

GENERAL

1. ALL ITEMS FOR THIS PROJECT SHALL CONFORM TO THE 2023 EDITION OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS (WV DOH) STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES SHALL GOVERN THIS IMPROVEMENT, EXCEPT WHERE NOTED. ALL REFERENCES TO SECTION NUMBERS IN THE FOLLOWING ITEMS REFER TO THE AFOREMENTIONED STANDARD SPECIFICATIONS.
2. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS NECESSARY TO COORDINATE FULL-TIME INSPECTION SERVICE FOR THE PROPOSED WORK.
3. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO ENGINEER AT LEAST SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION.
4. TWENTY-FOUR (24) HOUR ADVANCE NOTIFICATION IS REQUIRED FOR ALL WORK REQUIRING INSPECTION, TESTING, OR APPROVAL BY THE ENGINEER.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND VERIFY THE EXTENT OF THE WORK TO BE PERFORMED PRIOR TO MAKING HIS BID, INCLUDING BUT NOT LIMITED TO THE REMOVAL OF ANY AND ALL ITEMS.
6. THE CONTRACTOR AND SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR OR SUBCONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR AND SUBCONTRACTOR SHALL ALSO ABIDE BY ALL CITY ORDINANCES AND STATE/FEDERAL LAWS. THE CONTRACTORS AND ALL SUBCONTRACTORS SHALL SUBMIT THEIR SAFETY PLANS PRIOR TO CONSTRUCTION. A COMPLETE SET OF PLANS, SPECIFICATIONS AND SAFETY PLAN MUST BE ON THE JOB SITE AT ALL TIMES AND AVAILABLE FOR VIEWING.
7. IF THE CONTRACTOR ENCOUNTERS CONTAMINATED SOILS OR NOXIOUS FUMES, OPERATIONS SHOULD BE CEASED IMMEDIATELY.

EXISTING UTILITIES

8. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL CLEARANCES EXIST PER THE APPROVED PLANS. THE CONTRACTOR SHALL CALL TOLL FREE, THE WEST VIRGINIA 811OR 1-800-245-4848 (WEB SITE: WWW.WV811.COM) FORTY-EIGHT (48) HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.
9. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON THE RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CITY AND/OR ENGINEER OF RECORD (EOR) ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OF THE LOCATIONS OR DEPTHS OF THE UNDERGROUND FACILITIES AS SHOWN ON THE PLANS. CONTRACTOR MUST GIVE ADEQUATE NOTICE TO THE APPROPRIATE UTILITY COMPANY BEFORE ANY EXCAVATION NEAR A KNOWN UTILITY PER STATE LAW. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY UTILITIES AS REQUIRED BY THE PLAN WITH THE OWNER OF THE AFFECTED UTILITY.
11. THE CONTRACTOR SHALL LOCATE (MARK) ALL EX. UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE EXCAVATION/INSTALLATION OF THE PROPOSED SEWER
12. WHERE POTENTIAL CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF LAYING PIPE OR DUCT FOR THE EOR TO DETERMINE THE EXACT ELEVATION AND MAKE ANY NECESSARY ADJUSTMENTS. COST OF THE ABOVE SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.
13. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY AND ALL EXISTING WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS CONTRACT TO EQUAL OR BETTER CONDITION PRIOR TO THE DAMAGE, AT THE CONTRACTOR'S OWN EXPENSE. ALL SAID WORK TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER. ANY DAMAGE TO OTHER UTILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE APPROPRIATE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
14. ANY EXISTING UTILITY (GAS, ELECTRIC, CABLE TELEVISION, TELEPHONE, WATER LINE, STORM OR SANITARY APPURTENANCE, ETC.) IN OR OUTSIDE THE CONSTRUCTION LIMITS DAMAGED DURING THE CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE UTILITY.
15. TEMPORARY RELOCATION OF ELECTRICAL UTILITIES, INCLUDING RESTRAINT OF POLES, RELOCATION OF POLES, AND RUBBER COVERING OF ENERGIZED CONDUCTORS MAY BE REQUIRED. THE COORDINATION AND COST OF THESE SERVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY RESTRAIN POLES IF THE METHOD OF SUPPORT HAS BEEN SUBMITTED TO AND APPROVED BY THE UTILITY COMPANY.
16. THE UTILITY WILL ONLY LOCATE AND MARK MAIN LINE SEWERS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATIONS ALL SERVICE LATERALS WHETHER SHOWN ON PLANS OR NOT.

EXISTING CONDITIONS

17. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS AND STAKES AND IN CASE OF WILLFUL OR CARELESS DESTRUCTION, HE SHALL BE CHARGED WITH THE RESULTING EXPENSE OF REPLACEMENT AND SHALL BE RESPONSIBLE FOR ANY MISTAKES THAT MAY BE CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE. ANY EXISTING PROPERTY CORNER PINS OR MONUMENTS DAMAGED OR DESTROYED BY CONSTRUCTION SHALL BE RESET BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE UPON COMPLETION OF THE PROJECT PRIOR TO FINAL PAYMENT. A CERTIFICATION SHALL BE FURNISHED BY A WV REGISTERED SURVEYOR, STATING THAT SAID DAMAGES HAVE BEEN RESTORED. THE CONTRACTOR SHALL PROVIDE SITE EROSION CONTROL TO PREVENT RUNOFF WATER FROM THE SITE FROM CARRYING SAND, SILT, DIRT, ETC. ONTO PRIVATE PROPERTY, OR INTO ANY STORM SEWER OR DRAINAGE CHANNEL. EROSION CONTROL SHALL CONFORM WITH THE REQUIREMENTS OF SPECIFICATIONS AND DRAWINGS.
18. CARE SHALL BE EXERCISED WHEN WORKING THE AREA AROUND EXISTING TREES AND SHRUBS. ANY TREES OR SHRUBS NOT MARKED FOR REMOVAL THAT ARE DAMAGED BY THE CONTRACTOR WILL HAVE TO BE REPLACED BY THE CONTRACTOR, AT HIS EXPENSE AND TO THE SATISFACTION OF THE OWNER.
19. THE CONTRACTOR SHALL PROVIDE PROPER TRENCHING SUPPORT AT ALL TIMES. ANY DAMAGE TO ADJACENT STRUCTURES, PAVEMENT, SIDEWALKS, OR UTILITIES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. ALL SAID WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER.
20. EXISTING SANITARY FLOWS SHALL BE MAINTAINED AND PROPERLY BYPASSED ACCORDING TO PROJECT SPECIFICATIONS.

DISPOSAL OF MATERIALS

21. THE CONTRACTOR IS RESPONSIBLE FOR PROPER DISPOSAL OF ALL CONSTRUCTION DEBRIS INCLUDING BUT NOT LIMITED TO EXCESS SOIL, ROCK, OR ANY OTHER TYPE MATERIALS. THE CONTRACTOR SHALL NOT FILL ANY WETLANDS, LOW LANDS, FLOOD PLAINS, OR DRAINAGE WAYS WITH SAID DEBRIS WITHOUT OBTAINING PROPER APPROVALS, PERMITS, LICENSES, ETC. FROM LOCAL, STATE, OR FEDERAL AGENCIES.
22. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF MATERIALS TAKEN FROM EXCAVATIONS.
23. THE OPEN BURNING OF SITE CLEARING DEBRIS, TRASH, ETC. IS PROHIBITED IN THE CITY.

RESTORATION

24. ALL MAIL BOXES AND TRAFFIC CONTROL SIGNS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPLACED IMMEDIATELY AFTER THE SEWER HAS BEEN INSTALLED AND BACKFILLED. PROVIDE TEMPORARY MAIL BOXES FOR DISRUPTIONS GREATER THAN 24 HOURS.
25. RESTORATION IN MOST CASES SHALL BE PERFORMED ACCORDING TO THE CITY OF WHEELING TRENCH DETAILS AS SHOWN ON THE DETAIL SHEET. ANY EXCEPTIONS TO THIS RESTORATION METHOD ARE PRESENTED IN THE PLAN SHEETS ON A CASE BY CASE BASIS.

ADDITIONAL CLARIFYING NOTES

26. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH PROPERTY OWNERS.

TREE CLEARING

27. NO CLEARING SHALL TAKE PLACE OUTSIDE OF THE DESIGNATED WORK LIMITS.

CONSTRUCTION LAYOUT STAKES

28. ITEM SHALL CONFORM TO SECTION 639 OF THE WVDOT SPECIFICATION MANUAL. ITEM SHALL BE PAID ON A LUMP SUM (LS) BASIS.

PAVEMENT/SIDEWALK SECTION

35. ITEM 408002 TACK COAT SHALL CONFORM TO SECTION 408 OF THE WVDOT SPECIFICATION MANUAL. THE UNIT OF MEASURE SHALL BE GALLONS.

36. ITEM 501001- 8" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT. THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, MATERIAL AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL THIS ITEM TO CONFORM TO SECTION 501 OF THE WVDOT SPECIFICATIONS MANUAL . THIS ITEM SHALL INCLUDE SAW CUTTING PAVEMENT FULL DEPTH PRIOR TO EXCAVATION. THE PAY LIMIT WIDTH OF REPLACEMENT IS ESTABLISHED IN THE STANDARD DETAIL DRAWING FOR THE VARIOUS SIZE PIPES. MAXIMUM WIDTH IS PAVED AREA DISTURBED. THE UNIT OF MEASURE SHALL BE SQUARE YARDS (SY) INSTALLED AS SHOWN ON THE STANDARD DETAIL DRAWINGS, MEASURED IN PLACE.
37. ITEM 307001- 6" CLASS 1 AGGREGATE BASE COURSE, THIS ITEM SHALL CONFORM TO SECTION 307 OF THE WVDOT SPECIFICATION MANUAL. ALL WORK, LABOR, MATERIAL, DISPOSAL, EQUIPMENT, AGGREGATE, AND EXCAVATION NECESSARY TO COMPLETE WORK SHALL BE INCLUDED IN THIS ITEM. THIS ITEM SHALL BE PAID FOR BY THE CUBIC YARD PLACED (CY).
38. ITEM 401002- 2" WEARING COURSE TYPE 4. THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, MATERIAL AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL WEARING COURSE. THIS ITEM SHALL INCLUDE PLACEMENT OF WEARING COURSE TYPE 4 AS SHOWN ON THE STANDARD DETAIL DRAWINGS AND PER THE CONTRACT DOCUMENTS. THE PAY LIMIT WIDTH OF REPLACEMENT IS ESTABLISHED IN THE STANDARD DETAIL DRAWING FOR THE VARIOUS SIZE PIPES, MAXIMUM WIDTH IS PAVED AREA DISTURBED. ALL WORK NECESSARY TO COMPLETE THE ITEM IN ACCORDANCE WITH THE WVD0H SPECIFICATIONS (TABLE 401.4.2A) AND THE NOTES OUTLINED IN THESE PLANS. THE UNIT OF MEASURE SHALL BE TONS (TON) INSTALLED AS SHOWN ON THE STANDARD DETAIL DRAWINGS, MEASURED IN PLACE.
39. ITEM 609002- RED COURSE MATERIAL, THIS ITEM SHALL CONFORM TO SECTION 609 OF THE WVDOT SPECIFICATION MANUAL. ALL WORK, LABOR, MATERIAL, DISPOSAL, AGGREGATE, EQUIPMENT, AND EXCAVATION NECESSARY TO COMPLETE ITEM SHALL BE INCLUDED. THIS ITEM SHALL BE PAID FOR BY CUBIC YARD (CY).

MOBILIZATION

40. ITEM SHALL CONFORM TO SECTION 204 OF THE WVDOT SPECIFICATION MANUAL THIS ITEM SHALL INCLUDE PERFORMANCE OF CONSTRUCTION PREPARATORY OPERATIONS, INCLUDING THE MOVEMENT OF PERSONNEL AND EQUIPMENT TO THE PROJECT SITE, PERMITS, BONDING AND INSURANCE. MAXIMUM PAYMENT FOR THIS ITEM WILL BE 50% ON FIRST PAY REQUEST AND BALANCE WILL BE PAID ON FINAL PAY REQUEST. ITEM SHALL BE PAID IN LUMP SUM (LS) BASIS.

MAINTENANCE OF TRAFFIC

41. ITEM SHALL CONFORM TO SECTION 636 OF WVDOT SPECIFICATION MANUAL AND DETAILS ON THE CONSTRUCTION PLAN SET. ITEM SHALL BE LUMP SUM (LS) BASIS. ANY IMPACTS TO ACCESS MUST BE COORDINATED WITH PROPERTY OWNERS A MINIMUM OF 24-HOUR IN ADVANCE. THE CONTRACTORS SHALL PROVIDE UPDATES TO THE CITY WITH TRAFFIC IMPACTS SEVEN DAYS PRIOR TO MAKING CHANGES. CHANGES TO THE MAINTENANCE OF TRAFFIC PLAN, CLOSURES, AND WEEKLY UPDATES SHALL BE SENT TO THE ENGINEER AND OWNER. TRAFFIC CONTROL SHALL BE COORDINATED WITH THE CITY OF WHEELING POLICE. PARKING CHANGES MUST BE POSTED ALONG THE STREET IMPACTED A MINIMUM OF 24-HOURS IN ADVANCE.
42. ROADWAYS SHALL ONLY BE CLOSED ONE LANE AT A TIME. PROVIDE A SIGNED PEDESTRIAN DETOUR, ROADWAY CLOSED AHEAD SIGNS, AND PEDESTRIAN BARRICADES.
43. THE CONTRACTOR SHALL COORDINATE INDIVIDUALLY WITH BUSINESS OWNERS ALONG THE ALIGNMENT TO ENSURE THAT TRUCK AND SHIFT TRAFFIC WILL NOT BE IMPEDED BY CONSTRUCTION. A SCHEDULE SHALL BE DEVELOPED THAT IS AGREED UPON BETWEEN THE BUSINESS OWNER AND CONTRACTOR.
44. TEMPORARY LIGHTING MAY BE USED IN LIEU OF FLAGMEN. IN ACCORDANCE WITH THE WVDOT MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS, 2006 EDITION, SPECIFICALLY DESCRIBED IN SECTION F.75 THROUGH F.80 OF THE MANUAL. IN ALL CASES THE MAINTENANCE OF TRAFFIC PLAN SHALL BE APPLIED AND ADHERED TO.

SANITARY SEWER

45. ITEM 675007- 8" PLASTIC SEWER PIPE (SDR 35)
ALL SANITARY SEWER PIPE SHALL BE PVC SDR 35 (ASTM D3034). POLYVINYL CHLORIDE PIPE SHALL CONFORM TO SECTION 675 AND SUBSECTION 714.22 OF THE WVD0H SPECIFICATION MANUAL. ITEM SHALL BE PAID ON A LINEAR FOOT (LF) BASIS AND SHALL INCLUDE FITTINGS, PIPE MATERIAL, INSTALLATION, AND SUITABLE MATERIAL TO BE REUSED FOR TRENCH PLACEMENT
46. COST OF ALL LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE TRENCH WORK TO THE SURFACE OF THE EXISTING GROUND OR BOTTOM OF THE AGGREGATE BASE COURSE IN ACCORDANCE OF THE DETAILS IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE
47. ITEM 219001 - CLSM TYPE B
CONTRACTOR TO FILL EXISTING STORM SEWER PIPE WITH CLSM TYPE B. CLSM SHALL CONFORM TO SECTION 219 OF THE WVDOT SPECIFICATION MANUAL. ITEM SHALL BE PAID ON A CUBIC YARD (CY) BASIS.
48. ITEM 604052 - PLASTIC SEWER PIPE SHALL CONFORM TO SECTION 604 AND SUBSECTION 714.19 OF THE WVDOT SPECIFICATION MANUAL. ITEM SHALL BE PAID ON A LINEAR FOOT (LF) BASIS AND SHALL INCLUDE THE FITTINGS, PIPE MATERIAL, INSTALLATION, AND SUITABLE MATERIAL TO BE REUSED FOR TRENCH PLACEMENT.
49. ITEM 605001 ALL MANHOLES SHALL BE WVDOT TYPE A MANHOLES ACCORDING TO DETAILS. THIS ITEM SHALL CONFORM TO SECTION 605 OF THE WVDOT SPECIFICATION MANUAL. ITEM SHALL BE PAID ON AN EACH (EA) BASIS AND IS TO INCLUDE ALL EQUIPMENT, MATERIAL INCLUDING GRATE AND CORRESPONDING FRAME, INSTALLATION, AND LABOR.

50. ITEM 605004 ALL INLETS SHALL BE WVDOT TYPE B INLETS ACCORDING TO DETAILS (UNLESS OTHERWISE NOTED). THIS ITEM SHALL CONFORM TO SECTION 605 OF THE WVDOT SPECIFICATION MANUAL. ITEM SHALL BE PAID ON AN EACH (EA) BASIS AND IS TO INCLUDE ALL EQUIPMENT, MATERIAL INCLUDING GRATE AND CORRESPONDING FRAME, INSTALLATION, AND LABOR.

51. COST OF ALL LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE TRENCH WORK TO THE SURFACE OF THE EXISTING PAVEMENT IN ACCORDANCE OF THE DETAILS IN THE PLANS SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE.

52. ALL MANHOLES LIDS SHALL BE INSTALLED FLUSH WITH GROUND

53. FOR PIPE SIZES 12"-30" THE PROPOSED STORM SEWER PIPE SHALL BE HDPE N-12 SMOOTH INTERIOR, CORRUGATED EXTERIOR PER ASTM F-2648; GASKETS PER ASTM F-477; BELL AND SPIGOT JOINTS TO ASTM D-3212; FITTINGS TO ASTM F-2306; AND INSTALLATION AND BEDDING PER ASTM D-2321

54. ALL MANHOLES SHALL BE CONSTRUCTED WITHOUT STEPS. MANHOLE FRAMES AND LIDS SHALL BE EAST JORDAN (NO ALTERNATIVES).

MH FRAME: 1450Z

MH CASTING: DENOTED ON PROFILE

INLET: GRATE DENOTED ON PROFILE

SANITARY SEWER

55. ITEM 675007- 8" PLASTIC SEWER PIPE (SDR35)
PLASTIC SEWER PIPE SHALL CONFORM TO SECTION 675 AND SUBSECTION 714.22 OF THE WVDOT SPECIFICATION MANUAL. ITEM SHALL BE PAID ON A LINEAR FOOT (LF) BASIS AND SHALL INCLUDE THE FITTINGS, PIPE MATERIAL, INSTALLATION, AND SUITABLE MATERIAL TO BE REUSED FOR TRENCH PLACEMENT

SPECIAL ITEMS

56. ITEM SPECIAL - HEADWALL 1 (18" PIPE)
ITEM SHALL CONFORM TO WVDOT SECTION 601 CLASS B CONCRETE. ALL WORK, LABOR, EXCAVATION,AND MATERIAL SHALL BE INCLUDED IN THIS ITEM. WORK SHALL BE PAID FOR ON AN EACH (EA) BASIS. ITEM SHALL CONFORM TO WVD0H STANDARD DETAIL DR2 (SHEETS 1-4).
57. ITEM SPECIAL - DEBRIS RACK
ITEM SHALL CONFORM TO DEBRIS RACK DETAIL AND MAY BE PREFABRICATED OR FABRICATED ON SITE. ALL WORK, LABOR, EXCAVATION, AND MATERIAL SHALL BE INCLUDED IN THIS PAY ITEM. WORK SHALL BE PAID FOR ON AND (EA) BASIS.
58. ITEM SPECIAL - INSERTA-TEE
ITEM SHALL CONFORM TO WVDOT SUBSECTION 714.19. ALL WORK, LABOR, AND MATERIAL SHALL BE INCLUDED IN THIS PAY ITEM. ITEM SHALL BE PAID FOR ON AN EACH (EA) BASIS.
59. ITEM SPECIAL - UNSUITABLE BACKFILL CONTINGENCY
THE CONTRACTOR SHALL PROVIDE SUITABLE BACKFILL MATERIAL IN THE CASE THAT THE EXISTING MATERIAL IS UNSUITABLE FOR CONSTRUCTION. SUITABILITY FOR CONSTRUCTION SHALL BE AS DESCRIBED IN SECTIONS 207 AND 716 OF THE WVDOT SPECIFICATIONS MANUAL. HOWEVER, THE ENGINEER RESERVES THE RIGHT TO DETERMINE THE SUITABILITY OF BACKFILL MATERIAL. AN ESTIMATE FOR THE REQUIRED AMOUNT OF SUITABLE BACKFILL MATERIAL HAS BEEN INCLUDED IN THE TABLE OF ESTIMATED QUANTITIES, AND SHALL BE PAID ON A CUBIC YARD (CY) BASIS.

60. ITEM SPECIAL - DRIVEWAY REPLACEMENT
THE CONTRACTOR SHALL REPLACE EXISTING DRIVEWAY REMOVED DURING CONSTRUCTION OF THE STORM SEWER IN ACCORDANCE WITH THE STANDARD DETAIL AND SATISFACTION OF ENGINEER. CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT NECESSARY. THE ITEM SHALL BE PAID FOR ON A SQUARE YARD (SY) BASIS.

61. ITEM SPECIAL - BULKHEAD FOR SEWER
THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT A SEWER ADJUSTMENT AS SHOWN ON THE CONSTRUCTION DRAWINGS AS DETAILS. THE CONTRACTOR SHALL BE

RESPONSIBLE FOR REPAIRING ANY DAMAGE AT HIS OWN EXPENSE THAT OCCURS TO THE ADJACENT MANHOLE AS A RESULT OF THE BULKHEAD CONSTRUCTION. ITEM SHALL BE PAID ON AN EACH (EA) BASIS.

63. ITEM SPECIAL - ABANDON STORM STRUCTURE
CONTRACTOR TO FILL EXISTING STORM MANHOLE WITH #57 STONE, CAP WITH 6" OF CONCRETE, AND REMOVE COVER AND CASTING. CASTING AND LID SHALL BE RETURNED TO CITY. ALL WORK, LABOR, MATERIAL, EQUIPMENT, AND EXCAVATION REQUIRED TO ABANDON THE MANHOLE SHALL BE INCLUDED WITH THIS PAY ITEM. ITEM SHALL BE PAID ON AN EACH (EA) BASIS.
62. ITEM SPECIAL- SEWER PIPE REMOVAL
ALL WORK, LABOR, MATERIAL, EQUIPMENT, AND EXCAVATION REQUIRED TO SEAL THE EXISTING CONNECTION SHALL BE INCLUDED WITH THIS PAY ITEM. STORM PIPE REMOVAL SHALL BE PAID ON A LINEAR FOOT (LF) BASIS.
63. ITEM SPECIAL - STORM STRUCTURE REMOVED
WORK IS TO BE PAID FOR ON AN EACH (EA) BASIS. ALL WORK, LABOR, MATERIAL, BACKFILL, EQUIPMENT, DISPOSAL AND EXCAVATION SHALL BE INCLUDED WITH THIS PAY ITEM. CASTING AND GRATE/COVER SHALL BE RETURNED TO CITY.
64. ITEM SPECIAL - EROSION CONTROL
THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH E&S CONTROL SHEET AND THE WVDPE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL WITH LAST REVISION DATE OF AUGUST 29, 2016. DAMAGE TO PROPERTY AS A RESULT OF INADEQUATE EROSION CONTROL MEASURES SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. ITEM SHALL BE PAID ON A LUMP SUM (LS) BASIS.
65. ITEM SPECIAL- GRADING, SEEDING, AND MULCHING (WHEELING)
THE CONTRACTOR SHALL FURNISH ALL LABOR, TOOLS, MATERIAL AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL SURFACE COVERING. THIS ITEM SHALL INCLUDE ALL NECESSARY GRADING, TOPSOIL, FERTILIZER, WATER, SEED AND MULCH TO REPLACE THE DISTURBED OR DAMAGED AREA, COMPLETE AND IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE ITEM SHALL INCLUDE ALL WORK NECESSARY TO COMPLETE THE ITEM IN ACCORDANCE WITH WVD0H SPECIFICATIONS AND THE NOTES OUTLINED IN THESE PLANS. THE UNIT OF MEASURE SHALL BE SQUARE YARDS (SY). COMPUTED BY MULTIPLYING THE LENGTH OF THE DISTURBED AREA AS MEASURED ALONG THE CENTERLINE OF THE PIPE, TIMES THE WIDTH OF THE DISTURBED AREA, BUT IN NO CASE SHALL THE LIMITS OF PAYMENT ON EITHER SIDE OF THE PIPE BE MORE THAN THE WORK LIMITS SHOWN ON THE DRAWINGS. DAMAGED AREAS OUTSIDE OF THE LIMITS WILL BE SEEDED AND MULCHED AT THE CONTRACTOR'S EXPENSE.
66. ITEM SPECIAL - SUPPORT UTILITY POLE
CONTRACTOR TO SUPPORT UTILITY POLE DURING CONSTRUCTION OF STORM SEWER. SUPPORT OF UTILITY POLE SHALL BE AT THE SATISFACTION OF THE ENGINEER AND UTILITY COMPANY. ITEM SHALL BE PAID FOR ON AN EACH (EA) BASIS.
67. ITEM SPECIAL - SUPPORT CAR PORT
CONTRACTOR SHALL SUPPORT CAR PORT DURING CONSTRUCTION OF STORM SEWER. SUPPORT OF CAR PORT SHALL BE AT THE SATISFACTION OF THE ENGINEER. ANY SUBSEQUENT DAMAGE TO HOUSE OR CAR PORT SHALL BE AT THE CONTRACTORS EXPENSE. ITEM TO BE PAID FOR ON A LUMP SUM (LS) BASIS.
68. UTILITY SERVICE RELOCATION CONTINGENCY
IF UTILITY SERVICES ARE ENCOUNTERED THAT CONFLICT WITH THE PROPOSED STORM SEWER INSTALLATION, CONTRACTOR SHALL RELOCATE SERVICE ACCORDINGLY AND IN ACCORDANCE WITH UTILITY COMPANY. CONTRACTOR SHALL FURNISH ALL WORK, LABOR, AND MATERIAL NECESSARY TO FACILITATE THE RELOCATION OF THE RESPECTIVE SERVICE. ITEM SHALL NOT EXCEED \$20,000 OVER DURATION OF PROJECT.
69. ITEM SPECIAL- DOCUMENTATION OF SITE
THE CONTRACTOR SHALL VIDEO RECORD THE PROJECT SITE PRIOR TO START OF ACTIVITIES IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE ONE COPY OF VIDEO TO ENGINEER AND OWNER IN ELECTRONIC FORM ON USB MEMORY DEVICE. ITEM SHALL BE PAID ON A LUMP SUM (LS) BASIS.

