PROJECT: U-0209B

TIP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-0209B	EC-1	

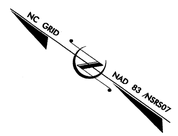
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

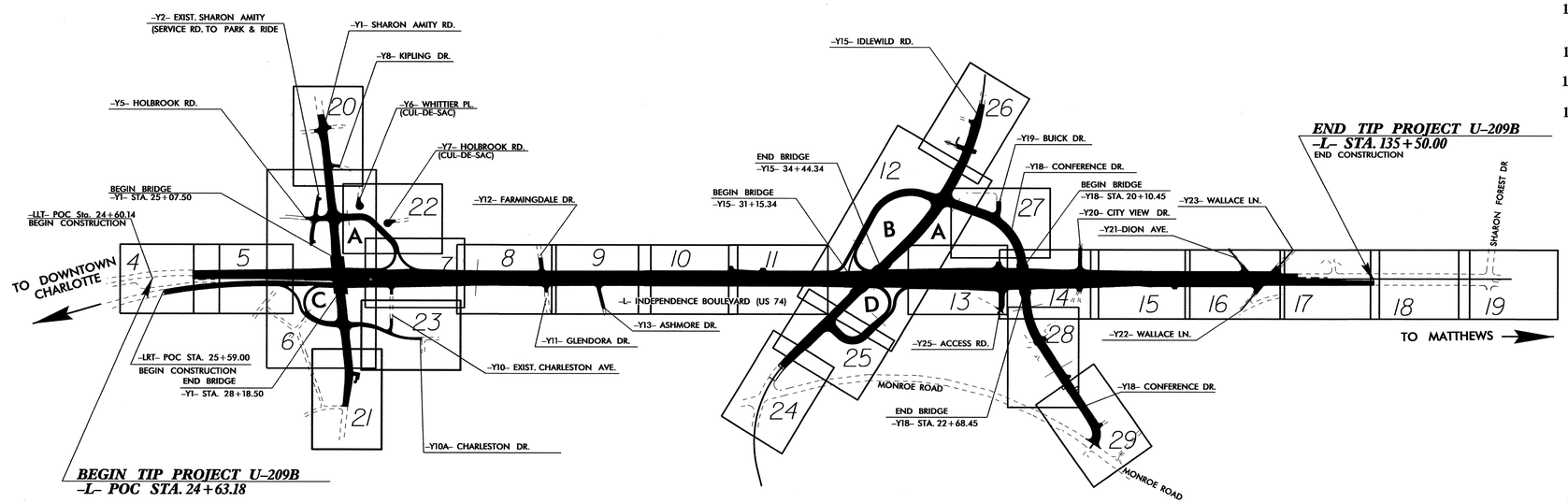
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

MECKLENBURG COUNTY

LOCATION: US 74 (INDEPENDENCE BOULEVARD) FROM NC 24/27 TO SHARON FOREST DRIVE
TYPE OF WORK: MILLING, WIDENING, PAVING, CURB & GUTTER, SIDEWALK, DRAINAGE & STRUCTURES





EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
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/ Coir Fiber Wattle	
	Wattle/ Coir Fiber Wattle with Polyacrylamide (PAM)	
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	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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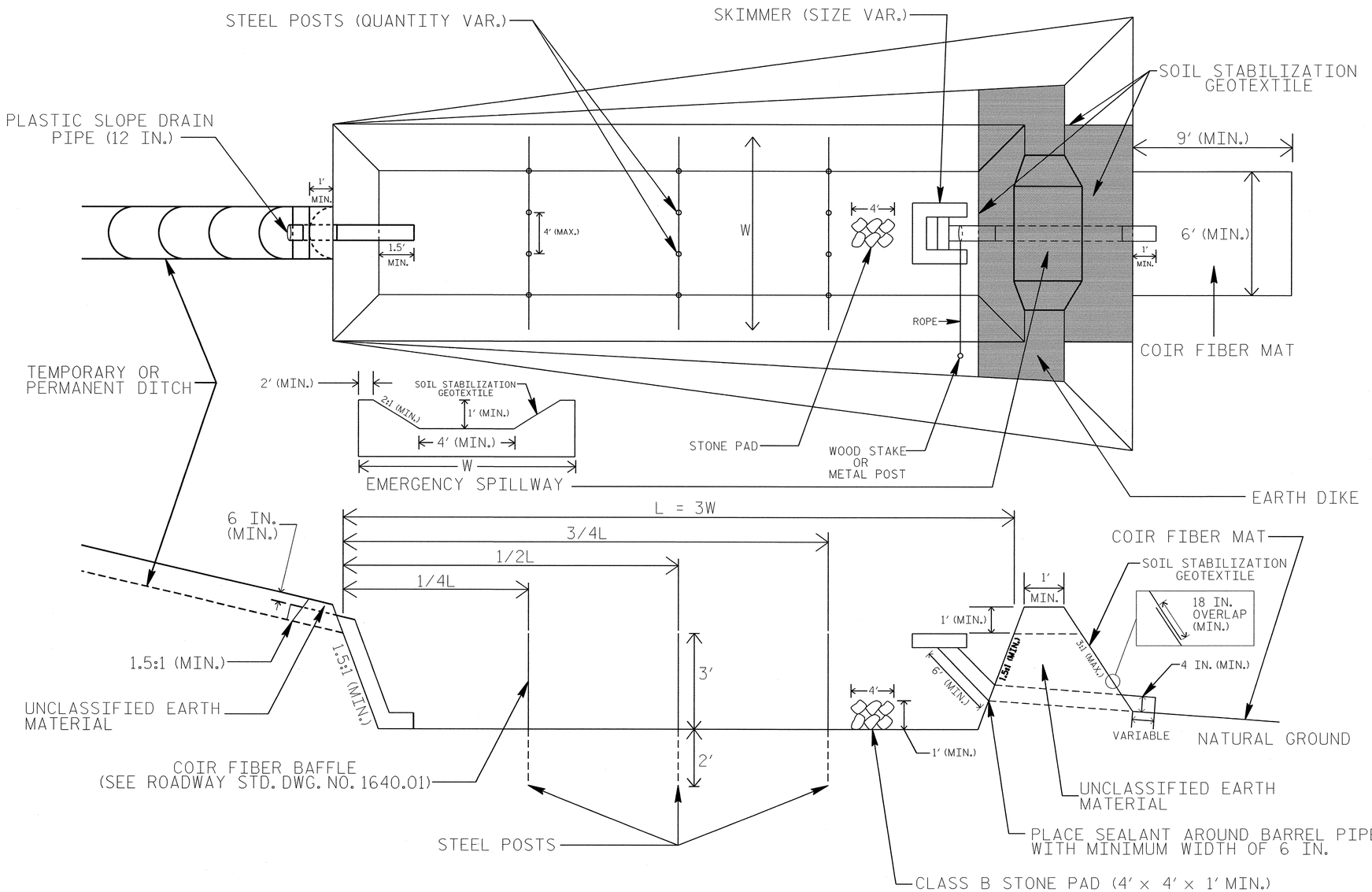
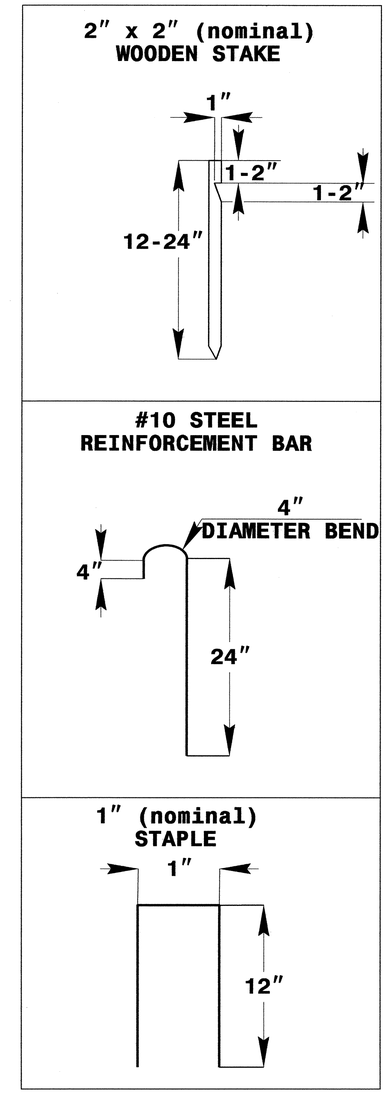
jemiferparish "AT HENVS29103"

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

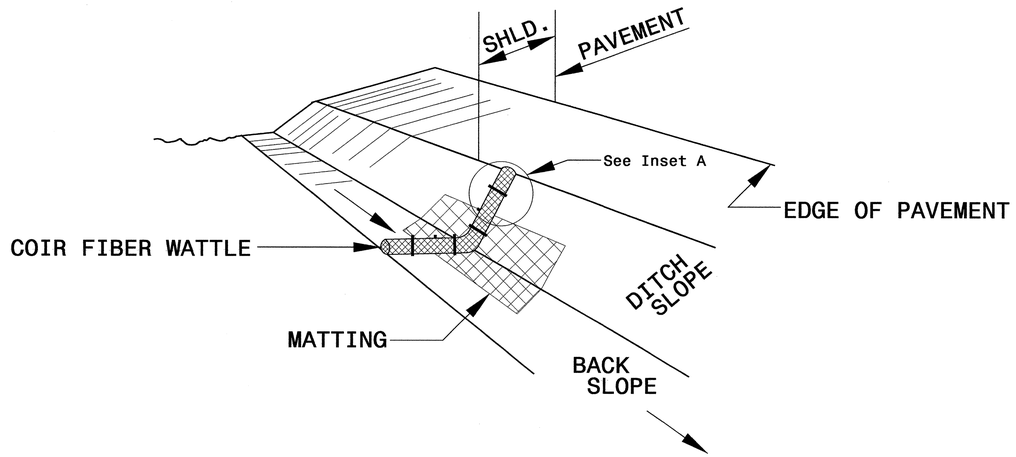
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE EMERGENCY SPILLWAY WEIR LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

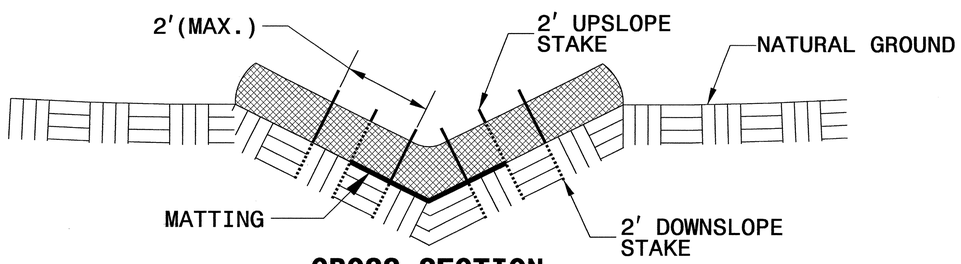
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

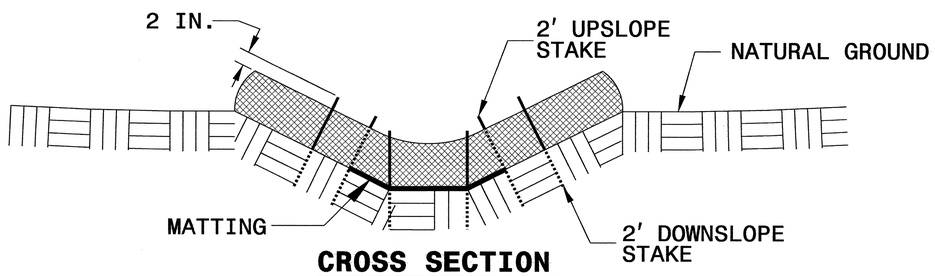
COIR FIBER WATTLE DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

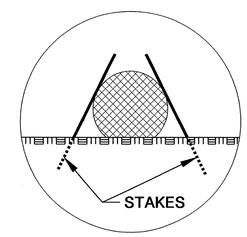
ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

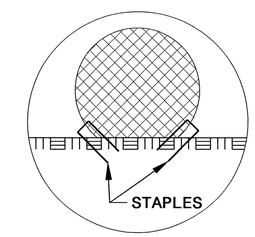
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

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

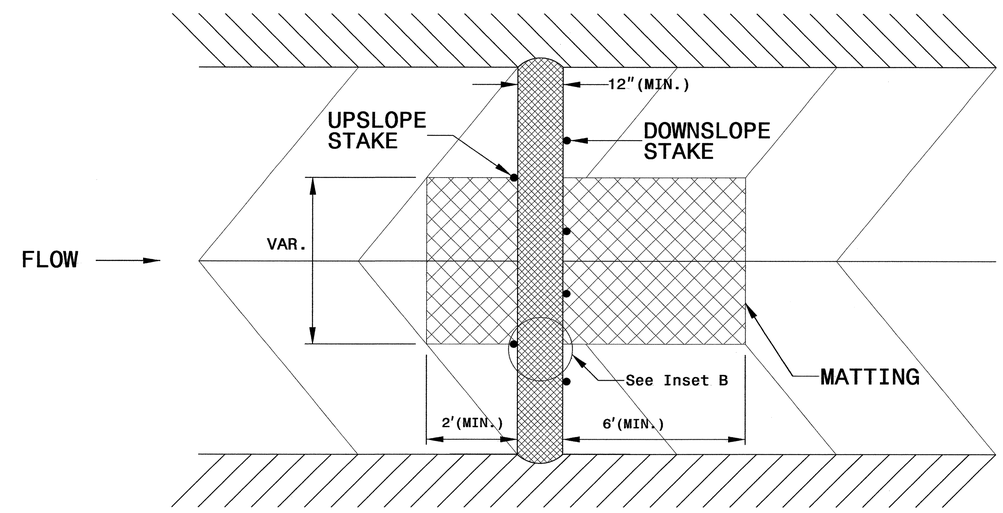
INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



INSET A



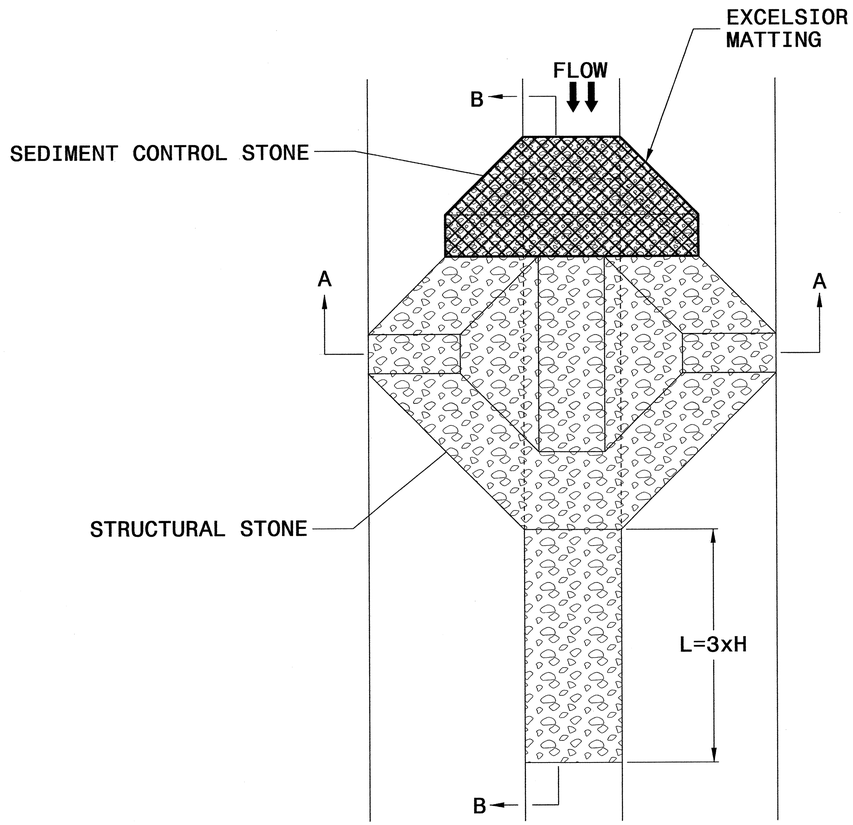
INSET B



TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



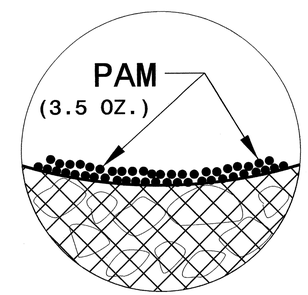
PLAN

NOTES

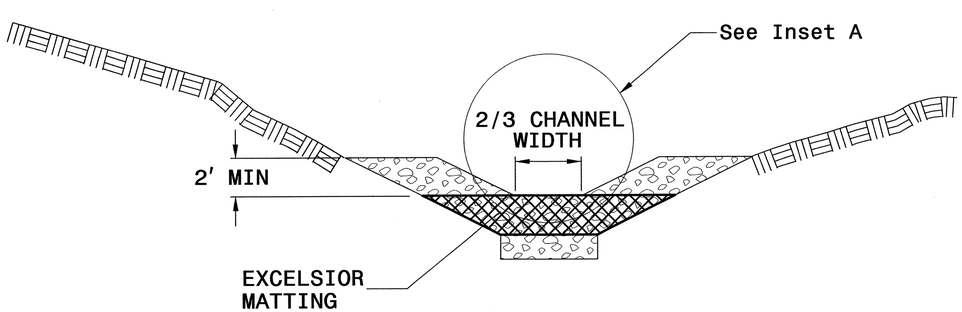
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

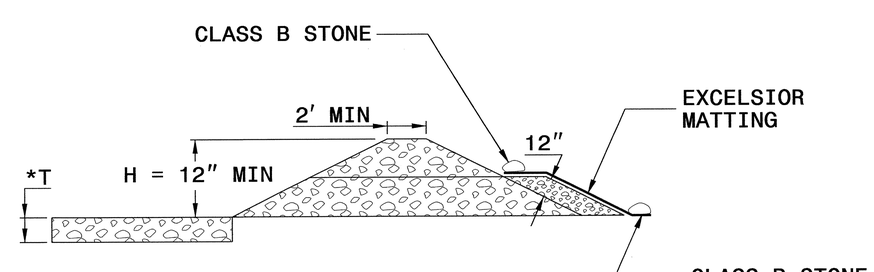
INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



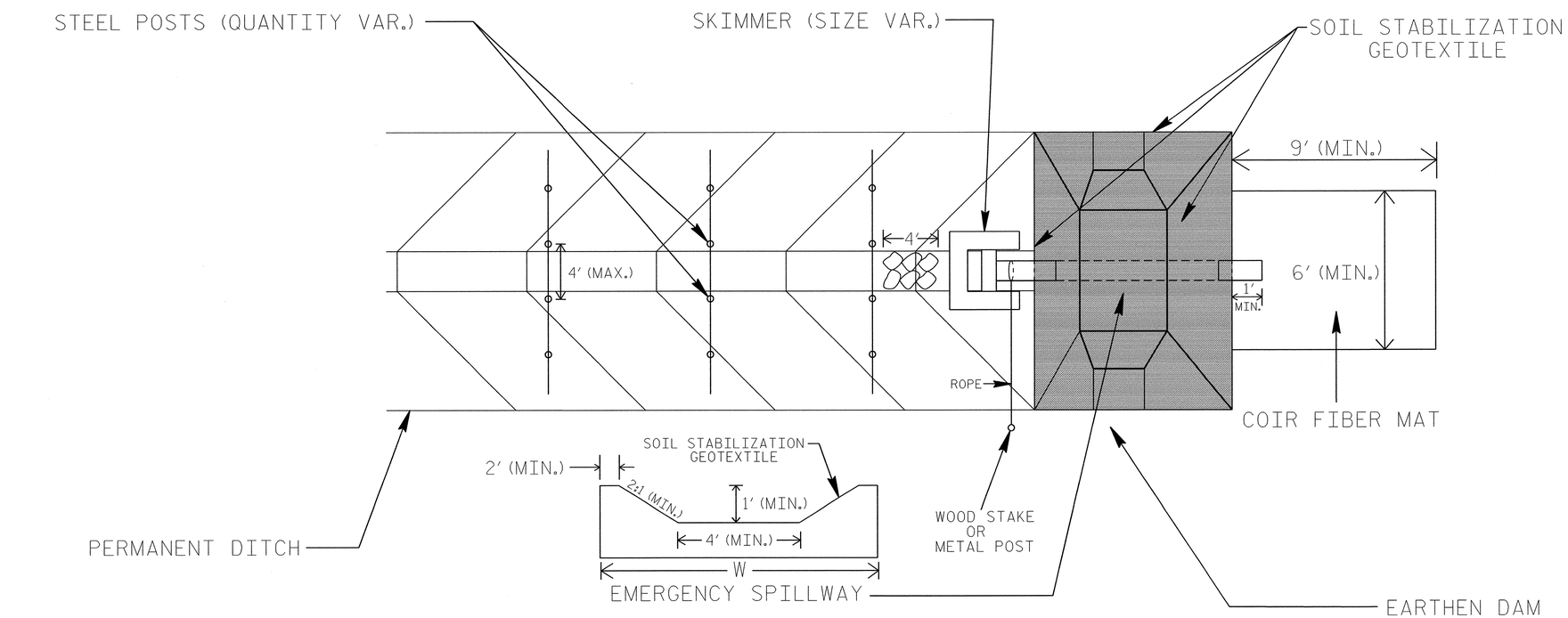
SECTION B-B

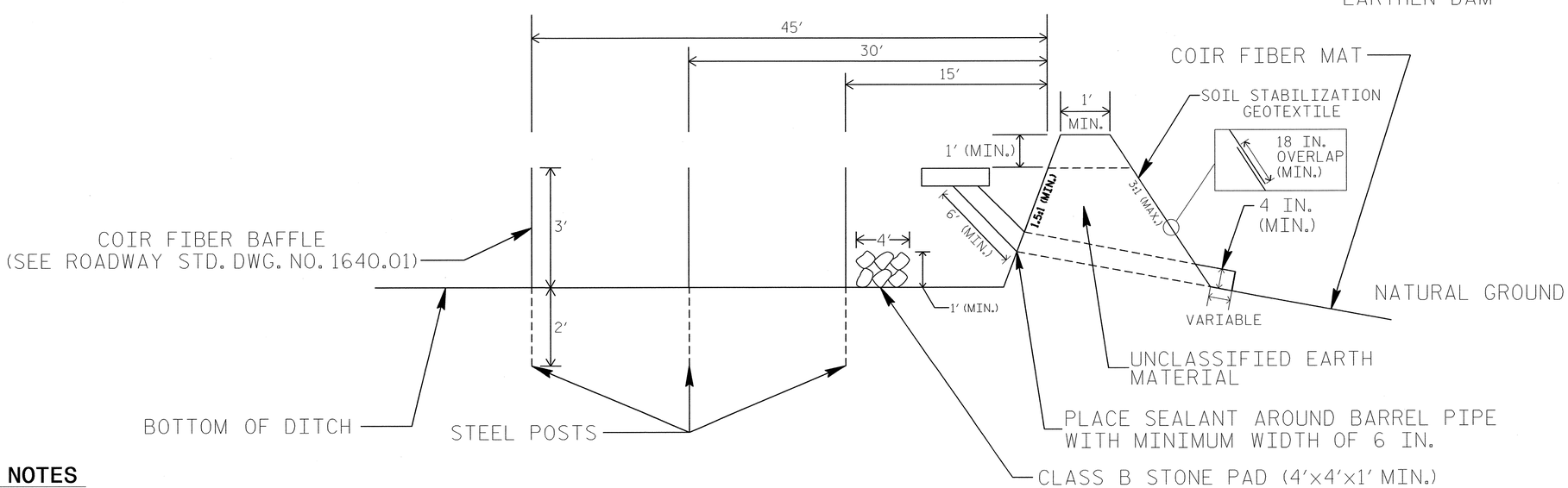
*T = 12" MIN., 18" MAX.

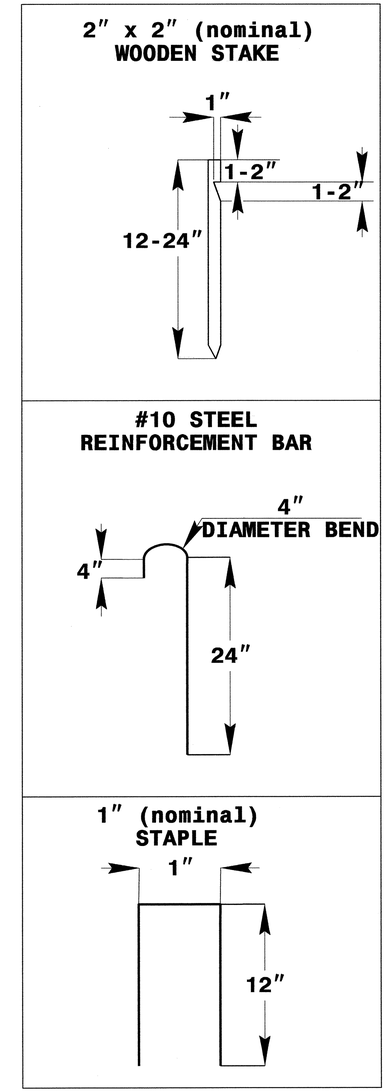
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EARTHEN DAM WITH SKIMMER







COIR FIBER MAT ANCHOR OPTIONS

NOTES

1. LIMIT EARTHEN DAM HEIGHT TO 5 FT.
2. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING Q/0.8, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
3. SOIL STABILIZATION GEOTEXTILE FOR EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
6	-Y1RPCC-	15+48	1618	RT	85
12	-Y15RPB-	19+50	22+50	LT	275
17	-L-	128+00	132+50	MED	610
02K	-YDET-	21+31	22+31	RT	110
02K	-YDET-	21+31	22+31	LT	115
02K	-YDET-	26+82	27+83	RT	125
02K	-YDET-	24+81	28+34	LT	220
Y15 DET	-Y15DET-	11+00	12+09	RT	85
Y15 DET	-Y15DET-	11+00	12+09	LT	100
			SUBTOTAL		1725
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					34925
				TOTAL	36650
				SAY	36700

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
14	-L-BERM D	107+50	108+06	RT	45
14	-Y20-	10+70	11+75	RT	85
14	-Y20-	10+70	11+75	LT	60
			SUBTOTAL		190
ADDITIONAL PSRM TO BE INSTALLED					0
				TOTAL	190
				SAY	200

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

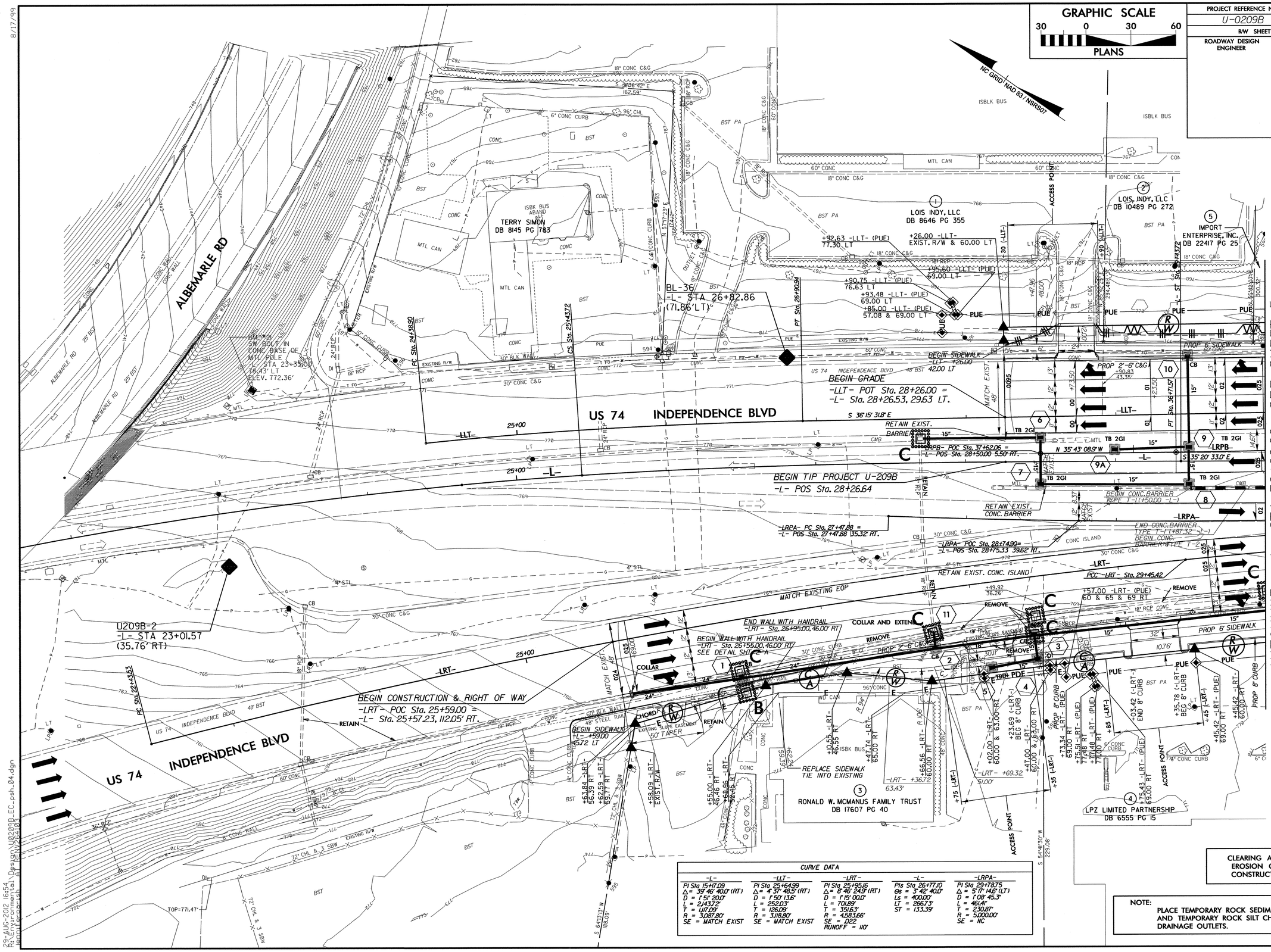
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



CURVE DATA				
-L-	-LLT-	-LRT-	-L-	-LRPA-
PI Sta. 15+17.09	PI Sta. 25+64.99	PI Sta. 25+95.16	PIs Sta. 26+77.10	PI Sta. 29+78.75
Δ = 39° 46' 40.0" (RT)	Δ = 4° 37' 48.5" (RT)	Δ = 8° 46' 24.9" (RT)	Δs = 3° 42' 40.0"	Δ = 5° 17' 14.6" (LT)
D = 1° 51' 20.0"	D = 1° 50' 13.6"	D = 1° 15' 00.0"	Ls = 400.00'	D = 1° 08' 45.3"
L = 2,143.72'	L = 252.03'	L = 701.89'	LT = 266.73'	L = 461.41'
T = 1,117.09'	T = 126.09'	T = 351.63'	ST = 133.39'	T = 230.87'
R = 3,087.80'	R = 3,118.80'	R = 4,583.66'		R = 5,000.00'
SE = MATCH EXIST	SE = MATCH EXIST	SE = .022		SE = NC
		RUNOFF = 110'		

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.

