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TIP PROJECT: P-5705BA

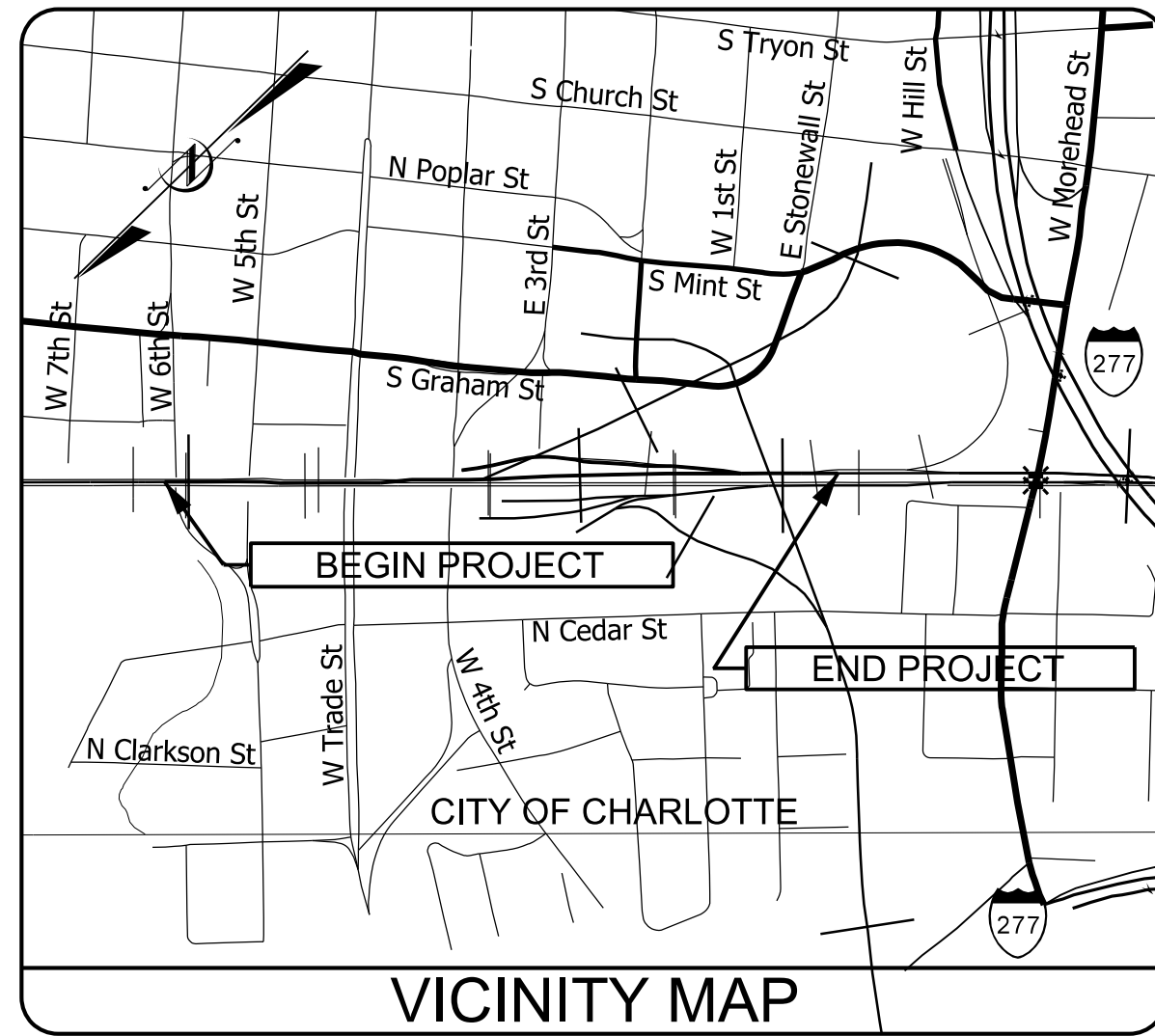
CONTRACT: C204058

STATE OF NORTH CAROLINA RAIL DIVISION

SENSITIVE MATERIALS
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T.I.P. NO.	SHEET NO.
P-5705BA	UC-1

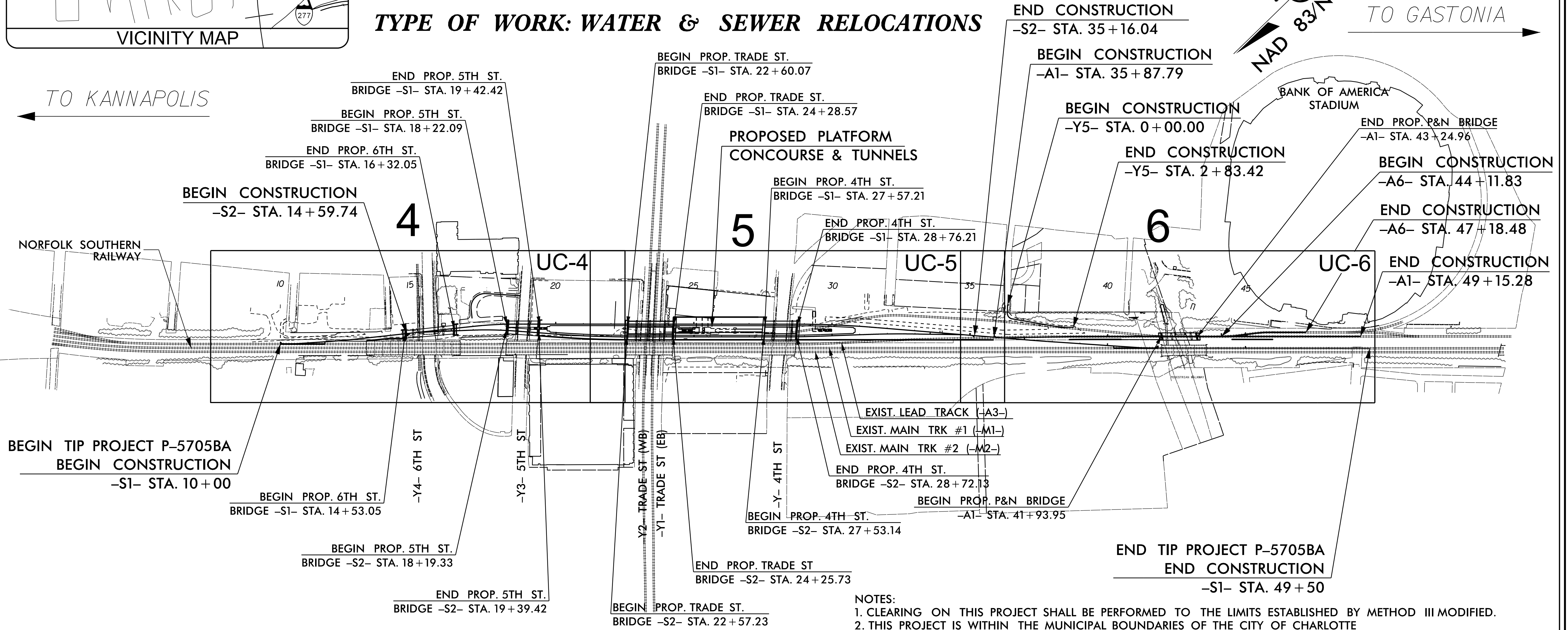
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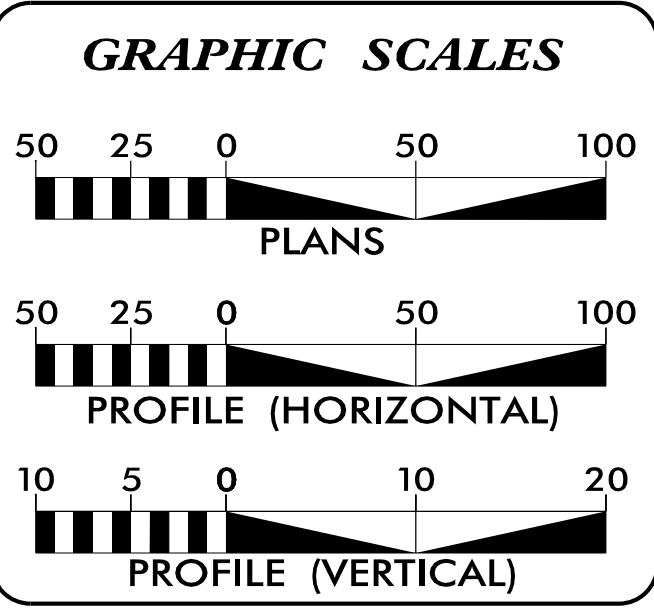
UTILITY CONSTRUCTION PLANS MECKLENBURG COUNTY

**LOCATION: CHARLOTTE GATEWAY STATION - TRACK
STRUCTURE AND SIGNALS**

TYPE OF WORK: WATER & SEWER RELOCATIONS



- NOTES:
 1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III MODIFIED.
 2. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF CHARLOTTE



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-2A	CLTWATER PERMIT
UC-3	NOTES
UC-3A THRU UC-3C	DETAILS
UC-4 THRU UC-6	UTILITY CONSTRUCTION SHEETS
UC-7 THRU UC-8	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - CLTWATER
 (B) SEWER - CLTWATER

PREPARED IN THE OFFICE OF:

7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227
 Ph. (704) 814-4407

Clint L. Stevens, P.E. UTILITIES PROJECT MANAGER
 Corey D. Bousquet, P.E. UTILITIES PROJECT ENGINEER
 James N. Arnold UTILITIES PROJECT DESIGNER

SEAL

3/14/2018

NC DEPARTMENT OF TRANSPORTATION
RAIL DIVISION
 DESIGN AND CONSTRUCTION

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	12" WL
11¼ Degree Bend	++
22½ Degree Bend	+X
45 Degree Bend	+X
90 Degree Bend	+†
Plug	⊥
Tee	⊥†
Cross	⊥††
Reducer	▶
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	12" SS
Force Main Sewer Line (Sized as Shown)	12" FSS
Manhole (Sized per Note)	•
Sewer Pump Station	PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	⊖
Telephone Pole	⊖
Joint Use Pole	⊖
Telephone Pedestal	TEL PED
Utility Line by Others (Type as Shown)	PROP O/H POW LINES
Trenchless Installation	12" TL INSTALL
Encasement by Open Cut	24" ENCAS. BY OC
Encasement	24" ENCASUREMENT

Thrust Block	⊥
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	•	*Underground Power Line	P
Telephone Pole	•	*Underground Telephone Cable	T
Joint Use Pole	•	*Underground Telephone Conduit	TC
Utility Pole	•	*Underground Fiber Optics Telephone Cable	F FO
Utility Pole with Base	□	*Underground TV Cable	TV
H-Frame Pole	•—•	*Underground Fiber Optics TV Cable	TV FO
Power Transmission Line Tower	⊠	*Underground Gas Pipeline	G
Water Manhole	⊙	Aboveground Gas Pipeline	A/G Gas
Power Manhole	⊙	*Underground Water Line	W
Telephone Manhole	⊙	Aboveground Water Line	A/G Water
Sanitary Sewer Manhole	⊙	*Underground Gravity Sanitary Sewer Line	SS
Hand Hole for Cable	⊠	Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
Power Transformer	⊠	*Underground SS Forced Main Line	FSS
Telephone Pedestal	⊠	Underground Unknown Utility Line	UTL
CATV Pedestal	⊠	SUE Test Hole	•
Gas Valve	◇	Water Meter	⊖
Gas Meter	◇	Water Valve	⊙
Located Miscellaneous Utility Object	⊙	Fire Hydrant	◇
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	⊙
End of Information	E.O.I.		

