LID  
(BOLT DOWN)  
NOT TO SCALE



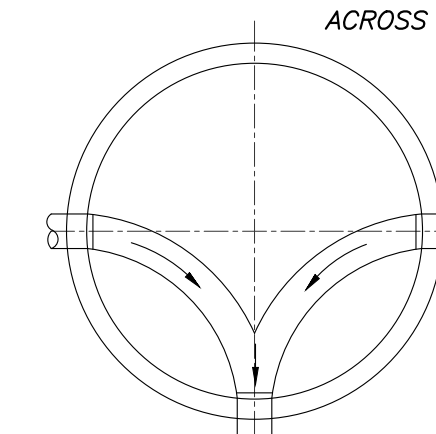
PLAN VIEW



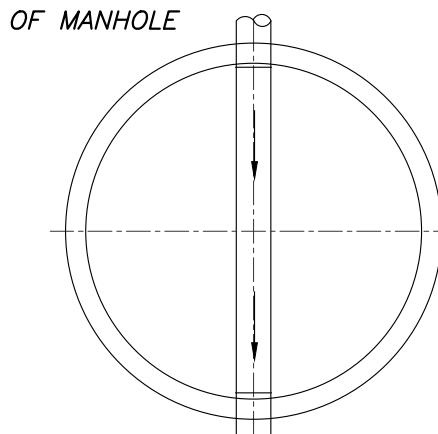
SECTION E-E

GRADE RING  
NOT TO SCALE

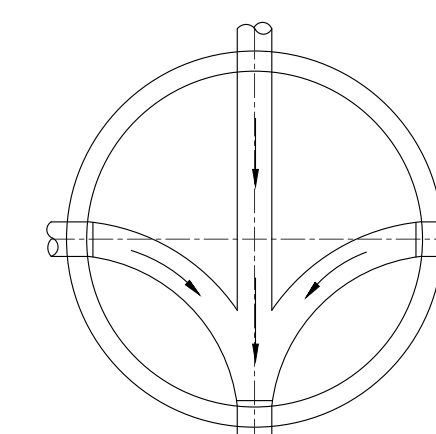
- NOTES:
- DEPTH OF CHANNELS TO BE 1/2 I.D. OF PIPE
  - PROVIDE SMOOTH FLOW ACROSS BOTTOM OF MANHOLE



