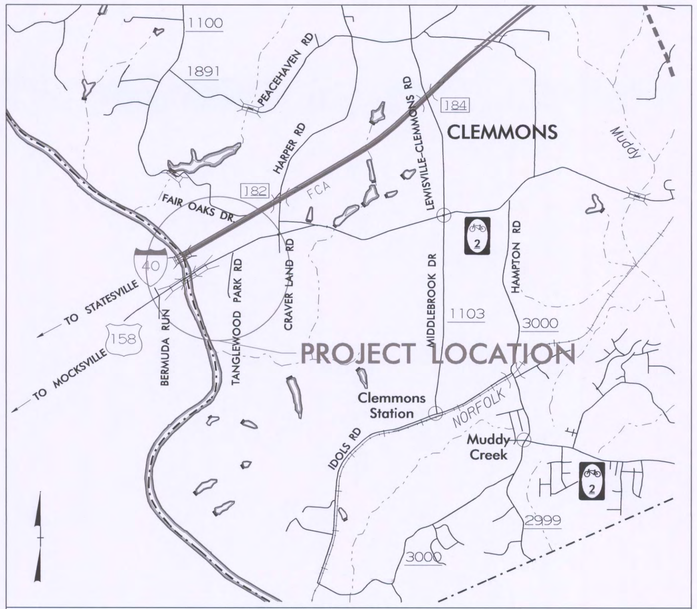
PROJECT REFERENCE NO.	SHEET NO.
	1 OF 11
TITLE SHEET NO.	1
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
DIVISION 9 DISTRICT 2

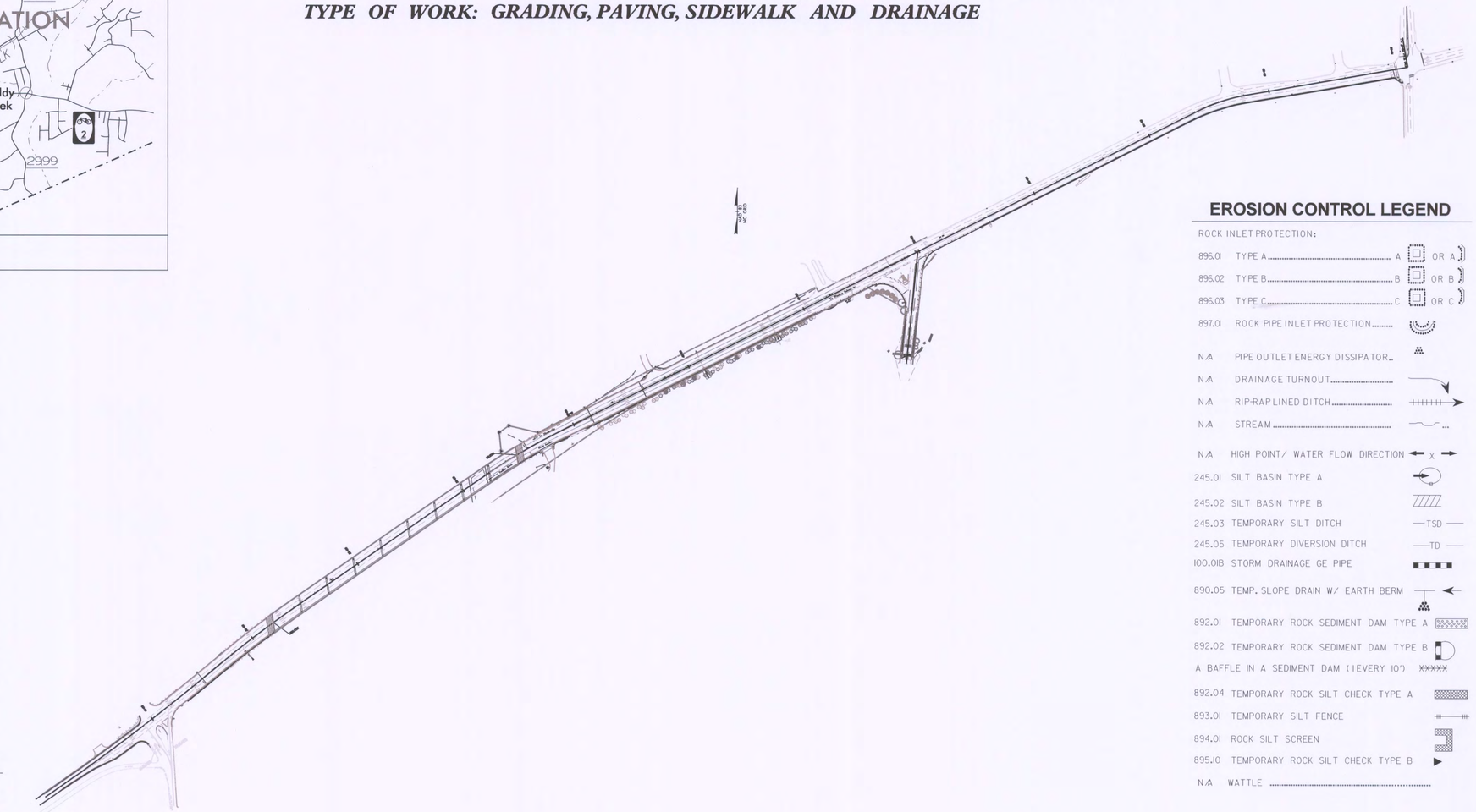
US 158 TANGLEWOOD SIDEWALK

LOCATION: US 158 BETWEEN BERMUDA RUN AND CRAVER LAND RD

TYPE OF WORK: GRADING, PAVING, SIDEWALK AND DRAINAGE



VICINITY MAP



EROSION CONTROL LEGEND

ROCK INLET PROTECTION:

896.01	TYPE A	A OR A
896.02	TYPE B	B OR B
896.03	TYPE C	C OR C
897.01	ROCK PIPE INLET PROTECTION	
N.A	PIPE OUTLET ENERGY DISSIPATOR	
N.A	DRAINAGE TURNOUT	
N.A	RIP-RAP LINED DITCH	
N.A	STREAM	
N.A	HIGH POINT/ WATER FLOW DIRECTION	X
245.01	SILT BASIN TYPE A	
245.02	SILT BASIN TYPE B	
245.03	TEMPORARY SILT DITCH	TSD
245.05	TEMPORARY DIVERSION DITCH	TD
100.01B	STORM DRAINAGE GE PIPE	
890.05	TEMP. SLOPE DRAIN W/ EARTH BERM	
892.01	TEMPORARY ROCK SEDIMENT DAM TYPE A	
892.02	TEMPORARY ROCK SEDIMENT DAM TYPE B	
	A BAFFLE IN A SEDIMENT DAM (1 EVERY 10')	XXXXX
892.04	TEMPORARY ROCK SILT CHECK TYPE A	
893.01	TEMPORARY SILT FENCE	
894.01	ROCK SILT SCREEN	
895.10	TEMPORARY ROCK SILT CHECK TYPE B	
N.A	WATTLE	

LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING BACK OF CURB
- EXISTING EDGE OF TRAVEL WAY
- EXISTING CONCRETE ISLAND
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BACK OF CURB
- PROPOSED LANE LINES
- (NOTE: STRIPING WILL BE DRAWN UP BY TRAFFIC SERVICES)
- PROPOSED CONCRETE ISLAND
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- EXISTING PROPERTY LINE
- PROPOSED EASEMENT CONSTRUCTION
- PROPOSED TOE OF SLOPE

UTILITIES & STRUCTURES

- UTILITY & SIGNAL POLE
- POWER POLE
- TELEPHONE PEDESTAL
- GUY WIRE
- SIGNAL BOX
- SANI. SEWER MANHOLE
- SANI. SEWER CLEANOUT
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- GAS METER
- GAS VALVE
- CATCH BASIN & DI'S
- GUARDRAIL
- FENCE
- SIDEWALK
- TREE
- HEDGE ROW

TITLE SHEET NOT TO SCALE

Prepared in the Office of:
DEPARTMENT OF TRANSPORTATION
375 SILAS CREEK PKWY, WINSTON SALEM, NC 27127

2002 STANDARD SPECIFICATIONS

COUNTY: FORSYTH
W.O. NUMBER: NA
PLAN SCALE: NA

DATE DRAWN	DRAWN BY
6/12/2013	GWG
REVISED DATE	DRAWN BY

DISTRICT ENGINEER

P.E. DATE

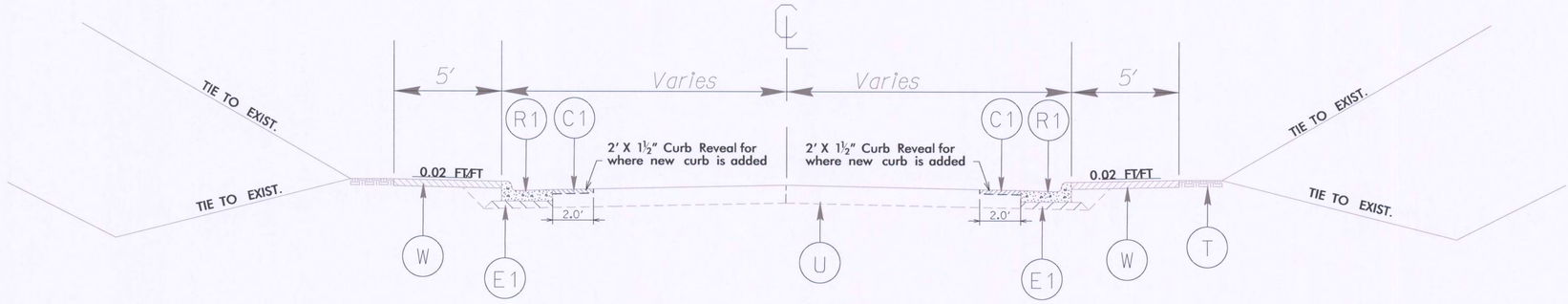
JPR SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

8/17/99

25-JUN-2013 15:34
R:\data\26834\Tdav\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU Final Sidewalk Sht 1 Title 7 27 12.dgn
counter AT DGN26834

PROJECT REFERENCE NO.	SHEET NO.
	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

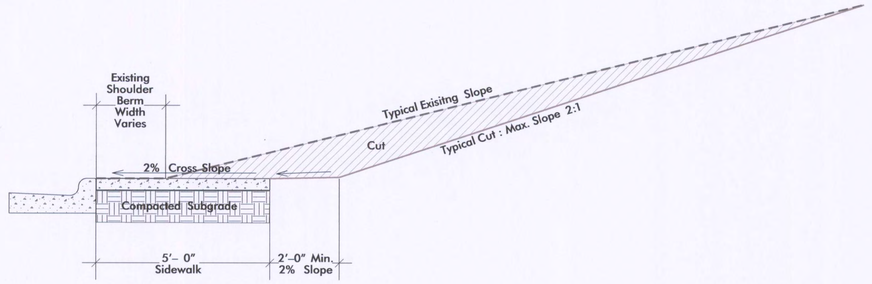


Section – Typical Bench Mill

TANGLEWOOD PARK DR
STA. 12+34 – 14+21 –Y1–

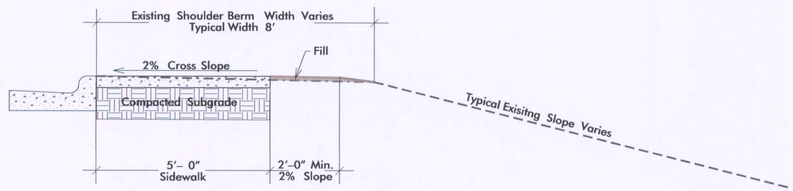
PAVEMENT STRUCTURE

C1	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5A, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0 B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
R1	2′-6" STANDARD CONCRETE CURB AND GUTTER (STD. 846.01)
U	EXISTING PAVEMENT
T	EARTH; SHOULDER (2′-3′)
W	5′ SIDEWALK
NOTE:	



Section – Typical Sidewalk at Cut

Note: All transitions at cut and fill slopes will be gradually graded to return to natural ground as right–of–way and easements allow. 2′ Min. Berm behind Sidewalk or as directed by Engineer.