8/17/99

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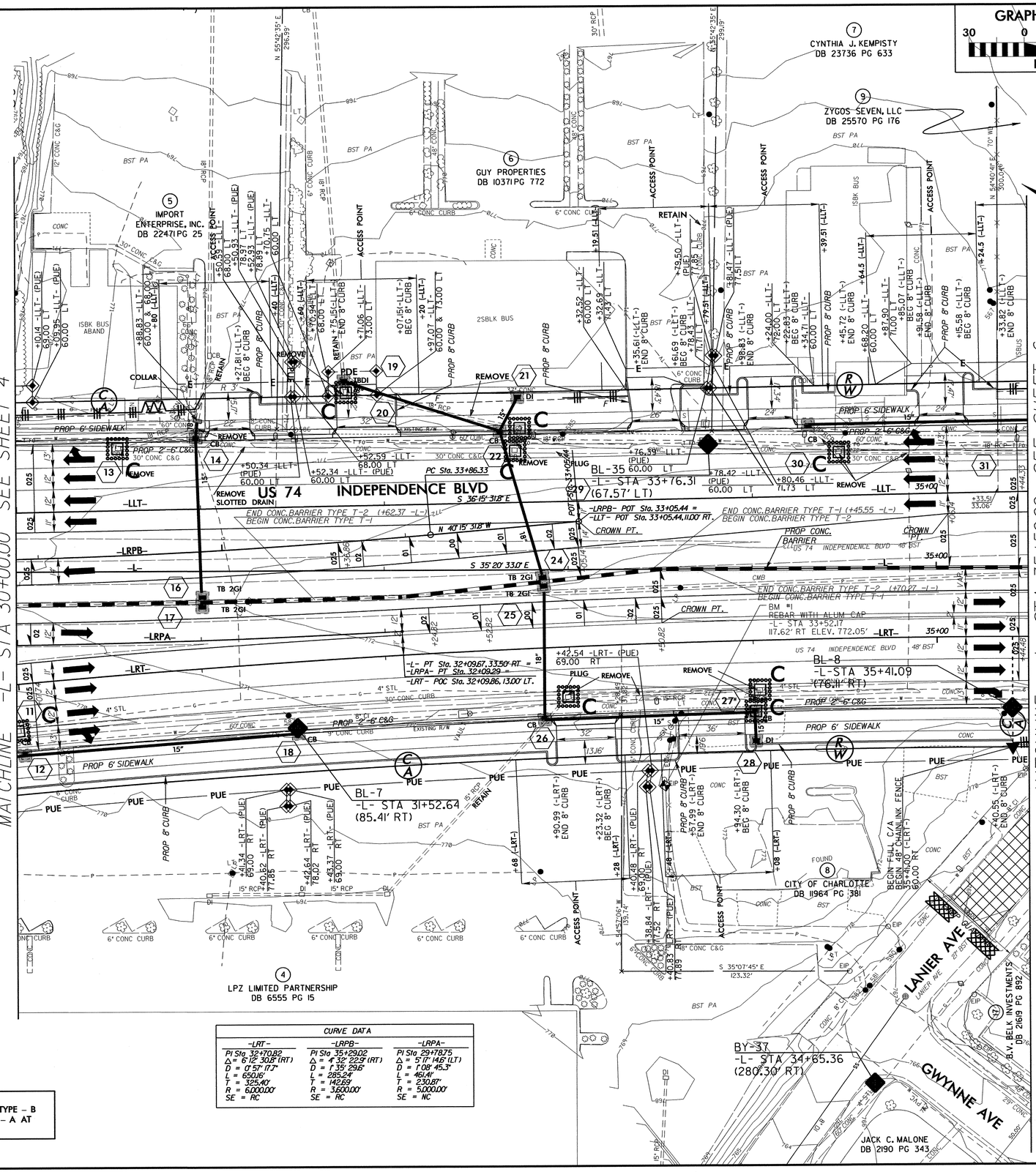
jennifergrooms AT REN\V8241103

PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



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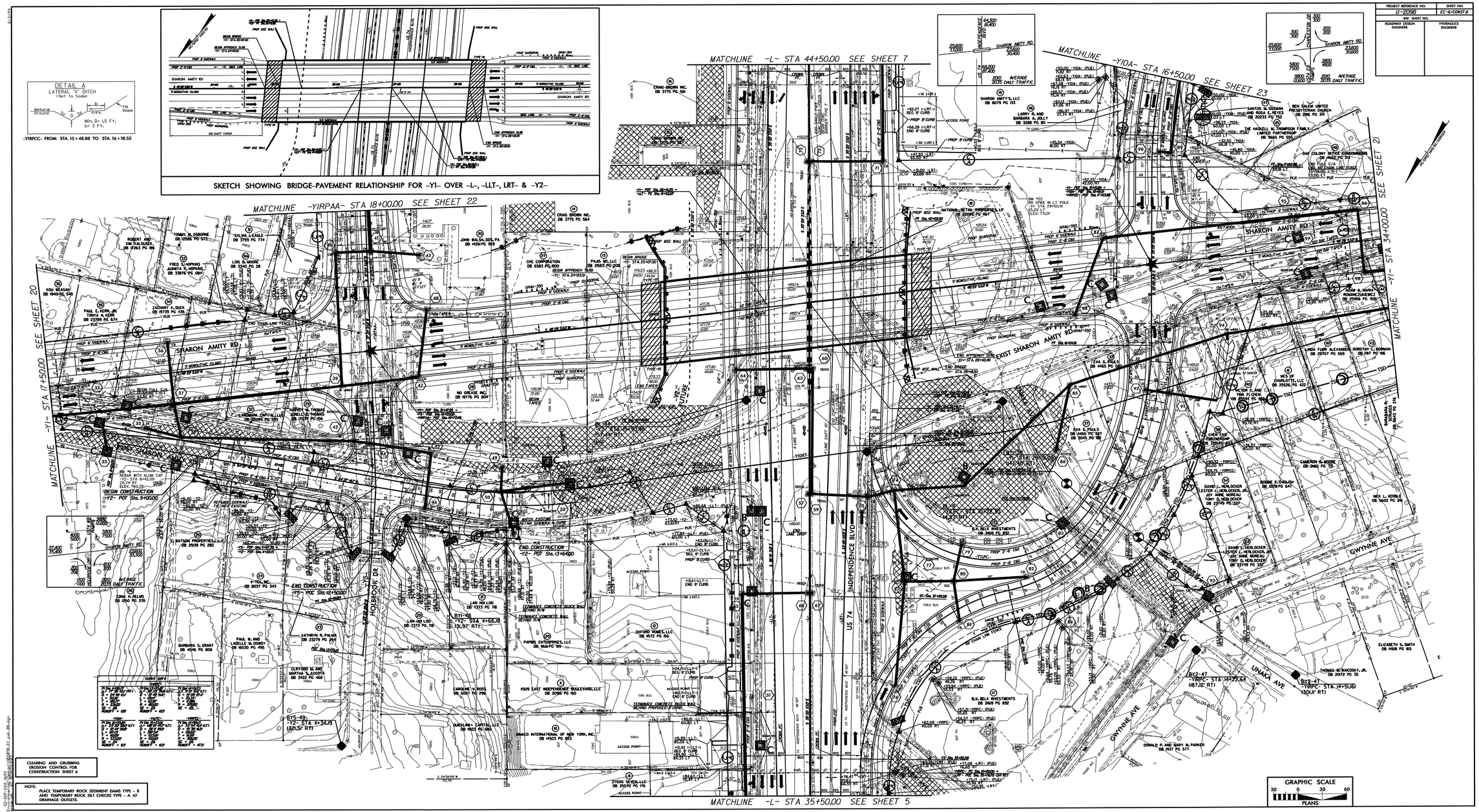
jennifercarroll AT RENV26103

PROJECT REFERENCE NO.	SHEET NO.
U-2918	EC-6/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 6

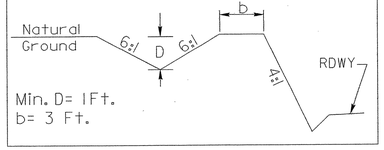
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B AND TEMPORARY ROCK SILT CHECKS TYPE - A AT DRAINAGE OUTLETS.

PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-7/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS

NC GRID NAD 83 / NSRS07

DETAIL A
BERM 'V' DITCH
(Not to Scale)



Min. D= 1Ft.
b= 3 Ft.

FROM STA. 45+00-L- TO STA. 12+50 -Y1LPA- LT.

MATCHLINE -YIRPAA- STA 13+00.00 SEE SHEET 22

MATCHLINE -L- STA 44+50.00 SEE SHEET 6

MATCHLINE -L- STA 52+50.00 SEE SHEET 8

MATCHLINE -Y10- STA 12+00.00 SEE SHEET 23

US 74 INDEPENDENCE BLVD

CHARLESTON DR

BL-33
-L- STA 45+05.28
(60.89' LT)

BL-10
-Y10- STA 10+23.16
(20.69' RT)

BL-11
-L- STA 52+29.74
(64.73' RT)

END CONSTRUCTION
-Y10- POT Sta. 11+00.00

KENNETH D. SAUDER
DB 8559 PG 332

GEORGE J. GALLAGHER
DB 4954 PG 717

INDEPENDENCE TOWER, LLC
DB 8838 PG 176

JORDAN MOTORS, INC.
DB 2653 PG 387

ALICE C. JORDAN
DB 4485 PG 974

RICHARD W. JR. AND CONSTANCE O. KEFFER
DB 5909 PG 468

SHARON AMITY'S, LLC
DB 8079 PG 133

CRAIG BROWN INC.
DB 3775 PG 561

TKC XXIV, LLC
DB 10562 PG 124

CURVE DATA

-LLT-	-LRT-
PI Sta 46+20.86	PI Sta 46+20.86
Δ = 1°20'16.2" (RT)	Δ = 1°20'16.2" (LT)
D = 0°28'38.9"	D = 0°28'38.9"
L = 280.19'	L = 280.19'
T = 140.10'	T = 140.10'
R = 12,000.00'	R = 12,000.00'
SE = NC	SE = NC

-YILPA-	-YIRPA-
PI Sta 11+81.11	PI Sta 11+87.39
Δ = 107°44'04.7" (LT)	Δ = 78°05'52.6" (RT)
D = 38°11'49.9"	D = 24°48'12.1"
L = 263.72'	L = 314.87'
T = 181.11'	T = 187.39'
R = 150.00'	R = 231.00'
SE = .06	SE = .06
RUNOFF = 103'	RUNOFF = 109'

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7

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

8/17/99

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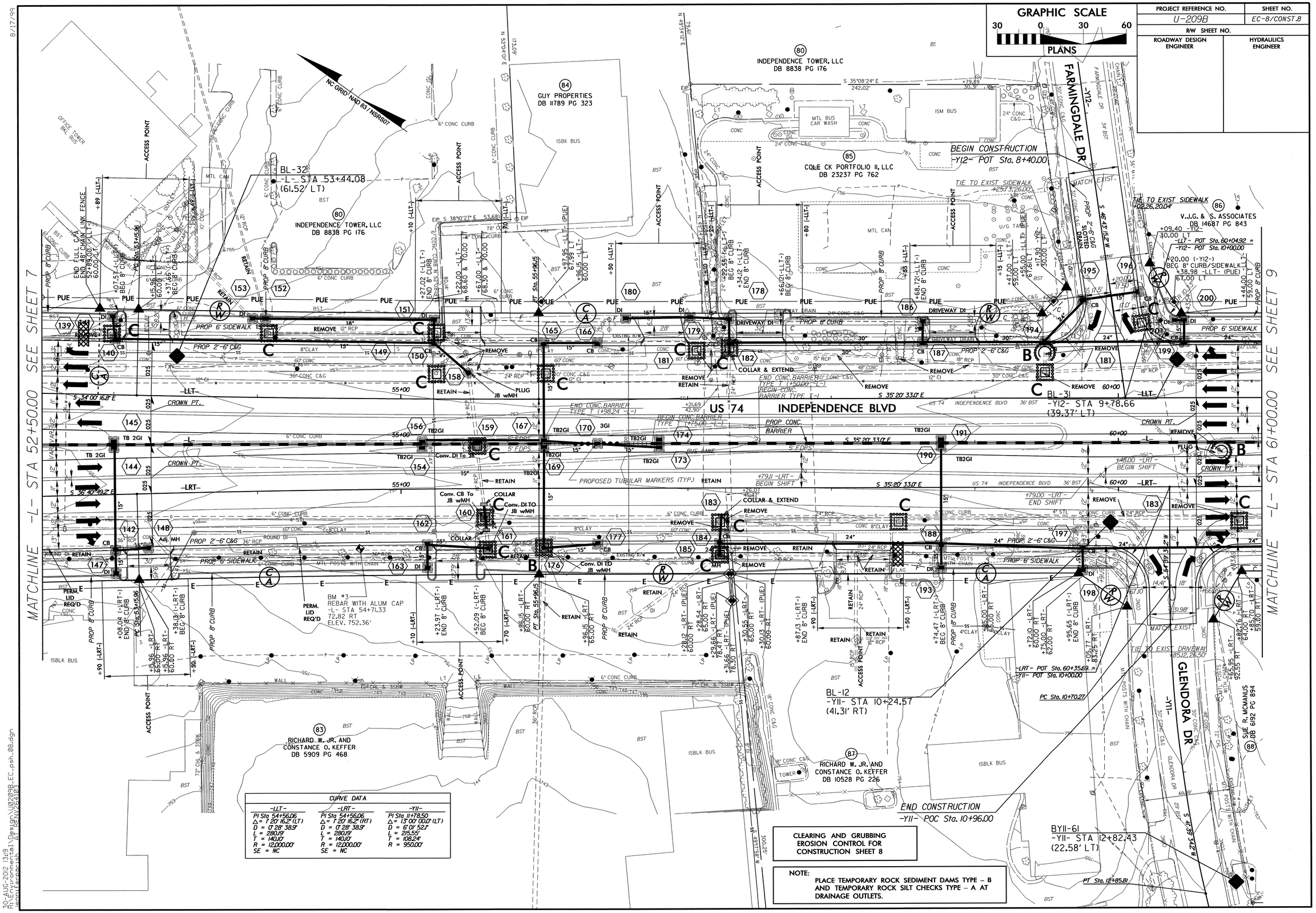
PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-8/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



CURVE DATA

-LLT-	-LRT-	-Y11-
PI Sta 54+56.06	PI Sta 54+56.06	PI Sta 11+78.50
Δ = 1°20' 16.2" (LT)	Δ = 1°20' 16.2" (RT)	Δ = 13°00' 00.0" (LT)
D = 0°28' 38.9"	D = 0°28' 38.9"	D = 6°01' 52.1"
L = 280.19'	L = 280.19'	L = 215.55'
T = 140.10'	T = 140.10'	T = 108.24'
R = 12,000.00'	R = 12,000.00'	R = 950.00'
SE = NC	SE = NC	

8/17/99

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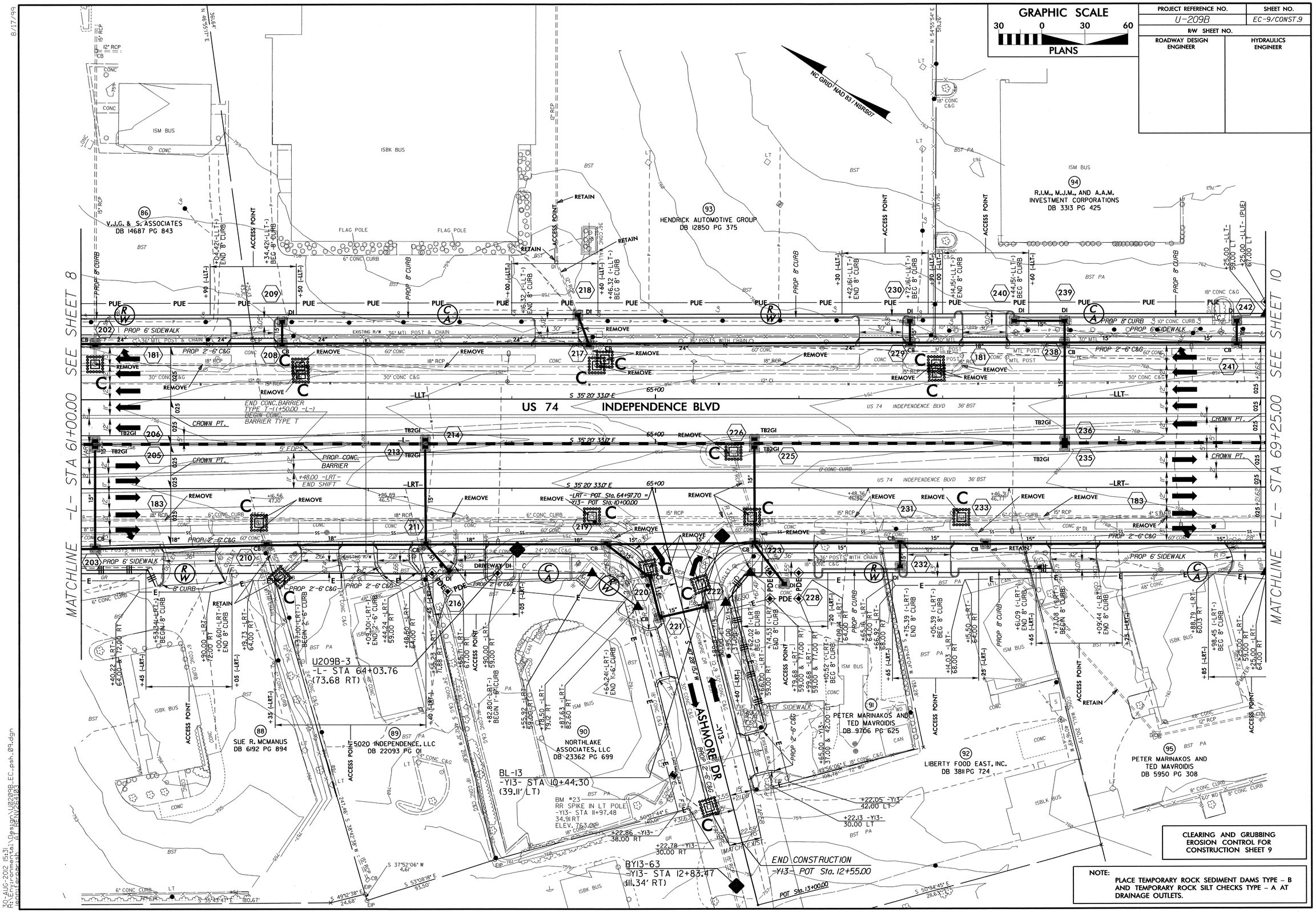
PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-9/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 9

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

8/17/99

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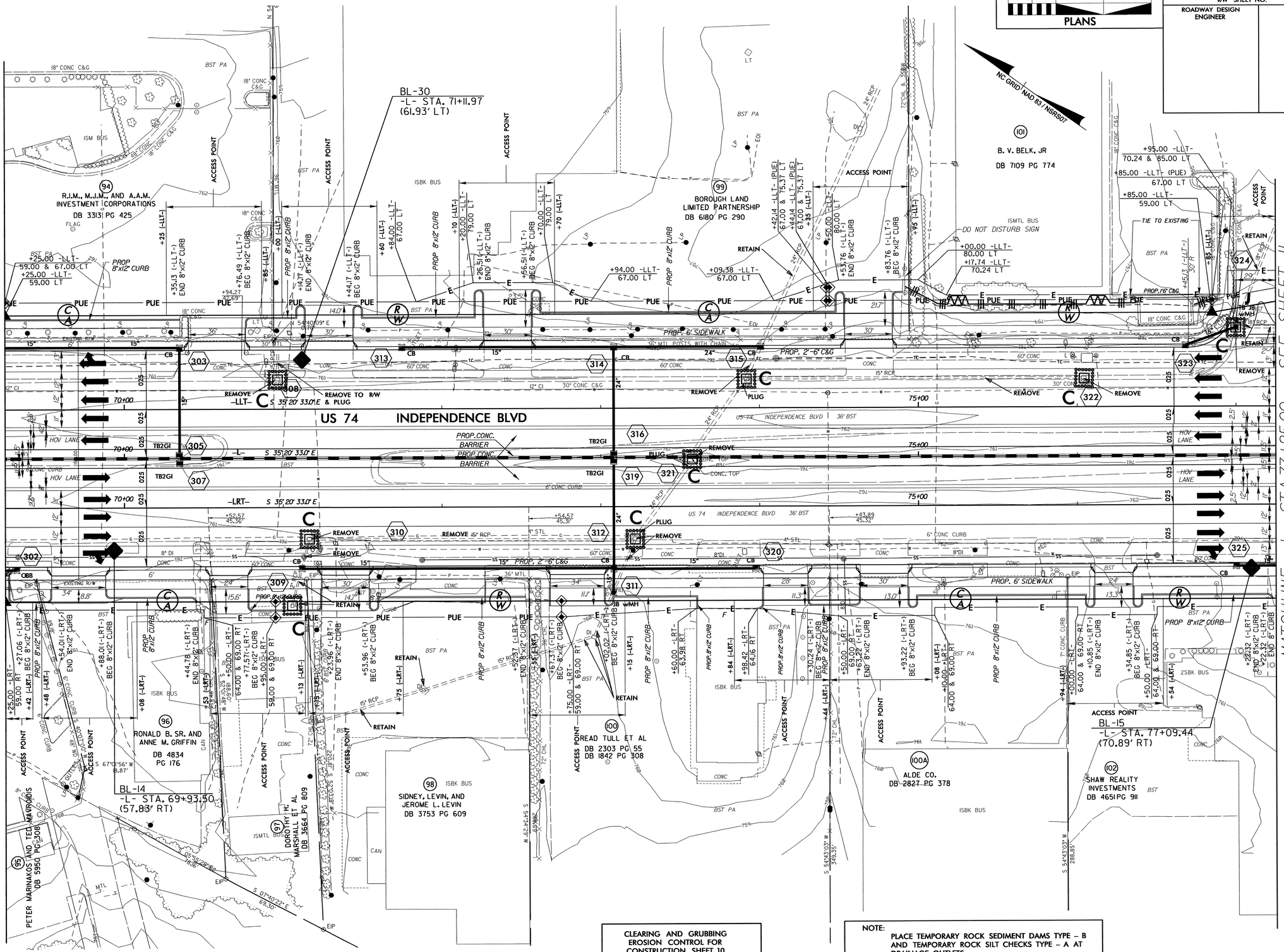
applepcpsh AT RENV262103

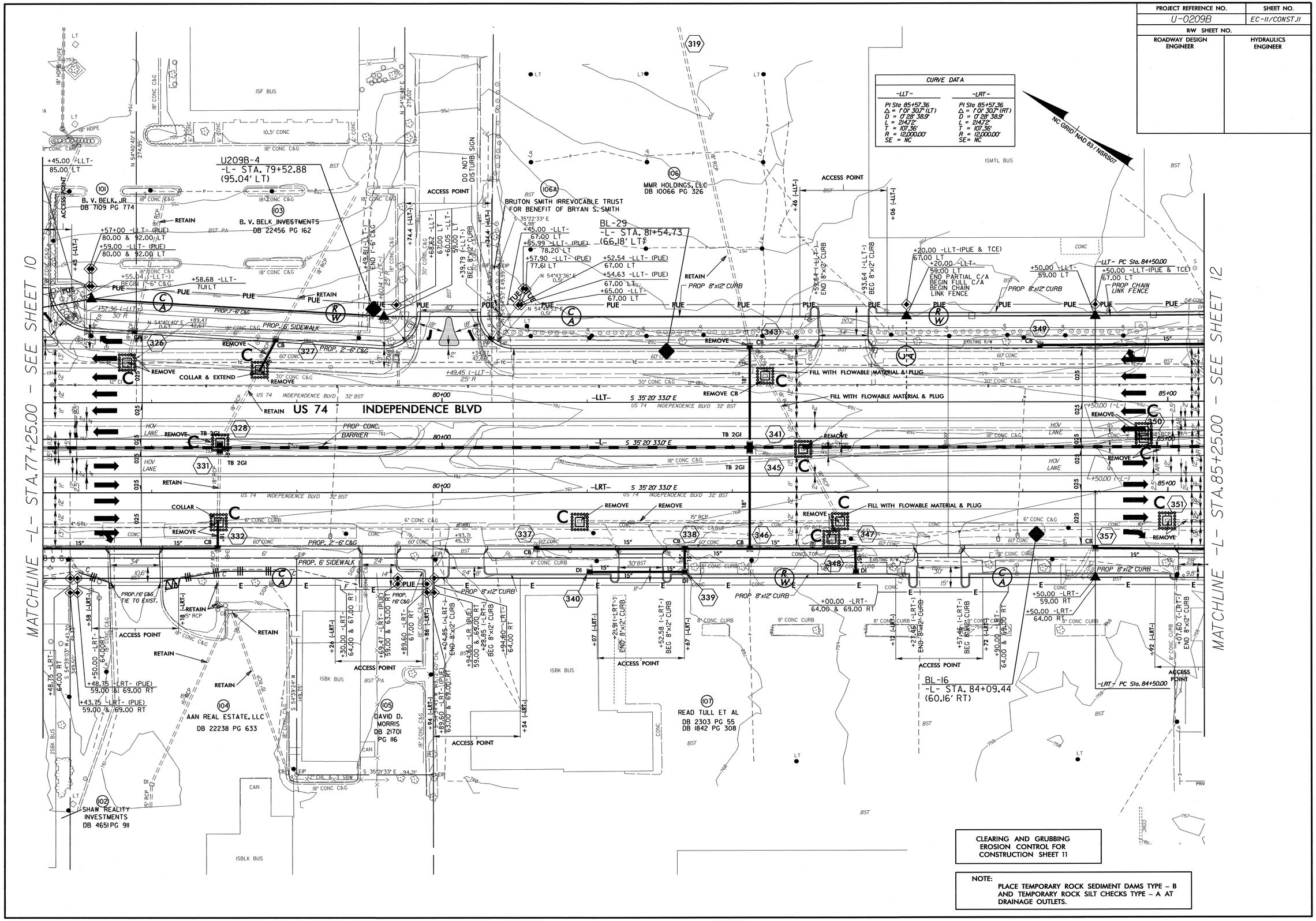
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-10/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



