DocuSign Envelope ID: 1B0E8752-D29E-4C3D-A8C7-B224A378D8A5

5/28/99

Prepared by
URS
URS Corporation – North Carolina
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	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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

8/3/2018
R:\Roadway\Proj\R3825b_rdy_pf136.dgn
bkhooper