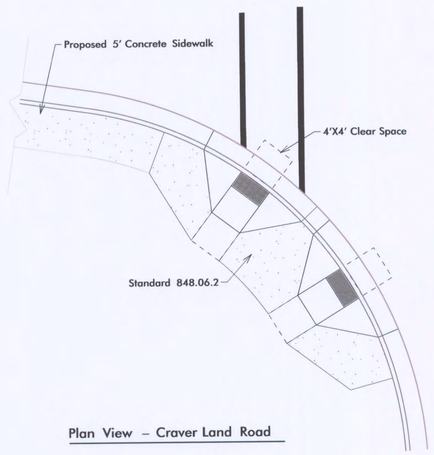
Section – Typical Sidewalk at Fill

NTS

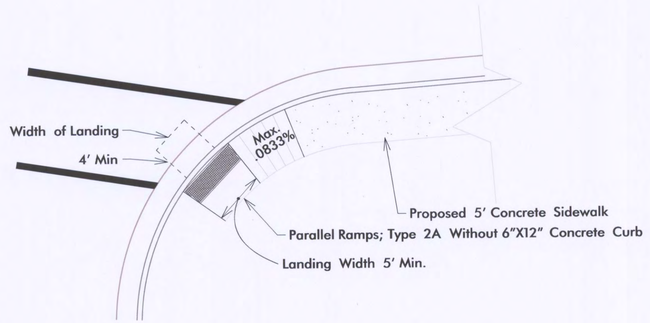
8/17/99
25-JUN-2013 15:38
\\dfcad26854\prjdata\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM Details June 8 2012.dgn
gaunter
$$JOB#40026330

PROJECT REFERENCE NO.	SHEET NO.
	3
DETAIL SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

