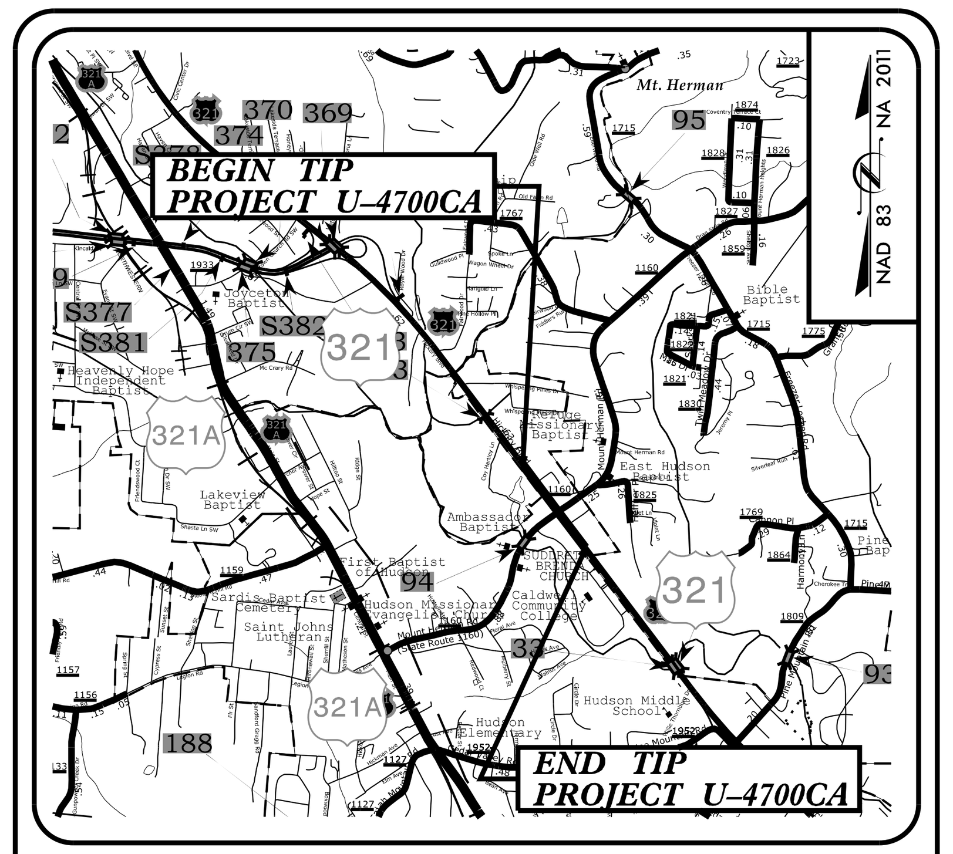
TIP PROJECT: U–4700CA

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4700CA	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
35993.1.10	NHF-321(018)	PE



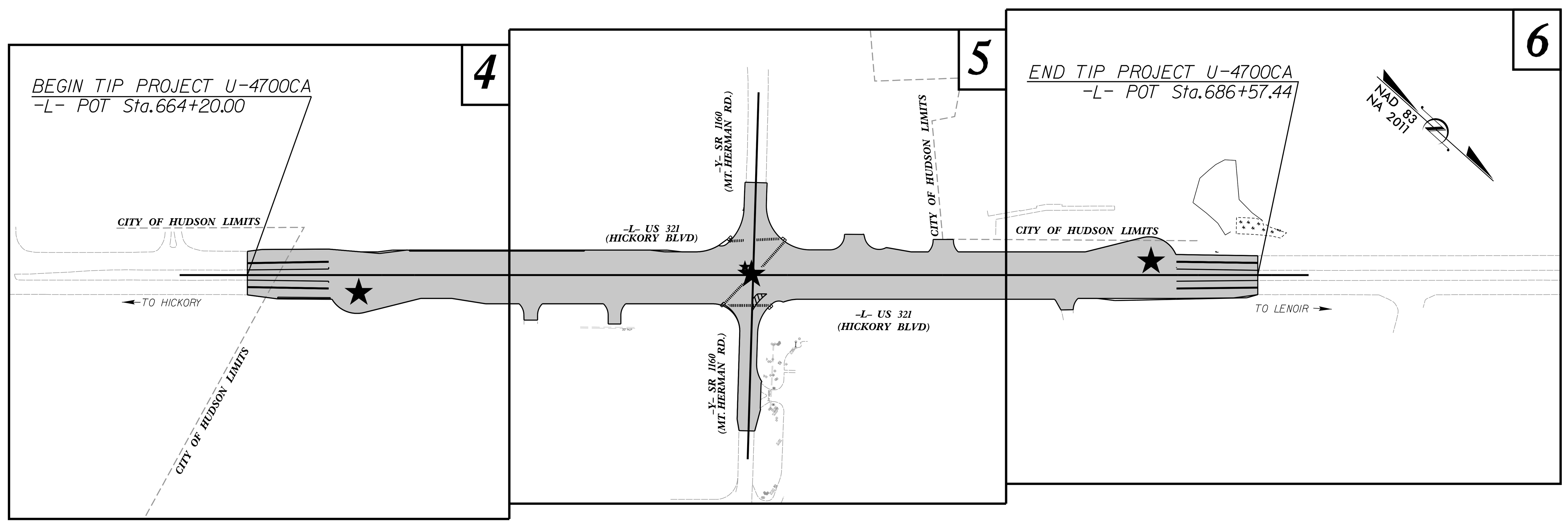
VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CALDWELL COUNTY

