

Replace Sewer Lines & Infrastructure Ozark Correctional Center Fordland, Missouri

OWNER: STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR
DEPARTMENT OF
CORRECTIONS
PROJECT MANAGEMENT: OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES MANAGEMENT,
DESIGN AND CONSTRUCTION



DESIGNER: ALLGEIER, MARTIN and ASSOCIATES, INC.

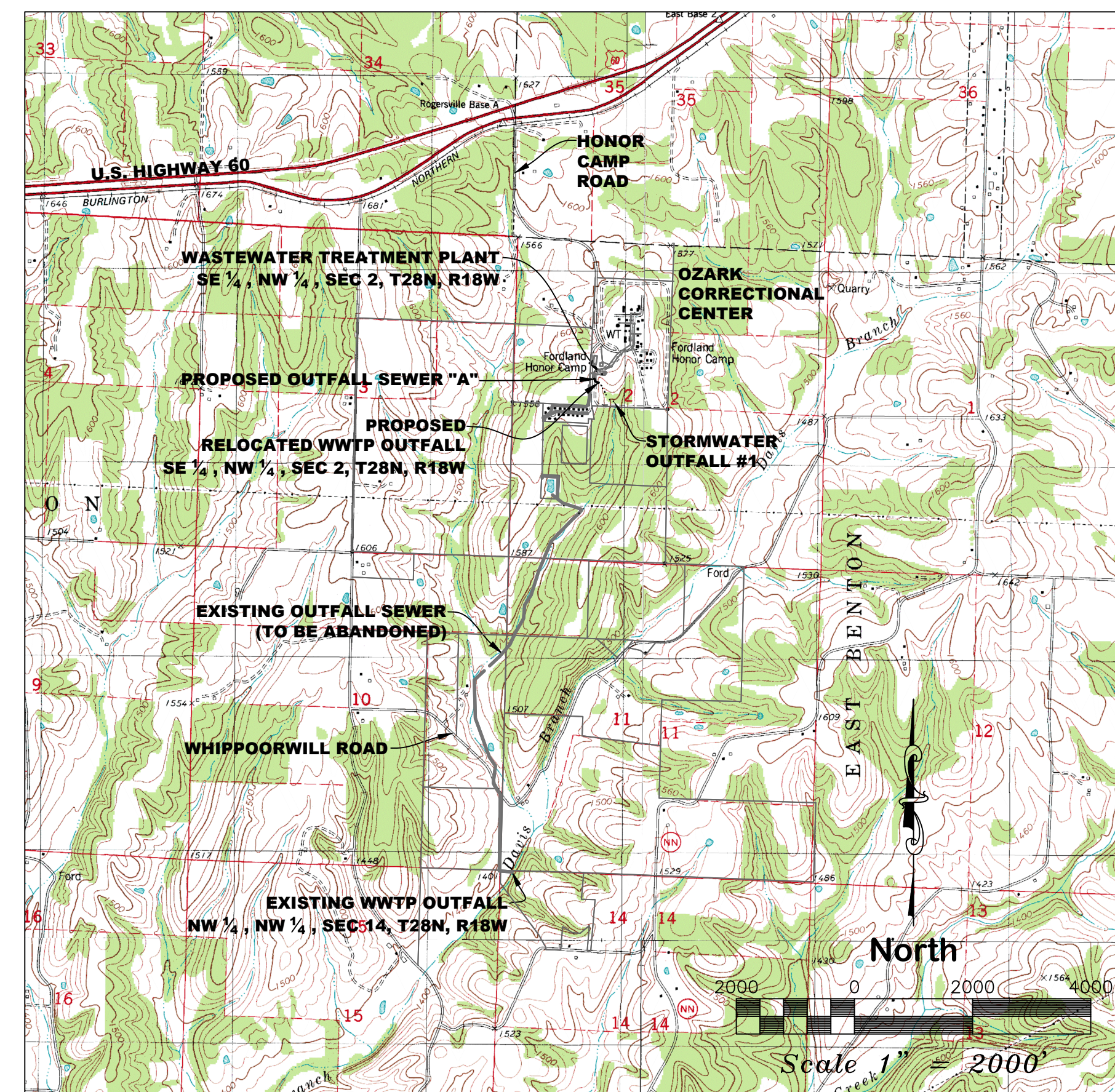
PROJECT NUMBER: C1907-01

SITE NUMBER: 7003
FACILITY NUMBER: 9327003071; 9327003073; 9327003081

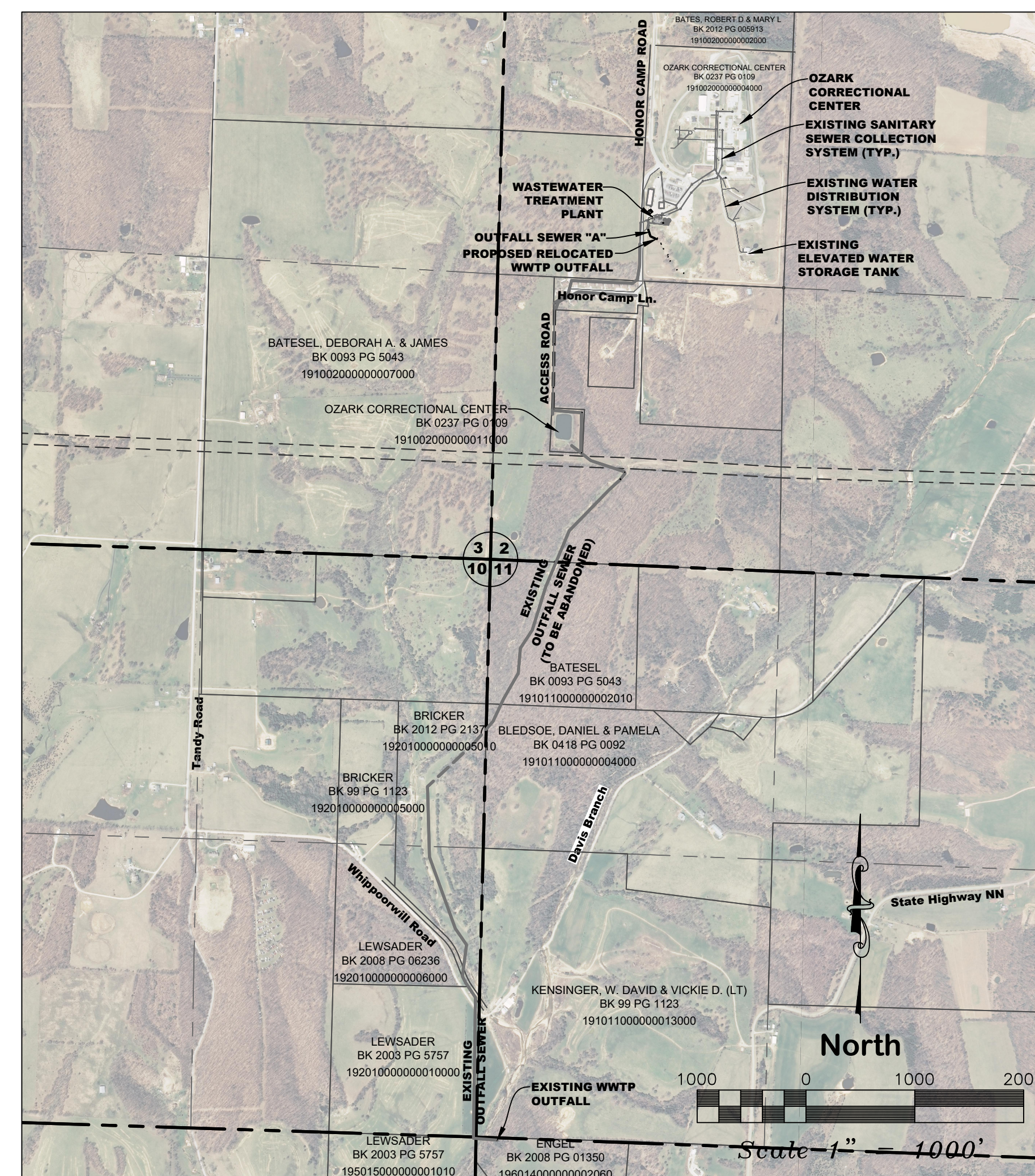


LEGEND

<ul style="list-style-type: none"> ○ Found Iron Pin (As Noted) ⊠ Air Conditioner ● Bollard ⊙ Bush ⊠ Cable Box ⊠ Cable Vault ⊠ Column ⊠ Electric Box ⊠ Electric Cabinet ⊠ Electric Manhole ⊠ Electric Meter ⊠ Electric Outlet ⊠ Electric Vault ⊠ Fire Dept. Connection ⊠ Fire Hydrant ⊠ Fiber Optic Box ⊠ Fiber Optic Pedestal ⊠ Flared End Section ⊠ Gas Marker ⊠ Gas Meter ⊠ Gas Valve ⊠ Grate Inlet ⊠ Gas Vault ⊠ Guy Wire ⊠ Irrigation Valve ⊠ Light Pole ⊠ Mail Box ⊠ Power or Utility Pole ⊠ Roof Drain ⊠ Sanitary Cleanout ⊠ Sanitary Manhole ⊠ Storm Manhole 	<ul style="list-style-type: none"> ⊠ Sign ⊠ Sprinkler Head ⊠ Steel Post ⊠ Telephone Cabinet ⊠ Telephone Pedestal ⊠ Telephone Riser ⊠ Telephone Manhole ⊠ Transformer ⊠ Water Manhole ⊠ Water Meter ⊠ Water Valve ⊠ Wood Post ⊠ Sprinkler Control Valve FO Fiber Optic Line TEL Telephone Line GAS Gas Line P-OH Overhead Electric P-UG Underground Electric W Water Line SS Sanitary Sewer Line SD Storm Sewer Line x Barbed Wire Fence ○ Chainlink Fence ○ Wood Fence ○ Confirous Tree ○ Deciduous Tree Concrete Pavement Asphalt Pavement Gravel Landscape Area 	<ul style="list-style-type: none"> --- EASEMENT --- PROPERTY LINE --- RIGHT-OF-WAY --- EXISTING MAJOR CONTOUR --- EXISTING MINOR CONTOUR --- PROPOSED CONTOUR --- PROPOSED UTILITY CORRIDOR/EASEMENT --- PROPOSED UNDERGROUND ELECTRIC --- PROPOSED SANITARY SEWER LINE --- PROPOSED SANITARY SEWER STRUCTURE --- PROPOSED UTILITY CORRIDOR/EASEMENT --- PROPOSED STORM SEWER --- PROPOSED STORM SEWER STRUCTURE --- PROPOSED WATER MAIN --- PROPOSED VALVE --- PROPOSED FITTING --- PROPOSED DITCH OR DIVERSION BERM --- CENTERLINE --- EROSION CONTROL DEVICE --- PROPOSED RIPRAP OR ROCK BLANKET --- PROPOSED SEED AND MULCH STABILIZATION --- PROPOSED TURF REINFORCEMENT MAT --- PROPOSED CONCRETE SURFACE --- PROPOSED FINISHED FLOOR ELEVATION --- PROPOSED FINISHED GRADE ELEVATION --- PROPOSED FINISHED SURFACE ELEVATION --- PROPOSED BOTTOM OF CURB ELEVATION --- PROPOSED TOP OF CURB ELEVATION --- PROPOSED TOP OF WALL ELEVATION --- FLOW DIRECTION --- EXISTING FACILITY TO BE DEMOLISHED OR REMOVED --- NON-CONNECTING PIPING --- SHEET NO. ON WHICH SECTION OR DETAIL APPEARS; OR WHERE SECTION IS CUT OR DETAIL IS NOTED --- KEY NOTE
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PROJECT LOCATION MAP



SITE LAYOUT MAP

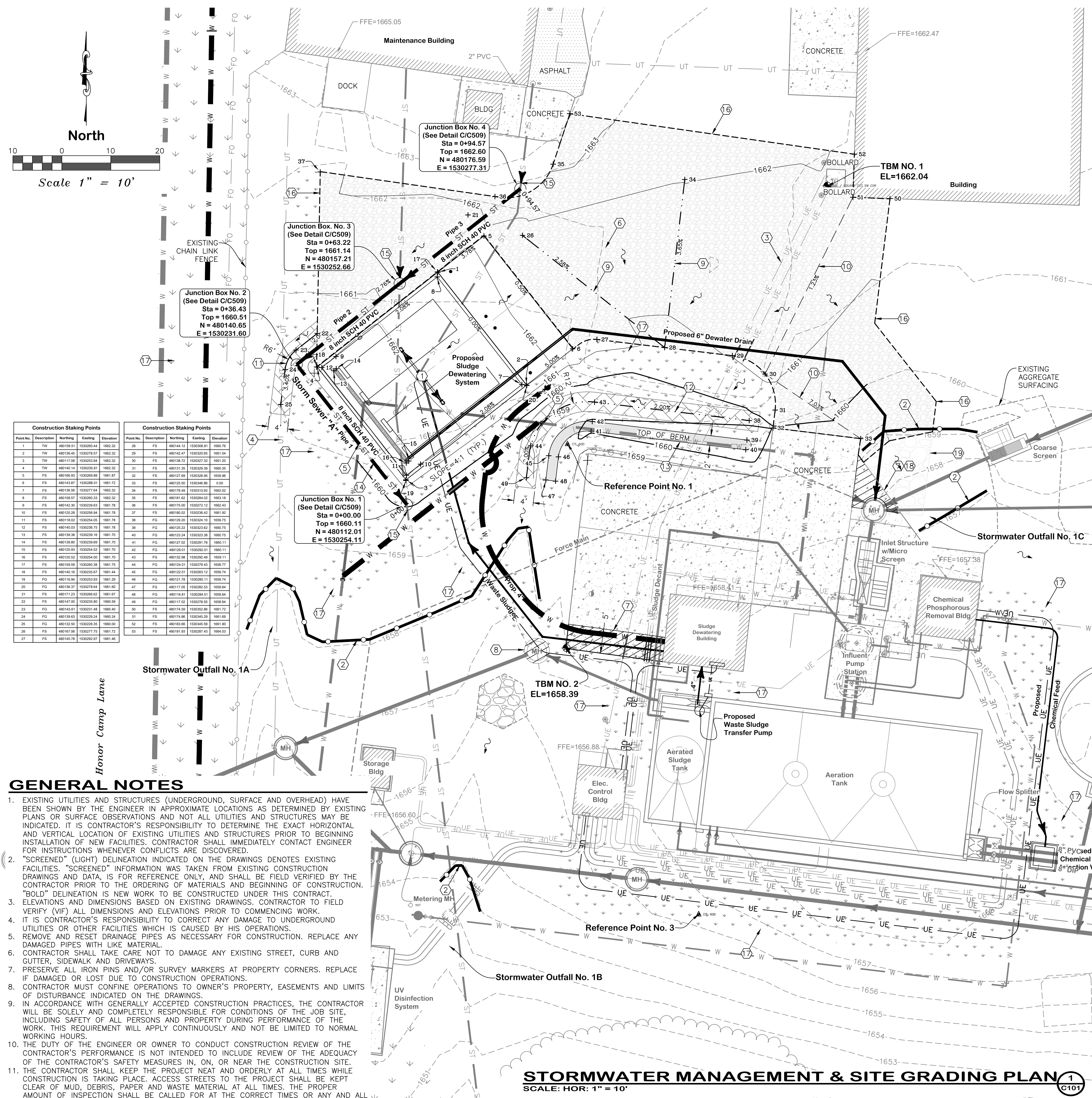
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SHEET NO.	DESCRIPTION
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C-106	WATER DISTRIBUTION SYSTEM REPLACEMENT PLAN - SOUTH
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SHEET NUMBER:

G-001

1 OF 22 SHEETS
JANUARY 06, 2023



Point No.	Description	Northing	Easting	Elevation
1	TW	480159.51	153026.44	1662.32
2	TW	480158.45	153027.51	1662.32
3	TW	480117.08	153023.84	1662.32
4	TW	480140.14	153028.81	1662.32
5	FS	480160.63	153028.84	1661.87
6	FS	480137.87	153028.81	1661.72
7	FS	480138.56	153027.64	1662.32
8	FS	480158.57	153030.33	1662.32
9	FS	480142.30	153028.63	1661.78
10	FS	480152.08	153028.61	1661.78
11	FS	480119.02	153024.05	1661.78
12	FS	480140.03	153026.75	1661.78
13	FS	480139.38	153026.16	1661.78
14	FS	480139.80	153028.60	1661.70
15	FS	480152.08	153028.61	1661.78
16	FS	480122.52	153024.05	1661.78
17	FS	480159.59	153030.38	1661.75
18	FS	480140.16	153026.87	1661.44
19	FS	480116.94	153028.01	1661.20
20	FS	480179.37	153027.66	1661.60
21	FS	480171.23	153026.64	1661.62
22	FS	480147.00	153026.83	1660.50
23	FS	480143.61	153021.48	1660.43
24	FS	480138.63	153029.29	1660.24
25	FS	480132.30	153028.20	1660.00
26	FS	480146.66	153027.75	1660.21
27	FS	480143.76	153026.92	1661.48

GENERAL NOTES

- EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE AND OVERHEAD) HAVE BEEN SHOWN BY THE ENGINEER IN APPROXIMATE LOCATIONS AS DETERMINED BY EXISTING PLANS OR SURFACE OBSERVATIONS AND NOT ALL UTILITIES AND STRUCTURES MAY BE INDICATED. IT IS CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND STRUCTURES PRIOR TO BEGINNING INSTALLATION OF NEW FACILITIES. CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER FOR INSTRUCTIONS WHENEVER CONFLICTS ARE DISCOVERED.
- "SCREENED" (LIGHT) DELINEATION INDICATED ON THE DRAWINGS DENOTES EXISTING FACILITIES. "SCREENED" INFORMATION WAS TAKEN FROM EXISTING CONSTRUCTION DRAWINGS AND DATA, IS FOR REFERENCE ONLY, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE ORDERING OF MATERIALS AND BEGINNING OF CONSTRUCTION. "BOLD" DELINEATION IS NEW WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. ELEVATIONS AND DIMENSIONS BASED ON EXISTING DRAWINGS. CONTRACTOR TO FIELD VERIFY (VIF) ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING WORK.
- IT IS CONTRACTOR'S RESPONSIBILITY TO CORRECT ANY DAMAGE TO UNDERGROUND UTILITIES OR OTHER FACILITIES WHICH IS CAUSED BY HIS OPERATIONS.
- REMOVE AND RESET DRAINAGE PIPES AS NECESSARY FOR CONSTRUCTION. REPLACE ANY DAMAGED PIPES WITH LIKE MATERIAL.
- CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING STREET, CURB AND GUTTER, SIDEWALKS AND DRIVEWAYS.
- PRESERVE ALL IRON PINS AND/OR SURVEY MARKERS AT PROPERTY CORNERS. REPLACE IF DAMAGED OR LOST DUE TO CONSTRUCTION OPERATIONS.
- CONTRACTOR MUST CONFINE OPERATIONS TO OWNER'S PROPERTY, EASEMENTS AND LIMITS OF DISTURBANCE INDICATED ON THE DRAWINGS.
- IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- THE DUTY OF THE ENGINEER OR OWNER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL KEEP THE PROJECT NEAT AND ORDERLY AT ALL TIMES WHILE CONSTRUCTION IS TAKING PLACE. ACCESS STREETS TO THE PROJECT SHALL BE KEPT CLEAR OF MUD, DEBRIS, PAPER AND WASTE MATERIAL AT ALL TIMES. THE PROPER AMOUNT OF INSPECTION SHALL BE CALLED FOR AT THE CORRECT TIMES OR ANY AND ALL WORK MAY BE REJECTED.

KEY NOTES

- SLUDGE DEWATERING SYSTEM. SEE SHEET NOS. C-505 & C-506.
- 12"Ø COMPOST FILTER SOCK. SEE DETAIL 1/C509
- EXISTING UNDERGROUND ELECTRIC (VIF)
- EXISTING UNDERGROUND COMMUNICATIONS (VIF)
- EXISTING WATER MAIN CROSSING (VIF)
- REMOVE EXISTING AGGREGATE SURFACING WITHIN LIMITS OF NEW WORK.
- SAW CUT AND REMOVE EXISTING CONCRETE PAD TO FACILITATE NEW WASTE SLUDGE AND DEWATER DRAIN PIPING INSTALLATION. PROVIDE 3/4" BEVEL ON EXPOSED EDGE.
- ABANDON EXISTING MANHOLE IN PLACE. FRACTURE BOTTOM AND PLUG ALL CONNECTING PIPES WITH IN-PIPE MECHANICAL PLUG AND NON-SHRINK GROUT MINIMUM LENGTH ONE FOOT FROM INSIDE OF MANHOLE. REMOVE CONE SECTION OR TOP 18" OF STRUCTURE AND FILL WITH GRANULAR MATERIAL AND PROVIDE 12" COMPACTED EARTH FILL.
- DRAINAGE SWALE
- GRADE BREAK
- CONSTRUCT DRAINAGE SWALE WITH 4:1 (MAX.) SIDE SLOPES. STABILIZE CHANNEL WITH ~9 S.Y. OF TEMPORARY TURF REINFORCEMENT MAT EQUAL TO LANDLOK CS2 OR CURLEX II. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- CONSTRUCT MIN. 12" DEEP V-DITCH WITH 4:1 (MAX.) SIDE SLOPES. STABILIZE CHANNEL WITH ~27 S.Y. OF TEMPORARY TURF REINFORCEMENT MAT EQUAL TO LANDLOK CS2 OR CURLEX II. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 2' WIDE DIVERSION BERM WITH 3:1 (MAX.) SIDE SLOPES. COMPACT TO 95% STANDARD PROCTOR DENSITY.
- STORM SEWER "A". SEE DETAILS 3/C301 & B/C509.
- CONNECT TO EXISTING PVC STORM SEWER PIPING - VERIFY SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION IN FIELD (VIF). REMOVE ALL PIPING TO BE ABANDONED WITHIN FOOTPRINT OF SLUDGE DEWATERING SYSTEM.
- ~499 S.Y. OF 6" AGGREGATE SURFACING OVER PERMEABLE VEGETATION BARRIER FABRIC.
- REPAIR AND RESTORE ALL DISTURBED TURF AREAS WITH SEED AND TYPE 3 MULCH.
- RESTORE DISTURBED CONCRETE WITH ~5 S.Y. OF 4" CONCRETE SIDEWALK WITH BROOM FINISH REINFORCED WITH 6x6-W1.4xW1.4 WELDED WIRE FABRIC IN MIDDLE OF SLAB OVER 6" COMPACTED BASE. PROVIDE 1/2" EXPANSION JOINT FILLER BETWEEN ADJACENT STRUCTURE WALLS. PROVIDE 18" DEEP TURN DOWN EDGE WHERE ABUTTING TURF/RIPRAP AREAS.
- RESTORED DISTURBED ROCK BLANKET WITH ~17 S.Y. OF STONE RIPRAP THICK OVER 6" CRUSHED STONE FILTER BED PER SECTION 313700. MATCH EXISTING THICKNESS.

SITE SUMMARY

TOTAL AREA = 65.44 ACRES
ESTIMATED AREA TO BE DISTURBED = 2.06 ACRES

EROSION & SEDIMENT CONTROL

- PLAN SHEET NOS. G-001, C-101 THRU C-106 AND C-509 SHOW THE LOCATIONS AND DETAILS FOR PRIMARY SEDIMENT CONTROLS TO BE CONSTRUCTED. ALSO, REFER TO SPECIFICATION SECTION 015723, STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TEMPLATE AND MNR GENERAL PERMIT INCLUDED IN THE PROJECT MANUAL. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETING, IMPLEMENTING AND MAINTAINING THE SWPPP AT ALL TIMES DURING CONSTRUCTION THROUGH PROJECT CLOSEOUT. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING EROSION AND DISCHARGE OF SEDIMENT FROM THE SITE AT ALL TIMES DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 015723 AND APPLICABLE STATE REGULATIONS. 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.
- CONTRACTOR SHALL PROTECT ANY STORM INLETS FROM SEDIMENT THAT TAKE STORM WATER FROM THE AREA OF CONSTRUCTION.
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT(S), SILT FENCES, DITCH CHECK DIKS OR OTHER INITIAL SEDIMENT CONTROLS MUST BE INSTALLED PRIOR TO ANY OTHER WORK.
- CONSTRUCTION ENTRANCE/EXIT(S) SURFACE SHALL BE A MINIMUM 10' WIDTH AND 50' LENGTH OF 3"-6" COARSE AGGREGATE, 6" MIN. THICKNESS OVER WOVEN GEOTEXTILE UNDERLINER. SHAPE TO DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM ENTRANCE TO A SEDIMENT CONTROL DEVICE. TOPDRESS WITH ADDITIONAL 6" LIFTS OF 3" TO 6" COARSE AGGREGATE AS NEEDED TO PREVENT TRACKING OR FLOW OF MUD INTO PUBLIC RIGHT-OF-WAY.
- LIMIT ALL ACCESS TO THE SITE TO THE APPROVED CONSTRUCTION ENTRANCE/EXIT(S).
- WHEELS MUST BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- THE CONTRACTOR SHALL CLEAN STREETS BOTH INTERIOR AND ADJACENT TO THE SITE, AS NEEDED AFTER EACH RAINFALL AND AT THE END OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST DURING CONSTRUCTION AND SHALL WATER CONSTRUCTION AREAS WHENEVER CONDITIONS WARRANT.
- THE CONTRACTOR SHALL RETAIN FLOATABLE WIND BLOWN MATERIALS ON SITE BY STORING ALL TRASH AND BUILDING MATERIAL WASTE IN ENCLOSURES UNTIL PROPER DISPOSAL AT AN OFF-SITE FACILITY. CONTRACTOR TO CHECK ADJACENT AREAS DAILY AND PICK UP CONSTRUCTION WASTE MATERIALS AND DEBRIS THAT HAVE BLOWN OR WASHED OFF-SITE. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ACCUMULATED SEDIMENT (SILT) FROM STORM DRAINS PRIOR TO APPROVAL OF CONSTRUCTION.
- THE PERMITEE OR THEIR REPRESENTATIVE SHALL STABILIZE ALL DISTURBED AREAS NOT SUBJECT TO CONSTRUCTION ACTIVITY WITHIN 14 CALENDAR DAYS AFTER ACTIVITY HAS CEASED.
- ALL DISTURBED AREAS NOT RECEIVING OTHER PERMANENT STABILIZATION SUCH AS PAVEMENT, ROOFS, SOD, ETC., SHALL BE SEEDED AND MULCHED, AS SPECIFIED IN SECTION 329200 BEFORE TEMPORARY EROSION AND SEDIMENT CONTROLS CAN BE REMOVED AND PRIOR TO FINAL APPROVAL OF CONSTRUCTION.

CONTRACTOR SWPPP NOTES

- CONTRACTOR TO REDLINE MARK ADDITIONAL BMPs, CONSTRUCTION PARKING, CONSTRUCTION ROADWAYS, STOCKPILES, CHEMICAL TOILET, DUMPSTER, CONCRETE WASHOUT PIT, ETC. AS LOCATED IN THE FIELD ON APPLICABLE SITE PLAN SHEETS.

BENCHMARKS

- TBM NO. 1 - SQUARE CUT SW CORNER OF CONCRETE PAD
ELEVATION = 1662.04 DATUM = NAVD 1988
- TBM NO. 2 - SQUARE CUT SW CORNER OF CONCRETE PAD
ELEVATION = 1658.39 DATUM = NAVD 1988

REFERENCE POINTS

- SURVEY CONTROL POINT - EXISTING 60d NAIL
N=480124.39
E=1530286.95
EL=1659.92
- SURVEY CONTROL POINT - EXISTING 60d NAIL
N=480092.21
E=1530442.69
EL=1656.58
- SURVEY CONTROL POINT - EXISTING 60d NAIL
N=480028.25
E=1530313.78
EL=1656.60

PROJECT DATUM

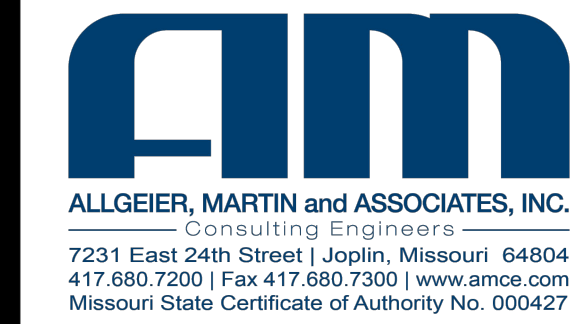
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VER: NORTH AMERICAN VERTICAL DATUM 1988 BY USE OF MDDOT CONTINUOUSLY OPERATING GNSS RTK NETWORK.

STORMWATER MANAGEMENT & SITE GRADING PLAN

SCALE: HOR: 1" = 10'



Thomas E. Hancock, MO Engineer No. E-30067



**OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION**

**DEPARTMENT OF
CORRECTIONS**

**REPLACE SEWER LINES
& INFRASTRUCTURE**

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
FORDLAND, MISSOURI

PROJECT # C1907-01
SITE # 7003
FACILITY # 9327003071
9327003081

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ISSUE DATE: 01-06-2023

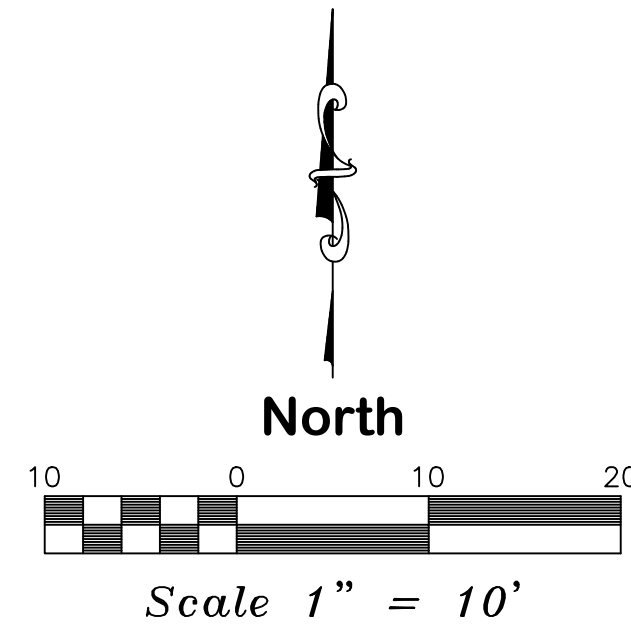
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CHECKED BY: RDM
DESIGNED BY: TEH

**SHEET TITLE:
STORMWATER MGMT.
& SITE GRADING PLAN
& DETAILS**

SHEET NUMBER:

C-101

2 OF 22 SHEETS
01-06-2023



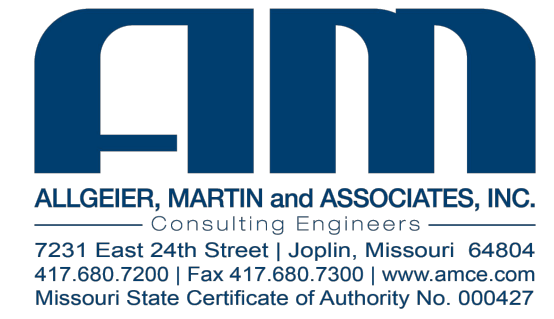
KEY NOTES

- ① AERATED SLUDGE HOLDING TANK MODIFICATIONS. SEE SHEET NOS. C-501 & C-502.
- ② SLUDGE DEWATERING BUILDING MODIFICATIONS. SEE SHEET NOS. C-503 & C-504.
- ③ SLUDGE DEWATERING SYSTEM. SEE SHEET NOS. C-505 & C-506.
- ④ UNDERGROUND ELECTRIC CROSSING (VIF)
- ⑤ SEWER CROSSING (VIF)
- ⑥ WATER MAIN CROSSING (VIF)
- ⑦ STORM SEWER CROSSING (VIF)
- ⑧ 4" DIP WASTE SLUDGE PIPING. SEE DETAILS 1/C301 & A/C508.
- ⑨ 6" SDR21 PVC DEWATER DRAIN PIPING. SEE DETAILS 2/C301 & A/C508.
- ⑩ CONNECT TO EXISTING MANHOLE. CORE DRILL AND USE INSERTA-LOK OR EQUAL CONNECTOR TO PROVIDE A WATER TIGHT CONNECTION TO MANHOLE. CORE DRILL TO RESHAPE INVERT AS REQUIRED TO PROVIDE SMOOTH FLOW TRANSITION.
- ⑪ CONNECT TO EXISTING 2" SDR21 PVC WATER MAIN - VERIFY HORIZONTAL AND VERTICAL LOCATION IN FIELD (VIF). REMOVE ALL PIPING TO BE ABANDONED WITHIN FOOTPRINT OF SLUDGE DEWATERING SYSTEM.
- ⑫ ~51 L.F. OF 2" SDR21 PVC. SEE DETAIL A/C509.
- ⑬ ~80 L.F. OF 1" DR9 PE TUBING WITH ALL FITTINGS. FIELD ROUTE TO AVOID CONFLICTS. SEE DETAILS A/C509 & 3/C503.
- ⑭ CHEMICAL PHOSPHOROUS REMOVAL BUILDING MODIFICATIONS. SEE SHEET NO. C-507.
- ⑮ ~64 L.F. OF 1 1/2" SCH 40 PVC SLEEVE WITH 3/8" POLYETHYLENE TUBING. PROVIDE LONG SWEEP BENDS & 30" MIN. COVER. FIELD ROUTE TO AVOID CONFLICTS.
- ⑯ FLOOR-MOUNT SS DAVIT CRANE SOCKET. SEE SECTION 41223.16. ANCHOR WITH SS THREADED ADHESIVE ANCHORS, SIZE PER MANUFACTURER.

STATE OF MISSOURI
MICHAEL L. PARSON,
GOVERNOR



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



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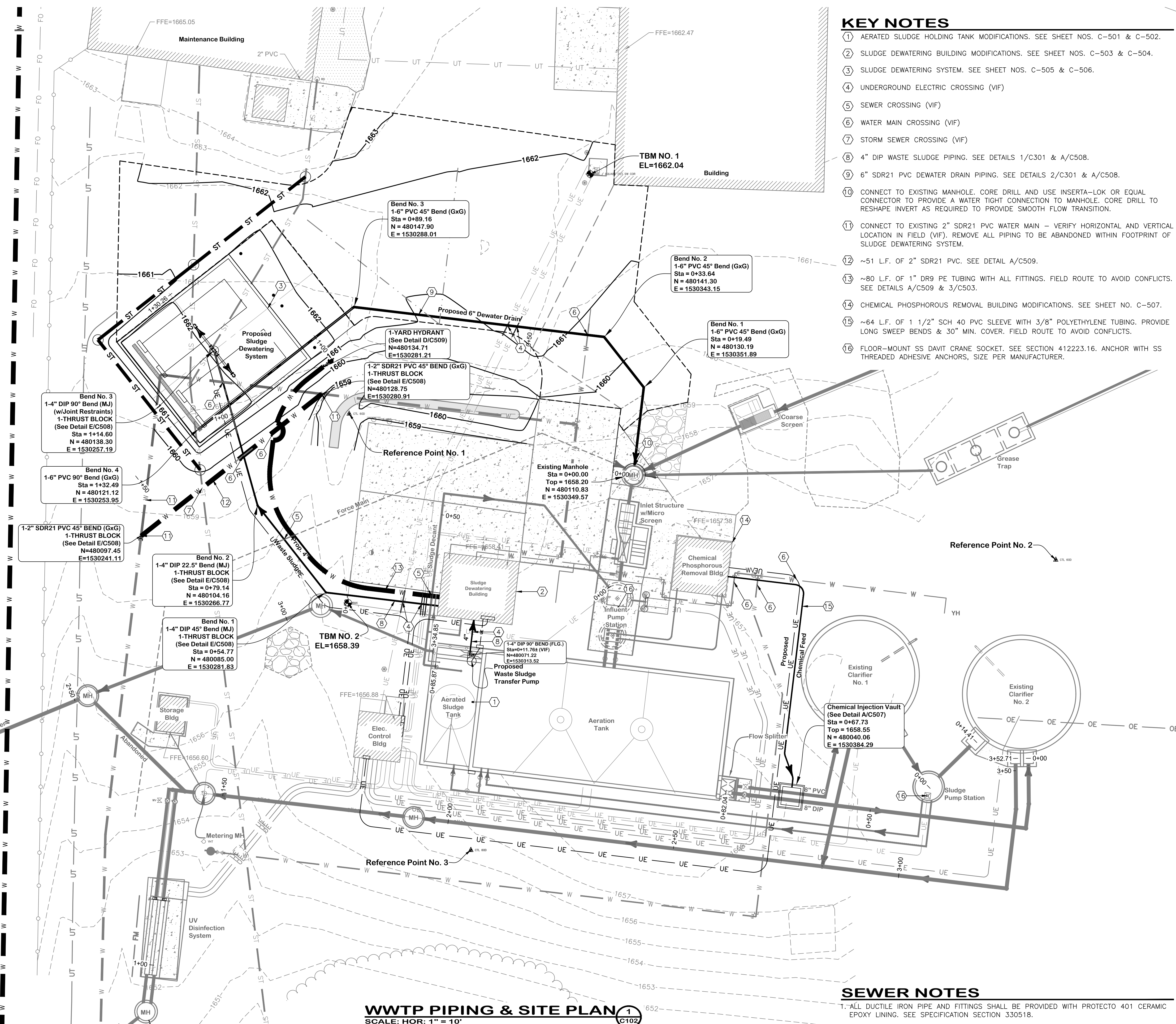
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DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**WWTP
PIPING PLAN
& SITE PLAN**

SHEET NUMBER:

C-102

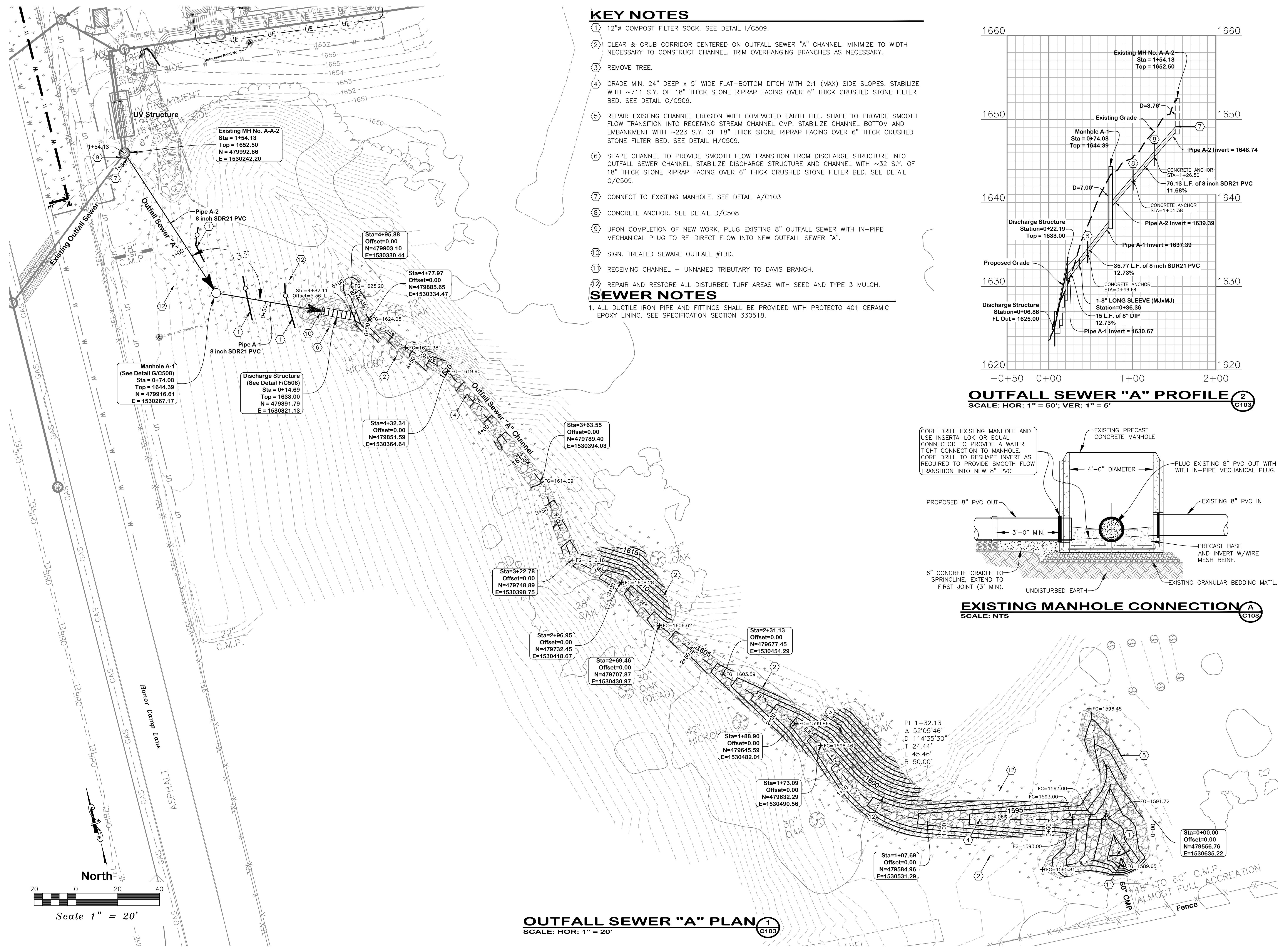
3 OF 22 SHEETS
01-06-2023



WWTP PIPING & SITE PLAN
SCALE: HOR: 1" = 10'

SEWER NOTES

1. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE PROVIDED WITH PROTECTO 401 CERAMIC EPOXY LINING. SEE SPECIFICATION SECTION 330518.

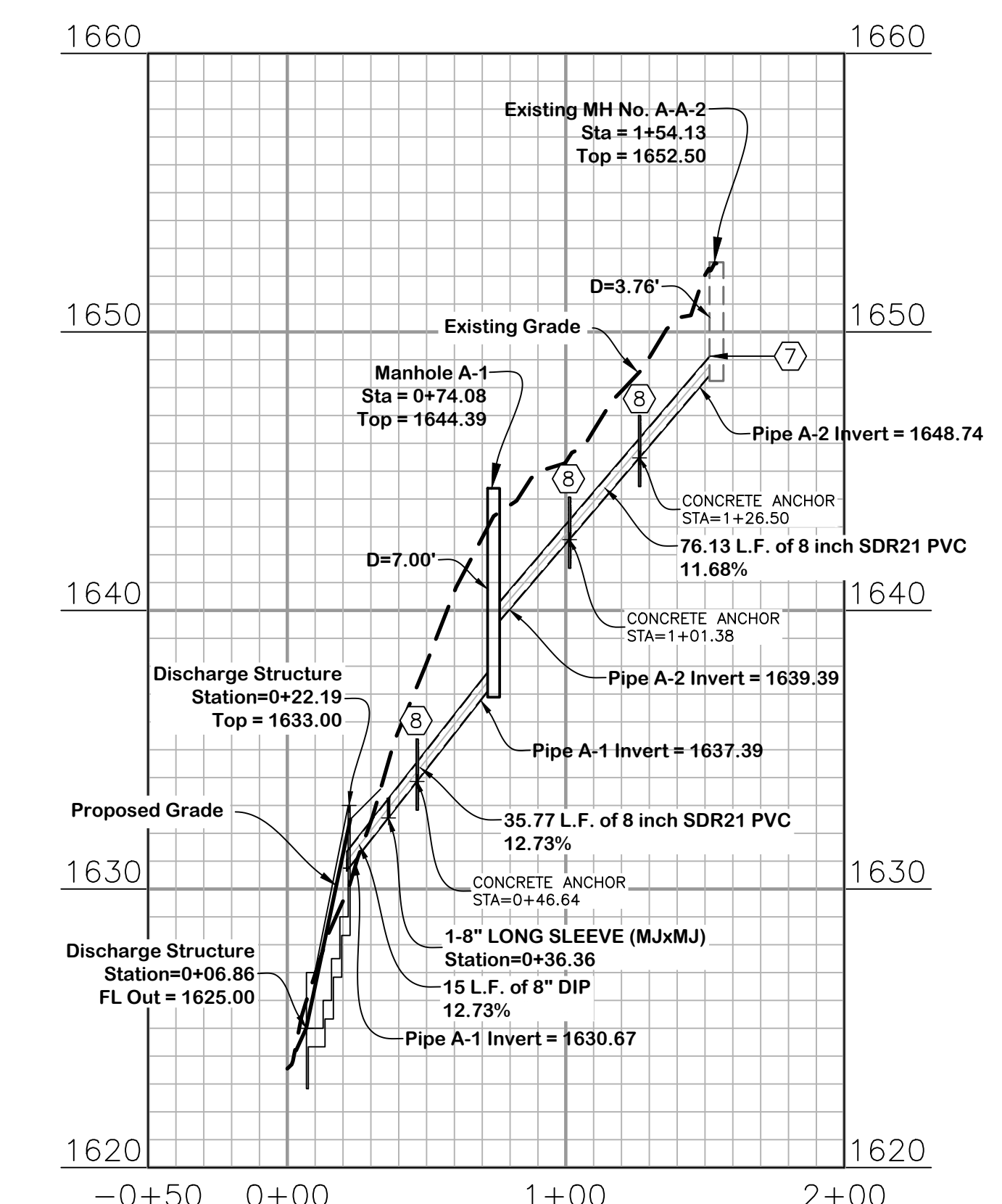


KEY NOTES

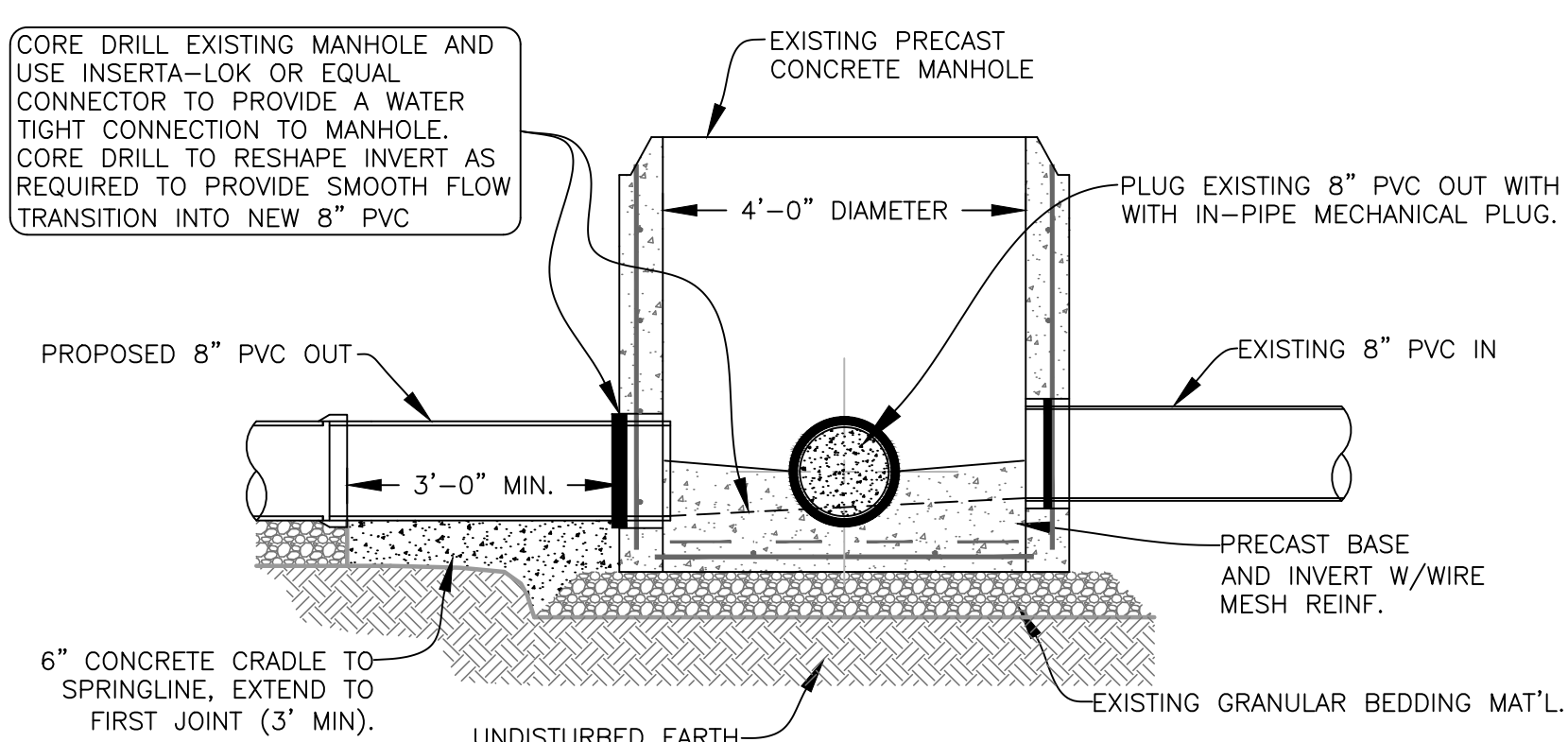
- ① 12" COMPOST FILTER SOCK. SEE DETAIL I/C509.
- ② CLEAR & GRUB CORRIDOR CENTERED ON OUTFALL SEWER "A" CHANNEL. MINIMIZE TO WIDTH NECESSARY TO CONSTRUCT CHANNEL. TRIM OVERHANGING BRANCHES AS NECESSARY.
- ③ REMOVE TREE.
- ④ GRADE MIN. 24" DEEP x 5' WIDE FLAT-BOTTOM DITCH WITH 2:1 (MAX) SIDE SLOPES. STABILIZE WITH ~711 S.Y. OF 18" THICK STONE RIPRAP FACING OVER 6" THICK CRUSHED STONE FILTER BED. SEE DETAIL G/C509.
- ⑤ REPAIR EXISTING CHANNEL EROSION WITH COMPACTED EARTH FILL. SHAPE TO PROVIDE SMOOTH FLOW TRANSITION INTO RECEIVING CHANNEL CMP. STABILIZE CHANNEL BOTTOM AND EMBANKMENT WITH ~223 S.Y. OF 18" THICK STONE RIPRAP FACING OVER 6" THICK CRUSHED STONE FILTER BED. SEE DETAIL H/C509.
- ⑥ SHAPE CHANNEL TO PROVIDE SMOOTH FLOW TRANSITION FROM DISCHARGE STRUCTURE INTO OUTFALL SEWER CHANNEL. STABILIZE DISCHARGE STRUCTURE AND CHANNEL WITH ~32 S.Y. OF 18" THICK STONE RIPRAP FACING OVER 6" THICK CRUSHED STONE FILTER BED. SEE DETAIL G/C509.
- ⑦ CONNECT TO EXISTING MANHOLE. SEE DETAIL A/C103
- ⑧ CONCRETE ANCHOR. SEE DETAIL D/C508
- ⑨ UPON COMPLETION OF NEW WORK, PLUG EXISTING 8" OUTFALL SEWER WITH IN-PIPE MECHANICAL PLUG TO RE-DIRECT FLOW INTO NEW OUTFALL SEWER "A".
- ⑩ SIGN. TREATED SEWAGE OUTFALL #TBD.
- ⑪ RECEIVING CHANNEL - UNNAMED TRIBUTARY TO DAVIS BRANCH.
- ⑫ REPAIR AND RESTORE ALL DISTURBED TURF AREAS WITH SEED AND TYPE 3 MULCH.