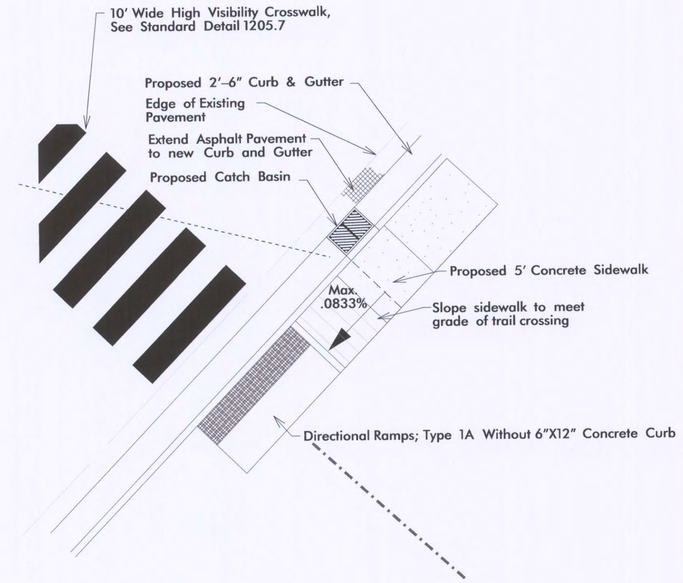
NTS



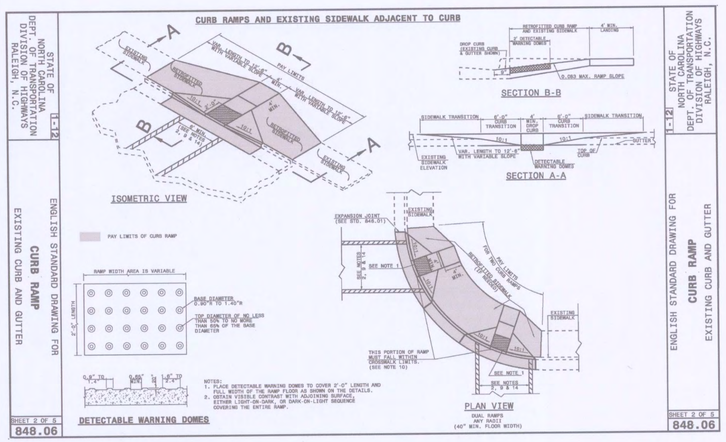
Plan View – Craver Land Road

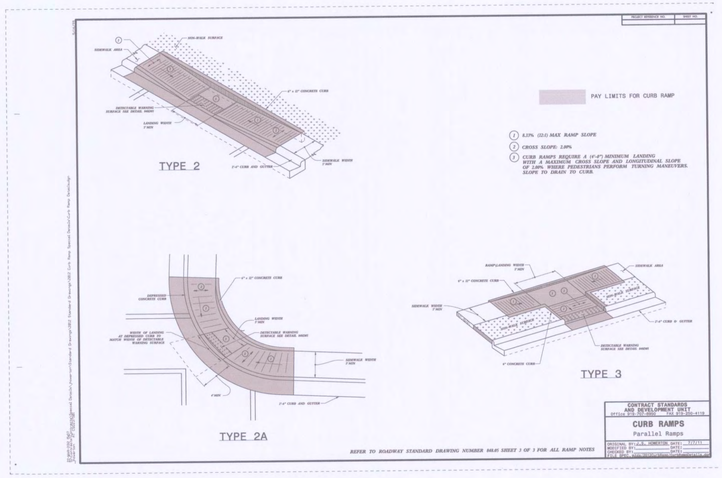


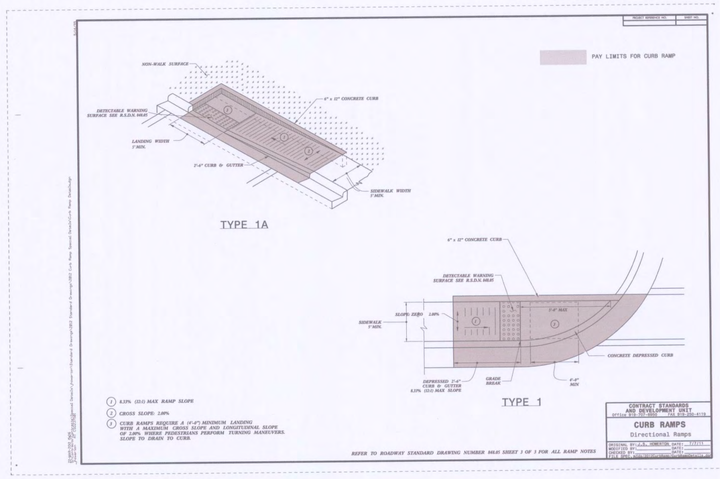
Plan View – Yadkin River Access



Plan View – Tanglewood Mixed Use Trail Crossing Detail

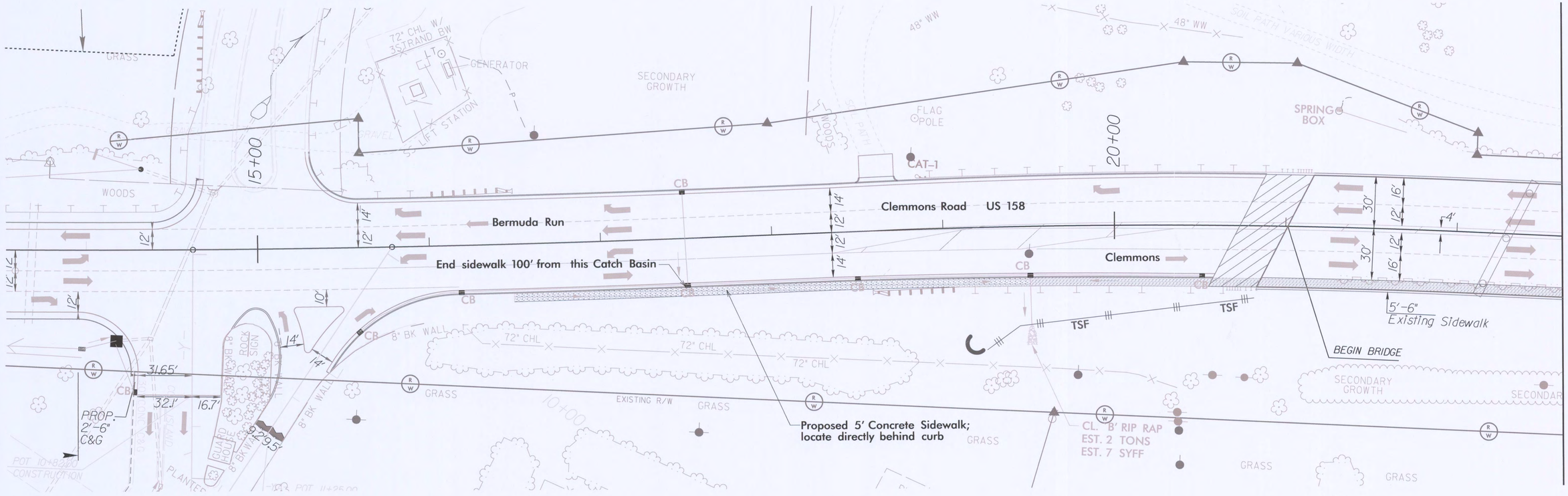




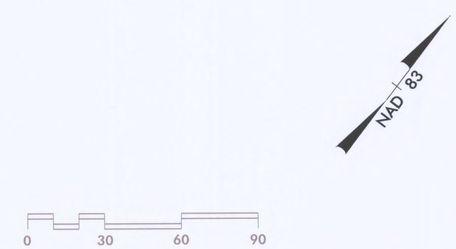


8/17/99
25-JUN-2013 15:39
\\dgcad268341\rdy\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM Details June 8 2012.dgn
gaunter AT DGCAD268340

PROJECT REFERENCE NO.	SHEET NO.
	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



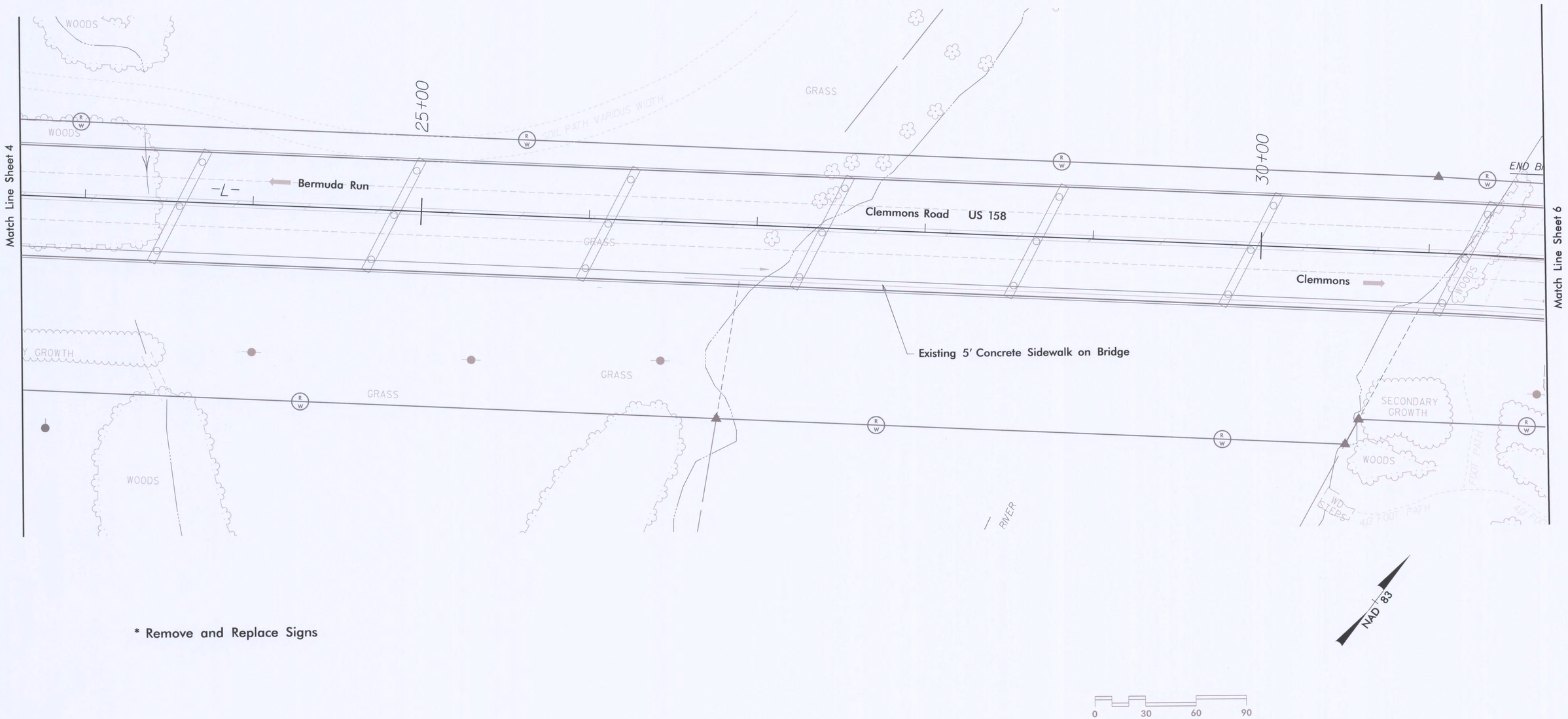
* Remove and Replace Signs



8/17/99

25-JUN-2013 15:42
\\d9cad268341\rdy\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 4.dgn
agunter AT D9CAD268340

PROJECT REFERENCE NO.	SHEET NO.
	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