*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown) ————
 Designated Utility Line (Type as Shown) - - - - -

14-MAR-2018 16:07:43 Station\Design\Utilities\Engineering\UC\Proj\5705BA\ut-sym_UC02_psh.dgn
 TB.Chen

SENSITIVE MATERIALS
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PROJECT REFERENCE NO. P-5705BA	SHEET NO. UC-2A
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

**APPLICATION FOR NON-DISCHARGE PERMIT
GRAVITY SEWER MAIN EXTENSION
CHARLOTTE WATER**

PROJECT NAME NCDOT PROJECT P-5705BA CREEK BASIN IRWIN CREEK
CHARLOTTE GATEWAY STATION

CLTWater PROJECT NO.: 7030600017-17-567

PROJECT TYPE: NEW CONSTRUCTION RELOCATION MODIFICATION OF PERMIT NO. _____
OTHER _____

VOLUME OF WASTEWATER GENERATED BY THIS PROJECT: N/A GALLONS PER DAY BASED
ON 190 GAL/DAY/SINGLE FAMILY HOUSEHOLD X N/A HOUSEHOLDS OR
135 GAL/DAY/MULTI-FAMILY UNIT X N/A UNITS OR IS BASED ON: _____

WASTEWATER TREATMENT PLANT RECEIVING WASTEWATER:
 McALPINE CR. (NC0024970) IRWIN CR. (NC0024945) McDOWELL CR. (NC0036277)
 SUGAR CR. (NC0024937) MALLARD CR. (NC0030210)

NATURE OF WASTEWATER 50 % DOMESTIC _____ % INDUSTRIAL
_____ % COMMERCIAL _____ % OTHER _____

ORIGIN OF WASTEWATER SUBDIVISION COMMERCIAL
 SCHOOL INDUSTRIAL
 APARTMENTS/CONDO'S OTHER _____

LIST ANY PARAMETER AND ITS CONCENTRATION THAT WILL BE GREATER THAN NORMAL DOMESTIC LEVELS:
NONE

IF WASTEWATER IS NON-DOMESTIC, DESCRIBE LEVEL OF PRETREATMENT:
N/A

IF A PRETREATMENT PERMIT IS REQUIRED, HAS ONE BEEN ISSUED? YES NO

HAS ENGINEER DETERMINED THAT DOWNSTREAM SEWERS ARE CAPABLE TO HANDLE THIS FLOW? YES NO
PERMIT NO. FOR SEWERS IMMEDIATELY DOWNSTREAM _____
PIPE DIAMETER OF SEWERS IMMEDIATELY DOWNSTREAM 12" & 24"

HAS ENGINEER DETERMINED THAT NC DEM AND CLTWater MINIMUM DESIGN STANDARDS ARE MET BY THIS PROJECT? YES NO

COMPLETE NAME AND ADDRESS OF ENGINEERING DESIGN FIRM:
HINDE ENGINEERING, INC.
7520 EAST INDEPENDENCE BLVD., SUITE 230
CHARLOTTE, NORTH CAROLINA 28227

TELEPHONE 704 - 814 - 4407

PROFESSIONAL ENGINEER'S CERTIFICATION:
I, CLINT L. STEVENS, PE, ATTEST THAT THIS APPLICATION FOR PROP. 12" & 24" SEWER TO SERVE THE
P-5705BA CHARLOTTE GATEWAY STATION PROJECT HAS BEEN REVIEWED BY ME AND IS ACCURATE AND COMPLETE TO THE
BEST OF MY KNOWLEDGE. I FURTHER ATTEST THAT TO THE BEST OF MY KNOWLEDGE THE PROPOSED DESIGN HAS BEEN
PREPARED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS. ALTHOUGH CERTAIN PORTIONS OF THIS SUBMITTAL
PACKAGE MAY HAVE BEEN DEVELOPED BY OTHER PROFESSIONALS, INCLUSION OF THESE MATERIALS UNDER MY
SIGNATURE AND SEAL SIGNIFIES THAT I HAVE REVIEWED THIS MATERIAL AND HAVE JUDGED IT TO BE CONSISTENT WITH
THE PROPOSED DESIGN.

NORTH CAROLINA PROFESSIONAL ENGINEER'S SEAL, SIGNATURE, AND DATE:

Clint L. Stevens 3/14/2018

CLTWater PERMIT NO. _____ ISSUED _____

PLANT FLOW ALLOCATION RECORDED BY: _____

PERMIT APPROVED BY: _____
JOSEPH C WILSON, P.E., CHIEF ENGINEER

APPLICATION FOR PERMIT FOR WATER MAIN EXTENSION

PROJECT NAME: NCDOT PROJECT P-5705BA
CHARLOTTE GATEWAY STATION

CLTWater PROJECT NO.: 7030600038-17-078

PROJECT DESCRIPTION: PROPOSED (109 L.F. OF 6"), (372 L.F. OF 12"), AND (50 L.F. OF 20") DI WATER MAINS WITH IT'S
ASSOCIATED FITTINGS ALONG WEST 4TH STREET AND 5TH STREET

DESIGNED BY: FIRM: HINDE ENGINEERING, INC.

ENGINEER: CLINT L. STEVENS, PE

ADDRESS: 7520 EAST INDEPENDENCE BLVD., SUITE 230
CHARLOTTE, NORTH CAROLINA 28227

PHONE: (704) 814-4407

THIS APPLICATION IS MADE UNDER AND IN FULL ACCORD WITH THE PROVISIONS OF CHAPTER 130A-317 OF THE
NORTH CAROLINA GENERAL STATUTES, AND SUCH OTHER STATUTES AS RELATED TO PUBLIC WATER SYSTEMS.
CLTWater HAS BEEN GRANTED AUTHORITY TO ISSUE PERMITS FOR EXTENSION OF WATER MAINS PURSUANT TO
15A NCAC 18C.1801. THE APPLICANT AGREES THAT NO SIGNIFICANT CHANGE OR DEVIATION FROM THE PLANS
AND SPECIFICATIONS APPROVED BY CLTWater WILL BE MADE WITHOUT THE WRITTEN CONSENT AND APPROVAL
OF CLTWater OR ITS AUTHORIZED REPRESENTATIVE. A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE
STATE OF NORTH CAROLINA SHALL SUBMIT A STATEMENT REFLECTING THAT ADEQUATE OBSERVATIONS DURING
AND UPON COMPLETION OF CONSTRUCTION INDICATES THAT CONSTRUCTION WAS COMPLETED IN ACCORDANCE
WITH APPROVED PLANS AND SPECIFICATIONS.

PERMIT NO. _____

APPROVED: _____ DATE _____

JOSEPH C WILSON, PE, CHIEF ENGINEER
CHARLOTTE WATER
5100 BROOKSHIRE BLVD.
CHARLOTTE, NORTH CAROLINA 28216

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UTILITY CONSTRUCTION

 HINDE ENGINEERING <small>License No. C-2639 7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227</small>	PROJECT REFERENCE NO.	SHEET NO.
	P-5705BA	UC-3
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	DESIGNED BY: CDB	
	DRAWN BY: JNA	
CHECKED BY: CLS	APPROVED BY: CLS	
REVISID:		
SENSITIVE MATERIALS DO NOT DUPLICATE	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	3/14/2018
	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING WATER AND SEWER FACILITIES BELONG TO CHARLOTTE WATER.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

LIST OF STANDARD DRAWINGS

- | | |
|---------|---|
| 1515.01 | WATER METER |
| 1515.02 | FIRE HYDRANT |
| 1520.01 | SEWER CLEAN OUT |
| 1525.06 | PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM |

PROJECT SPECIFIC NOTES:

1. ALL 12-INCH AND SMALLER DIAMETER PIPE SHALL BE DUCTILE IRON RESTRAINED JOINT PRESSURE CLASS 350, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
2. VALVES ON WATER MAINS SMALLER THAN 16-INCH IN DIAMETER SHALL BE DIRECT BURY GATE VALVES, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
3. DUCTILE IRON RESTRAINED JOINT PIPE SHALL BE USED IN LIEU OF THRUST BLOCKING ON PROPOSED WATER LINE RELOCATIONS.
4. WALL BLOCKING SHALL BE USED ON EXISTING WATER LINES AT THE PROPOSED RELOCATION TIE-IN POINTS.
5. CONTRACTOR SHALL CONNECT ALL WATER LINES AND SERVICE CONNECTIONS USING NECESSARY FITTINGS.
6. ALL BACKFLOW PREVENTORS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER.
7. PROVIDE MATERIALS FOR THE PROPOSED WATER AND SEWER UTILITIES CONSTRUCTION MEETING THE APPLICABLE REQUIREMENTS (i.e. MATERIAL SPECIFICATIONS, STANDARD DETAILS, TESTING, POLICIES, ETC.) OF CLTWATER'S STANDARD SPECIFICATIONS AND APPLICABLE CURRENT CLTWATER STANDARD DETAILS AS OF DATE OF ADVERTISEMENT. CLTWATER'S STANDARD DETAILS CAN BE OBTAINED FROM CLTWATER AT:
<http://charlottenc.gov/Water/Pages/DesignManual.aspx>
8. FOR FIRE HYDRANTS TO BE REMOVED, THE CONTRACTOR SHALL CONTACT CLTWATER TO DETERMINE A SUITABLE LOCATION TO STOCKPILE THE FIRE HYDRANT AND ASSOCIATED ITEMS.
9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE PEDESTRIAN TRAIL BETWEEN THE PANTHER'S STADIUM AND THE PRACTICE FIELD DURING CONSTRUCTION, MINIMIZE THE DURATION OF ANY CLOSURES, AND NOTIFY TOM VAUGHAN OF THE PANTHERS AT Tom.Vaughan@Panthers.NFL.com AT LEAST 2 WEEKS PRIOR TO ANY SEWER WORK IN THIS AREA.
10. THE CONTRACTOR SHALL HAVE ON SITE THE NECESSARY PRIMARY AND BACKUP PUMPS TO ADEQUATELY HANDLE ANY AND ALL FLOW FROM THE EXISTING 18-INCH SEWER. PUMPS MUST BE ON SITE FOR THE ENTIRE DURATION OF CONSTRUCTION OF THE PROPOSED BRIDGES AND STRUCTURES IN THE P&N AREA OF THE PROJECT.
11. USE VITON GASKETS OR APPROVED EQUAL ON ALL WATER AND SEWER PIPE CONNECTIONS.
12. CONTRACTOR IS REQUIRED TO CONTACT BILL DEAL, PE, OF CLTWATER, AT (980)722-0786 AT LEAST 2 WEEKS PRIOR TO ANY WATER AND SEWER CONSTRUCTION.
13. NCDOT ENGINEER SHALL BE COPIED ON ALL COMMUNICATION, ON BEHALF OF THE PROJECT AND WITH OTHER ENTITIES. COMMUNICATION WITH THE PANTHERS OR STADIUM REPRESENTATIVES WILL BE AS APPROVED BY THE NCDOT ENGINEER.

UTILITY CONSTRUCTION

CLT WATER STANDARD DETAIL PROJECT TYPICAL DETAILS

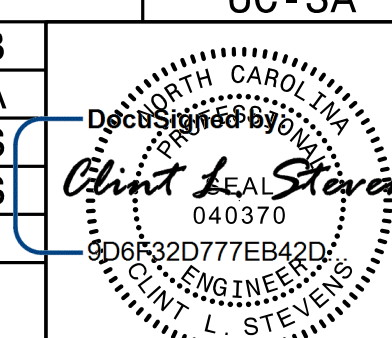
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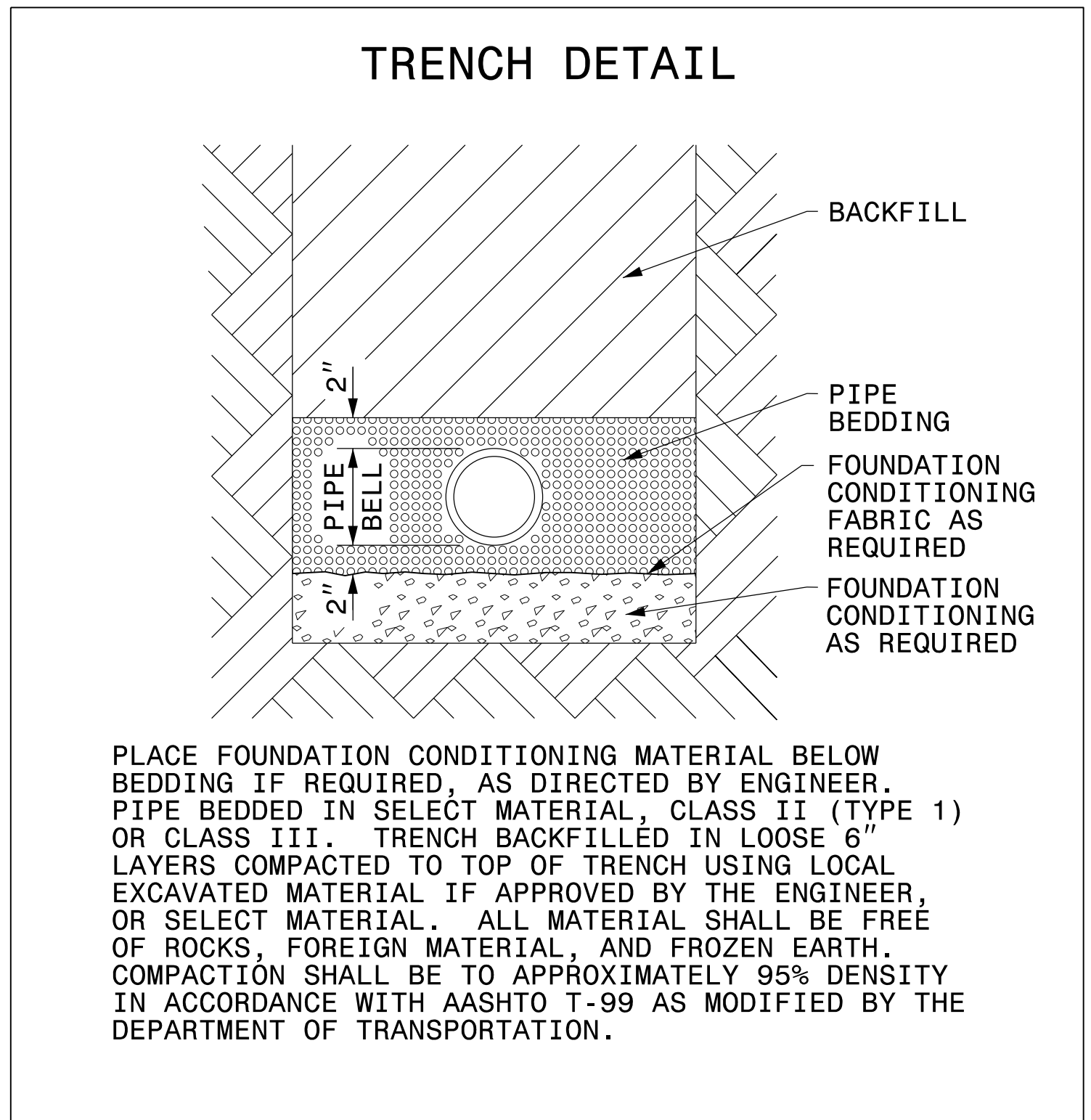
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401 Harrison Oaks Blvd., Suite 145 Cary, NC 27513