LOCATION: US 321 (HICKORY BLVD.) AT SR 1160 (MT. HERMAN RD.)
TYPE OF WORK: DRAINAGE, PAVING, GRADING, AND SIGNALS



THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE
50 25 0 50 100
PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG 010000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.

Prepared In the Office of:
JOHNSON, MIRMIRAN, & THOMPSON
2550 W TYVOLA RD, SUITE 120
CHARLOTTE, NC 28217

2024 STANDARD SPECIFICATIONS

Designed by:
HENRY TRAYNOR 4694
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

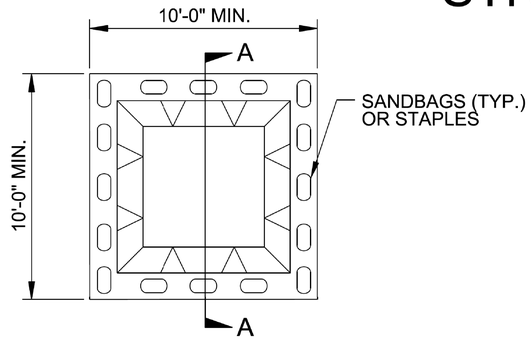
EROSION & SEDIMENT CONTROL LEGEND

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
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C

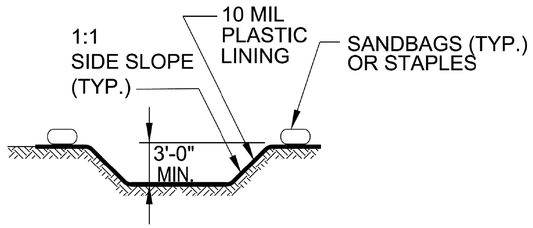
Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	—EW—EW—EW—
1636.03	Coir Fiber Wattle Barrier	—CFW—CFW—CFW—

PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-2A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

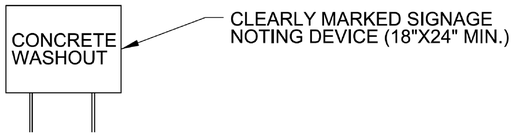
ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A



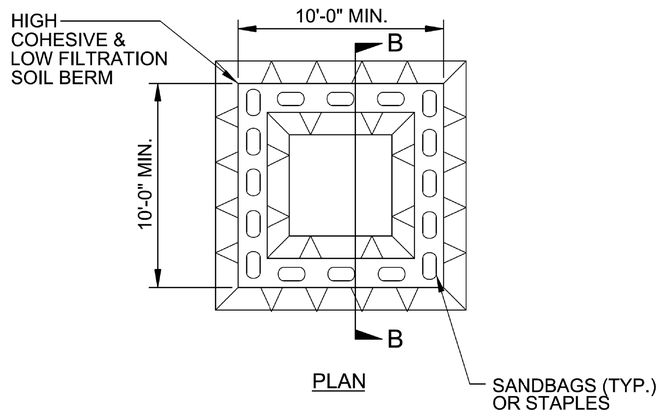
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

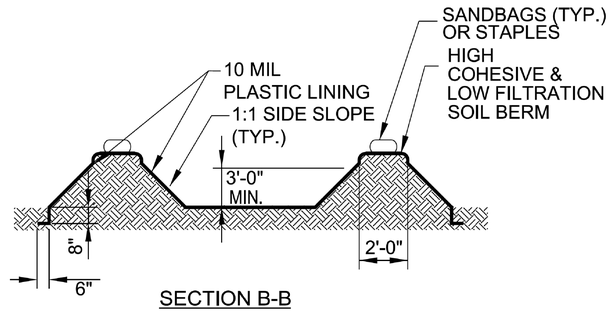
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

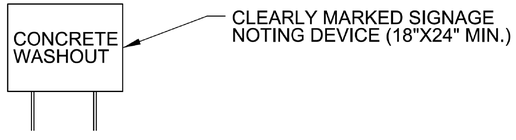
NOT TO SCALE



PLAN



SECTION B-B



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL (STRAW)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	664+50	667+50	LT	1115
4	-L-	666+50	669+50	RT	1025
5	-L-	671+50	673+50	LT	195
5	-L-	676+00	680+50	RT	2330
5	-Y-	13+00	14+00	LT	155
5	-Y-	13+00	14+00	RT	300
				SUBTOTAL	5120
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					9290
	MATTING TO BE INSTALLED ON FILL SLOPES				2330
			STRAW MATTING TOTAL		16740
		PROJECT MATTING TOTAL			16740

