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1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
NC LICENSE • C-2243

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	7
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
Designed by: Edward Glenn Edens, Jr.
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
8/20/2018

HYDRAULICS ENGINEER
Designed by: Meme D. Buscemi
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
8/20/2018

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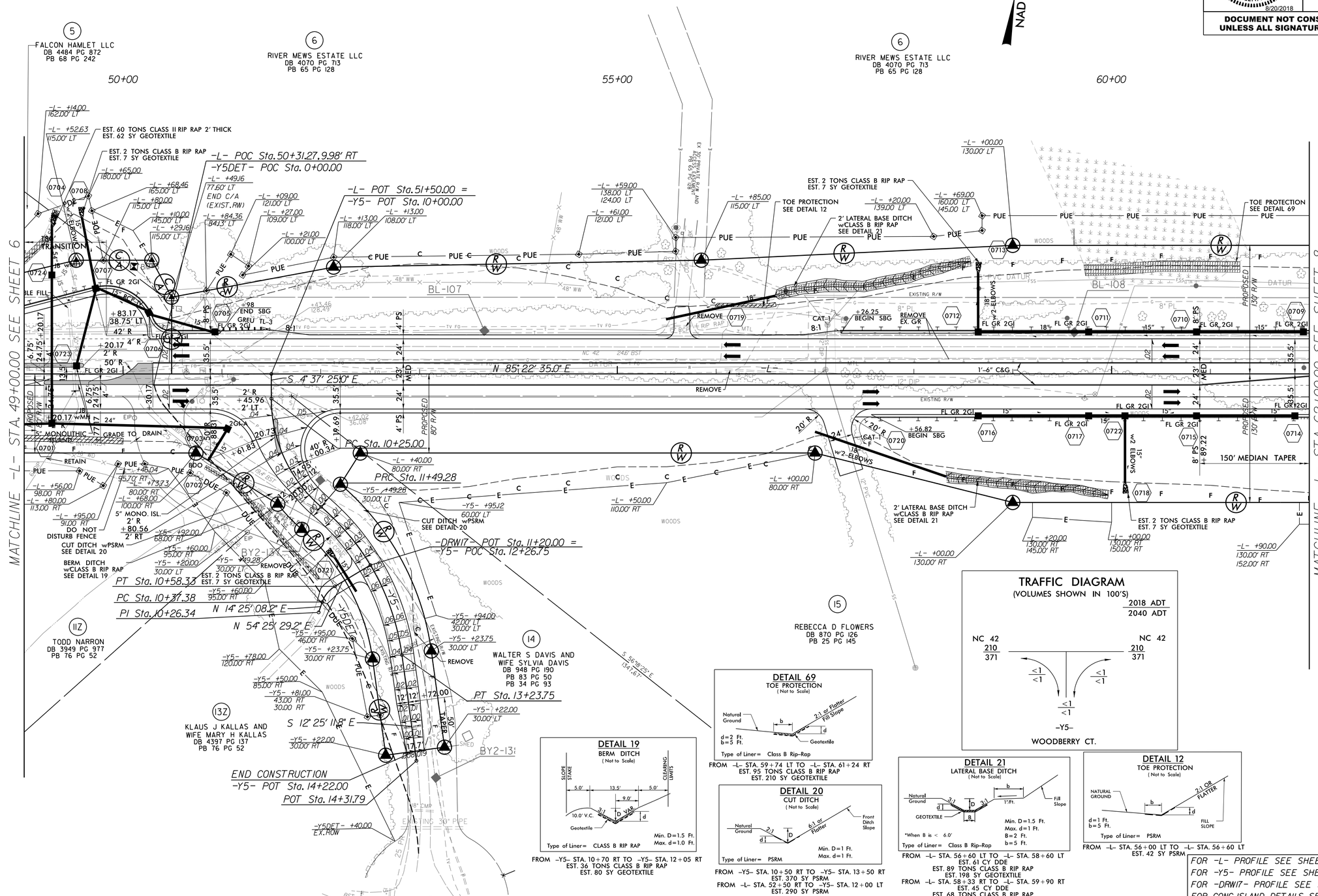

FOR -L- PROFILE SEE SHEET 25
FOR -Y5- PROFILE SEE SHEET 33
FOR -DRW17- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-4

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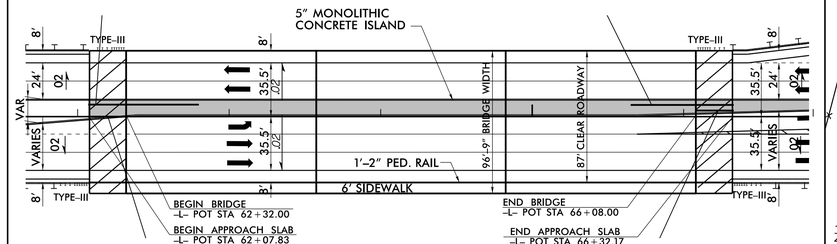
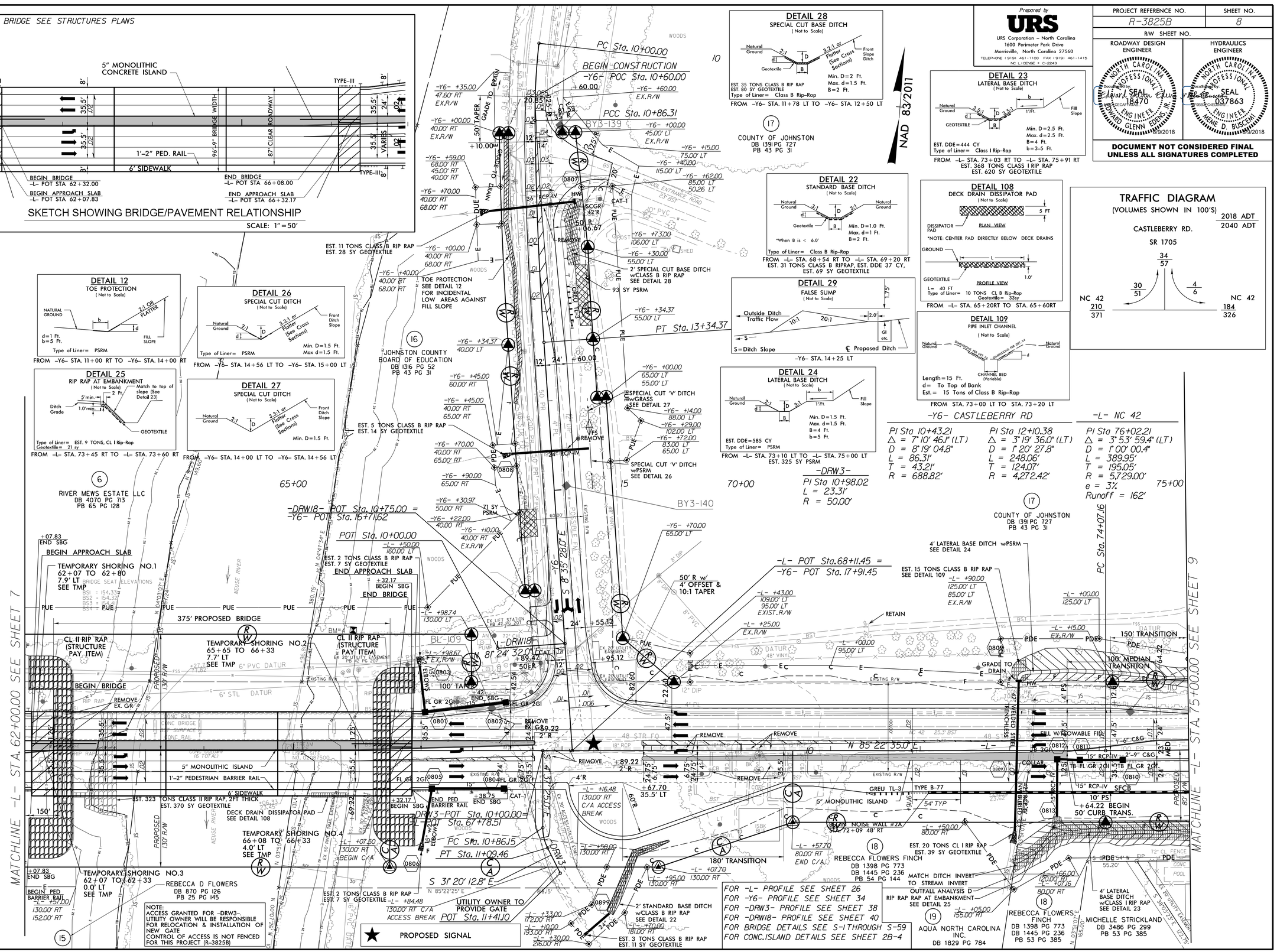
FOR DETAILS ON BRIDGE SEE STRUCTURES PLANS



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

SCALE: 1" = 50'



NOTE:
ACCESS GRANTED FOR -DRW3-.
UTILITY OWNER WILL BE RESPONSIBLE FOR RELOCATION & INSTALLATION OF NEW GATE
CONTROL OF ACCESS IS NOT FENCED FOR THIS PROJECT (R-3825B)

FOR -L- PROFILE SEE SHEET 26
FOR -Y6- PROFILE SEE SHEET 34
FOR -DRW3- PROFILE SEE SHEET 38
FOR -DRW18- PROFILE SEE SHEET 40
FOR BRIDGE DETAILS SEE S-1 THROUGH S-59
FOR CONC. ISLAND DETAILS SEE SHEET 2B-4

DETAIL 12
TOE PROTECTION
(Not to Scale)

d = 1 Ft.
b = 5 Ft.
Type of Liner = PSRM
FROM -Y6- STA. 11+00 RT TO -Y6- STA. 14+00 RT

DETAIL 25
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner = EST. 9 TONS, CL I Rip-Rap
Geotextile = 21 sy
FROM -L- STA. 73+45 RT TO -L- STA. 73+60 RT

DETAIL 26
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
Type of Liner = PSRM
FROM -Y6- STA. 14+56 LT TO -Y6- STA. 15+00 LT

DETAIL 27
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1.5 Ft.
FROM -Y6- STA. 14+00 LT TO -Y6- STA. 14+56 LT

DETAIL 28
SPECIAL CUT BASE DITCH
(Not to Scale)

Min. D = 2 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
EST. 35 TONS CLASS B RIP RAP
EST. 80 SY GEOTEXTILE
Type of Liner = Class B Rip-Rap
FROM -Y6- STA. 11+78 LT TO -Y6- STA. 12+50 LT

DETAIL 22
STANDARD BASE DITCH
(Not to Scale)

Min. D = 1.0 Ft.
Max. d = 1 Ft.
B = 2 Ft.
*When B is < 6.0'
Type of Liner = Class B Rip-Rap
FROM -L- STA. 68+54 RT TO -L- STA. 69+20 RT
EST. 31 TONS CLASS B RIPRAP, EST. DDE 37 CY,
EST. 69 SY GEOTEXTILE

DETAIL 29
FALSE SUMP
(Not to Scale)

-Y6- STA. 14+25 LT

DETAIL 24
LATERAL BASE DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 4 Ft.
b = 5 Ft.
EST. DDE = 585 CY
Type of Liner = PSRM
FROM -L- STA. 73+10 LT TO -L- STA. 75+00 LT
EST. 325 SY PSRM

DETAIL 23
LATERAL BASE DITCH
(Not to Scale)

Min. D = 2.5 Ft.
Max. d = 2.5 Ft.
B = 4 Ft.
b = 3-5 Ft.
EST. DDE = 444 CY
Type of Liner = Class I Rip-Rap
FROM -L- STA. 73+03 RT TO -L- STA. 75+91 RT
EST. 368 TONS CLASS I RIP RAP
EST. 620 SY GEOTEXTILE

DETAIL 108
DECK DRAIN DISSIPATOR PAD
(Not to Scale)

L = 40 FT
Type of Liner = 10 TONS CL B Rip-Rap
Geotextile = 33sy
FROM -L- STA. 65+20RT TO STA. 65+60RT

DETAIL 109
PIPE INLET CHANNEL
(Not to Scale)

Length = 15 Ft.
d = To Top of Bank
Est. = 15 Tons of Class B Rip-Rap
FROM STA. 73+00 LT TO STA. 73+20 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

-Y6- CASTLEBERRY RD

PI Sta 10+43.21
Δ = 7° 10' 46.1" (LT)
D = 8° 19' 04.8"
L = 86.31'
T = 43.21'
R = 688.82'

PI Sta 12+10.38
Δ = 3° 19' 36.0" (LT)
D = 1° 20' 27.8"
L = 248.06'
T = 124.07'
R = 4,272.42'

-L- NC 42

PI Sta 76+02.21
Δ = 3° 53' 59.4" (LT)
D = 1° 00' 00.4"
L = 389.95'
T = 195.05'
R = 5,729.00'
e = 3%
Runoff = 162'

-DRW3-

PI Sta 10+98.02
L = 23.31'
R = 50.00'

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	8
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ROADWAY DESIGN ENGINEER
DocuSigned by: Edward Glenn Edens III
18470
SEAL
ENGINEER
EDWARD GLENN EDENS, JR.
8/8/2018

HYDRAULICS ENGINEER
DocuSigned by: Renee D. Buscemi
037863
SEAL
ENGINEER
RENEE D. BUSCEMI
8/8/2018

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DETAIL 30
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 2:1, b, 1'Ft., B, Fill Slope

Min. D= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.

FROM –L– STA. 82+10 RT TO –L– STA. 85+00 RT
(EST. DDE = 173 CY)
FROM –L– STA. 86+00 RT TO –L– STA. 90+50 RT
(EST. DDE = 378 CY)
FROM –L– STA. 92+00 RT TO –L– STA. 93+24 RT
(EST. DDE = 36 CY)

DETAIL 33
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, 3:1, Natural Ground, d, Geotextile, B

Min. D=1 Ft.
Max. d=3 Ft.
B=8 Ft.

Type of Liner= CLASS I Rip-Rap

FROM –L– STA. 87+50 LT TO –L– STA. 87+55 LT
EST. 46 TONS CLASS I RIPRAP, EST. DDE 58 CY,
EST. 78 SY GEOTEXTILE

DETAIL 31
SPECIAL CUT BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, B, 4:1 or Flatter, Front Ditch Slope

Min. D=2 Ft.
Max. d=2 Ft.
B=2 Ft.

Type of Liner= PSRM

FROM –L– STA. 81+80 LT TO –L– STA. 83+00 LT
EST. 154 SY PSRM
FROM –Y7– STA. 15+67 LT TO –L– STA. 16+54 LT
EST. 110 SY PSRM

DETAIL 34
SPECIAL LATERAL DITCH
(Not to Scale)

Natural Ground, 2:1, D, 6:1, Fill Slope

Min. D=1.0 Ft.

FROM –L– STA. 76+10 LT TO –L– STA. 79+00 LT

DETAIL 32
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope

Min. D=1.5 Ft.

FROM –Y7– STA. 15+67 RT TO –L– STA. 80+28 LT

DETAIL 35
SPECIAL LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, 6:1, Geotextile, B, Fill Slope

Min. D=0.5 Ft.*
Max. d=2.0 Ft.
B=4.0 Ft.

Type of Liner= Class I Rip-Rap

FROM –L– STA. 75+00 LT TO –L– STA. 76+10 LT
*DITCH ELEVATION AND DEPTH SET TO
INTERCEPT STREAM FROM POND

DETAIL 36
CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, 4:1 or Flatter, Front Ditch Slope

Min. D=1.5 Ft.
Max. d=1.5 Ft.

Type of Liner= PSRM

FROM –L– STA. 83+00 LT TO –L– STA. 85+00 LT
EST. 280 SY PSRM

DETAIL 21
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 3:1, D, d, 3:1, b, 1'Ft., B, GEOTEXTILE, Fill Slope

*When B is < 6.0'

Min. D=1.5 Ft.
Max. d=1 Ft.
B=2 Ft.
b=5 Ft.

Type of Liner= Class B Rip-Rap

FROM –L– STA. 85+00 RT TO –L– STA. 86+00 RT
EST. 73 CY DDE
EST. 87 TONS CLASS B RIP RAP
EST. 194 SY GEOTEXTILE
FROM –L– STA. 90+50 RT TO –L– STA. 92+00 RT
EST. 95 CY DDE
EST. 95 TONS CLASS B RIP RAP
EST. 155 SY GEOTEXTILE

DETAIL 10
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 20:1, 10:1, 2', 0.5', GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

–L– STA. 87+41 RT
–L– STA. 84+91 RT
–L– STA. 78+41 RT

DETAIL 9
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5', GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

–L– STA. 80+14 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

2018 ADT
2040 ADT

–Y7–
EAST SCHOOL RD

NC 42 184/326
14/18, 4/5, 9/13, 2/2, 1/2, 3/4
NC 42 189/334

–Y8–
BENNET PLACE

DETAIL 37
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 20:1, 10:1, 2.0', 1.5', GI etc., S, S=Ditch Slope, ℄ Proposed Ditch

–L– STA. 87+19 LT (HEIGHT = 1.5')

DETAIL 12
TOE PROTECTION
(Not to Scale)

NATURAL GROUND, b, d, 2:1 OR FLATTER, FILL SLOPE

d=1 Ft.
b=5 Ft.

Type of Liner= PSRM

FROM –L– STA. 84+80 LT TO –L– STA. 87+30 LT
EST. 260 SY PSRM

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
Docu Signed by: Howard Glenn Edens Jr.
HOWARD GLENN EDENS JR.
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER
8/9/2018

HYDRAULICS ENGINEER
Docu Signed by: Renee D. Buscemi
RENEE D. BUSCEMI
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER
8/9/2018

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–L– NC 42

PI Sta 76+02.21
△ = 3° 53' 59.4" (LT)
D = 1° 00' 00.4"
L = 389.95'
T = 195.05'
R = 5,729.00'
e = 3%
Runoff = 162'

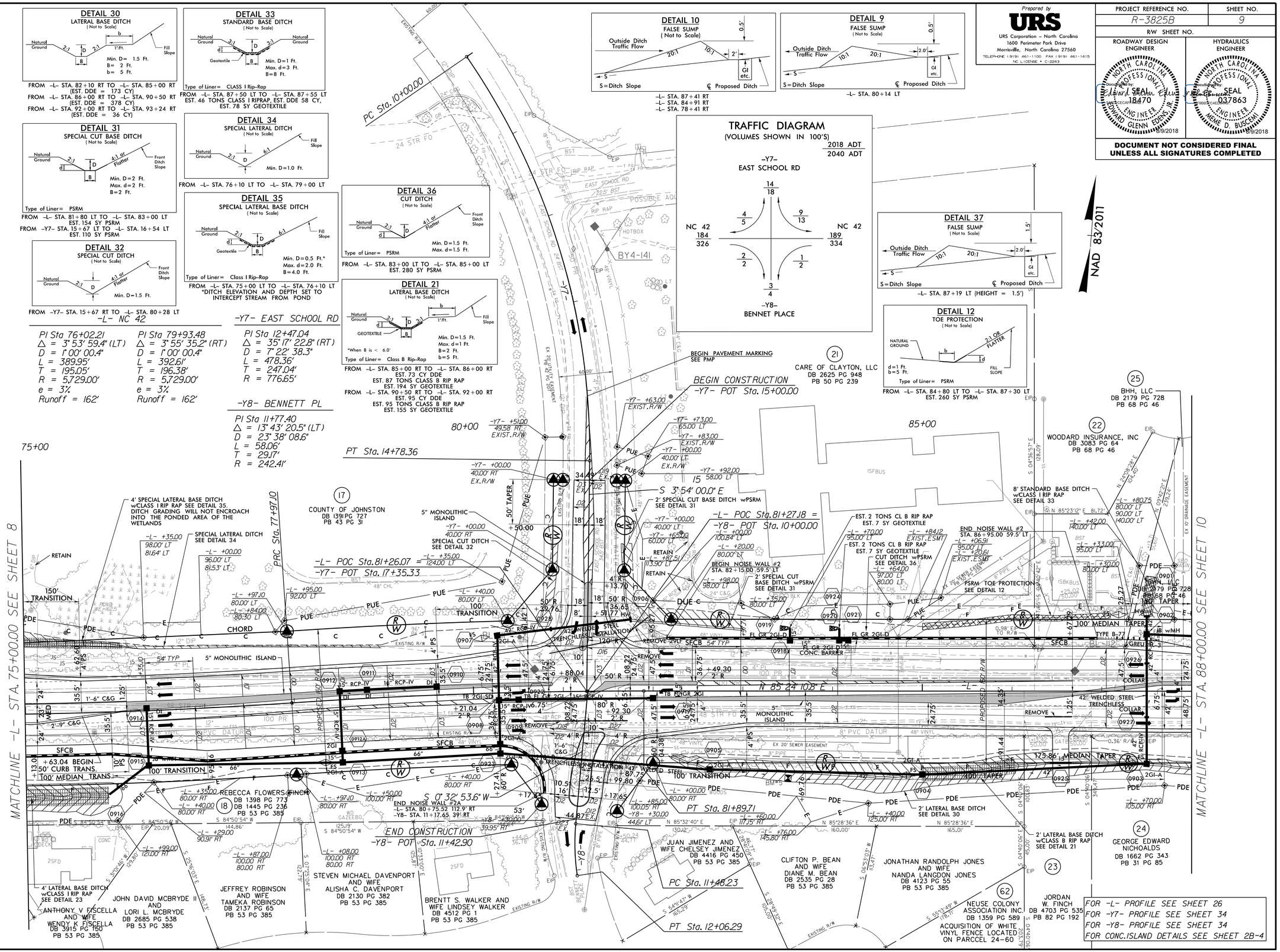
PI Sta 79+93.48
△ = 3° 55' 35.2" (RT)
D = 1° 00' 00.4"
L = 392.61'
T = 196.38'
R = 5,729.00'
e = 3%
Runoff = 162'

