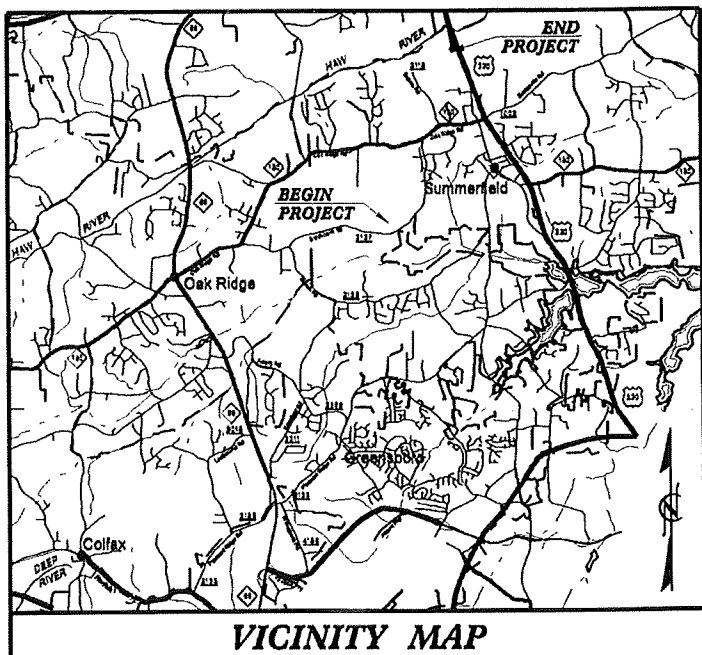


CONTRACT: R-2413B
 SYSTEMATICALLY DRAWN BY THE STATE OF NORTH CAROLINA

TIP PROJECT: R-2413B

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

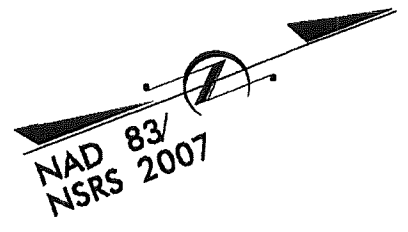


STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
GUILFORD COUNTY

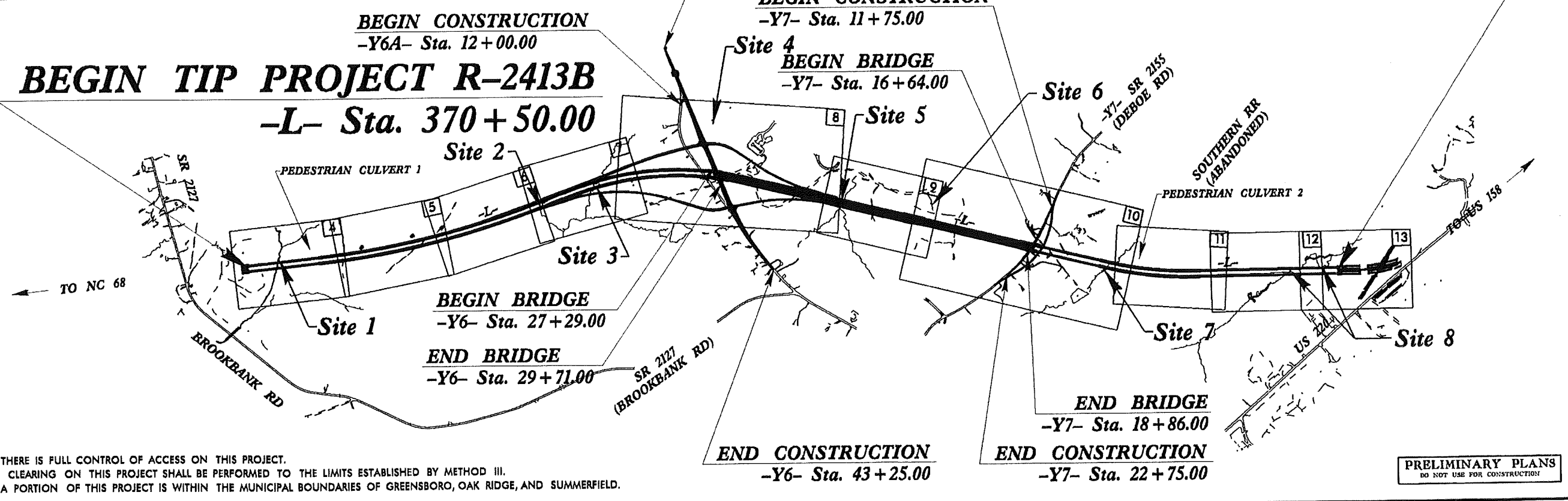
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2413B	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
34429.1.1		PE	
34429.2.3	Permit Drawing	RW,UTL	
		Sheet 1 of 31	

**LOCATION: NC 68 CONNECTOR - FROM SR 2127
 (BROOKBANK ROAD) TO HAW RIVER**

**TYPE OF WORK: GRADING, PAVING, WIDENING, RESURFACING,
 DRAINAGE, STRUCTURES, SIGNING, GUARDRAIL,
 SIGNALS, AND ITS.**

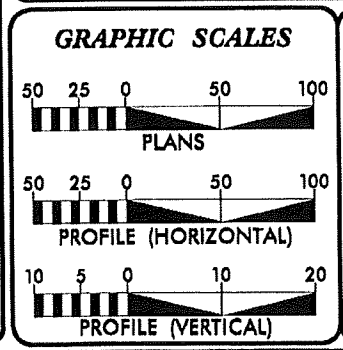


WETLAND / SURFACE WATER PERMIT
BEGIN CONSTRUCTION -Y6- Sta. 10+00.00
END TIP PROJECT R-2413B
-L- Sta. 520+00.00



THERE IS FULL CONTROL OF ACCESS ON THIS PROJECT.
 CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
 A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GREENSBORO, OAK RIDGE, AND SUMMERFIELD.

PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION



DESIGN DATA

ADT 2012 =	23,000
ADT 2035 =	40,800
DHV =	11 %
D =	65 %
T =	15 % *
V =	70 MPH
* TTST 10% DUAL 5%	
FUNC CLASS -	INTERSTATE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2413B =	2.831 MILES
TOTAL LENGTH TIP PROJECT R-2413B =	2.831 MILES

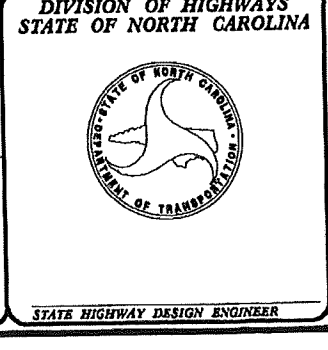
Prepared in the Office of:

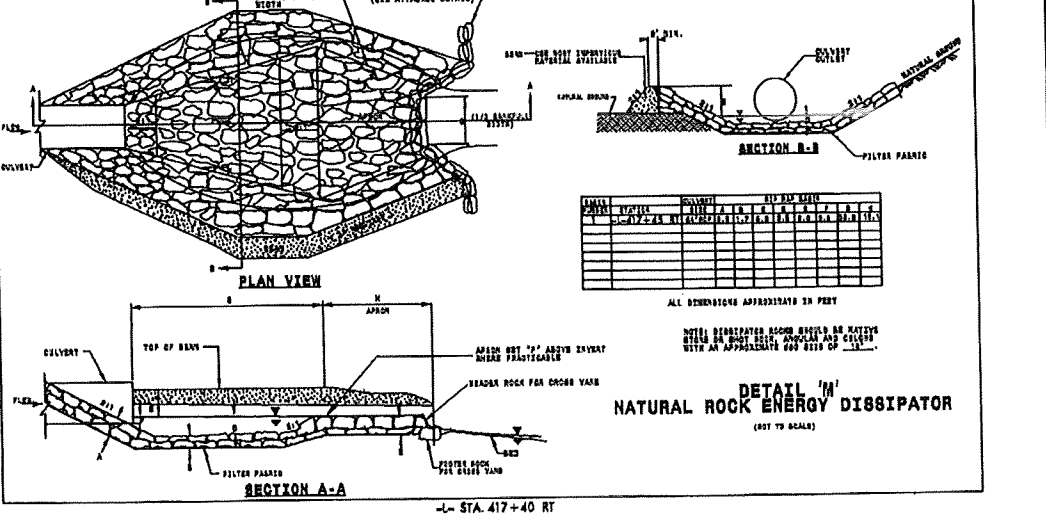
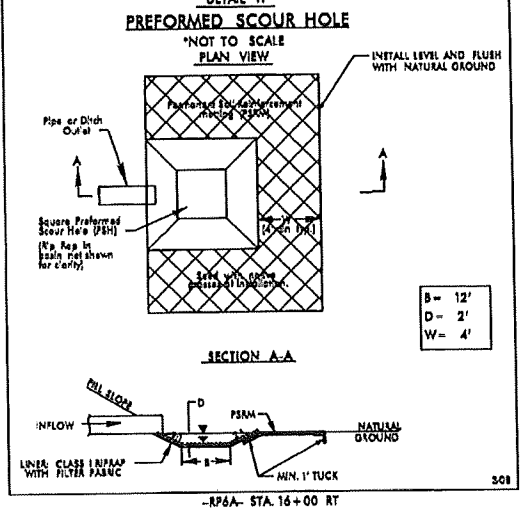
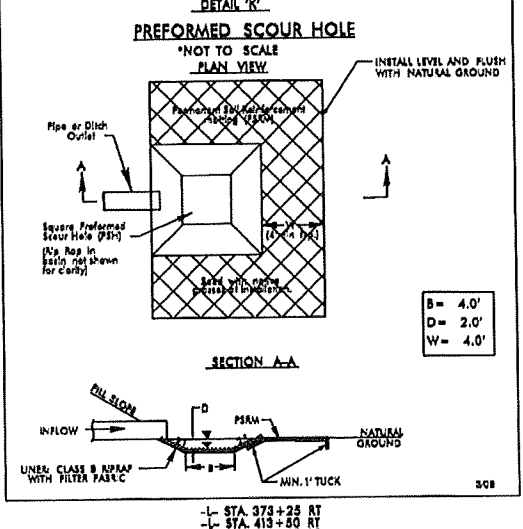
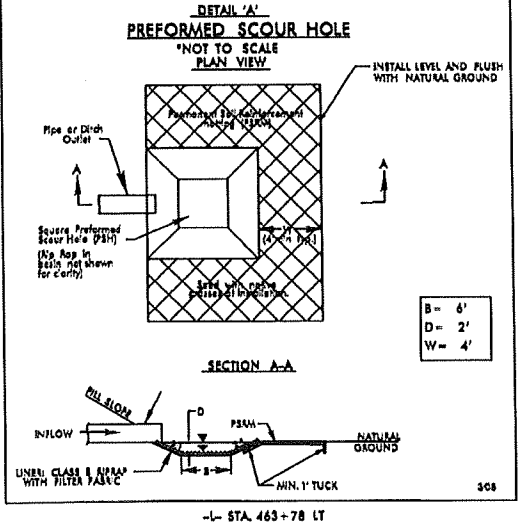
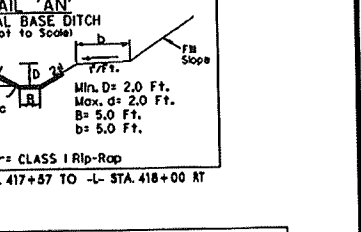
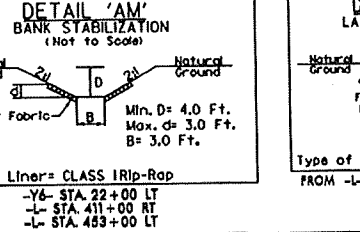
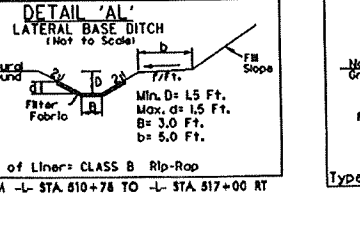
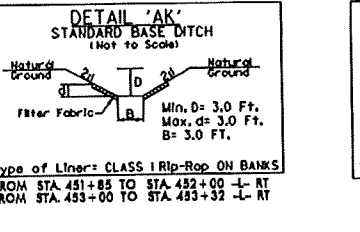