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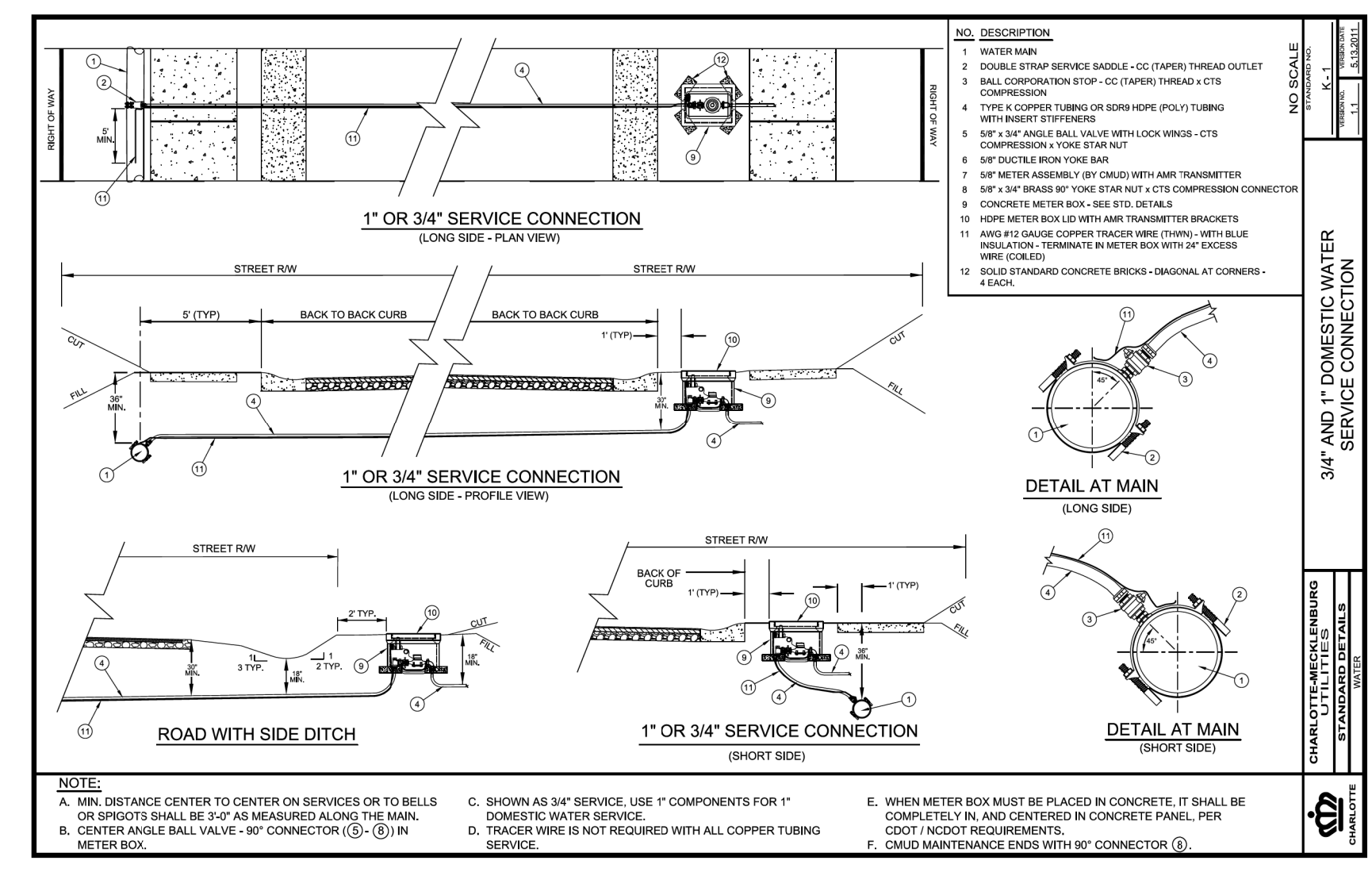
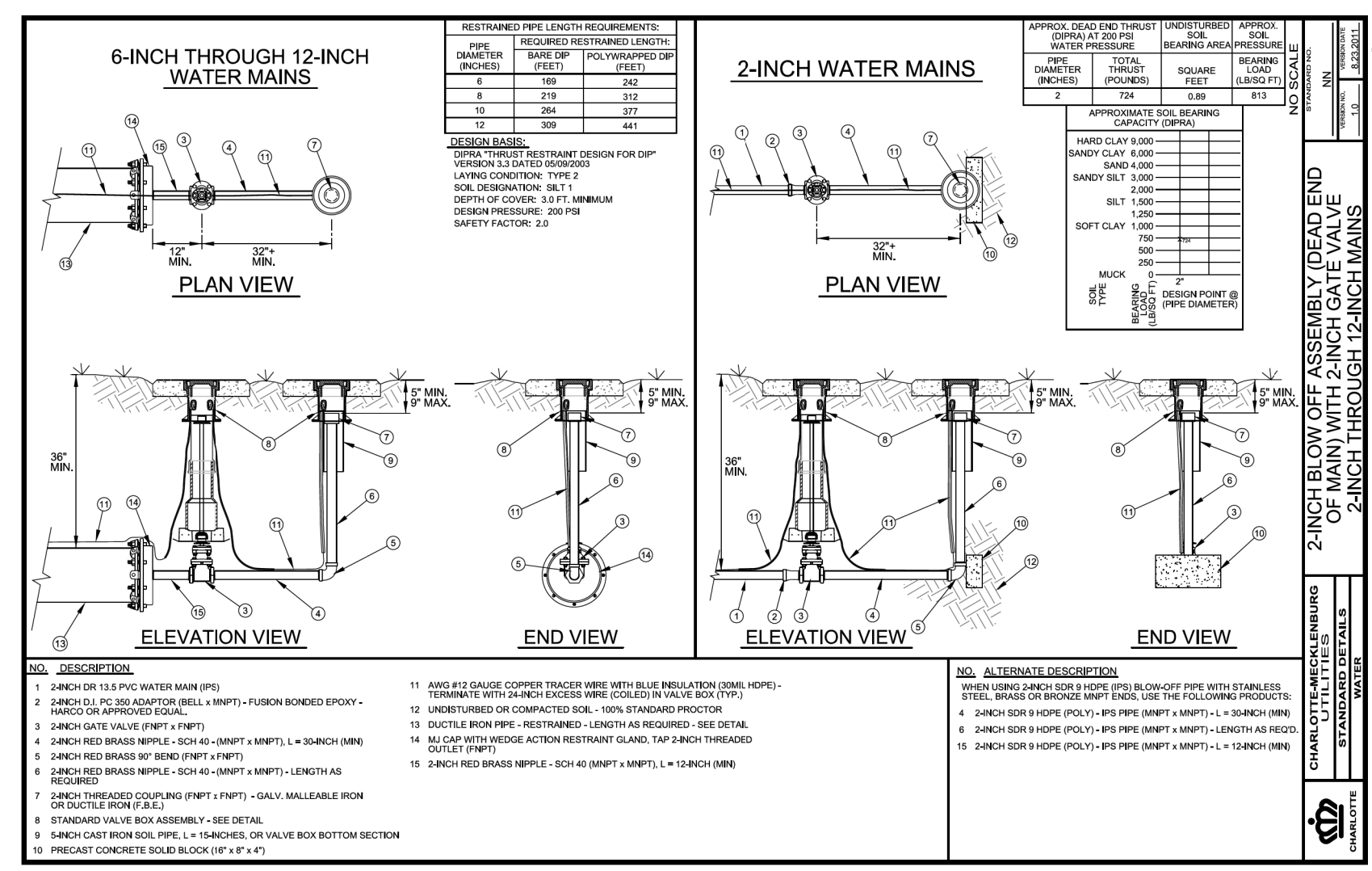
**SENSITIVE MATERIALS
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PROJECT REFERENCE NO. P-5705BA	SHEET NO. UC-3A
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	3/14/2018 UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