LEGEND

EX. BUILDING

EX. CONTOUR

CENTER LINE

EX. R/W

EX. PROPERTY LINE

EX. FENCE

EX. WAT

EX. ELECTRIC

EX. SAN

EX. STM

EX. GAS

EX. OH UTIL

EX. FIBER OPTIC

EX. DRIVEWAY

EX. EASEMENT

EX. VEGETATION

PR. MILLING

PR. TRENCH

PR. SANITARY LINE

PR. SAN. LATERAL REPLACEMENT

EXISTING SAN. LATER

EXISTING WATER VALVE

EXISTING FIRE HYDRANT

EXISTING CURB INLET

EXISTING CATCH BASIN

EXISTING GAS METER

EXISTING UTILITY POLE

EXISTING TRAFFIC CONTROL POLE

EXISTING LIGHT POLE

EXISTING GUY WIRE

EXISTING CABLE TV PEDESTAL

EXISTING SIGN

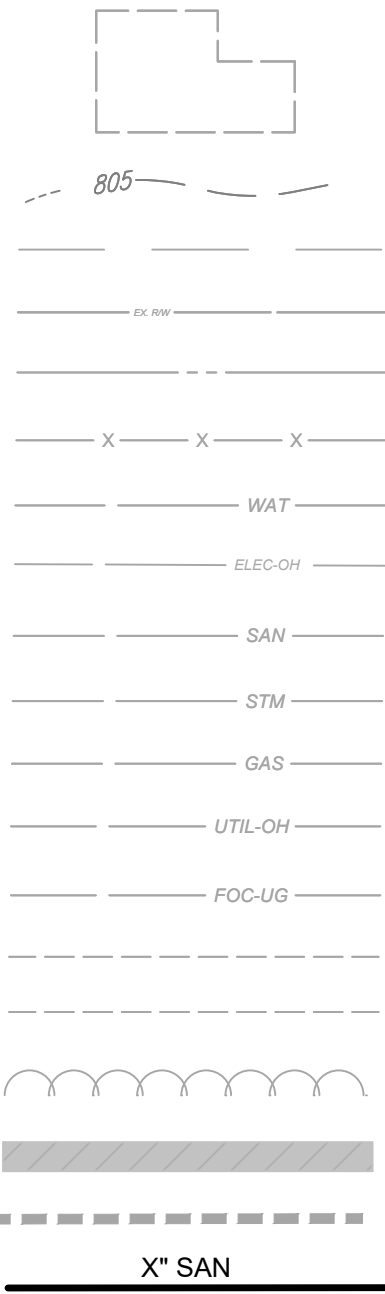
EXISTING MAILBOX

SURVEY BENCHMARK

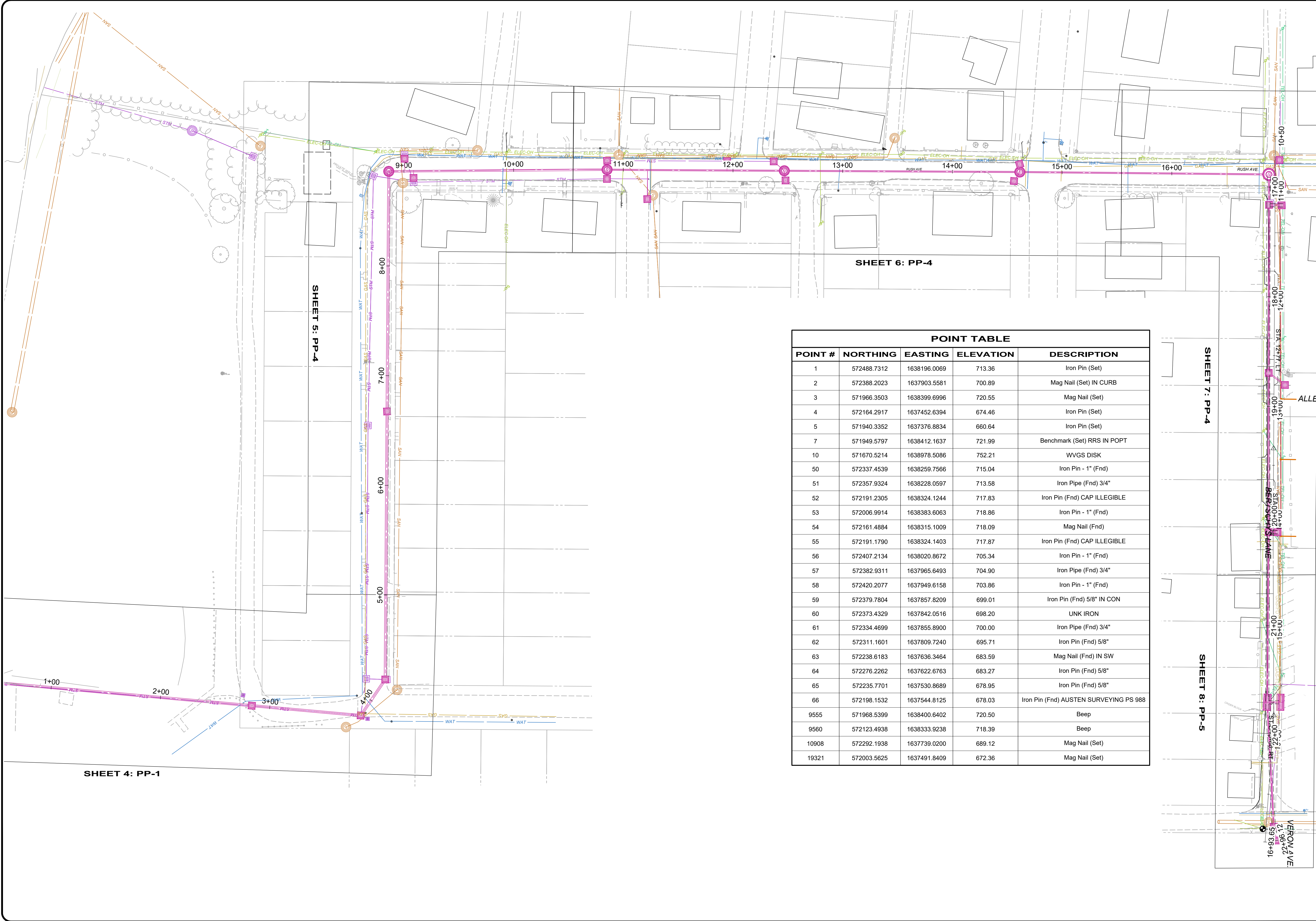
PROPOSED SANITARY MANHOLE

TC = TOP OF CASTING

ToC = TOP OF CONCRETE



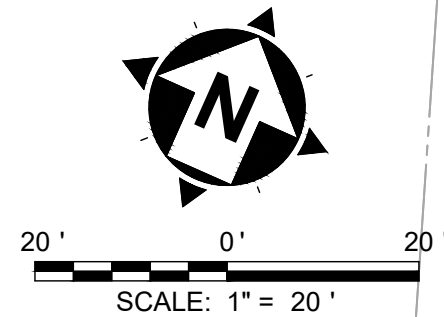
PROJECT NO. 220991 2C		DISCIPLINE CIVIL		SHEET NAME GN1		SHEET 2		OF 19		<div>verdantas</div>			
WATER POLLUTION CONTROL DIVISION WASTEWATER COLLECTION AND TREATMENT GREENWOOD SEWER IMPROVEMENTS						ISSUED FOR:	REVIEW	NO	REVISION	DATE			
						ISSUE DATE:	6/9/2025						
						SCALE:	AS SHOWN						
						DESIGNED BY:							
						DRAWN BY:							
GENERAL NOTES, LEGEND, AND QUANTITIES						CHECKED BY:							



POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	572488.7312	1638196.0069	713.36	Iron Pin (Set)
2	572388.2023	1637903.5581	700.89	Mag Nail (Set) IN CURB
3	571966.3503	1638399.6996	720.55	Mag Nail (Set)
4	572164.2917	1637452.6394	674.46	Iron Pin (Set)
5	571940.3352	1637376.8834	660.64	Iron Pin (Set)
7	571949.5797	1638412.1637	721.99	Benchmark (Set) RRS IN POPT
10	571670.5214	1638978.5086	752.21	WVGS DISK
50	572337.4539	1638259.7566	715.04	Iron Pin - 1" (Fnd)
51	572357.9324	1638228.0597	713.58	Iron Pipe (Fnd) 3/4"
52	572191.2305	1638324.1244	717.83	Iron Pin (Fnd) CAP ILLEGIBLE
53	572006.9914	1638383.6063	718.86	Iron Pin - 1" (Fnd)
54	572161.4884	1638315.1009	718.09	Mag Nail (Fnd)
55	572191.1790	1638324.1403	717.87	Iron Pin (Fnd) CAP ILLEGIBLE
56	572407.2134	1638020.8672	705.34	Iron Pin - 1" (Fnd)
57	572382.9311	1637965.6493	704.90	Iron Pipe (Fnd) 3/4"
58	572420.2077	1637949.6158	703.86	Iron Pin - 1" (Fnd)
59	572379.7804	1637857.8209	699.01	Iron Pin (Fnd) 5/8" IN CON
60	572373.4329	1637842.0516	698.20	UNK IRON
61	572334.4699	1637855.8900	700.00	Iron Pipe (Fnd) 3/4"
62	572311.1601	1637809.7240	695.71	Iron Pin (Fnd) 5/8"
63	572238.6183	1637636.3464	683.59	Mag Nail (Fnd) IN SW
64	572276.2262	1637622.6763	683.27	Iron Pin (Fnd) 5/8"
65	572235.7701	1637530.8689	678.95	Iron Pin (Fnd) 5/8"
66	572198.1532	1637544.8125	678.03	Iron Pin (Fnd) AUSTEN SURVEYING PS 988
9555	571968.5399	1638400.6402	720.50	Beep
9560	572123.4938	1638333.9238	718.39	Beep
10908	572292.1938	1637739.0200	689.12	Mag Nail (Set)
19321	572003.5625	1637491.8409	672.36	Mag Nail (Set)

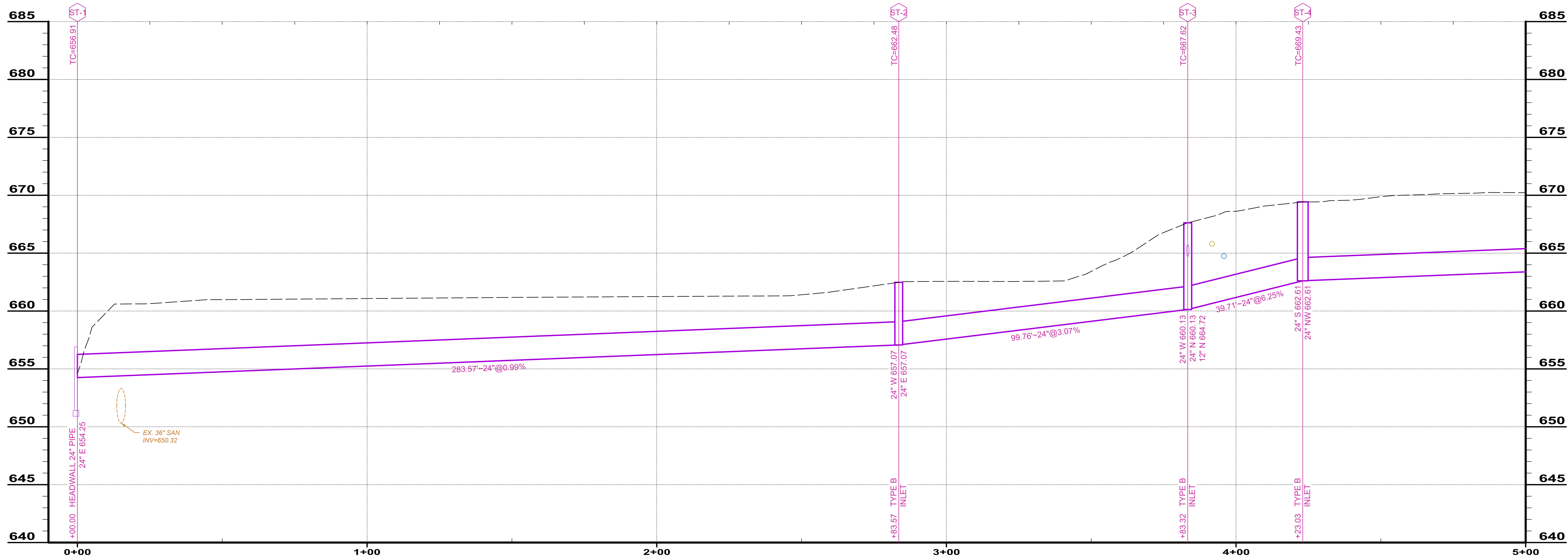
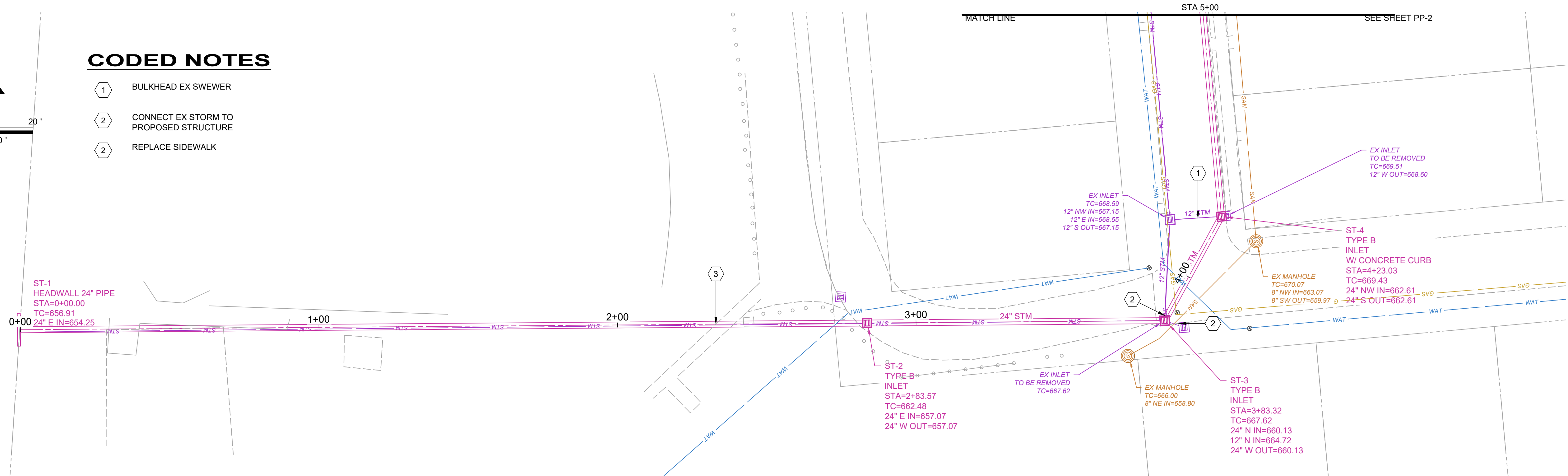
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WATER POLLUTION CONTROL DIVISION WASTEWATER COLLECTION AND TREATMENT GREENWOOD SEWER IMPROVEMENTS	6/11/2025			
ISSUE DATE:	AS SHOWN			
SCALE:				
DESIGNED BY:				
DRAWN BY:				
CHECKED BY:				

PROJECT NO. 220991 2C	
DISCIPLINE CIVIL	
SHEET NAME INDEX	
SHEET 3	OF 19



CODED NOTES

- 1 BULKHEAD EX SWEWER
- 2 CONNECT EX STORM TO PROPOSED STRUCTURE
- 2 REPLACE SIDEWALK



RUSH AVE STORM STA 0+00 TO STA 5+00

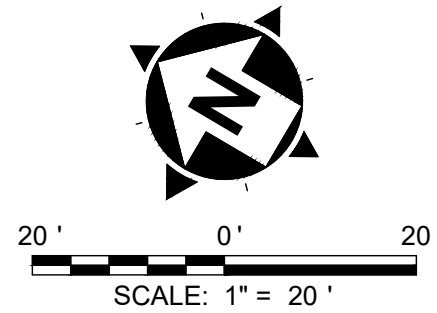


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WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS

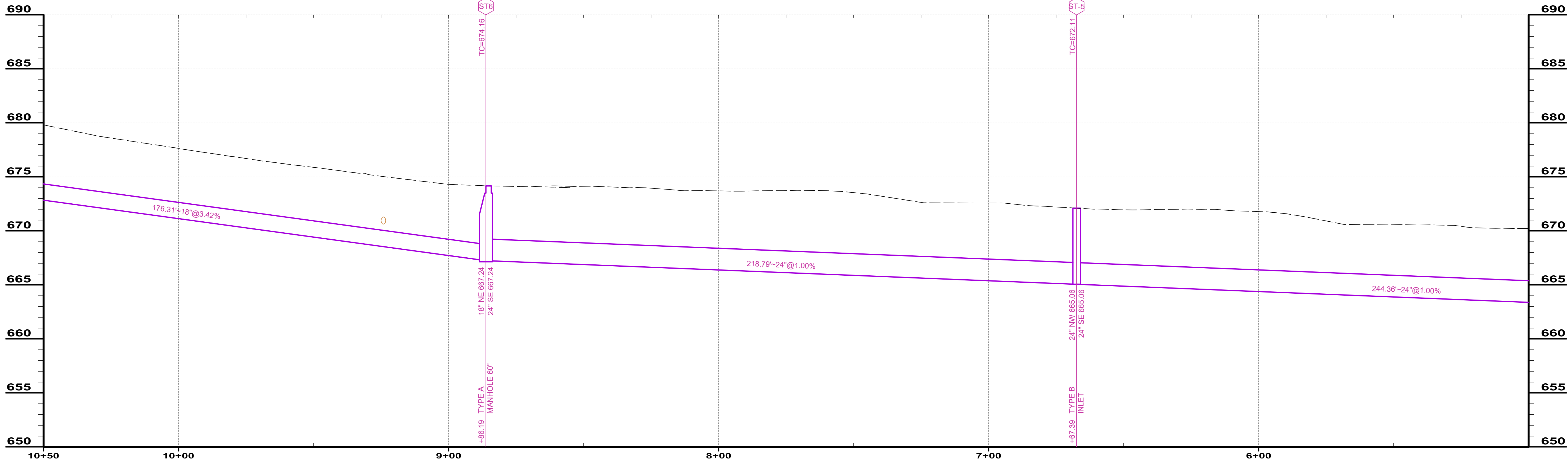
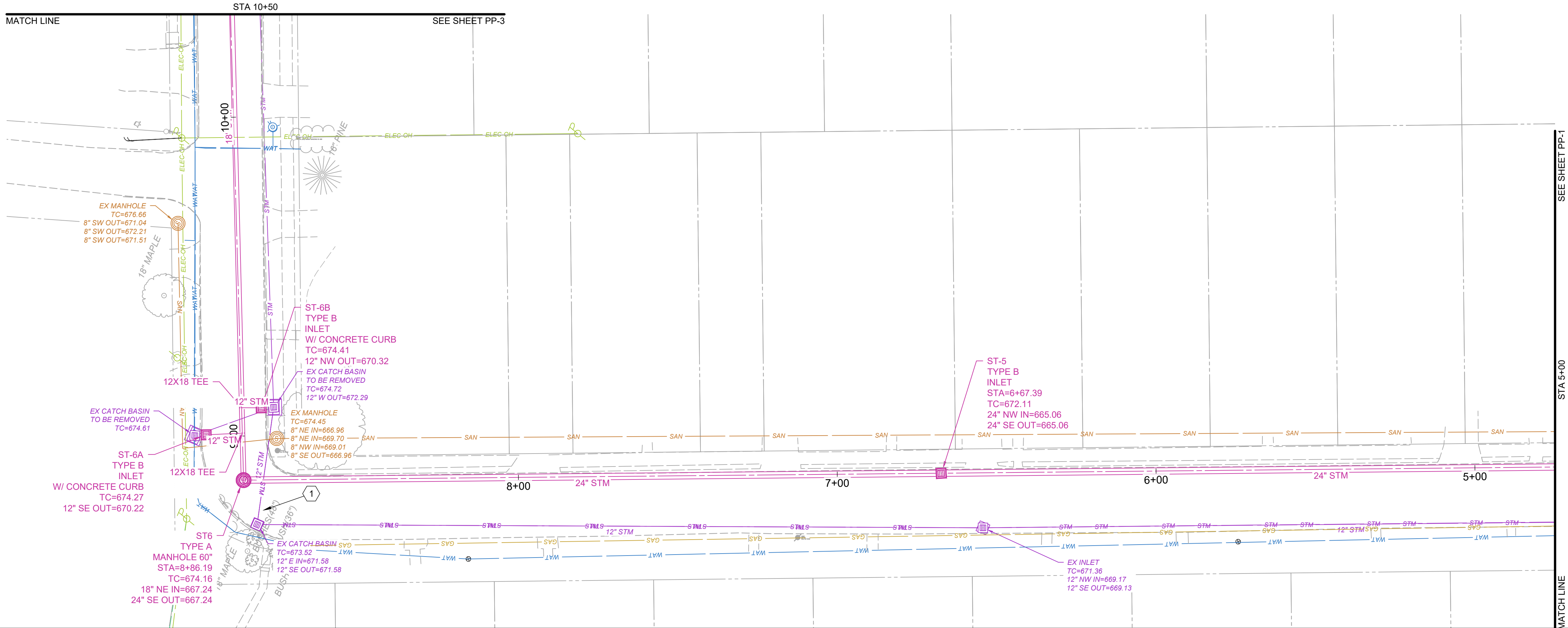
PLAN AND PROFILE SHEETS

PROJECT NO.	
220991 2C	
DISCIPLINE	
CIVIL	
SHEET NAME	
PP-1	
SHEET	OF
4	19



CODED NOTES

1 BULKHEAD EX SWEWER



RUSH AVE STORM STA 5+00 TO 10+50

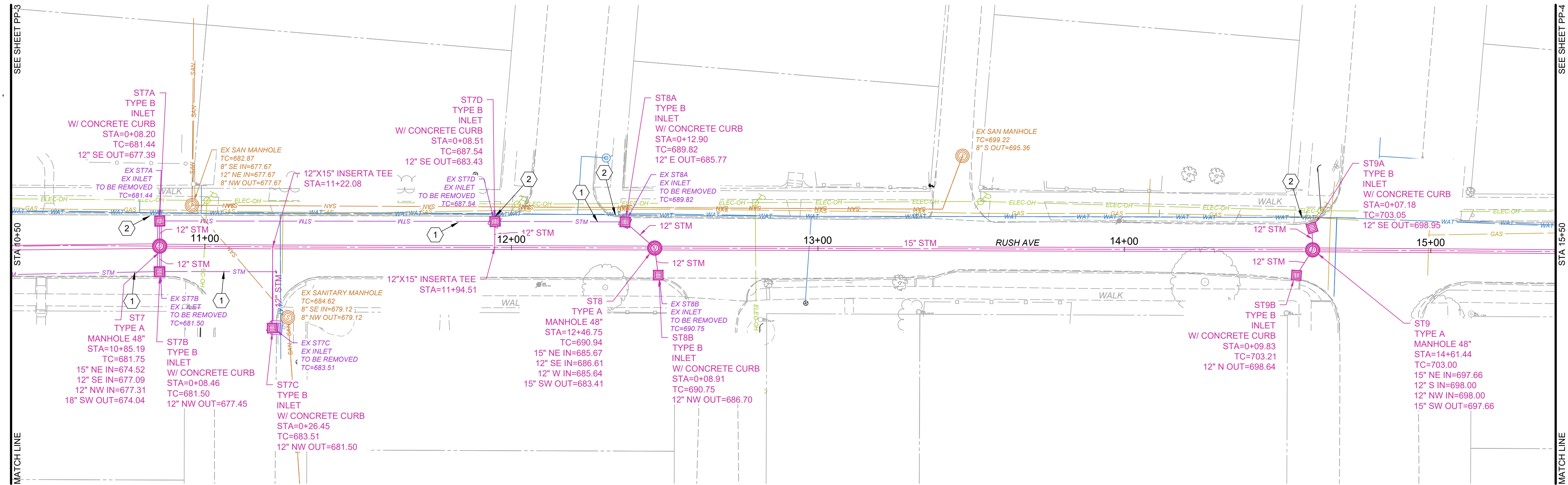
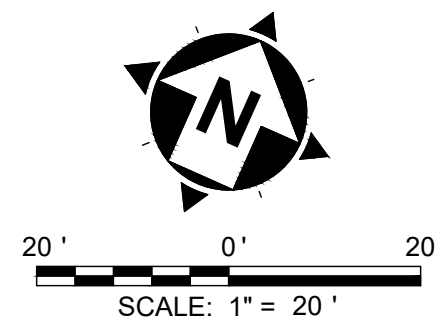


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220991 2C	6/11/2025			
DISCIPLINE:	AS SHOWN			
CIVIL				
SHEET NAME:				
PP-2				
SHEET	OF			
5	19			

WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS

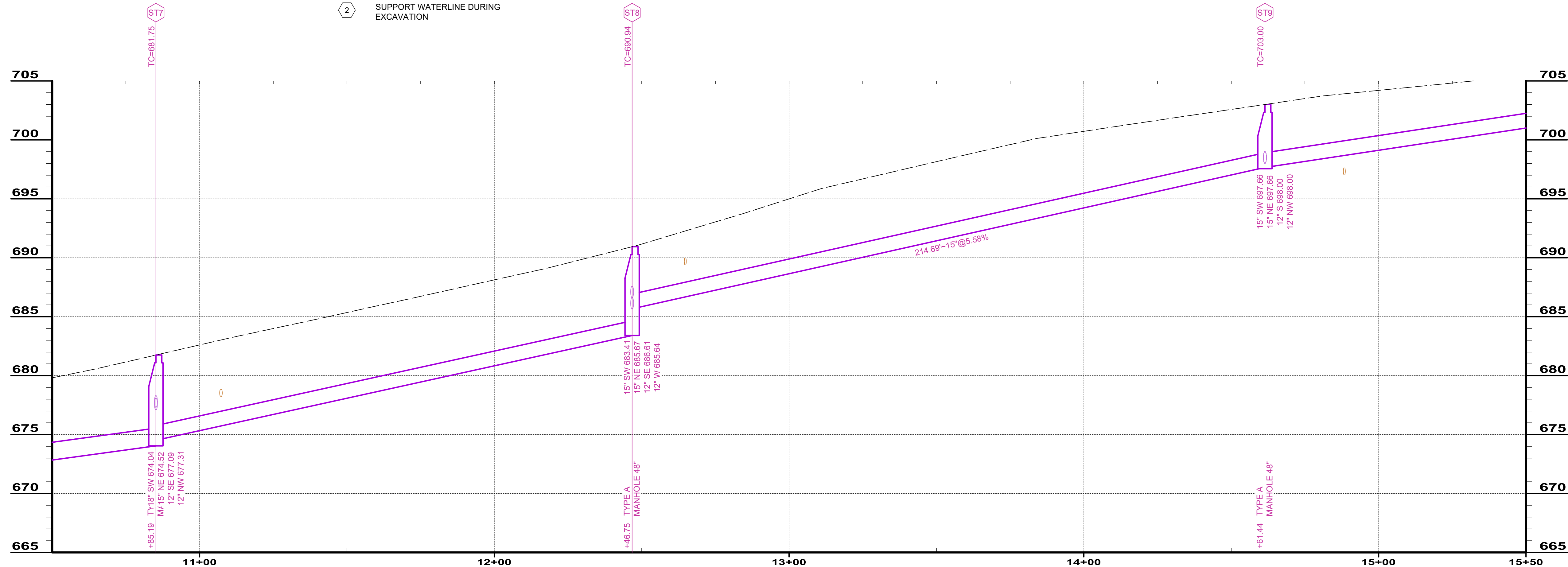
PLAN AND PROFILE SHEETS

PROJECT NO.	220991 2C
DISCIPLINE	CIVIL
SHEET NAME	PP-2
SHEET	OF
5	19



CODED NOTES

- 1 BULKHEAD EX STORM SEWER
- 2 SUPPORT WATERLINE DURING EXCAVATION



RUSH AVE STORM STA 10+50 TO 15+50

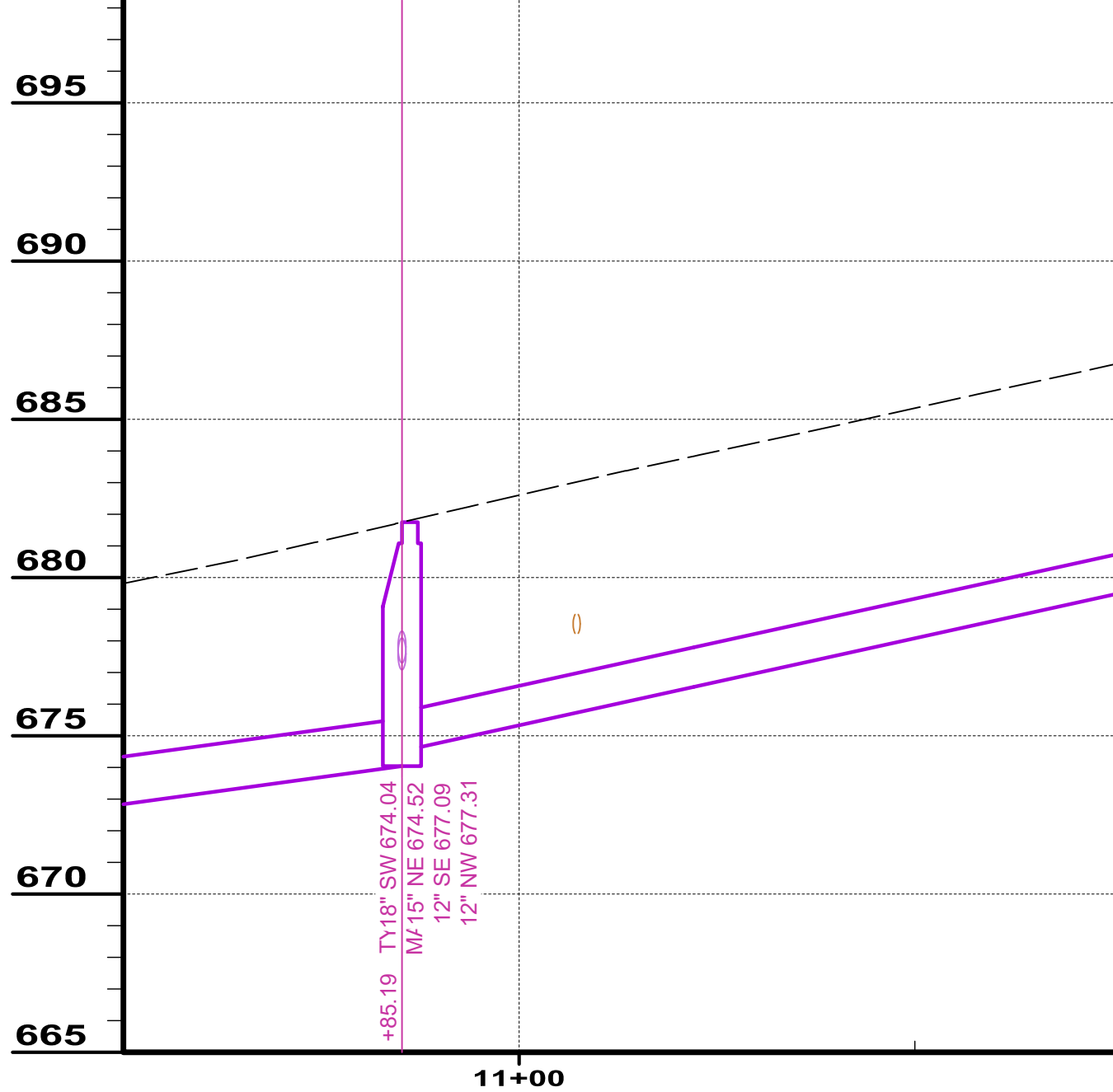
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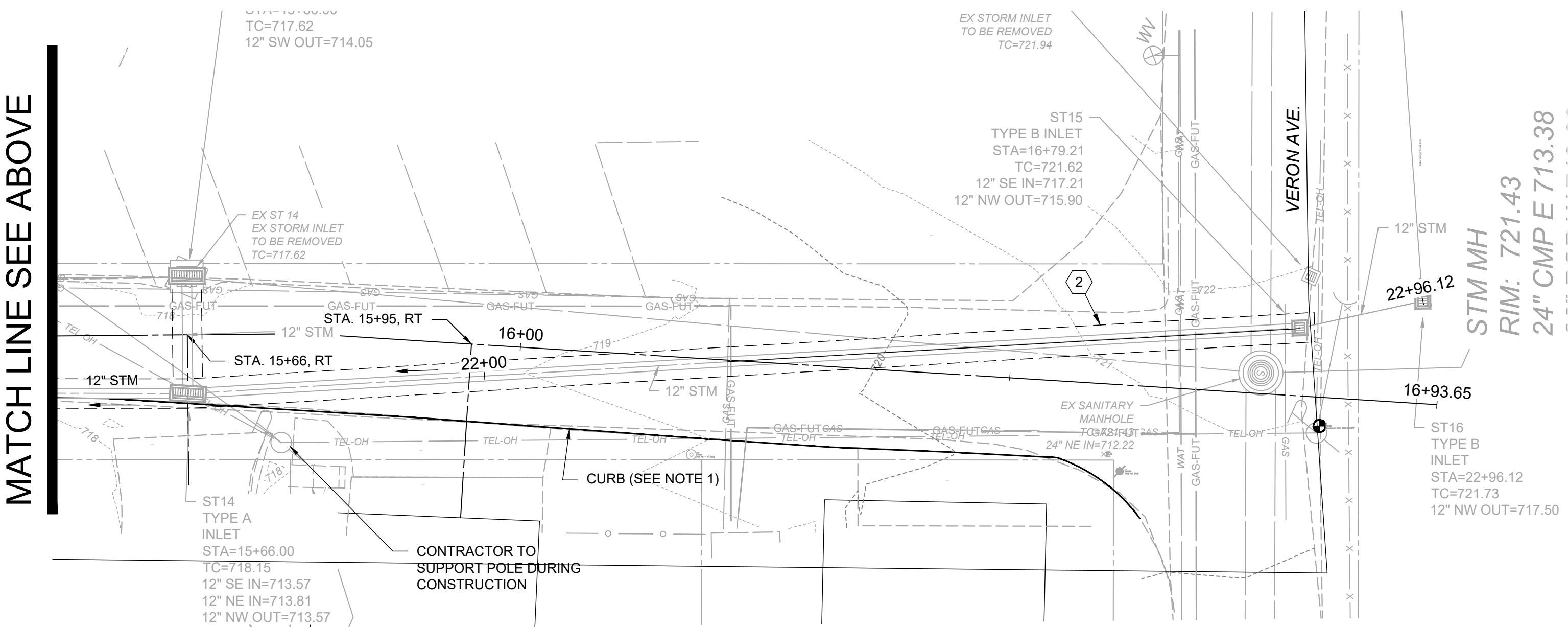
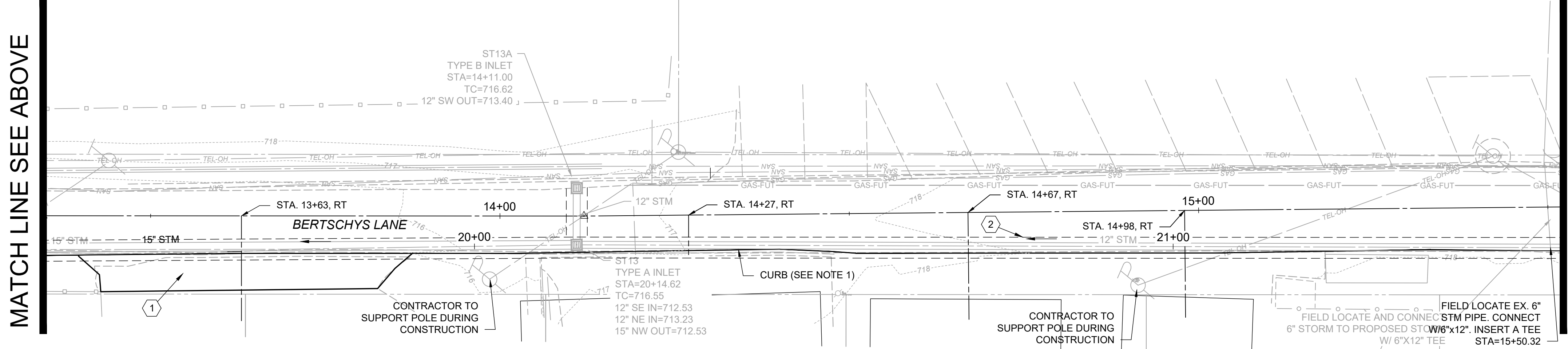
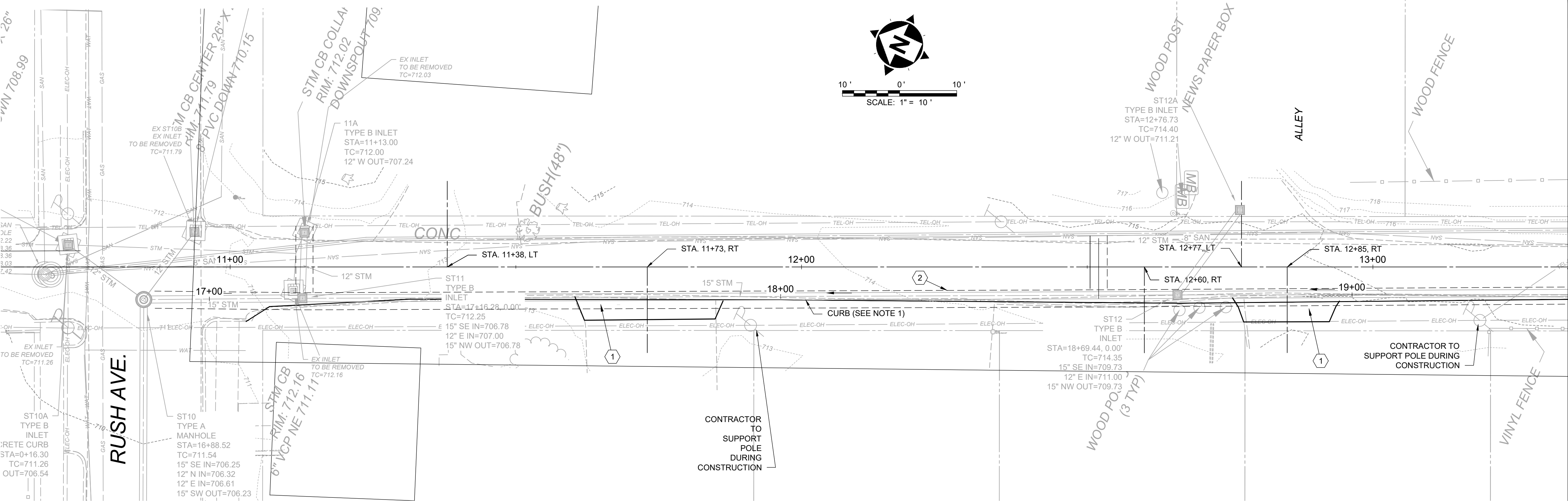
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DISCIPLINE	AS SHOWN			
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SHEET NAME				
PP-3				
SHEET	OF			
6	19			

WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS

PLAN AND PROFILE SHEETS

PROJECT NO.	220991 2C
DISCIPLINE	CIVIL
SHEET NAME	PP-3
SHEET	OF
6	19





- NOTES**
- USE PLAIN CONCRETE CURBING, TYPE I, EXCEPT AT DRIVEWAYS, WHERE PLAIN CONCRETE CURBING, TYPE IV SHALL BE USED. TRANSITION FROM TYPE III CURBING TO TYPE I CURBING SHALL BE 10 FEET IN LENGTH AND SHALL BEGIN AT THE EDGE OF THE DRIVEWAY.
 - SEE SCD PVT6 FOR CURB DIMENSIONS.

- CODED NOTES**
- INSTALL CONCRETE DRIVE APRON (SEE DETAIL).
 - TYPE A-1 TRENCH / PAVEMENT REPLACEMENT (WHEELING), 3 FEET WIDE (SEE DETAIL).

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

MATCH LINE SEE BELOW

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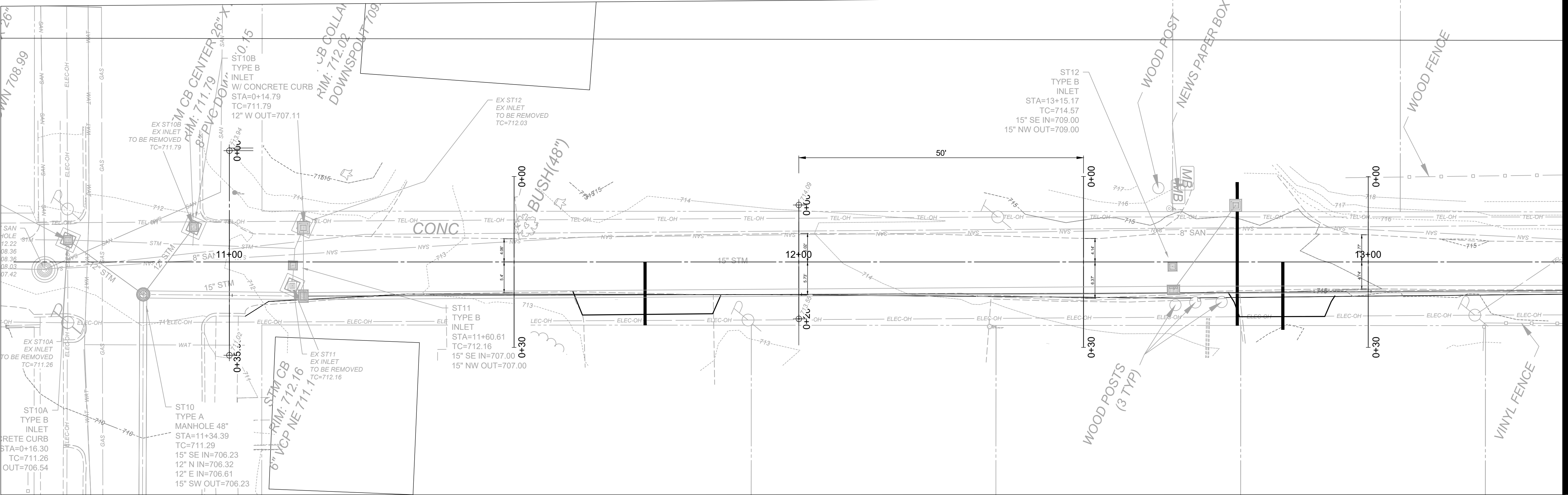
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220991 2C

DISCIPLINE
CIVIL

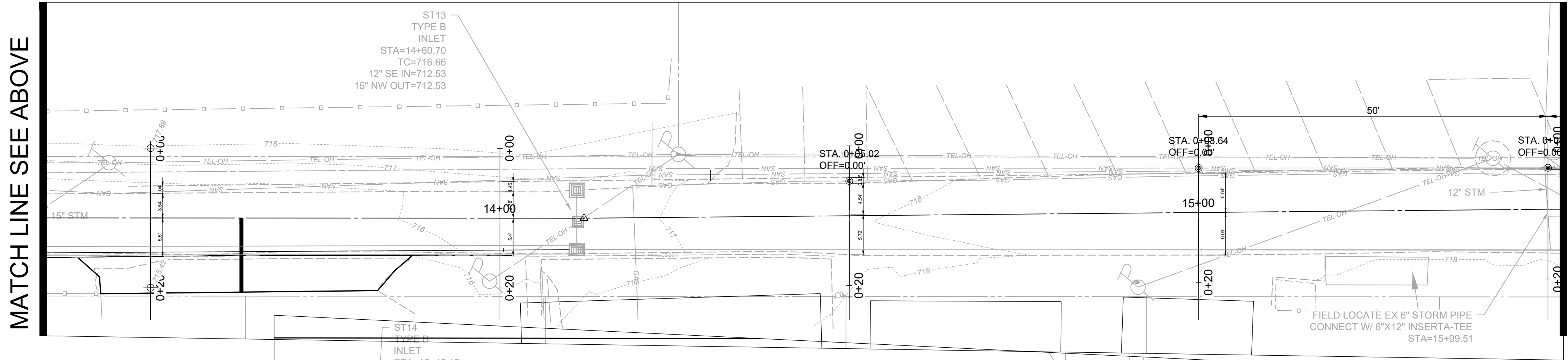
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GR-1

SHEET
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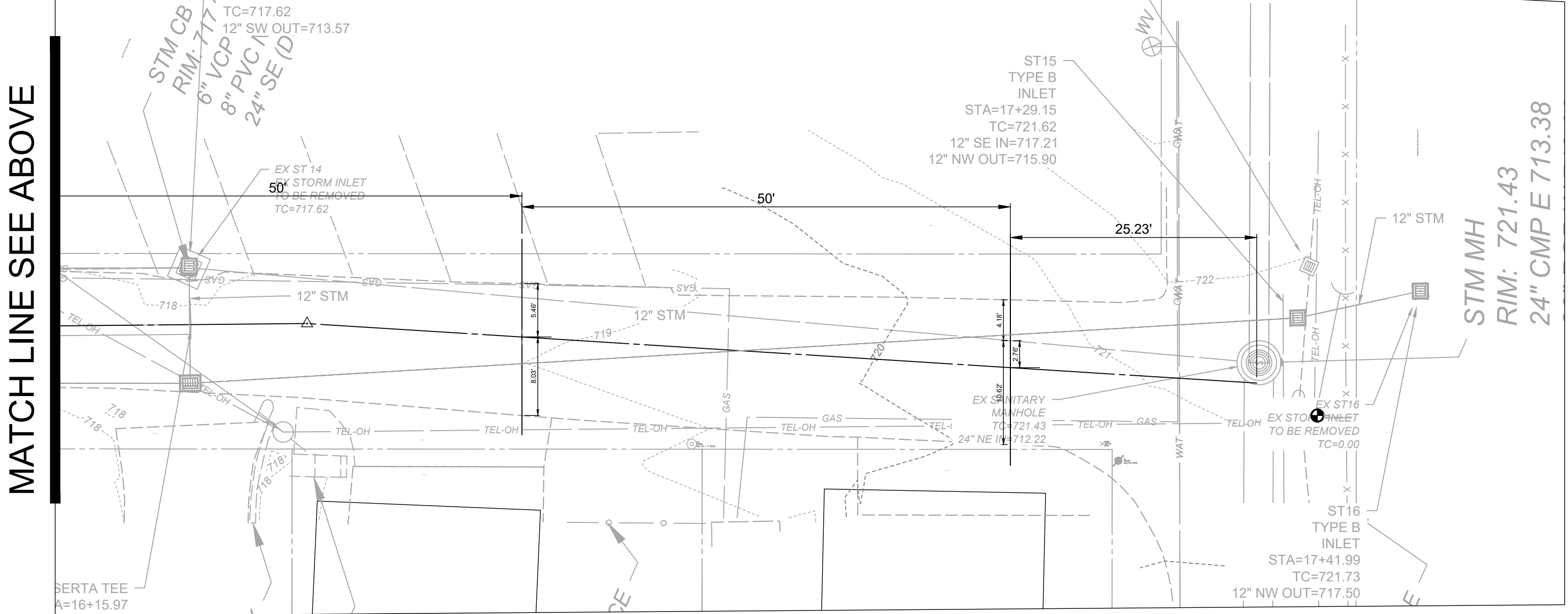
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MATCH LINE SEE BELOW



