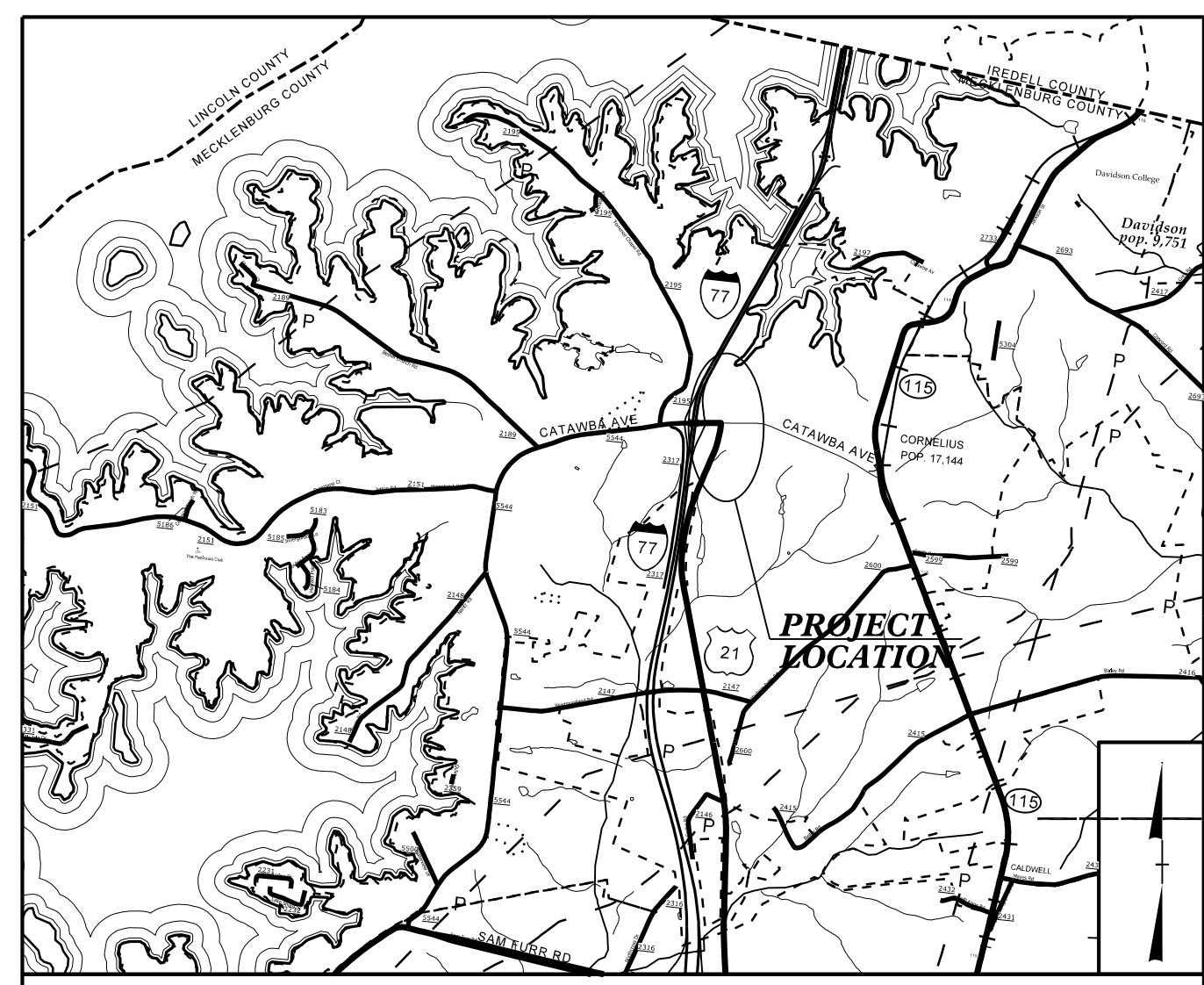


**TIP PROJECT: C-5621**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
C-5621	UC-1

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

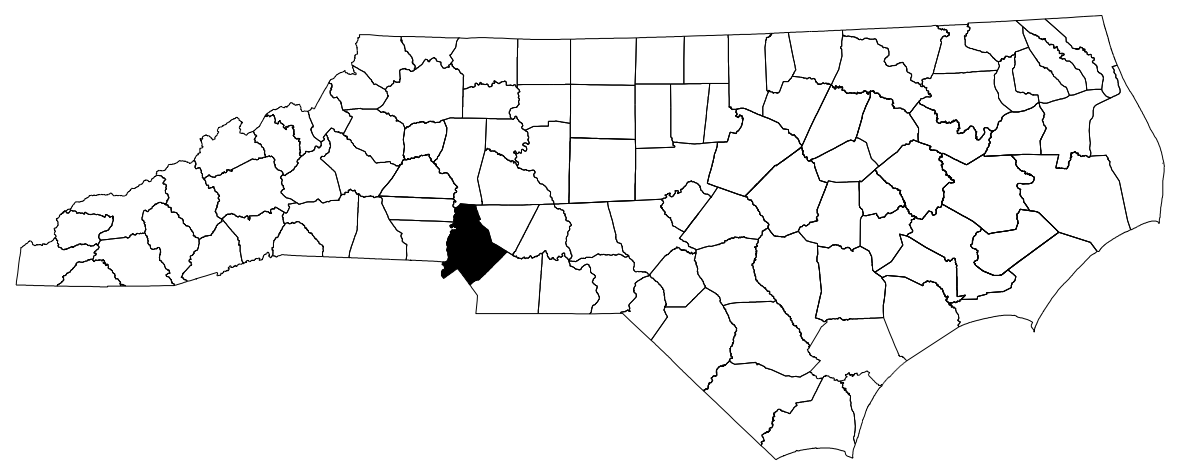
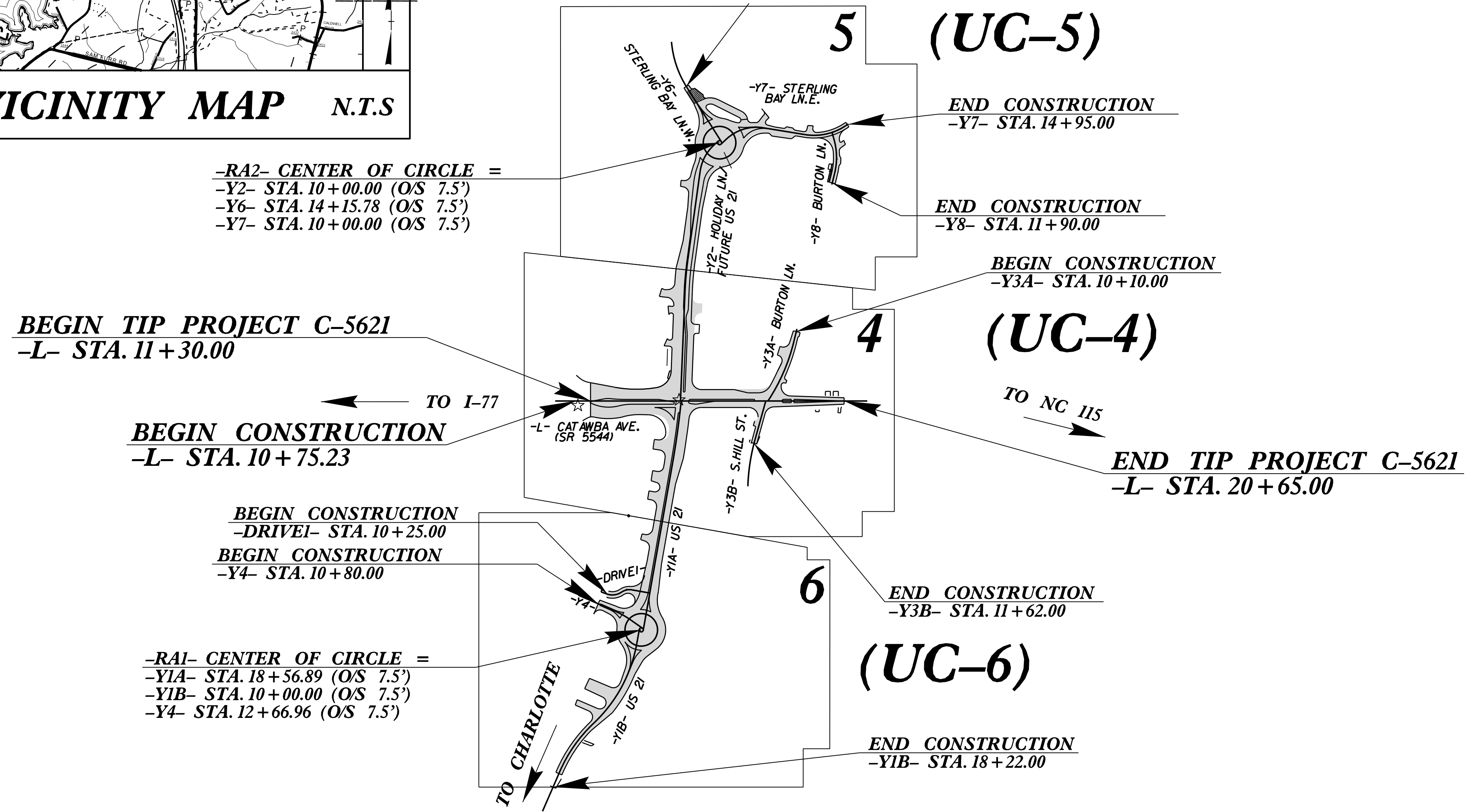
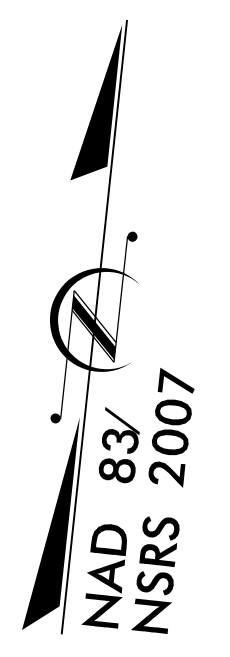


**VICINITY MAP** N.T.S

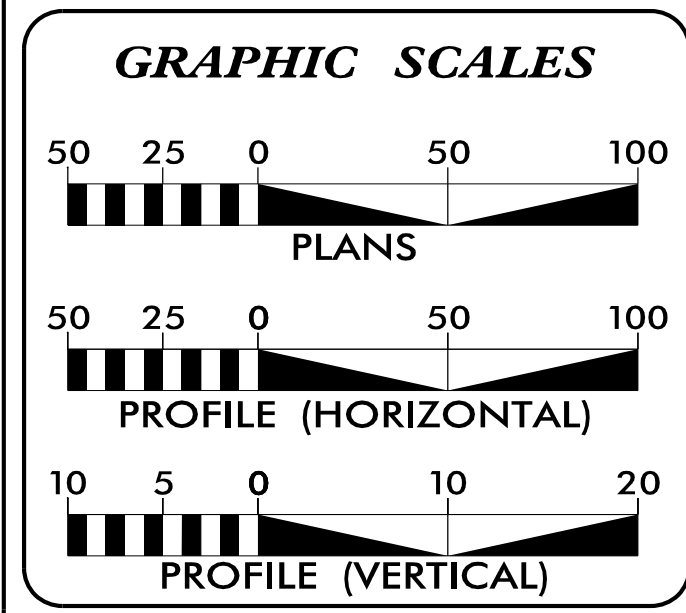
**UTILITY CONSTRUCTION PLANS  
MECKLENBURG COUNTY**

**LOCATION: DUAL ROUNDABOUTS NORTH AND SOUTH OF  
SR 5544 (CATAWBA AVE.) AND US 21  
INTERSECTION IN CORNELIUS**

**TYPE OF WORK: WATER & SEWER RELOCATIONS**



02-JUN-2023 09:49 S:\Server\_Files\PROJECTS\2019\A2019205.00\_CL\Water\_C-5621\Design\Utilities\Engineering\UC\Proj\C-5621\_Ut\_tsh\_UC1\_psh.dgn



**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-2A	PERMIT SHEET
UC-3	NOTES
UC-3A	DETAILS
UC-4 THRU UC-6	UTILITY CONSTRUCTION SHEETS
UC-7 THRU UC-11	PROFILE SHEETS

**WATER AND SEWER OWNER ON PROJECT**

(A) CHARLOTTE WATER

PREPARED IN THE OFFICE OF:

**HINDE ENGINEERING**  
 License No. C-2639  
 10815 Sikes Place, Suite 210 Charlotte, NC 28277  
 Ph. (704) 814-4407

Clint L. Stevens, P.E. UTILITIES PROJECT MANAGER  
 Jordan K. Chapman UTILITIES PROJECT ENGINEER  
 James N. Arnold UTILITIES PROJECT DESIGNER

SEAL

6/2/2023

**DIVISION OF HIGHWAYS  
DIVISION 10**  
 716 W. Main St.  
 Albemarle, NC 28001  
 PHONE (704) 983-4400  
 FAX (704) 982-3146

Brett D. Canipe, P.E. DIVISION ENGINEER  
 Rick W. Baucom, P.E. DIVISION CONSTRUCTION ENGR  
 Lynn Basinger DIVISION UTILITY ENGINEER  
 Terry Burleson DM-STIP PROJECT ENGINEER

# UTILITIES PLAN SHEET SYMBOLS

## PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

## PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

## PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

NOTE  
PAY ITEM


## EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
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)

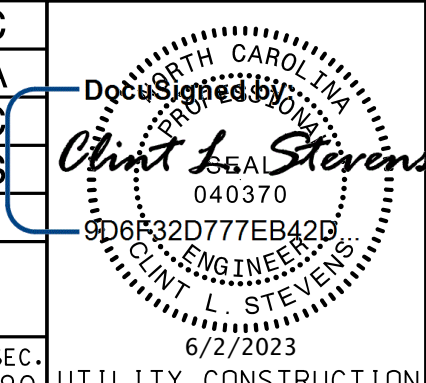
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 2025.000  
 REV: 2/1/2012





**HINDE ENGINEERING**  
License No. C-2639  
10815 Sikes Place, Suite 210 Charlotte, NC 28277

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. <b>C-5621</b>	SHEET NO. <b>UC-2A</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JNA</b>	
CHECKED BY: <b>JKC</b>	
APPROVED BY: <b>CLS</b>	
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 PROPOSED 8" SANITARY GRAVITY SEWER AND CREEK BASIN McDOWELL  
AND 6" FORCE MAIN SEWER RELOCATIONS  
TO SERVE NCDOT TIP C-5621

CLTWater PROJECT NO.: CPM-60-23-221

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 60 % DOMESTIC \_\_\_\_\_ % INDUSTRIAL  
40 % 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 8-INCH

