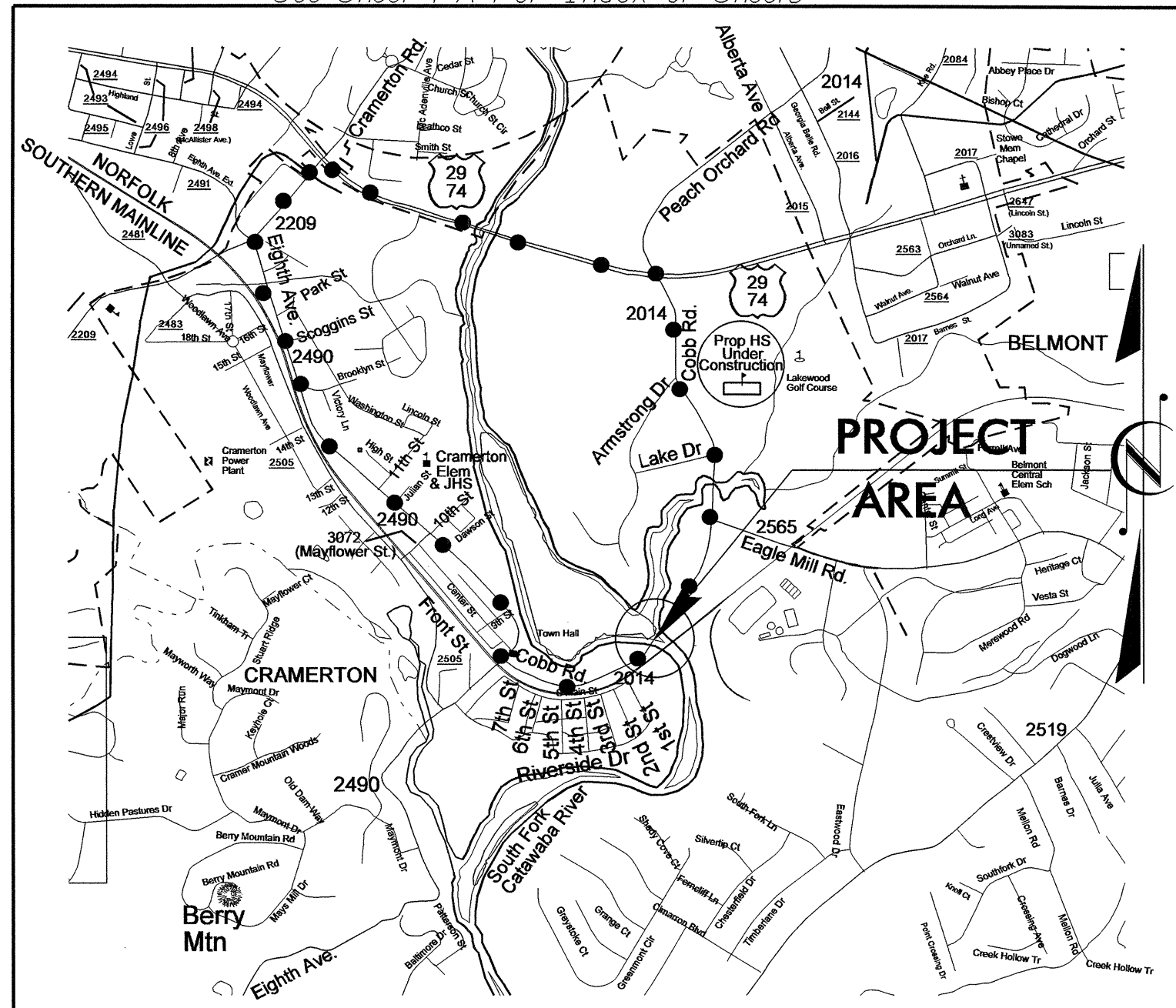


09/08/99

See Sheet 1-A For Index of Sheets



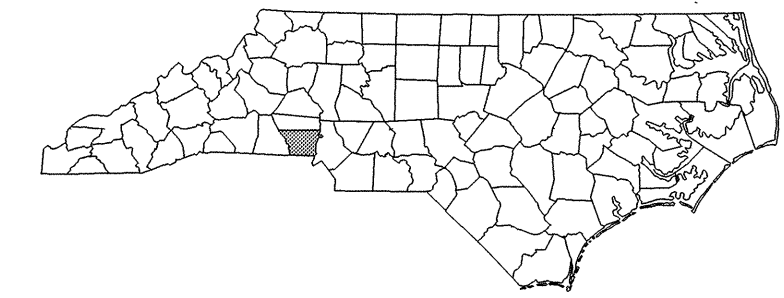
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
GASTON COUNTY**