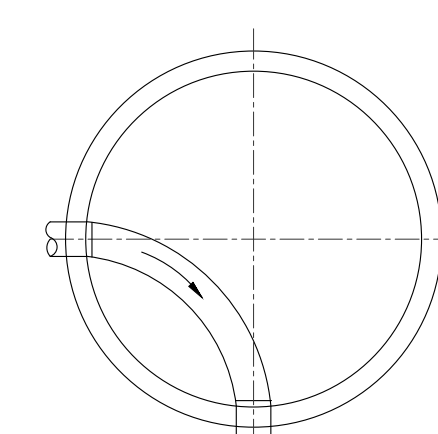
JUNCTION



STRAIGHT THRU

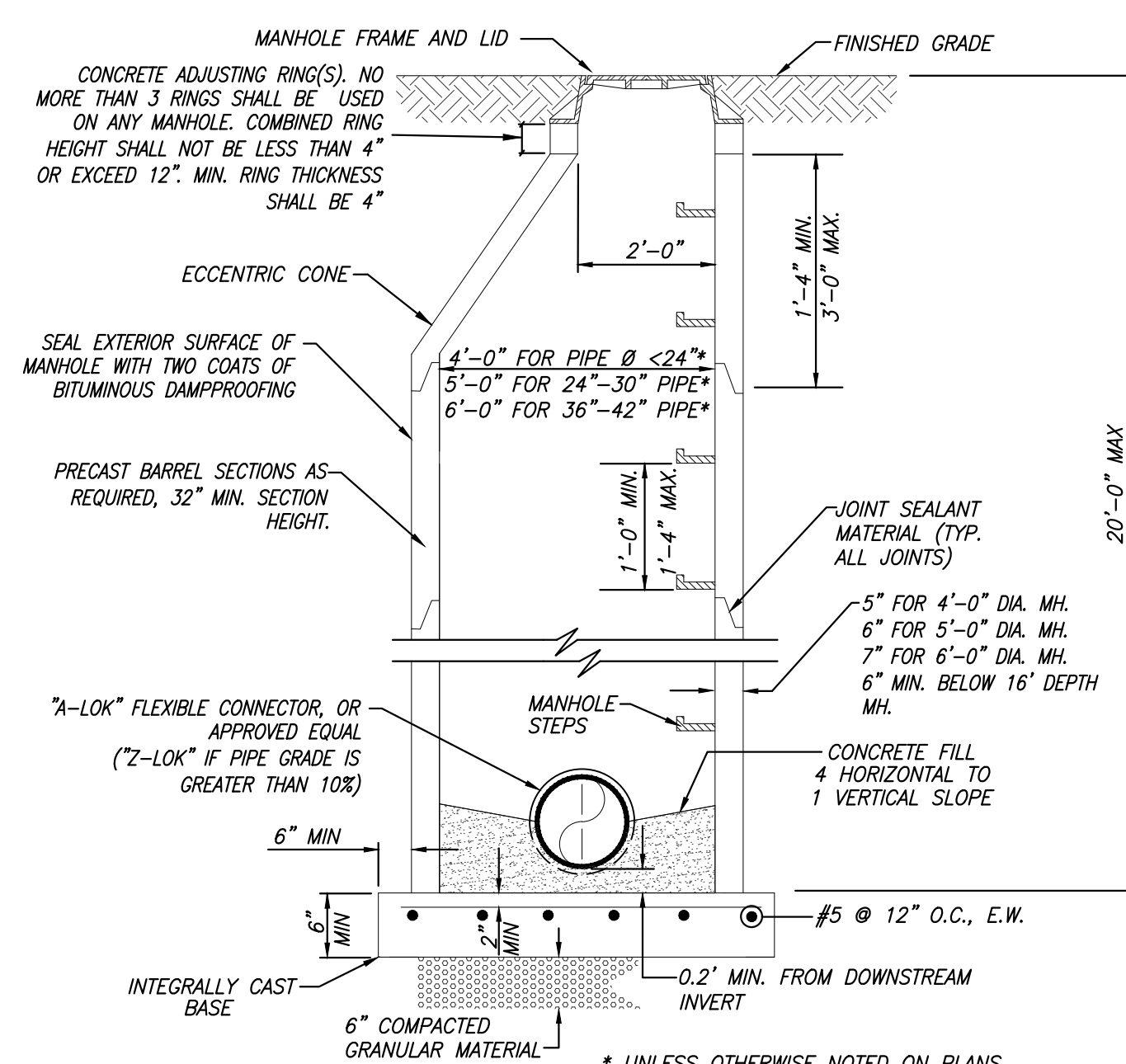


JUNCTION



RIGHT ANGLE

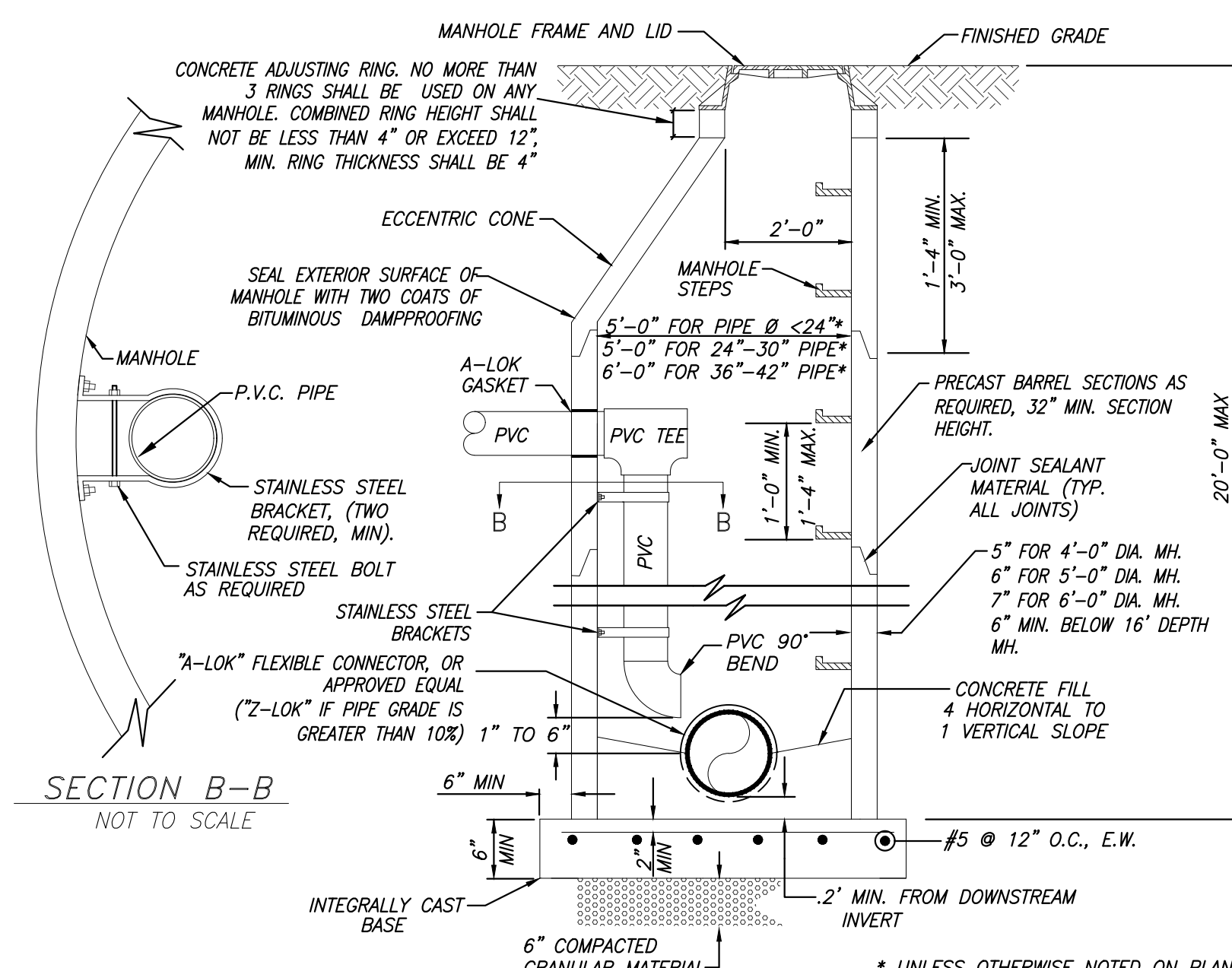
MANHOLE BOTTOM



NOTES:

- MANHOLE FLOW CHANNEL SHALL BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
- UNLESS OTHERWISE NOTED, ALL PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478 REQUIREMENTS.

