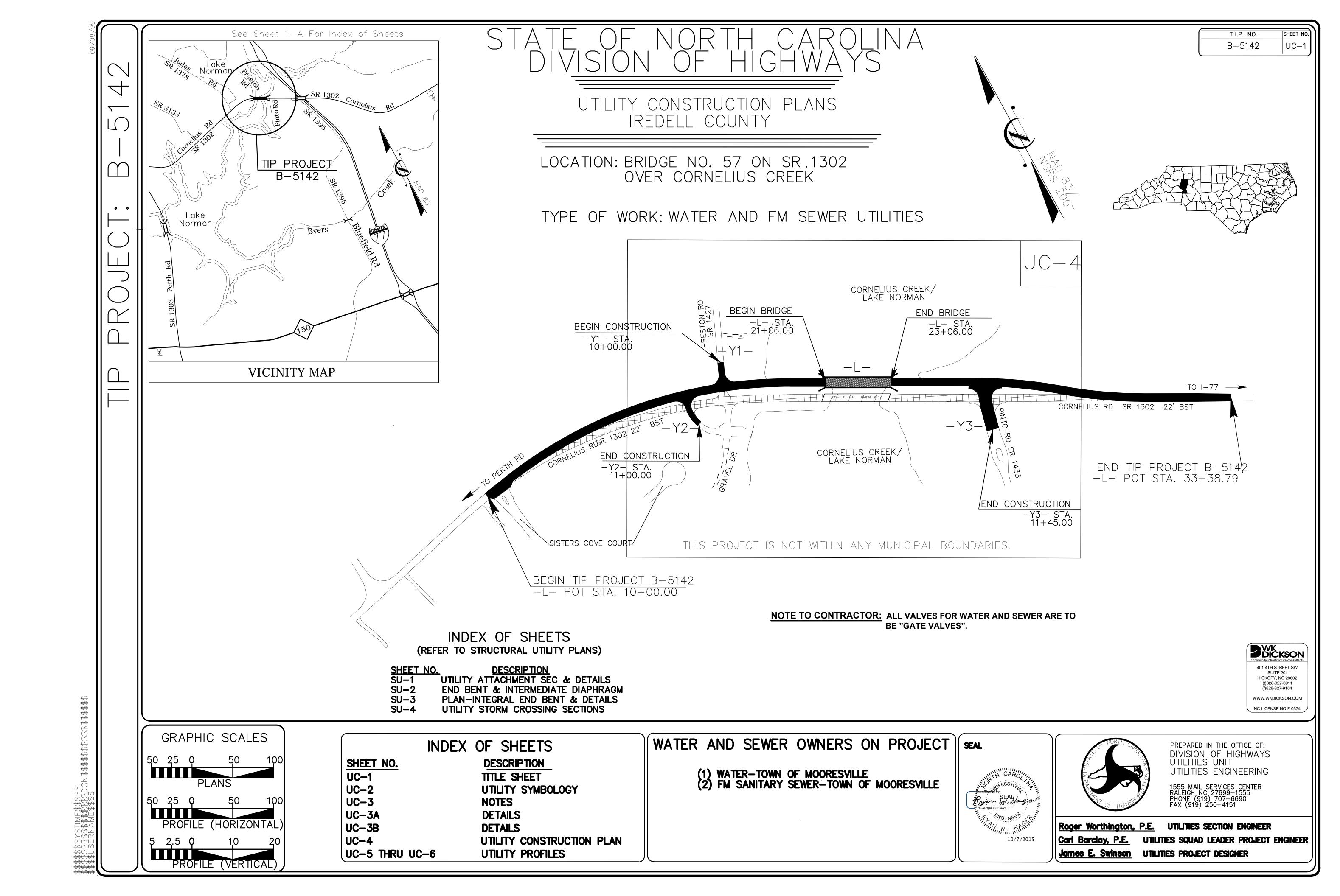
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### STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-5142 UC-2

