



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

**\*Addendum\***

DATE: Friday, October 28, 2011

PROJECT: WBS 33417.3.1 / DO00133 / B-4579 / Mecklenburg County Replacement  
of Bridge No. 134

This addendum supersedes the previous addendum. The following revisions are hereby  
made part of the contract:

- The bid form has been revised for the following item:
  - Addition of "Adjustment of Manholes."
  - Replaced the utility item line #'s 26 to 32 with one generic utility item line # 26 that designates for directional bore method or an alternate for bore and jack method. The revised utility special provision, utility quantity sheet and utility plans are attached herein.
  - The bid item for 3'-0" drilled piers in soil has been replaced with a 3'-0" drilled piers.
  - On page 1 in the proposal removed the pre-bid conference. And on page 6 removed "the department will be responsible for placement of final pavement markings."

The revised bid form sheets 167, 168, 169 and 170 are attached herein.

- Create a new parcel number 009A on the plans showing correct owner, new parcel number and deed information previously shown incorrectly as part of parcel 005 on original plans submitted to R/W. Attached is revised plan sheet that shows a new created and correct parcel 009 owned by John Dalton Parker.
- The plan holders list is attached.

Ec: Greg Jones, PE  
Prospective Bidders  
File

**MAILING ADDRESS:**  
Bridge Management Unit  
1565 Mail Service Center  
Raleigh, NC 27699-1565

**Telephone:** 919-733-4362  
**FAX:** 919-733-2348  
**WEBSITE:** [www.doh.dot.state.nc.us](http://www.doh.dot.state.nc.us)

**LOCATION**  
4809 Beryl Road  
Raleigh, NC 27606

**REVISED BID FORM (10/28/11)****CONTRACT COST PROPOSAL**

The Contractor agrees to provide the services outlined in this proposal for the following fixed price:

**BRIDGE REPLACEMENT WITH PRESTRESSED CORED SLABS**

<b>LINE #</b>	<b>ITEM NUMBER</b>	<b>SEC #</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT COST</b>	<b>AMOUNT</b>
1.	0000100000-N	800	MOBILIZATION	L.S.	_____	_____
2.	0030000000-N	SP	BRIDGE APPROACH FILL – SUBREGIONAL TIER, STA. 16+97.50	L.S.	_____	_____
3.	0043000000-N	226	GRADING	L.S.	_____	_____
4.	0134000000-E	240	DRAINAGE DITCH EXCAVATION	365 C.Y.	_____	_____
5.	0318000000-E	SP	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	20 TONS	_____	_____
6.	0320000000-E	SP	FOUNDATION CONDITIONING FABRIC	50 S.Y.	_____	_____
7.	0344000000-E	SP	18" SIDE DRAIN PIPE	128 LIN. FT.	_____	_____
8.	0995000000-E	340	PIPE REMOVAL	88 LIN. FT.	_____	_____
9.	1489000000-E	610	ASPHALT CONCRETE BASE COURSE, TYPE B25.0B	760 TONS	_____	_____
10.	1525000000-E	610	ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A	570 TONS	_____	_____
11.	1560000000-E	620	ASPHALT BINDER FOR PLANT MIX, TYPE PG64-22	70 TONS	_____	_____
12.	2612000000-N	848	6" CONCRETE DRIVEWAY	110 S.Y.	_____	_____
13.	2696000000-E	SP	2'-9" PRECAST CONCRETE BARRIER RAIL	210.0 LIN. FT.	_____	_____
14.	2830000000-N	858	ADJUSTMENT OF MANHOLES	5 EACH	_____	_____
15.	3030000000-E	862	STEEL BEAM GUARDRAIL	462.5 LIN. FT.	_____	_____

**REVISED BID FORM (10/28/11)**

LINE #	ITEM NUMBER	SEC #	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
16.	3045000000-E	862	STEEL BEAM GUARDRAIL, SHOP CURVED	25 LIN. FT.	_____	_____
17.	3195000000-N	862	GR ANCHOR UNITS, TYPE AT-1	1 EACH	_____	_____
18.	3270000000-N	SP	GR ANCHOR UNITS, TYPE 350	3 EACH	_____	_____
19.	3317000000-N	862	GR ANCHOR UNITS, TYPE B-77	4 EACH	_____	_____
20.	3649000000-E	876	PLAIN RIP RAP, CLASS B	217 TONS	_____	_____
21.	3656000000-E	876	FILTER FABRIC FOR DRAINAGE	1,295 S.Y.	_____	_____
22.	4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	940 LIN. FT.	_____	_____
23.	4686000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)	1,880 LIN. FT	_____	_____
24.	4900000000-N	1251	PERMANENT RAISED PAVEMENT MARKERS	15 EACH	_____	_____
25.	4905000000-N	1253	SNOWPLOWABLE PAVEMENT MARKERS	15 EACH	_____	_____
26.	5912000000-N	SP	GENERIC UTILITY ITEM (DIRECTIONAL BORE METHOD or ALTERNATE BORE AND JACK METHOD)	L.S.	_____	_____
27.	6000000000-E	1605	TEMPORARY SILT FENCE	250 LIN. FT.	_____	_____
28.	6006000000-E	1610	STONE FOR EROSION CONTROL, CLASS A	160 TONS	_____	_____
29.	6009000000-E	1610	STONE FOR EROSION CONTROL, CLASS B	180 TONS	_____	_____
30.	6012000000-E	1610	SEDIMENT CONTROL STONE	175 TONS	_____	_____
31.	6024000000-E	1622	TEMPORARY SLOPE DRAINS	200 LIN. FT.	_____	_____

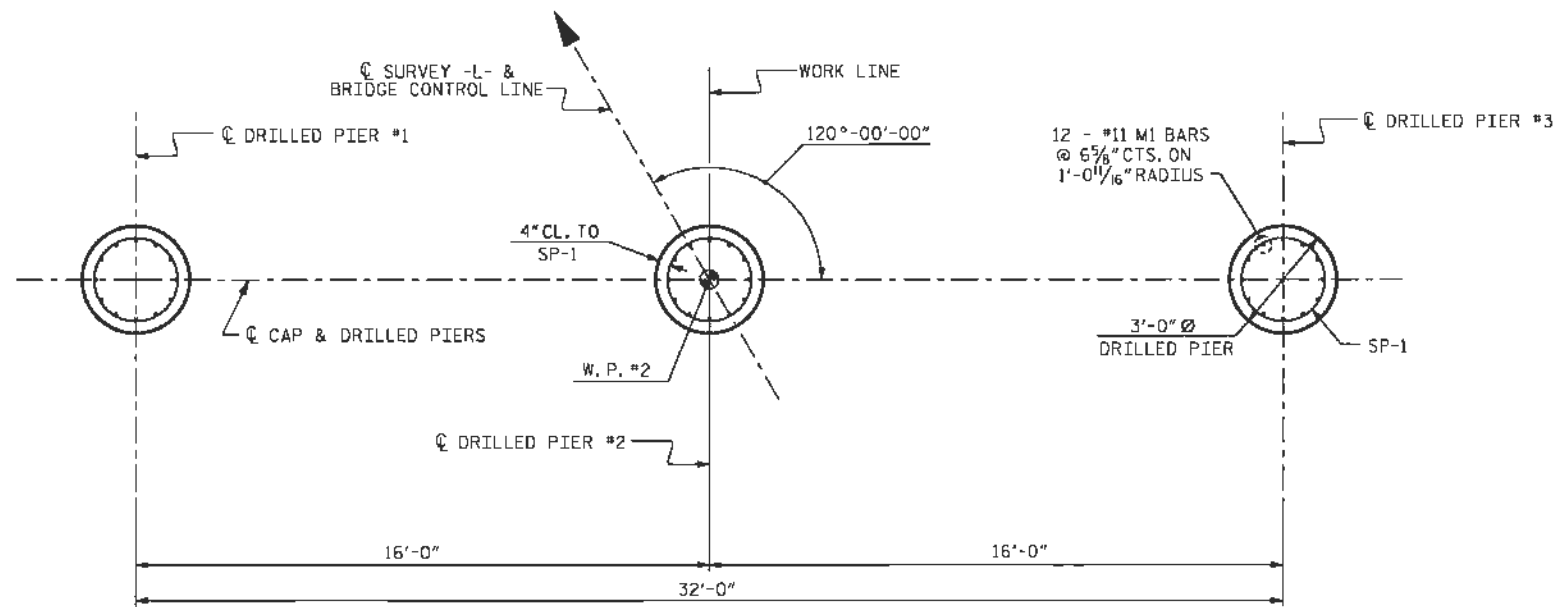
**REVISED BID FORM (10/28/11)**

LINE #	ITEM NUMBER	SEC #	DESCRIPTION	QUANTITY	UNIT COST	AMOUNT
32.	6027000000-N	1622	INLET PROTECTION AT TEMPORARY SLOPE DRAINS	4 EACH	_____	_____
33.	6029000000-E	SP	SAFETY FENCE	400 LIN. FT.	_____	_____
34.	6030000000-E	1630	SILT EXCAVATION	450 C.Y.	_____	_____
35.	6036000000-E	1631	MATTING FOR EROSION CONTROL	1,000 S.Y.	_____	_____
36.	6042000000-E	1632	¼" HARDWARE CLOTH	50 LIN. FT.	_____	_____
37.	6070000000-N	SP	SPECIAL STILLING BASINS	6 EACH	_____	_____
38.	6071010000-E	SP	WATTLE	285 LIN. FT.	_____	_____
39.	6071020000-E	SP	POLYACRYLAMIDE (PAM)	40 LB.	_____	_____
40.	6071030000-E	SP	COIR FIBER BAFFLE	205 LIN. FT.	_____	_____
41.	6084000000-E	1660	SEEDING AND MULCHING	0.5 ACR.	_____	_____
42.	6117000000-N	SP	RESPONSE FOR EROSION CONTROL	10 EACH	_____	_____
43.	8035000000-N	402	REMOVAL EXISTING STRUCTURE AT STA. 16+97.50	L.S.	_____	_____
44.	8108000000-E	SP	3'-0" DIA DRILLED PIERS	141.75 LIN. FT.	_____	_____
45.	8111200000-E	SP	PERMANENT STEEL CASING FOR 3'-0" DIA DRILLED PIER	102.4 LIN. FT.	_____	_____
46.	8113000000-N	SP	SID INSPECTION	1 EACH	_____	_____
47.	8115000000-N	SP	CROSSHOLE SONIC LOGGING	1 EACH	_____	_____
48.	8121000000-N	412	UNCLASSIFIED STRUCTURE EXCAVATION AT STA. 16+97.50	L.S.	_____	_____

**REVISED BID FORM (10/28/11)**

<b>LINE #</b>	<b>ITEM NUMBER</b>	<b>SEC #</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT COST</b>	<b>AMOUNT</b>
49.	8182000000-E	420	CLASS A CONCRETE (BRIDGE)	52.2 C.Y.	_____	_____
50.	8210000000-N	422	BRIDGE APPROACH SLAB, STA. 16+97.50	L.S.	_____	_____
51.	8217000000-E	425	REINFORCING STEEL (BRIDGE)	18,002 LB.	_____	_____
52.	8238000000-E	425	SPIRAL COLUMN REINFORCING STEEL (BRIDGE)	2,597 LB.	_____	_____
53.	8365000000-E	SP	HP 12x53 GALVANIZED STEEL PILES	360 LIN. FT.	_____	_____
54.	8391000000-N	SP	STEEL PILE POINTS	16 EACH	_____	_____
55.	8608000000-E	876	RIP RAP CLASS II (2'-0" THICK)	345 TONS	_____	_____
56.	8622000000-E	876	FILTER FABRIC FOR DRAINAGE	385 S.Y.	_____	_____
57.	8657000000-N	430	ELASTOMERIC BEARINGS	L.S.	_____	_____
58.	8762000000-E	430	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	1,155 LIN. FT.	_____	_____
				<b>TOTAL PROJECT BID</b>	_____	_____

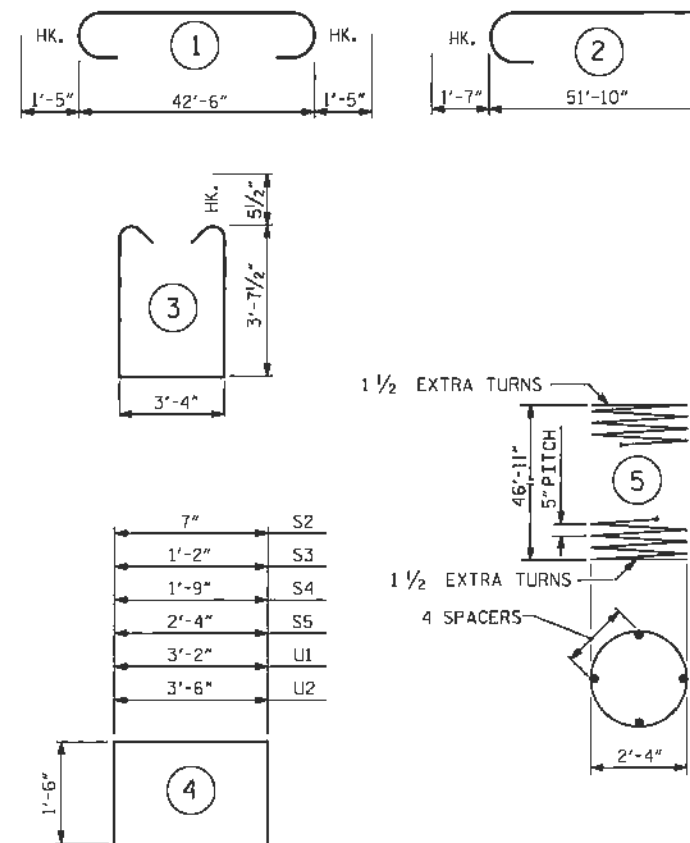
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**PLAN OF DRILLED PIERS**

NOTE: REINFORCING STEEL AND DIMENSIONS ARE TYPICAL FOR ALL DRILLED PIERS.

