Docusign Envelope ID: 6FBC4872-412A-4243-AD56-1D5E1256CCF3

5/28/99

BM#2 ELEVATION = 25.08
N 77747 E 2176718
-Y- STATION 24+11.60, 427.46' LEFT
BENCH TIE IN 20 INCH PINE

PLANS PREPARED BY :
PARSONS
RALEIGH, NORTH CAROLINA, (919) 854-1345
NC LICENSE NO. F-0246
FOR NORTH CAROLINA DEPT. OF TRANSPORTATION
SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258
ENG FIRM LICENSE NO. C-890

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-5857 | 12 |

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 042697 ENGINEER JOSHUA G. DALTON — Digitally signed by — 3/5/2025

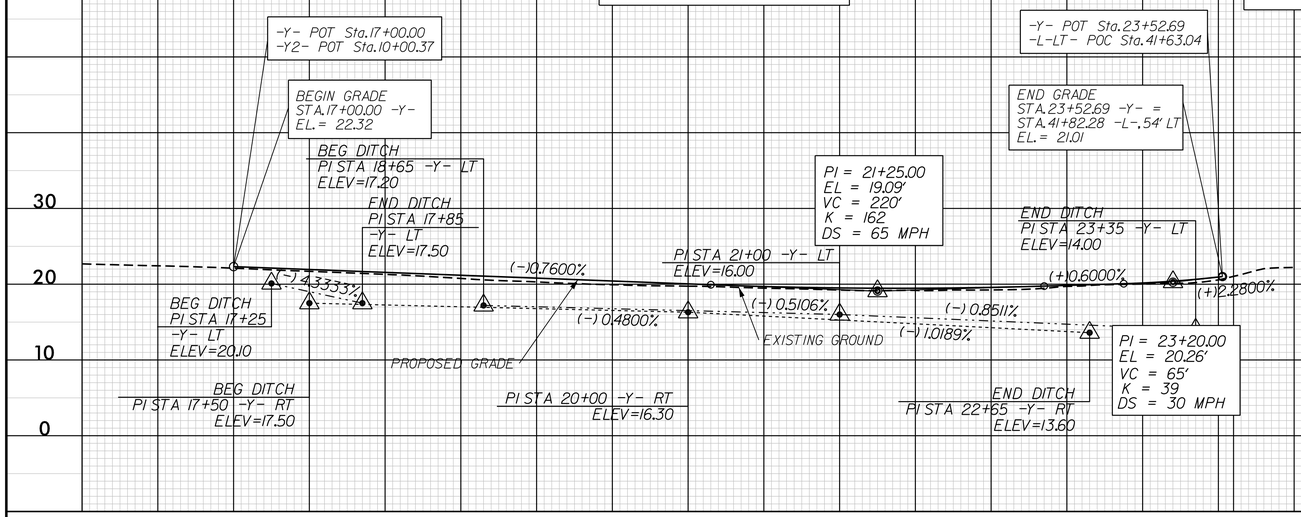
HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 042697 ENGINEER JOSHUA G. DALTON — Digitally signed by — 3/5/2025

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

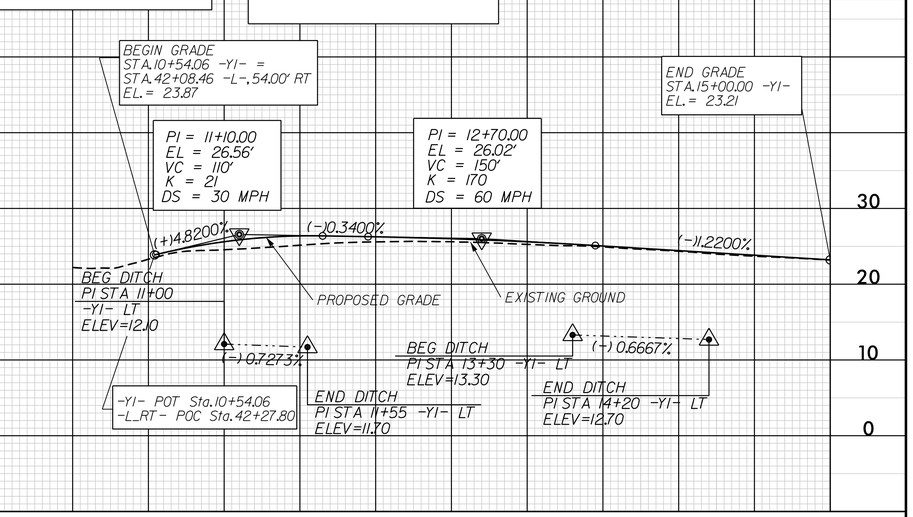
# -Y-

PIPE HYDRAULIC DATA
72" WSP Sta. 15+81 -Y1-

| | | |
|---|---|---|
| DRAINAGE AREA | = 118 | AC |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN DISCHARGE | = 190 | CFS |
| DESIGN HW ELEVATION | = 15.2 | FT |
| 100 YEAR DISCHARGE | = 240 | CFS |
| 100 YEAR HW ELEVATION | = 16.5 | FT |
| OVERTOPPING FREQUENCY | = <10 | YRS |
| OVERTOPPING DISCHARGE | = <150 | CFS |
| OVERTOPPING ELEVATION | = 13.0 | FT |