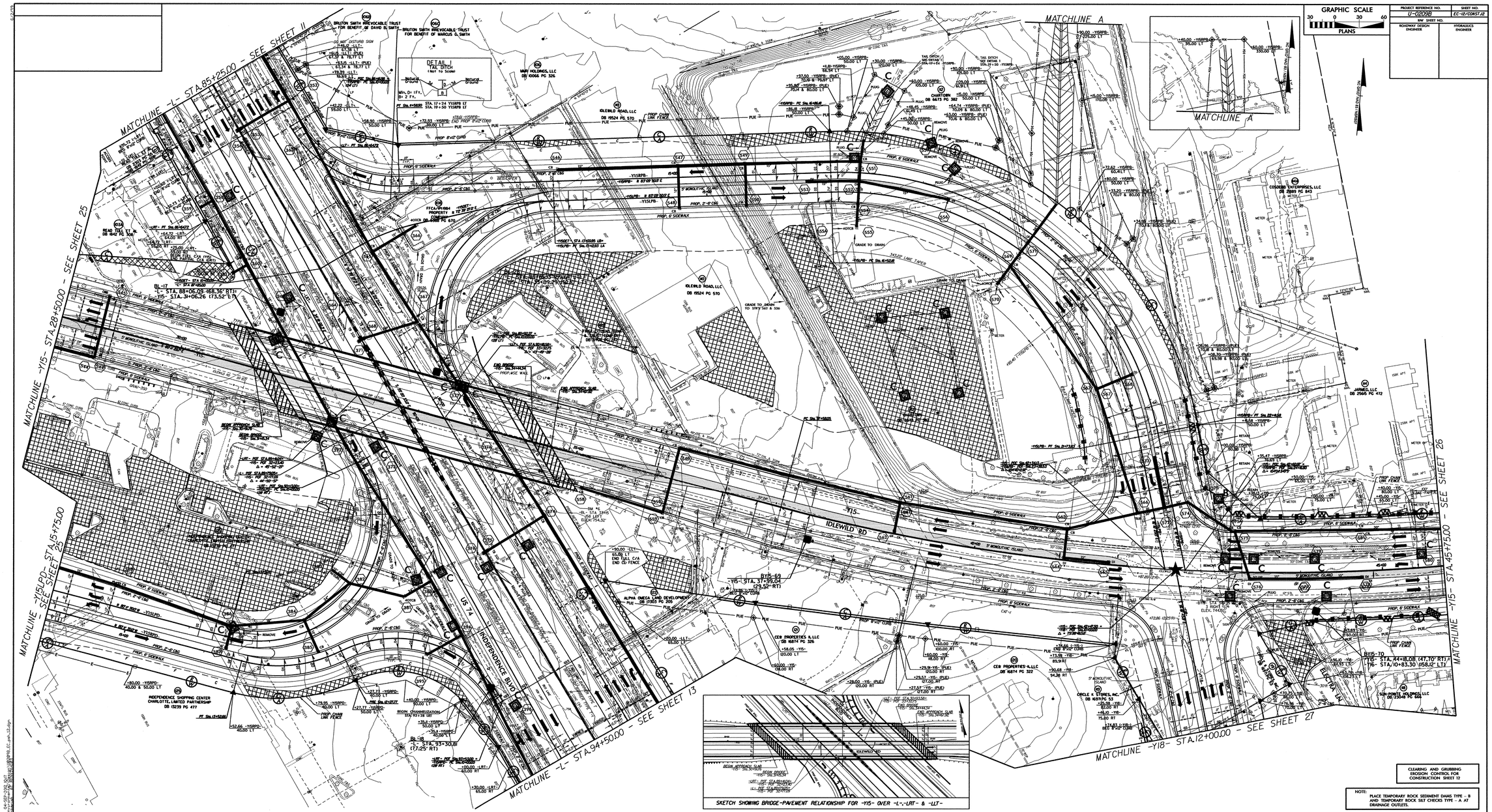
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-11/CONST.11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 11

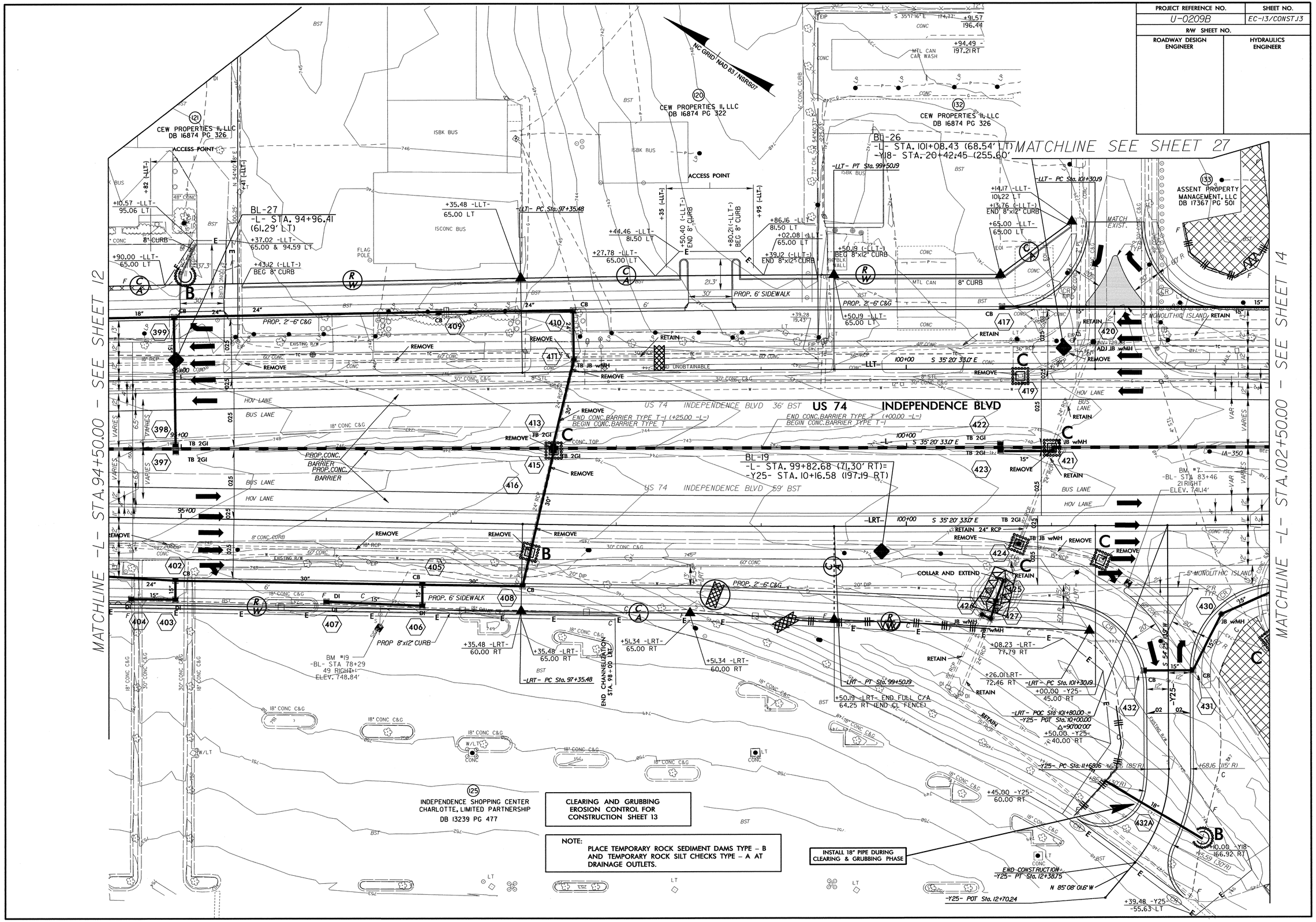
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.



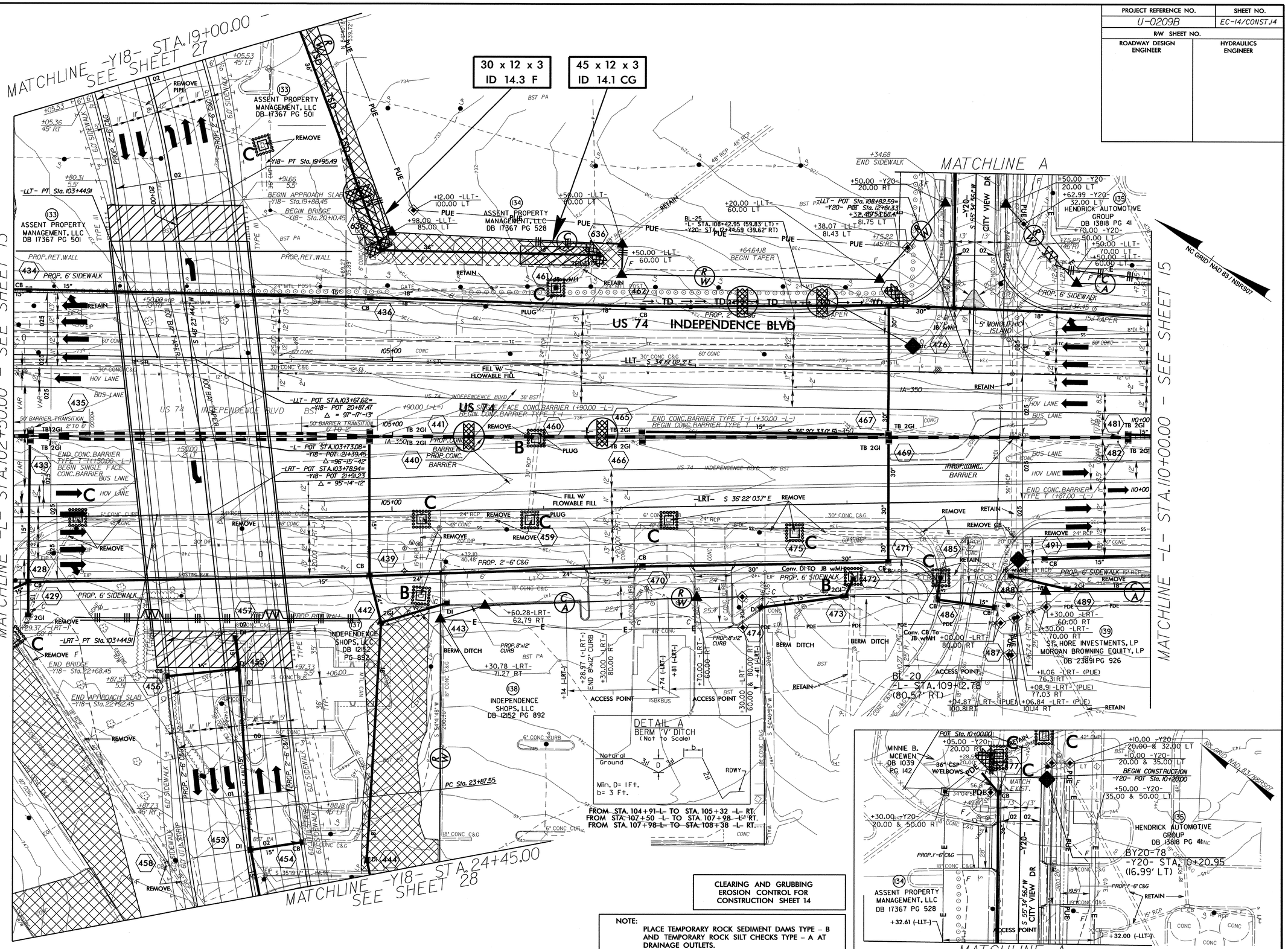
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 12

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

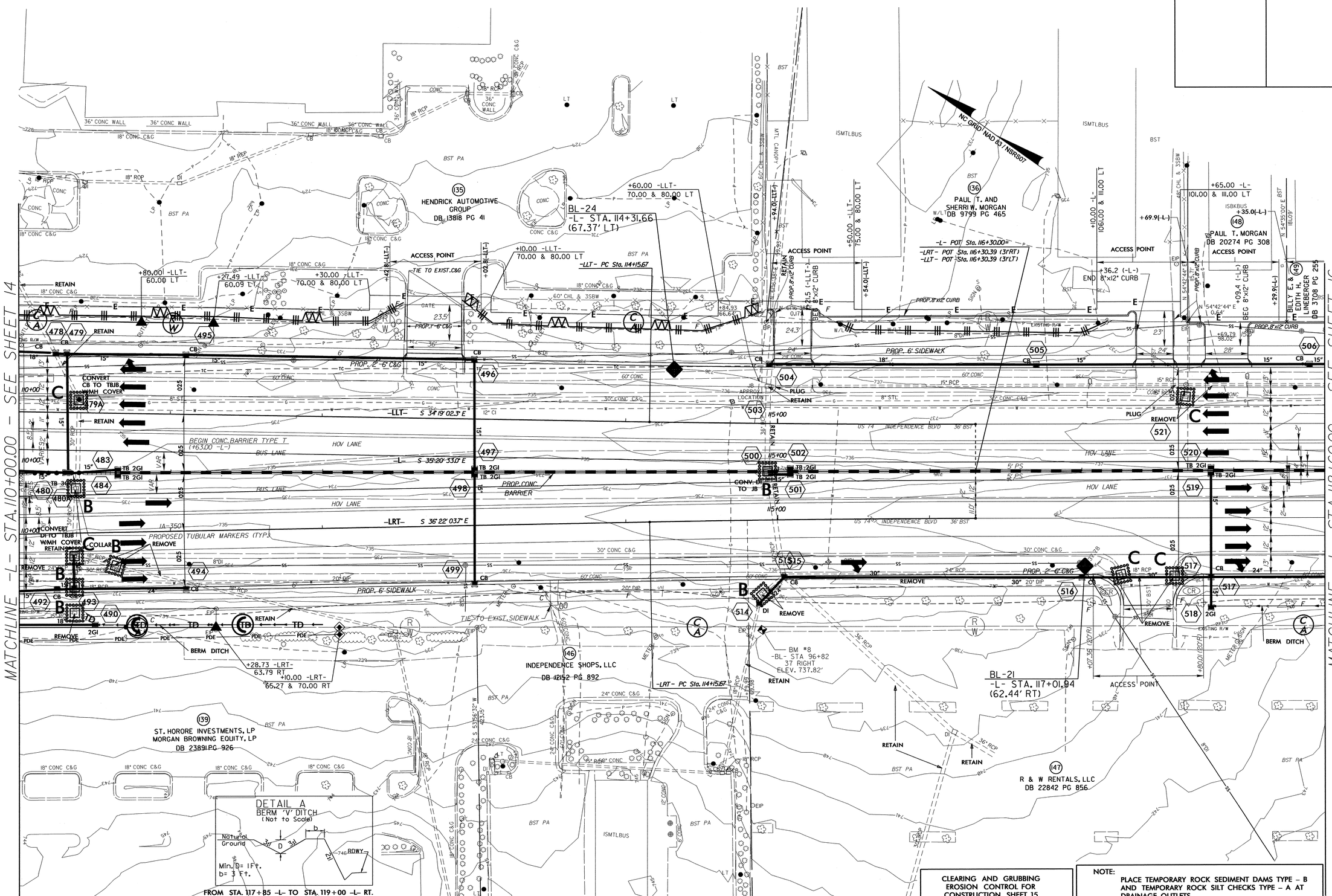
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-13/CONST13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-14/CONST J4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



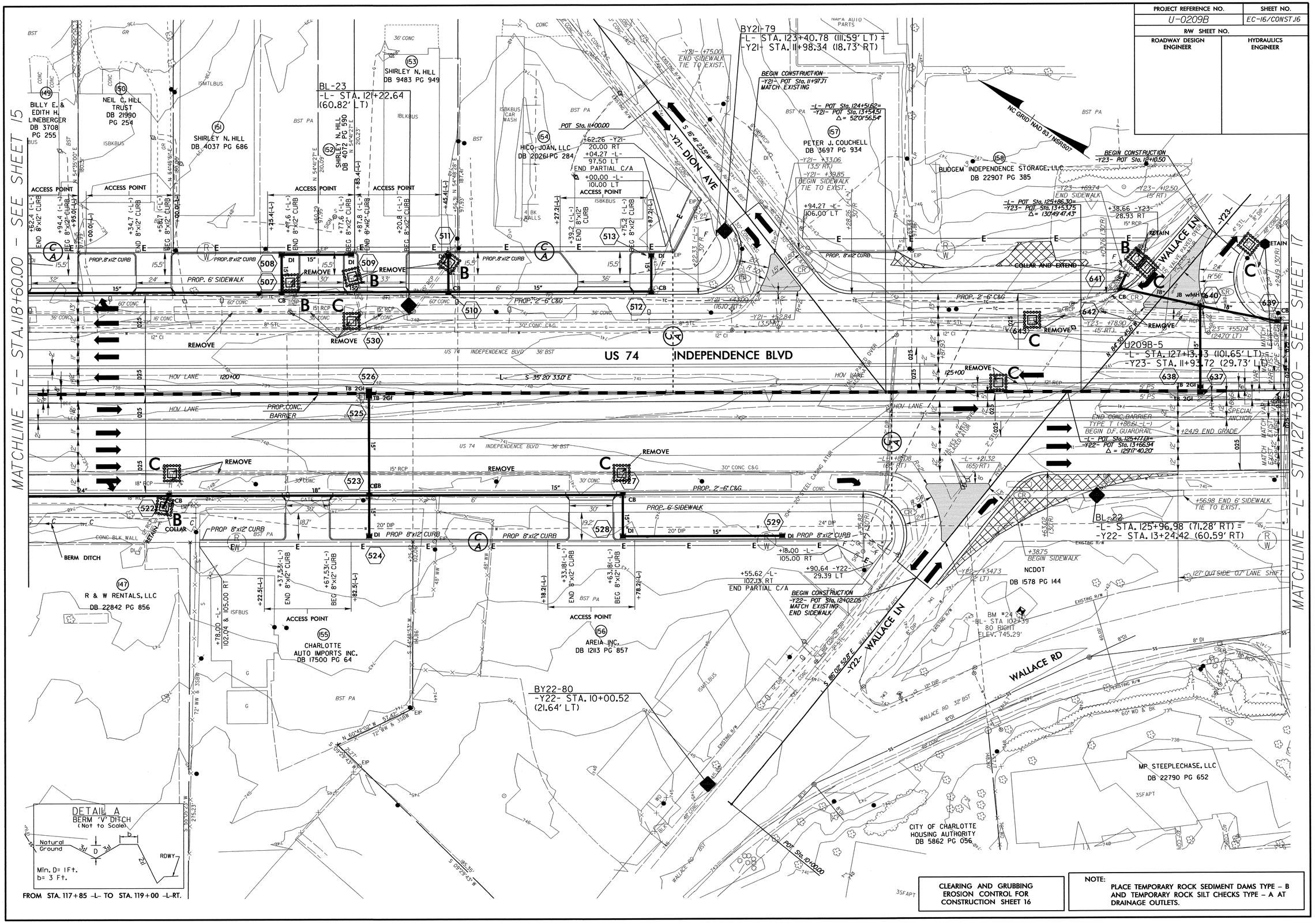
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-15/CONST.15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 15

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

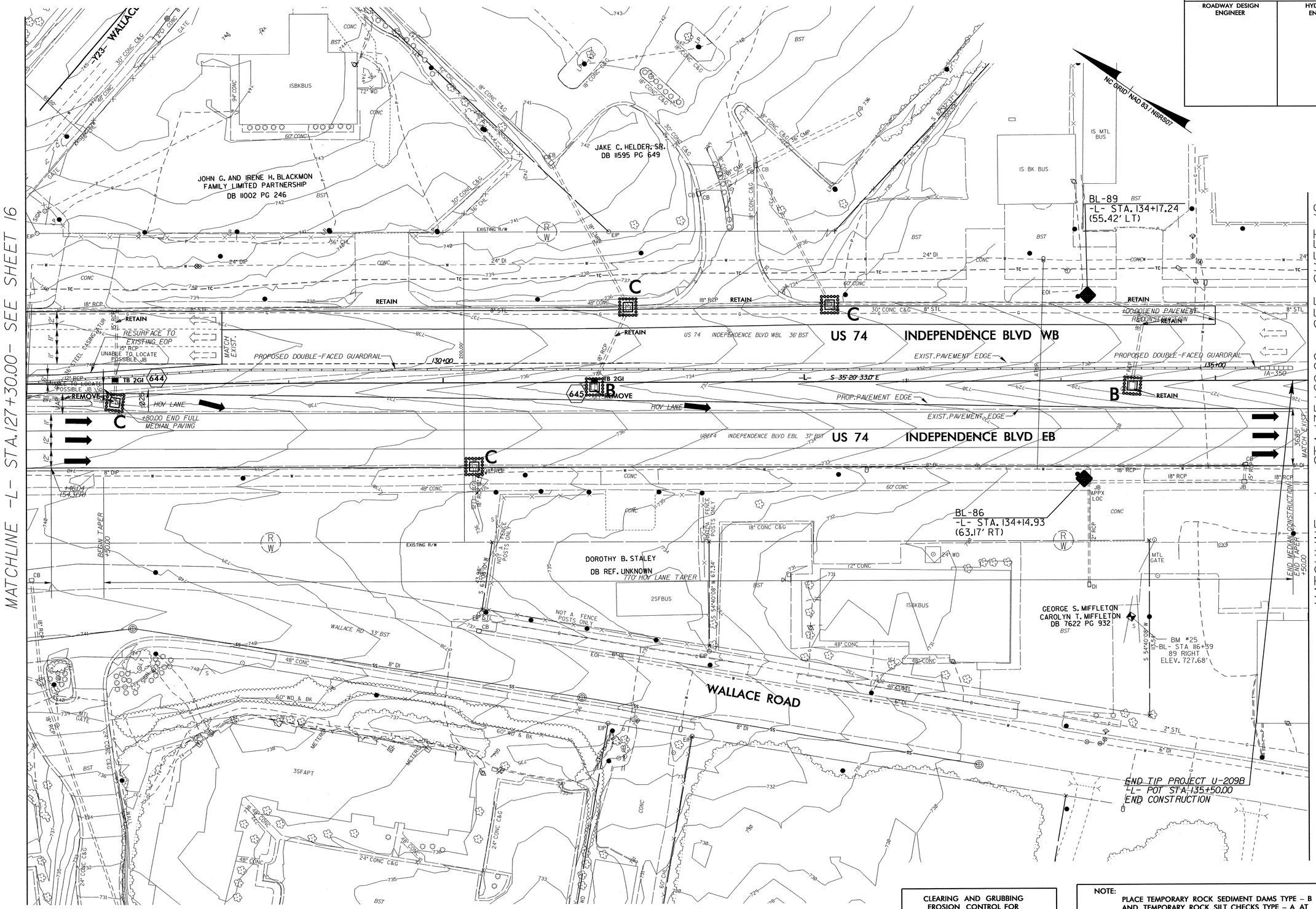
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-16/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 16

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

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-17/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 17

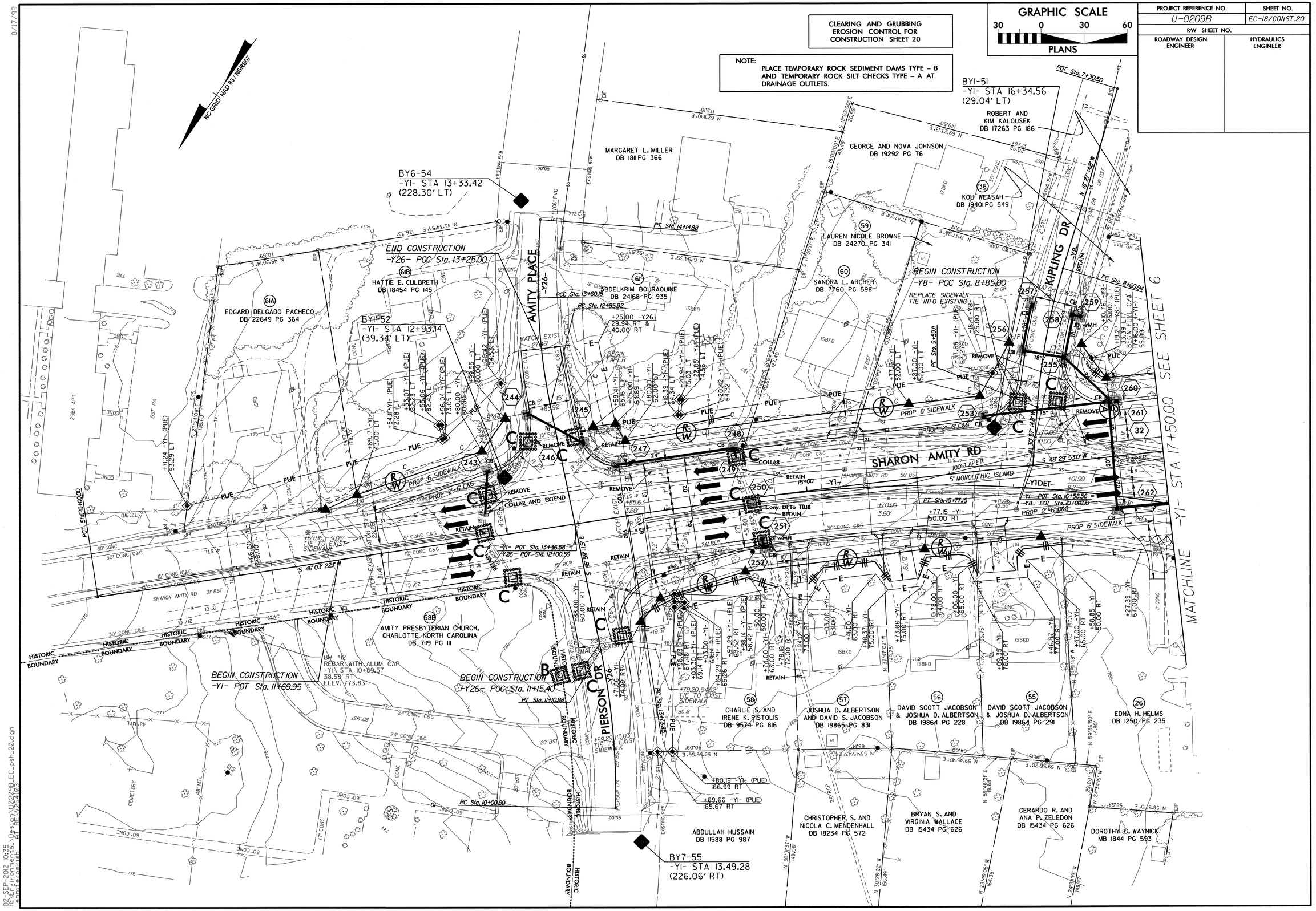
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-18/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 20