**BAR TYPES**



ALL BAR DIMENSIONS ARE OUT TO OUT

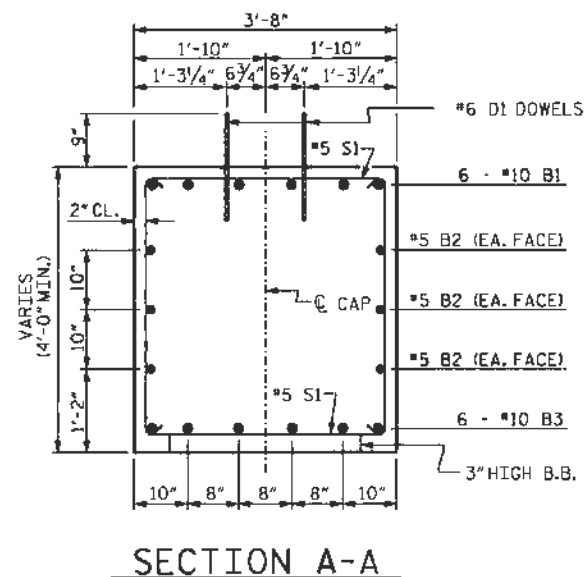
\*\* THE SP-1 SPIRAL REINFORCING STEEL SHALL BE W31 OR D-31 COLD DRAWN WIRE OR #5 PLAIN OR DEFORMED BAR.

**BILL OF MATERIAL**

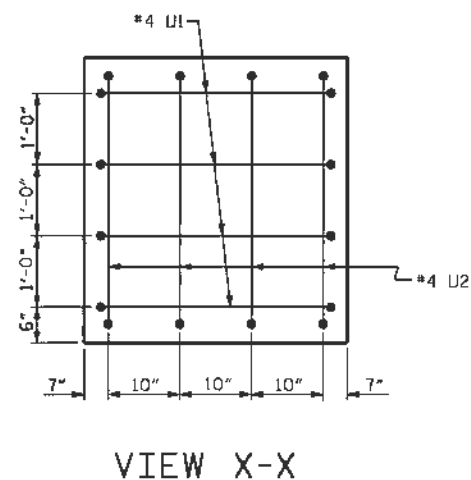
**FOR BENT #1**

BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	10	1	45'-4"	1170
B2	6	5	STR	42'-6"	266
B3	6	10	STR	42'-6"	1097
B4	2	4	STR	3'-3"	4
B5	2	4	STR	3'-9"	5
D1	44	6	STR	1'-6"	99
M1	36	11	2	53'-5"	10217
S1	48	5	3	11'-6"	576
S2	2	4	4	3'-7"	5
S3	2	4	4	4'-2"	6
S4	2	4	4	4'-9"	6
S5	2	4	4	5'-4"	7
U1	8	4	4	6'-2"	33
U2	8	4	4	6'-6"	35
SP-1	3	**	5	829'-11"	2597

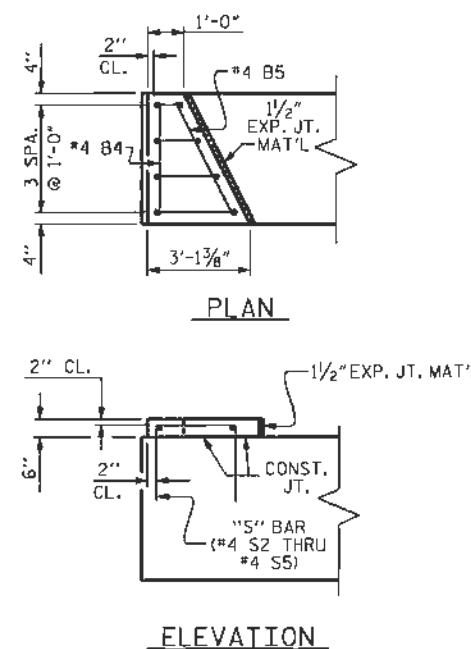
REINFORCING STEEL	13526 LBS.
SPIRAL REINFORCING STEEL	2597 LBS.
CLASS "A" CONCRETE BREAKDOWN	
POUR #2 (CAP)	23.7 CU. YDS.
DRILLED PIER QUANTITIES	
DRILLED PIER CONCRETE	
POUR #1 (DRILLED PIER)	37.1 CU. YDS.
3'-0" DRILLED PIERS	141.75 LIN. FT.
3'-0" PERMANENT STEEL CASING	102.4 LIN. FT.
CSL TUBES	597 LIN. FT.



**SECTION A-A**



**VIEW X-X**



**LATERAL GUIDE DETAILS**

REVISD PAY ITEM DESCRIPTION

WBS NO. 33417.3.1  
MECKLENBURG COUNTY  
 STATION: 16+97.50 -L-

REPLACES BRIDGE NO. 134 SHEET 2 OF 2



PLANS PREPARED BY:  
**SIMPSON ENGINEERS & ASSOCIATES**  
 5520 Dillard Drive  
 Suite 120  
 Cary, NC 27518  
 (919) 852-0468  
 (919) 852-0598 (Fax)  
 www.simpsonengr.com  
 [LICENSURE NO. C2521]

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 SUBSTRUCTURE

**BENT #1**

30' CLEAR ROADWAY - 120° SKEW

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MAA	10/27/2011	3		
2			4		

DRAWN BY: D.G. VESTER DATE: 2/11  
 CHECKED BY: M.A. AVRETTE DATE: 2/11

TOTAL SHEETS  
 35

**B-4579 BRIDGE OVER MCINTYRE CREEK, MECKLENBURG COUNTY, NORTH CAROLINA**

**DIRECTIONAL BORE METHOD**

<u>Quantity</u>	<u>Category</u>	<u>Item Number</u>	<u>Section</u>	<u>Units</u>	<u>Description</u>	<u>UC-2</u>
LS	M	0000100000-N	800	LS	MOBILIZATION	LS
1	U	5672000000-N	1515	EA	RELOCATE FIRE HYDRANT	1
1	U	5648000000-N	1515	EA	RELOCATE WATER METER	1
550	U	5804000000-E	1530	LF	ABANDON 12" UTILITY PIPE	550
2	U	5558000000-E	1515	EA	12" VALVE	2
620	U	5326200000-E	1510	LF	12" WATER LINE	620
140	U	5871700000-E	1550	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL	140
140	U	5871710000-E	1550	LF	TRENCHLESS INSTALLATION OF 12" NOT IN SOIL	140

**B-4579 BRIDGE OVER MCINTYRE CREEK, MECKLENBURG COUNTY, NORTH CAROLINA**

OR "ALTERNATE FOR BORE AND JACK METHOD W/ 12-INCH CARRIER PIPE AND 24-INCH STEEL ENCASEMENT"

<u>Quantity</u>	<u>Category</u>	<u>Item Number</u>	<u>Section</u>	<u>Units</u>	<u>Description</u>	<u>UC-2</u>
LS	M	0000100000-N	800	LS	MOBILIZATION	LS
1	U	5672000000-N	1515	EA	RELOCATE FIRE HYDRANT	1
1	U	5648000000-N	1515	EA	RELOCATE WATER METER	1
550	U	5804000000-E	1530	LF	ABANDON 12" UTILITY PIPE	550
2	U	5558000000-E	1515	EA	12" VALVE	2
620	U	5326200000-E	1510	LF	12" WATER LINE	620
24	U	5871700000-E	1550	LF	TRENCHLESS INSTALLATION OF 12" IN SOIL	24
24	U	5871710000-E	1550	LF	TRENCHLESS INSTALLATION OF 12" NOT IN SOIL	24
48	U	5836000000-E	1540	LF	24" ENCASEMENT PIPE	48

The above quantities are for information only. No claim will be allowed as a result of the use of this information.



B-4579/  
Documents/  
B4579UCSpecs.doc

Project: B-4579 (U.C.) County: Mecklenburg

### **PROJECT SPECIAL PROVISIONS**

Utility Construction  
Revised 10-27-2011

#### **I. GENERAL CONSTRUCTION REQUIREMENTS:**

##### **Specifications:**

The proposed utility construction shall meet the applicable requirements of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated July 2006, the Charlotte-Mecklenburg Utilities Water and Sewer Policies, Procedures, Standards and Specifications and the following provisions.

The Contractor shall be responsible for field verifying location, size, type and elevation of all underground utilities, as well as reconnecting any water and/or sanitary sewer services disturbed during construction, even if they are not shown on the plans. The water line shall be installed as to provide a minimum of 3 feet of coverage above the top of pipe from finished grade, unless shown differently on plans.

The Contractor is herein forewarned as to the possibility of having to vary the depth of the pipeline installation to achieve minimum clearance of existing or proposed utilities or storm drainage while maintaining minimum cover specified (whether existing or proposed pipelines, conduits, cables, mains, storm drainage are shown on the plans or not).

All valve box covers shall be cast to indicate "WATER", with the appropriate utility owner's special cover verbage cast into the cover.

The Contractor shall submit his proposed method of anchoring to the Engineer for review and approval of restraining all pipe, pipe bends, valves and other related appurtenances. Anchoring will be the responsibility of the Contractor. Connecting to existing water mains may alter such lines to the extent that these pipelines with existing pipe bends, valves and other related appurtenances may also require reaction blocking; this is also the responsibility of the Contractor.

##### **Trenchless Installation:**

Trenchless installation of the proposed waterline shall be installed in locations called for on the plans, and the Contractor shall submit his proposed method of trenchless installation to the Engineer for review and approval. Trenchless



installation shall be by horizontal directional bore with flexible restrained joint ductile iron pipe encased in polyethylene material that meets the ANSI/AWWA C105/A21.5 , or bore and jack with restrained joint ductile iron pipe carrier pipe with steel encasement. Trenchless installation shall be in accordance with Section 1550 of the NCDOT Standard Specifications for Roads and Structures, dated July 2006.

**Steel Encasement Pipe:**

Steel encasement pipe shall meet the requirements of Section 1036-4(B) of the NCDOT Standard Specifications for Roads and Structures, dated July 2006.

**Water Lines and Valves:**

The existing water lines and appurtenances are owned and maintained by Charlotte-Mecklenburg Utilities. The Contractor shall provide access for the Owner's representatives to all phases of construction. Notify the Owners two weeks before commencement of any work and one week before service interruption. Interruption of water service on main lines shall be limited to a maximum of four (4) hours. Individual service connection interruptions shall be scheduled between regular working hours. Water services shall be restored within the same working day.

**Ductile Iron Pipe** shall conform to the requirements of AWWA Standard C-151 and shall have a cement-mortar lining of standard thickness in accordance with AWWA C-104. Ductile Iron Pipe shall be furnished with flexible restrained joints supplied by the pipe manufacturer. Gaskets with vulcanized internal stainless steel locking segments may be used for 6-inch through 12-inch Ductile Iron Pipe. The following manufacturer's are approved, U.S. Pipe and Field Lok Gasket.

**Gate Valves 16"** and smaller for Charlotte-Mecklenburg Utilities shall be direct bury gate valves and shall be furnished with Charlotte Standard Valve boxes set in concrete pads. Gate valves shall be furnished with non-rising stems only, and stem seals shall be of the "O" ring type only. Valves six (6) inches and larger shall be furnished with two inch square operating nuts and shall open by turning to the right or clockwise. Gate valves three (3") inches and smaller shall be furnished with T-Head operating nuts. Valve ends shall normally be mechanical joint with necessary glands, gaskets and bolts furnished with the valve.