# -Y1-



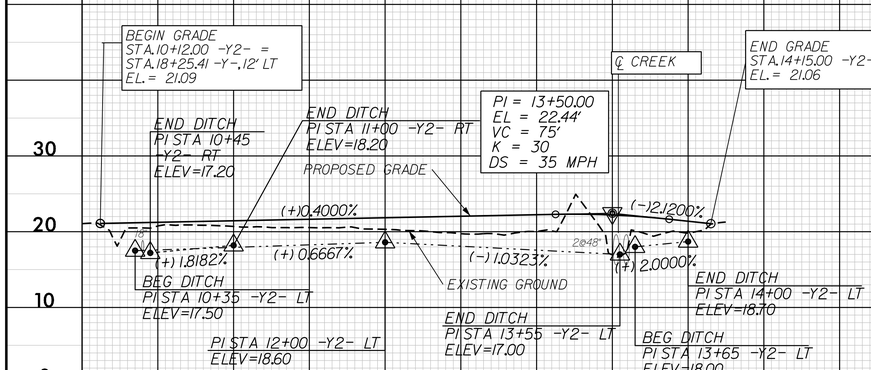

# -Y2-

PIPE HYDRAULIC DATA
18" RCP-IV Sta. 10+40 -Y2-

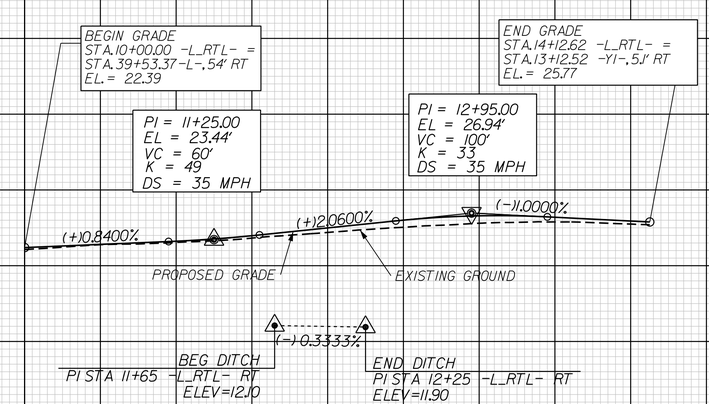
| | | |
|---|---|---|
| DRAINAGE AREA | = 1.7 | AC |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN DISCHARGE | = 7 | CFS |
| DESIGN HW ELEVATION | = 19.1 | FT |
| 100 YEAR DISCHARGE | = 8 | CFS |
| 100 YEAR HW ELEVATION | = 19.3 | FT |
| OVERTOPPING FREQUENCY | = >500 | YRS |
| OVERTOPPING DISCHARGE | = >9 | CFS |
| OVERTOPPING ELEVATION | = 19.8 | FT |

PIPE HYDRAULIC DATA
2@48" RCP Sta. 13+56 -Y2-

| | | |
|---|---|---|
| DRAINAGE AREA | = 62 | AC |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN DISCHARGE | = 110 | CFS |
| DESIGN HW ELEVATION | = 20.6 | FT |
| 100 YEAR DISCHARGE | = 150 | CFS |
| 100 YEAR HW ELEVATION | = 21.2 | FT |
| OVERTOPPING FREQUENCY | = <10 | YRS |
| OVERTOPPING DISCHARGE | = <90 | CFS |
| OVERTOPPING ELEVATION | = 19.3 | FT |




# -L_RTL-




NOTE:
SEE SHEET 4 FOR -Y-, -Y2-, & -L_RTL PLAN
SEE SHEETS 4 & 4A FOR -Y1- PLAN

04-APR-2025 08:50
R:\Roadway\Proj\R-5857_Rdy_PFL_12.dgn
$$$$USERNAME$$$$

Docusign Envelope ID: 6FBC4872-412A-4243-AD56-1D5E1256CCF3

5/28/99

PLANS PREPARED BY :
**PARSONS**
RALEIGH, NORTH CAROLINA, (919) 854-1345
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TEL (919) 859-2243 FAX (919) 859-2258
ENG FIRM LICENSE NO. C-890

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| R-5857 | 13 |

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL ENGINEER NORMAN L. ALDERMAN
Digitally signed by
5/28/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 026976 ENGINEER JOSHUA G. DALTON
Digitally signed by
Date: 2025.05.28 08:50:11 -04'00'