#### PROPOSED WATER SYMBOLS

#### PROPOSED MISCELLANOUS UTILITIES SYMBOLS

Water Line (Sized as Shown)	<b>—— W</b> ——— <b>W</b> ———	Power Pole	٠ ٥	Thrust Block	· 1
111/4 Degree Bend	+++	Telephone Pole	· <b>-0-</b>	Air Release Valve	AR •
221/2 Degree Bend	++	Joint Use Pole	· <b>-b</b> -	Utility Vault	. UV
45 Degree Bend	+×	Telephone Pedestal		Concrete Pier	· CP
90 Degree Bend	++	Utility Line by Others (Type as Shown)		Steel Pier	· SP
Plug		Trenchless Installation		Plan Note	NOTE
Tee	ф.	Encasement by Open Cut		Pay Item Note	NOTE
Cross	+#+	Encasement			PAY ITEM
Reducer	•				
Gate Valve	· GV	EXISTING UTILITIES SYMBOLS			
Butterfly Valve	. BV	Power Pole	. •	*Underground Power Line	· ——— P ———— P ————
Tapping Valve	·	Telephone Pole	· - <b>-</b> -	*Underground Telephone Cable	· — T — T — T
Line Stop	LS	Joint Use Pole	·	*Underground Telephone Conduit	·TC
Line Stop with Bypass	LS/BP	Utility Pole	. •	*Underground Fiber Optics Telephone Cable	T FO
Blow Off	. BO	Utility Pole with Base	· •	*Underground TV Cable	·TV
Fire Hydrant	. PEH	H-Frame Pole	· •—•	*Underground Fiber Optics TV Cable	·TV FO
Relocate Fire Hydrant	REH	Power Transmission Line Tower		*Underground Gas Pipeline	· — G — G — G
Remove Fire Hydrant	REM FH	Water Manhole	· W	Aboveground Gas Pipeline	A/G Gas
Water Meter	PWM ·	Power Manhole	· (P)	*Underground Water Line	· — W — W —
Relocate Water Meter	RWM · •	Telephone Manhole	. ①	Aboveground Water Line	A/G Water
Remove Water Meter	REM. WM	Sanitary Sewer Manhole	·	*Underground Gravity Sanitary Sewer Line	· ————————————————————————————————————
Water Pump Station	· PS(W)]	Hand Hole for Cable	· H <sub>H</sub>	Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
RPZ Backflow Preventer	· PRPZ	Power Transformer	· M	*Underground SS Forced Main Line	· ——— FSS ———
DCV Backflow Preventer	· PBFP	Telephone Pedestal	· T	Underground Unknown Utility Line	· ———?UTL —
Relocate RPZ Backflow Preventer	· RRPZ	CATV Pedestal	· C	SUE Test Hole	
Relocate DCV Backflow Preventer	· RBFP	Gas Valve	. ♦	Water Meter	· •
		Gas Meter	. •	Water Valve	· ⊗
PROPOSED SEWER SYMBOLS		Located Miscellaneous Utility Object	. ⊙	Fire Hydrant	· 💠
Gravity Sewer Line (Sized as Shown)		Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	· •
Force Main Sewer Line (Sized as Shown)		End of Information	E.O.I.		

**DWK** DICKSON 401 4TH STREET SW SUITE 201 HICKORY, NC 28602 (t)828-327-6911 (f)828-327-9164 WWW.WKDICKSON.COM NC LICENSE NO.F-0374

REV: 2/1/2012

Manhole (Sized per Note)

Sewer Pump Station

\*For Existing Utilities Utility Line Drawn from Record (Type as Shown)

Designated Utility Line (Type as Shown)

#### UTILITY CONSTRUCTION

#### **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 UTILITIES BELONG TO THE TOWN OF MOORESVILLE.
- 3. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKMANSHIP ASSOCIATED WITH THE WATER LINES AND SEWER LINES SHALL BE IN ACCORDANCE WITH AND SUBJECT TO THE TOWN OF MOORESVILLE'S LAND DEVELOPMENT DESIGN STANDARDS, THE NORTH CAROLINA DEPARTMENT OF NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION AND WATER QUALITY SECTION, THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" AND THE NORTH CAROLINA ADMINISTRATIVE CODE FOR WASTE WATER COLLECTION AND WATER DISTRIBUTION SYSTEMS. IN THE EVENT OF CONFLICT BETWEEN THESE SPECIFICATIONS, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.
- 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 OPPROTUNITY 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 ADDITONAL

7. THE PROPOSED WATER AND SEWER LINES WILL NOT CONNECT TO EXISTING LINES. THEY WILL BE TESTED IN ACCORDANCE WITH SECTION 1510-3(SP) FOR WATER LINES AND SECTION 1520-3(SP) FOR SEWER FORCE MAIN.