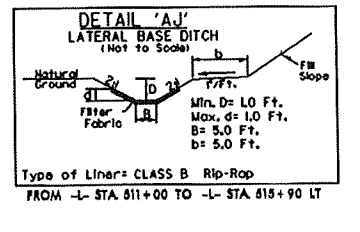
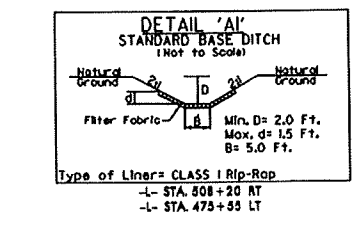
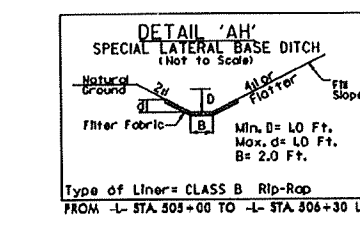
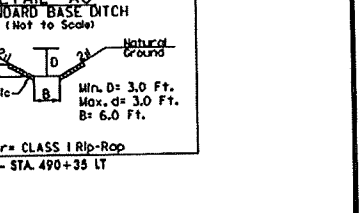
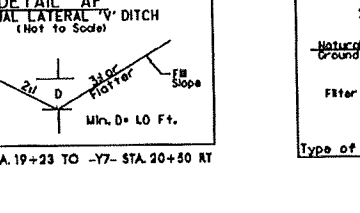
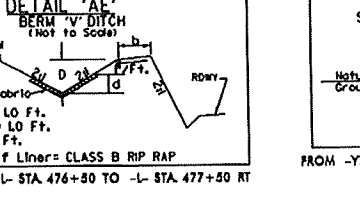
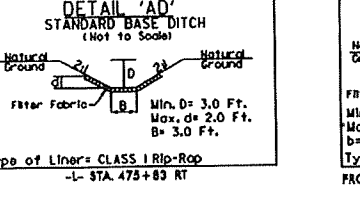
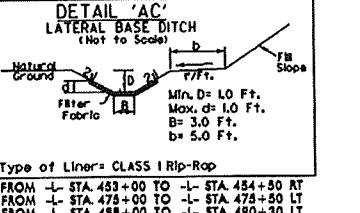
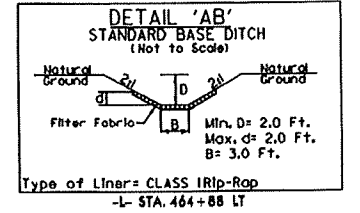
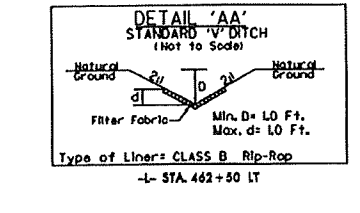
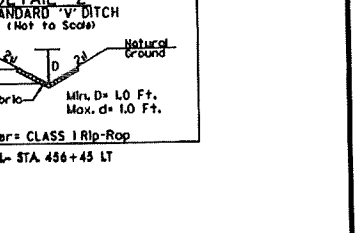
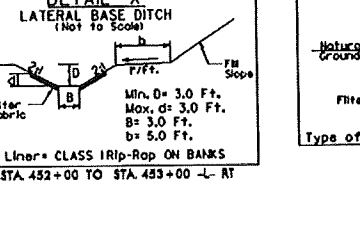
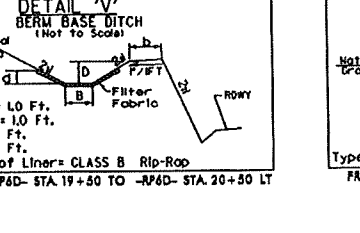
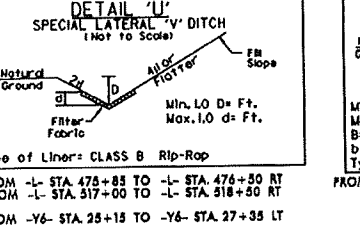
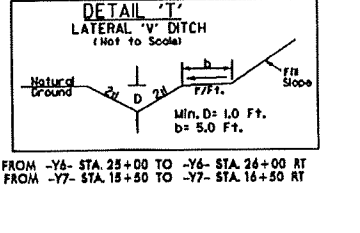
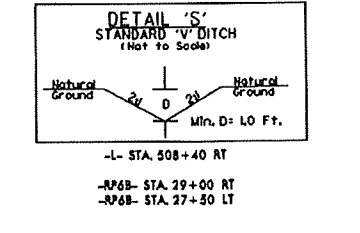
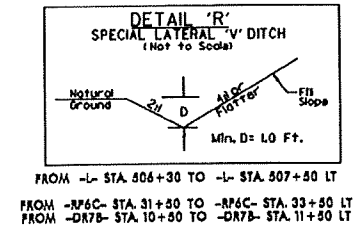