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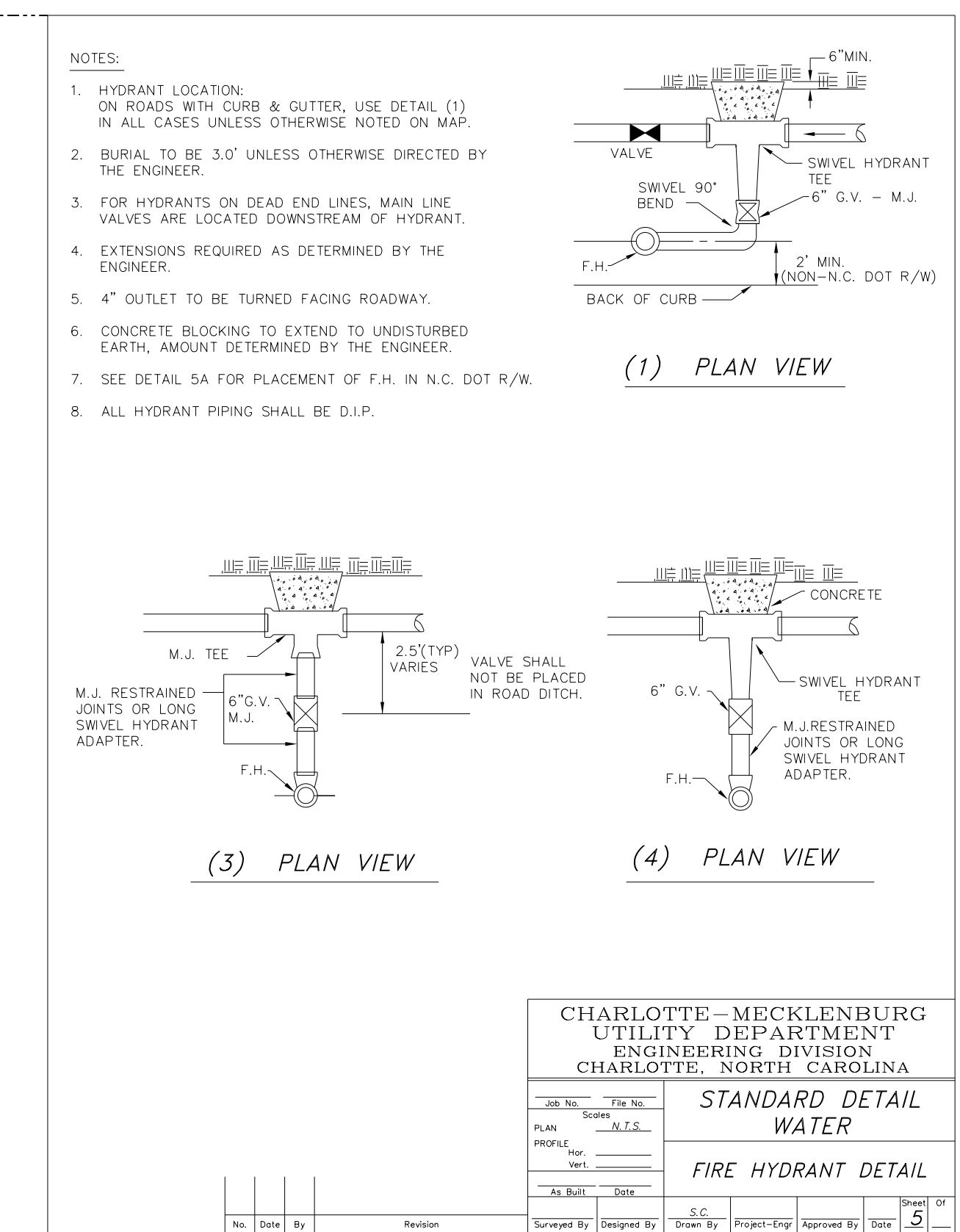
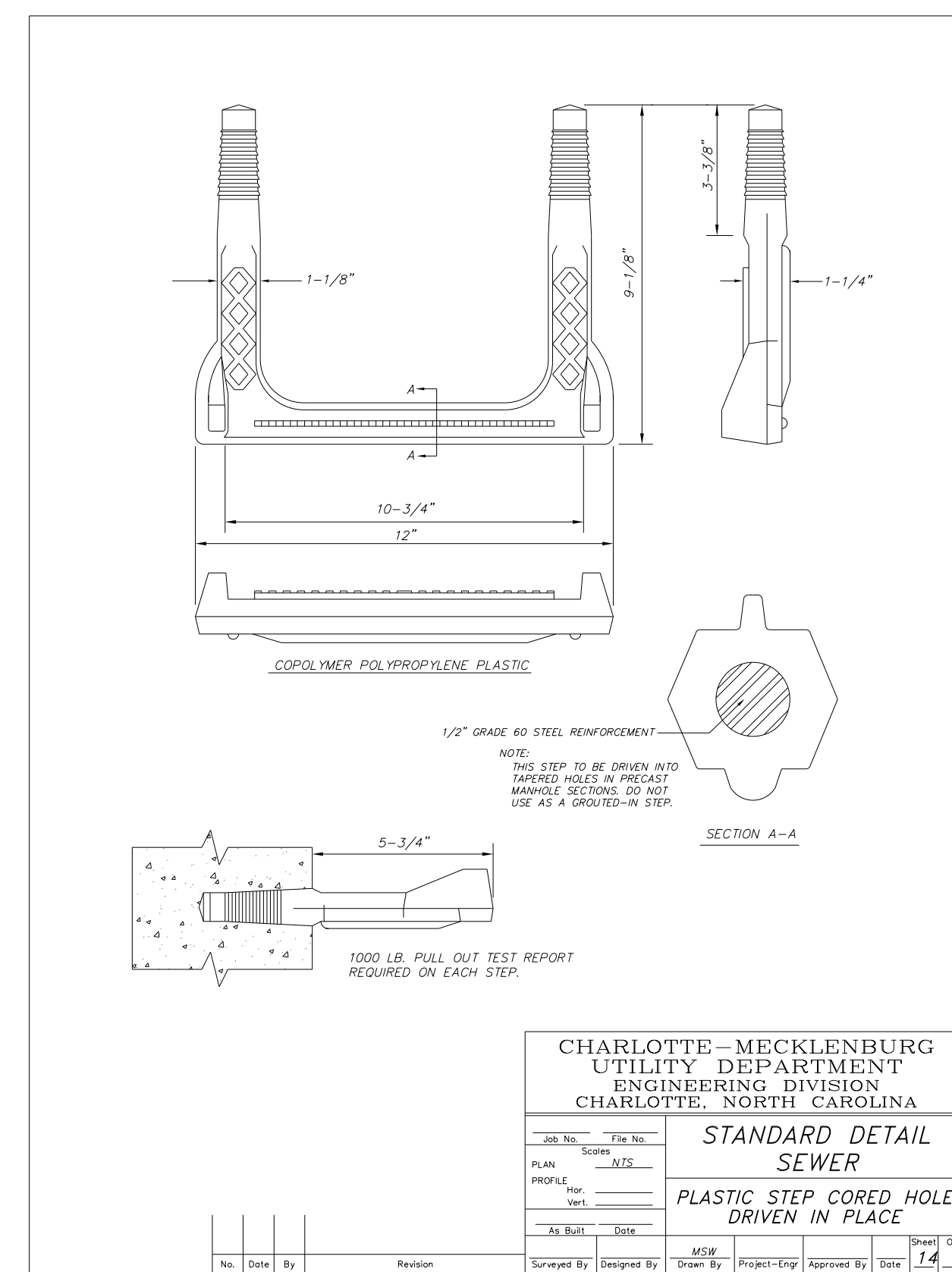
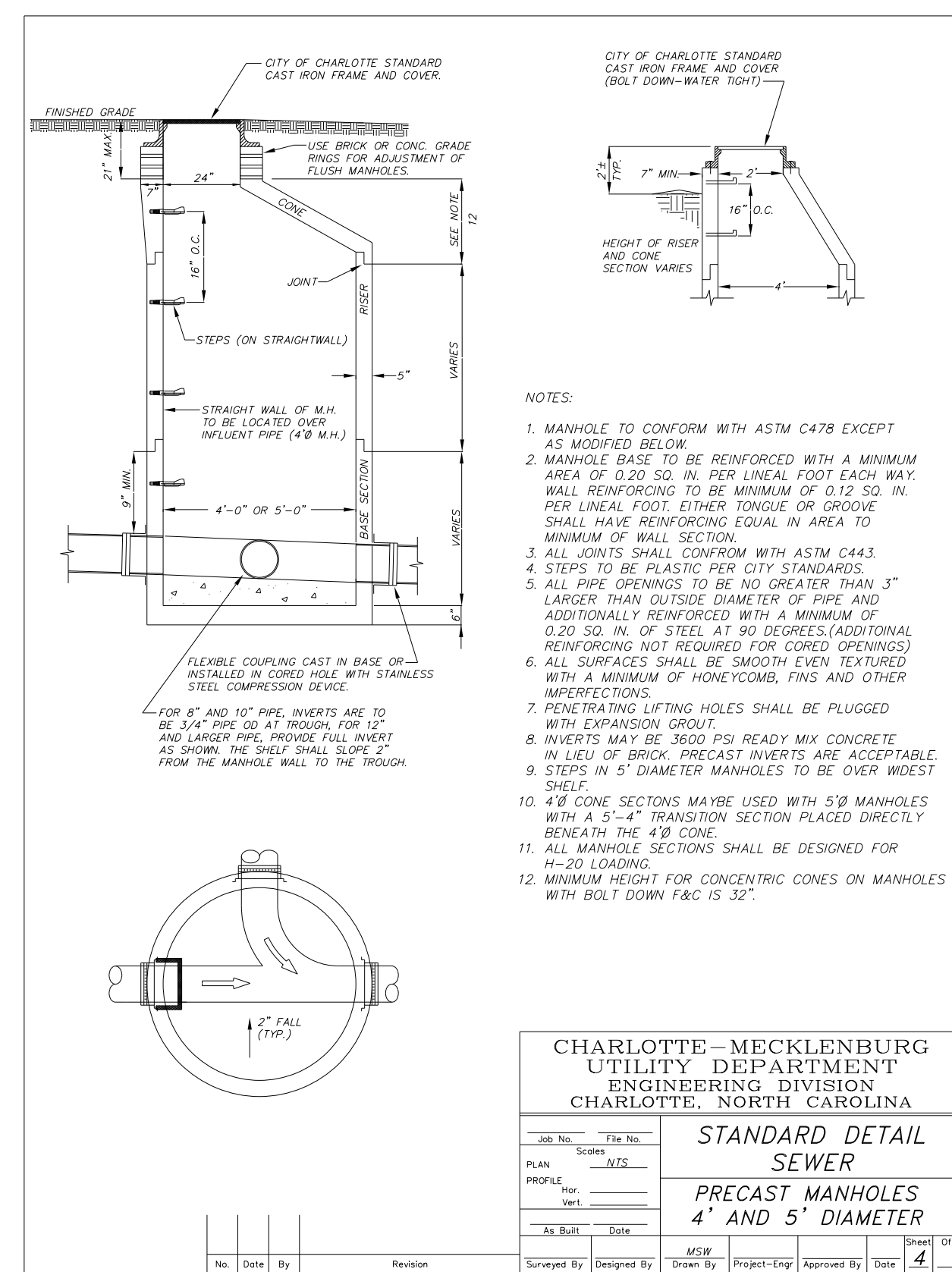
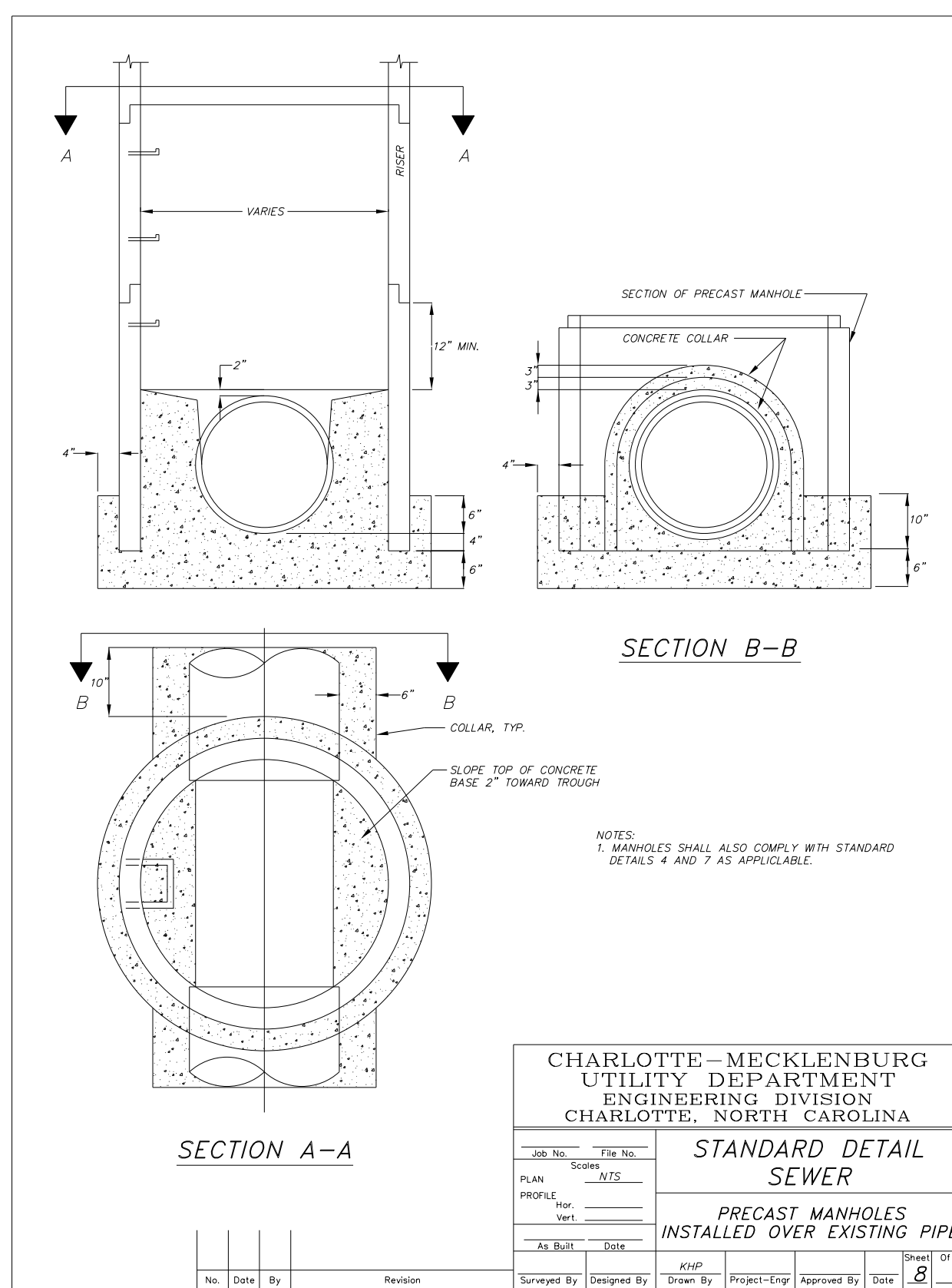