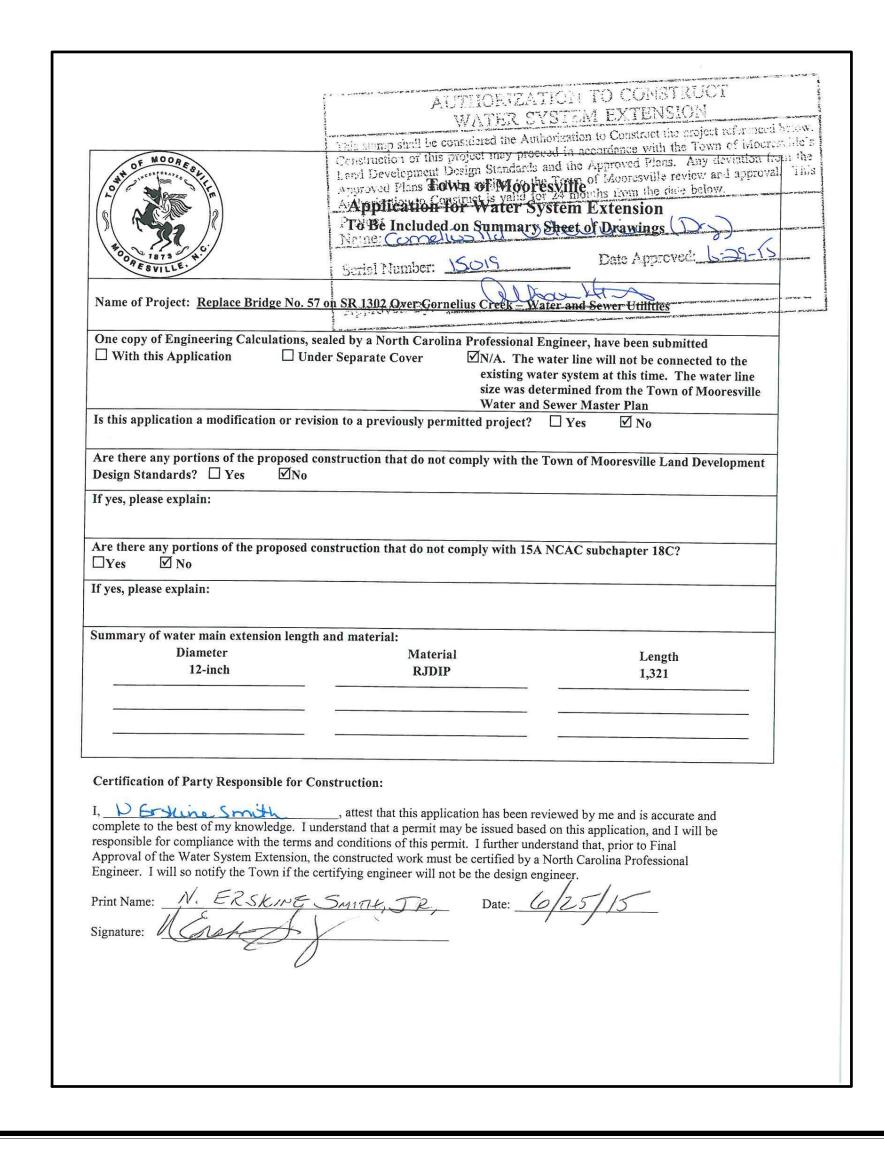
COST TO THE DEPARTMENT.

8. 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.

	AUTHORIZATION TO CONSTRUCT SEWER SYSTEM EXTENSION
deviation from	all be considered the Authorization to Construct the project referenced below. If this project may proceed in accordance with the Town of Mooresville's ment Design Standards, approved plans and approved specifications. Any the approved plans or approved specifications shall be subject to the Town of view and approval. This Authorization to Construct is valid for 24 months pelow.
Name:	relius Rd Bridge (Da)
Permit Number: Approved By:	SIS-014 Date Approved: 15-29-15

#### PROJECT SPECIFIC NOTES:

- 1. PROPOSED WATER LINE FROM -L- LINE STATION 20+76.80 TO -L- LINE STATION 23+35.13 SHALL BE D.I.R.J. (DUCTILE IRON RESTRAINED JOINT) PIPE AND IS INCLUDED IN THE STRUCTURAL UTILITY PLANS
- 2. PROPOSED FORCE MAIN FROM -L- LINE STATION 20+76.80 TO -L- LINE STATION 23+35.13 SHALL BE D.I.R.J. (DUCTILE IRON RESTRAINED JOINT) PIPE AND IS INCLUDED IN THE STRUCTURAL UTILITY PLANS



PROJECT REFERENCE NO.

B-5142

DESIGNED BY: MOS

DRAWN BY: MOS

CHECKED BY: RWH

APPROVED BY:

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

DUC-3

LUC-3

LUC-3

LUC-3

UTILITY

CAROLINA

LOCATION

CAROLINA

DOCUSIGNED SEAL

COSEAN 10965CC4A3...