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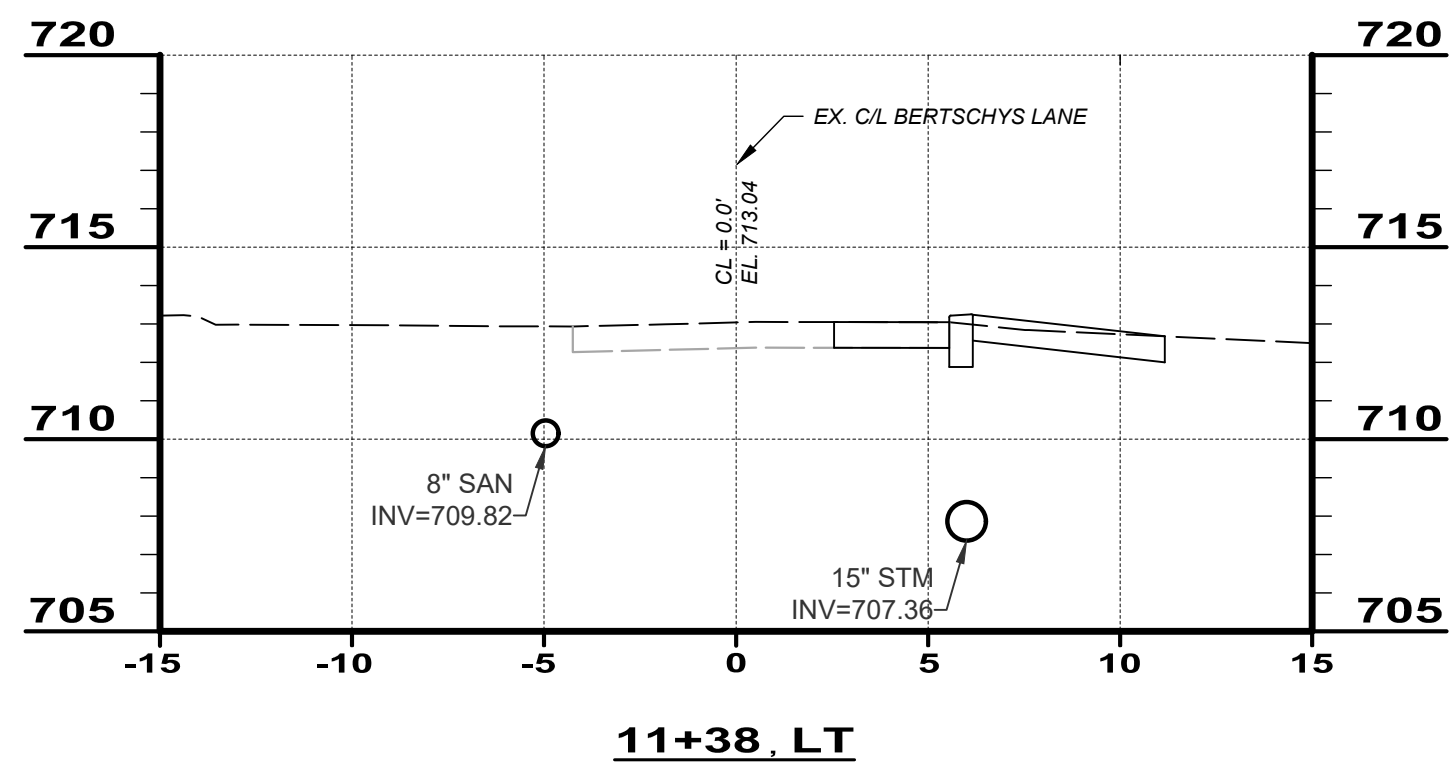
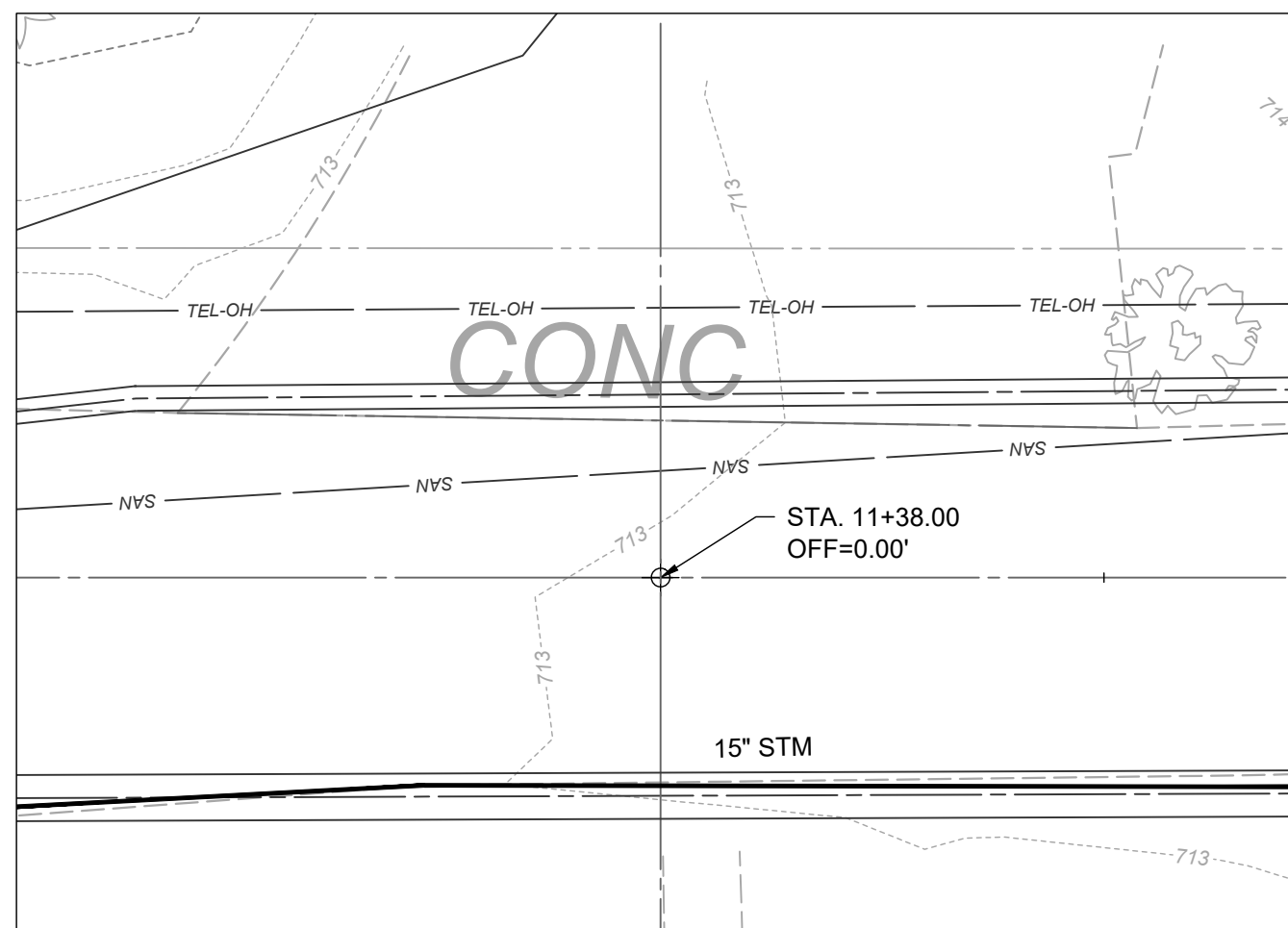
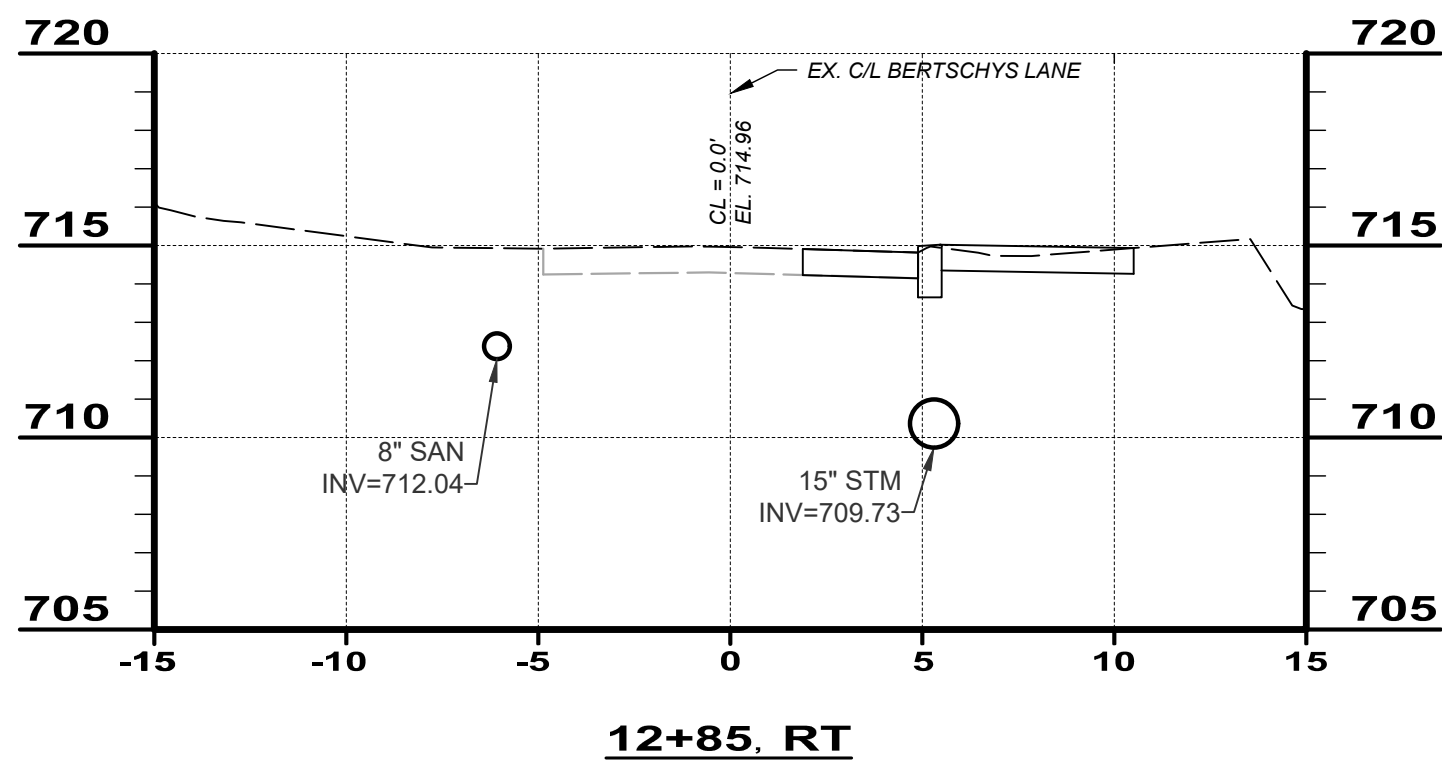
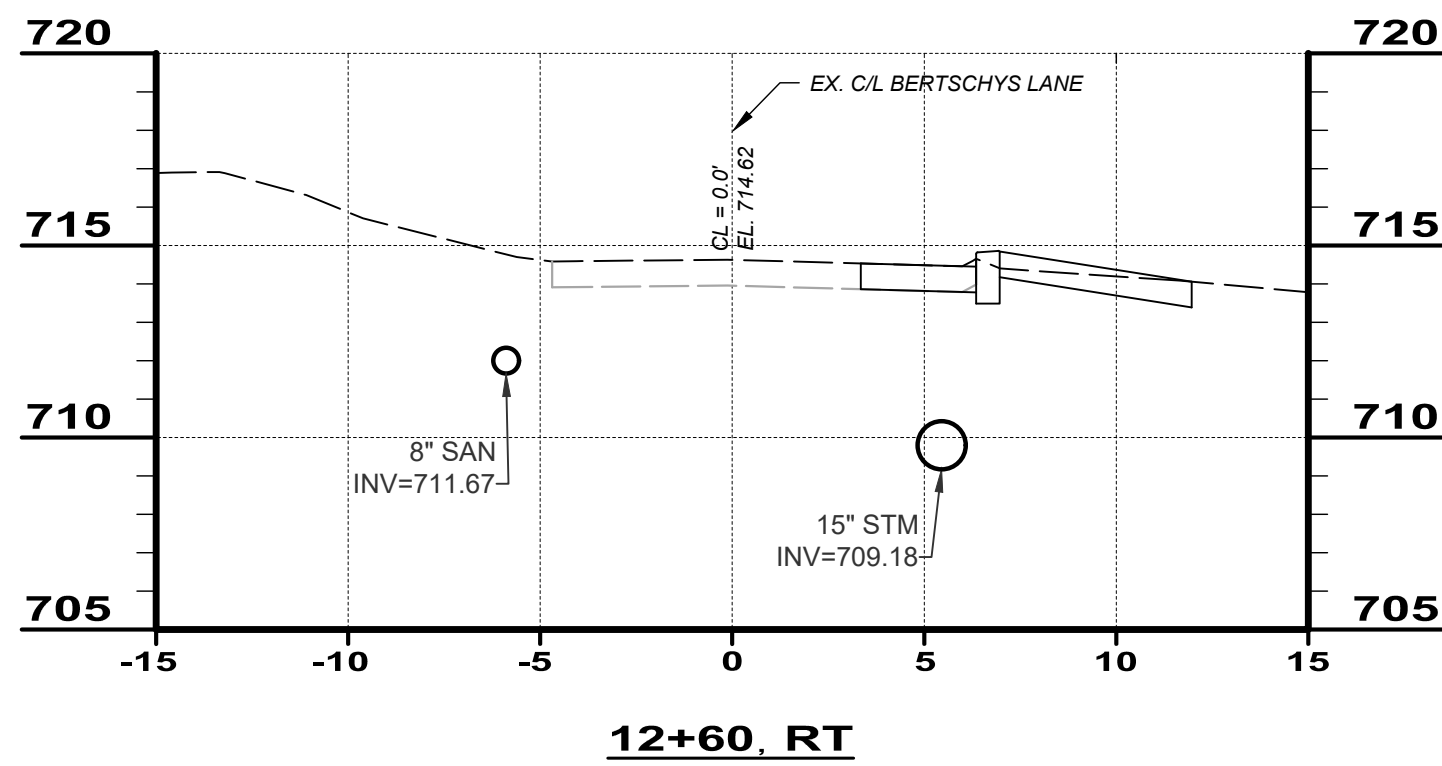
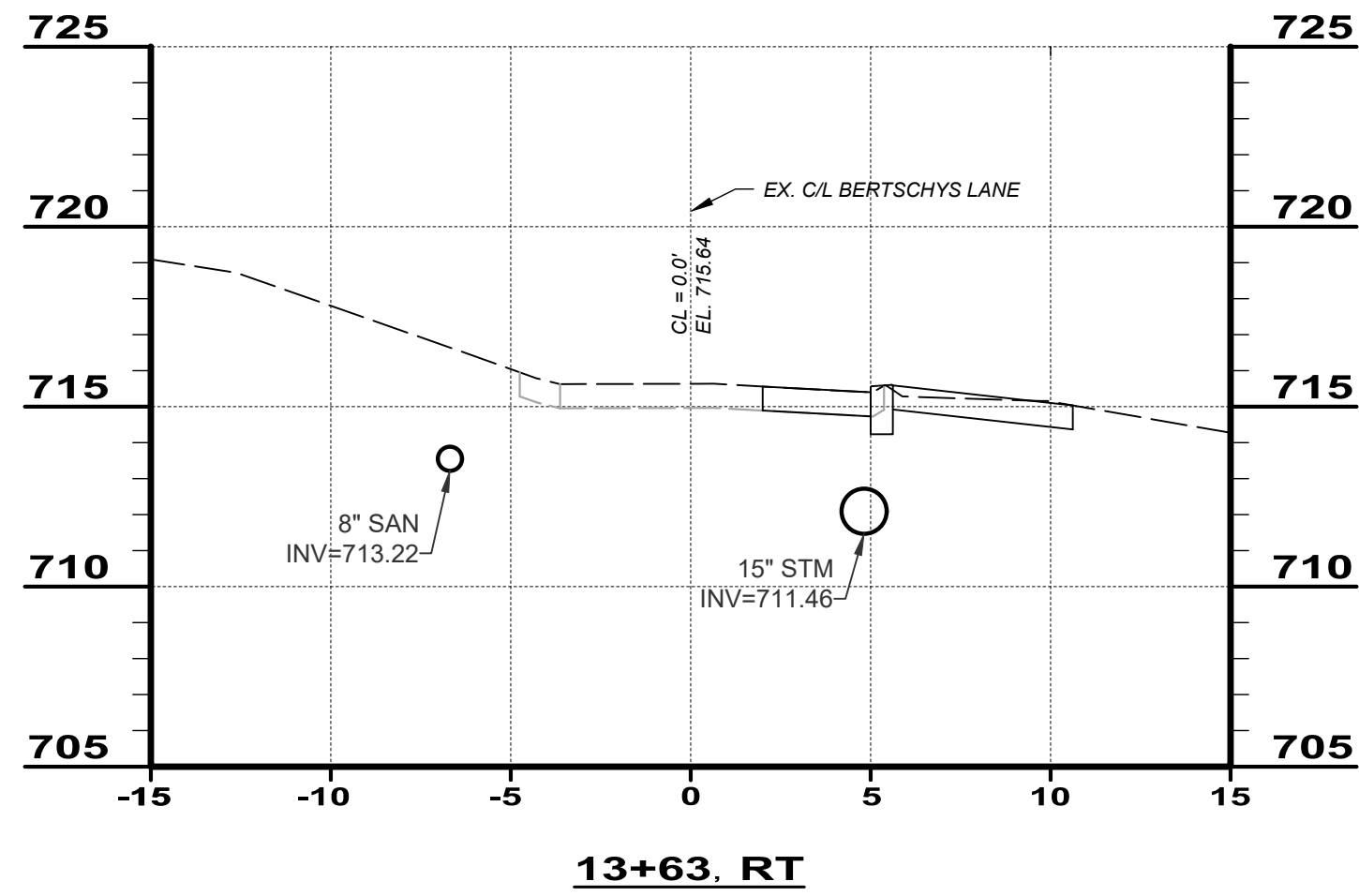
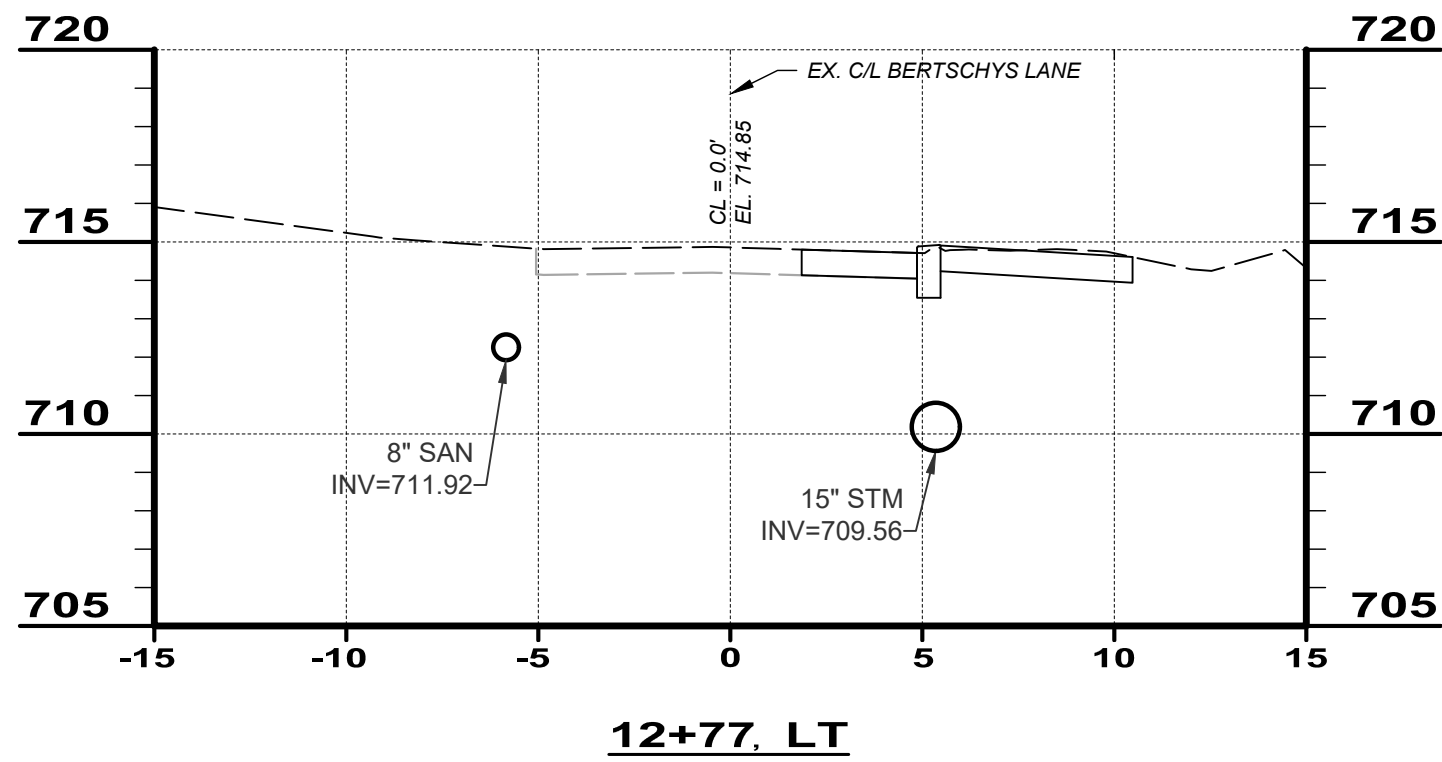
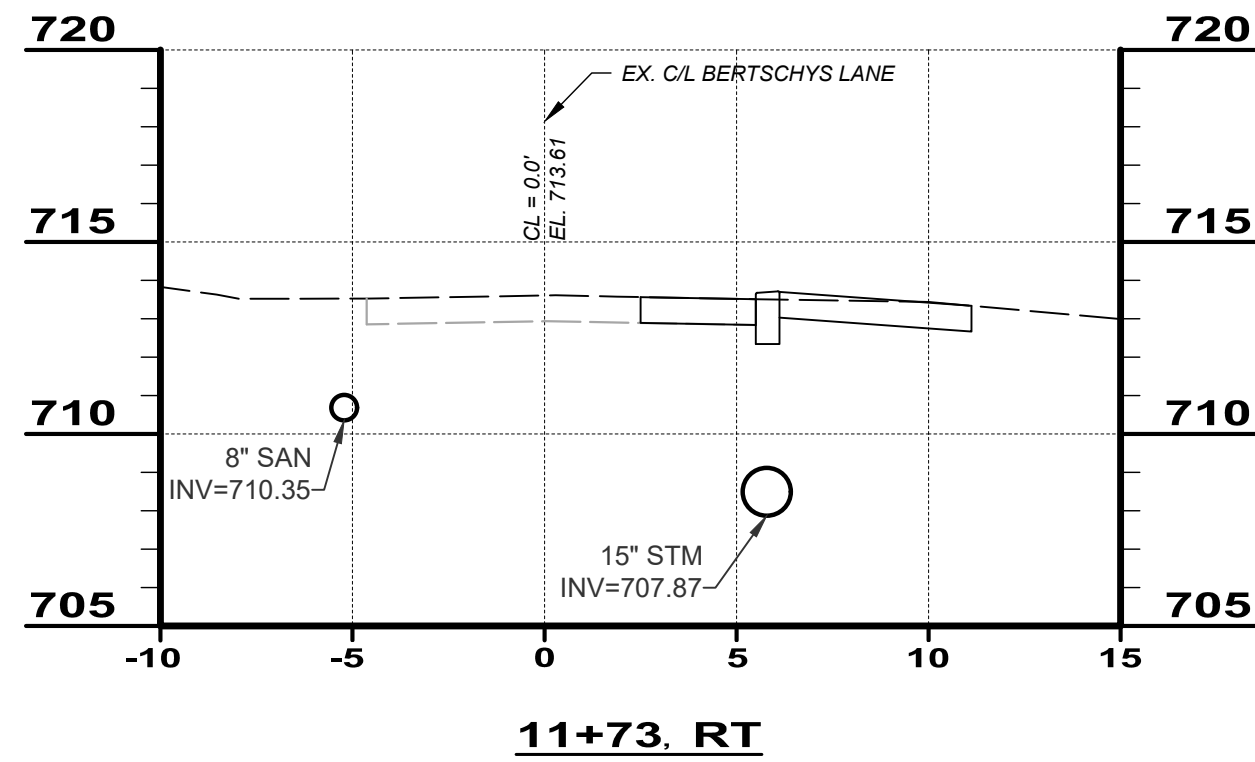
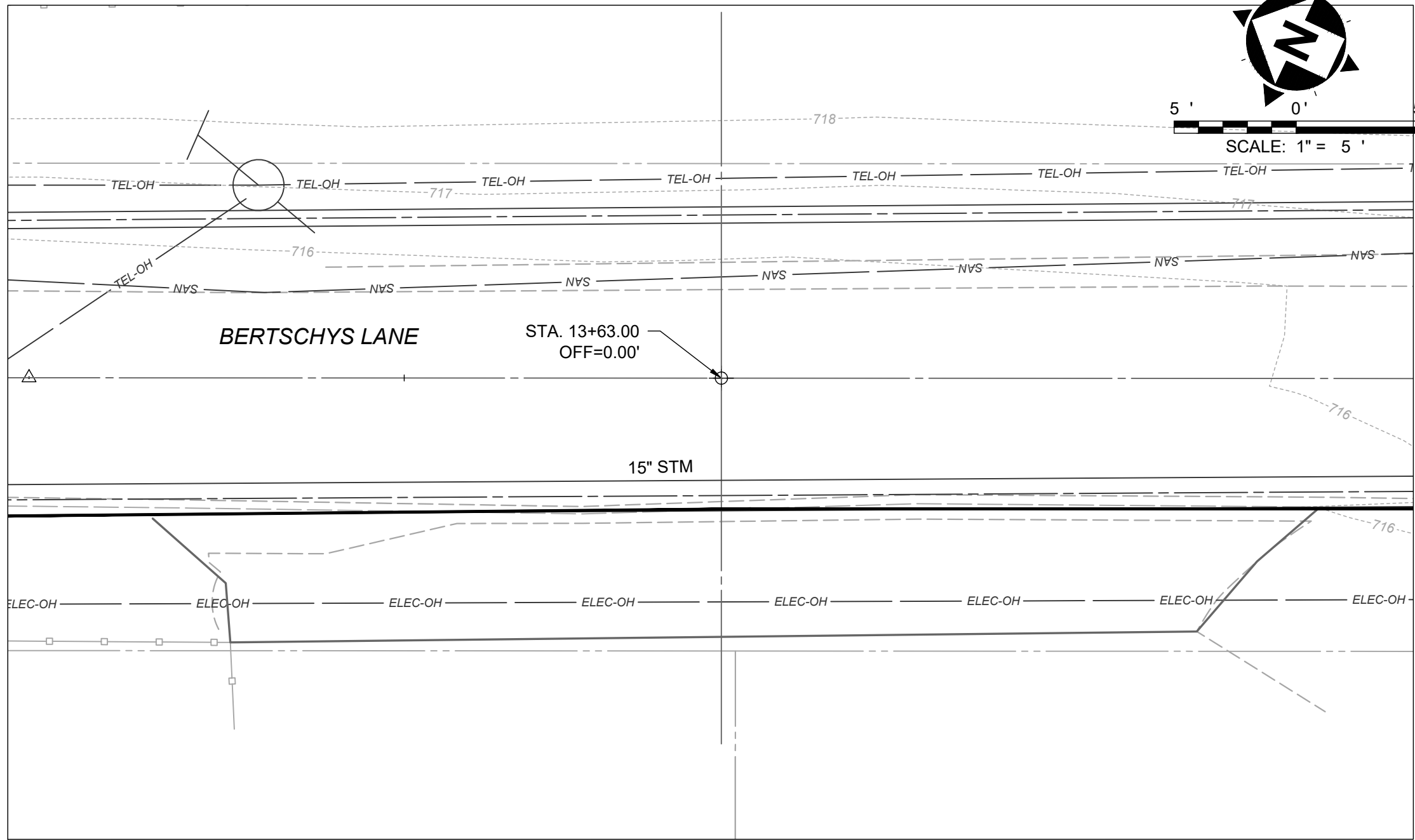
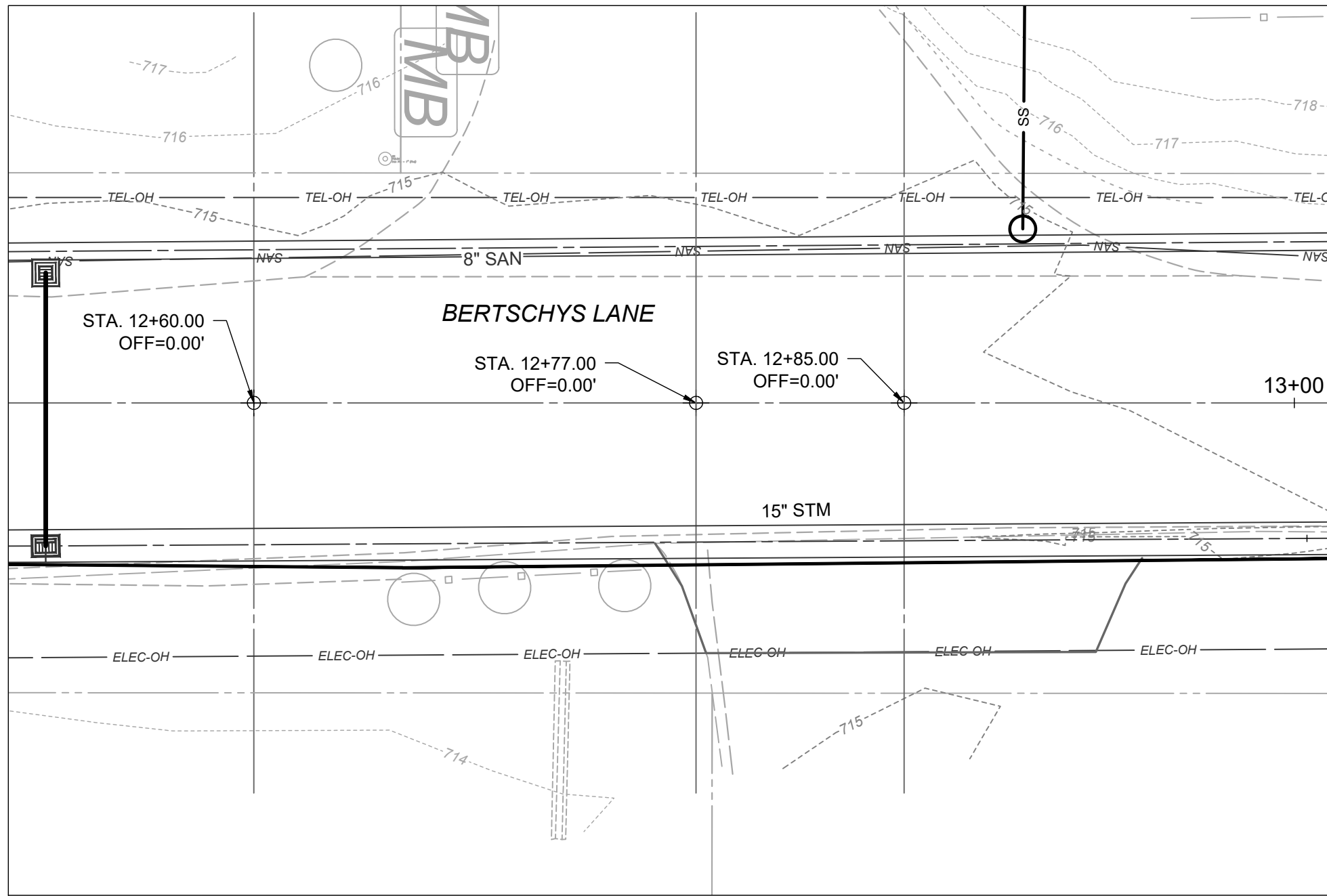
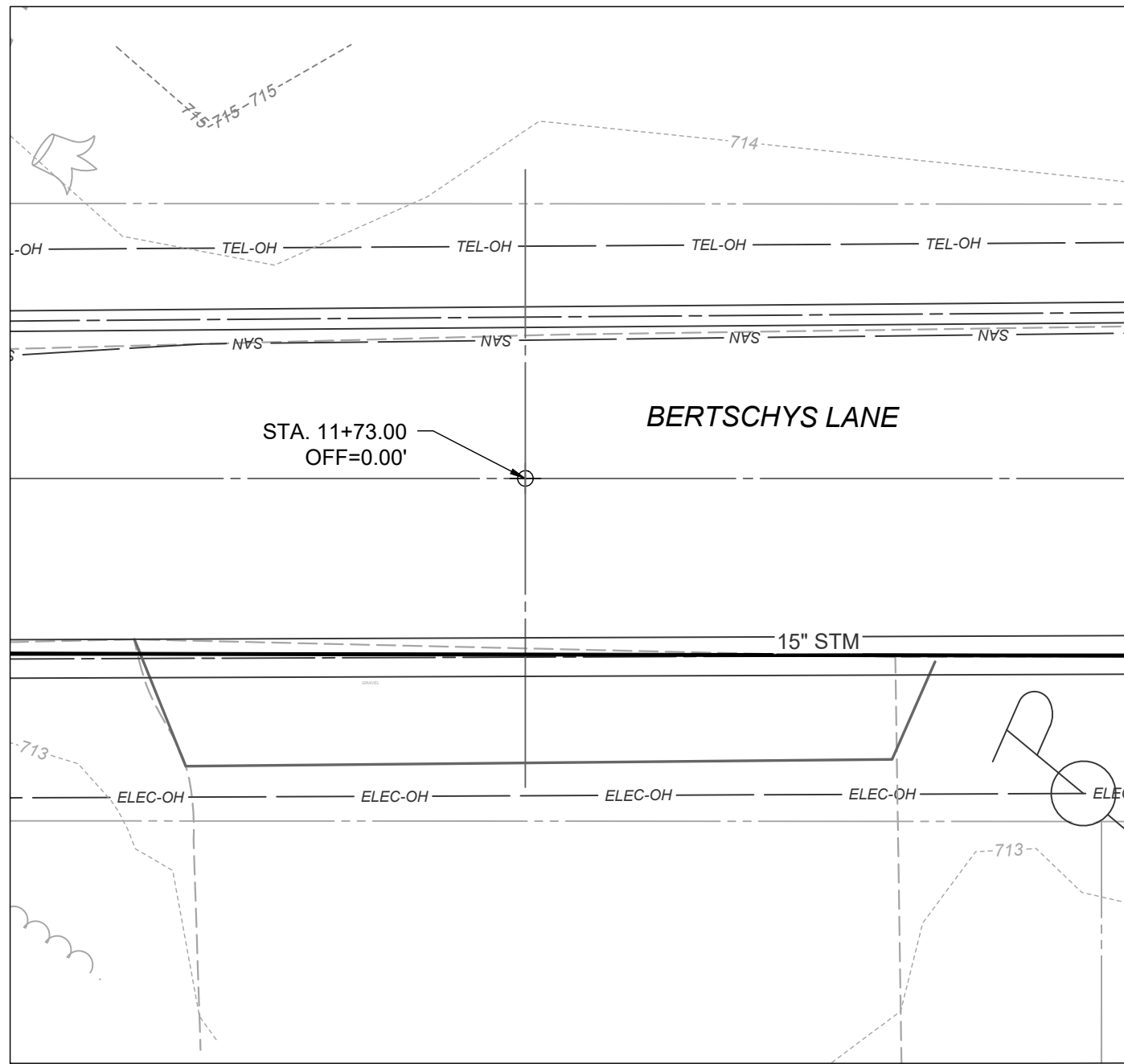