–Y7– EAST SCHOOL RD

PI Sta 12+47.04
△ = 35° 17' 22.8" (RT)
D = 7° 22' 38.3"
L = 478.36'
T = 247.04'
R = 776.65'

–Y8– BENNETT PL

PI Sta 11+77.40
△ = 13° 43' 20.5" (LT)
D = 23° 38' 08.6"
L = 58.06'
T = 29.17'
R = 242.41'



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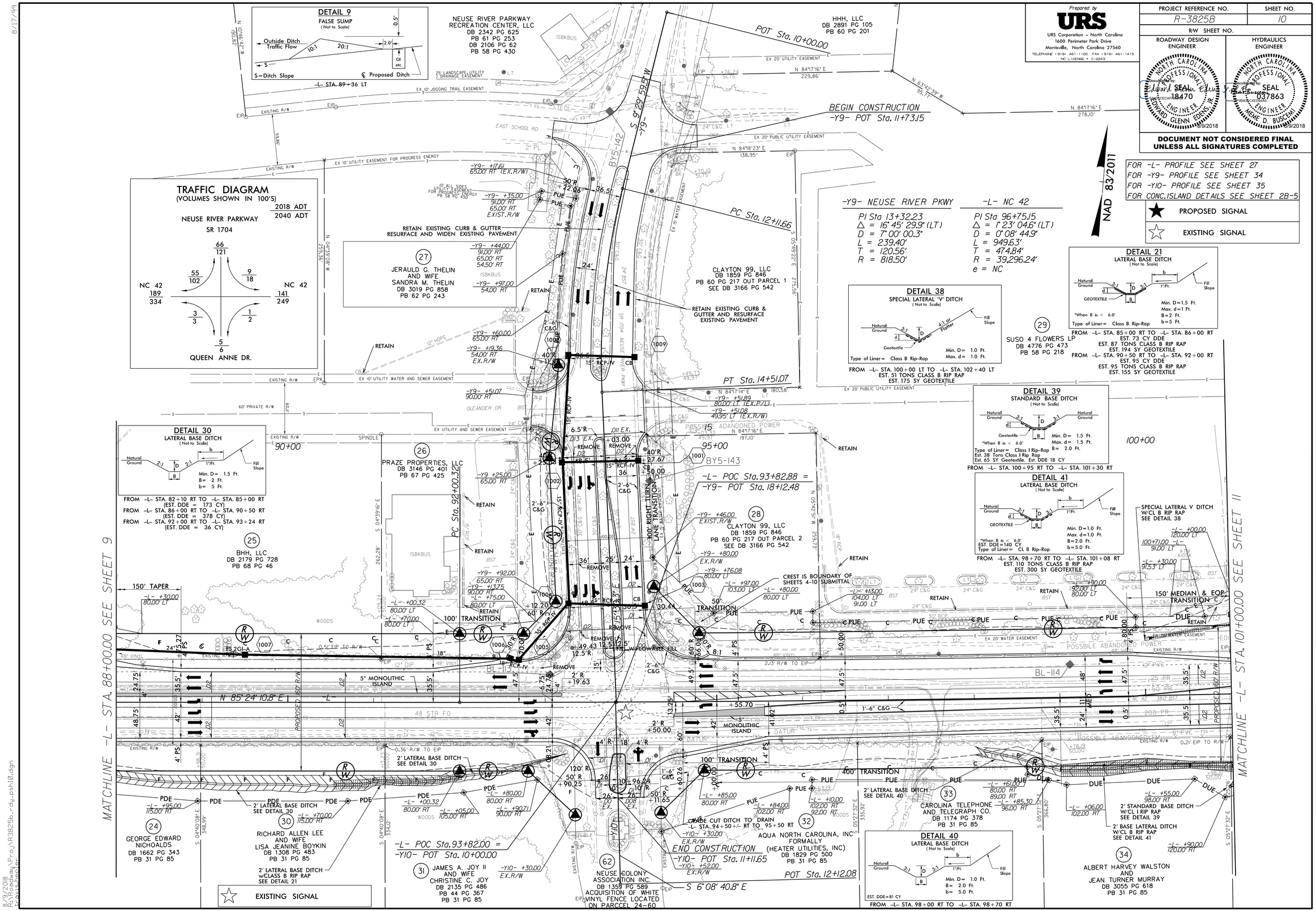

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER HOWARD GLENN EDENS JR.
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8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER RENE D. BUSCEMI
DocuSigned by: Rene Buscemi
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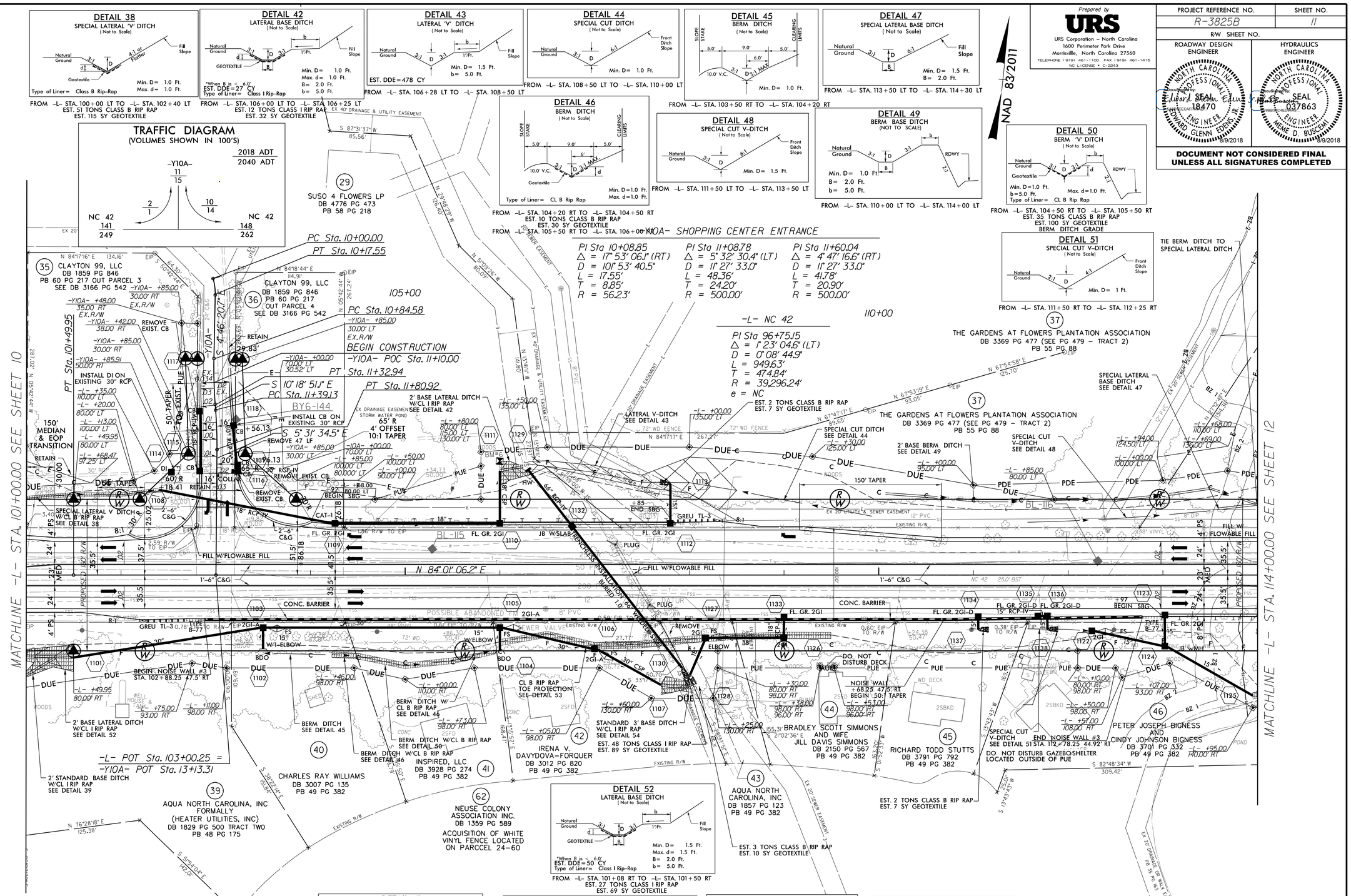

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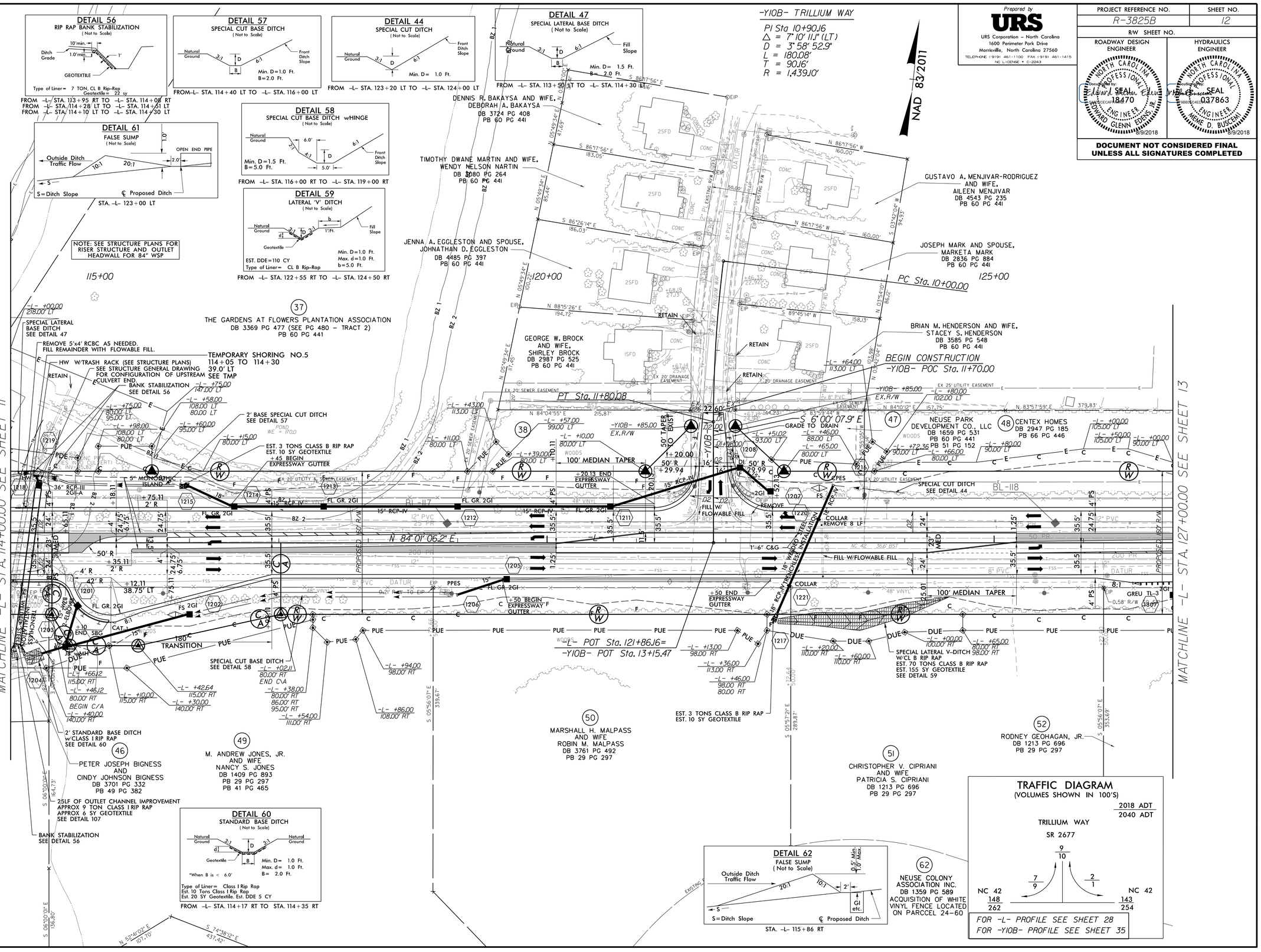

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	12
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ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
DocuSigned by: Edward Glenn Edens, Jr.
8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER REME D. BUSCEMI
DocuSigned by: Reme D. Buscemi
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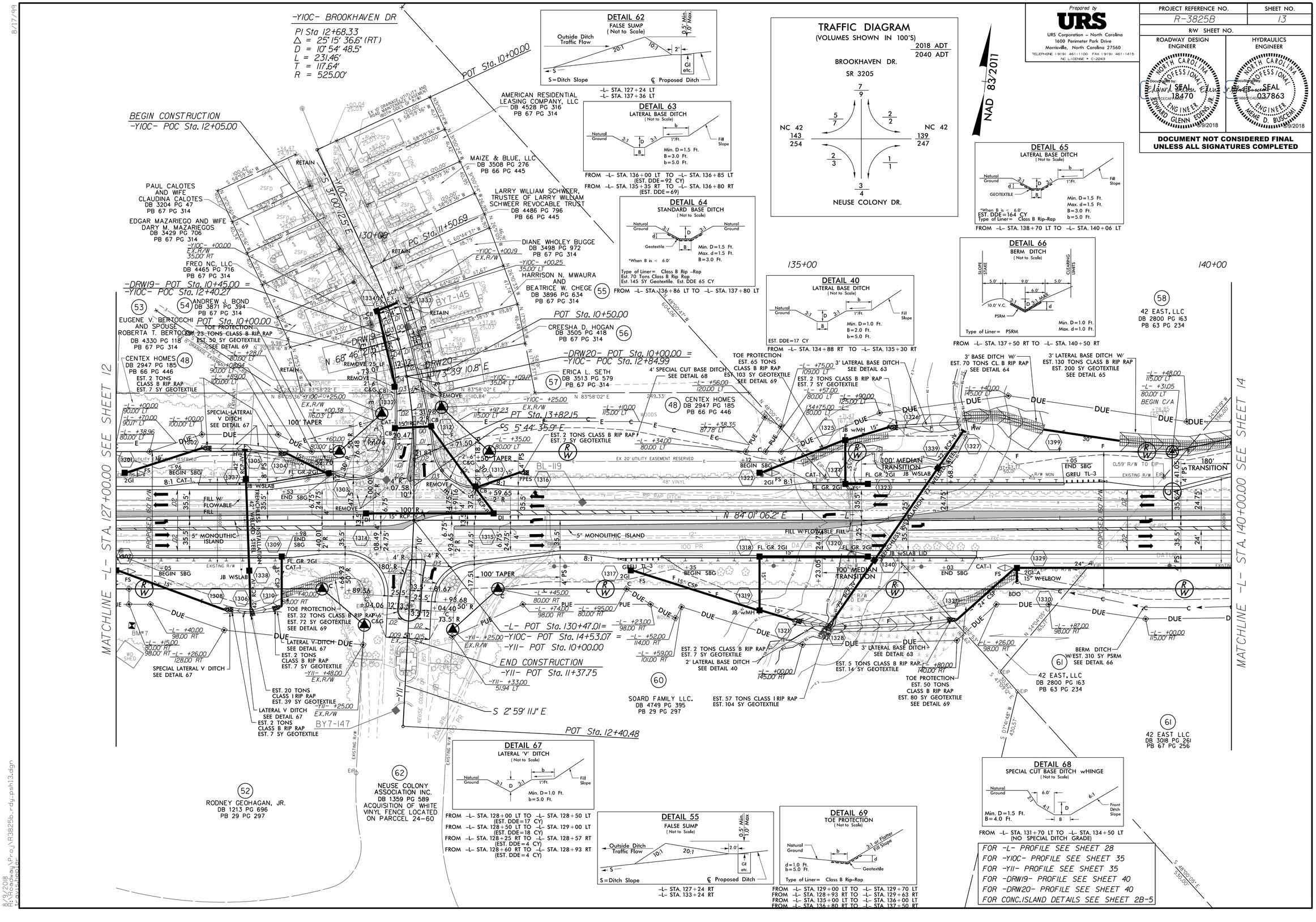

DETAIL 62
FALSE SUMP
(Not to Scale)

-L- STA. 127+24 LT
-L- STA. 137+36 LT

DETAIL 63
LATERAL BASE DITCH
(Not to Scale)

Min. D=1.5 Ft.
B=3.0 Ft.
b=5.0 Ft.

FROM -L- STA. 136+00 LT TO -L- STA. 136+85 LT
(EST. DDE=92 CY)
FROM -L- STA. 135+35 RT TO -L- STA. 136+80 RT
(EST. DDE=69)

DETAIL 64
STANDARD BASE DITCH
(Not to Scale)

Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=3.0 Ft.
*When B is < 6.0'

Type of Liner= Class B Rip -Rap
Est. 70 Tons Class B Rip Rap
Est. 145 SY Geotextile. Est. DDE 65 CY

FROM -L- STA. 136+86 LT TO -L- STA. 137+80 LT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

DETAIL 40
LATERAL BASE DITCH
(Not to Scale)

Min. D=1.0 Ft.
B=2.0 Ft.
b=5.0 Ft.

EST. DDE=17 CY

FROM -L- STA. 134+88 RT TO -L- STA. 135+30 RT

DETAIL 65
LATERAL BASE DITCH
(Not to Scale)

*When B is < 6.0'
EST. DDE=164 CY
Type of Liner= Class B Rip-Rap

Min. D=1.5 Ft.
Max. d=1.5 Ft.
B=3.0 Ft.
b=5.0 Ft.

FROM -L- STA. 138+70 LT TO -L- STA. 140+06 LT

DETAIL 66
BERM DITCH
(Not to Scale)

Min. D=1.0 Ft.
Max. d=1.0 Ft.

Type of Liner= PSRM

FROM -L- STA. 137+50 RT TO -L- STA. 140+50 RT

DETAIL 67
LATERAL 'V' DITCH
(Not to Scale)

Min. D=1.0 Ft.
b=5.0 Ft.

FROM -L- STA. 128+00 LT TO -L- STA. 128+50 LT
(EST. DDE=17 CY)
FROM -L- STA. 128+50 LT TO -L- STA. 129+00 LT
(EST. DDE=18 CY)
FROM -L- STA. 128+25 RT TO -L- STA. 128+57 RT
(EST. DDE=4 CY)
FROM -L- STA. 128+60 RT TO -L- STA. 128+93 RT
(EST. DDE=4 CY)

DETAIL 55
FALSE SUMP
(Not to Scale)

-L- STA. 127+24 RT
-L- STA. 133+24 RT

DETAIL 69
TOE PROTECTION
(Not to Scale)

d=1.0 Ft.
b=5.0 Ft.

Type of Liner= Class B Rip-Rap

FROM -L- STA. 129+00 LT TO -L- STA. 129+70 LT
FROM -L- STA. 128+93 RT TO -L- STA. 129+63 RT
FROM -L- STA. 135+00 LT TO -L- STA. 136+00 LT
FROM -L- STA. 136+80 RT TO -L- STA. 137+50 RT

DETAIL 68
SPECIAL CUT BASE DITCH wHINGE
(Not to Scale)

Min. D=1.5 Ft.
B=4.0 Ft.