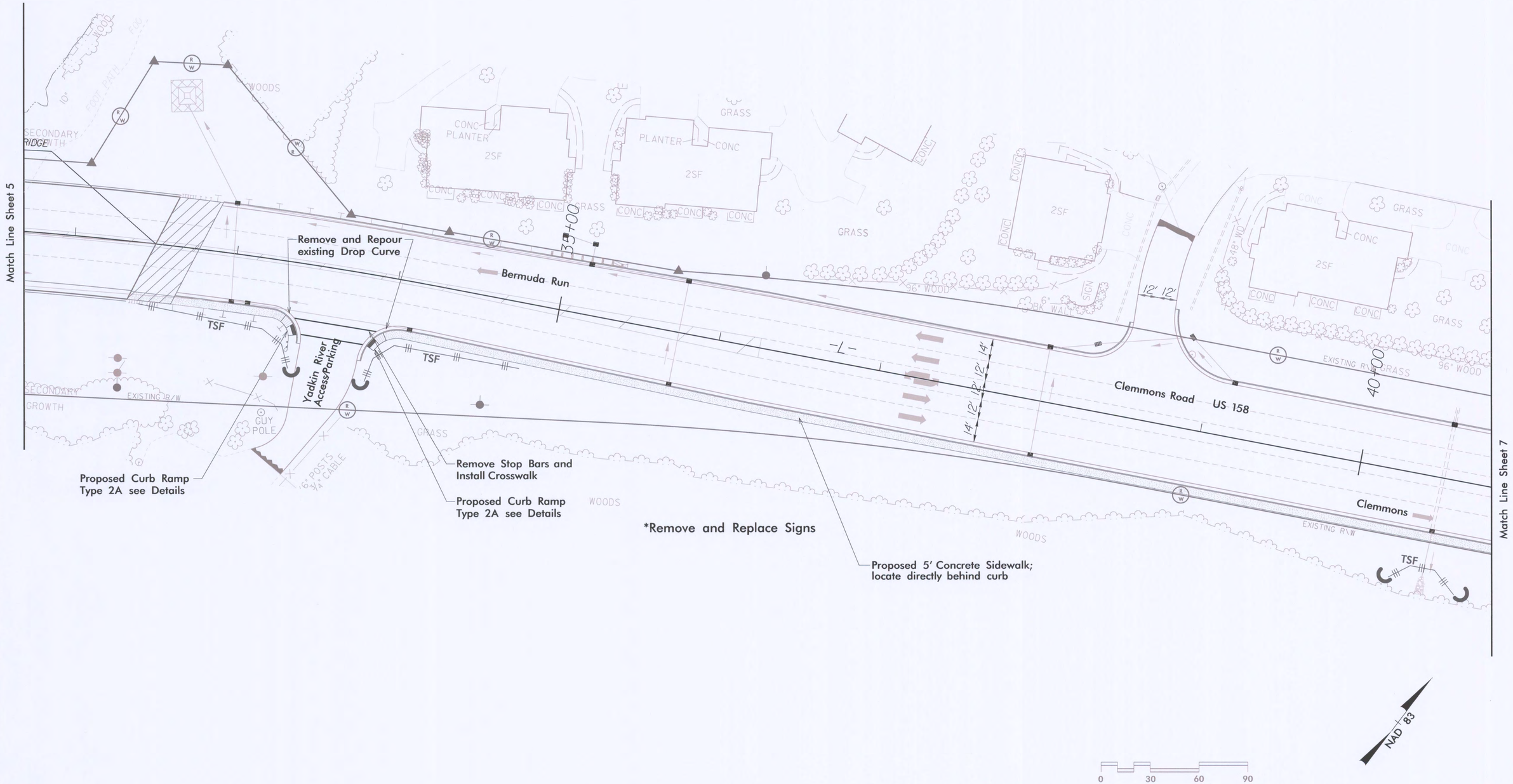


* Remove and Replace Signs

8/17/99

25-JUN-2013 15:44
\\d9cad268341\rdy\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 5.dgn
agunter AT D9CAD268340

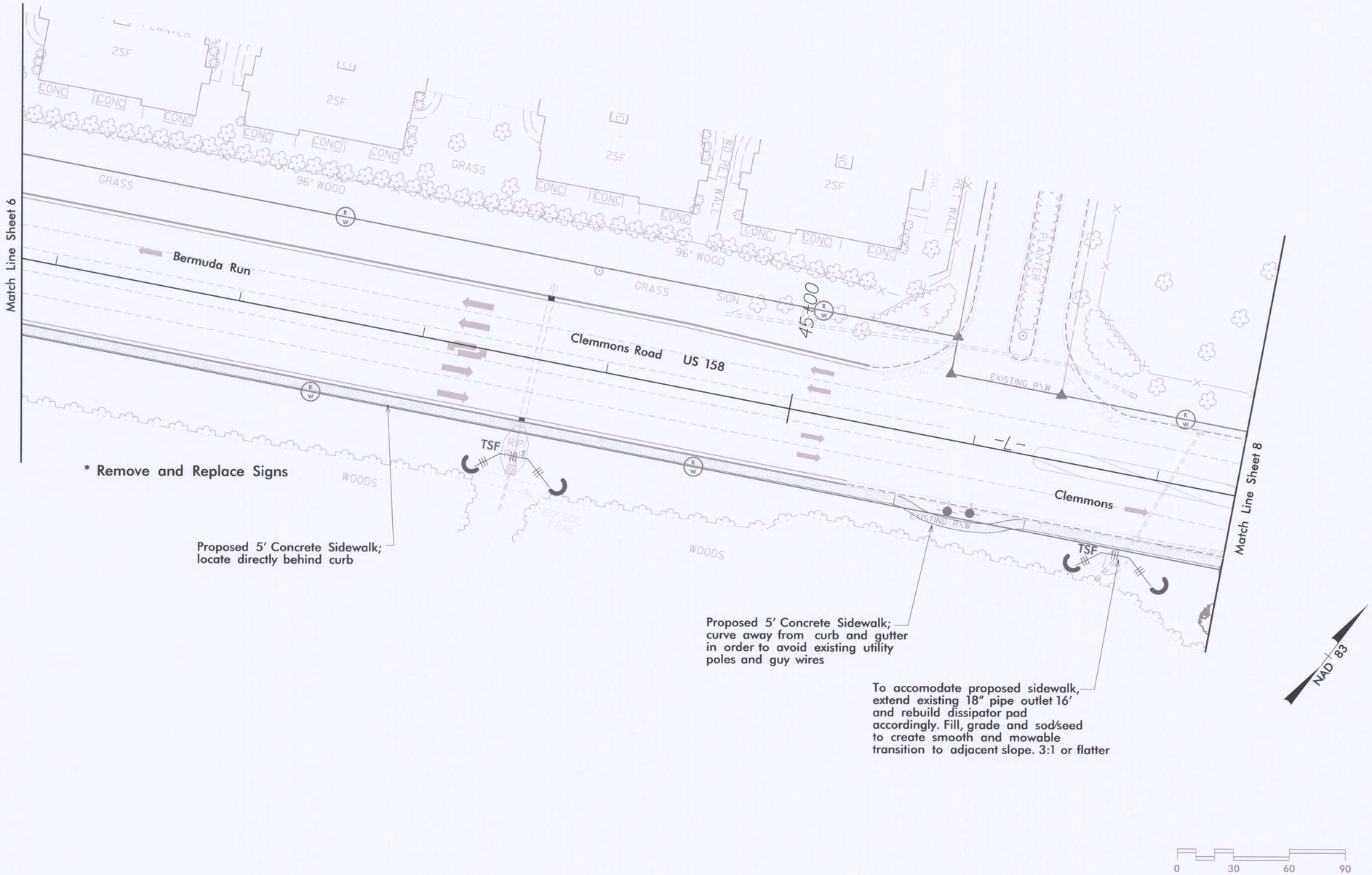
PROJECT REFERENCE NO.	SHEET NO.
	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

25-JUN-2013 15:46
\\d9cad268341\rdu\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 6.dgn
aguntar AT D9CAD268340

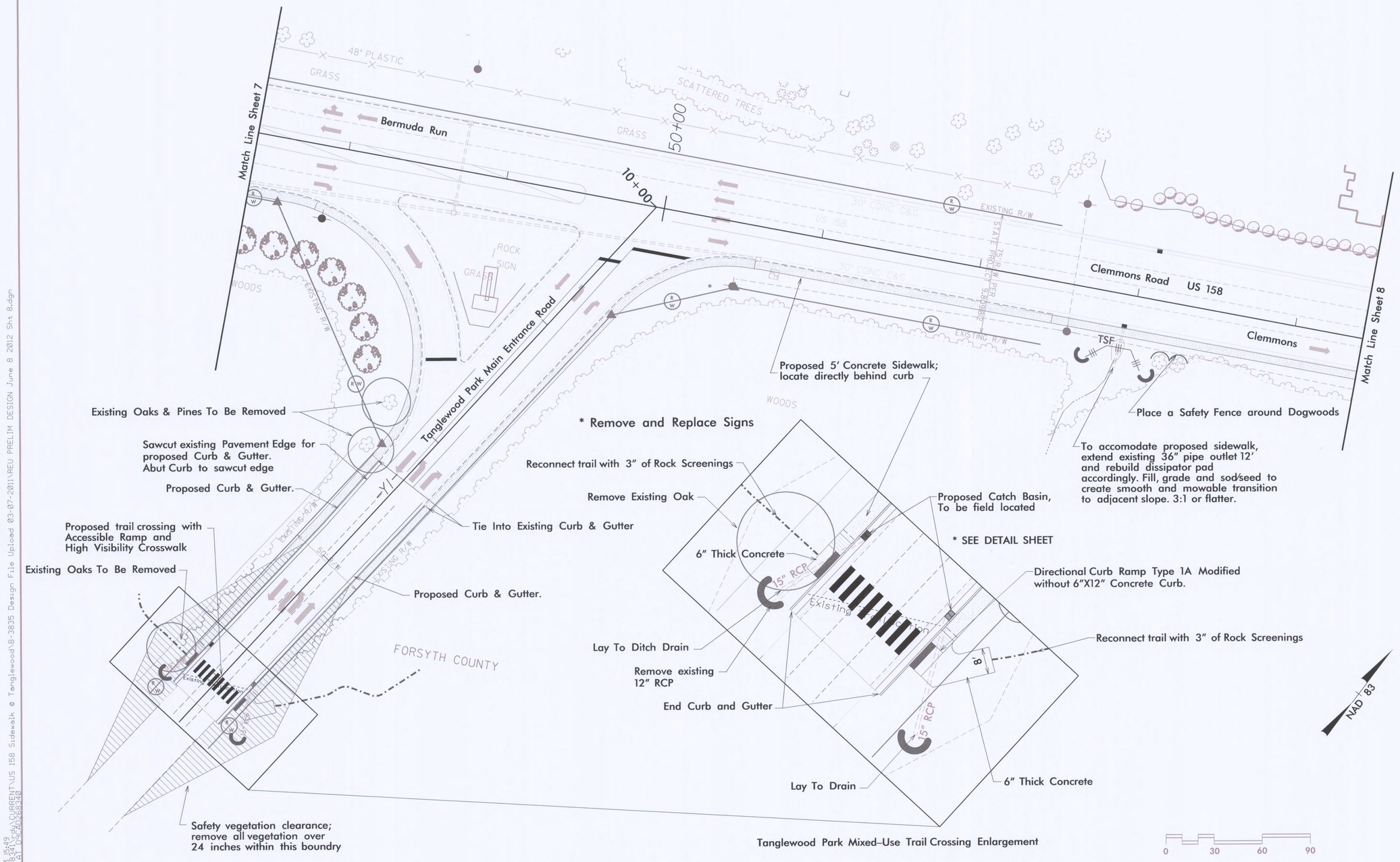
PROJECT REFERENCE NO.	SHEET NO.
	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

25-JUN-2013 15:48
\\d9cad268341\rdu\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 7.dgn
gguntar AT D9CAD268340

PROJECT REFERENCE NO.	SHEET NO.
	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

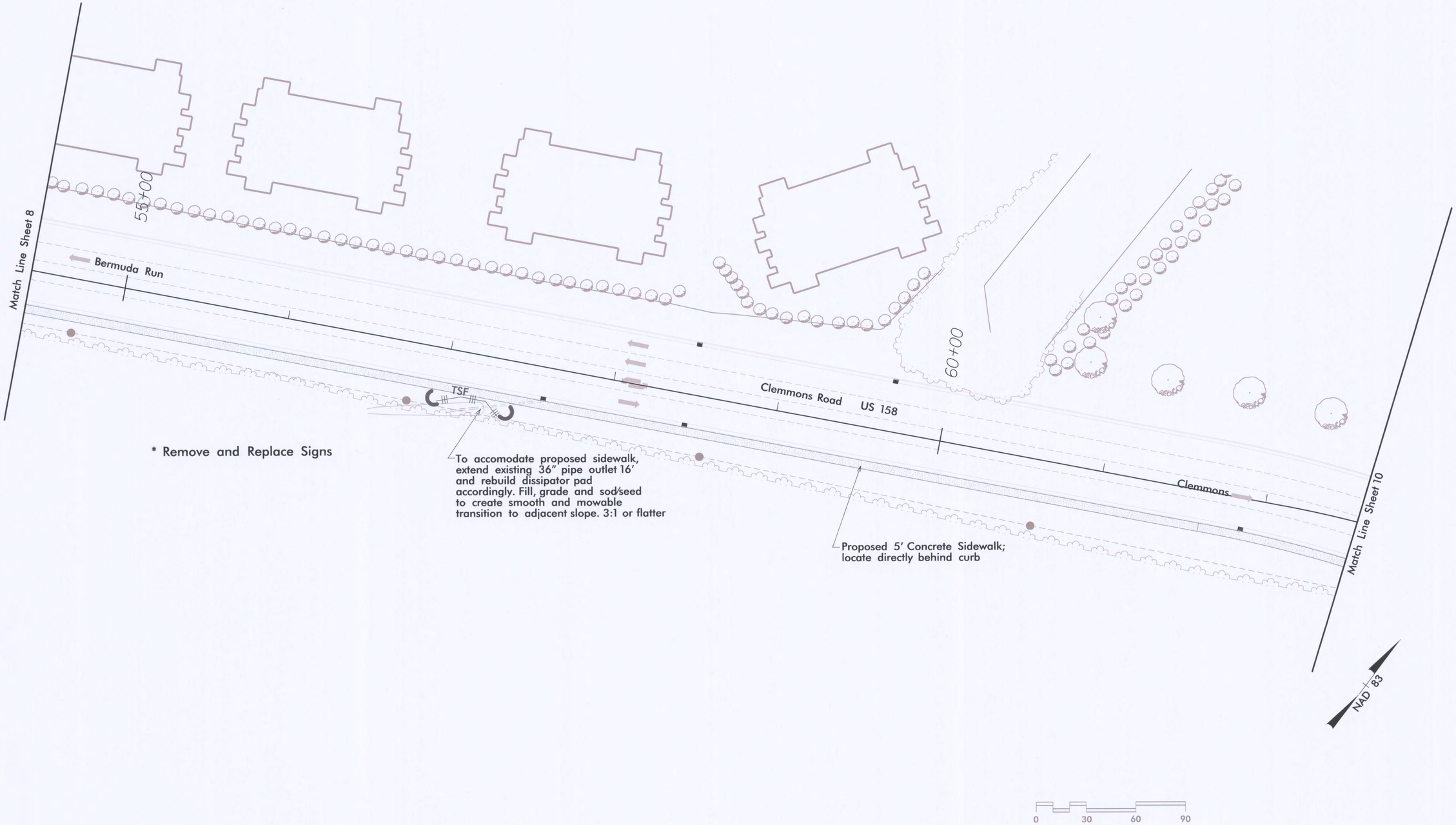


Tanglewood Park Mixed-Use Trail Crossing Enlargement

8/17/99

25-JUN-2013 15:49
\\d9cad268341\rdu\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 8.dgn
gaunter AT D9CAD268340

PROJECT REFERENCE NO.	SHEET NO.
	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



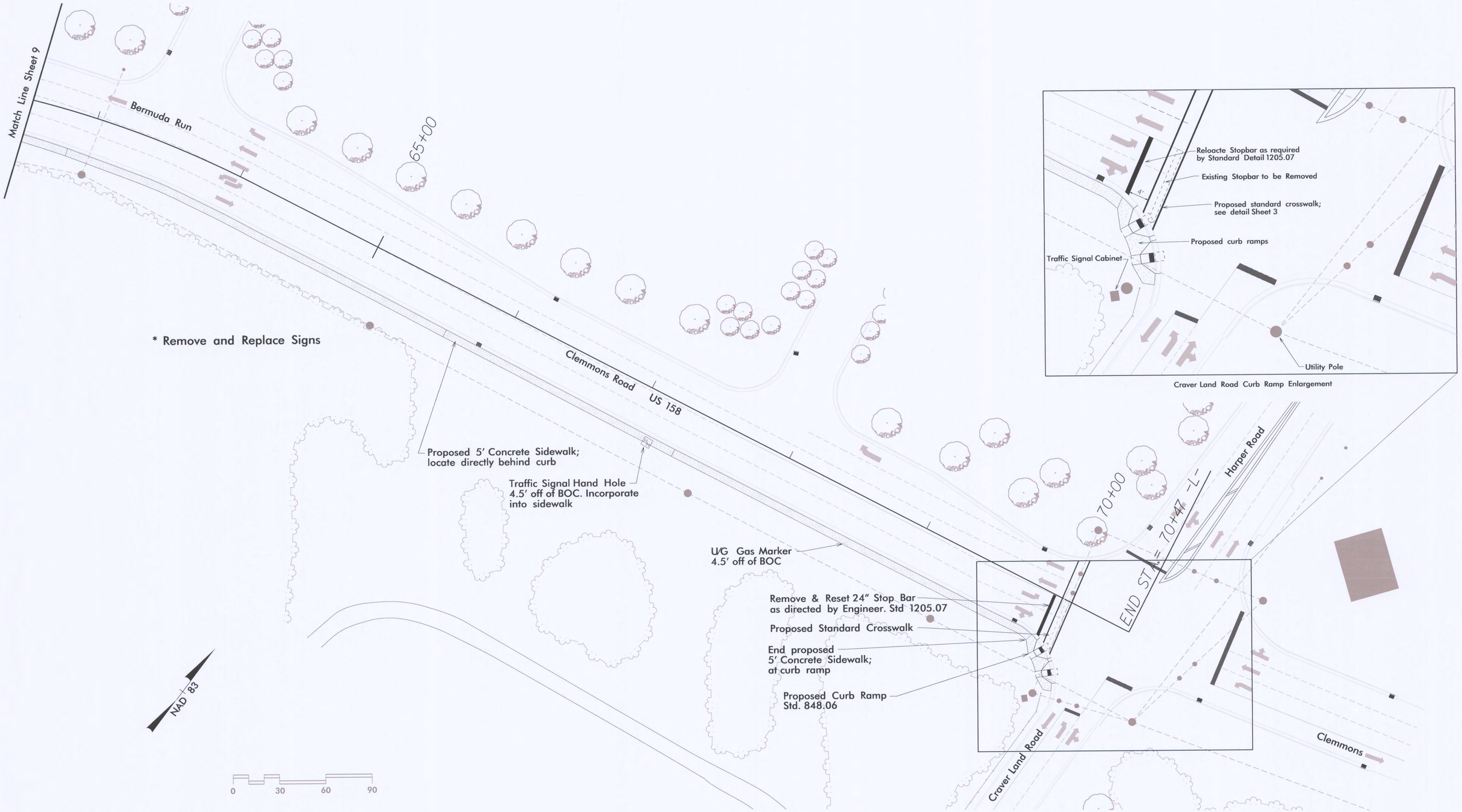
* Remove and Replace Signs

To accomodate proposed sidewalk, extend existing 36" pipe outlet 16' and rebuild dissipator pad accordingly. Fill, grade and sod/seed to create smooth and mowable transition to adjacent slope. 3:1 or flatter

Proposed 5' Concrete Sidewalk; locate directly behind curb

8/17/99
25-JUN-2013 15:51
\\d9cad268341\rdy\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 9.dgn
gguntar AT D9CAD268340

PROJECT REFERENCE NO.	SHEET NO.
	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



Craver Land Road Curb Ramp Enlargement

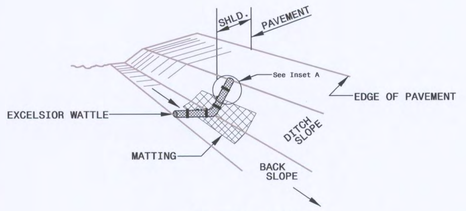
8/17/99

25-JUN-2013 15:53
\\d9cad268341\rdy\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\REU PRELIM DESIGN June 8 2012 Sht 10.dgn
ggunter AT D9CAD268340

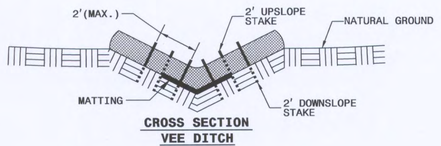
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
	//
EC SHEET NO.	/
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

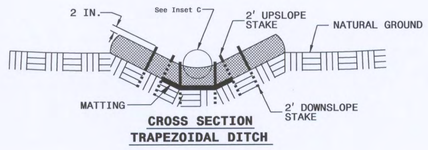
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

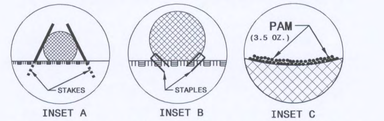
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

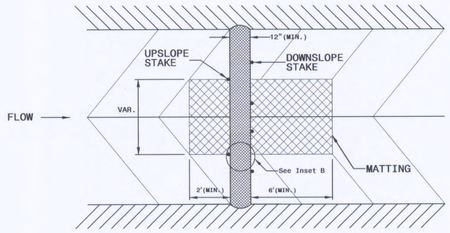
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE, EXCEPT ON LAST MEASURE.

INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.



INSET A INSET B INSET C



TOP VIEW

NOT TO SCALE

NOTE: APPLY 3.5 OZ OF (PAM) TO EVERY WATTLE EXCEPT FOR THE LAST ONE IN THAT RUN.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-02

ENGLISH STANDARD DRAWING FOR

DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

SHEET 1 OF 1

876.04

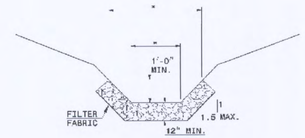
GENERAL NOTES:

-USE CLASS 'B' RIP RAP.

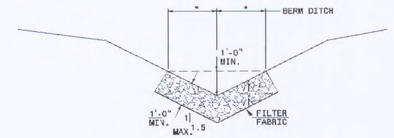
-CONSTRUCT WIDTH AND SHAPE OF THE DITCHES AS SHOWN OR DIRECTED BY THE ENGINEER.

-USE FILTER FABRIC UNDER CLASS 'B' RIP RAP IF SPECIFIED ON PLANS.

*AS SPECIFIED ON PLANS.



SIDE DRAINS, BASE DITCH OR OTHER OUTLET DITCHES



VEE DITCH

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-02

ENGLISH STANDARD DRAWING FOR

DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

SHEET 1 OF 1

876.04

OPTIONAL CHART :

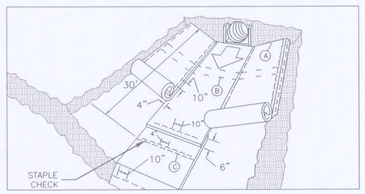
SITE DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES.	7 DAYS	NONE
HIGH QUALITY WATER ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10 FT. OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FT. IN LENGTH
ALL OTHER AREAS FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES

SEDIMENT BASIN DESIGN :

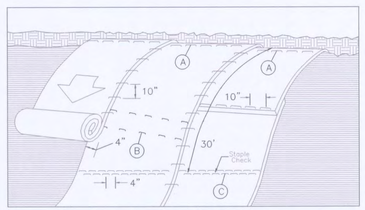
SEDIMENT BASINS THAT DISCHARGE FROM THE PROJECT AND ARE DESIGNED TO HANDLE A DRAINAGE AREA LARGER THAN ONE ACRE WILL BE REQUIRED TO UTILIZE A SURFACE DEWATERING DEVICE, SUCH AS A SKIMMER, WEIR, OR FLASH BOARD RISER.

EROSION CONTROL

MATTING INSTALLATION DETAIL



MATTING IN DITCHES



MATTING ON SLOPES

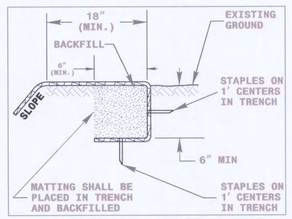


DIAGRAM (A)

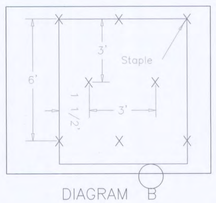


DIAGRAM (B)

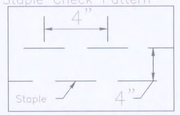


DIAGRAM (C)

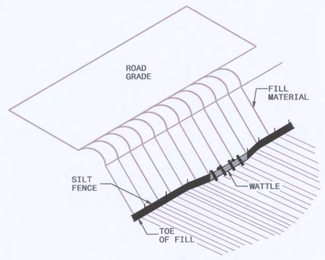
NOTES:

THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.

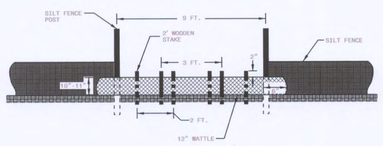
STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

SILT FENCE WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

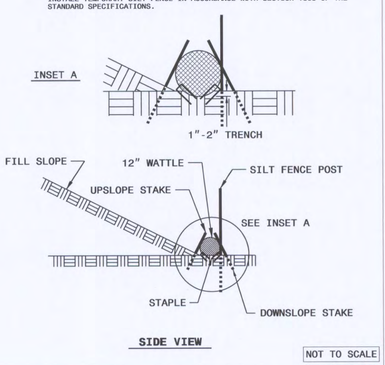
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.



SIDE VIEW

NOT TO SCALE

Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1632.03	Rock Inlet Sediment Trap Type C	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle	
	Wattle with Polyacrylamide (PAM)	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	

25-JUN-2013 15:55
c:\pdoc\268347\dgn\CURRENT\US 158 Sidewalk @ Tanglewood\B-3835 Design File Upload 03-07-2011\US158_TANGLEWOOD_SIDEWALK_Rdy_dtl_EC.dgn
computer AT DGN268340