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

# -Y4-

BM #10 ELEVATION = 32.69
N 86829 E 2193236
-Y4- STATION 17+90.84, 294.52' LEFT
BENCH TIE IN 20 INCH PINE

BEGIN GRADE
STA.12+75.00 -Y4-
EL.= 39.19

-Y4 POT Sta.18+03.30
-LI_LT- POC Sta.30+12.02

END GRADE
STA.18+03.30 -Y4- =
STA.30+14.10 -LI-,54' LT
EL.= 37.07

BEG DITCH
PI STA 14+40 -Y4- RT
ELEV=36.10

END DITCH
PI STA 17+20 -Y4- RT
ELEV=31.70

(-)0.7800%
(-)1.0590%
(+)0.1176%
(+)0.6000%
(-)1.5714%
(+)2.0000%
EXISTING GROUND
PROPOSED GRADE

BEG DITCH
PI STA 14+15 -Y4- LT
ELEV=36.60

PI STA 15+00 -Y4- LT
ELEV=36.70

END DITCH
PI STA 15+50 -Y4- LT
ELEV=37.00

PI = 15+75.00
EL = 37.10'
VC = 100'
K = 358
DS = 60 MPH

PI = 17+25.00
EL = 35.51'
VC = 150'
K = 49
DS = 30 MPH

# -Y5-

BM #12 ELEVATION = 29.89
N 86191 E 2192212
-Y5- STATION 19+98.53, 53.44' RIGHT
BENCH TIE IN 23 INCH SYC

PIPE HYDRAULIC DATA
18" WSP Sta. 11+48 -Y5-

| | | |
|---|---|---|
| DRAINAGE AREA | = 0.8 | AC |
| DESIGN FREQUENCY | = 25 | YRS |
| DESIGN DISCHARGE | = 4.9 | CFS |
| DESIGN HW ELEVATION | = 31.7 | FT |
| 100 YEAR DISCHARGE | = 5.7 | CFS |
| 100 YEAR HW ELEVATION | = 31.9 | FT |
| OVERTOPPING FREQUENCY | = >500 | YRS |
| OVERTOPPING DISCHARGE | = >6.4 | CFS |
| OVERTOPPING ELEVATION | = 33.7 | FT |

BEGIN GRADE
STA.10+54.20 -Y5- =
STA.30+25.01 -LI-,54' RT
EL.= 40.51

-Y5- POT Sta.10+54.20
-LI_RT- POC Sta.30+27.23

PI = 12+60.00
EL = 42.86'
VC = 310'
K = 75
DS = 45 MPH

END DITCH
PI STA 14+60 -Y5- LT
ELEV=32.70

PI = 15+35.00
EL = 34.61'
VC = 128'
K = 64
DS = 40 MPH

END DITCH
PI STA 18+40 -Y5- RT
ELEV=27.70

BEG DITCH
PI STA 17+45 -Y5- RT
ELEV=28.00

PI = 19+00.00
EL = 30.96'
VC = 100'
K = 2500
DS = 80 MPH

END GRADE
STA.23+00.00 -Y5-
EL.= 27.08

PI = 22+50.00
EL = 27.32'
VC = 100'
K = 179
DS = 65 MPH

(+)11.1400%
(-)13.0000%
(-)0.5714%
(+)0.9500%
(+)1.5789%
(-)0.9434%
(-)1.0000%
(-)0.3158%
(-)1.0400%
(-)1.4925%
(-)0.4800%
(+)1.6000%
(+)4.0000%
PROPOSED GRADE
EXISTING GROUND

BEG DITCH
PI STA 11+15 -Y5- RT
ELEV=30.70

PI STA 11+50 -Y5- RT
ELEV=30.50

END DITCH
PI STA 12+90 -Y5- RT
ELEV=32.60

BEG DITCH
PI STA 13+65 -Y5- LT
ELEV=31.20

BEG DITCH
PI STA 15+00 -Y5- LT
ELEV=32.50

BEG DITCH
PI STA 16+75 -Y5- RT
ELEV=27.00

END DITCH
PI STA 17+05 -Y5- RT
ELEV=28.20

END DITCH
PI STA 17+65 -Y5- LT
ELEV=30.00

BEG DITCH
PI STA 19+15 -Y5- RT
ELEV=27.70

PI STA 22+50 -Y5- RT
ELEV=22.70

END DITCH
PI STA 23+00 -Y5- RT
ELEV=23.50

NOTE:
SEE SHEET 6 FOR -Y4- PLAN
SEE SHEETS 6 & 6A FOR -Y5- PLAN

04-APR-2025 08:50
$$$$USERNAME$$$$ $$$$DGNFILE$$$$ $$$$MODEL$$$$ $$$$PROJ$$$$ $$$$USERNAME$$$$ $$$$DATE$$$$ $$$$TIME$$$$ $$$$PROJ$$$$\R-5857_Rdy_PFL_13.dgn