FROM -L- STA. 131+70 LT TO -L- STA. 134+50 LT
(NO SPECIAL DITCH GRADE)

FOR -L- PROFILE SEE SHEET 28
FOR -Y10C- PROFILE SEE SHEET 35
FOR -Y11- PROFILE SEE SHEET 35
FOR -DRW19- PROFILE SEE SHEET 40
FOR -DRW20- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-5

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NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER HOWARD GLENN EDENS, JR.
Docusigned by: Howard Glenn Edens Jr.
7/23/2018
DocuSigned by: 7/23/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER REMIE D. BUSCEMI
DocuSigned by: Remie D. Buscemi
7/23/2018
7/23/2018

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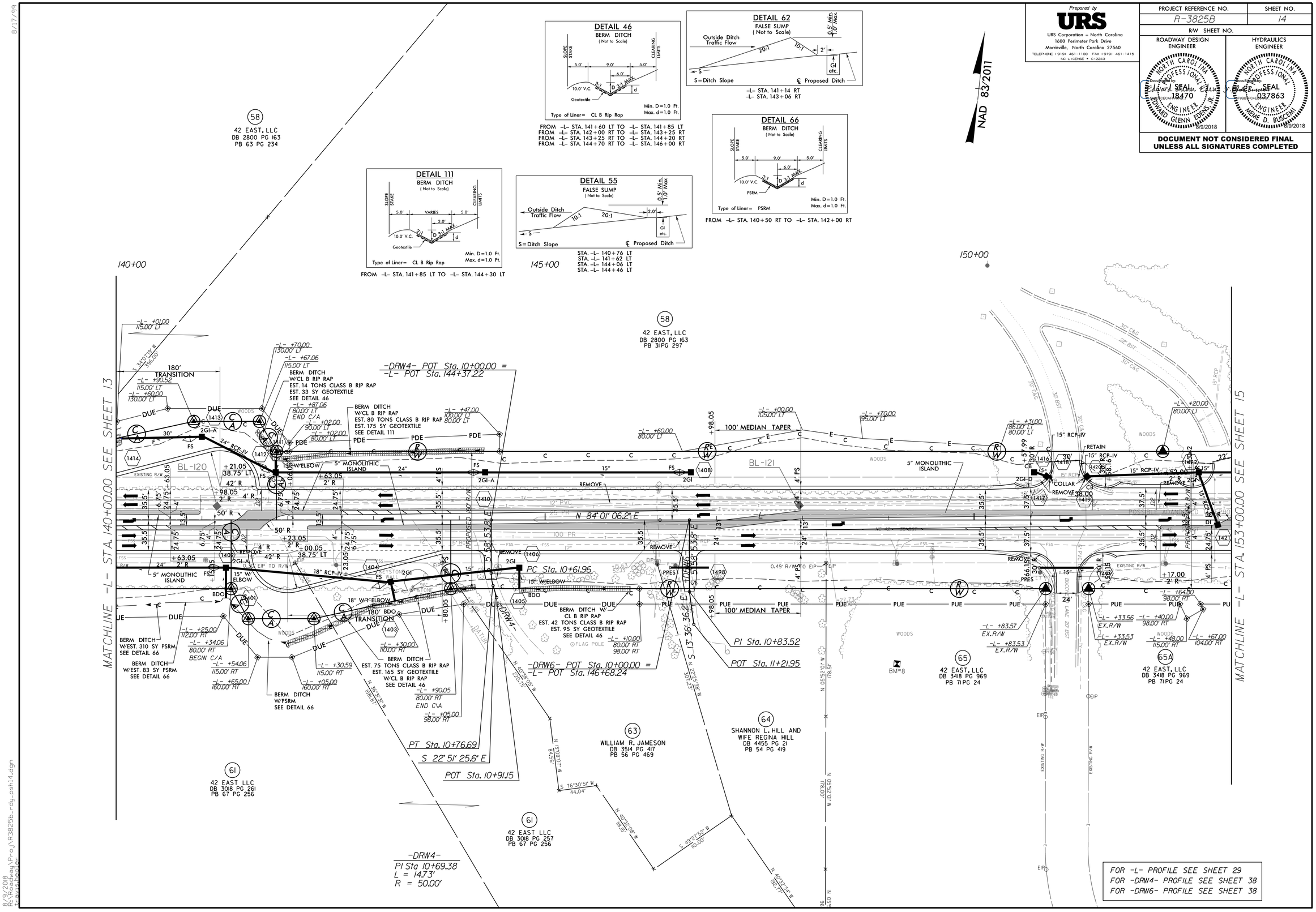

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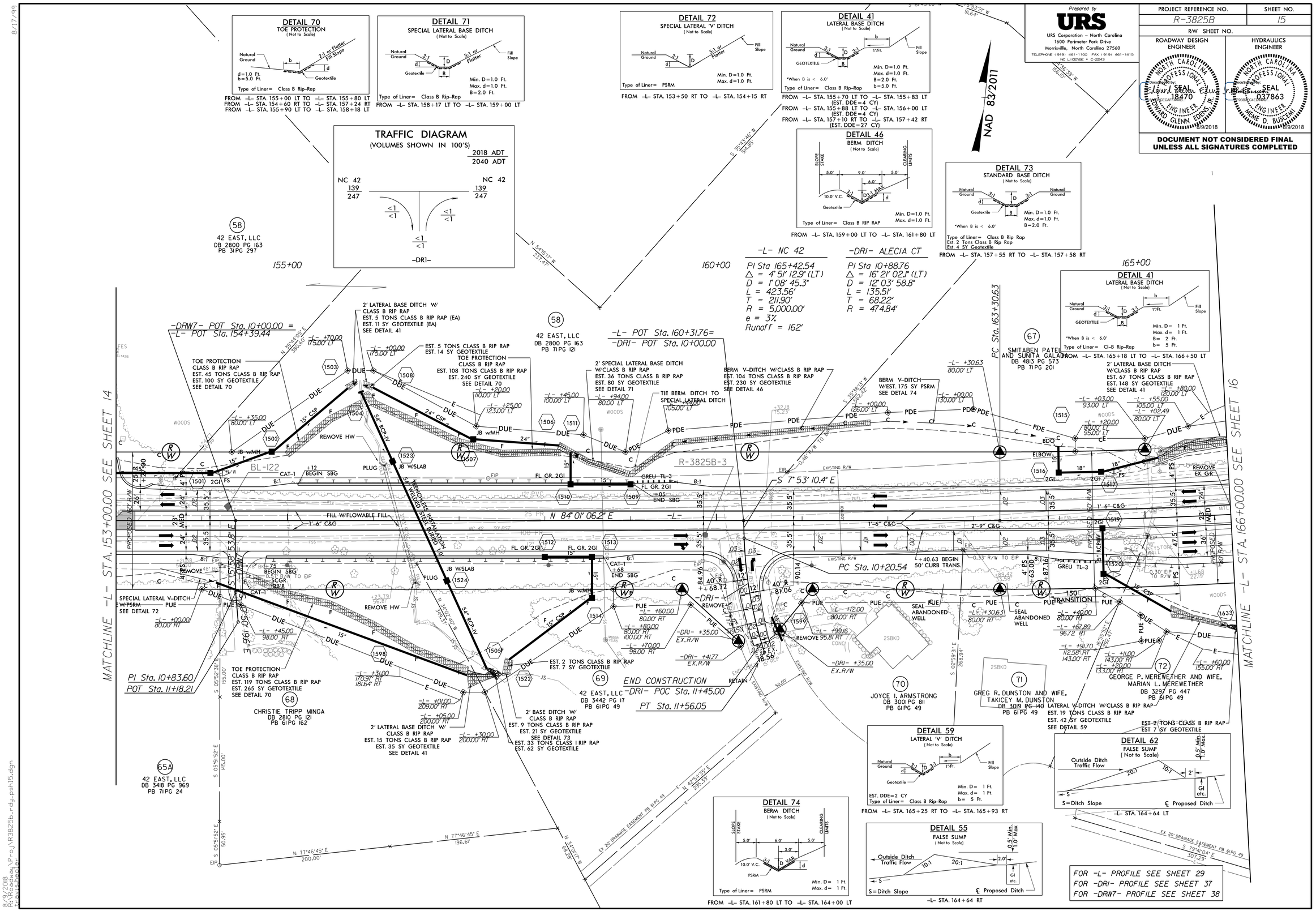

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NC LICENSE # C-2243

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	15
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
DocuSigned by: Howard Glenn Edens Jr.
SEAL 18470
NORTH CAROLINA PROFESSIONAL ENGINEER HOWARD GLENN EDENS JR.
8/9/2018

HYDRAULICS ENGINEER
DocuSigned by: Renee D. Buscemi
SEAL 037863
NORTH CAROLINA PROFESSIONAL ENGINEER RENEE D. BUSCEMI
8/9/2018

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bkaufman

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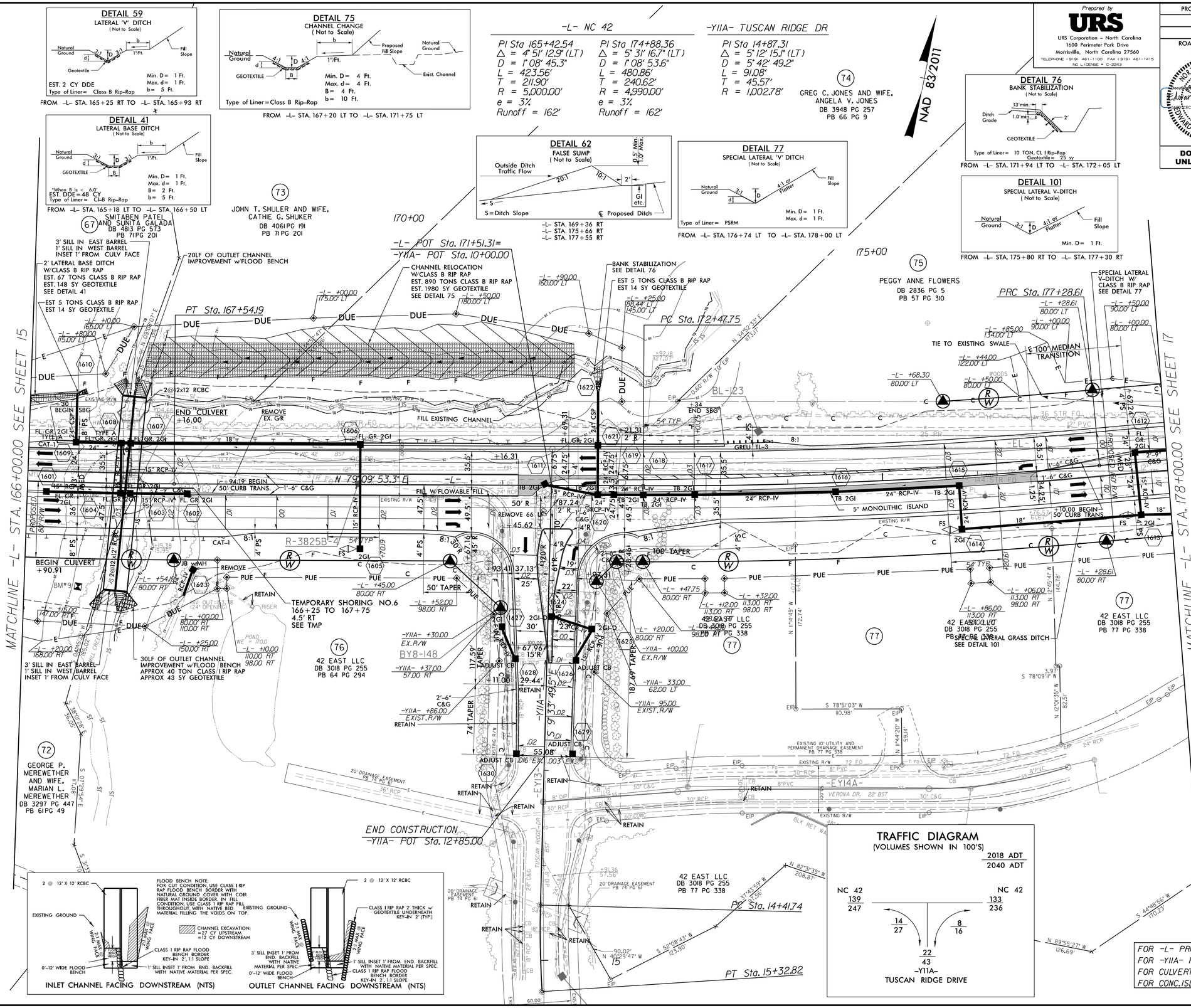

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DocuSigned by: Howard Glenn Edens III — SEAL 18470 — NORTH CAROLINA PROFESSIONAL ENGINEER — HOWARD GLENN EDENS, JR. — 8/9/2018

DocuSigned by: Heme D. Buscemi — SEAL 037863 — NORTH CAROLINA PROFESSIONAL ENGINEER — HEME D. BUSCEMI — 8/9/2018

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jbaker

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDDINS JR.
DocuSigned by: Edward Glenn Eddins Jr. 8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER RENE D. BUSCEMI
DocuSigned by: 8/9/2018

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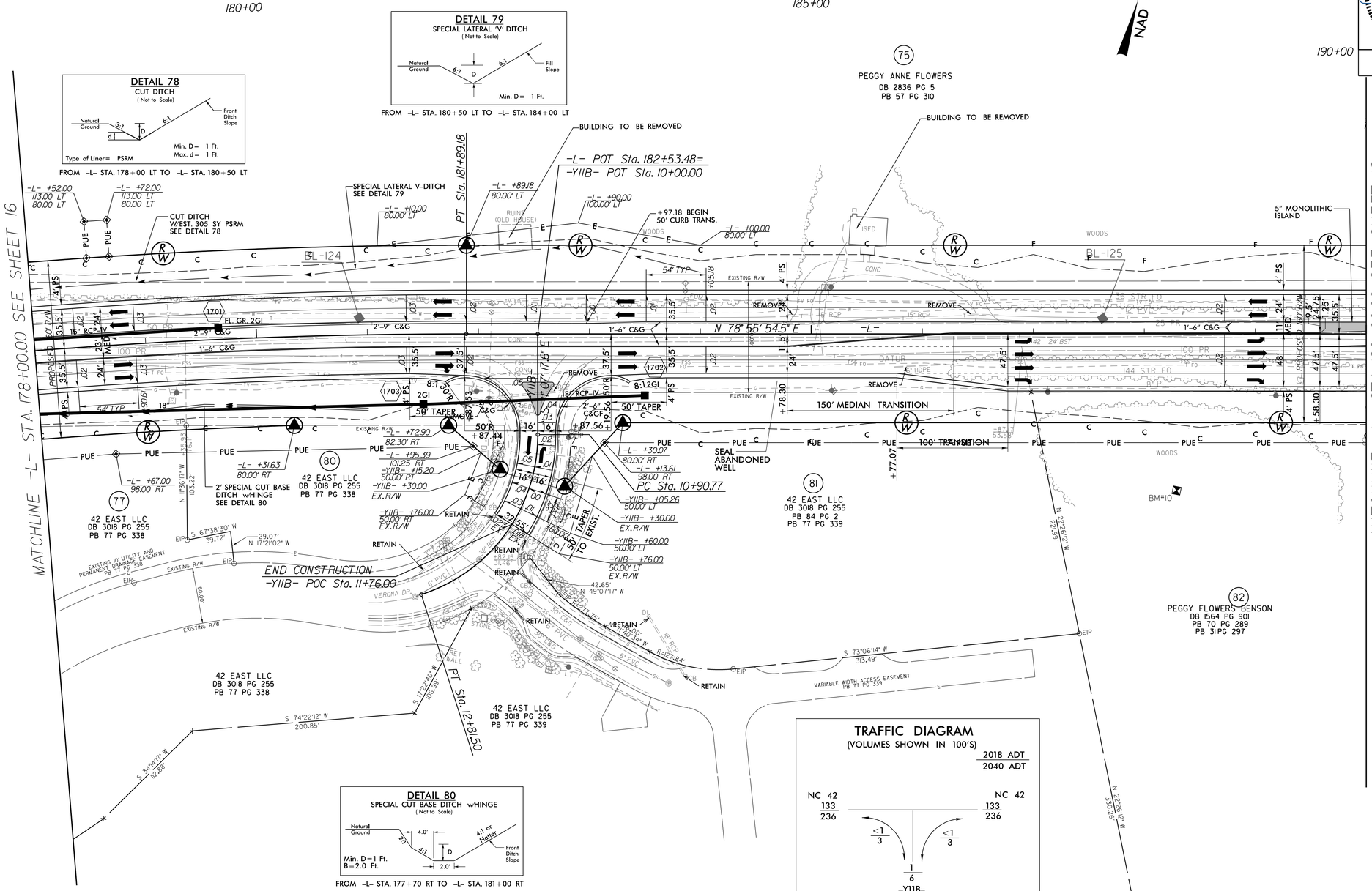
NAD 83/2011

-L- NC 42
PI Sta 179+59.06
△ = 5° 17' 17.9" (RT)
D = 1° 08' 53.6"
L = 460.57'
T = 230.45'
R = 4,990.00'
e = 3%
Runoff = 162'

-Y11B- VERONA DR
PI Sta 12+01.17
△ = 72° 15' 26.8" (RT)
D = 37° 53' 05.4"
L = 190.73'
T = 110.40'
R = 151.24'



DETAIL 80
SPECIAL CUT BASE DITCH wHINGE
(Not to Scale)
Natural Ground
4:1 or Flatter
Front Ditch Slope
Min. D = 1 Ft.
B = 2.0 Ft.
FROM -L- STA. 177+70 RT TO -L- STA. 181+00 RT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

	2018 ADT / 2040 ADT
NC 42	133 / 236
NC 42	133 / 236
-Y11B- VERONA DRIVE	1 / 6
≤	1 / 3
≤	1 / 3

FOR -L- PROFILE SEE SHEET 30
FOR -Y11B- PROFILE SEE SHEET 35
FOR CONC.ISLAND DETAILS SEE SHEET 2B-5

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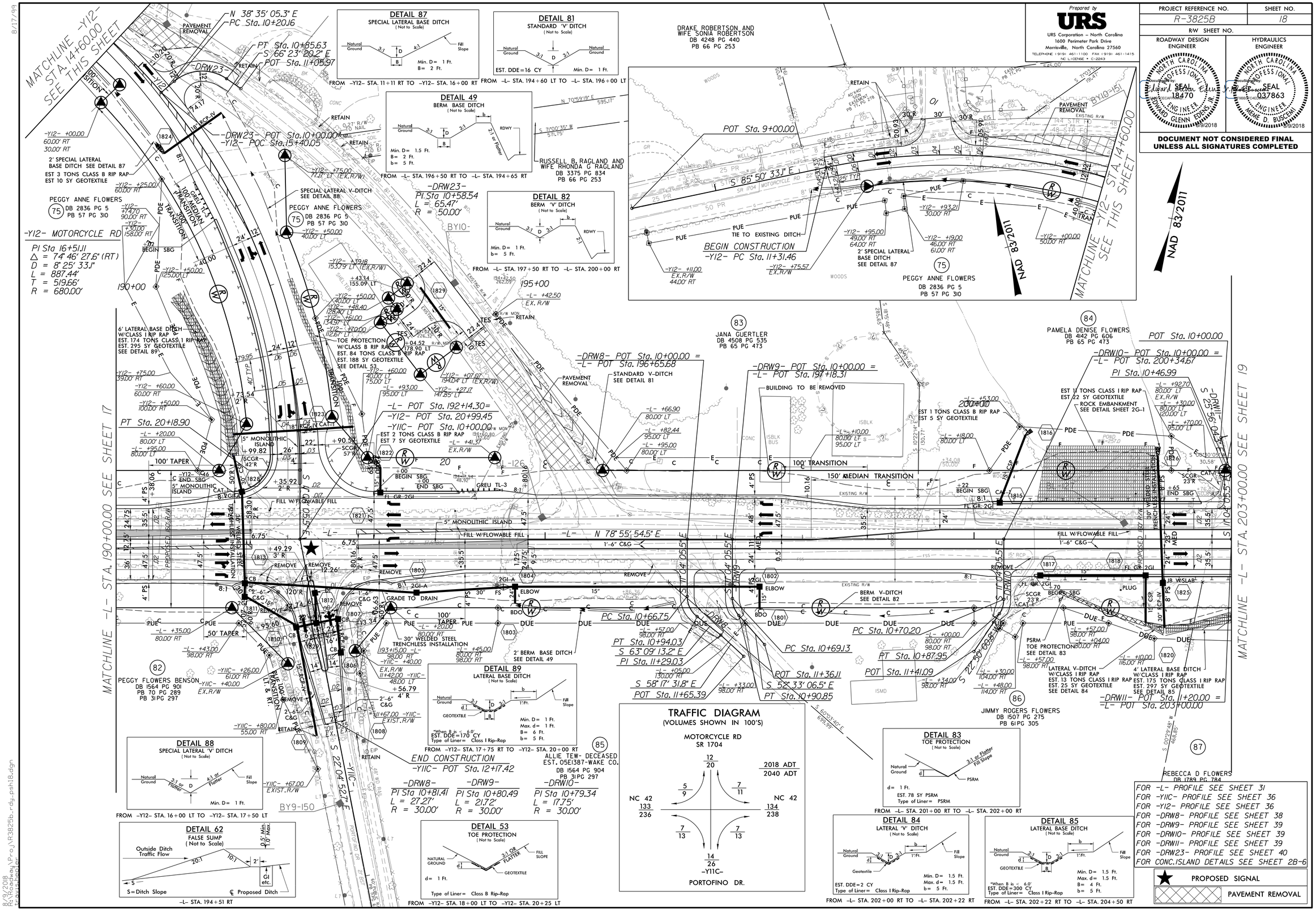