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

GRAPHIC SCALE
30 0 30 60
PLANS



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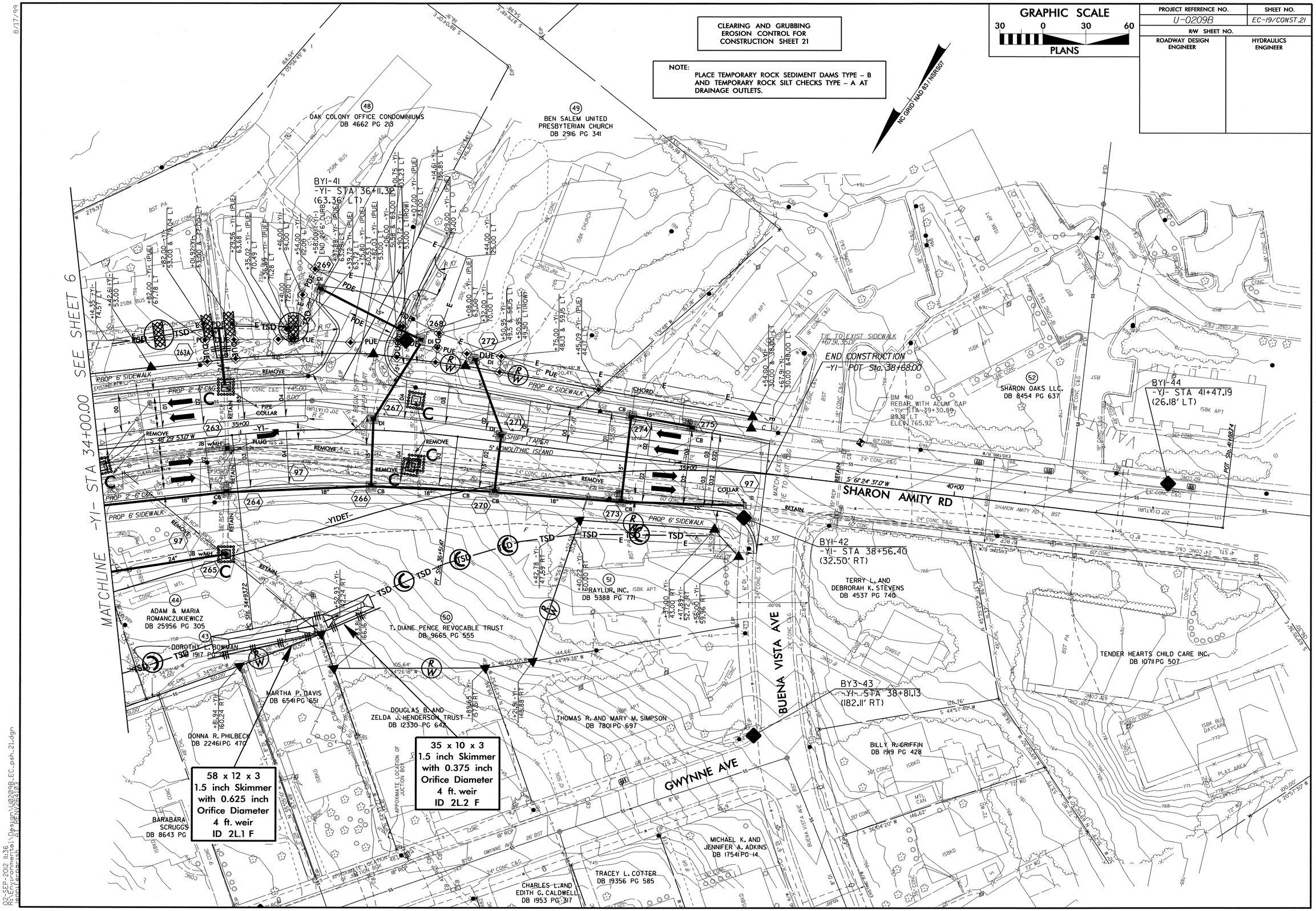
mpowell@ncdot.gov
AT PENV264103

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-19/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 21

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



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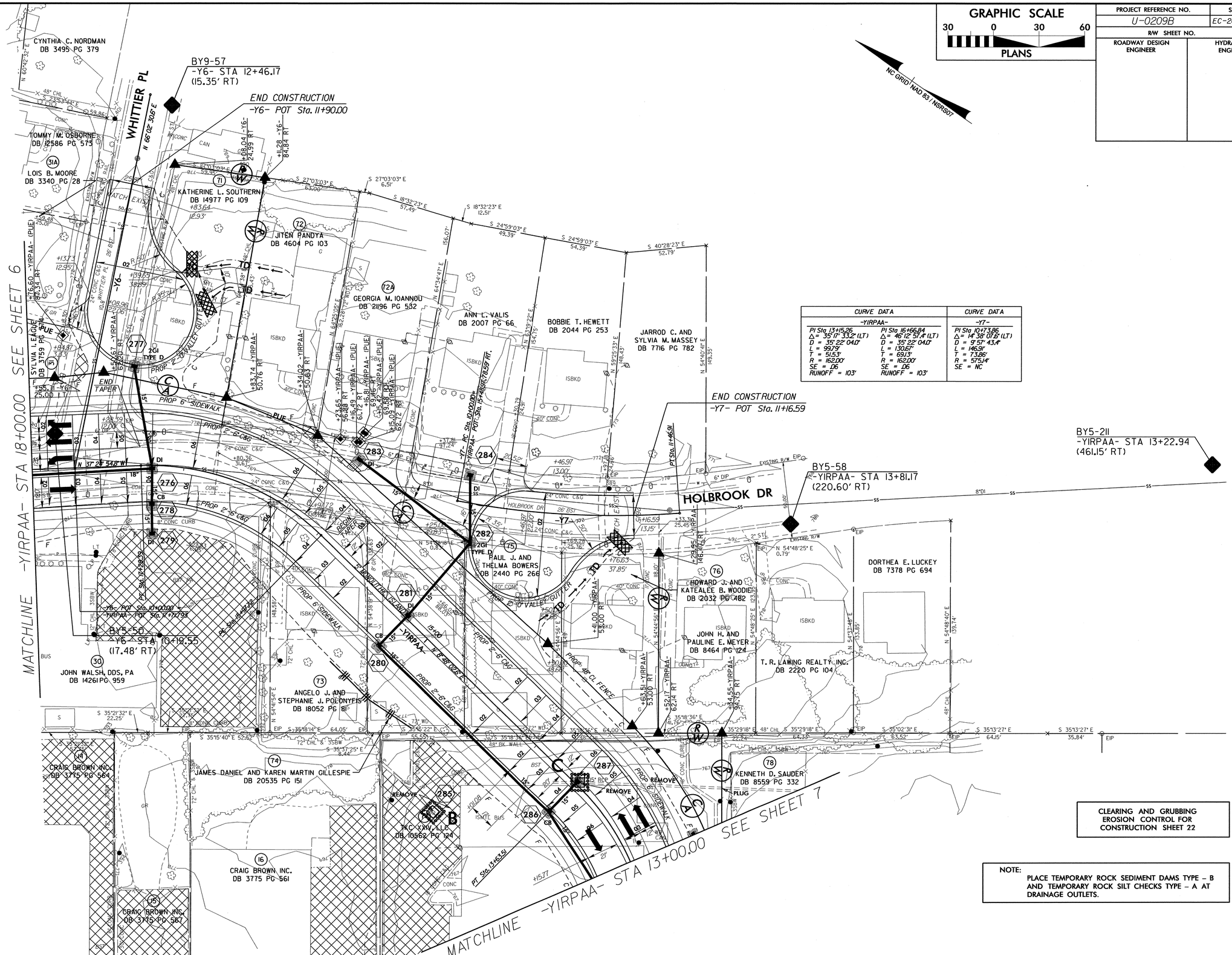
jenn\Paper.sh AT REN\V2K2103

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-20/CONST.22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS

NC GRID NAD 83 / NSRS07



CURVE DATA -YIRPAA-	
PI Sta. 13+15.26	PI Sta. 16+66.84
Δ = 35°17' 33.2" (LT)	Δ = 46°12' 57.4" (LT)
D = 35°22' 04.0"	D = 35°22' 04.0"
L = 99.79'	L = 130.67'
T = 51.53'	T = 69.13'
R = 162.00'	R = 162.00'
SE = .06	SE = .06
RUNOFF = 103'	RUNOFF = 103'

CURVE DATA -Y7-
PI Sta. 10+73.86
Δ = 14°38' 07.6" (LT)
D = 9°57' 43.4"
L = 146.91'
T = 73.86'
R = 575.64'
SE = NC

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 22

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

8/17/99

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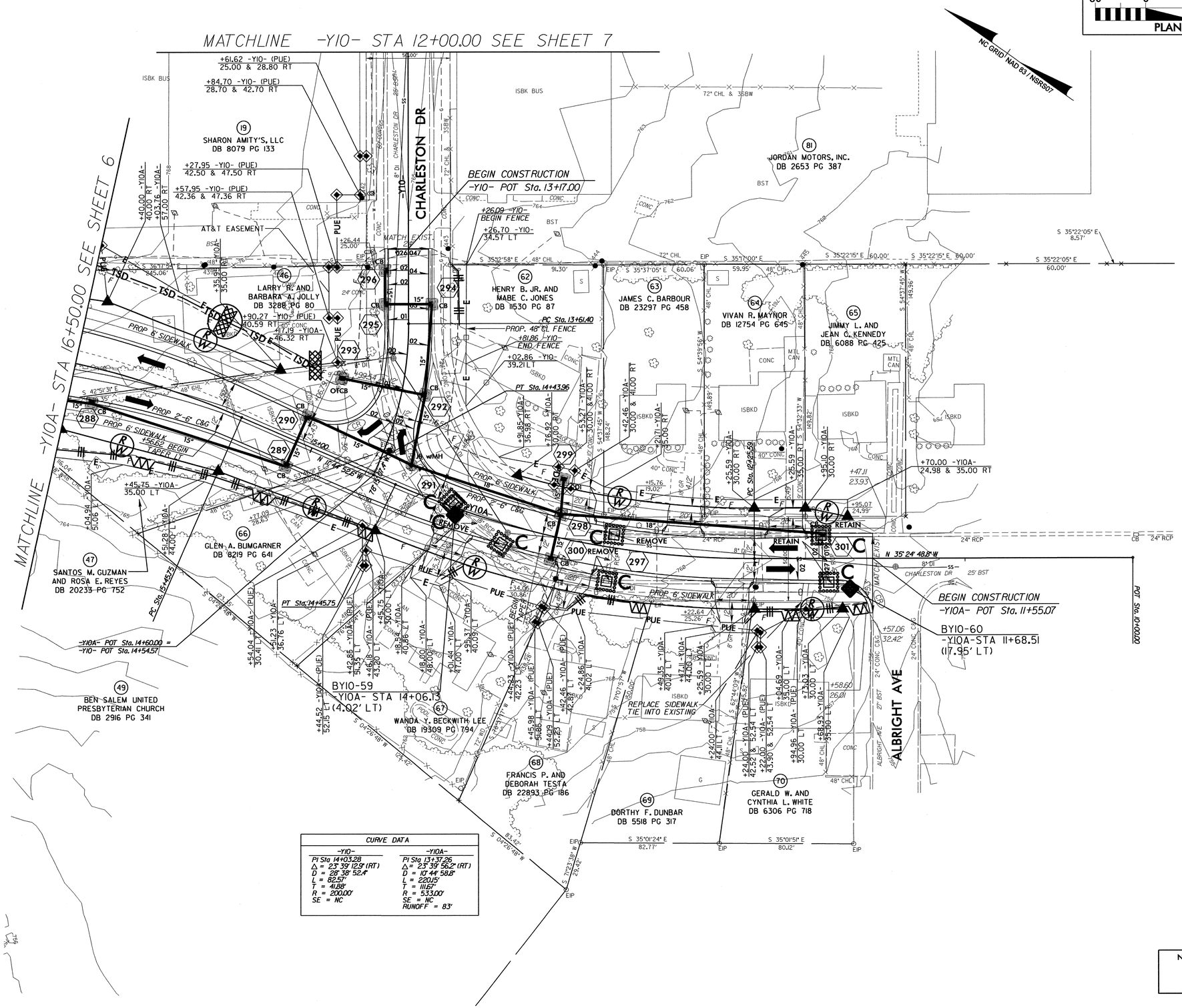
jennifer.parrish@ncdot.gov

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-21/CONST.23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



CURVE DATA	
-Y10-	-Y10A-
PI Sta 14+03.28	PI Sta 13+37.26
Δ = 23° 39' 12.9" (RT)	Δ = 23° 39' 56.2" (RT)
D = 28° 38' 52.4"	D = 10° 44' 58.8"
L = 82.57'	L = 220.15'
T = 41.88'	T = 111.57'
R = 200.00'	R = 533.00'
SE = NC	SE = NC
	RUNOFF = 83'

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 23

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

8/17/99

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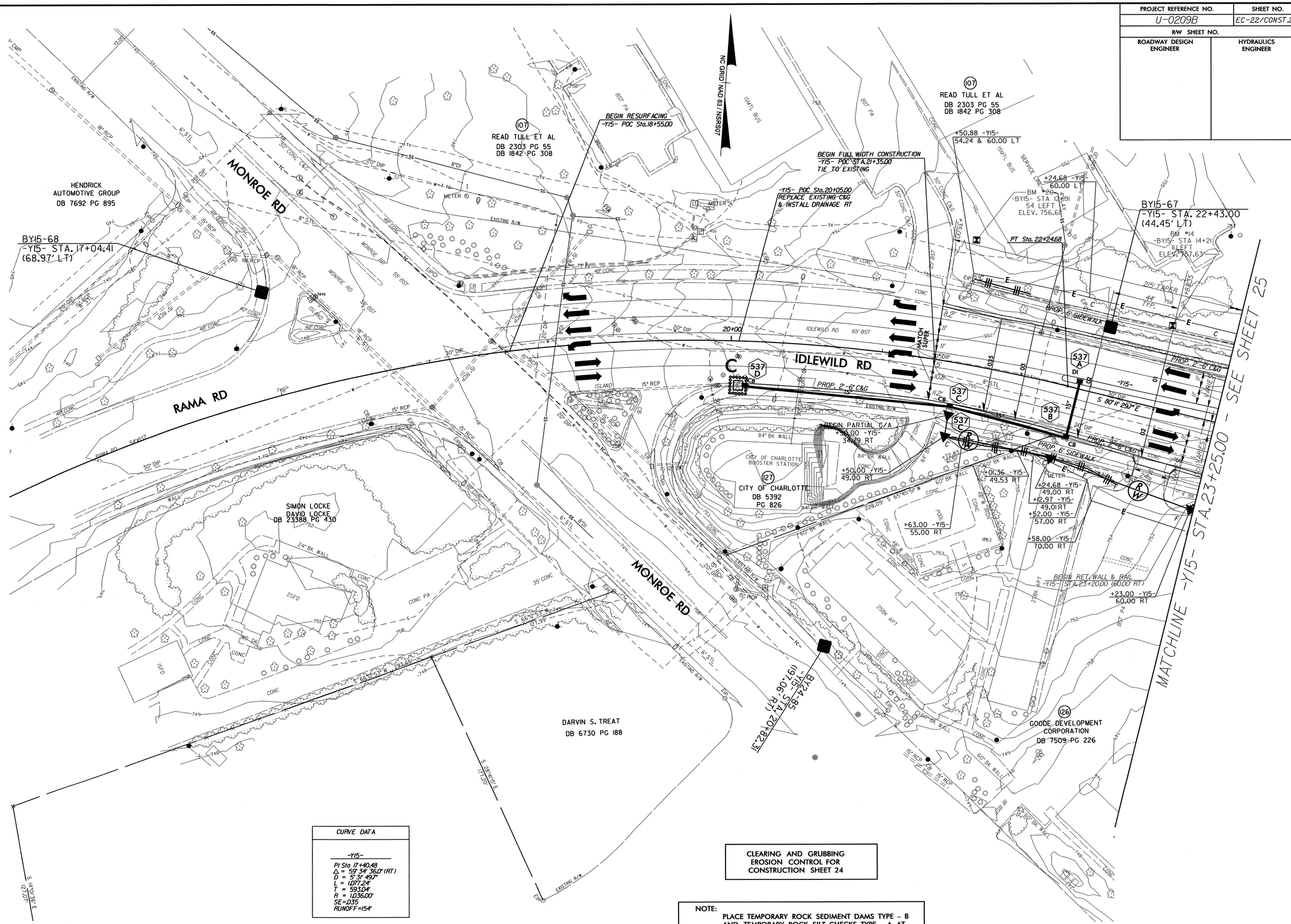
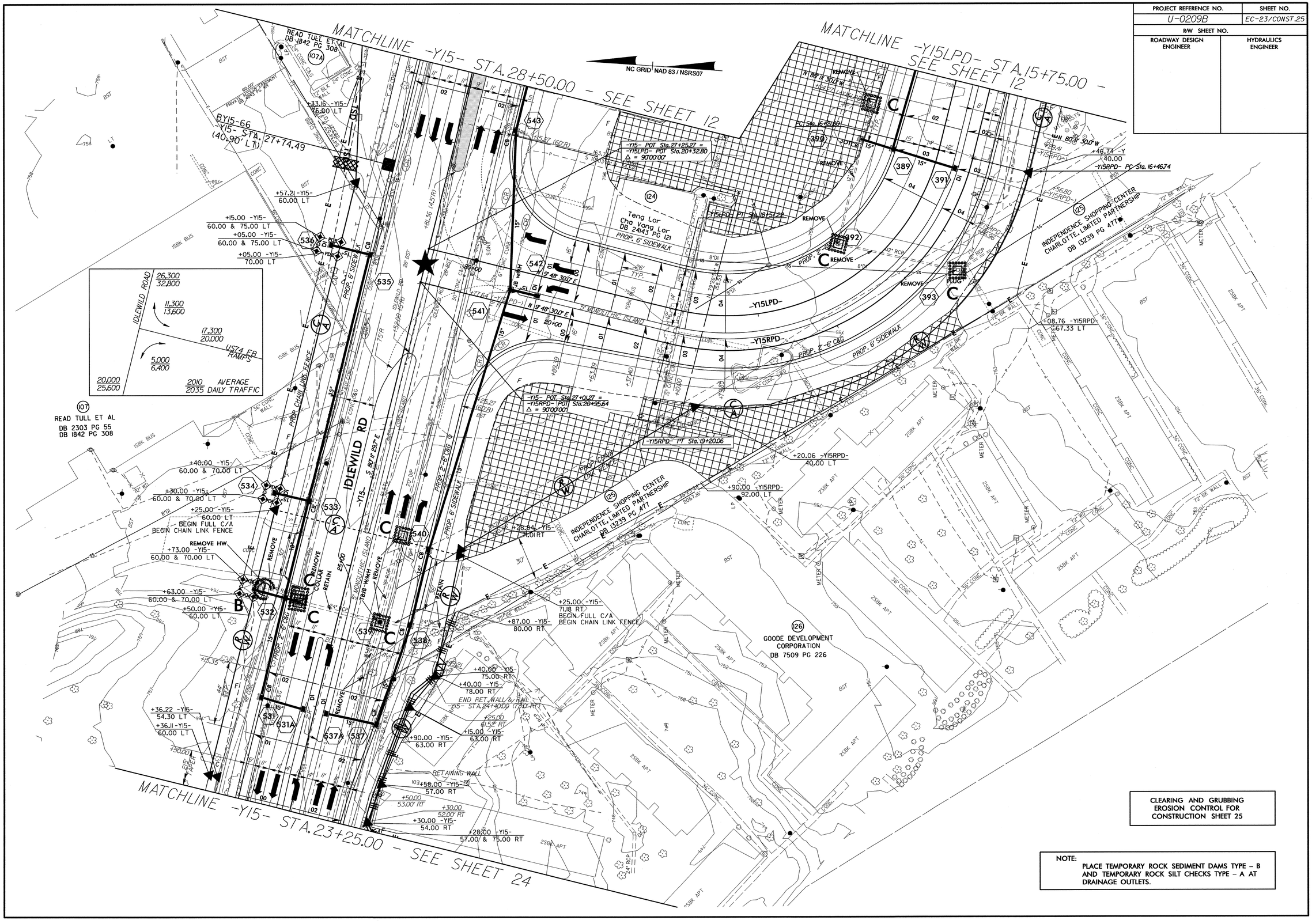
AT REN\264103

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-22/CONST.24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-23/CONST.25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 25

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

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-24/CONST.26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

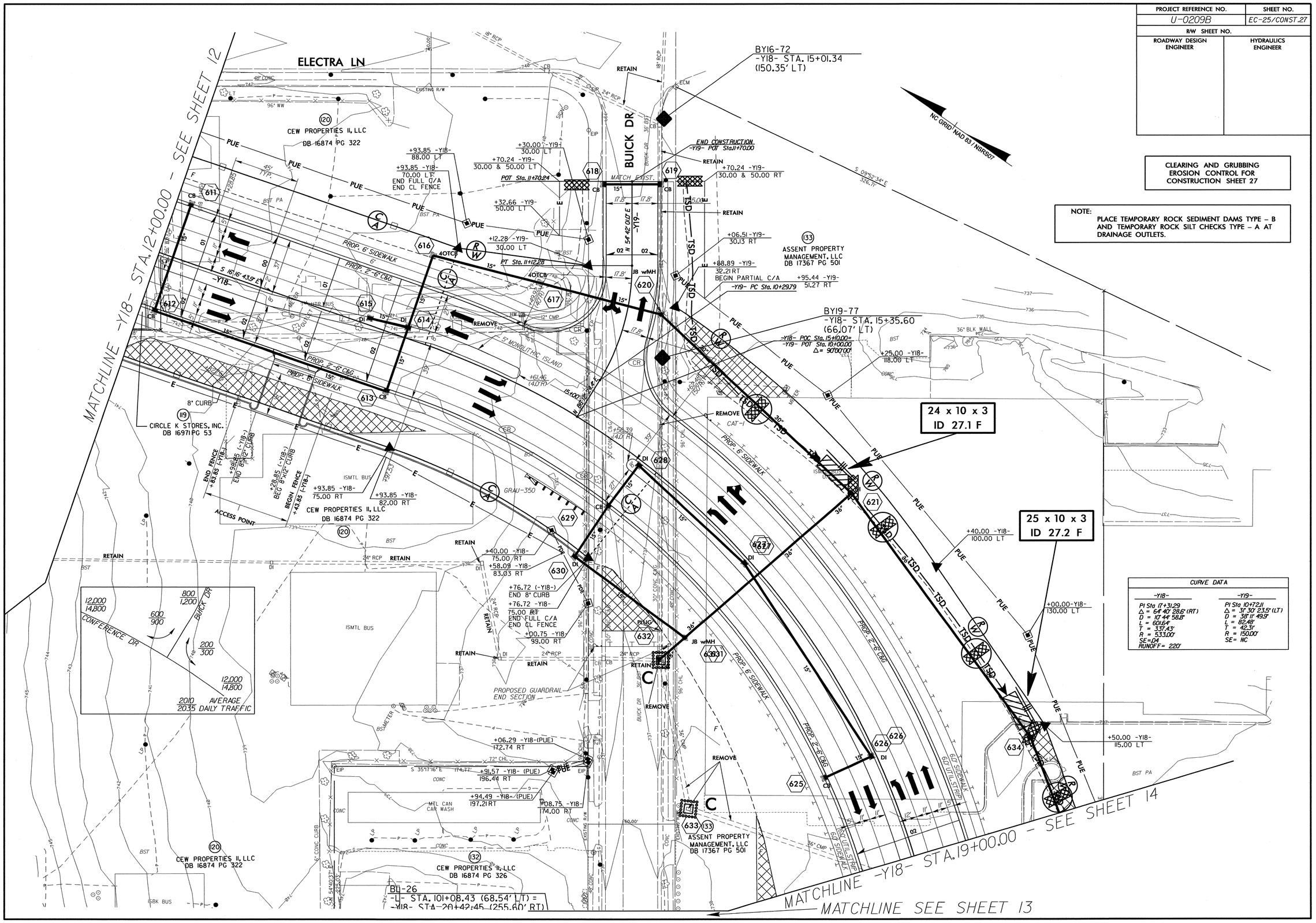
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 26

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

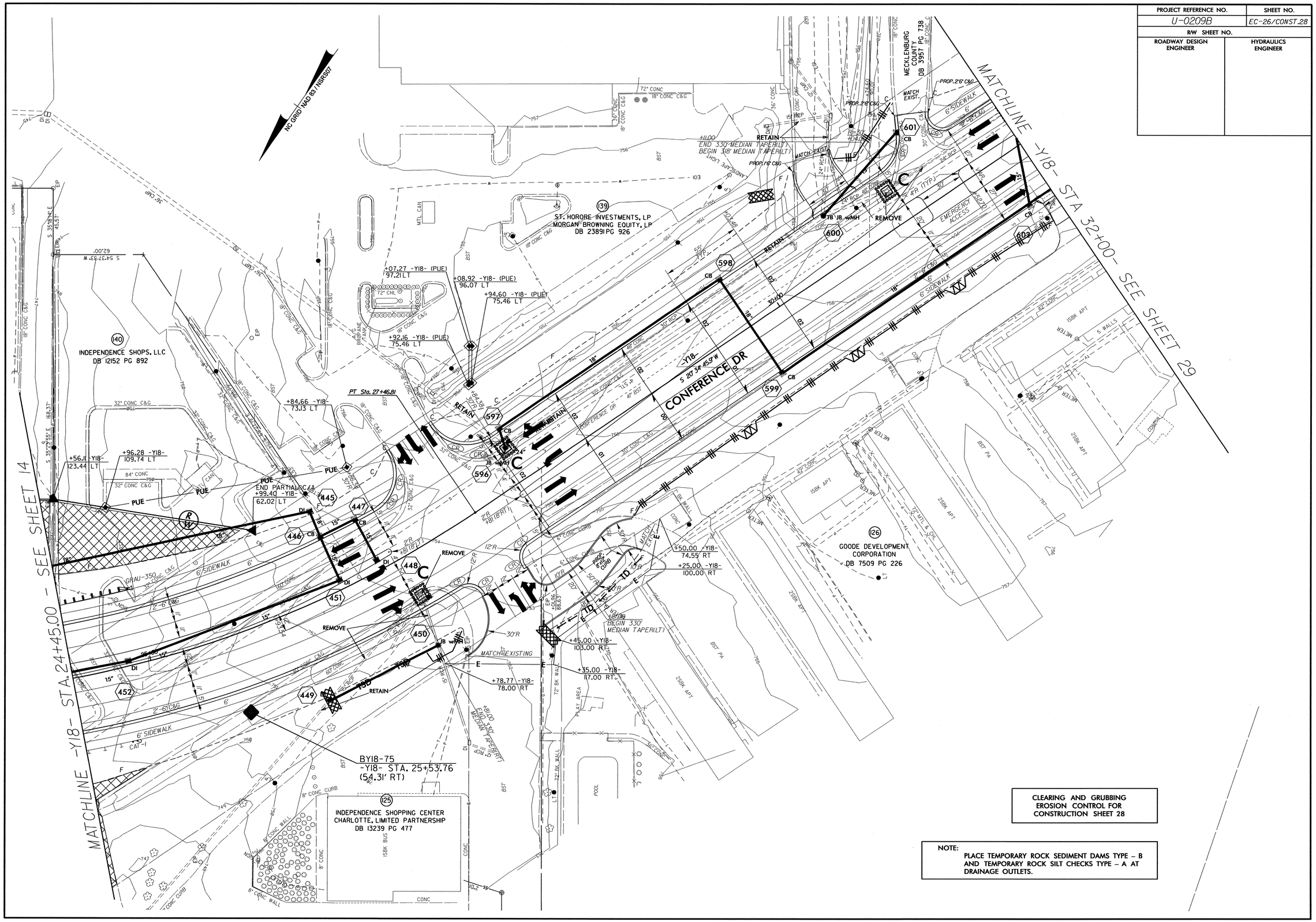
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-25/CONST.27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 27