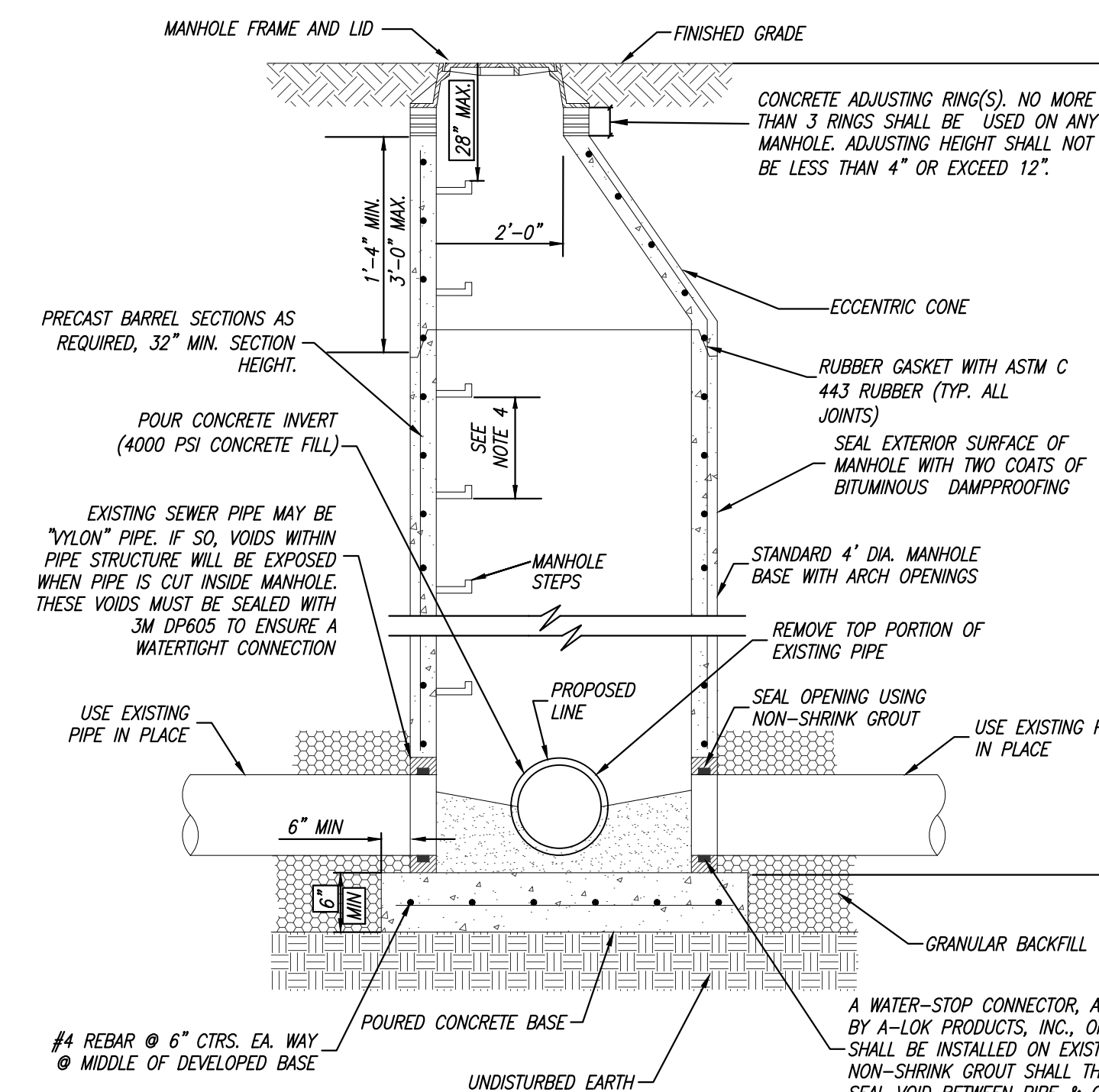
STANDARD PRECAST MANHOLE  
NOT TO SCALE



NOTES:

- CONFIGURATIONS SHOWN WILL ALSO BE UTILIZED FOR DROP ASSEMBLIES INSTALLED IN EXISTING MANHOLES.
- MANHOLE FLOW CHANNEL SHALL BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
- UNLESS OTHERWISE NOTED, ALL PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478 REQUIREMENTS.

INSIDE DROP MANHOLE (GRAVITY)  
NOT TO SCALE

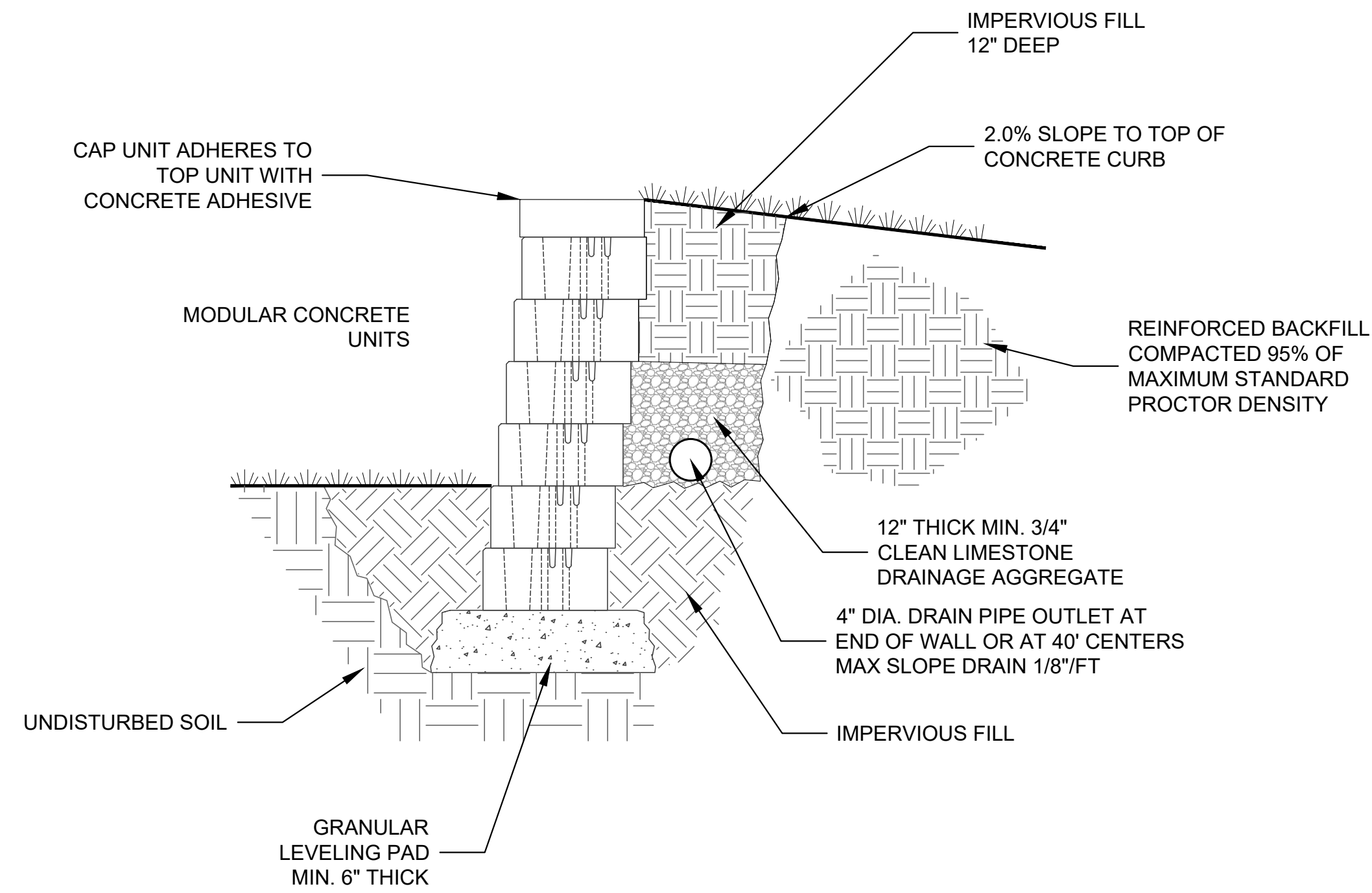
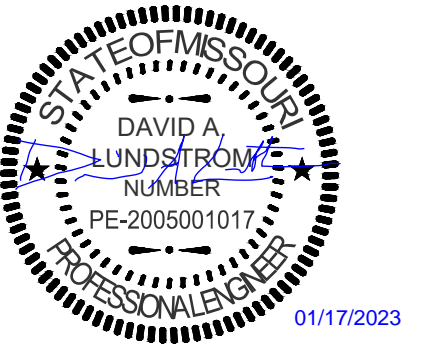