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	18
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
Docusigned by: Edward Glenn Edens III
PE-2ECAE4B0B4F4A0...
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
8/9/2018

HYDRAULICS ENGINEER
Docusigned by: Meme D. Buscemi
9B8E2C6E...
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
8/9/2018

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	19
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
DocuSigned by: Edward Glenn Edens III
SEAL 18470
NORTH CAROLINA PROFESSIONAL ENGINEER EDWARD GLENN EDENS, JR.
8/9/2018

HYDRAULICS ENGINEER
DocuSigned by: Renee D. Buscemi
SEAL 037863
NORTH CAROLINA PROFESSIONAL ENGINEER RENEE D. BUSCEMI
8/9/2018

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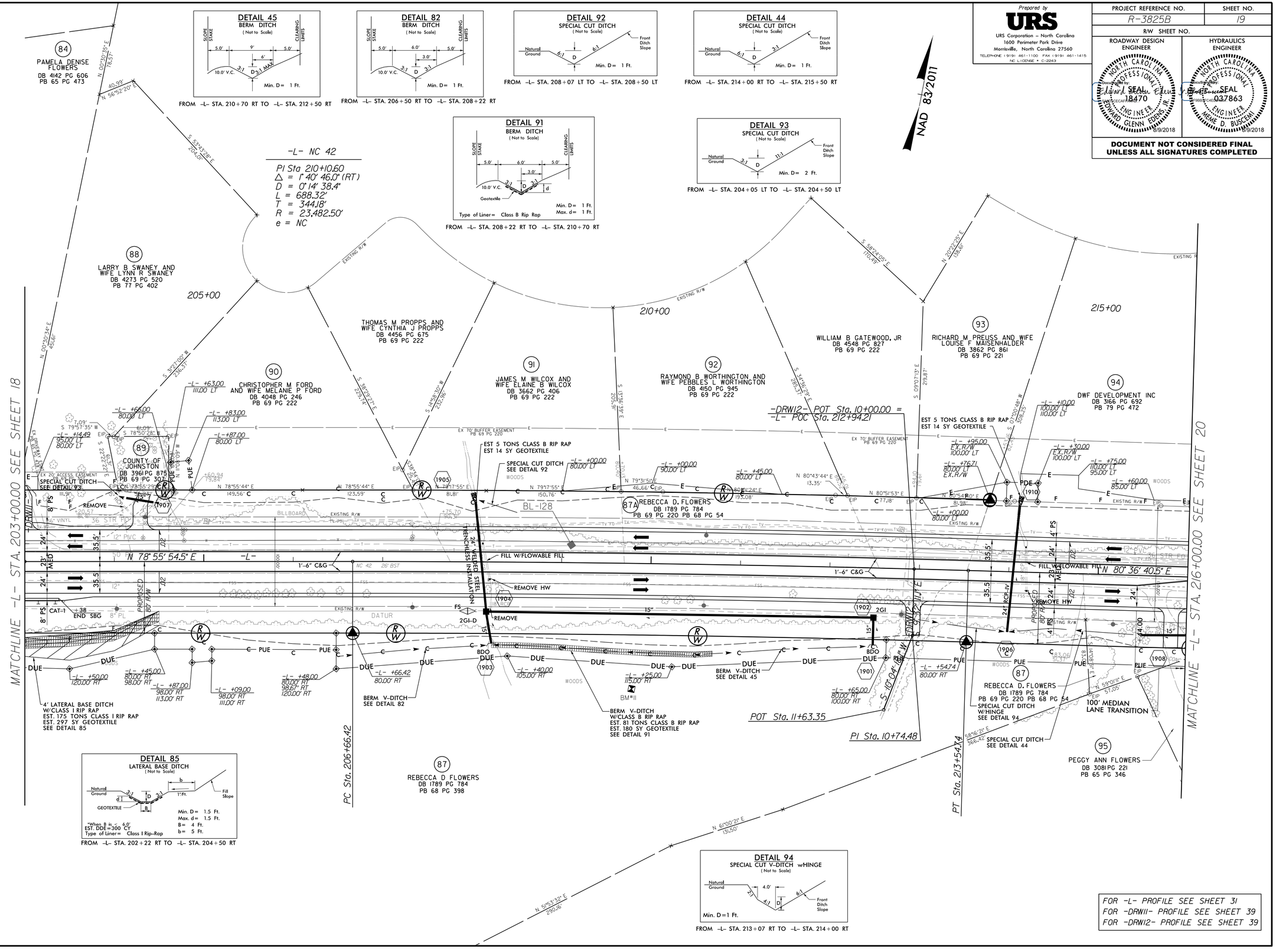

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DETAIL 95
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)

FROM -L- STA. 222+27 LT TO -L- STA. 228+00 LT

DETAIL 96
LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 228+00 LT TO -L- STA. 229+72 LT

DETAIL 97
LATERAL BASE DITCH
(Not to Scale)

FROM -L- STA. 228+60 RT TO -L- STA. 231+10 RT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

2018 ADT
2040 ADT

—Y12A—
FLOWERS PKWY

-Y12A- FLOWERS PKWY

PI Sta 11+21.34
△ = 38° 28' 14.5" (LT)
D = 16° 28' 36.2"
L = 233.49'
T = 121.34'
R = 347.74'

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR. — 8/9/2018
HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER JEROME D. BUSCEMI — 8/9/2018

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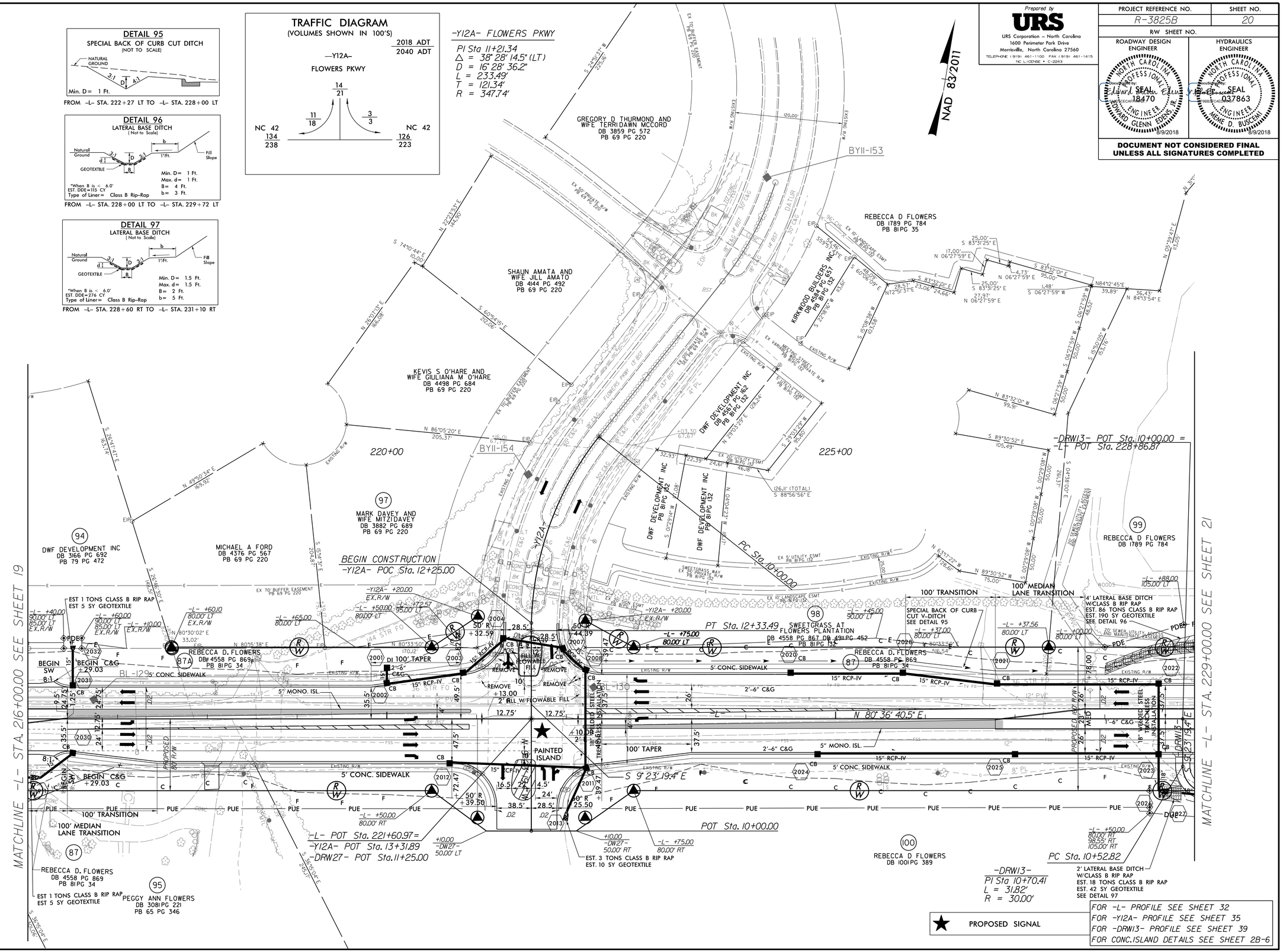

FOR -L- PROFILE SEE SHEET 32
FOR -Y12A- PROFILE SEE SHEET 35
FOR -DRWI3- PROFILE SEE SHEET 39
FOR CONC.ISLAND DETAILS SEE SHEET 2B-6

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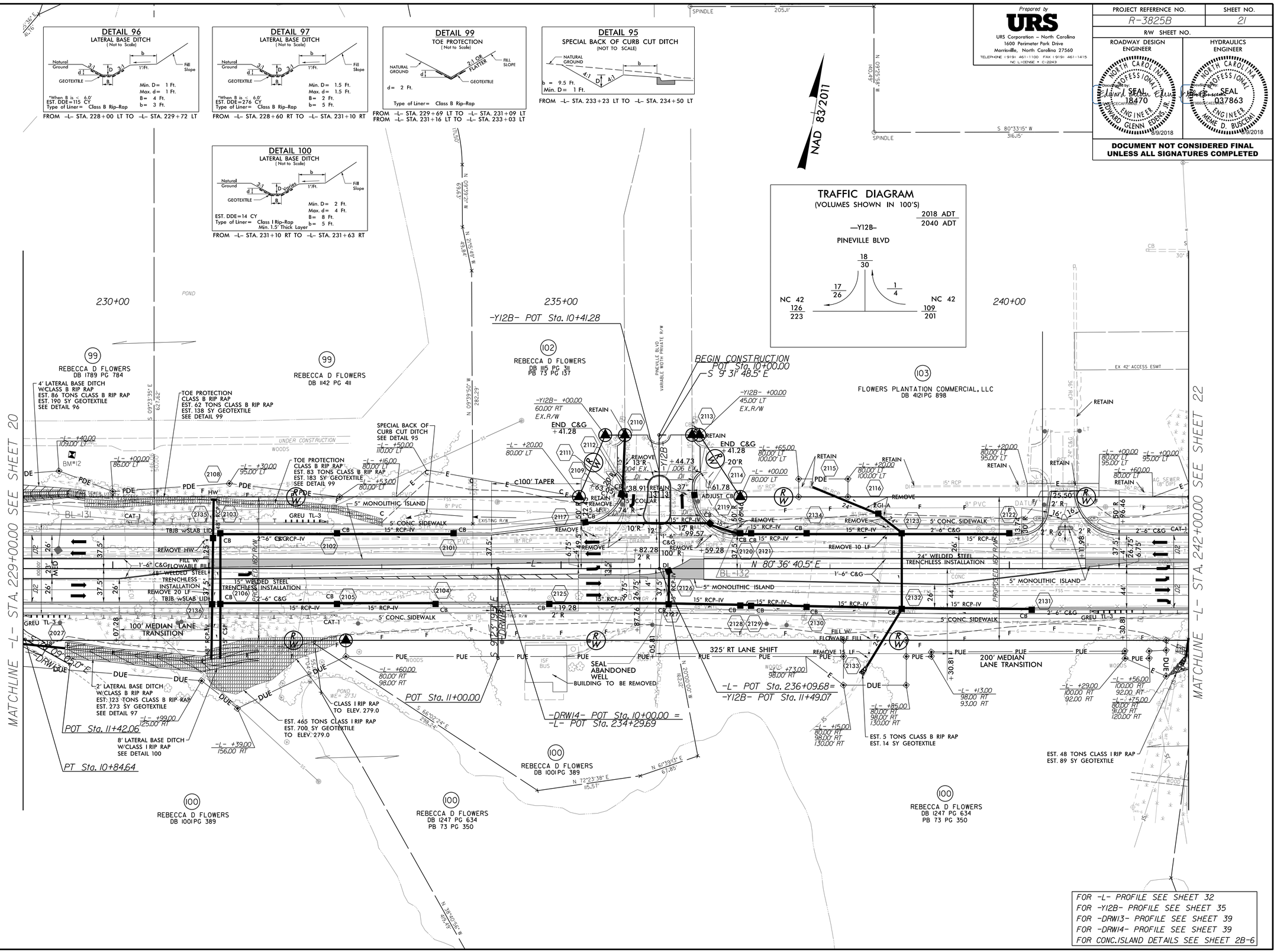

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tcaudill

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	22
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS JR.
DocuSigned by: Edward Glenn Edens Jr. 8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER PIERRE D. BUSCEMI
DocuSigned by: Pierre D. Buscemi 8/9/2018

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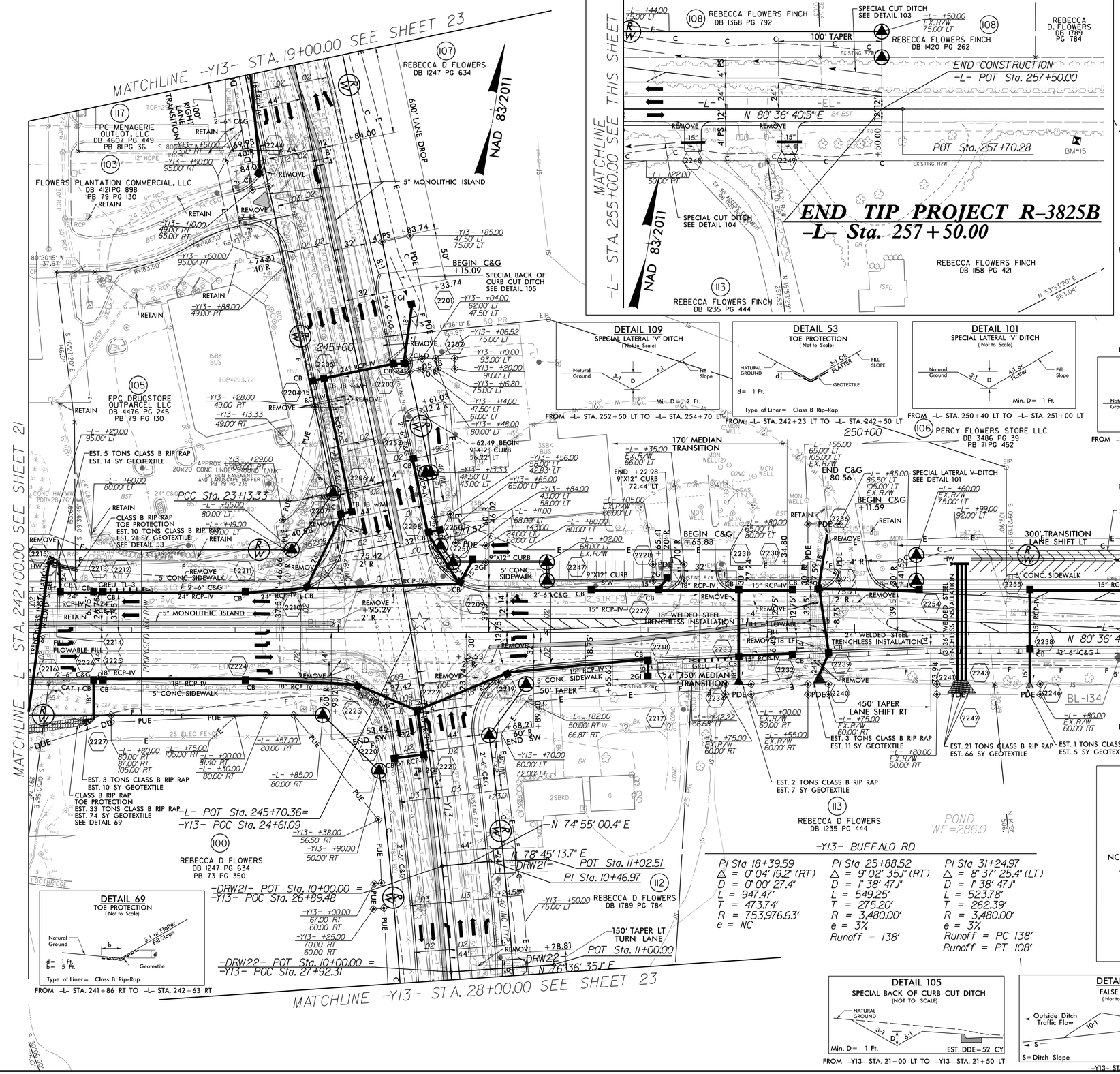
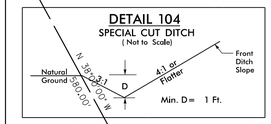
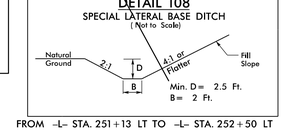


DETAIL 104
SPECIAL CUT DITCH
(Not to Scale)



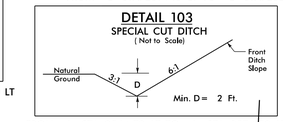
FROM -L- STA. 254+25 RT TO -L- STA. 255+50 RT

DETAIL 108
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM -L- STA. 251+13 LT TO -L- STA. 252+50 LT

DETAIL 103
SPECIAL CUT DITCH
(Not to Scale)



FROM -L- STA. 254+70 LT TO -L- STA. 257+50 LT

DETAIL 109
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -L- STA. 252+50 LT TO -L- STA. 254+70 LT

DETAIL 53
TOE PROTECTION
(Not to Scale)

FROM -L- STA. 242+23 LT TO -L- STA. 242+50 LT

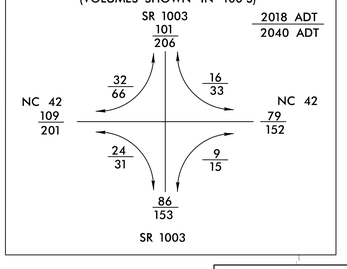
DETAIL 101
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM -L- STA. 250+40 LT TO -L- STA. 251+00 LT

DETAIL 69
TOE PROTECTION
(Not to Scale)

FROM -L- STA. 241+86 RT TO -L- STA. 242+63 RT

TRAFFIC DIAGRAM
(VOLUMES SHOWN IN 100'S)

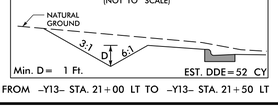


PI Sta 18+39.59
Δ = 0° 04' 19.2" (RT)
D = 0° 00' 27.4"
L = 947.47'
T = 473.74'
R = 753,976.63'
e = NC

PI Sta 25+88.52
Δ = 9° 02' 35.1" (RT)
D = 1° 38' 47.1"
L = 549.25'
T = 275.20'
R = 3,480.00'
e = 3%
Runoff = 138'

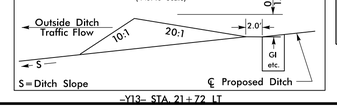
PI Sta 31+24.97
Δ = 8° 37' 25.4" (LT)
D = 1° 38' 47.1"
L = 523.78'
T = 262.39'
R = 3,480.00'
e = 3%
Runoff = PC 138'
Runoff = PT 108'

DETAIL 105
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



FROM -Y13- STA. 21+00 LT TO -Y13- STA. 21+50 LT

DETAIL 55
FALSE SUMP
(Not to Scale)



-Y13- STA. 21+72 LT

FOR -L- PROFILE SEE SHEET 33
FOR -Y13- PROFILE SEE SHEET 36
FOR -DRW21- PROFILE SEE SHEET 40
FOR -DRW22- PROFILE SEE SHEET 40
FOR CONC.ISLAND DETAILS SEE SHEET 2B-6

☆ EXISTING SIGNAL (SIGNAL MOD. REQUIRED)

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NC LICENSE # C-2243

PROJECT REFERENCE NO.	SHEET NO.
R-3825B	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
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NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER REMME D. BUSCEMI
DocuSigned by: 8/9/2018

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-Y13- BUFFALO RD

PI Sta 11+82.97
△ = 3° 02' 15.7" (RT)
D = 0° 49' 49.1"
L = 365.85'
T = 182.97'
R = 6,900.57'