UTILITY CONSTRUCTION
PLANS ONLY

UTILITY CONSTRUCTION

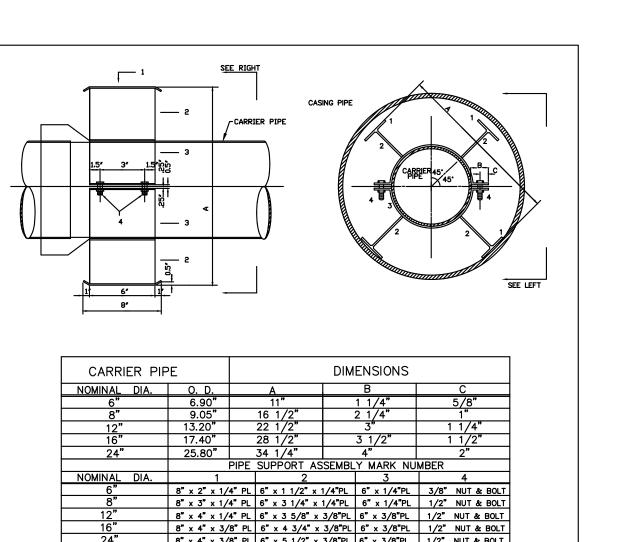
community infrastructure consultants

401 4TH STREET SW
SUITE 201
HICKORY, NC 28602
(t)828-327-6911
(f)828-327-9164

WWW.WKDICKSON.COM

NC LICENSE NO.F-0374



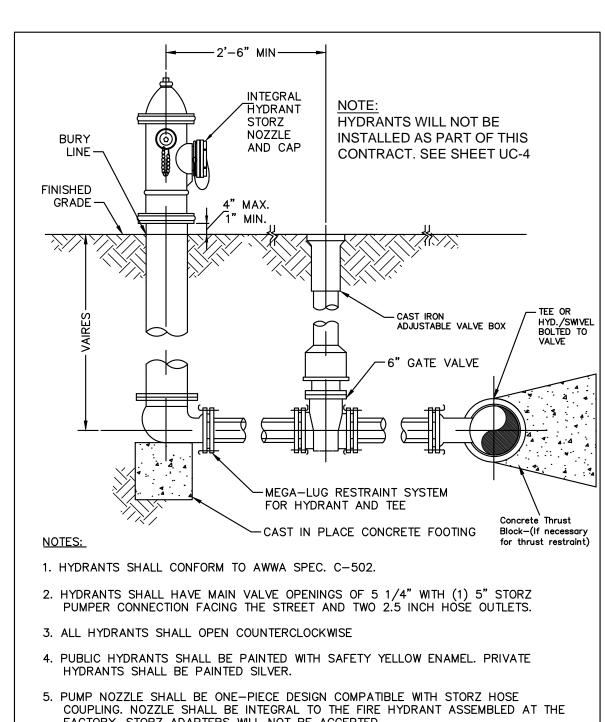


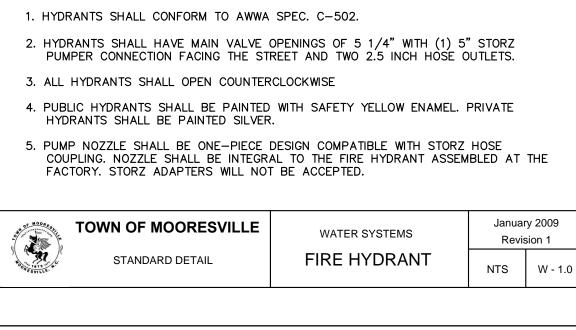
NOTES:

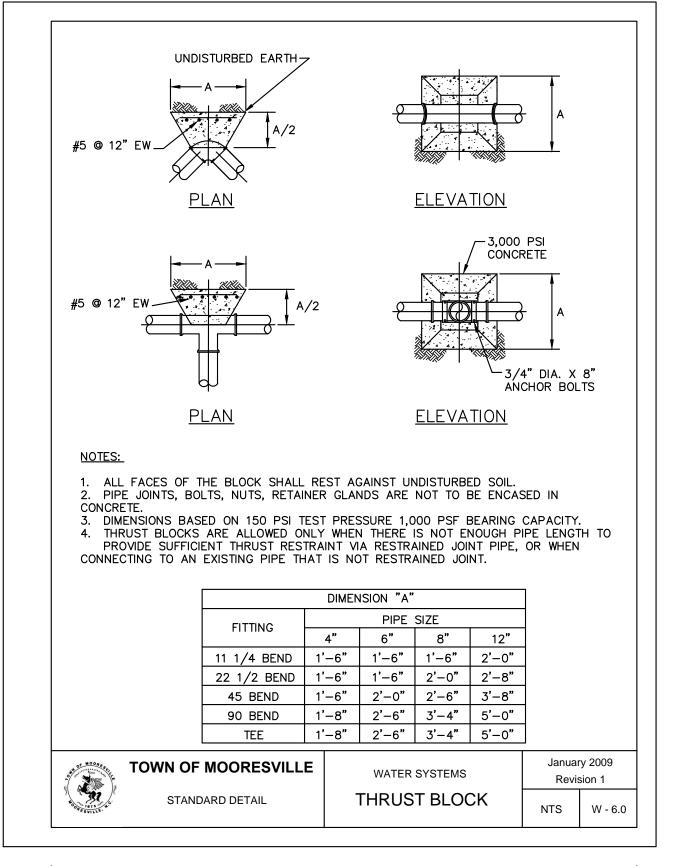
1. PROVIDE TWO SPIDERS PER JOINT OF CARRIER PIPE.