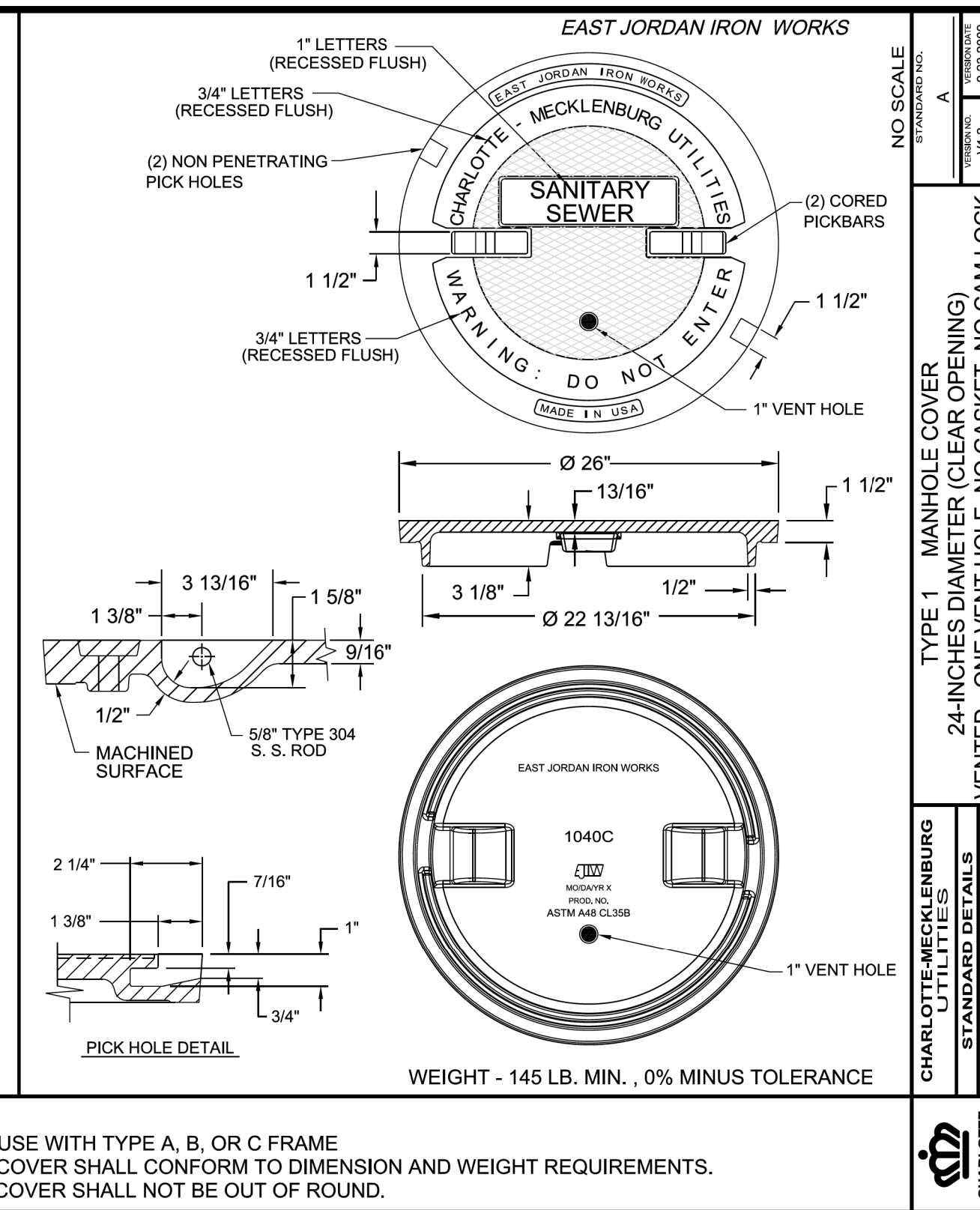
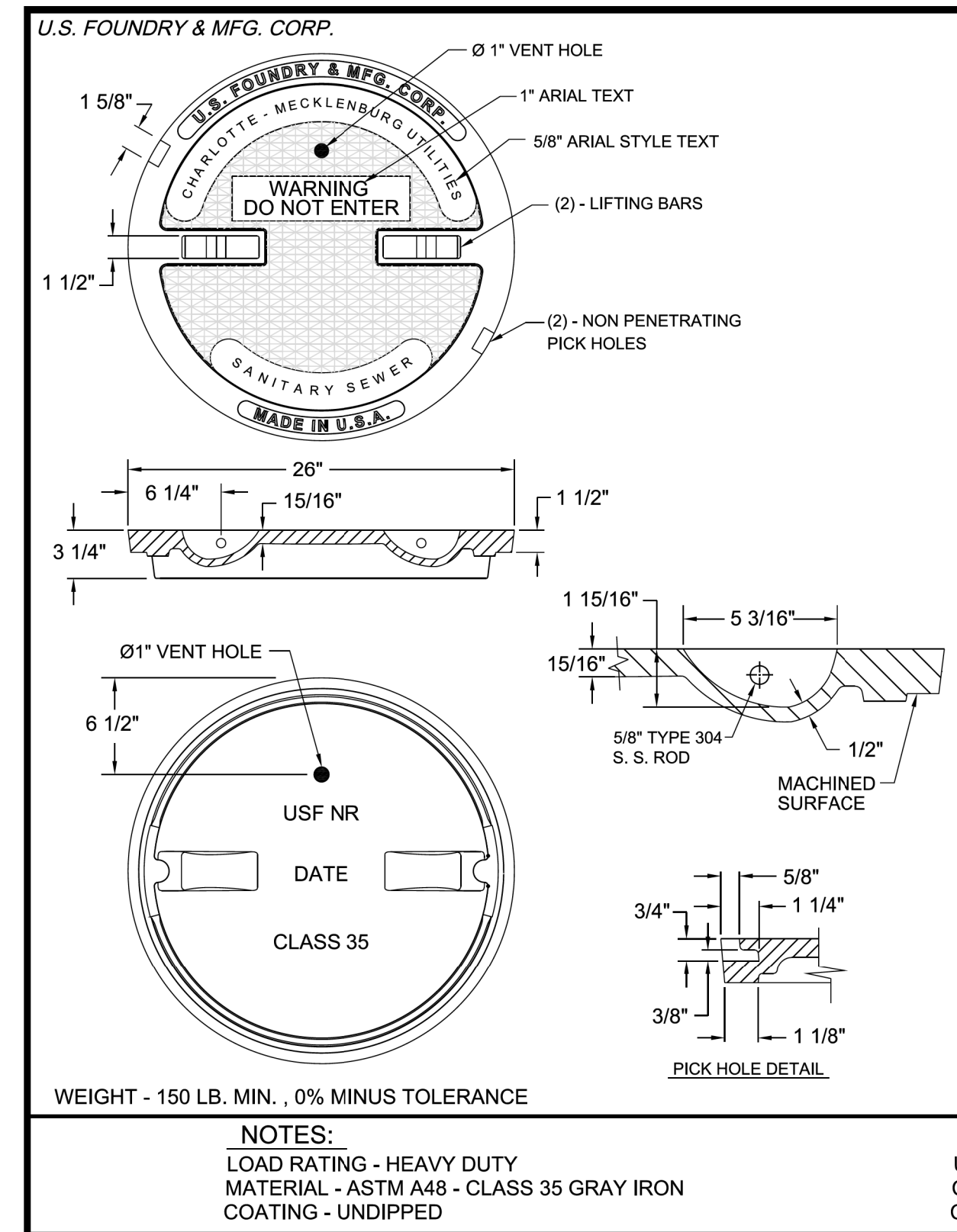
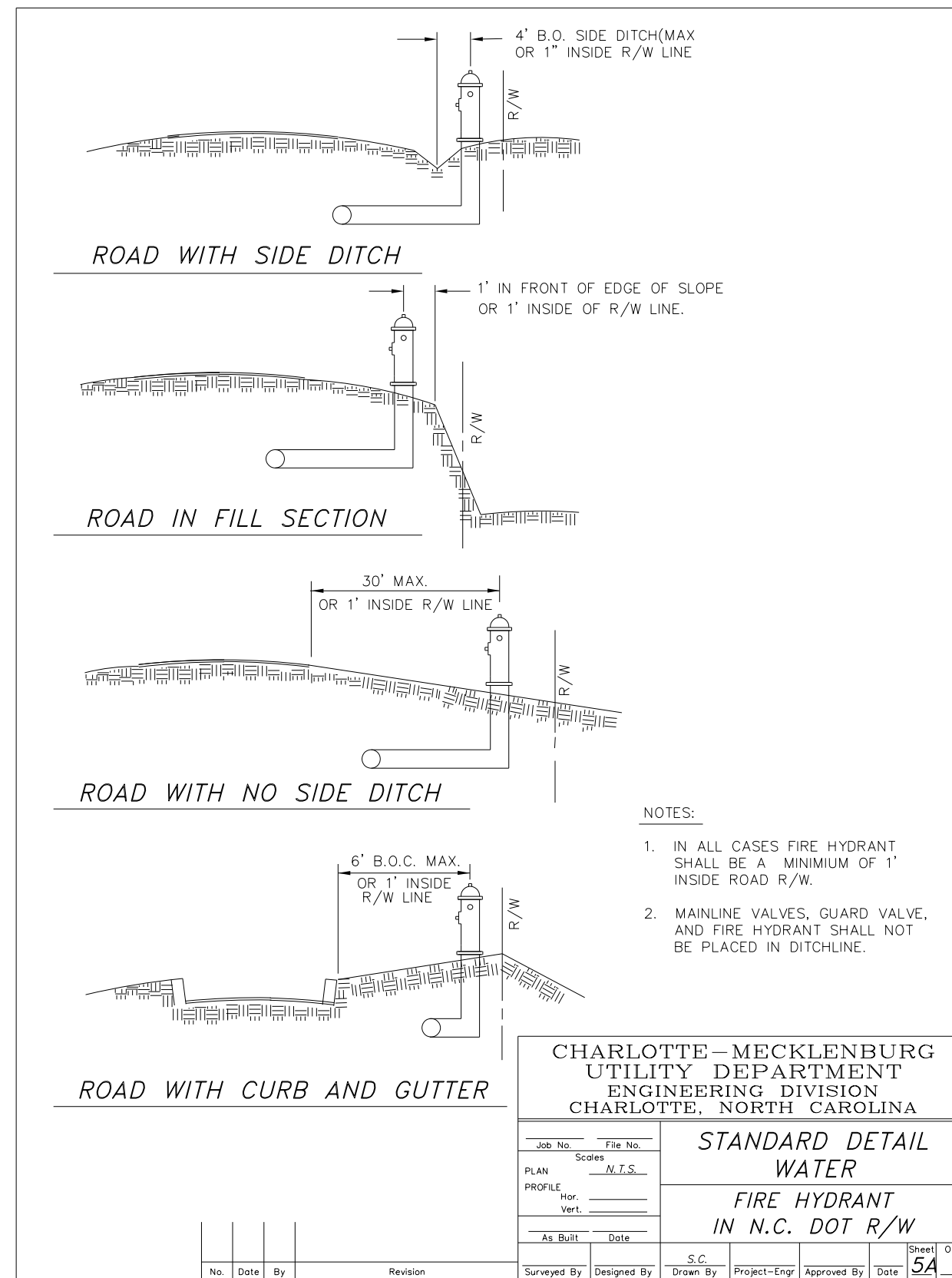
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SENSITIVE MATERIALS DO NOT DUPLICATE

