

TIP PROJECT: B-4201

CONTRACT:

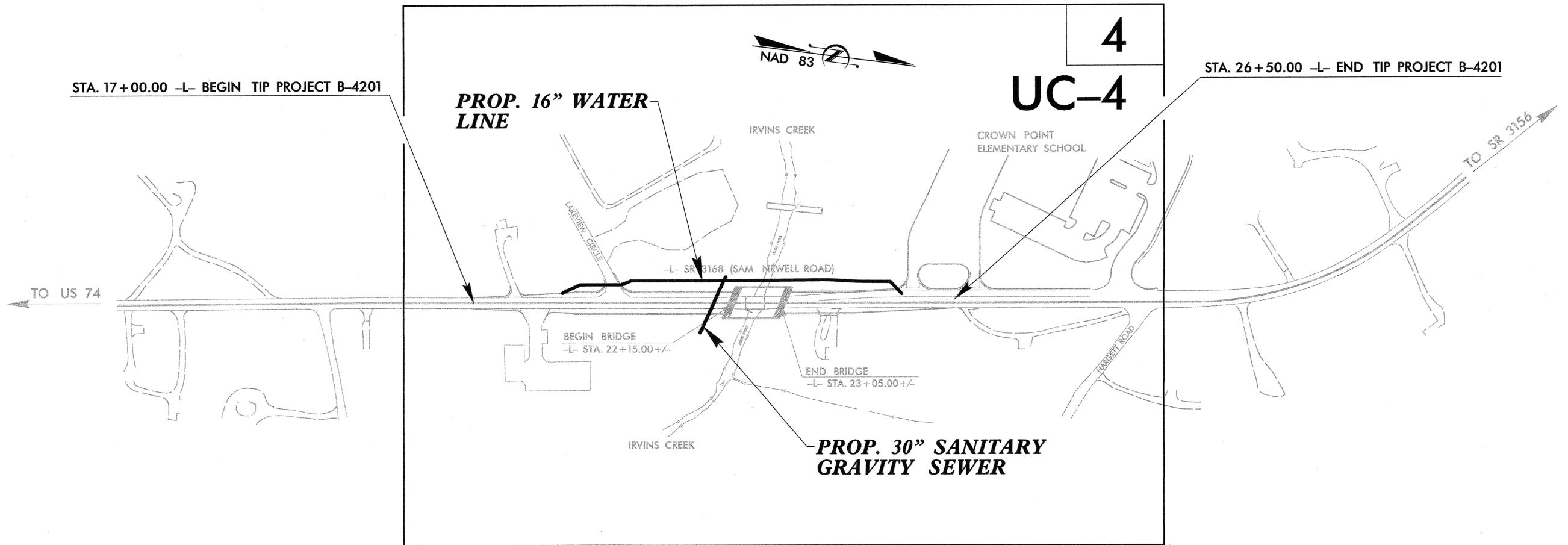
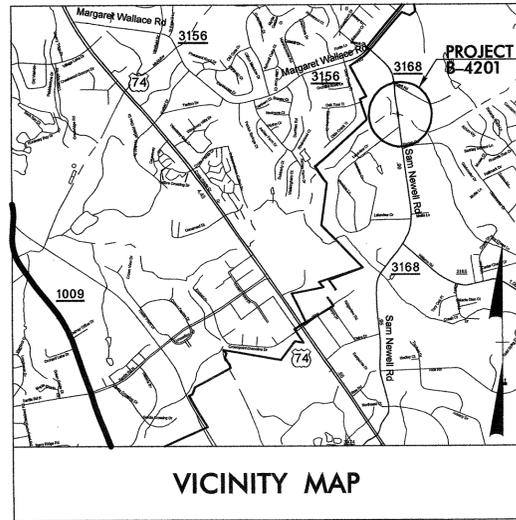
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4201	UC-1

**UTILITY CONSTRUCTION PLANS
MECKLENBURG COUNTY**

**LOCATION: BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)**

TYPE OF WORK: UTILITY CONSTRUCTION



INDEX OF SHEETS

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UC-1	TITLE SHEET
UC-2	SYMBOLGY SHEET
UC-3	PERMIT SHEET
UC-4	UTILITY PLAN SHEET
UC-5	UTILITY PROFILE SHEET
UC-6	DETAIL SHEET

WATER AND SEWER OWNERS ON PROJECT

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

SEAL:



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



**DIVISION OF HIGHWAYS
PROJECT SERVICES
UTILITY SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Kevin S. Hinde, P.E. UTILITIES PROJECT DESIGNER

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROJECT REFERENCE NO. B-4201	SHEET NO. UC-2
DESIGNED BY: CLS	
DRAWN BY: JNA	
CHECKED BY: KSH	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	

UTILITY CONSTRUCTION

Water

Proposed Back Flow Preventor	
Relocate Back Flow Preventor	
Existing Water Valve	
Proposed Valve	
Proposed Tapping Valve	
Existing Water Meter	
Proposed Water Meter	
Proposed Water Meter/Vault	
Relocate Water Meter	
Remove Water Meter	REM WM
Existing Hydrant	
Prop Hydrant	
Relocate Hydrant	
Remove Hydrant	REM FH

Proposed RPZ Back Flow Preventor	
Relocate RPZ Back Flow Preventor	
Water Cross	
Water Plug	
Water Reducer	
Water Tee	
Water Pump Station	
Water Thrust Block	
Blow Off Valve	
Air Release Valve	
Water Line Stop	
Water Line Stop w Bypass	

Utility By Other Symbols

Proposed Tel Pole	
Proposed Power Pole	
Proposed Joint Use Power, Tel Pole	
Proposed Joint Use Power, CATV Pole	
Proposed Joint Use Power, Tel, CATV Pole	
Proposed Joint Use Tel, CATV Pole	

Sewer

Existing Manhole	
Proposed UT Manhole	
Remove UT Manhole	REM UT MH
Abandon Utility Manhole	ABAND MH
Sewer Line Stop	
Sewer Line Stop w Bypass	

Sewer Cross	
Sewer Plug	
Sewer Reducer	
Sewer Tee	
Sewer Pump Station	
Sewer Thrust Block	

PUE Monument	
Concrete Pier	
Steel Pile Pier	
Test Hole (SUE)	
Prop Utility Vault	

NORTH CAROLINA
DEPT. OF TRANSPORTATION
ENGINEERING DIVISION
RALEIGH, NORTH CAROLINA

BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)

Designed By:	Checked By:	Date:	Sheet:	Of:
CLS	KSH	10-12-11	UC-2	UC-6

HINDE
ENGINEERING
License No. C-2839
7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227

PROJECT REFERENCE NO.	SHEET NO.
B-4201	UC-3
DESIGNED BY: CLS	
DRAWN BY: JNA	
CHECKED BY: KSH	
APPROVED BY:	
REVISER:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

APPLICATION FOR NON-DISCHARGE PERMIT
GRAVITY SEWER MAIN EXTENSION
CHARLOTTE-MECKLENBURG UTILITIES

PROJECT NAME: BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)

CMUD PROJECT NO.: 324-11-591

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

VOLUME OF WASTEWATER GENERATED BY THIS PROJECT: 0 GALLONS PER DAY BASED
ON 190 GAL/DAY/SINGLE FAMILY HOUSEHOLD _____ HOUSEHOLDS OR
135 GAL/DAY/MULTI-FAMILY UNIT X _____ 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 100% % DOMESTIC _____ % INDUSTRIAL
_____ % COMMERCIAL _____ % OTHER _____

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

LIST ANY PARAMETER AND ITS CONCENTRATION THAT WILL BE GREATER THAN NORMAL DOMESTIC LEVELS:
N/A

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

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

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 30"

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

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

TELEPHONE 704-814-4407

PROFESSIONAL ENGINEER'S CERTIFICATION:
I, KEVIN S. HINDE, P.E., ATTEST THAT THIS APPLICATION FOR THE RELOCATION AND NEW CONSTRUCTION OF SEWER LINES WITHIN THE AFOREMENTIONED PROJECT HAS BEEN REVIEWED BY ME AND IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I FURTHER ATTEST THAT TO THE BEST OF MY KNOWLEDGE THE PROPOSED DESIGN HAS BEEN PREPARED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS. ALTHOUGH CERTAIN PORTIONS OF THIS SUBMITTAL PACKAGE MAY HAVE BEEN DEVELOPED BY OTHER PROFESSIONALS, INCLUSION OF THESE MATERIALS UNDER MY SIGNATURE AND SEAL SIGNIFIES THAT I HAVE REVIEWED THIS MATERIAL AND HAVE JUDGED IT TO BE CONSISTENT WITH THE PROPOSED DESIGN.