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



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-26/CONST.28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 28

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

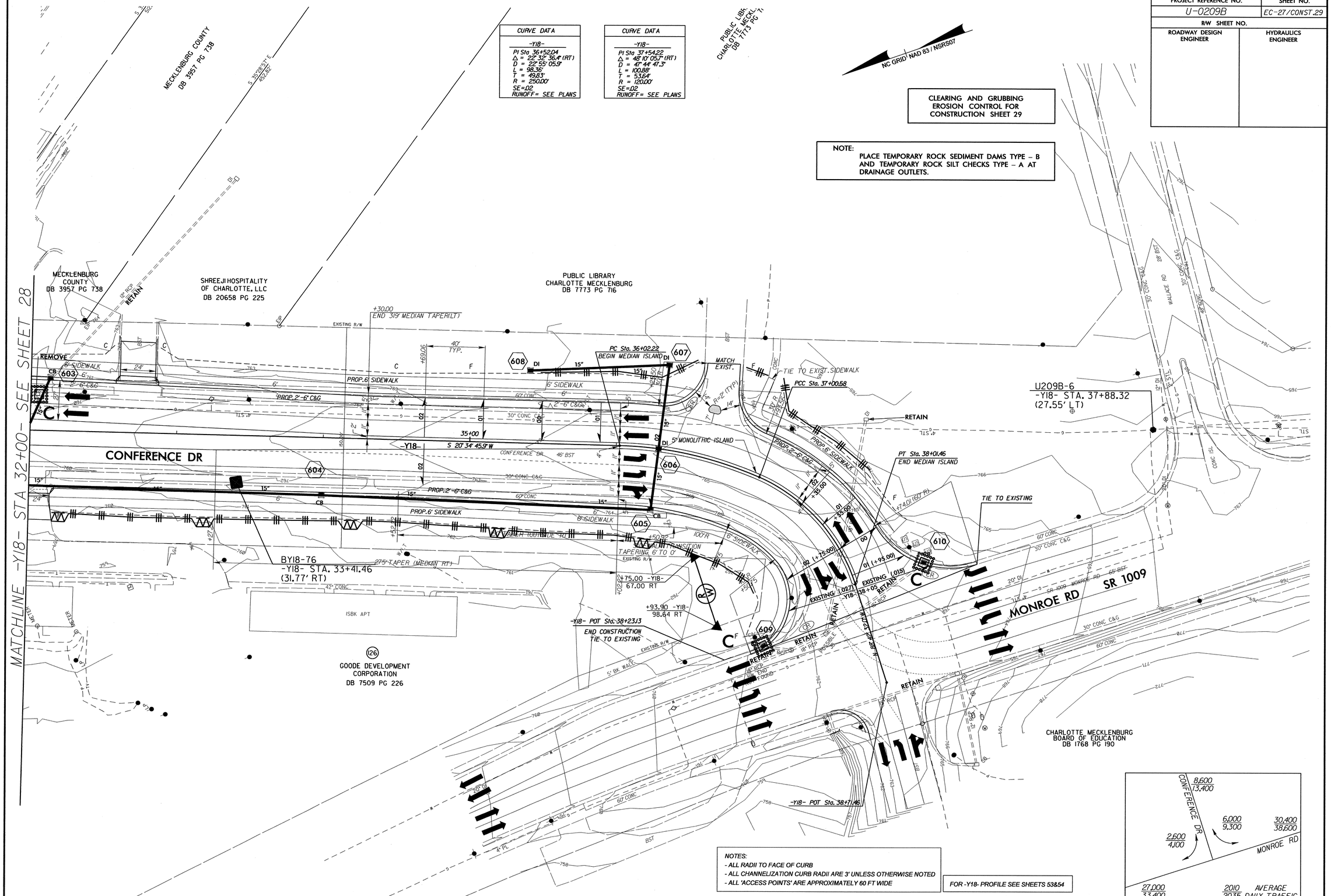
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-27/CONST.29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CURVE DATA
-Y18-
PI Sta 36+52.04
Δ = 22° 32' 36.4" (RT)
D = 22° 55' 05.9"
L = 98.36'
T = 49.83'
R = 250.00'
SE=0.02
RUNOFF= SEE PLANS

CURVE DATA
-Y18-
PI Sta 37+54.22
Δ = 48° 10' 05.7" (RT)
D = 47° 44' 47.3"
L = 100.88'
T = 53.64'
R = 120.00'
SE=0.02
RUNOFF= SEE PLANS

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 29

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



NOTES:
- ALL RADII TO FACE OF CURB
- ALL CHANNELIZATION CURB RADII ARE 3' UNLESS OTHERWISE NOTED
- ALL 'ACCESS POINTS' ARE APPROXIMATELY 60 FT WIDE

FOR -Y18- PROFILE SEE SHEETS 53&54

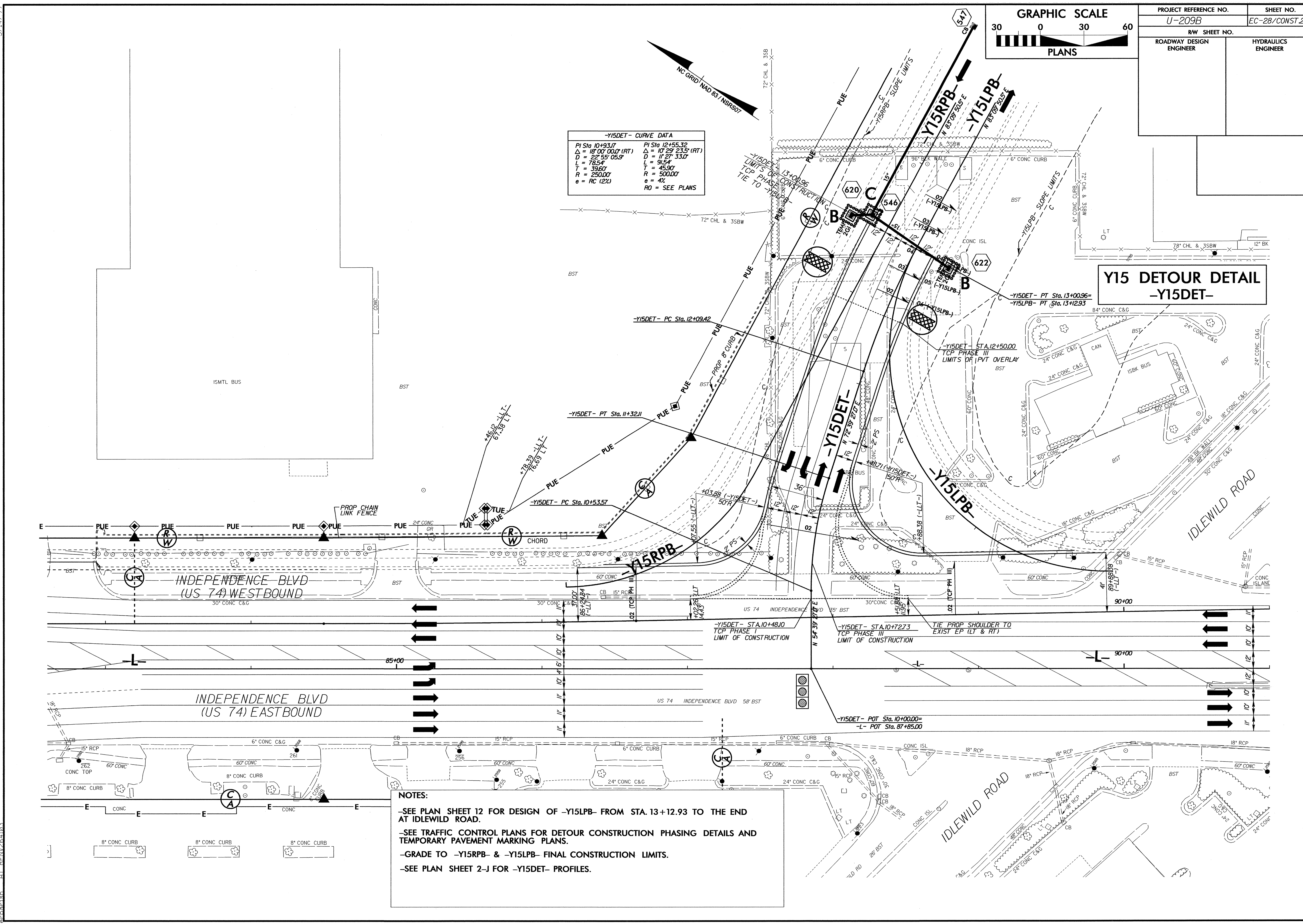
PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-28/CONST.2-I
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE

30 0 30 60

PLANS

Y15 DETOUR DETAIL
-Y15DET-



-Y15DET- CURVE DATA	
PI Sta 10+93.17	PI Sta 12+55.32
Δ = 18° 00' 00.0" (RT)	Δ = 10° 29' 23.5" (RT)
D = 22° 55' 05.9"	D = 11° 27' 33.0"
L = 78.54'	L = 91.54'
T = 39.60'	T = 45.90'
R = 250.00'	R = 500.00'
e = RC (2%)	e = 4%
	RO = SEE PLANS

NOTES:

-SEE PLAN SHEET 12 FOR DESIGN OF -Y15LPB- FROM STA. 13+12.93 TO THE END AT IDLEWILD ROAD.

-SEE TRAFFIC CONTROL PLANS FOR DETOUR CONSTRUCTION PHASING DETAILS AND TEMPORARY PAVEMENT MARKING PLANS.

-GRADE TO -Y15RPB- & -Y15LPB- FINAL CONSTRUCTION LIMITS.

-SEE PLAN SHEET 2-J FOR -Y15DET- PROFILES.

5/14/99

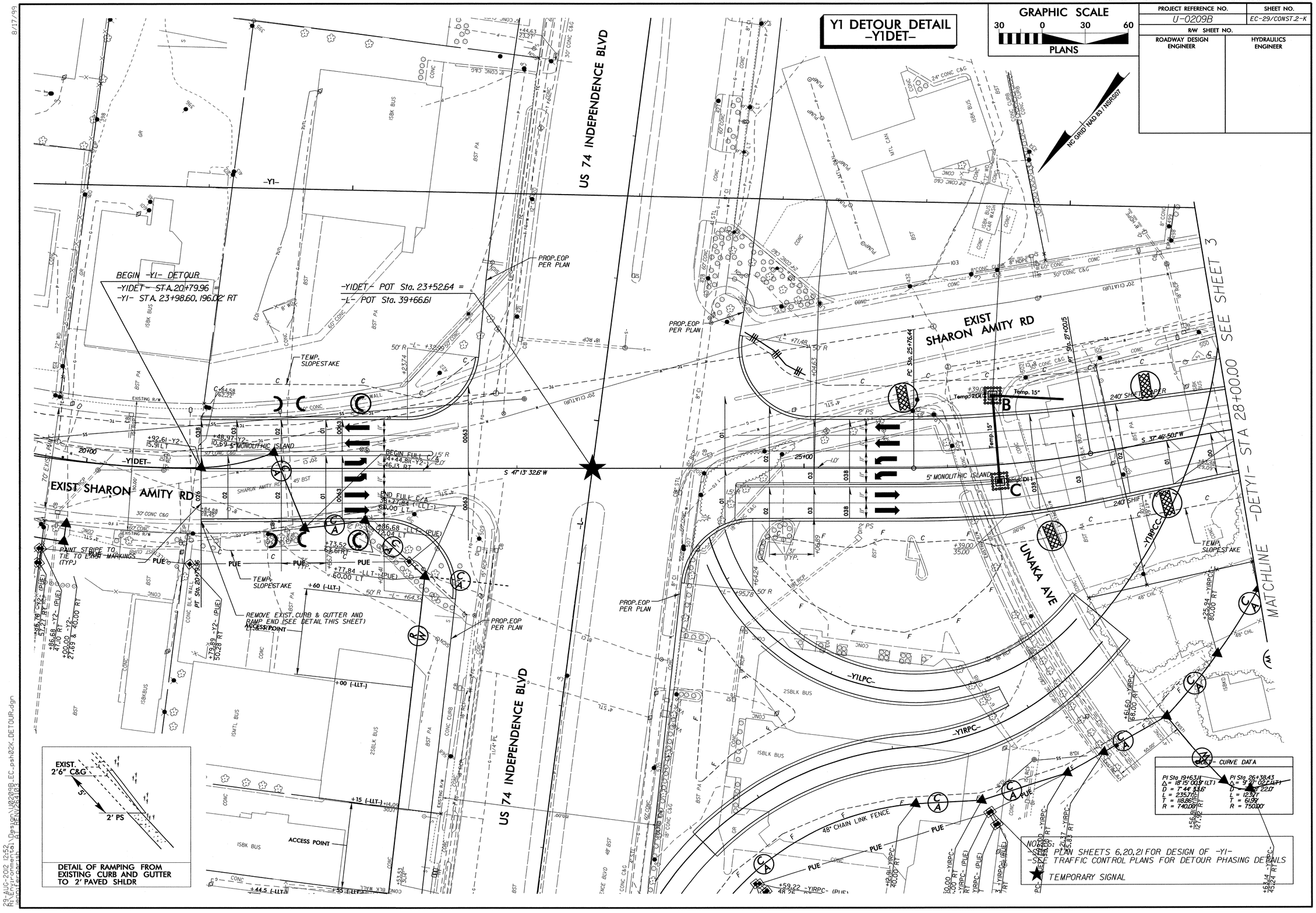
29-AUG-2012 15:55

8/17/99

Y1 DETOUR DETAIL
-Y1DET-

GRAPHIC SCALE
30 0 30 60
PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-29/CONST.2-K
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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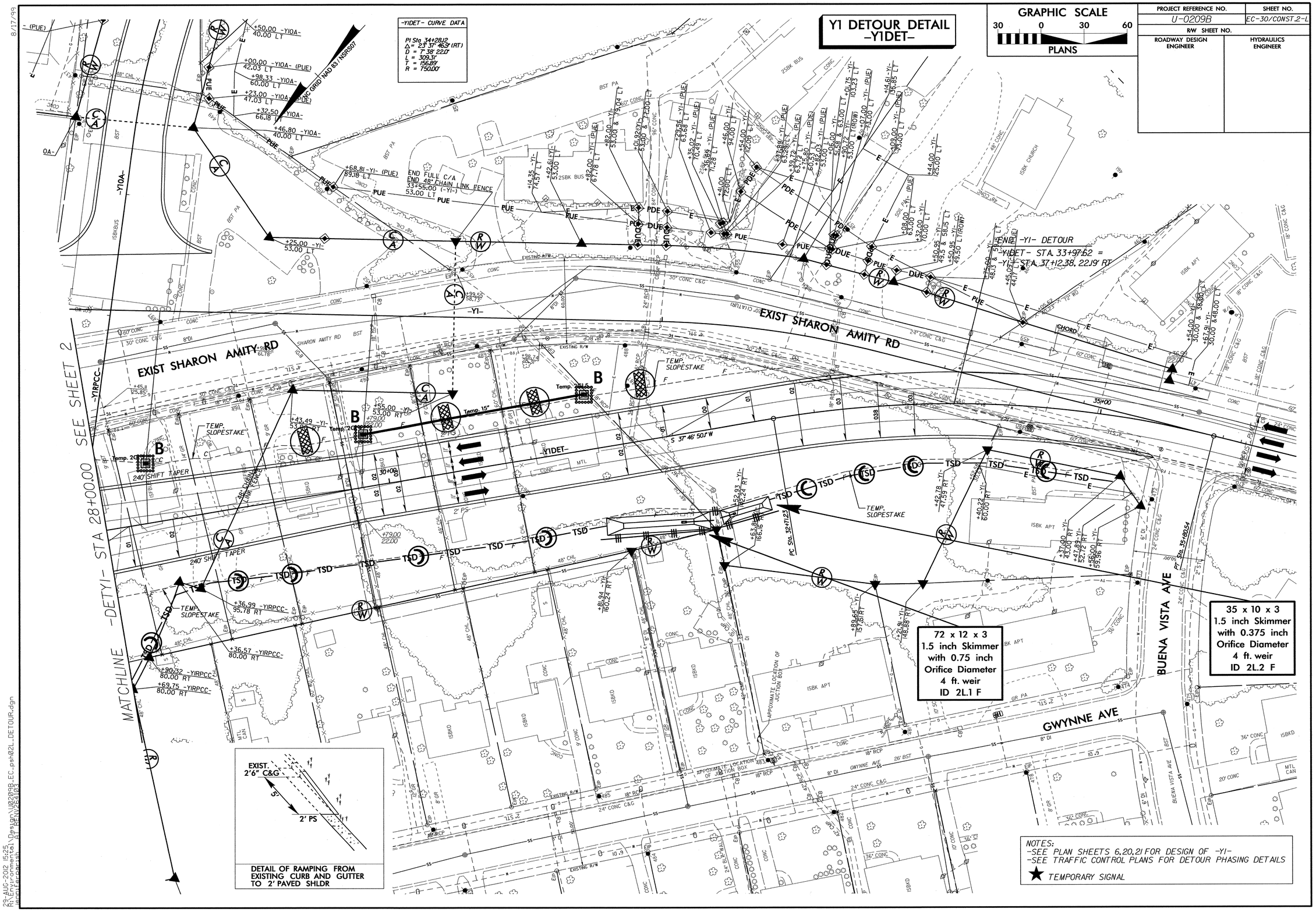
jenn1ferparsh AT FENV284103

Y1 DETOUR DETAIL
-Y1DET-

GRAPHIC SCALE
30 0 30 60
PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-30/CONST.2-L
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTES:
-SEE PLAN SHEETS 6,20,21 FOR DESIGN OF -Y1-
-SEE TRAFFIC CONTROL PLANS FOR DETOUR PHASING DETAILS
★ TEMPORARY SIGNAL

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-31/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS

NC GRID NAD 83/NSRS07

ALBEMARLE RD

US 74 INDEPENDENCE BLVD

TERRY SIMON
DB 8145 PG 783

LOIS INDY, LLC
DB 8646 PG 355

LOIS, INDY, LLC
DB 10489 PG 272

IMPORT ENTERPRISE, INC.
DB 22417 PG 25

RONALD W. MCMANUS FAMILY TRUST
DB 17607 PG 40

LPZ LIMITED PARTNERSHIP
DB 6555 PG 15

BM #21
SW BOLT IN CONC BASE OF MTL POLE
-L- STA 23+33.00
78.43' LT
ELEV. 772.36'

U209B-2
-L- STA 23+01.57
(35.76' RT)

BL-36
-L- STA 26+82.86
(71.86' LT)

BEGIN TIP PROJECT U-209B
-L- POS Sta. 28+26.64

BEGIN GRADE
-LLT- POT Sta. 28+26.00 =
-L- Sta. 28+26.53, 29.63 LT.

BEGIN CONSTRUCTION & RIGHT OF WAY
-LRT- POC Sta. 25+59.00 =
-L- Sta. 25+57.23, 112.05' RT.

MATCHLINE -L- STA 30+00.00 SEE SHEET 5

CURVE DATA

-L-	-LLT-	-LRT-	-L-	-LRPA-
PI Sta 15+17.09	PI Sta 25+64.99	PI Sta 25+95.16	PI Sta 26+77.10	PI Sta 29+78.75
Δ = 39° 46' 40.0" (RT)	Δ = 4° 37' 48.5" (RT)	Δ = 8° 46' 24.9" (RT)	Δs = 3° 42' 40.0"	Δ = 5° 17' 14.5" (LT)
D = 1° 51' 20.0"	D = 1° 50' 13.6"	D = 1° 15' 00.0"	Ls = 400.00'	D = 1° 08' 45.3"
L = 2,143.72'	L = 252.03'	L = 701.89'	LT = 266.73'	L = 461.41'
T = 1,117.09'	T = 126.09'	T = 351.53'	ST = 133.39'	T = 230.87'
R = 3,087.80'	R = 3,118.80'	R = 4,583.66'		R = 5,000.00'
SE = MATCH EXIST	SE = MATCH EXIST	SE = .022		SE = NC
		RUNOFF = 110'		

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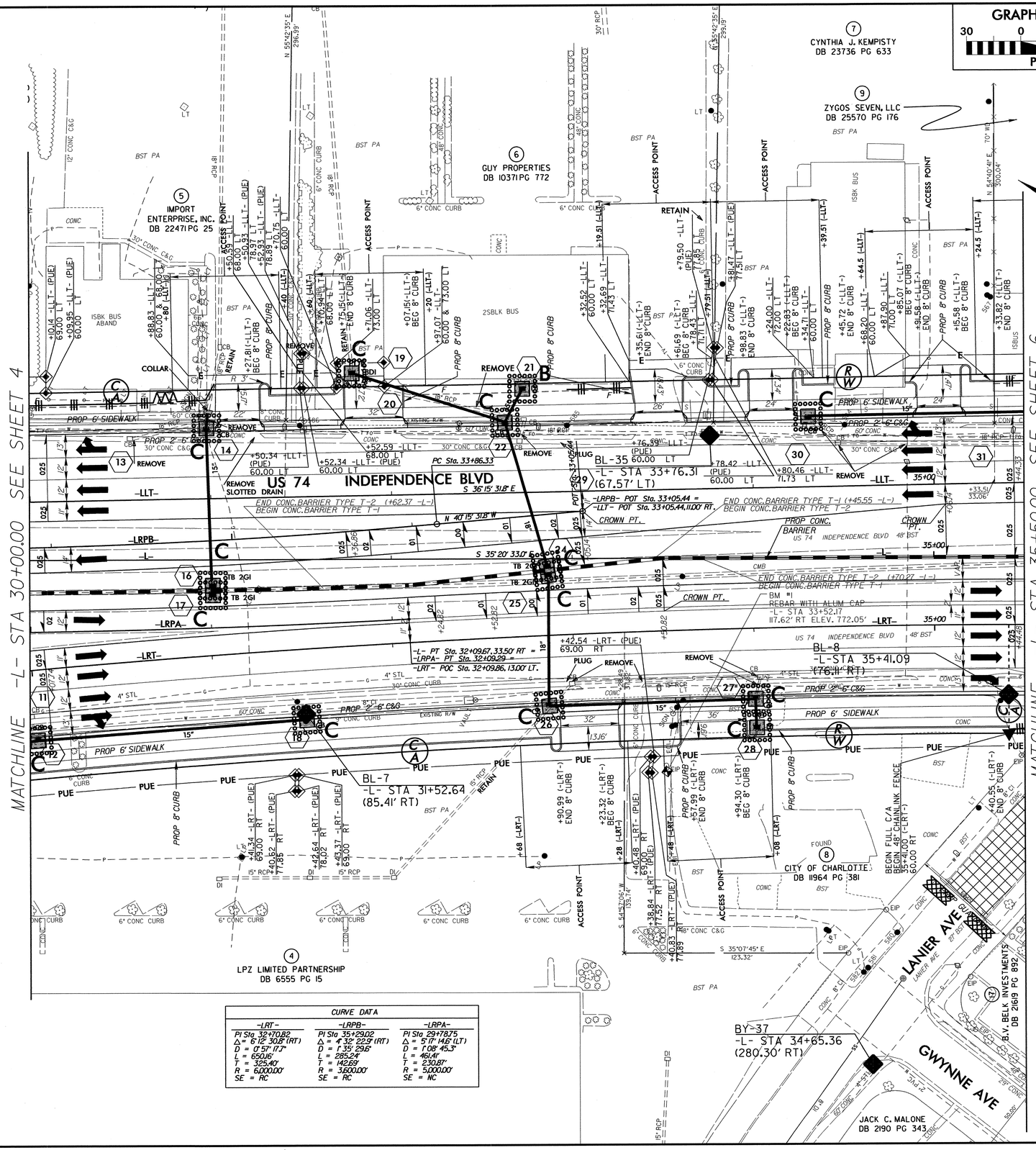
PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-32/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



CURVE DATA		
-LRT-	-LRPB-	-LRPA-
PI Sta. 32+70.82	PI Sta. 35+29.02	PI Sta. 29+78.75
Δ = 6°12' 30.8" (RT)	Δ = 4° 32' 22.9" (RT)	Δ = 5°17' 14.6" (LT)
D = 0°51' 17.7"	D = 1°35' 29.6"	D = 1°08' 45.3"
L = 650.16'	L = 285.24'	L = 461.41'
T = 325.40'	T = 142.69'	T = 230.87'
R = 6,000.00'	R = 3,600.00'	R = 5,000.00'
SE = RC	SE = RC	SE = NC

8/17/99

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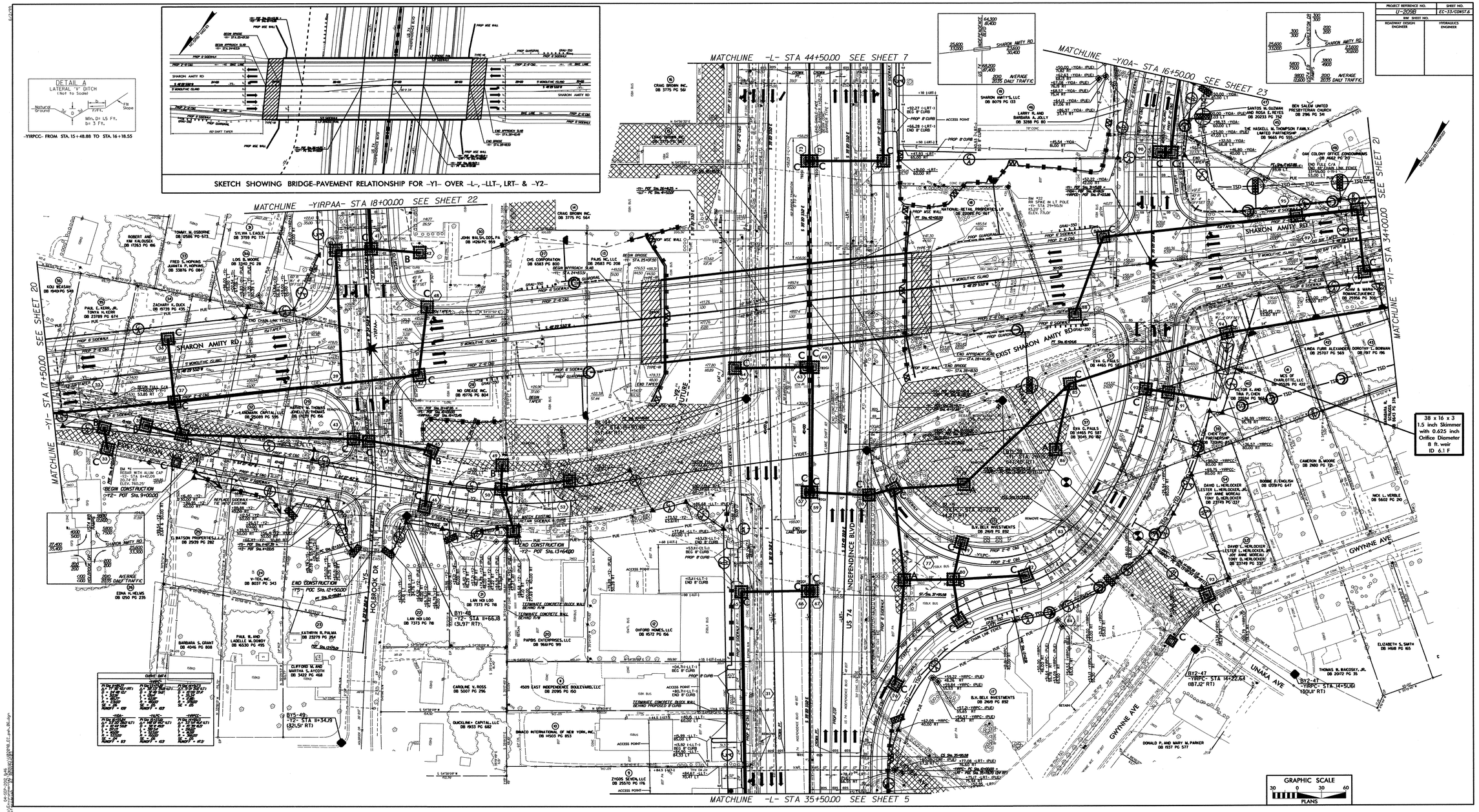
emmitsmarson
PT REV 12-04-03