NOTES:

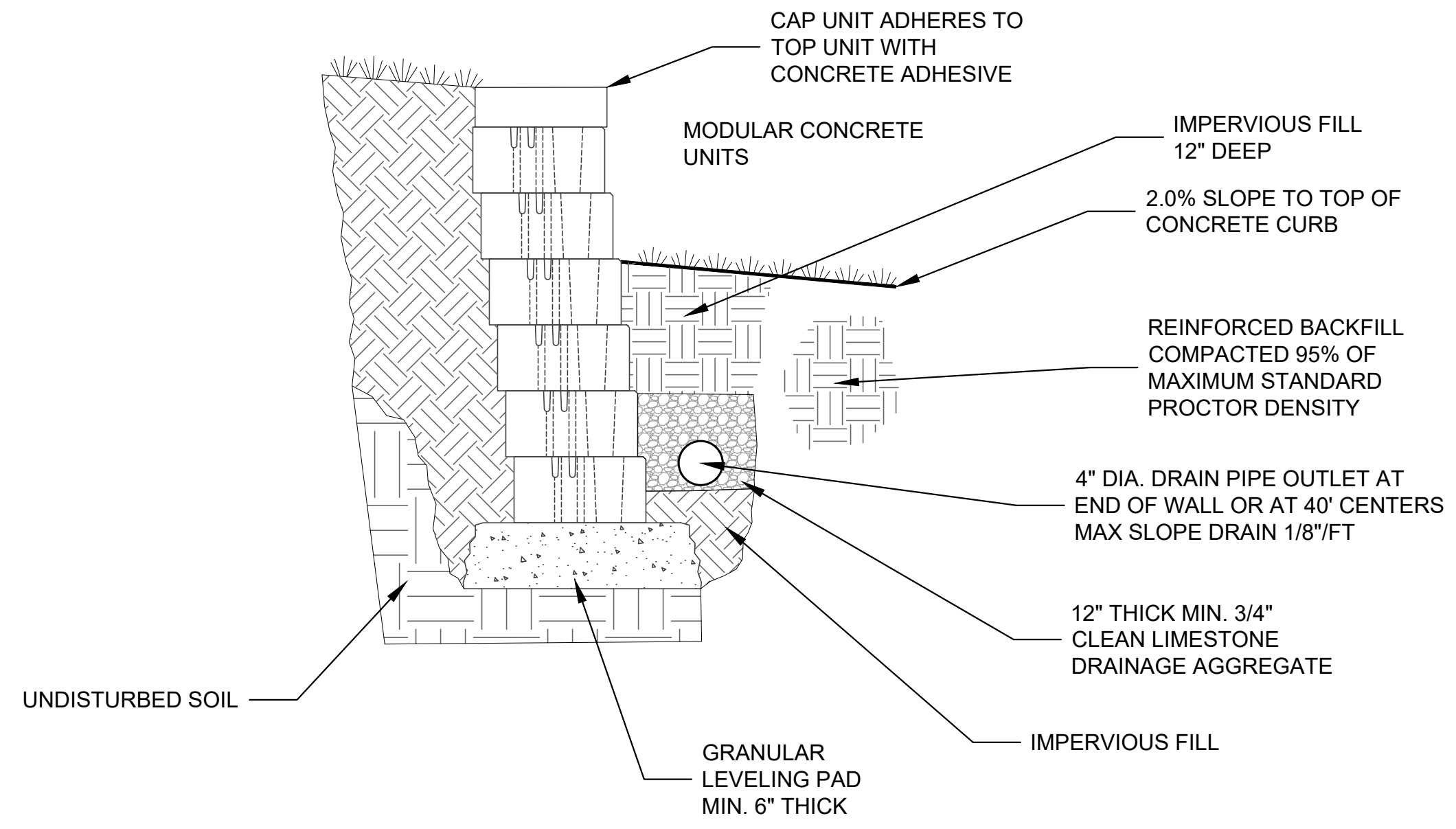
- MANHOLE FLOW CHANNEL SHALL BE MADE TO CONFORM IN SHAPE AND SLOPE TO THAT OF THE SEWERS.
- UNLESS OTHERWISE NOTED, ALL PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C-478 REQUIREMENTS.
- GROUTED INVERT SHALL BE TROWELED SMOOTH.
- MANHOLE STEPS SHALL BE ALIGNED SO AS TO FORM A CONTINUOUS LADDER WITH RUNGS EQUALLY SPACED VERTICALLY IN THE ASSEMBLED MANHOLE AT A MINIMUM DISTANCE OF 12 INCHES APART AND A MAXIMUM OF 16 INCHES APART.