Gate Valves may be of the double disc parallel seat type in accordance with AWWA-C-500 or of the resilient seat type in accordance with AWWA C-509 with a working pressure of 200 psi. Resilient seated gate valves must be furnished with durable opaque end shields to prevent ultra violet damage to the rubber discs.

Only valves which have been specifically approved by CMUD may be furnished. See the following chart:

<b>MJ GATE VALVES</b>		
<b>Manufacturer</b>	<b>Double Disc Valve</b>	<b>Resilient Seat Valve</b>
Mueller	A-2380-20	A-2370-20
American Darling	55	CRS 80 – No. 85
Kenned	571 X	4571 X
Waterous	300 Series	500 Series
Clow	5065	F6100

**Restrained Mechanical Joint Restraints** may be through the use of a follower gland with restraining device that imparts a wedging action against the pipe. The restraining device shall have twist off nuts to ensure proper contact with the pipe. Glands and restraining devices shall be manufactured of Ductile Iron. The restraining devices shall be heat treated to a hardness of 370BHN. Gland dimensions shall be compatible with the MJ fittings hereinbefore specified. The restrained joint shall be rated for a minimum 250 psi working pressure with a 2:1 safety factor.

Mechanical joint restraints may be through the use of a specially machined ductile iron ring and follower gland that is used with standard mechanical joint gaskets and T-bolts.

Restrained mechanical joints shall be Megalug as manufactured by Ebba, Inc., GripRing as manufactured by Romac Industries, Inc., or approved equal. Restrained joints may be used where shown on the plan, standard details or as approved by the Engineer.

**Fittings** for ductile iron pipe shall be pressure Class 250, cast from ductile iron or gray iron, in accordance with AWWA C-110 or pressure Class 350 compact fittings, cast from ductile iron, in accordance with AWWA C-153. Fittings shall be furnished with mechanical joints as indicated on the construction plans. All mechanical joint fittings will be Bell and Bell unless otherwise indicated on the plans. All cast fittings shall have a cement mortar lining of standard thickness in accordance with AWWA C-104. All fittings, including glands and bolts shall be manufactured in domestic foundries.

All fittings, bends, glands, and mechanical joint restraints are incidental to the construction of the waterline and shall be included in the cost therein.

**Fire Hydrants** shall conform to AWWA C-502, and shall be constructed for 3'-0" minimum depth of trench. All fire hydrants shall be constructed with a bronze

main valve seat which screws into a threaded bronze connection at the base of the hydrant. All fire hydrants shall be equipped with 2- hose nozzles with national Standard Threads, and one 4" (minimum opening) pumper nozzle with Charlotte Fire Department Standard Threads. Threads are essentially:

1. 6 threads per inch
2. O.D.: 4.875 inches
3. Pitch diameter: 4.777
4. Root: 4.653"
5. Gauge: 2C

All hydrants shall open by turning to the right or clockwise, shall have a minimum valve opening size of 4-inches and shall be furnished with a 6-inch mechanical joint inlet. The operating nut shall be 1" pentagon. Any extensions required shall be as recommended and supplied by the hydrant manufacturer.

All fire hydrants and any portions of the hydrant assembly exposed to view (above adjacent ground elevation) shall be painted with two (2) or more evenly applied coats of yellow hydrant enamel paint. Hydrants will be retouched/repainted as necessary after installation and prior to acceptance.

1. All fire hydrants shall be one of the following models:

<b>FIRE HYDRANTS</b>	
<b><u>Manufacturer</u></b>	<b><u>Model</u></b>
Mueller Company	Super centurion 200 No. 421
Kennedy Valve Manufacturing Company	Guardian No. K81-A
American Darling Company	Mark 73-1
Waterous Company	Trend WB-77

2. Fire hydrant tees will be Griffin swivel hydrant tee. Tyler 5-125 swivel hydrant tee or approved equal. Swivel 90 degree bends will be Tyler 5-197 or approved equal.
3. Piping extensions for hydrant installations may be made with 6-inch ductile iron nipples with Tyler long swivel hydrant adapter, Megalug MJ Restraint, U.S. Pipe Field Lok gaskets, Romac GripRing, or other approved method.

**Service Saddles** – The following Ductile Iron Service Saddles are approved:

<b>Manufacturer</b>	<b>Single Strap</b>	<b>Double Strap</b>	<b>Stainless Steel Strap</b>

Ford	F101	F202	FS101
Rockwell	311	313	315
Smith/Blair	311	313	315
JCM Industries	401	402	403
Romac	101	202	101S
Power Seal	3416	3418	3415

**Corporation Stops** – The following corporation stops are approved:

Manufacturer	$\frac{3}{4}$ " and 1" Services	
	Flare	Compress
	Ford	F600
Hays	5200	5200 CJ, CF
Jones	J1500	K3401
McDonald	4701	4701T
Mueller	H15000	H15008

**$\frac{3}{4}$ -inch and 1-inch Water Services** – The following meter yoke assemblies are approved:

Manufacturer	$\frac{5}{8}$ " Meter	1" Meter
Ford	501	504
Jones	6200	6202
McDonald	14-1	----

Mueller	H-5010	-----
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**Meter Boxes and Lids:** Concrete boxes for 5/8-inch meters (3/4-inch services) shall be as manufactured by Brooks Products Company (36 Series) or approved equal. Concrete boxes for 1-inch meters shall be Brooks Products #37H or approved equal.

Meter Box lids may be concrete, plastic, or cast iron with dimensions as shown in CMU Standard Details, structured in such a manner as to accept a hinged cast iron reading lid. All reading lids shall be grey iron conforming to ASTM A-48, Class 35 iron, fully bituminous coated in accordance with the standard practice.

### **Testing**

After the installed pipe, fittings, valves, hydrants, corporation stops and end plugs are inserted and secured; the pipeline shall be subjected to a hydrostatic pressure of 200 psi for a period of 2 hours, by pumping the section full of clean water using an approved pressure pump.

Any cracked, damaged, or defective pipe, fittings, valves, hydrants, or other attachments discovered as a result of the pressure test, shall be removed and replaced with sound material and be approved by Owners. The tests shall be repeated until test results are satisfactory.

After the pressure test is complete, the Contractor shall make a leakage test. Such leakage test shall last at least 2 hours at a pressure of 200 psi.

The pressure test and leakage test may be performed concurrently.

All valves on the lines being sterilized shall be opened and closed several times during the chlorinating period. The pipeline shall then be flushed with clean water until the residual chlorine is reduced to less than 1.0 ppm or at the same level as in the existing water mains. Samples of water shall be taken at representative points along the pipeline by a certified testing laboratory and tested for chlorine residual and coliform bacteria.

### **Sanitary Sewer Manhole Modifications**

The existing sewer line and manholes are owned and maintained by Charlotte-Mecklenburg Utilities. All existing sewer manholes within the project limits shall be raised to "top of rim" elevation specified on the drawings in accordance with Section 858 of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated July 2006

### **Owners and Owner's Requirements:**

The existing water utilities and sanitary sewer belong to Charlotte-Mecklenburg Utilities. The Contractor shall provide access for the owner's representatives to all phases of construction. The owners shall be notified two weeks prior to commencement of any work and one week prior to service interruption.