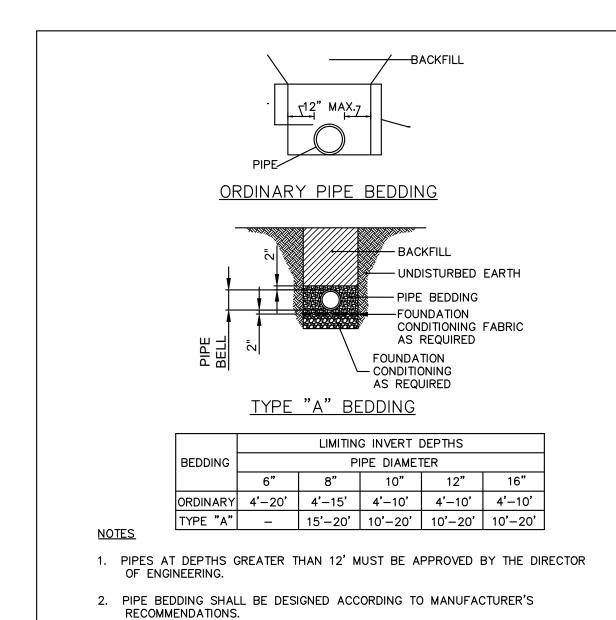
- 2. SPIDERS, NUTS, & WASHERS SHALL BE STAINLESS STEEL. Alternative spiders may be used for cathodic protection conditions.
- 3. ADJUST HEIGHT OF SPIDERS AS NECESSARY TO MAINTAIN SPECIFIED SLOPE.
- 4. CASING PIPE NOT SHOWN. 5. LEGS ROTATED OUT OF POSITION FOR CLARITY.

S S S S S S S S S S S S S S S S S S S	TOWN OF MOORESVILLE	SEWER SYSTEMS CASING SPIDER	January 2009 Revision 1	
	STANDARD DETAIL		NTS	S - 22.0









3. PIPE EMBEDMENT SHALL BE PLACED IN A MAXIMUM OF 6" LAYERS & COMPACTED TO 95% OF THE MAXIMUM LABORATORY DRY DENSITY AS

4. PIPE EMBEDMENT SHALL EXTEND TO FINISHED GRADE FOR PIPELINES WITHIN ROAD RIGHT-OF-WAY.

WATER SYSTEMS

WATERLINE PIPING

(UP TO 20' DEEP)

TRENCHING & BACKFILLING

January 2009

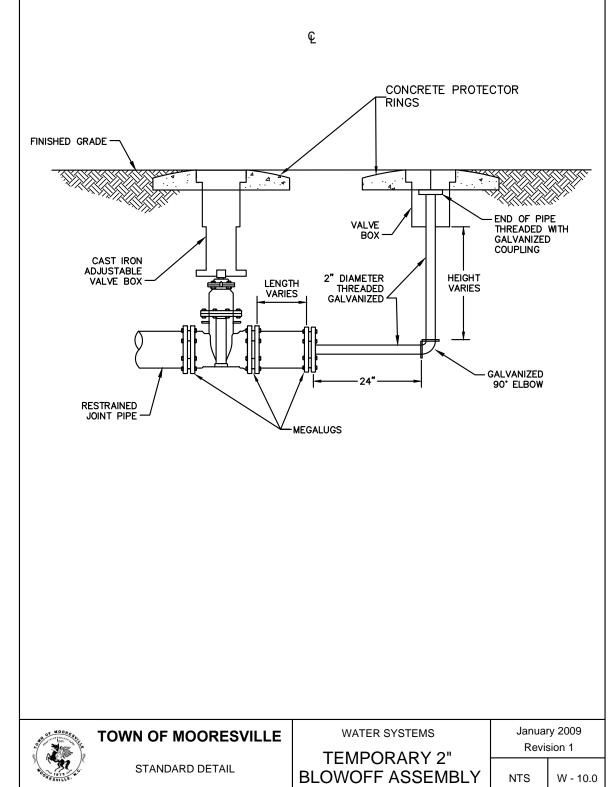
W - 8.0

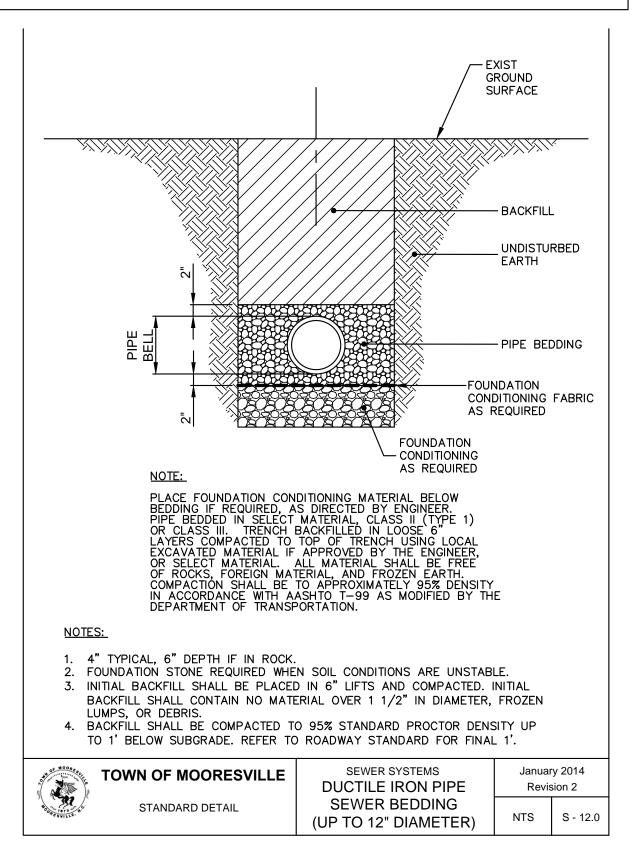
NTS

DETERMINED BY THE STANDARD PROCTOR METHOD.