STRADDLE MANHOLE  
NOT TO SCALE

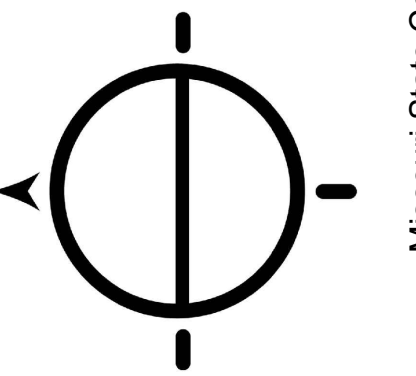




**LANDSCAPE RETAINING WALL - RETAINING PROPOSED SURFACE**  
NOT TO SCALE



**LANDSCAPE RETAINING WALL - RETAINING EXISTING SURFACE**  
NOT TO SCALE



Missouri State Certificate of Authority Numbers:  
Engineering: 2000156885, Land Surveying: 2001011476,  
Landscape Architecture: 2007013673

OFFICE OF ADMINISTRATION  
DIVISION OF FACILITIES  
MANAGEMENT,  
DESIGN AND CONSTRUCTION

DEPARTMENT OF  
NATURAL RESOURCES  
MISSOURI STATE PARKS

TABLE ROCK STATE PARK  
REPLACE 22 ELECTRIC SITES  
WITH 22 PREMIUM SITES

TABLE ROCK STATE PARK  
CAMPGROUND #2  
5272 STATE HWY 165  
BRANSON, MISSOURI 65616

PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_

ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_C-500  
DRAWN BY: ALW  
CHECKED BY: DAL  
DESIGNED BY: ALW

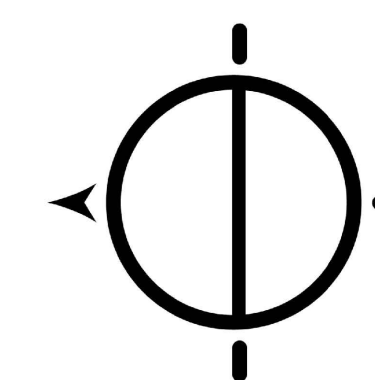
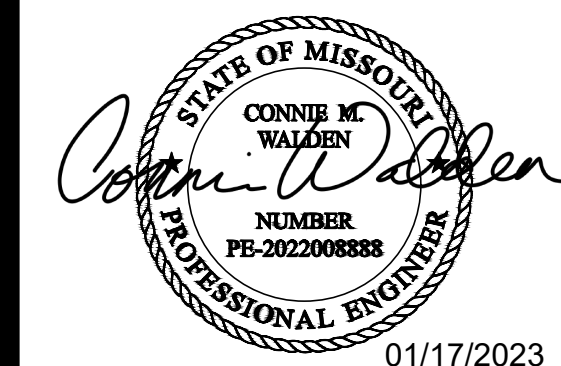
SHEET TITLE:  
**WALL DETAILS**

SHEET NUMBER:

**C-505**

14 OF 18 SHEETS  
JANUARY 17, 2023





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REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_M-001  
DRAWN BY: WSH  
CHECKED BY: CMW  
DESIGNED BY: CMW

SHEET TITLE:  
**BOOSTER PUMP  
PLAN VIEW**

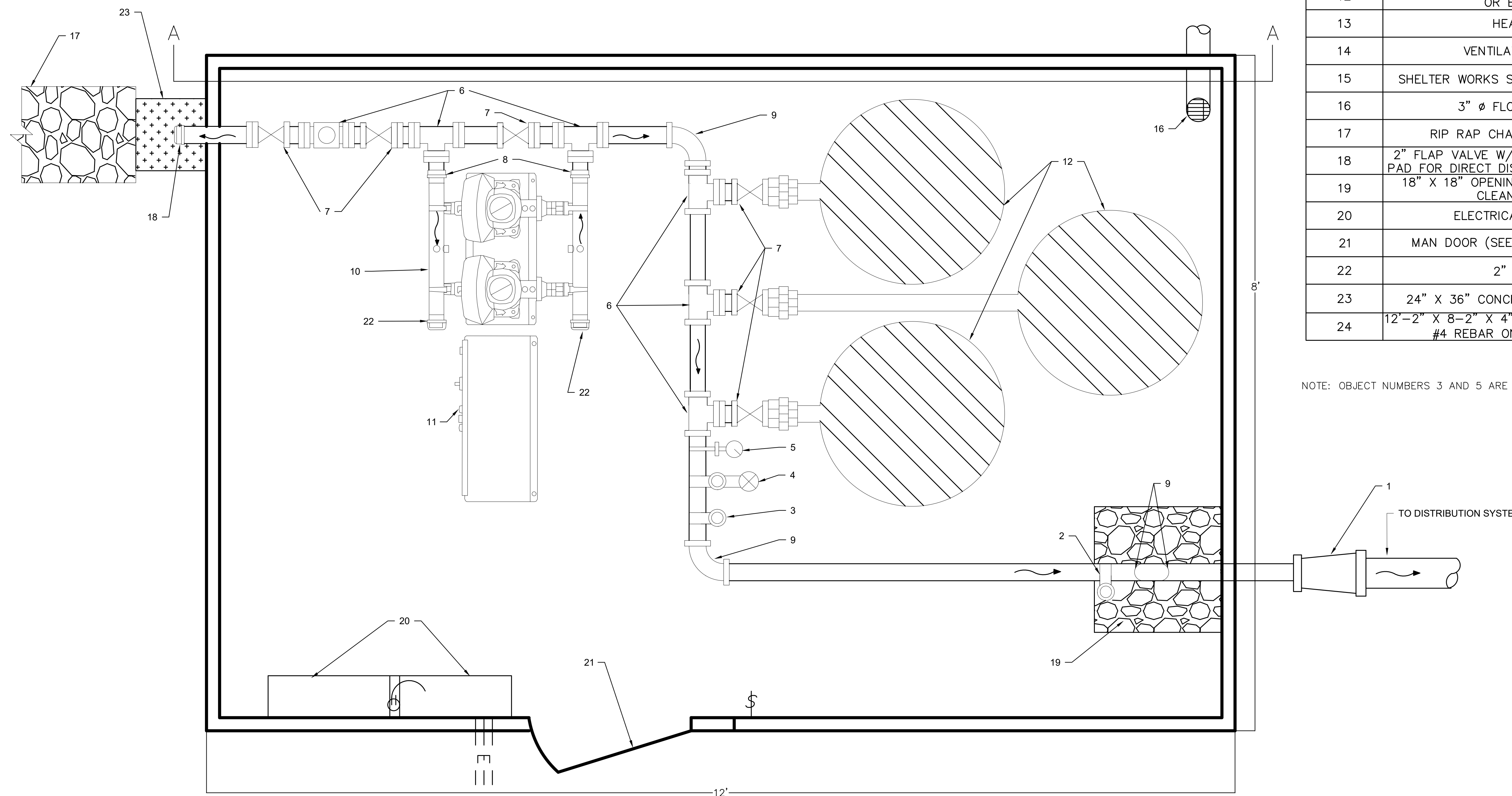
SHEET NUMBER:

**M-101**

15 OF 18 SHEETS  
JANUARY 17, 2023

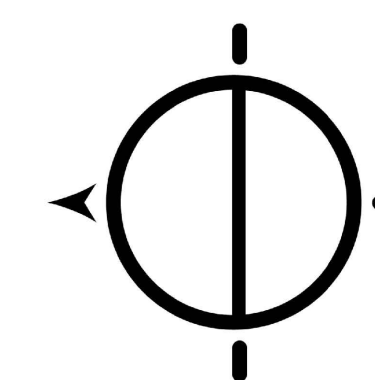
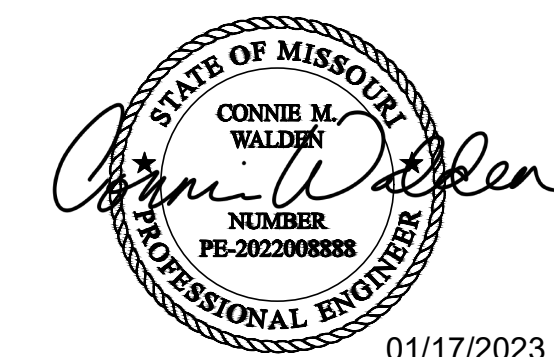
ITEM NUMBER	DESCRIPTION	QUANTITY
1	2" TO 4" REDUCER	2
2	SAMPLE TAP, PROVIDE 3/4" BALL VALVE HOSE BIB	1
3	PRESSURE TRANSDUCER	1
4	PRESSURE RELIEF VALVE	1
5	PRESSURE GAUGE	1
6	2" X 2" X 2" TEE	6
7	2" GATE VALVE	6
8	UNION COUPLING	2
9	2" 90° FITTING	5
10	GRUNDFOS BOOSTER PAQ	1
11	GRUNDFOS BOOSTER PAQ CONTROL PANEL	1
12	86 GAL. WELL-TROL DIAPHRAGM TANK OR EQUAL	3
13	HEATER	1
14	VENTILATION FAN	1
15	SHELTER WORKS STRUCTURE 12' X 8'	1
16	3" Ø FLOOR DRAIN	1
17	RIP RAP CHANNEL 4' X 12'	1
18	2" FLAP VALVE W/ 24" X 36" SPLASH PAD FOR DIRECT DISCHARGE FROM TANK	1
19	18" X 18" OPENING FILLED W/ 3/8" CLEAN ROCK	1
20	ELECTRICAL PANELS	1
21	MAN DOOR (SEE SPECIFICATIONS)	1
22	2" CAP	2
23	24" X 36" CONCRETE SPLASH PAD	1
24	12'-2" X 8'-2" X 4" CONCRETE SLAB W/ #4 REBAR ON 24" CENTER	1

NOTE: OBJECT NUMBERS 3 AND 5 ARE ROTATED 45° CLOCKWISE FOR CLARITY



PLAN VIEW  
NOT TO SCALE





Missouri State Certificate of Authority Numbers:  
Engineering: 2000156885, Land Surveying: 2001011476,  
Landscape Architecture: 2007013673

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CAMPGROUND #2  
5272 STATE HWY 165  
BRANSON, MISSOURI 65616

PROJECT # X2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_M-001  
DRAWN BY: WSH  
CHECKED BY: CMW  
DESIGNED BY: CMW

SHEET TITLE:  
**BOOSTER PUMP  
SECTION VIEW**

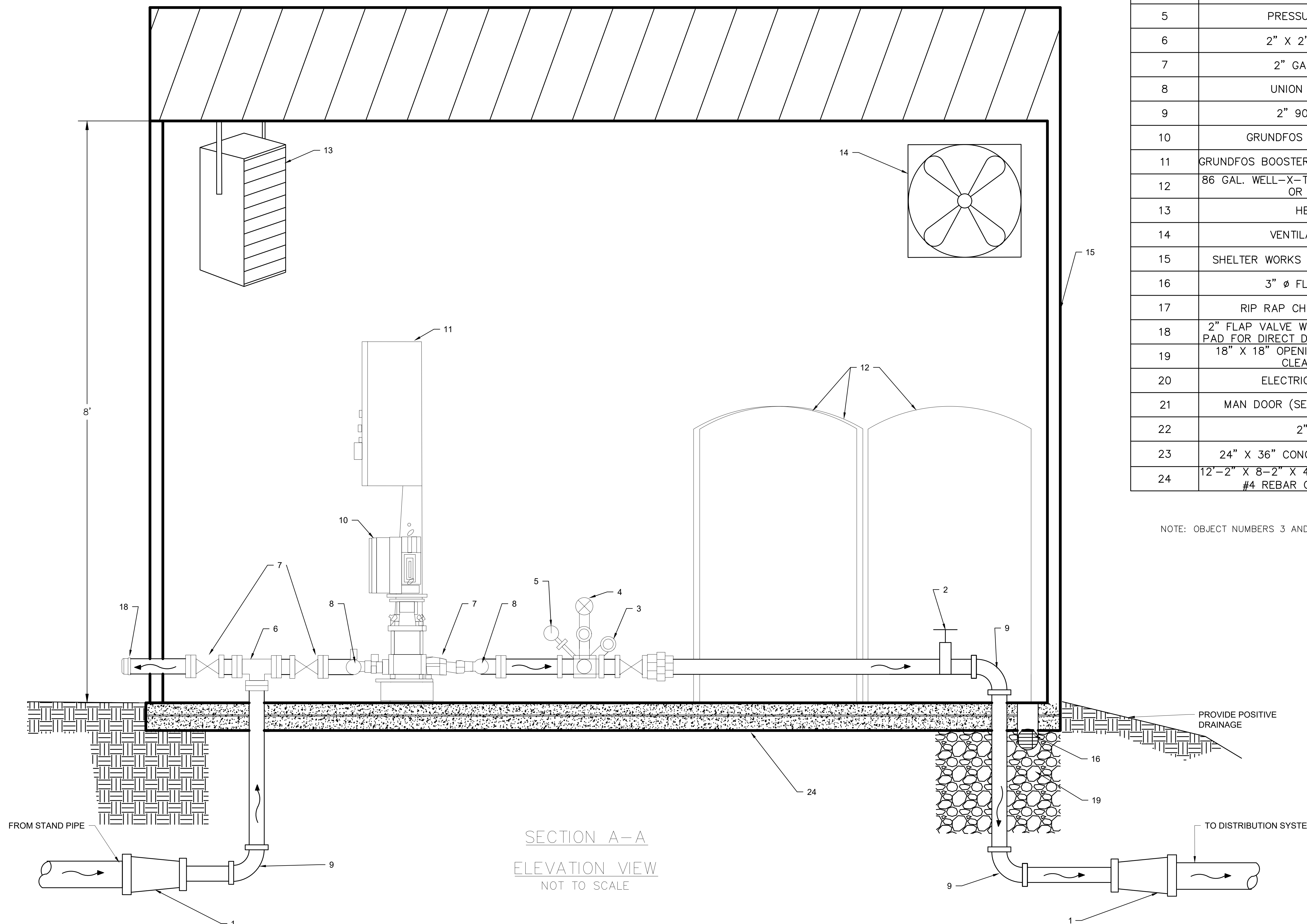
SHEET NUMBER:

**M-102**

16 OF 18 SHEETS  
JANUARY 17, 2023

ITEM NUMBER	DESCRIPTION	QUANTITY
1	2" TO 4" REDUCER	2
2	SAMPLE TAP, PROVIDE 3/4" BALL VALVE HOSE BIB	1
3	PRESSURE TRANSDUCER	1
4	PRESSURE RELIEF VALVE	1
5	PRESSURE GAUGE	1
6	2" X 2" X 2" TEE	6
7	2" GATE VALVE	6
8	UNION COUPLING	2
9	2" 90° FITTING	5
10	GRUNDFOS BOOSTER PAQ	1
11	GRUNDFOS BOOSTER PAQ CONTROL PANEL	1
12	86 GAL. WELL-X-TROL DIAPHRAGM TANK OR EQUAL	3
13	HEATER	1
14	VENTILATION FAN	1
15	SHELTER WORKS STRUCTURE 12' X 8'	1
16	3" Ø FLOOR DRAIN	1
17	RIP RAP CHANNEL 4' X 12'	1
18	2" FLAP VALVE W/ 24" X 36" SPLASH PAD FOR DIRECT DISCHARGE FROM TANK	1
19	18" X 18" OPENING FILLED W/ 3/8" CLEAN ROCK	1
20	ELECTRICAL PANELS	1
21	MAN DOOR (SEE SPECIFICATIONS)	1
22	2" CAP	2
23	24" X 36" CONCRETE SPLASH PAD	1
24	12'-2" X 8'-2" X 4" CONCRETE SLAB W/ #4 REBAR ON 24" CENTER	1