PROJECT REFERENCE NO. P-5705BA	SHEET NO. UC-3B
DESIGNED BY: CDB	DRAWN BY: JNA
CHECKED BY: CLS	APPROVED BY: CLS
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

CLTWATER STANDARD DETAILS

UTILITY CONSTRUCTION

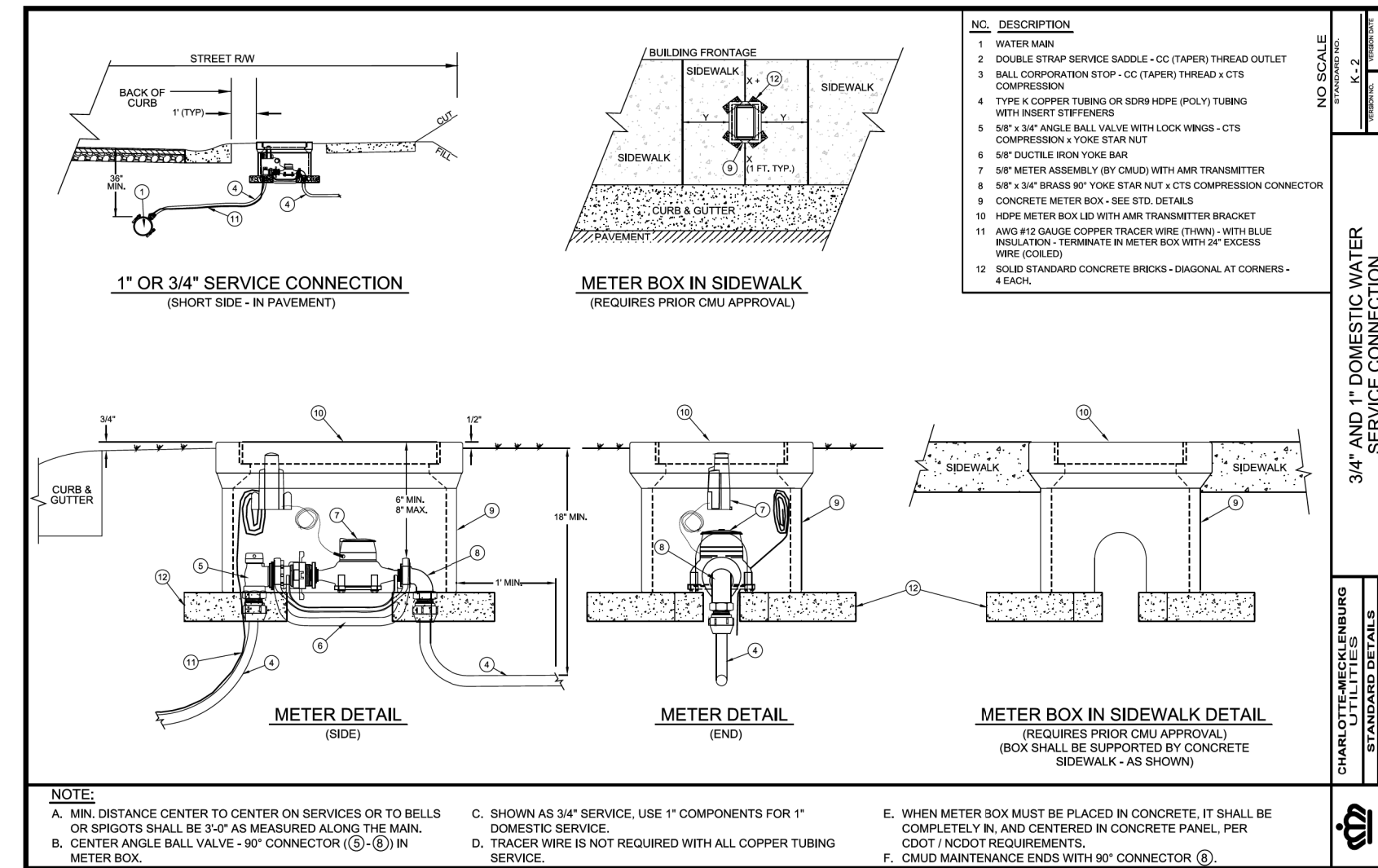


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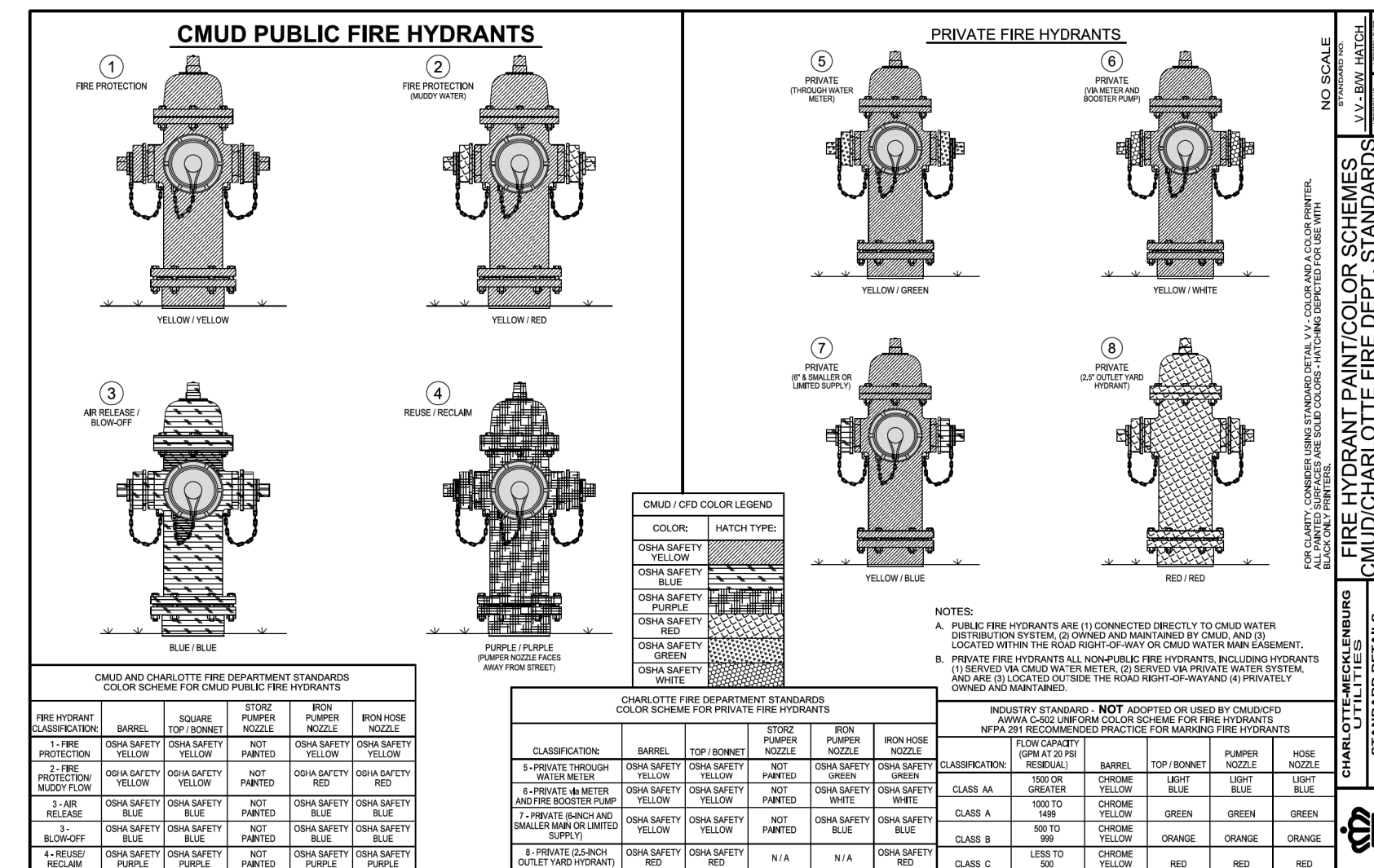
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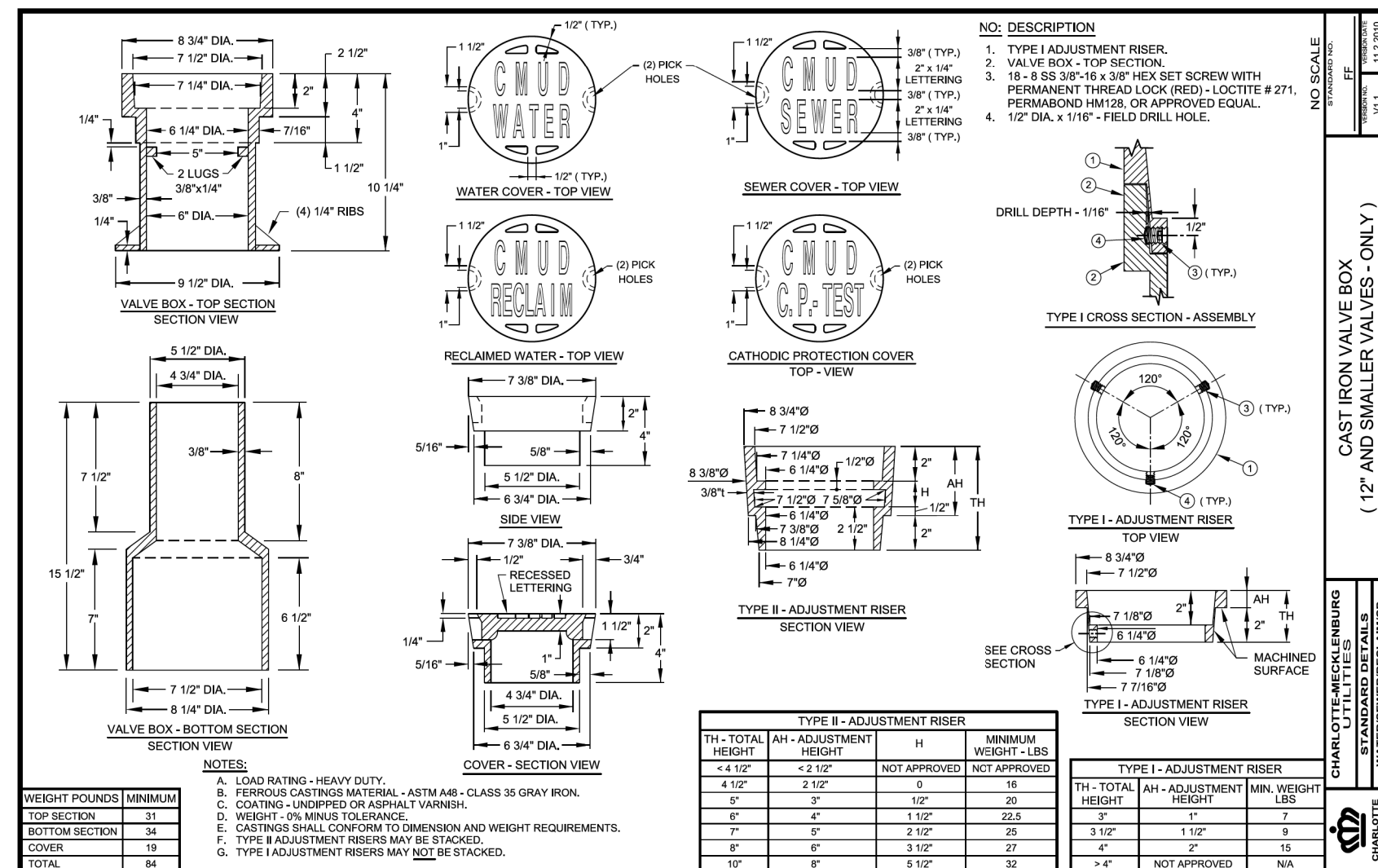
UTILITY CONSTRUCTION



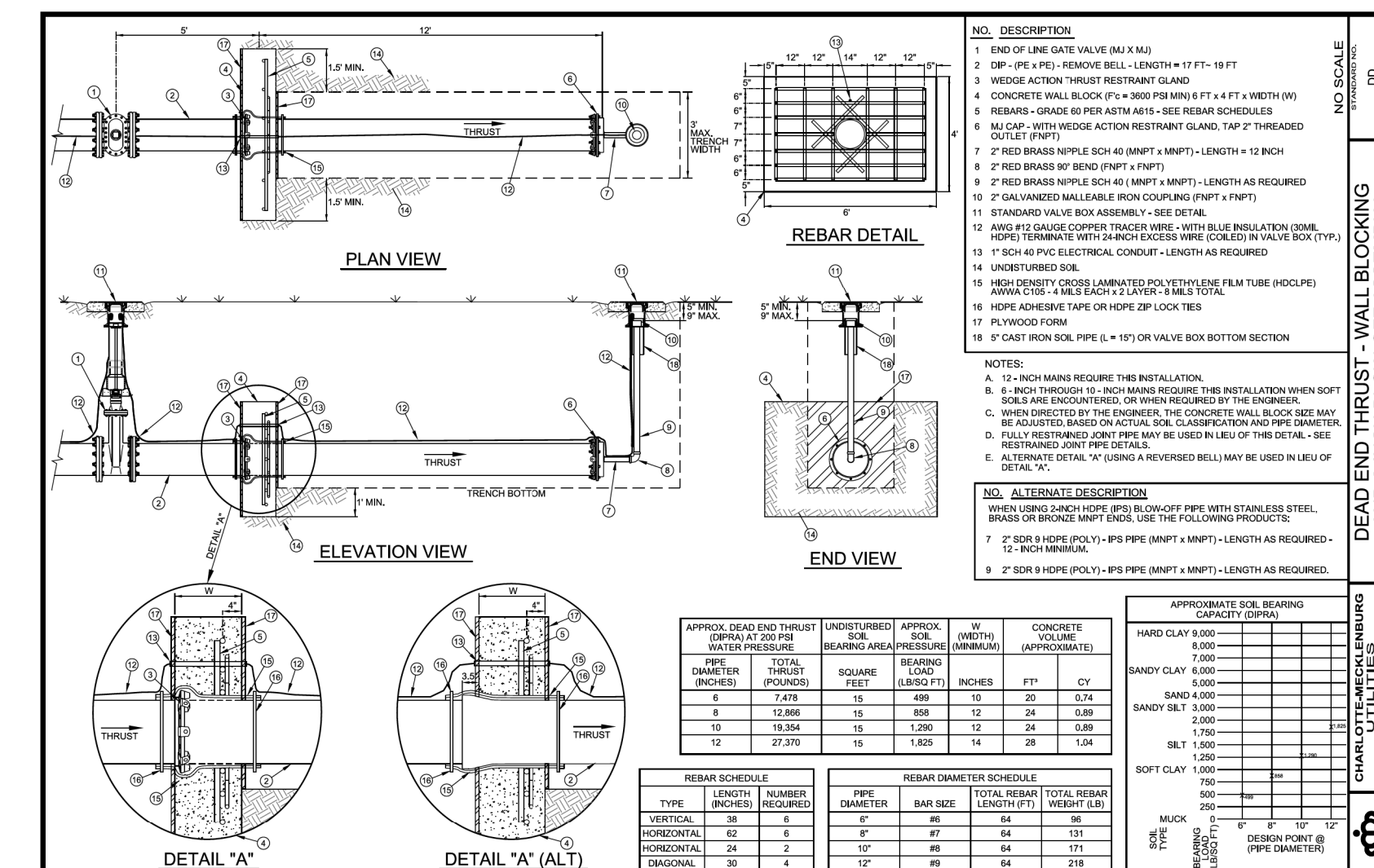
NOTE:
A. MIN. DISTANCE CENTER TO CENTER ON SERVICES OR TO BELLS OR DRIFTS SHALL BE 2'-0" AS MEASURED ALONG THE MAIN CENTER ANGLE BALL VALVE 90° CONNECTOR (1) IN
B. CENTER ANGLE BALL VALVE 90° CONNECTOR (1) IN
C. SHOWN AS 3/4" SERVICE, USE 1" COMPONENTS FOR 1" DOMESTIC SERVICE.
D. TRACER WIRE IS NOT REQUIRED WITH ALL COPPER TUBING SERVICE.
E. WHEN METER BOX MUST BE PLACED IN CONCRETE, IT SHALL BE COMPLETED IN AND CENTERED IN CONCRETE PANEL, PER CDDOT / DOT REQUIREMENTS.
F. CMUD MAINTENANCE ENDS WITH 90° CONNECTOR (3)