PI Sta 18+39.59
△ = 0° 04' 19.2" (RT)
D = 0° 00' 27.4"
L = 947.47'
T = 473.74'
R = 753,976.63'
e = NC

NAD 83/2011

-Y13- BUFFALO RD

PI Sta 31+24.97
△ = 8° 37' 25.4" (LT)
D = 1° 38' 47.1"
L = 523.78'
T = 262.39'
R = 3,480.00'
e = 3%
Runoff = PC 138'
Runoff = PT 108'

PI Sta 36+48.41
△ = 4° 54' 58.8" (LT)
D = 1° 43' 03.0"
L = 286.25'
T = 143.21'
R = 3,336.00'
e = 3% / MATCH EXIST.
Runoff = 108'

BEGIN CONSTRUCTION
-Y13- POC Sta. 14+83.74

END CONSTRUCTION
-Y13- POC Sta. 35+70.00

MATCHLINE -Y13- STA. 19+00.00 SEE SHEET 22

MATCHLINE -Y13- STA. 28+00.00 SEE SHEET 22

107 REBECCA D FLOWERS DB 1247 PG 634

113 REBECCA D FLOWERS DB 1235 PG 444

113 REBECCA D FLOWERS DB 1789 PG 784

112 REBECCA D FLOWERS DB 1789 PG 784

100 REBECCA D FLOWERS DB 1247 PG 634

116 FPC PHASE 1 LLC DB 4377 PG 511 PB 79 PG 21

103 FLOWERS PLANTATION COMMERCIAL, LLC DB 4121 PG 898 PB 79 PG 130

117 FPC MENAGERIE OUTLOT, LLC DB 4607 PG 449 PB 81 PG 36

600' LANE DROP

RETAIN EX. ISLAND IN DRIVE

100' MEDIAN LANE TRANSITION

150' RT EOP TAPER

5" MONOLITHIC ISLAND

100' RIGHT LANE TRANSITION

150' TRANSITION LT TURN LANE

200' TRANSITION LANE SHIFT RT & LT

SPECIAL ROADWAY DITCH SEE DETAIL 106

SPECIAL LATERAL V-DITCH SEE DETAIL 101

SPECIAL ROADWAY DITCH SEE DETAIL 107

EST. 2 TONS CLASS B RIP RAP
EST. 7 SY GEOTEXTILE

150' TRANSITION

TIE BACK TO EXISTING DITCH

PT Sta. 33+86.36

PC Sta. 35+05.20

PRC Sta. 28+62.58

PCC Sta. 13+65.85

DETAIL 106
SPECIAL ROADWAY DITCH
(Not to Scale)

Natural Ground, 3:1, 4:1, Shoulder Point, 3.0', VARIES

FROM -Y13- STA. 29+00 RT TO -Y13- STA. 29+50 RT
FROM -Y13- STA. 30+50 RT TO -Y13- STA. 34+00 RT
FROM -Y13- STA. 28+15 LT TO -Y13- STA. 29+00 LT

DETAIL 107
SPECIAL ROADWAY DITCH
(Not to Scale)

Natural Ground, 3:1, 4:1, Shoulder Point, VARIES, 4.0'

FROM -Y13- STA. 31+50 LT TO -Y13- STA. 32+00 LT

DETAIL 101
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 3:1, D, 4:1 or Flatter, Fill Slope

Min. D = 1 Ft.

FROM -Y13- STA. 29+50 RT TO -Y13- STA. 30+50 RT
FROM -Y13- STA. 34+00 RT TO -Y13- STA. 36+96 RT
FROM -Y13- STA. 29+00 LT TO -Y13- STA. 29+25 LT
FROM -Y13- STA. 32+00 LT TO -Y13- STA. 33+16 LT

FOR -Y13- PROFILE SEE SHEET 37

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	24

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
DocuSigned by: Edward Glenn Edens, Jr. 3/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
DocuSigned by: Meme Buscemi 3/9/2018

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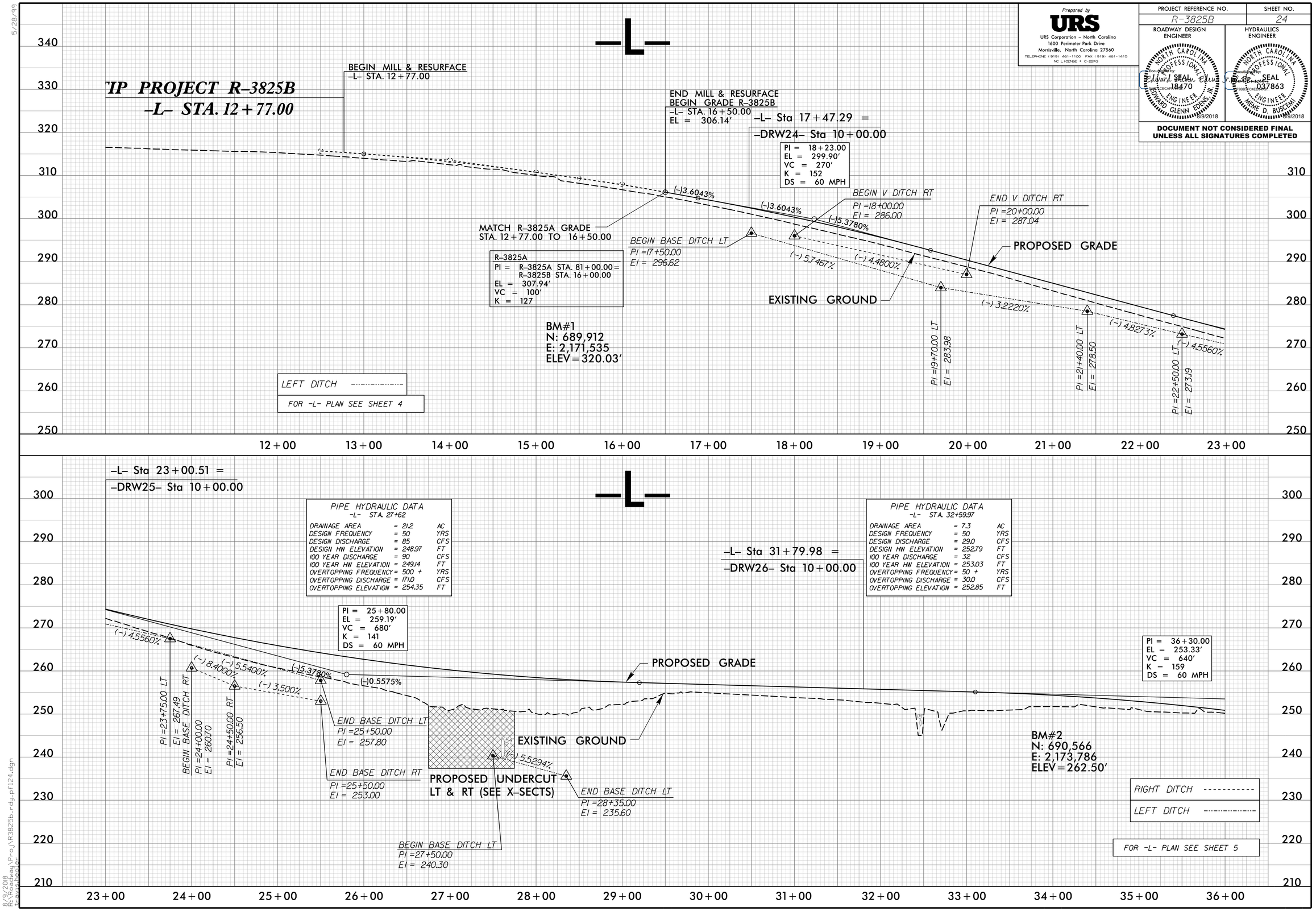

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ttwombly

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	25

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
DocuSigned by: Edward Glenn Edens, Jr.
5/8/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
DocuSigned by: Meme Buscemi
5/8/2018

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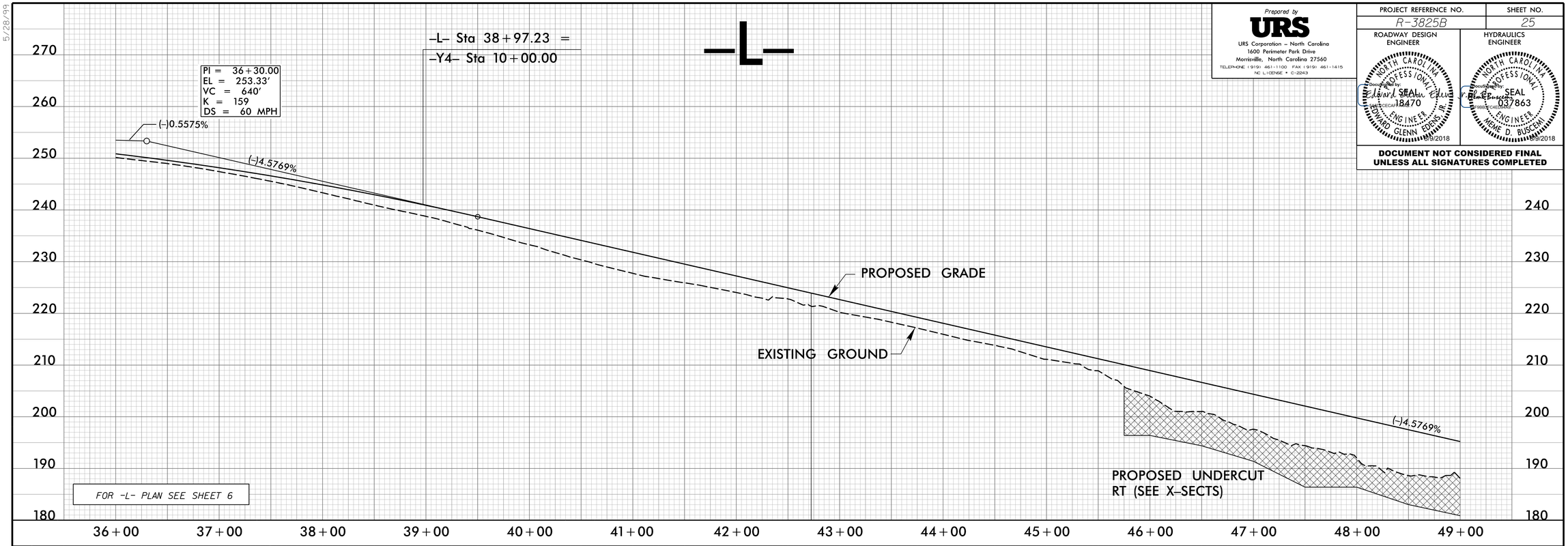

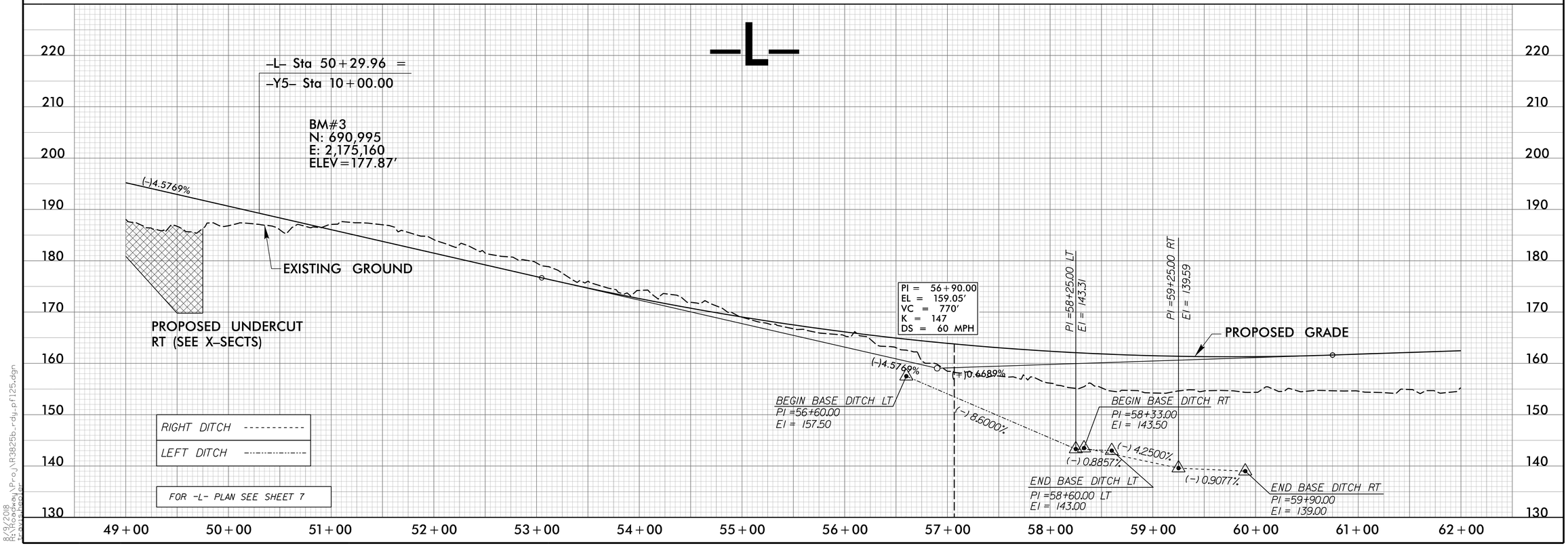

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	26

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.
DocuSigned by: Edward Glenn Edens, Jr. 5E9BB3C0E0B4AB...
8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
DocuSigned by: Meme D. Buscemi 7F9B8B2C8E0B4AC...
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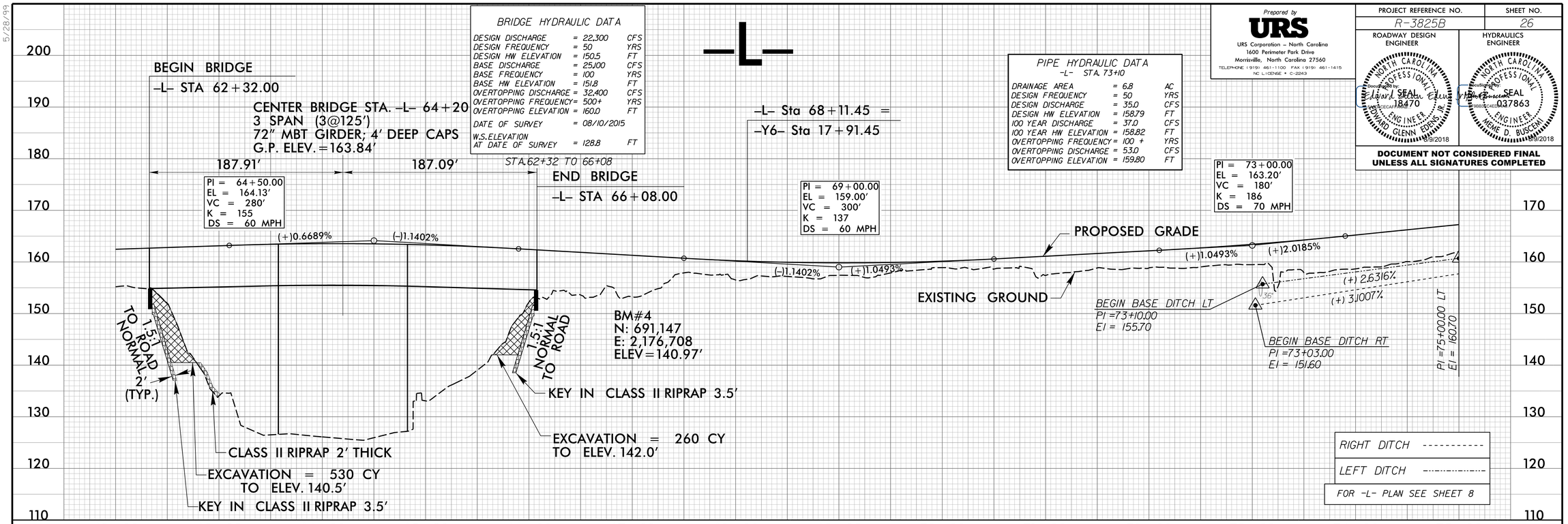

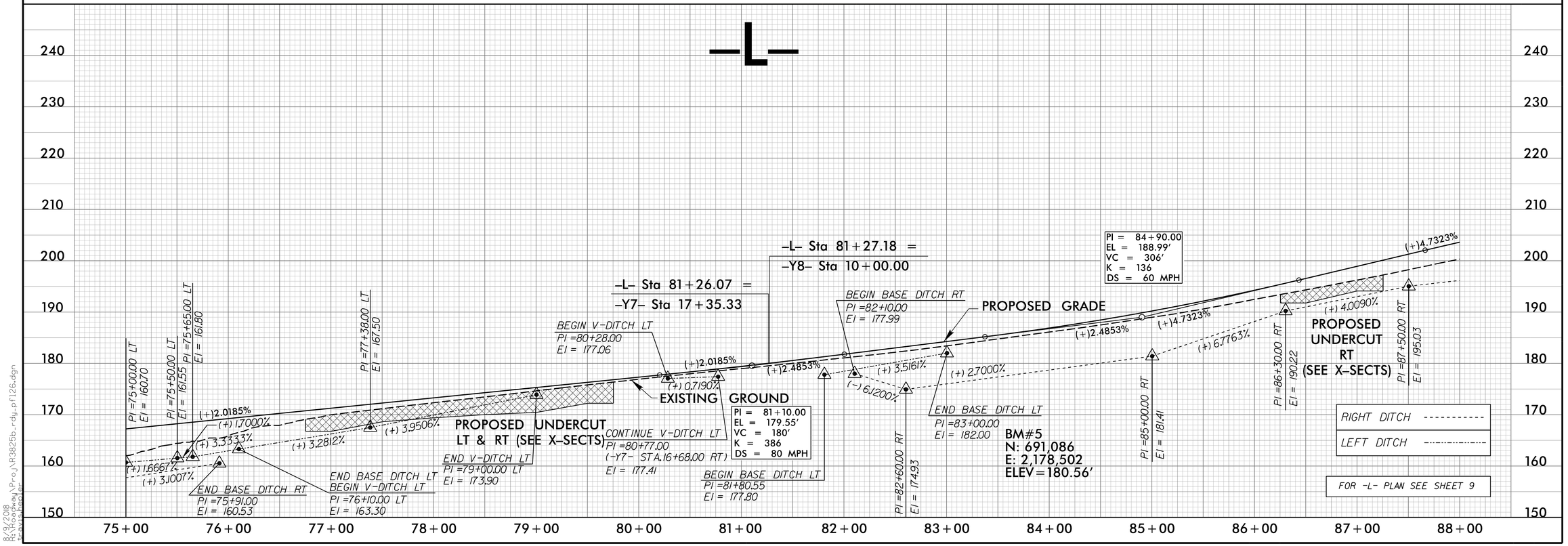

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	27

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR. — 8/9/2018

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI — 8/9/2018

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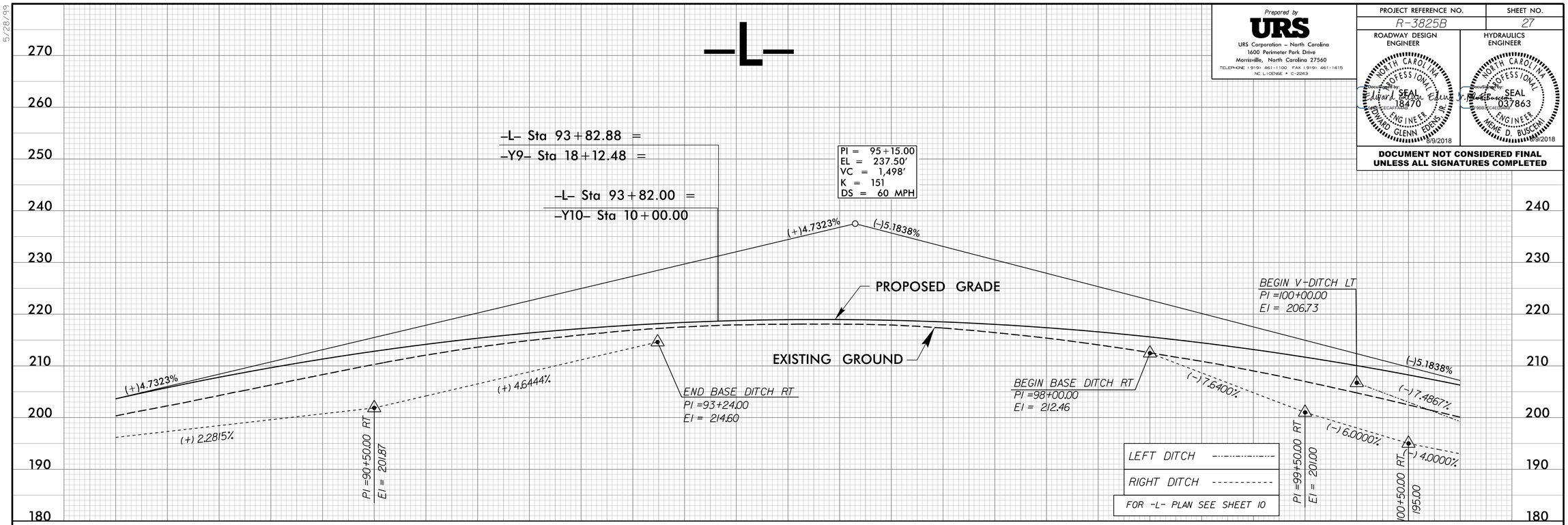