SEWER NOTES

- 1. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE PROVIDED WITH PROTECTO 401 CERAMIC EPOXY LINING. SEE SPECIFICATION SECTION 330518.



OUTFALL SEWER "A" PROFILE
SCALE: HOR: 1" = 50'; VER: 1" = 5'

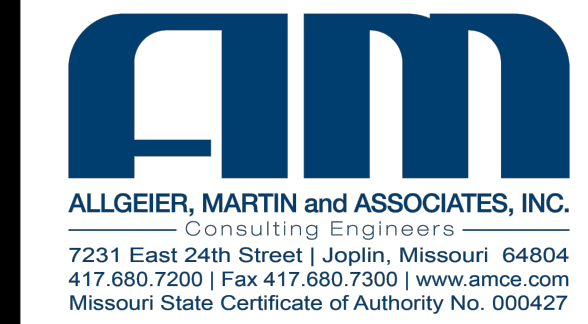


EXISTING MANHOLE CONNECTION
SCALE: NTS

OUTFALL SEWER "A" PLAN
SCALE: HOR: 1" = 20'



Thomas E. Hancock, MO Engineer No. E-30067



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DEPARTMENT OF
CORRECTIONS

REPLACE SEWER LINES
& INFRASTRUCTURE

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
FORDLAND, MISSOURI

PROJECT # C1907-01
SITE # 7003
FACILITY # 9327003081

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DATE: _____
ISSUE DATE: 01-06-2023

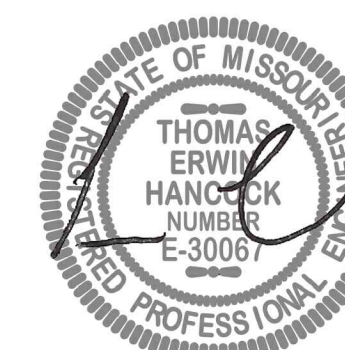
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DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**OUTFALL SEWER "A"
PLAN & PROFILE**

SHEET NUMBER:

C-103

4 OF 22 SHEETS
01-06-2023



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



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9327003081

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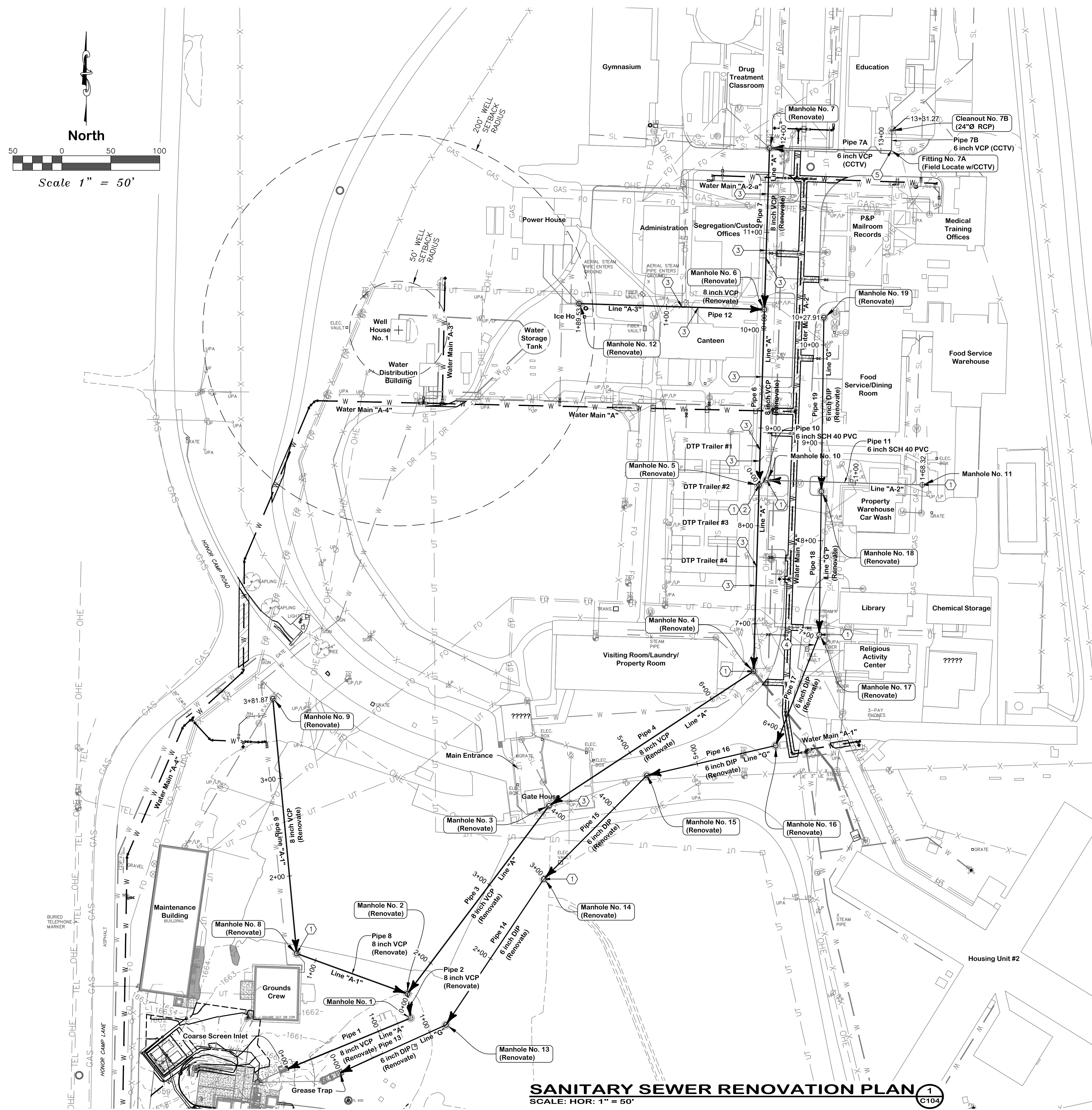
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DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**SANITARY SEWER
RENOVATION
PLAN**

SHEET NUMBER:

C-104

5 OF 22 SHEETS
01-06-2023



KEY NOTES

- ① RAISE RIM ELEVATION TO GRADE. SEE DETAIL H/C508.
- ② REPAIR HOLE WITH NON-SHRINK GROUT OR NEW ADJUSTMENT RING.
- ③ TRENCHLESS SANITARY SEWER LATERAL CONNECTION REPAIR. SEE NOTE 2 AND SPECIFICATION SECTION 330130.75
- ④ FIELD LOCATE BURIED MANHOLE NO. 17 & BLOCKAGE & DAMAGED SEWER. REPLACE WITH ~20 L.F. OF 6" SDR26 PVC FROM STA 6+80 TO STA 7+00 (VIF).
- ⑤ CCTV LINE 7A AND LINE 7B AND FIELD LOCATE BURIED FITTING (VIF).

SEWER NOTES

1. EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, AND OVERHEAD) HAVE BEEN SHOWN BY ENGINEER IN APPROXIMATE LOCATIONS AS DETERMINED BY EXISTING PLANS OR SURFACE OBSERVATIONS AND NOT ALL UTILITIES AND STRUCTURES MAY BE INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND STRUCTURES PRIOR TO BEGINNING INSTALLATION OF NEW FACILITIES (VIF). CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER FOR INSTRUCTIONS WHENEVER CONFLICTS ARE DISCOVERED.
2. EXISTING UNDERGROUND ELECTRIC, OVERHEAD STEAM SUPPLY, AND BURIED CONDENSATE RETURN UTILITIES NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND ELECTRIC AND STEAM CONDENSATE PIPING AND STRUCTURES PRIOR TO BEGINNING INSTALLATION OF NEW FACILITIES (VIF).
3. BUILDING SEWER SERVICE LATERAL CONNECTIONS ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON AVAILABLE INFORMATION. FIELD VERIFY SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION OF ALL BUILDING SEWER LATERAL CONNECTIONS DURING CLEANING AND CCTV INSPECTION.
4. ALL SEWER SERVICE TO FACILITY BUILDINGS SHALL REMAIN IN CONTINUOUS SATISFACTORY OPERATION DURING THE ENTIRE CONSTRUCTION PERIOD. ANY SHUTDOWNS SHALL BE SCHEDULED AND COORDINATED WITH FACILITY MANAGEMENT AND KEPT TO AN ABSOLUTE MINIMUM TIME FRAME.
5. SEE SPECIFICATION SECTION 011423 FOR WORK RESTRICTIONS
6. SEE SPECIFICATION SECTION 013513.16 FOR SITE SECURITY AND HEALTH REQUIREMENTS.

SANITARY SEWER RENOVATION PLAN
SCALE: HOR: 1" = 50'





01-06-2023
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REPLACE SEWER LINES
& INFRASTRUCTURE

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
FORDLAND, MISSOURI

PROJECT # C1907-01
SITE # 7003
FACILITY # 9327003071
9327003081

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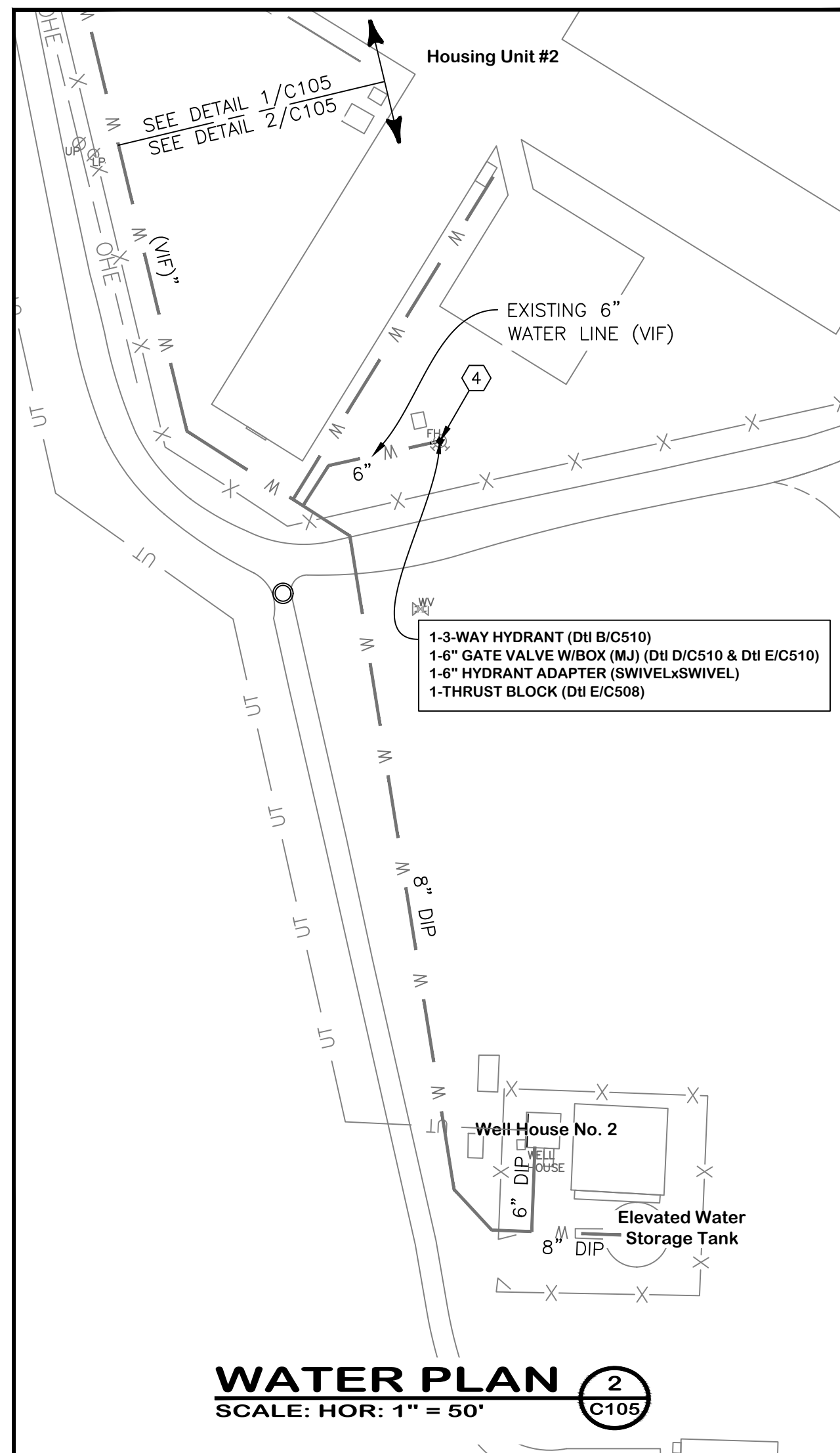
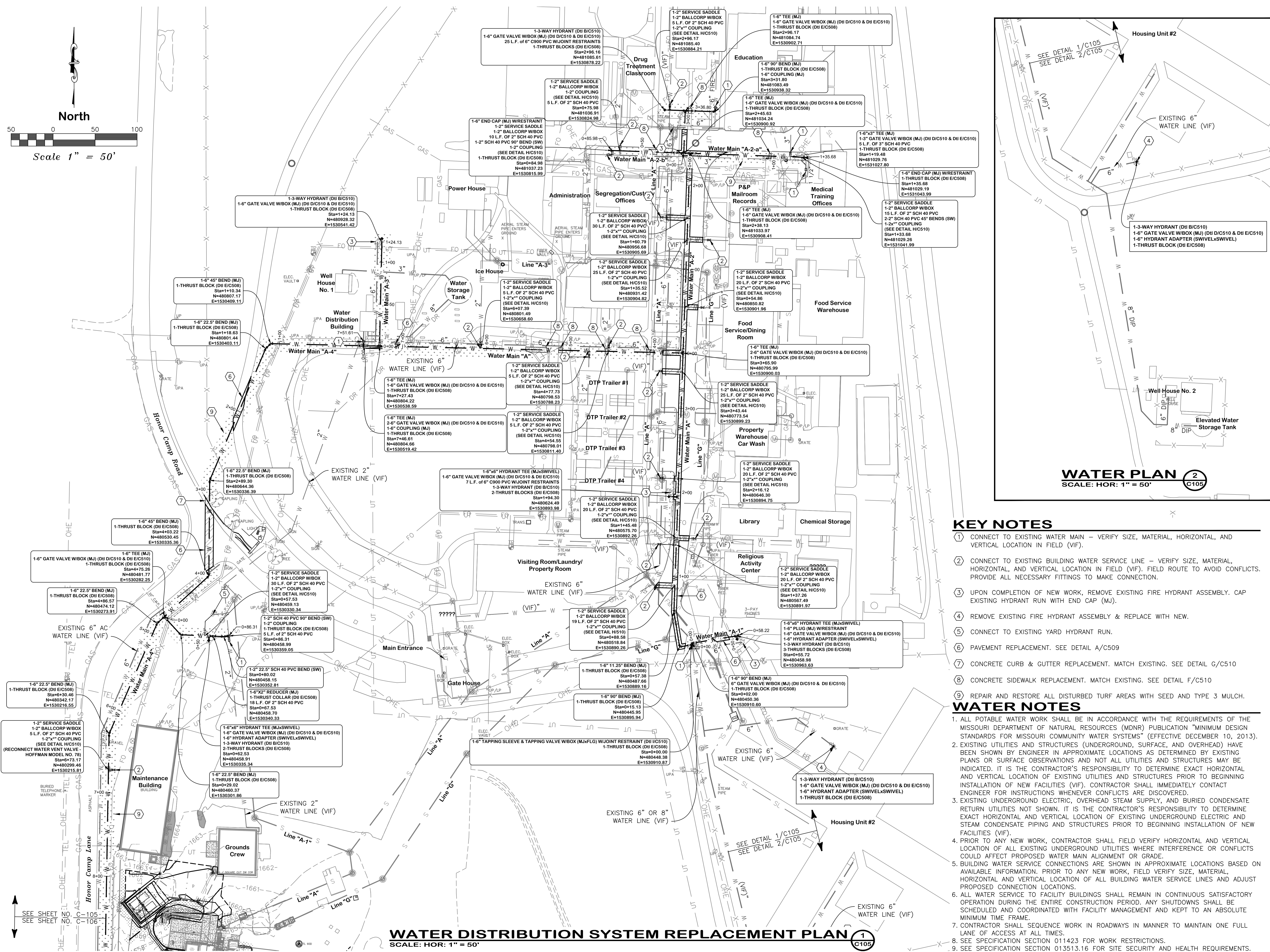
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DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**WATER DISTRIBUTION
SYSTEM REPLACEMENT
PLAN - NORTH**

SHEET NUMBER:

C-105

6 OF 22 SHEETS
01-06-2023



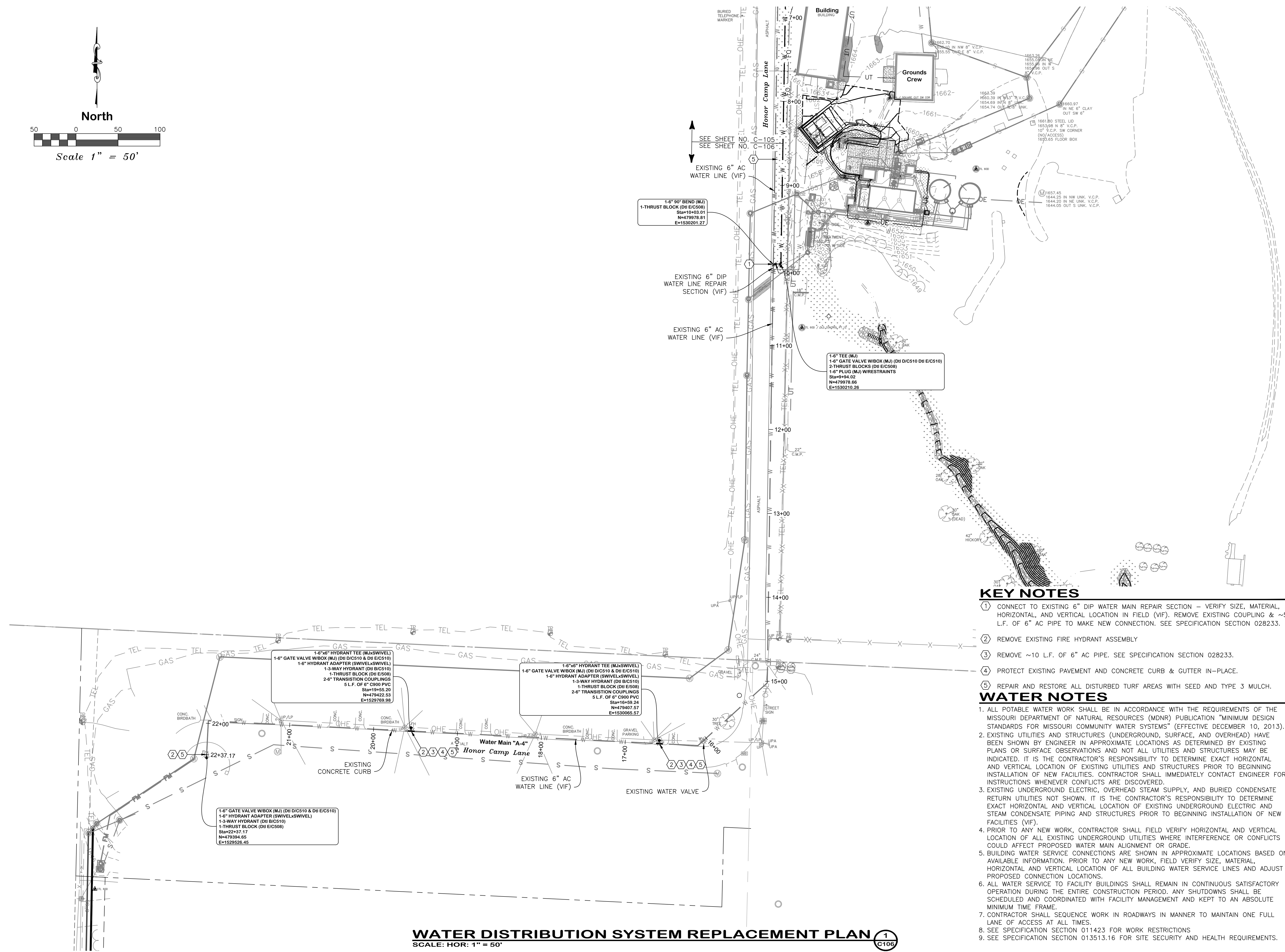
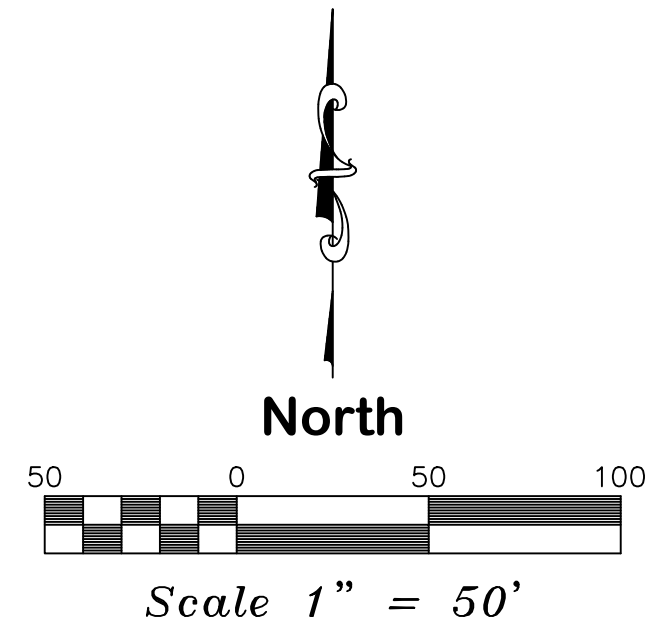
KEY NOTES

- 1 CONNECT TO EXISTING WATER MAIN - VERIFY SIZE, MATERIAL, HORIZONTAL, AND VERTICAL LOCATION IN FIELD (VIF).
- 2 CONNECT TO EXISTING BUILDING WATER SERVICE LINE - VERIFY SIZE, MATERIAL, HORIZONTAL, AND VERTICAL LOCATION IN FIELD (VIF). FIELD ROUTE TO AVOID CONFLICTS. PROVIDE ALL NECESSARY FITTINGS TO MAKE CONNECTION.
- 3 UPON COMPLETION OF NEW WORK, REMOVE EXISTING FIRE HYDRANT ASSEMBLY. CAP EXISTING HYDRANT RUN WITH END CAP (MJ).
- 4 REMOVE EXISTING FIRE HYDRANT ASSEMBLY & REPLACE WITH NEW.
- 5 CONNECT TO EXISTING YARD HYDRANT RUN.
- 6 PAVEMENT REPLACEMENT. SEE DETAIL A/C509
- 7 CONCRETE CURB & GUTTER REPLACEMENT. MATCH EXISTING. SEE DETAIL G/C510
- 8 CONCRETE SIDEWALK REPLACEMENT. MATCH EXISTING. SEE DETAIL F/C510
- 9 REPAIR AND RESTORE ALL DISTURBED TURF AREAS WITH SEED AND TYPE 3 MULCH.

WATER NOTES

1. ALL POTABLE WATER WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR) PUBLICATION "MINIMUM DESIGN STANDARDS FOR MISSOURI COMMUNITY WATER SYSTEMS" (EFFECTIVE DECEMBER 10, 2013).
2. EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, AND OVERHEAD) HAVE BEEN SHOWN BY ENGINEER IN APPROXIMATE LOCATIONS AS DETERMINED BY EXISTING PLANS OR SURFACE OBSERVATIONS AND NOT ALL UTILITIES AND STRUCTURES MAY BE INDICATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND STRUCTURES PRIOR TO BEGINNING INSTALLATION OF NEW FACILITIES (VIF). CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER FOR INSTRUCTIONS WHENEVER CONFLICTS ARE DISCOVERED.
3. EXISTING UNDERGROUND ELECTRIC, OVERHEAD STEAM SUPPLY, AND BURIED CONDENSATE RETURN UTILITIES NOT SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING UNDERGROUND ELECTRIC AND STEAM CONDENSATE PIPING AND STRUCTURES PRIOR TO BEGINNING INSTALLATION OF NEW FACILITIES (VIF).
4. PRIOR TO ANY NEW WORK, CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES WHERE INTERFERENCE OR CONFLICTS COULD AFFECT PROPOSED WATER MAIN ALIGNMENT OR GRADE.
5. BUILDING WATER SERVICE CONNECTIONS ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON AVAILABLE INFORMATION. PRIOR TO ANY NEW WORK, FIELD VERIFY SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION OF ALL BUILDING WATER SERVICE LINES AND ADJUST PROPOSED CONNECTION LOCATIONS.
6. ALL WATER SERVICE TO FACILITY BUILDINGS SHALL REMAIN IN CONTINUOUS SATISFACTORY OPERATION DURING THE ENTIRE CONSTRUCTION PERIOD. ANY SHUTDOWNS SHALL BE SCHEDULED AND COORDINATED WITH FACILITY MANAGEMENT AND KEPT TO AN ABSOLUTE MINIMUM TIME FRAME.
7. CONTRACTOR SHALL SEQUENCE WORK IN ROADWAYS IN MANNER TO MAINTAIN ONE FULL LANE OF ACCESS AT ALL TIMES.
8. SEE SPECIFICATION SECTION 011423 FOR WORK RESTRICTIONS.
9. SEE SPECIFICATION SECTION 013513.16 FOR SITE SECURITY AND HEALTH REQUIREMENTS.

WATER DISTRIBUTION SYSTEM REPLACEMENT PLAN
SCALE: HOR: 1" = 50'



1-6" 90° BEND (MJ)
1-THRUST BLOCK (DI E/C508)
Sta=10+63.01
N=479978.81
E=1530201.27

EXISTING 6" DIP
WATER LINE REPAIR
SECTION (VIF)

EXISTING 6" AC
WATER LINE (VIF)

1-6" TEE (MJ)
1-6" GATE VALVE W/BOX (MJ) (DI DIC510 DI E/C510)
2-THRUST BLOCKS (DI E/C508)
1-6" PLUG (MJ) WIRESTRAITS
Sta=9+94.02
N=479978.66
E=1530210.26

1-6" 36" HYDRANT TEE (MJxSWIVEL)
1-6" GATE VALVE W/BOX (MJ) (DI DIC510 & DI E/C510)
1-6" HYDRANT ADAPTER (SWIVELxSWIVEL)
1-3-WAY HYDRANT (DI E/C510)
1-THRUST BLOCK (DI E/C508)
2-6" TRANSITION COUPLINGS
5 L.F. OF 6" C900 PVC
Sta=19+55.20
N=479422.53
E=1529769.98

1-6" 36" HYDRANT TEE (MJxSWIVEL)
1-6" GATE VALVE W/BOX (MJ) (DI DIC510 & DI E/C510)
1-6" HYDRANT ADAPTER (SWIVELxSWIVEL)
1-3-WAY HYDRANT (DI E/C510)
1-THRUST BLOCK (DI E/C508)
2-6" TRANSITION COUPLINGS
5 L.F. OF 6" C900 PVC
Sta=16+59.24
N=479407.57
E=1530065.57

1-6" GATE VALVE W/BOX (MJ) (DI DIC510 & DI E/C510)
1-6" HYDRANT ADAPTER (SWIVELxSWIVEL)
1-3-WAY HYDRANT (DI E/C510)
1-THRUST BLOCK (DI E/C508)
Sta=22+37.17
N=479394.65
E=1529526.45

KEY NOTES

- CONNECT TO EXISTING 6" DIP WATER MAIN REPAIR SECTION - VERIFY SIZE, MATERIAL, HORIZONTAL, AND VERTICAL LOCATION IN FIELD (VIF). REMOVE EXISTING COUPLING & ~5 L.F. OF 6" AC PIPE TO MAKE NEW CONNECTION. SEE SPECIFICATION SECTION 028233.
- REMOVE EXISTING FIRE HYDRANT ASSEMBLY
- REMOVE ~10 L.F. OF 6" AC PIPE. SEE SPECIFICATION SECTION 028233.
- PROTECT EXISTING PAVEMENT AND CONCRETE CURB & GUTTER IN-PLACE.
- REPAIR AND RESTORE ALL DISTURBED TURF AREAS WITH SEED AND TYPE 3 MULCH.

WATER NOTES

- ALL POTABLE WATER WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR) PUBLICATION "MINIMUM DESIGN STANDARDS FOR MISSOURI COMMUNITY WATER SYSTEMS" (EFFECTIVE DECEMBER 10, 2013).
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- BUILDING WATER SERVICE CONNECTIONS ARE SHOWN IN APPROXIMATE LOCATIONS BASED ON AVAILABLE INFORMATION. PRIOR TO ANY NEW WORK, FIELD VERIFY SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION OF ALL BUILDING WATER SERVICE LINES AND ADJUST PROPOSED CONNECTION LOCATIONS.
- ALL WATER SERVICE TO FACILITY BUILDINGS SHALL REMAIN IN CONTINUOUS SATISFACTORY OPERATION DURING THE ENTIRE CONSTRUCTION PERIOD. ANY SHUTDOWNS SHALL BE SCHEDULED AND COORDINATED WITH FACILITY MANAGEMENT AND KEPT TO AN ABSOLUTE MINIMUM TIME FRAME.
- CONTRACTOR SHALL SEQUENCE WORK IN ROADWAYS IN MANNER TO MAINTAIN ONE FULL LANE OF ACCESS AT ALL TIMES.
- SEE SPECIFICATION SECTION 011423 FOR WORK RESTRICTIONS
- SEE SPECIFICATION SECTION 013513.16 FOR SITE SECURITY AND HEALTH REQUIREMENTS.



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



OFFICE OF ADMINISTRATION
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DEPARTMENT OF
CORRECTIONS

REPLACE SEWER LINES
& INFRASTRUCTURE

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
FORDLAND, MISSOURI

PROJECT # C1907-01
SITE # 7003
FACILITY # 9327003071
9327003081

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ISSUE DATE: 01-06-2023

CAD DWG FILE: C-106.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**WATER DISTRIBUTION
SYSTEM REPLACEMENT
PLAN - SOUTH**

SHEET NUMBER:

C-106

7 OF 22 SHEETS
01-06-2023



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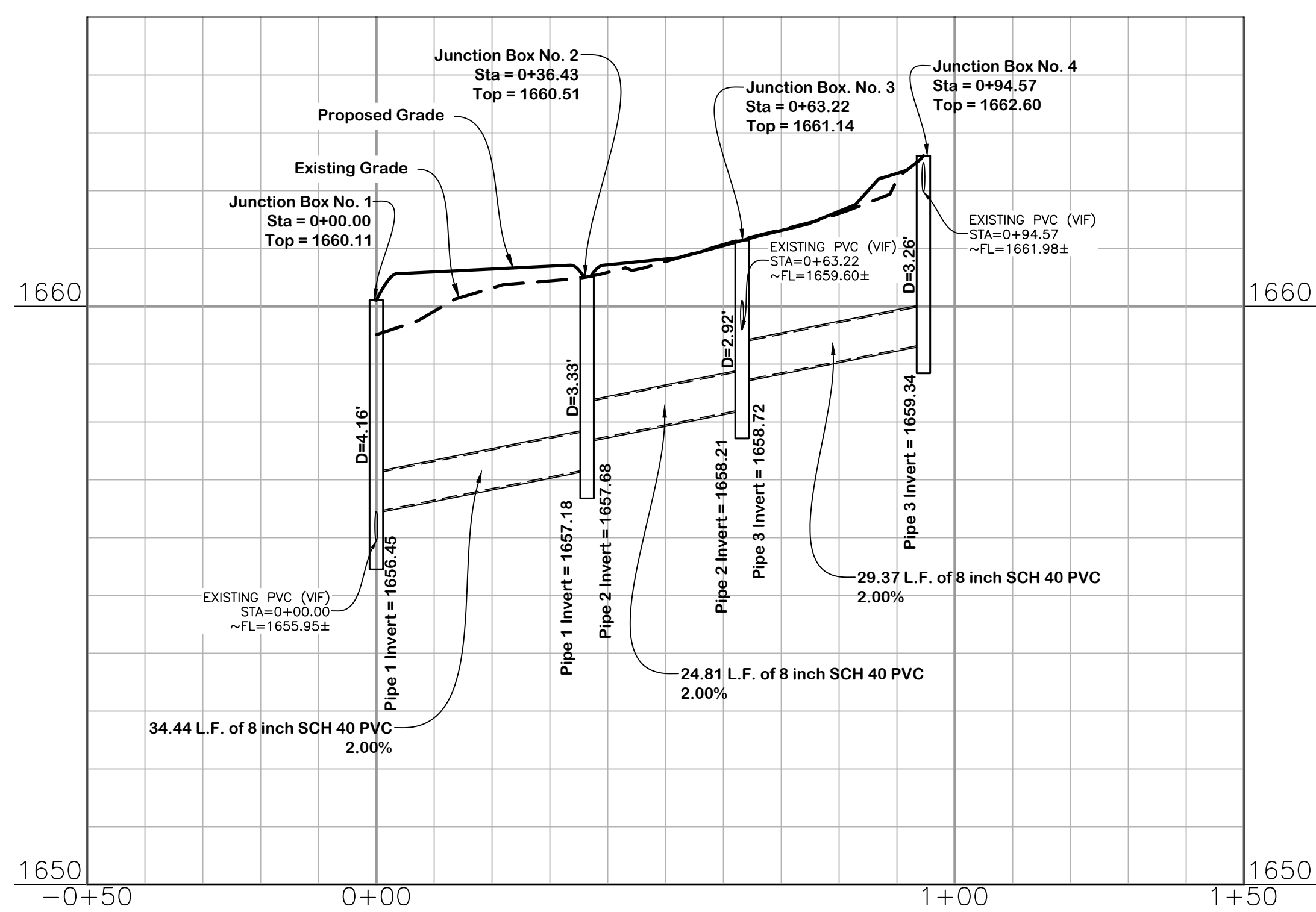
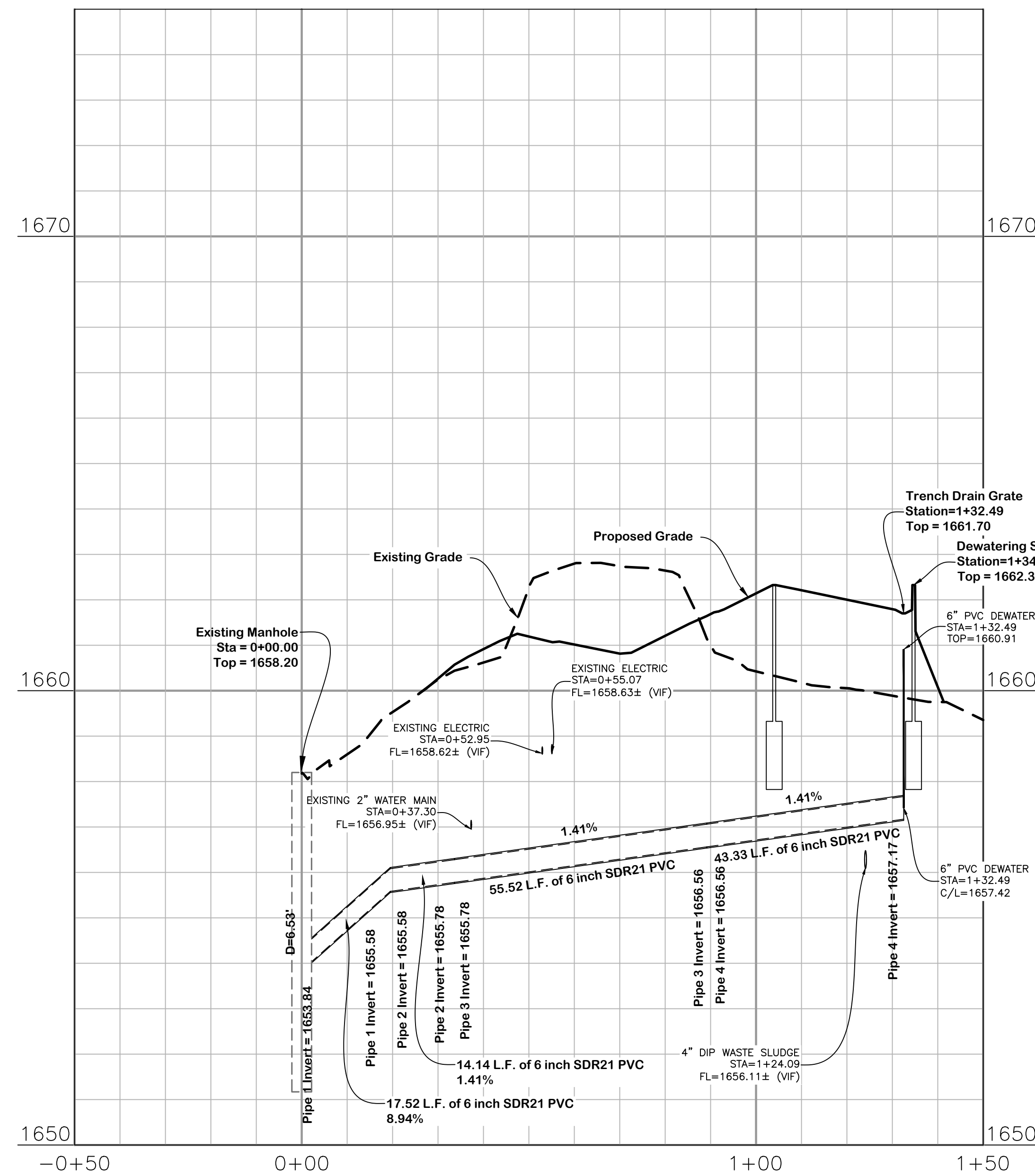
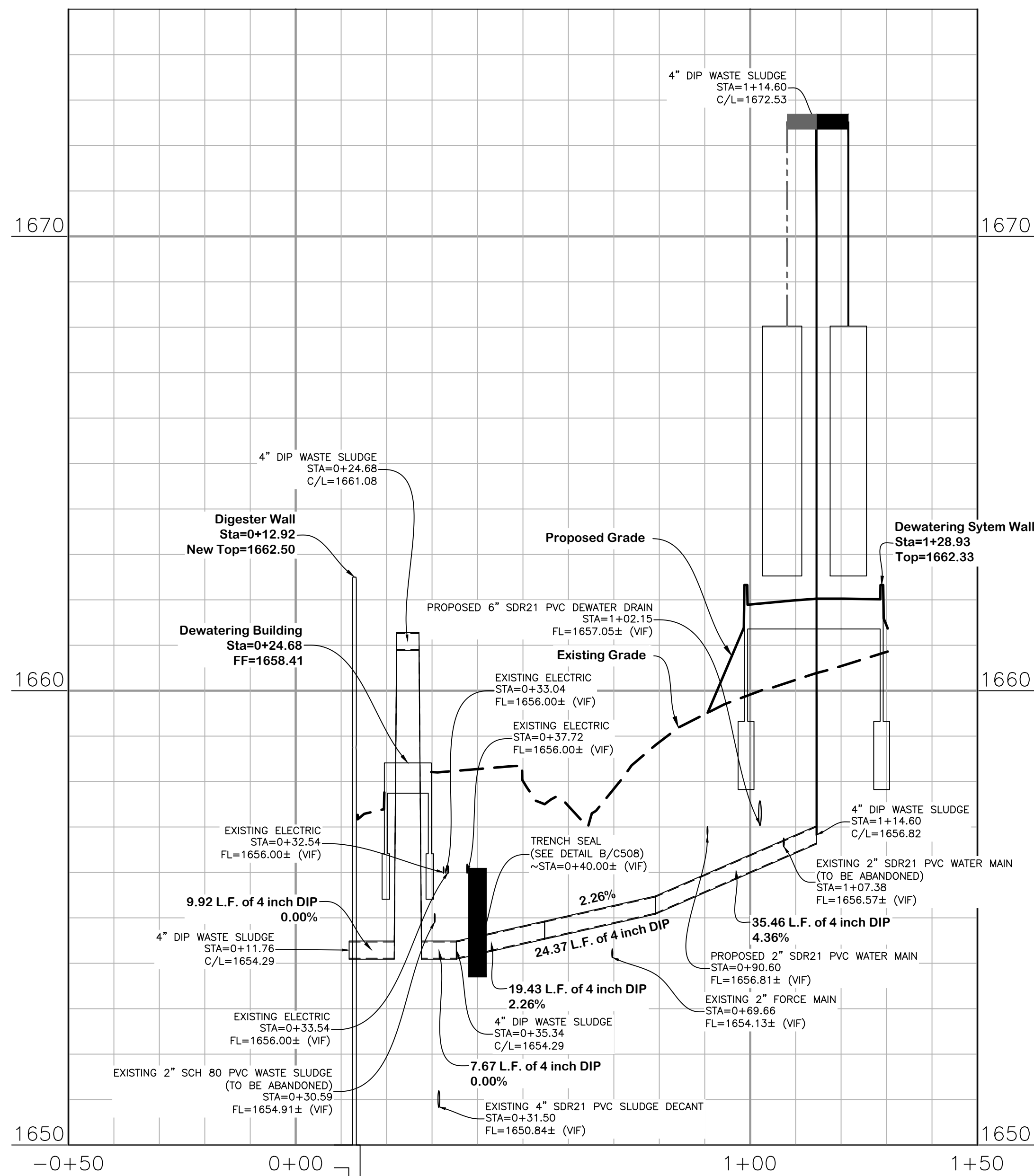
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SHEET TITLE:
WWTP HYDRAULIC
& STORMWATER
PROFILES

SHEET NUMBER:

C-301

8 OF 22 SHEETS
01-06-2023



SEWER NOTES

1. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE PROVIDED WITH PROTECTO 401 CERAMIC EPOXY LINING. SEE SPECIFICATION SECTION 330518.