**LOCATION: BRIDGE NO. 6 ON SR 2014 (LAKEWOOD RD)
OVER SOUTH FORK CATAWBA RIVER**

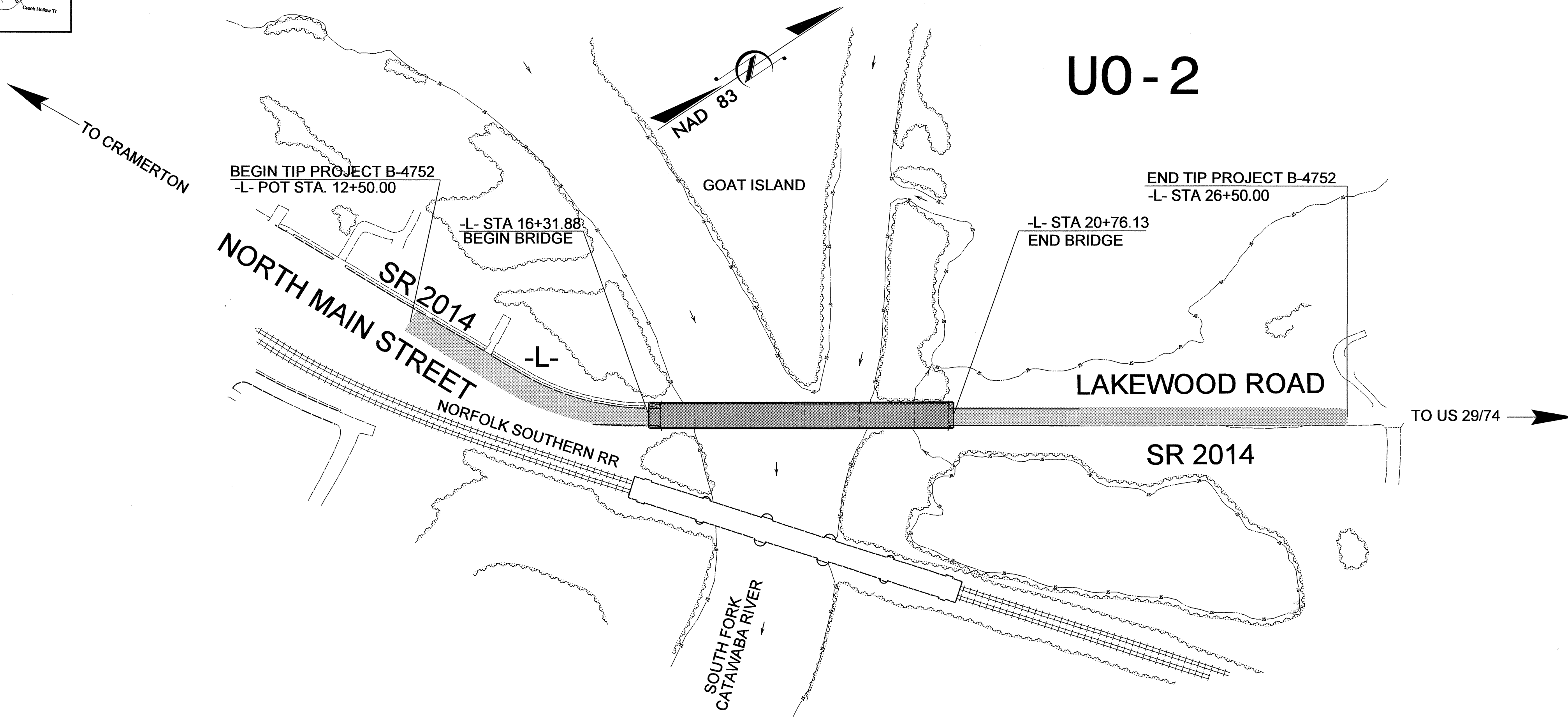
TYPE OF WORK: POWER AND GAS LINE RELOCATION

T.I.P. NO.	SHEET NO.
B-4752	UO-1

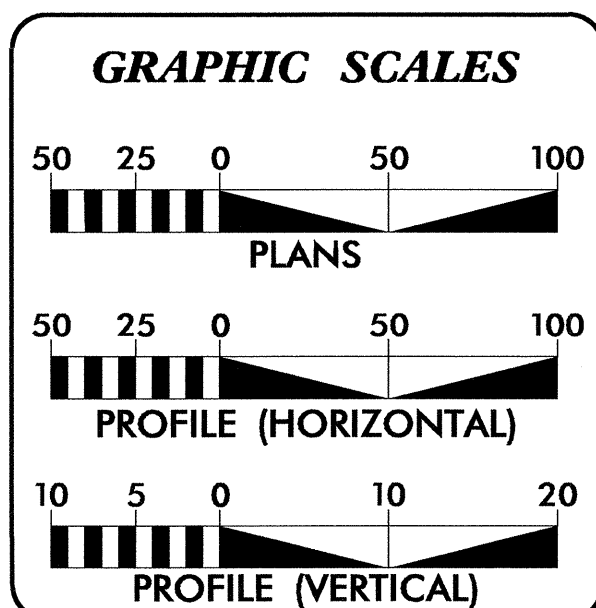


TIP PROJECT: B-4752

• • • OFFSITE DETOUR



UO-2



INDEX OF SHEETS	
<u>SHEET NO.</u>	<u>DESCRIPTION</u>
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT	
(1) DUKE ENERGY	POWER
(2) PSNC	GAS