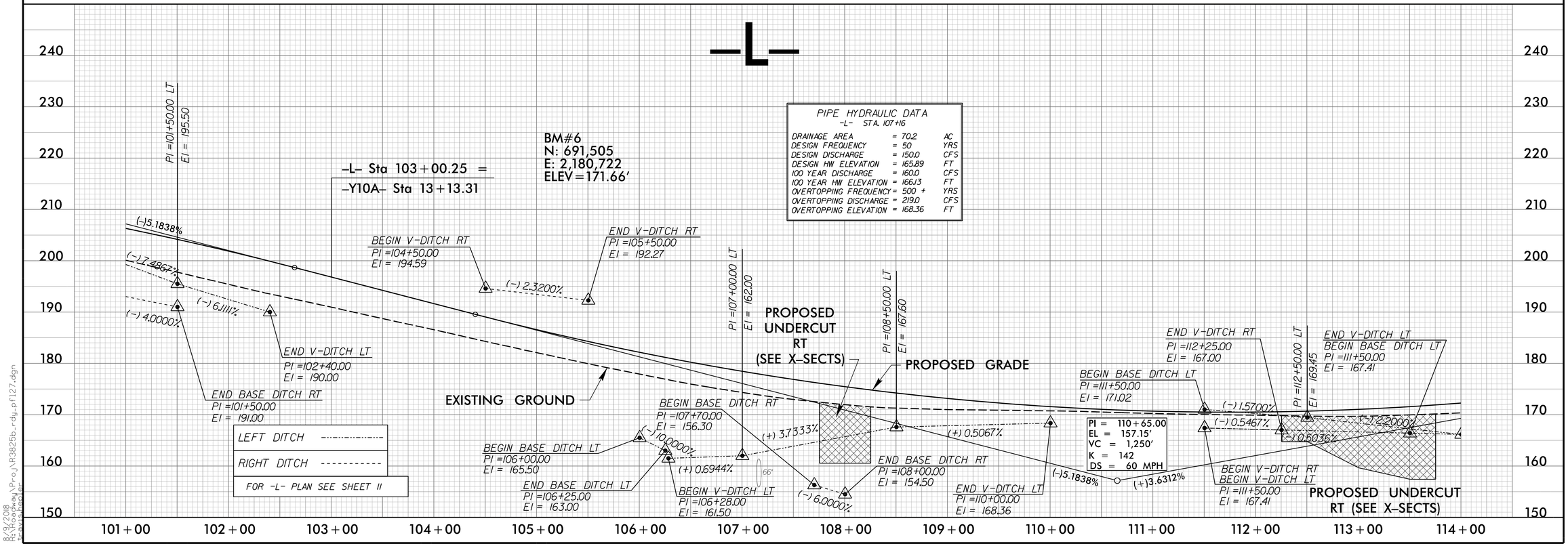

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R-3825B	28

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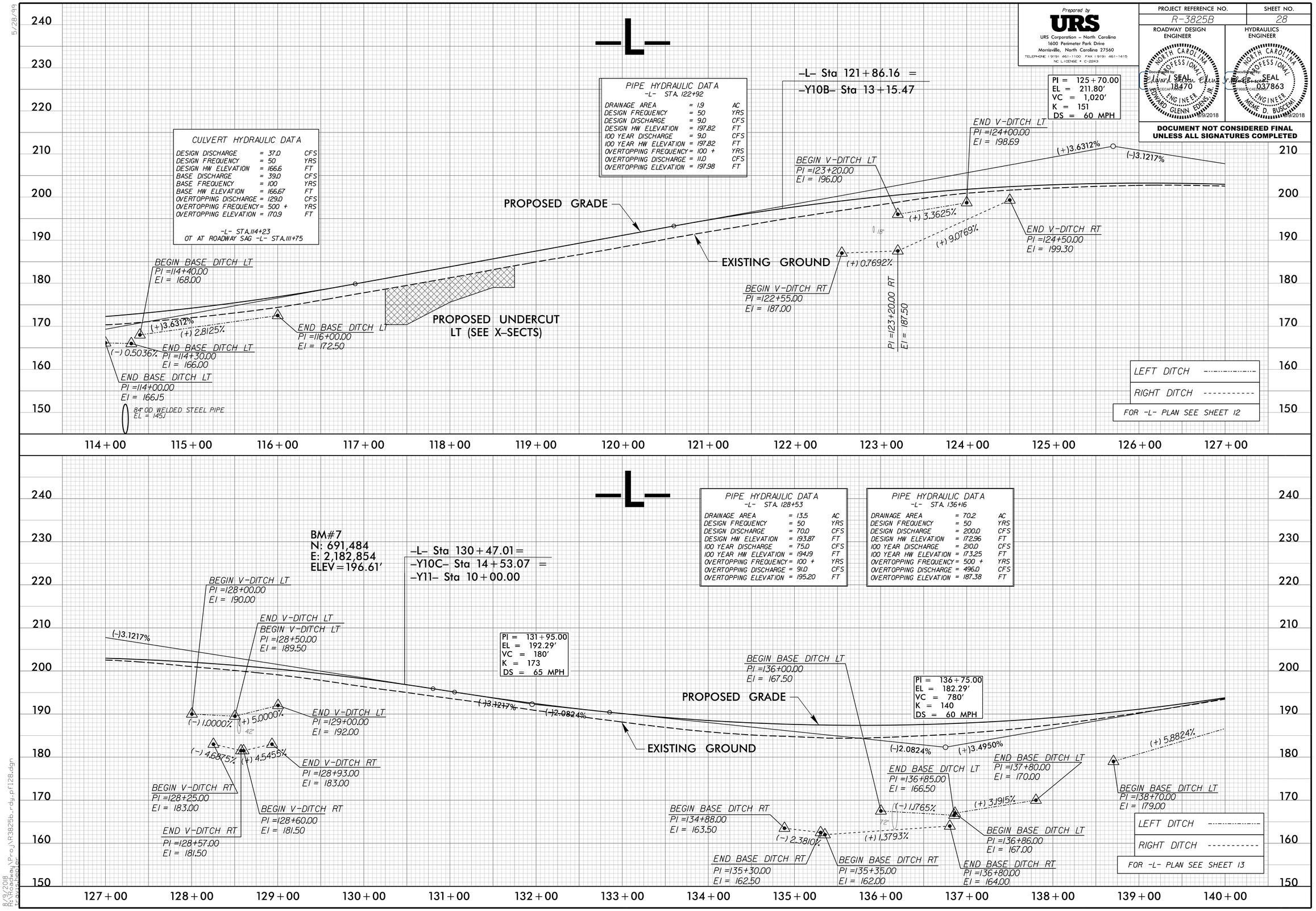

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	29

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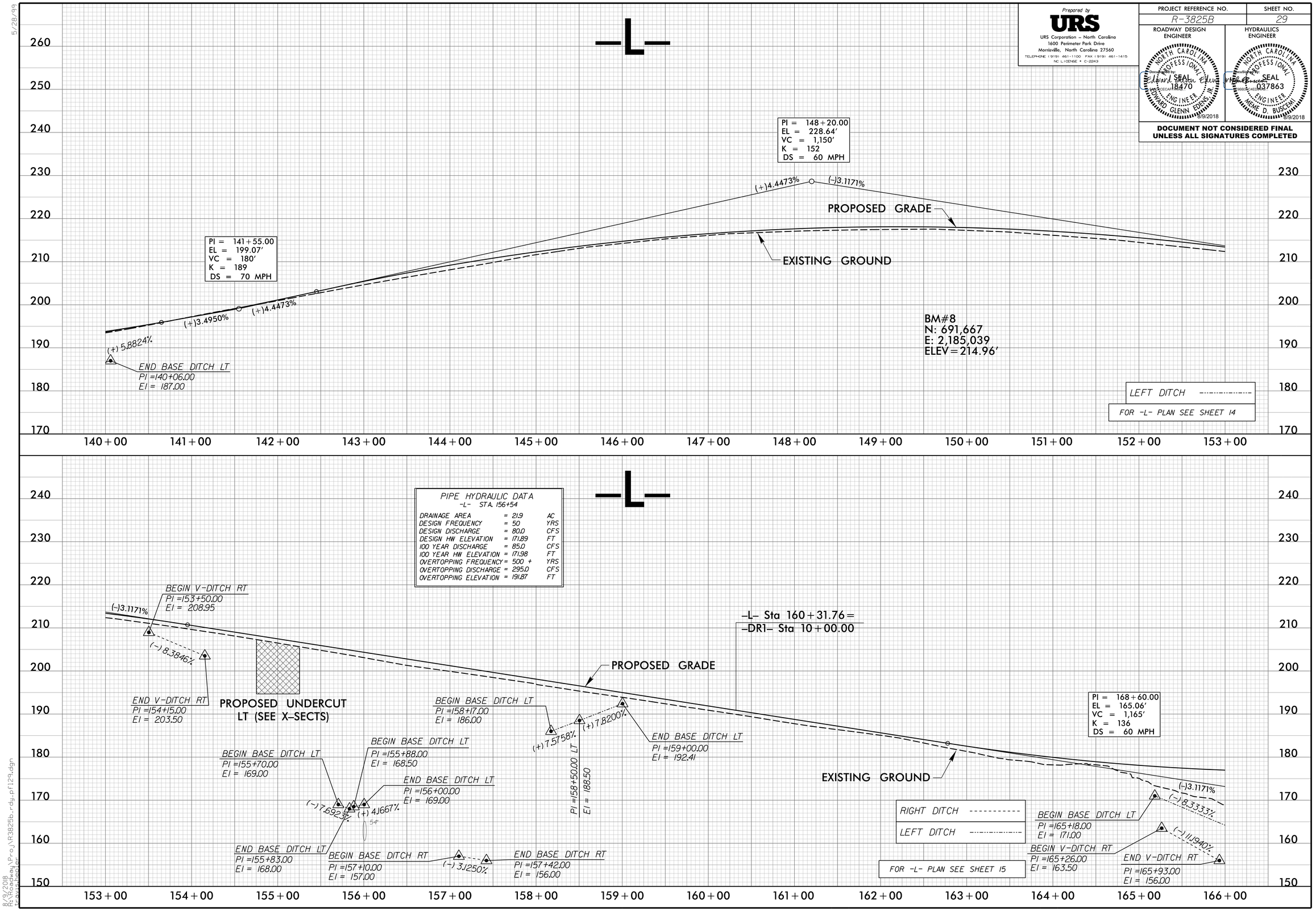

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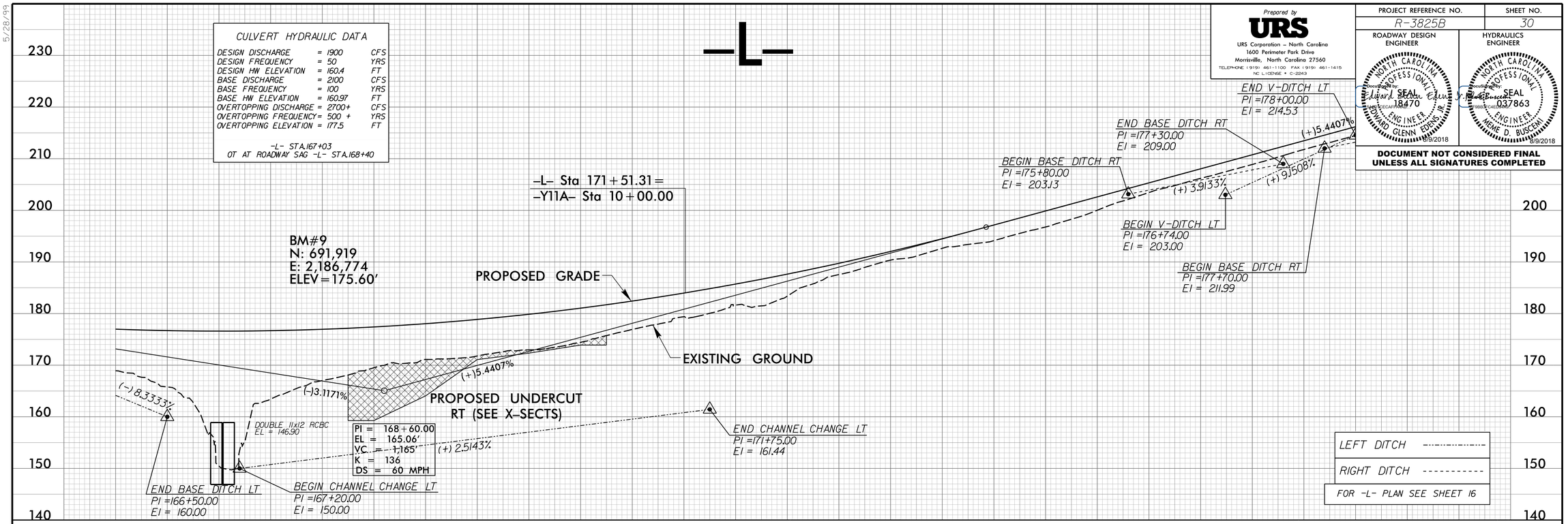

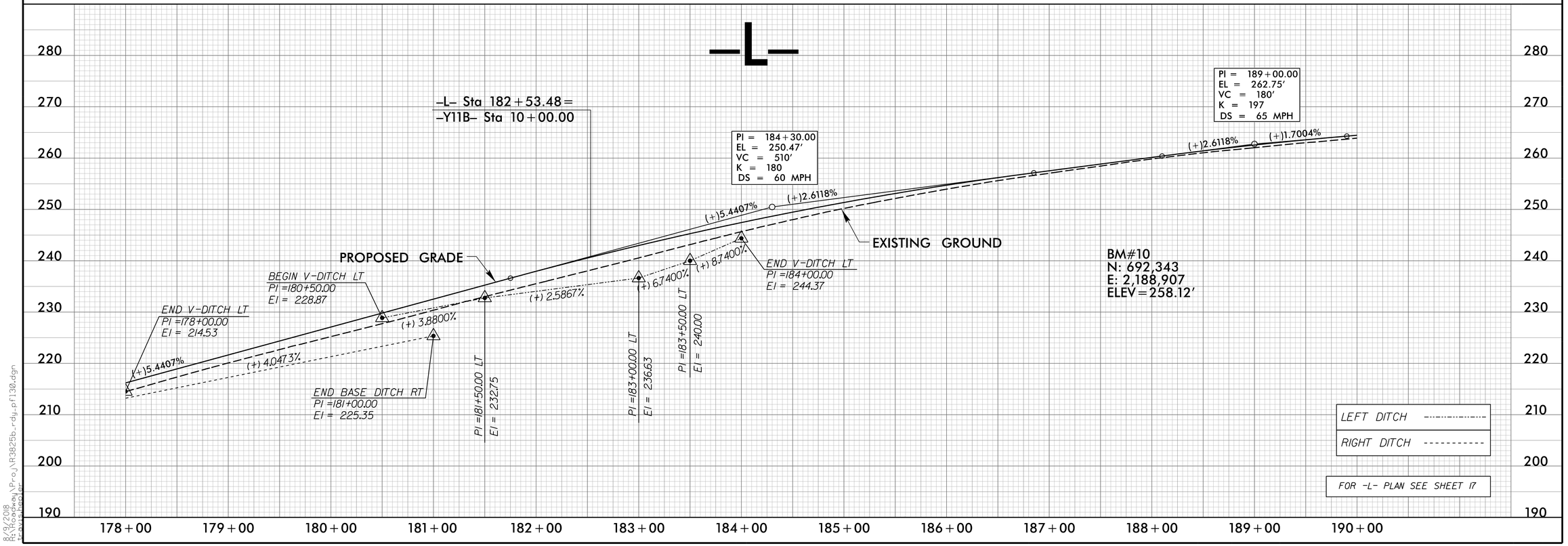

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	31

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DocuSigned by: Meme Buscemi
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-L-

-L- Sta 192+14.30 =
-Y11C- Sta 10+00.00
-Y12- Sta 20+99.45

PIPE HYDRAULIC DATA
-L- STA. 202+18

DRAINAGE AREA	= 11.5	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 30.0	CFS
DESIGN HW ELEVATION	= 268.36	FT
100 YEAR DISCHARGE	= 32.0	CFS
100 YEAR HW ELEVATION	= 268.52	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 100.0	CFS
OVERTOPPING ELEVATION	= 281.04	FT

BEGIN V-DITCH RT
PI =197+50.00
EI = 280.73

END V-DITCH RT
PI =200+00.00
EI = 283.32

END BASE DITCH RT
PI =196+50.00
EI = 275.80

BEGIN BASE DITCH RT
PI =194+65.00
EI = 271.00

BEGIN V-DITCH LT
PI =194+60.00
EI = 270.00

END V-DITCH LT
PI =196+00.00
EI = 271.54

BEGIN V-DITCH RT
PI =202+00.00
EI = 266.61

END V-DITCH RT
BEGIN BASE DITCH RT
PI =202+22.00
EI = 265.50

PROPOSED GRADE
EXISTING GROUND
(+)1.7004%
(+)2.5946%
(+)1.1000%
(+)1.0360%
(+)1.7004%
(+)9.0657%
(-)5.0455%

LEFT DITCH
RIGHT DITCH
FOR -L- PLAN SEE SHEET 18

-L-

PIPE HYDRAULIC DATA
-L- STA. 214+05

DRAINAGE AREA	= 3.7	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 10.0	CFS
DESIGN HW ELEVATION	= 304.17	FT
100 YEAR DISCHARGE	= 11.0	CFS
100 YEAR HW ELEVATION	= 304.35	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 32.0	CFS
OVERTOPPING ELEVATION	= 306.96	FT

PI = 204+00.00
EL = 288.26'
VC = 180'
K = 557
DS = 80 MPH

PI = 211+00.00
EL = 302.42'
VC = 180'
K = 722
DS = 80 MPH

PI = 215+20.00
EL = 309.87'
VC = 360'
K = 263
DS = 70 MPH

BEGIN BERM V-DITCH RT
PI =206+50.00
EI = 306.97

END BERM V-DITCH RT
PI =208+22.00
EI = 303.10

BEGIN V-DITCH LT
PI =204+00.00
EI = 285.00

END V-DITCH LT
PI =204+15.00
EI = 285.51

END BASE DITCH RT
PI =204+50.00
EI = 286.17

PI =204+00.00 RT
EI = 281.64

BEGIN V-DITCH LT
PI =208+07.00
EI = 290.60

END V-DITCH LT
PI =208+50.00
EI = 294.25

BM#11
N: 692,755
E: 2,191,016
ELEV = 316.27'

BEGIN V-DITCH RT
PI =213+07.00
EI = 302.84

END V-DITCH RT
BEGIN V-DITCH RT
PI =214+00.00
EI = 302.56

PI =214+50.00 RT
EI = 304.24

END V-DITCH RT
PI =215+50.00
EI = 304.60

PROPOSED GRADE
EXISTING GROUND
(+)1.7004%
(+)2.0234%
(+)2.4000%
(+)9.0660%
(+)9.0657%
(-)2.2500%
(+)1.6516%
(+)2.0234%
(+)1.7739%
(-)0.3000%
(+)3.3600%
(+)1.7739%
(+)0.4071%

LEFT DITCH
RIGHT DITCH
FOR -L- PLAN SEE SHEET 19

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	32

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NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS JR.
DocuSigned by: Edward Glenn Edens Jr. 8/9/2018