01-06-2023
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FORDLAND, MISSOURI

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FACILITY # 9327003081

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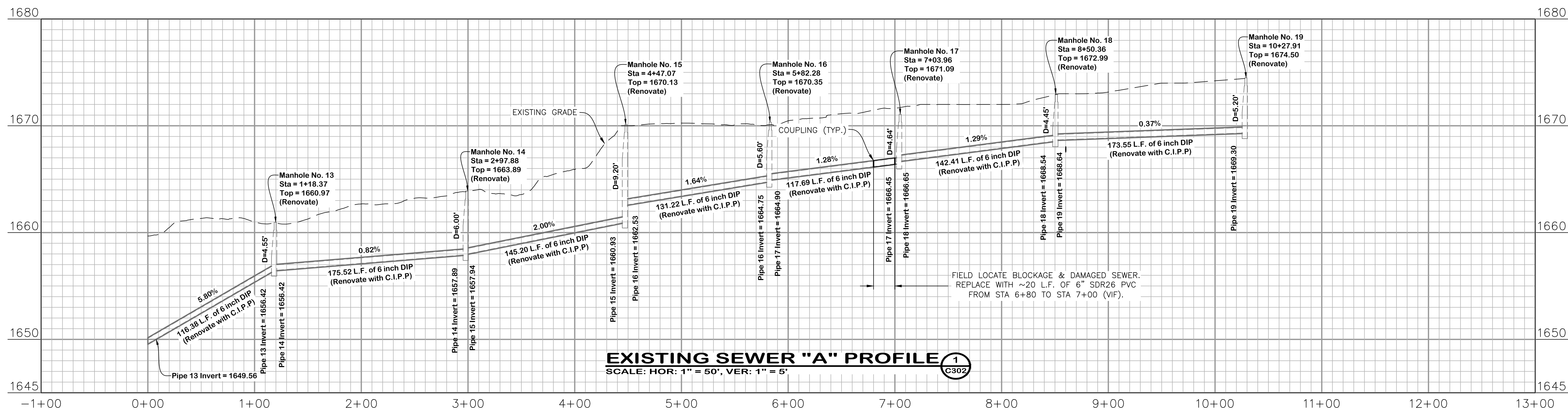
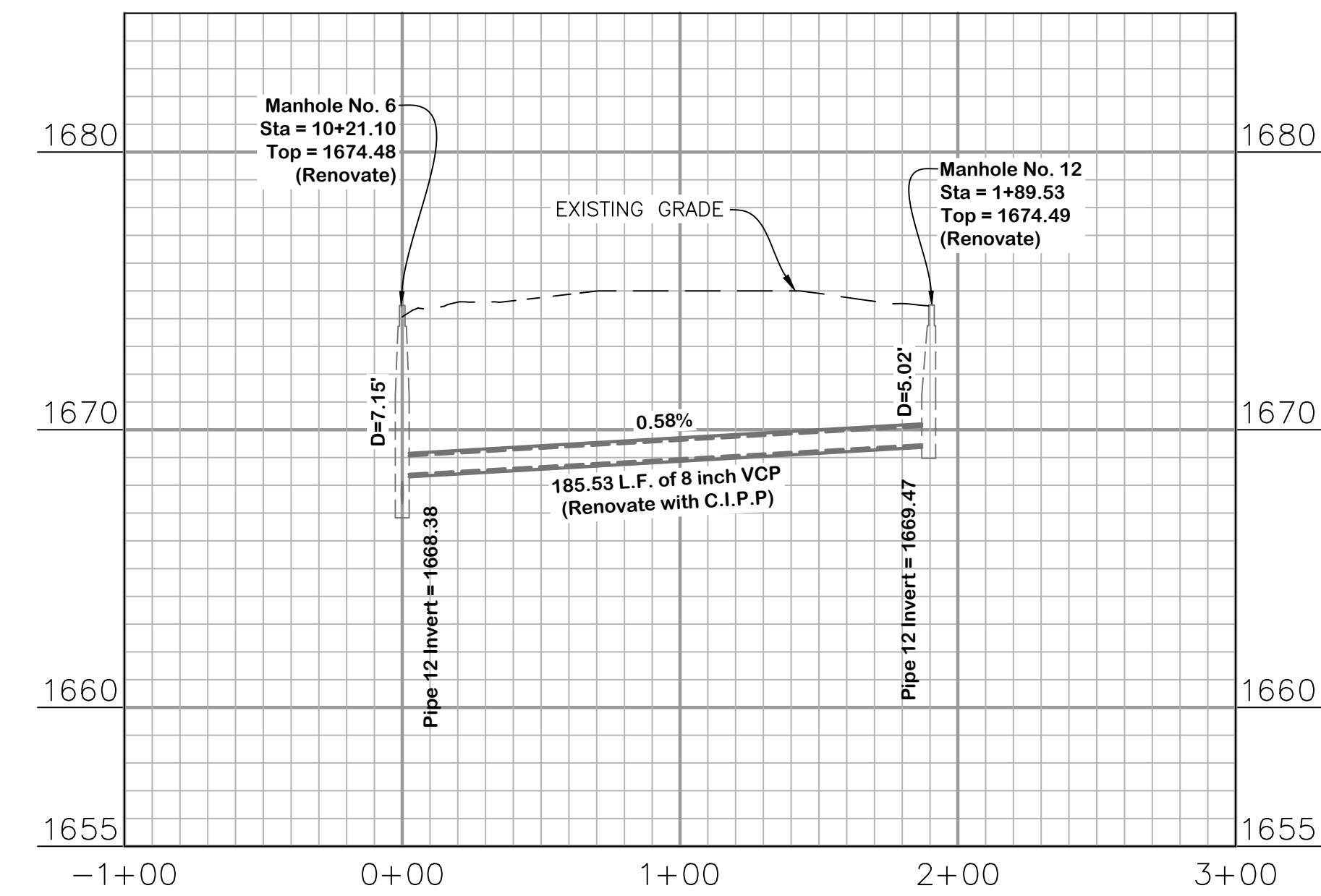
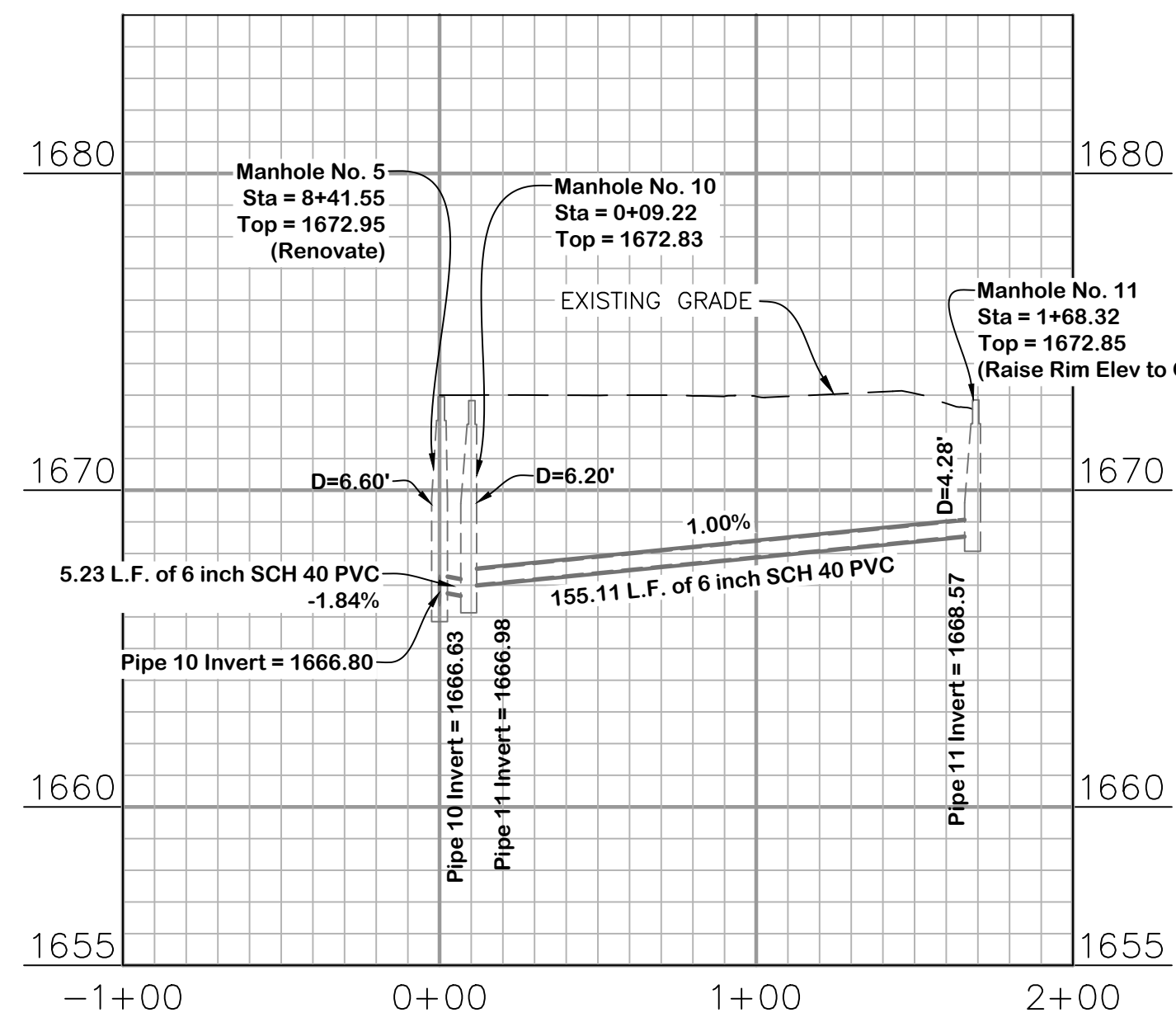
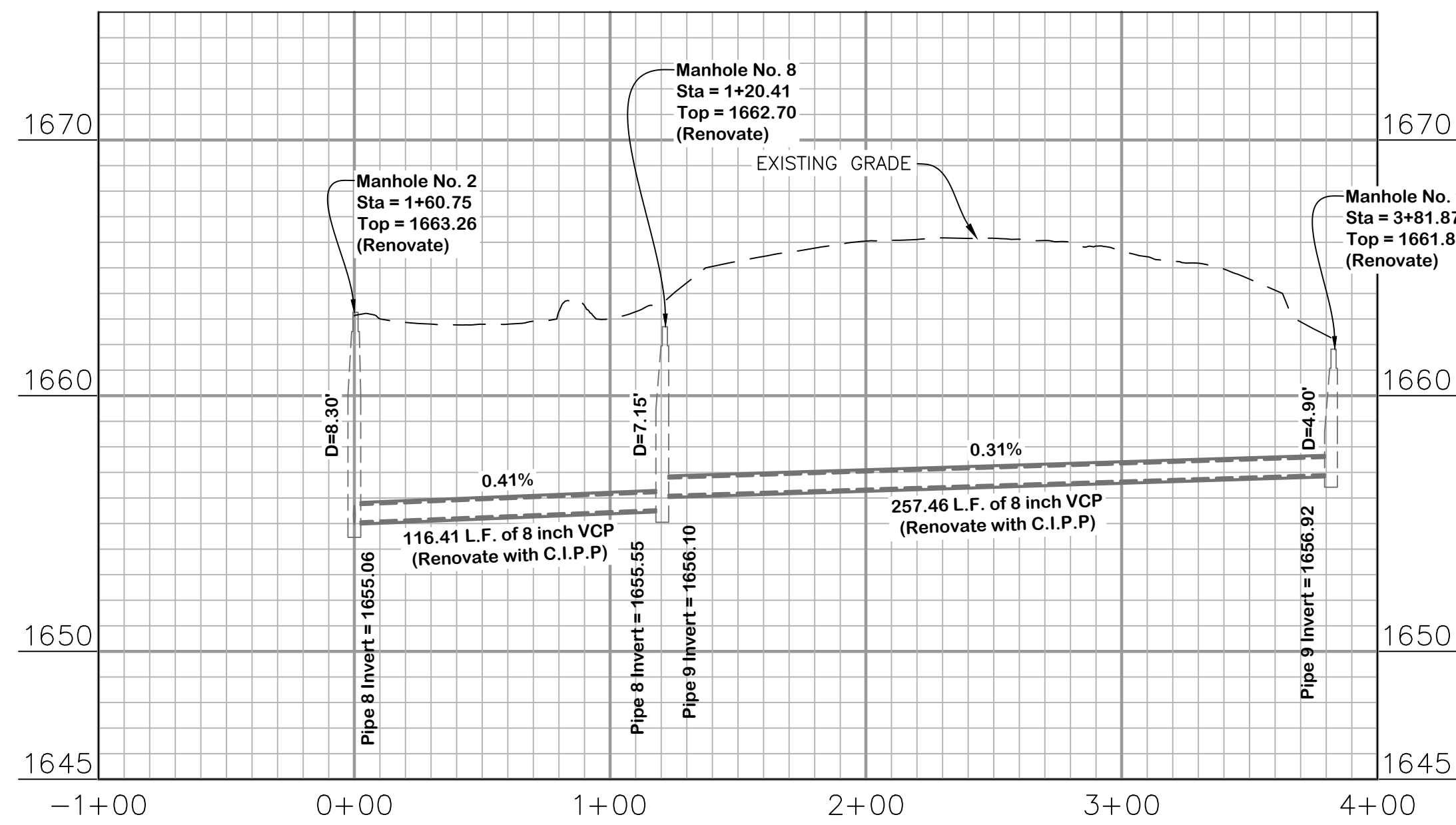
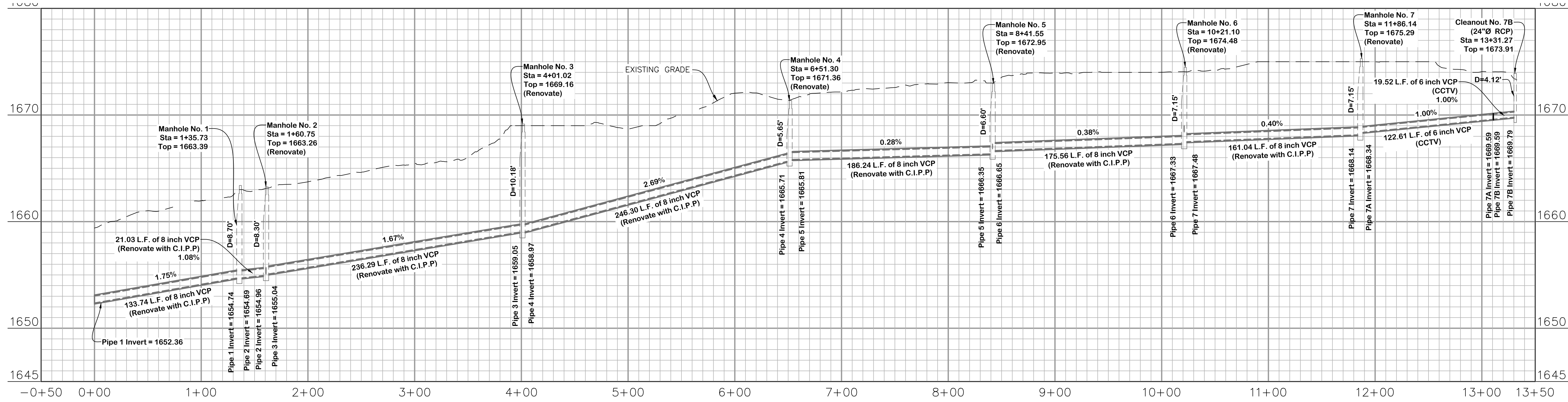
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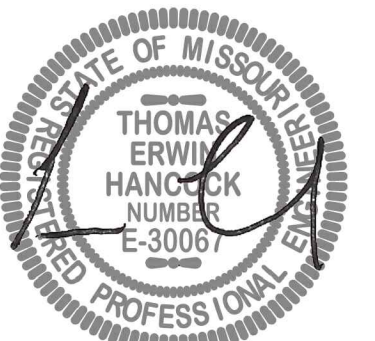
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**SANITARY SEWER
RENOVATION
PROFILES**

SHEET NUMBER:

C-302

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01-06-2023





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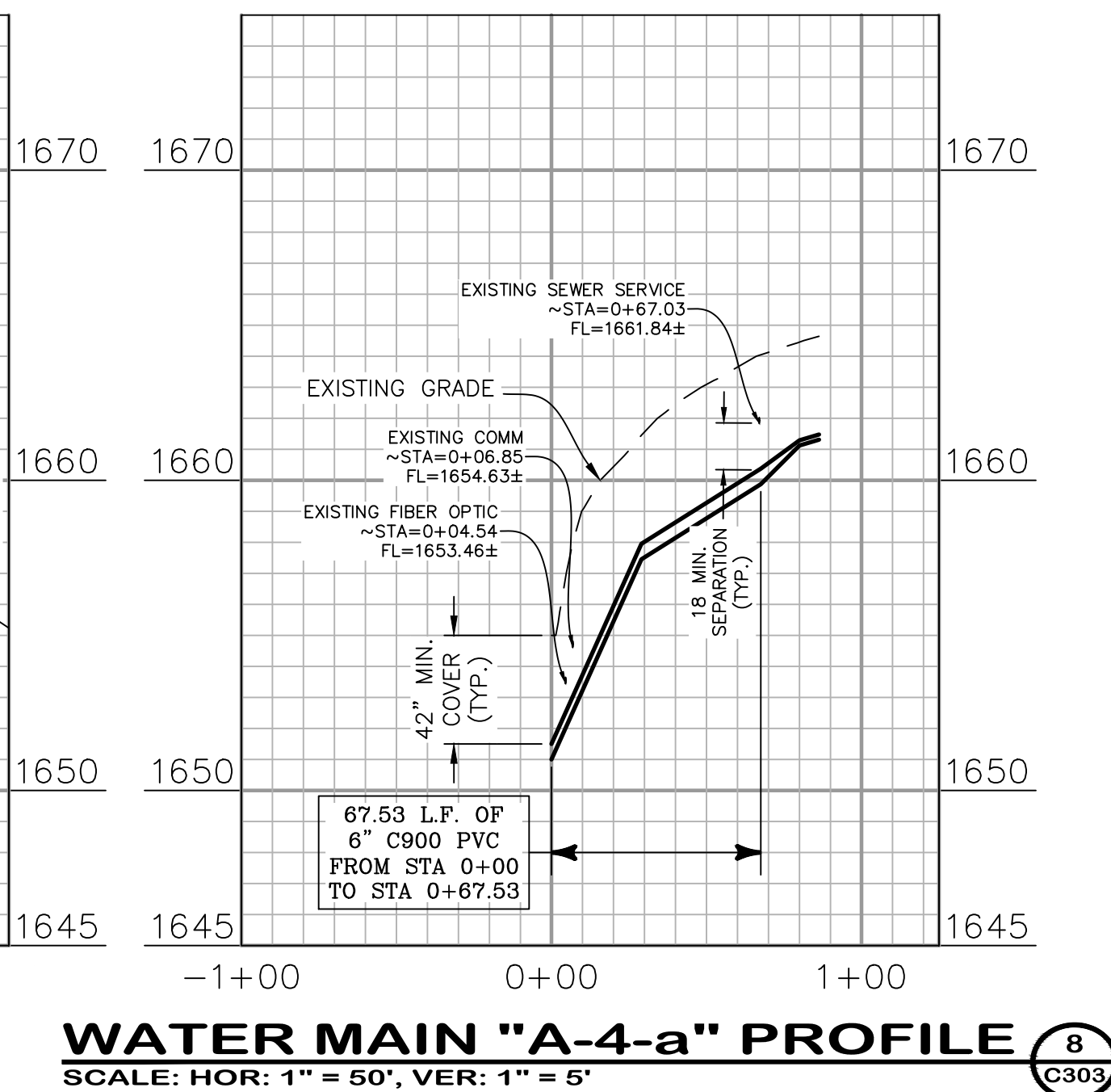
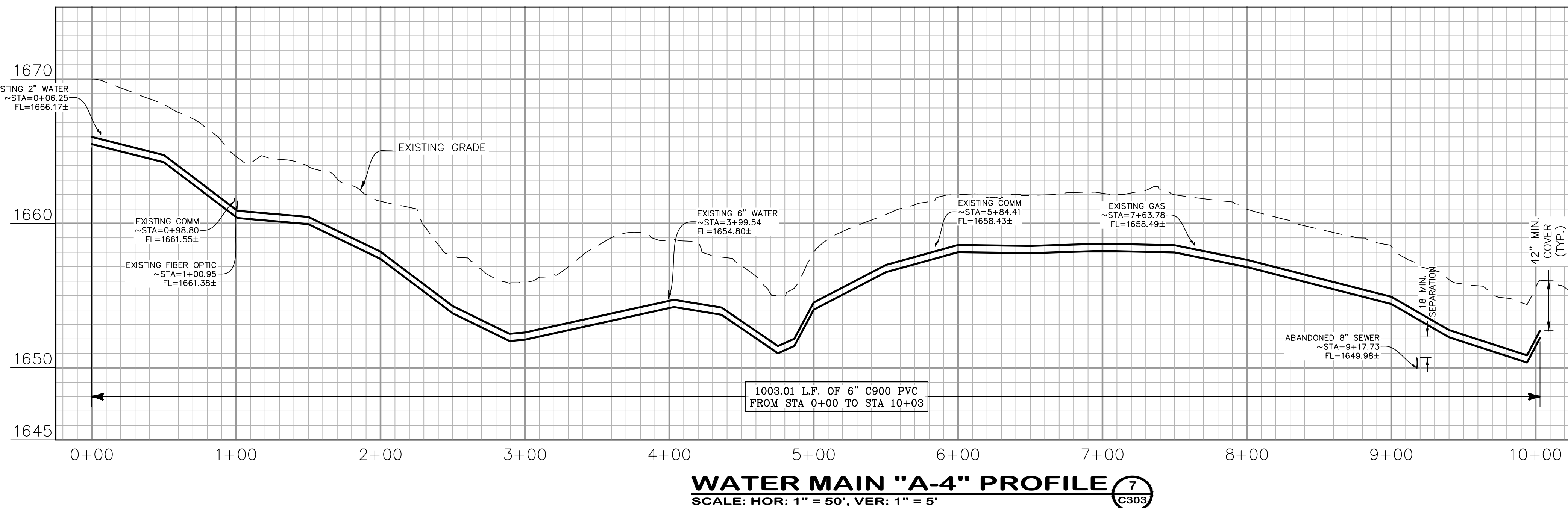
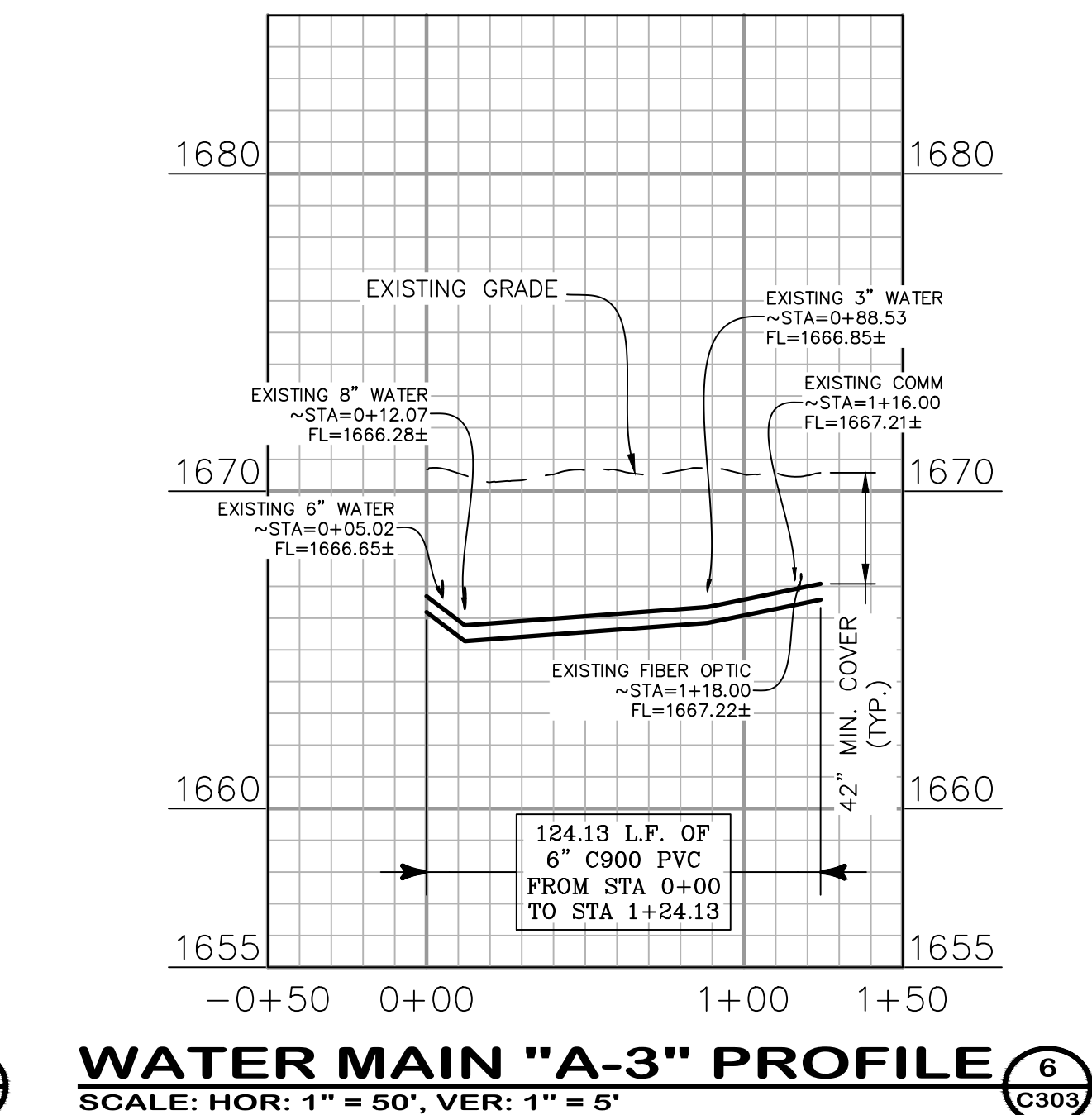
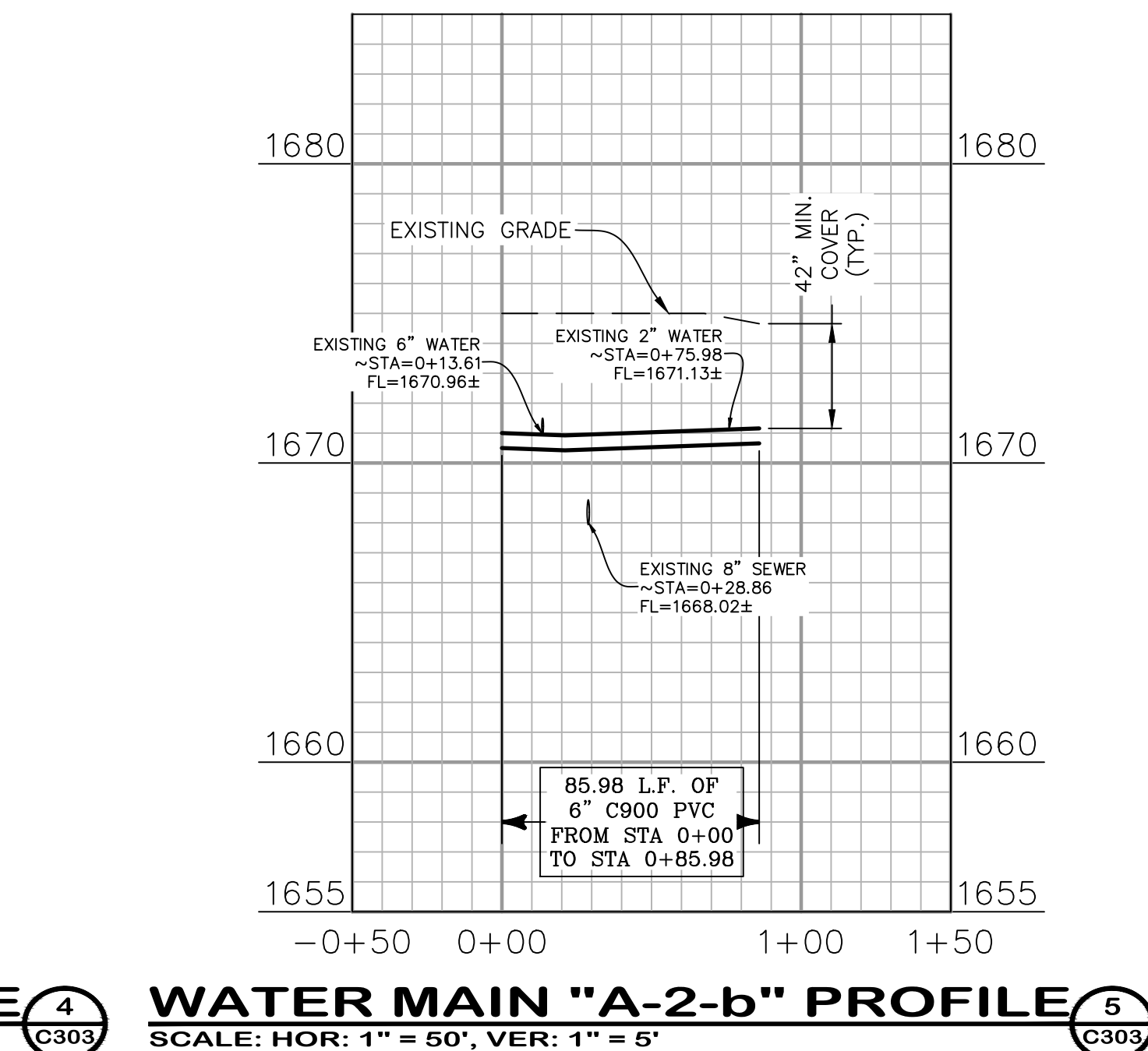
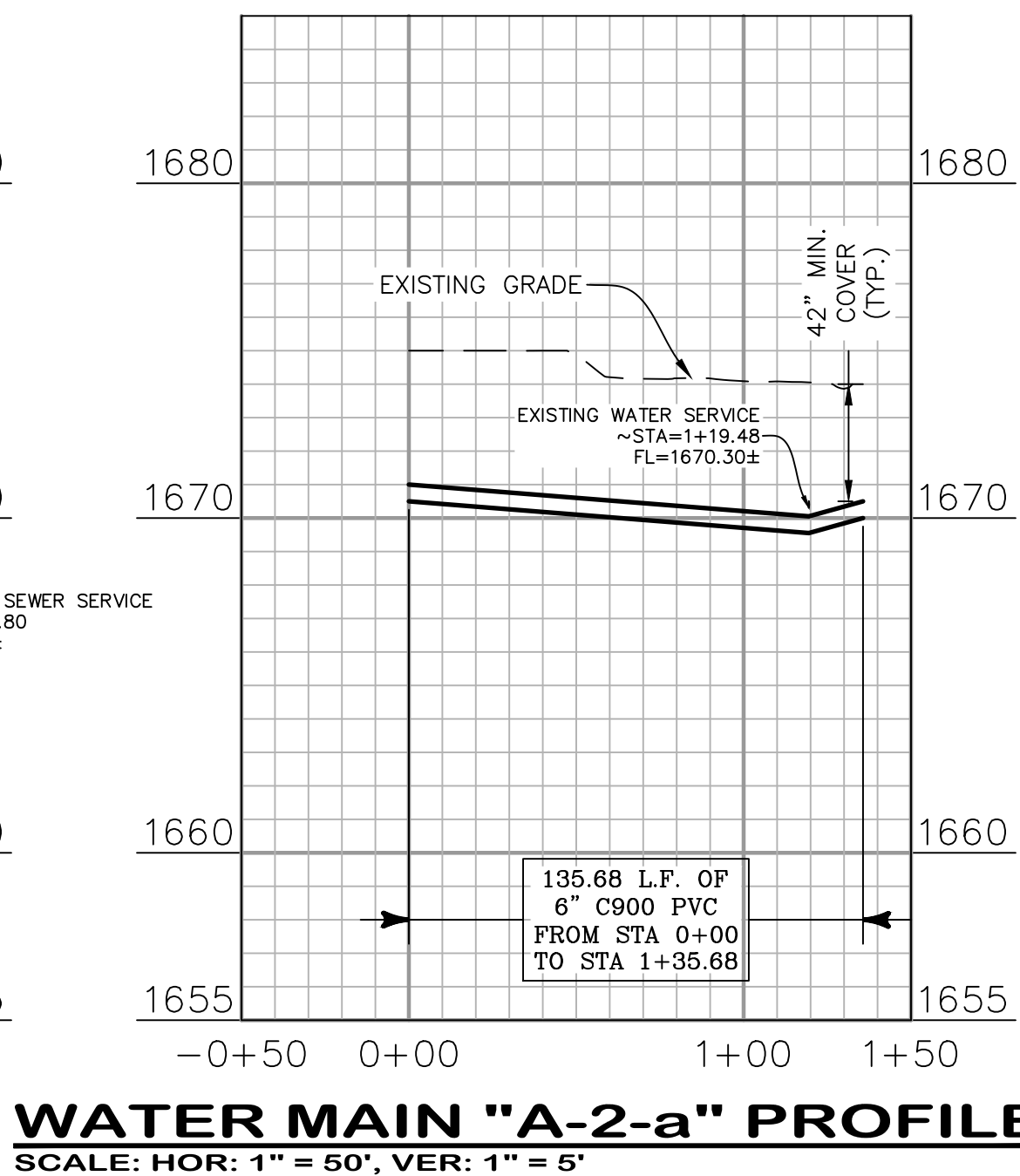
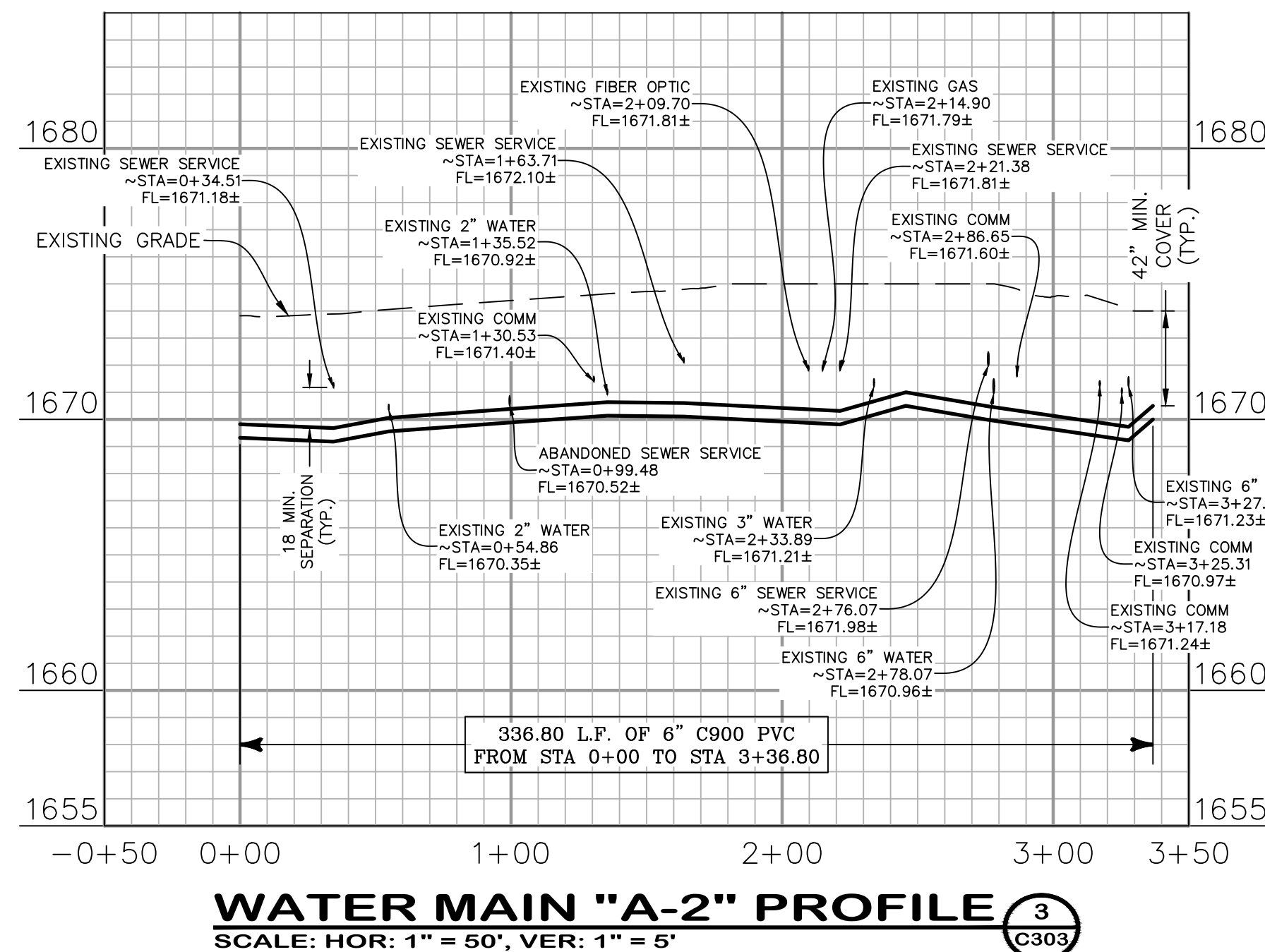
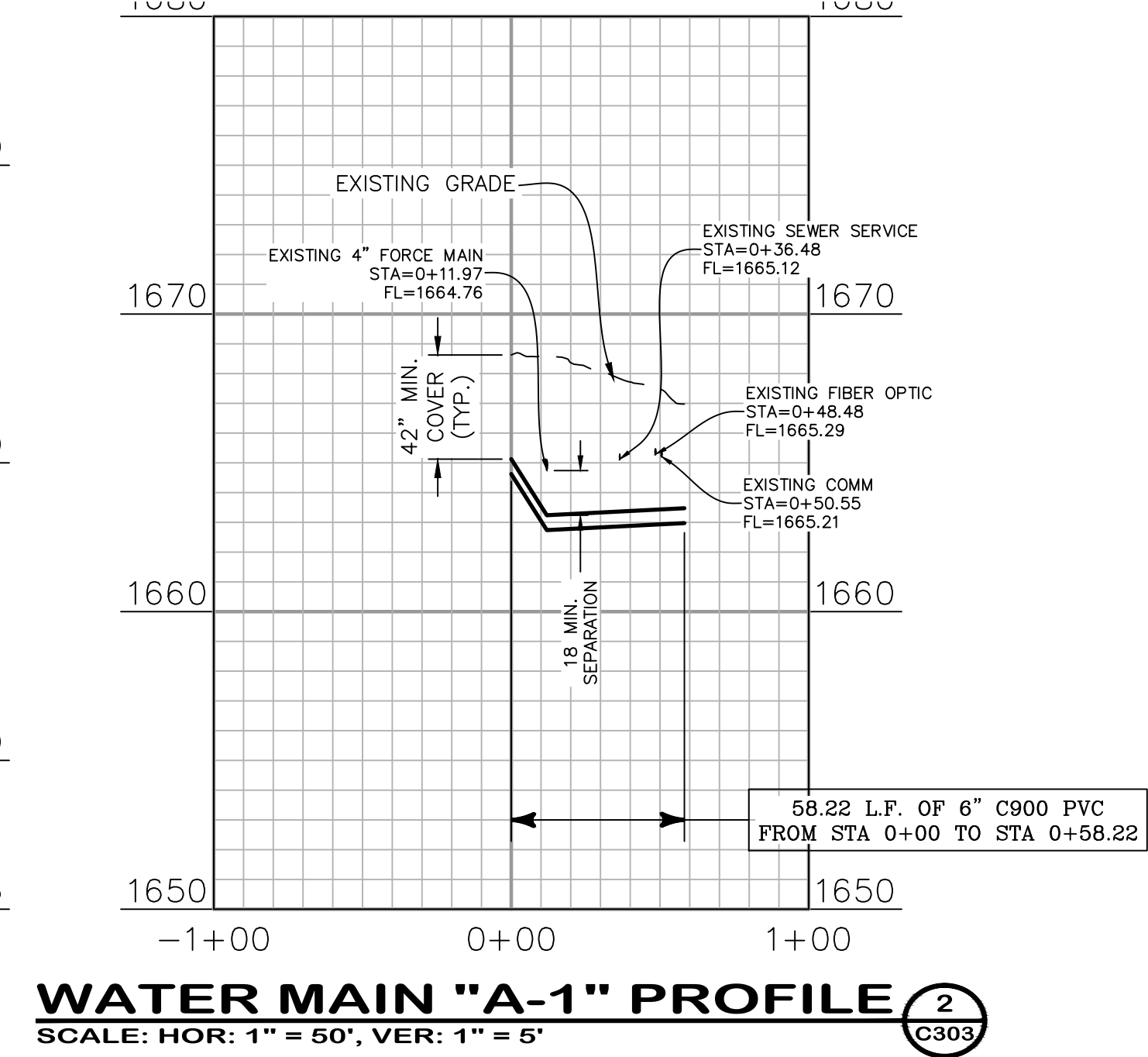
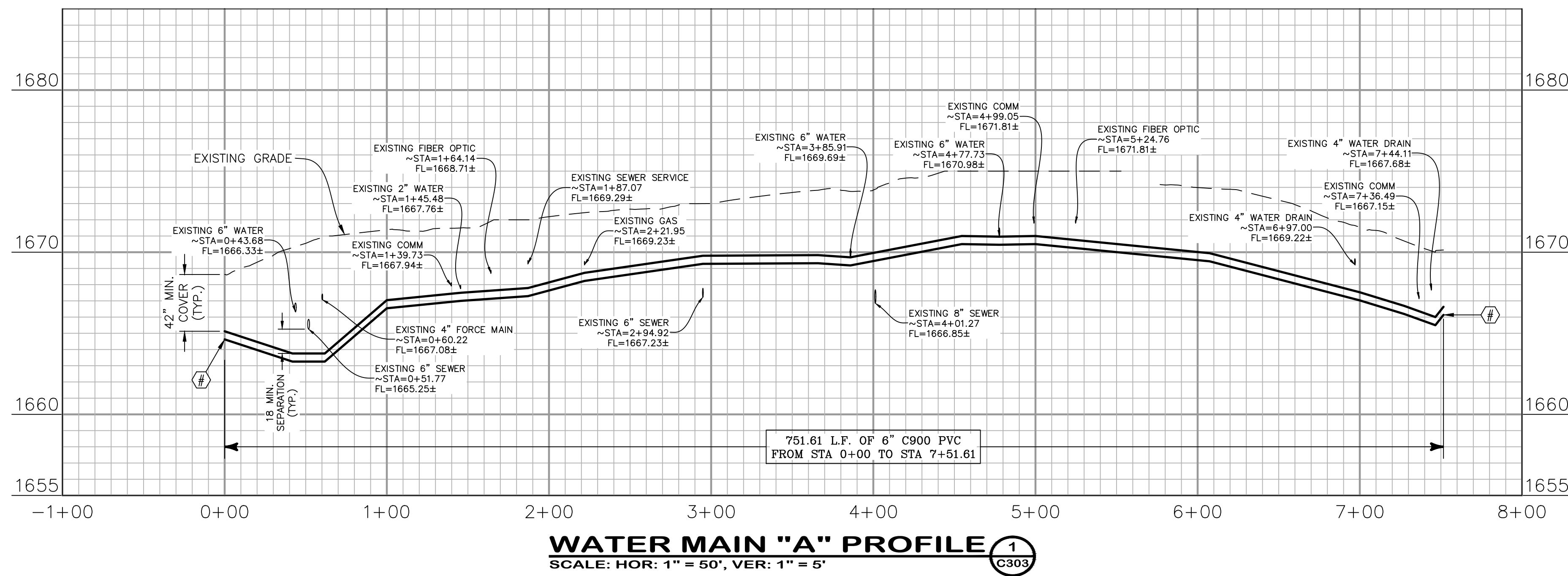
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CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
WATER DISTRIBUTION
SYSTEM REPLACEMENT
PROFILES

SHEET NUMBER:

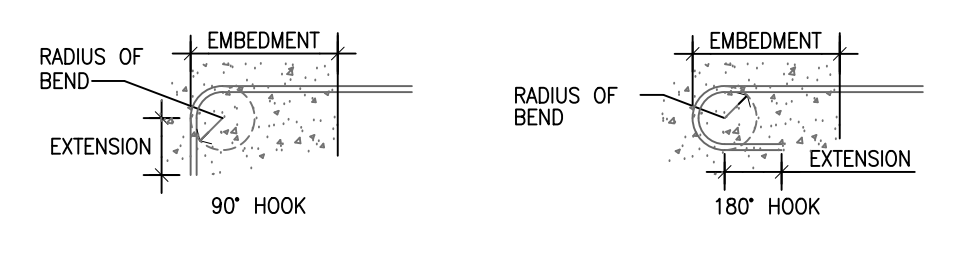
C-303

10 OF 22 SHEETS
01-06-2023



HOOKED DOWEL DEVELOPMENT LENGTHS IN TENSION (INCHES)

BAR SIZE	EMBEDMENT 4000 PSI CONCRETE	EXTENSION		MINIMUM RADIUS OF BEND (INCHES)
		90° HOOK	180° HOOK	
#4	9	6	2.5	2.00
#5	12	7.5	2.5	2.50
#6	14	9.0	3.0	3.00



LAP SPLICE LENGTHS (INCHES)

BAR SIZE	TENSION (CLASS B SPLICE)		
	OTHER BARS	TOP BARS	4000 PSI CONCRETE
	#4	25	32
#5	31	40	19
#6	37	48	23

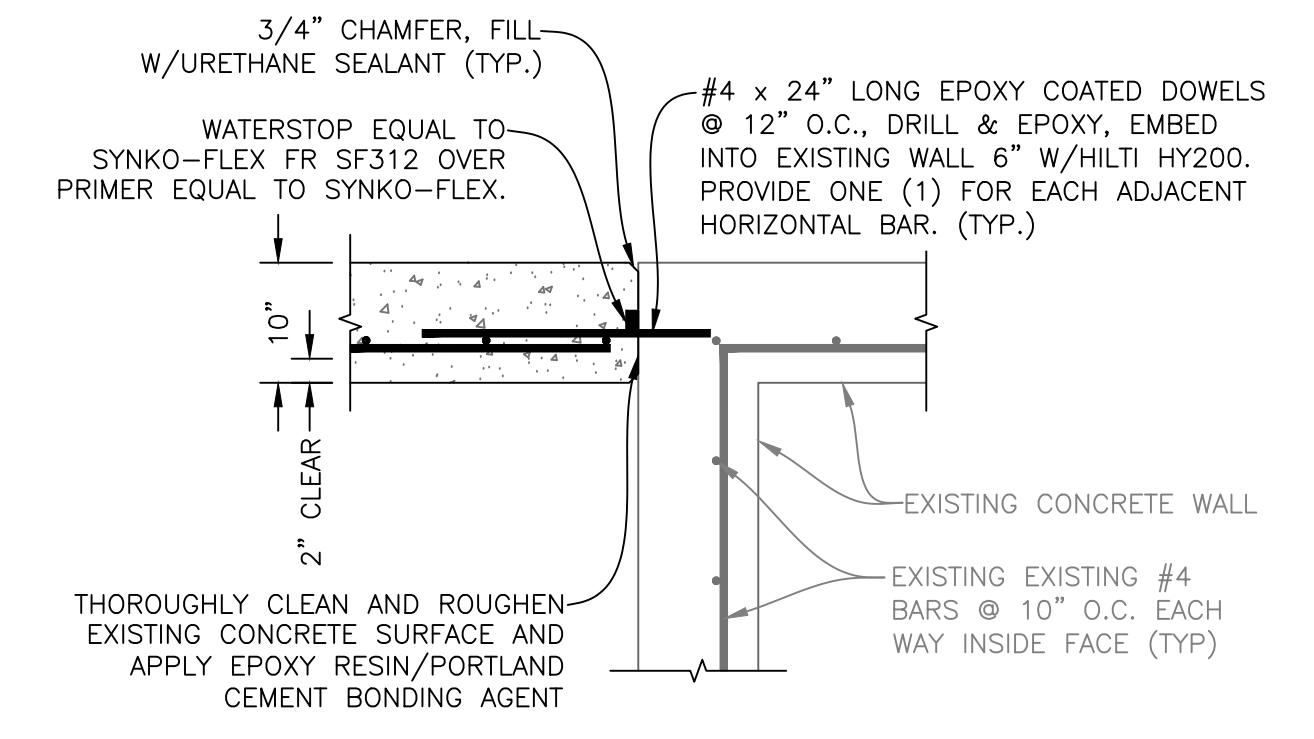
NOTES:
 1. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
 2. LAP SPLICE LENGTHS ARE BASED ON BARS SPACED AT (2) BAR DIAMETERS OR MORE ON CENTER W/ (1) BAR DIAMETER MINIMUM OF CONCRETE COVER. NOTIFY ENGINEER IF SPACING IS LESS THAN (2) BAR DIAMETERS.

STRAIGHT DOWEL DEVELOPMENT LENGTHS (INCHES)

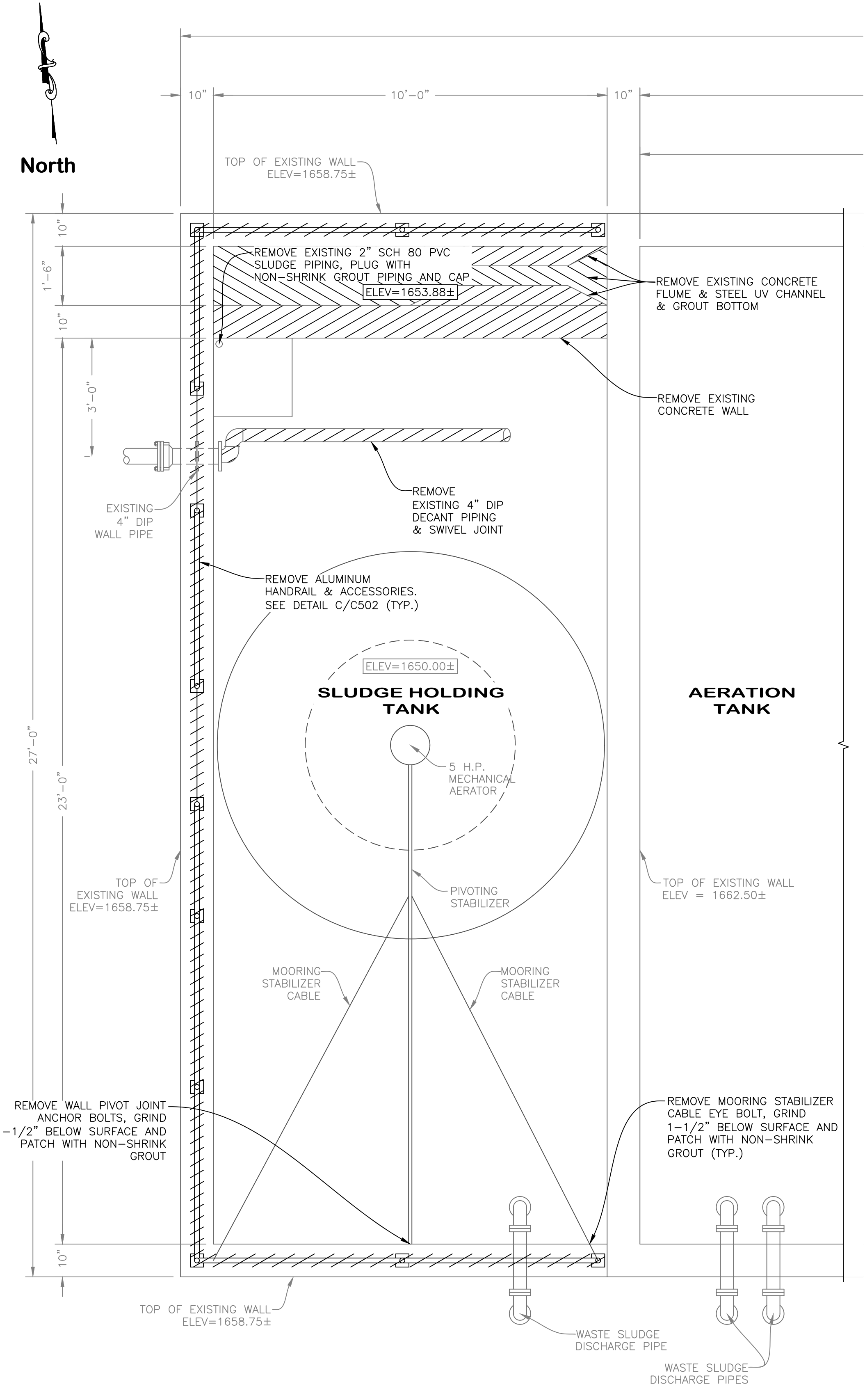
BAR SIZE	TENSION			COMPRESSION
	OTHER BARS	TOP BARS	4000 PSI CONCRETE	
	#4	19	25	
#5	24	31	12	
#6	29	37	15	

NOTES:
 1. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
 2. DEVELOPMENT LENGTHS ARE BASED ON BARS SPACED AT (2) BAR DIAMETERS OR MORE ON CENTER W/ (1) BAR DIAMETER MINIMUM OF CONCRETE COVER. NOTIFY ENGINEER IF SPACING IS LESS THAN (2) BAR DIAMETERS.

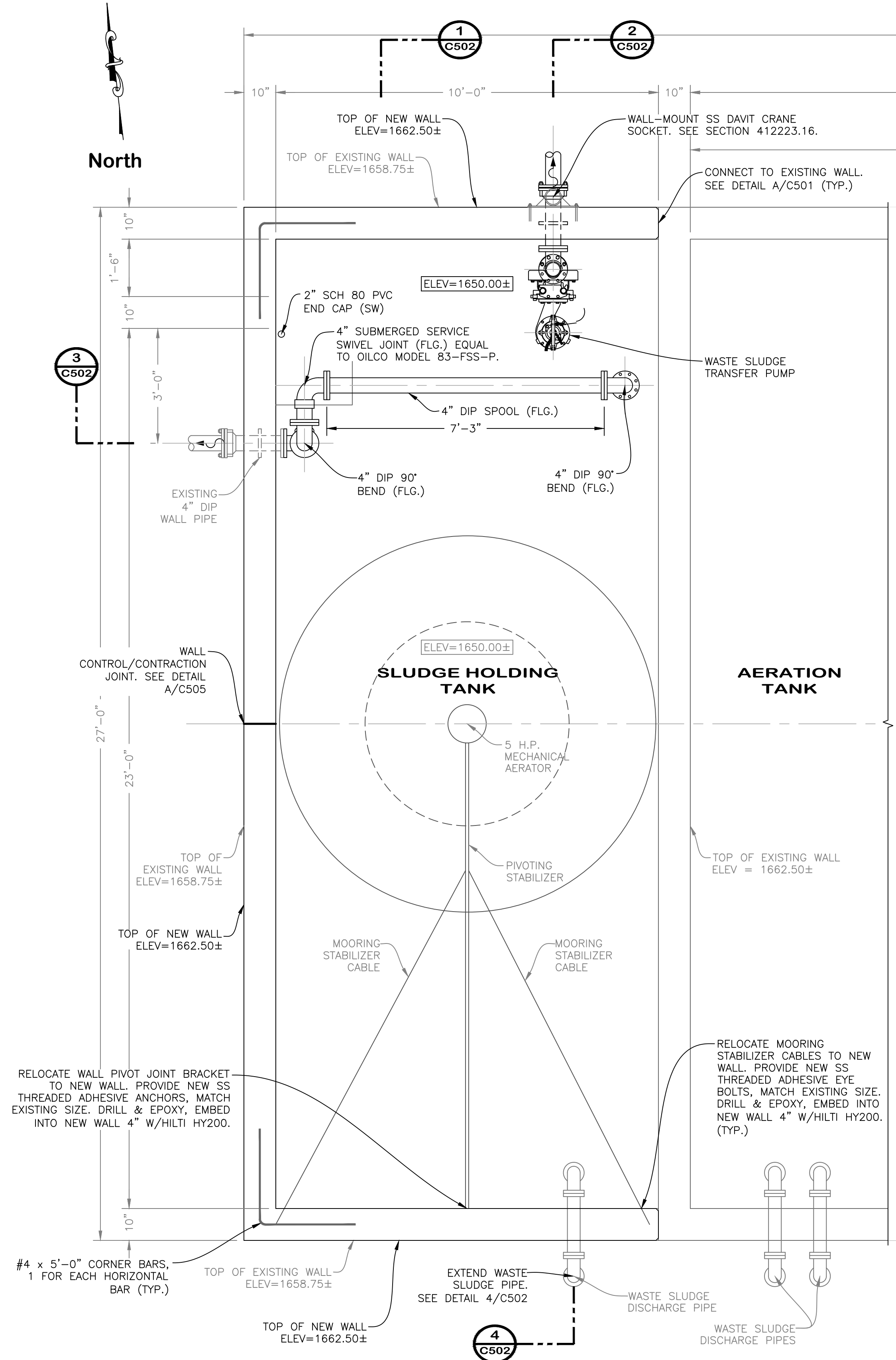
NOTE: 1. FIELD LOCATE EXISTING REINFORCEMENT & POSITION DOWELS TO MISS BARS. (OFFSET DOWELS # 2" FROM DESIGNATED POSITION UNLESS OTHERWISE APPROVED BY ENGINEER.)