MATCH LINE SEE ABOVE

MATCH LINE SEE ABOVE

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DISCIPLINE		CIVIL	
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SHEET	OF	10	19
WATER POLLUTION CONTROL DIVISION			
WASTEWATER COLLECTION AND TREATMENT			
GREENWOOD SEWER IMPROVEMENTS			
CROSS SECTIONS - BERTSCHYS LANE STA. 11+00 TO STA. 16+00			
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ISSUE DATE:	6/5/2025		
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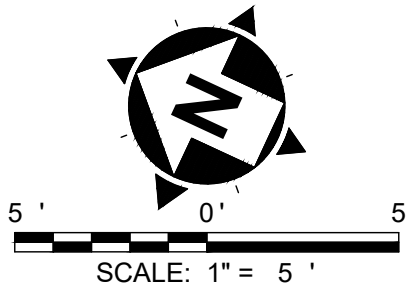
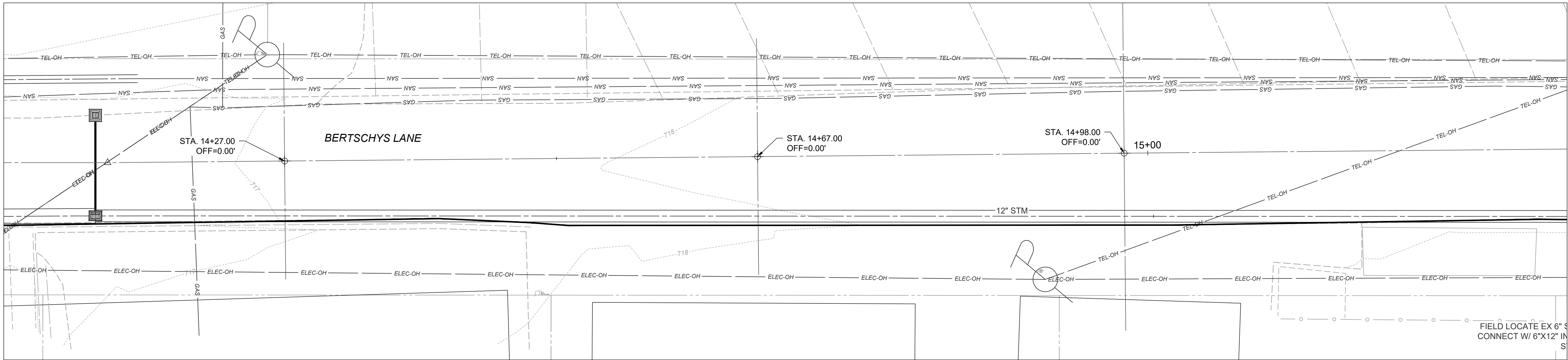




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DISCIPLINE:	AS SHOWN			
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SHEET NAME:				
GR-4				
SHEET	OF			
12	19			

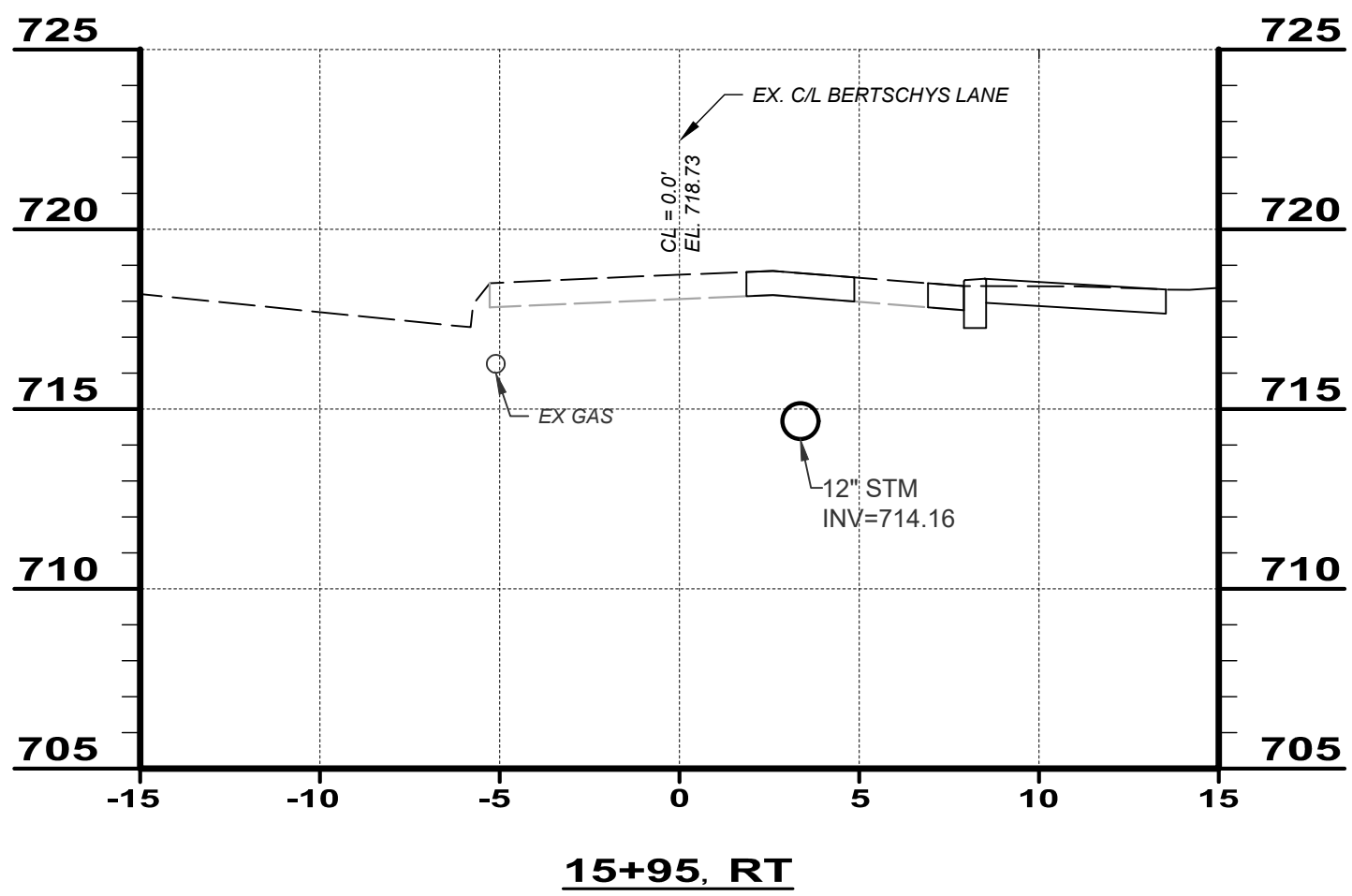
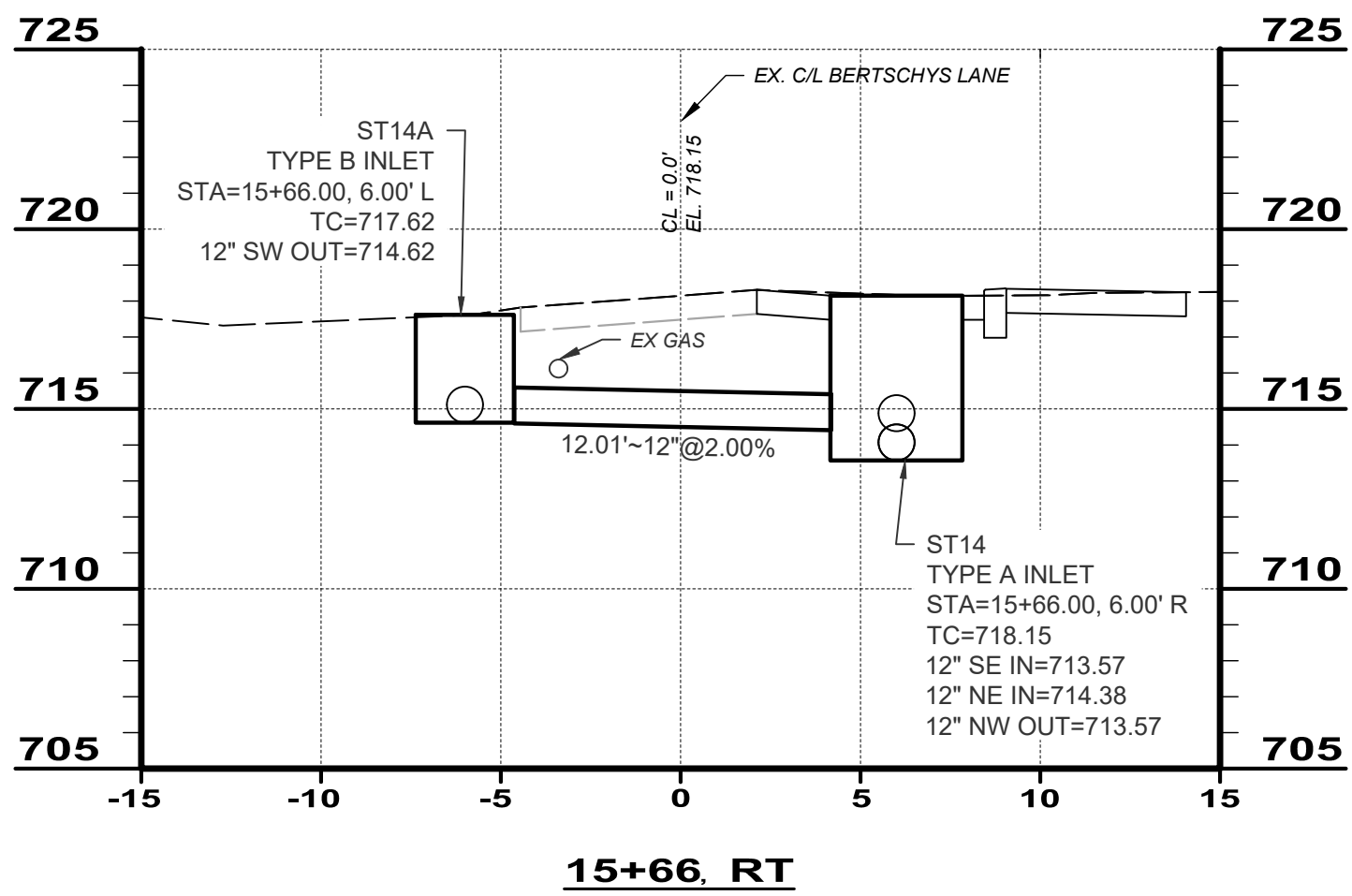
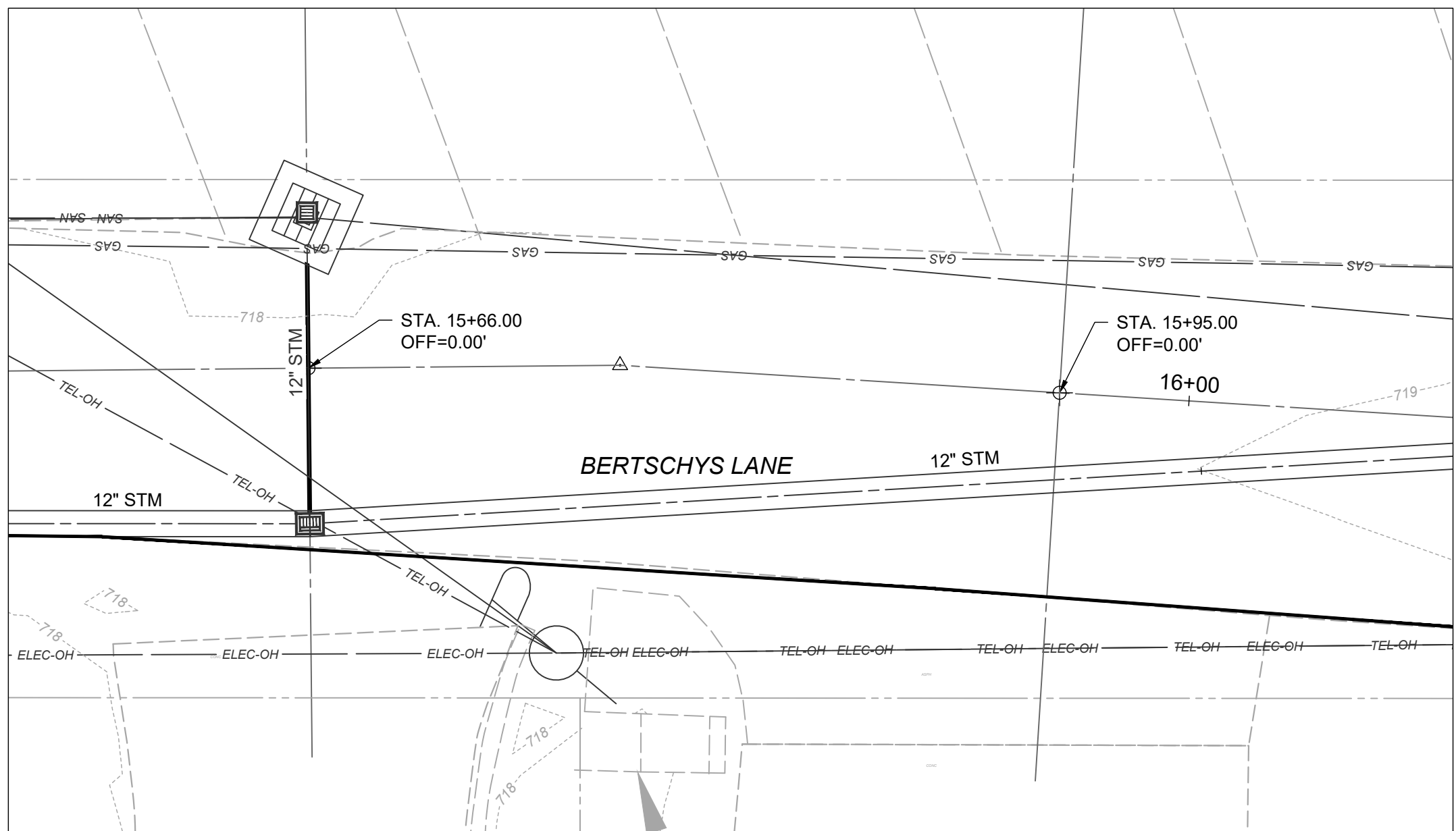
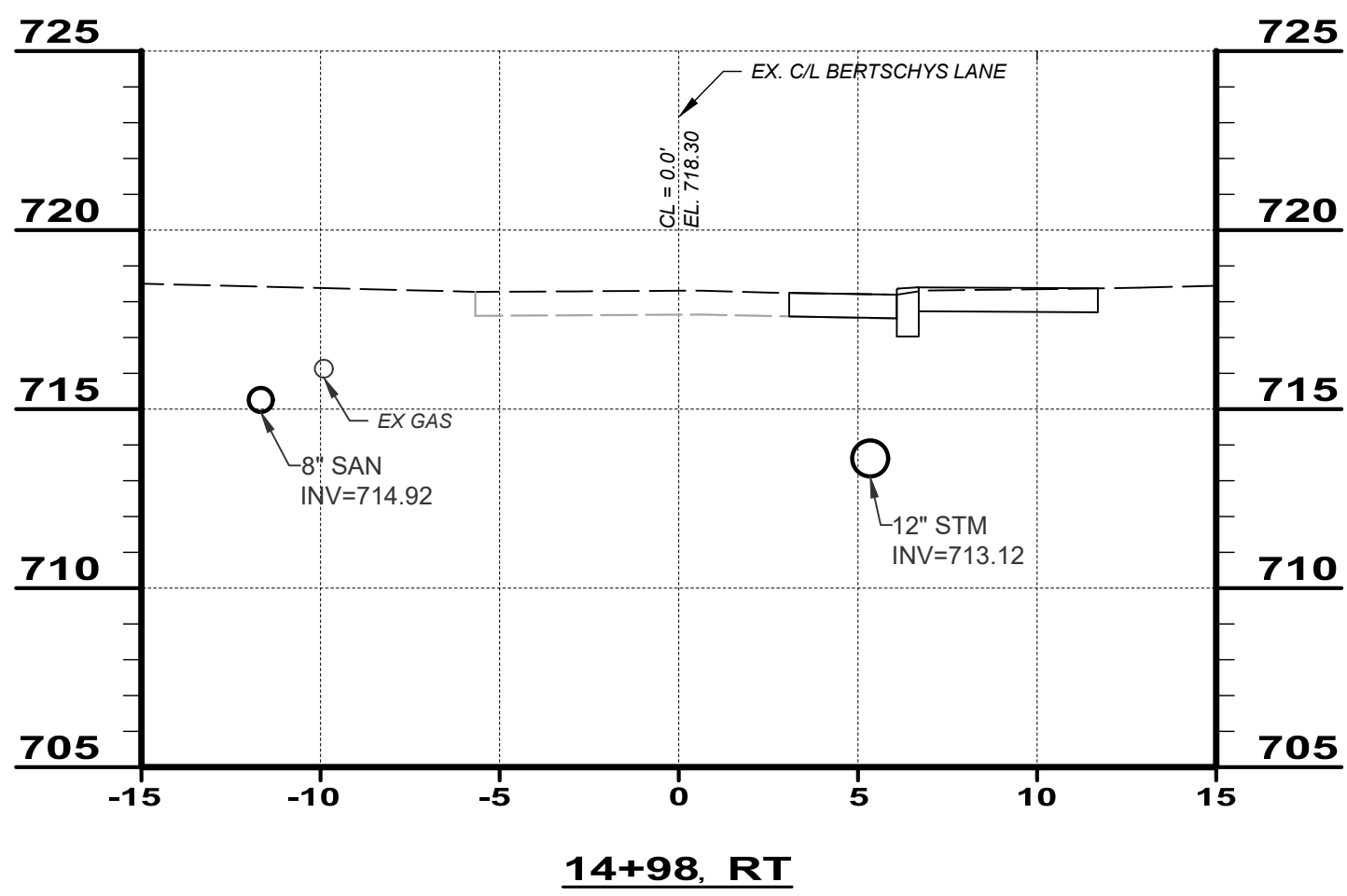
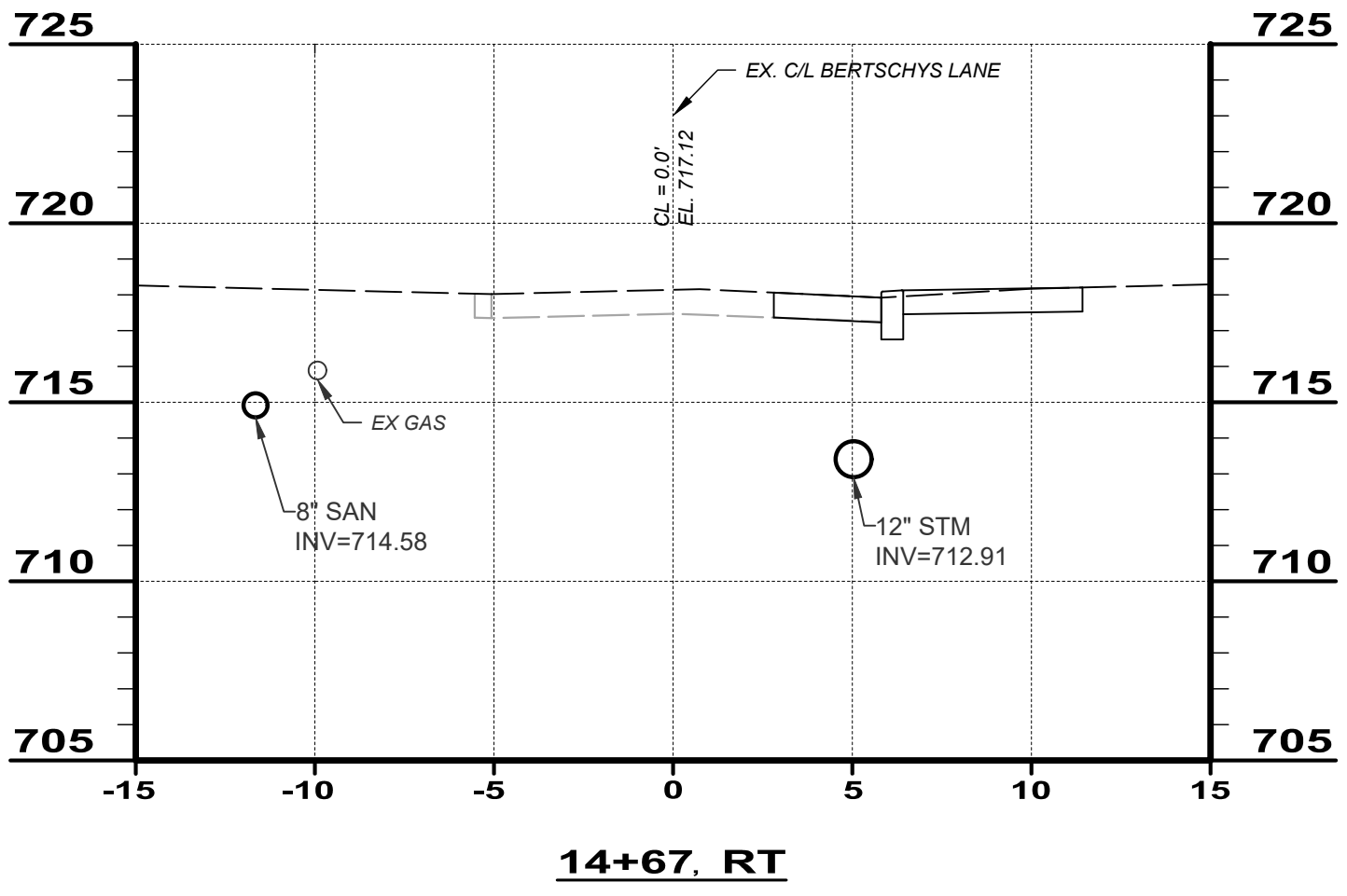
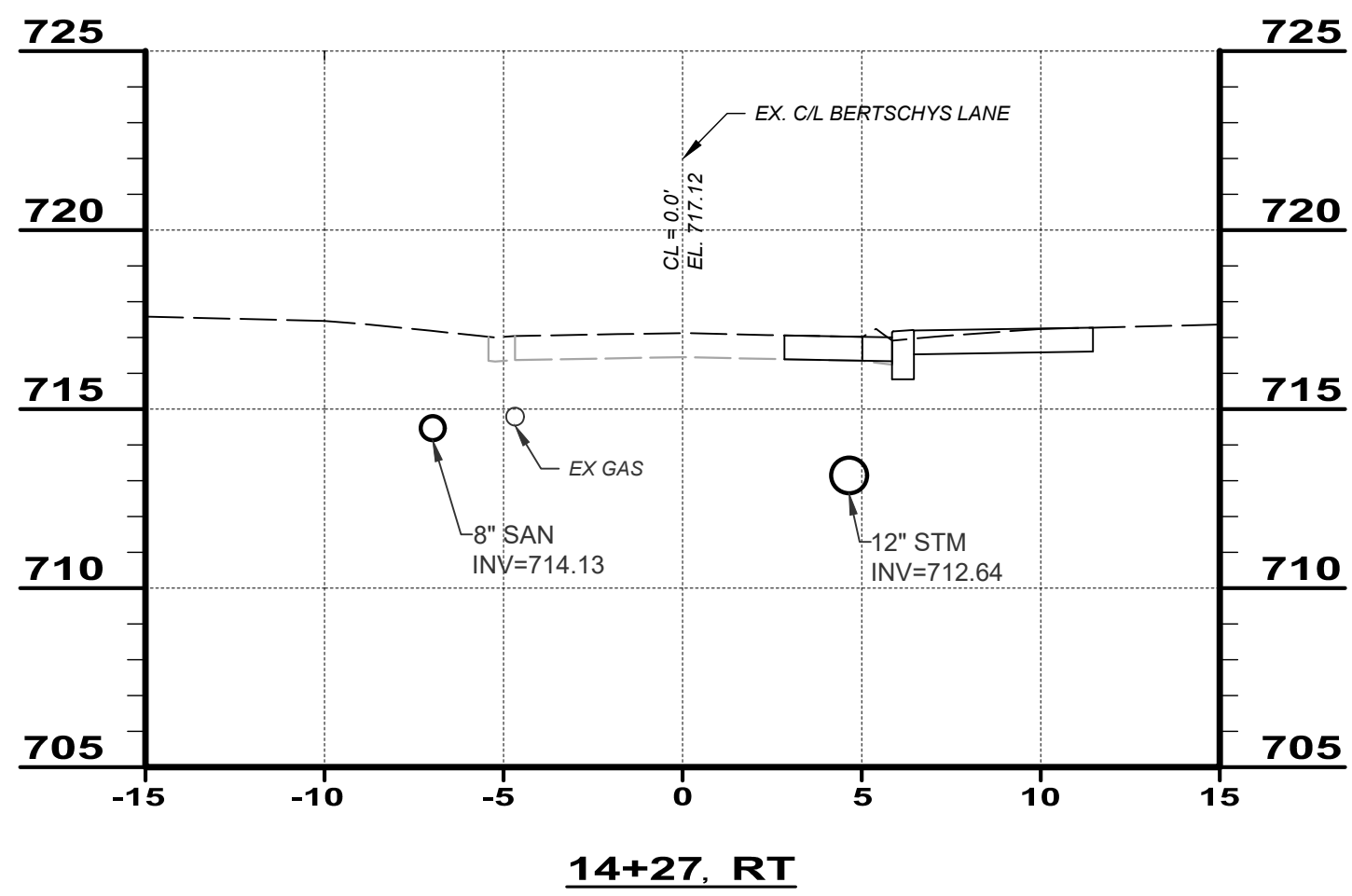
WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS
BERTSCHYS LANE DRIVE SECTIONS - 1