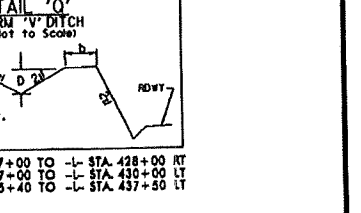
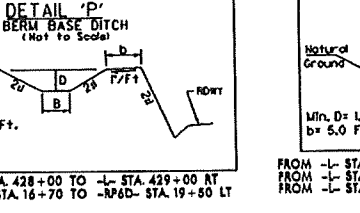
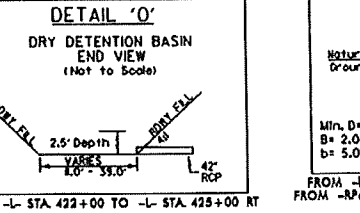
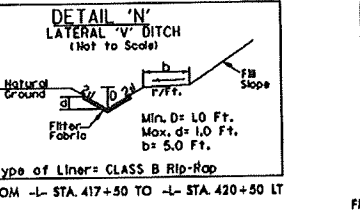
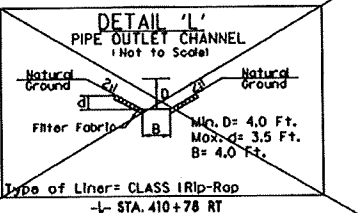
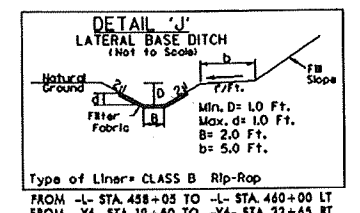
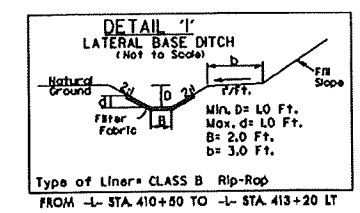
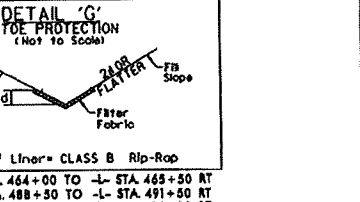
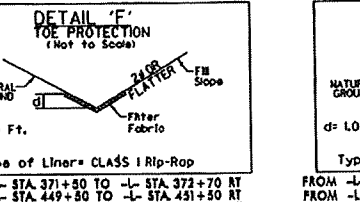
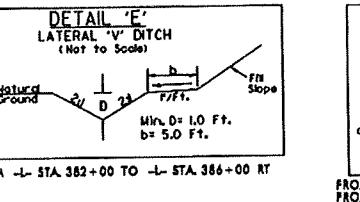
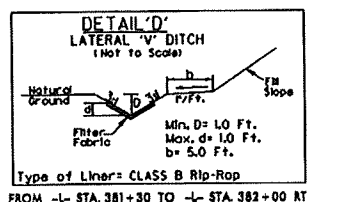
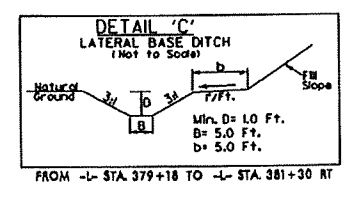
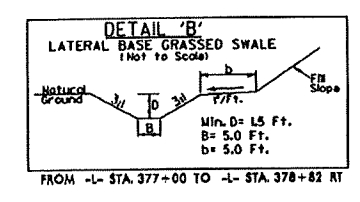
DIVISION OF HIGHWAYS
 1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS	RIGHT OF WAY DATE:	LETTING DATE:
	JANUARY 26, 2012	APRIL 15, 2014

TONY HOUSER, PE PROJECT ENGINEER	SIGNATURE: _____ ROADWAY DESIGN ENGINEER
JEFFREY TEAGUE, PE PROJECT DESIGN ENGINEER	SIGNATURE: _____ STATE HIGHWAY DESIGN ENGINEER

HYDRAULICS ENGINEER
 ROADWAY DESIGN ENGINEER





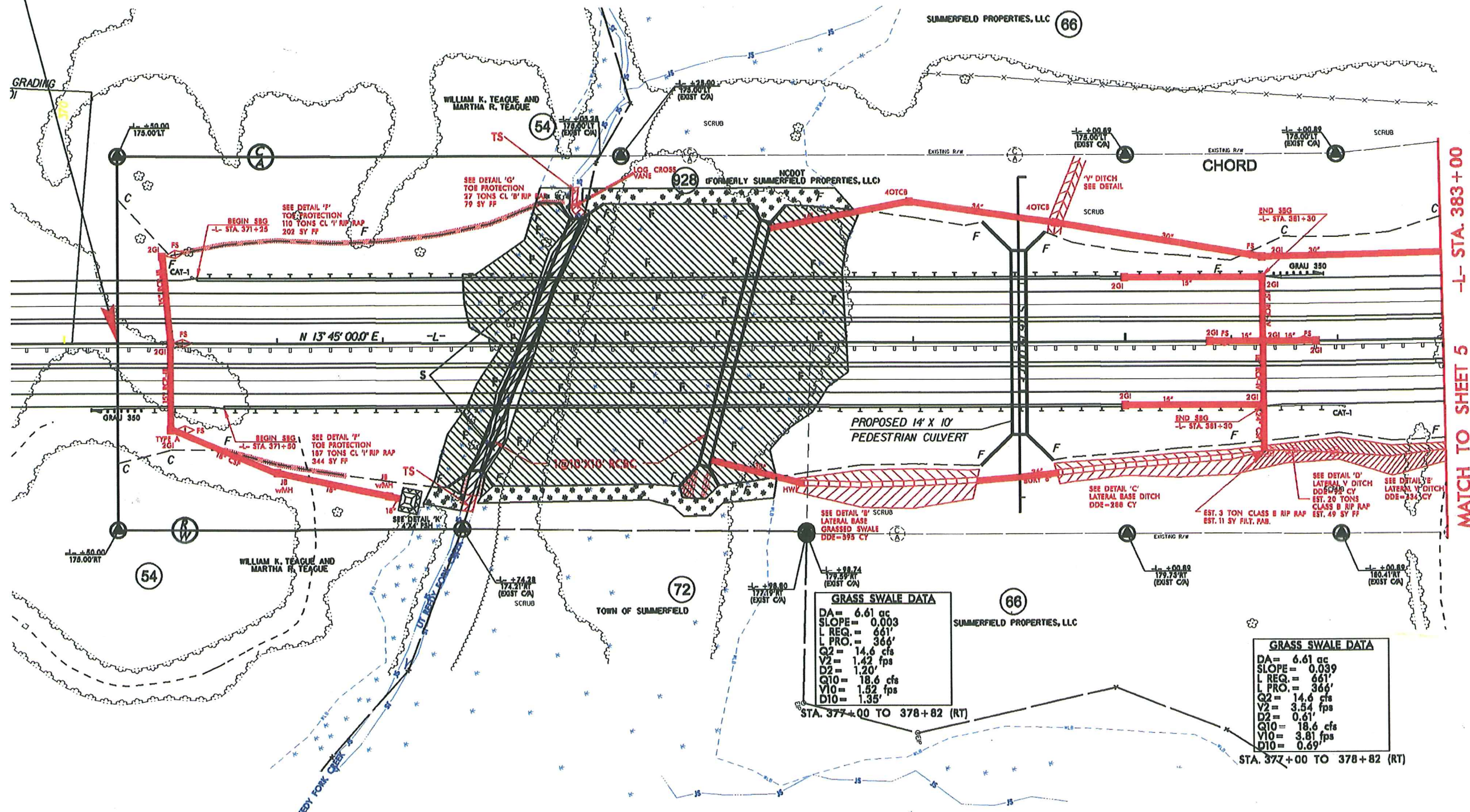
8/17/99

PROJECT REFERENCE NO. R-2413B	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
Permit Drawing Sheet 3 of 31	

NAD 83/NSRS 2007

BEGIN TIP PROJECT R-2413B -L- Sta. 370+50.00
 END TIP PROJECT R-2413A -L- Sta. 370+50.00
 TIE GUARDRAIL & MEDIAN GUIDERAIL TO TIP PROJECT R-2413A

SITE 1



MATCH TO SHEET 5 -L- STA. 383+00

GRASS SWALE DATA

DA = 6.61 ac
SLOPE = 0.003
L REQ. = 661'
L PRO. = 366'
Q2 = 14.6 cfs
V2 = 1.42 fps
D2 = 1.20'
Q10 = 18.6 cfs
V10 = 1.52 fps
D10 = 1.35'

STA. 377+00 TO 378+82 (RT)

GRASS SWALE DATA

DA = 6.61 ac
SLOPE = 0.039
L REQ. = 661'
L PRO. = 366'
Q2 = 14.6 cfs
V2 = 3.54 fps
D2 = 0.61'
Q10 = 18.6 cfs
V10 = 3.81 fps
D10 = 0.69'

STA. 377+00 TO 378+82 (RT)



DENOTES FILL IN WETLAND



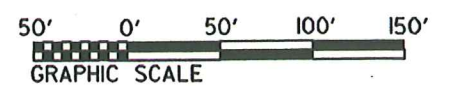
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DENOTES MECHANIZED CLEARING



REVISIONS

SYSTEMS ENGINEERING

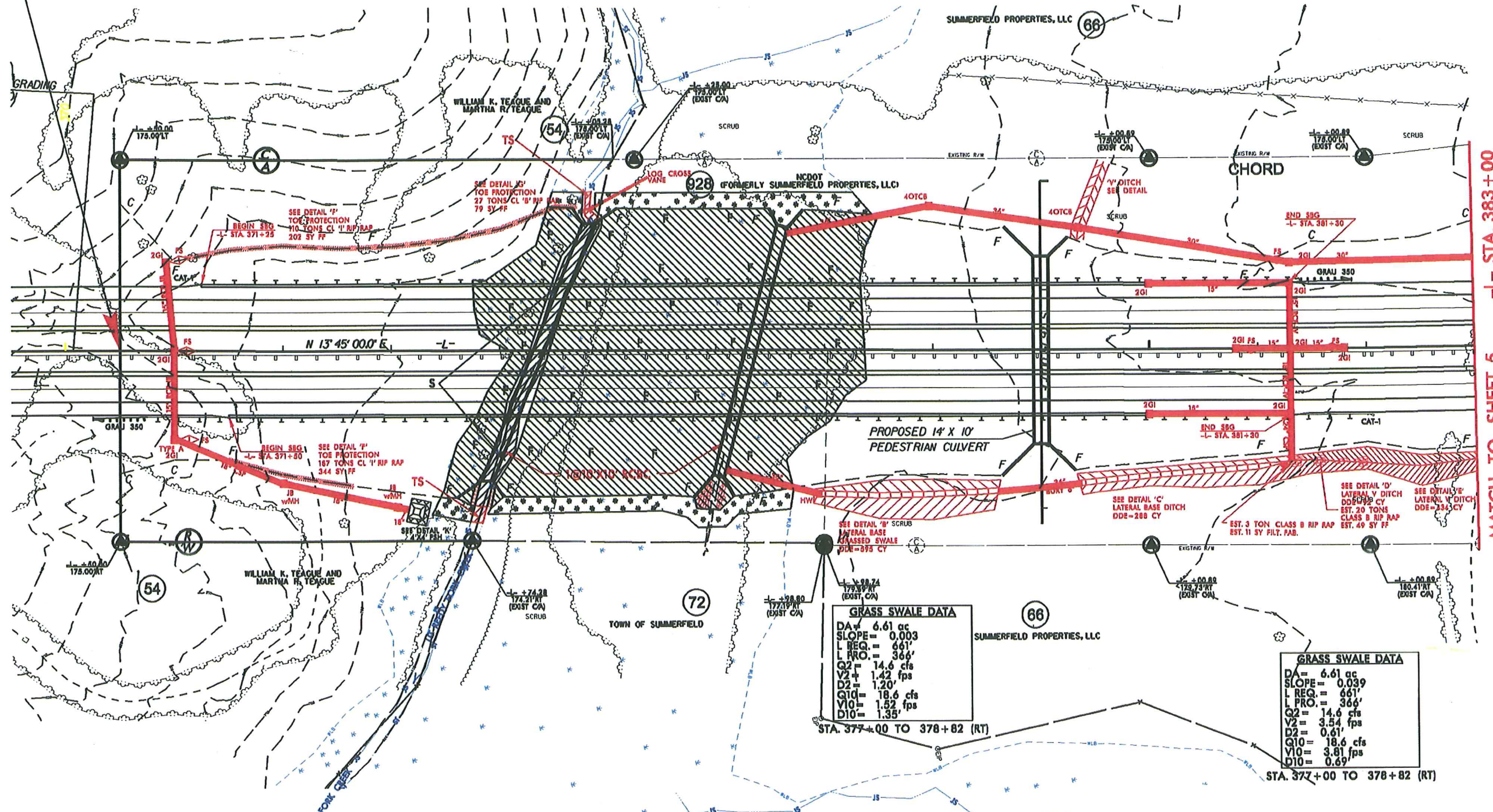
8/17/99

BEGIN TIP PROJECT R-2413B -L- Sta. 370+50.00
END TIP PROJECT R-2413A -L- Sta. 370+50.00
TIE GUARDRAIL & MEDIAN GUIDERAIL TO TIP PROJECT R-2413A

SITE 1

NAD 83/NSRS 2007

PROJECT REFERENCE NO. R-2413B		SHEET NO. 4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
Permit Drawing Sheet 4 of 31			



DENOTES FILL IN WETLAND



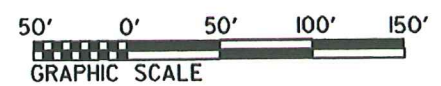
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



DENOTES MECHANIZED CLEARING



GRASS SWALE DATA
STA. 377+00 TO 378+82 (RT)

DA =	6.61 ac
SLOPE =	0.003
L REQ. =	661'
L PRO. =	366'
Q2 =	14.6 cfs
V2 =	1.42 fps
D2 =	1.20'
Q10 =	18.6 cfs
V10 =	1.52 fps
D10 =	1.35'

GRASS SWALE DATA
STA. 377+00 TO 378+82 (RT)

DA =	6.61 ac
SLOPE =	0.039
L REQ. =	661'
L PRO. =	366'
Q2 =	14.6 cfs
V2 =	3.54 fps
D2 =	0.61'
Q10 =	18.6 cfs
V10 =	3.81 fps
D10 =	0.69'

MATCH TO SHEET 5 -L- STA. 383+00

REVISIONS

SYTIME:DDN*****
SYTIME:DDN*****
SYTIME:DDN*****
SYTIME:DDN*****
SYTIME:DDN*****

8/17/09

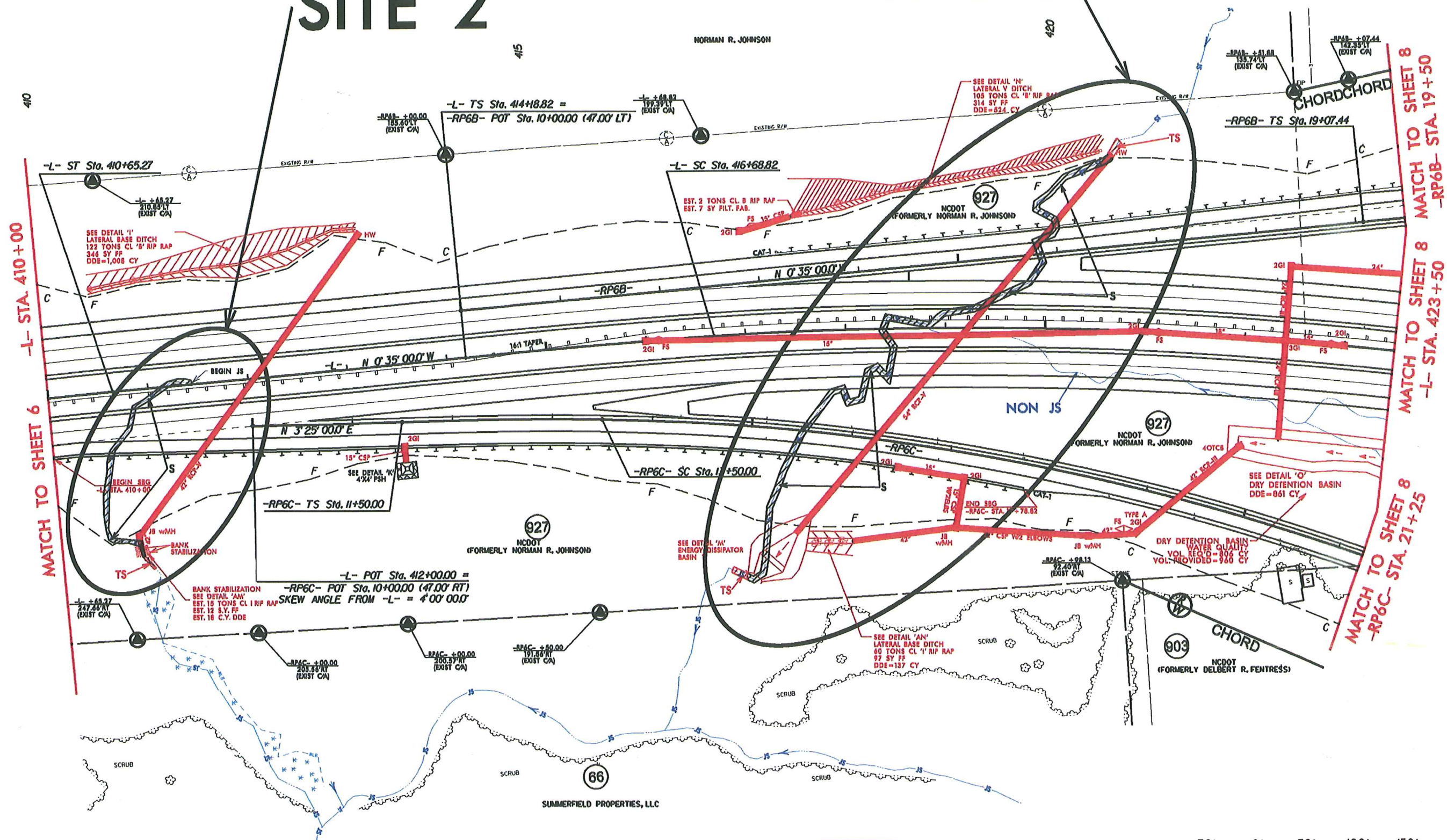
Permit Drawing
Sheet 5 of 31

NAD 83/NSRS 2007

PROJECT REFERENCE NO. R-2413B	SHEET NO. 7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SITE 2

SITE 3



REVISIONS

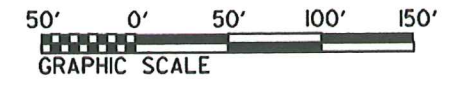
SYSTEMS



DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER



8/17/99

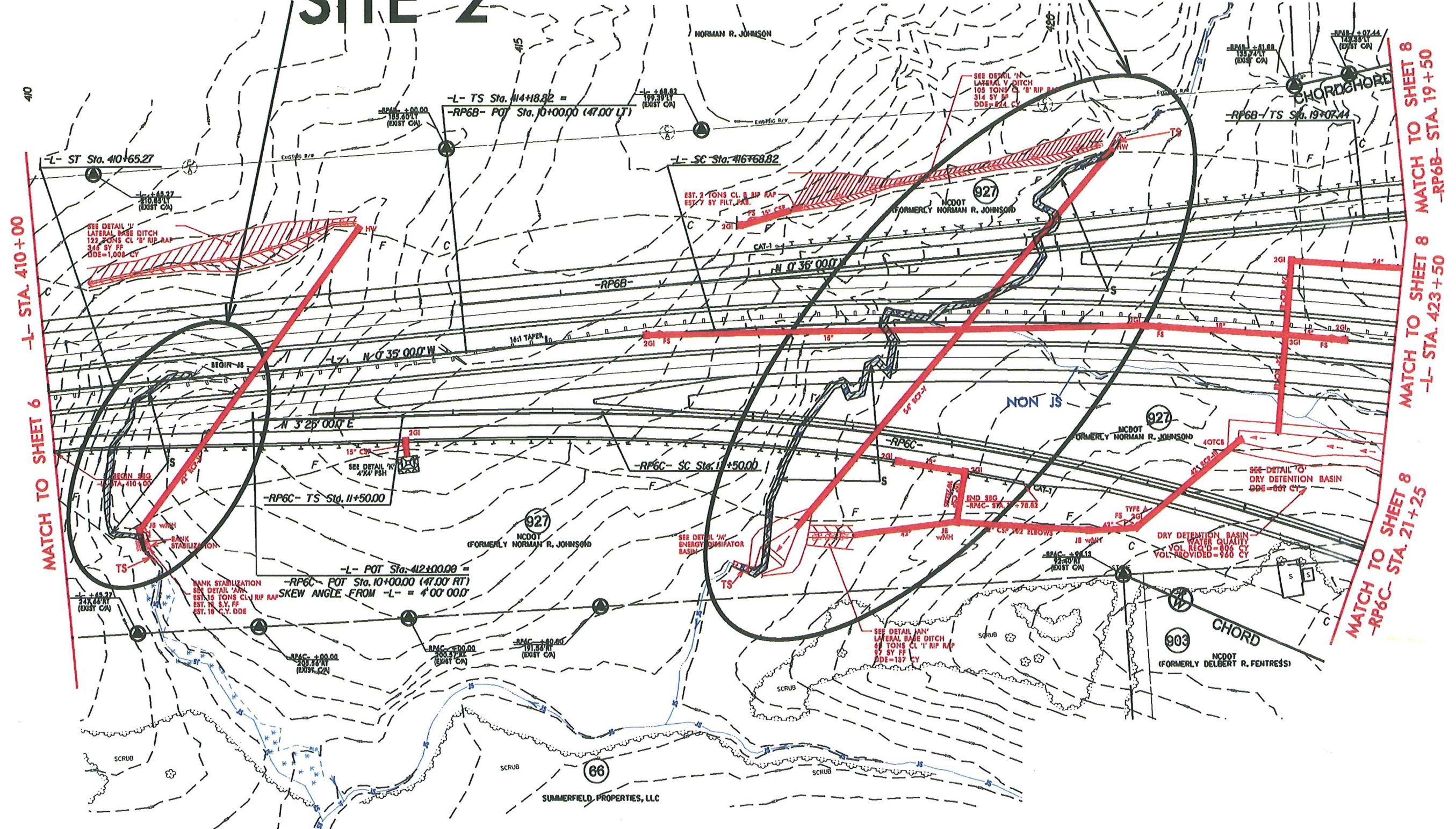
Permit Drawing
Sheet 6 of 31

NAD 83/NSRS 2007

PROJECT REFERENCE NO. R-2413B	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SITE 2

SITE 3



MATCH TO SHEET 6 -L- STA. 410+00

MATCH TO SHEET 8 -L- STA. 423+50 -RP6B- STA. 19+50

MATCH TO SHEET 8 -L- STA. 21+25 -RP6C-

REVISIONS

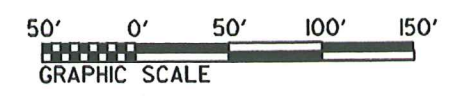
SYSTEMS

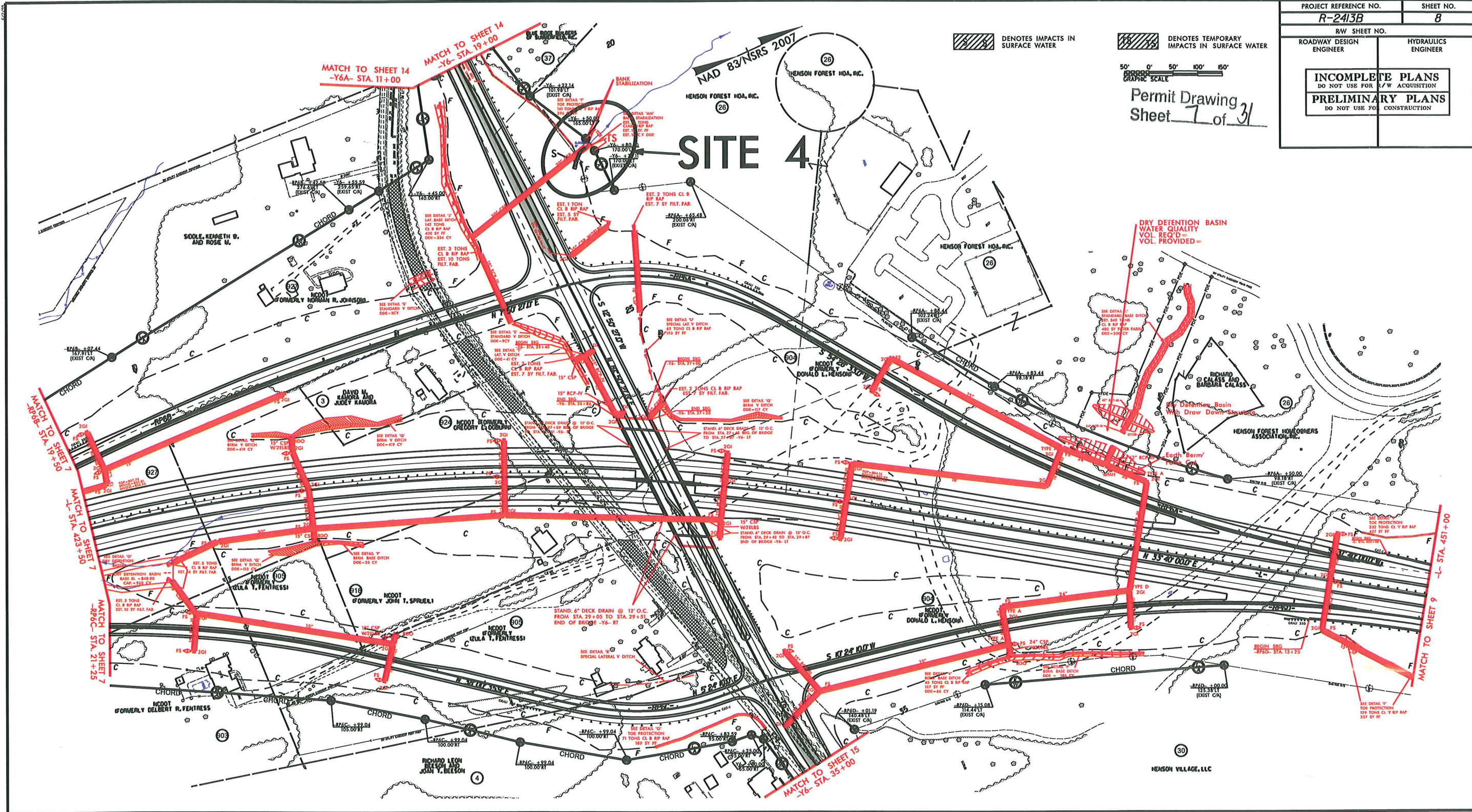


DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER





DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

50' 0' 50' 100' 150'
 GRAPHIC SCALE
 Permit Drawing
 Sheet 7 of 31

PROJECT REFERENCE NO. R-2413B	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

SITE 4

MATCH TO SHEET 14
 -Y6A- STA. 11+00
 MATCH TO SHEET 14
 -Y6- STA. 19+00

MATCH TO SHEET 7
 -Y6- STA. 11+50
 MATCH TO SHEET 7
 -Y6- STA. 43+50
 MATCH TO SHEET 7
 -Y6C- STA. 21+25

MATCH TO SHEET 15
 -Y6- STA. 35+00

MATCH TO SHEET 9
 -L- STA. 451+00

DRY DETENTION BASIN
 WATER QUALITY
 VOL. REQ'D =
 VOL. PROVIDED =

HEINSON VILLAGE, LLC

PROJECT REFERENCE NO.	SHEET NO.
R-2413B	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