EXISTING WALL CONNECTION A
 SCALE: 3/4" = 1'-0"



SLUDGE HOLDING TANK PLAN 1
 SCALE: 1/2" = 1'-0"



SLUDGE HOLDING TANK PLAN 2
 SCALE: 1/2" = 1'-0"

GENERAL NOTES

- EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE AND OVERHEAD) HAVE BEEN SHOWN BY THE ENGINEER IN APPROXIMATE LOCATIONS AS DETERMINED BY EXISTING PLANS OR SURFACE OBSERVATIONS AND NOT ALL UTILITIES AND STRUCTURES MAY BE INDICATED. IT IS CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND STRUCTURES PRIOR TO BEGINNING INSTALLATION OF NEW FACILITIES. CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER FOR INSTRUCTIONS WHENEVER CONFLICTS ARE DISCOVERED.
- "SCREENED" (LIGHT) DELINEATION INDICATED ON THE DRAWINGS DENOTES EXISTING FACILITIES. "SCREENED" INFORMATION WAS TAKEN FROM EXISTING CONSTRUCTION DRAWINGS AND DATA, IS FOR REFERENCE ONLY, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE ORDERING OF MATERIALS AND BEGINNING OF CONSTRUCTION. "BOLD" DELINEATION IS NEW WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.
- ELEVATIONS AND DIMENSIONS BASED ON EXISTING DRAWINGS. CONTRACTOR TO FIELD VERIFY (VIF) ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCING WORK.

NOTES

- DO NOT DEWATER TANK BELOW ELEVATION 1652.00 WITHOUT PROVIDING ADEQUATE INTERIOR WALL BRACING TO INSURE THE STRUCTURAL INTEGRITY OF EXISTING WALLS AND PREVENT ANY NOTICEABLE MOVEMENT OR STRESS FRACTURES.
- ALL METAL SUPPORT ANGLES, CONCRETE ANCHORS AND FASTENERS SHALL BE AISI TYPE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.
- INSTALL ALL THREADED ADHESIVE ANCHORS USING INJECTABLE ADHESIVE EQUAL TO HILTI HY200 PER MANUFACTURER'S INSTRUCTIONS.
- COAT ALL STAINLESS STEEL BOLT AND NUT THREADS WITH A STAINLESS STEEL GRADE NICKEL ANTI-SEIZE LUBRICANT EQUAL TO PERMATEX NO. 771 PRIOR TO ASSEMBLY.
- FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

CONCRETE NOTES

- 6" CRUSHED STONE FILL REQUIRED UNDER CONCRETE SLABS IN CONTACT WITH EARTH.
- 2"x4" KEYWAY AND WATERSTOP REQUIRED AT INDICATED CONSTRUCTION JOINTS.
- 3" MIN. COVER FOR REBARS IN CONCRETE CAST AGAINST EARTH OR AGGREGATE.
- 2" MIN. COVER FOR REBARS IN CONCRETE EXPOSED TO WEATHER, WASTE STREAM FLUIDS, OR CAST AGAINST FORMS.
- ALL BAR SPLICES SHALL CONFORM TO ACI 318.
- ALL SPLICES SHALL BE STAGGERED.
- CONTINUOUS CHAIRS AT 4' MAXIMUM SPACING SHALL BE USED TO OBTAIN PROPER CLEARANCE.
- CONTINUOUS WALL REINFORCING SHALL EXTEND THROUGH CORNERS FOR FULL OVERLAP.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 45° 3/4" CHAMFER.
- REPAIR ALL CRACKS IN NEW CONCRETE WORK BY EPOXY INJECTION PER ACI RAP-1 PROCEDURES.
- ALL CONCRETE SHALL BE 4000 PSI, "NORMAL WEIGHT" PER SECTION 033000 PART 2.02 C.



01-06-2023
 Thomas E. Hancock, MO Engineer No. E-30067



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DEPARTMENT OF
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REPLACE SEWER LINES
 & INFRASTRUCTURE

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
 FORDLAND, MISSOURI

PROJECT # C1907-01
 SITE # 7003
 FACILITY # 9327003081

REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 ISSUE DATE: 01-06-2023

CAD DWG FILE: C-501.DWG
 DRAWN BY: TEH
 CHECKED BY: RDM
 DESIGNED BY: TEH

SHEET TITLE:
 SLUDGE HOLDING
 TANK MODIFICATIONS
 PLANS

SHEET NUMBER:

C-501

11 OF 22 SHEETS
 01-06-2023



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



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CAD DWG FILE: C-502.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

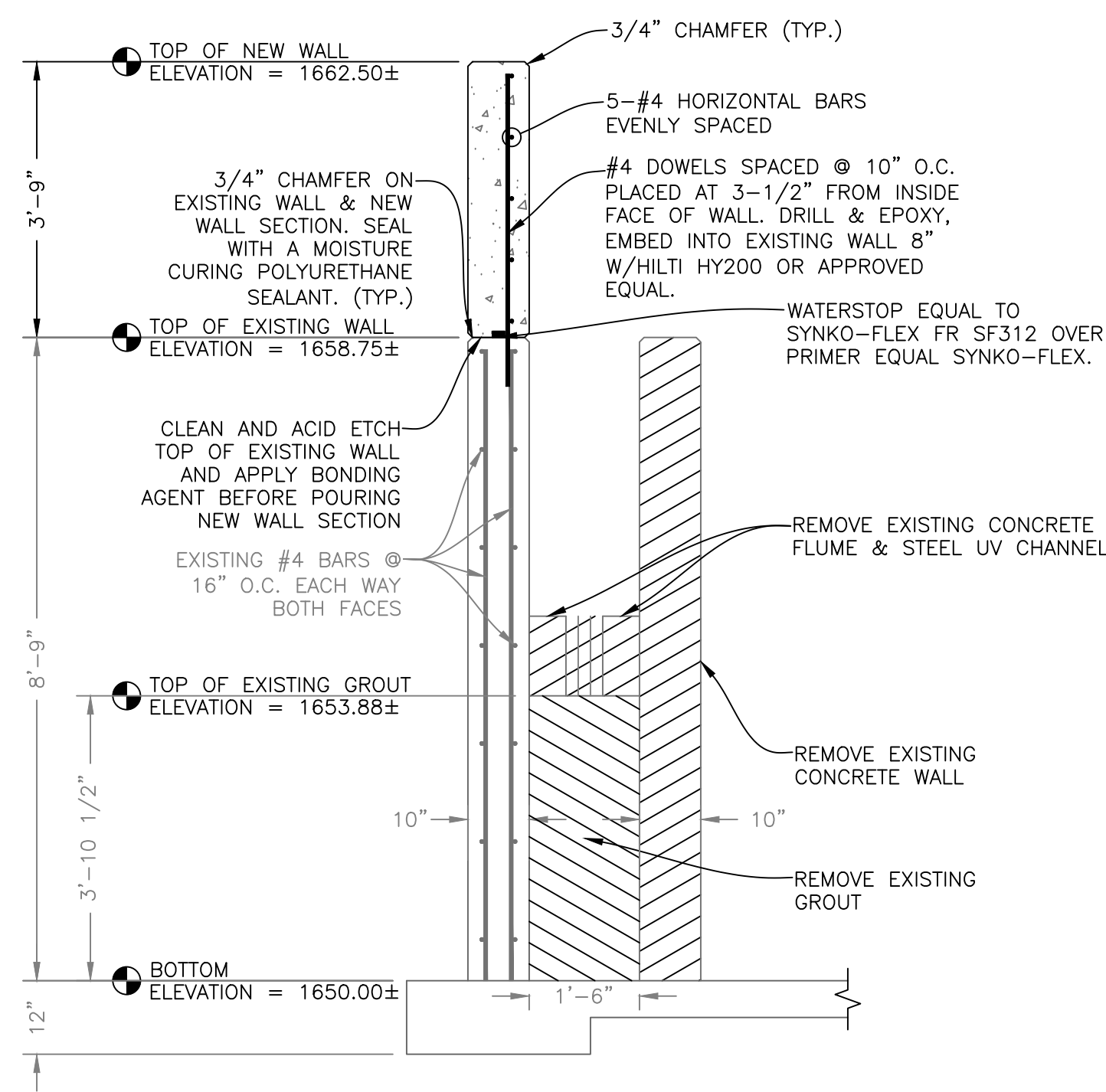
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SLUDGE HOLDING
TANK MODIFICATIONS
SECTIONS & DETAILS

SHEET NUMBER:

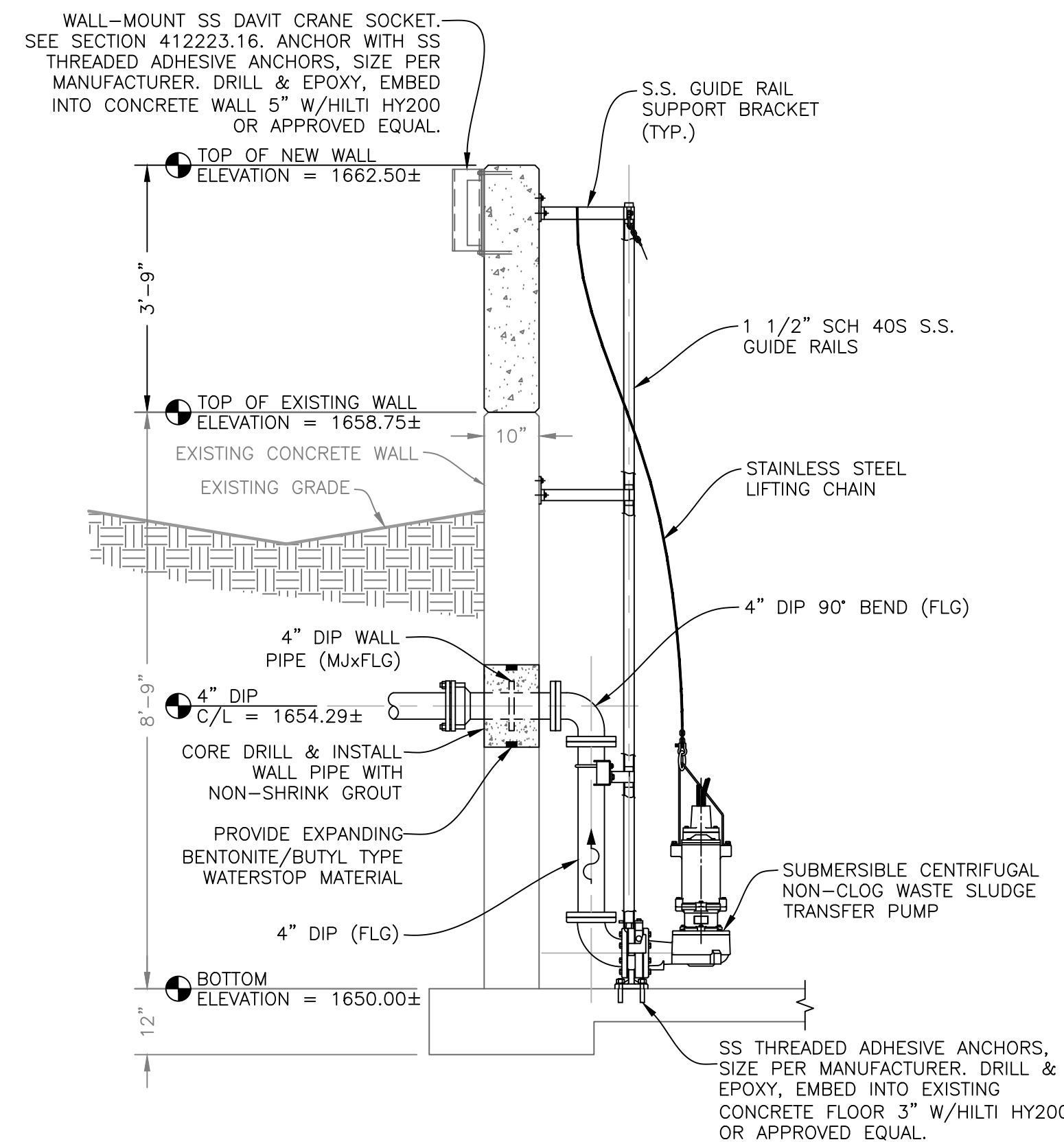
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12 OF 22 SHEETS
01-06-2023

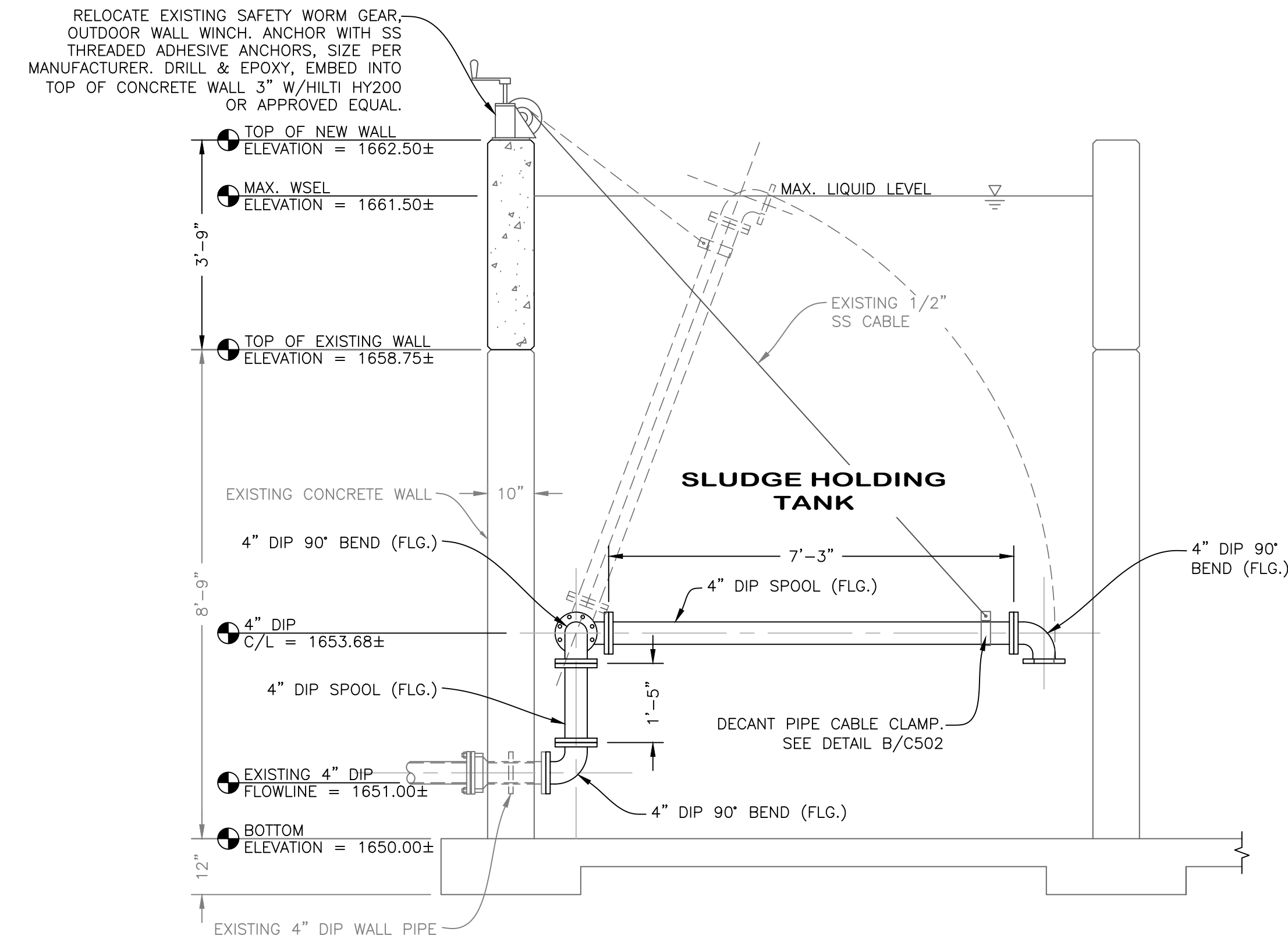
NOTE: 1. FIELD LOCATE EXISTING REINFORCEMENT & POSITION DOWELS TO MISS BARS. (OFFSET DOWELS # 2" FROM DESIGNATED POSITION UNLESS OTHERWISE APPROVED BY ENGINEER.)



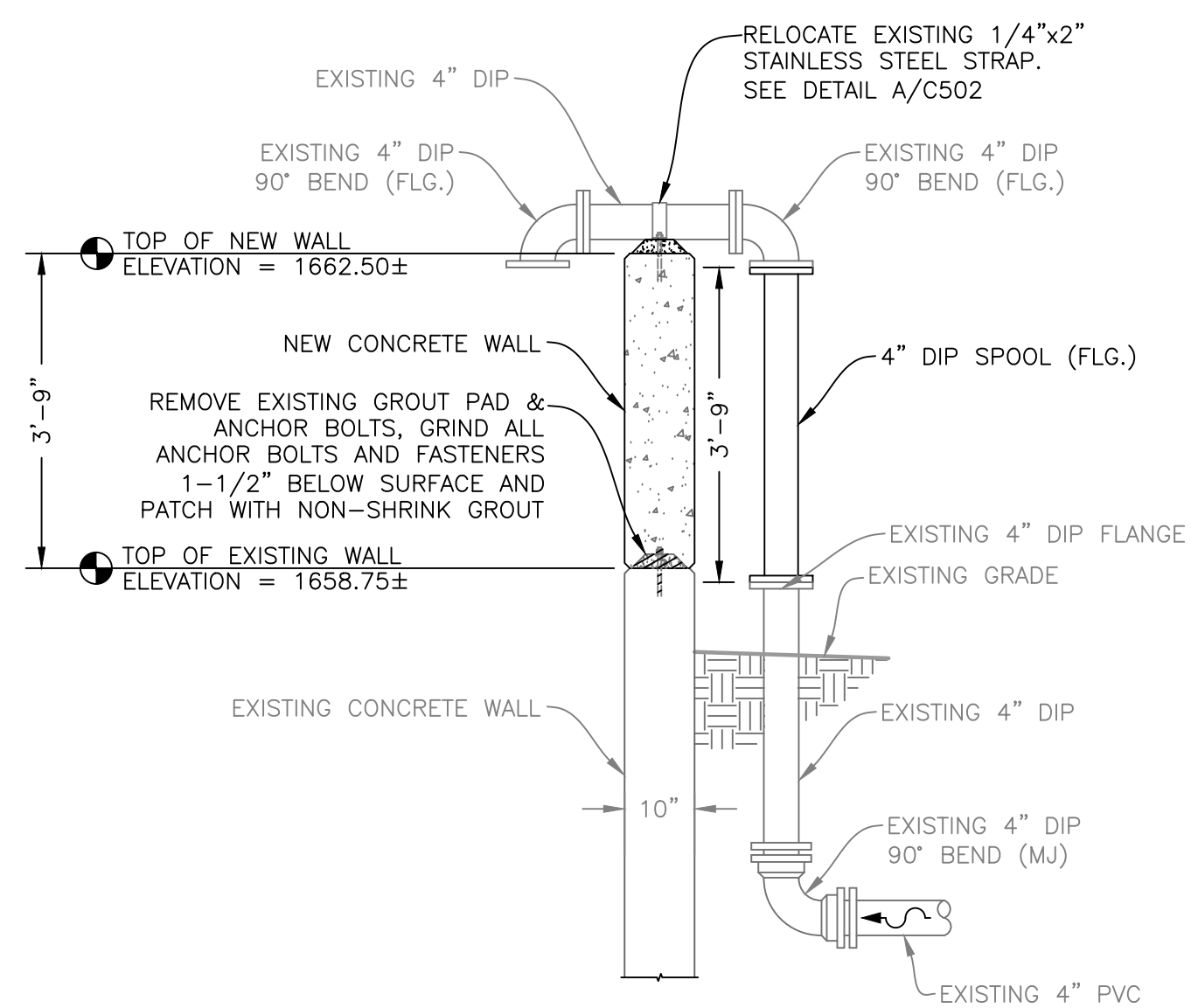
WALL SECTION 1
SCALE: 1/2" = 1'-0"
C502



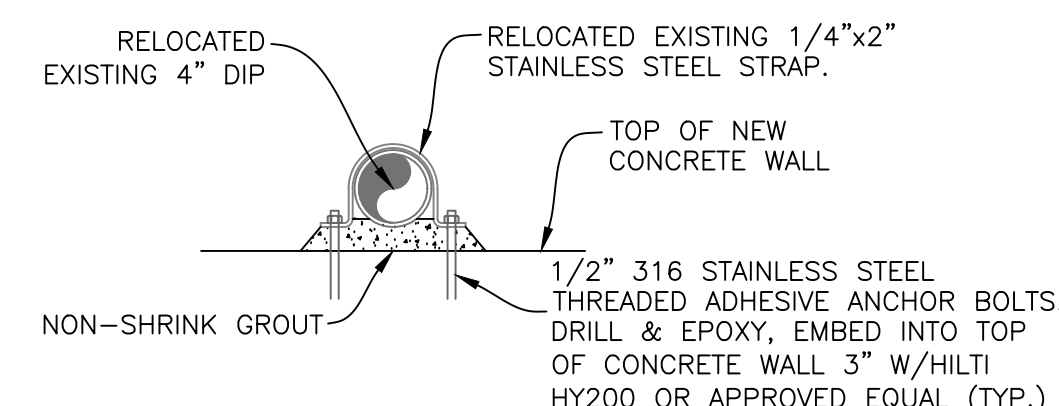
WASTE SLUDGE PUMP SECTION 2
SCALE: 1/2" = 1'-0"
C502



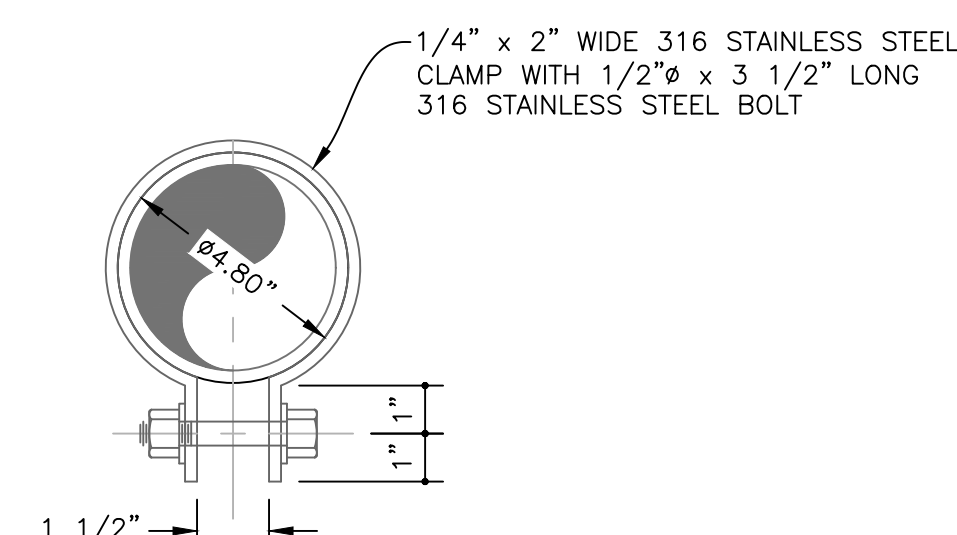
SLUDGE HOLDING TANK DECANT PIPING 3
SCALE: 1/2" = 1'-0"
C502



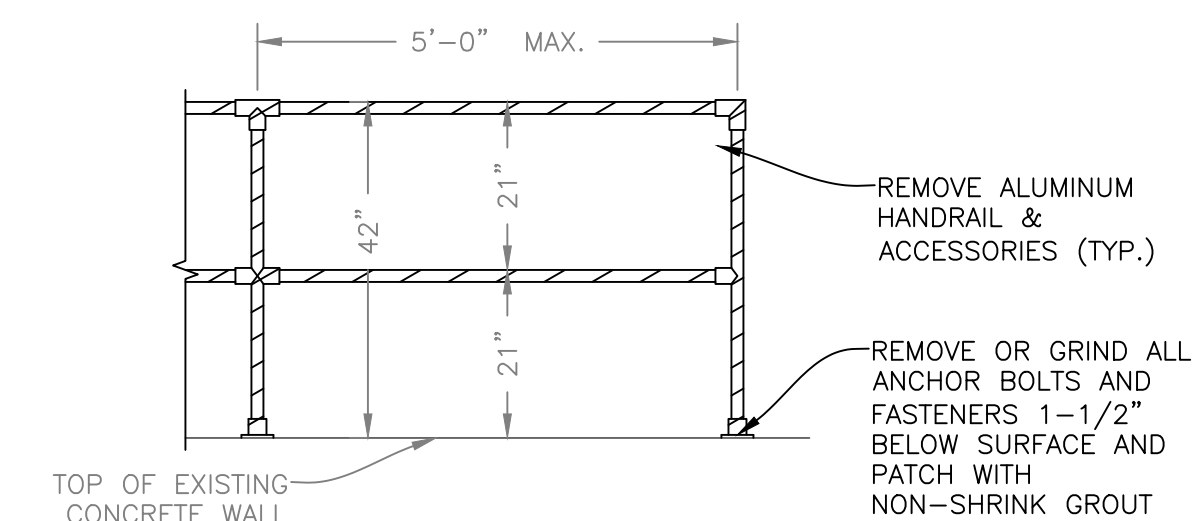
WASTE SLUDGE LINE DISCHARGE 4
SCALE: 1/2" = 1'-0"
C502



PIPE ANCHOR A
SCALE: 1" = 1'-0"
C502



DECANT PIPE CLAMP B
SCALE: 3" = 1'-0"
C502



HANDRAIL C
SCALE: 1/2" = 1'-0"
C502



01-06-2023
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9327003081

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ISSUE DATE: 01-06-2023

CAD DWG FILE: C-503.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

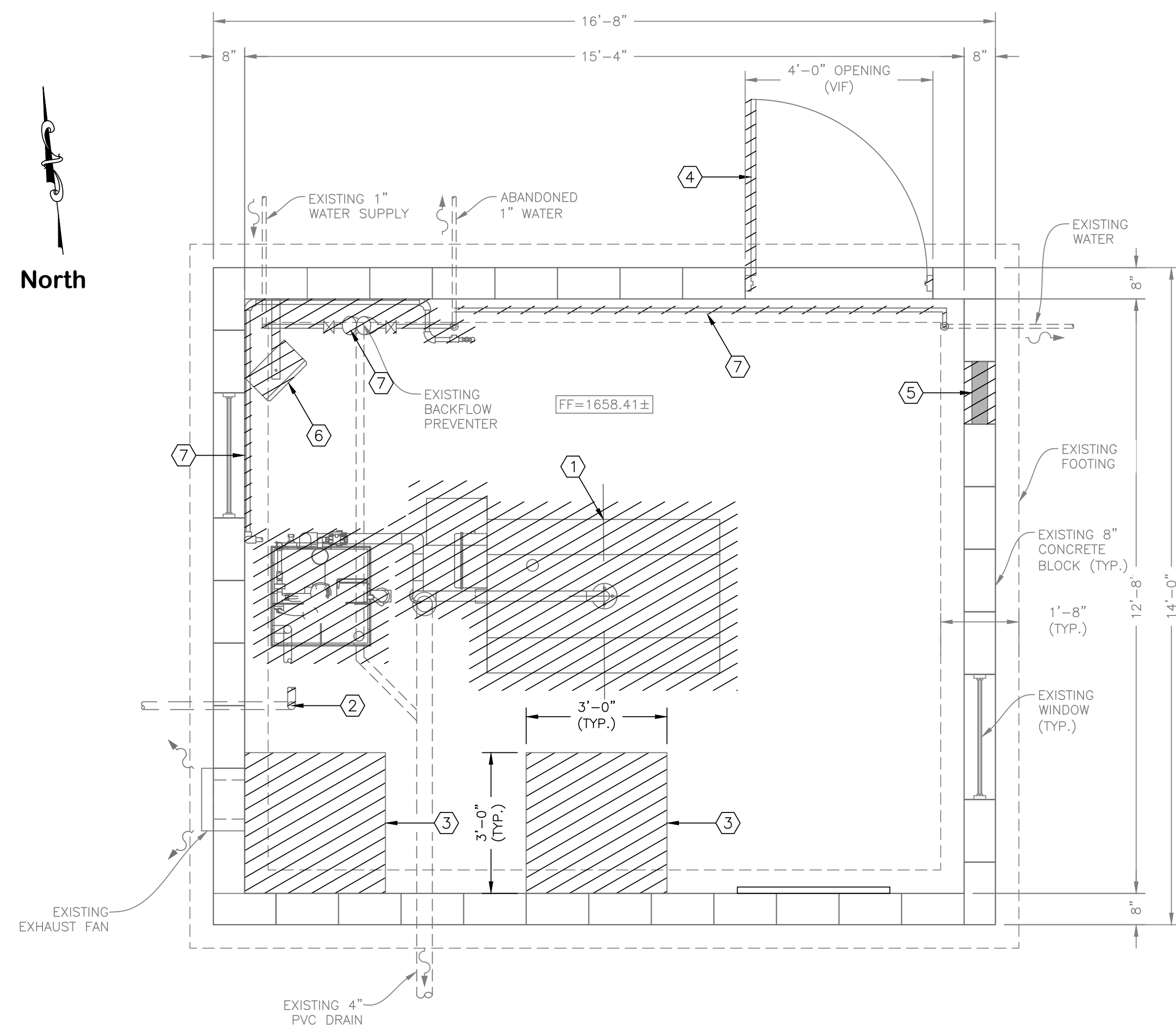
SHEET TITLE:

SLUDGE
DEWATERING
BUILDING - PLANS

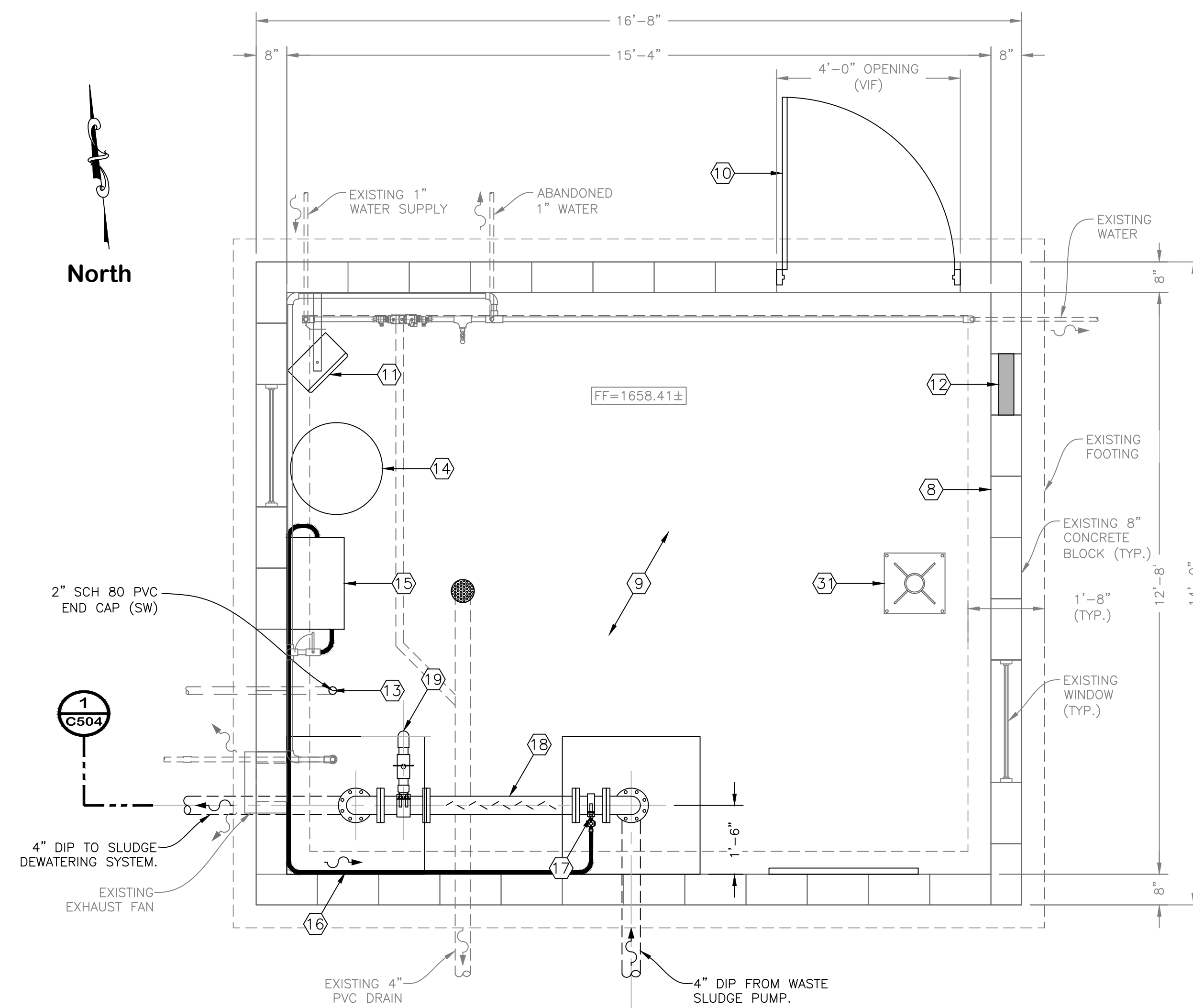
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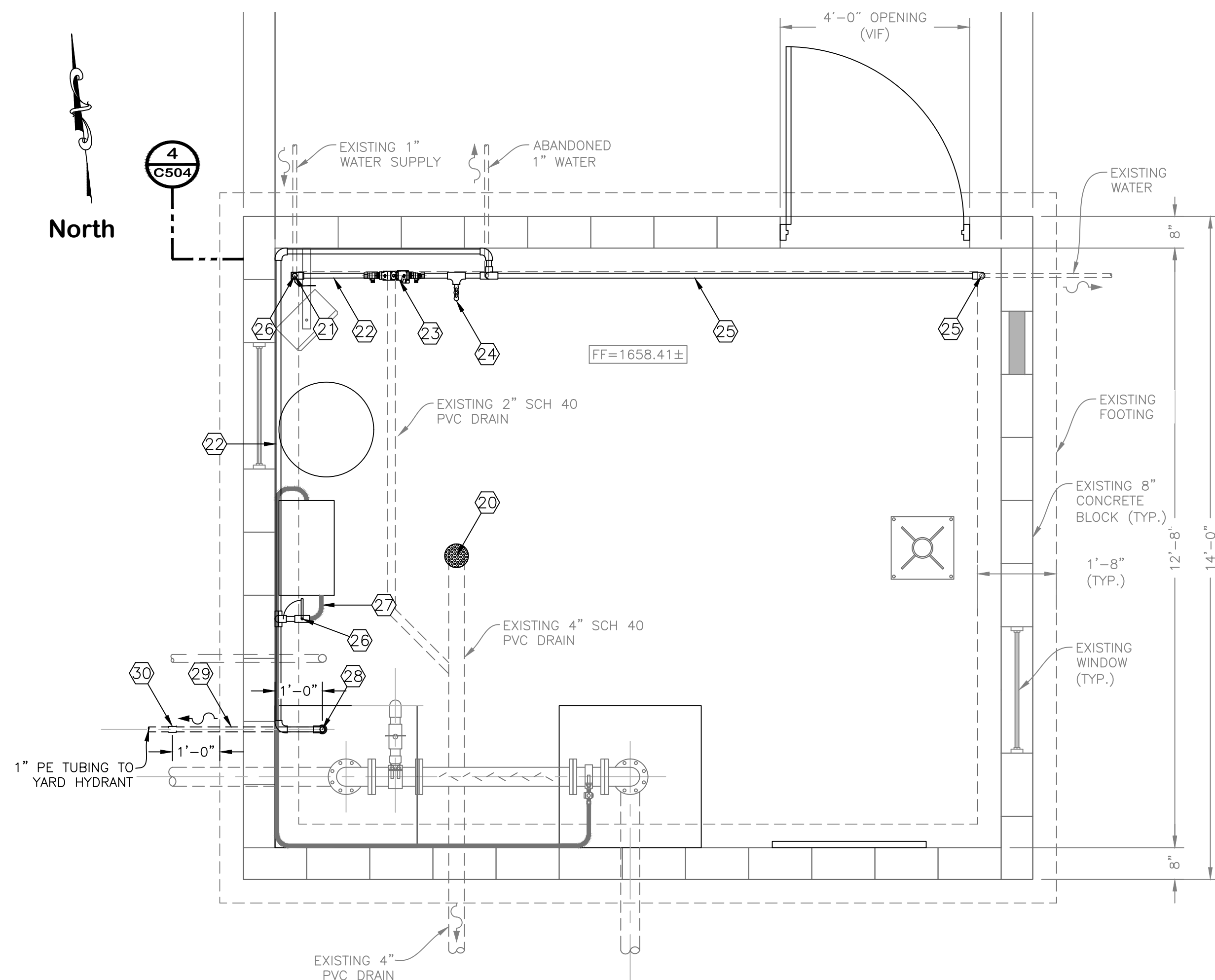
13 OF 22 SHEETS
01-06-2023



DEMOLITION PLAN 1
SCALE: 1/2" = 1'-0"



FLOOR PLAN 2
SCALE: 1/2" = 1'-0"



PLUMBING PLAN 3
SCALE: 1/2" = 1'-0"

KEY NOTES

- ① REMOVE EXISTING POLYMER & DEWATERING UNIT AND RELATED APPURTENANCES AND DISPOSE OF OFF SITE. SEE DETAIL A/C504.
- ② REMOVE EXISTING 2" SCH 80 PVC SLUDGE PIPING AND CAP.
- ③ SAW CUT AND REMOVE EXISTING CONCRETE FLOOR TO EXTENT INDICATED OR NECESSARY TO FACILITATE NEW PIPING WORK. UPON COMPLETION OF NEW PIPING WORK REPLACE CONCRETE FLOOR. SEE DETAIL B/C504.
- ④ REMOVE EXISTING DOOR AND FRAME. REPAIR CONCRETE BLOCK JAMB SURFACES WITH NON-SHRINK GROUT. SAND AND PAINT STEEL LINTEL. SEE SECTION 099100.
- ⑤ REMOVE EXISTING INTAKE LOUVER AND FRAME. REPAIR BLOCK HEADER AND JAMB SURFACES AS NECESSARY WITH NON-SHRINK GROUT.
- ⑥ REMOVE EXISTING UNIT HEATER AND WALL MOUNTING BRACKET.
- ⑦ REMOVE EXISTING BACKFLOW PREVENTER, HOSE BIBB, WATER PIPING, SUPPORTS, AND BRACKETS TO WITHIN 6" OF FLOOR PENETRATIONS.
- ⑧ REMOVE ALL SUPPORT HOOKS, SHELVING, AND MOUNTING HARDWARE AND POWER WASH WALLS, CAULK JOINTS AND CEILING TRIM AND PAINT INTERIOR FACE OF CONCRETE BLOCK, CEILING TRIM, AND CEILING. SEE SECTION 099100.
- ⑨ POWER WASH CONCRETE FLOOR, SEAL FLOOR/WALL INTERFACE WITH SILICONE AND SEAL ALL SHRINKAGE CRACKS WITH CONCRETE JOINT SEALANT.
- ⑩ NEW 3'-8"x6'-8"x1-3/4" INSULATED HOLLOW GALV. STEEL DOOR (PAINTED) W/DOOR STOP, CLOSER, LOCKSET, ALUMINUM THRESHOLD, WEATHERSTRIP AND 5-3/4"x2" GALV. STEEL DOOR FRAME (PAINTED) W/DRIP CAP, SHIM & CAULK FRAME CONTINUOUS ALL SIDES. LOCKSET TO BE KEYED TO MATCH EXISTING DOOR. (VERIFY MASONRY OPENING IN FIELD.)
- ⑪ NEW HEATER AND WALL BRACKET. SEE SHEET E-501.
- ⑫ NEW INTAKE LOUVER & FRAME. SHIM & CAULK FRAME CONTINUOUS ALL SIDES.
- ⑬ 2" SCH 80 PVC END CAP (SW)
- ⑭ POLYMER TANK
- ⑮ POLYMER BLENDING & INJECTION SYSTEM W/MOUNTING SHELF.
- ⑯ 50 L.F. OF 1" PVC BRAIDED HOSE WITH 1" MALE CAM-LOCK ADAPTER ON INLET END AND 1" FEMALE CAM-LOCK COUPLING ON DISCHARGE END. PROVIDE S.S. SUPPORT HOOK FOR EXCESS HOSE.
- ⑰ 1" MNPT S.S. POLYMER INJECTION QUILL W/1" SS CHECK VALVE. SEE SHEET C504.
- ⑱ 4" SCH 80 CLEAR PVC FLOCCULATOR (STATIC MIXER). SEE SHEET C504.
- ⑲ 2" SCH 80 PVC FLOC SAMPLE PORT W/2" SCH 80 PVC BALL VALVE. SEE SHEET C-504.
- ⑳ NEW SS FLOOR DRAIN STRAINER (VERIFY SIZE IN FIELD)
- ㉑ CONNECT TO EXISTING 1" WATER SUPPLY. SEE DETAIL 4/C504.
- ㉒ 1" TYPE "L" Cu. (TYP.)
- ㉓ 1" BACKFLOW PREVENTER. SEE DETAIL 4/C504.
- ㉔ HOSE BIBB. SEE DETAIL 4/C504.
- ㉕ 1" TYPE "L" Cu. FIELD ROUTE ALONG CEILING & OVER DOOR OPENING TO CONNECT TO EXISTING 1" PEX WATER PIPING AT FLOOR PENETRATION WITH BRASS ADAPTER (PEXxCu.)
- ㉖ 1" BRASS BALL VALVE. PROVIDE 1" MALE CAM-LOCK ADAPTER ON OUTLET SIDE.
- ㉗ 1" PVC BRAIDED HOSE WITH 1" FEMALE CAM-LOCK COUPLING ON INLET END AND 1" MALE CAM-LOCK ADAPTER ON DISCHARGE END.
- ㉘ UNION. PROVIDE PVC FLOOR SLEEVE FOR 1" TYPE "K" Cu.
- ㉙ 1" TYPE "K" Cu. MAINTAIN 12" MIN. CLEARANCE BELOW CONCRETE FOOTING.
- ㉚ 1-1" TRANSITION COUPLING. CONNECT TO 1" PE TUBING
- ㉛ FLOOR-MOUNT SS DAVIT CRANE SOCKET. SEE SECTION 412223.16.

DEMOLITION NOTES

1. CONTRACTOR SHALL VERIFY ALL DEMOLITION DIMENSIONS SHOWN PRIOR TO COMMENCING DEMOLITION.
2. SEE SECTION 024119

MECHANICAL NOTES

1. ALL HANGERS, BRACKETS OR BRACES FOR EQUIPMENT AND PIPING ARE NOT INDICATED ON THE DRAWINGS. REFER TO THE SPECIFICATIONS FOR SUPPORT REQUIREMENTS NOT SHOWN ON THE PLANS.
2. ALL EQUIPMENT AND PIPING SHALL BE ROUTED TO AVOID INTERFERENCES WITH STRUCTURES, OTHER PIPING, EQUIPMENT AND CONDUIT. UNLESS SPECIFICALLY DIMENSIONED, THE PIPE ROUTING SHOWN IS INTENDED TO INDICATE GENERAL LOCATION ONLY.
3. ALL RELIEF VALVES SHALL BE PIPED TO FLOOR OR BELLUP DRAINS.
4. ALL HYDRANTS AND OTHER OUTLETS ON NON-POTABLE WATER LINES WHICH COULD BE USED FOR DRINKING OR DOMESTIC USE SHALL BE POSTED AS REQUIRED BY THE APPLICABLE CODES. IN ABSENCE OF A CODE REQUIREMENT, THE OUTLETS SHALL BE POSTED WITH A TAG IN THE SHAPE OF A 4" EQUILATERAL TRIANGLE BEARING THE LEGEND "DANGER: UNSAFE WATER" IN LETTERS NOT LESS THAN 1/2" IN HEIGHT. THE TAG SHALL BE PAINTED ORANGE AND THE LETTERS BLACK. WRAP ALL BURIED DIP PIPE, VALVES AND FITTINGS WITH 8 MIL POLYETHYLENE. FILL ANNULAR SPACE OF PVC FLOOR SLEEVES W/SILICONE SEALANT (TYP.)