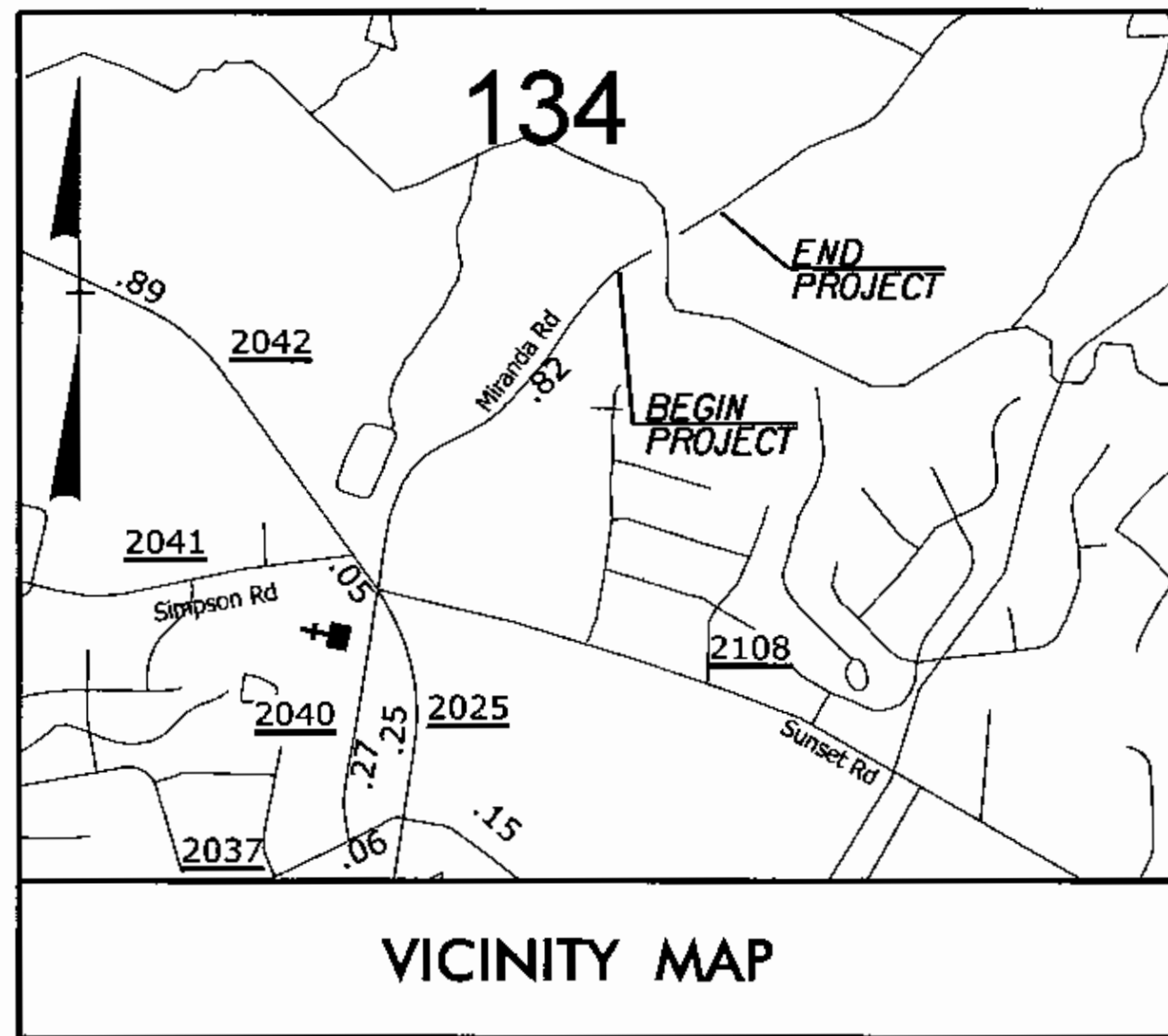
**Contacts:**

Charlotte-Mecklenburg Utilities – Engineering Division – (704) 399-2221



**TIP PROJECT: B-4579**

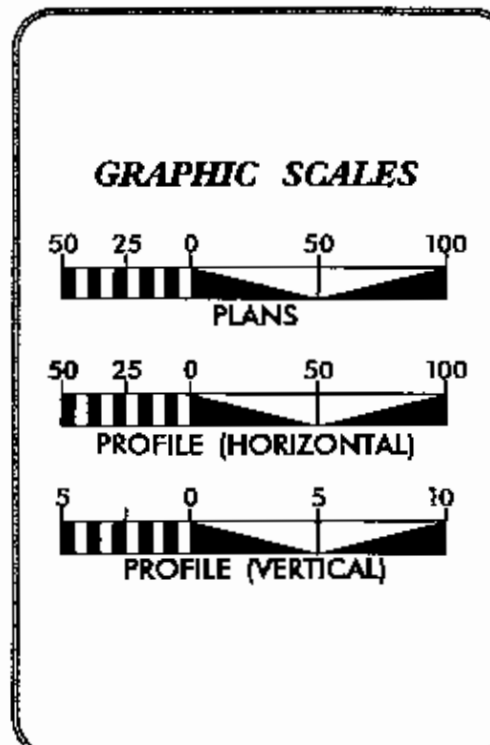
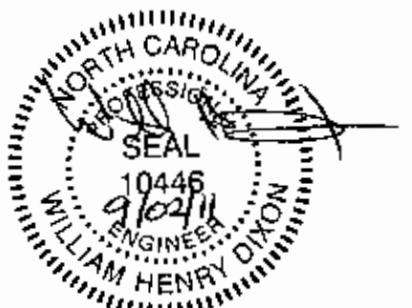
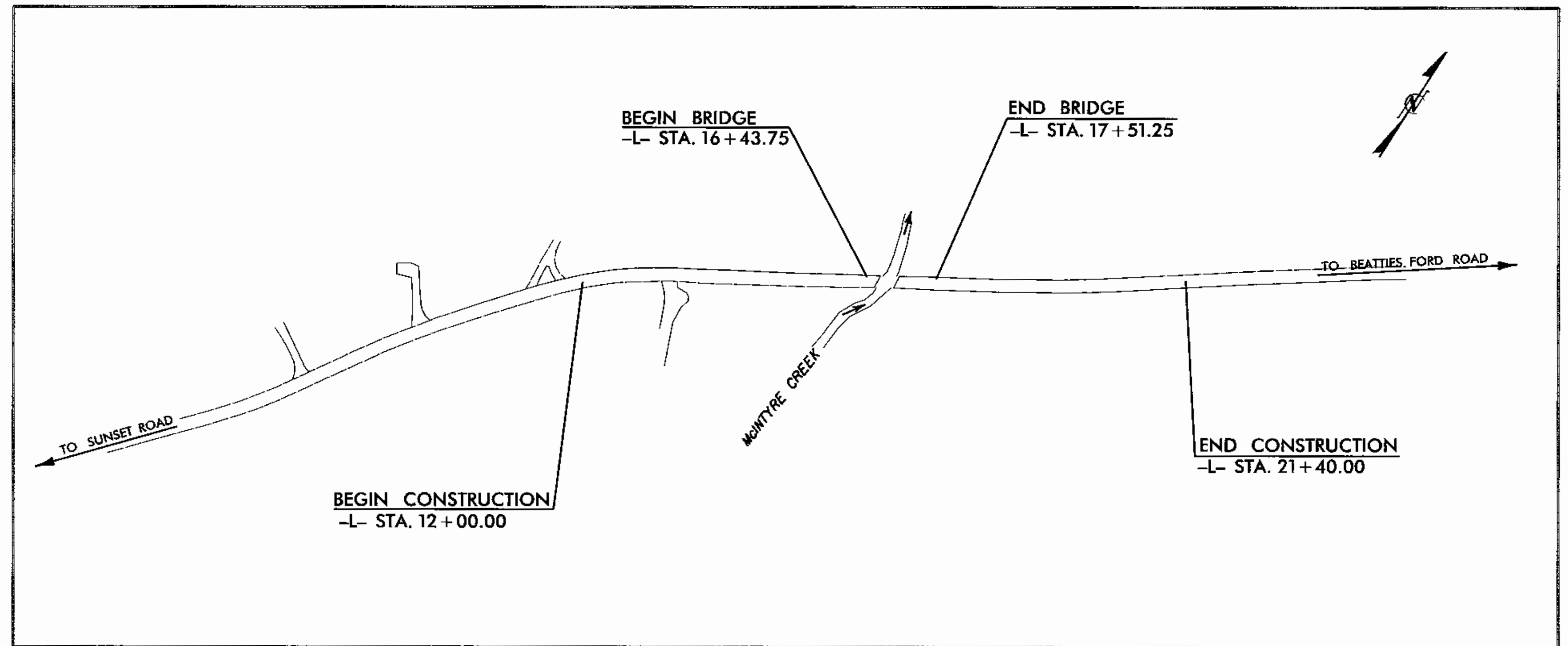
**WBS:**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**MECKLENBURG COUNTY**

LOCATION: SR 2025 BRIDGE NO. 134 OVER MCINTYRE CREEK  
UTILITY CONSTRUCTION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4579	UC-1	



**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT	= 0.158 MILE
LENGTH STRUCTURE TIP PROJECT	= 0.020 MILE
<b>TOTAL LENGTH TIP PROJECT</b>	<b>= 0.178 MILE</b>

**INDEX OF SHEETS**

SHEET No.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY CONSTRUCTION PLAN SHEET
UC-3	UTILITY CONSTRUCTION PROFILE
UC-4	UTILITY CONSTRUCTION DETAILS
UC-5	UTILITY CONSTRUCTION DETAILS
UC-6	UTILITY CONSTRUCTION DETAILS
UC-7	UTILITY CONSTRUCTION DETAILS
UC-8	UTILITY CONSTRUCTION DETAILS

**UTILITY OWNERS ON PROJECT**

(1.) CHARLOTTE-MECKLENBURG UTILITIES (WATER)  
(SEWER)

PREPARED BY

LICENSE NUMBER: C-0281

**Municipal Services**

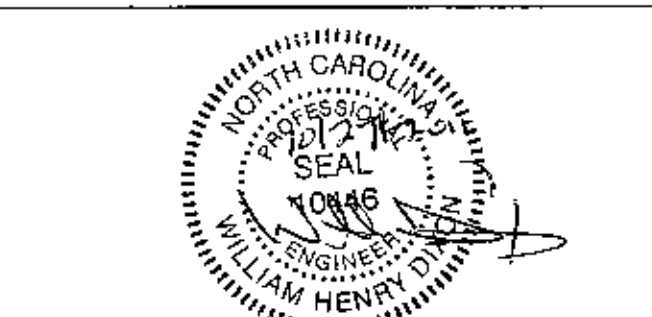
P.O. BOX 97 GARNER, N.C. 27529  
(919) 772-5393

**ME Engineering Company, P.A.**

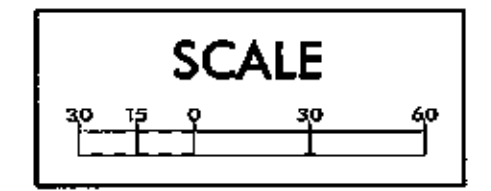
P.O. BOX 349 BOONE, N.C. 28607  
(828) 262-1767

LICENSE NUMBER: C-0281

UTILITY DESIGN ENGINEER BILLY DIXON P.E.

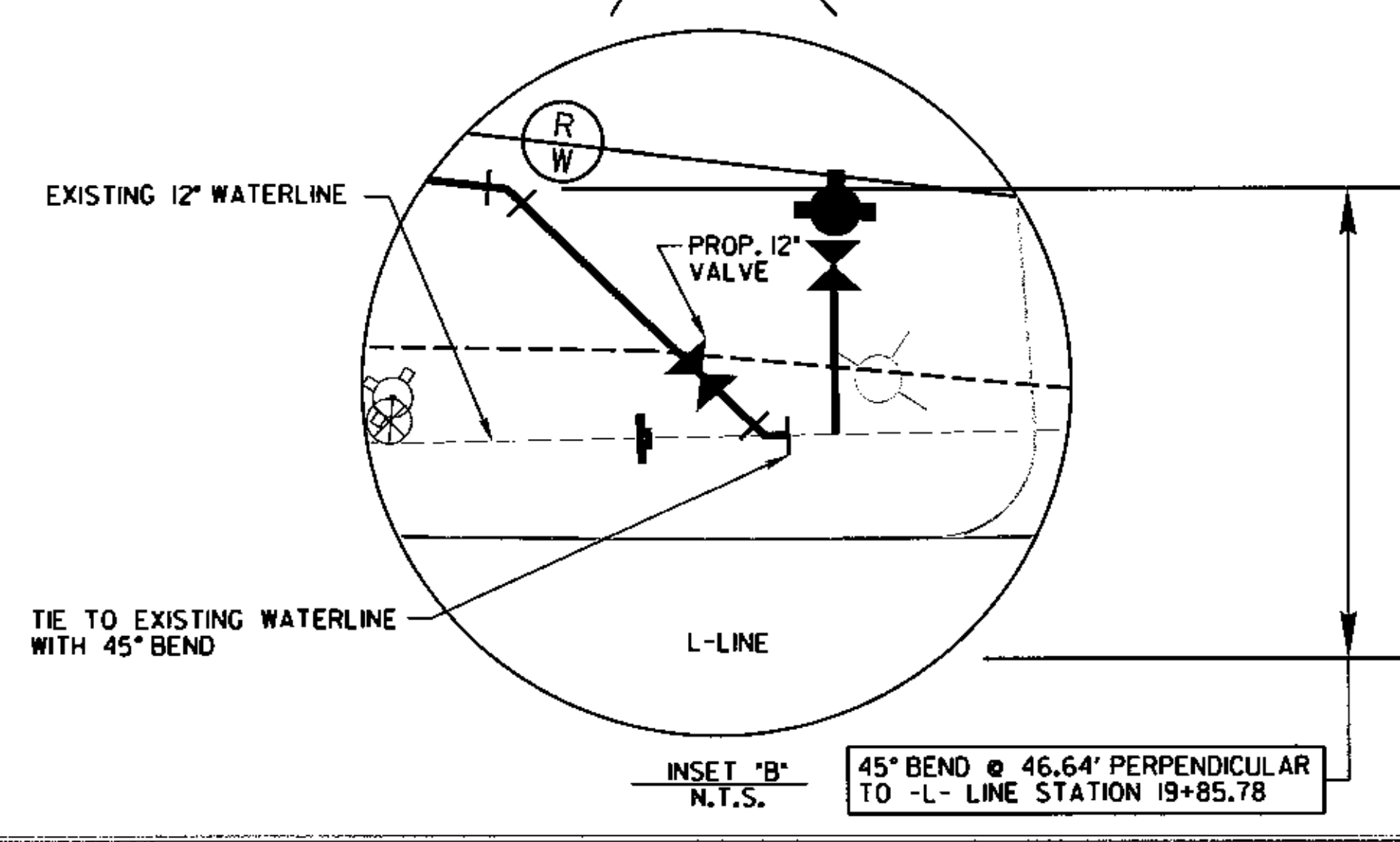
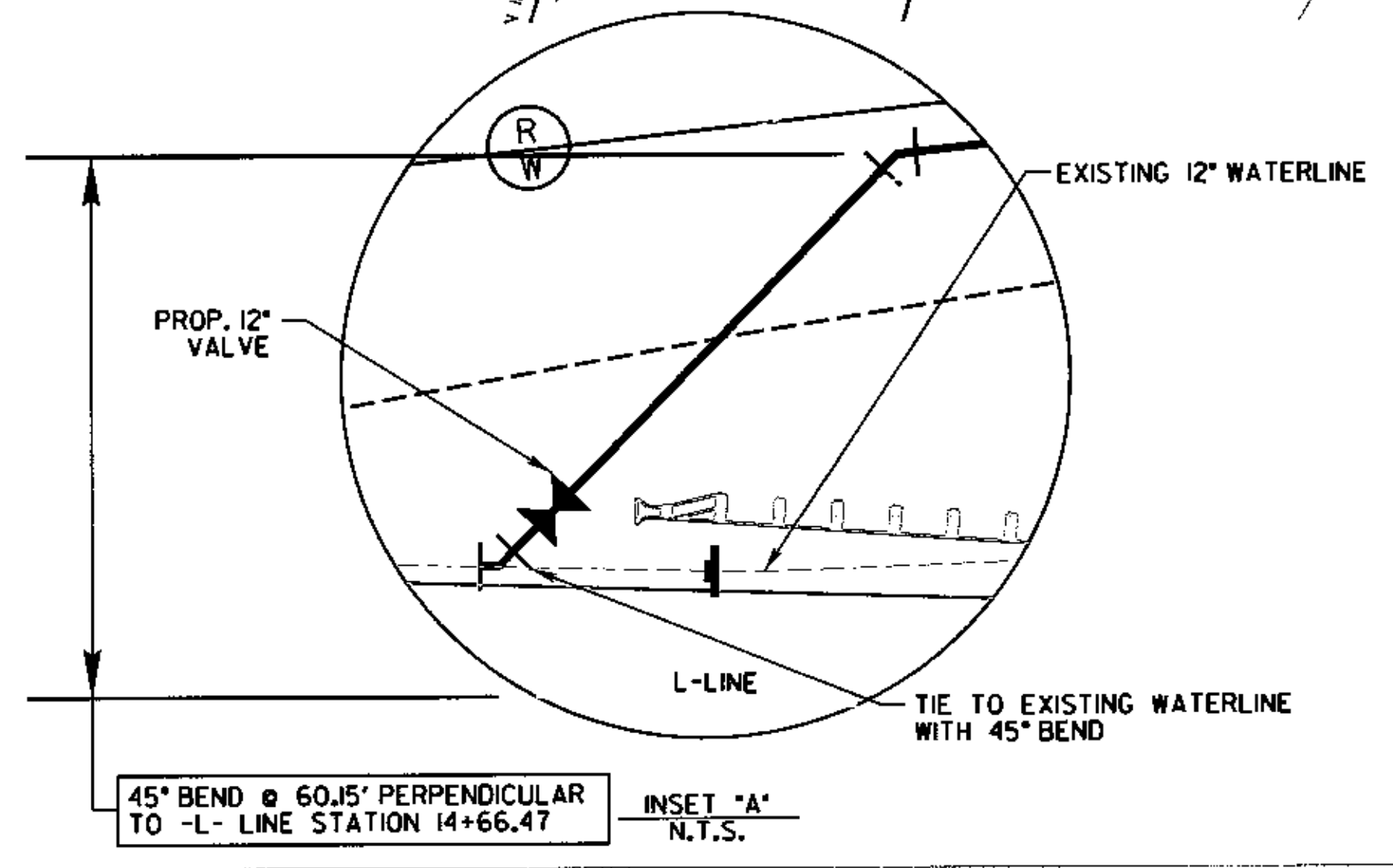
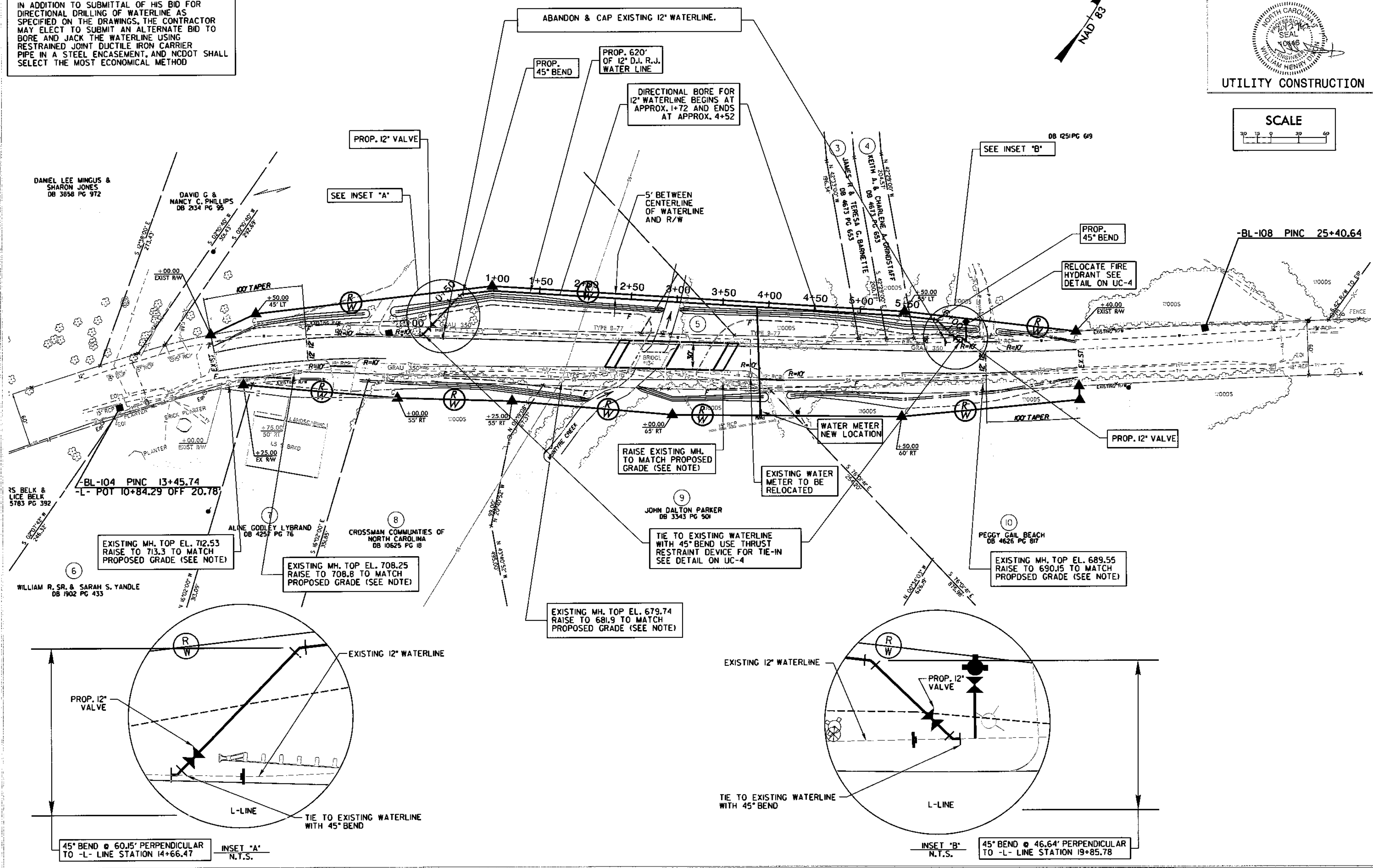