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NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
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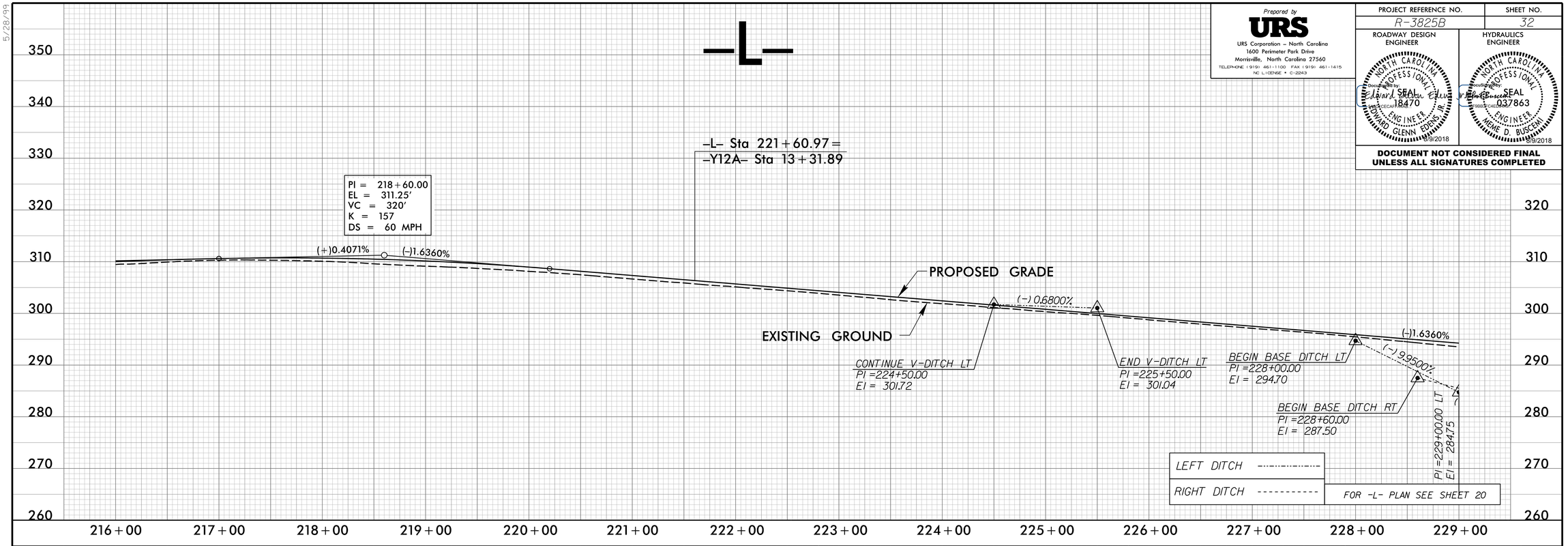

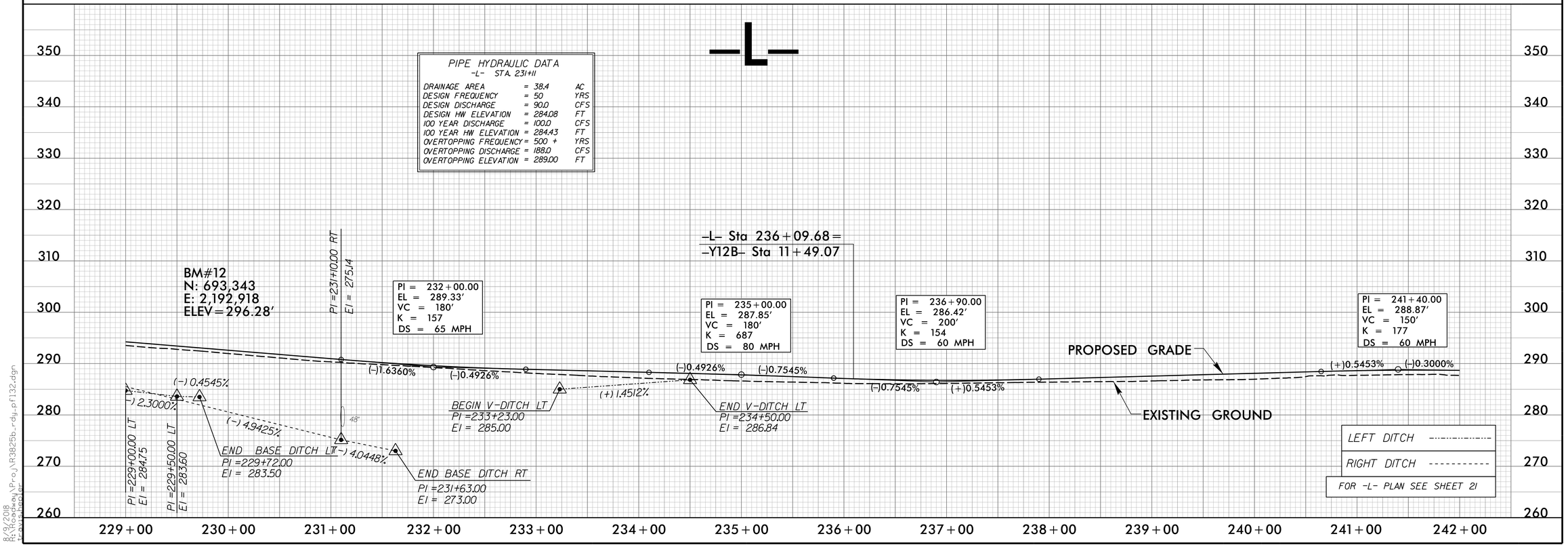

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	33

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LEFT DITCH
RIGHT DITCH

–L–

PIPE HYDRAULIC DATA –L– STA. 242+11		
DRAINAGE AREA	= 26.8	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 130.0	CFS
DESIGN HW ELEVATION	= 281.97	FT
100 YEAR DISCHARGE	= 140.0	CFS
100 YEAR HW ELEVATION	= 282.41	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 338.0	CFS
OVERTOPPING ELEVATION	= 288.49	FT

PIPE HYDRAULIC DATA –L– STA. 251+05		
DRAINAGE AREA	= 42.3	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 120.0	CFS
DESIGN HW ELEVATION	= 289.87	FT
100 YEAR DISCHARGE	= 130.0	CFS
100 YEAR HW ELEVATION	= 289.81	FT
OVERTOPPING FREQUENCY	= 10 +	YRS
OVERTOPPING DISCHARGE	= 101.0	CFS
OVERTOPPING ELEVATION	= 289.30	FT

–L– Sta 245+71.94 =
–Y13– Sta 24+61.39

PI = 243+20.00
EL = 288.33'
VC = 210'
K = 174
DS = 65 MPH

PI = 246+41.00
EL = 291.23'
VC = 166'
K = 138
DS = 55 MPH

PI = 249+00.00
EL = 290.45'
VC = 150'
K = 207
DS = 75 MPH

PI = 254+00.00
EL = 292.57'
VC = 150'
K = 207
DS = 65 MPH

PROPOSED GRADE
EXISTING GROUND
(–)0.3000% (+)0.9019% (+)0.9019% (–)0.3000% (–) 0.9837% (–)0.3000% (+)0.4244% (–) 3.0000% (3) 36' (+) 0.5685% (+)0.4244% (–)0.3000% (+) 1.1752%

CONT.V-DITCH RT
PI =246+65.00
(-Y13- STA.25+32 LT)
EI = 290.07

END V-DITCH RT
PI =248+00.00
EI = 288.74

BEGIN V-DITCH LT
PI =250+40.00
EI = 288.30

END V-DITCH LT
PI =251+00.00
EI = 286.50

BEGIN BASE DITCH LT
PI =251+13.00
EI = 286.50

END BASE DITCH LT
BEGIN V-DITCH LT
PI=252+50
EL=287.28

BM#15
N: 693,674
E: 2,195,888
ELEV = 293.19'

BEGIN V-DITCH RT
PI =254+25.00
EI = 288.00

PI =255+00.00 LT
EI = 288.70

FOR -L- PLAN SEE SHEET 22

242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00

–L–

LEFT DITCH
RIGHT DITCH

END GRADE
–L– STA. 257+50.00
EL = 292.72'

PI = 255+50.00
EL = 292.12'
VC = 150'
K = 250
DS = 80 MPH

(–)0.3000% (+)0.3000% (+) 0.5200%

END V-DITCH RT
PI =255+50.00
EI = 289.47

END V-DITCH LT
PI =257+50.00
EI = 290.00

PI =255+00.00 LT
EI = 288.70

END TIP PROJECT R-3825B
–L– STA. 257+50.00

FOR -L- PLAN SEE SHEET 22

255+00 256+00 257+00

–Y4–

–Y4– STA. 10+00.00 =
–L– STA. 38+97.23 EL=241.01'

BEGIN GRADE –Y4– STA. 10+35.91 =
–L– STA. 39+02.43 35.5'RT, EL=239.37'

PI = 12+30.00
EL = 251.13'
VC = 90'
K = 16
DS = 25 MPH

PI = 10+61.00
EL = 239.47'
VC = 50'
K = 8
DS = 10 MPH

EXISTING GROUND
PROPOSED GRADE
(+)0.3986% (+)6.9006% (+)1.3600%

END GRADE
–Y4– STA. 12+75.00
EL = 251.74'

FOR -Y4- PLAN SEE SHEET 6

10+00 11+00 12+00 13+00

–Y5–

–Y5– STA. 10+00.00 =
–L– STA. 51+50.00 EL=183.77'

BEGIN GRADE –Y5– STA. 10+35.51 =
–L– STA. 51+50.38 35.5'RT, EL=183.04'

PI = 13+66.00
EL = 213.65'
VC = 110'
K = 13
DS = 25 MPH

PI = 10+70.00
EL = 184.06'
K = 9
VC = 60'
DS = 10 MPH

EXISTING GROUND
PROPOSED GRADE
(+)2.9442% (+)9.9982% (+)1.5357%

214.51

END GRADE
–Y5– STA. 14+22.00
EL = 214.51'

FOR -Y5- PLAN SEE SHEET 7

10+00 11+00 12+00 13+00 14+00

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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	34

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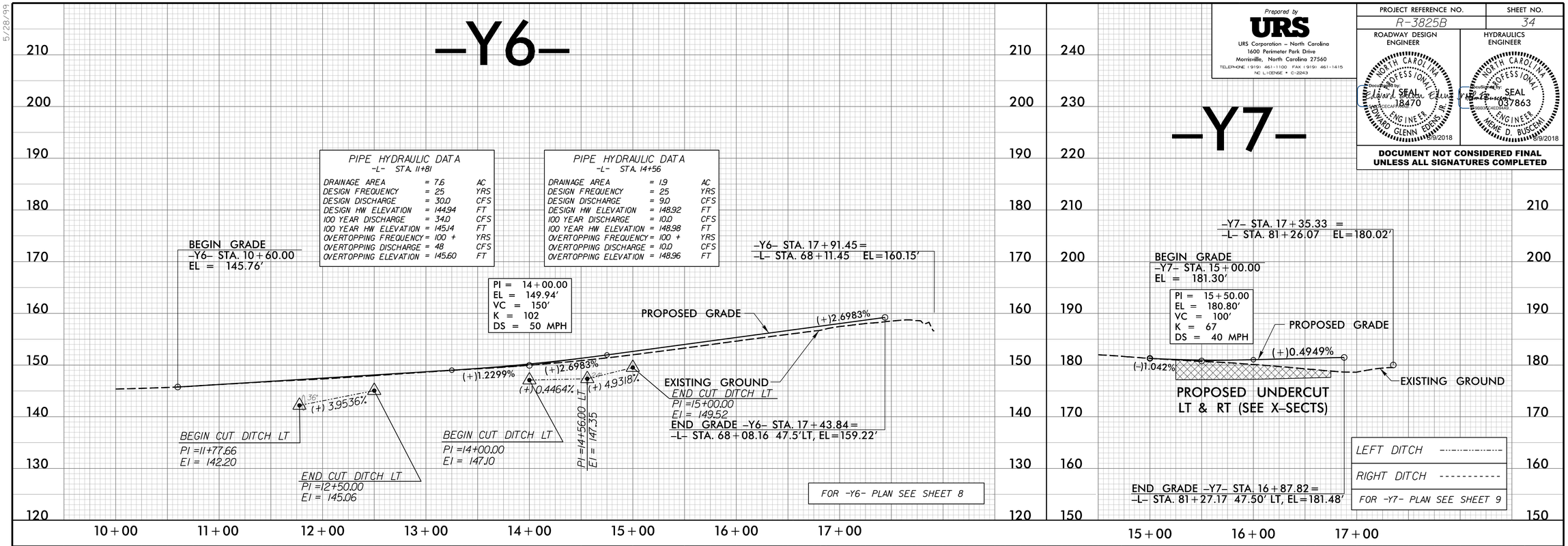

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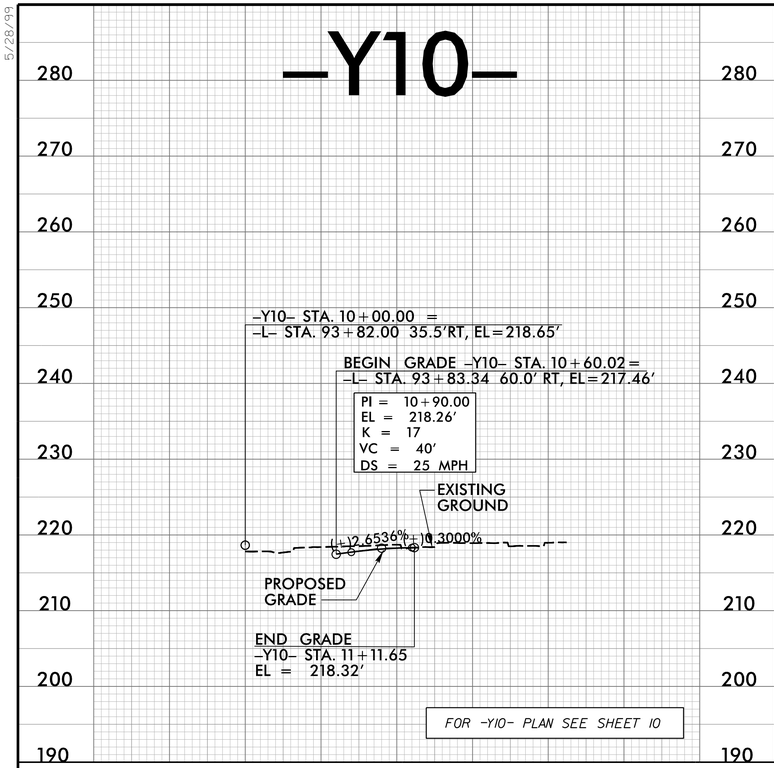
–Y10–



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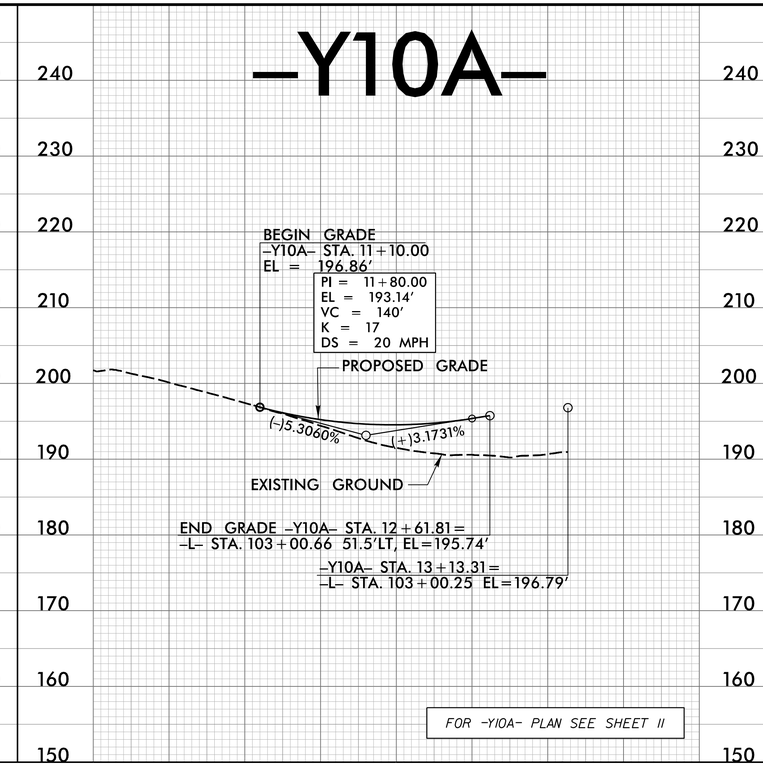

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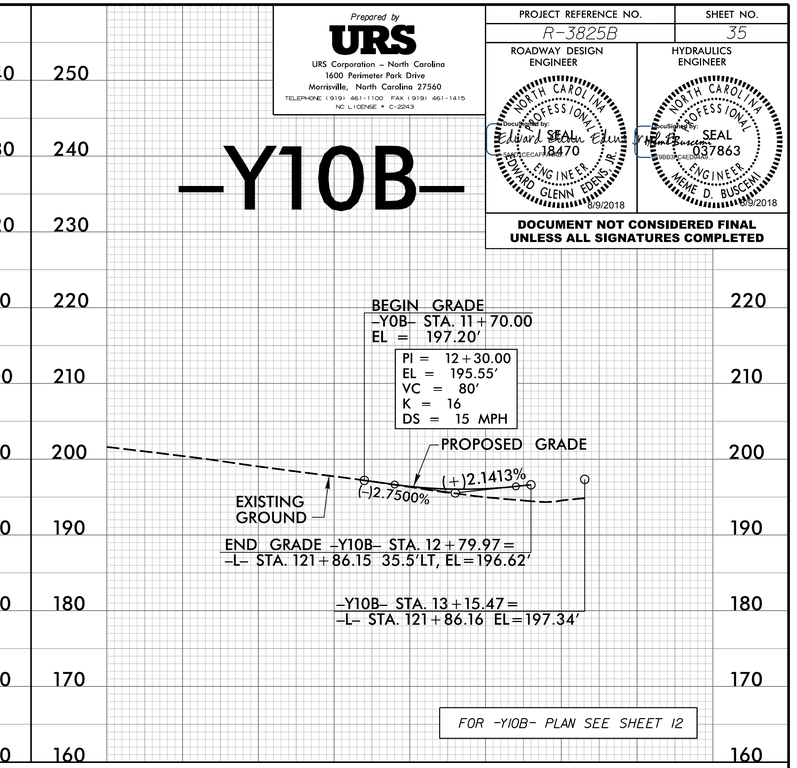

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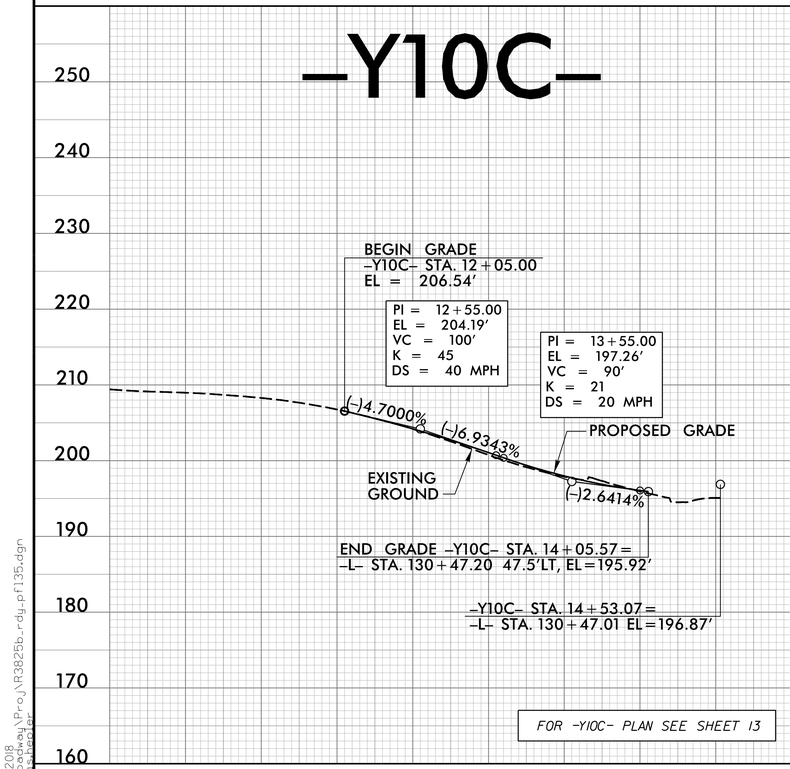

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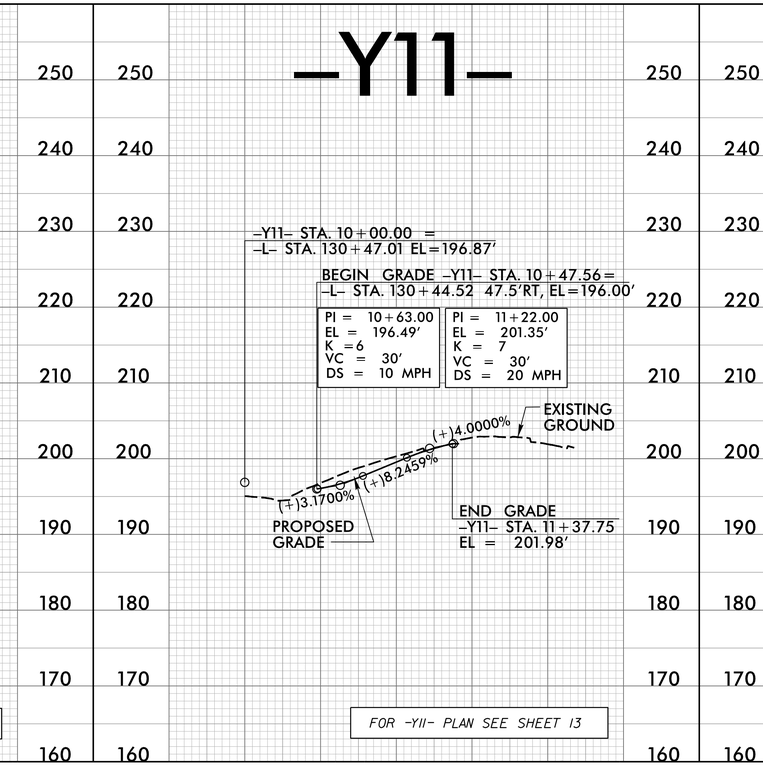

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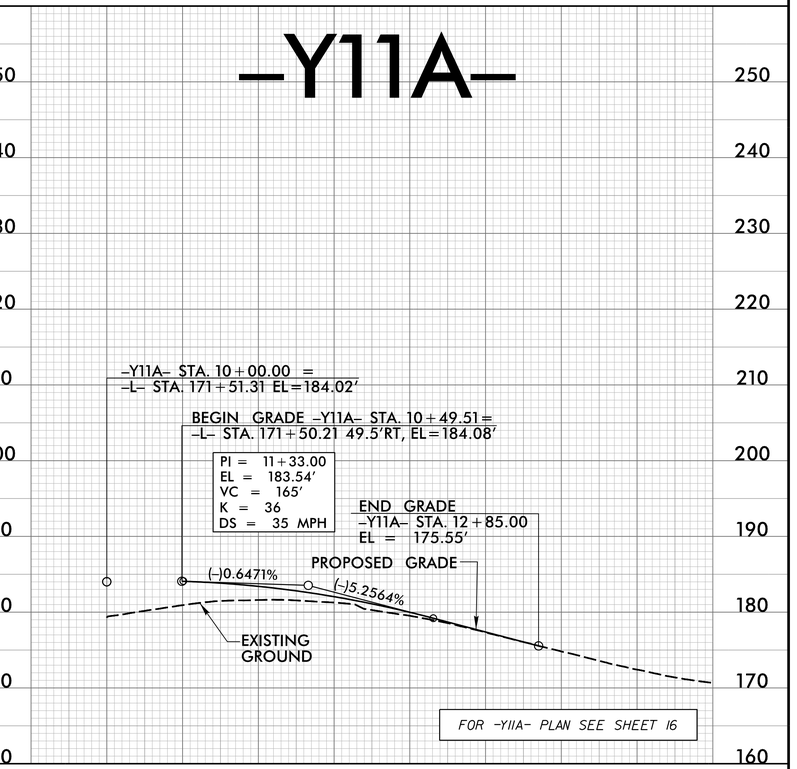

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URS
URS Corporation – North Carolina
1600 Perimeter Park Drive
Morrisville, North Carolina 27560
TELEPHONE (919) 461-1100 FAX (919) 461-1415
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PROJECT REFERENCE NO.	SHEET NO.
R-3825B	36

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18470 ENGINEER EDWARD GLENN EDENS, JR.

DocuSigned by: Edward Glenn Edens, Jr. 8/9/2018

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI

DocuSigned by: 8/9/2018

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RIGHT DITCH ----------

–Y11B–

–Y11B– STA. 10+00.00 =
–L– STA. 182+53.48 EL=240.70'

BEGIN GRADE –Y11B– STA. 10+37.50 =
–L– STA. 182+53.51 37.5'RT, EL=239.95'

PI = 10+63.00
EL = 238.69'
VC = 50'
K = 24
DS = 30 MPH

END GRADE
–Y11B– STA. 11+76.00
EL = 230.80'

(–)4.9398%
(–)6.9826%
PROPOSED GRADE
EXISTING GROUND

FOR –Y11B– PLAN SEE SHEET 17

–Y11C–

–Y11C– STA. 10+00.00 =
–L– STA. 192+14.30 EL=268.09'

BEGIN GRADE –Y11C– STA. 10+48.39 =
–L– STA. 192+23.55 47.5'RT, EL=267.30'

PI = 10+95.00
EL = 268.81'
VC = 90'
K = 33
DS = 25 MPH

(+)3.2401%
(+)5.9356%
PROPOSED GRADE
EXISTING GROUND

END GRADE
–Y11C– STA. 12+17.42
EL = 276.08'

FOR –Y11C– PLAN SEE SHEET 18

–Y12–

BEGIN GRADE
–Y12– STA. 11+31.46
EL=248.14'

PI = 13+80.00
EL = 254.35'
VC = 150'
K = 204
DS = 70 MPH

(+)2.4986%
(+)2.1111%
(+)2.4986%
(+)1.2600%
(+)3.2342%

BEGIN V-DITCH RT
PI =11+11.00
EI = 245.00

PI =13+00.00 RT
EI = 248.99

PI =14+00.00 RT
EI = 250.25

–Y12–

PIPE HYDRAULIC DATA
–Y12– STA. 16+00

DRAINAGE AREA	= 1.0	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3.7	CFS
DESIGN HW ELEVATION	= 259.07	FT
100 YEAR DISCHARGE	= 3.9	CFS
100 YEAR HW ELEVATION	= 259.13	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 12.9	CFS
OVERTOPPING ELEVATION	= 260.44	FT

PIPE HYDRAULIC DATA
–Y12– STA. 19+72

DRAINAGE AREA	= 1.4	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 4.8	CFS
DESIGN HW ELEVATION	= 256.09	FT
100 YEAR DISCHARGE	= 5.0	CFS
100 YEAR HW ELEVATION	= 256.15	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 25.0	CFS
OVERTOPPING ELEVATION	= 262.00	FT

–Y12– STA. 20+99.45 =
–L– STA. 192+14.30, EL=268.09'

END GRADE –Y12– STA. 20+51.95 =
–L– STA. 192+14.30 47.5'LT, EL=267.14'

PI = 19+00.00
EL = 263.50'
VC = 150'
K = 94
DS = 45 MPH

PI = 15+85.00
EL = 260.98'
VC = 150'
K = 62
DS = 45 MPH

PI =18+00.00 RT
EI = 240.44

(+)3.2342%
(+)0.8000%
(+)1.4470%
(+)0.8000%
(+)2.3955%
(+)6.5385%
(+)1.6731%

BEGIN V-DITCH LT
PI =16+00.00
EI = 258.00

END V-DITCH RT
PI =16+00.00
EI = 255.50

END V-DITCH LT
PI =17+50.00
EI = 260.17

BEGIN BASE DITCH RT
PI =17+74.00
EI = 240.00

END BASE DITCH
PI =20+00.00
EI = 253.51

LEFT DITCH -·-·-·-·-·-·-
RIGHT DITCH ----------

FOR –Y12– PLAN SEE SHEET 18

–Y12A–

–Y12A– STA. 13+31.89 =
–L– STA. 221+60.97, EL=306.33'

END GRADE –Y12A– STA. 12+82.39 =
–L– STA. 221+60.97 49.5'LT, EL=305.34'

PI = 12+55.00
EL = 306.08'
K = 20
VC = 50'
DS = 20 MPH

EXISTING GROUND

(–)5.2000%
(–)2.6934%

BEGIN GRADE
–Y12A– STA. 12+25.00
EL = 307.64'

PROPOSED GRADE

FOR –Y12A– PLAN SEE SHEET 20

–Y12B–

–Y12B– STA. 11+49.07 =
–L– STA. 236+09.68,
EL=287.04'

END GRADE –Y12B–
STA. 10+99.57 =
–L– STA. 236+09.55
49.5'LT,
EL=286.05'

PI = 10+72.00
EL = 286.66'
VC = 55'
K = 7
DS = 10 MPH

(–)9.9811%
(–)2.2234%

PROPOSED GRADE
EXISTING GROUND

BEGIN GRADE
–Y12B– STA. 10+41.28
EL = 289.72'

FOR –Y12B– PLAN SEE SHEET 21

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DocuSigned by: Edward Glenn Edens, Jr. 8/9/2018

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI
DocuSigned by: Meme Buscemi 8/9/2018

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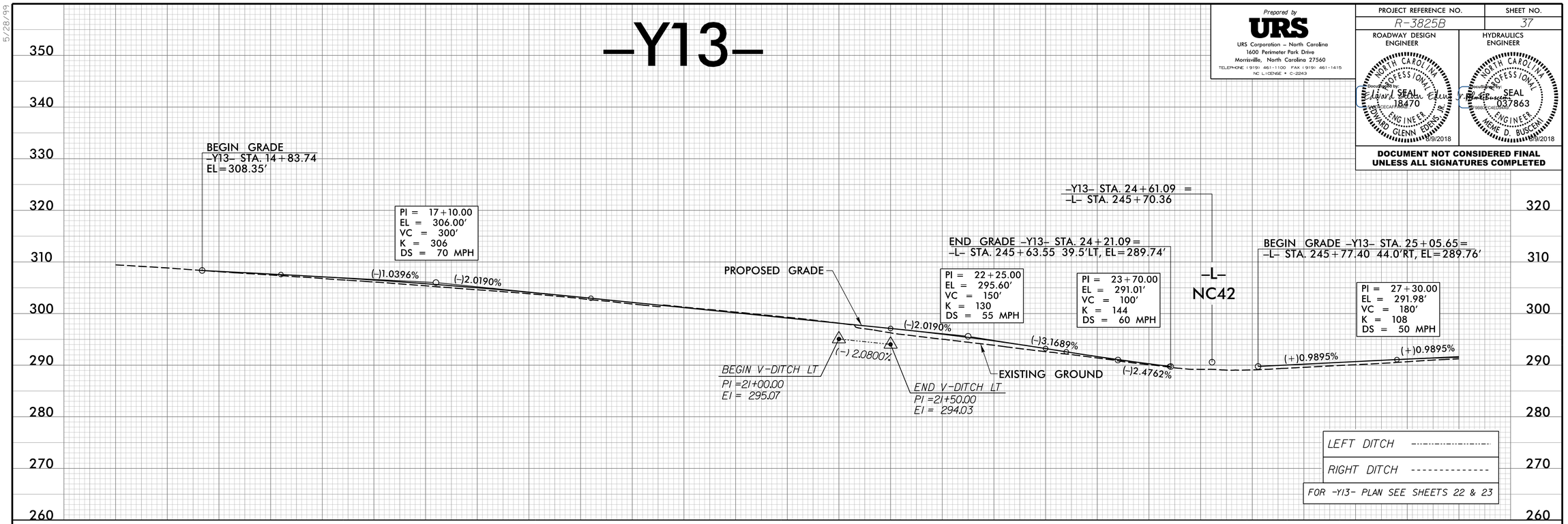
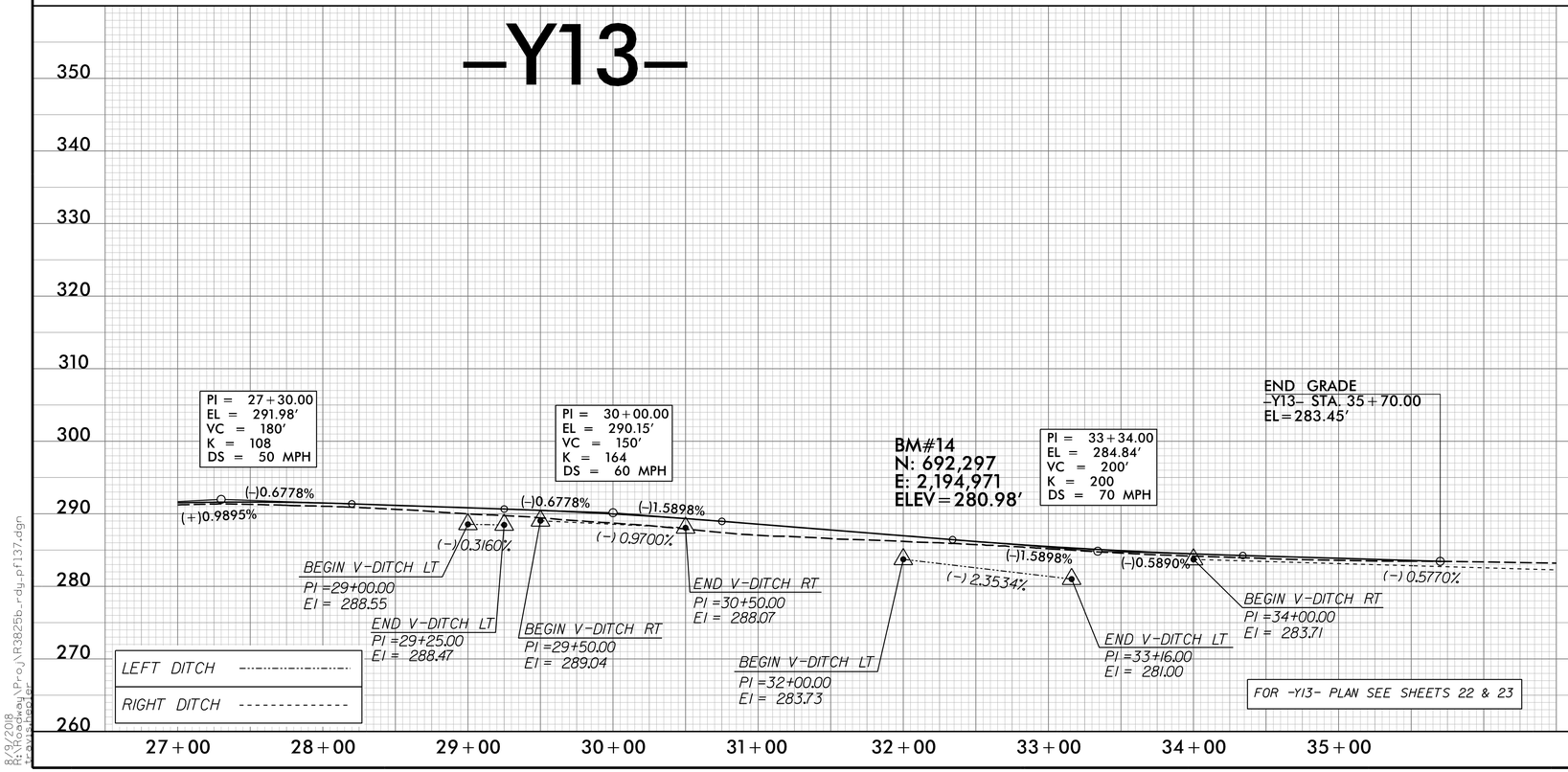
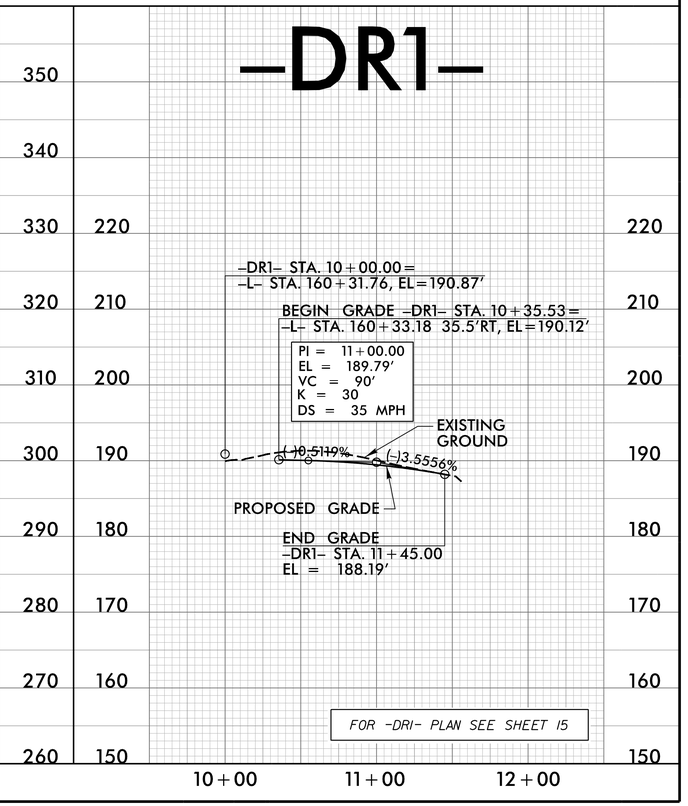
–Y13–



–Y13–



–DR1–



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HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 037863 ENGINEER MEME D. BUSCEMI

DocuSigned by: Meme Buscemi 8/9/2018

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–DRW1–

BEGIN GRADE
–DRW1– STA. 10+34.00
EL = 246.12′

PI = 10+44.00
EL = 247.05′
VC = 20′

PI = 10+73.57
EL = 254.15′

PI = 10+78.57
EL = 254.90′

PI = 10+83.57
EL = 255.10′

END GRADE
–DRW1– STA. 10+94.57 =
–L– STA. 29+81.62 35.5′ LT
EL = 255.32′

(+)2.00%
(+)4.00%
(+)15.00%
(+)24.00%
(+)9.33%

–DRW1– STA. 11+30.07 =
–L– STA. 29+81.62

–DRW2–

BEGIN GRADE
–DRW2– STA. 10+45.00
EL = 232.32′

PI = 10+55.00
EL = 233.02′
VC = 20′

PI = 10+78.50
EL = 236.54′

PI = 10+83.50
EL = 236.74′

END GRADE
–DRW2– STA. 10+94.50 =
–L– STA. 40+33.15 35.5′ LT
EL = 236.30′

(–)4.00%
(+)4.00%
(+)15.00%
(+)6.95%

–DRW2– STA. 11+30.00 =
–L– STA. 40+33.15

–DRW3–

–DRW3– STA. 10+00.00 =
–L– STA. 67+78.51

BEGIN GRADE
–DRW3– STA. 10+35.50 =
–L– STA. 67+78.51 35.5′ RT
EL = 159.71′

PI = 10+46.50
EL = 159.49′

PI = 10+51.50
EL = 159.29′

PI = 10+87.00
EL = 153.97′
VC = 20′

(–)2.00%
(–)4.00%
(–)15.00%
(–)1.45%

END GRADE
–DRW3– STA. 10+97.00 =
EL = 153.82′

–DRW4–

–DRW4– STA. 10+00.00 =
–L– STA. 144+37.79

BEGIN GRADE
–DRW4– STA. 10+35.50 =
–L– STA. 144+37.79 35.5′ RT
EL = 209.70′

PI = 10+43.50
EL = 209.54′

PI = 10+48.50
EL = 209.74′

END GRADE
–DRW4– STA. 10+69.49 =
EL = 211.84′

(+)10.00%
(+)4.00%
(–)2.00%

–DRW5–

BEGIN GRADE
–DRW5– STA. 10+40.00
EL = 218.21′

PI = 10+71.50
EL = 214.73′

PI = 10+76.50
EL = 214.53′

END GRADE
–DRW5– STA. 10+84.50 =
–L– STA. 146+33.96 35.5′ LT
EL = 214.69′

(–)11.05%
(+)2.00%
(–)4.00%

–DRW5– STA. 11+20.00 =
–L– STA. 146+33.96

LEFT DITCH
RIGHT DITCH

–DRW6–

–DRW6– STA. 10+00.00 =
–L– STA. 146+68.24

BEGIN GRADE
–DRW6– STA. 10+35.50 =
–L– STA. 146+68.24 35.5′ RT
EL = 215.29′

PI = 10+43.50
EL = 215.13′

PI = 10+48.50
EL = 215.33′

END GRADE
–DRW6– STA. 10+83.80 =
EL = 218.39′

(+)8.67%
(+)4.00%
(–)2.00%

–DRW7–

–DRW7– STA. 10+00.00 =
–L– STA. 154+39.44

BEGIN GRADE
–DRW7– STA. 10+35.50 =
–L– STA. 154+39.44 35.5′ RT
EL = 208.63′

PI = 10+46.50
EL = 208.41′

PI = 10+51.50
EL = 208.21′

PI = 10+83.00
EL = 203.49′
VC = 20′

(–)2.00%
(–)4.00%
(–)14.98%
(–)2.21%

END GRADE
–DRW7– STA. 10+93.00 =
EL = 203.28′

–DRW8–

–DRW8– STA. 10+00.00 =
–L– STA. 196+65.68

BEGIN GRADE
–DRW8– STA. 10+35.50 =
–L– STA. 196+65.68 35.5′ RT
EL = 275.06′

PI = 10+43.50
EL = 274.90′

PI = 10+48.50
EL = 275.10′

PI = 10+90.00
EL = 280.89′
VC = 30′

(+)3.74%
(+)13.95%
(+)4.00%
(–)2.00%

END GRADE
–DRW8– STA. 11+29.03 =
EL = 282.35′

FOR –DRW1– PLAN SEE SHEET 5
FOR –DRW2– PLAN SEE SHEET 6
FOR –DRW3– PLAN SEE SHEET 8
FOR –DRW4–, –DRW5– & –DRW6– PLAN SEE SHEET 14
FOR –DRW7– PLAN SEE SHEET 15
FOR –DRW8– PLAN SEE SHEET 18

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