01-06-2023
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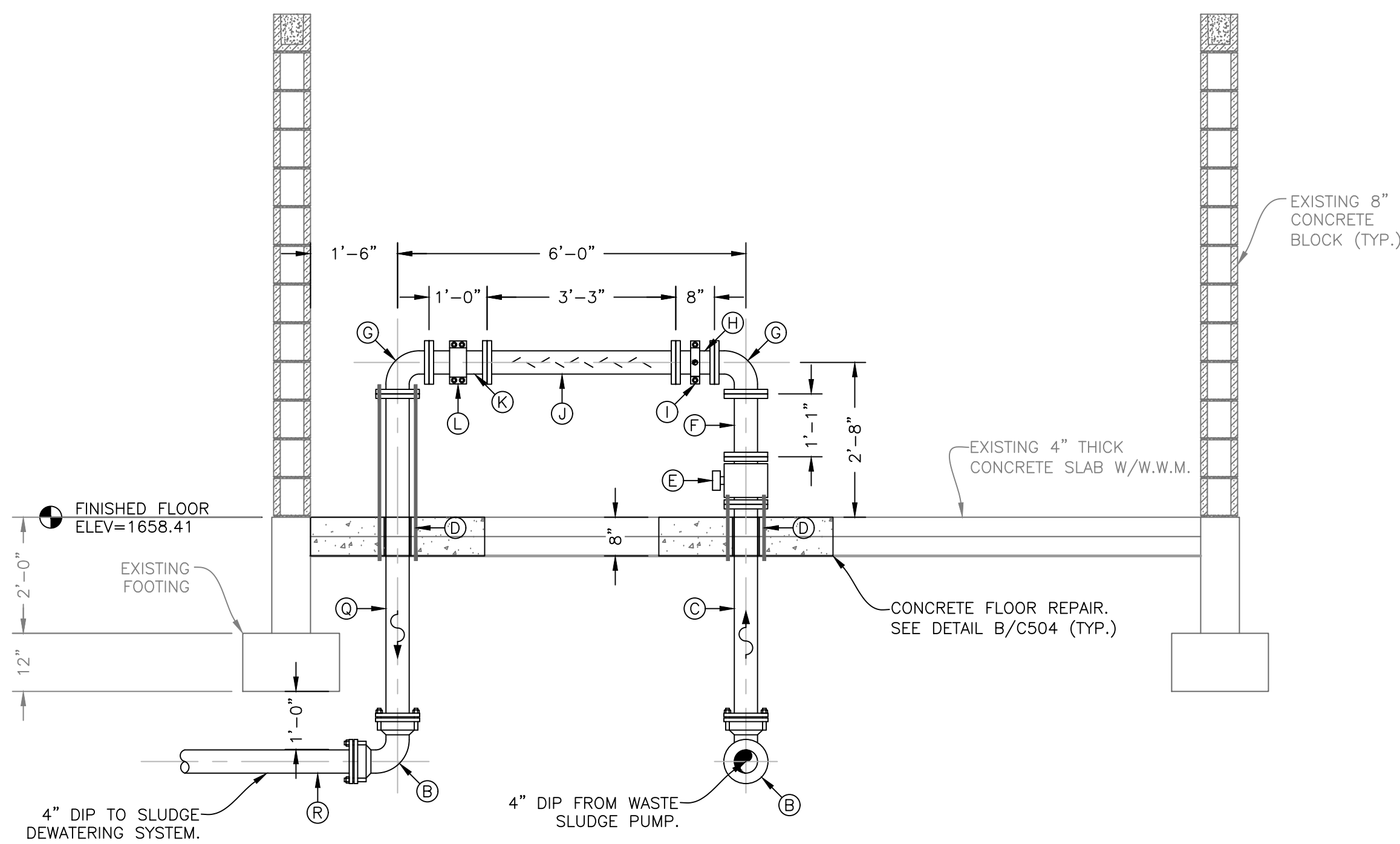
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DESIGNED BY: TEH

SHEET TITLE:
SLUDGE DEWATERING
BUILDING -
SECTIONS & DETAILS

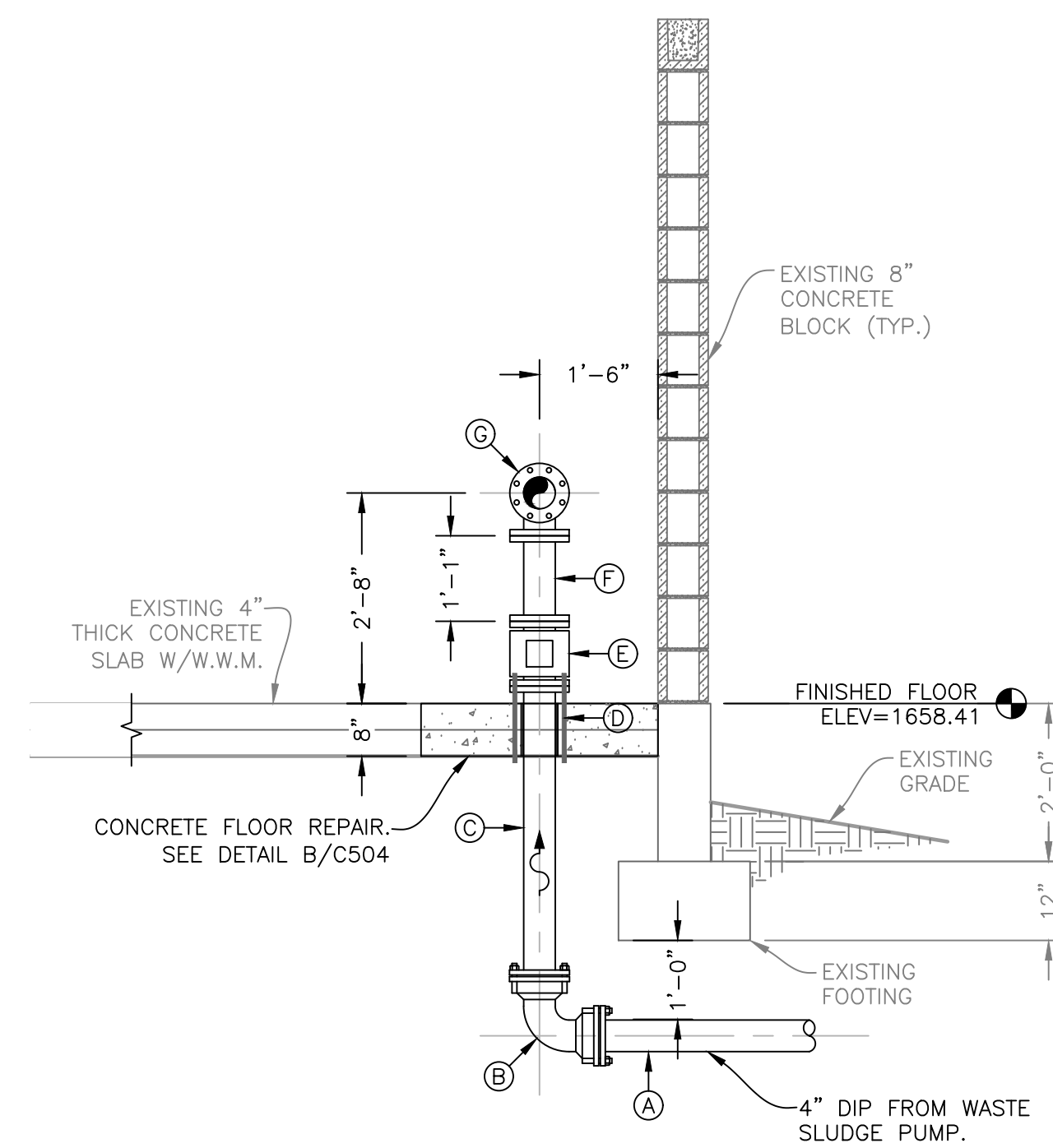
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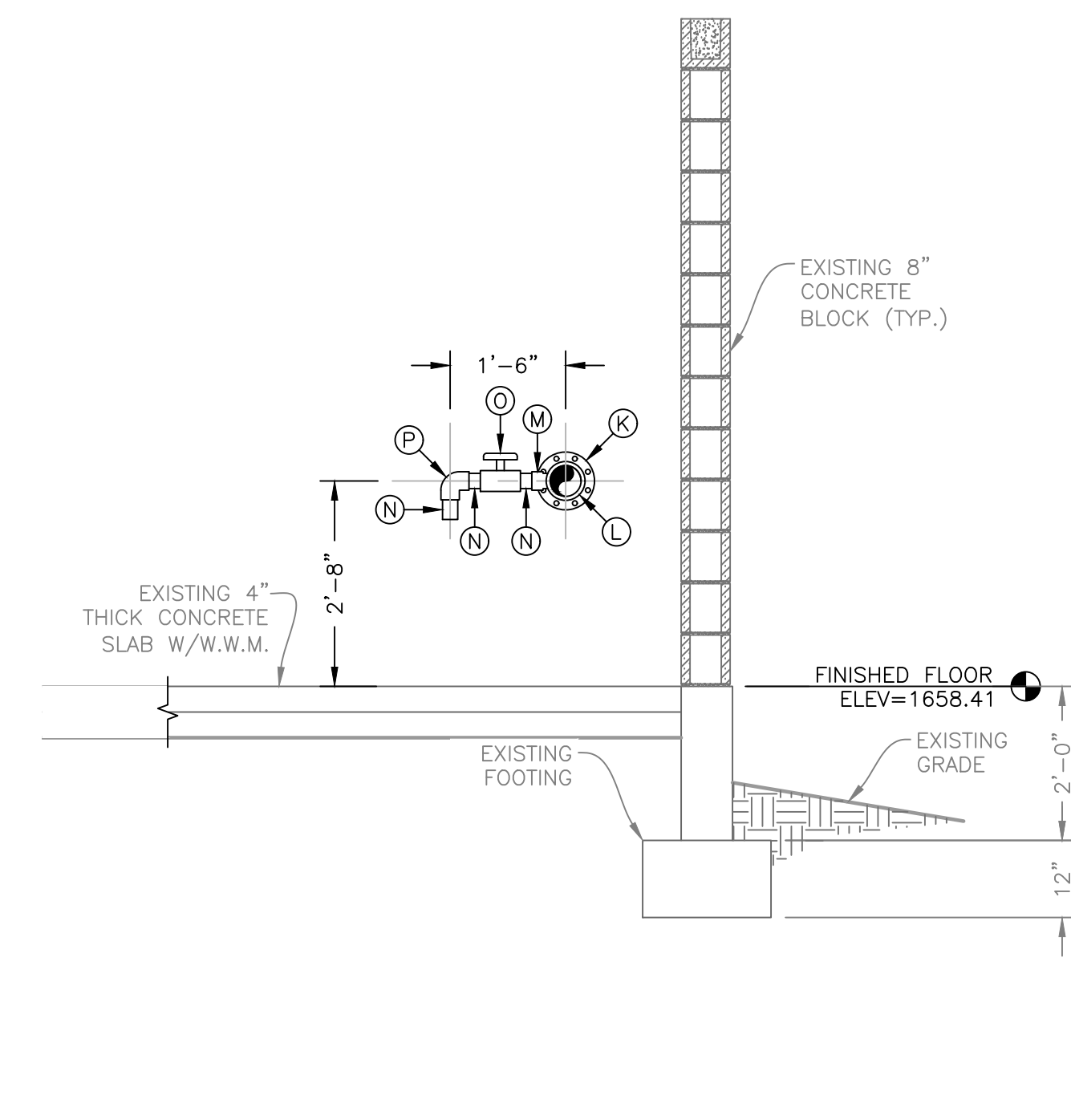
14 OF 22 SHEETS
01-06-2023



BUILDING SECTION 1
SCALE: 1/2" = 1'-0"
C504



BUILDING SECTION 2
SCALE: 1/2" = 1'-0"
C504

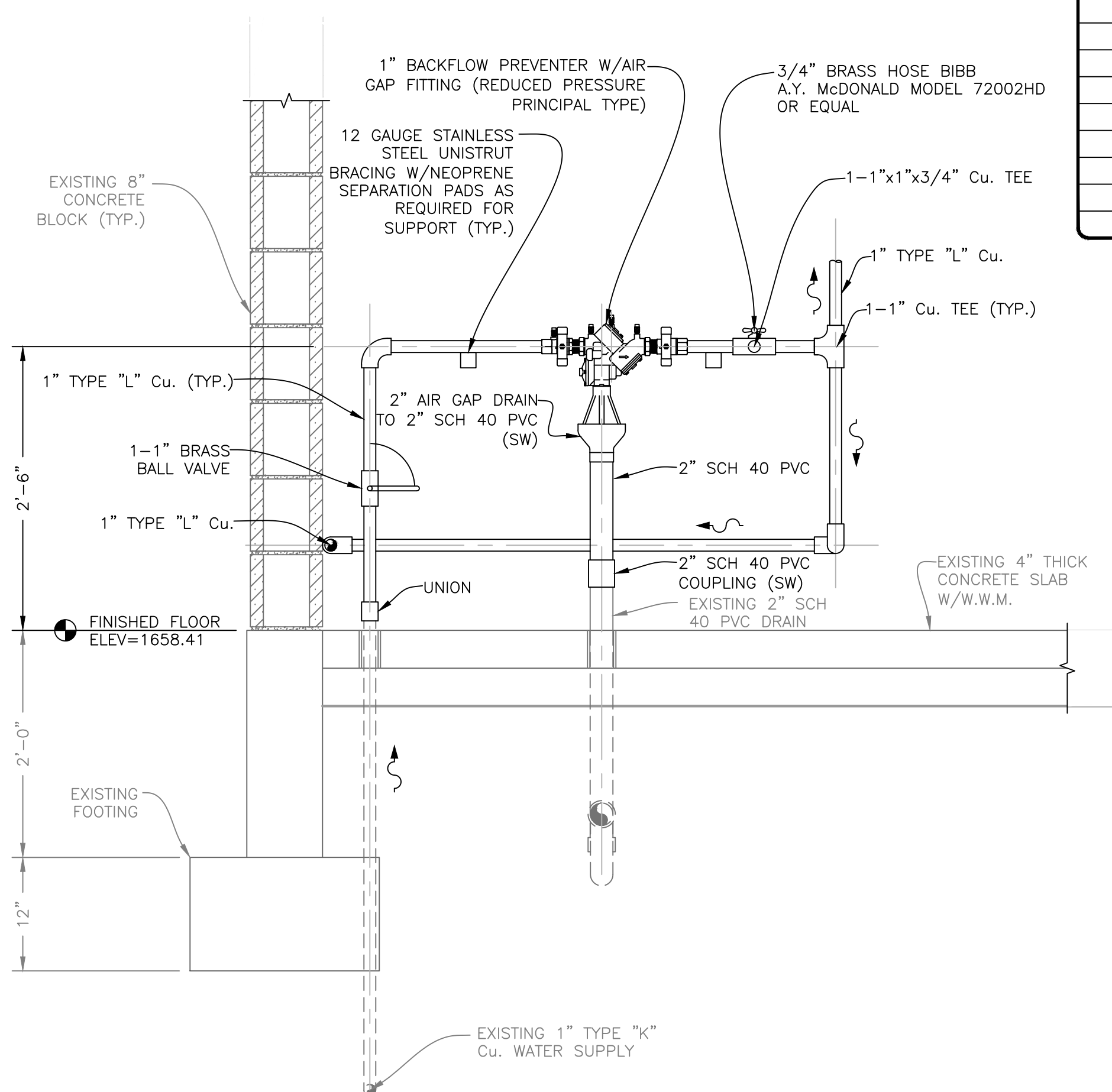


BUILDING SECTION 3
SCALE: 1/2" = 1'-0"
C504

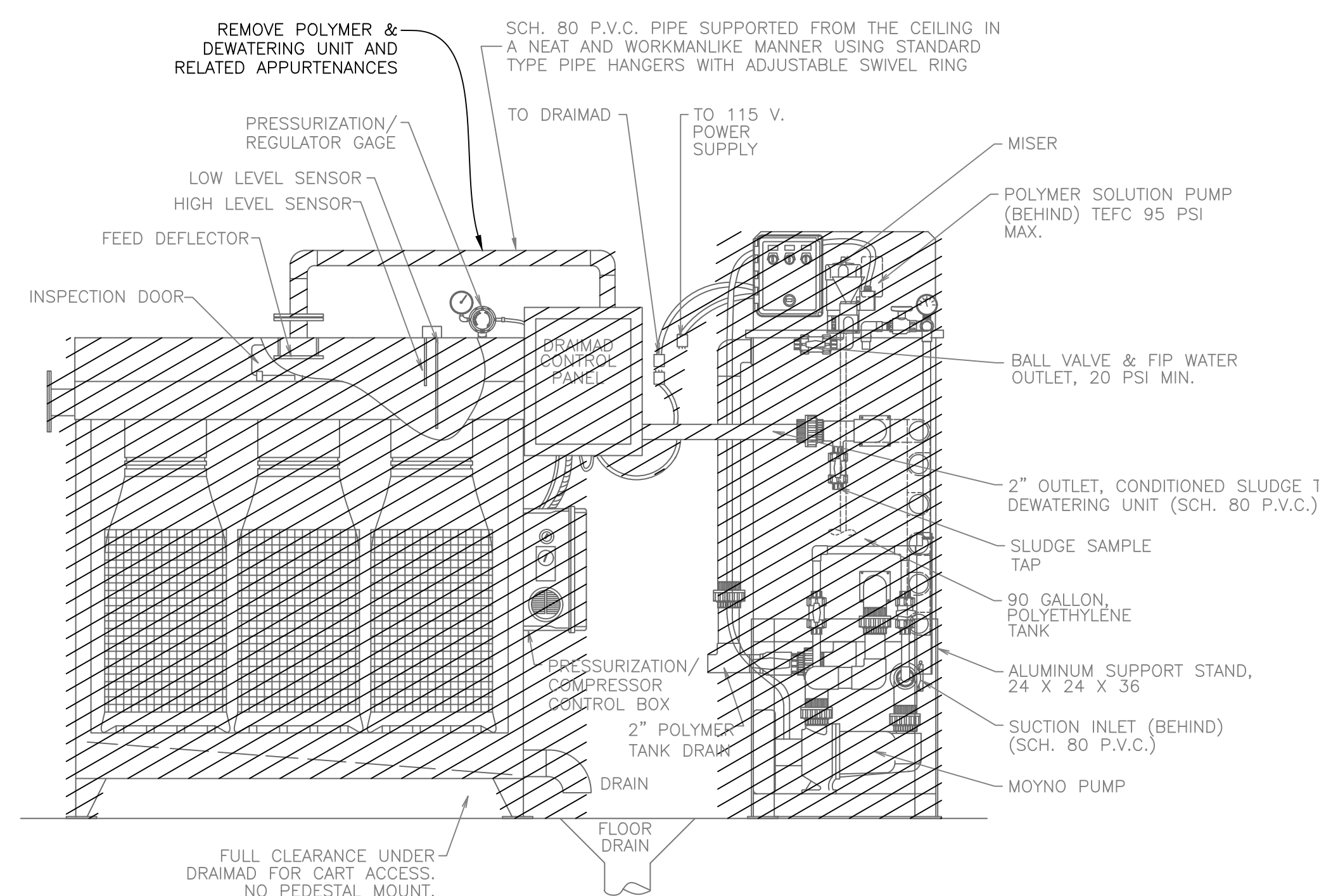
VALVE & PIPING SCHEDULE			
MARK	SIZE	ITEM	REMARKS
(A)	4"x* LG.	DIP SPOOL	PE x PE (*-COORDINATE LENGTH WITH WALL PIPE FOR WASTE SLUDGE PUMP DISCHARGE PIPING)
(B)	4"	90° DIP BEND	MJ W/MECHANICAL JOINT RESTRAINT EQUAL TO MEGALUG. PROVIDE CONCRETE THRUST BLOCK PER DETAIL E/C508
(C)	4"x* LG.	DIP SPOOL	FLG.xPE. (*-COORDINATE LENGTH WITH WASTE SLUDGE PUMP DISCHARGE PIPING & FOOTING)
(D)	5/8"	SS THREADED TIE ROD	TWO REQUIRED, SEE DETAIL B/C504
(E)	4"	MAGMETER SENSOR	FLG., LOCATE WITH 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM OF STRAIGHT RUN
(F)	4"x13" LG.	DIP SPOOL	FLG.
(G)	4"	90° DIP BEND	FLG.
(H)	4"x8" LG.	DIP SPOOL	FLG.
(I)	1"	SADDLE TAP/INJECTION QUILL	ON 4" D.I.P., SADDLE TAP EQUAL TO FORD STYLE FC101, 1" SS INJECTION QUILL W/BUILT-IN CHECK VALVE & 1" CAM-LOCK ADAPTER
(J)	4"	FLOCCULATOR (STATIC MIXER)	CLEAR SCH 80 PVC WITH SCH 80 PVC FLG.
(K)	4"x12" LG.	DIP SPOOL	FLG.
(L)	2"	SADDLE TAP	ON 4" D.I.P., SADDLE TAP EQUAL TO FORD STYLE FC202
(M)	2"	SCH 80 PVC MALE ADAPTER	SOCKET x MIPT
(N)	2"	SCH 80 PVC	NIPPLE
(O)	2"	SCH 80 PVC BALL VALVE	SW
(P)	2"	SCH 80 PVC 90° BEND	SW
(Q)	4"x* LG.	DIP SPOOL	CL. 53, FLG.xPE. (*-COORDINATE LENGTH TO CLEAR FOOTING)
(R)	4"x8'-0" LG.	DIP SPOOL	PE x PE

MECHANICAL NOTES

- ALL HANGERS, BRACKETS OR BRACES FOR EQUIPMENT AND PIPING ARE NOT INDICATED ON THE DRAWINGS. REFER TO THE SPECIFICATIONS FOR SUPPORT REQUIREMENTS NOT SHOWN ON THE PLANS.
- ALL EQUIPMENT AND PIPING SHALL BE ROUTED TO AVOID INTERFERENCES WITH STRUCTURES, OTHER PIPING, EQUIPMENT AND CONDUIT. UNLESS SPECIFICALLY DIMENSIONED, THE PIPE ROUTING SHOWN IS INTENDED TO INDICATE GENERAL LOCATION ONLY.
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- WRAP ALL BURIED DIP PIPE, VALVES AND FITTINGS WITH 8 MIL POLYETHYLENE.
- FILL ANNULAR SPACE OF PVC FLOOR SLEEVES W/SILICONE SEALANT (TYP.)

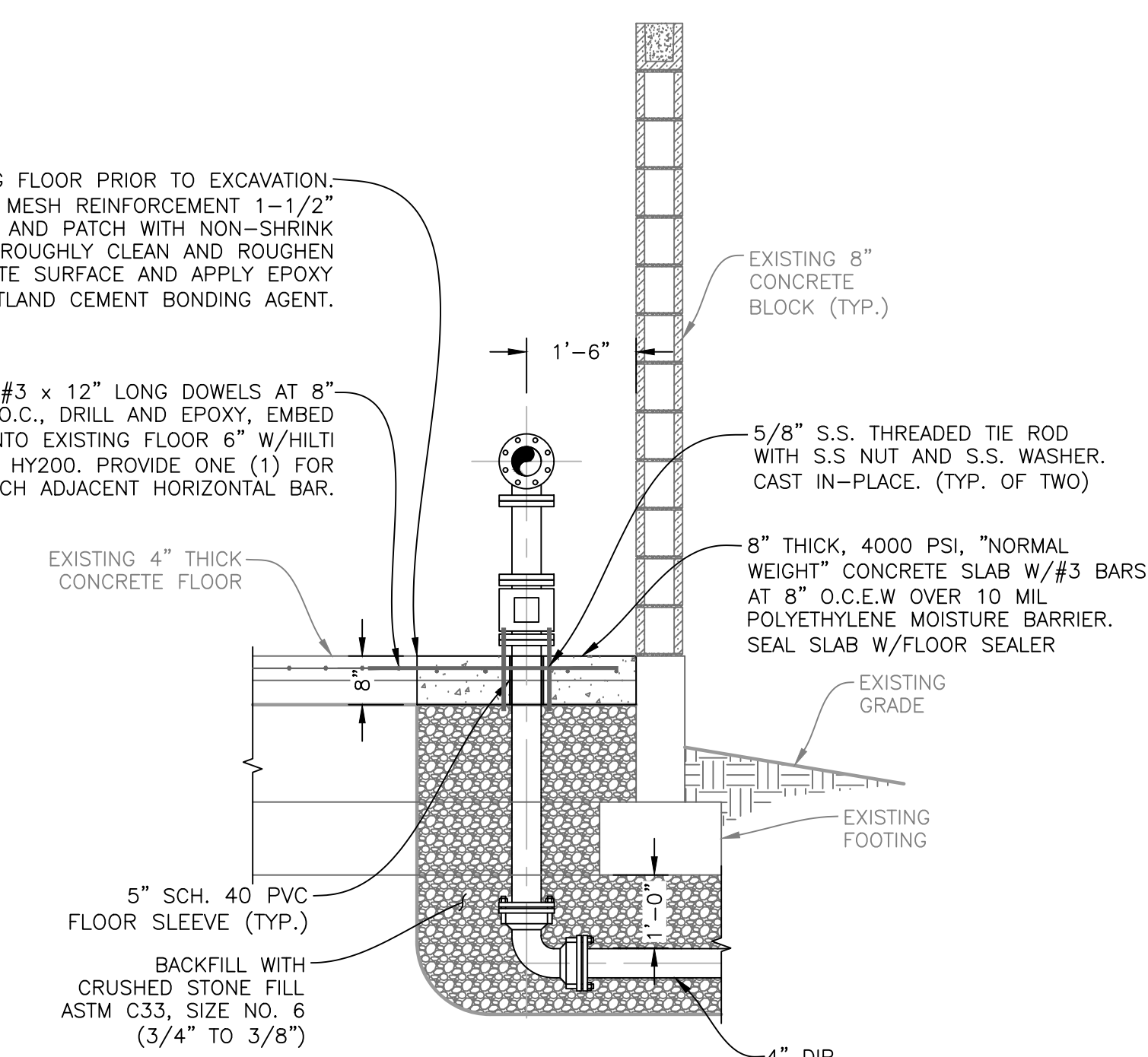


PLUMBING SECTION 4
SCALE: 1" = 1'-0"
C504



POLYMER & DEWATERING UNIT A
SCALE: 3/4" = 1'-0"
C504

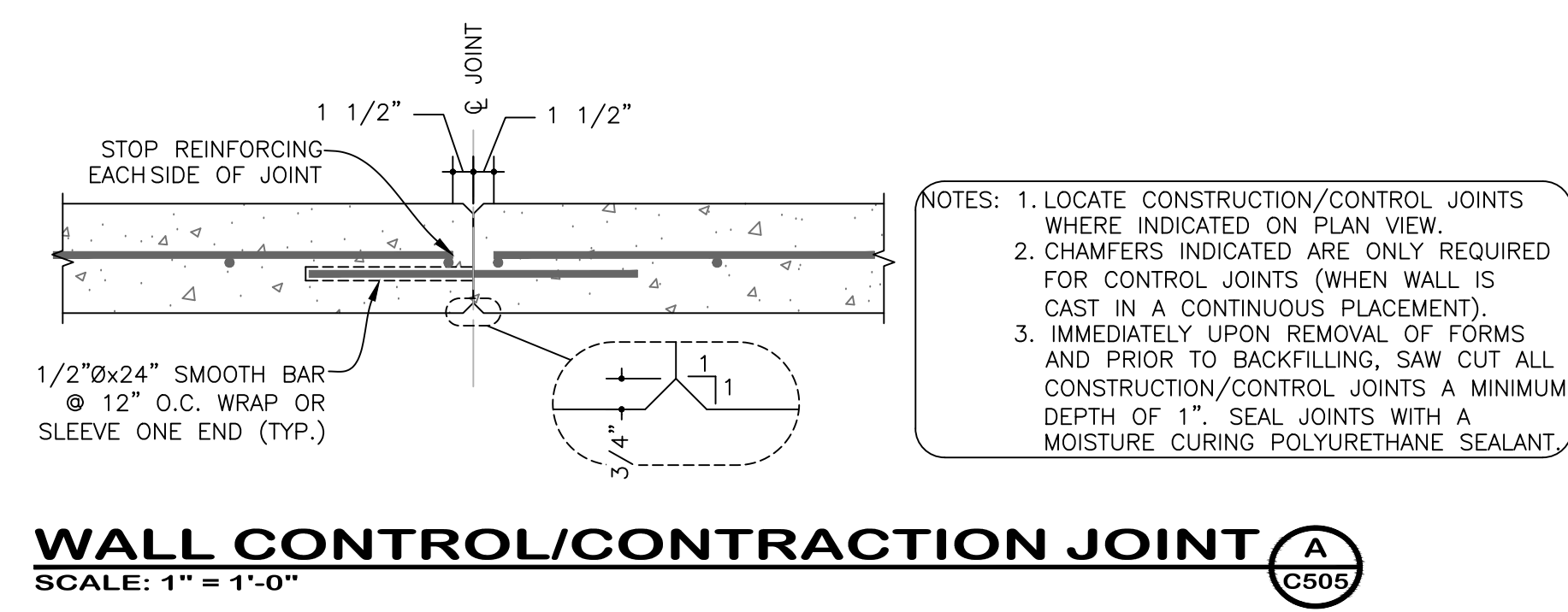
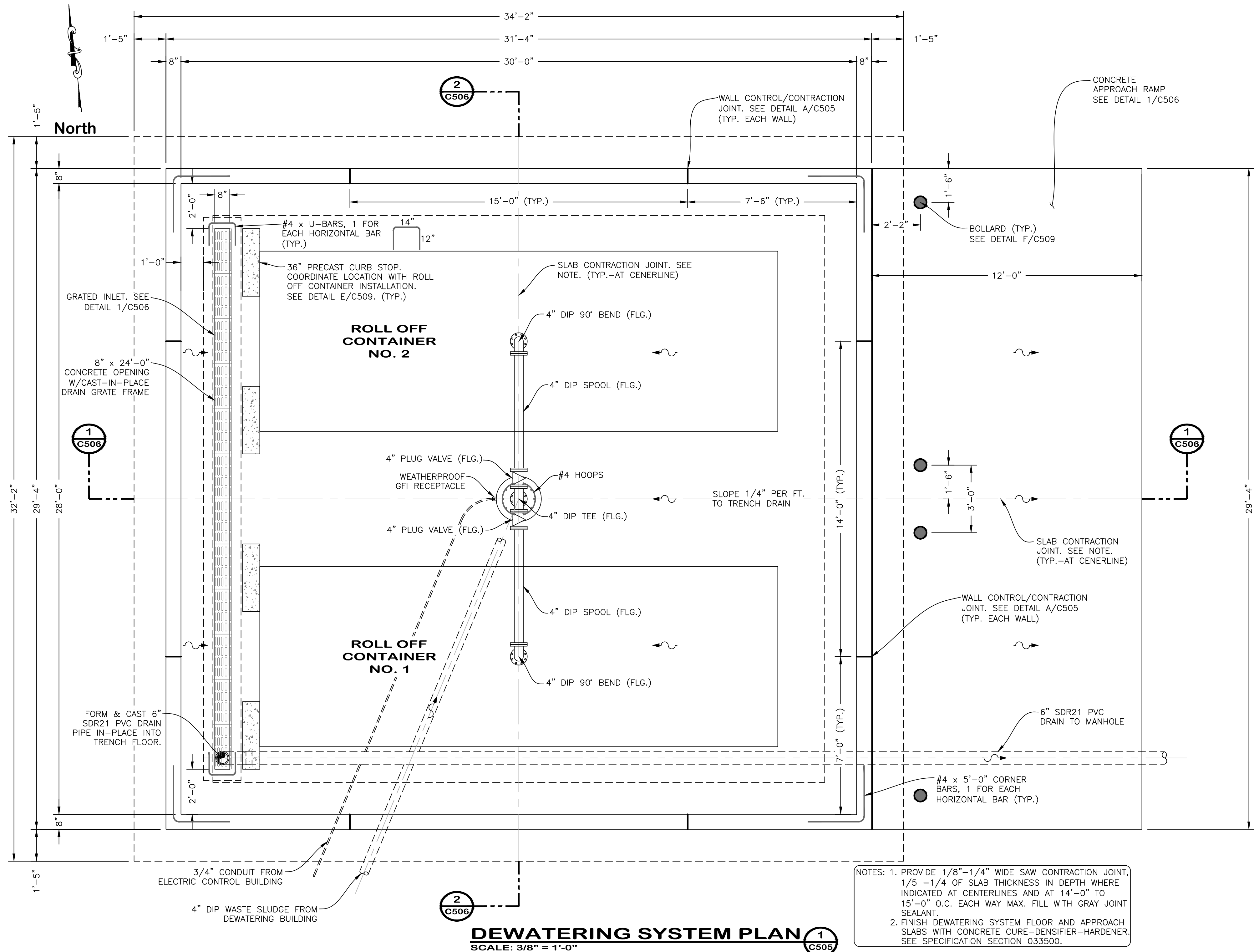
SAW CUT EXISTING FLOOR PRIOR TO EXCAVATION. GRIND EXPOSED MESH REINFORCEMENT 1-1/2" BELOW SURFACE AND PATCH WITH NON-SHRINK GROUT. THOROUGHLY CLEAN AND ROUGHEN EXISTING CONCRETE SURFACE AND APPLY EPOXY RESIN/PORTLAND CEMENT BONDING AGENT.



FLOOR REPAIR DETAIL B
SCALE: 1/2" = 1'-0"
C504

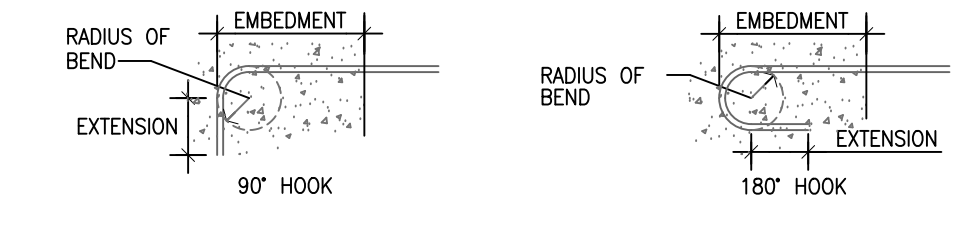


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HOOKED DOWEL DEVELOPMENT LENGTHS IN TENSION (INCHES)

BAR SIZE	EMBEDMENT 4000 PSI CONCRETE	EXTENSION		MINIMUM RADIUS OF BEND (INCHES)
		90° HOOK	180° HOOK	
#4	9	6	2.5	2.00
#5	12	7.5	2.5	2.50
#6	14	9.0	3.0	3.00



LAP SPlice LENGTHS (INCHES)

BAR SIZE	TENSION (CLASS B SPLICE)			COMPRESSION
	OTHER BARS		TOP BARS	
	4000 PSI CONCRETE	4000 PSI CONCRETE	4000 PSI CONCRETE	
#4	25	32	15	15
#5	31	40	19	19
#6	37	48	23	23

NOTES:
1. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
2. LAP SPlice LENGTHS ARE BASED ON BARS SPACED AT (2) BAR DIAMETERS OR MORE ON CENTER W/ (1) BAR DIAMETER MINIMUM OF CONCRETE COVER. NOTIFY ENGINEER IF SPACING IS LESS THAN (2) BAR DIAMETERS.

STRAIGHT DOWEL DEVELOPMENT LENGTHS (INCHES)

BAR SIZE	TENSION		COMPRESSION
	OTHER BARS		
	4000 PSI CONCRETE	4000 PSI CONCRETE	
#4	19	25	8
#5	24	31	12
#6	29	37	15

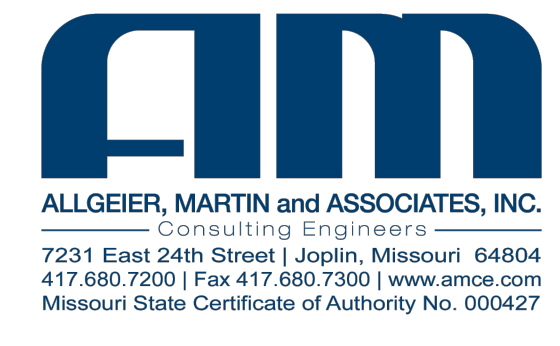
NOTES:
1. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
2. DEVELOPMENT LENGTHS ARE BASED ON BARS SPACED AT (2) BAR DIAMETERS OR MORE ON CENTER W/ (1) BAR DIAMETER MINIMUM OF CONCRETE COVER. NOTIFY ENGINEER IF SPACING IS LESS THAN (2) BAR DIAMETERS.

NOTES

- ALL METAL SUPPORT ANGLES, CONCRETE ANCHORS AND FASTENERS SHALL BE AISI TYPE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.
- INSTALL ALL THREADED ADHESIVE ANCHORS USING INJECTABLE ADHESIVE EQUAL TO HILTI HY200 PER MANUFACTURER'S INSTRUCTIONS.
- COAT ALL STAINLESS STEEL BOLT AND NUT THREADS WITH A STAINLESS STEEL GRADE NICKEL ANTI-SEIZE LUBRICANT EQUAL TO PERMATAX NO. 771 PRIOR TO ASSEMBLY.
- FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

CONCRETE NOTES

- 6" CRUSHED STONE FILL REQUIRED UNDER CONCRETE SLABS IN CONTACT WITH EARTH.
- 2"x4" KEYWAY AND WATERSTOP REQUIRED AT INDICATED CONSTRUCTION JOINTS.
- 3" MIN. COVER FOR REBARS IN CONCRETE CAST AGAINST EARTH OR AGGREGATE.
- 2" MIN. COVER FOR REBARS IN CONCRETE EXPOSED TO WEATHER, WASTE STREAM FLUIDS, OR CAST AGAINST FORMS.
- ALL BAR SPLICES SHALL CONFORM TO ACI 318.
- ALL SPLICES SHALL BE STAGGERED.
- CONTINUOUS CHAIRS AT 4" MAXIMUM SPACING SHALL BE USED TO OBTAIN PROPER CLEARANCE.
- CONTINUOUS WALL REINFORCING SHALL EXTEND THROUGH CORNERS FOR FULL OVERLAP.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 45° 3/4" CHAMFER.
- REPAIR ALL CRACKS IN NEW CONCRETE WORK BY EPOXY INJECTION PER ACI RAP-1 PROCEDURES.
- ALL CONCRETE SHALL BE 4000 PSI, "NORMAL WEIGHT" PER SECTION 033000 PART 2.02 C.



**OFFICE OF ADMINISTRATION
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**DEPARTMENT OF
CORRECTIONS**

**REPLACE SEWER LINES
& INFRASTRUCTURE**

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
FORDLAND, MISSOURI

PROJECT # C1907-01
SITE # 7003
FACILITY # 9327003081

REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
REVISION: _____
DATE: _____
ISSUE DATE: 01-06-2023

CAD DWG FILE: C-505.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**SLUDGE DEWATERING
SYSTEM
PLAN**

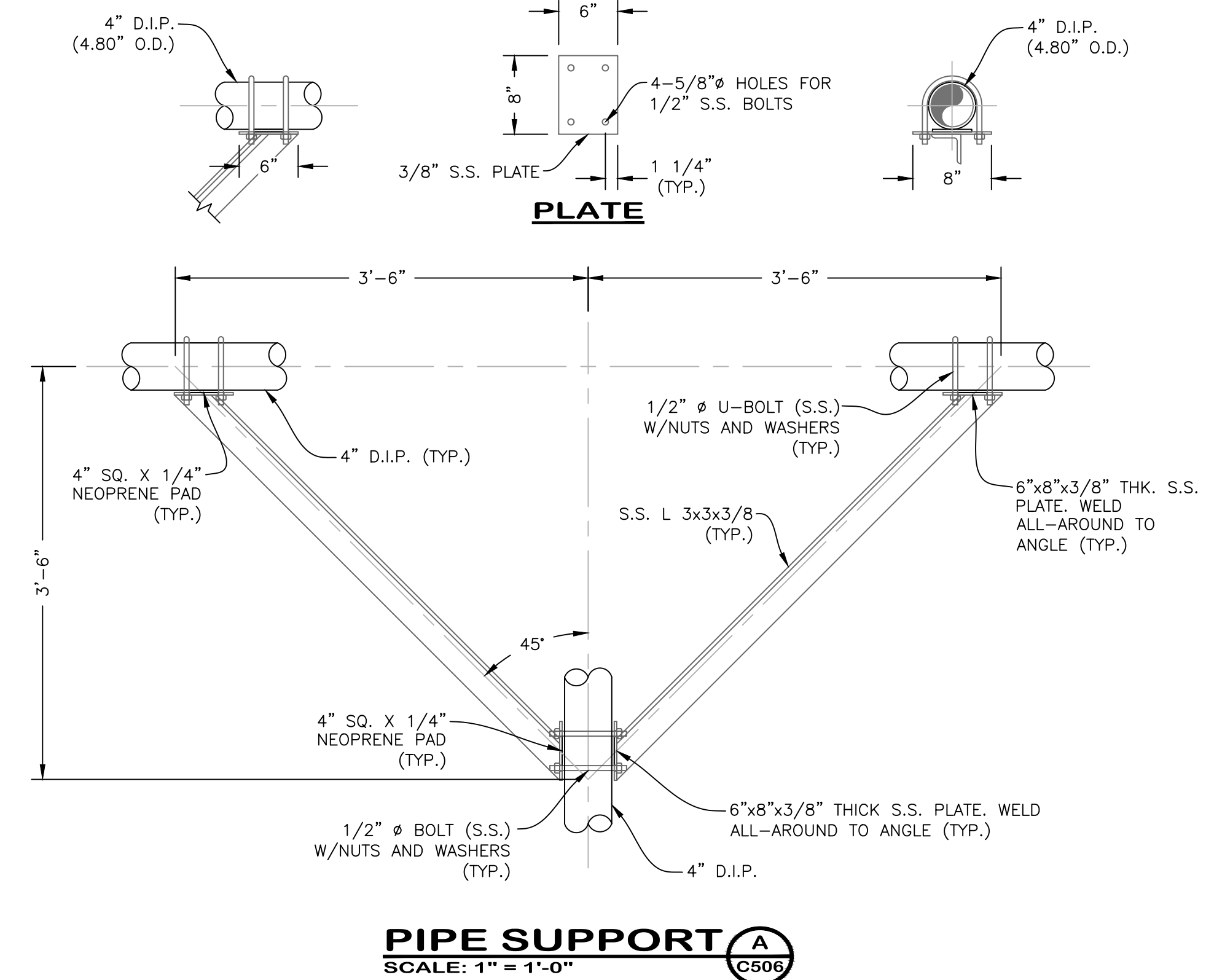
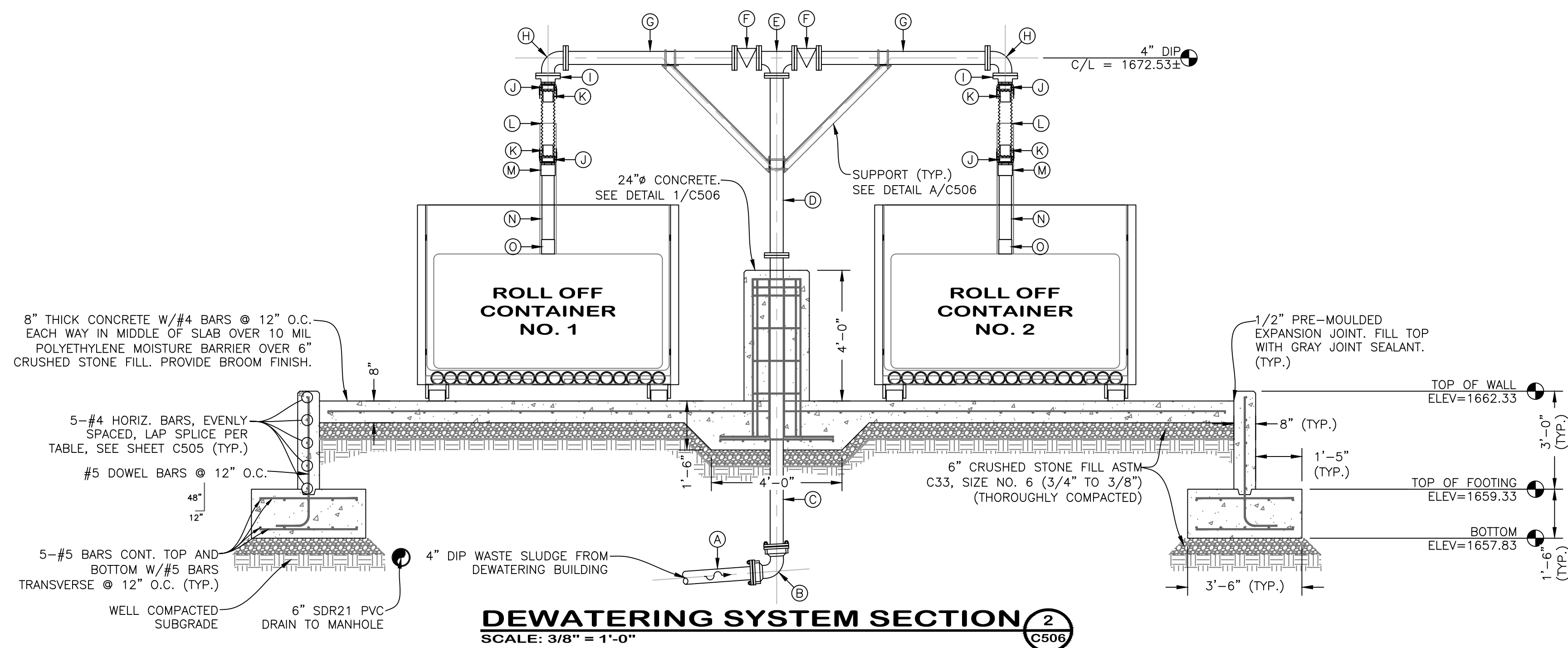
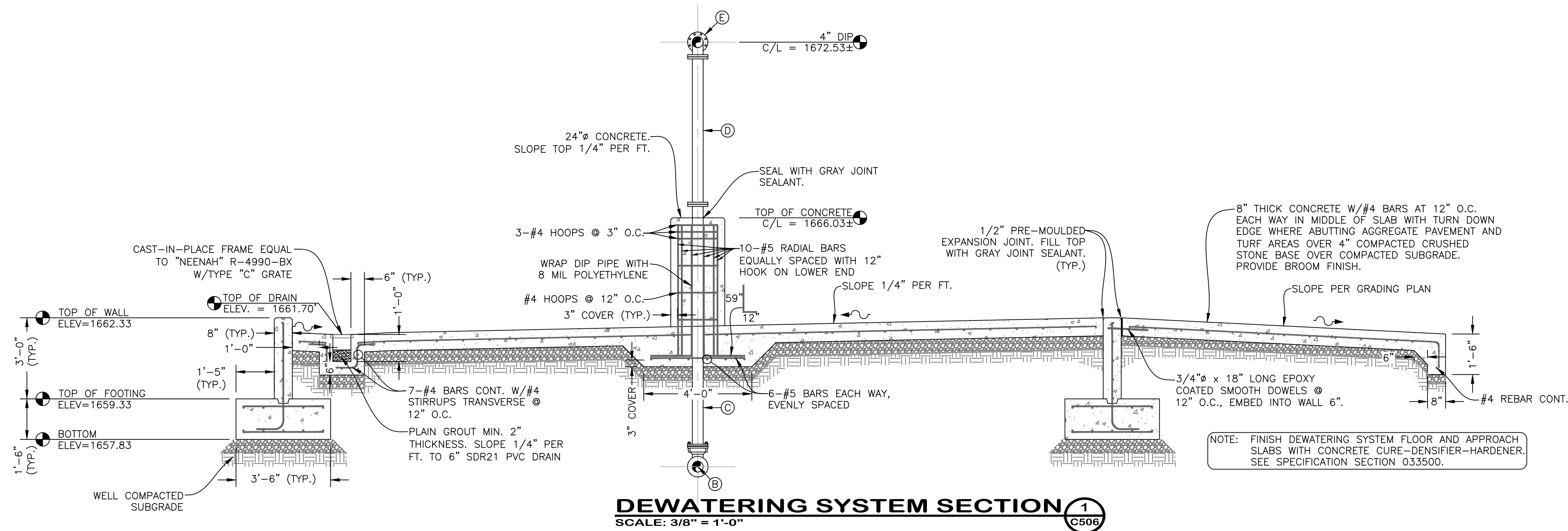
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C-505

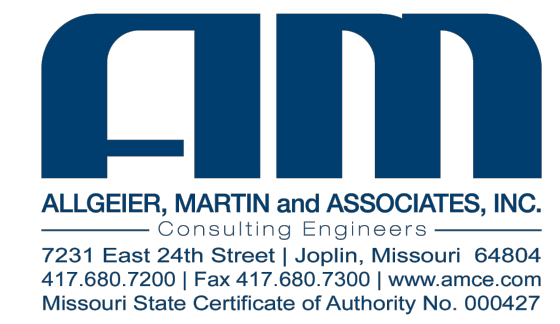
15 OF 22 SHEETS
01-06-2023



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



VALVE & PIPING SCHEDULE			
MARK	SIZE	ITEM	REMARKS
(A)	4"x* LG.	DIP	BELL x PE (*-COORDINATE LENGTH WITH WASTE SLUDGE PIPING)
(B)	4"	90° DIP BEND	MJ W/MECHANICAL JOINT RESTRAINT EQUAL TO MEGALUG. PROVIDE CONCRETE THRUST BLOCK PER DETAIL E/C508
(C)	4"x9'-2" LG.	DIP SPOOL	FLG.xPE.
(D)	4"x5'-6" LG.	DIP SPOOL	FLG.
(E)	4"	DIP TEE	FLG.
(F)	4"	PLUG VALVE	FLG. W/MECHANICAL ACTUATOR WITH CHAINWHEEL & S.S. CHAIN. SEE SECTION 330529
(G)	4"x5'-2" LG.	DIP SPOOL	FLG.
(H)	4"	90° DIP BEND	FLG.
(I)	4"	SCH 80 PVC SR FLANGE	FLG. x SR FIPT, ONE-PIECE
(J)	4"	CAMLOCK ADAPTER	TYPE "F" POLYPROPYLENE CAM AND GROOVE MALE ADAPTER X MIPT
(K)	4"	CAMLOCK COUPLING	TYPE "C" POLYPROPYLENE CAM AND GROOVE FEMALE COUPLER X HOSE SHANK
(L)	4"x* LG.	4" PVC LAY FLAT HOSE	(*COORDINATE LENGTH WITH DEWATERING SYSTEM BAG FILL-PORT & ROLL-OFF CONTAINER INSTALLATION)
(M)	4"	SCH 80 PVC FEMALE ADAPTER	SOCKET x SR FIPT
(N)	4"x* LG.	SCH 80 PVC	NIPPLE (*COORDINATE LENGTH WITH DEWATERING SYSTEM BAG FILL-PORT & ROLL-OFF CONTAINER INSTALLATION)
(O)	4"	SCH 80 PVC COUPLING	SOCKET x SOCKET



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ISSUE DATE: 01-06-2023

CAD DWG FILE: C-506.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**SLUDGE DEWATERING
SYSTEM
SECTIONS & DETAILS**

SHEET NUMBER:

C-506

16 OF 22 SHEETS
01-06-2023



01-06-2023

Thomas E. Hancock, MO Engineer No. E-30067



ALLGEIER, MARTIN and ASSOCIATES, INC.
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7231 East 24th Street | Joplin, Missouri 64804
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CAD DWG FILE: C-507.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