NOTE: OBJECT NUMBERS 3 AND 5 ARE ROTATED FOR CLARITY



SECTION A-A  
ELEVATION VIEW  
NOT TO SCALE









**CJD**  
Engineering | Energy | Innovation  
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P: 417.877.1700 F: 417.324.7735  
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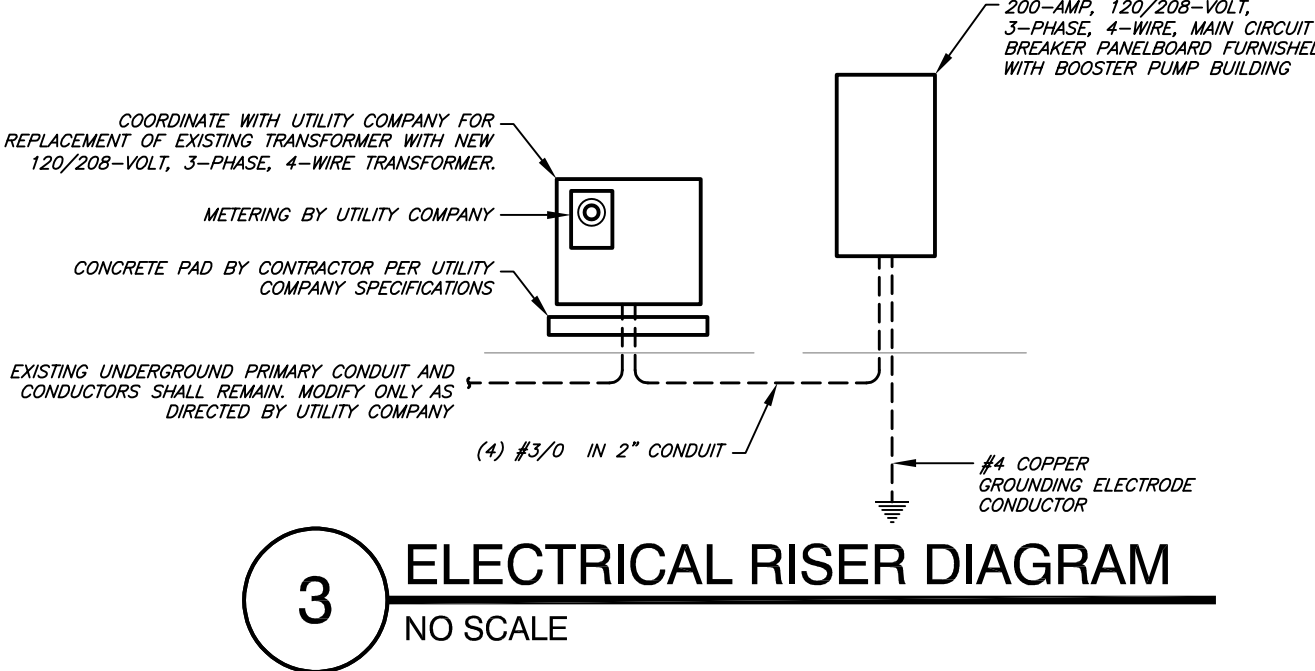
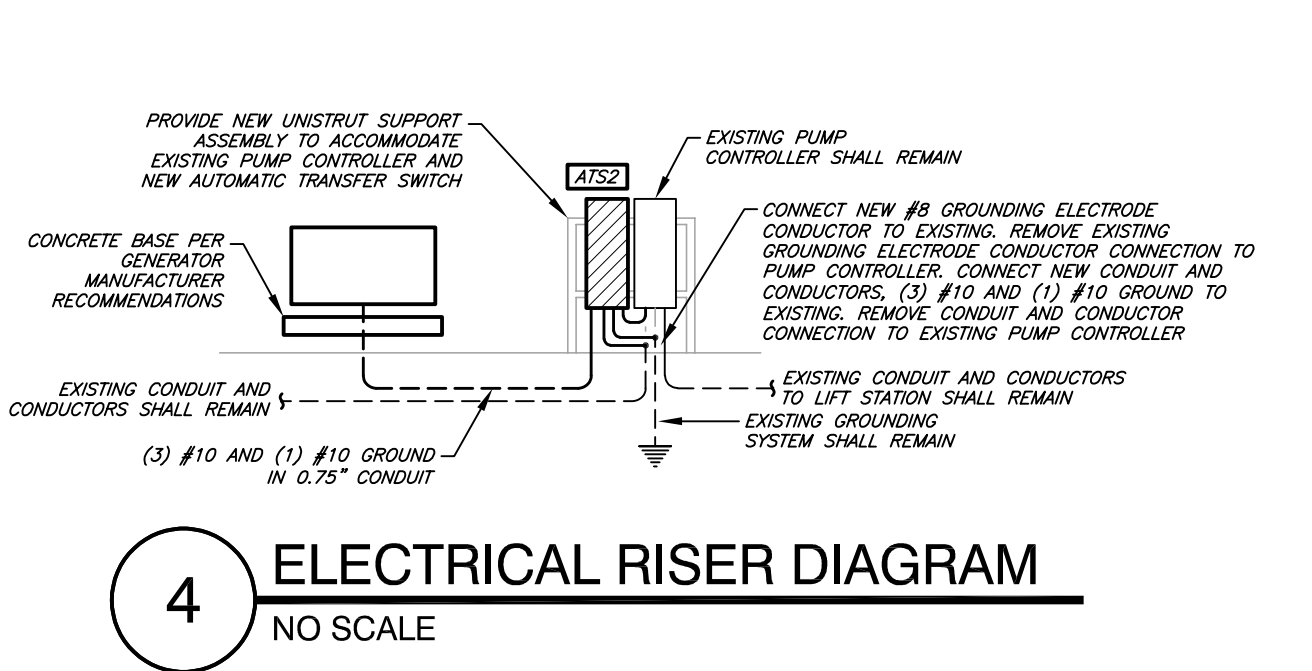
AUTOMATIC TRANSFER SWITCH SCHEDULE							NOTES & ACCESSORIES
MARK	LOAD	VOLTAGE	AMP	POLE	NEMA ENCLOSURE		
ATS1	LIFT STATION	240	30	2	1		1,2,3,4
ATS2	LIFT STATION	240	30	2	3		1,2,3,4

**ACCESSORIES:**  
1. GROUND LUG KIT  
2. 60AL-METERING  
3. SHALL HAVE LOGIC TO MONITOR SOURCE CONDITION AND INITIATE POWER TRANSFERS  
4. SHALL HAVE INTERLOCKED CONTROLS TO PREVENT SIMULTANEOUS POWER GENERATION  
5. PROVIDE NON-AUTOMATIC TRANSFER SWITCH TO LOCK UP TEMPORARY POWER DURING GENERATOR MAINTENANCE  
6. PROVIDE TRANSFER SWITCH WITH INTERLOCK LOGIC TO CONTROL TEMPORARY GENERATOR

GENERATOR SCHEDULE (ALTERNATE #2)							NOTES AND ACCESSORIES
TAG	STANDBY POWER RATING (kW/VA)	FUEL TYPE	OUTPUT VOLTAGE (V/PH)	OUTPUT CIRCUIT BREAKERS (1) 30A/2P	ALTERNATOR TYPE	NFPA 110 CLASS TYPE LEVEL	
GEN1	18kW/24kVA	DIESEL	120/240V, 1PH, 3W	(1) 30A/2P	PMG w/ASEP 1162	24-10-LEVEL 1	1,2,3
GEN2	18kW/24kVA	DIESEL	120/240V, 1PH, 3W	(1) 30A/2P	PMG w/ASEP 1162	24-10-LEVEL 1	1,2,3,4

**NOTES/ACCESSORIES:**  
1. PROVIDE PERMANENT ANNUNCIATOR AND ASSOCIATED CIRCUITRY (COORDINATE LOCATION AND ADDITIONAL REQUIREMENTS)  
2. COOLANT HEAT EXCHANGER BLOCK HEATER  
3. ALL THE SURFACE OIL TANK  
4. PROVIDE OUTDOOR HEAT THER ENCLOSEURE

**GENERAL NOTES (APPLY TO ALL GENERATORS):**  
1. REFER TO GENERATOR SPECIFICATIONS FOR APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS  
2. SHALL LISTED IN WITH 30% OVERLAP OIP  
3. PROVIDE UPSIZED ALTERNATOR IF NECESSARY TO PROVIDE MINIMUM PROTECTIVE MVA  
4. RElocate ANNUNCIATOR LOCATION SHALL BE FIELD COORDINATED OR REFERRED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION



**2 SEWAGE LIFT STATION - SITE ELECTRICAL PLAN**  
NO SCALE



**1 SEWAGE LIFT STATION AND BOOSTER PUMP - SITE ELECTRICAL PLAN**  
NO SCALE



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TABLE ROCK STATE PARK  
CAMPGROUND #2

BRANSON, MISSOURI

PROJECT # X-2216-01  
SITE # 5603  
ASSET # 7815603018

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 01/17/2023

CAD DWG FILE: X2216-01\_E-102  
DRAWN BY: AKD  
CHECKED BY: AKD  
DESIGNED BY: AKD

SHEET TITLE:  
**SITE ELECTRICAL  
PLAN AND DETAILS**

SHEET NUMBER:  
**E-102**  
18 OF 18 SHEETS  
JANUARY 17, 2023