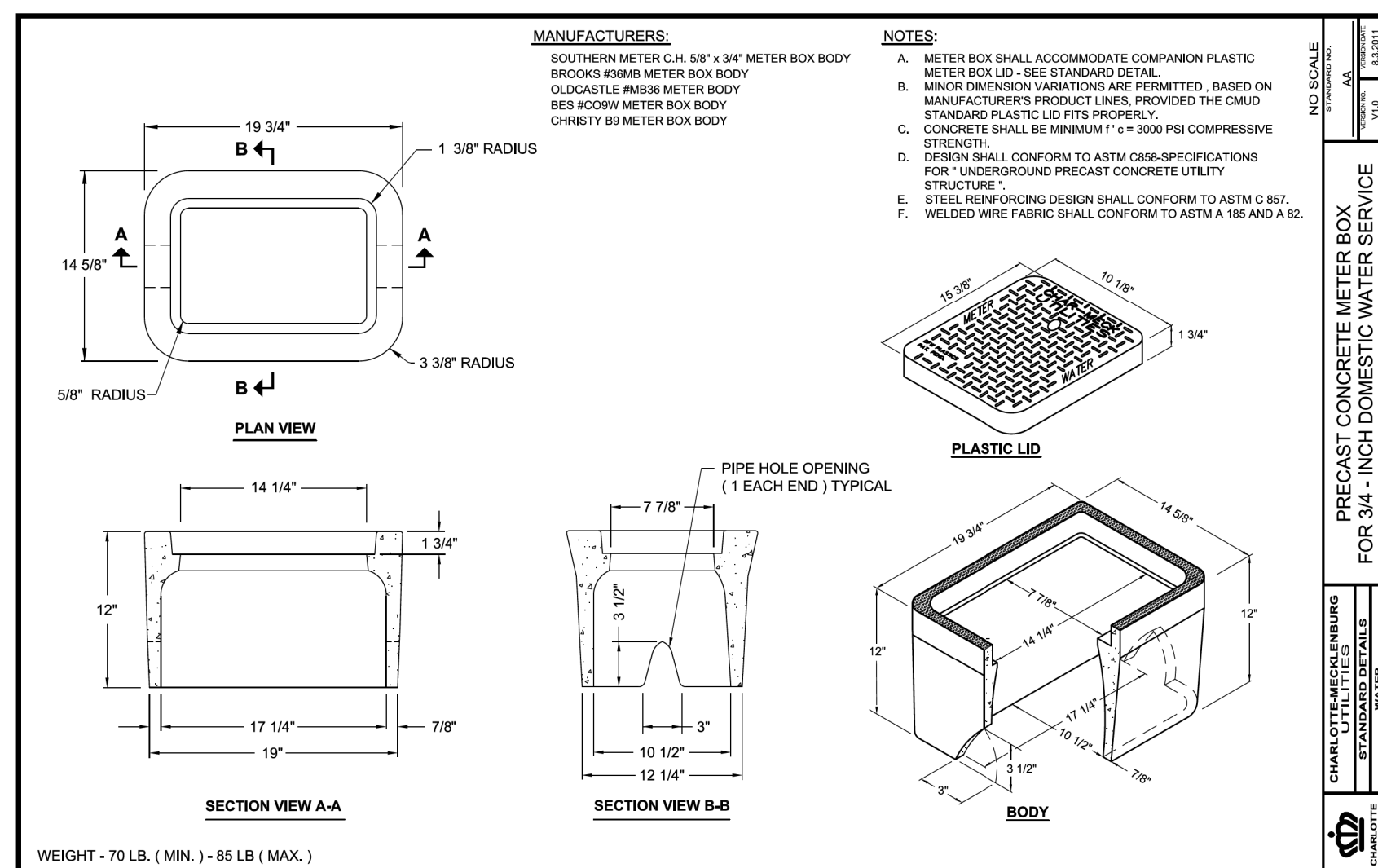
CMUD AND CHARLOTTE FIRE DEPARTMENT STANDARDS COLOR CODING FOR PUBLIC FIRE HYDRANTS
CLASSIFICATION TABLE with columns for barrel, top, nozzle, and body colors.



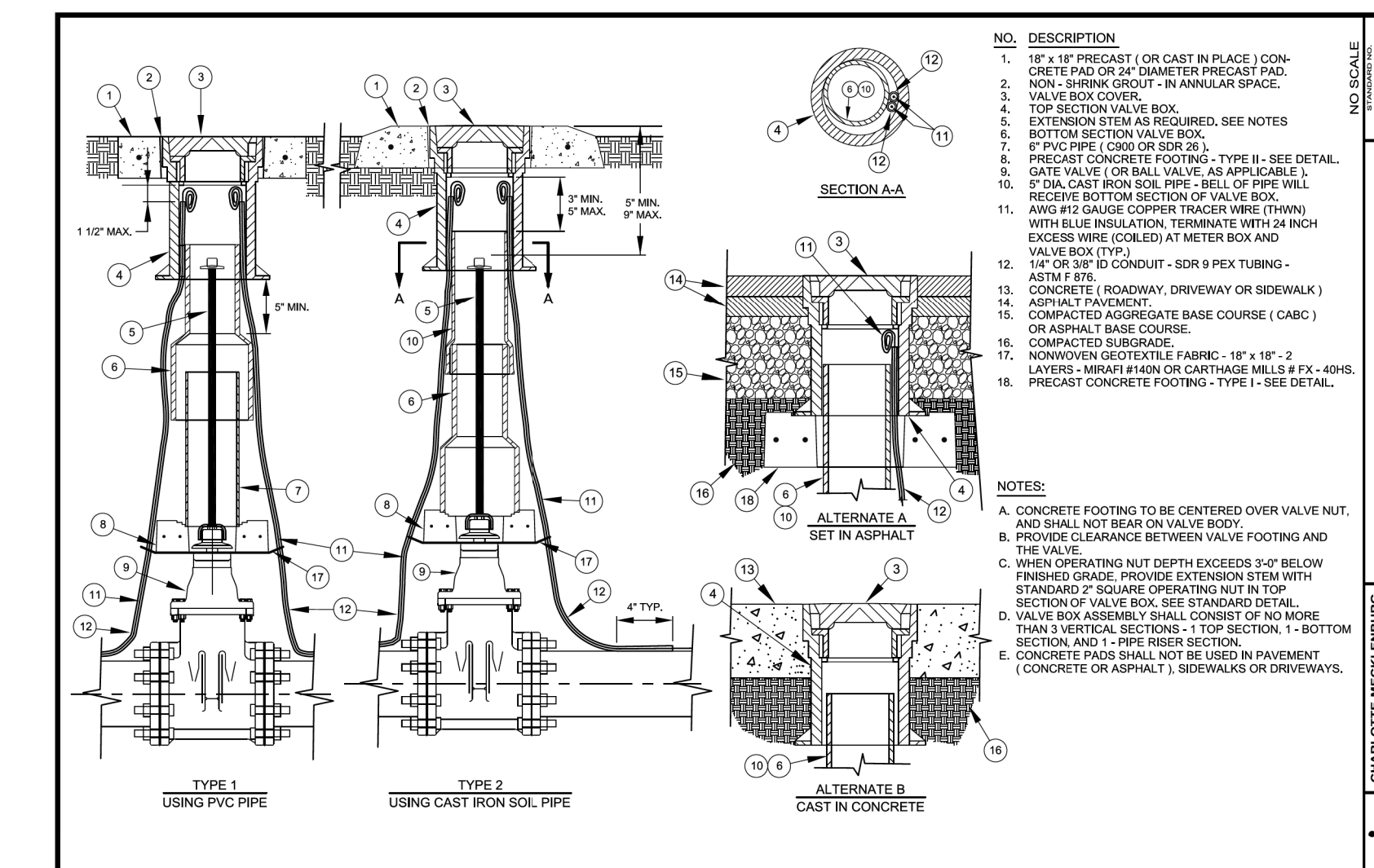
TYPE II - ADJUSTMENT RISER TABLE with columns for TH-TOTAL HEIGHT, AH-ADJUSTMENT HEIGHT, H, and MINIMUM WEIGHT-LBS.



REBAR SCHEDULE TABLE with columns for TYPE, LENGTH, NUMBER REQUIRED, and REBAR DIAMETER SCHEDULE.



WEIGHT - 70 LB. (MIN.) - 85 LB. (MAX.)



NOTE:
A. CONCRETE FOOTING TO BE CENTERED OVER VALVE NUT, AND SHALL NOT BEAR ON VALVE BODY.
B. PROVIDE CLEARANCE BETWEEN VALVE FOOTING AND THE VALVE.
C. WHEN OPERATING NUT DEPTH EXCEEDS 2'-0\"/>

HINDE ENGINEERING
 License No. C-2639
 7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227

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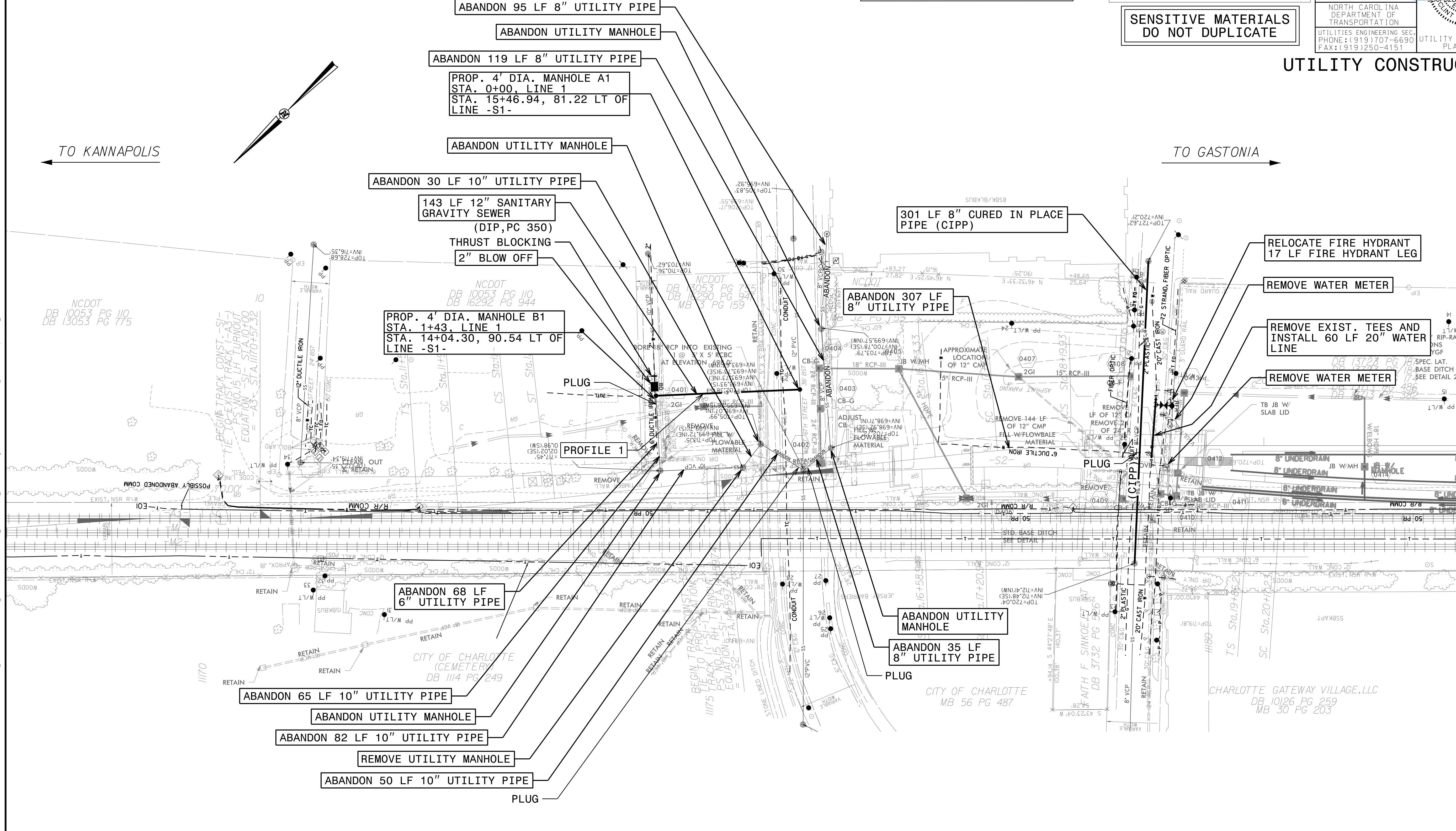
**SENSITIVE MATERIALS
 DO NOT DUPLICATE**

PROJECT REFERENCE NO. P-5705BA	SHEET NO. UC-4
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CLS	
REVISED:	
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UC-4 CORRESPONDS TO RAIL PLAN SHEET 4

SEE SHEET UC-7 FOR 8" SEWER LINE (PROFILE 1)

CHARLOTTE WATER OWNS ALL WATER AND SEWER LINES



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1,010 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS. (250# MIN WP)

USE VITON GASKETS OR APPROVED EQUAL ON ALL PROPOSED WATER AND SEWER LINES

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MATCHLINE STA. 22+00
SEE SHEET UC-5

RAILROAD GENERAL NOTES

- CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF NORFOLK SOUTHERN'S NSCE-8 SPECIFICATIONS.
- PIPELINE AND CROSSING TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LAST APPROVED AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION SPECIFICATIONS FOR PIPELINES CONVEYING FLAMMABLE AND NON-FLAMMABLE SUBSTANCES.
- BLASTING NOT PERMITTED.