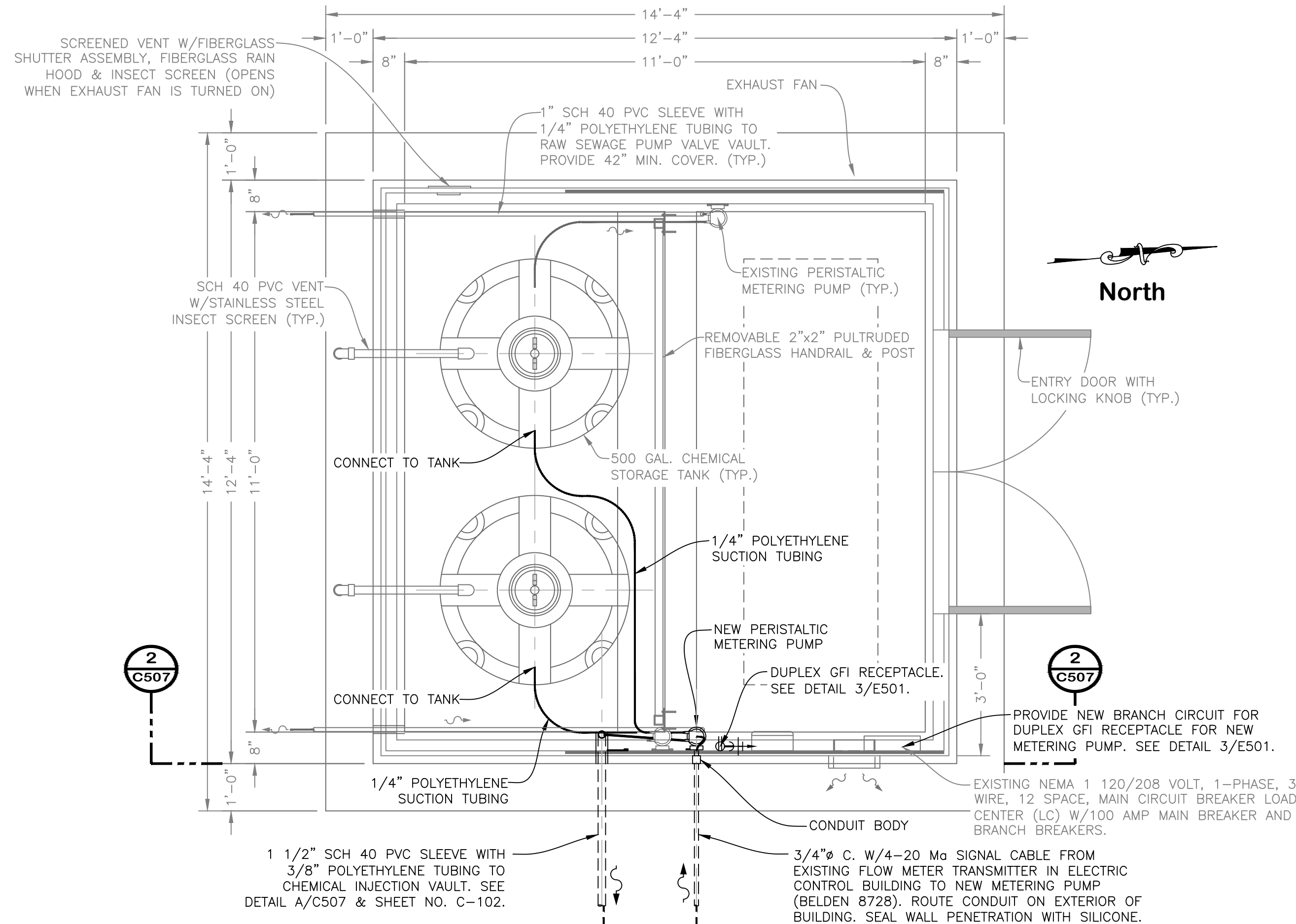
SHEET TITLE:
**CHEMICAL FEED
SYSTEM MODIFICATIONS
& DETAILS**

SHEET NUMBER:

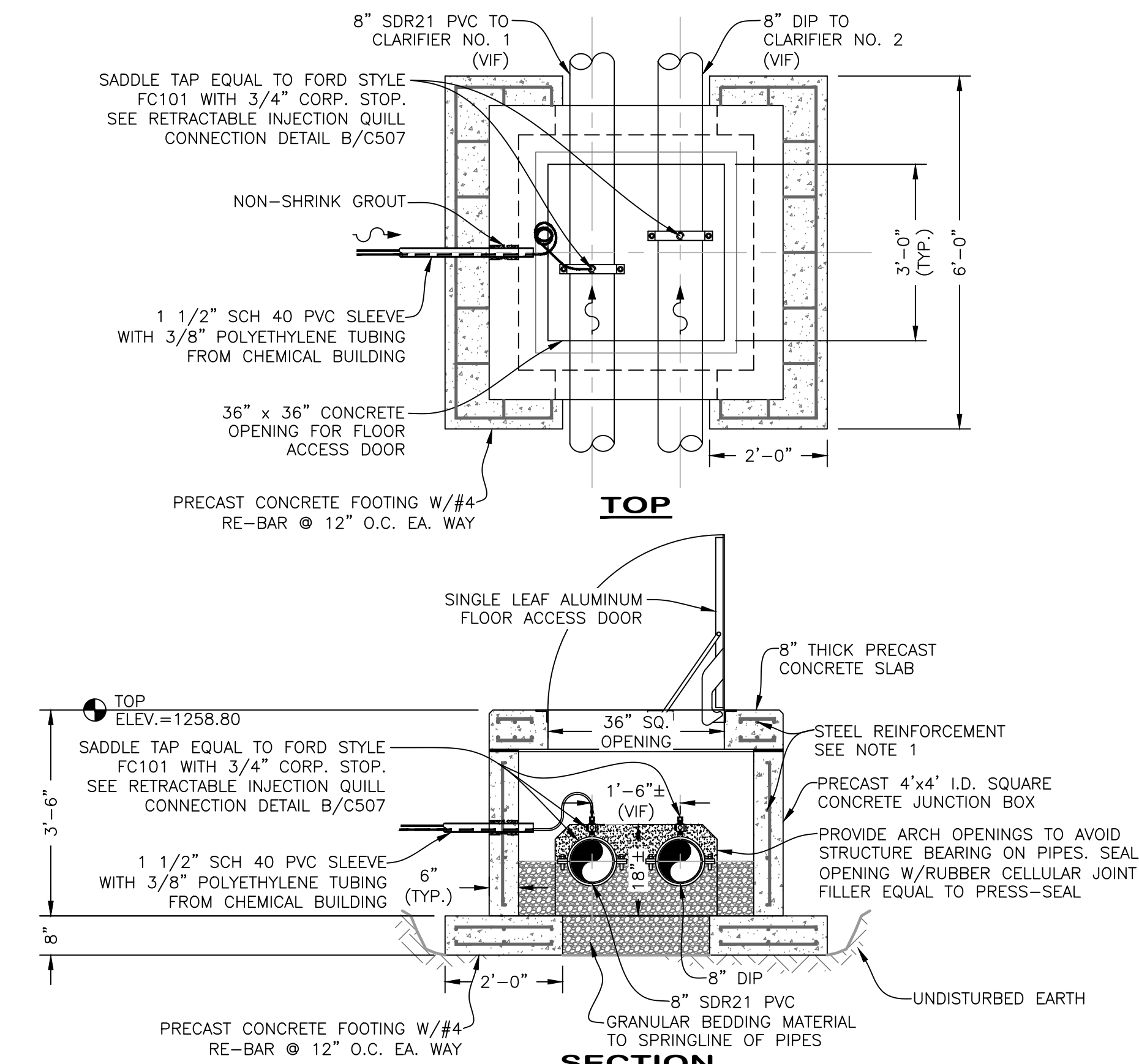
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17 OF 22 SHEETS
01-06-2023

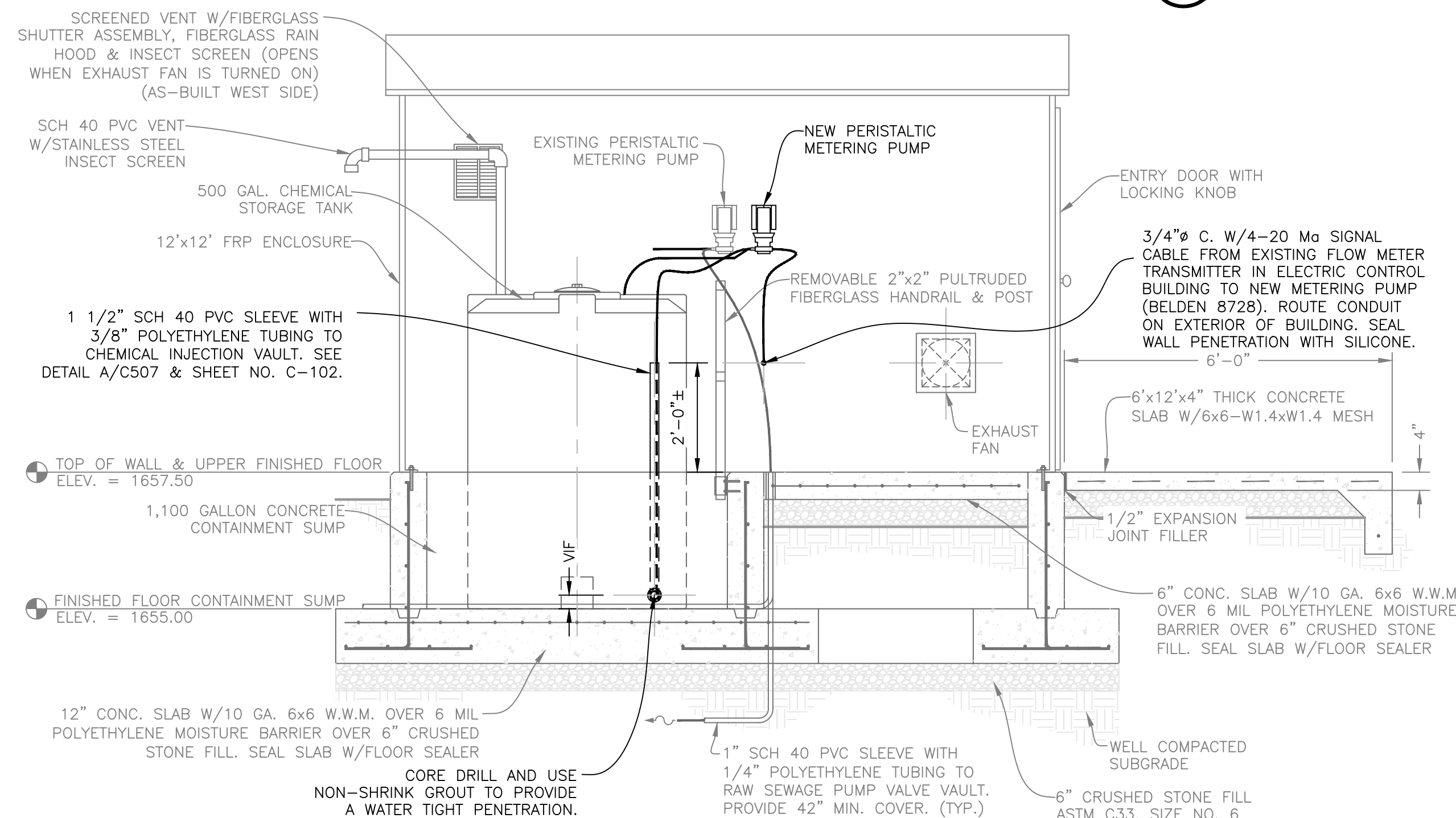
- NOTES:
1. STRUCTURAL DESIGN AND STEEL REINFORCEMENT IN ACCORDANCE WITH ASTM C890 SHALL BE PROVIDED BY PRECASTER.
 2. VERIFY IN FIELD (VIF) EXISTING HORIZONTAL AND VERTICAL LOCATION OF 8" DIP PIPING PRIOR TO FABRICATION.
 3. PROVIDE DIAGONAL BARS ON FOURS SIDES OF MANWAY OPENING.
 4. AN ALKALI RESISTANT BITUMASTIC COATING SHALL BE APPLIED TO THE FRAME EXTERIOR WHERE IT WILL COME IN CONTACT WITH CONCRETE
 5. ALL JOINTS, ADJUSTMENT RINGS, & TOP SLAB SHALL BE SET ON JOINT SEALER EQUAL TO CONSEAL BUTYL RUBBER SEALANT.
 6. REPAIR ALL LIFTING HOLES & PENETRATIONS WITH NON-SHRINK GROUT.
 7. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.
 8. EXTERIOR SHALL BE WATERPROOFED.
 9. PROVIDE ONE S.S. HOOK FOR SUFFICIENT EXCESS TUBE TO FACILITATE THE RELOCATION OF RETRACTABLE INJECTION QUILL TO CLARIFIER NO. 2 PIPING.



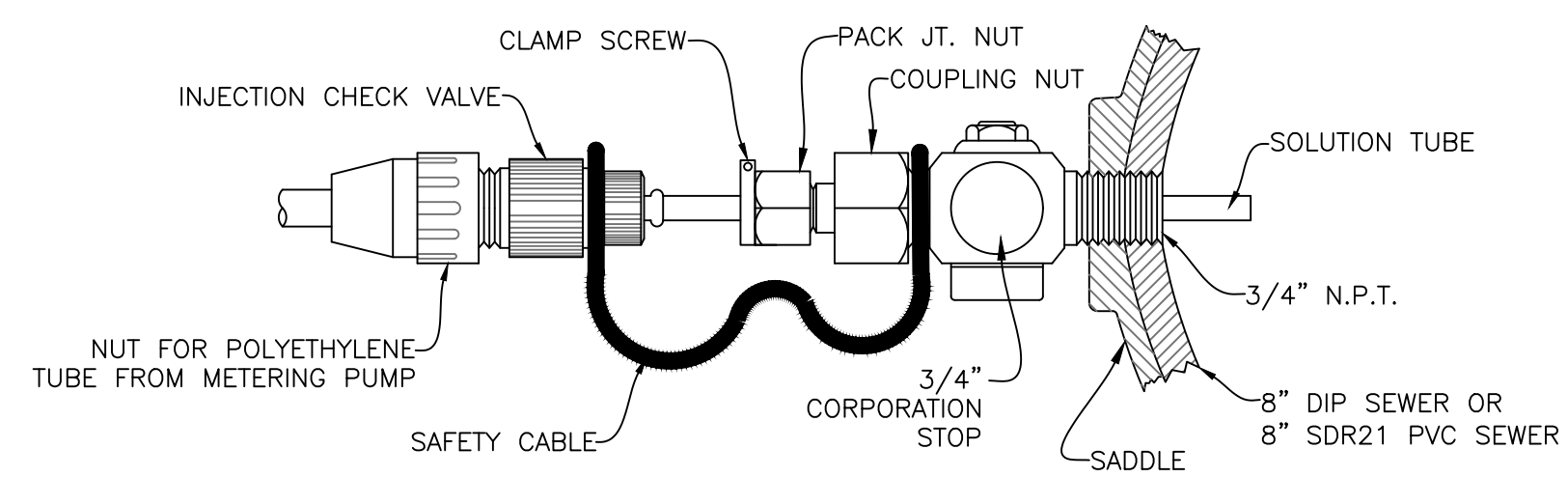
CHEMICAL FEED STRUCTURE FLOOR PLAN
SCALE: 1/2" = 1'-0"
C507



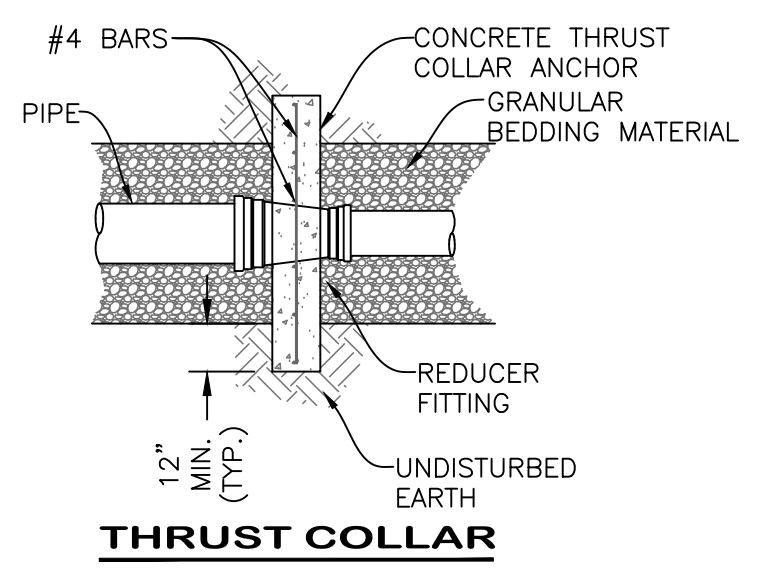
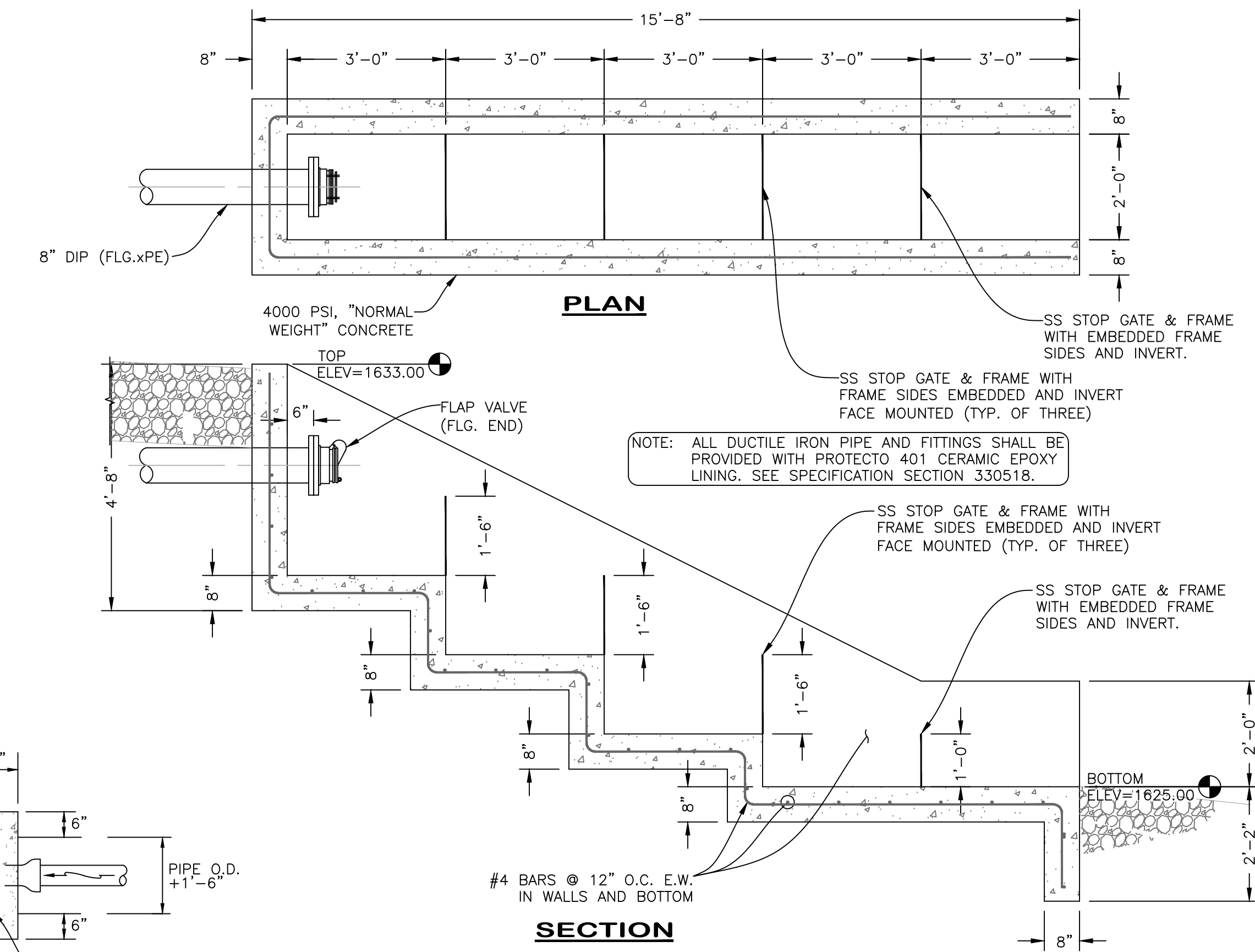
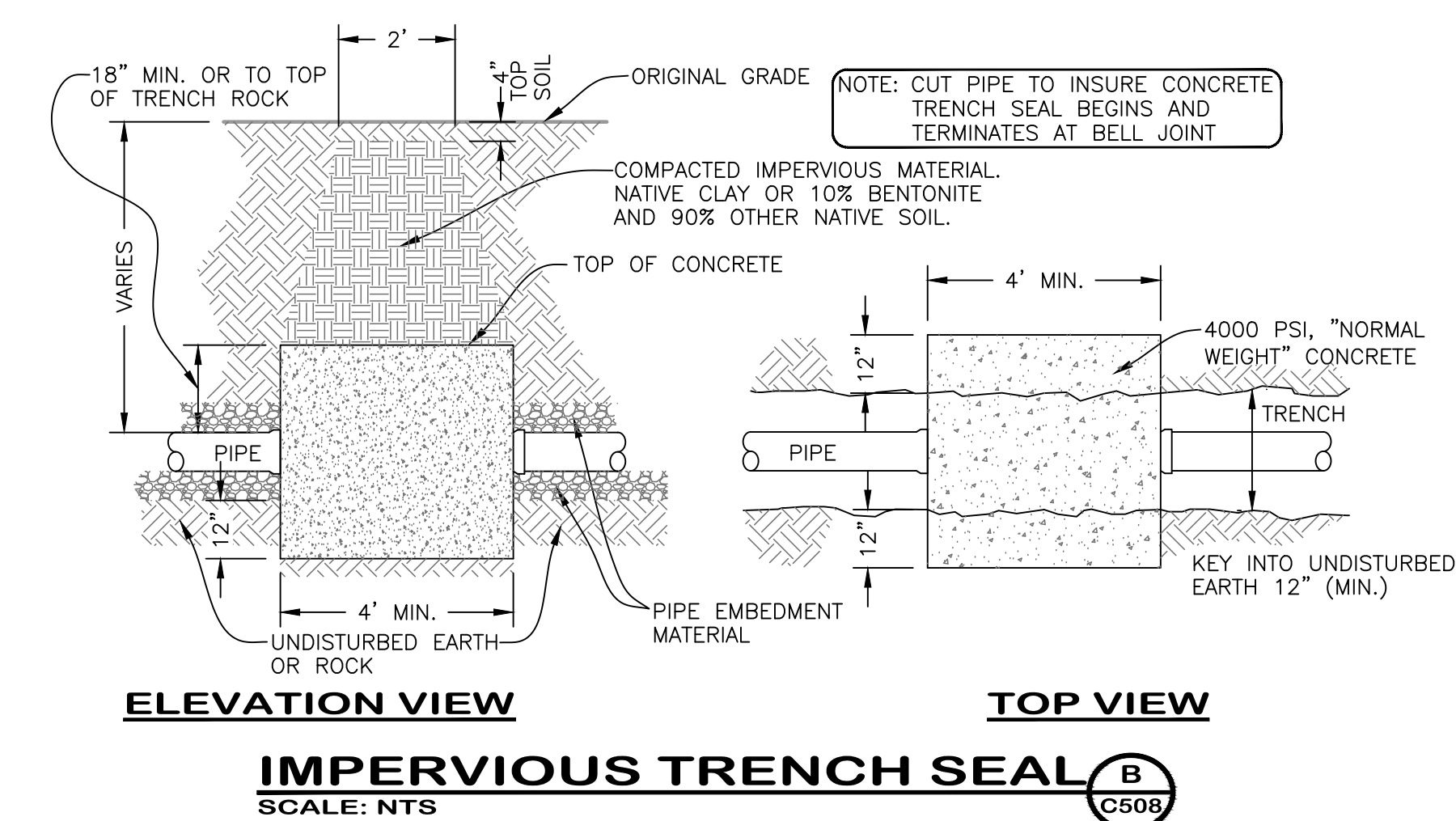
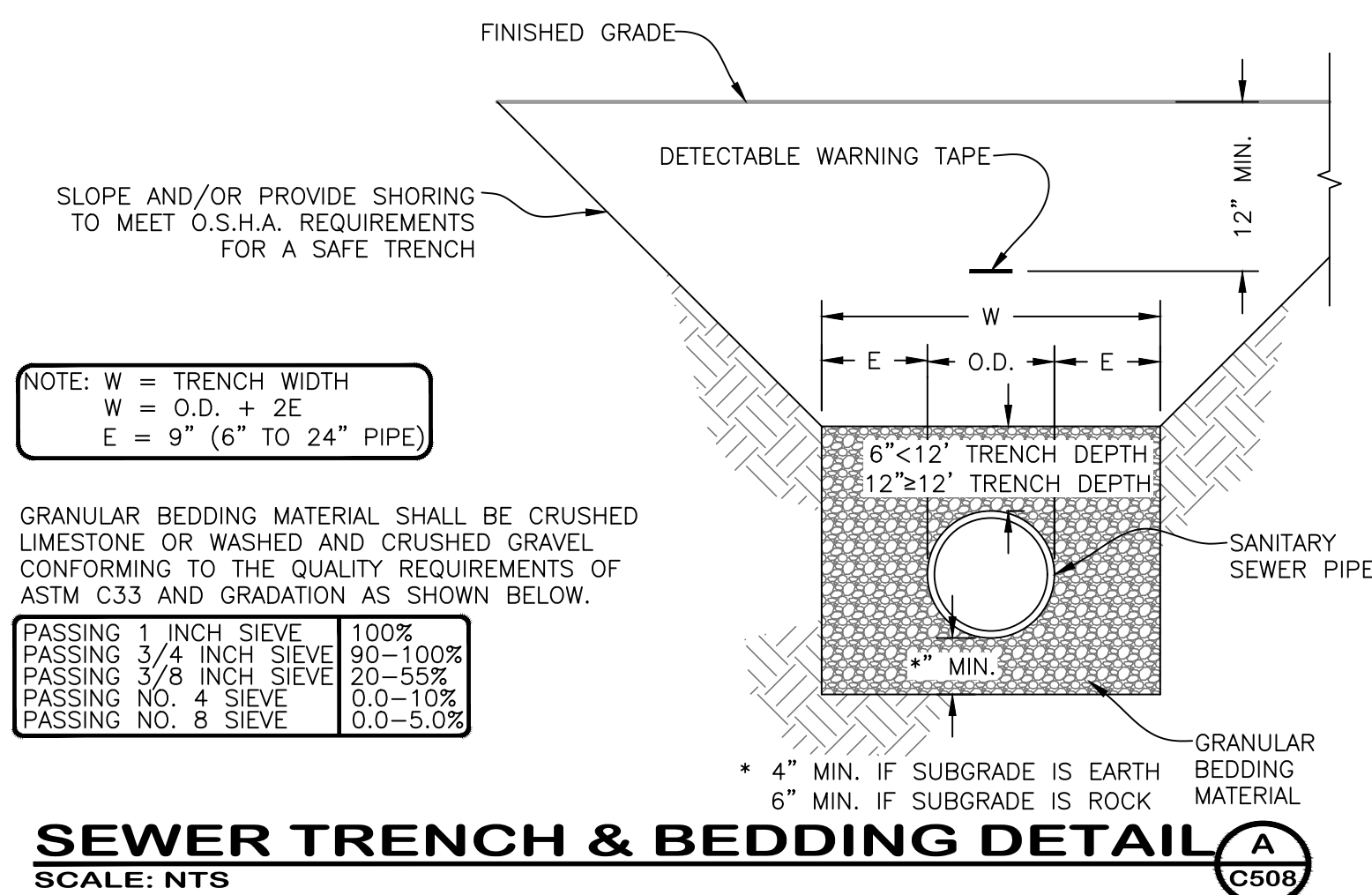
CHEMICAL INJECTION VAULT
SCALE: NTS
C507



EAST ELEVATION
SCALE: 1/2" = 1'-0"
C507

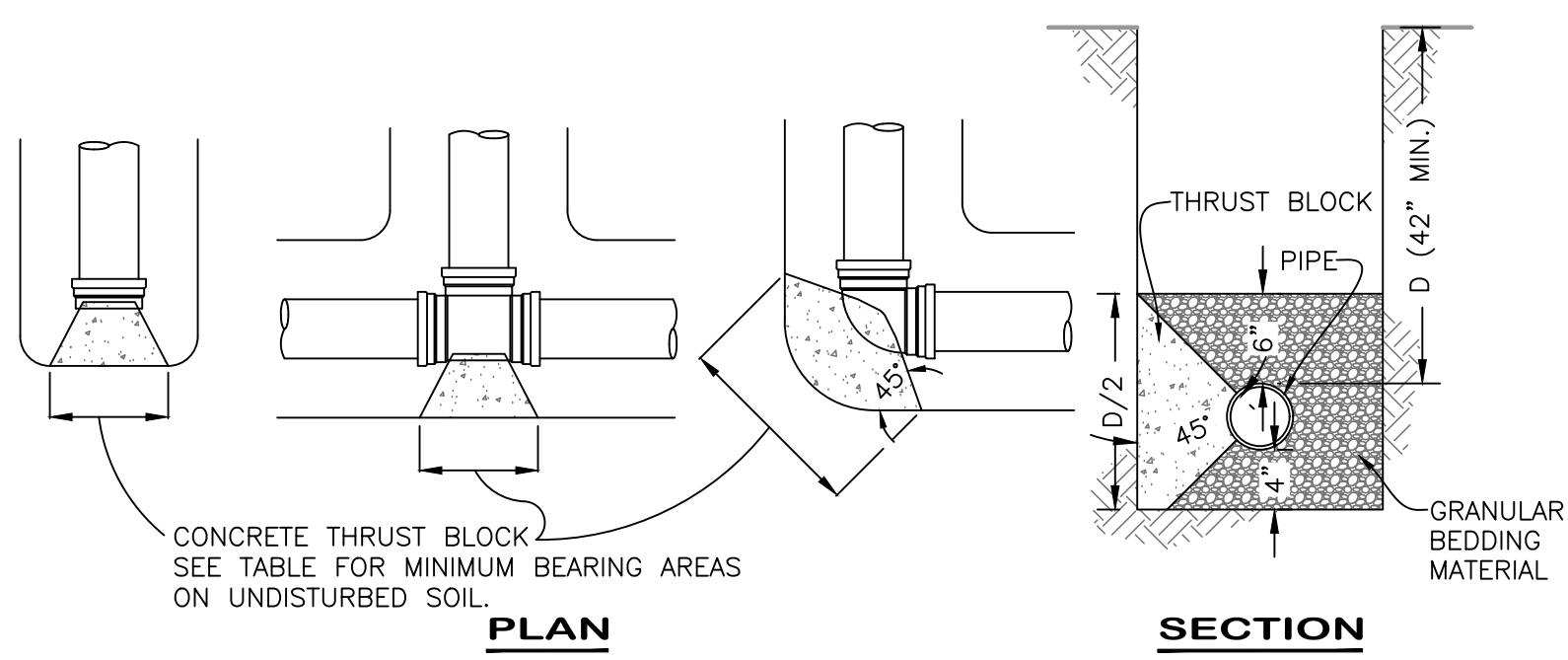
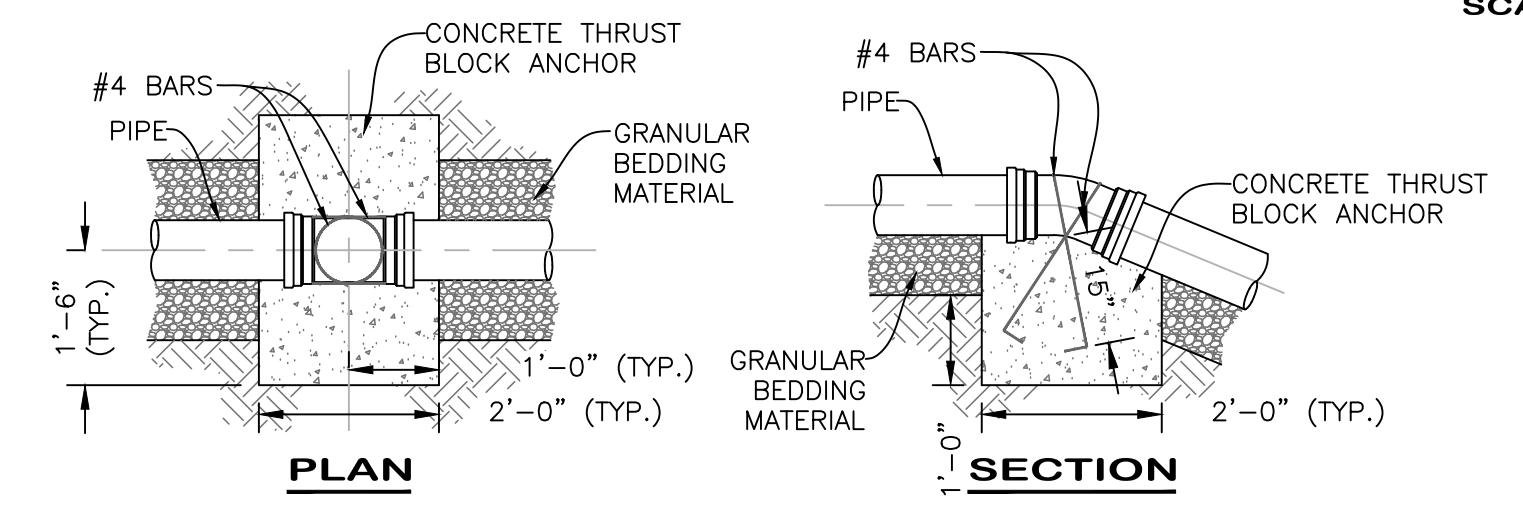
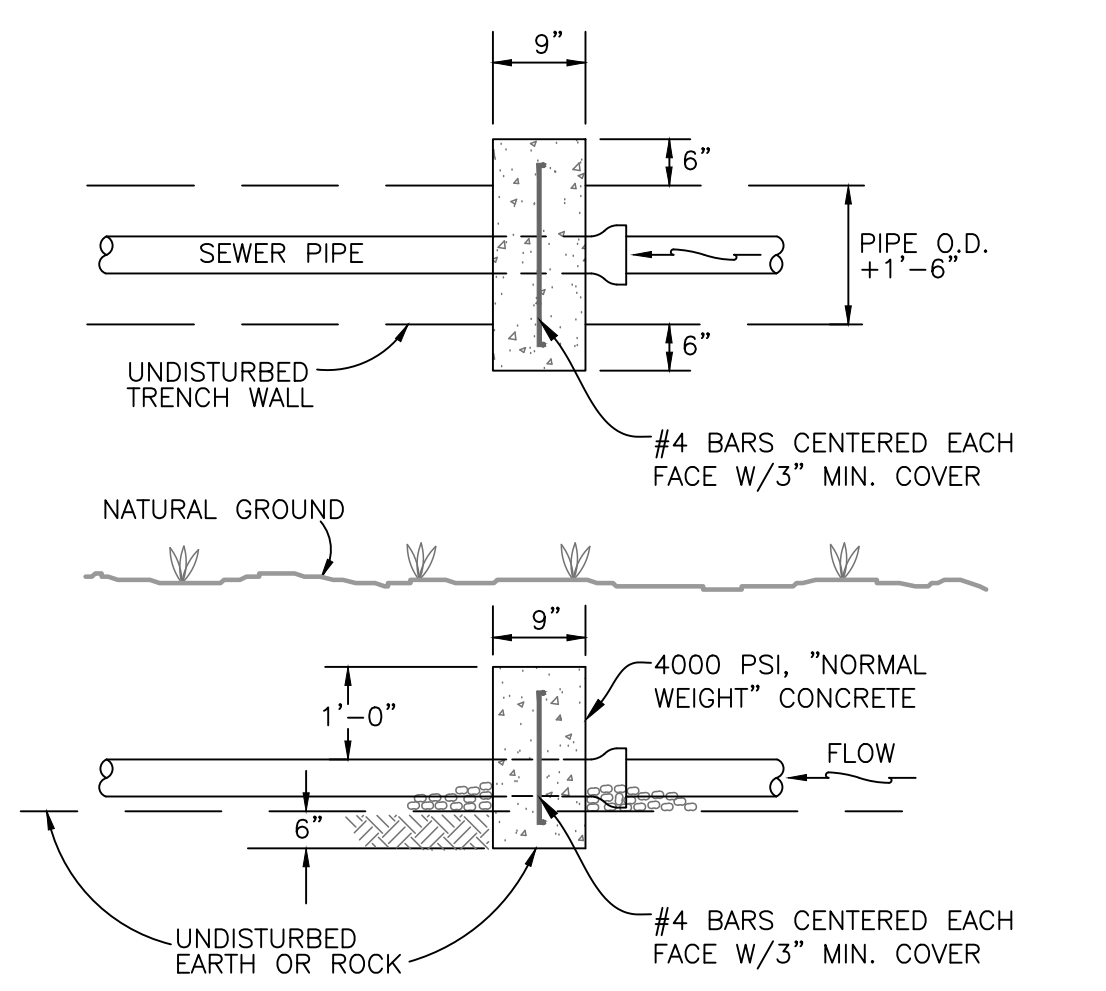
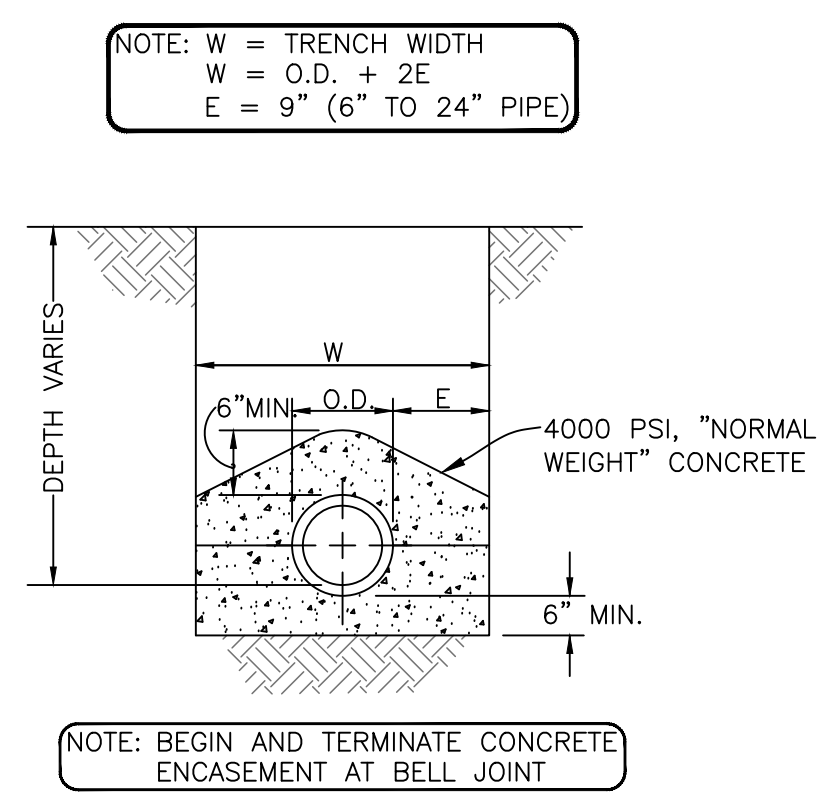


RETRACTABLE INJECTION QUILL CONNECTION
SCALE: NTS
C507

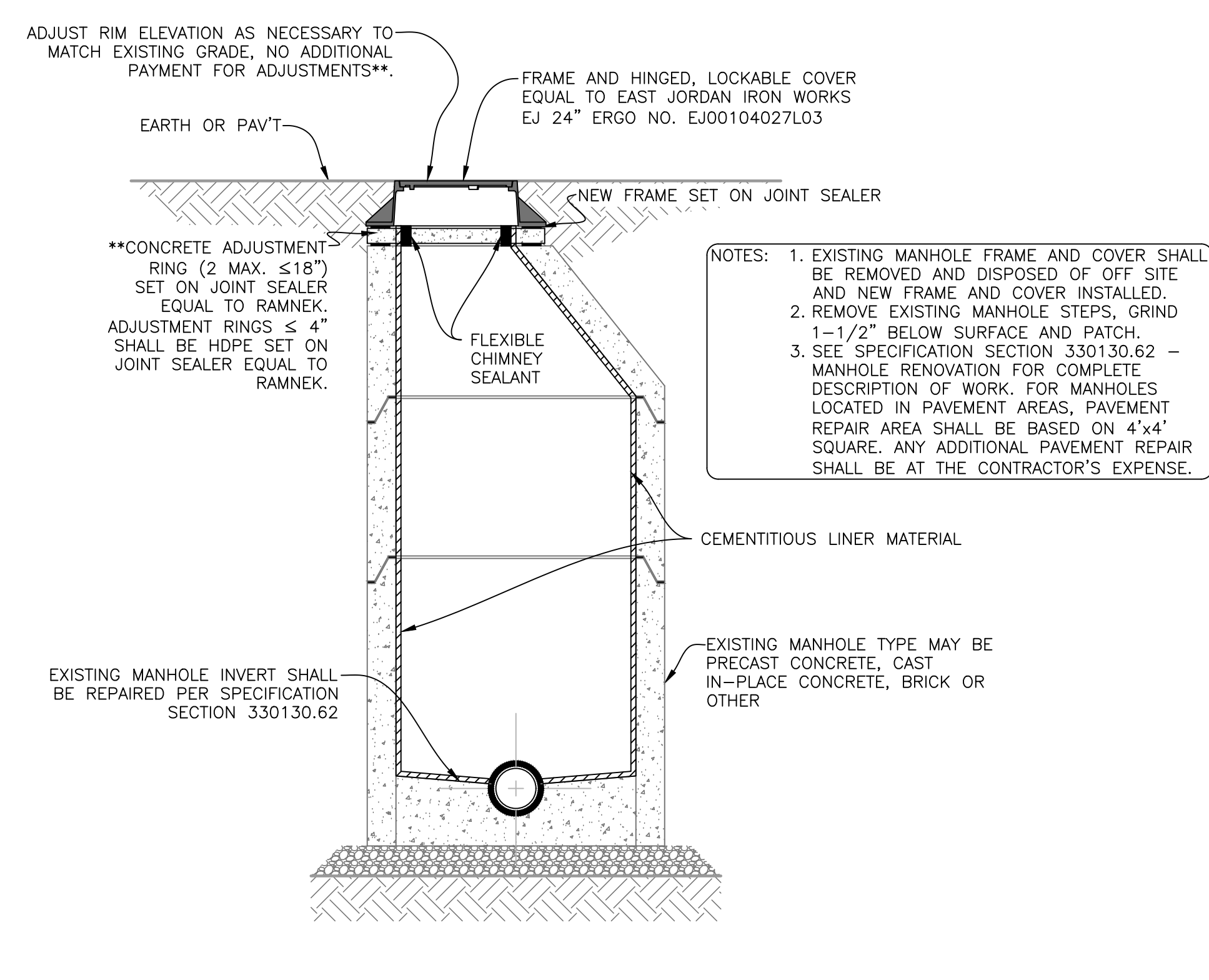
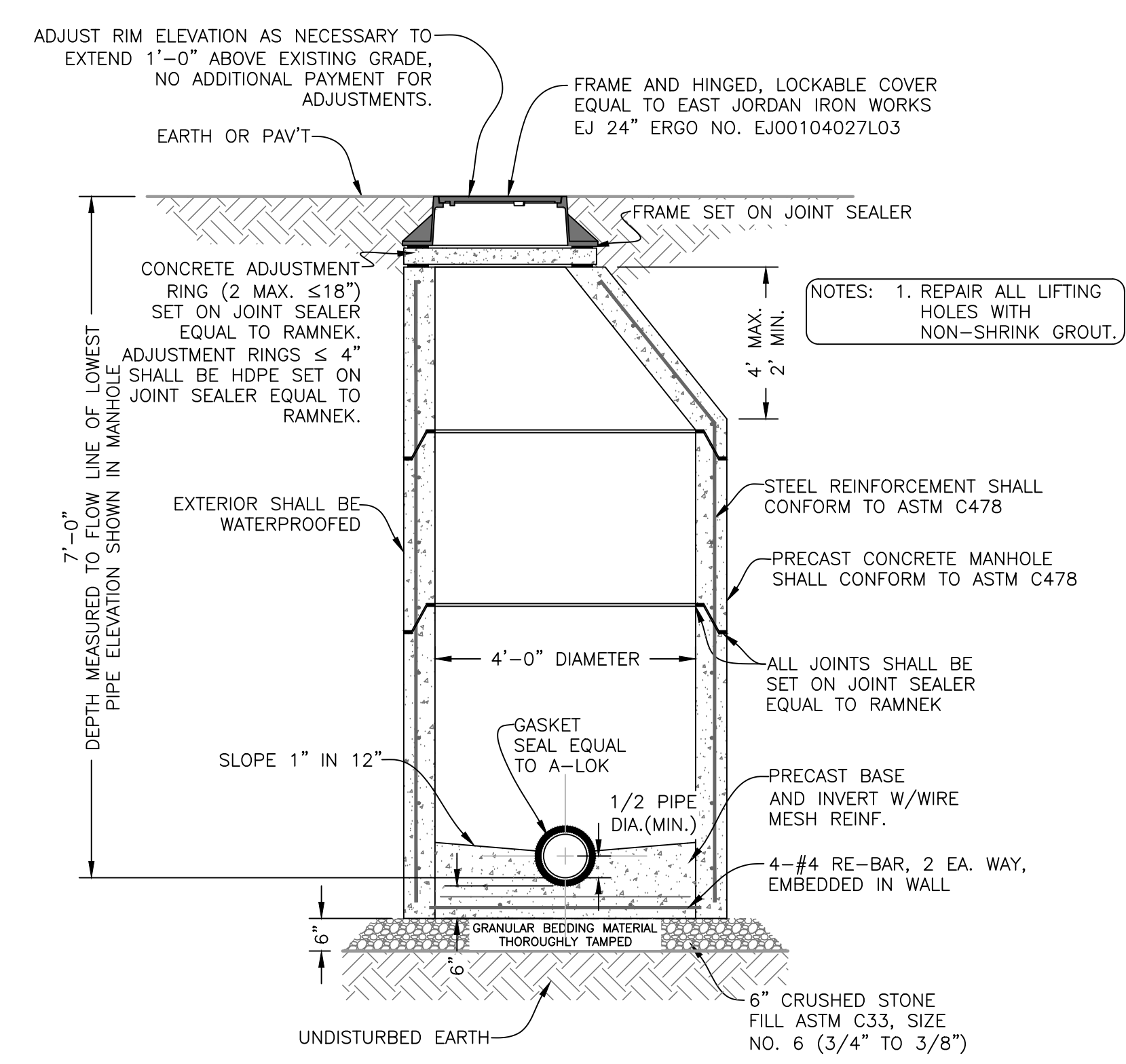


BLOCK BEARING AREA (SQ. FT.)

PIPE SIZE	22 1/2"	45"	90"	"T", VALVE OR PLUG
2"	1	1	1	1
3"	1	1	1	1
4"	1	1	2	1.5
6"	1	2	4	3
8"	2	4	7	5
10"	3	6	11	8
12"	5	9	16	12
14"	6	12	22	16
16"	8	16	29	21



NOTES: 1. ALL BURIED FITTINGS SHALL HAVE PLAIN CONCRETE THRUST BLOCKING, MINIMUM 4000 P.S.I., "NORMAL WEIGHT" CONCRETE.
2. BLOCK TO BE POURED AGAINST UNDISTURBED EARTH WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
3. DO NOT COVER BOLT HEADS, FLANGES OR GLANDS WITH CONCRETE. LEAVE SUFFICIENT CLEARANCE FOR MAINTENANCE.
4. WRAP ALL BURIED DIP PIPE, VALVES, AND FITTINGS WITH 8 MIL POLYETHYLENE. ENSURE WRAP EXTENDS BEYOND ALL FASTENERS.
5. FOR UNSTABLE SOIL CONDITIONS, VERIFY REQUIRED THRUST BLOCK DIMENSIONS WITH ENGINEER.