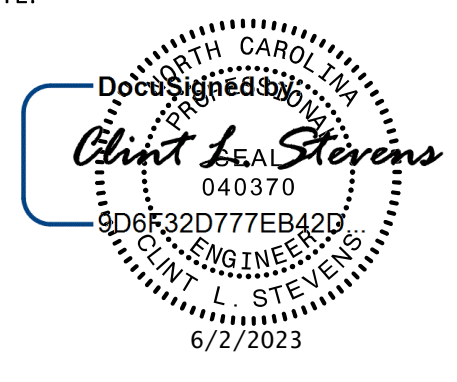
HAS ENGINEER DETERMINED THAT NC DEM AND CLTWater MINIMUM DESIGN STANDARDS ARE MET BY THIS PROJECT?  YES  NO

COMPLETE NAME AND ADDRESS OF ENGINEERING DESIGN FIRM:  
HINDE ENGINEERING, INC.  
10815 SIKES PLACE, SUITE 210  
CHARLOTTE, NORTH CAROLINA 28277

TELEPHONE 704 - 814 - 4407

PROFESSIONAL ENGINEER'S CERTIFICATION:  
I, CLINT L. STEVENS, PE, ATTEST THAT THIS APPLICATION FOR 8-INCH SANITARY GRAVITY SEWER AND 6-INCH FORCE MAIN SEWER TO SERVE NCDOT TIP C-5621 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:



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 TIP C-5621

CLTWater PROJECT NO.: CPM-60-23-221

PROJECT DESCRIPTION: PROPOSED 884 L.F. OF 6" WATER MAIN WITH ITS ASSOCIATED FITTINGS  
PROPOSED 1,914 L.F. OF 8" WATER MAIN WITH ITS ASSOCIATED FITTINGS  
PROPOSED 1,082 L.F. OF 16" WATER MAIN WITH ITS ASSOCIATED FITTINGS  
PROPOSED 795 L.F. OF 24" WATER MAIN WITH ITS ASSOCIATED FITTINGS  
ALONG CATAWBA AVE, US-21 AND HOLIDAY LANE IN THE CITY OF CHARLOTTE

DESIGNED BY: FIRM: HINDE ENGINEERING, INC.  
ENGINEER: CLINT L. STEVENS, PE  
ADDRESS: 10815 SIKES PLACE, SUITE 210  
CHARLOTTE, NORTH CAROLINA 28277  
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. \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: \_\_\_\_\_

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


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# UTILITY CONSTRUCTION



License No. C-2639  
10815 Sikes Place, Suite 210 Charlotte, NC 28277

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO.	SHEET NO.
C-5621	UC-3
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 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 2018.
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.

## 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. ALL 16-INCH AND LARGER DIAMETER PIPE SHALL BE DUCTILE IRON RESTRAINED JOINT PRESSURE CLASS 250, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
3. ALL VALVES ON WATER MAINS SHALL BE DIRECT BURY GATE VALVES, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
4. DUCTILE IRON RESTRAINED JOINT PIPE SHALL BE USED IN LIEU OF THRUST BLOCKING ON PROPOSED WATER LINE RELOCATIONS.
5. CONCRETE THRUST LOCKING (WALL BLOCKING) SHALL BE USED ON EXISTING WATER LINES AT THE PROPOSED RELOCATION TIE-IN POINTS.
6. CONTRACTOR SHALL CONNECT ALL WATER LINES AND SERVICE CONNECTIONS USING NECESSARY FITTINGS.
7. ALL BACKFLOW PREVENTORS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER.
8. THE CHARLOTTE WATER (CLTWATER) STANDARD DETAILS LOCATED ON THEIR WEBSITE AT:  
<https://www.charlottenc.gov/water/DevelopmentProjects/Design-Manual> SHALL SUPERCEDE ANY CLTWATER DETAILS SHOWN IN THIS PLAN SET.
9. FOR FIRE HYDRANTS TO BE REMOVED, THE CONTRACTOR SHALL CONTACT CLTWATER TO DETERMINE A SUITABLE LOCATION TO STOCKPILE THE FIRE HYDRANT AND ASSOCIATED ITEMS.
10. CONTRACTOR IS REQUIRED TO CONTACT BILL DEAL, PE, CLTWATER REPRESENTATIVE, AT (980)722-0786 AT LEAST 2 WEEKS PRIOR TO ANY WATER AND SEWER CONSTRUCTION.

## UTILITY CONSTRUCTION

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 22 JUN 2023 09:49  
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 License No. C-2639  
 10815 Sikes Place, Suite 210 Charlotte, NC 28277

**DOCUMENT NOT CONSIDERED FINAL  
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PROJECT REFERENCE NO. <b>C-5621</b>	SHEET NO. <b>UC-3A</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JNA</b>	
CHECKED BY: <b>JKC</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