PROJECT NO.	220991 2C
DISCIPLINE	CIVIL
SHEET NAME	GR-4
SHEET	OF
12	19



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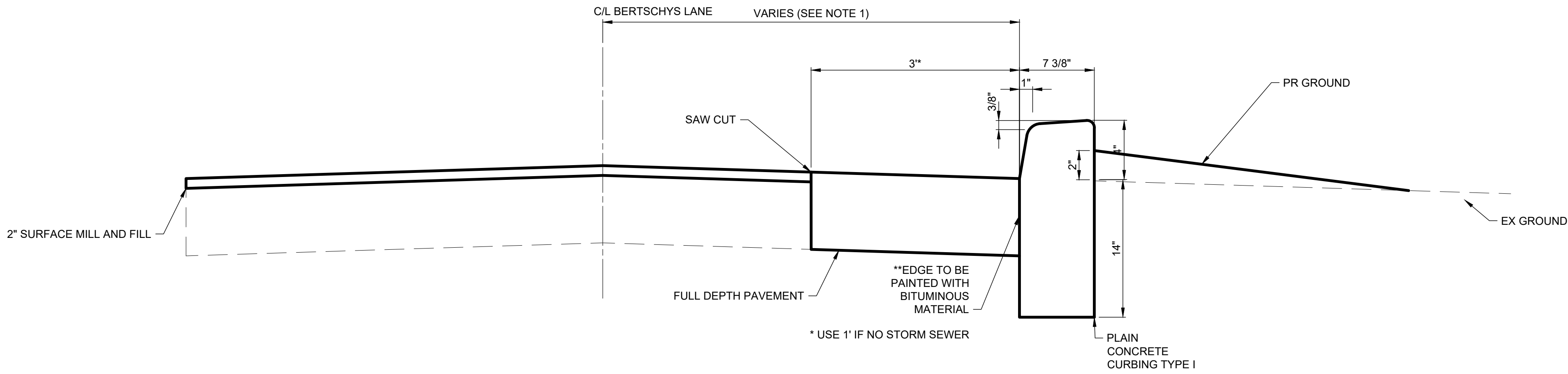
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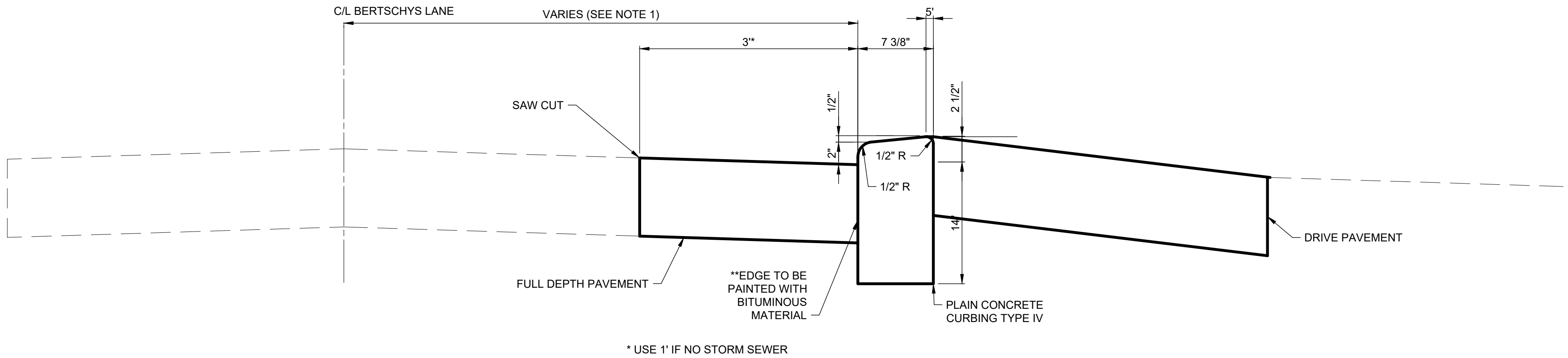
WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS

BERTSCHYS LANE DRIVE SECTIONS - 2

PROJECT NO.	220991 2C
DISCIPLINE	CIVIL
SHEET NAME	GR-5
SHEET	OF
13	19



TYPICAL ROADWAY SECTION
N.T.S.



TYPICAL DRIVE SECTION
N.T.S.

- NOTES:**
- EDGE OF PAVEMENT / FACE OF CURB LINE TO BE ESTABLISHED BY USING THE EXISTING EDGE OF PAVEMENT.

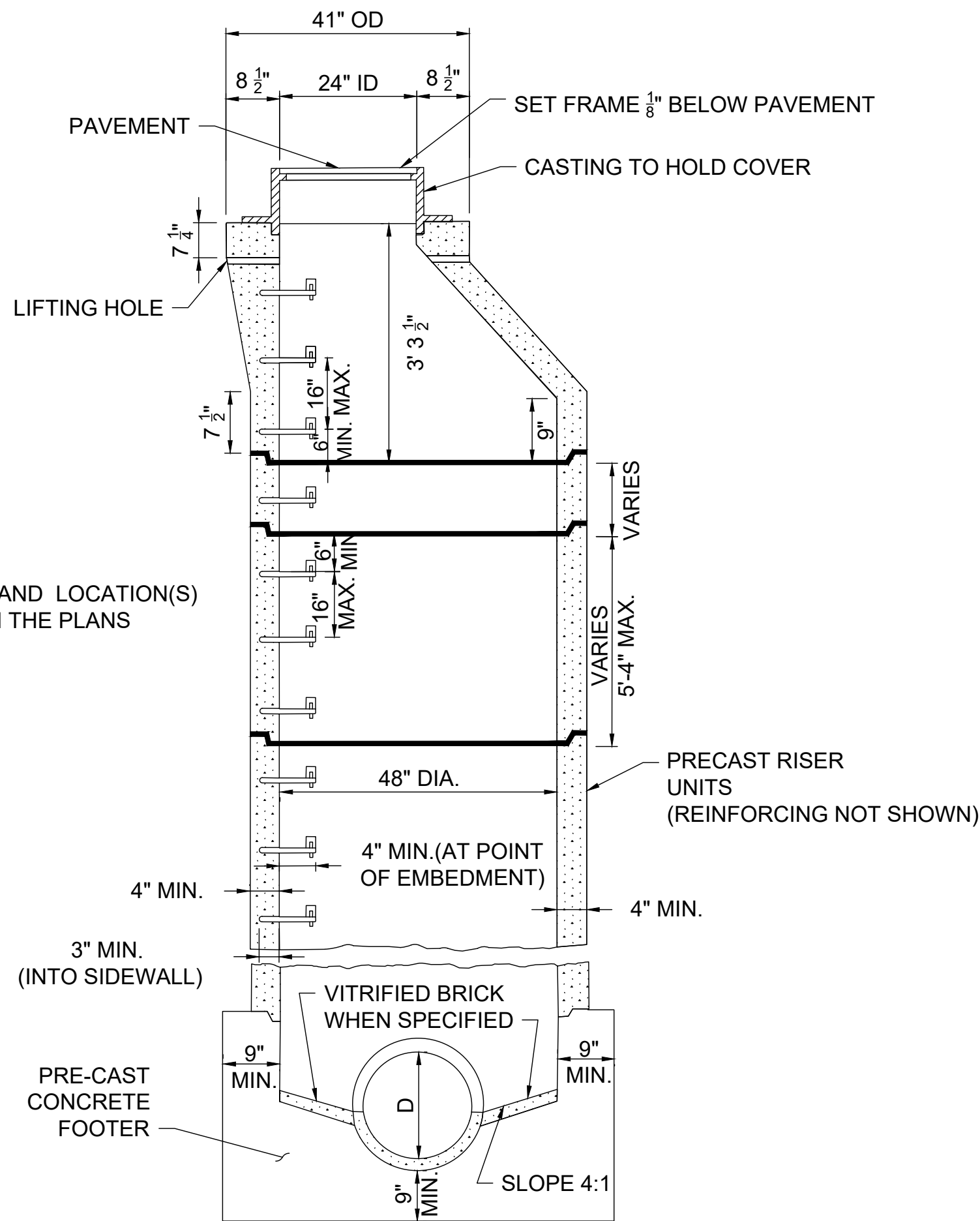
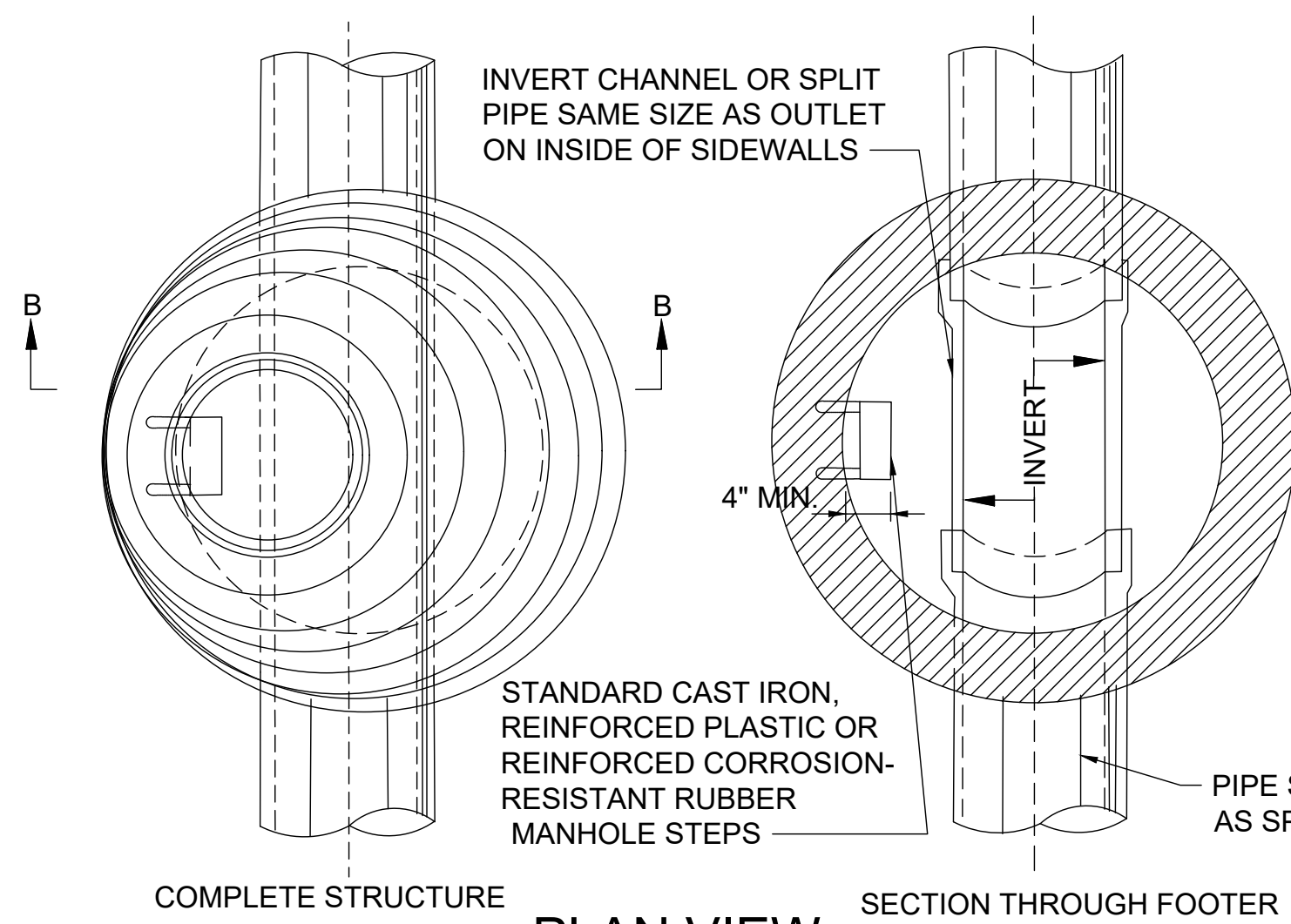


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WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS

BERTSCHYS LANE TYPICAL SECTIONS

PROJECT NO. 220991 2C	
DISCIPLINE CIVIL	
SHEET NAME GR-5	
SHEET 14	OF 19



- WHEELING NOTES:**
- ALL MANHOLE STEPS MUST BE REMOVED PRIOR TO ACCEPTANCE BY WPCD. THE STRUCTURES MAY EITHER BE CONSTRUCTED WITHOUT STEPS, OR THEY MUST BE CUT AND FINISHED FLUSH TO THE INSIDE MANHOLE FACE FOLLOWING INSTALLATION OF THE MANHOLES.
 - ALL MANHOLES SHALL CONFORM TO WV DOH PAY ITEM 675015. MANHOLE FRAMES AND LIDS SHALL BE EAST JORDAN (NO ALTERNATIVES).
- FRAME: EJIW 1450Z
- MH CASTING: EJIW 1450A - MARKED "STORM"

WVDOT TYPE A MANHOLE

NOTES:

TYPE A MANHOLES, WHEN SPECIFIED ON THE PLANS, MAY BE CONSTRUCTED IN EITHER METHOD (CAST-IN- PLACE OR PRE-CAST OPTION) AS SHOWN HEREIN.

STEPS, FRAMES, AND COVERS SHALL BE AS SHOWN ON WVDOT STANDARD SHEET DR7-X. "KEYED" OR "DOWELED" TYPE CONSTRUCTION JOINTS, ACCEPTABLE TO THE ENGINEER, MAY BE USED IN THE CONSTRUCTION OF THE CONCRETE MANHOLES.

IF THE CAST-IN-PLACE MANHOLE IS OVER TWELVE FEET (12') IN DEPTH, THE SIDEWALLS BELOW THAT DEPTH WILL BE DOUBLE IN THICKNESS.

PIPE AT ELEVATION OTHER THAN SHOWN MAY BE JOINED TO THE MANHOLE BY CUTTING A HOLE THE SIZE OF THE CONNECTING PIPE IN THE MANHOLE, INSERTING THE PIPE THE THICKNESS OF THE MANHOLE SHELL AND CLOSING ALL OPENINGS AROUND THE CONNECTING PIPE WITH JOINT MORTAR.

DRAWING SHOWS PIPE ENTERING AND LEAVING MANHOLE IN A STRAIGHT LINE. HOWEVER, THE PIPES MAY ENTER OR LEAVE AT AN ANGLE OR PLACE AS CALLED FOR OR SHOWN ON THE PLANS.

MINIMUM HEIGHT OF BENCH WALL ABOVE FLOWLINE OF THE PIPE IS 25% OF THE DIAMETER OF THE PIPES.

THE USE OF BRICK FOR MANHOLE CONSTRUCTION WILL NOT BE ALLOWED WHEN A MANHOLE IS LOCATED IN THE ROADWAY.

THE FOLLOWING ADDITIONAL NOTES ARE APPLICABLE FOR PRE-CAST MANHOLES:

MANHOLE STEPS SHALL BE PLACED INTO PLASTIC CONCRETE WALL DURING MANUFACTURE OR MORTARED INTO HOLES AFTER THE CONCRETE HAS SET.

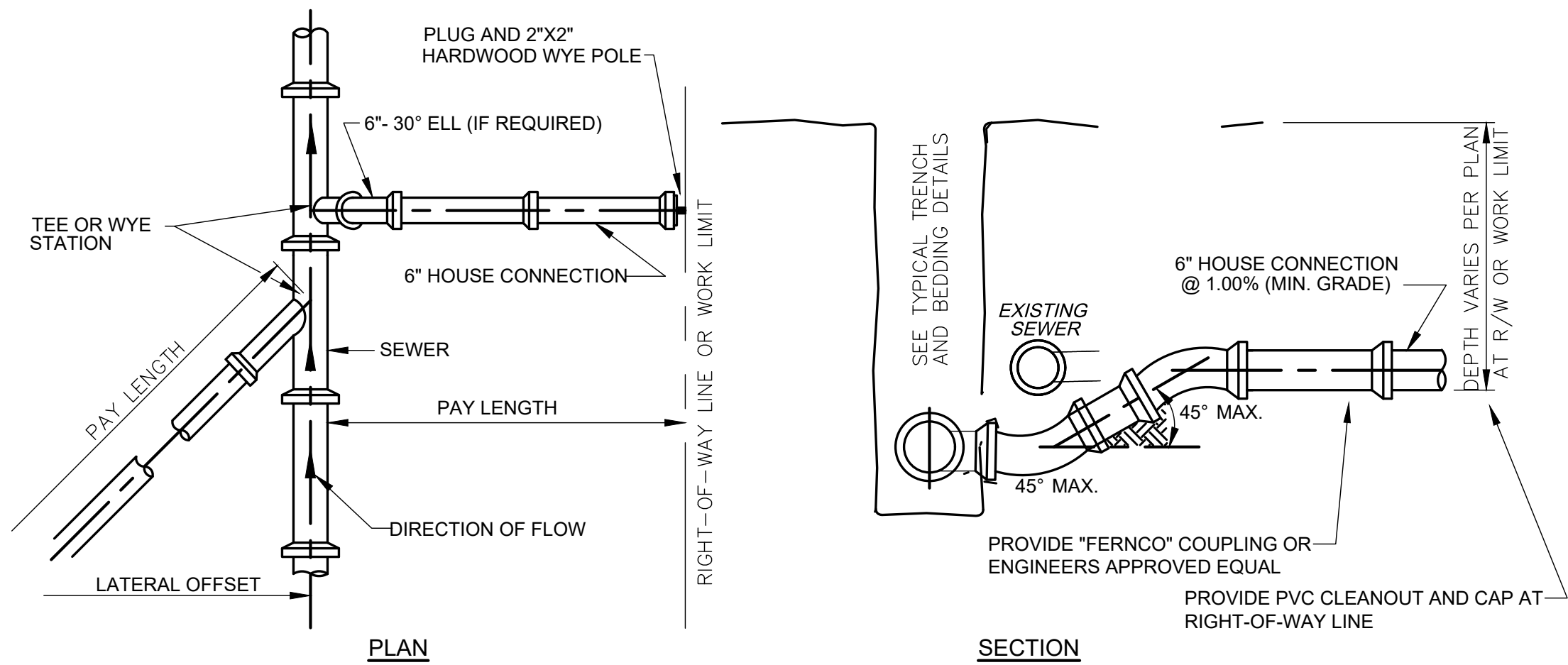
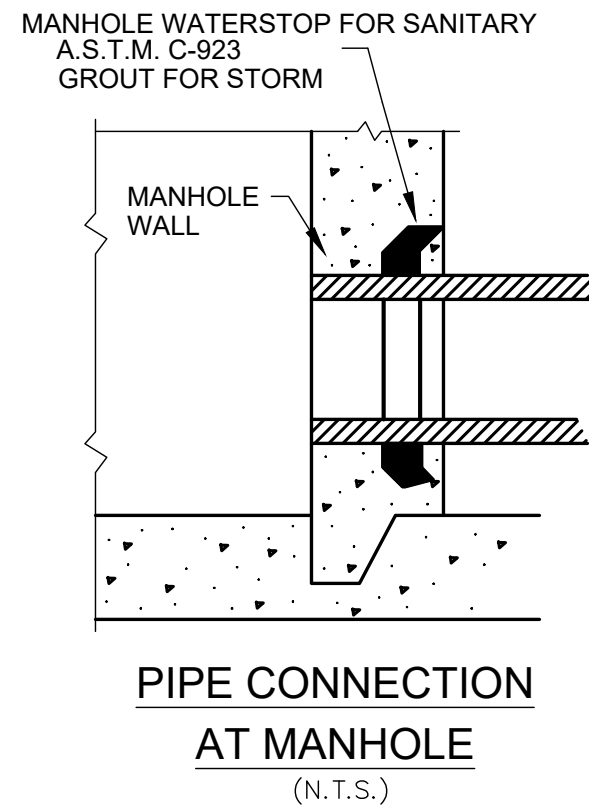
SIDEWALL SECTIONS MAY BE USED IN ANY COMBINATION TO PRODUCE A MANHOLE OF DESIRE DEPTH, EXCEPT THE TAPERED TOP SECTION SHALL BE RETAINED AS SHOWN.

THE TAPERED TOP SECTION SHALL BE MANUFACTURED AND MEET THE SAME REQUIREMENTS AS THE MANHOLE'S SIDEWALLS, BUT SHALL CONFORM TO THE DIMENSIONS DETAILED HEREIN.

LIFTING HOLES IN THE TAPERED TOP SECTION AND THE CIRCUMFERENTIAL NOTCHES IN THE MANHOLE COVER ARE FOR HANDLING PURPOSES ONLY.

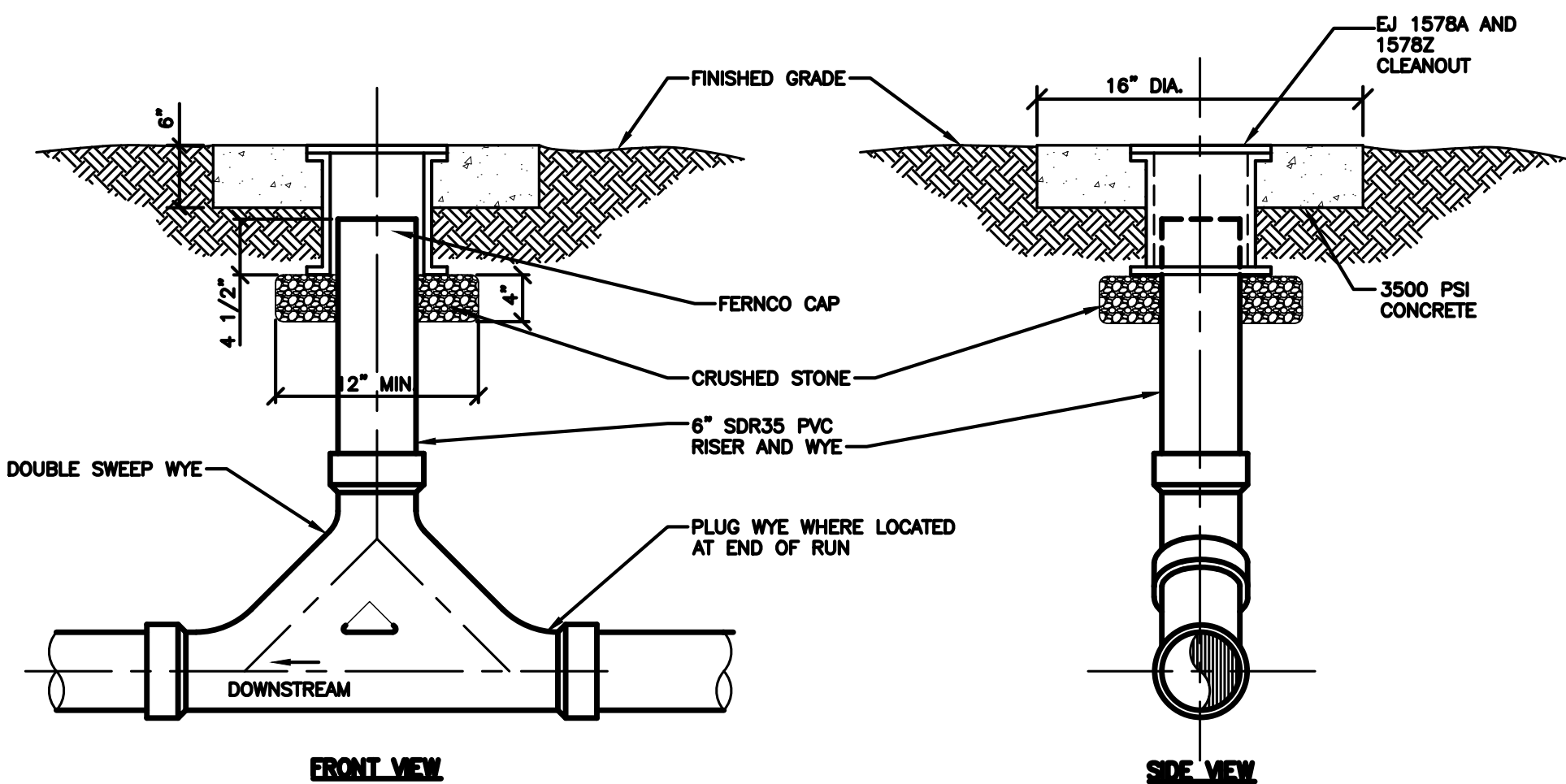
THE PRE-CAST SIDEWALL UNITS SHALL BE SET IN JOINT MORTAR OR SEALED WITH O-RING GASKETS.