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



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ISSUE DATE: 01-06-2023

CAD DWG FILE: C-508.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
SANITARY
SEWER
DETAILS

SHEET NUMBER:

C-508

18 OF 22 SHEETS
01-06-2023



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



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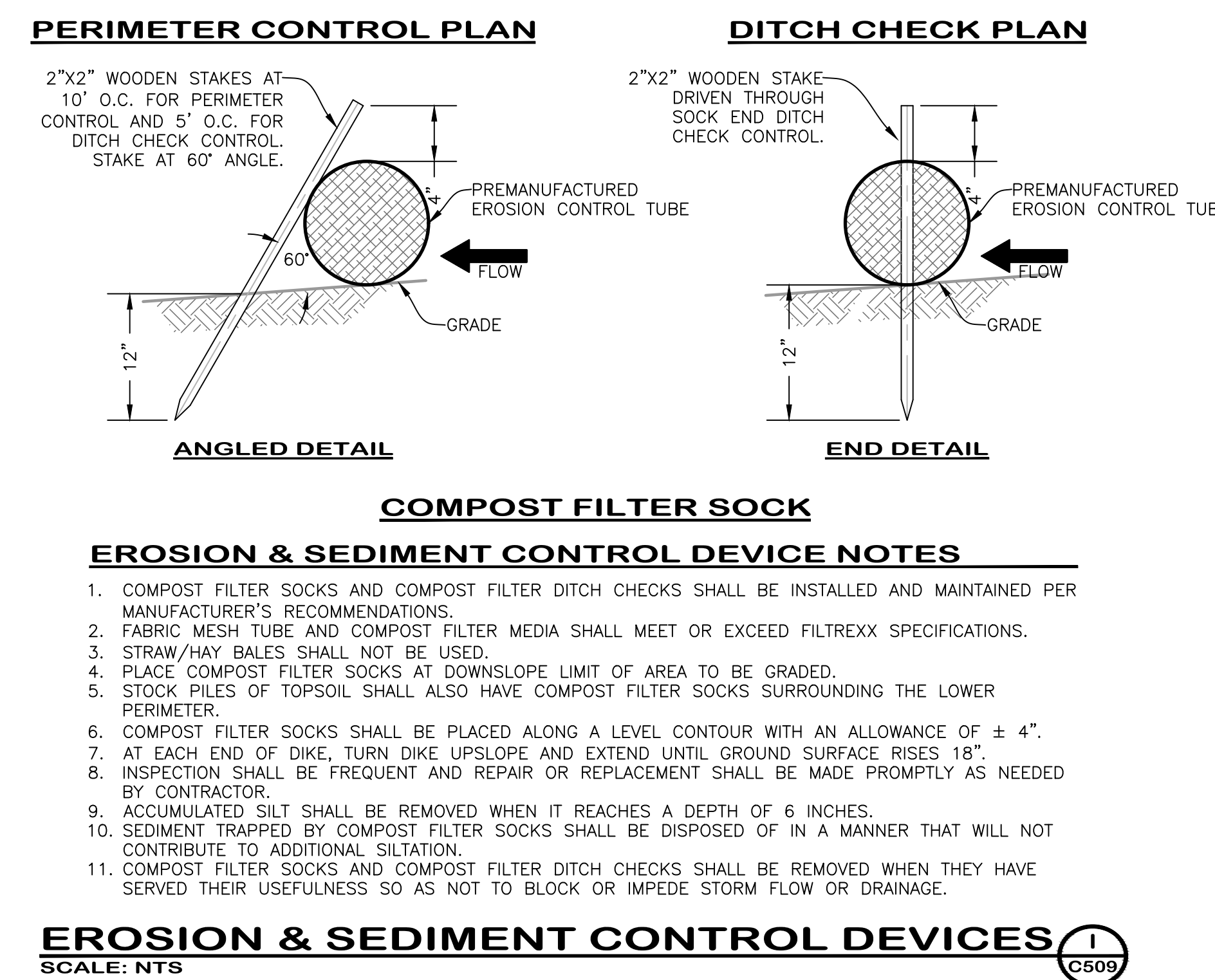
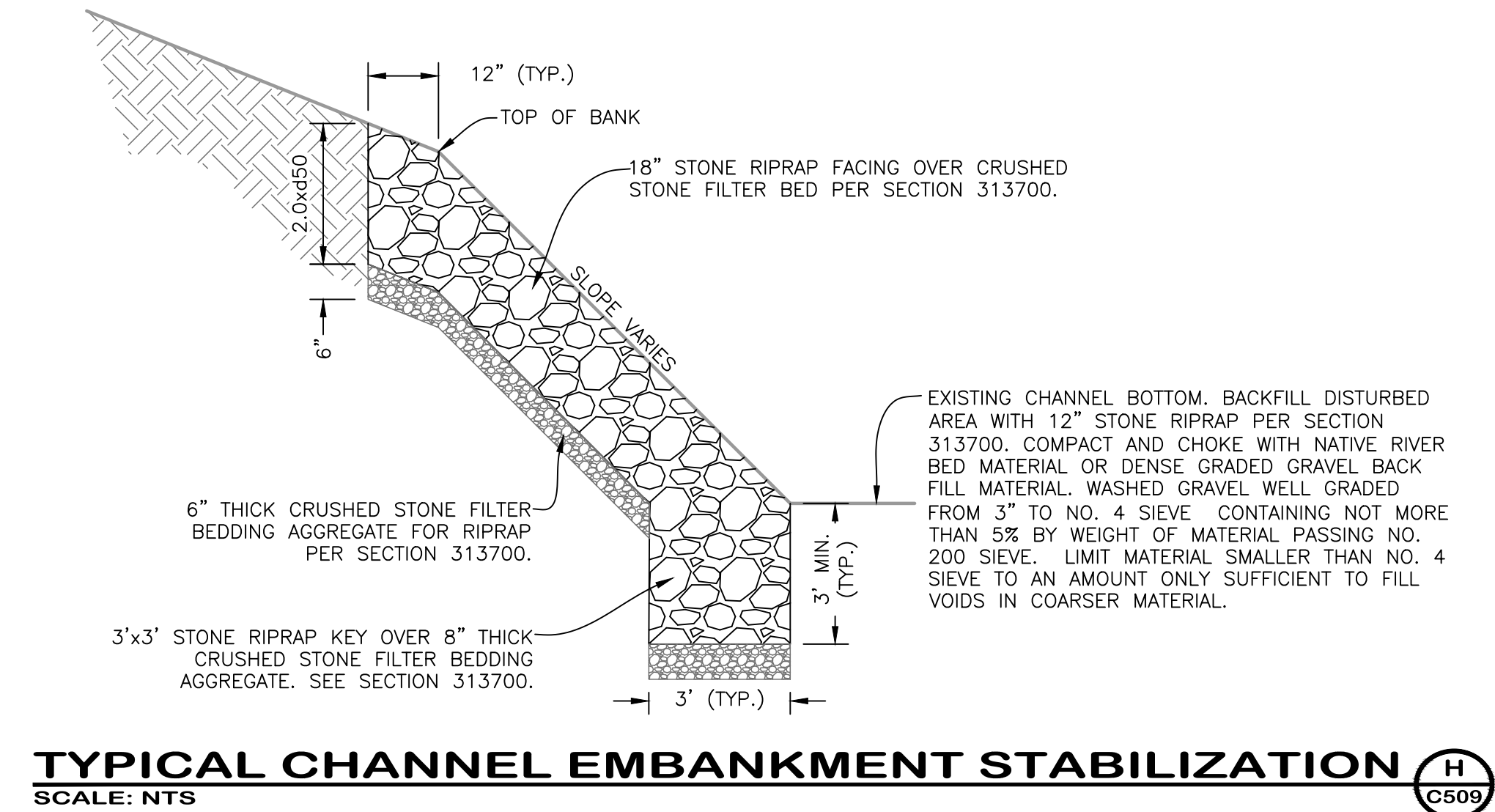
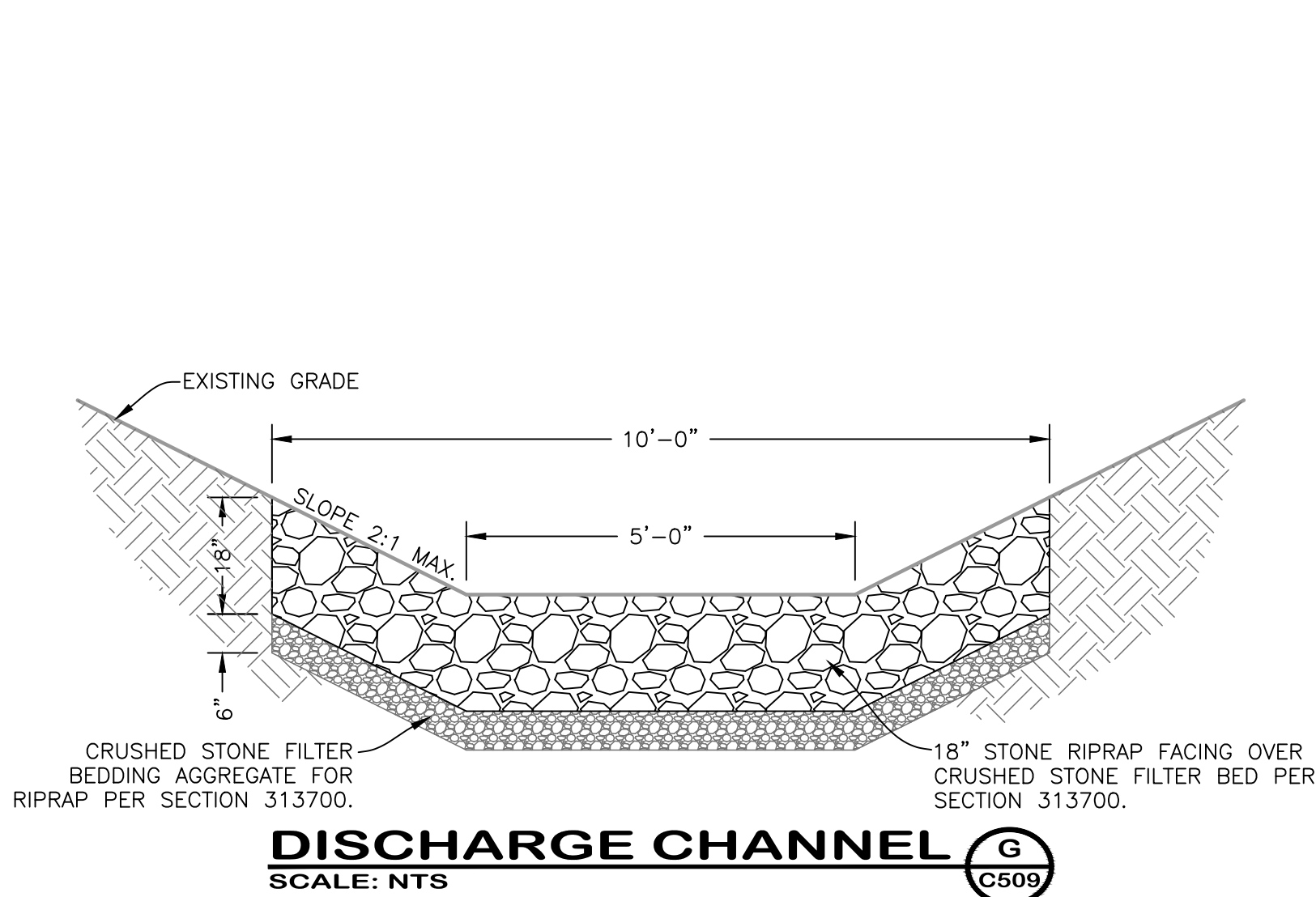
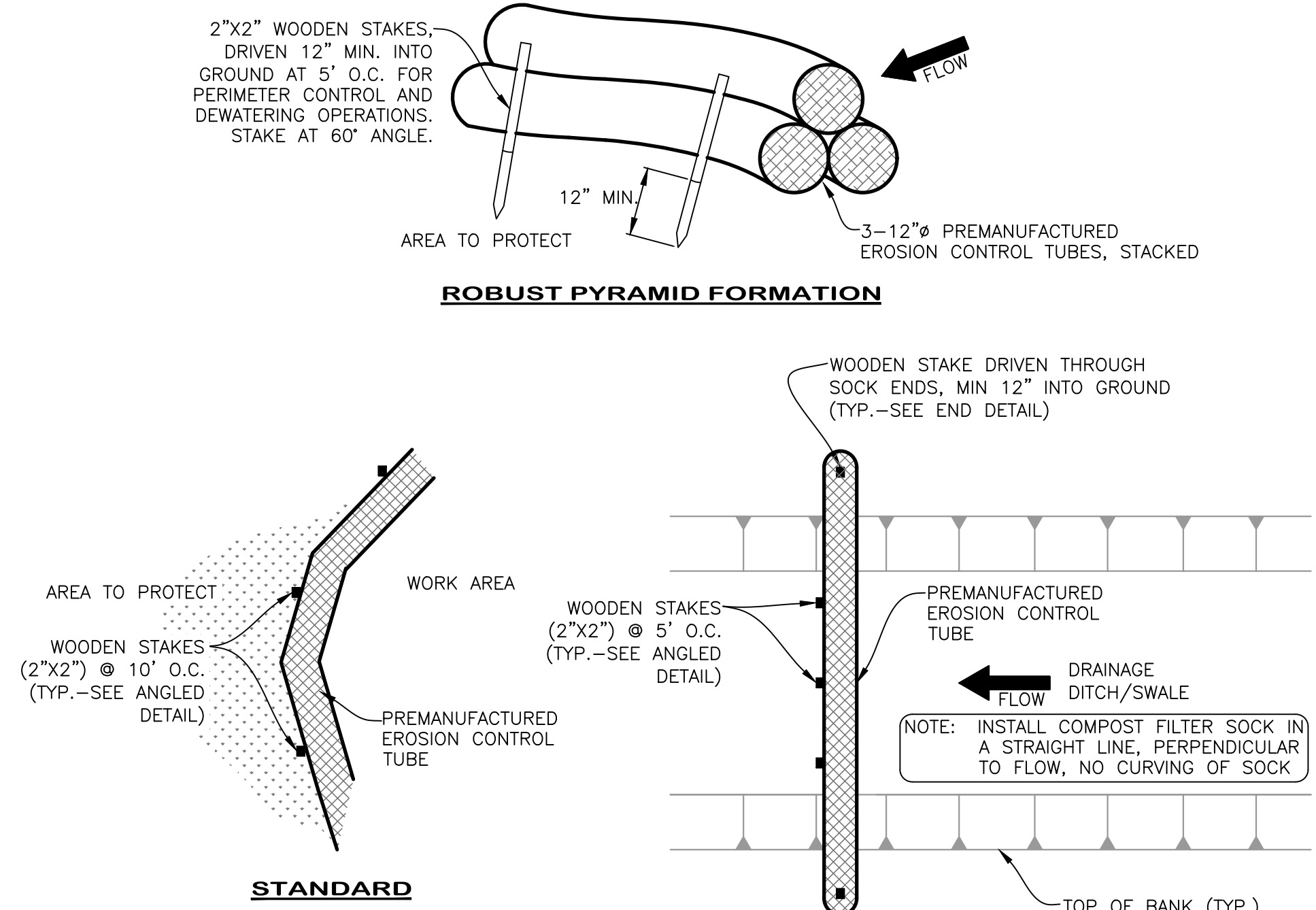
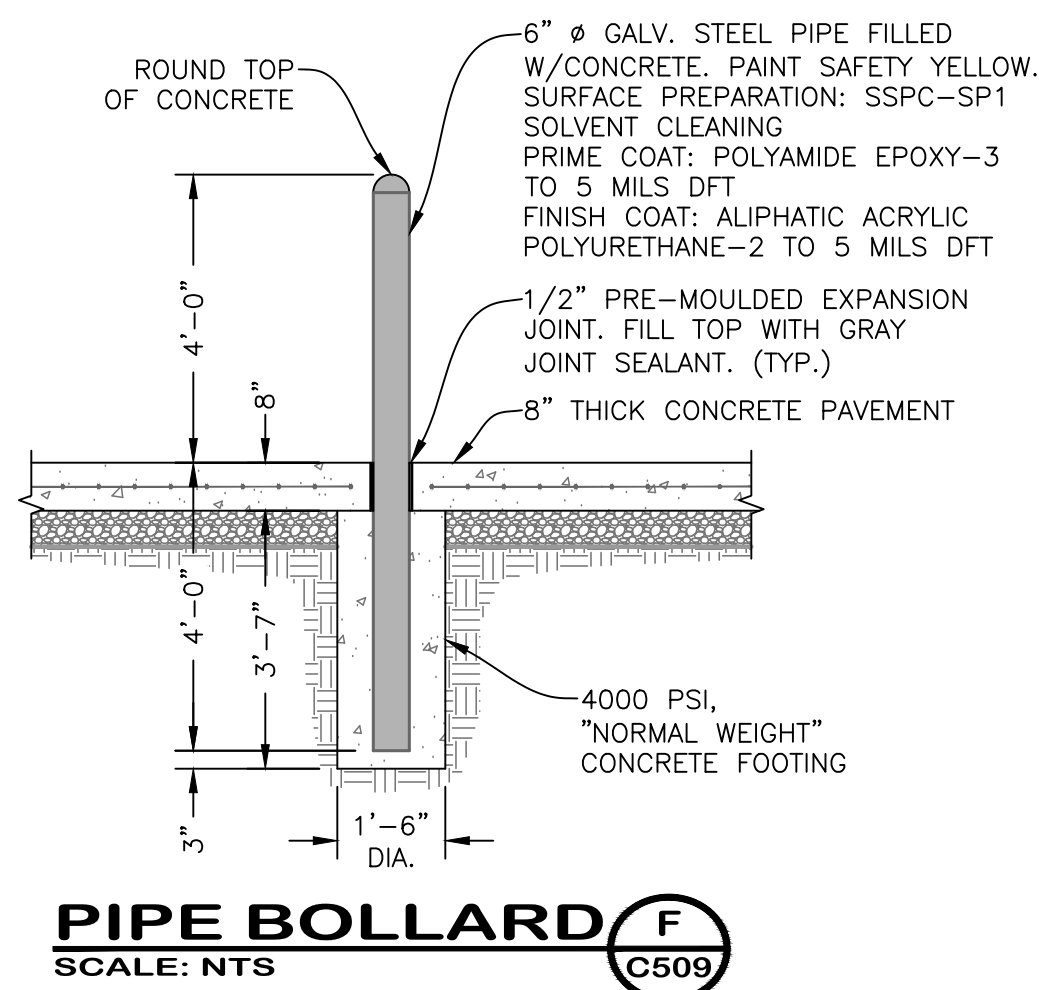
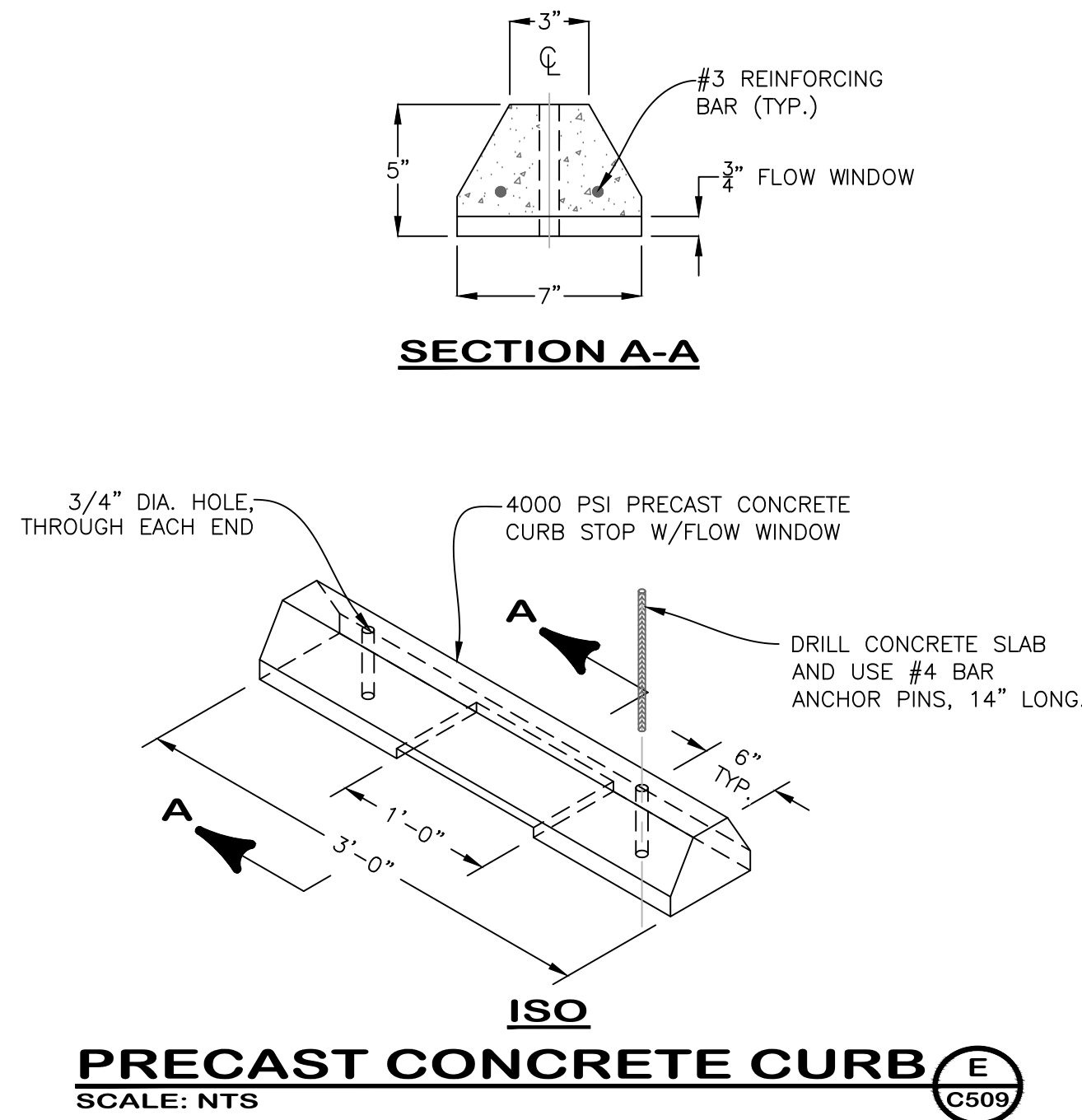
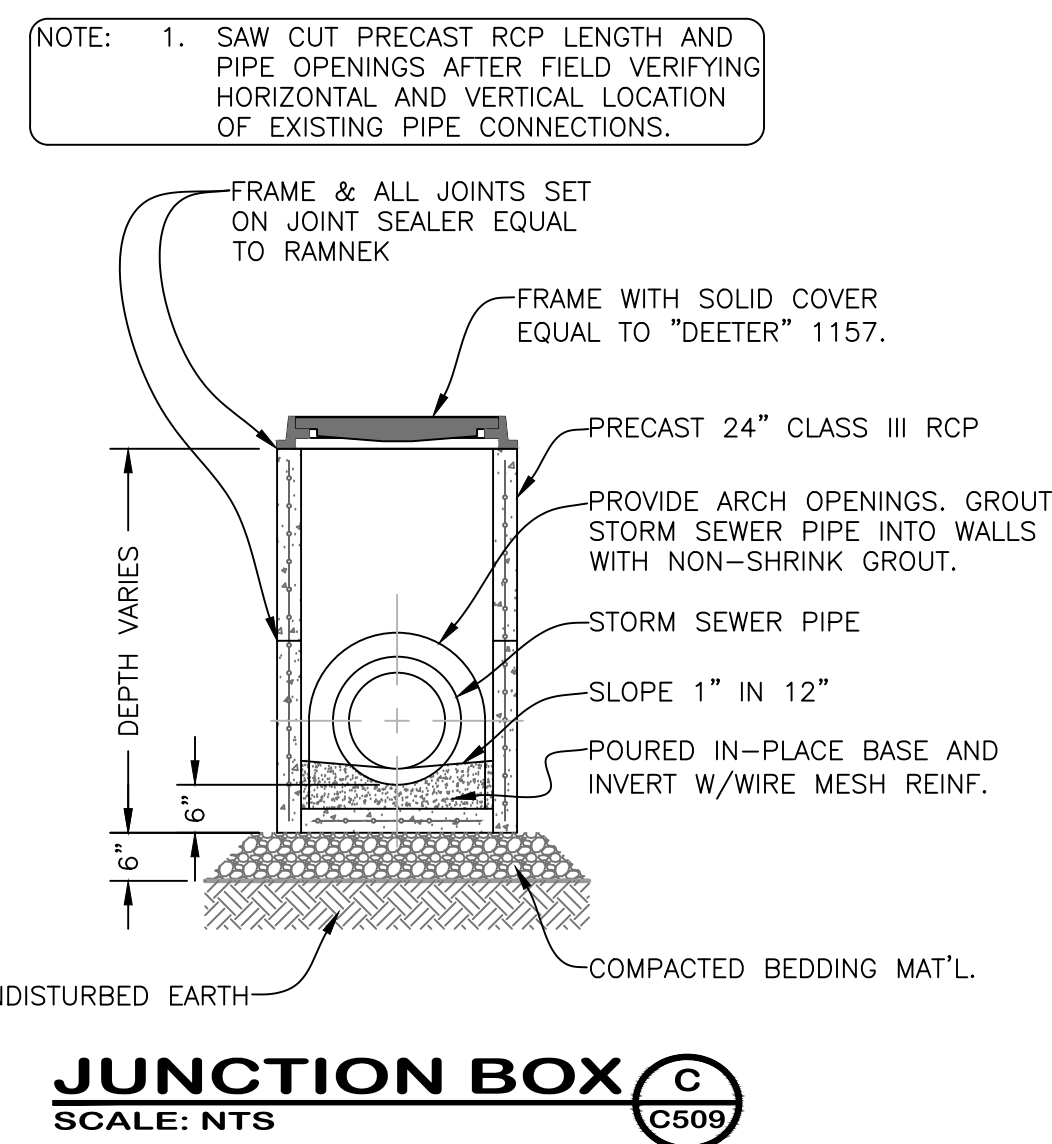
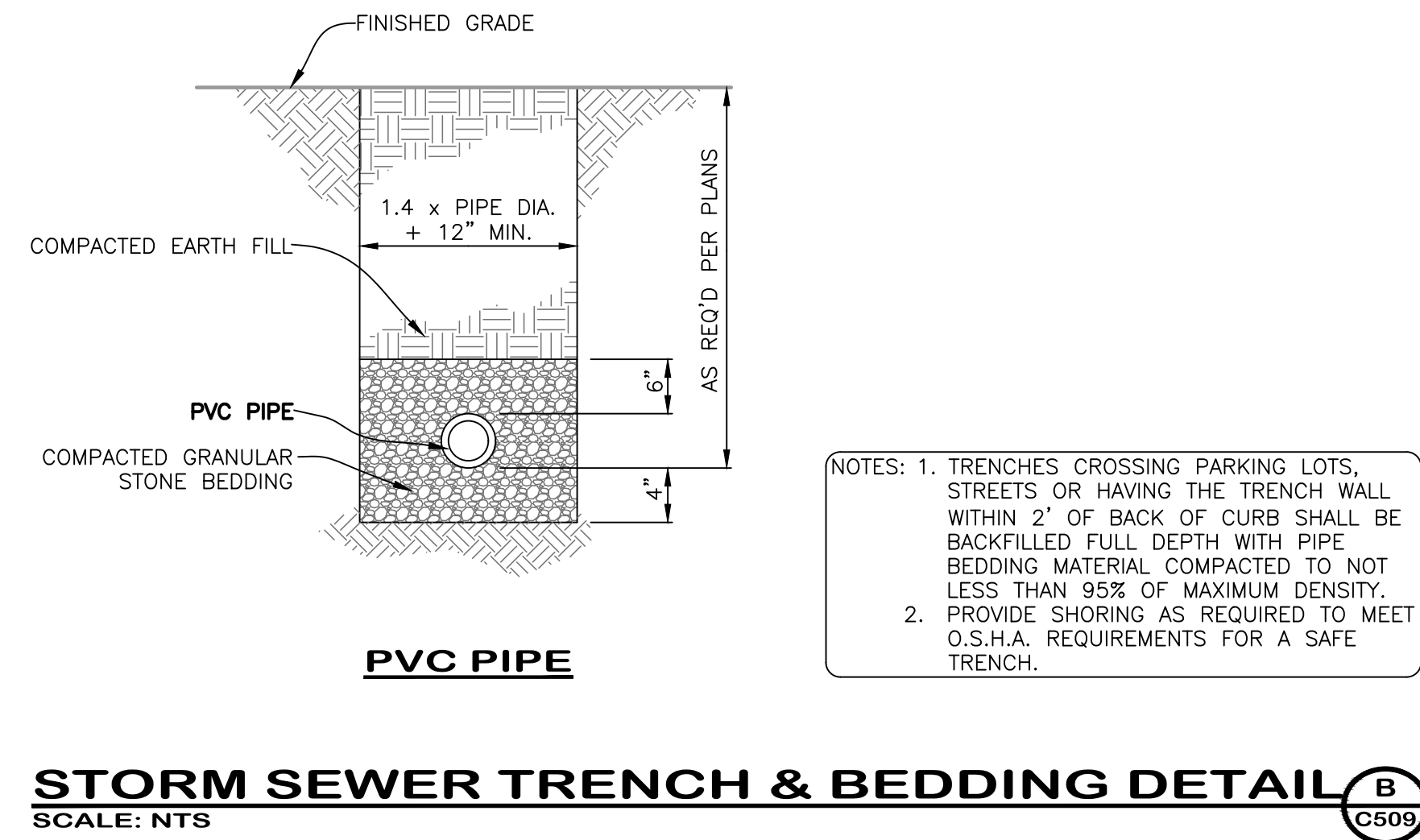
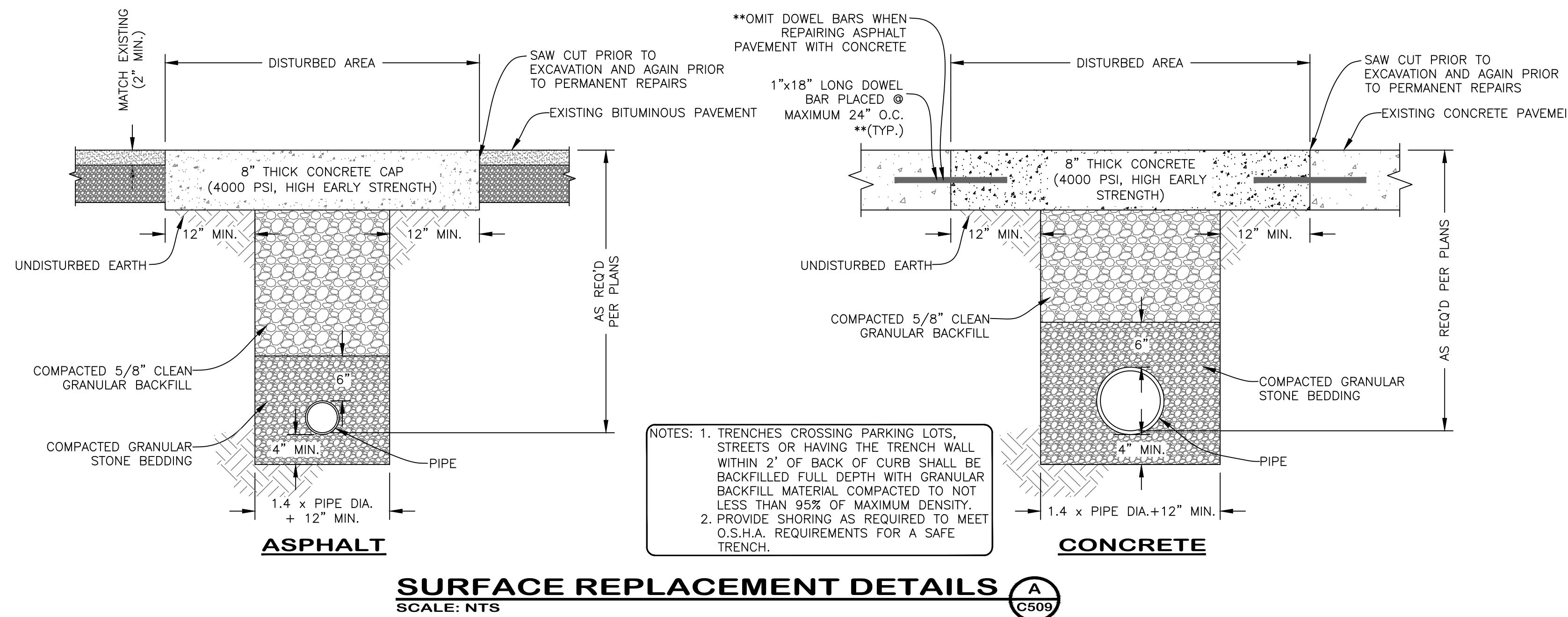
CAD DWG FILE: C-509.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**STORMWATER
MANAGEMENT
& SITE DETAILS**

SHEET NUMBER:

C-509

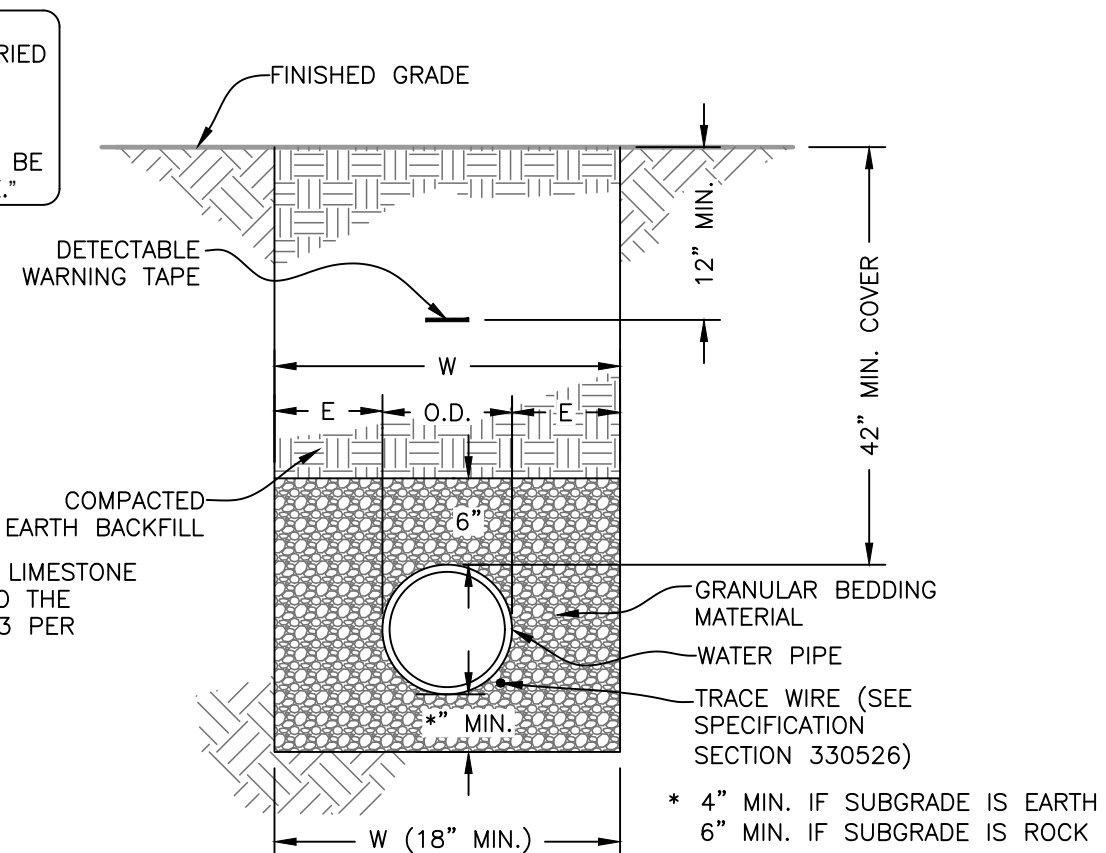
19 OF 22 SHEETS
01-06-2023



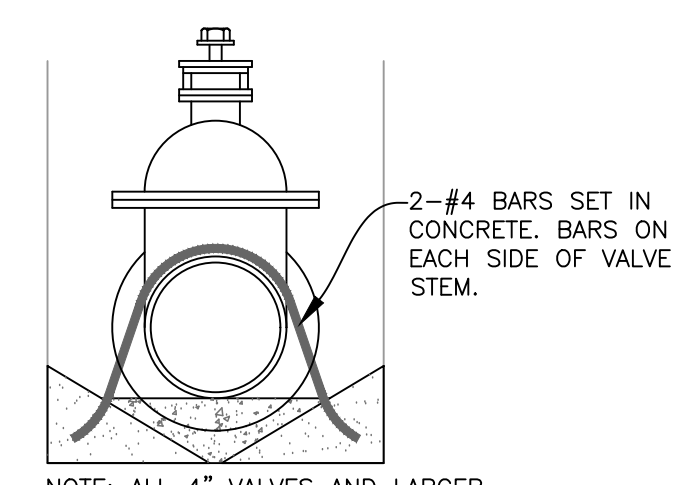
NOTE: 1. TRACER WIRE SHALL BE DESIGNED TO WITHSTAND BURIED USE AND EXPECTED SOIL CONDITIONS.
2. ALL TRACER WIRE FOR NEW UTILITY INSTALLATIONS SHALL BE TESTED BEFORE ACCEPTANCE.

NOTE: W = TRENCH WIDTH
W = O.D. + 2E
E = 6" (6" TO 24" PIPE)

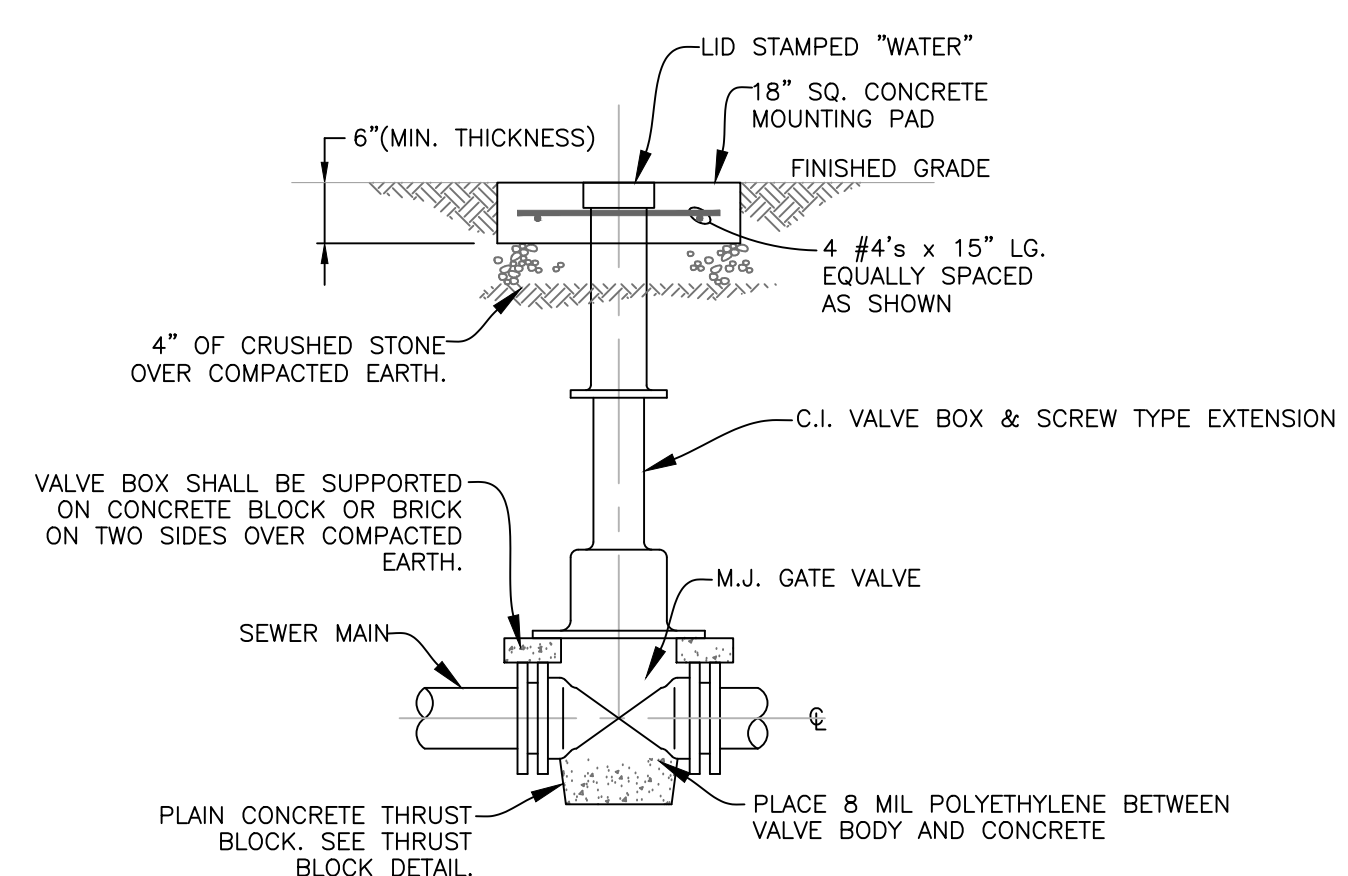
BEDDING MATERIAL SHALL BE CRUSHED LIMESTONE OR CRUSHED DOLOMITE CONFORMING TO THE GRADATION REQUIREMENTS OF ASTM C33 PER SPECIFICATION SECTION 312333.



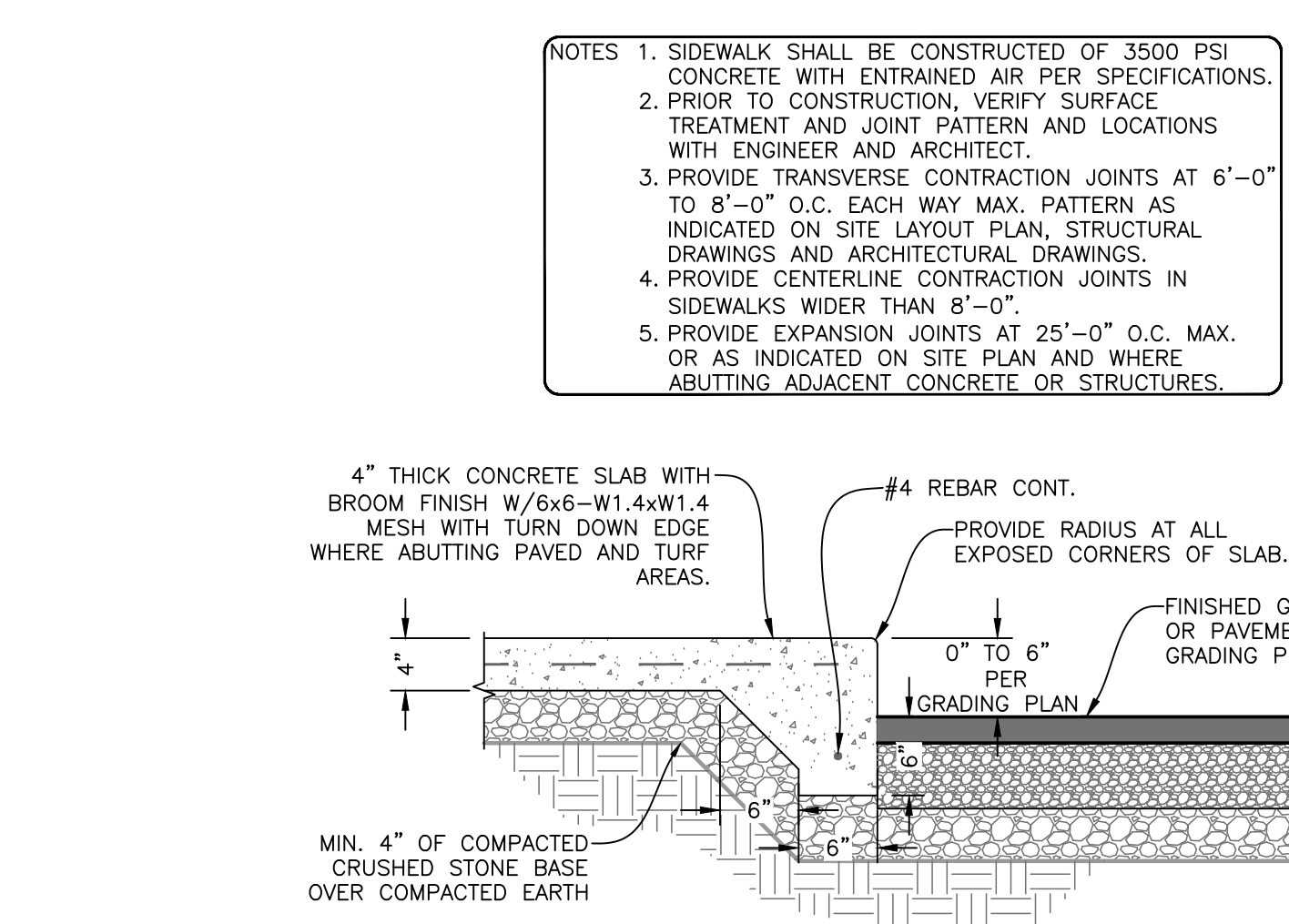
WATER TRENCH & BEDDING DETAIL (A)
SCALE: NTS



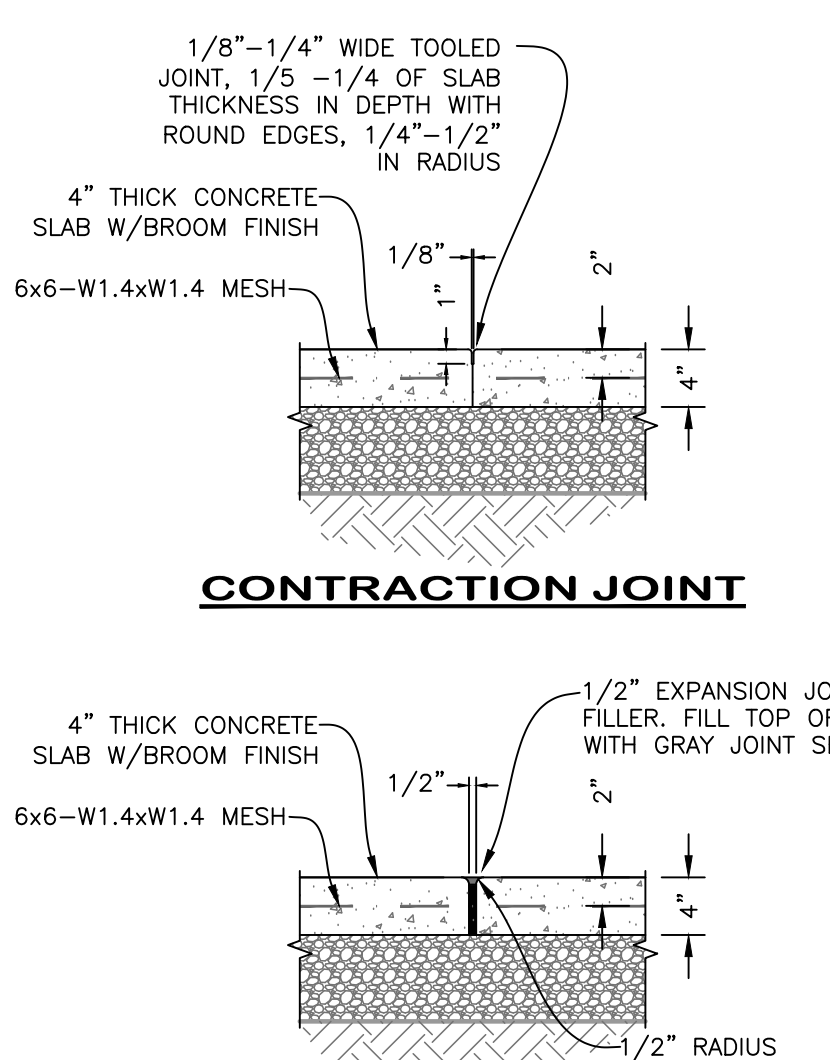
VALVE ANCHOR DETAIL (E)
SCALE: NTS



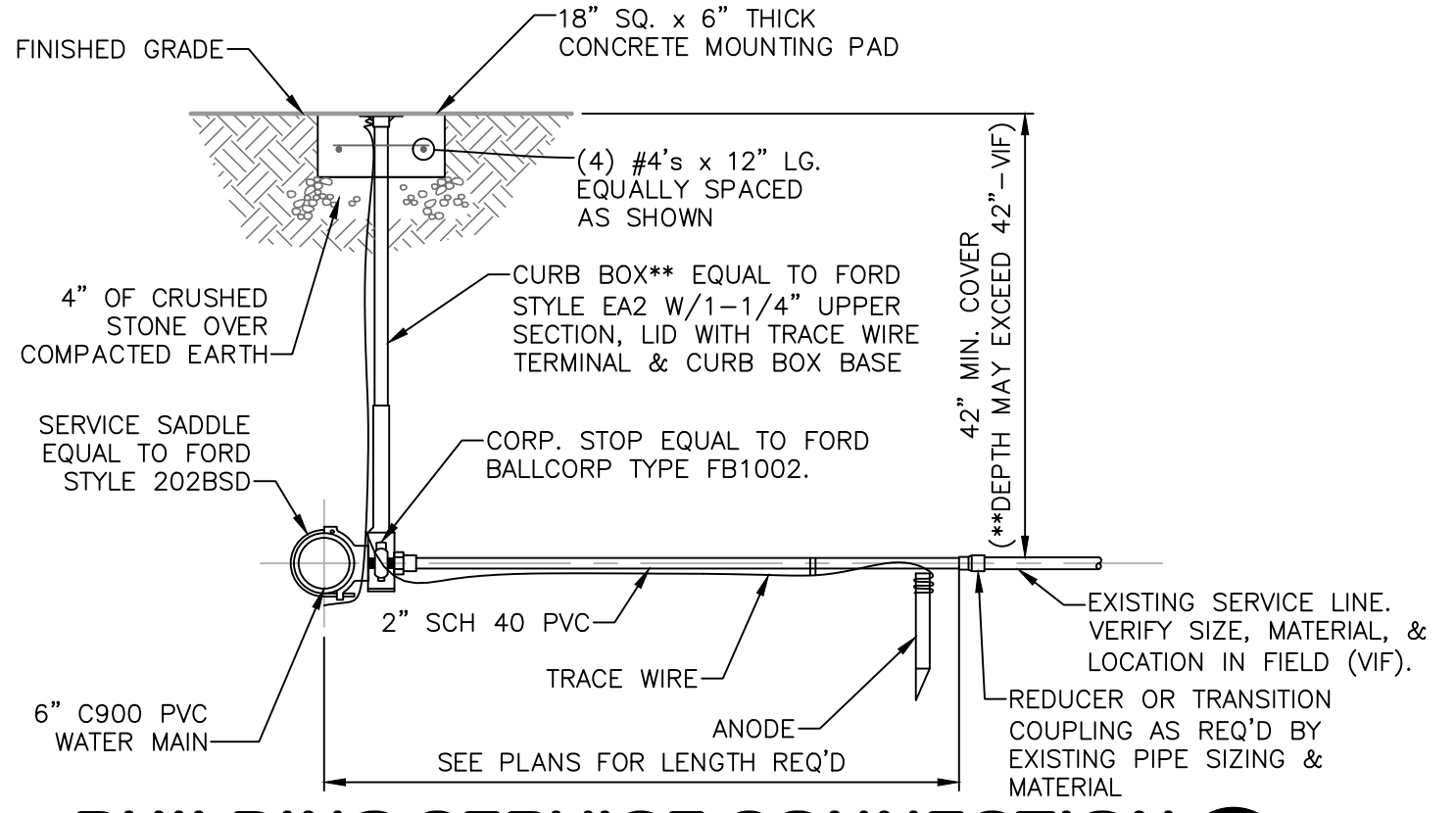
VALVE INSTALLATION DETAIL (D)
SCALE: NTS



SIDEWALK W/TURN DOWN EDGE (F)
SCALE: NTS

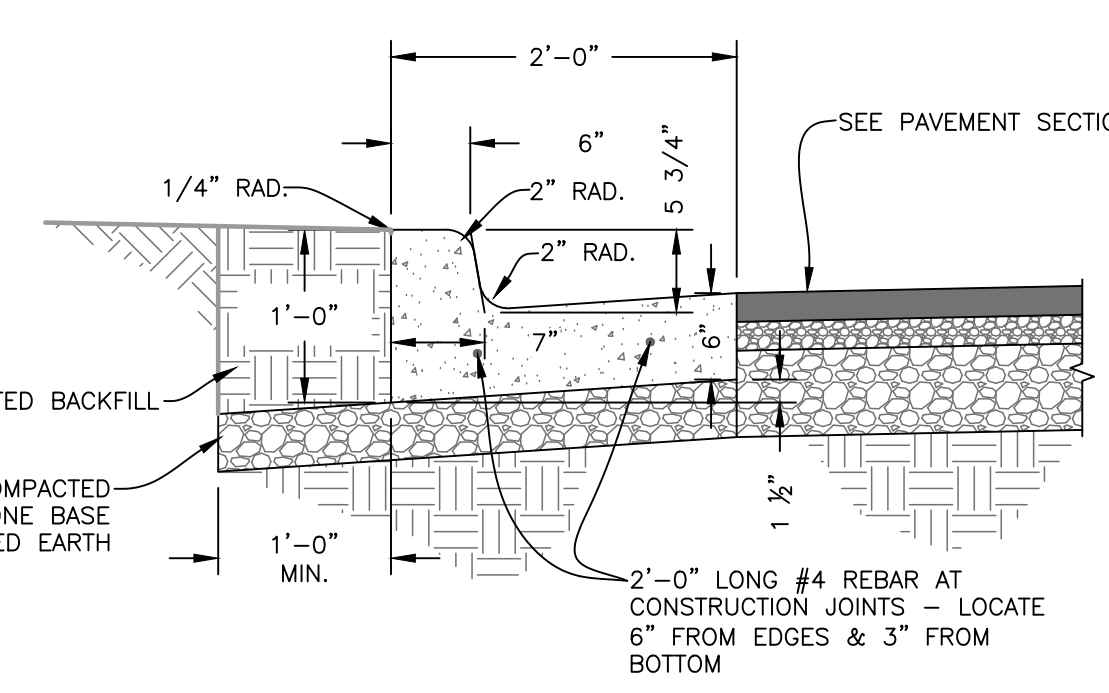


EXPANSION JOINT (F)

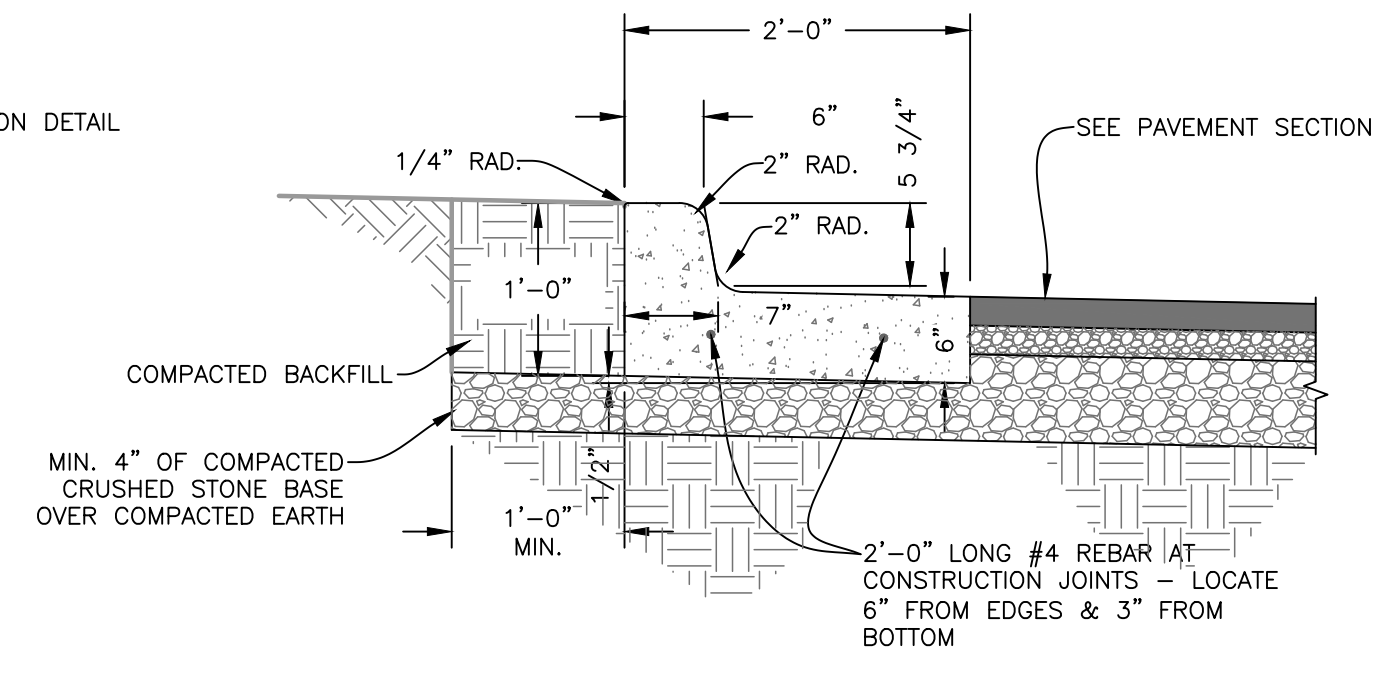


BUILDING SERVICE CONNECTION (H)
SCALE: NTS

NOTES: 1. CONCRETE CURB AND GUTTER SHALL BE CONSTRUCTED OF 3500 PSI CONCRETE WITH ENTRAINED AIR PER SPECIFICATIONS.
2. TRANSITION GUTTERS SHALL BE SHAPED TO TRANSITION FLOWS FROM STANDARD OR TIP-OUT GUTTERS TO MATCH PAVEMENT CROSS SLOPES.
3. PROVIDE 1/4" WIDE SAWED CONTRACTION JOINTS, 1/4 OF SLAB THICKNESS IN DEPTH AT 15'-0" O.C. MAX. FILL WITH GRAY JOINT SEALANT.
4. PROVIDE 3/4" BITUMINOUS PREFORMED EXPANSION JOINTS AT 100'-0" O.C. MAX. OR AS INDICATED ON PLAN, WHERE ABUTTING ADJACENT SIDEWALKS OR CONCRETE AND AT ALL INTERSECTION RADII. FILL TOP OF JOINT WITH GRAY JOINT SEALANT.
5. WHERE REPLACING EXISTING CURB & GUTTER, MATCH EXISTING CURB & GUTTER SECTION AND DOWEL INTO EXISTING CURB & GUTTER TO REMAIN IN-PLACE W/2-#4 BARS W/12" EMBEDMENT.