NORTH CAROLINA PROFESSIONAL ENGINEER'S SEAL, SIGNATURE, AND DATE:
411-536

CMU PERMIT NO. _____ ISSUED 10/20/11

PLANT FLOW ALLOCATION RECORDED BY: [Signature]

PERMIT APPROVED BY: [Signature]
BARRY SHEARIN, P.E., CHIEF ENGINEER



APPLICATION FOR PERMIT FOR WATER MAIN EXTENSION

PROJECT NAME: BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)

CMU PROJECT NO.: 529-11-103

PROJECT DESCRIPTION: 685.37 LF 16" WATER MAIN & FITTINGS

DESIGNED BY: FIRM: HINDE ENGINEERING, INC.

ENGINEER: KEVIN S. HINDE, P.E. DESIGNED BY: CLINT L. STEVENS, E.I.

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

PHONE: 704-814-4407

THIS APPLICATION IS MADE UNDER AND IN FULL ACCORD WITH THE PROVISIONS OF CHAPTER 130A-317 OF THE NORTH CAROLINA GENERAL STATUTES, AND SUCH OTHER STATUTES AS RELATED TO PUBLIC WATER SYSTEMS. CMU 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 CMU WILL BE MADE WITHOUT THE WRITTEN CONSENT AND APPROVAL OF CMU 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.

411-062

PERMIT NO. _____
APPROVED: [Signature] DATE 10/17/11
BARRY SHEARIN, P.E., CHIEF ENGINEER

CHARLOTTE MECKLENBURG UTILITIES
5100 BROOKSHIRE BLVD.
CHARLOTTE, NORTH CAROLINA 28216

Topo 168,169 McAlpine Creek Basin

Ronald C. Williams 10/17/11

NORTH CAROLINA
DEPT. OF TRANSPORTATION
ENGINEERING DIVISION
RALEIGH, NORTH CAROLINA

BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)