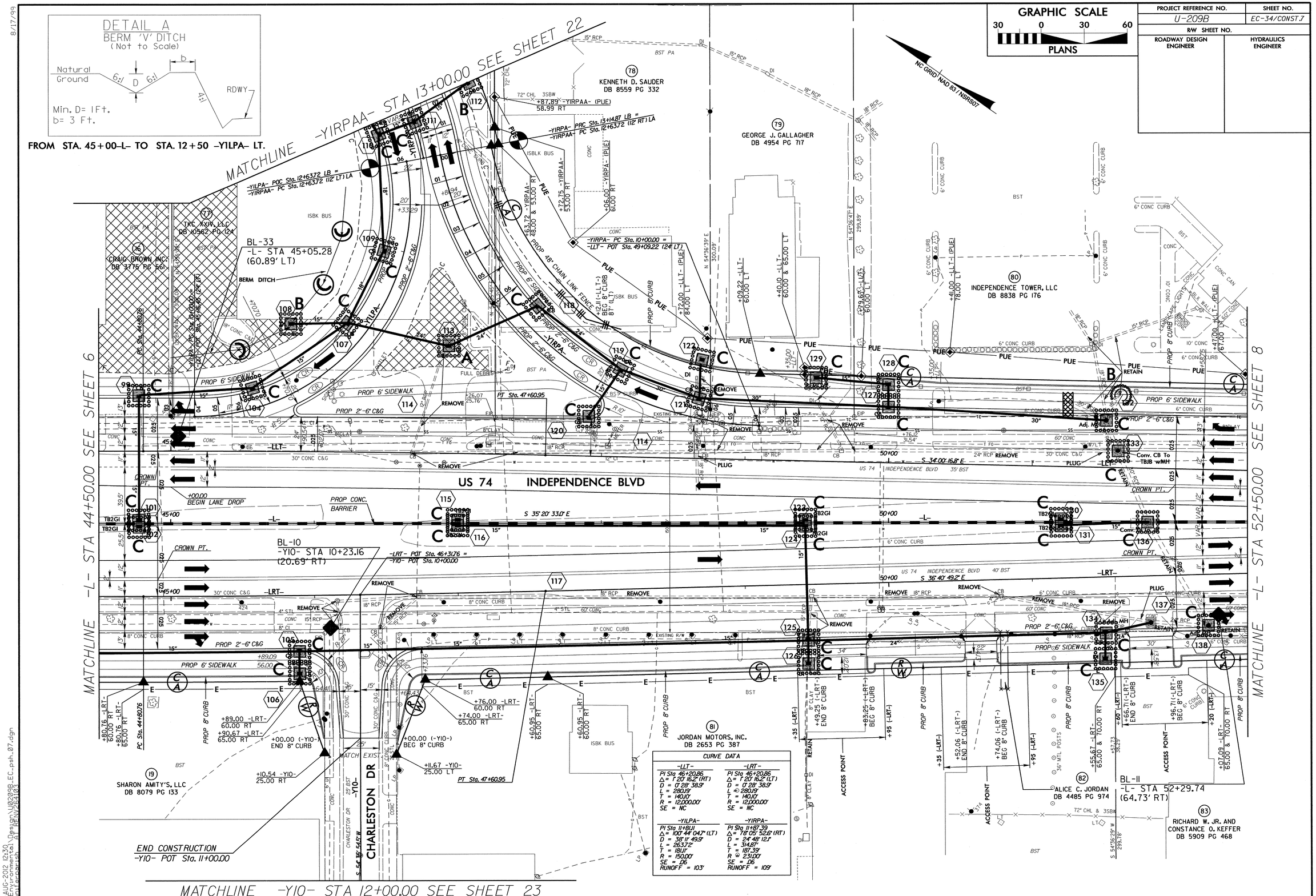
PROJECT REFERENCE NO.	SHEET NO.
U-2058	EC-33/CONST.6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-34/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



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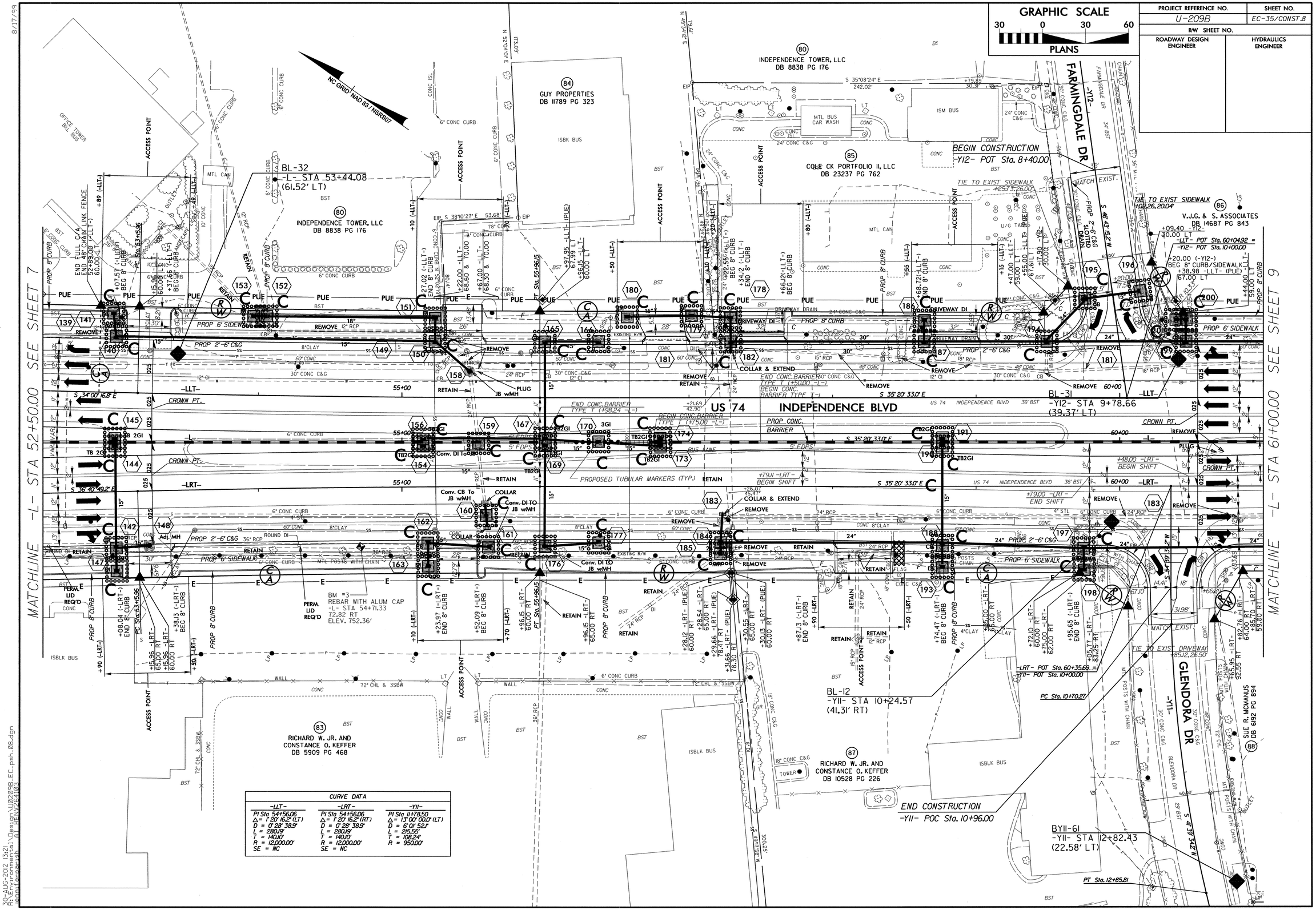
mpatterson@ad.RENV\CE41103

PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-35/CONST.8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



8/17/99

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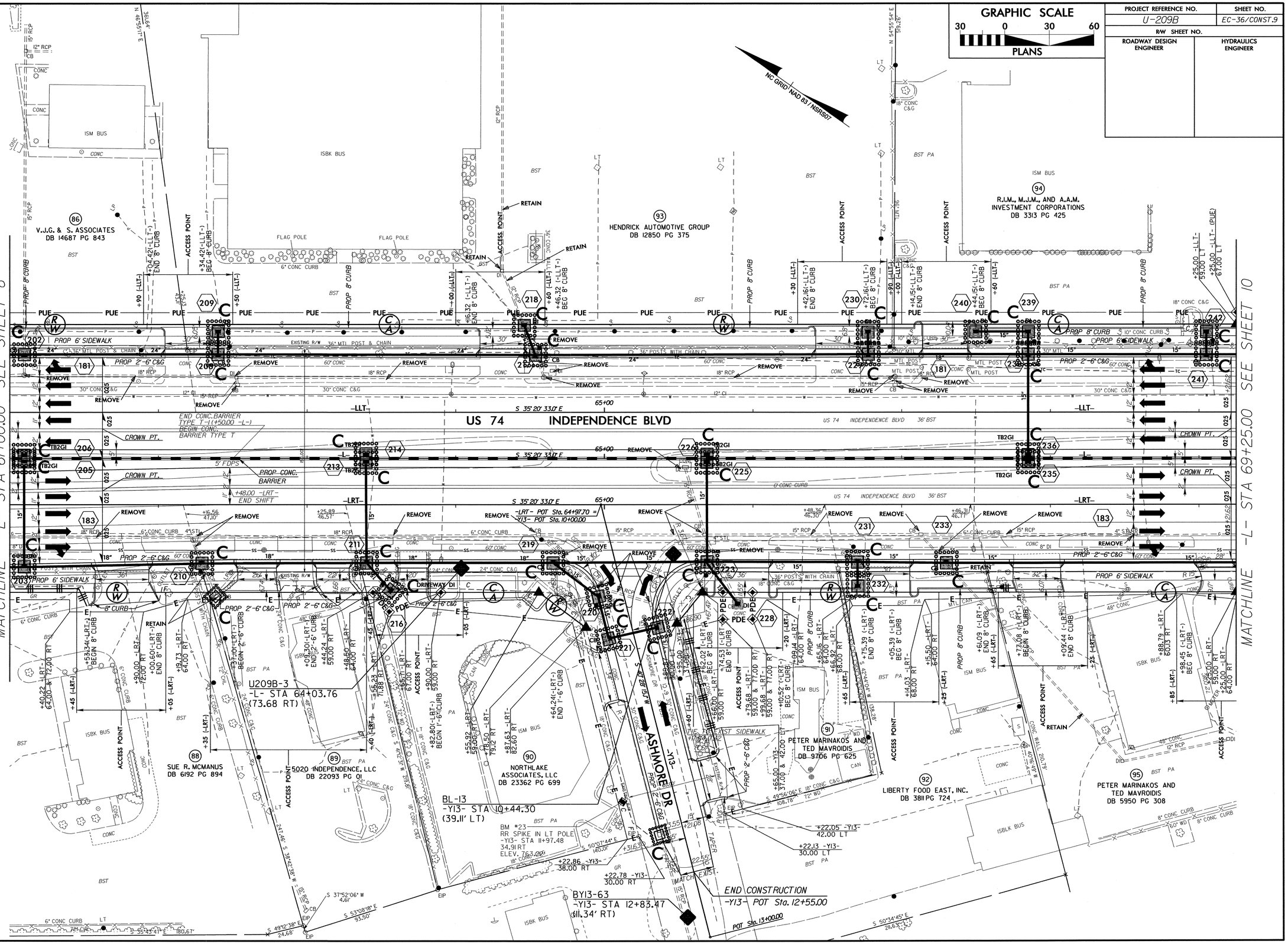
$$$$USERNAME$$$$ | $$$$DATE$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-209B	EC-36/CONST.9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



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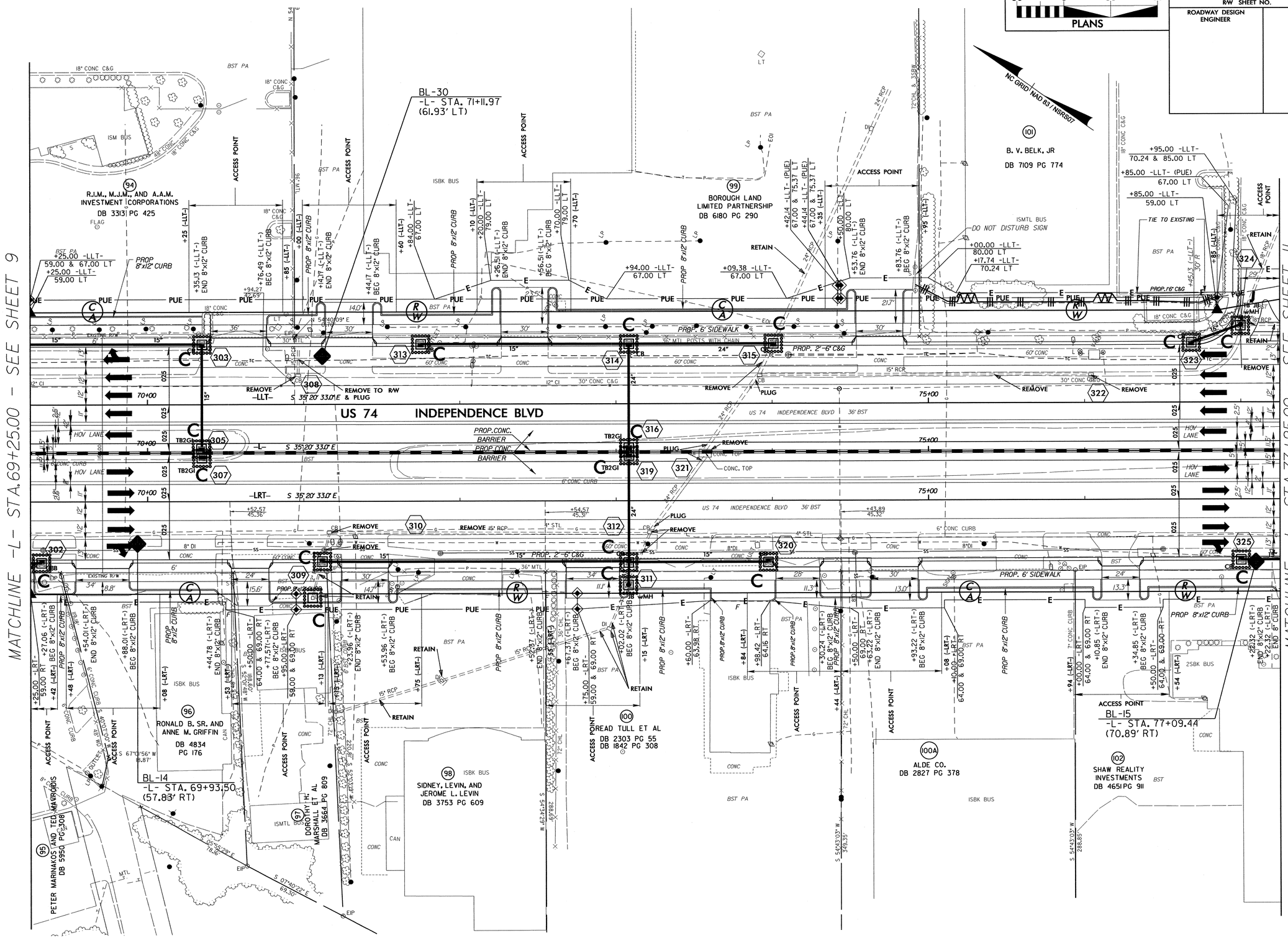
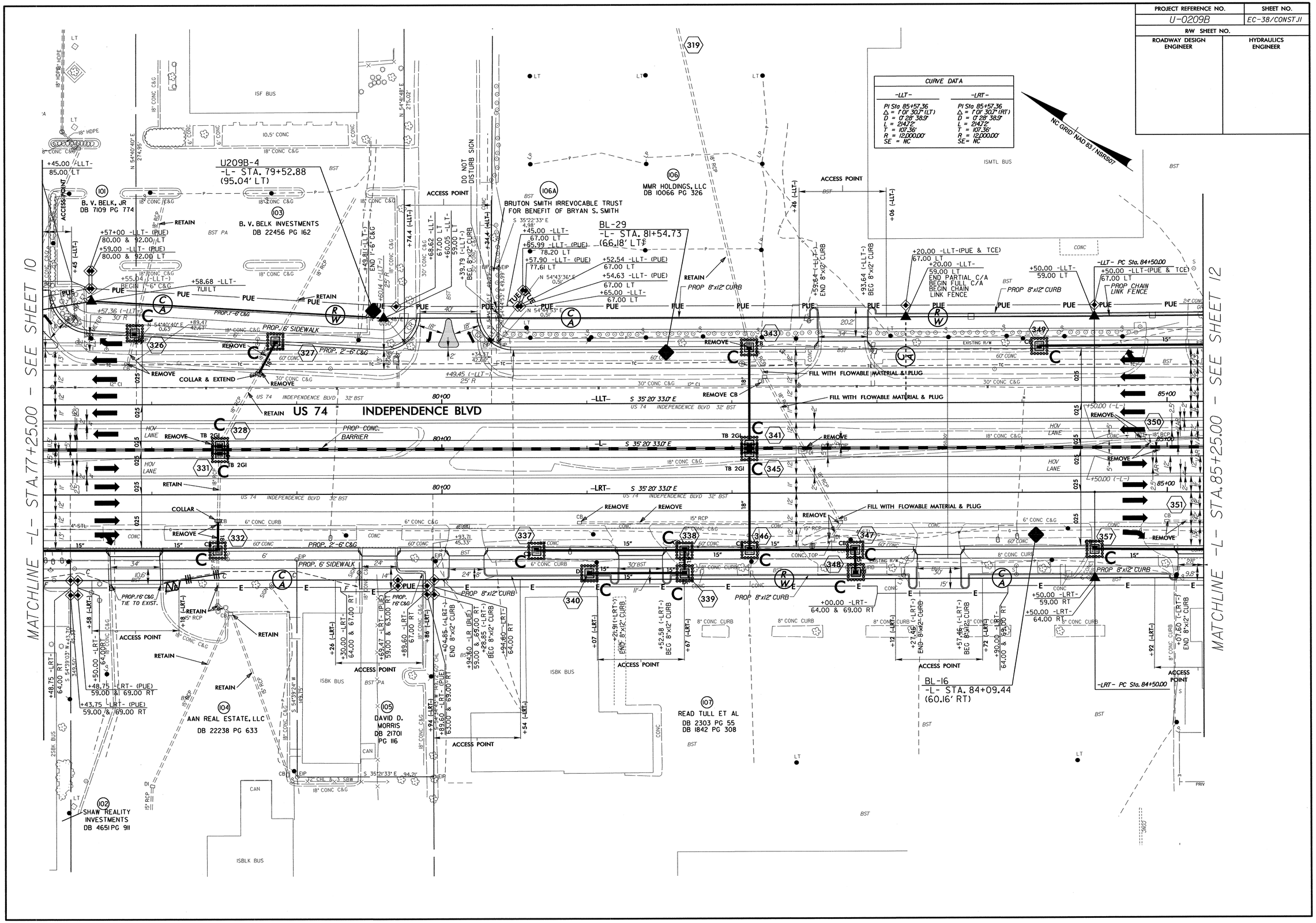
smallerparish A1 REV262103

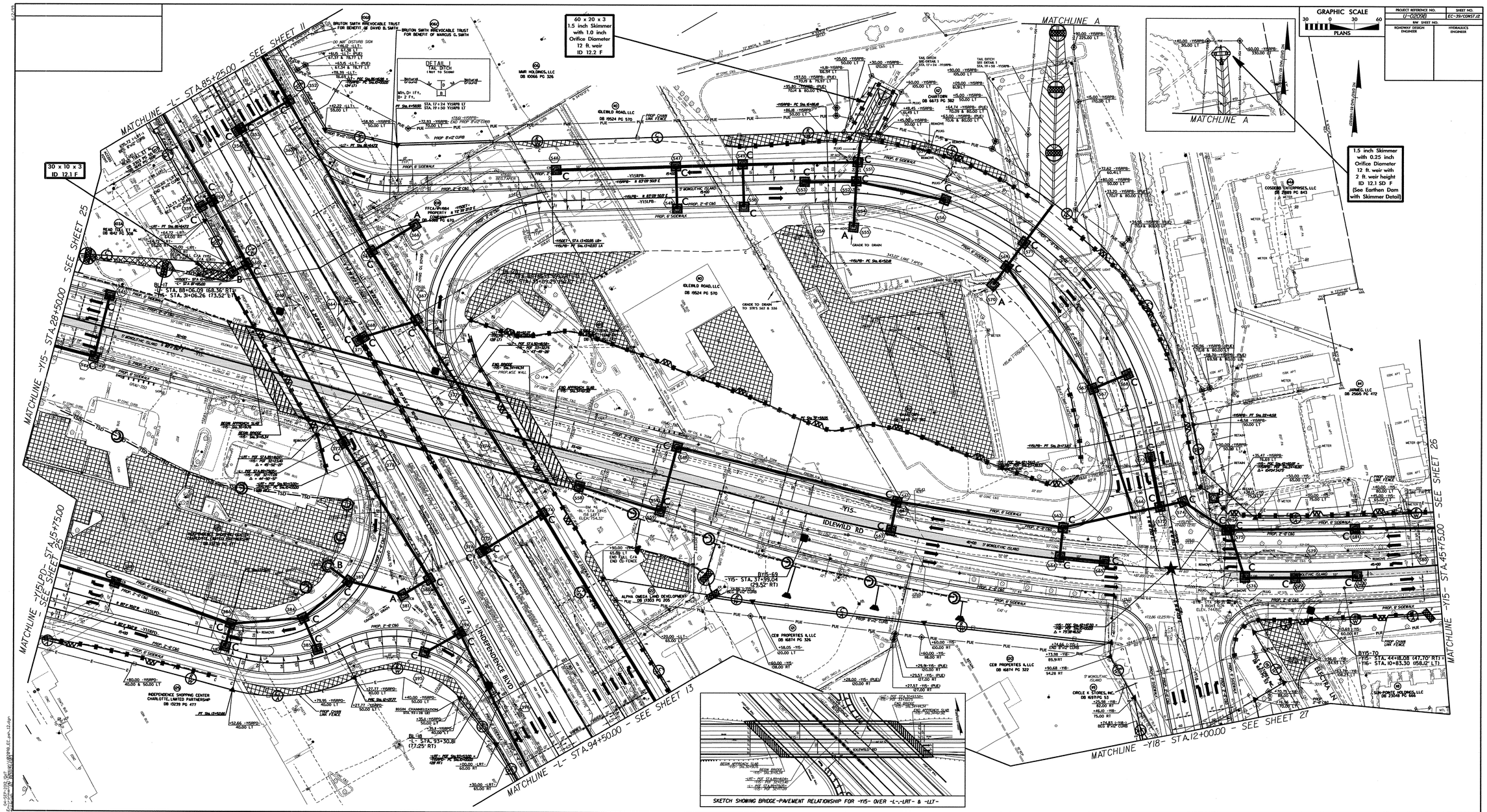
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-37/CONST.10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS

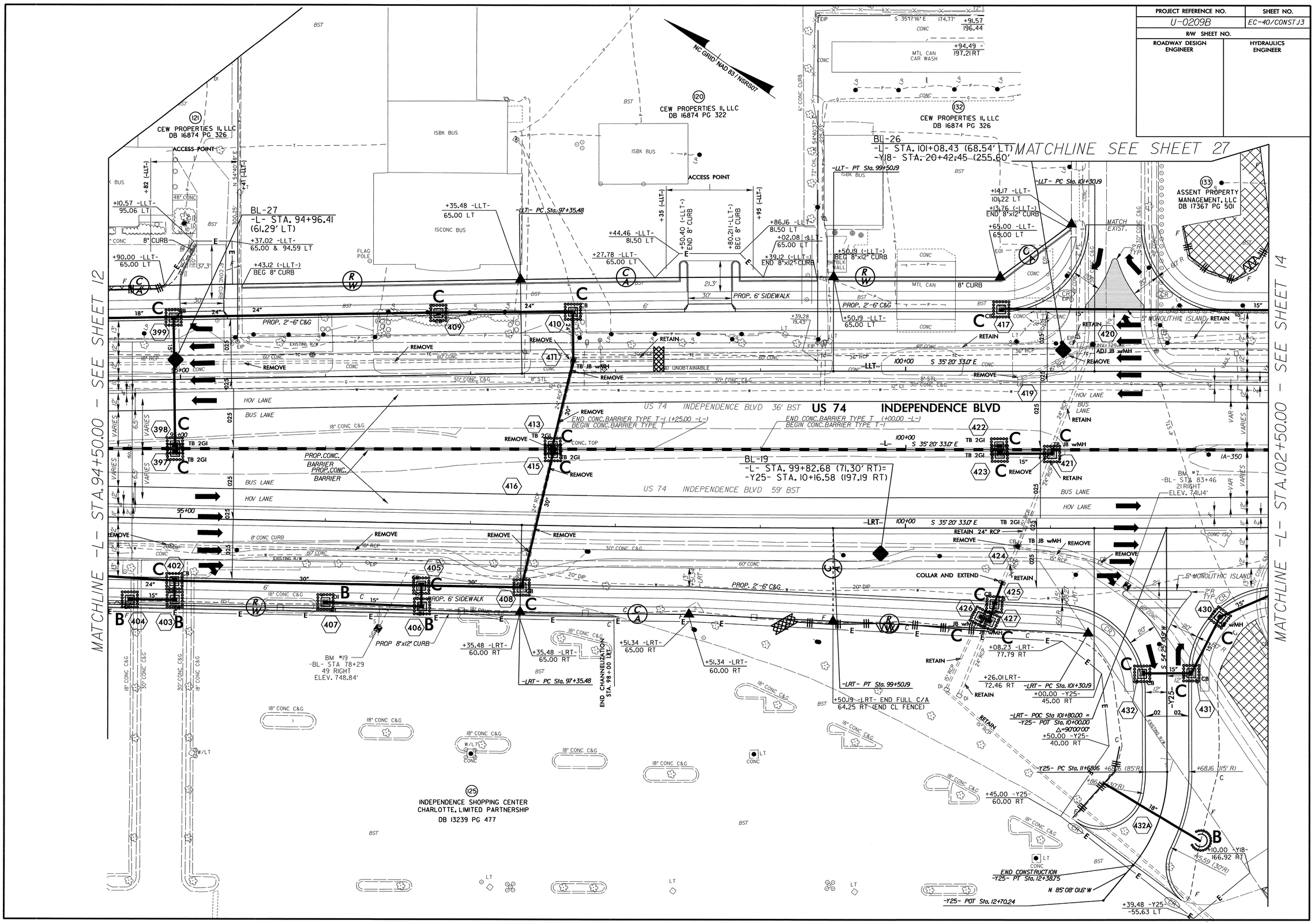


PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-38/CONST.II
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