DISTANCE FROM RAILROAD MILEPOST

- PROPOSED 24" GRAVITY SEWER LINE IS 84' SOUTH WEST OF RAILROAD MILEPOST 378

UC-6 CORRESPONDS TO RAIL PLAN SHEET 6

SEE SHEET UC-8 FOR 24" SEWER LINE (PROFILE 3)

CHARLOTTE WATER OWNS ALL WATER AND SEWER LINES

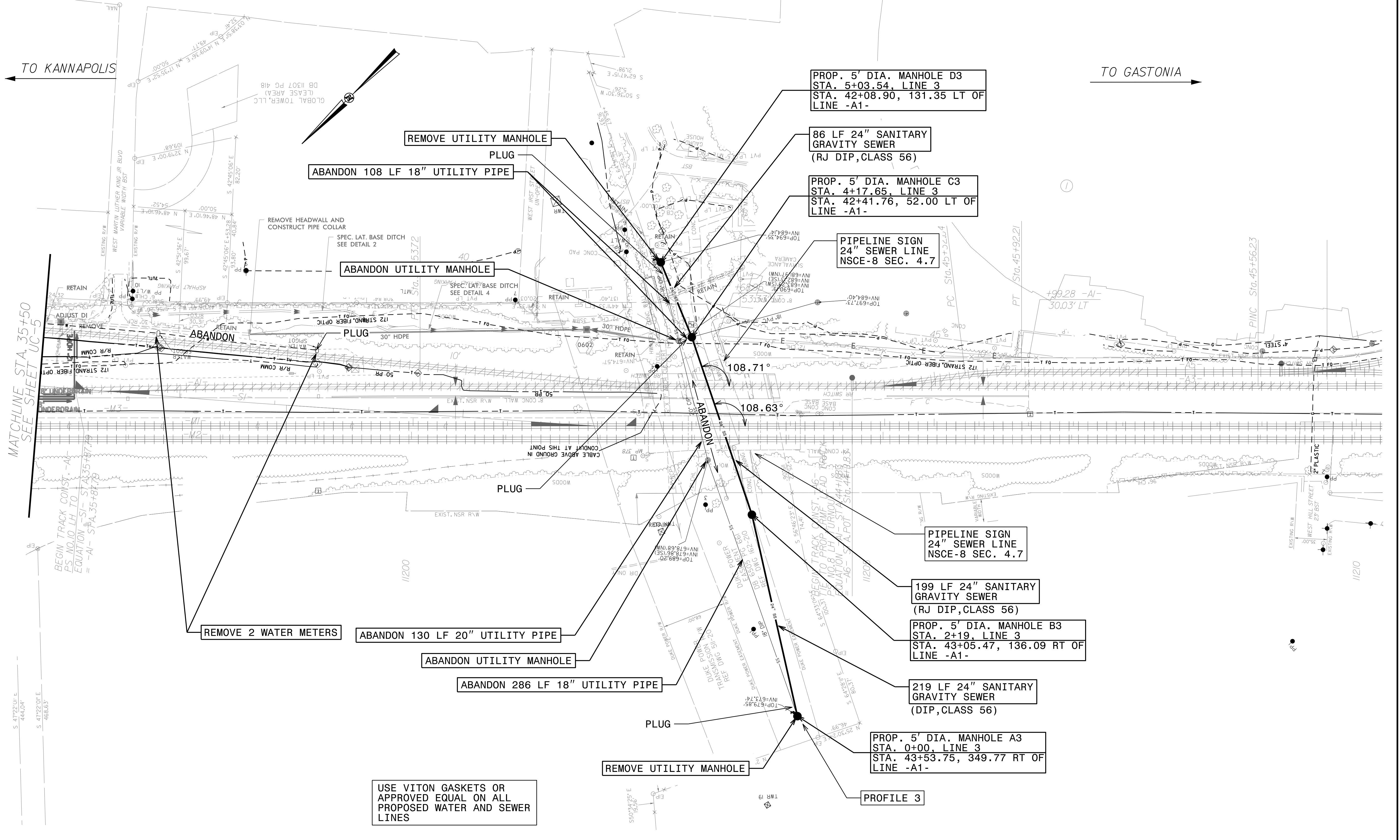


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UTILITY CONSTRUCTION



MATCHLINE STA. 35+50 SEE SHEET UC-5

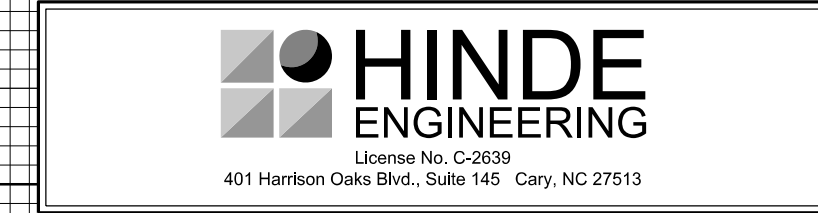
BEGIN TRACK CONST. - A1 PS NO. 10 LH TO EQUATION - S1 - STA. 35+87.79 = -A1 - SPA. 35+87.79

S. 4722'01" E 444.04' S. 4722'01" E 468.63'

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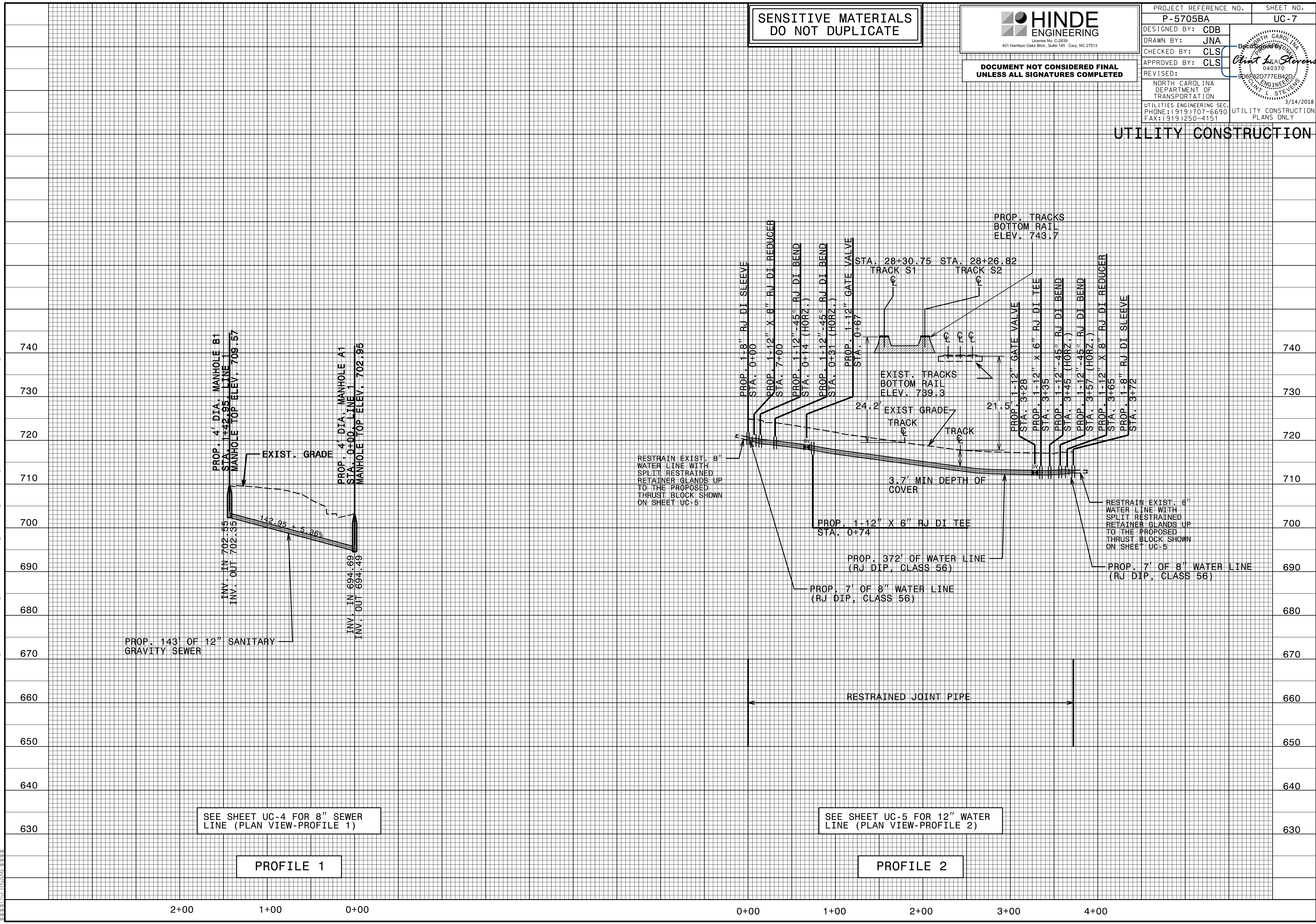
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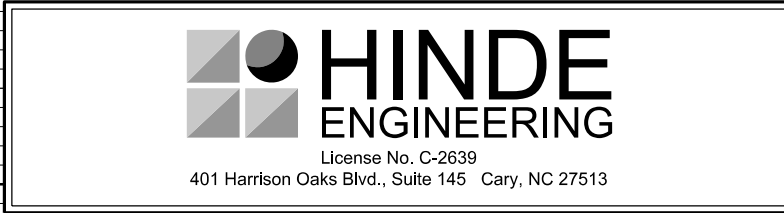
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APPROVED BY: CLS	
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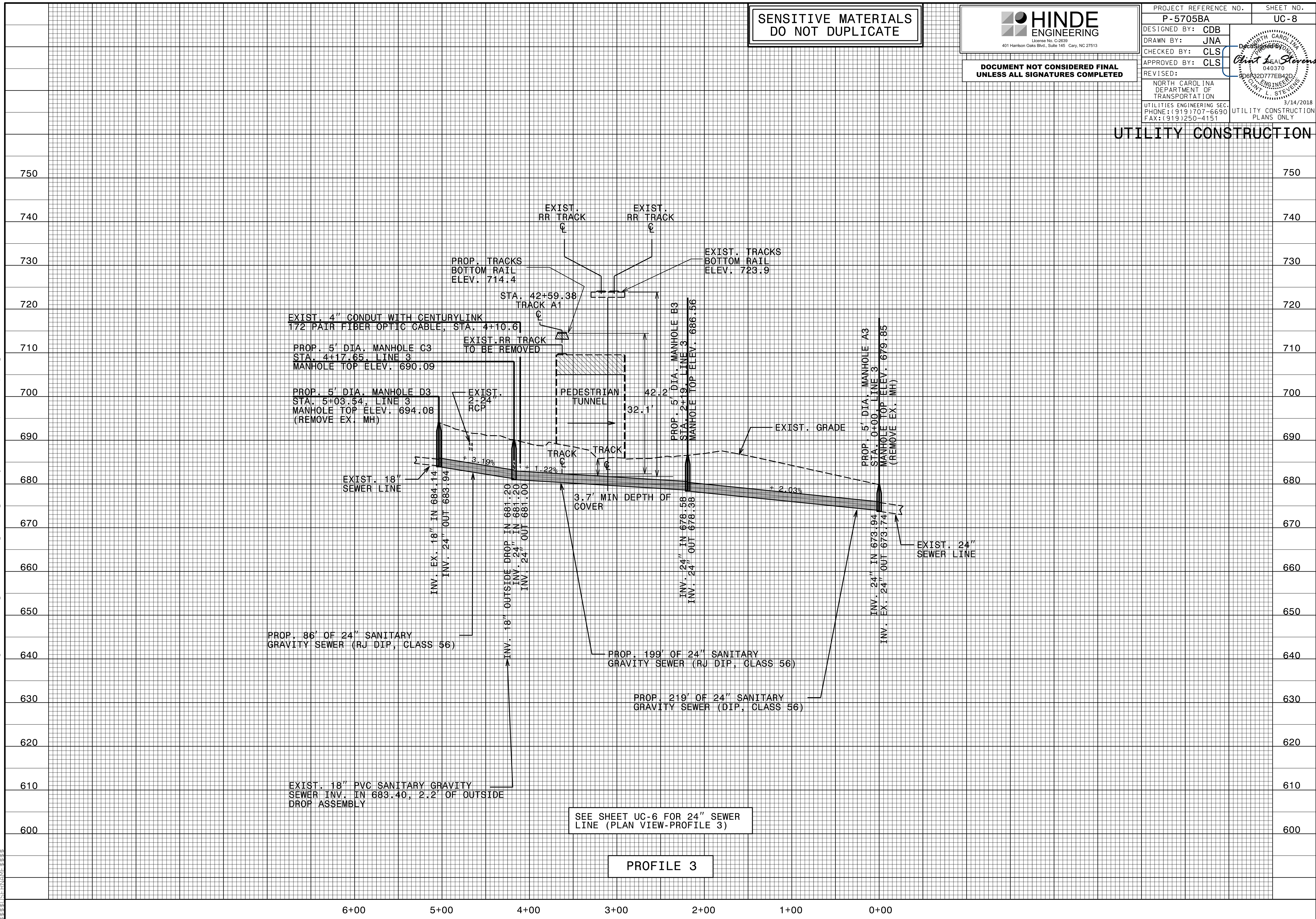
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UTILITY CONSTRUCTION



SEE SHEET UC-6 FOR 24" SEWER
LINE (PLAN VIEW-PROFILE 3)

PROFILE 3

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