PRE-CAST CONCRETE MANHOLES SHALL CONFORM TO WVDOT SPECIFICATION SECTION 715.19.

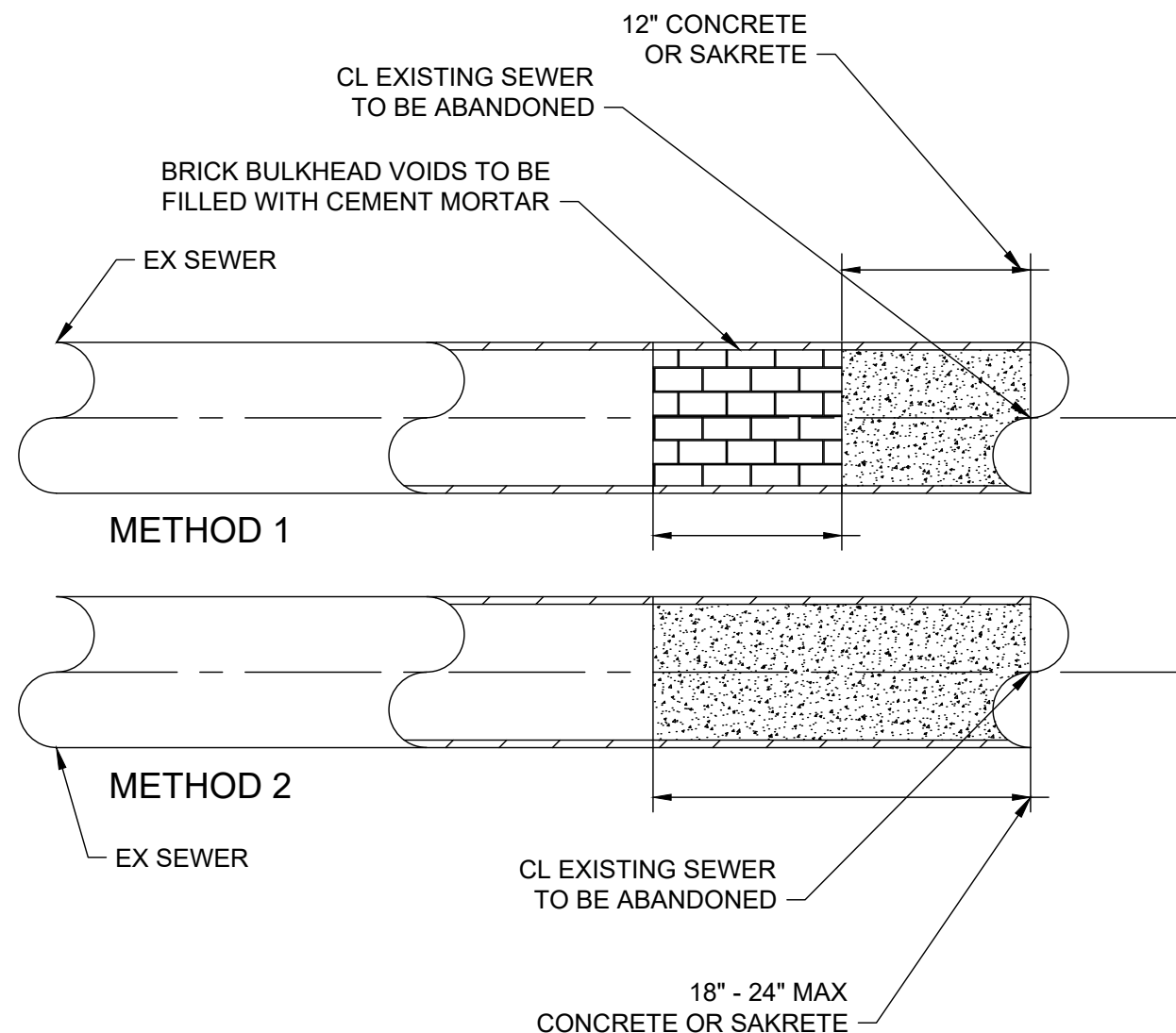


SEWER LATERAL DETAIL

- NOTES:**
- WHERE EXISTING LATERALS CONNECT INTO MANHOLES, THEY SHALL BE RECONNECTED TO ALL NEWLY CONSTRUCTED MANHOLES, AS DIRECTED.
 - IF A LATERAL IS ENCOUNTERED THAT IS CONNECTED TO THE EXISTING SEWER LINE, IT SHALL BE RECONNECTED IN ACCORDANCE WITH THIS DETAIL, AS DIRECTED
 - LATERALS SHALL BE CONSTRUCTED TO THE RIGHT-OF-WAY LINE AND A STANDARD PVC CAPPED CLEANOUT SHALL BE PLACED AT THIS LOCATION FOR EACH LATERAL.
 - NEW CLEANOUTS SHALL NOT BE PLACED IN DRIVEWAYS.



SEWER CLEANOUT DETAIL



BULKHEAD FOR SEWER

WATER POLLUTION CONTROL DIVISION WASTEWATER COLLECTION AND TREATMENT GREENWOOD SEWER IMPROVEMENTS

STANDARD DETAILS

PROJECT NO.	
220991 2C	
DISCIPLINE	
CIVIL	
SHEET NAME	
SD-1	
SHEET	OF
15	19

THIS INLET SHOULD ONLY BE SPECIFIED WHEN ABUTTING
CONCRETE PAVEMENT

THE FINAL INSTALLED TOP SURFACE OF INLET AND GRATE
SHALL BE FLUSH WITH ADJACENT FINISHED SURFACES SUCH AS PAVEMENT,
GUTTERS, CURBS, AND SIDEWALKS. TOP OF GRATE ELEVATION, IF SHOWN
ON THE PLANS, IS FOR INFORMATION ONLY.

CONSTRUCTION MAY BE CAST-IN-PLACE, PRECAST IN ONE OR
MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN-PLACE AND PRECAST.



UNLESS OTHERWISE SPECIFIED ON THE PLANS, TYPE B INLETS MAY BE CONSTRUCTED IN ANY OF THE SHAPES SHOWN WHEN THE OUTLET PIPE DIAMETERS IS 21" OR LESS AND THE ADJACENT PAVEMENT IS CONCRETE.

IF THE OUTLET PIPE DIAMETER IS 24" OR THE ADJACENT PAVEMENT IS HOT MIX ASPHALT, ONLY THE SQUARE STYLE WITH THE DEEP FRAME WILL BE USED. THE INSIDE OPENING OF THE INLET WILL BE ADJUSTED TO ACCOMMODATE THE 24" PIPE.

CONSTRUCTION MAY BE CAST-IN-PLACE, PRECAST IN ONE OR MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN-PLACE AND PRECAST.



UNLESS OTHERWISE SPECIFIED ON THE PLANS, TYPE B INLETS MAY BE CONSTRUCTED IN ANY OF THE SHAPES SHOWN WHEN THE OUTLET PIPE DIAMETERS IS 21" OR LESS AND THE ADJACENT PAVEMENT IS CONCRETE.

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CONSTRUCTION MAY BE CAST-IN-PLACE, PRECAST IN ONE OR MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN-PLACE AND PRECAST.

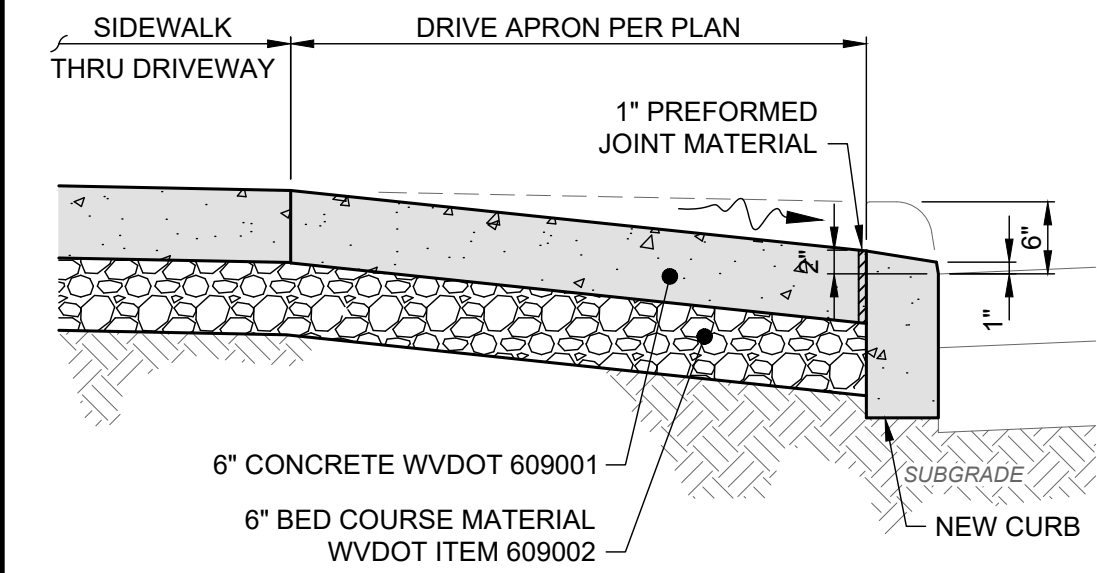


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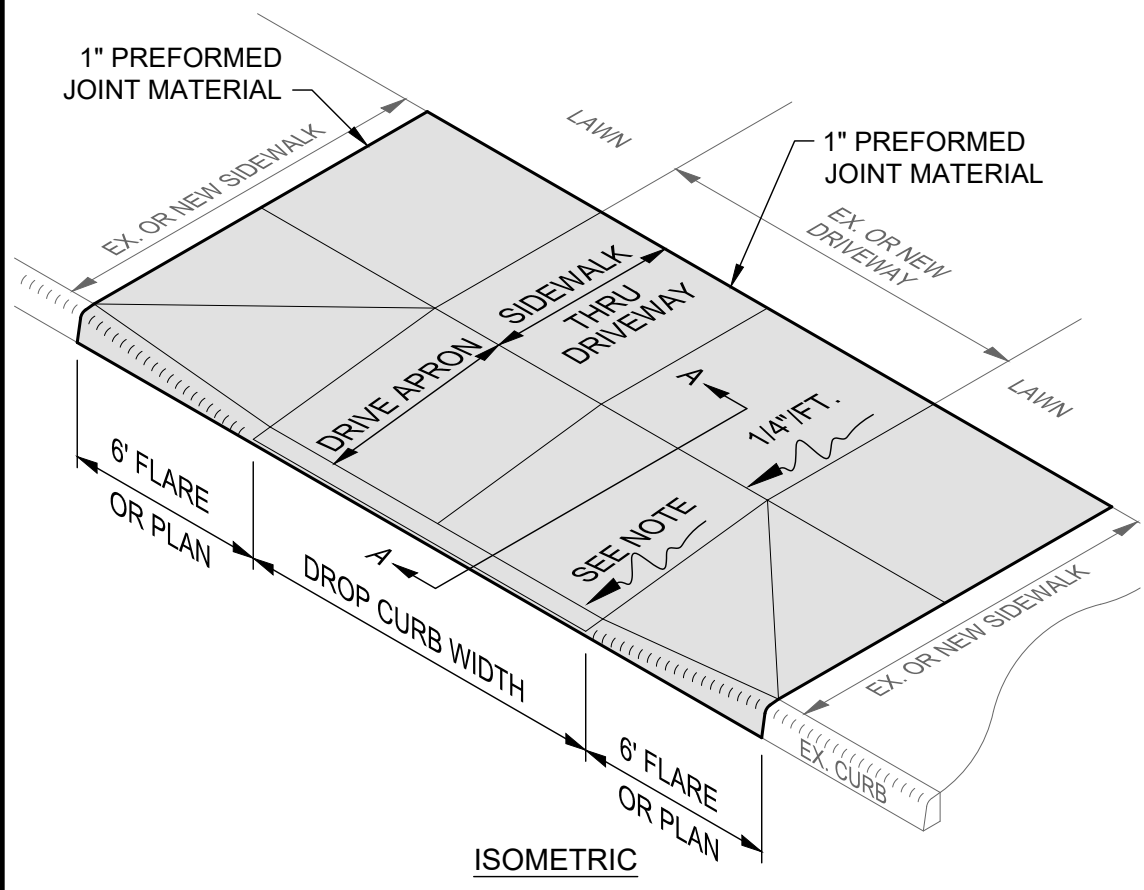
**WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS**

STANDARD DETAILS

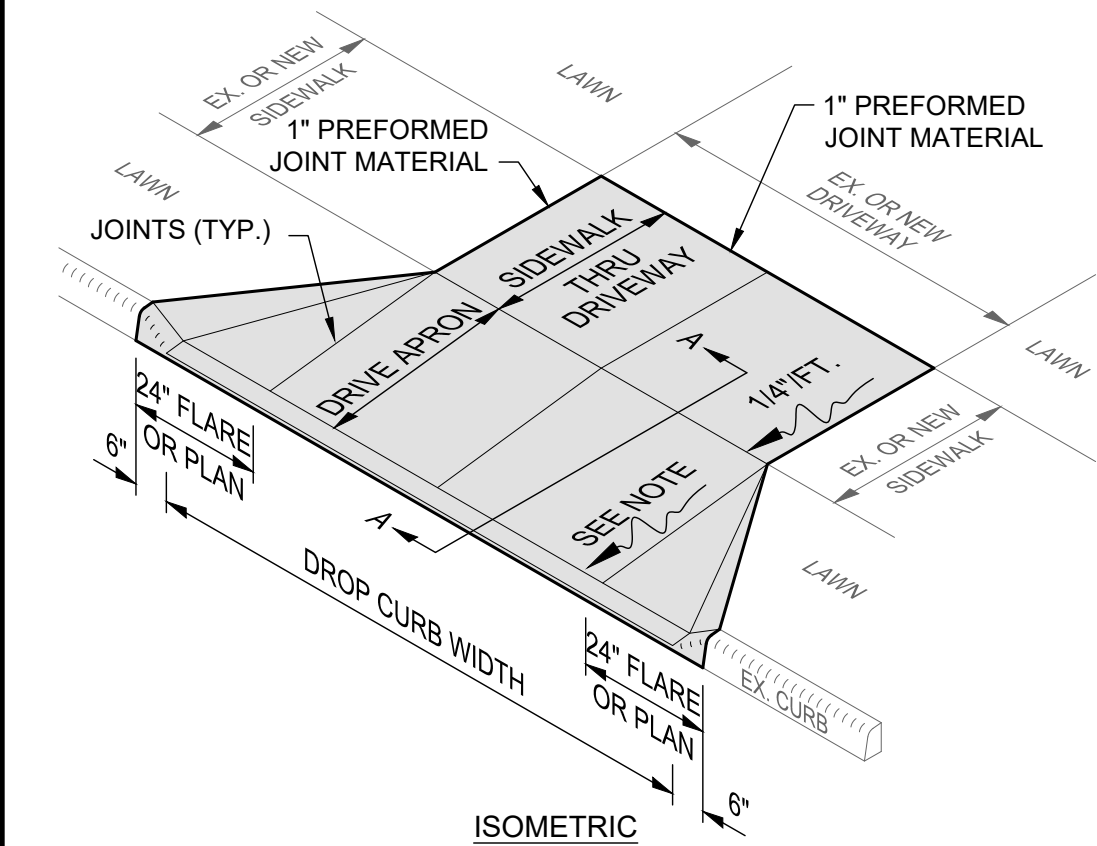
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DISCIPLINE	
CIVIL	
SHEET NAME	
SD-2	
SHEET	OF
16	19



SECTION A-A



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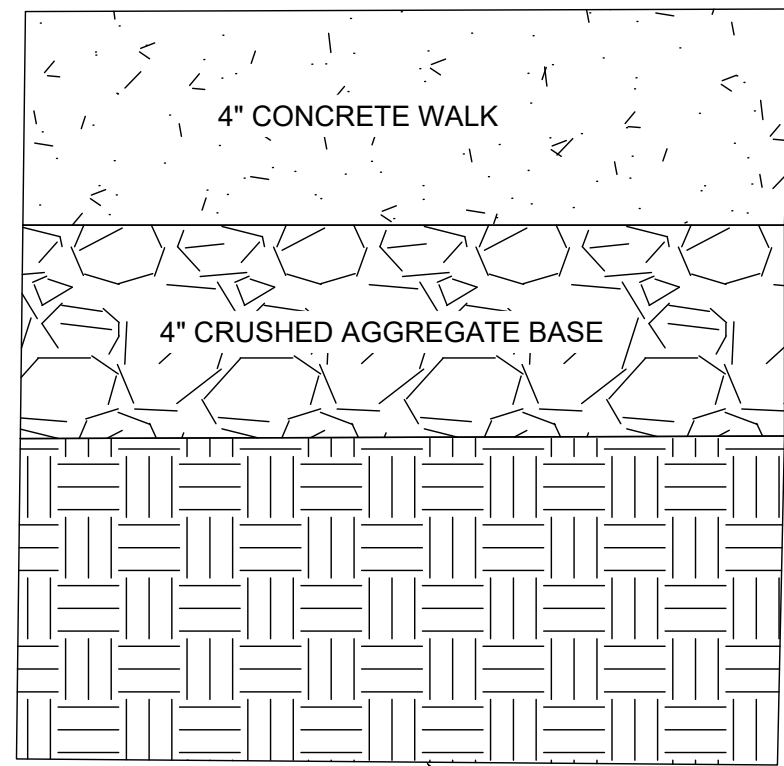
ISOMETRIC

NOTES:

1. CONCRETE AT ACTIVE DRIVE APRONS SHALL BE WVDOT 609001
2. THE DROP CURB SHALL BE HAND FORMED AT THE TIME THE CONCRETE CURB IS POURED.
3. JOINTS SHALL BE PROVIDED AT THE NORMAL FACE AND BACK OF SIDEWALK LOCATION.
4. MINIMUM DRIVE APRON SLOPE PERMITTED IS 1/8"/FT. (1.00%) AND MAXIMUM IS 1"/FT. (8.33%). SEE GRADING PLAN FOR ACTUAL SLOPES AND ELEVATIONS.
5. THIS DETAIL SHOWS A DRIVE APRON WITH VARIOUS APRON FLARES FOR REFERENCE ONLY; SEE LAYOUT PLAN FOR ACTUAL APRON CONFIGURATION AND FLARE WIDTHS.

CONCRETE DRIVE APRON DETAIL

SCALE: NONE



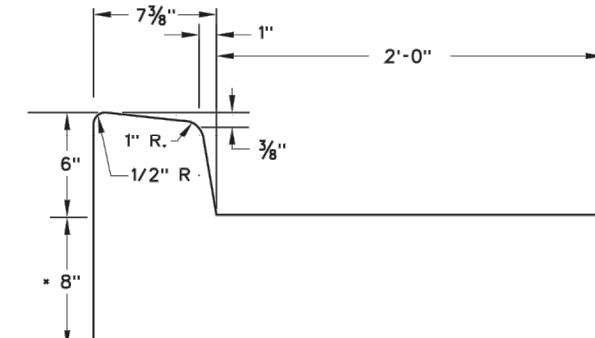
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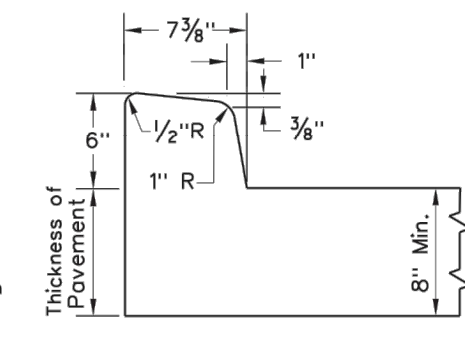
1. ALL CONCRETE TO BE MIN. 3000 PSI WITH NYLON FIBERS AND 7% AIR ENTRAPMENT.
2. 1/2" EXPANSION JOINT TO BE PLACED FULL DEPTH CONCRETE AT MAXIMUM 20' INTERVALS.
3. SEE SECTION 609 OF WVDOT SPEC BOOK FOR ADDITIONAL REQUIREMENTS

CONCRETE SIDEWALK REPLACEMENT

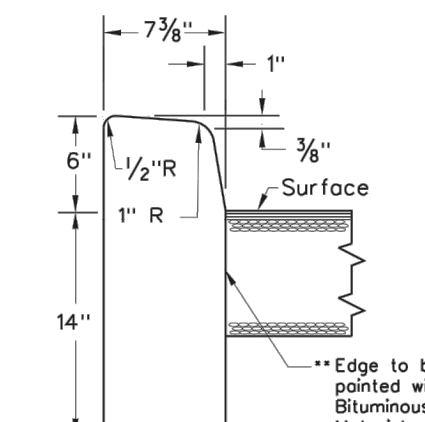
- or thickness of pavement, when abutting concrete pavement.
- ** Does not apply, when abutting concrete pavement. Instead a longitudinal joint with tie bars or tie bolt assemblies shall be constructed at this location. joint with tie bars or tie bolt assemblies shall be constructed at this location.



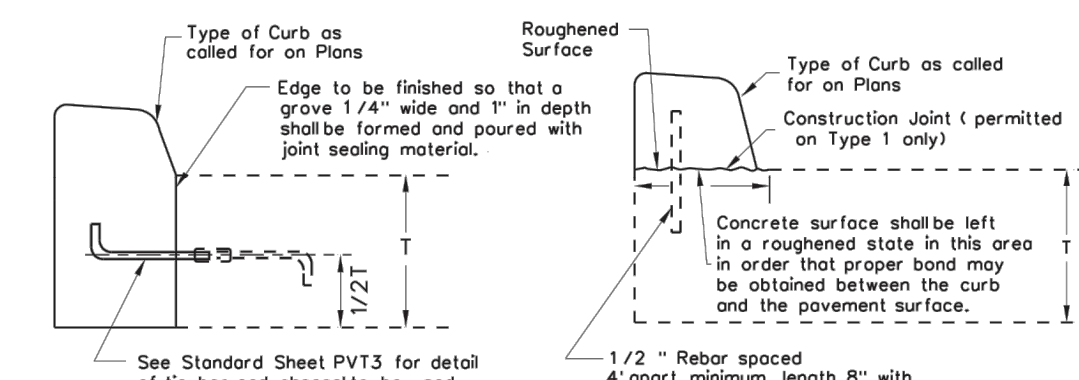
COMBINATION CONCRETE CURB AND GUTTER TYPE I



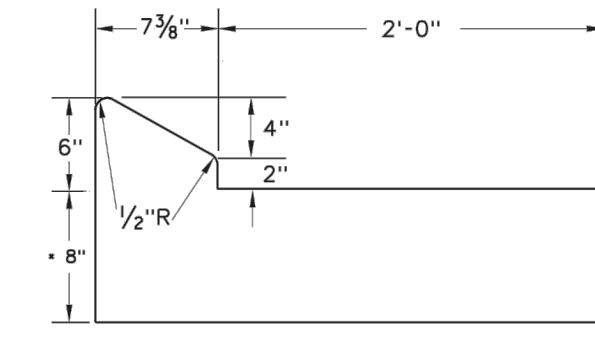
INTEGRAL CONCRETE CURBING TYPE I



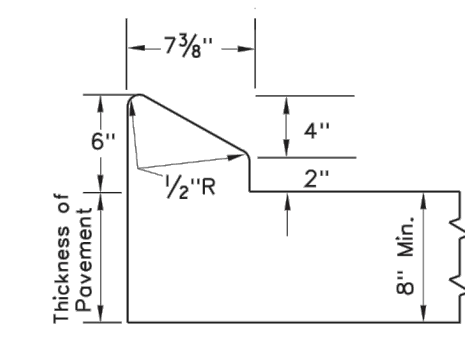
PLAIN CONCRETE CURBING TYPE I



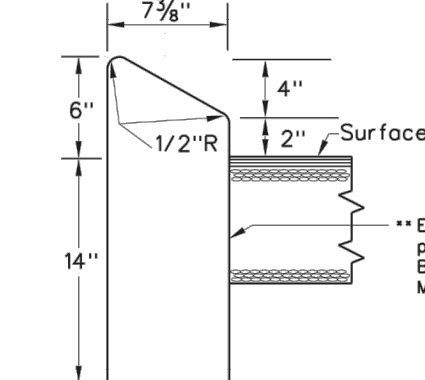
DETAILS SHOWING PLACING OF CONCRETE CURB BY SEPARATE METHODS



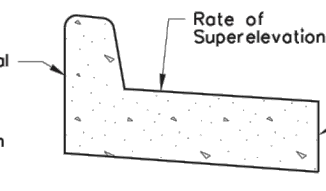
COMBINATION CONCRETE CURB AND GUTTER TYPE II



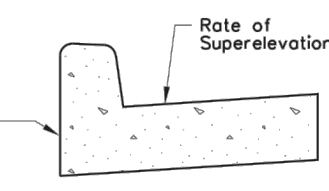
INTEGRAL CONCRETE CURBING TYPE II



PLAIN CONCRETE CURBING TYPE II



SKETCH SHOWING METHOD OF PLACING CURB ON HIGH SIDE OF SUPERELEVATED SECTION



SKETCH SHOWING METHOD OF PLACING CURB ON LOW SIDE OF SUPERELEVATED SECTION

NOTES

For all Concrete Curbing, the face of the curbing shall be offset a minimum of two feet from the edge of traffic lane, unless otherwise shown on the Plans.