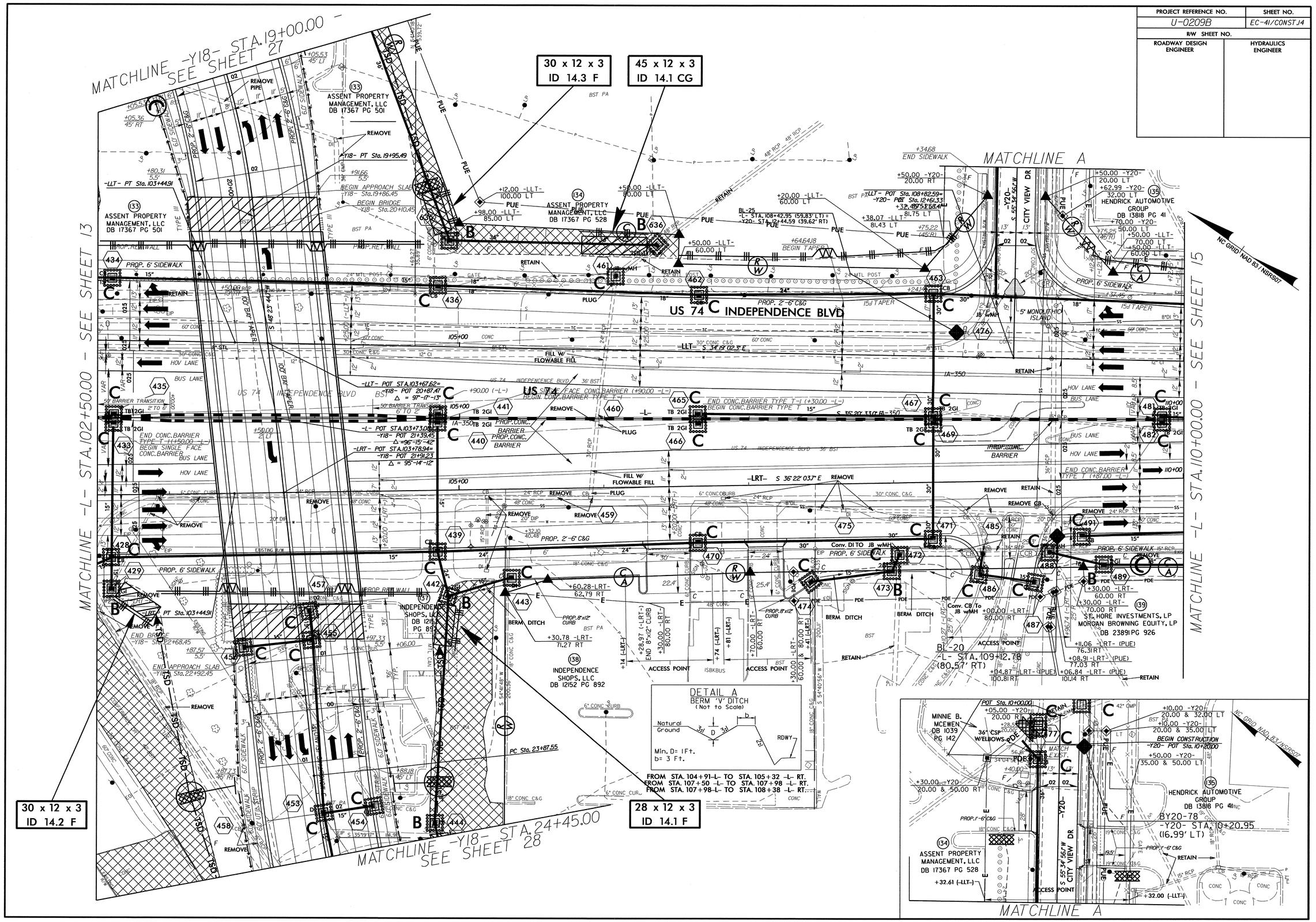



GRAPHIC SCALE
30 0 30 60
PLANS
PROJECT REFERENCE NO.
U-0209B
SHEET NO.
EC-39/CONST.12
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
60 x 20 x 3
1.5 inch Skimmer
with 1.0 inch
Orifice Diameter
12 ft. weir
ID 12.2 F
30 x 10 x 3
ID 12.1 F
1.5 inch Skimmer
with 0.25 inch
Orifice Diameter
12 ft. weir with
2 ft. weir height
ID 12.1 SD F
(See Earthen Dam
with Skimmer Detail)
DETAIL 1
TAIL DITCH
(Not To Scale)
MATCHLINE -L- STA.85+25.00 - SEE SHEET 11
MATCHLINE -Y15- STA.28+50.00 - SEE SHEET 25
MATCHLINE -Y15LPD- STA.15+75.00 - SEE SHEET 25
MATCHLINE -L- STA.94+50.00 - SEE SHEET 13
MATCHLINE -Y15- STA.45+75.00 - SEE SHEET 26
MATCHLINE -Y18- STA.12+00.00 - SEE SHEET 27
MATCHLINE A
IDLEWILD RD
INDEPENDENCE BLVD
US 74
ELECTRA LN
BRUTON SMITH IRREVOCABLE TRUST
MMR HOLDINGS, LLC
IDLEWILD ROAD, LLC
CHARTON
COSGROVE ENTERPRISES, LLC
JAMEG, LLC
CER PROPERTIES & LLC
CIRCLE K STORES, INC.
SUN-BONITO HOLDINGS, LLC
INDEPENDENCE SHOPPING CENTER CHARLOTTE, LIMITED PARTNERSHIP
ALPHA OMEGA LAND DEVELOPMENT
SKETCH SHOWING BRIDGE-PAVEMENT RELATIONSHIP FOR -Y15- OVER -L-,-LRT- & -LLT-

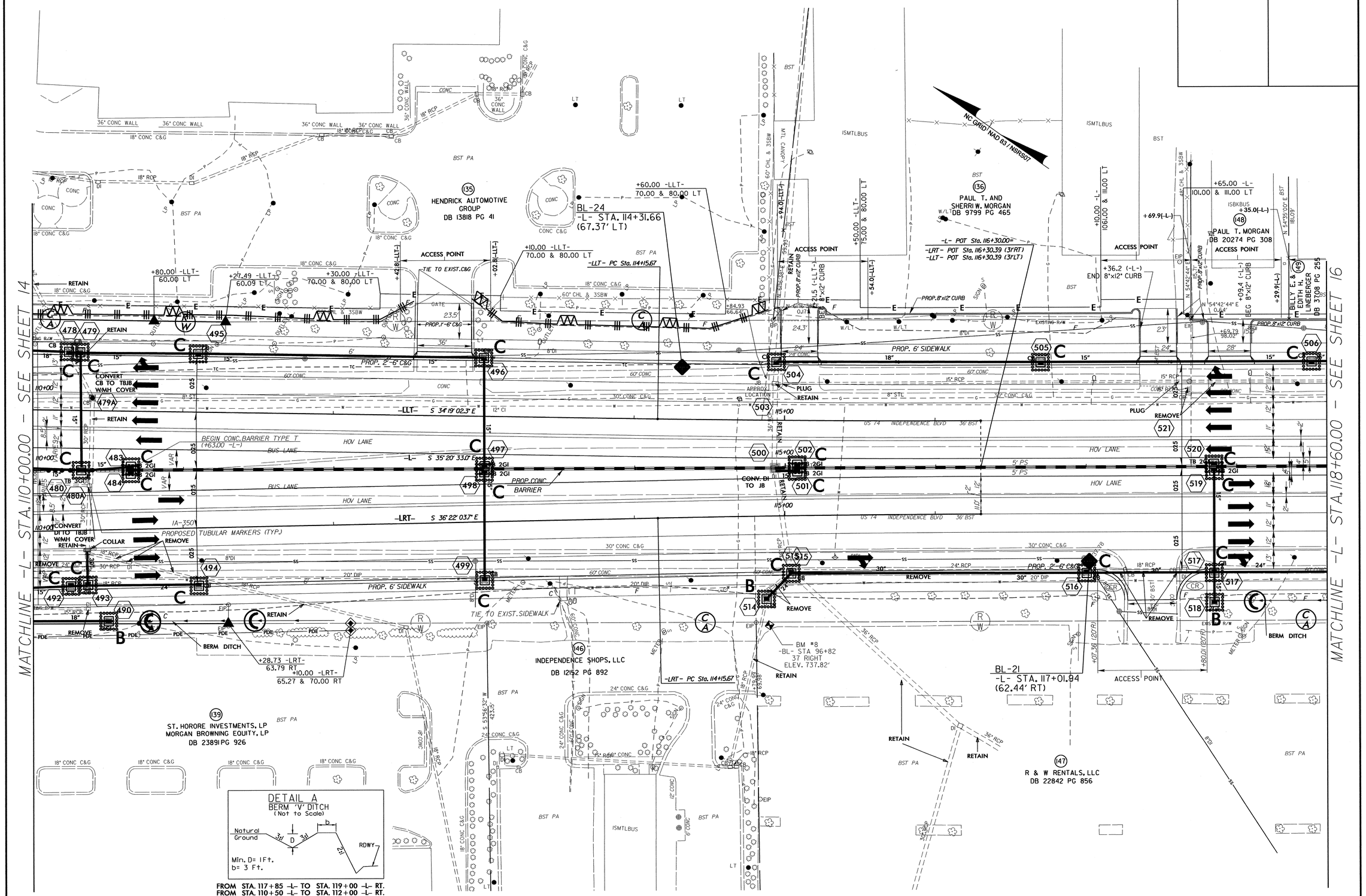
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-40/CONST.13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



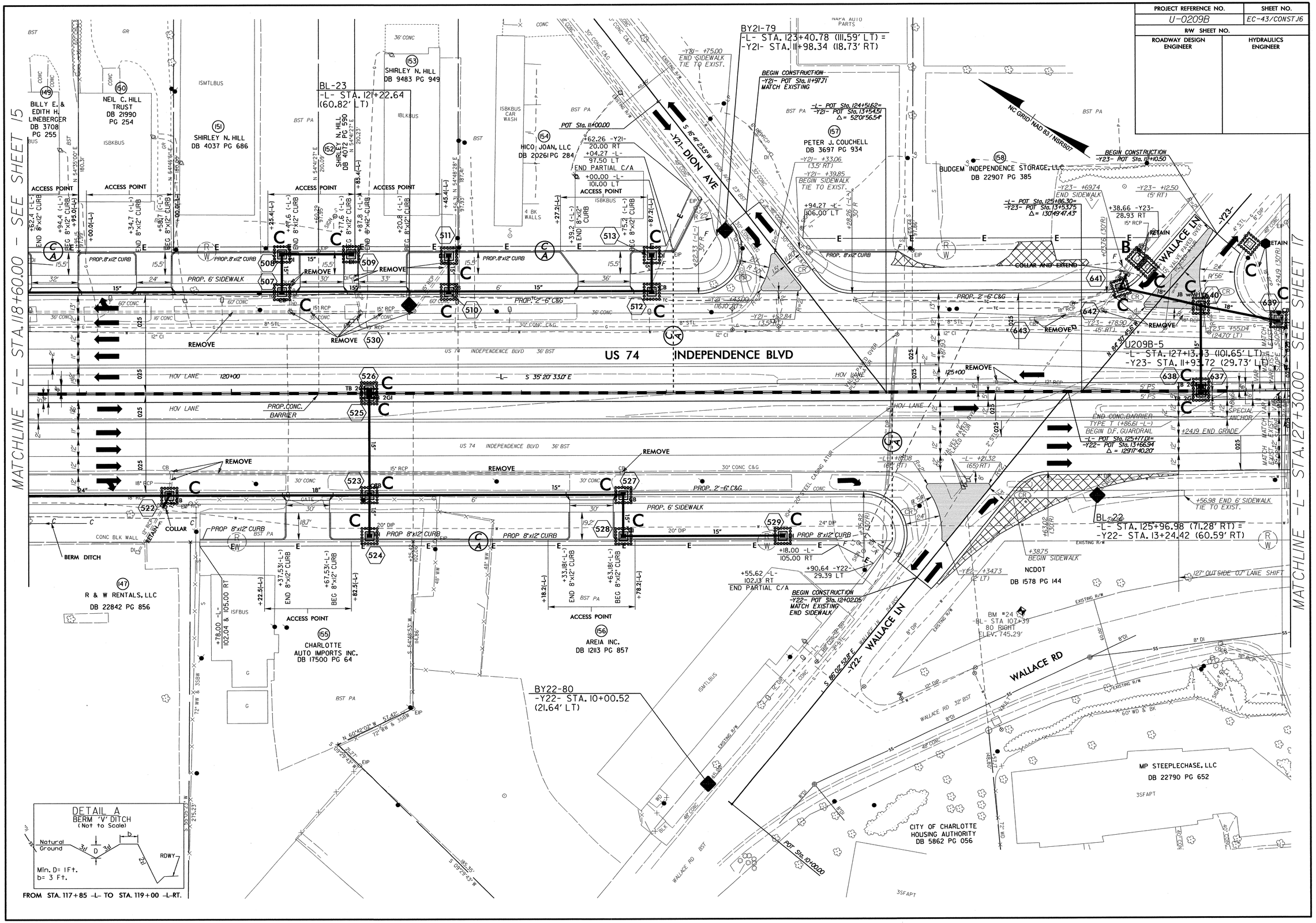
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-41/CONST J4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



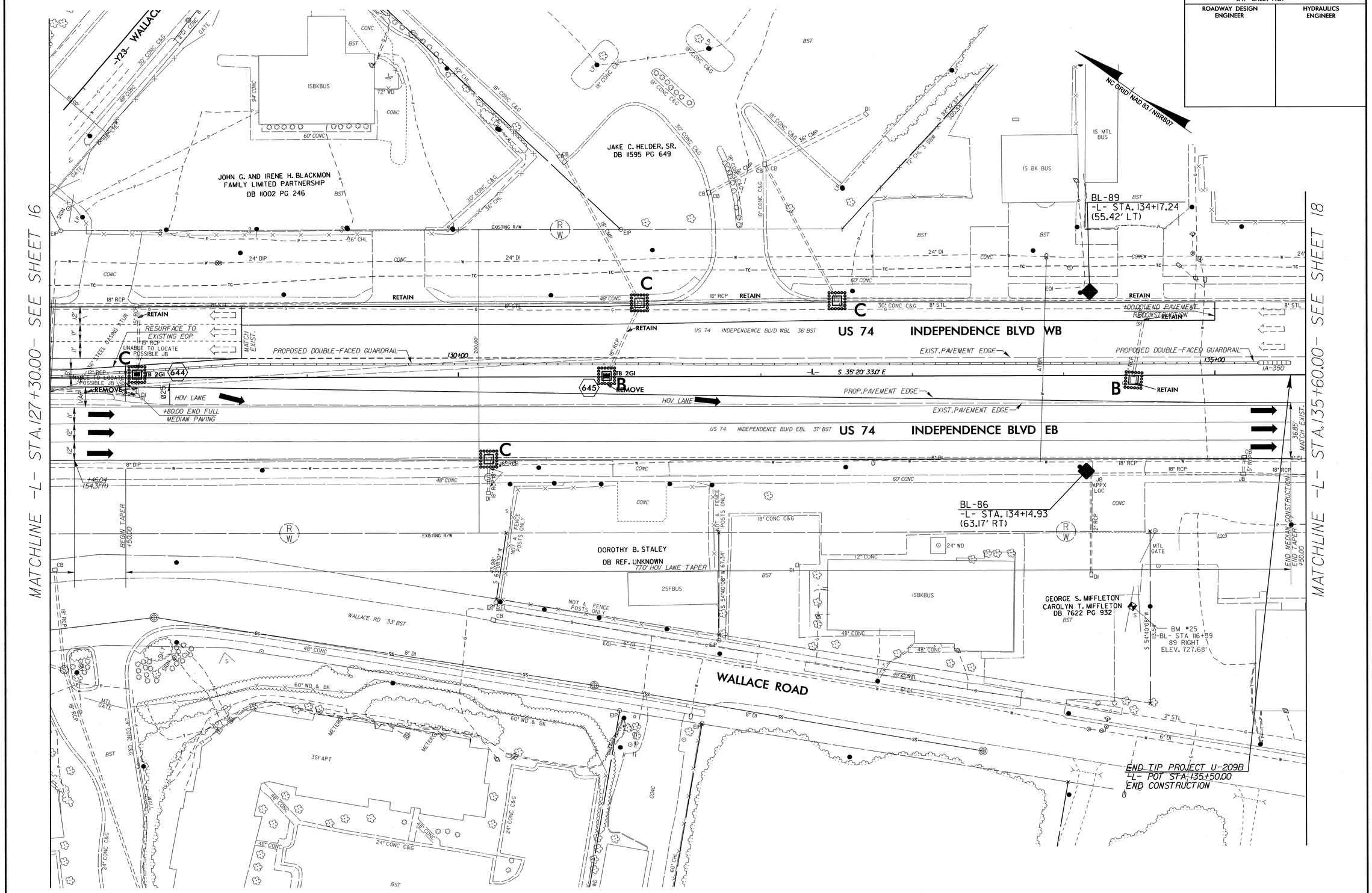
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-42/CONST.J5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-43/CONST.16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

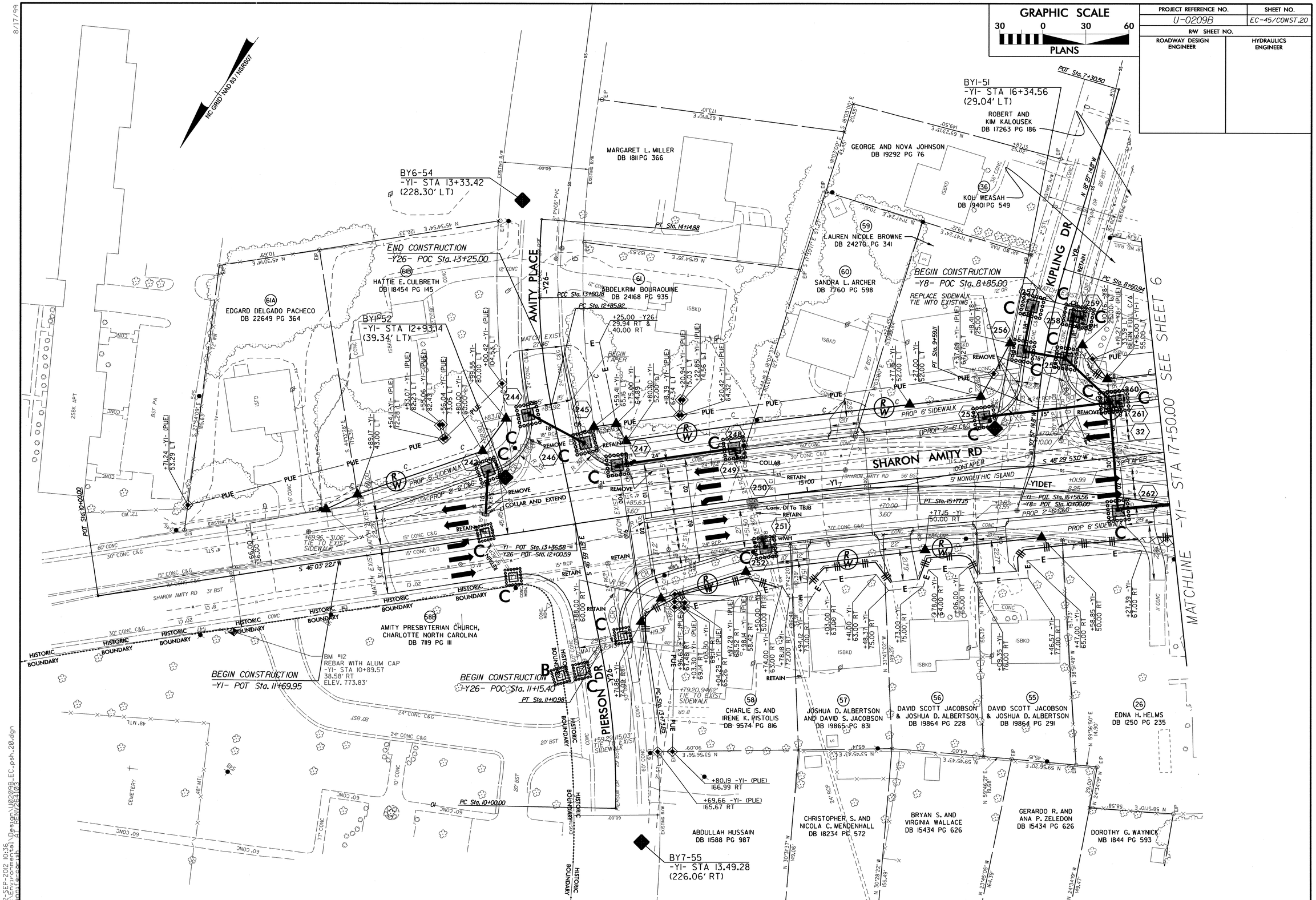


PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-44/CONST.17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-45/CONST.20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



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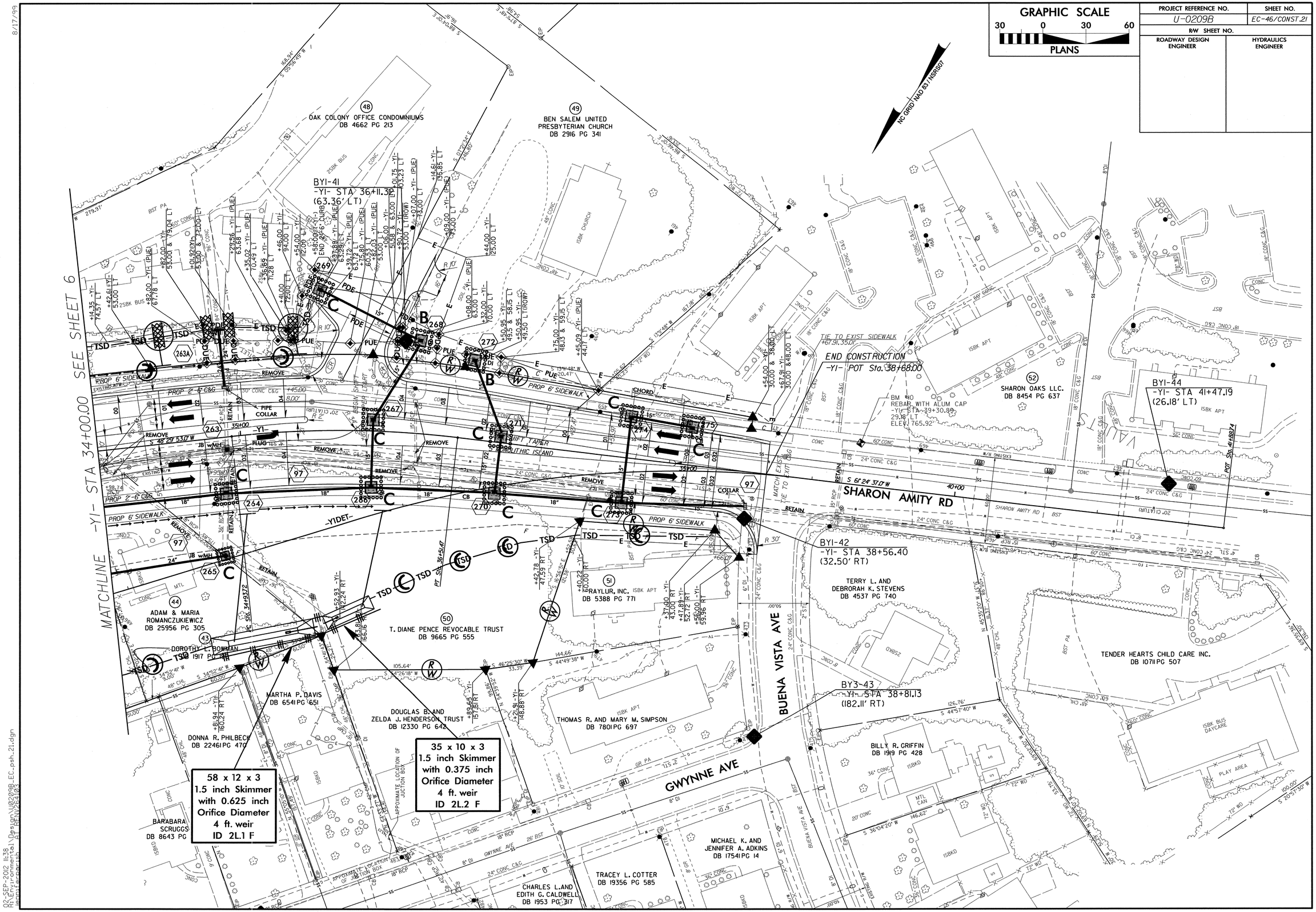
jennifergarrish AT HENZ24103

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-46/CONST.21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



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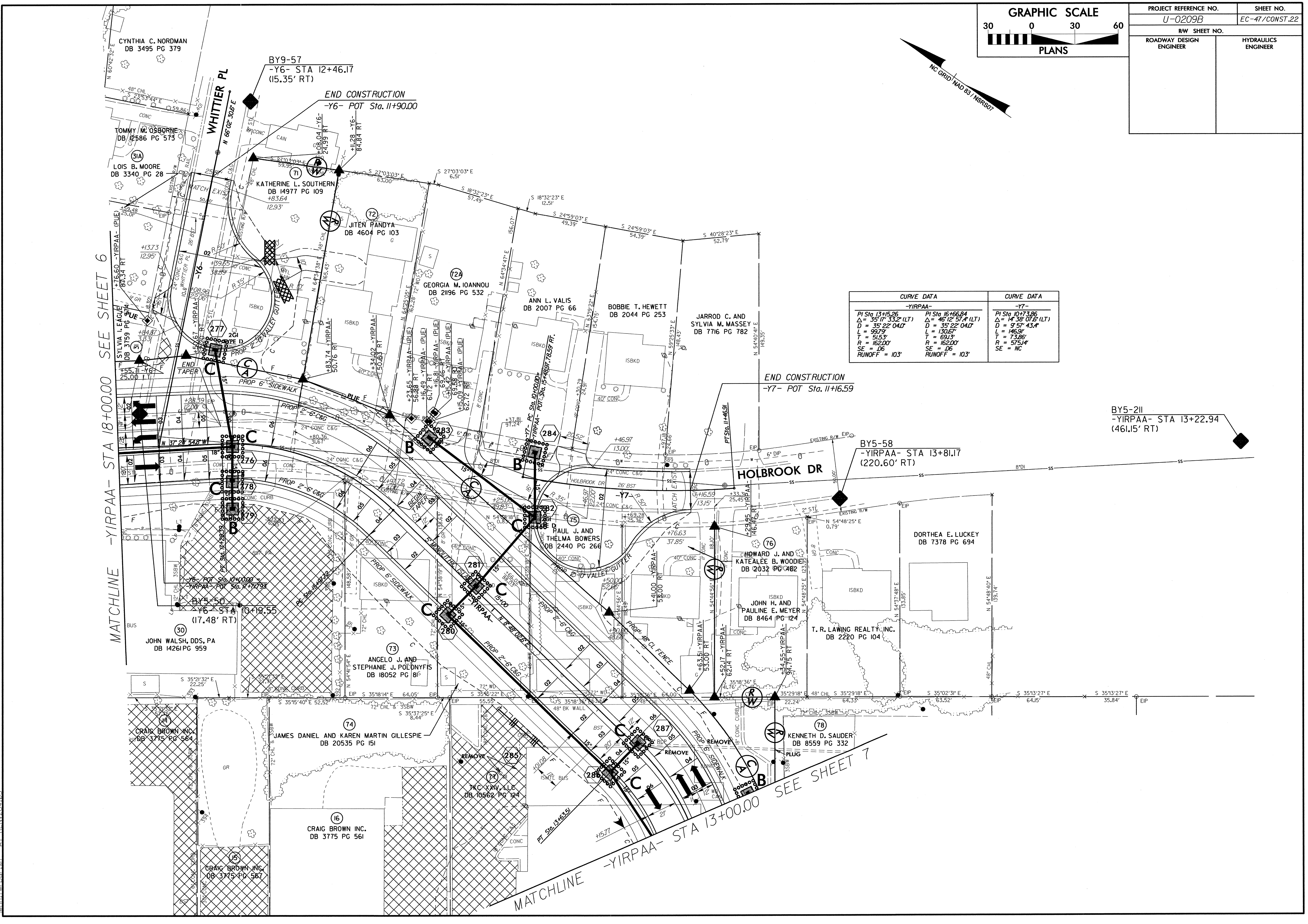
smithlesperson