UTILITY CONSTRUCTION

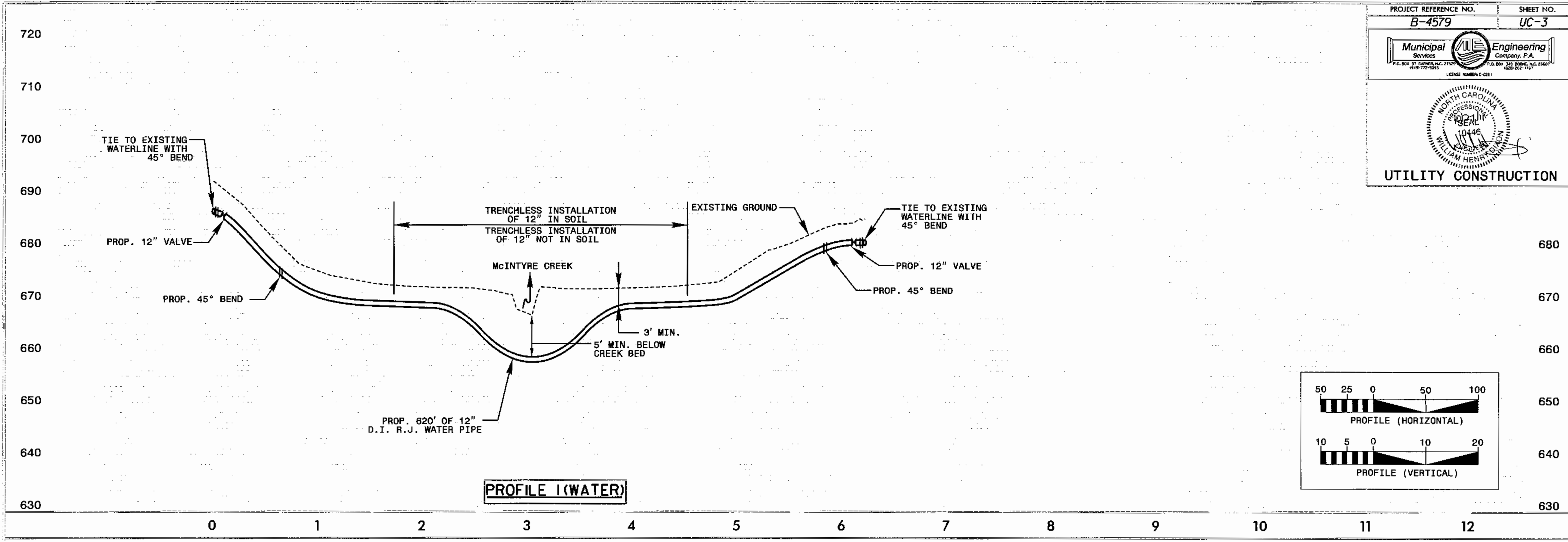
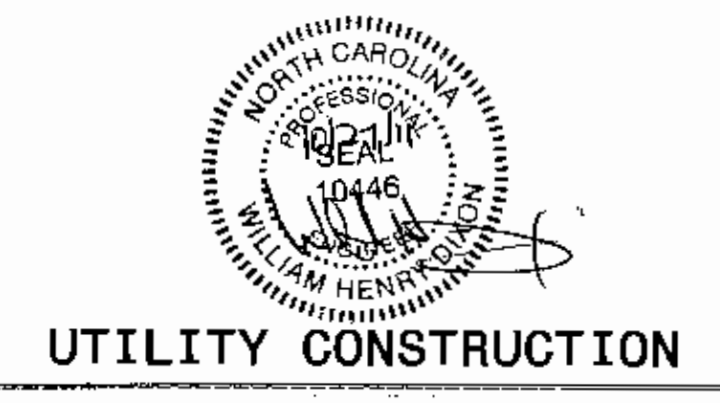


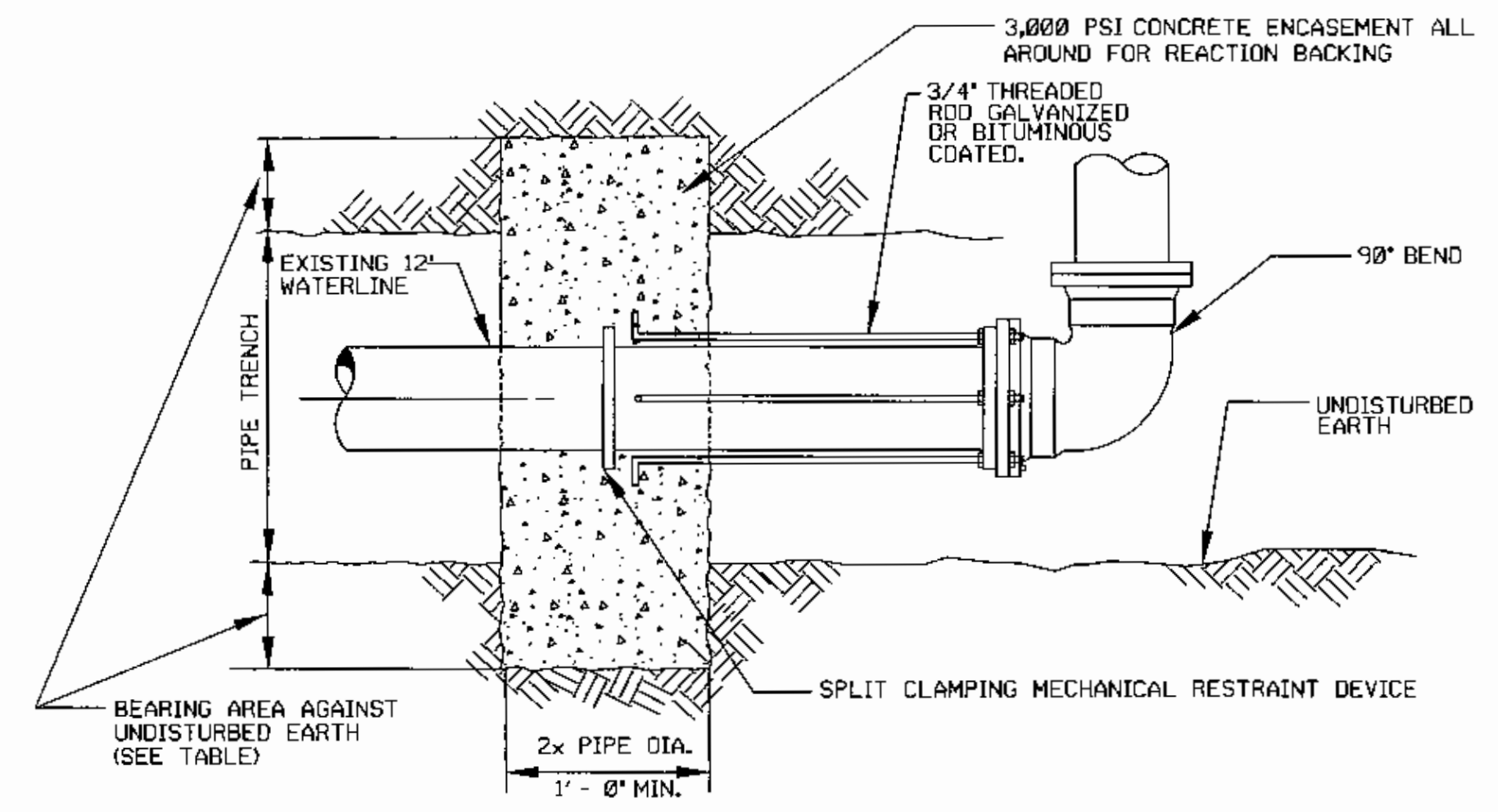
NOTE: PROPOSED GRADES ARE PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY TO MATCH PROPOSED GRADE

IN ADDITION TO SUBMITTAL OF HIS BID FOR DIRECTIONAL DRILLING OF WATERLINE AS SPECIFIED ON THE DRAWINGS, THE CONTRACTOR MAY ELECT TO SUBMIT AN ALTERNATE BID TO BORE AND JACK THE WATERLINE USING RESTRAINED JOINT DUCTILE IRON CARRIER PIPE IN A STEEL ENCASUREMENT, AND NCDOT SHALL SELECT THE MOST ECONOMICAL METHOD