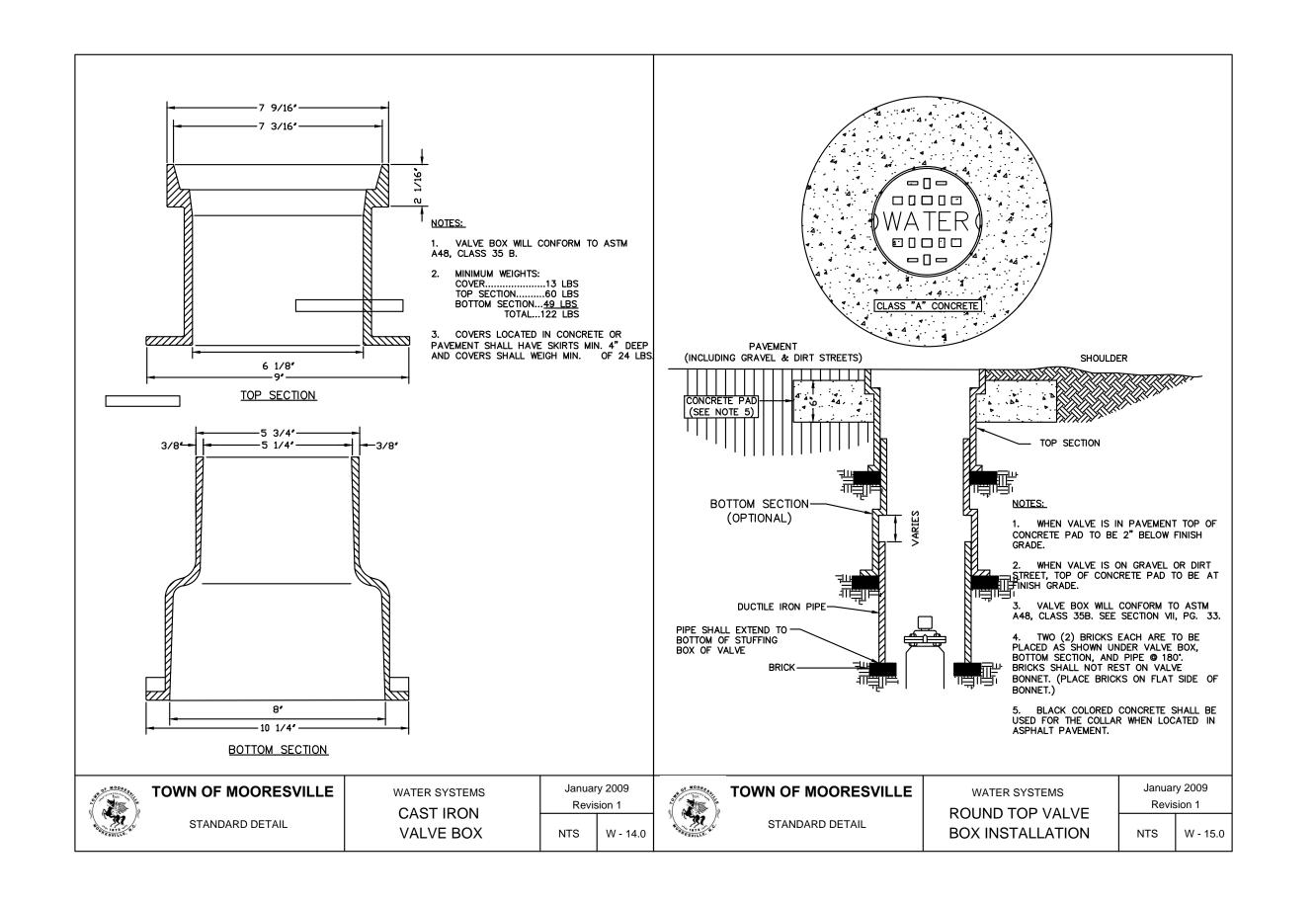
TOWN OF MOORESVILLE

STANDARD DETAIL









PROJECT REFERENCE NO. SHEET NO. B-5142 UC+3B DESIGNED BY: MOS DRAWN BY: MOS Docusioned by:

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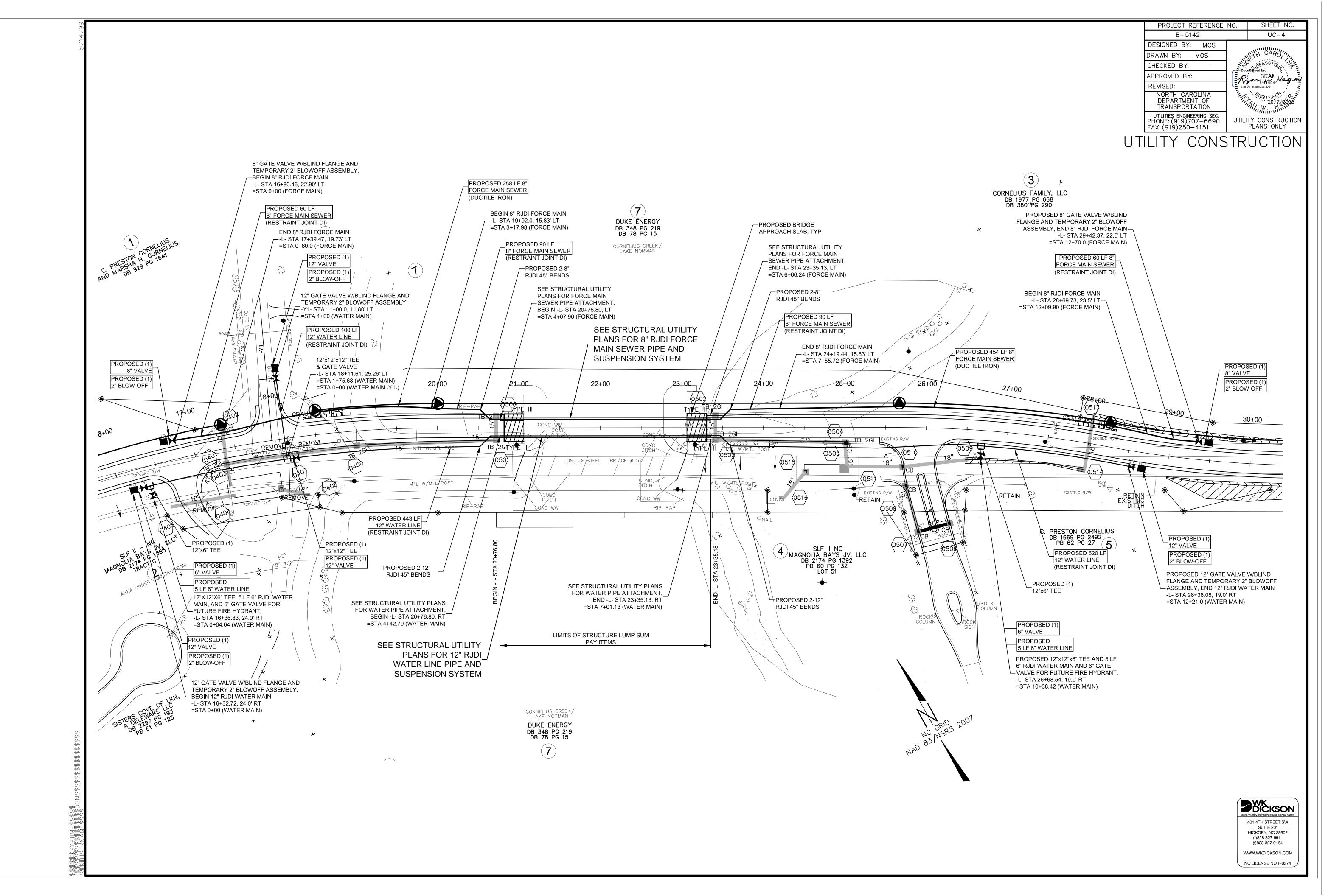
C3EAF10905CC4A3... CHECKED BY: RWH APPROVED BY: REVISED: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151 UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



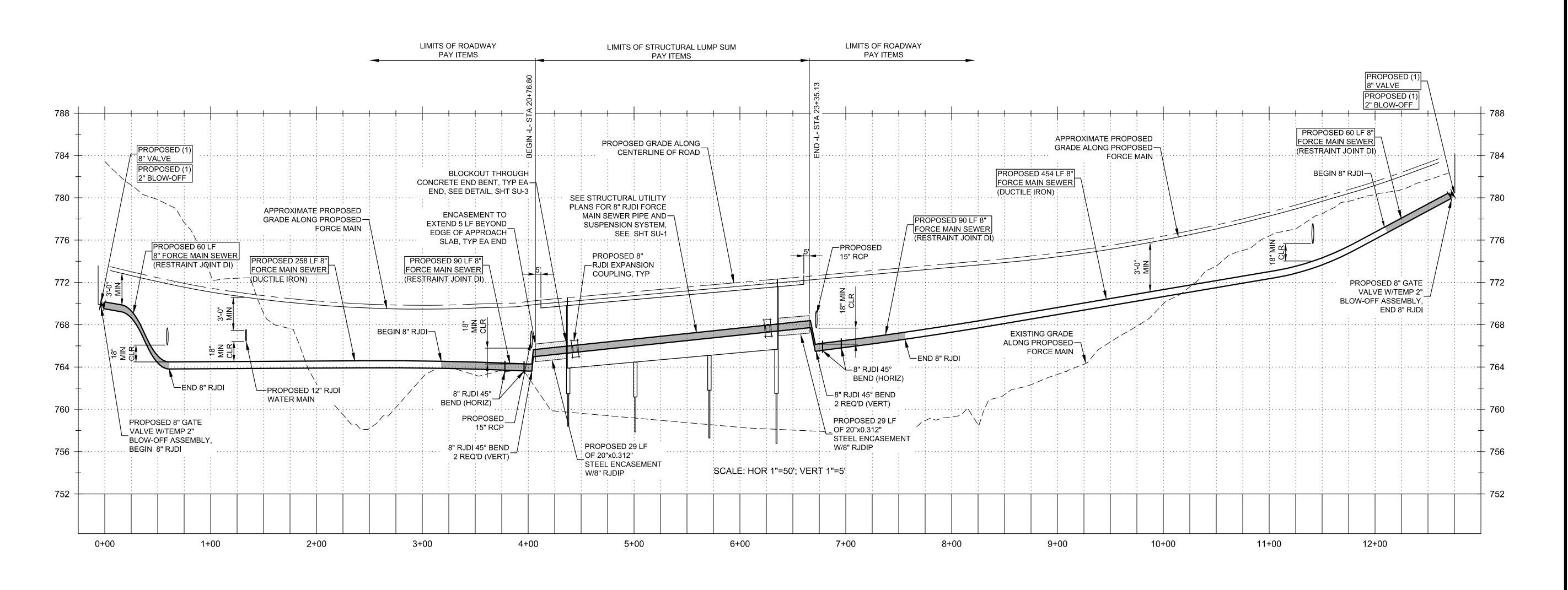
WWW.WKDICKSON.COM

NC LICENSE NO.F-0374



#### UTILITY CONSTRUCTION

PLANS ONLY

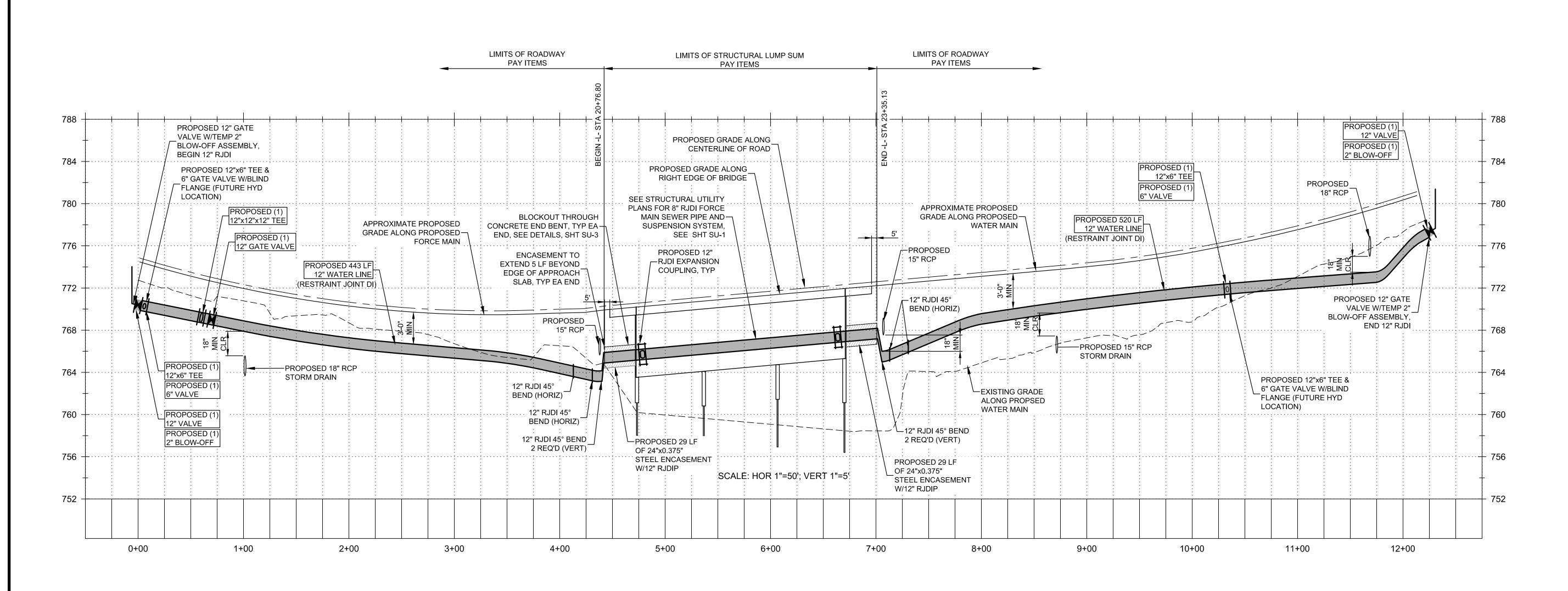


#### SANITARY SEWER FORCE MAIN PROFILE



PROJECT REFERENCE	NO.	SHEET NO.	
B-5142	UC-6		
DESIGNED BY: MOS			
DRAWN BY: MOS-	CAROUNT CAROUNT		
CHECKED BY: RWH			
APPROVED BY:	Prano3144Waged		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	P. NGINEE TO TO THE WAR WITH THE PARTY OF TH		
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILI	TY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



WATER MAIN PROFILE



STIMETATATORY