MATTING FOR EROSION CONTROL (EXCELSIOR)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
				SUBTOTAL	
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					
		EXCELSIOR MATTING TOTAL			

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PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

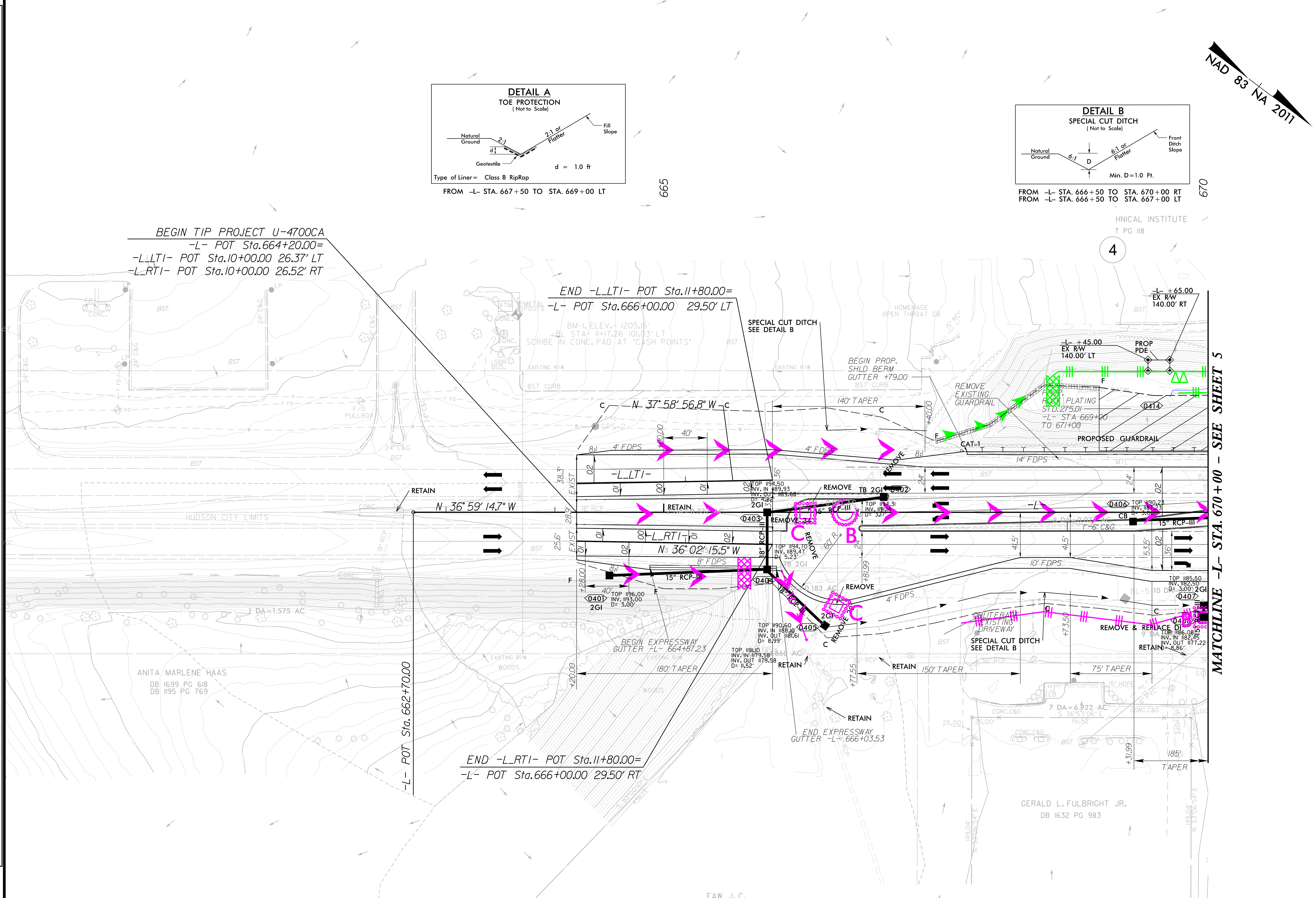
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-04/CONST.04

REVISIONS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE-B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS

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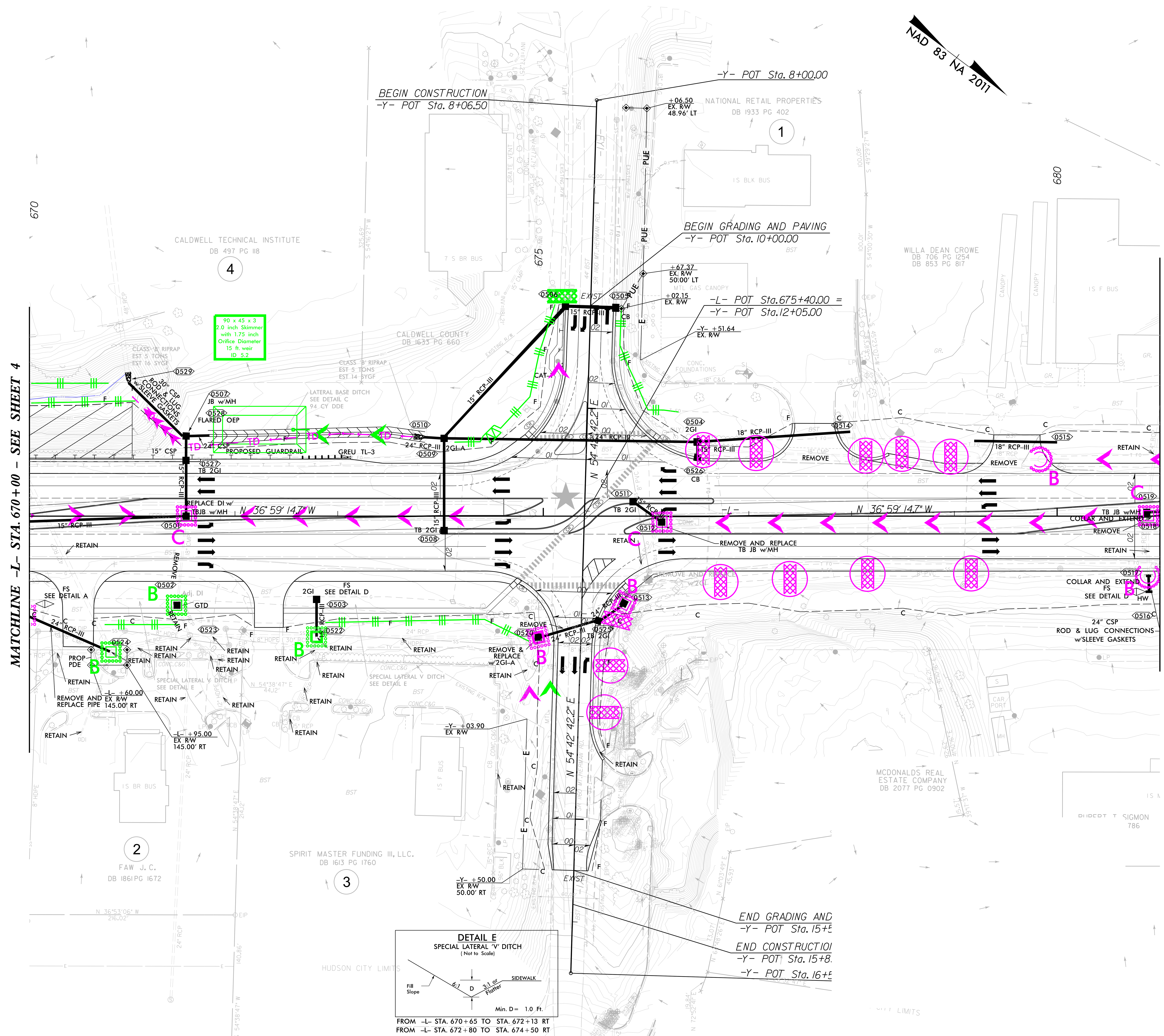
PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-05/CONST.05