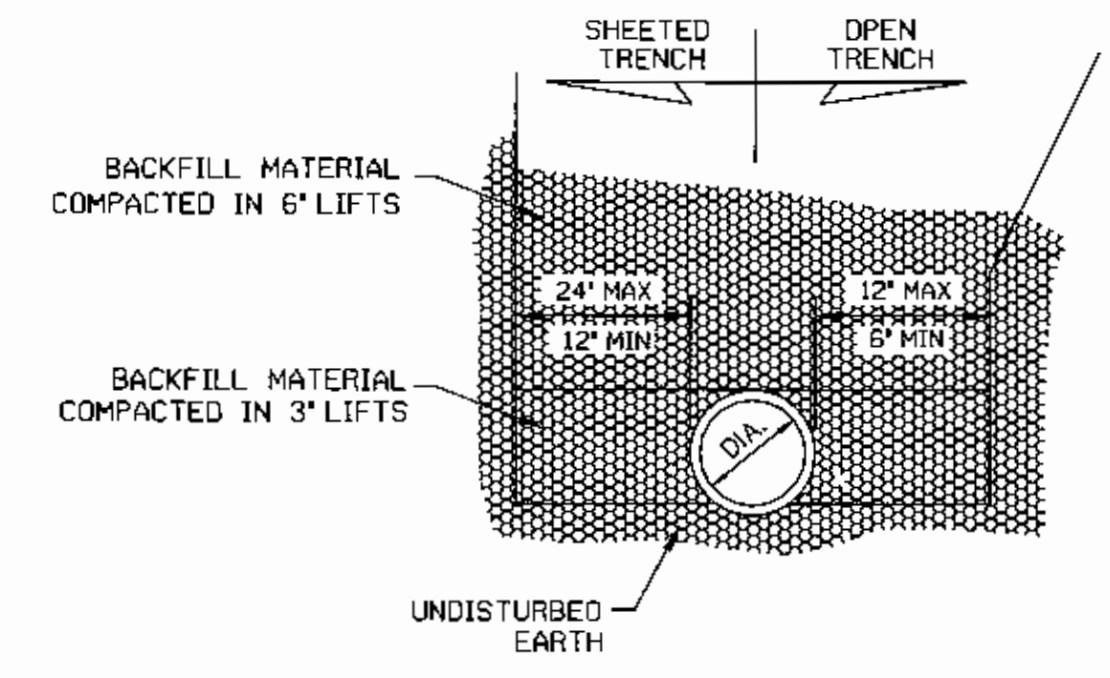
PIPE SIZE	MIN. BEARING AREA (SQ. FT.)					
	SOFT CLAY	SILT	SANDY SILT	SAND	SAND CLAY	HARD CLAY
12	21	14	6.8	5.1	3.4	2.3

NOTE: ALTERNATE METHOD OF RESTRAINT SHOULD BE CONSIDERED FOR SITUATIONS FALLING WITHIN OUTLINED AREA.

NOTE: 1. MIN. BEARING AREAS ARE BASED UPON THE TABLE ABOVE. FOR SOILS HAVING BEARING CAPACITIES DIFFERENT THAN THAT SHOWN ADJUST AREA AS NECESSARY TO PROVIDE EQUIVALENT RESTRAINT.

2. THRUST RESTRAINT DEVICE SHALL BE CONSTRUCTED AND CONCRETE CURED BEFORE CUTTING AND CAPPING EXISTING WATERLINE.

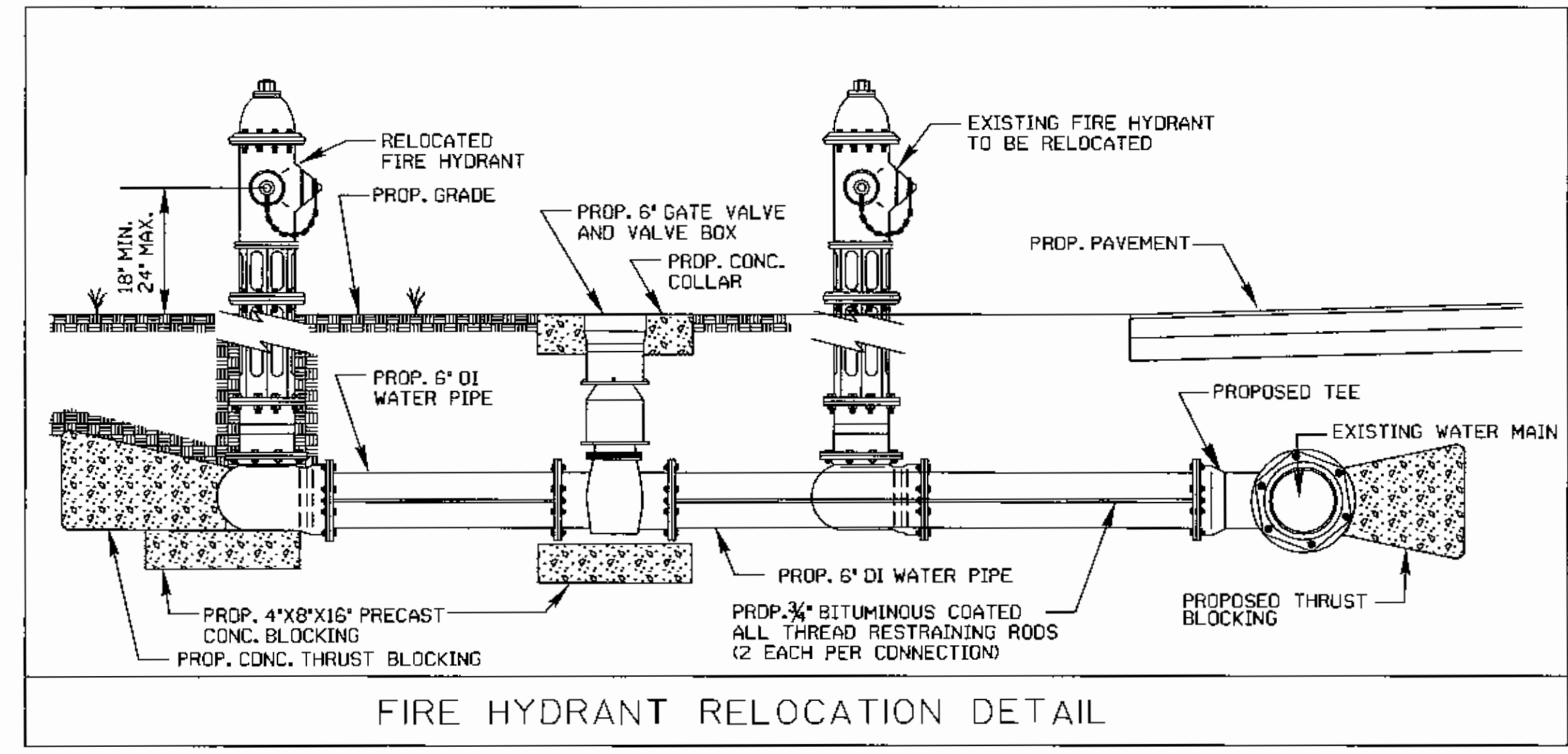
SOIL	BEARING LOAD (lb./sq.ft.)
MUCKY	
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	9,000



TYPICAL TRENCH DETAIL  
 MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOTES:  
 CONSTRUCTION OF TRENCHES SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE REGULATIONS. NO BOULDERS OR STONES IN EXCESS OF 4\"/>

THRUST RESTRAINT DEVICE FOR TYING TO EXISTING WATERLINE



FIRE HYDRANT RELOCATION DETAIL

**VALVE BOX - TOP SECTION SECTION VIEW**

**VALVE BOX - BOTTOM SECTION SECTION VIEW**

**WATER COVER - TOP VIEW**

**SEWER COVER - TOP VIEW**

**RECLAIMED WATER - TOP VIEW**

**CATHODIC PROTECTION COVER TOP - VIEW**

**TYPE I - ADJUSTMENT RISER TOP VIEW**

**TYPE I - ADJUSTMENT RISER SECTION VIEW**

**TYPE II - ADJUSTMENT RISER SECTION VIEW**

**COVER - SECTION VIEW**

**NO. DESCRIPTION**

- TYPE I ADJUSTMENT RISER.
- VALVE BOX - TOP SECTION.
- 18 - 8 SS 3/8"-16 x 3/8" HEX SET SCREW WITH PERMANENT THREAD LOCK (RED) - LOCTITE # 271, PERMABOND HM12B, OR APPROVED EQUAL.
- 1/2" DIA. x 1/16" - FIELD DRILL HOLE.

**NOTES:**

- LOAD RATING - HEAVY DUTY.
- FERROUS CASTINGS MATERIAL - ASTM A48 - CLASS 35 GRAY IRON.
- COATING - UNDIPPED OR ASPHALT VARNISH.
- WEIGHT - 0% MINUS TOLERANCE.
- CASTINGS SHALL CONFORM TO DIMENSION AND WEIGHT REQUIREMENTS.
- TYPE II ADJUSTMENT RISERS MAY BE STACKED.
- TYPE I ADJUSTMENT RISERS MAY NOT BE STACKED.

WEIGHT POUNDS	MINIMUM
TOP SECTION	31
BOTTOM SECTION	34
COVER	19
TOTAL	84

TYPE II - ADJUSTMENT RISER			
TH - TOTAL HEIGHT	AH - ADJUSTMENT HEIGHT	H	MINIMUM WEIGHT - LBS
< 4 1/2"	< 2 1/2"	NOT APPROVED	NOT APPROVED
4 1/2"	2 1/2"	0	16
5"	3"	1/2"	20
6"	4"	1 1/2"	22.5
7"	5"	2 1/2"	25
8"	6"	3 1/2"	27
10"	8"	5 1/2"	32

TYPE I - ADJUSTMENT RISER		
TH - TOTAL HEIGHT	AH - ADJUSTMENT HEIGHT	MIN. WEIGHT LBS
3"	1"	7
3 1/2"	1 1/2"	9
4"	2"	15
> 4"	NOT APPROVED	N/A

**NO SCALE**

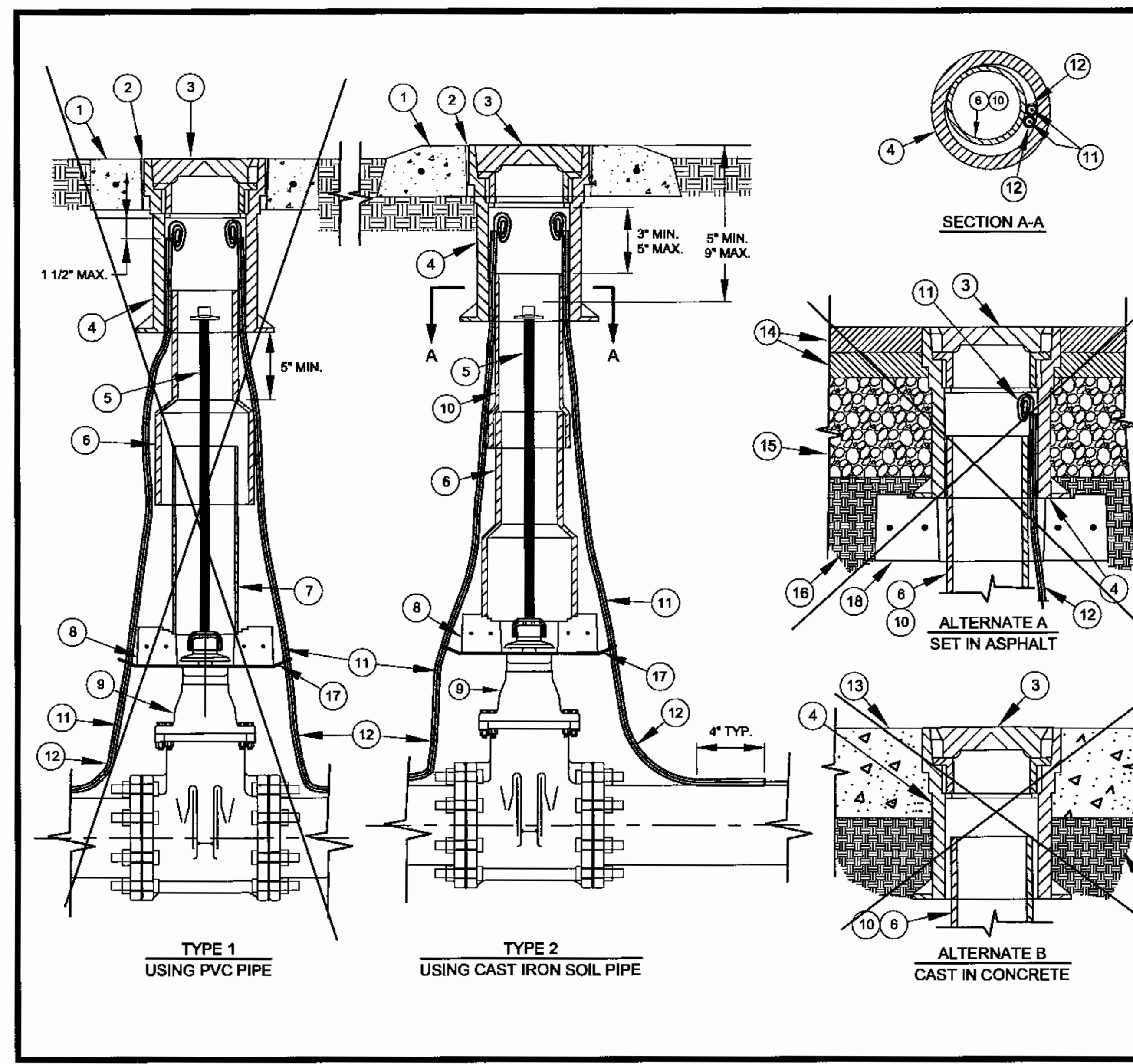
STANDARD INC. FF

VERSION NO. V1.1

DATE 11.2.2010

CHARLOTTE-MECKLENBURG UTILITIES STANDARD DETAILS WATER/SEWER/RECLAIM/CP

CAST IRON VALVE BOX (12" AND SMALLER VALVES - ONLY)