Construction of Concrete Curbing shall be by the "Separate Method" when sawed joints are constructed in the pavement.

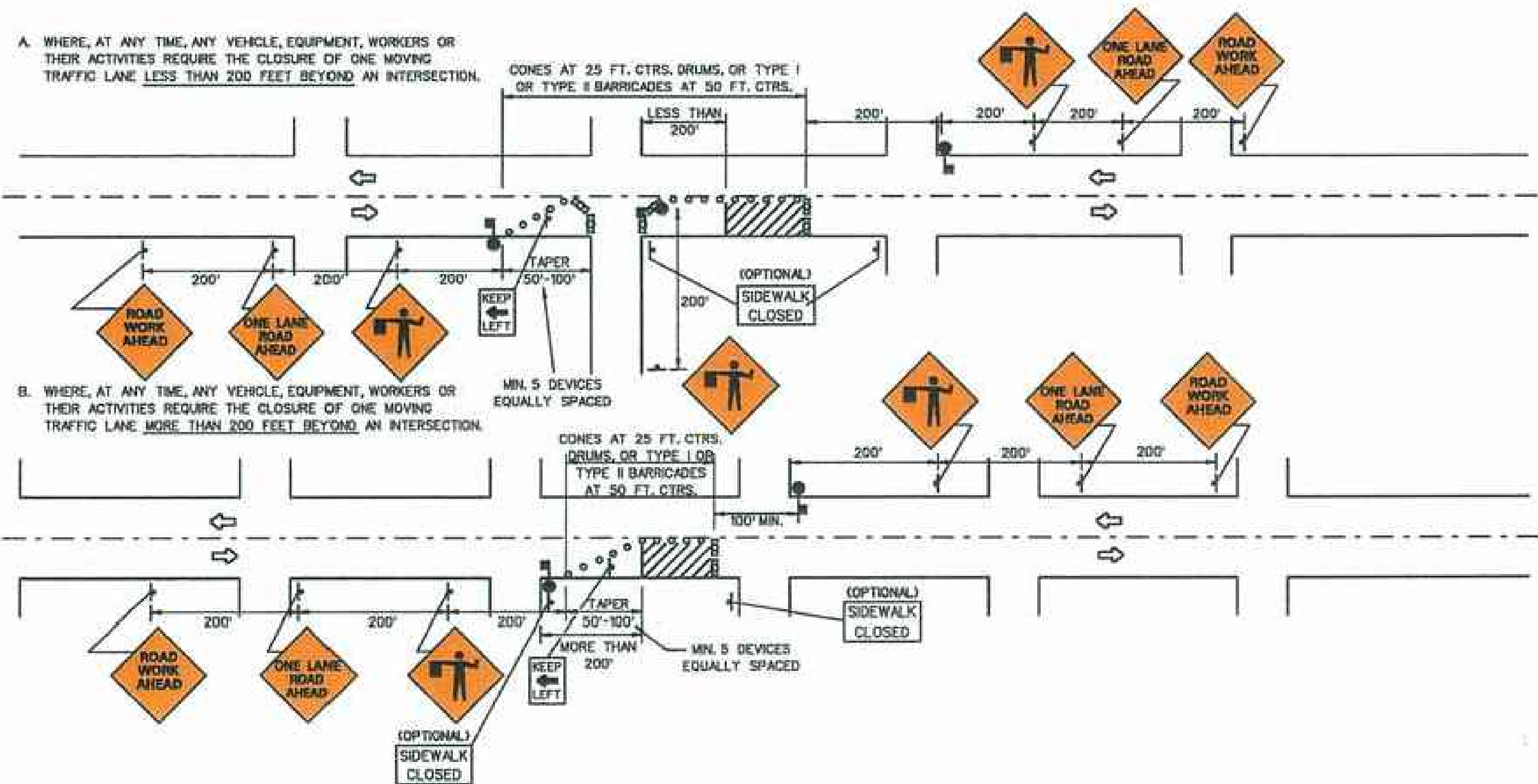
All curb joints shall be made by acceptable forming methods.

For Combination Concrete Curbs And Gutters, the slope of the 2'-0" wide concrete gutter shall conform to the pavement slope or as otherwise specified on the Plans.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS STANDARD DETAIL	
PREPARED 7-1-99	CONCRETE CURBING AND SIDEWALK (SHEET 1 of 2)
REVISION DATE 1-6-2012	
NO	STANDARD SHEET PVT6

DATE	REVISION	NO	REVIEW	ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
					6/9/2025	AS SHOWN			

PROJECT NO. 220991 2C	
DISCIPLINE CIVIL	
SHEET NAME SD-3	
SHEET 17	OF 19



SYMBOLS

- TYPE I OR TYPE II BARRICADES WITH FLASHING LIGHT (TYPE "A").
- WORK AREA.
- SIGN.
- CONES OR DRUMS (TYPE II BARRICADES OPTIONAL).
- SIGN ON PORTABLE OR PERMANENT SUPPORT.
- FLAGGER WITH PADDLE.

GENERAL NOTES

- DRUMS OR TYPE II BARRICADES SHALL BE USED IN LIEU OF CONES FOR NIGHT OPERATIONS.
- IF THE WORK OPERATION PERFORMED DOES NOT EXCEED 15 MINUTES, SIGNING SHALL BE IN CONFORMANCE WITH CASE A6.
- WHERE THE WORK AREA EXTENDS THROUGH THE INTERSECTION, BARRICADES AND/OR ADEQUATE WARNING SIGNS SHALL BE ERECTED ON THE CROSS STREET.
- IF THE WORK AREA IS IN THE PARKING LANE, A ROAD WORK AHEAD SIGN SHALL BE INSTALLED 200 FT. IN ADVANCE OF THE WORK AREA AND THE WORK AREA PROTECTED WITH CONES, DRUMS OR BARRICADES.
- CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC. AT LEAST 500 FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1,000 FT.
- THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS THREE DAYS.
- FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ABOVE WARNING SIGNS, AS NEEDED ON THE PLANS, AND/OR AS DIRECTED BY THE ENGINEER.
- ALL VEHICLES, EQUIPMENT, WORKERS (EXCEPT FLAGGERS) AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

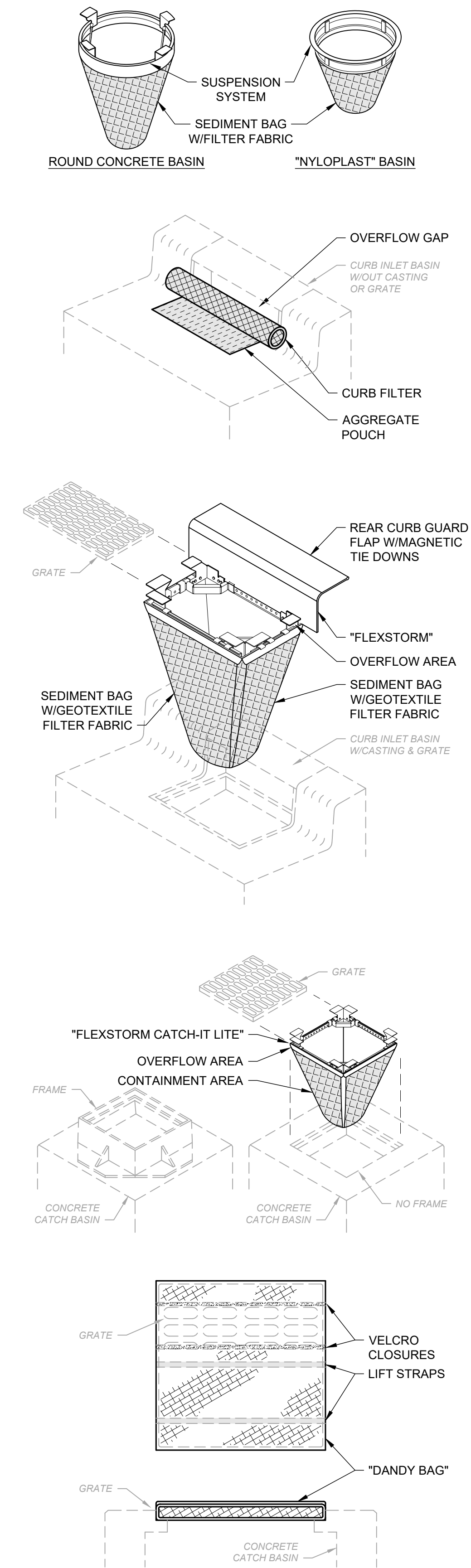
CASE B1

TWO-LANE, TWO-WAY TRAFFIC
UNDIVIDED, URBAN, LOW-VOLUME, LOW-SPEED
DAY OR NIGHT OPERATIONS

WHERE, AT ANY TIME, ANY VEHICLE,
EQUIPMENT, WORKERS OR THEIR ACTIVITIES
ENCROACH ON THE PAVEMENT REQUIRING
THE CLOSURE OF ONE TRAFFIC LANE.

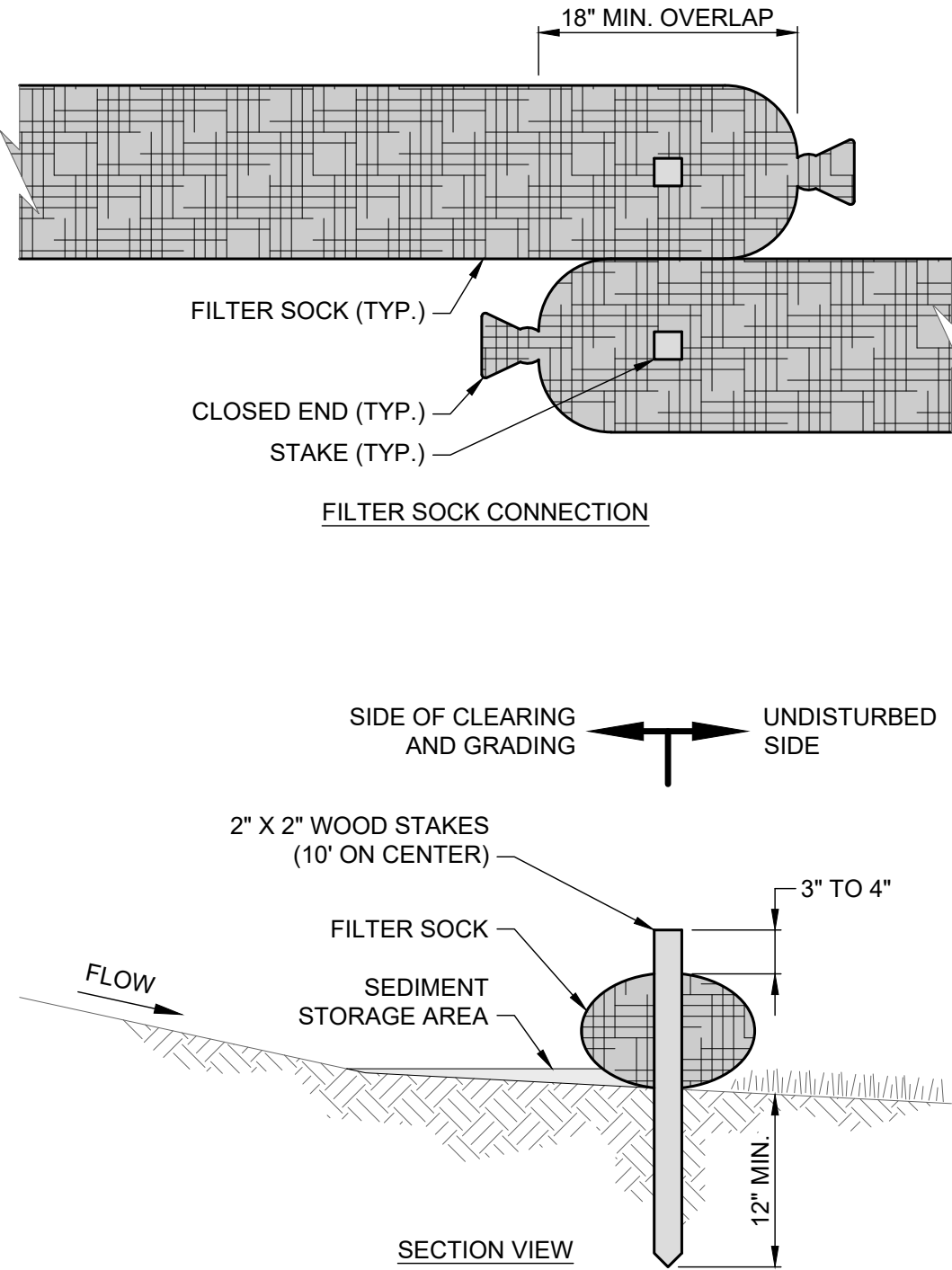
NOTES:

- DURING DAYTIME OPERATION, CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC.
- ROADWAYS SHALL ONLY BE CLOSED ONE LANE AT A TIME. PROVIDE A SIGNED PEDESTRIAN DETOUR, ROADWAY CLOSED AHEAD SIGNS, AND PEDESTRIAN BARRICADES.
- AT NO TIME SHALL THE ROADWAY BE CLOSED DURING DAYTIME OPERATION.



- NOTES:
- ALL NEW AND EXISTING STORM INLET BASINS WITHIN THE WORK LIMITS SHALL HAVE INLET PROTECTION INSTALLED.
 - INLET PROTECTION SHALL BE INSTALLED AS EACH STORM INLET IS CONSTRUCTED.
 - NOT ALL ITEMS SHOWN MAY APPLY OR DIFFERENT TYPES OR CONFIGURATIONS MAY BE REQUIRED. THE CONTRACTOR SHALL MEASURE EACH INLET TO CONFIGURE AND ASSEMBLE CUSTOMIZED INLET FILTERS.

INLET PROTECTION DETAIL
SCALE: NONE



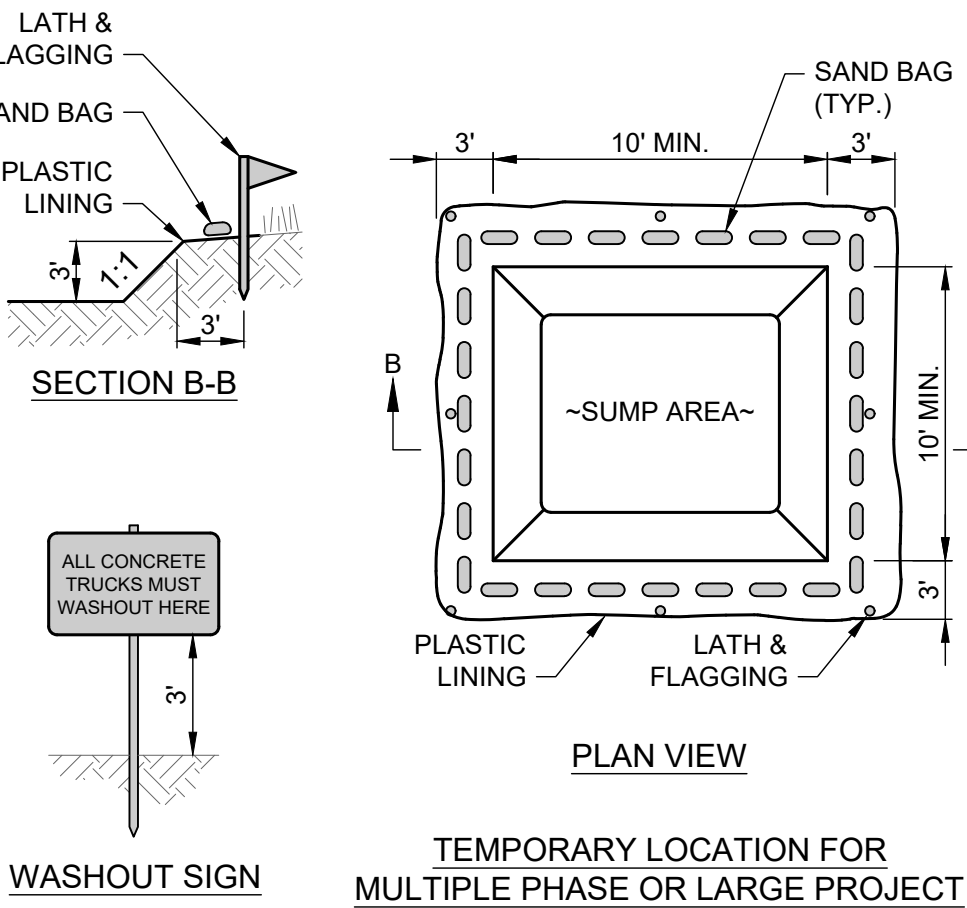
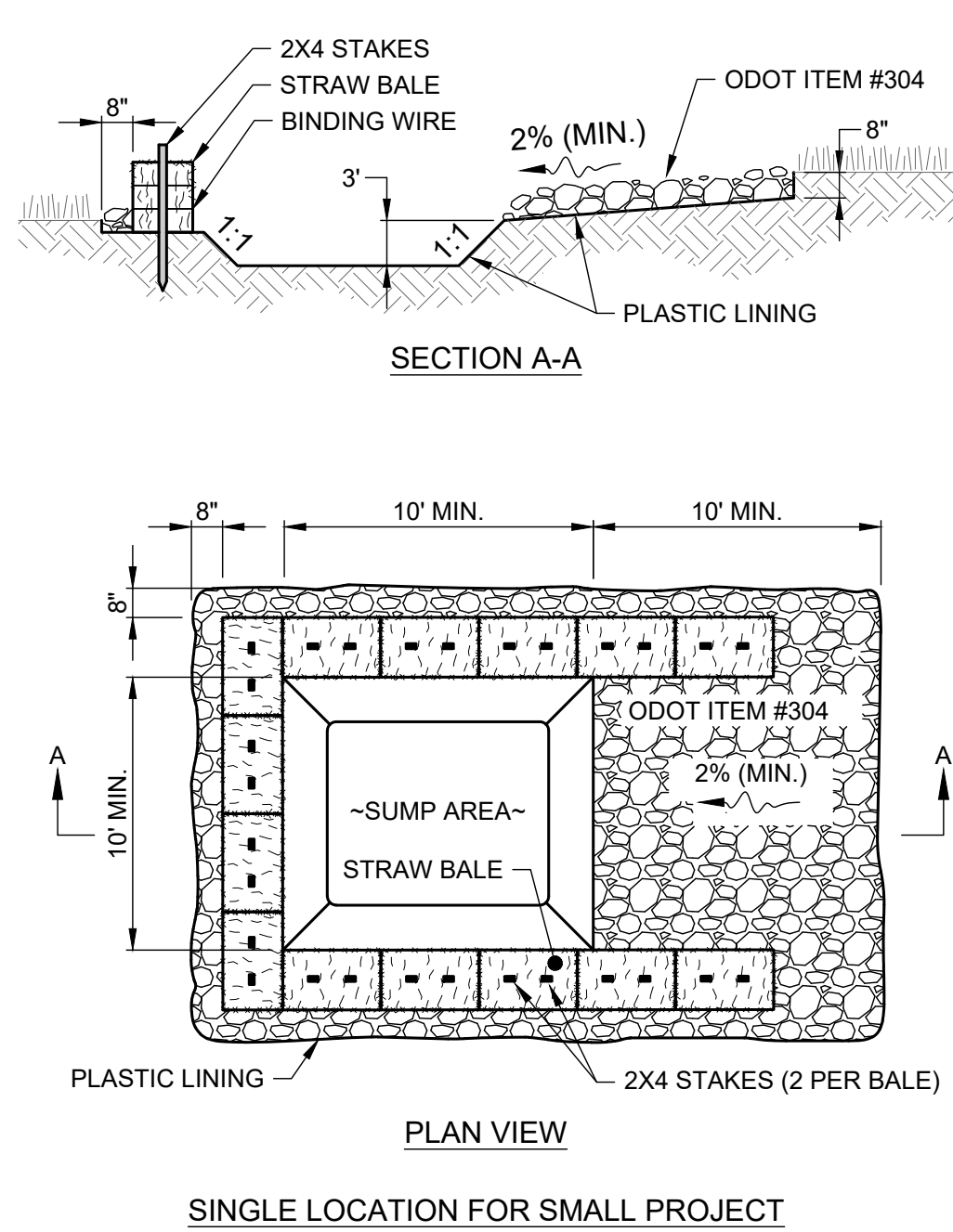
- NOTES:
- FILTER SOCKS SHALL BE CONTINUOUS, TUBULAR, HDPE KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST.
 - COMPOST SHALL BE WEED, PATHOGEN AND INSECT FREE, FREE OF REFUSE, CONTAMINANTS OR MATERIALS TOXIC TO PLANT GROWTH, BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER, AND CONSIST OF PARTICLES RANGING FROM 3/8" TO 2".
 - FILTER SOCKS SHALL BE PLACED ON A LEVEL LINE ACROSS SLOPES PARALLEL TO THE BASE OF THE SLOPE. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND MID-SLOPE.
 - THE FLAT DIMENSION OF THE SOCK SHALL BE AT LEAST 1.5 TIMES THE NOMINAL DIAMETER.
 - FILTER SOCKS SHALL BE PLACED AT LEAST 5' FROM THE TOE OF SLOPE FOR SEDIMENT DEPOSIT.
 - TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
 - BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED 1/3 THE FILTER SOCK HEIGHT.
 - BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
 - WHEN A FILTER SOCK IS NO LONGER REQUIRED, IT SHALL BE DISPERSED ON-SITE.
 - THE MAXIMUM DRAINAGE AREA PER 100 FEET OF FILTER SOCK IS 1/2 ACRE AND IS DEPENDENT ON THE SLOPE PER THE CHARTS BELOW:

MAX. DRAINAGE AREA (AC.) PER 100-FT OF FILTER SOCK (*)	RANGE OF SLOPE PER INDIVIDUAL DRAINAGE AREA
0.50 AC.	<2% (50H:1V)
0.25 AC.	≥2% (50H:1V) BUT <20% (5H:1V)
0.125 AC.	≥20% (5H:1V) BUT <50% (2H:1V)

(*) FILTER SOCK CANNOT BE USED FOR SLOPES ≥50% (2H:1V).

MAX. SLOPE LENGTH ABOVE FILTER SOCK				
SLOPE (%)	RATIO (H:V)	12"	18"	24"
0% TO <2%	0 TO <50:1	250'	300'	350'
≥2% TO <10%	≥50:1 TO <10:1	125'	200'	25'
≥10% TO <20%	≥10:1 TO <5:1	100'	150'	200'
≥20% TO <50%	≥5:1 TO ≥2:1	50'	75'	100'

FILTER SOCK DETAIL
SCALE: NONE



- NOTES:
- CONCRETE WASHOUT AREA SHALL BE LOCATED A MINIMUM OF 100' FROM STORM SEWER INLETS, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS OF THE STATE.
 - IF CONCRETE WASHOUT AREA IS LOCATED AWAY FROM A PAVED SURFACE, CONSTRUCT A GRAVEL ACCESS ROUTE EQUAL IN COMPOSITION TO A CONSTRUCTION ENTRANCE.
 - CONCRETE WASHOUT AREA SHALL BE SUFFICIENT SIZE TO CONTAIN CONCRETE WASTE GENERATED. LARGE SITES MAY REQUIRE MULTIPLE CONCRETE WASHOUT AREAS.
 - PLASTIC LINING SHALL BE DOUBLE-LINED, CONTINUOUS 10-ML POLYETHYLENE SHEETING FREE OF HOLES, TEARS OR OTHER DEFECTS INSTALLED ON A SMOOTH, LEVEL SURFACE, FREE OF LARGE ROCKS AND DEBRIS.
 - CONCRETE WASHOUT SIGNAGE SHALL BE CLEARLY VISIBLE AND LOCATED WITHIN 30 FEET OF EACH WASHOUT AREA.
 - CONCRETE WASHOUT AREA SHALL BE COVERED DURING INCLEMENT WEATHER TO PREVENT OVERFLOW.
 - PREFABRICATED, PORTABLE AND RE-USABLE CONCRETE WASHOUT CONTAINERS ARE ACCEPTABLE.
 - CONCRETE WASHOUT AREA SHALL BE INSPECTED DAILY TO CHECK FOR DAMAGE AND DETERMINE IF IT NEEDS CLEANED OR REPLACED. ANY DAMAGE TO THE SIDEWALLS OR PLASTIC LINING SHALL BE REPAIRED IMMEDIATELY. REPLACE THE ENTIRE CONCRETE WASHOUT AREA WHEN IT IS 75% FULL.

CONCRETE WASHOUT DETAIL
SCALE: NONE

- THE SEED BED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
- SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH VEGETATION. PERFORM SOIL TESTS TO PREDICT THE NEED FOR LIME OR FERTILIZER. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS
- APPLY SEED UNIFORMLY. COVER BROADCASTED SEED BY RAKING OR DRAGGING, AND LIGHTLY TAMPING INTO PLACE.
- MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
- INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.

TEMPORARY SEEDING SPECIES SELECTION			
DATES	SPECIES	LB/1,000 SF	LB/AC.
MARCH 1 - AUGUST 15	OATS	3	128
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
AUGUST 16 - OCTOBER 31	PERENNIAL RYEGRASS	2	40
	TALL FESCUE	1	40
	RYE	3	112
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
	WHEAT	3	120
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
	PERENNIAL RYEGRASS	2	40
	TALL FESCUE	1	40
NOVEMBER 1 - FEBRUARY 28	ONLY MULCH OR DORMANT SEEDING.		

TEMPORARY SEEDING NOTES

- SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
- THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIME OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
- APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED BETWEEN MARCH 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 30. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEEDING SHOULD NOT BE APPLIED BETWEEN OCTOBER 1 AND NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. IF SEEDING MUST OCCUR, INCREASE THE SEEDING RATE BY 50% AND ANCHOR. APPLY ADDITIONAL MULCH AND IRRIGATION AS REQUIRED TO ENSURE GERMINATION.
- MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
- SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS.
- SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF SEEDING. DURING THIS PERIOD INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.
- ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/AC.	TIME	MOW
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

PERMANENT SEEDING SPECIES SELECTION		
SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH <2.0 FT./SEC. VELOCITY
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

PERMANENT SEEDING NOTES

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DATE	REVISION	NO	REVIEW	ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
					6/9/2025	AS SHOWN			

**WATER POLLUTION CONTROL DIVISION
WASTEWATER COLLECTION AND TREATMENT
GREENWOOD SEWER IMPROVEMENTS**

SWPPP DETAILS AND NOTES

PROJECT NO. 220991 2C	
DISCIPLINE CIVIL	
SHEET NAME SWPPP DET	
SHEET 19	OF 19