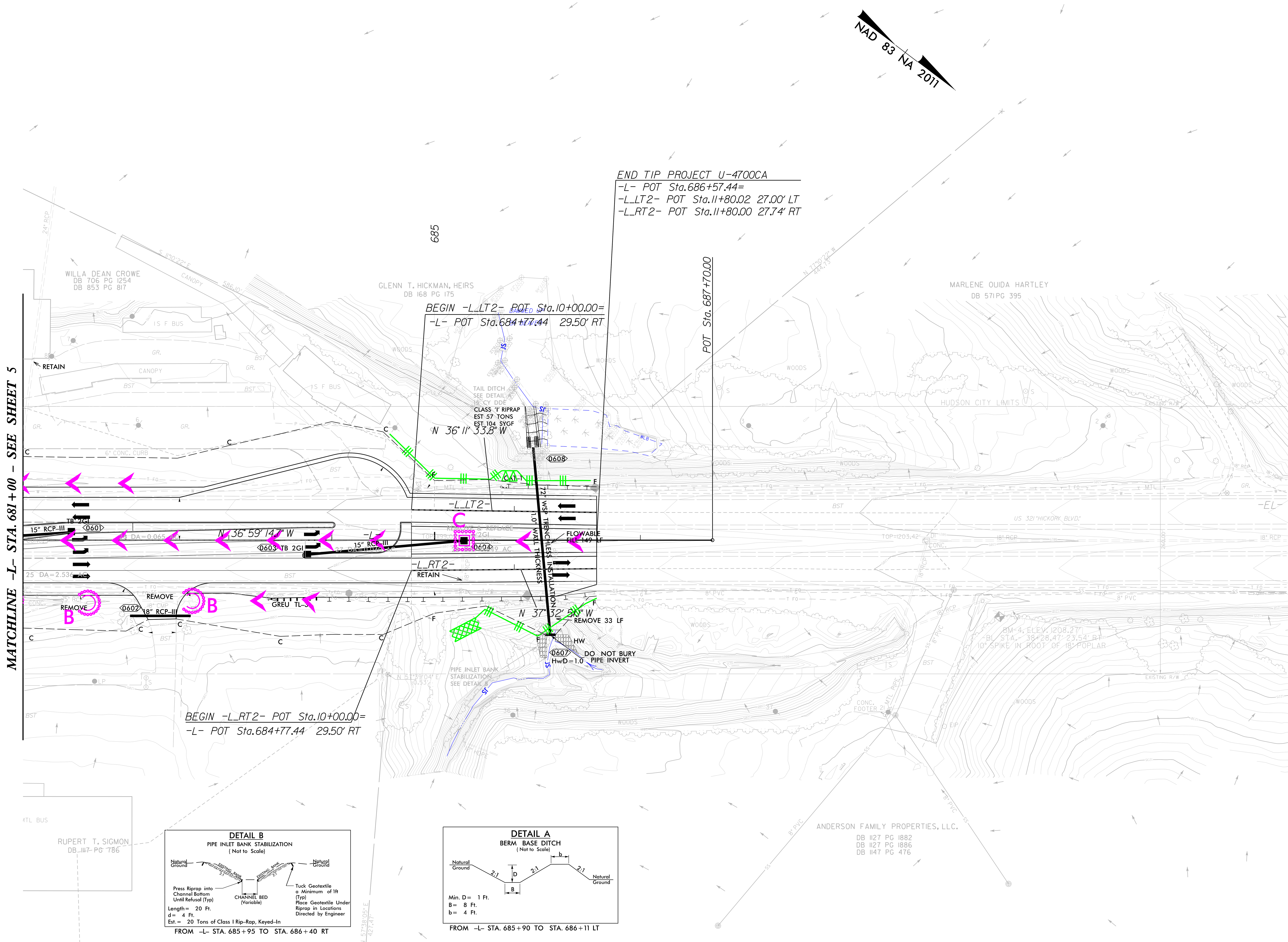


NAD 83 NA 2011
MATCHLINE -L- STA. 670+00 - SEE SHEET 4
MATCHLINE -L- STA. 681+00 - SEE SHEET 6
BEGIN CONSTRUCTION
-Y- POT Sta. 8+06.50
-Y- POT Sta. 8+00.00
BEGIN GRADING AND PAVING
-Y- POT Sta. 10+00.00
-L- POT Sta.675+40.00 =
-Y- POT Sta.12+05.00
NATIONAL RETAIL PROPERTIES
DB 1933 PG 402
CALDWELL TECHNICAL INSTITUTE
DB 497 PG 118
CALDWELL COUNTY
DB 1633 PG 660
WILLA DEAN CROWE
DB 706 PG 1254
DB 853 PG 817
FAW J. C.
DB 1861 PG 1672
SPIRIT MASTER FUNDING III, LLC.
DB 1613 PG 1760
MCDONALDS REAL ESTATE COMPANY
DB 2077 PG 0902
90 x 45 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
15 ft. weir
ID 5.2
PROPOSED GUARDRAIL
N 36° 59' 14.7" W
N 54° 42' 42.2" E
END GRADING AND
END CONSTRUCTION
DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Min. D= 1.0 Ft.
FROM -L- STA. 670+65 TO STA. 672+13 RT
FROM -L- STA. 672+80 TO STA. 674+50 RT

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE-B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS

PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-06/CONST.06

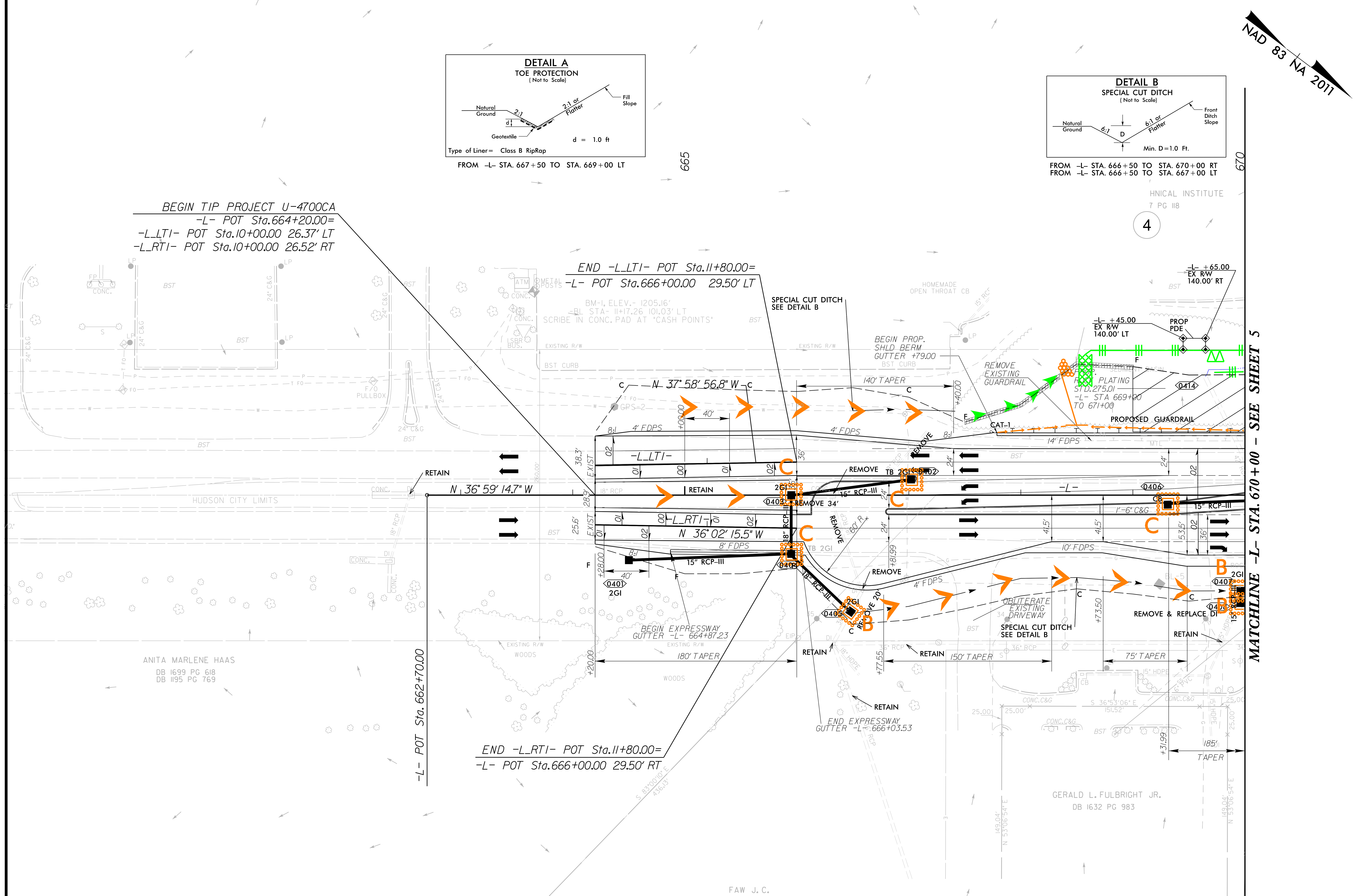


NAD 83 NA 2011
MATCHLINE -L- STA. 681+00 - SEE SHEET 5
END TIP PROJECT U-4700CA
-L- POT Sta.686+57.44=
-L_LT2- POT Sta.11+80.02 27.00' LT
-L_RT2- POT Sta.11+80.00 27.74' RT
BEGIN -L_LT2- POT Sta.10+00.00=
-L- POT Sta.684+77.44 29.50' RT
BEGIN -L_RT2- POT Sta.10+00.00=
-L- POT Sta.684+77.44 29.50' RT
POT Sta. 687+70.00
WILLA DEAN CROWE
DB 706 PG 1254
DB 853 PG 817
GLENN T. HICKMAN, HEIRS
DB 168 PG 175
MARLENE OUIDA HARTLEY
DB 571 PG 395
RUPERT T. SIGMON
DB 117 PG 786
ANDERSON FAMILY PROPERTIES, LLC.
DB 1127 PG 1882
DB 1127 PG 1886
DB 1147 PG 476
N 36° 11' 33.8" W
N 36° 59' 14.7" W
N 37° 32' 51.1" W
TAIL DITCH SEE DETAIL A
CLASS 'I' RIPRAP EST 57 TONS EST 104 SYGF
72" WSP TRENCHLESS INSTALLATION 1.0" WALL THICKNESS
FLOWABLE FILL 149 LF
REMOVE 33 LF
DO NOT BURY PIPE INVERT
HwD=1.0
PIPE INLET BANK STABILIZATION SEE DETAIL B
15" RCP-III
18" RCP-III
REMOVE
RETAIN
GREU TL-3
US 321 (HICKORY BLVD)
HUDSON CITY LIMITS
BM 4, ELEV. 1208.21'
10" SPIKE IN ROOT OF 18" POPLAR
DETAIL B
PIPE INLET BANK STABILIZATION
(Not to Scale)
Natural Ground
Press Riprap into Channel Bottom Until Refusal (Typ)
CHANNEL BED (Variable)
Tuck Geotextile a Minimum of 1ft (Typ)
Place Geotextile Under Riprap in Locations Directed by Engineer
Length = 20 Ft.
d = 4 Ft.
Est. = 20 Tons of Class I Rip-Rap, Keyed-In
FROM -L- STA. 685+95 TO STA. 686+40 RT
DETAIL A
BERM BASE DITCH
(Not to Scale)
Natural Ground
Min. D = 1 Ft.
B = 8 Ft.
b = 4 Ft.
FROM -L- STA. 685+90 TO STA. 686+11 LT