Designed By:	Checked By:	Date:	Sheet:	Of:
CLS	KSH	10-12-11	UC-3	UC-6

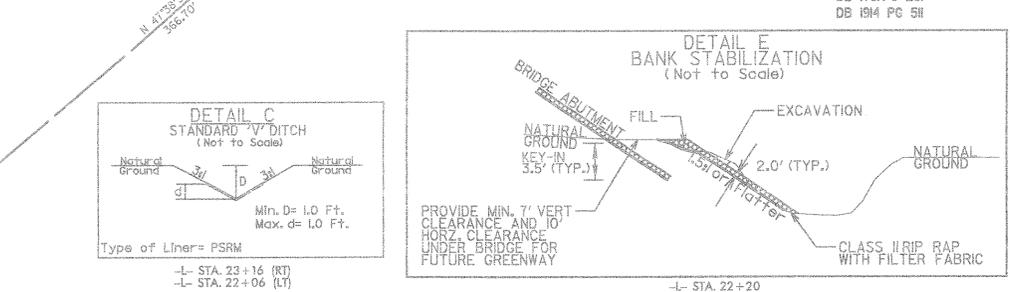
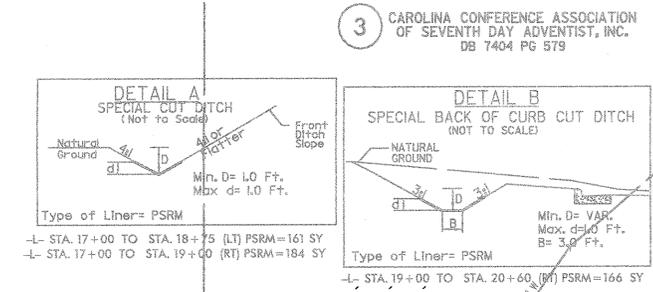
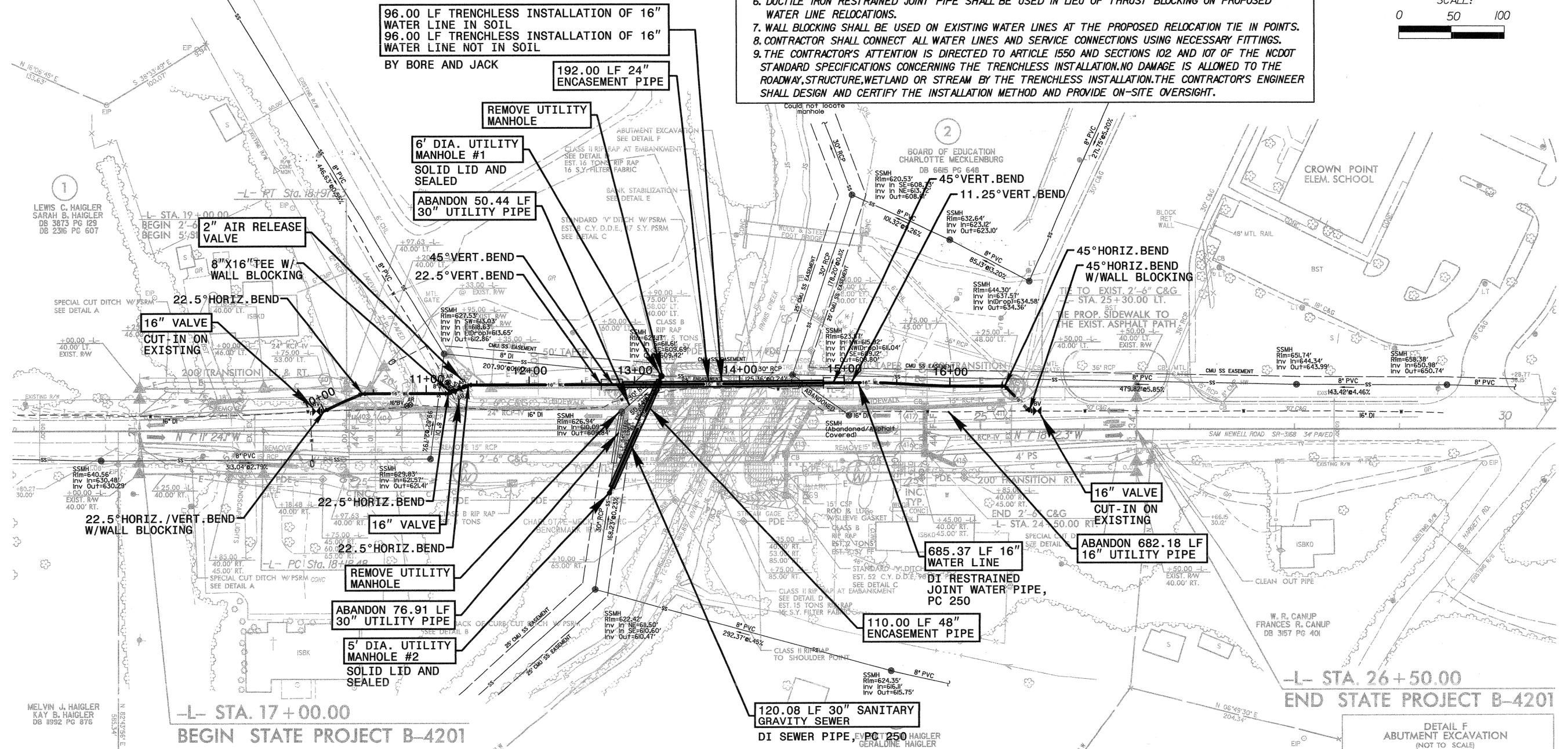
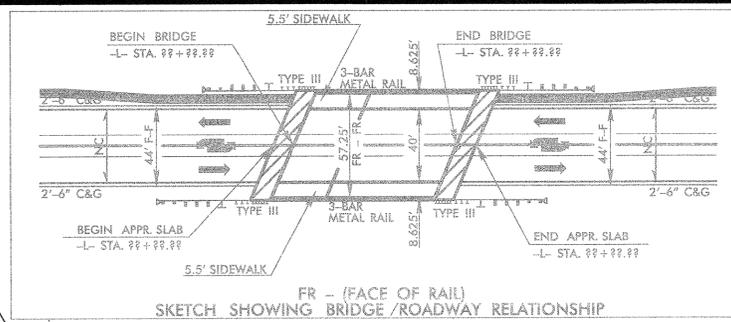
HINDE ENGINEERING
License No. C-2639
7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227

PROJECT REFERENCE NO.	SHEET NO.
B-4201	UC-4
DESIGNED BY: CLS	
DRAWN BY: JNA	
CHECKED BY: KSH	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
PROJECT SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

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, THE STANDARDS DETAILS AS SHOWN ON PLANS, AND THE PROJECT SPECIAL PROVISIONS FOR UTILITY CONSTRUCTION.
 2. ALL 12-INCH AND SMALLER DIAMETER PIPE SHALL BE DUCTILE IRON PRESSURE CLASS 350, UNLESS OTHERWISE NOTED ON UTILITY CONSTRUCTION PLANS.
 3. ALL 16-INCH AND LARGER DIAMETER PIPE SHALL BE DUCTILE IRON PRESSURE CLASS 250, UNLESS OTHERWISE NOTED ON UTILITY CONSTRUCTION PLANS.
 4. VALVES ON WATER MAINS SMALLER THAN 16-INCH IN DIAMETER SHALL BE DIRECT BURY GATE VALVES, UNLESS OTHERWISE NOTED ON UTILITY CONSTRUCTION PLANS.
 5. VALVES ON WATER MAINS 16-INCHES IN DIAMETER AND LARGER SHALL BE BUTTERFLY VALVES, UNLESS OTHERWISE NOTED ON UTILITY CONSTRUCTION PLANS.
 6. DUCTILE IRON RESTRAINED JOINT PIPE SHALL BE USED IN LIEU OF THRUST BLOCKING ON PROPOSED WATER LINE RELOCATIONS.
 7. WALL BLOCKING SHALL BE USED ON EXISTING WATER LINES AT THE PROPOSED RELOCATION TIE IN POINTS.
 8. CONTRACTOR SHALL CONNECT ALL WATER LINES AND SERVICE CONNECTIONS USING NECESSARY FITTINGS.
 9. THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 1550 AND SECTIONS 102 AND 107 OF THE NCDOT STANDARD SPECIFICATIONS CONCERNING THE TRENCHLESS INSTALLATION. NO DAMAGE IS ALLOWED TO THE ROADWAY, STRUCTURE, WETLAND OR STREAM BY THE TRENCHLESS INSTALLATION. THE CONTRACTOR'S ENGINEER SHALL DESIGN AND CERTIFY THE INSTALLATION METHOD AND PROVIDE ON-SITE OVERSIGHT.



DETAIL F
ABUTMENT EXCAVATION
(NOT TO SCALE)

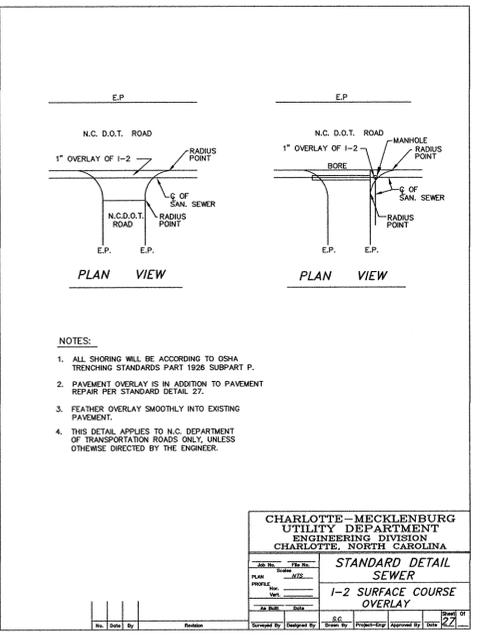
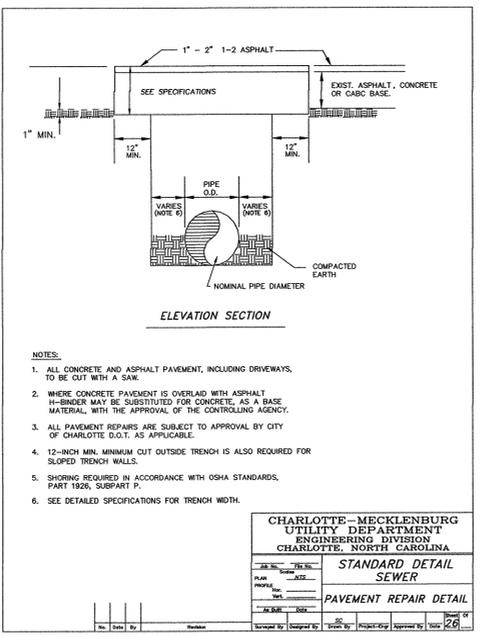
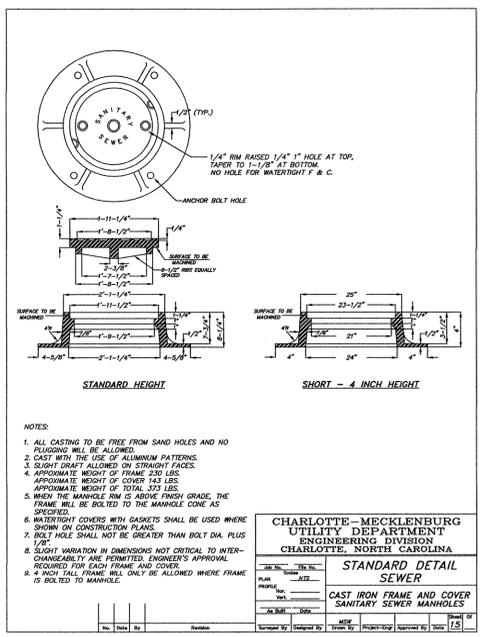
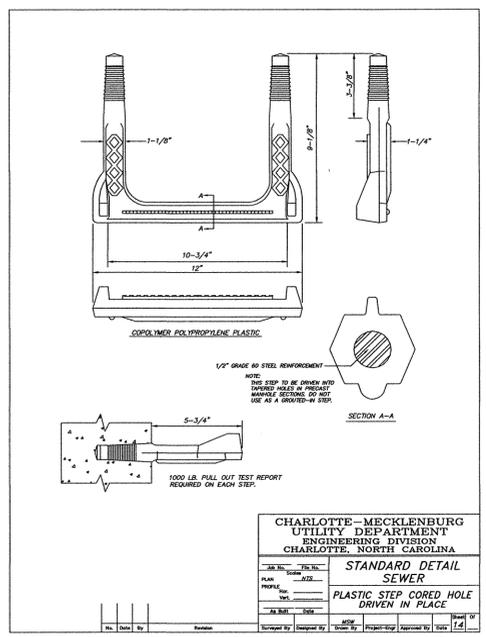
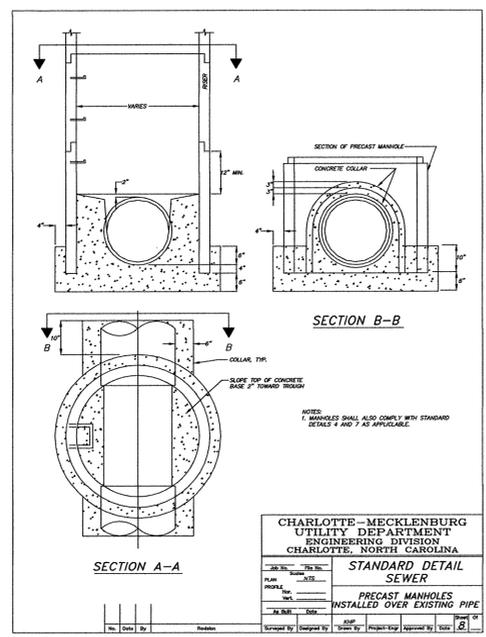
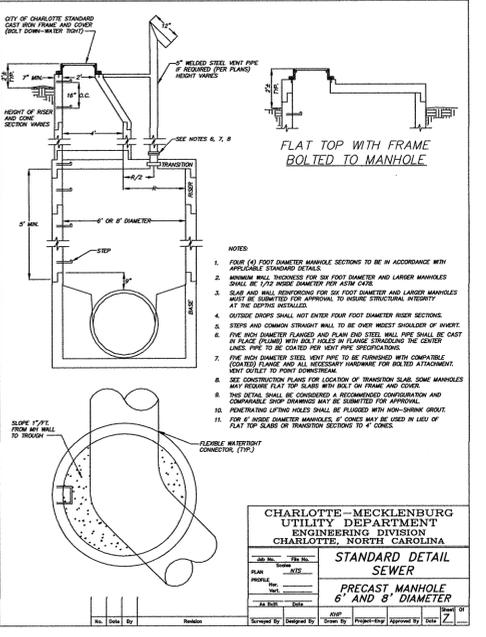
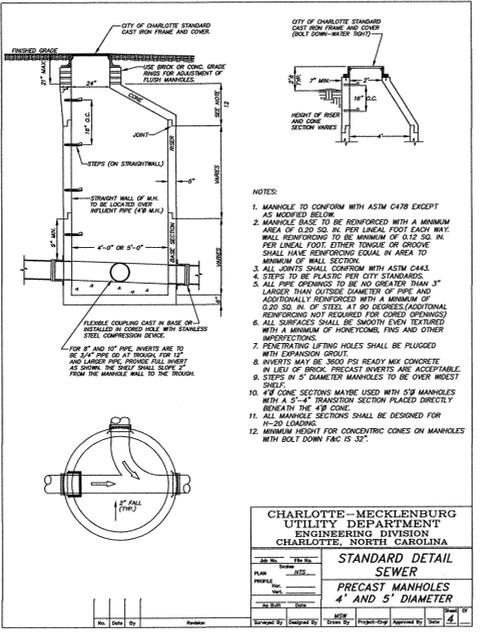
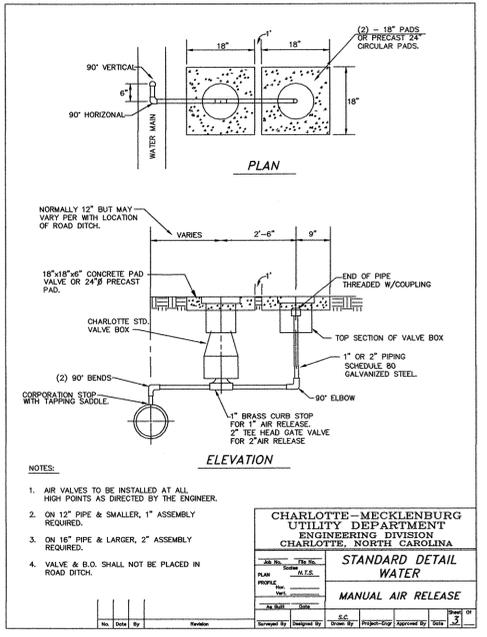
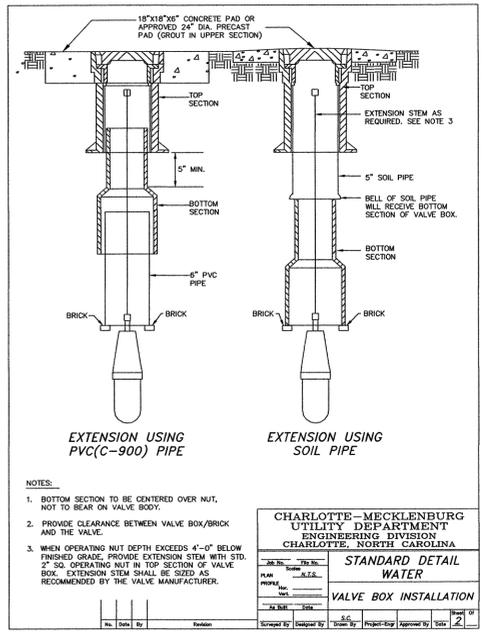
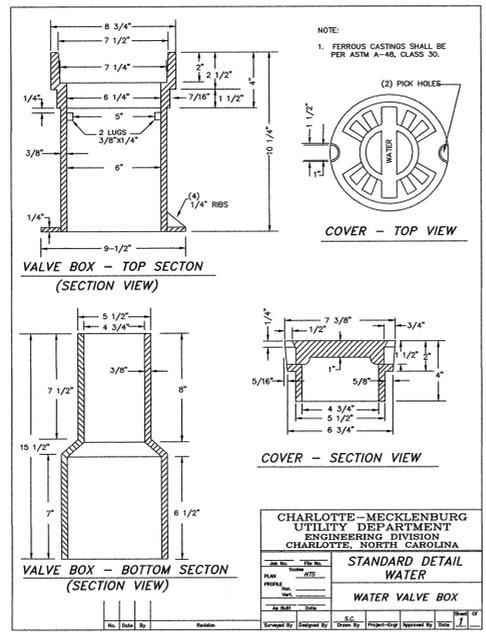
NORTH CAROLINA DEPT. OF TRANSPORTATION
ENGINEERING DIVISION
RALEIGH, NORTH CAROLINA

BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)

Designed By:	Checked By:	Date:	Sheet:	Of:
CLS	KSH	10-12-11	UC-4	UC-6

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License No. C-2639
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UTILITY CONSTRUCTION



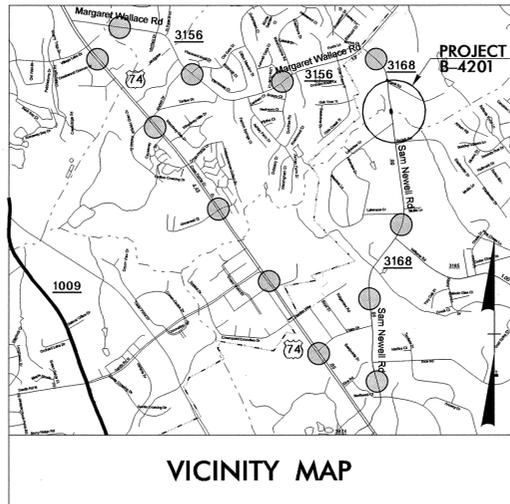
09/08/99

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C For Survey Control Sheet

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4201	UO-1

TIP PROJECT: B-4201



UTILITIES BY OTHERS PLANS MECKLENBURG COUNTY

**LOCATION: BRIDGE NO. 38 OVER IRVINS CREEK
ON SR 3168 (SAM NEWELL ROAD)**

**TYPE OF WORK: ELECTRIC POWER DISTRIBUTION,
TELEPHONE, CABLE TV, GAS PIPELINE**

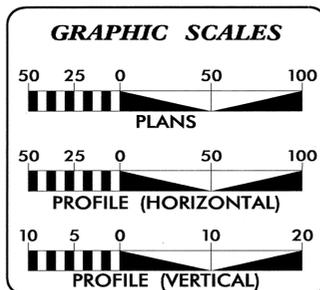
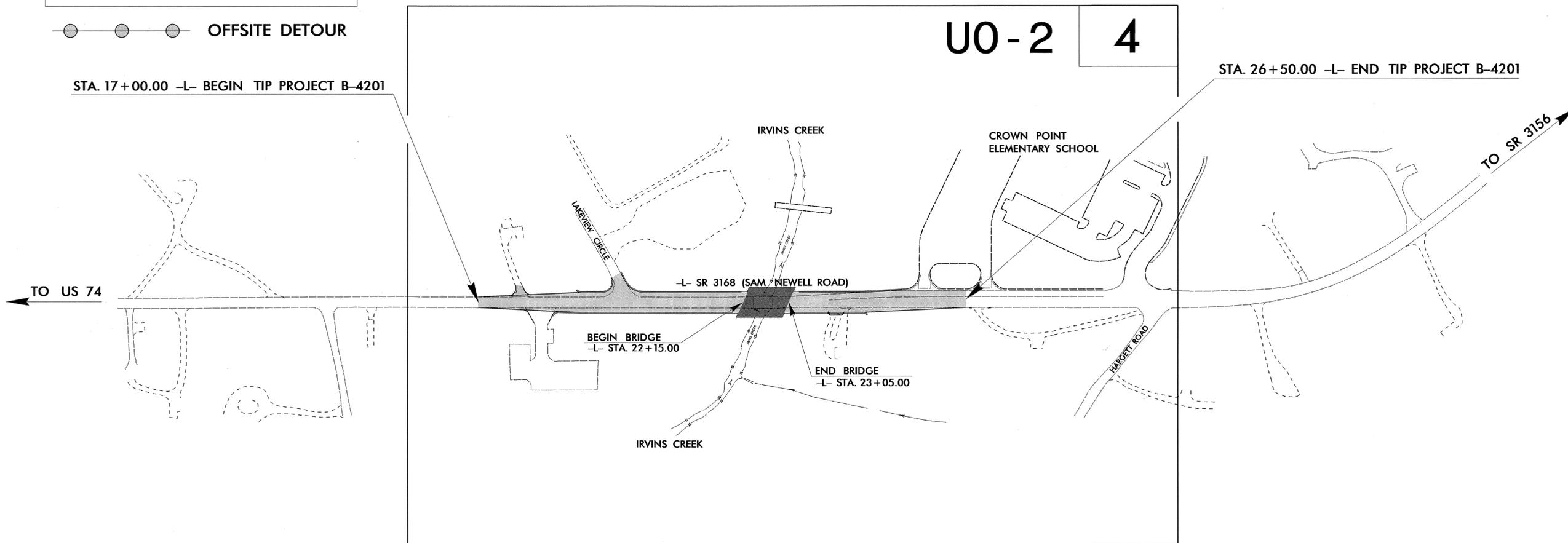


○ — ○ — ○ OFFSITE DETOUR

STA. 17+00.00 -L- BEGIN TIP PROJECT B-4201

UO-2 4

STA. 26+50.00 -L- END TIP PROJECT B-4201



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITIES BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT
(1) Duke Energy - Electric Power
(2) Union Power Cooperative - Electric Power
(3) WindStream Communications - Telephone
(4) AT&T - Telephone
(5) Time Warner Cable
(6) Piedmont Natural Gas - Gas Pipeline



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
Bo Hemphill, P.E. UTILITIES PROJECT DESIGNER

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