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

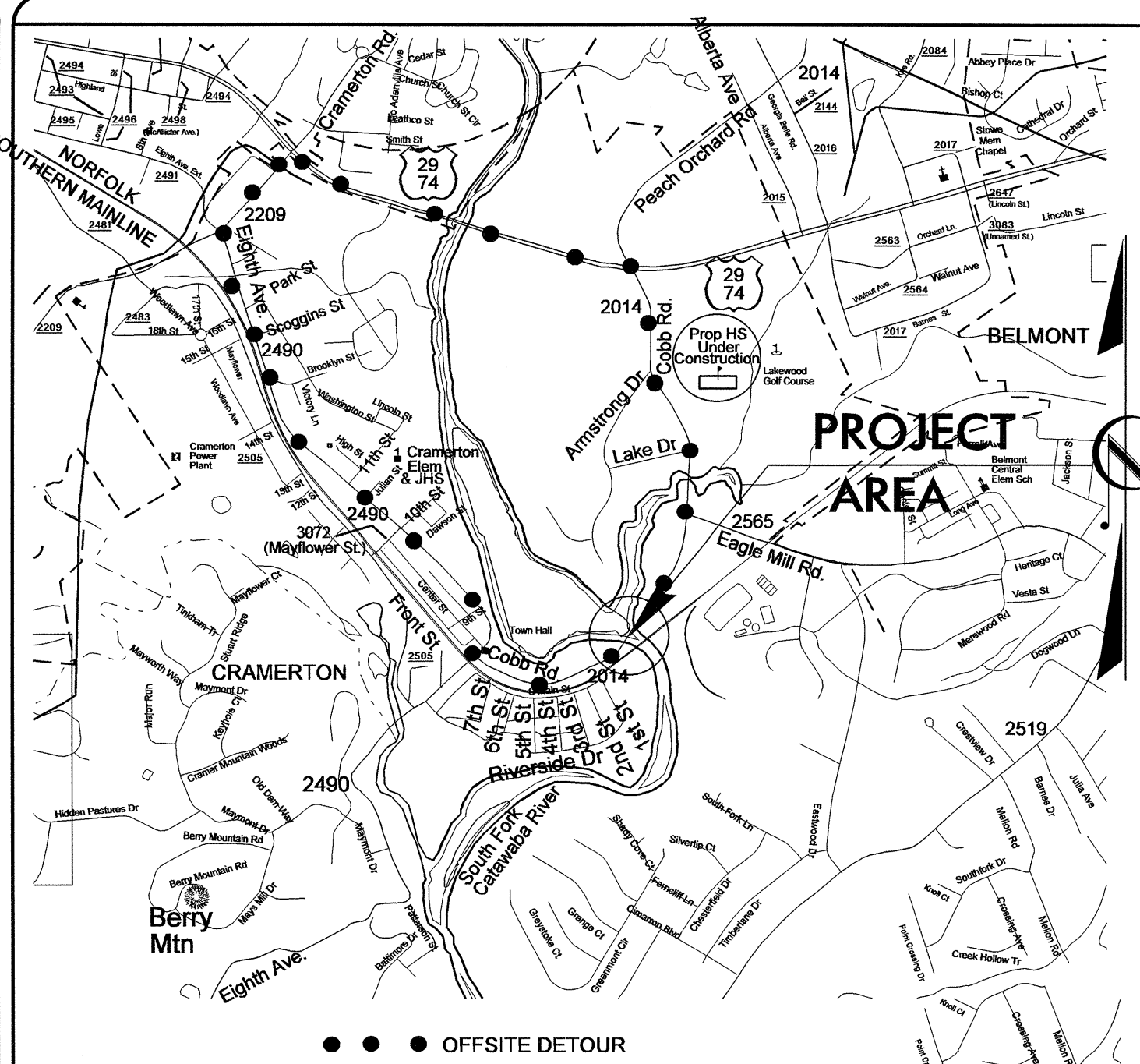
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Ali Kouchehi, P.E. UTILITIES PROJECT DESIGNER

08-MAY-2012 09:14 R:\Utilities\rdy_lh\Proj\B4752_rdy_tsh_uol.dgn \$\$\$USERNAME\$\$\$