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-47/CONST.22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

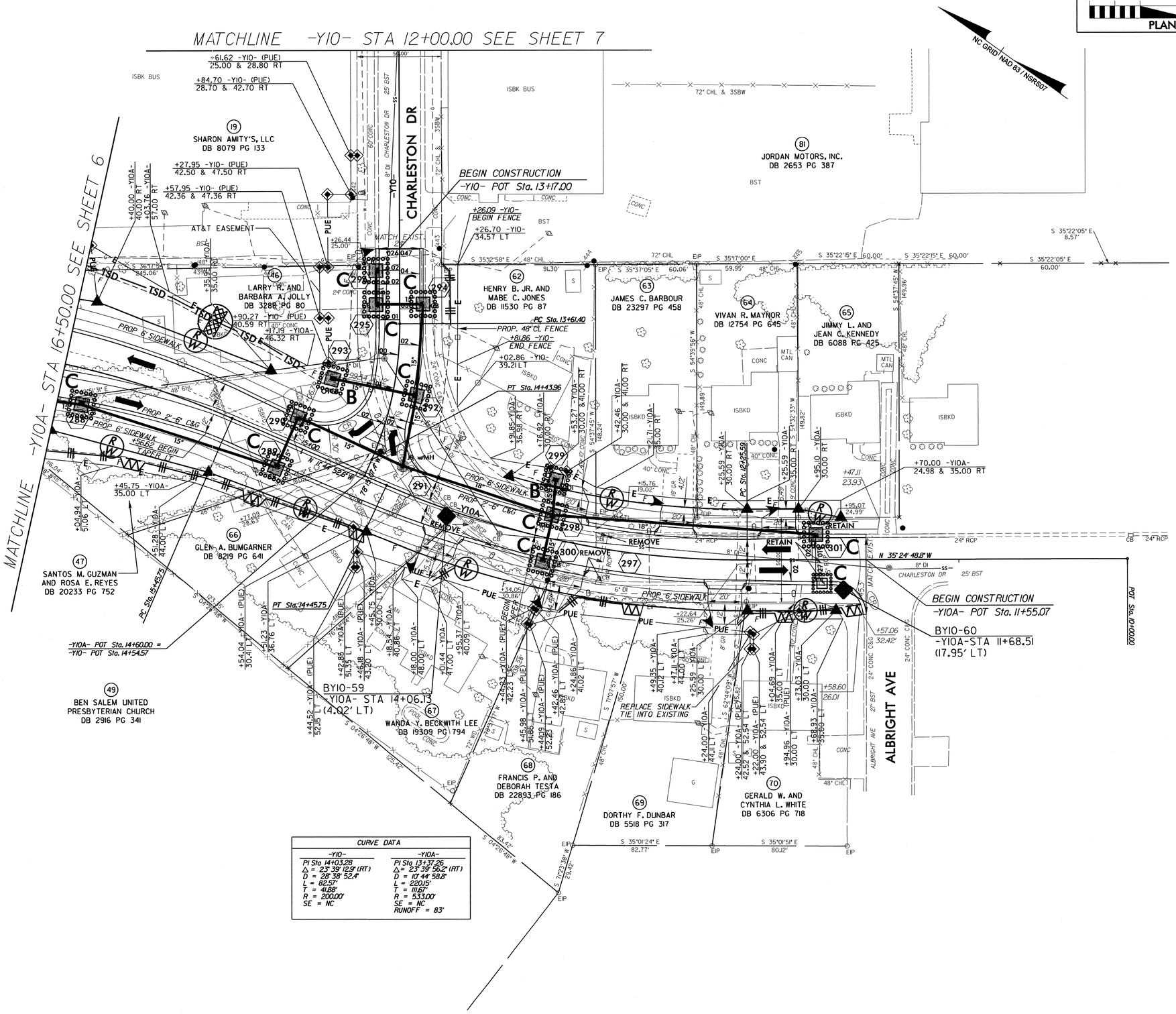
GRAPHIC SCALE
30 0 30 60
PLANS

CURVE DATA		CURVE DATA
-YIRPAA-		-Y7-
PI Sta 13+15.26	PI Sta 16+66.84	PI Sta 10+73.86
Δ = 35° 17' 33.2" (LT)	Δ = 46° 12' 57.4" (LT)	Δ = 14° 38' 07.6" (LT)
D = 35° 22' 04.0"	D = 35° 22' 04.0"	D = 9° 57' 43.4"
L = 99.79'	L = 130.67'	L = 146.91'
T = 51.53'	T = 69.13'	T = 73.86'
R = 162.00'	R = 162.00'	R = 575.14'
SE = .06	SE = .06	SE = NC
RUNOFF = 103'	RUNOFF = 103'	



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-48/CONST.23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALE
30 0 30 60
PLANS



8/17/99

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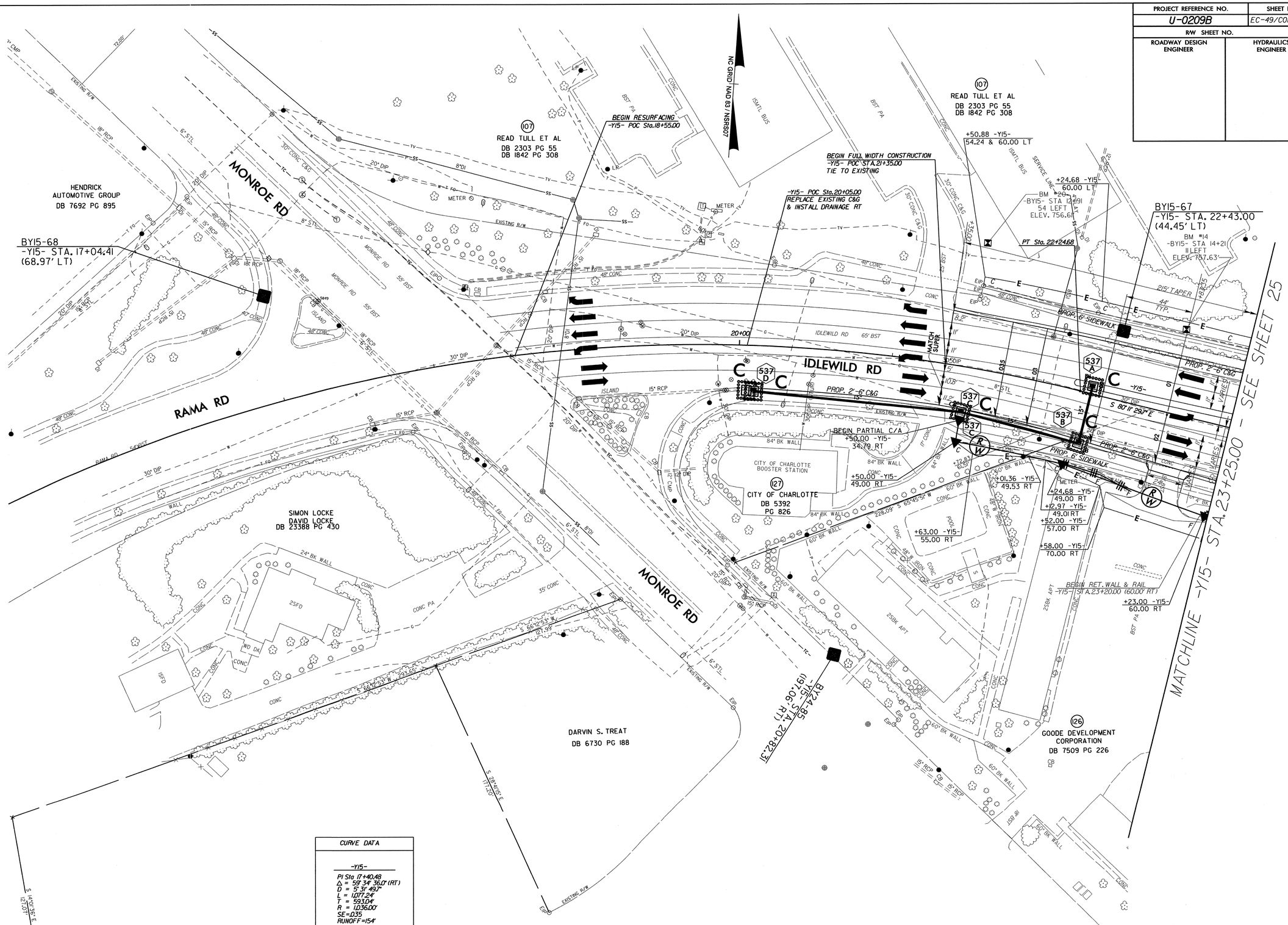
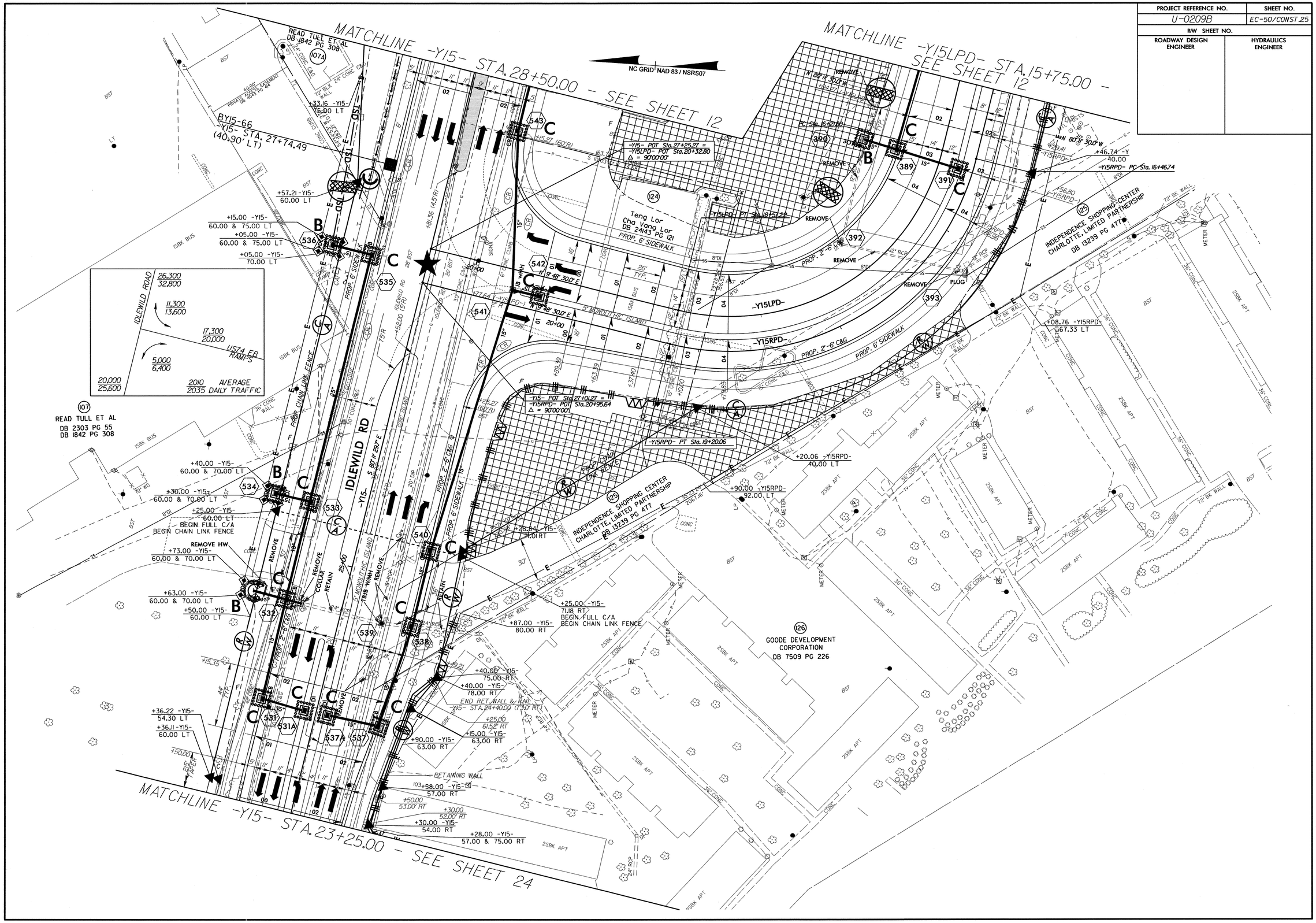
smithgeorge30 ATT_REF(U0209B)

PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-49/CONST.24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

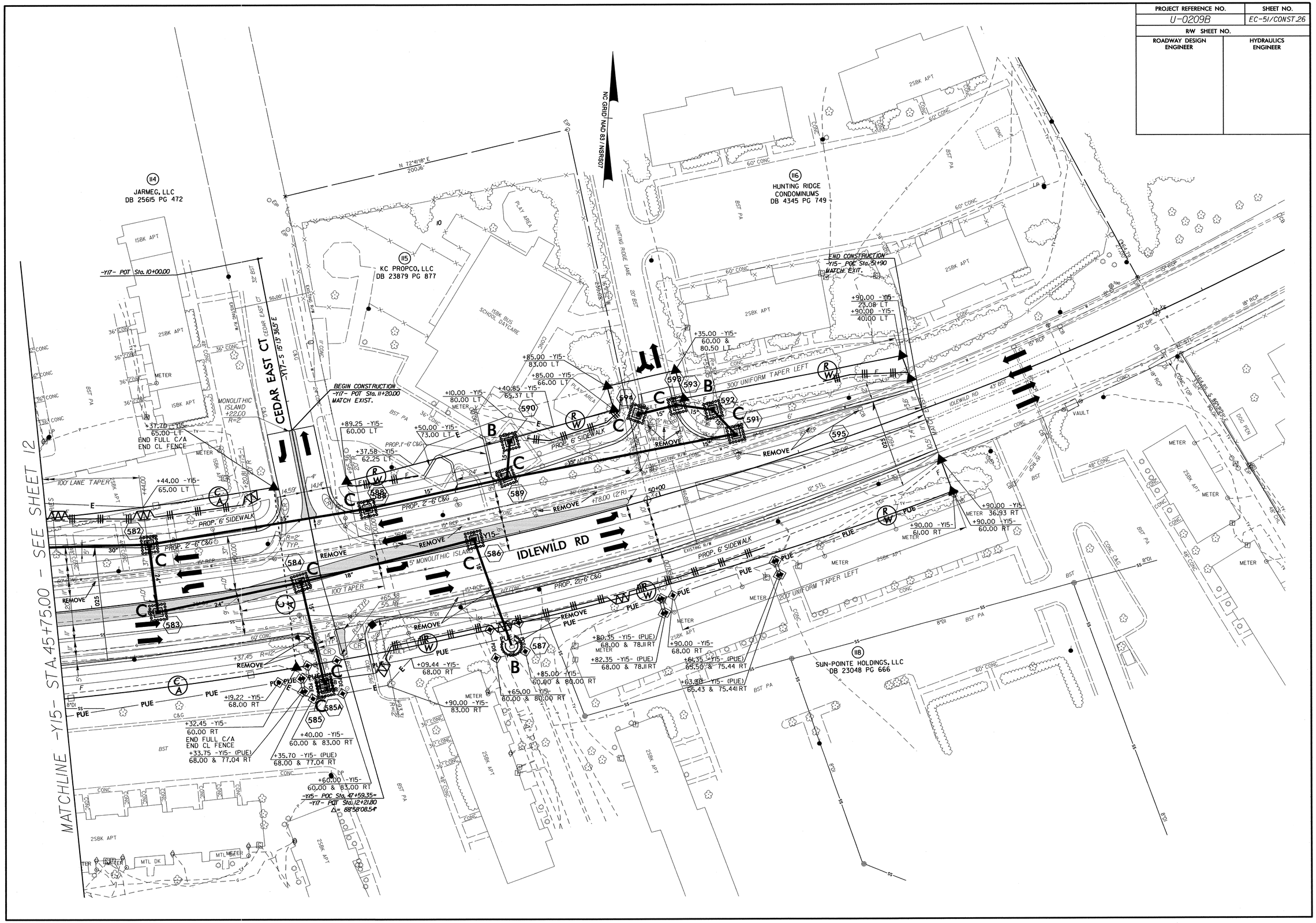


CURVE DATA
-Y15-
PI Sta 17+40.48
Δ = 59° 34' 36.0" (RT)
D = 5° 31' 49.7"
L = 1,077.24'
T = 593.04'
R = 1,036.00'
SE=.035
RUNOFF=154'

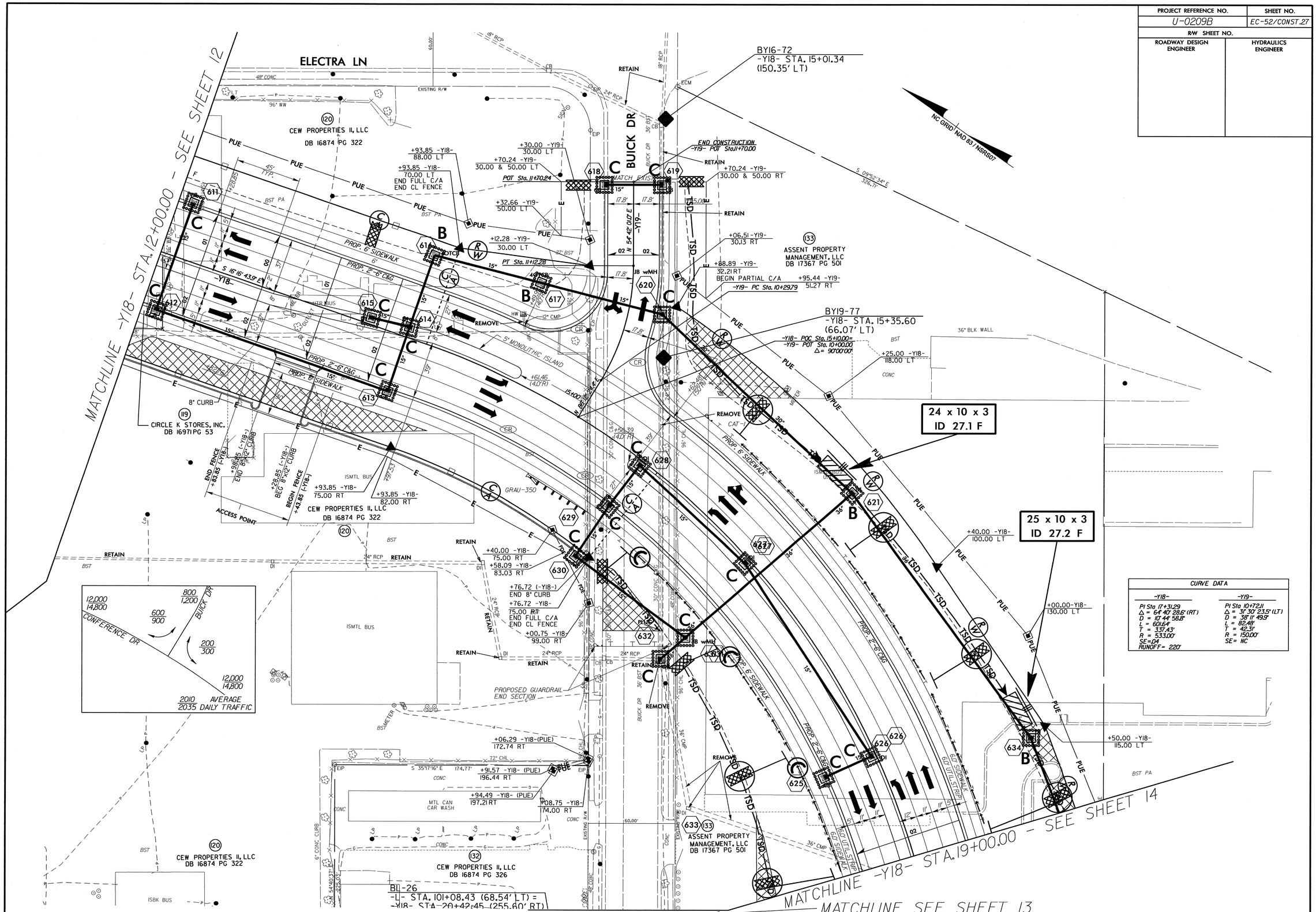
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-50/CONST.25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



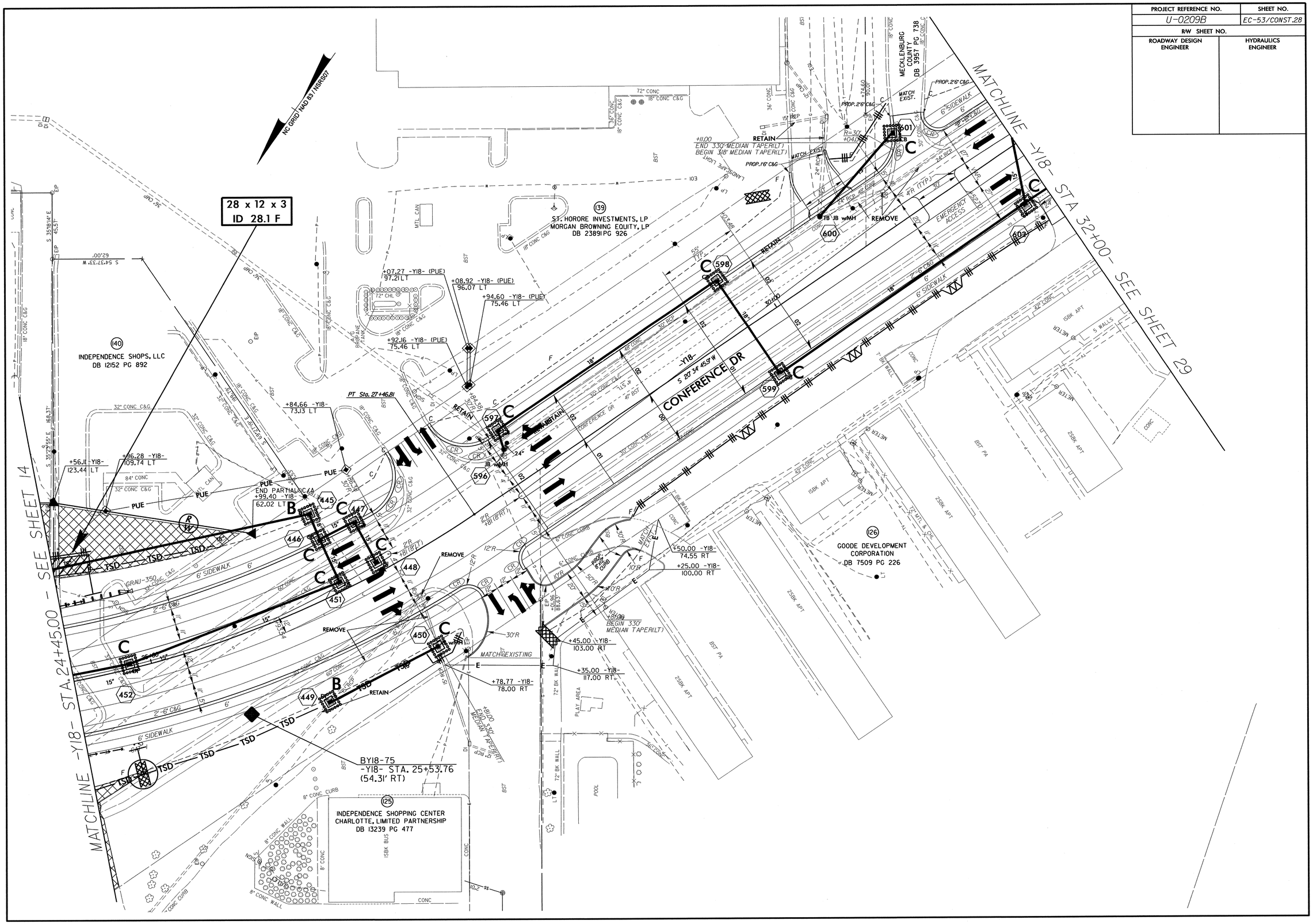
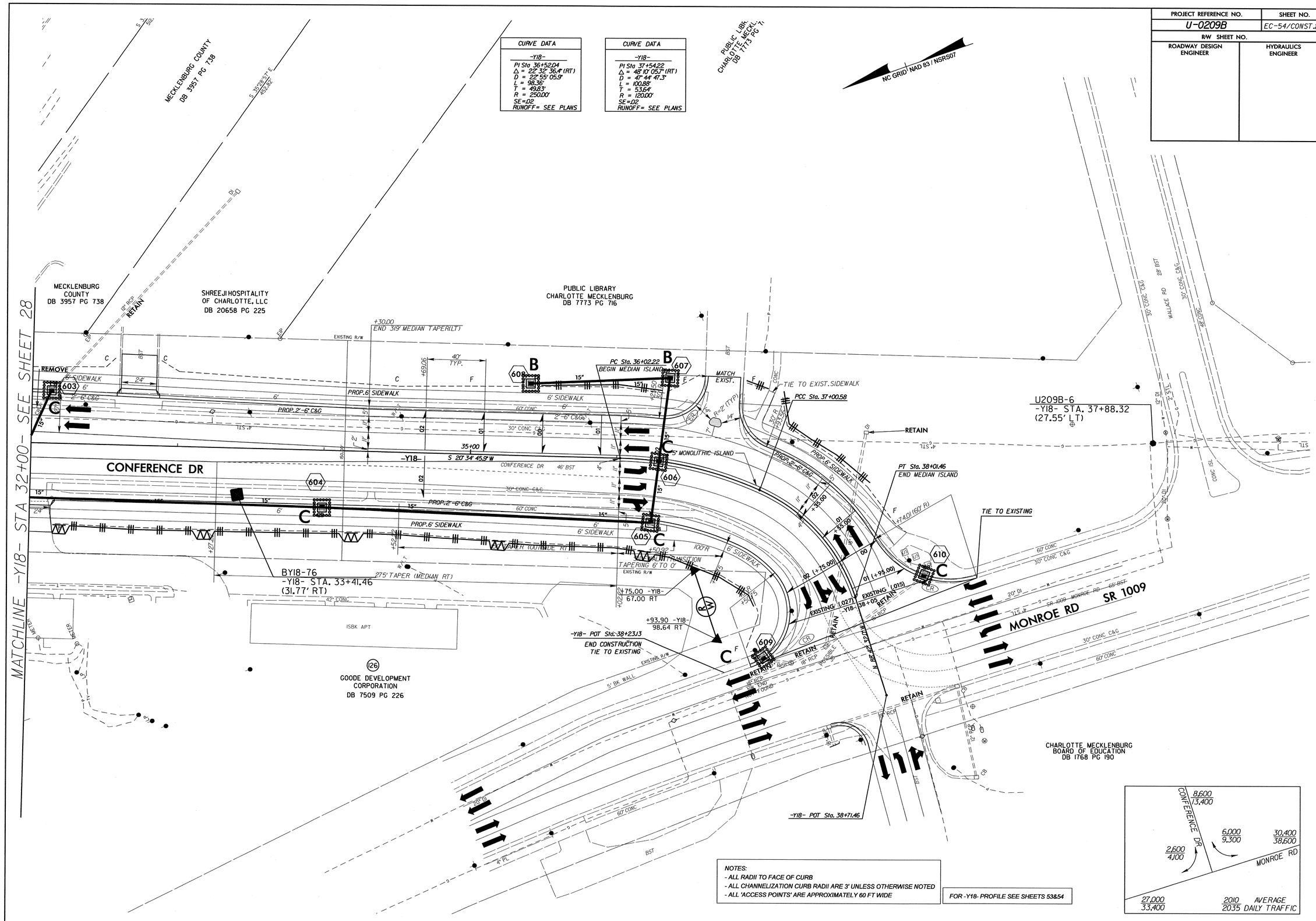
PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-51/CONST.26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-52/CONST.27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-53/CONST.28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PROJECT REFERENCE NO.	SHEET NO.
U-0209B	EC-54/CONST.29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER