STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 7, 2010

Mr. Ronnie Smith
U.S. Army Corps of Engineers
Wilmington Field Office
P.O. Box 1890
Wilmington, NC 28402-1890

Subject: **Permit Modification Request for Individual Section 404 Permit and Individual Water Quality Certification** for Fayetteville Outer Loop from I-95 South of Fayetteville to NC 24-87, Cumberland, Hoke, and Robeson Counties. Federal Aid Project No. NHF-DPR-0100(001), State Project No. 8.2441301, TIP Nos X-0002 B & C, and U-2519 AA, AB, BA, BB, CA, CB, DA, & E, Debit $570 from WBS 35196.3.19

Reference:
Section 404 and 401 Individual Permit Application requested April 25, 2008
Section 404 Individual Permit issued October 23, 2008; USACE Permit No. SAW-2008-01413
Section 401 Water Quality Certification issued October 6, 2008; NCDWQ Project No. 003278
Section 404 and 401 Modification requested May 21, 2010
Section 401 Modification issued June 3, 2010; DWQ Project No. 20080737 v.2

Dear Sir:

This modification request is relevant to section X-0002 C. The design of the proposed bridge at site 8 (Sta. 144+45-144+90 -L-) has been shortened due to updated geotechnical information that indicated a longer bridge was not required as previously determined. This has resulted in an increase of roadway fill in wetlands and an extension of the proposed pipe in the jurisdictional stream. Compensatory mitigation for the additional 0.21 acre of wetland impact and 410 feet of jurisdictional stream impacts were debited from the Privateer Wetland and Stream Mitigation Site (debit ledger also reflects mitigation credits debited from the previous modification requested May 21, 2010 for 0.24 acre resulting in a total of 0.45 acre). This brings total project wetland impacts to 48.88 acres (35.29 riparian, 13.59 non-riparian) and total project stream impacts to 13,642 feet. Please see the enclosed revised permit drawings, roadway plans, and a revised Privateer Wetland and Stream Mitigation Site Debit Ledger for the above referenced project.

Additionally, NCDOT has eliminated the 12-inch sill at the outlet of the pipe at site 6 (Sta. 135+55-137+00 -L-) due to lack of functionality. Instead, a junction box will be installed on the 60-inch pipe

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-431-2000
FAX: 919-431-2002
WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 ATLANTIC AVENUE
SUITE 116
RALEIGH NC 27604

and the pipe outlet will be set on a flat slope to slow velocity. This will not result in additional impacts.

Section 404 Permit: NCDOT requests that the U.S. Army Corps of Engineers (USACE) review this application and issue a modification for the Individual 404 Permit issued October 23, 2008, as required for the above-described activities.

Section 401 Permit: NCDOT requests that the NCDWQ review this application and issue a modification for the Individual 401 Certification issued October 6, 2008, as required for the above-described activities. In accordance with 15A NCAC 2H .0501(a) we are providing five copies of this modification request to the North Carolina Department of Environmental and Natural Resources for their approval and $570 to act as payment for processing the permit modification (see subject line).

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Tyler Stanton at tstanton@ncdot.gov or (919) 431-6748.

Sincerely,

for E. L. Lusk

Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Branch

Cc:
W/attachment
Mr. Brian Wrenn, NCDWQ (5 Copies)
Ms. Jennifer Derby, USEPA

W/o attachment (see website for attachments)
Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. Greg Burns, P.E, Division 6 Engineer
Mr. Jim Rerko, Division 6 Environmental Officer
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Ms. Anne Deaton, NCDMF
Mr. Ron Sechler, NMFS
Mr. Michael Penney, P.E., PDEA
Mr. Phillip Ayscue, NCDOT External Audit Branch
Mr. Drew Joyner, PE, Human Environment Unit Head
Mr. Clarence W. Coleman, P.E., FHWA
Ms. LeiLani Paugh, NEU

Compensatory Mitigation

The Privateer Farms Restoration Site (Site) is located in Bladen and Cumberland Counties, North Carolina, approximately fourteen miles southeast of Fayetteville. Prior to restoration, land use on the Site over the past 20 years had been primarily row crop agriculture. Stream and riparian functions on the Site had been severely impacted as a result of agricultural conversion. Harrison Creek had historically meandered through the Site, but was channelized in the early 1980s to reduce flooding and provide a drainage outlet for the extensive network of ditches excavated across the Site. Subsequent to channelization, Harrison Creek existed as a large canal running straight through the Site.

Restoration activities for the Site involved moving the stream channel back to its historic location and elevation, and filling drainage ditches to raise the local water table and restore wetland and stream hydrology. The plan also included scarification of the fields and breaking of the local plow pan to increase surface water storage and provide a range of hydrologic conditions suitable for a variety of native wetland plant species. The restoration plan for the Site predicted the restoration of 405 acres of riverine wetlands, 25 acres of riverine wetland enhancement, and 33,985 linear feet (LF) of stream restoration. Following construction, the as-built data indicated that the total area of restored riverine wetlands was 402.5 acres (excluding 2.5 acres for road accesses), with 25 acres of enhanced riverine wetlands, and 34,005 LF of restored stream channel.
As of fall 2009, the Site has met all prescribed hydrologic and vegetative monitoring criteria and been recommended for closeout.

To offset an additional .45 acres of unavoidable riverine wetland impacts and 410 feet of stream impacts associated with T.I.P. U-2519, the Privateer Farms Mitigation Site will be debited an additional 1.35 acres of riverine wetland restoration and 615 feet of stream restoration. These debits are reflected in the following ledger.

Site Name	River Basin	HUC	Mitigation Type	Transfer from EEP	Available	TIP Debit	TIP Debit
Privateer Site	Cape Fear	3030004				U-2519	U-2519 MOD
			Warm Stream Restoration	25,676	5,213	19,848	615
			Riverine Wetland Restoration	146.98	0.34	145.29	1.35

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS			
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Natural Stream Design (ft)
1	83+50-85+00 -L-	72" RCP	1.11		0.03	0.10		0.04		279	
2	92+90-93+80 -L-	42" RCP	0.50		0.02	0.08					
3	105+15-105+70 -L-	2 @ 6' x 7' RCBC	0.76			0.05		0.86		775	
4	117+95-118+70 -L-	325' Bridge	0.36			0.08	0.55				
5	129+60-130+20 -L-	54" RCP	0.69			0.06		0.02		361	
6	135+55-137+00 -L-	60" RCP	1.68			0.09		0.04		479	
7	141+30-142+30 -L-	36" RCP	1.55			0.05		0.01		213	
8	144+45-144+90 -L-	48" RCP	0.29			0.03		0.11		919	
9	14+20 -Y-Rev	2 @ 6' x 7' RCBC						2.54		98	
10	13+66-14+06 -Y1-	48" RCP	0.19		0.01	0.04		0.01		207	
TOTALS:			7.12		0.06	0.59	0.55	3.63		3332	

SITE 10: LATERAL EFFECT ON WETLAND DUE TO EXCAVATION = 0.01 ac

FILL IN SURFACE WATERS (POND)
SITE 3: 0.73 ac
SITE 9: 2.53 ac

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY
WBS - 35196.1.2 (X-0002C)

SHEET REV. 7/28/2010

JMD Revised 2/03/05

Permit Drawing
Sheet 3 of 64

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS			
			Permanent Fill In Wetlands (ha)	Temp. Fill In Wetlands (ha)	Excavation in Wetlands (ha)	Mechanized Clearing in Wetlands (ha)	Hand Clearing in Wetlands (ha)	Permanent SW impacts (ha)	Temp. SW impacts (ha)	Existing Channel Impacts Permanent (m)	Natural Stream Design (m)
1	83+50-85+00 -L-	1800 mm RCP	0.448		0.013	0.040		0.015		85	
2	92+90-93+80 -L-	1050 mm RCP	0.203		0.007	0.033					
3	105+15-105+70 -L-	2 @ 1.8m x 2.1m RCBC	0.306			0.022		0.347		236	
4	117+95-118+70 -L-	99m Bridge	0.145			0.034	0.223				
5	129+60-130+20 -L-	1350 mm RCP	0.280			0.025		0.008		110	
6	135+55-137+00 -L-	1500 mm RCP	0.680			0.038		0.018		146	
7	141+30-142+30 -L-	900 mm RCP	0.626			0.021		0.004		65	
8	144+45-144+90 -L-	1200 mm RCP	0.116			0.012		0.046		280	
9	14+20 -Y-Rev	2 @ 1.8m x 2.1m RCBC						1.027		30	
10	13+66-14+06 -Y1-	1200 mm RCP	0.076		0.004	0.015		0.004		63	
TOTALS:			2.880		0.024	0.240	0.223	1.469		1015	

SITE 10: LATERAL EFFECT ON WETLAND DUE TO EXCAVATION = 0.003 ha

FILL IN SURFACE WATERS (POND)
SITE 3: 0.297 ha
SITE 9: 1.023 ha

JMD Revised 2/03/05

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY
WBS - 35196.1.2 (X-0002C)

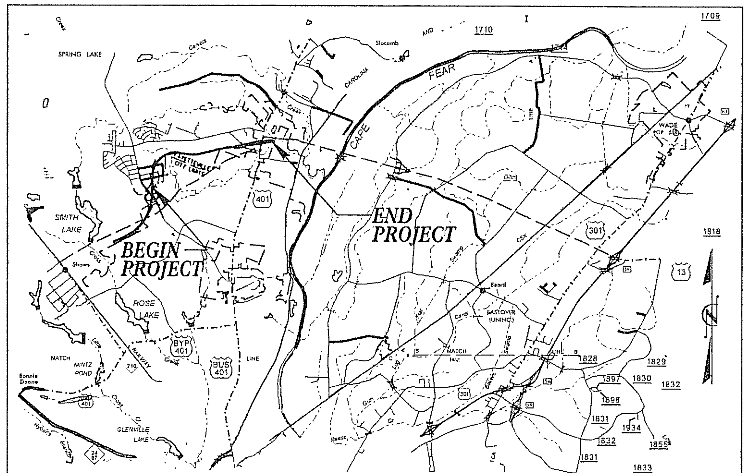
SHEET Rev. 7/28/2010

Permit Drawing
Sheet 4 of 64

TIP PROJECT: X-0002CB

CONTRACT:

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

LOCATION: NC 24 EXTENSION (FAYETTEVILLE OUTER LOOP)
FROM EAST OF SR1600 (MCARTHUR RD.)
TO WEST OF US401(RAMSEY ST.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES AND SIGNING

METRIC

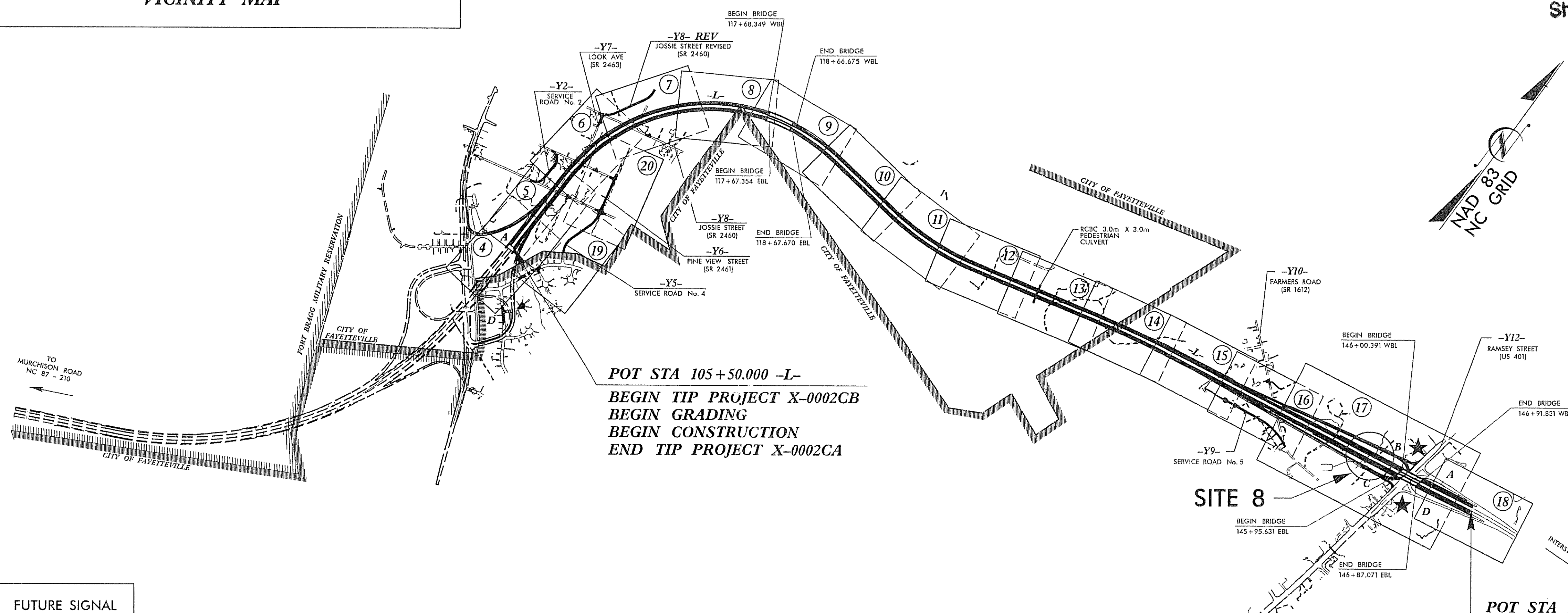
ALL DIMENSIONS IN THESE PLANS ARE IN METERS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	X-0002CB	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
35196.1.2	NHF-DPR-0100(002)	P.E.
35196.2.4		ROW & UTIL
		CONST.

WETLAND/STREAM IMPACTS

Permit Drawing Rev. 7/28/10
Sheet 6 of 64



★ FUTURE SIGNAL

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS LIMITED TO INTERCHANGES

GRAPHIC SCALES

PLANS (5 0 10)

PROFILE (HORIZONTAL) (5 0 10)

PROFILE (VERTICAL) (1 0 2)

DESIGN DATA

ADT 2008	=	34,700
ADT 2030	=	59,600
DHV	=	9 %
D	=	55 %
T	=	10 % *
V	=	110 km/h

* (TTST 4 % DUAL 6 %)

FUNC. CLASS = INTERSTATE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT X-0002CB	=	4.170 km
LENGTH STRUCTURES TIP PROJECT X-0002CB	=	0.190 km
TOTAL LENGTH OF TIP PROJECT X-0002CB	=	4.360 km

Prepared In the Office of:

MOFFATT & NICHOL
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 781-4626 VOICE (919) 781-4869 FAX
NC License Number F-0105

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 METRIC STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 31, 2006

LETTING DATE:

T.R. REID, P.E.
PROJECT ENGINEER

T.E. HUFFMAN, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SDG
Sungate Design Group, P.A.
Engineering • Landscape Architecture • Environmental
915-A Jones Franklin Rd.
Raleigh, N.C. 27606
NC License Number C-0890

NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER W. HENRY WELLS

P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

MOFFATT & NICHOL
1616 EAST MILLBROOK ROAD, SUITE 160
RALEIGH, NORTH CAROLINA 27609
(919) 781-4626 VOICE (919) 781-4869 FAX
NC License Number F-0105

NORTH CAROLINA PROFESSIONAL SEAL 15869 ENGINEER T. R. REID

P.E.

SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

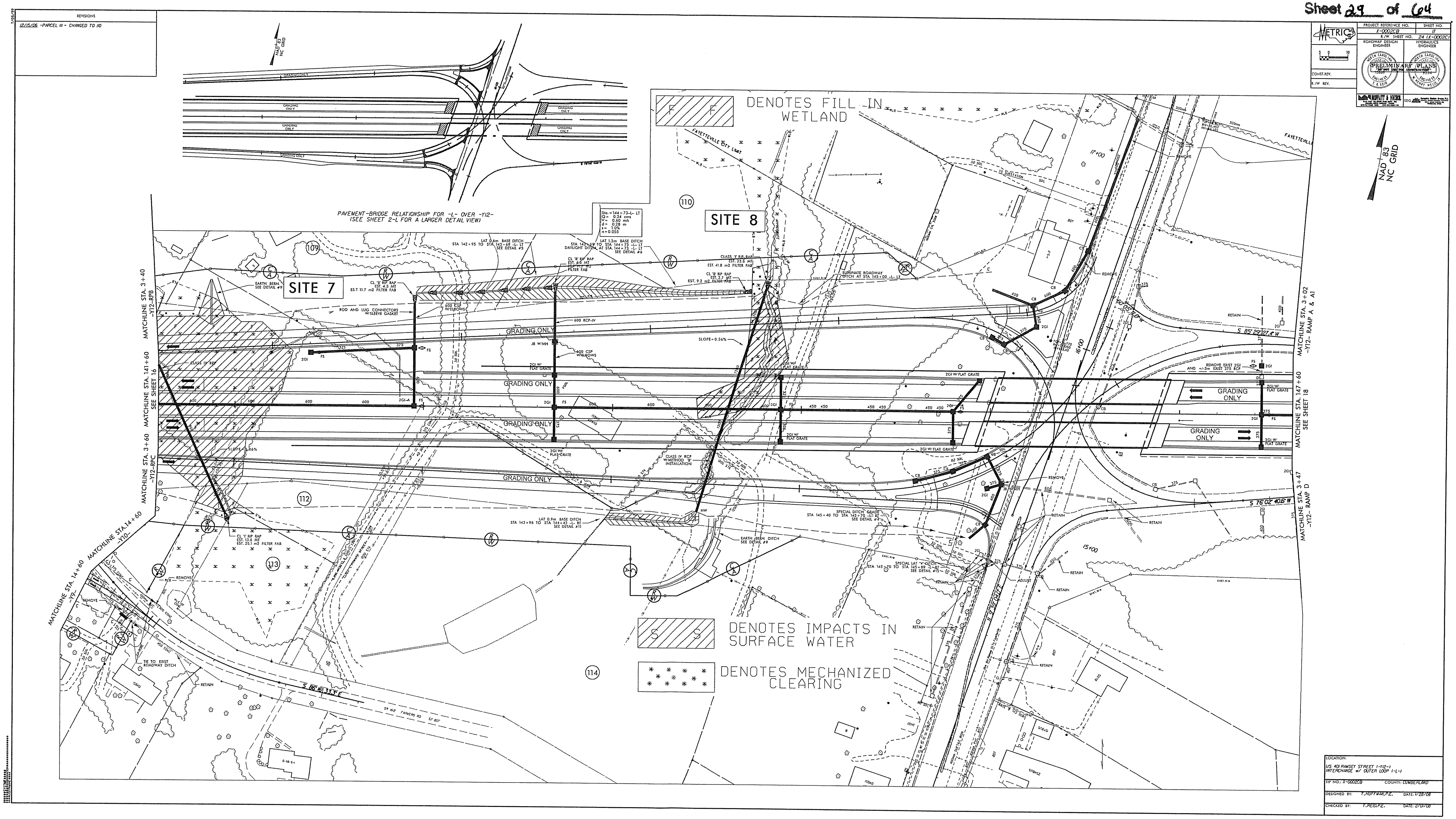
P.E.

STATE HIGHWAY DESIGN ENGINEER

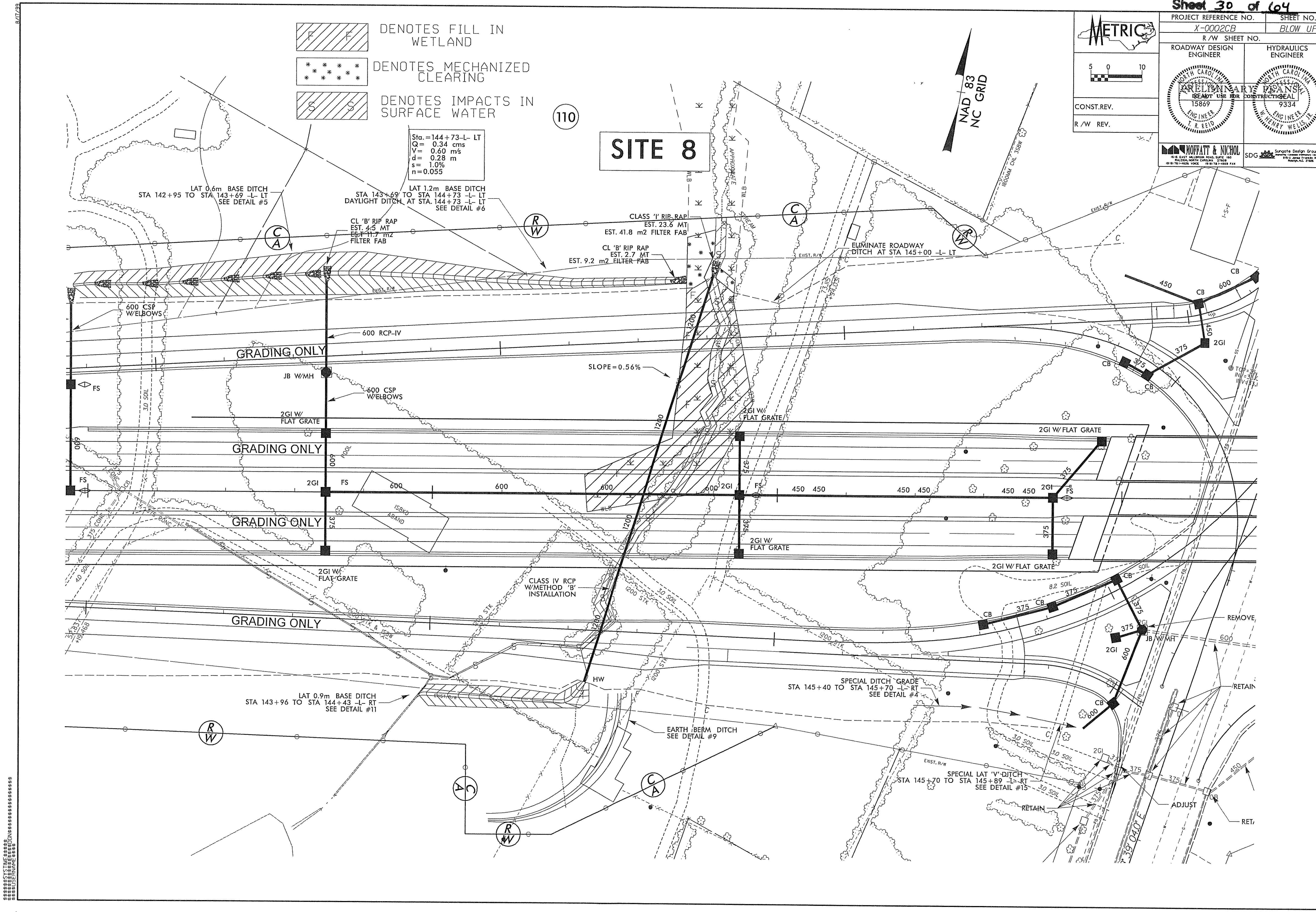
9/09/99

$$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

Permit Drawing Rev. 7/28/10
Sheet 29 of 64



Permit Drawing REV. 7/28/10
Sheet 30 of 64

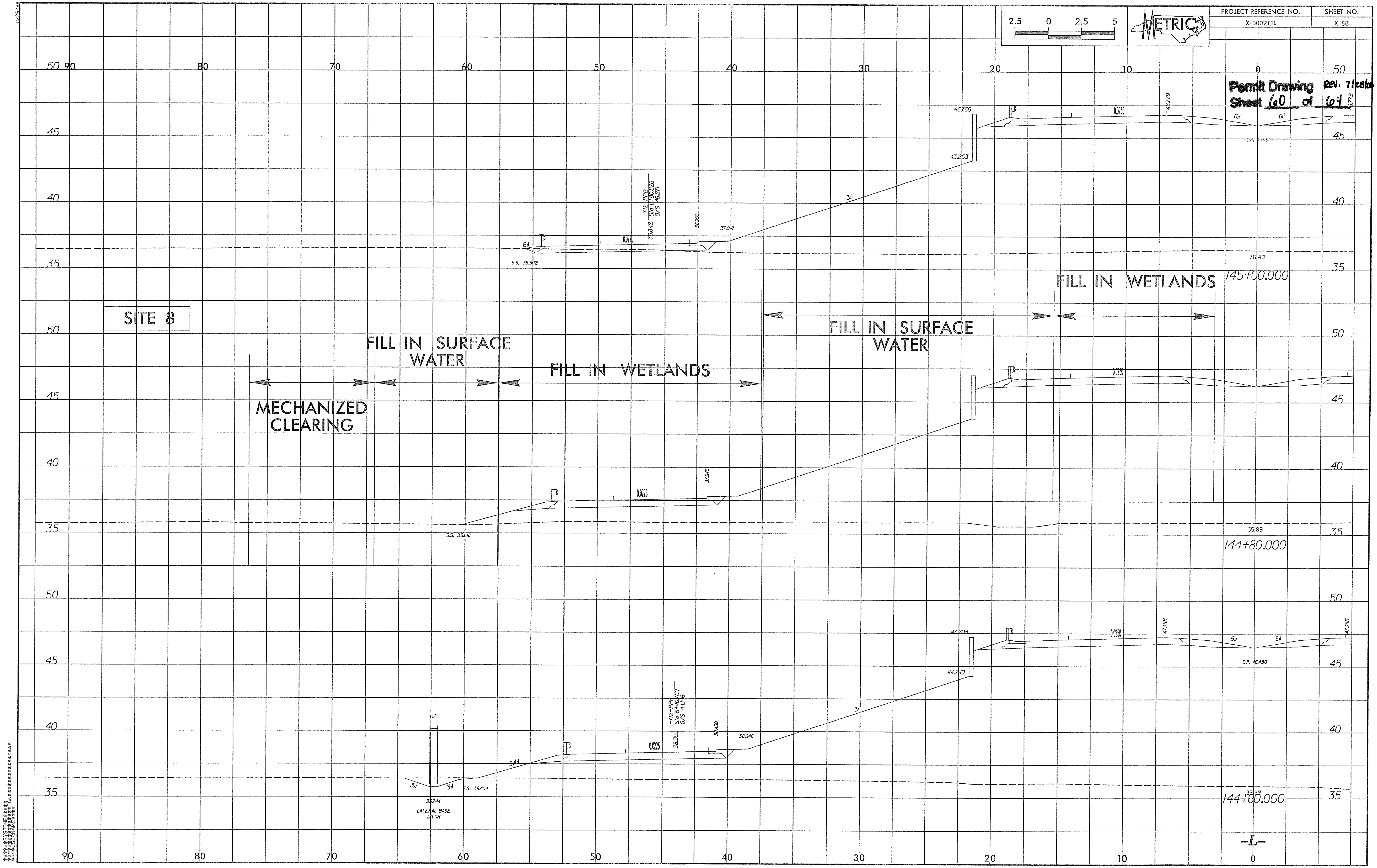


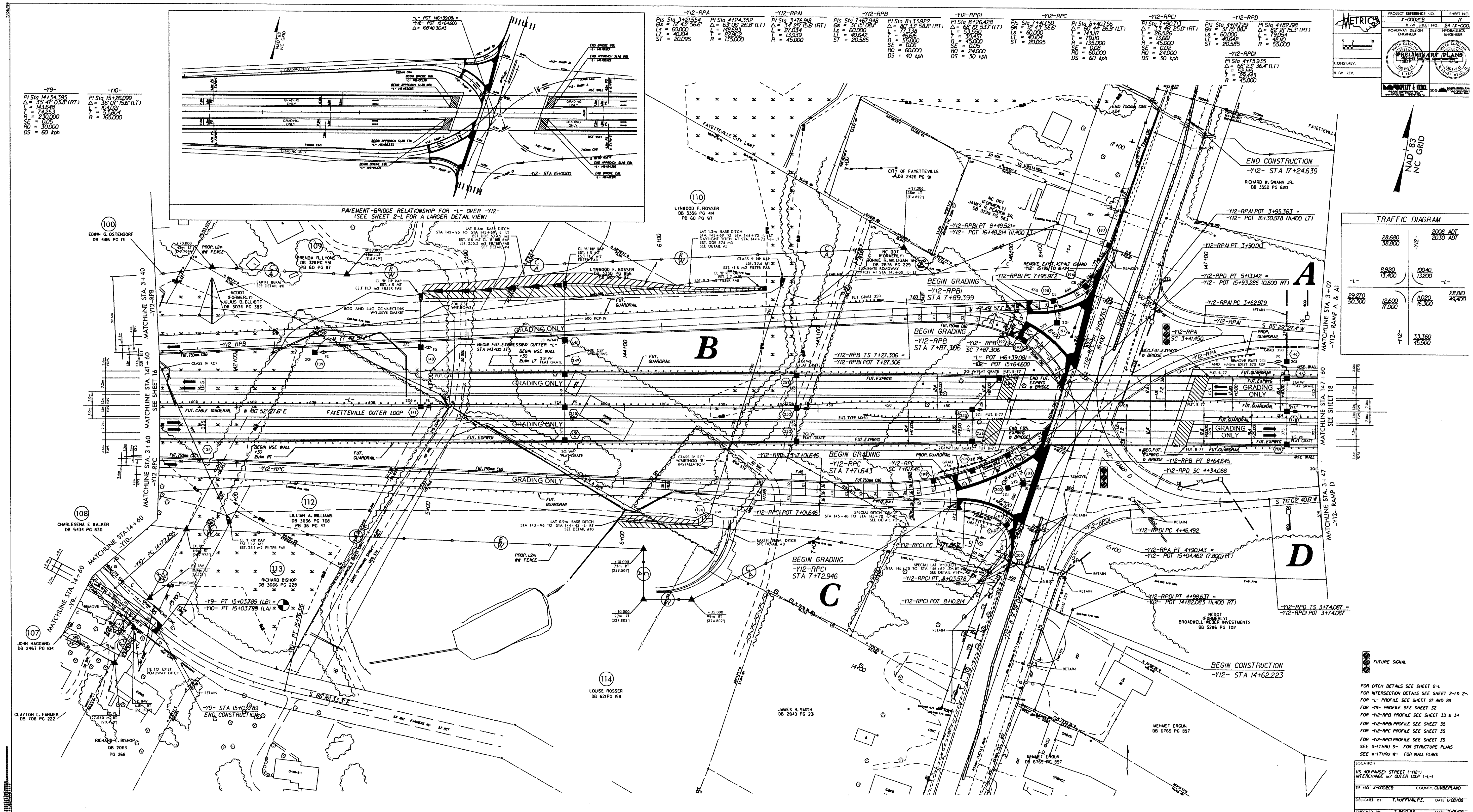
PROJECT REFERENCE NO.	SHEET NO.
X-0002CB	X-88

METRIC

Permit Drawing
Sheet 60 of 64

REV. 7/28/06




METRIC
PROJECT REFERENCE NO. X-0002CB
SHEET NO. 17
R/W SHEET NO. 24 (X-000
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
CONST. REV.
R/W REV.
MOFFATT & NICHOL
SDG
NAD 83 NC GRID
PAVEMENT-BRIDGE RELATIONSHIP FOR -L- OVER -Y12-
(SEE SHEET 2-L FOR A LARGER DETAIL VIEW)
TRAFFIC DIAGRAM
FAYETTEVILLE OUTER LOOP
GRADING ONLY
BEGIN GRADING
-Y12-RPB
-Y12-RPC
-Y12-RPBI STA 7+89.399
-Y12-RPC STA 7+71.643
-Y12-RPCI STA 7+72.946
END CONSTRUCTION -Y12- STA 17+24.639
BEGIN CONSTRUCTION -Y12- STA 14+62.223
-Y9- STA 15+03.789 END CONSTRUCTION
MATCHLINE STA. 141+60 SEE SHEET 16
MATCHLINE STA. 147+60 SEE SHEET 18
A
B
C
D
FUTURE SIGNAL
FOR DITCH DETAILS SEE SHEET 2-L
FOR INTERSECTION DETAILS SEE SHEET 2-I & 2-
FOR -L- PROFILE SEE SHEET 27 AND 28
FOR -Y9- PROFILE SEE SHEET 32
FOR -Y12-RPB PROFILE SEE SHEET 33 & 34
FOR -Y12-RPBI PROFILE SEE SHEET 35
FOR -Y12-RPC PROFILE SEE SHEET 35
FOR -Y12-RPCI PROFILE SEE SHEET 35
SEE S-1 THRU S- FOR STRUCTURE PLANS
SEE W-1 THRU W- FOR WALL PLANS
LOCATION:
US 401 RAMSEY STREET (-Y12-)
INTERCHANGE w/ OUTER LOOP (-L-)
TIP NO.: X-0002CB COUNTY: CUMBERLAND
DESIGNED BY: T. HUFFMAN, P.E. DATE: 1/28/08
CHECKED BY: T. REID, P.E. DATE: 2/01/08