T.I.P. NO.	SHEET NO.
B-4752	UC-1

TIP PROJECT: B-4752

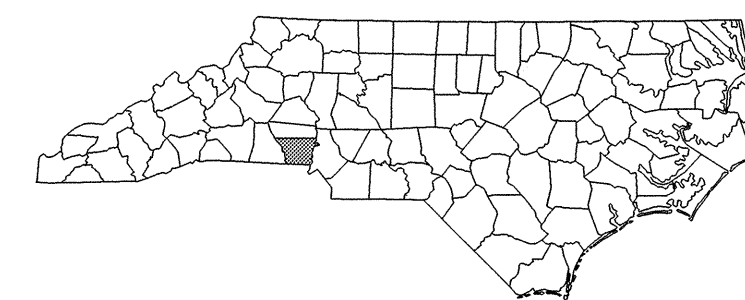


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

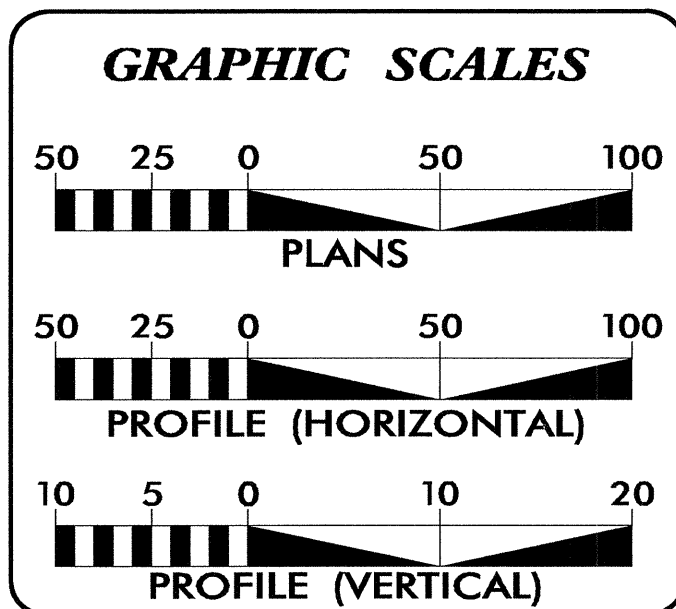
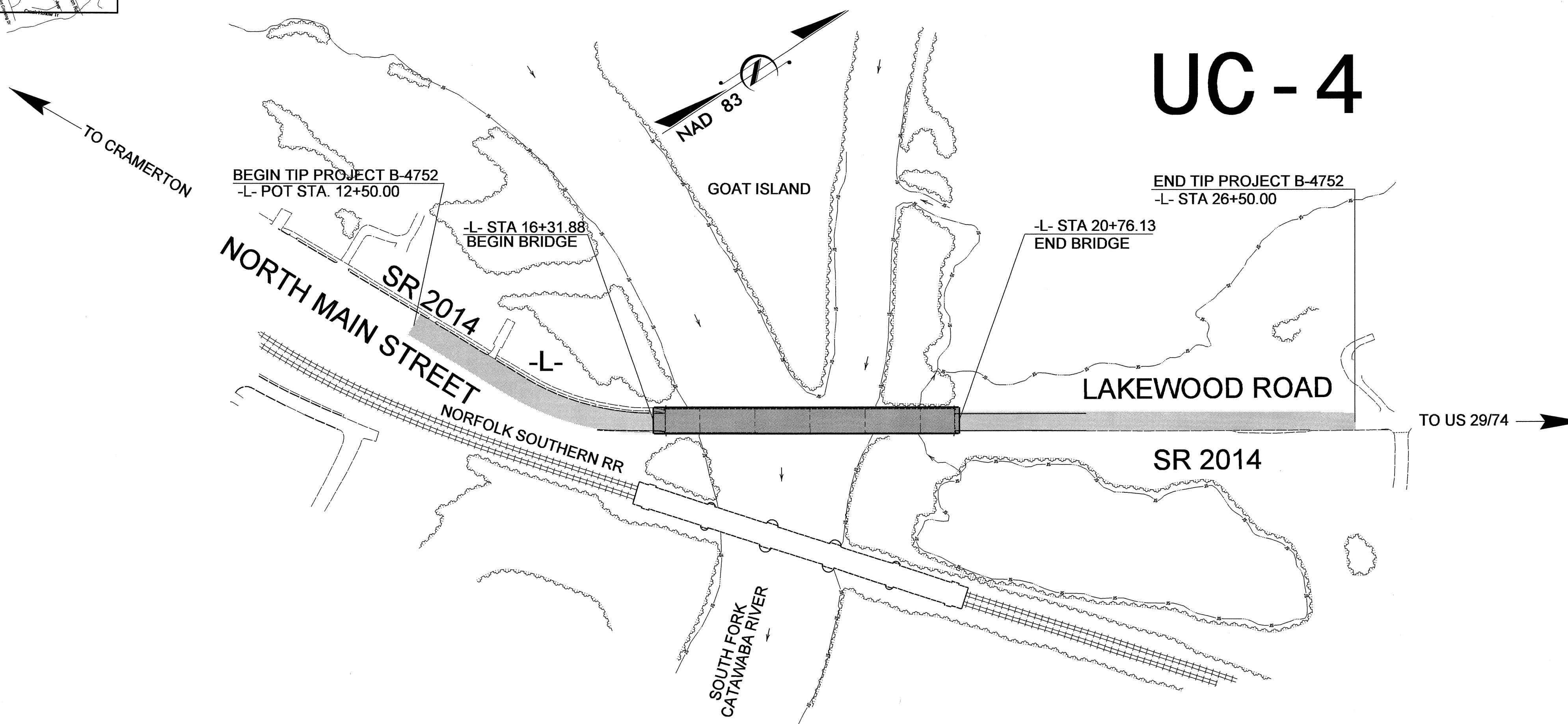
UTILITY CONSTRUCTION PLANS GASTON COUNTY