- NO. DESCRIPTION**
1. 18" x 18" PRECAST ( OR CAST IN PLACE ) CONCRETE PAD OR 24" DIAMETER PRECAST PAD.
  2. NON - SHRINK GROUT - IN ANNULAR SPACE.
  3. VALVE BOX COVER.
  4. TOP SECTION VALVE BOX.
  5. EXTENSION STEM AS REQUIRED. SEE NOTES.
  6. BOTTOM SECTION VALVE BOX.
  7. 6" PVC PIPE ( C900 OR SDR 26 ).
  8. PRECAST CONCRETE FOOTING - TYPE II - SEE DETAIL.
  9. GATE VALVE ( OR BALL VALVE, AS APPLICABLE ).
  10. 5" DIA. CAST IRON SOIL PIPE - BELL OF PIPE WILL RECEIVE BOTTOM SECTION OF VALVE BOX.
  11. AWG #12 GAUGE COPPER TRACER WIRE ( THWN ) WITH BLUE INSULATION, TERMINATE WITH 24 INCH EXCESS WIRE ( COILED ) AT METER BOX AND VALVE BOX ( TYP. )
  12. 1/4" OR 3/8" ID CONDUIT - SDR 9 PEX TUBING - ASTM F 876.
  13. CONCRETE ( ROADWAY, DRIVEWAY OR SIDEWALK )
  14. ASPHALT PAVEMENT.
  15. COMPACTED AGGREGATE BASE COURSE ( CAB ) OR ASPHALT BASE COURSE.
  16. COMPACTED SUBGRADE.
  17. NONWOVEN GEOTEXTILE FABRIC - 18" x 18" - 2 LAYERS - MIRAFI #140N OR CARTHAGE MILLS # FX - 40HS.
  18. PRECAST CONCRETE FOOTING - TYPE I - SEE DETAIL.

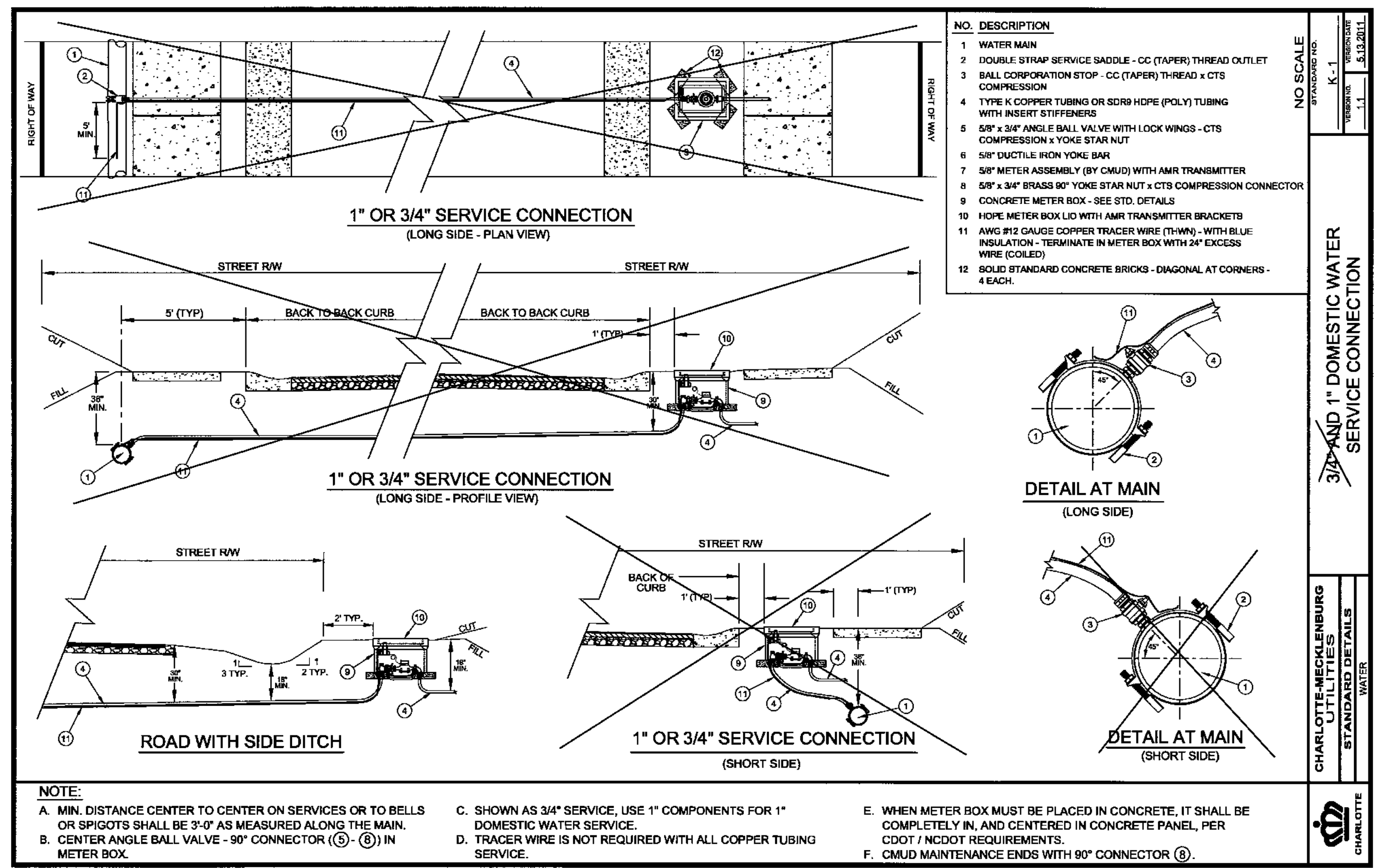
- NOTES:**
- A. CONCRETE FOOTING TO BE CENTERED OVER VALVE NUT, AND SHALL NOT BEAR ON VALVE BODY.
  - B. PROVIDE CLEARANCE BETWEEN VALVE FOOTING AND THE VALVE.
  - C. WHEN OPERATING NUT DEPTH EXCEEDS 3'-0" BELOW FINISHED GRADE, PROVIDE EXTENSION STEM WITH STANDARD 2" SQUARE OPERATING NUT IN TOP SECTION OF VALVE BOX. SEE STANDARD DETAIL.
  - D. VALVE BOX ASSEMBLY SHALL CONSIST OF NO MORE THAN 3 VERTICAL SECTIONS - 1 TOP SECTION, 1 - BOTTOM SECTION, AND 1 - PIPE RISER SECTION.
  - E. CONCRETE PADS SHALL NOT BE USED IN PAVEMENT ( CONCRETE OR ASPHALT ), SIDEWALKS OR DRIVEWAYS.

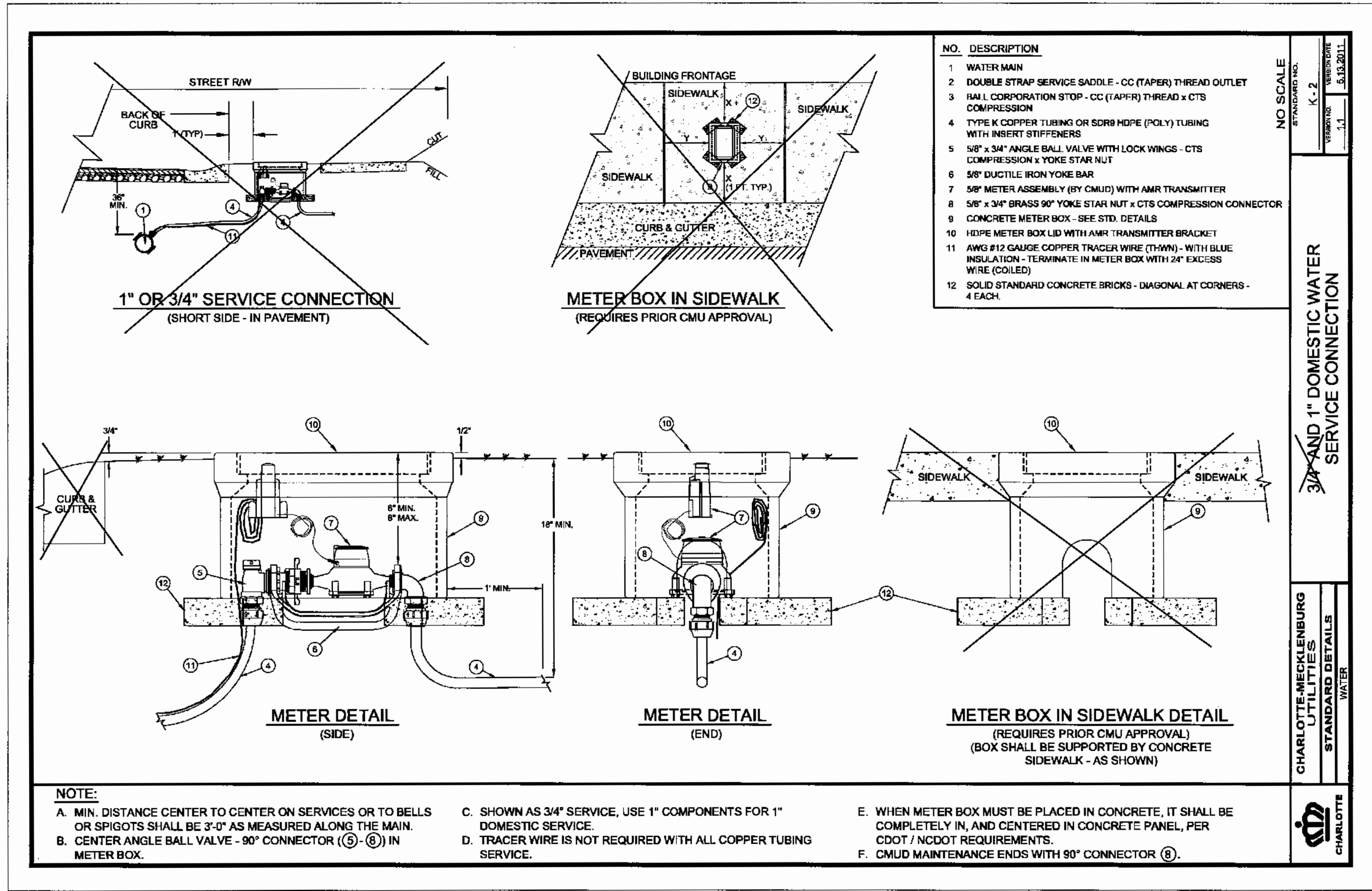
NO SCALE  
 STANDARD NO. HH  
 VERSION NO. V1.0  
 DATE 1.14.2011

VALVE BOX ASSEMBLY INSTALLATION - 12" AND SMALLER VALVES

CHARLOTTE-MECKLENBURG UTILITIES STANDARD DETAILS WATER

CHARLOTTE





NO SCALE

STANDARD NO. K-2

VERSION DATE 5.13.2011

VERSION NO. 1.1

**3/4" AND 1" DOMESTIC WATER SERVICE CONNECTION**

CHARLOTTE-MECKLENBURG UTILITIES WATER

STANDARD DETAILS

CHARLOTTE

**PRE-QUALIFYING TO BID (REVISED 10-28-11)**

All prospective Bidders must be pre-qualified, and may obtain information and forms for pre-qualifying from:

Contractual Services Unit  
State Contractual Services Engineer:  
Mickey Biedell, PE  
Tel. (919) 733-7174  
Fax (919) 715-7378

All required pre-qualification statements and documents shall be filed with the State Contractual Services Engineer at least two weeks prior to the date of opening bids.