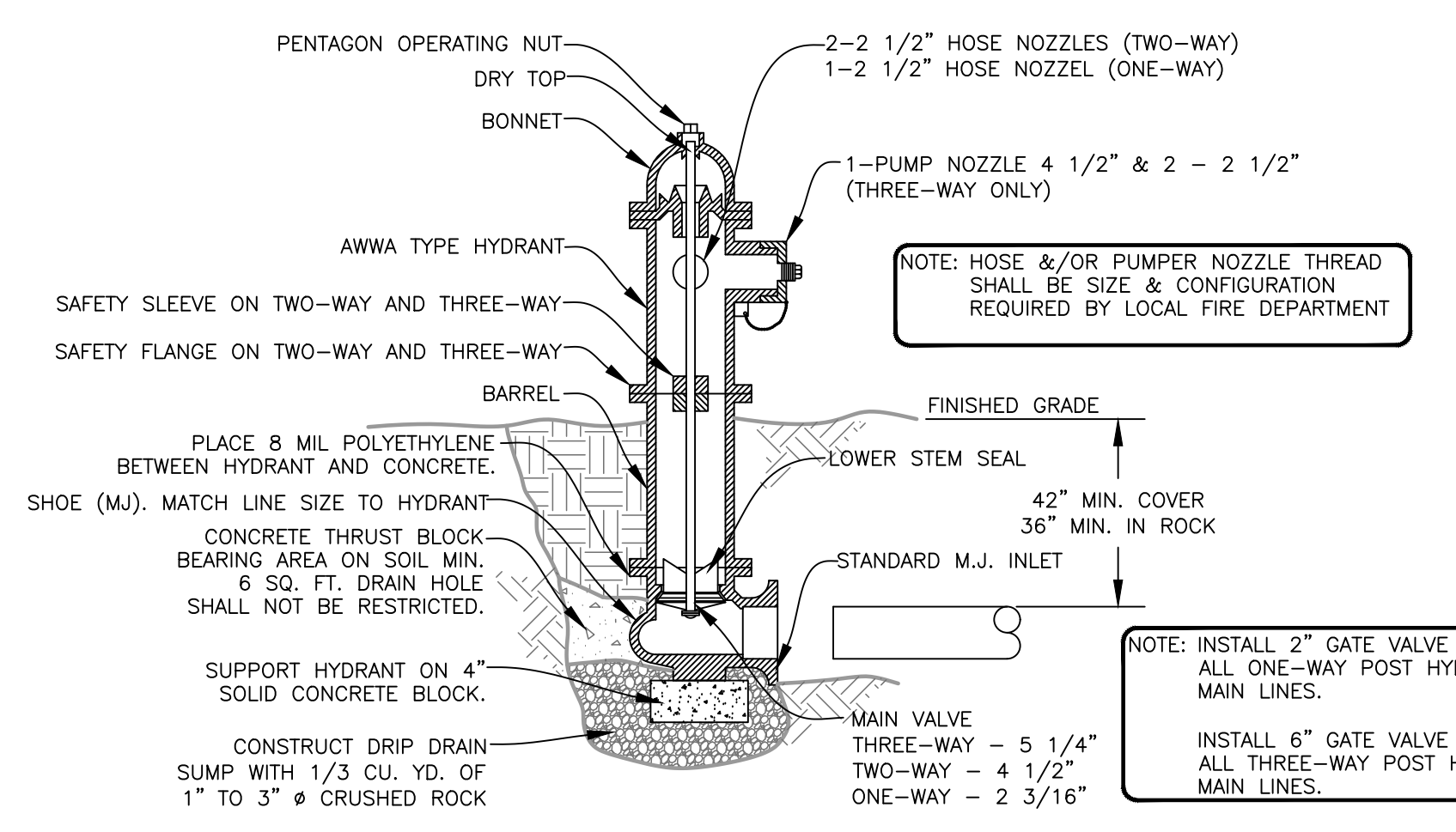
STANDARD (G)



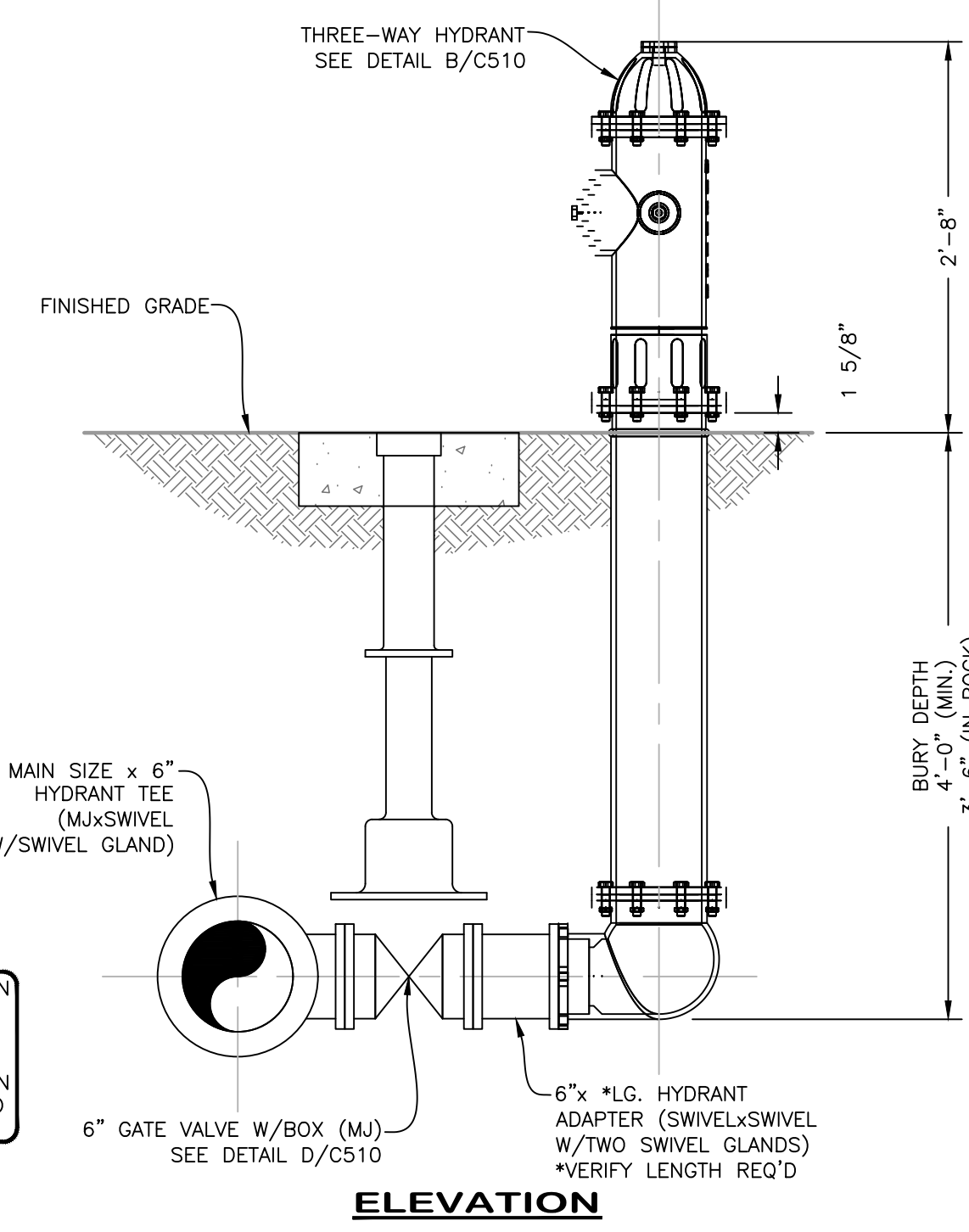
SPILL (G)

CURB & GUTTER (G)
SCALE: NTS

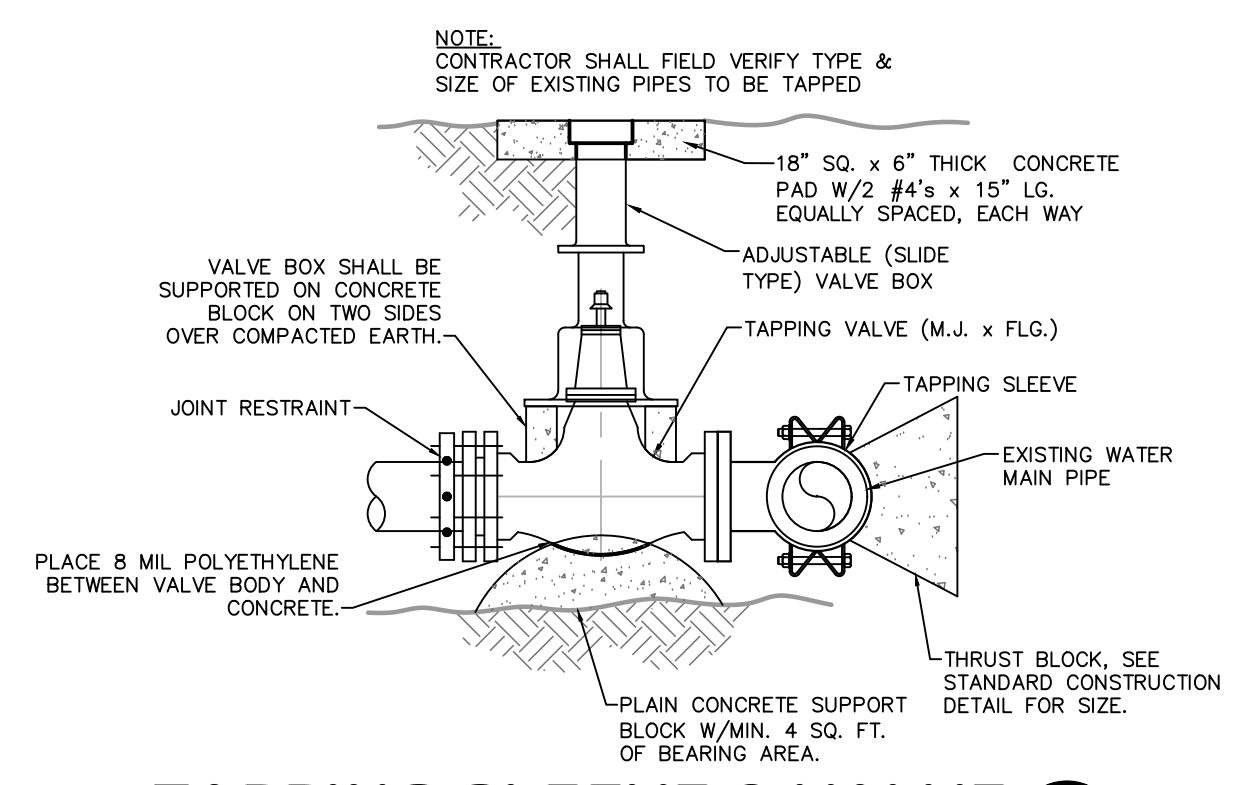
NOTE: ALL FIRE HYDRANTS SHALL BE FLOW TESTED TO DETERMINE THE MAXIMUM FLOW THAT EACH HYDRANT CAN PRODUCE WITHOUT DROPPING THE SYSTEM PRESSURES BELOW 20 PSIG. IF A THROTTLING MECHANISM IS USED, IT SHALL THEN BE SET AT THE MAXIMUM FLOW THAT WILL NOT DROP SYSTEM PRESSURES BELOW 20 PSIG. DEPENDING UPON THE RESULTS OF THE FLOW TEST, THE BONNET AND NOZZLE CAPS OF EACH HYDRANT SHOULD BE PAINTED THE APPROPRIATE COLOR TO INDICATE ITS FLOW CLASS IN ACCORDANCE WITH LOCAL FIRE AUTHORITY REQUIREMENTS OR NFPA STANDARDS.



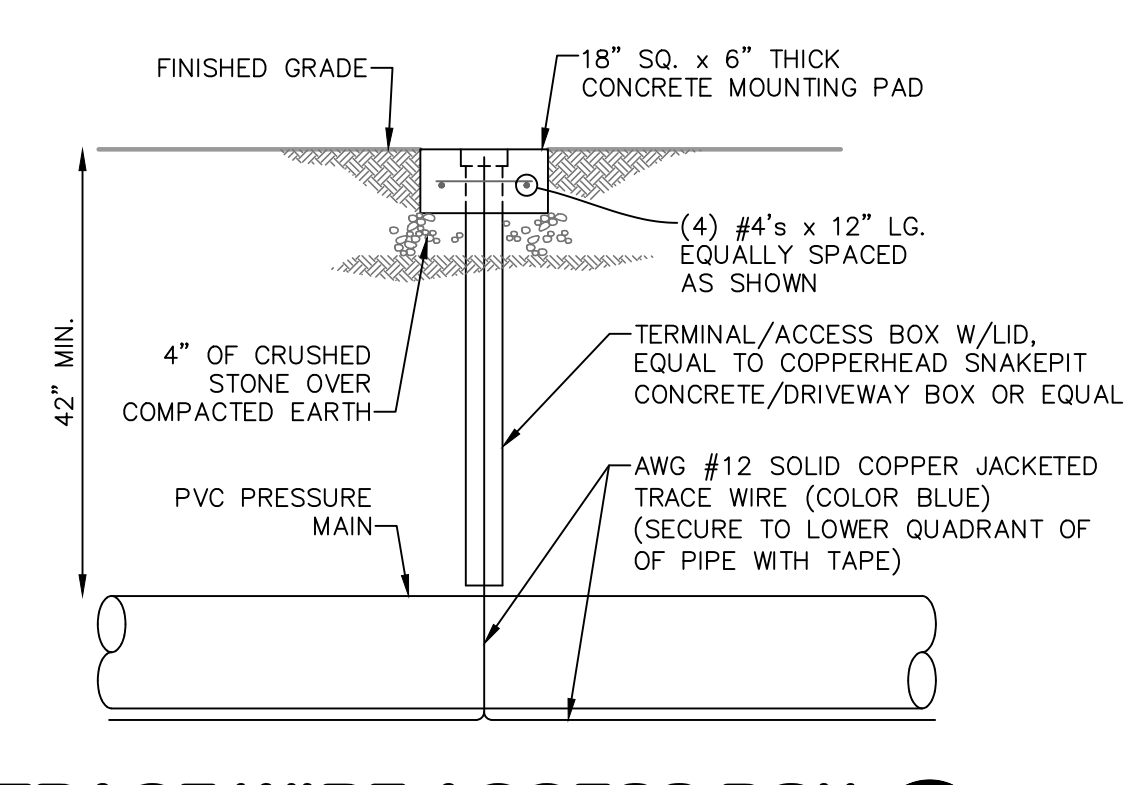
POST HYDRANT DETAIL (B)
SCALE: NTS



ELEVATION



TAPPING SLEEVE & VALVE (I)
SCALE: NTS



TRACE WIRE ACCESS BOX (J)
SCALE: NTS



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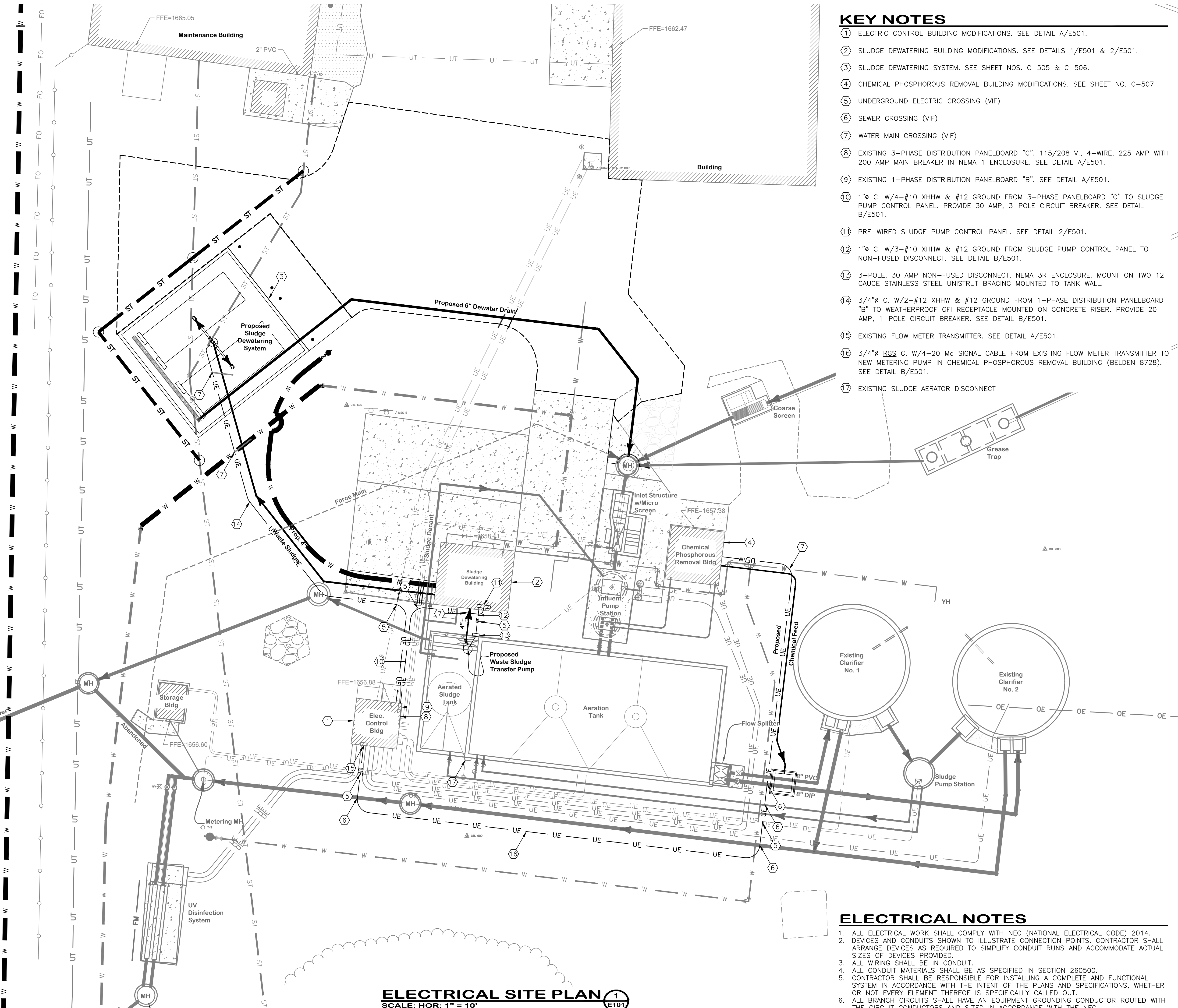
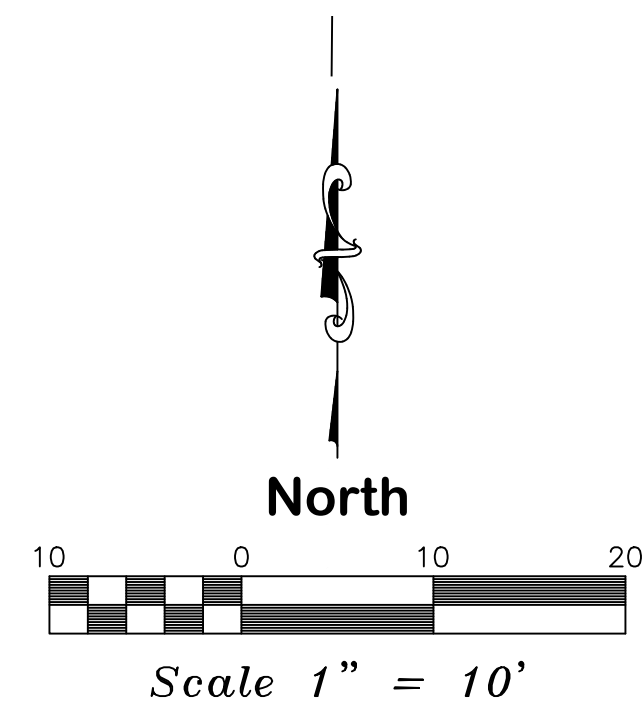
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DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**WATER
DETAILS**

SHEET NUMBER:

C-510

20 OF 22 SHEETS
01-06-2023



ELECTRICAL SITE PLAN 1
 SCALE: HOR: 1" = 10' (E101)

KEY NOTES

- ① ELECTRIC CONTROL BUILDING MODIFICATIONS. SEE DETAIL A/E501.
- ② SLUDGE DEWATERING BUILDING MODIFICATIONS. SEE DETAILS 1/E501 & 2/E501.
- ③ SLUDGE DEWATERING SYSTEM. SEE SHEET NOS. C-505 & C-506.
- ④ CHEMICAL PHOSPHOROUS REMOVAL BUILDING MODIFICATIONS. SEE SHEET NO. C-507.
- ⑤ UNDERGROUND ELECTRIC CROSSING (VIF)
- ⑥ SEWER CROSSING (VIF)
- ⑦ WATER MAIN CROSSING (VIF)
- ⑧ EXISTING 3-PHASE DISTRIBUTION PANELBOARD "C". 115/208 V., 4-WIRE, 225 AMP WITH 200 AMP MAIN BREAKER IN NEMA 1 ENCLOSURE. SEE DETAIL A/E501.
- ⑨ EXISTING 1-PHASE DISTRIBUTION PANELBOARD "B". SEE DETAIL A/E501.
- ⑩ 1"ø C. W/4-#10 XHHW & #12 GROUND FROM 3-PHASE PANELBOARD "C" TO SLUDGE PUMP CONTROL PANEL. PROVIDE 30 AMP, 3-POLE CIRCUIT BREAKER. SEE DETAIL B/E501.
- ⑪ PRE-WIRED SLUDGE PUMP CONTROL PANEL. SEE DETAIL 2/E501.
- ⑫ 1"ø C. W/3-#10 XHHW & #12 GROUND FROM SLUDGE PUMP CONTROL PANEL TO NON-FUSED DISCONNECT. SEE DETAIL B/E501.
- ⑬ 3-POLE, 30 AMP NON-FUSED DISCONNECT, NEMA 3R ENCLOSURE. MOUNT ON TWO 12 GAUGE STAINLESS STEEL UNISTRUT BRACING MOUNTED TO TANK WALL.
- ⑭ 3/4"ø C. W/2-#12 XHHW & #12 GROUND FROM 1-PHASE DISTRIBUTION PANELBOARD "B" TO WEATHERPROOF GFI RECEPTACLE MOUNTED ON CONCRETE RISER. PROVIDE 20 AMP, 1-POLE CIRCUIT BREAKER. SEE DETAIL B/E501.
- ⑮ EXISTING FLOW METER TRANSMITTER. SEE DETAIL A/E501.
- ⑯ 3/4"ø RGS C. W/4-20 Ma SIGNAL CABLE FROM EXISTING FLOW METER TRANSMITTER TO NEW METERING PUMP IN CHEMICAL PHOSPHOROUS REMOVAL BUILDING (BELDEN 8728). SEE DETAIL B/E501.
- ⑰ EXISTING SLUDGE AERATOR DISCONNECT

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH NEC (NATIONAL ELECTRICAL CODE) 2014.
2. DEVICES AND CONDUITS SHOWN TO ILLUSTRATE CONNECTION POINTS. CONTRACTOR SHALL ARRANGE DEVICES AS REQUIRED TO SIMPLIFY CONDUIT RUNS AND ACCOMMODATE ACTUAL SIZES OF DEVICES PROVIDED.
3. ALL WIRING SHALL BE IN CONDUIT.
4. ALL CONDUIT MATERIALS SHALL BE AS SPECIFIED IN SECTION 260500.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS, WHETHER OR NOT EVERY ELEMENT THEREOF IS SPECIFICALLY CALLED OUT.
6. ALL BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR ROUTED WITH THE CIRCUIT CONDUCTORS AND SIZED IN ACCORDANCE WITH THE NEC.

STATE OF MISSOURI
 MICHAEL L. PARSON,
 GOVERNOR



Thomas E. Hancock, MO Engineer No. E-30067



OFFICE OF ADMINISTRATION
 DIVISION OF FACILITIES
 MANAGEMENT,
 DESIGN AND CONSTRUCTION

DEPARTMENT OF
 CORRECTIONS

REPLACE SEWER LINES
 & INFRASTRUCTURE

OZARK CORRECTIONAL CENTER

929 HONOR CAMP LANE
 FORDLAND, MISSOURI

PROJECT # C1907-01
 SITE # 7003
 FACILITY # 9327003071
 9327003073; 9327003081

REVISION: _____
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CAD DWG FILE: E-101.DWG
 DRAWN BY: TEH
 CHECKED BY: RDM
 DESIGNED BY: TEH

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

SHEET NUMBER:

E-101

21 OF 22 SHEETS
 01-06-2023



01-06-2023
Thomas E. Hancock, MO Engineer No. E-30067



OFFICE OF ADMINISTRATION
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DATE:
ISSUE DATE: 01-06-2023

CAD DWG FILE: E-501.DWG
DRAWN BY: TEH
CHECKED BY: RDM
DESIGNED BY: TEH

SHEET TITLE:
**ELECTRICAL
DETAILS**

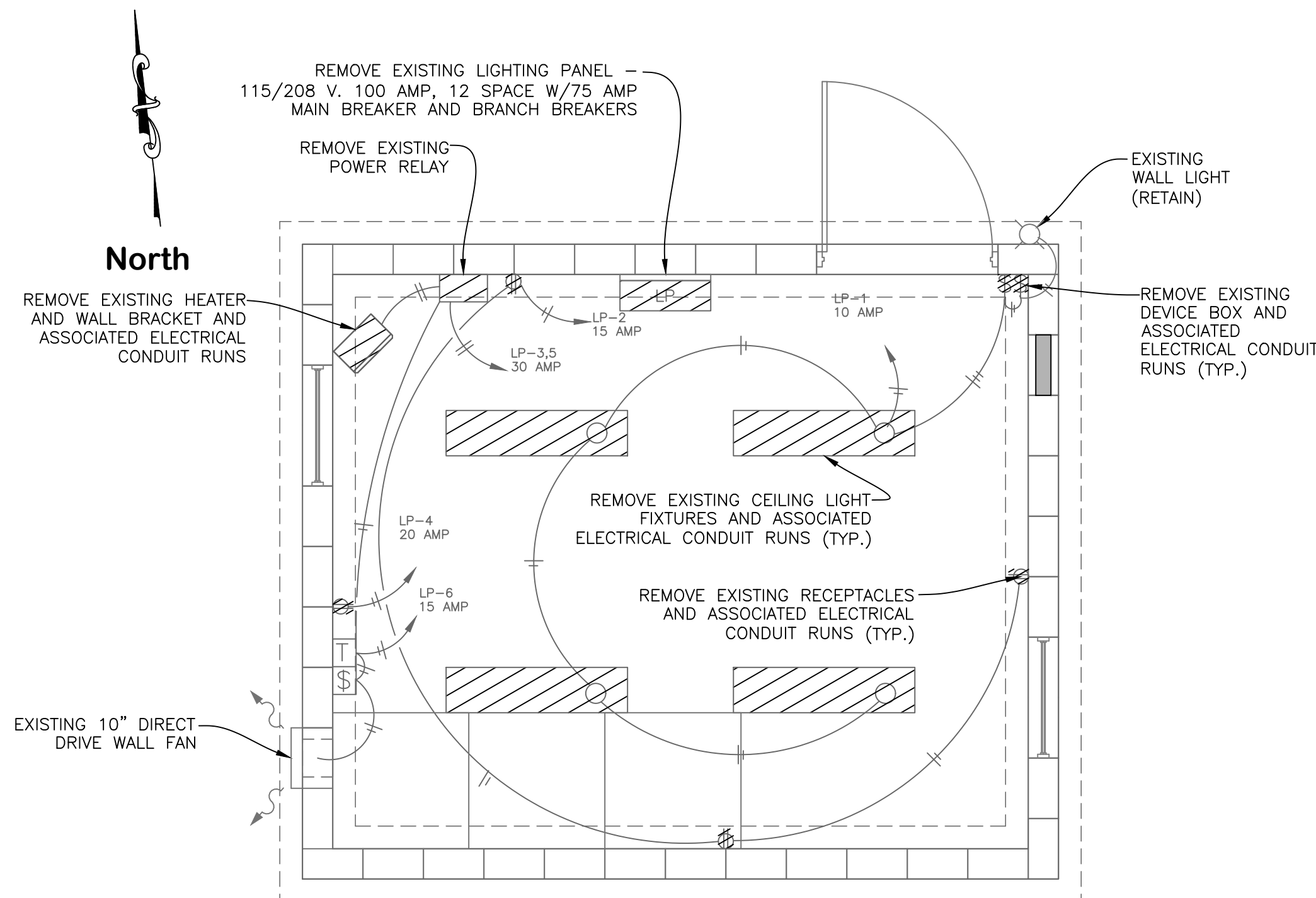
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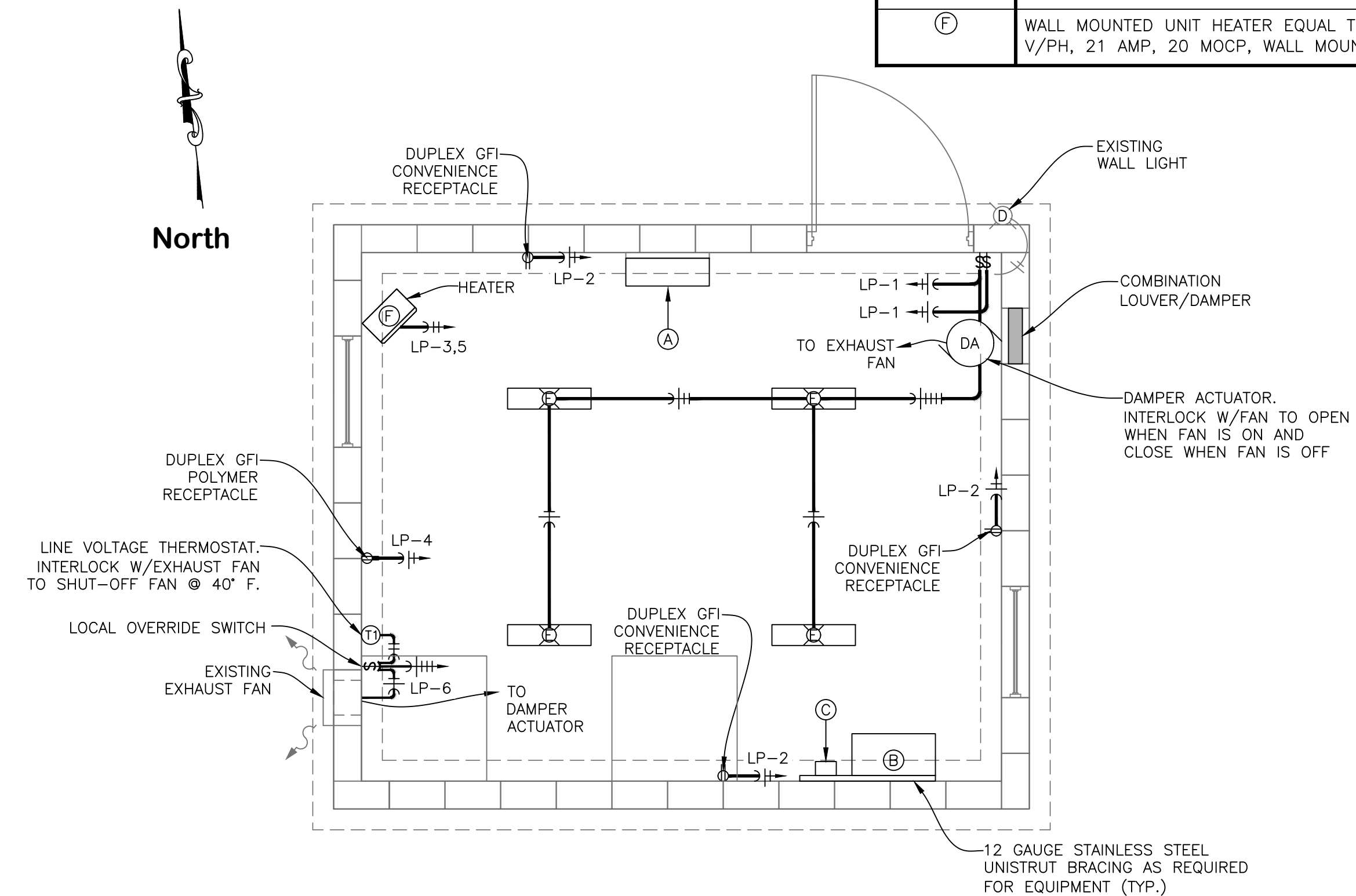
22 OF 22 SHEETS
01-06-2023

115/208 VOLT PANEL 1 PHASE 3 WIRE 12 POLES		PANELBOARD LP MAINS MCB-100A		SURFACE MOUNT	
CKT #	DESCRIPTION	BREAKER	CKT #	DESCRIPTION	BREAKER
1	LIGHTS	20/1	2	CONVENIENCE RECEPTACLES	20/1
3	UNIT HEATER	30/2	4	POLYMER RECEPTACLE	20/1
5			6	EXHAUST FAN & LOUVER	20/1
7	SPARE		8	SPARE	
9	SPARE		10	SPARE	
11	SPARE		12	SPARE	

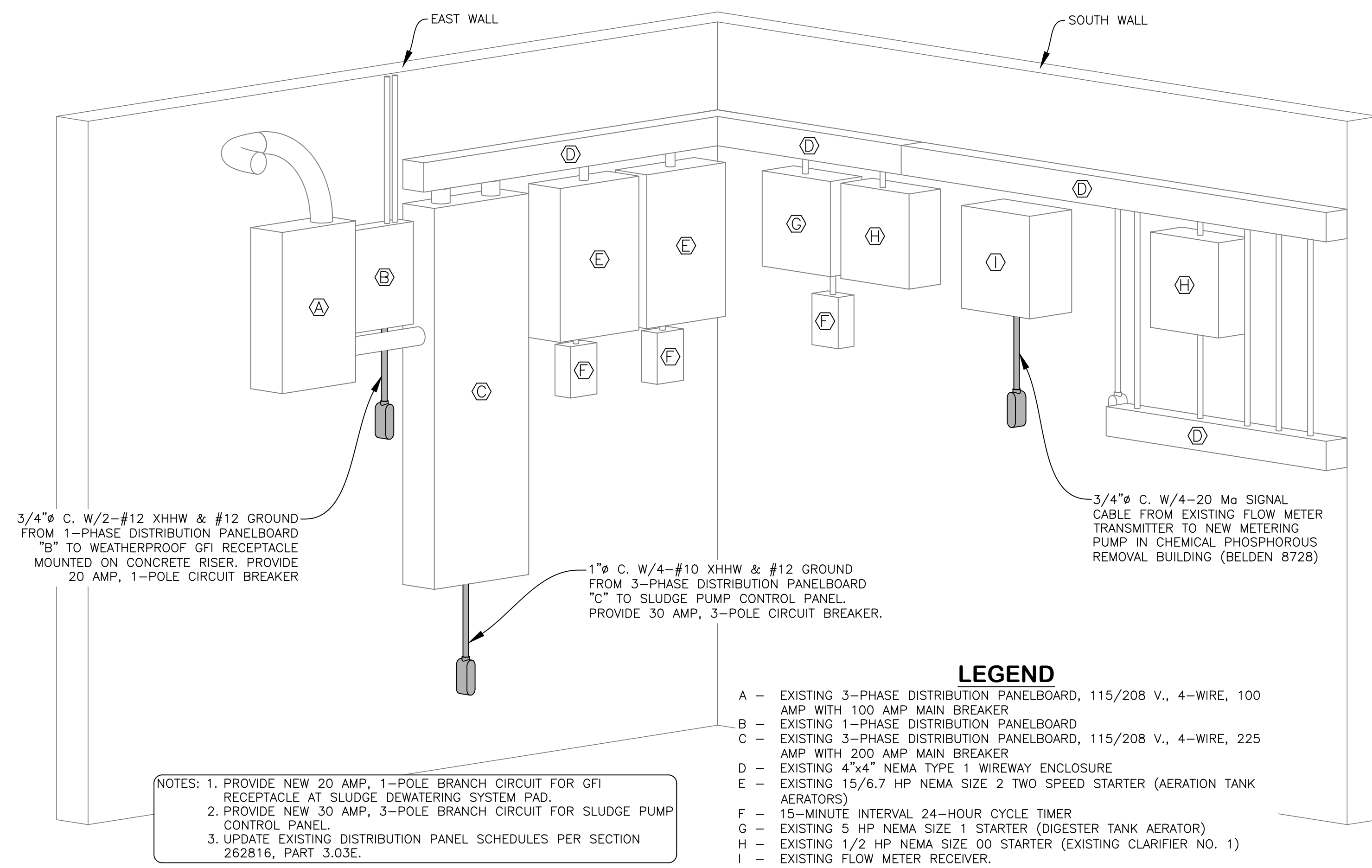
ELECTRICAL EQUIPMENT SCHEDULE	
MARK	DESCRIPTION
(A)	100 AMP, 115/208 VAC, 1-PHASE, 3-WIRE, 12 SINGLE-POLE SPACES LOAD CENTER W/100 AMP, 2-POLE MAIN BREAKER AND BRANCH BREAKERS AS INDICATED OR REQUIRED
(B)	PRE-WIRED PUMP CONTROL PANEL (SEE SPECIFICATION SECTION 444629.13)
(C)	ELECTROMAGNETIC FLOW METER TRANSMITTER (SEE SPECIFICATION SECTION 409116.29)
(D)	EXISTING EXTERIOR LIGHT FIXTURE, 120 VOLT, 100 WATT, WALL MOUNT
(E)	INTERIOR LIGHT FIXTURE EQUAL TO LITHONIA DMW2-L24-4000LM-AFL-MD-MVOLT-GZ1-50K-80CRI, 120 VOLT, LED, CEILING MOUNT
(F)	WALL MOUNTED UNIT HEATER EQUAL TO BERKO HUHA524, 5 kW, 350 CFM (NOM), 1/100 HP, 240/1 V/PH, 21 AMP, 20 MOCP, WALL MOUNTING BRACKET, UNIT MOUNTED THERMOSTAT (FACTORY INSTALLED)



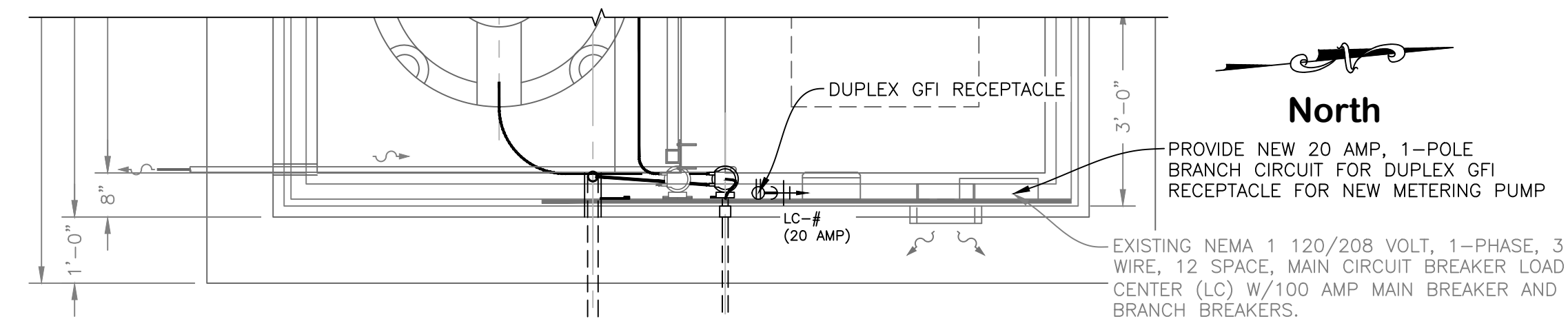
DEWATERING BUILDING FLOOR PLAN 1
SCALE: 3/8" = 1'-0"
E501



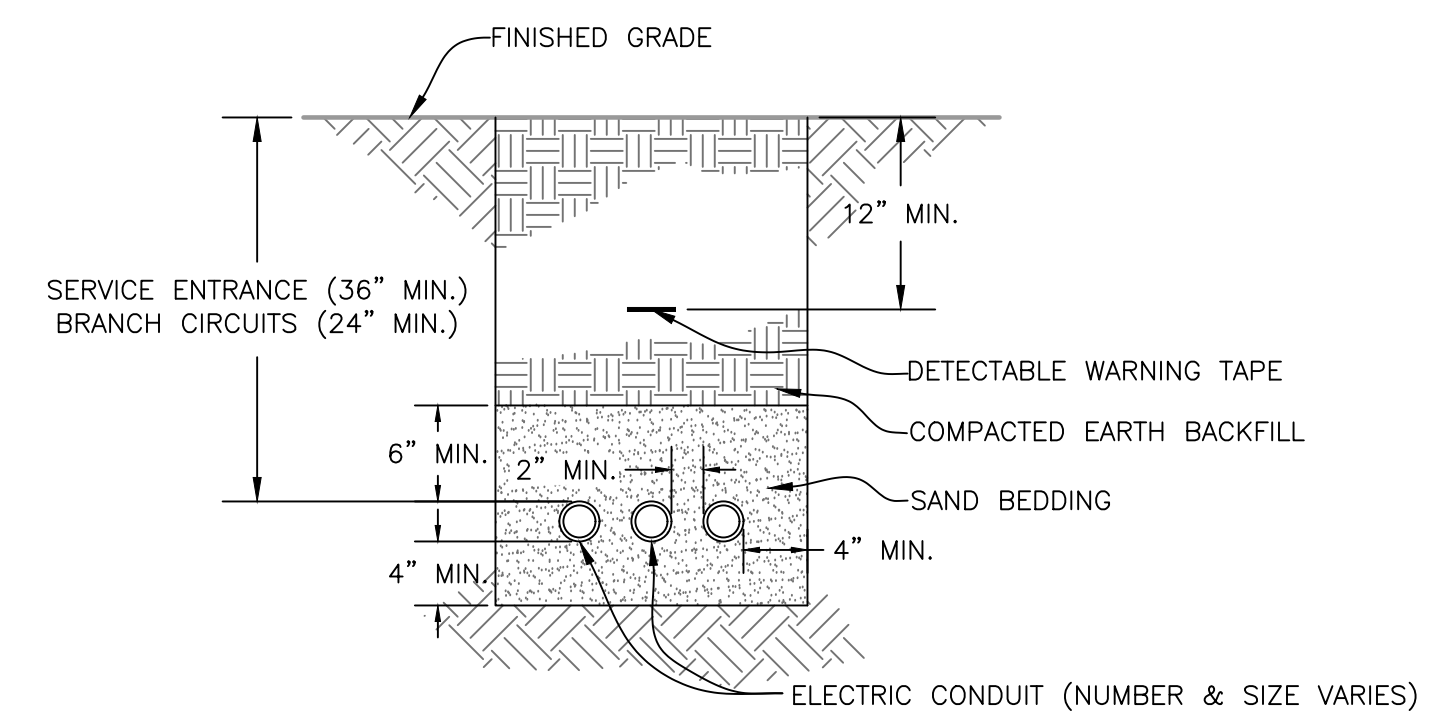
DEWATERING BUILDING FLOOR PLAN 2
SCALE: 3/8" = 1'-0"
E501



ELECTRIC CONTROL BUILDING DISTRIBUTION DIAGRAM
SCALE: NTS
E501



CHEMICAL FEED STRUCTURE ELECTRICAL FLOOR PLAN 3
SCALE: 1/2" = 1'-0"
E501



ELECTRIC CONDUIT TRENCH & BEDDING DETAIL B
SCALE: NTS
E501

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