**LOCATION: BRIDGE NO. 6 ON SR 2014 (LAKEWOOD RD)
OVER SOUTH FORK CATAWBA RIVER**

TYPE OF WORK: WATER AND SEWER RELOCATION

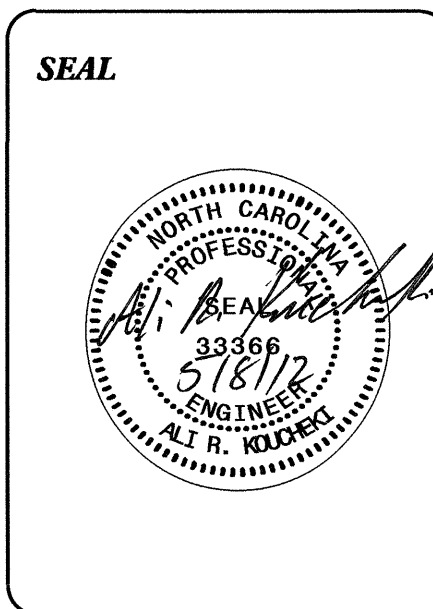


UC - 4



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	SYMBOLGY SHEET
UC-3	NOTES AND DETAIL SHEET
UC-4	UTILITY CONSTRUCTION PLAN SHEET

WATER AND SEWER OWNERS ON PROJECT	
(1) WATER	TWO RIVERS UTILITIES
(2) SANITARY SEWER	TWO RIVERS UTILITIES



**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION**

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RALEIGH, NC 27699-1591
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Roger Worthington, P.E.	UTILITIES SECTION ENGINEER
Carl Barclay, P.E.	UTILITIES SQUAD LEADER PROJECT ENGINEER
Ali Kouchehi, PE	UTILITIES PROJECT DESIGNER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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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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 TWO RIVER UTILITY AND THE CONTACT PERSON IS MICHEAL W. BYNUM (704) 866-6043
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. 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 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 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.

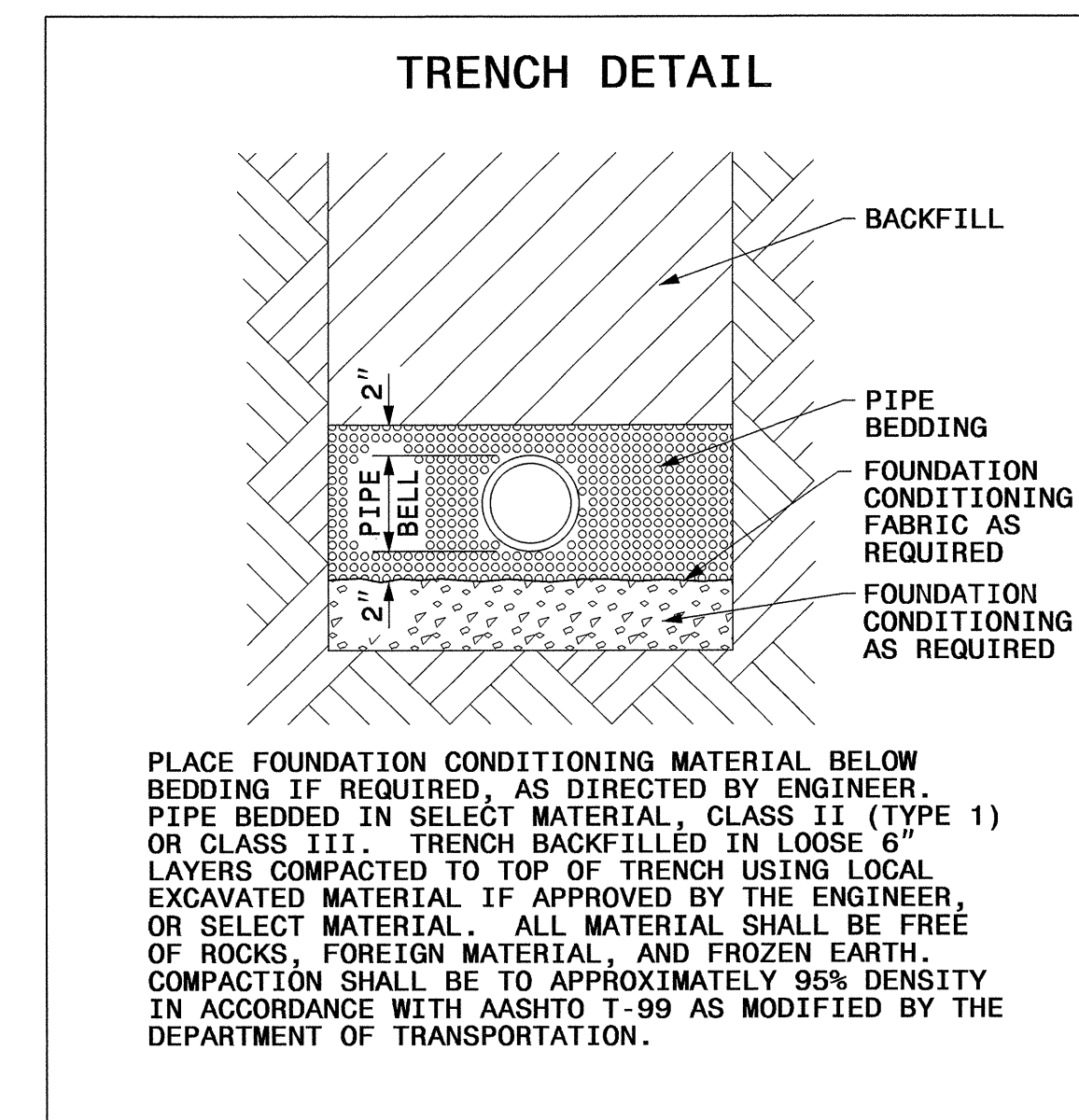
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