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 6

NOTE: PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE-B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS

PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-07/CONST.04



DETAIL A
TOE PROTECTION
(Not to Scale)
Natural Ground
2:1
d
2:1 or Flatter
Fill Slope
Geotextile
d = 1.0 ft
Type of Liner= Class B RipRap
FROM -L- STA. 667+50 TO STA. 669+00 LT
DETAIL B
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
6:1
D
6:1 or Flatter
Front Ditch Slope
Min. D=1.0 Ft.
FROM -L- STA. 666+50 TO STA. 670+00 RT
FROM -L- STA. 666+50 TO STA. 667+00 LT
NAD 83 NA 2011
665
670
BEGIN TIP PROJECT U-4700CA
-L- POT Sta.664+20.00=
-L_LT1- POT Sta.10+00.00 26.37' LT
-L_RT1- POT Sta.10+00.00 26.52' RT
END -L_LT1- POT Sta.11+80.00=
-L- POT Sta.666+00.00 29.50' LT
SPECIAL CUT DITCH
SEE DETAIL B
BEGIN PROP. SHLD BERM GUTTER +79.00
REMOVE EXISTING GUARDRAIL
PLATING STD.275.01
-L- STA 669+00 TO 671+00
PROPOSED GUARDRAIL
CAT-1
140' TAPER
14' FDPS
4' FDPS
N 37° 58' 56.8" W
N 36° 59' 14.7" W
N 36° 02' 15.5" W
-L_LT1-
-L_RT1-
-L-
RETAIN
REMOVE
REMOVE 34'
15" RCP-III
8' FDPS
10' FDPS
2GI
CB
0401
0402
0403
0404
0405
0406
0407
0414
OBLITERATE EXISTING DRIVEWAY
SPECIAL CUT DITCH
SEE DETAIL B
REMOVE & REPLACE DI
BEGIN EXPRESSWAY GUTTER -L- 664+87.23
END EXPRESSWAY GUTTER -L- 666+03.53
180' TAPER
150' TAPER
75' TAPER
185' TAPER
-L- +45.00 EX R/W 140.00' LT
-L- +65.00 EX R/W 140.00' RT
PROP PDE
HUDSON CITY LIMITS
ANITA MARLENE HAAS
DB 1699 PG 618
DB 1195 PG 769
GERALD L. FULBRIGHT JR.
DB 1632 PG 983
FAW J. C.
DB 1861 PG 1672
-L- POT Sta. 662+70.00
END -L_RT1- POT Sta.11+80.00=
-L- POT Sta.666+00.00 29.50' RT
MATCHLINE -L- STA. 670+00 - SEE SHEET 5

Place Matting for Erosion Control on Slope as Work Allows. 668+00 – 670+00 LT

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER.

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PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-08/CONST.05

NAD 83 NA 2011

MATCHLINE –L– STA. 670+00 – SEE SHEET 4

MATCHLINE –L– STA. 681+00 – SEE SHEET 6

BEGIN CONSTRUCTION
–Y– POT Sta. 8+06.50

–Y– POT Sta. 8+00.00

BEGIN GRADING AND PAVING
–Y– POT Sta. 10+00.00

–L– POT Sta.675+40.00 =
–Y– POT Sta.12+05.00

NATIONAL RETAIL PROPERTIES
DB 1933 PG 402

TECHNICAL INSTITUTE
IB 497 PG 118

CALDWELL COUNTY
DB 1633 PG 660

WILLA DEAN CROWE
DB 706 PG 1254
DB 853 PG 817

FAW J. C.
DB 1861PG 1672

SPIRIT MASTER FUNDING III, LLC.
DB 1613 PG 1760

MCDONALDS REAL ESTATE COMPANY
DB 2077 PG 0902

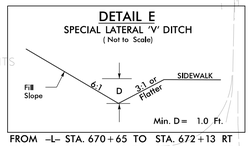
HUDSON CITY LIMITS

90 x 45 x 3
2.0 inch Skimmer
with 1.75 inch
Orifice Diameter
15 ft. wier
ID 5.2

Place Matting for Erosion Control
on Slope as Work Allows.
670+00 – 671+00 LT

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER.

DETAIL E
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM –L– STA. 670+65 TO STA. 672+13 RT
FROM –L– STA. 672+80 TO STA. 674+50 RT

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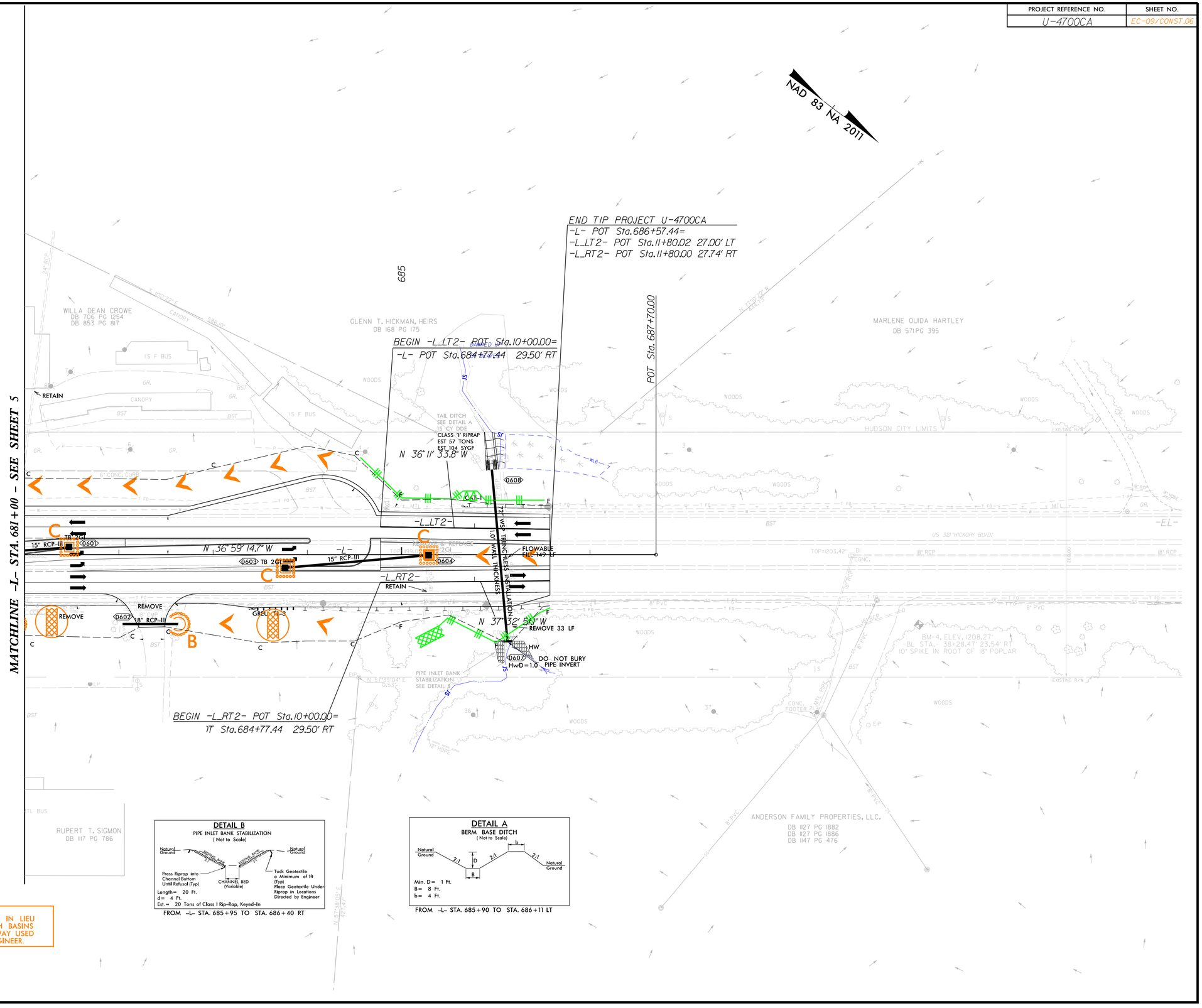
User:htraynor

PROJECT REFERENCE NO.	SHEET NO.
U-4700CA	EC-09/CONST.06



Place Matting for Erosion Control on Slope as Work Allows.
685+50 – 686+50 RT

NOTE: UTILIZE FABRIC INSERT INLET PROTECTION IN LIEU OF TYPE C INLET PROTECTION IN CATCH BASINS WHERE WATER MIGHT POND ON ROADWAY USED BY PUBLIC TRAFFIC AS DIRECTED BY ENGINEER.

DETAIL B
PIPE INLET BANK STABILIZATION
(Not to Scale)

Length= 20 Ft.
d= 4 Ft.
Est.= 20 Tons of Class I Rip-Rap, Keyed-In
FROM -L- STA. 685+95 TO STA. 686+40 RT

DETAIL A
BERM BASE DITCH
(Not to Scale)

Min. D= 1 Ft.
B= 8 Ft.
b= 4 Ft.
FROM -L- STA. 685+90 TO STA. 686+11 LT

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