# UTILITY CONSTRUCTION

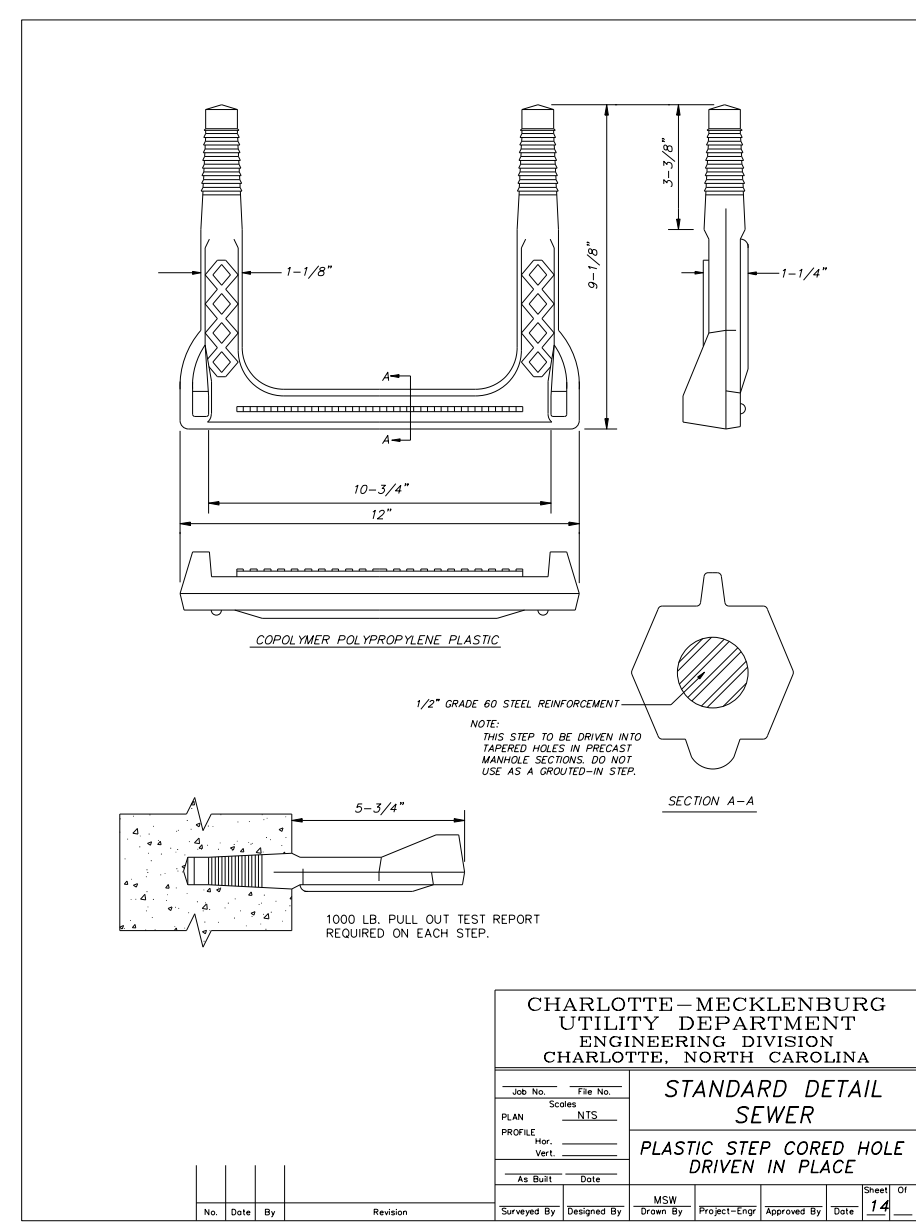
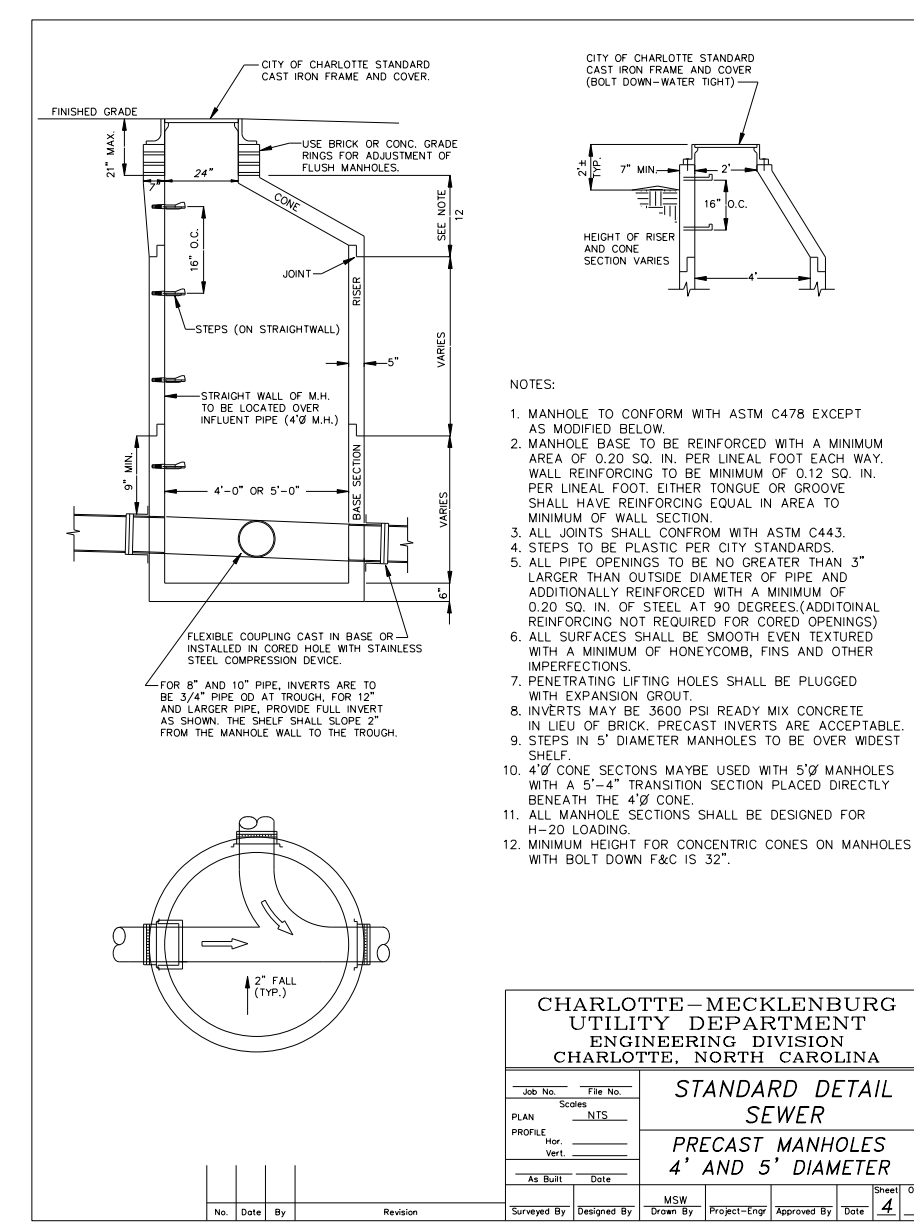
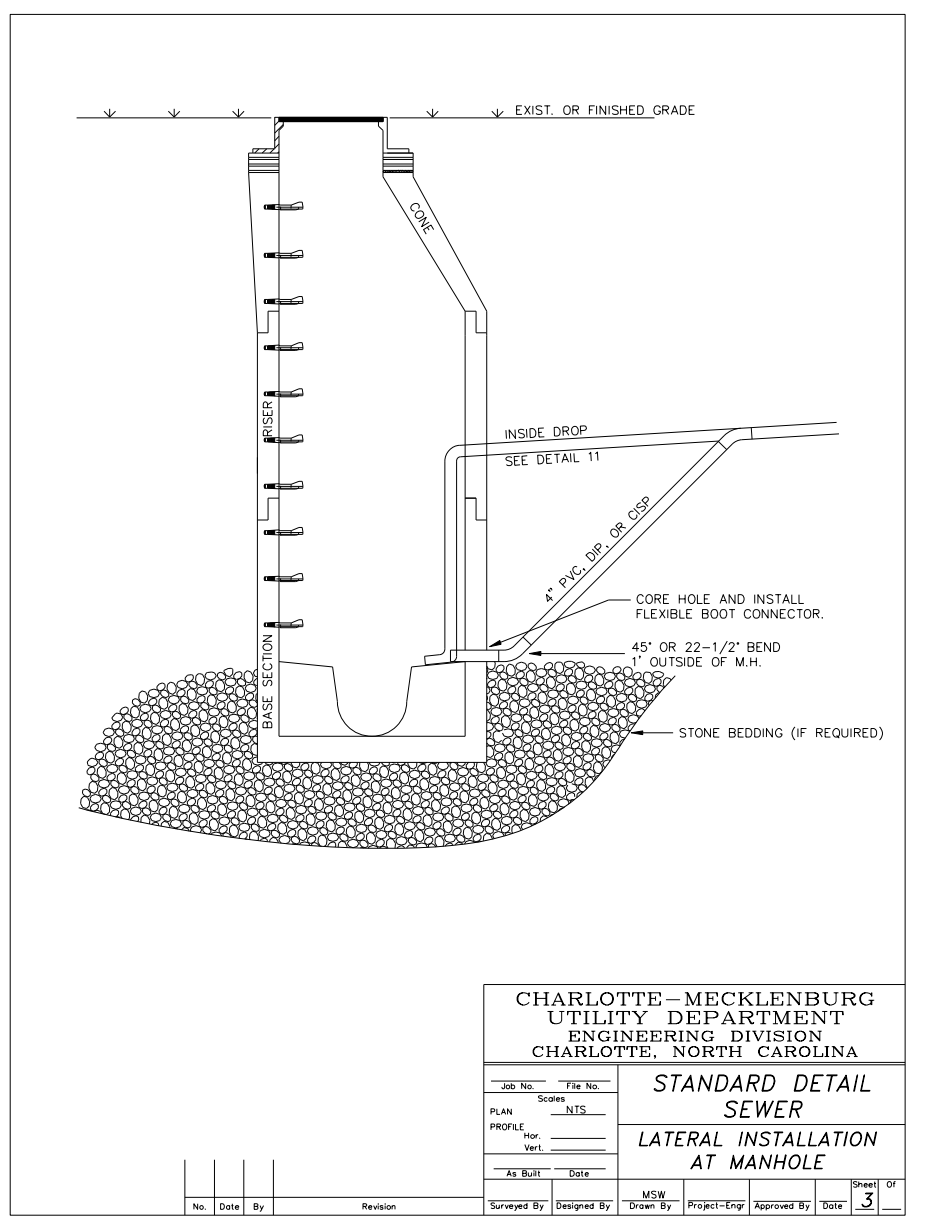
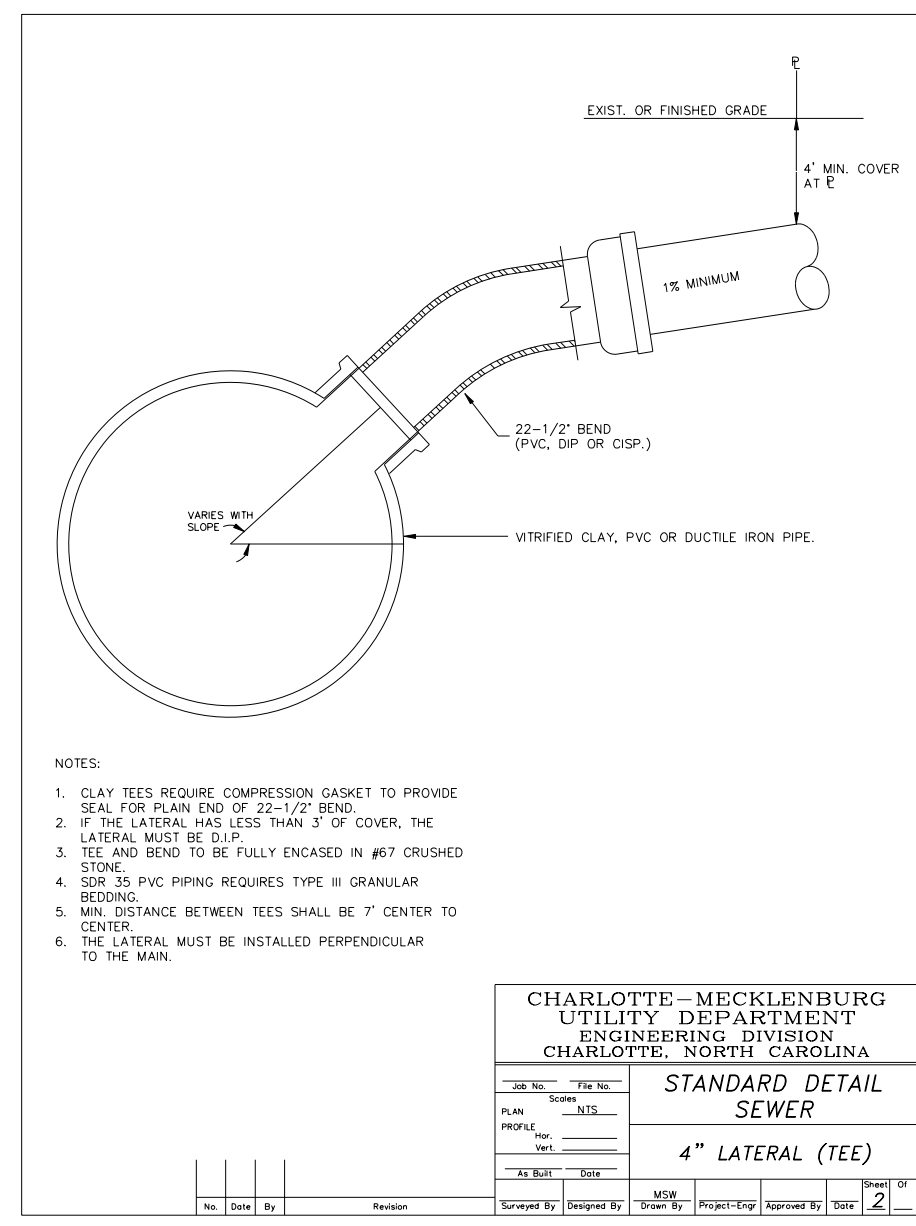
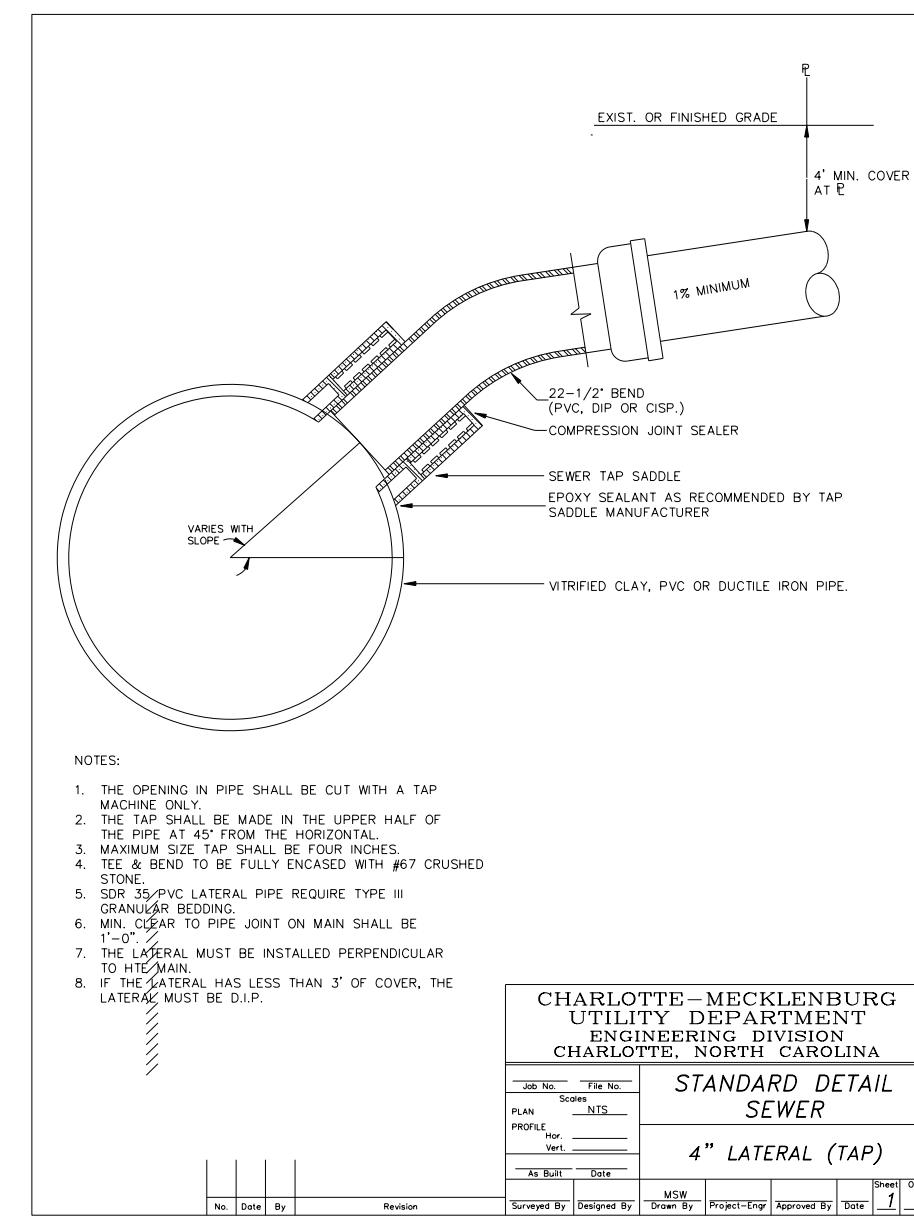
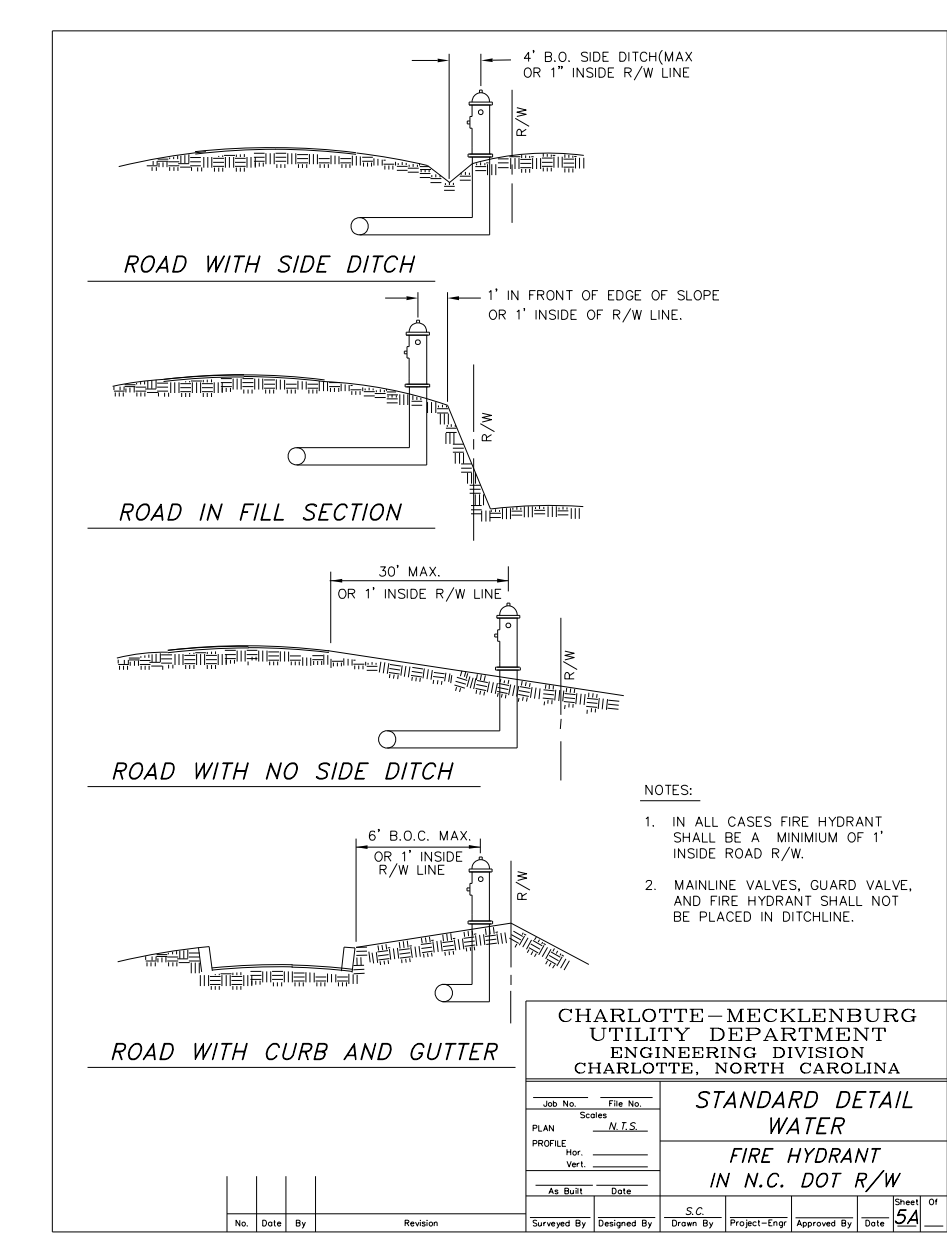
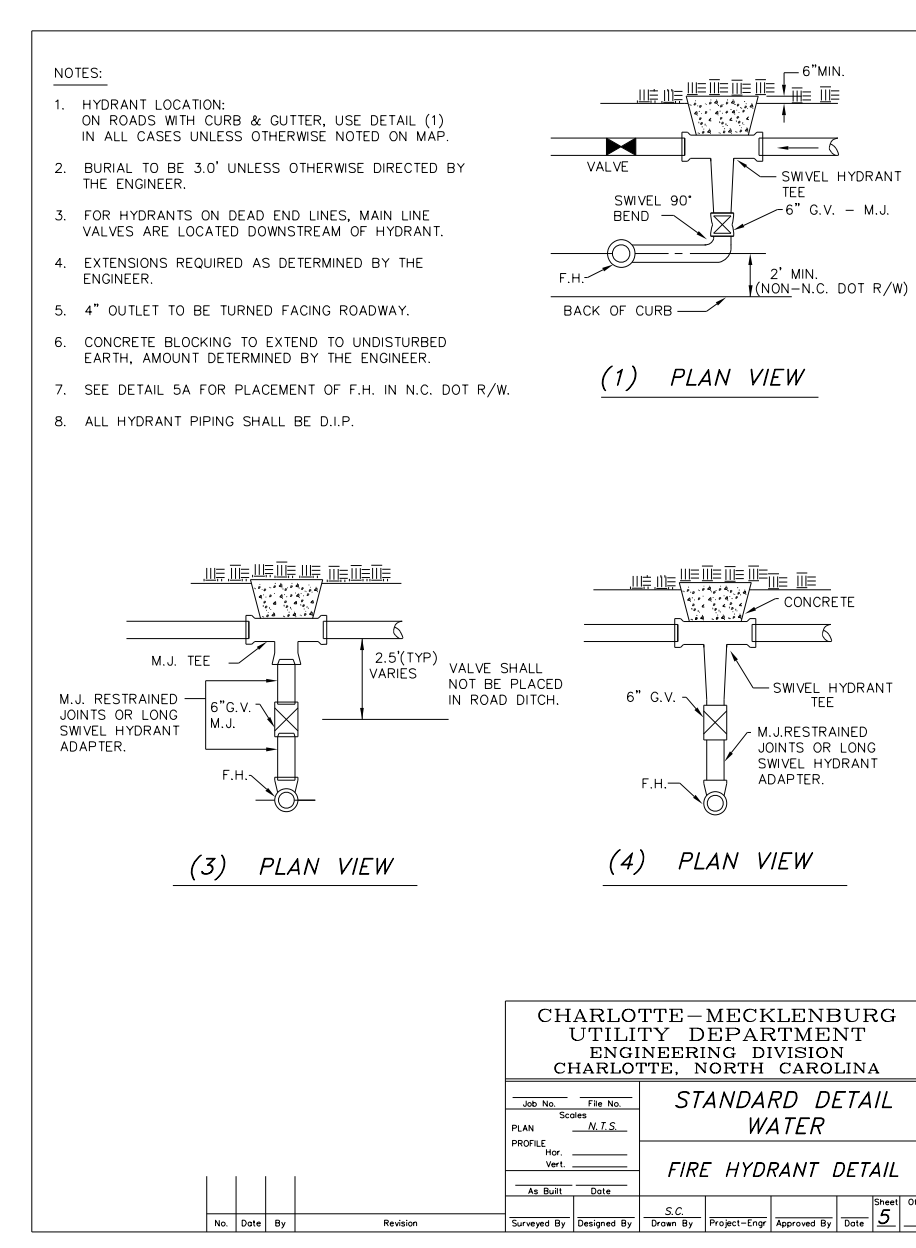
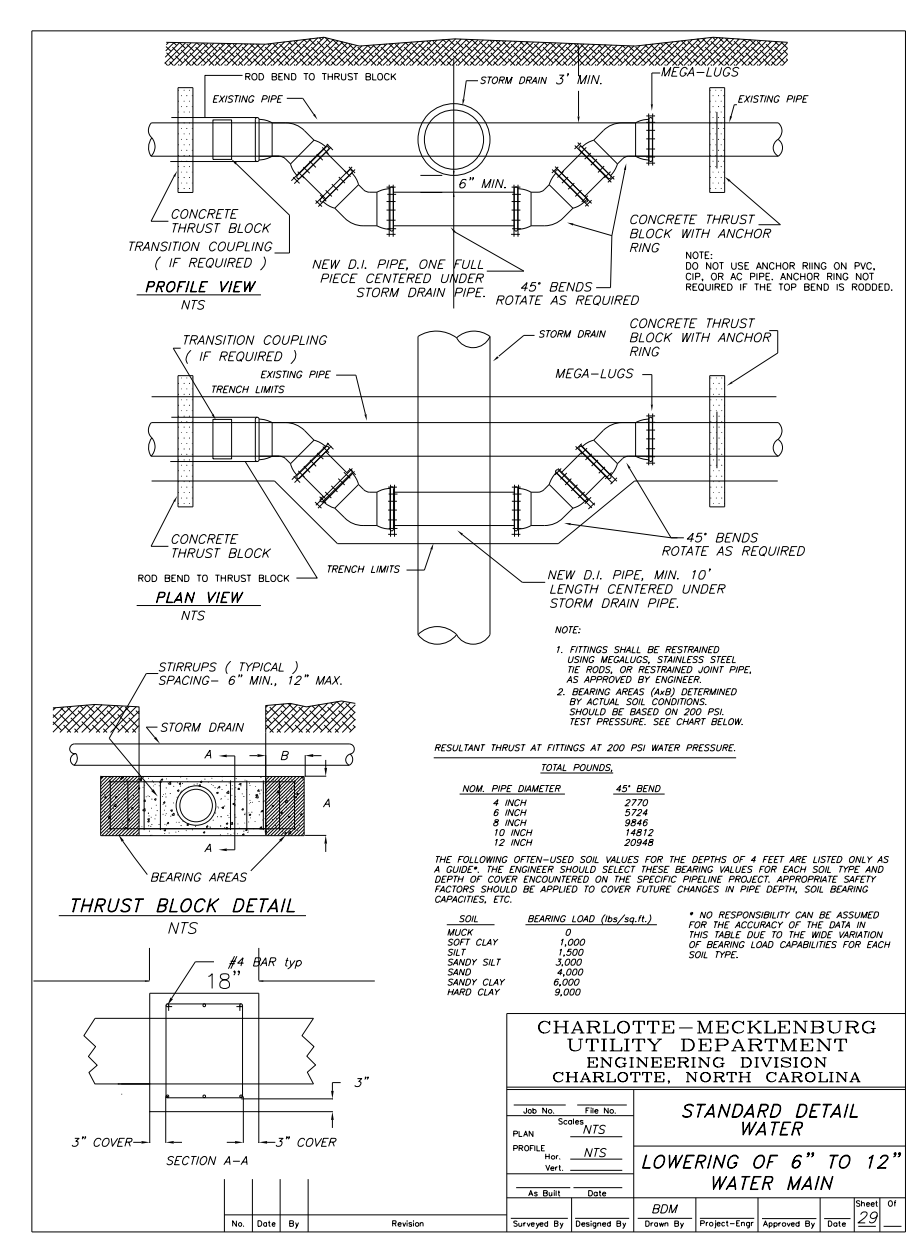
## LIST OF STANDARD DETAILS

### WATER:

- AA PRECAST CONCRETE METER BOX - 0.75-INCH DOMESTIC WATER SERVICE
- BB PRECAST CONCRETE METER BOX 1-INCH DOMESTIC AND IRRIGATION WATER SERVICE
- DD DEAD END THRUST - WALL BLOCKING WITH 2-INCH BLOW-OFF 6 TO 12-INCH MAINS
- FF CAST IRON VALVE BOX 12-INCH AND SMALLER VALVES
- GG VALVE BOX ADJUSTMENT FOR PAVEMENT RESURFACING
- HH VALVE BOX ASSEMBLY INSTALLATION 12-INCH AND SMALLER VALVES
- J MULTIPLE WATER SERVICES - SCHEMATIC
- K-1 3-4THS AND 1-INCH DOMESTIC WATER SERVICE CONNECTION PART ONE
- K-2 3-4THS AND 1-INCH DOMESTIC WATER SERVICE CONNECTION PART TWO
- M 1.5 INCH DOMESTIC WATER SERVICE CONNECTION
- MM VALVE BOX CONCRETE GRADE RINGS AND FOOTINGS
- N 6-INCH FMCT WATER METER AND VAULT SERVICE CONNECTION
- NN 2-INCH BLOW-OFF ASSEMBLY 2 TO 12-INCH MAINS
- OO PLASTIC WATER METER BOX AND LID - 0.75-INCH DOMESTIC WATER SERVICE
- PP WATER METER BOX - PLASTIC LID - 0.75 AND 1-INCH DOMESTIC WATER SERVICES
- SS TYPE 6 20.5-INCH MANHOLE COVER - USE WITH 16-INCH AND LARGER VALVES
- TT TYPE F 20.5-INCH MANHOLE FRAME 7-INCH TALL
- TW1-3 WATER TRACER DETAILS
- V STEEL DOUBLE LEAF ACCESS DOOR 5 FT X 5 FT PEDESTRIAN LOADING
- VV FIRE HYDRANT PAINT COLOR SCHEMES - CMUD-CFD STANDARDS - PUBLIC AND PRIVATE HYDRANTS

### GRAVITY SANITARY SEWER:

- A TYPE 1 24-INCH MANHOLE COVER VENTED
- B TYPE 2 24-INCH MANHOLE COVER SOLID
- F TYPE A 24-INCH MANHOLE FRAME 7 AND HALF - INCH TALL
- G TYPE B 24-INCH MANHOLE FRAME 4-INCH TALL
- TS1 TRACER WIRE - GRAVITY SEWER
- TS2 TRACER WIRE - GRAVITY SEWER DETAILS
- TS4 TRACER WIRE - FORCE MAIN SEWER
- TS5 TRACER WIRE - SEWER MAIN - SPLICE



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NAD 83/NRS 2007

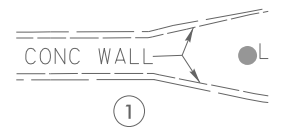
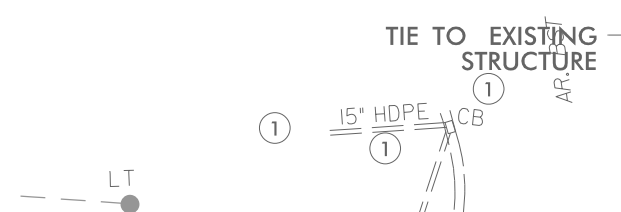
**HINDE ENGINEERING**  
 License No. C-2639  
 10815 Sikes Place, Suite 210 Charlotte, NC 28277

**DOCUMENT NOT CONSIDERED FINAL  
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PROJECT REFERENCE NO. C-5621	SHEET NO. UC-4
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	6/2/2023
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

5 SANITARY SEWER CLEAN-OUT  
 50 LF OF SEWER SERVICE LINE  
 (ASSUMED QUANTITY - EXACT LOCATIONS NOT KNOWN)

BEGIN PROJECT C-5621  
 -L- STA.11+30.00



**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 325 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 17,145 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

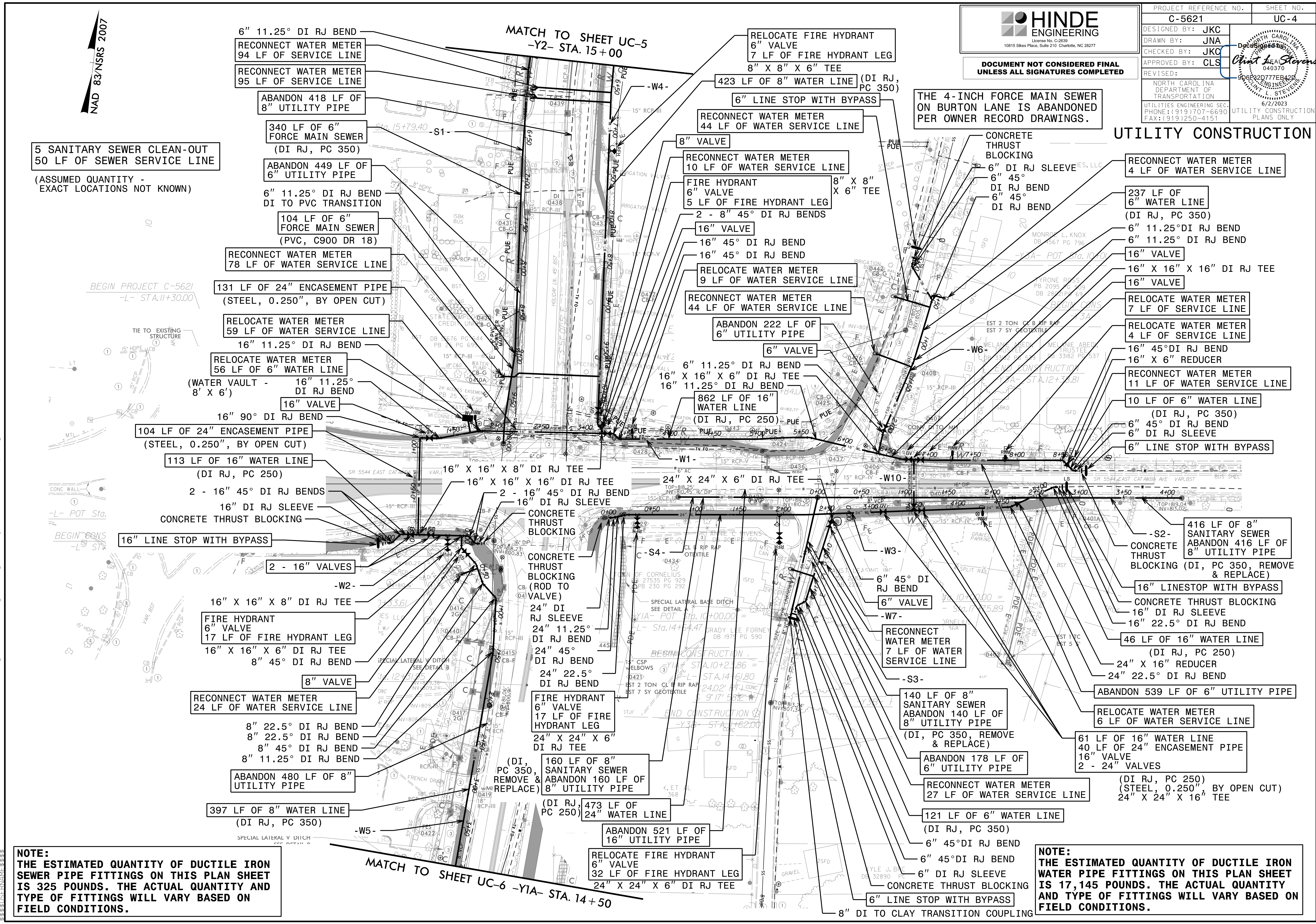
MATCH TO SHEET UC-6 -Y1A- STA. 14+50

MATCH TO SHEET UC-5  
 -Y2- STA. 15+00

THE 4-INCH FORCE MAIN SEWER ON BURTON LANE IS ABANDONED PER OWNER RECORD DRAWINGS.

**UTILITY CONSTRUCTION**

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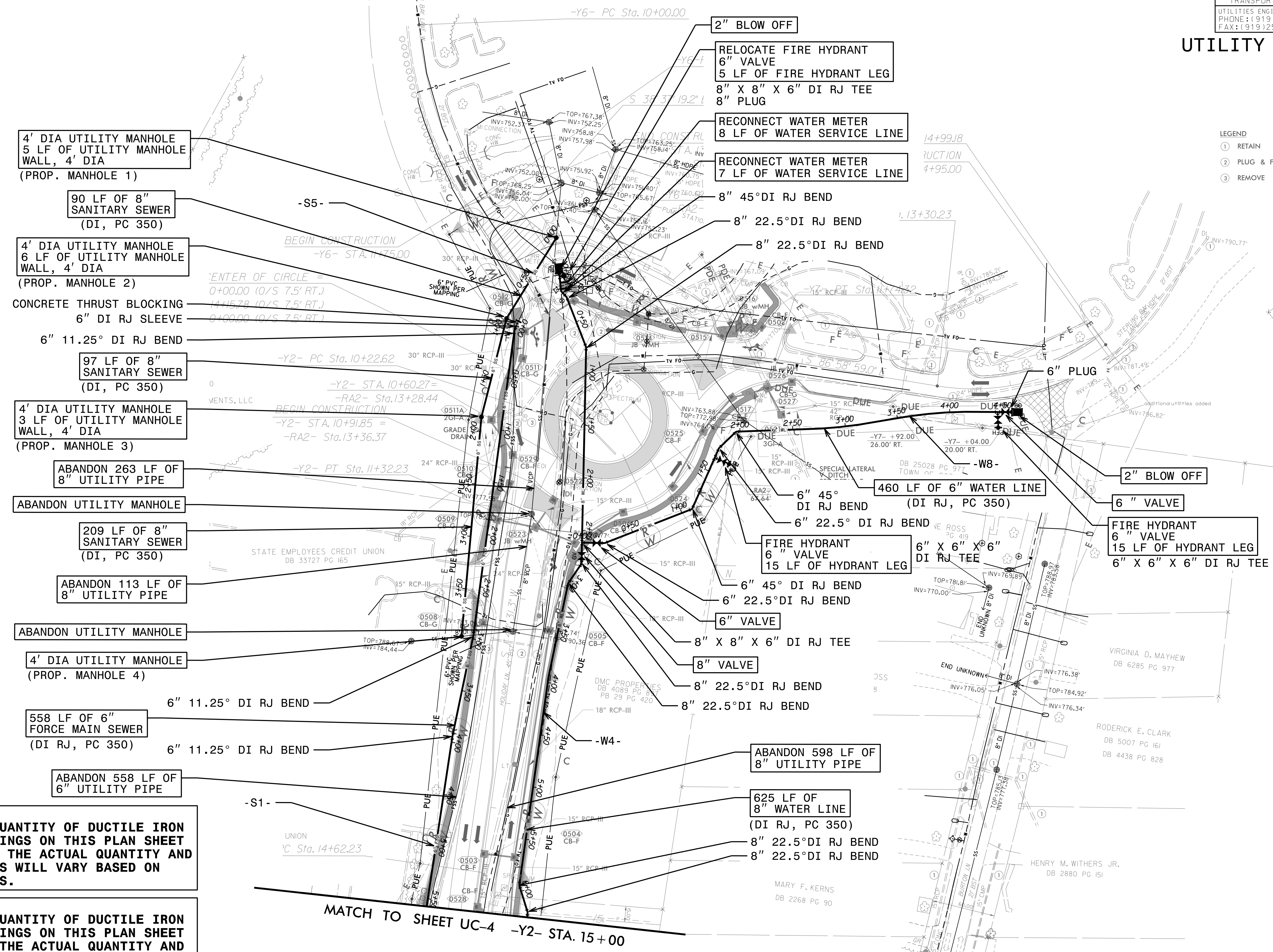
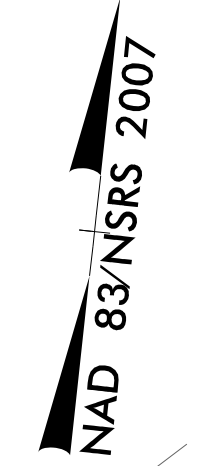
**HINDE ENGINEERING**  
 License No. C-2639  
 10815 Sikes Place, Suite 210 Charlotte, NC 28277

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 UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. <b>C-5621</b>	SHEET NO. <b>UC-5</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JNA</b>	
CHECKED BY: <b>JKC</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

# UTILITY CONSTRUCTION

- LEGEND**
- ① RETAIN
  - ② PLUG & FILL
  - ③ REMOVE



4' DIA UTILITY MANHOLE  
 5 LF OF UTILITY MANHOLE WALL, 4' DIA  
 (PROP. MANHOLE 1)

90 LF OF 8" SANITARY SEWER  
 (DI, PC 350)

4' DIA UTILITY MANHOLE  
 6 LF OF UTILITY MANHOLE WALL, 4' DIA  
 (PROP. MANHOLE 2)

CONCRETE THRUST BLOCKING  
 6" DI RJ SLEEVE  
 6" 11.25° DI RJ BEND

97 LF OF 8" SANITARY SEWER  
 (DI, PC 350)

4' DIA UTILITY MANHOLE  
 3 LF OF UTILITY MANHOLE WALL, 4' DIA  
 (PROP. MANHOLE 3)

ABANDON 263 LF OF 8" UTILITY PIPE

ABANDON UTILITY MANHOLE

209 LF OF 8" SANITARY SEWER  
 (DI, PC 350)

ABANDON 113 LF OF 8" UTILITY PIPE

ABANDON UTILITY MANHOLE

4' DIA UTILITY MANHOLE  
 (PROP. MANHOLE 4)

558 LF OF 6" FORCE MAIN SEWER  
 (DI RJ, PC 350)

ABANDON 558 LF OF 6" UTILITY PIPE

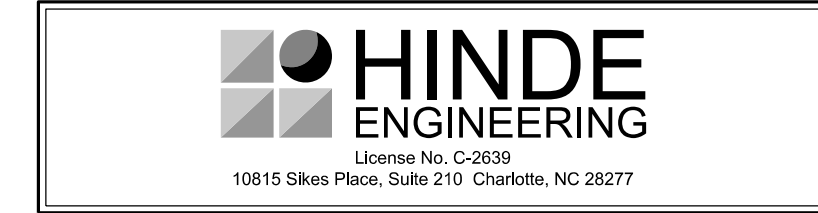
**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1905 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

**NOTE:**  
 THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 140 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

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MATCH TO SHEET UC-4 -Y2- STA. 15+00

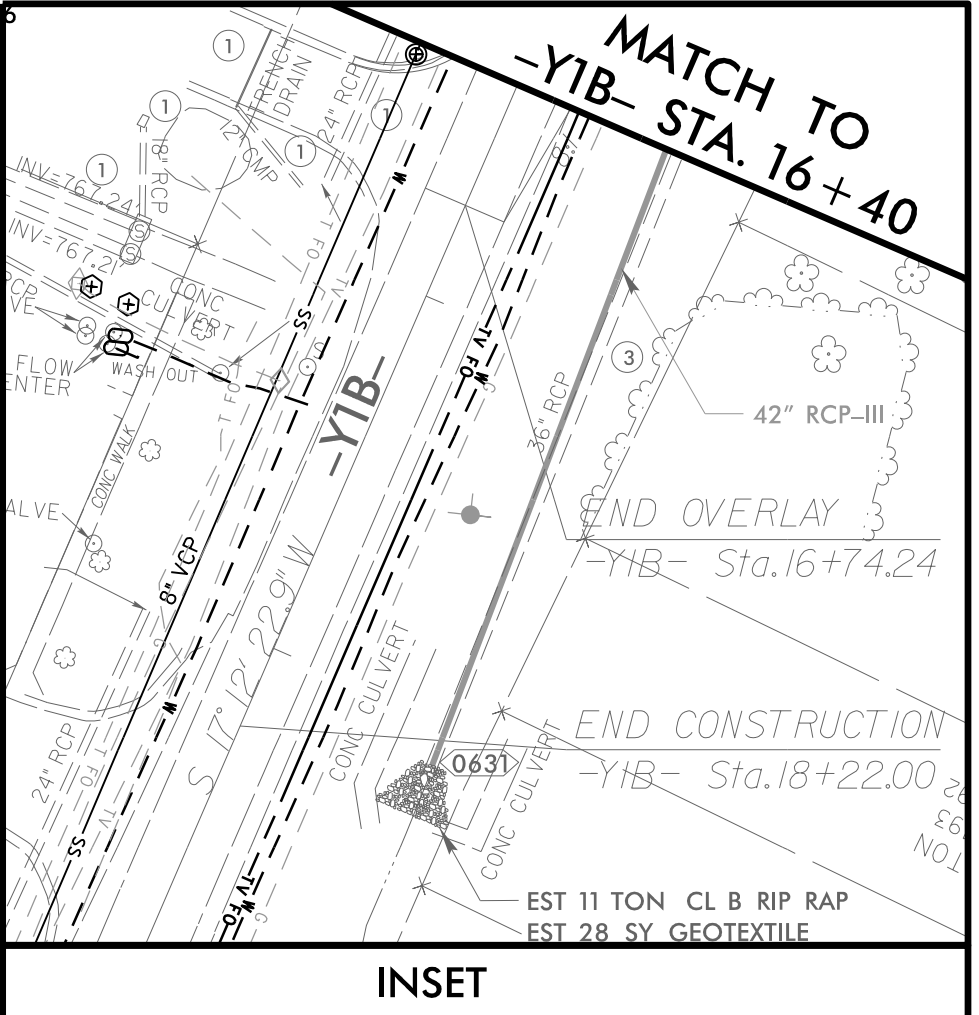
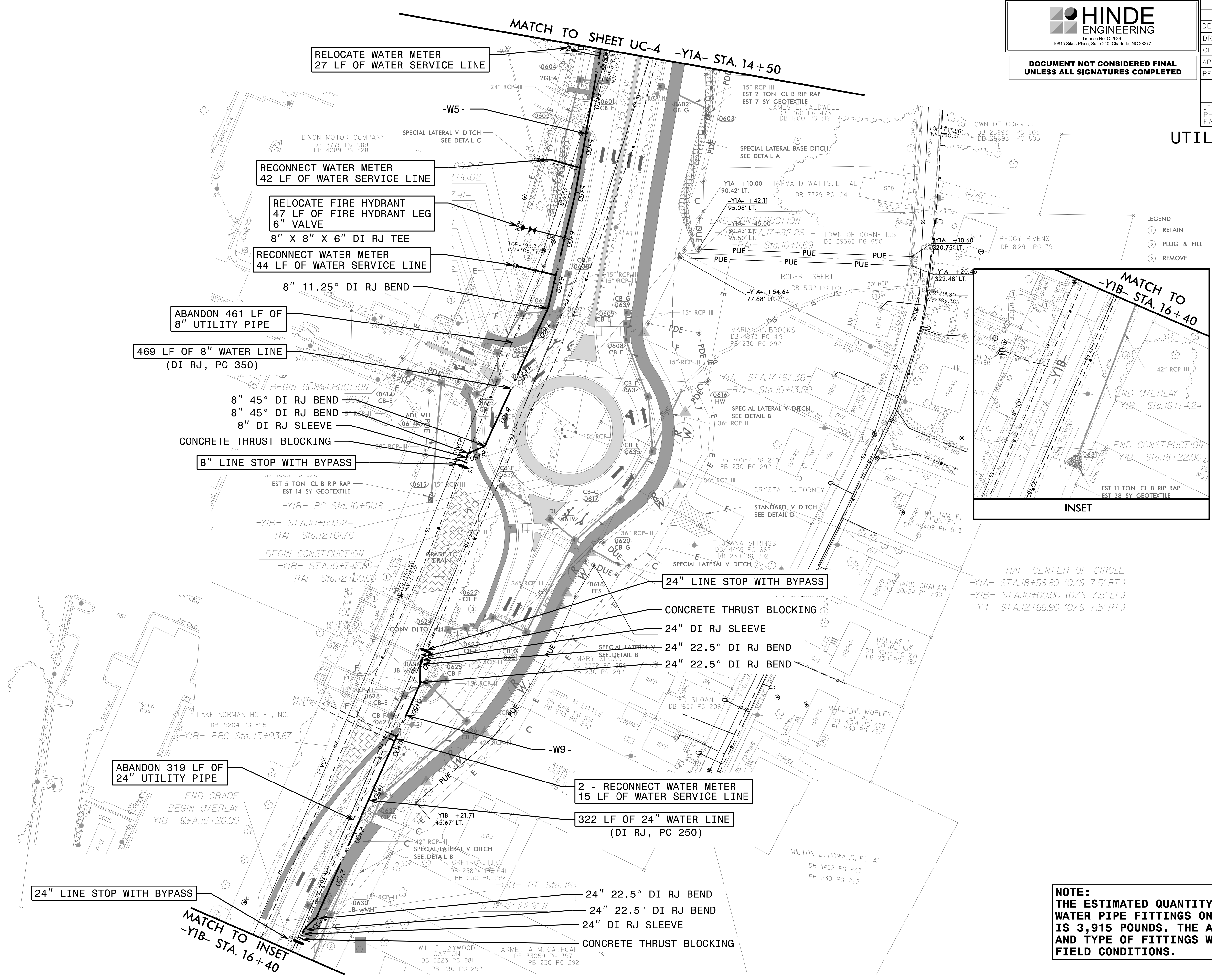




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PROJECT REFERENCE NO. <b>C-5621</b>	SHEET NO. <b>UC-6</b>
DESIGNED BY: <b>JKC</b>	
DRAWN BY: <b>JNA</b>	
CHECKED BY: <b>JKC</b>	
APPROVED BY: <b>CLS</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

### UTILITY CONSTRUCTION



- LEGEND
- 1 RETAIN
  - 2 PLUG & FILL
  - 3 REMOVE

NAD 83 NSRS 2007

**NOTE:**  
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3,915 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

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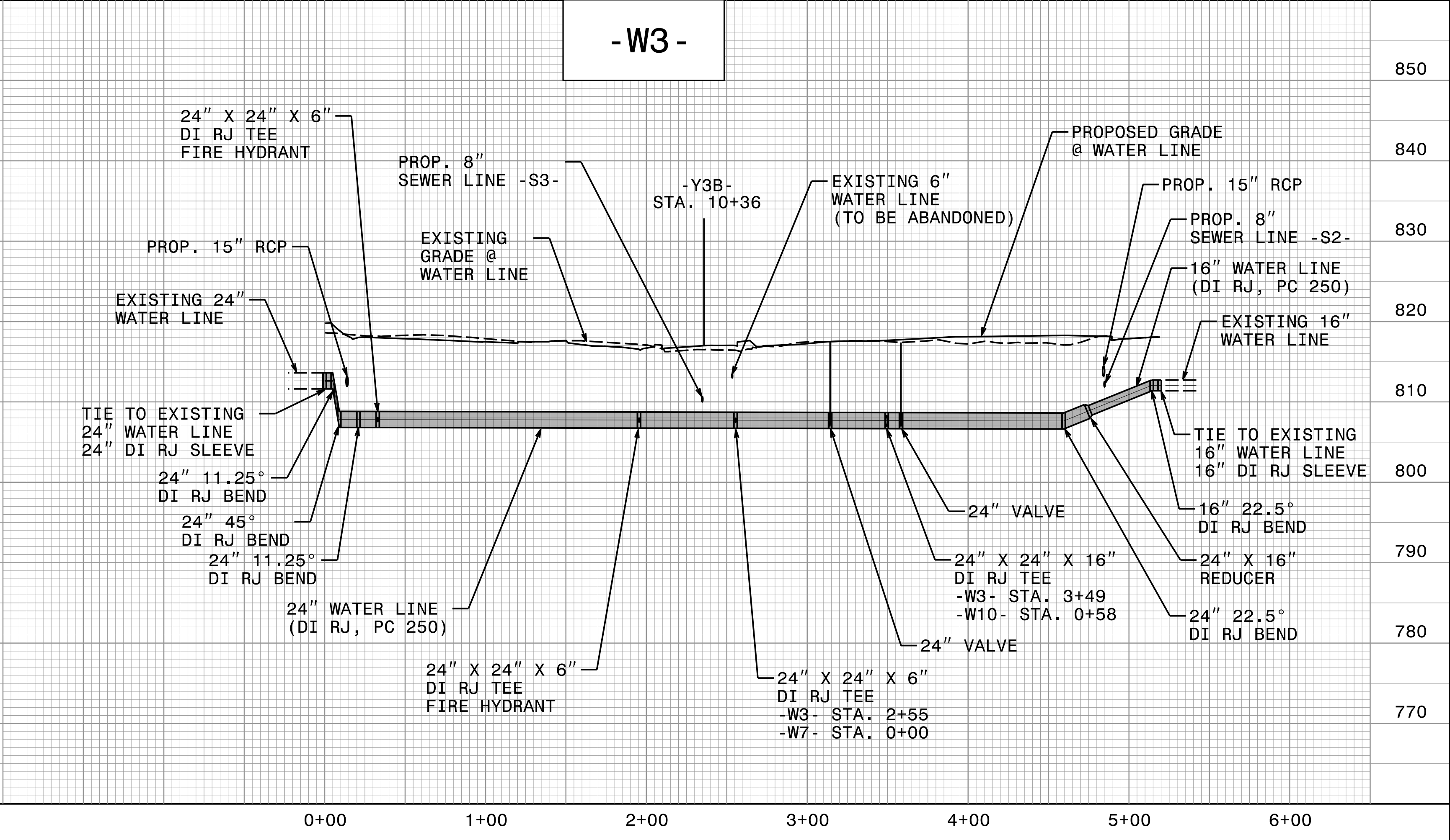
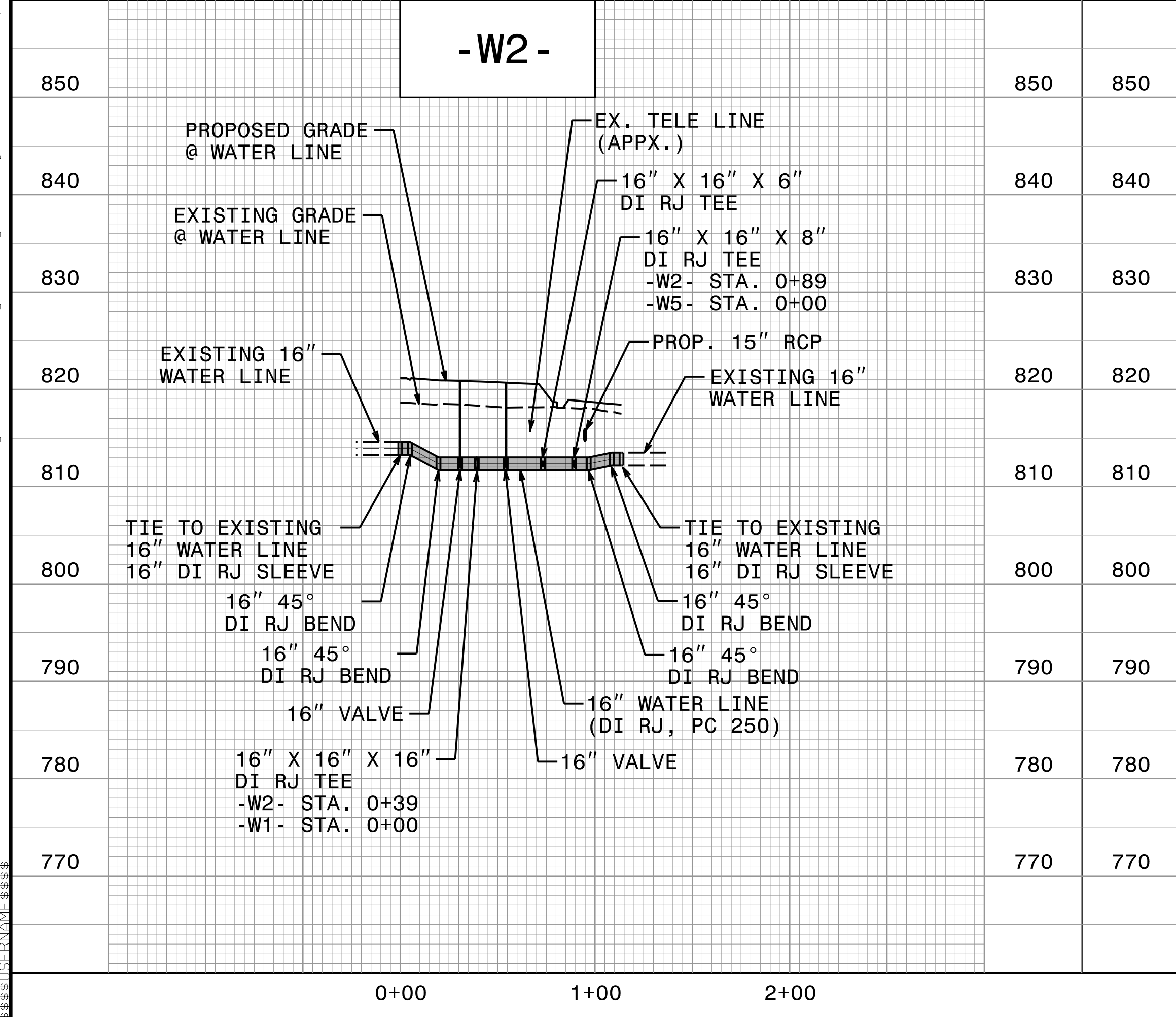
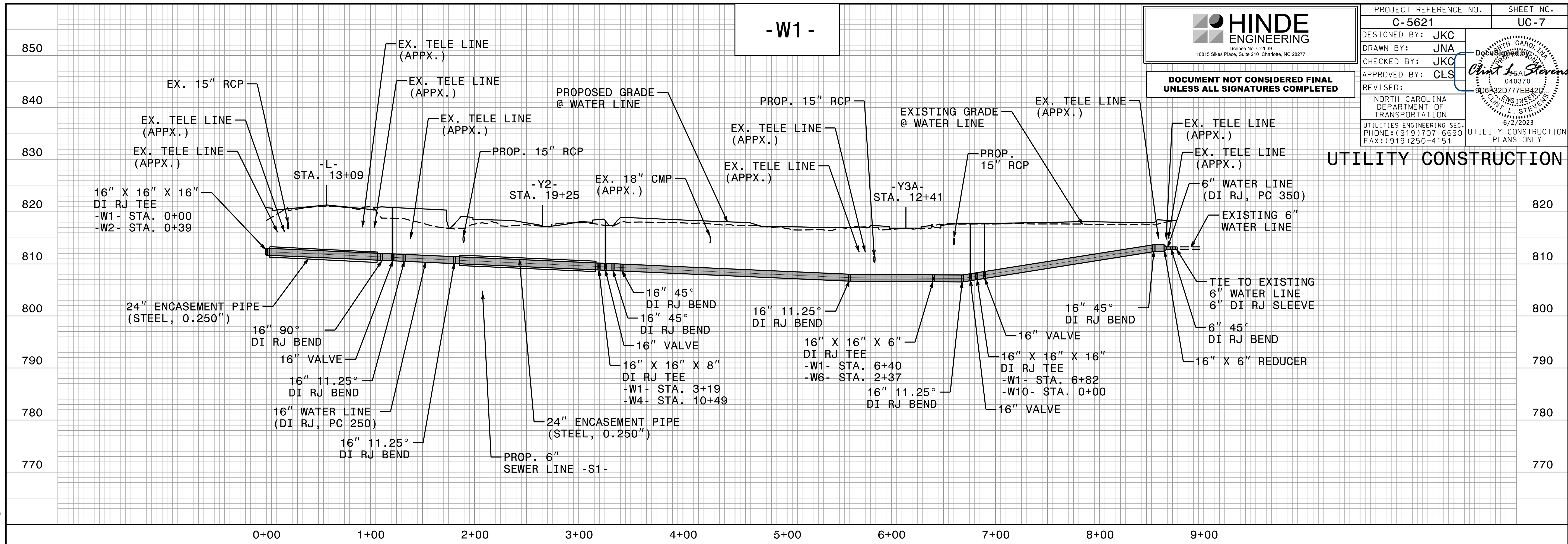




PROJECT REFERENCE NO. C-5621	SHEET NO. UC-7
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

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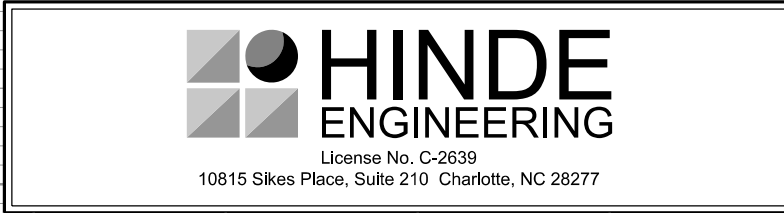
### UTILITY CONSTRUCTION



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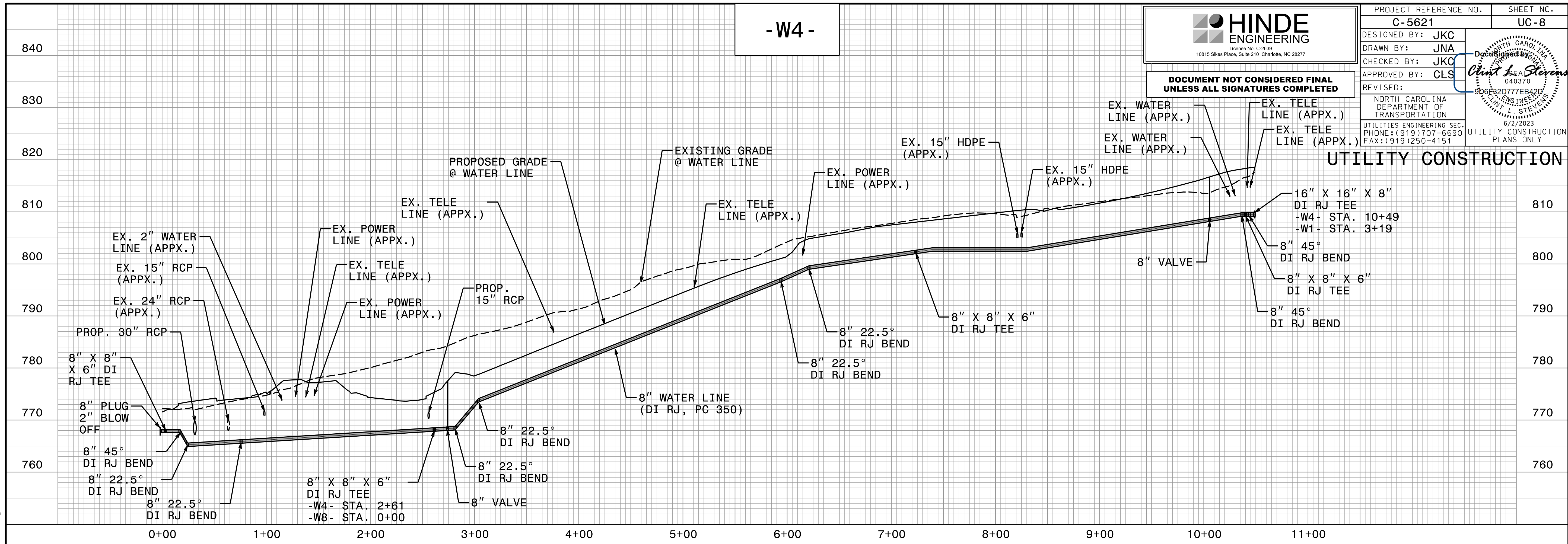
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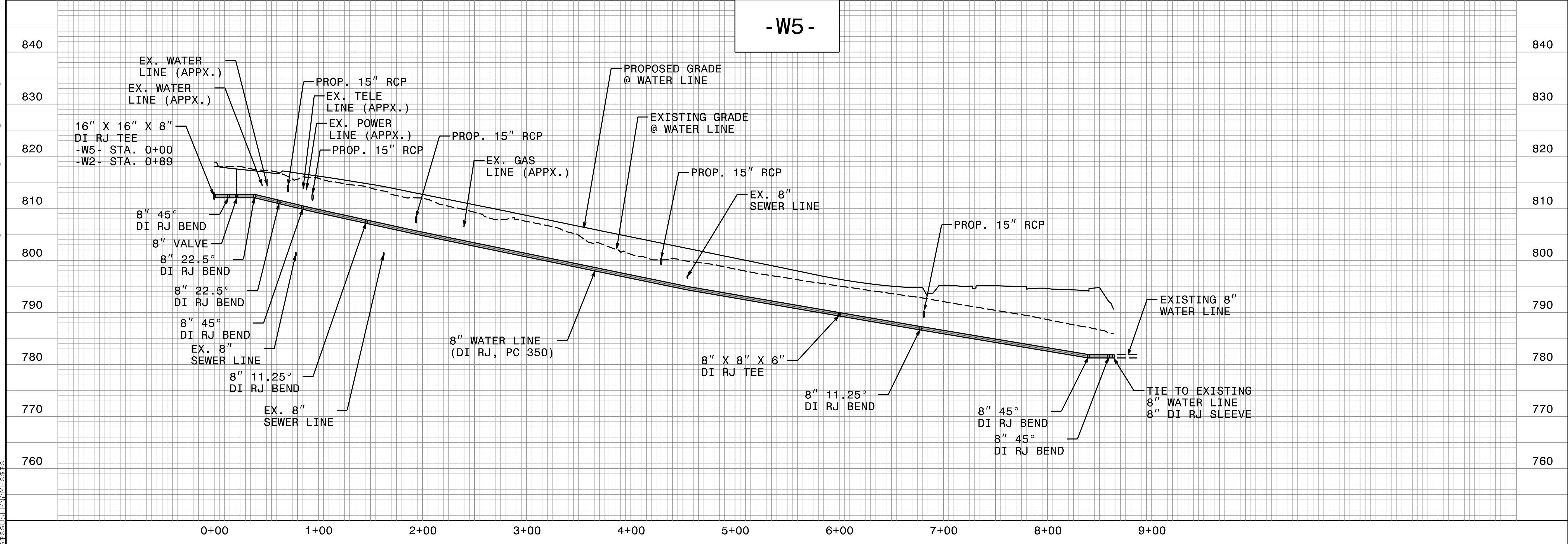
PROJECT REFERENCE NO. C-5621	SHEET NO. UC-8
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

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UTILITY CONSTRUCTION



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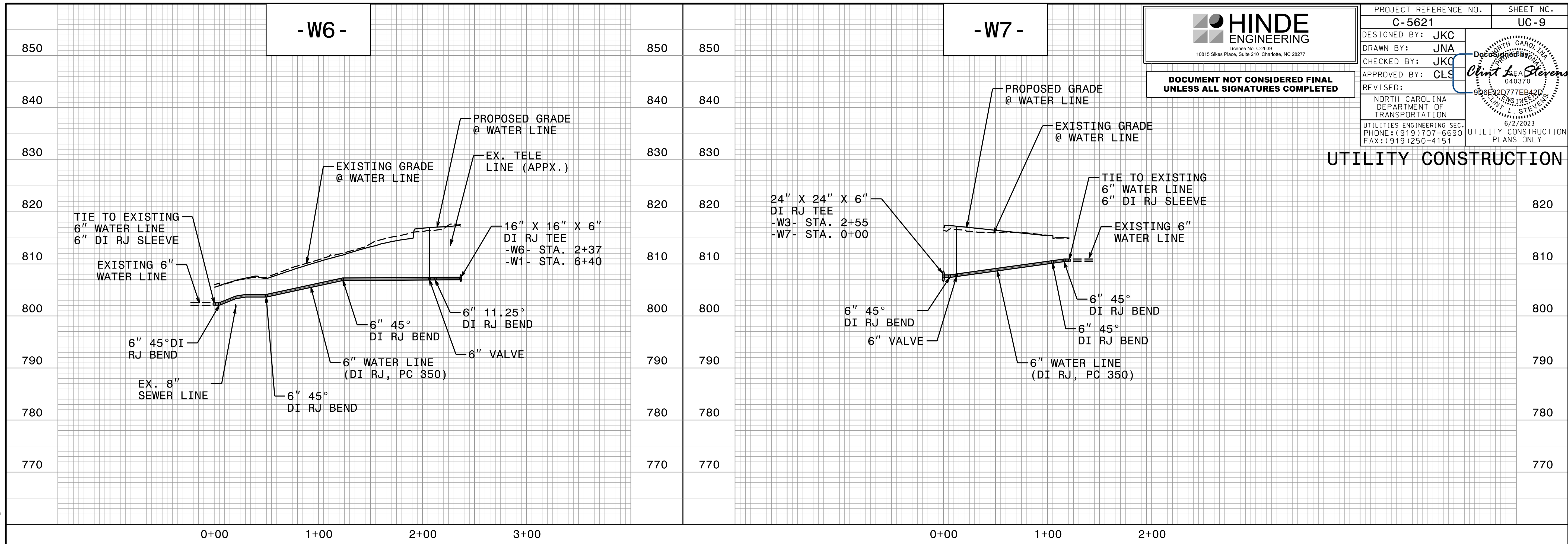
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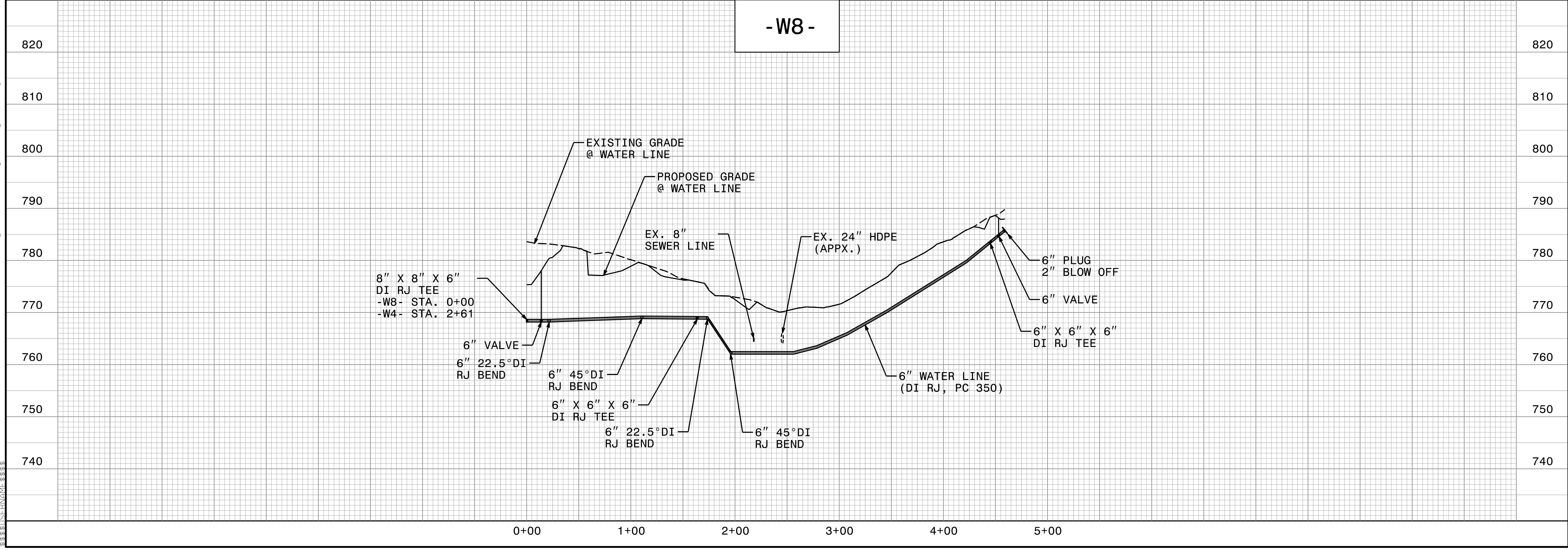
PROJECT REFERENCE NO. C-5621	SHEET NO. UC-9
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	6/2/2023
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

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UTILITY CONSTRUCTION



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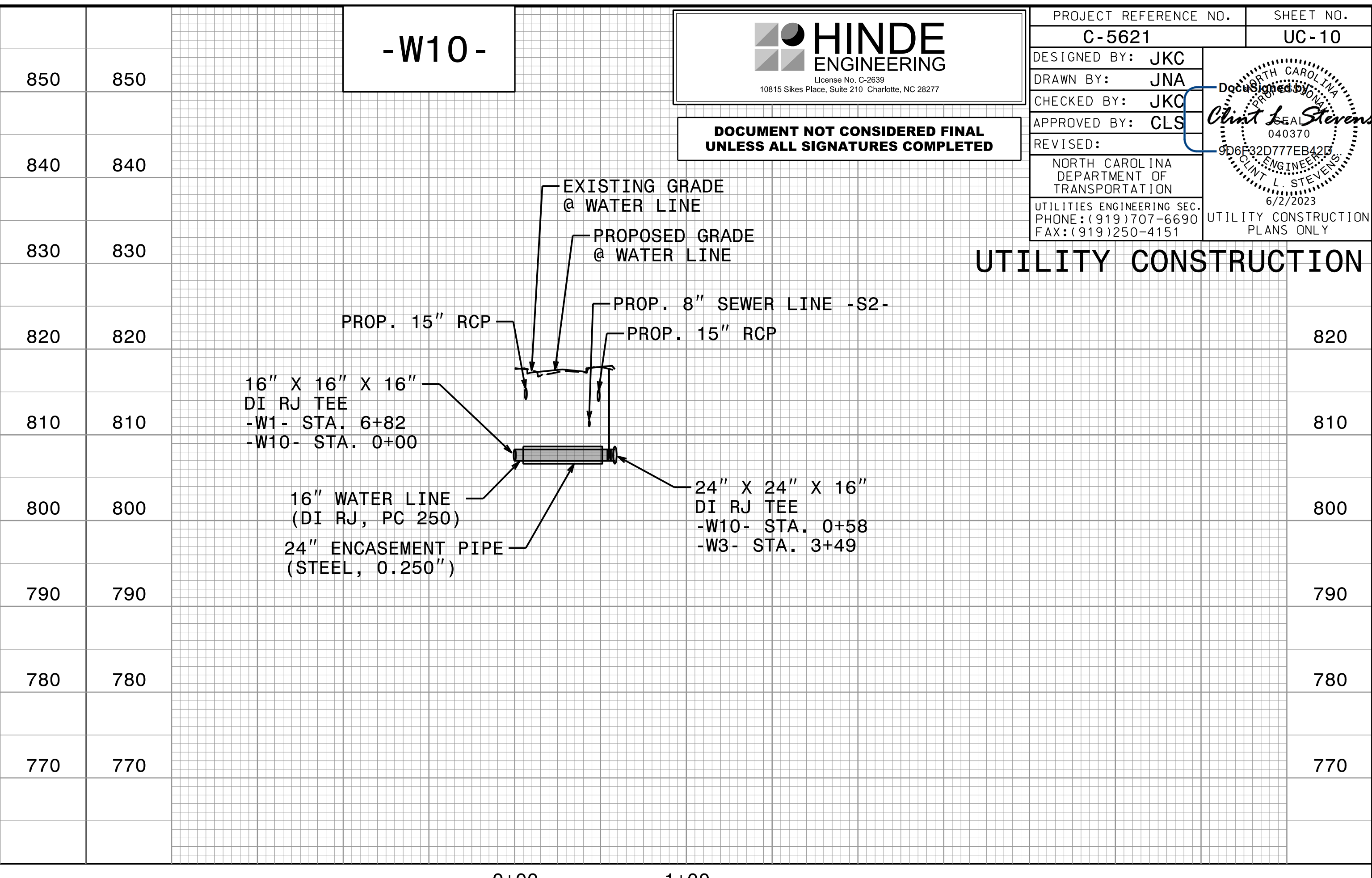
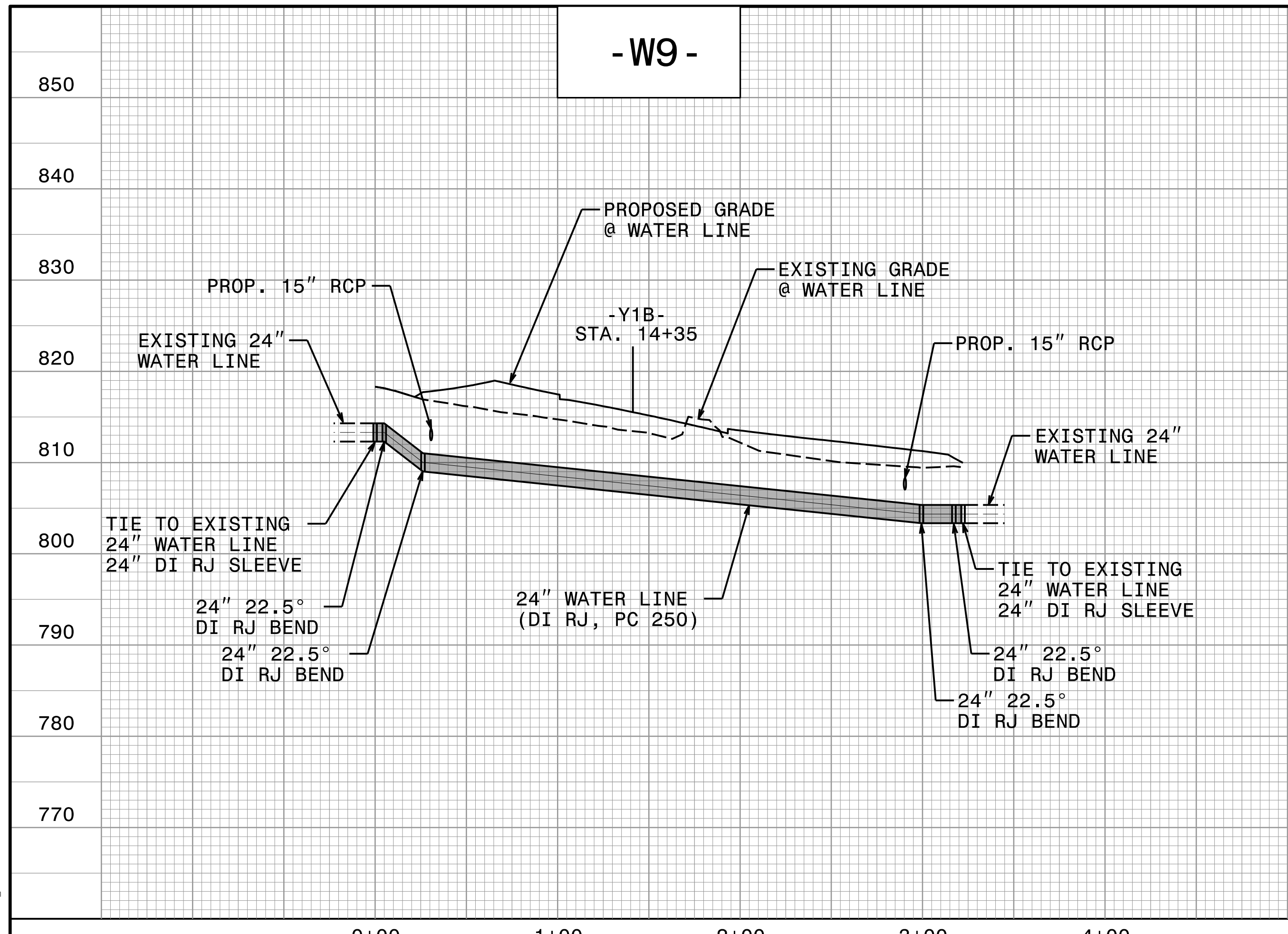
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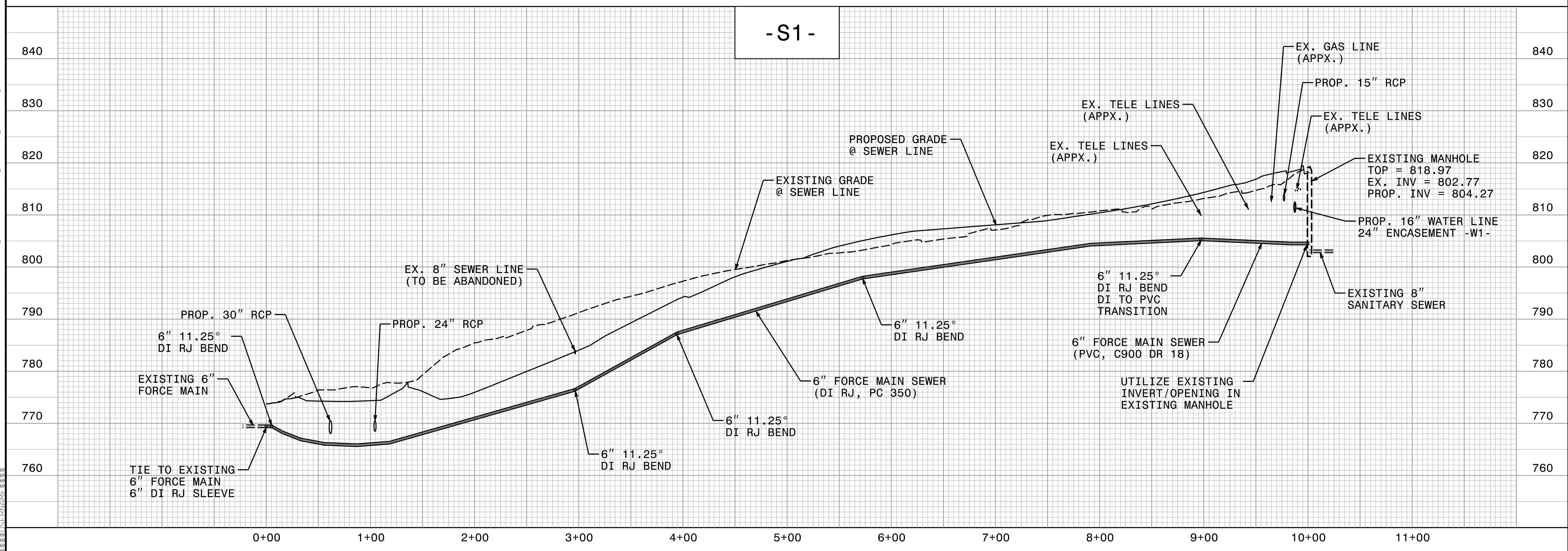
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. C-5621	SHEET NO. UC-10
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
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UTILITY CONSTRUCTION



-S1-



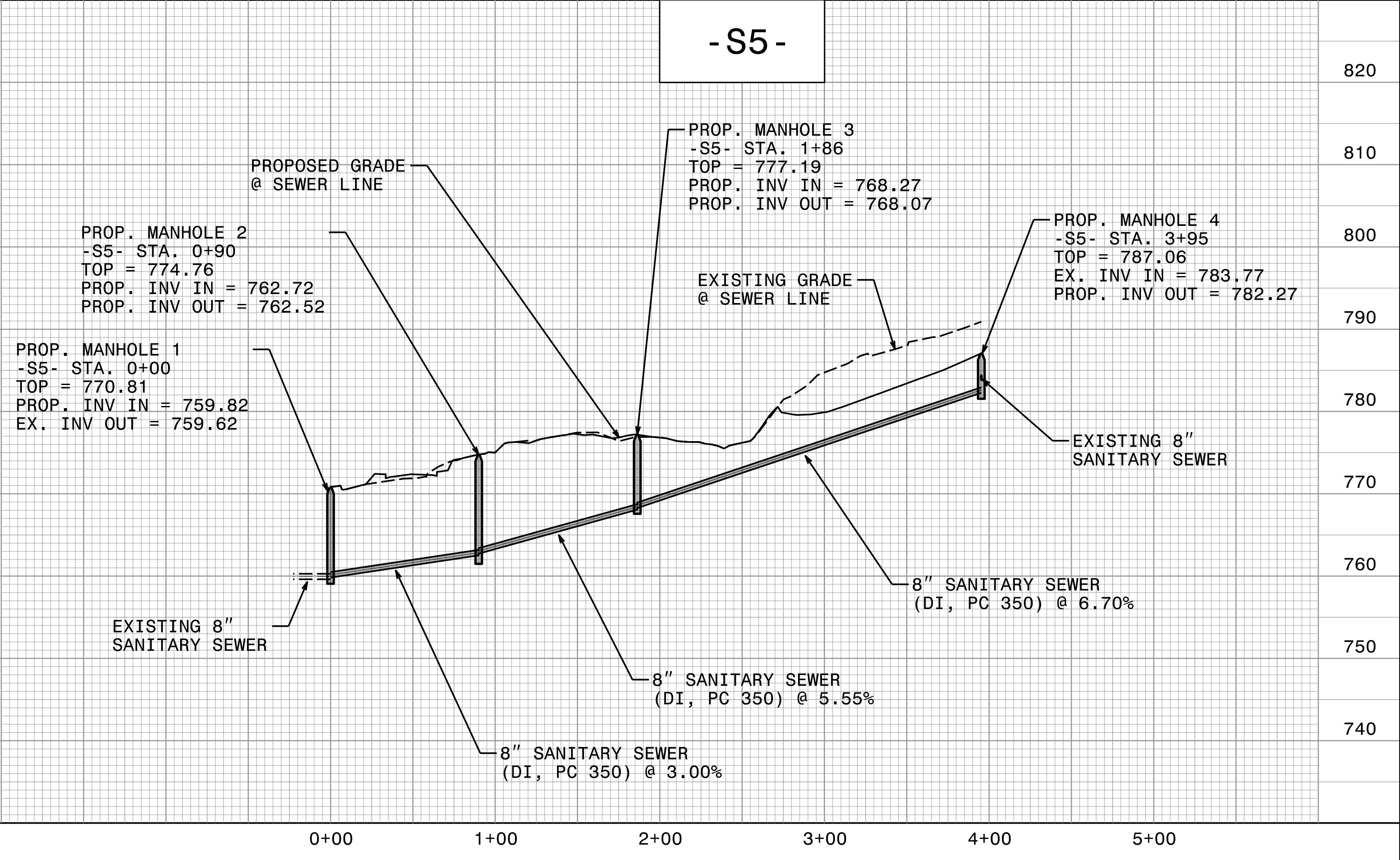
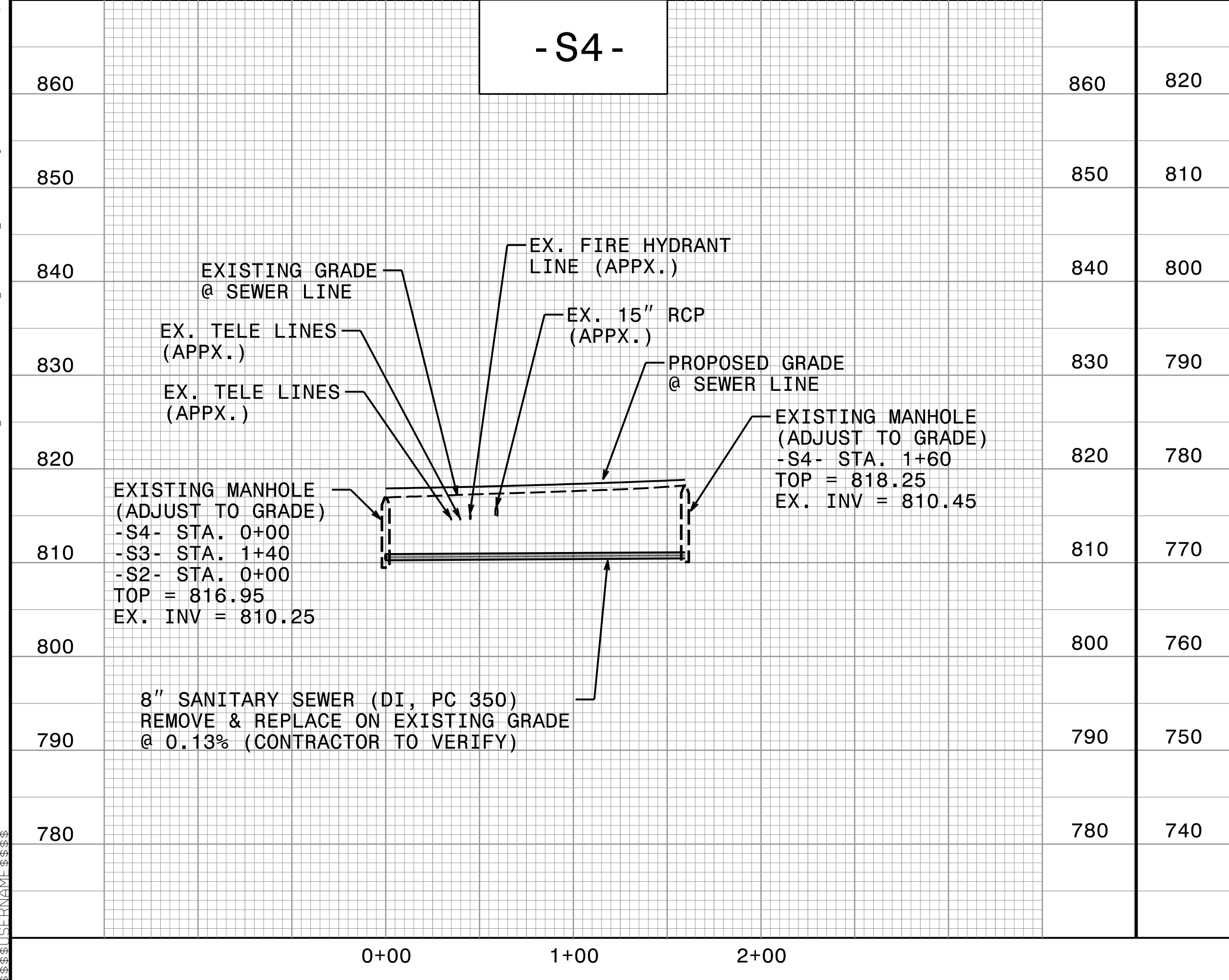
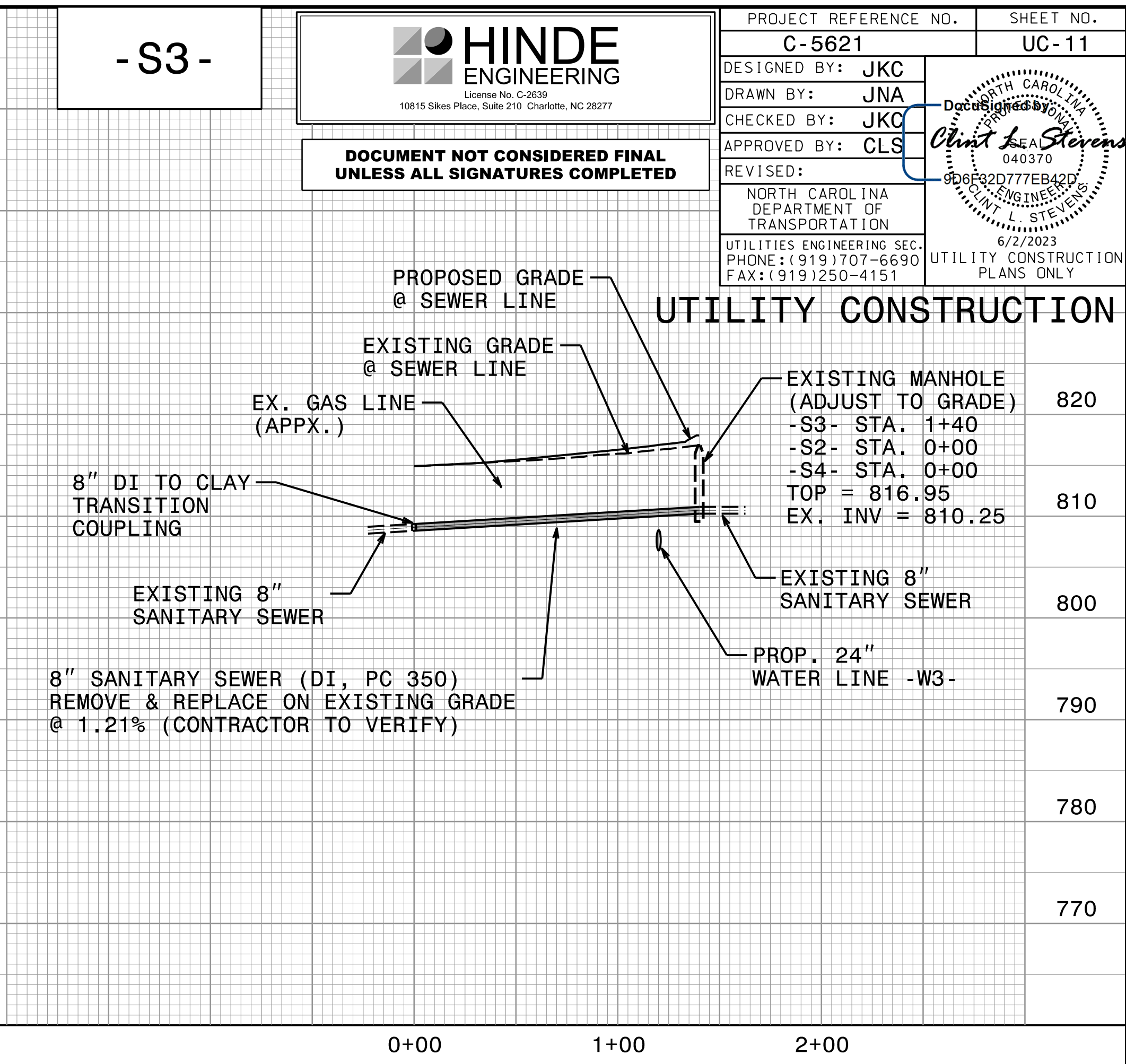
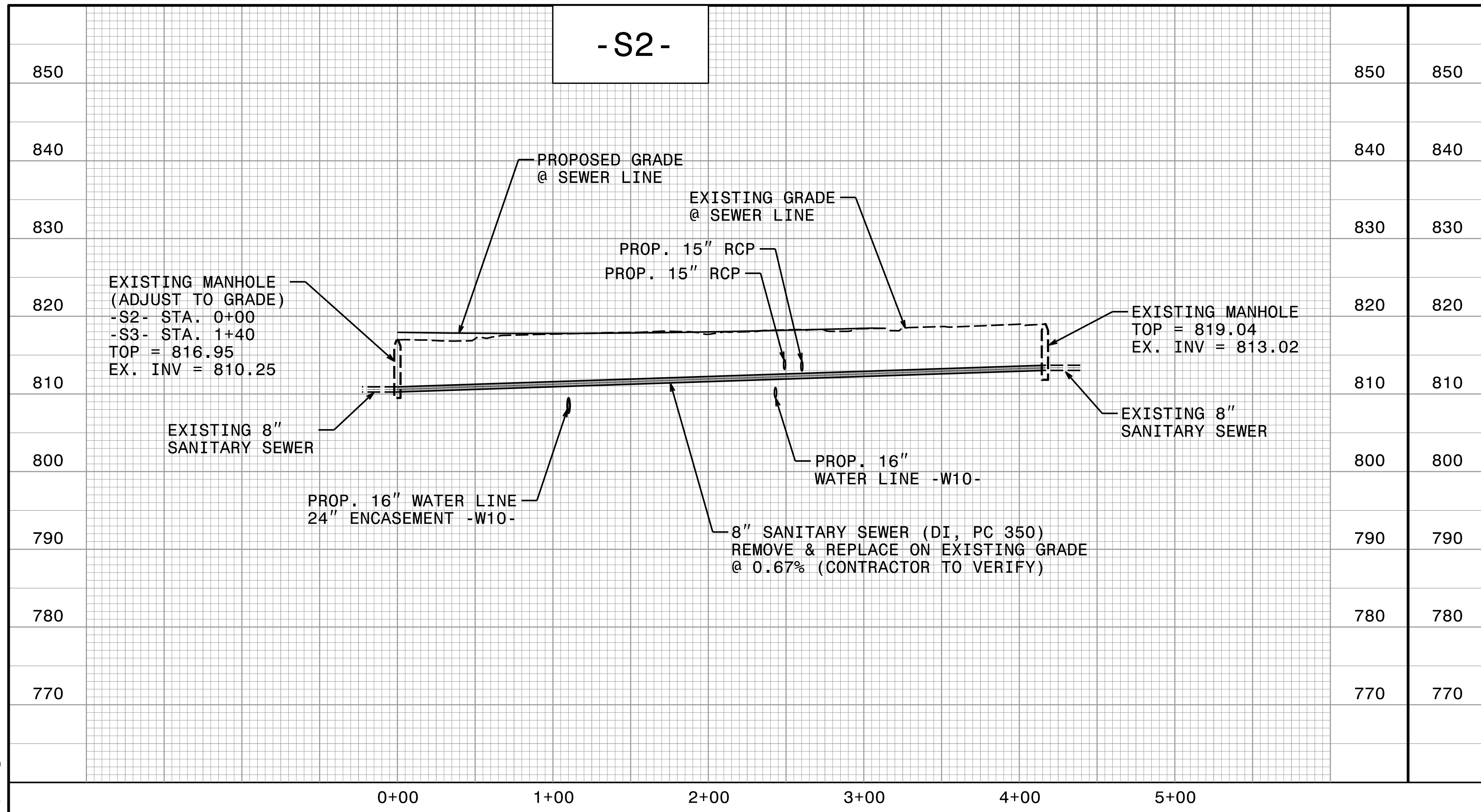
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 10815 Sikes Place, Suite 210 Charlotte, NC 28277

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PROJECT REFERENCE NO. C-5621	SHEET NO. UC-11
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
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