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. PROPOSED WATER LINE FROM -L- LINE STATION 16+02.88 TO -L- LINE STATION 21+05.13 SHALL BE D.I.R.J. (DUCTILE IRON RESTRAINED JOINT) PIPE AND IS INCLUDED IN THE STRUCTURAL PLANS.

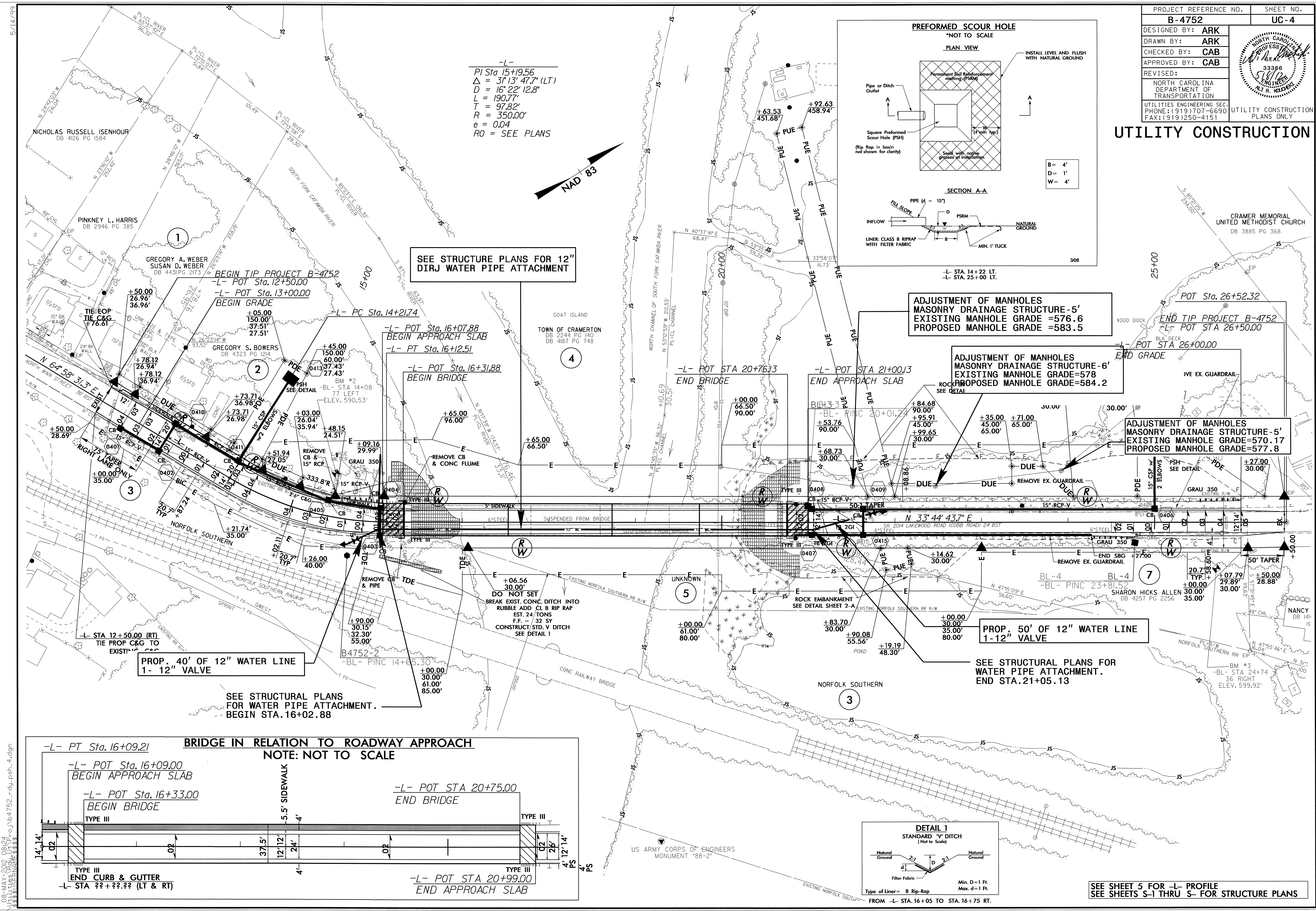
PROJECT TYPICAL DETAILS



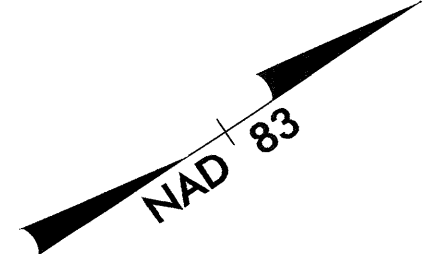
PROJECT REFERENCE NO.	SHEET NO.
B-4752	UC-3
DESIGNED BY: ARK	
DRAWN BY: ARK	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

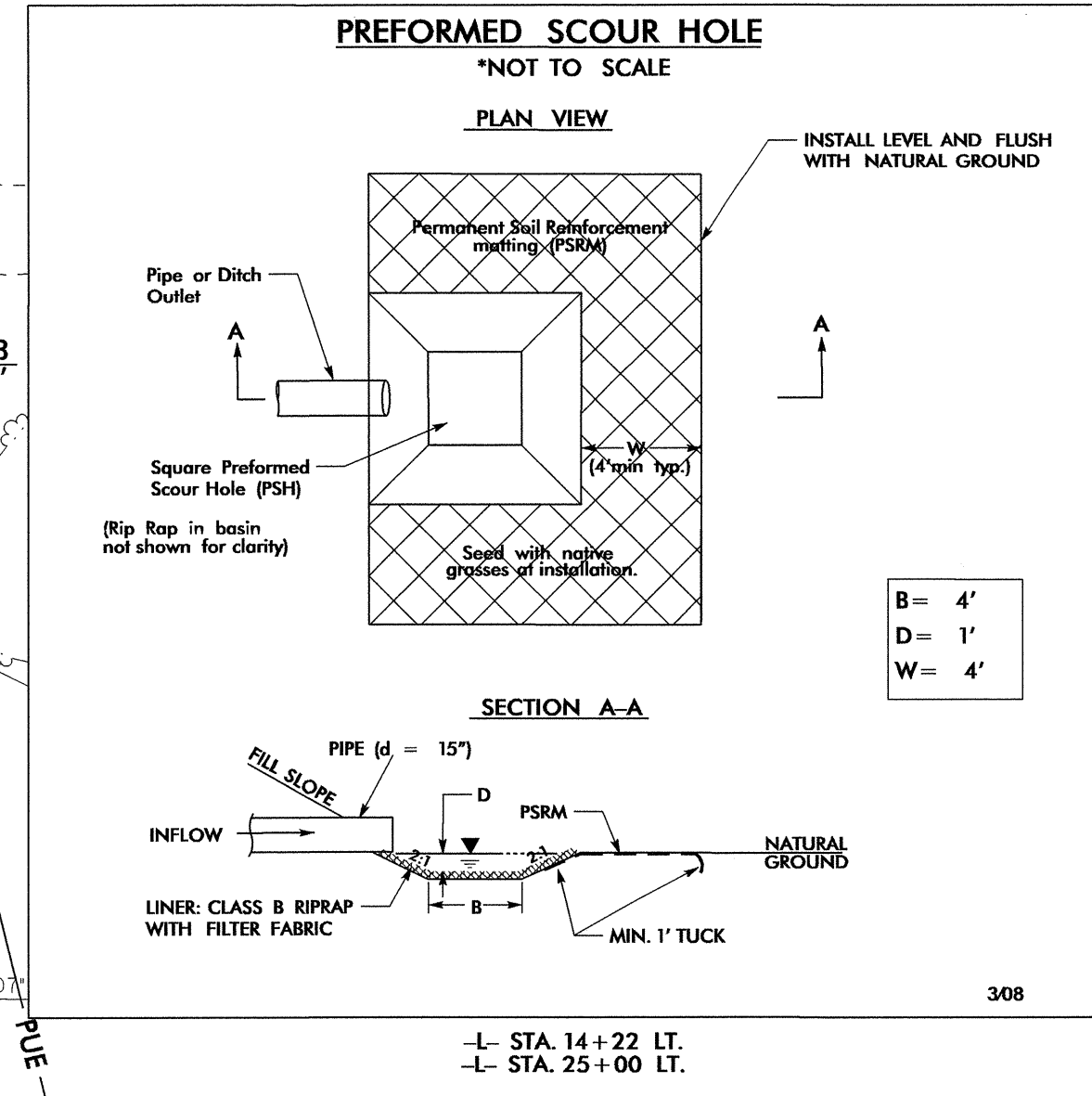
UTILITY CONSTRUCTION



-L-
 PI Sta 15+19.56
 $\Delta = 31' 13" 47.7" (LT)$
 $D = 16' 22" 12.8"$
 $L = 190.77'$
 $T = 97.82'$
 $R = 350.00'$
 $e = 0.04$
 $RO = \text{SEE PLANS}$



SEE STRUCTURE PLANS FOR 12" DIRJ WATER PIPE ATTACHMENT



ADJUSTMENT OF MANHOLES
 MASONRY DRAINAGE STRUCTURE-5'
 EXISTING MANHOLE GRADE =576.6
 PROPOSED MANHOLE GRADE =583.5

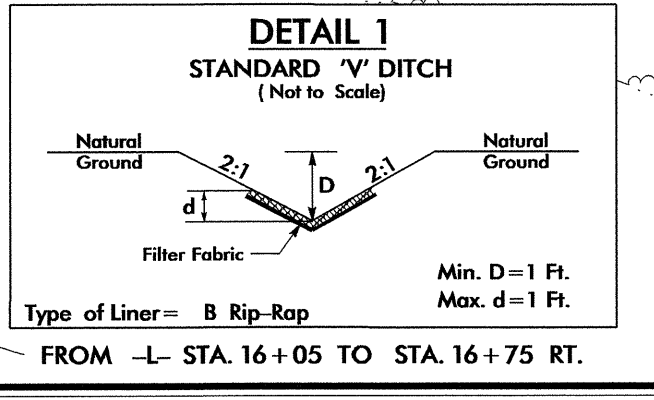
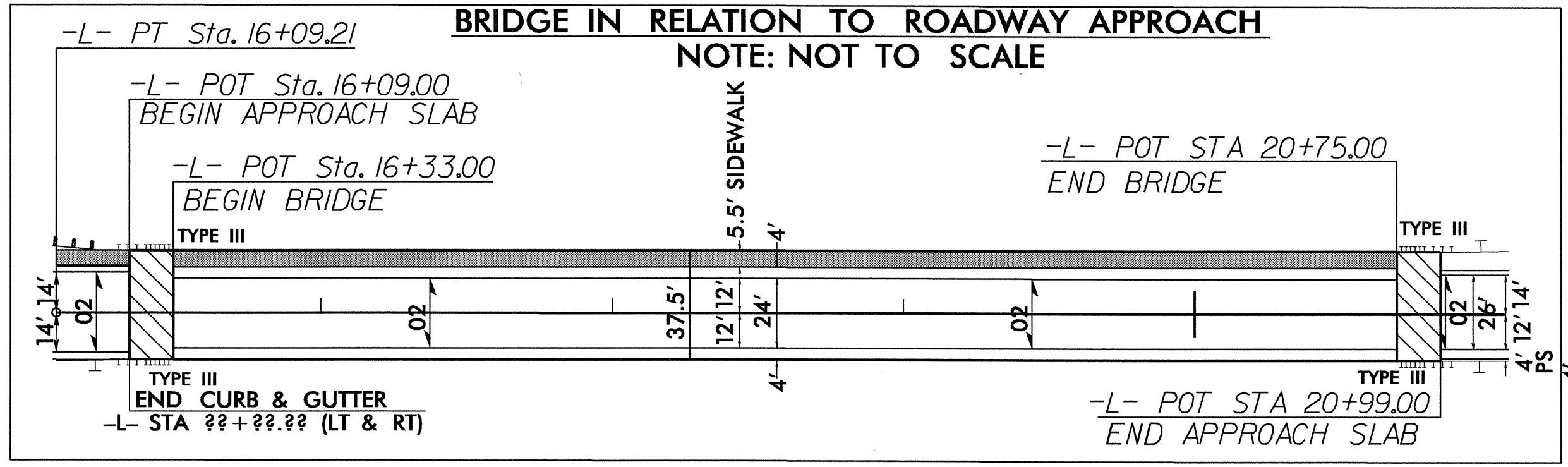
ADJUSTMENT OF MANHOLES
 MASONRY DRAINAGE STRUCTURE-6'
 EXISTING MANHOLE GRADE=578
 PROPOSED MANHOLE GRADE=584.2

ADJUSTMENT OF MANHOLES
 MASONRY DRAINAGE STRUCTURE-5'
 EXISTING MANHOLE GRADE=570.17
 PROPOSED MANHOLE GRADE=577.8

PROP. 50' OF 12" WATER LINE
 1-12" VALVE

PROP. 40' OF 12" WATER LINE
 1-12" VALVE

SEE STRUCTURAL PLANS FOR WATER PIPE ATTACHMENT.
 BEGIN STA. 16+02.88



SEE SHEET 5 FOR -L- PROFILE
 SEE SHEETS S-1 THRU S- FOR STRUCTURE PLANS

5/14/19
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