**PUBLIC ADVERTISEMENT**

In order for Prospective Bidders to bid on these projects, the Prospective Bidders are required to send an email to Rick Nelson at: [enelson@ncdot.gov](mailto:enelson@ncdot.gov) requesting hard copies of the sealed plans and proposals. Once the Prospective Bidders have requested the sealed hard copies of the plans and proposals, the Prospective Bidders will then be put on the Bid List. Hard copies of the plans and proposals must be requested by October 13, 2011 for the Prospective Bidders to be eligible to bid on these projects. Only Prospective Bidders, who are bidding as Prime Contractors, should submit e-mail requests for hard copies of the plans and proposals. Sub-Contractors and suppliers may download unsealed plans and proposals from the website.

## **PROJECT SPECIAL PROVISIONS**

### **GENERAL REQUIREMENTS**

#### **A. SCOPE OF WORK (REVISED 10-28-11)**

This work shall consist of furnishing and installing a prestressed cored slab bridge; removal of the existing structure; clearing and grubbing; grubbing; excavation and embankment; installation of guardrail; roadway base course and pavement; construction of substructure and superstructure; grading within limits of the project; placement of rip rap; temporary erosion control; seeding and mulching; drainage; and all other incidental items necessary to complete the project as specified and shown on the plans. ~~The Department will be responsible for placement of final pavement markings.~~

Only the construction centerline, control points with a reference station and benchmark location shall be furnished by the Department Unit on an initial one time basis. All other engineering, surveying, layout and measurements shall be the responsibility of the contractor.

#### **B. LOCATION AND DESCRIPTION**

The existing bridge consists of one span for a total length = 30'- 6"; 6" asphalt wearing surface; timber deck on I-beams joists; end bents on timber caps, posts and sills, and timber bulkheads with a clear roadway width of 25'- 0"; is located on SR 2025 across McIntyre Creek, 0.5 miles east of junction SR 2042. This bridge shall be replaced by a cored slab bridge with two spans (one @ 55' and one @ 50') on a 120 degree skew angle and 30' clear roadway width. (SEE BRIDGE LOCATION MAP)

#### **C. CONTRACT TIME AND LIQUIDATED DAMAGES**

The date of availability for this contract is **January 4, 2012**.

The completion date for this contract is the date that is **One hundred and fifty (150) consecutive calendar days after the Contractor closes the road and detours traffic.**

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Two Thousand Dollars (\$2,000.00)** per calendar day. At the preconstruction conference the Contractor shall declare his expected date for beginning work. Should the Contractor desire to revise this date after the preconstruction conference, he shall notify the Engineer in writing at least thirty (30) days prior to the revised date.



Reviewed By: Neil Bunleson  
Division R/W Agent  
Date: 10-03-11



Ok, if Roadway concurs.  
Reviewed By: John L. Shoemaker  
Date: 10/07/11

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY E. PERDUE  
GOVERNOR

DIVISION OF HIGHWAYS

EUGENE A. CONTI, JR.  
SECRETARY

10-03-11

WBS Element: 38417.2.1  
ID No.: B-4579  
County: Mecklenburg  
Description: Bridge #134 Replacement on SR 2025 Miranda Rd.

MEMORANDUM TO: John L. Shoemaker – Assist. State Negotiator

FROM: Leanna Rogers - Right of Way Agent

SUBJECT: Proposed Plan Changes

Attached for your approval and further handling are proposed revisions as follows:

<u>PLAN SHEET</u>	<u>PARCEL</u>	<u>PROPOSED REVISION</u>
4	005	Create a new parcel number 009A on the plans showing correct owner, new parcel number and deed information previously shown incorrectly as part of parcel 005 on original plans submitted to R/W.

Attached is revised plan sheet that shows a new created and correct parcel 009 owned by John Dalton Parker.

Thank you for your assistance with this request. If you have any questions or comments, please contact this office.

Attachments

Cc: File  
Mr. Charles Brown, State Location Engineer  
Ms. Mojdeh Masihpour, Division Location Engineer

STA. 17+10 TO STA. 21+00 LT  
STA. 16+60 TO STA. 19+00 RT

STA. 13+76 TO STA. 15+00 LT  
STA. 14+50 TO STA. 16+00 RT  
STA. 19+00 TO STA. 19+50 RT

STA. 16+00 RT  
STA. 16+60 RT  
STA. 16+83 LT  
STA. 17+10 LT

STA. 19+50 TO STA. 20+30 RT

-BL-105 PINC 16+50.29  
-L- POT 13+88.93 OFF 15.66'

Parcel 009A  
John Dalton Parker  
DB 3343 PG 501

BROOKS FRANKLIN PHILLIPS  
DB 1251 PG 68

①  
JENNIFER W.  
& KEITH DAVIS  
DB 15815 PG 49

BEGIN APPROACH SLAB  
-L- STA 16+32.91

FBM #2  
-BL- STA 19+49.24  
OFF SET 139.21 LT  
ELEV. +673.30'

-BL-107 PINC 21+87.93  
-L- POT 19+26.14 OFF 17.71'

LATERAL BASE DITCH  
SEE DETAIL D  
EST. 45 CY DOE  
EST. 50 TONS RIP RAP  
EST. 165 SY FIL. FAB.

-BL-106 PINC 18+62.12  
-L- POT 16+00.53 OFF 5.96'

DECK DRAINS  
4" DRAINS @  
12' SPACING

EMBANKMENT RIP RAP  
SEE DETAIL E

END BRIDGE  
-L- STA 17+51.25

CLASS II RIP RAP  
(STRUCTURE PAY ITEM)

LATERAL BASE DITCH  
SEE DETAIL C  
EST. 40 CY DOE

+50.00  
55' LT

+100.00  
55' RT

LATERAL BASE DITCH  
SEE DETAIL D  
EST. 40 CY DOE  
EST. 70 TONS RIP RAP  
EST. 200 SY FIL. FAB.

+25.00  
55' RT

EMBANKMENT RIP RAP  
SEE DETAIL E

+00.00  
63' RT

DECK DRAINS  
4" DRAINS @  
12' SPACING

EMBANKMENT RIP RAP  
SEE DETAIL E

LATERAL BASE DITCH  
SEE DETAIL C  
EST. 60 CY DOE

+50.00  
60' RT

-L- PT Sta. 13+86.50

CLASS II RIP RAP  
(STRUCTURE PAY ITEM)

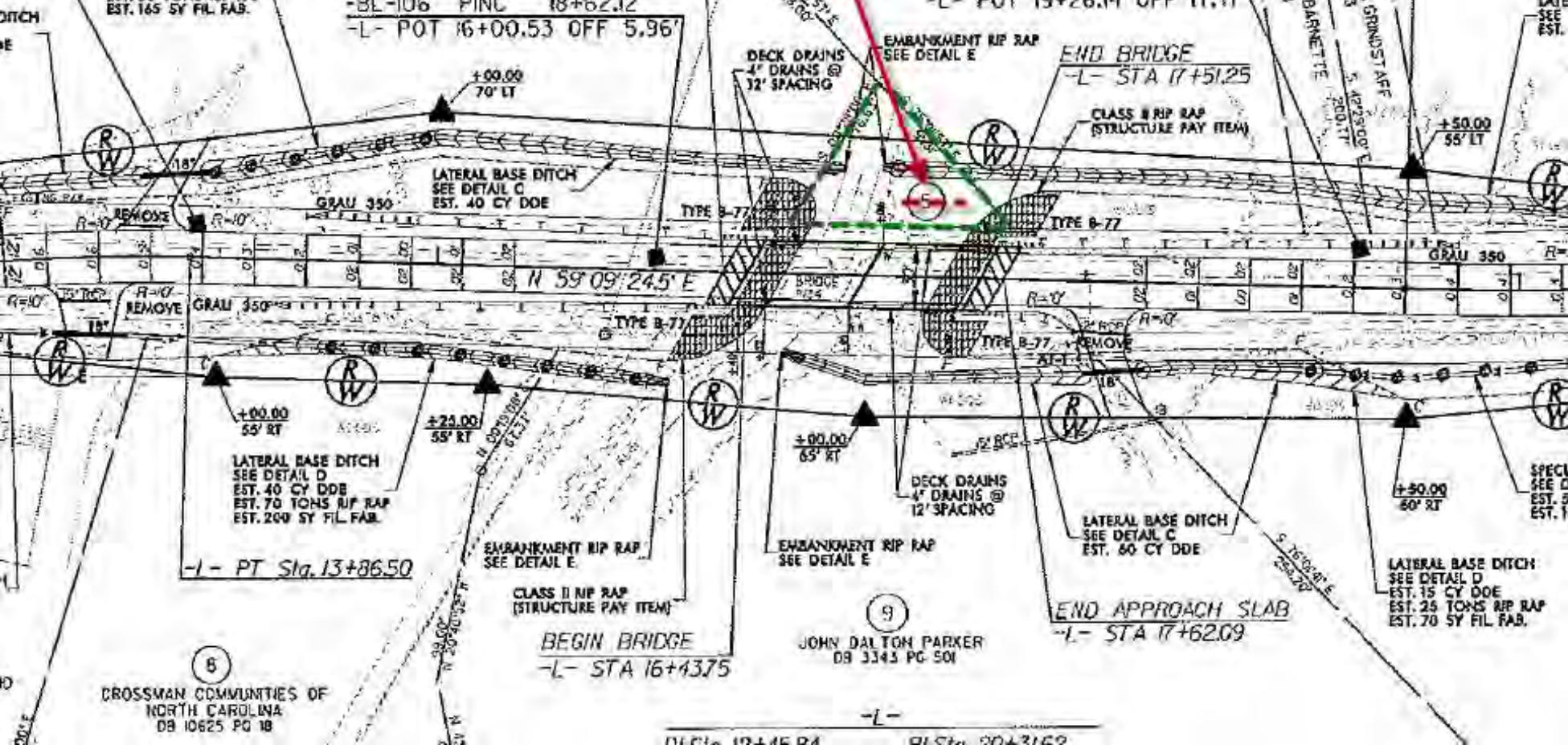
BEGIN BRIDGE  
-L- STA 16+43.75

⑨  
JOHN DALTON PARKER  
DB 3343 PG 501

END APPROACH SLAB  
-L- STA 17+62.09

LATERAL BASE DITCH  
SEE DETAIL D  
EST. 15 CY DOE  
EST. 25 TONS RIP RAP  
EST. 70 SY FIL. FAB.

⑥  
CROSSMAN COMMUNITIES OF  
NORTH CAROLINA  
DB 10625 PG 18



# ROSTER OF B-4579 BRIDGE REPLACEMENT

NCDOT- BRIDGE MANAGEMENT UNIT -POC

DATE:10/14/11

PAGE 1

NAME	COMPANY REPRESENTED AND ADDRESS	CONTACT INFORMATION
VICKI MILLER	MILLER ENGINEERING	Email: miller.engineering@yahoo.com Phone: 828-738-8441 Fax:
DAVID BARE	APPLE TUCK & ASSOC.	Email: dcbare@bellsouth.net Phone: 828 287 3767 Fax: 828 287 2181
PETE WEBER	DANE CONSTRUCTION	Email:Pete@daneconstruction.com Phone: 704-664-5042 Fax: 704-663-2475 (Fax)
KEVIN BURNS	R.E. BURNS & SONS	Email: kevin@reburns.com Phone: 704-924-8646 Fax: 704-924-8607
BRANDON SHORE	DAVIE GRADING	Email: <a href="mailto:daviegrading@yadtel.net">daviegrading@yadtel.net</a> Phone: (336)751-0022 Fax: 336)751-1622
PHILLIP BROWN	TCB BUILDERS	Email: bridgeman6329@yahoo.com Phone 336-224-2200: Fax:

# ROSTER OF B-4579 BRIDGE REPLACEMENT

NCDOT- BRIDGE MANAGEMENT UNIT -POC

DATE:10/14/11

PAGE 2

EVE SMALL	BLYTHE DEVELOPMENT	Email: ESmall@blythedevelopment.com Phone: 704-588-0023 Fax: 704-588-9935
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BILLY TRIVETTE	COUNTRY BOY LANDSCAPING	Email: brtrivette@hotmail.com Phone: 704.838.3381 Fax:
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FRANK FULP	SMITH ROWE	Email: ffulp@triad.rr.com Phone: 336-705-0342 Fax:
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CHAD WALTERS	DELLINGER	Email: Chad@dellinger-inc.com Phone: 704-283-7551 x 270 Fax:
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JUDY VINING	REPUBLIC CONTRACTING	Email: jvining@republiccontracting.com Phone: 803-783-4920 ext 122 Fax:
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JESSE HAMES	HRI BRIDGE COMPANY	Email: JHames@hribridgeco.com Phone: 864.936.3081 Fax:
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