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5/28/99

WETHERILL ENGINEERING
1223 Jones Franklin Rd. Suite 164
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
17BP.1.R.82	5

ROADWAY DESIGN ENGINEER
DocuSigned by: Bob A. May
NORTH CAROLINA PROFESSIONAL SEAL 21116 ENGINEER BOB A. MAY
8/9/2017

HYDRAULICS ENGINEER
DocuSigned by: James C. Davis
NORTH CAROLINA PROFESSIONAL SEAL 18462 ENGINEER JAMES C. DAVIS
8/9/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-

PI = 10+81.00
EL = 2.11'
VC = 65'
K = 208
DS = >45 MPH

PI = 11+63.50
EL = 2.40'
VC = 100'
K = 81
DS = 45 MPH

PI = 12+79.98
EL = 4.27'
VC = 84'
K = 44
DS = 45 MPH

PI = 13+80.00
EL = 3.97'
VC = 60'
K = 67
DS = >45 MPH

PI = 14+55.00
EL = 2.79'
VC = 90'
K = 70
DS = 50 MPH

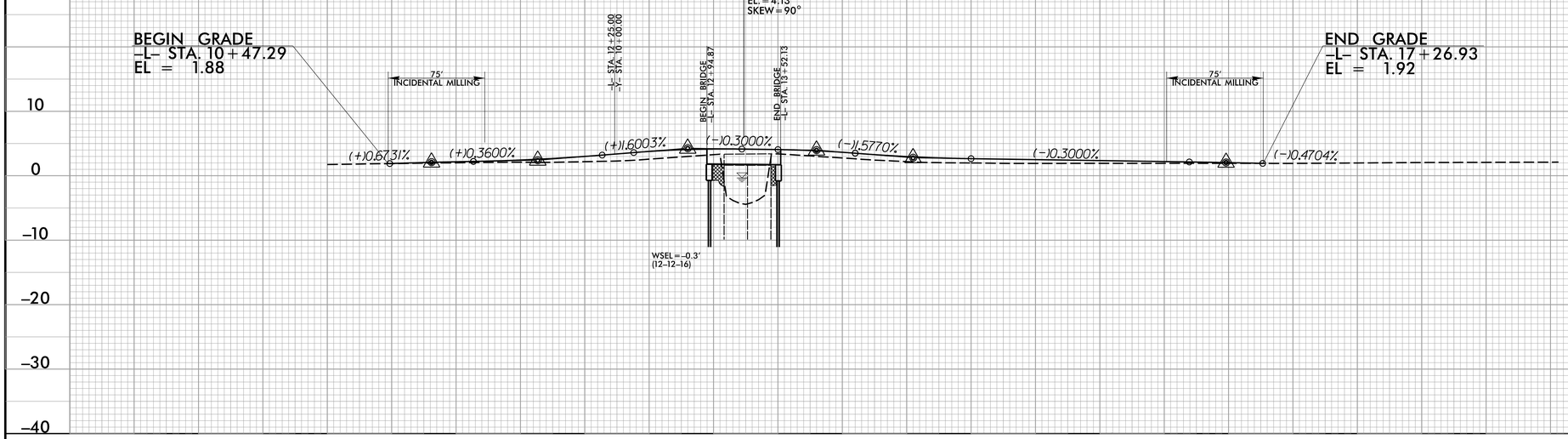
PI = 16+98.00
EL = 2.06'
VC = 57'
K = 334
DS = >45 MPH

CL STA. 13+23.50 -L-
EL. = 4.13'
SKEW = 90°

1@55' SPAN 21" CS; VERTICAL ABUTMENTS W/SHEET PILE; 2'-6" DEEP CAP

BEGIN GRADE
-L- STA. 10+47.29
EL = 1.88

END GRADE
-L- STA. 17+26.93
EL = 1.92



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 500	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 0.7	FT
BASE DISCHARGE	= 800	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1.1	FT
OVERTOPPING DISCHARGE	= 1150	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 1.7	FT
DATE OF SURVEY	= 12-12-2016	
W.S.ELEVATION AT DATE OF SURVEY	= 0.3	FT

SEE SHT 4 FOR L ALIGNMENT

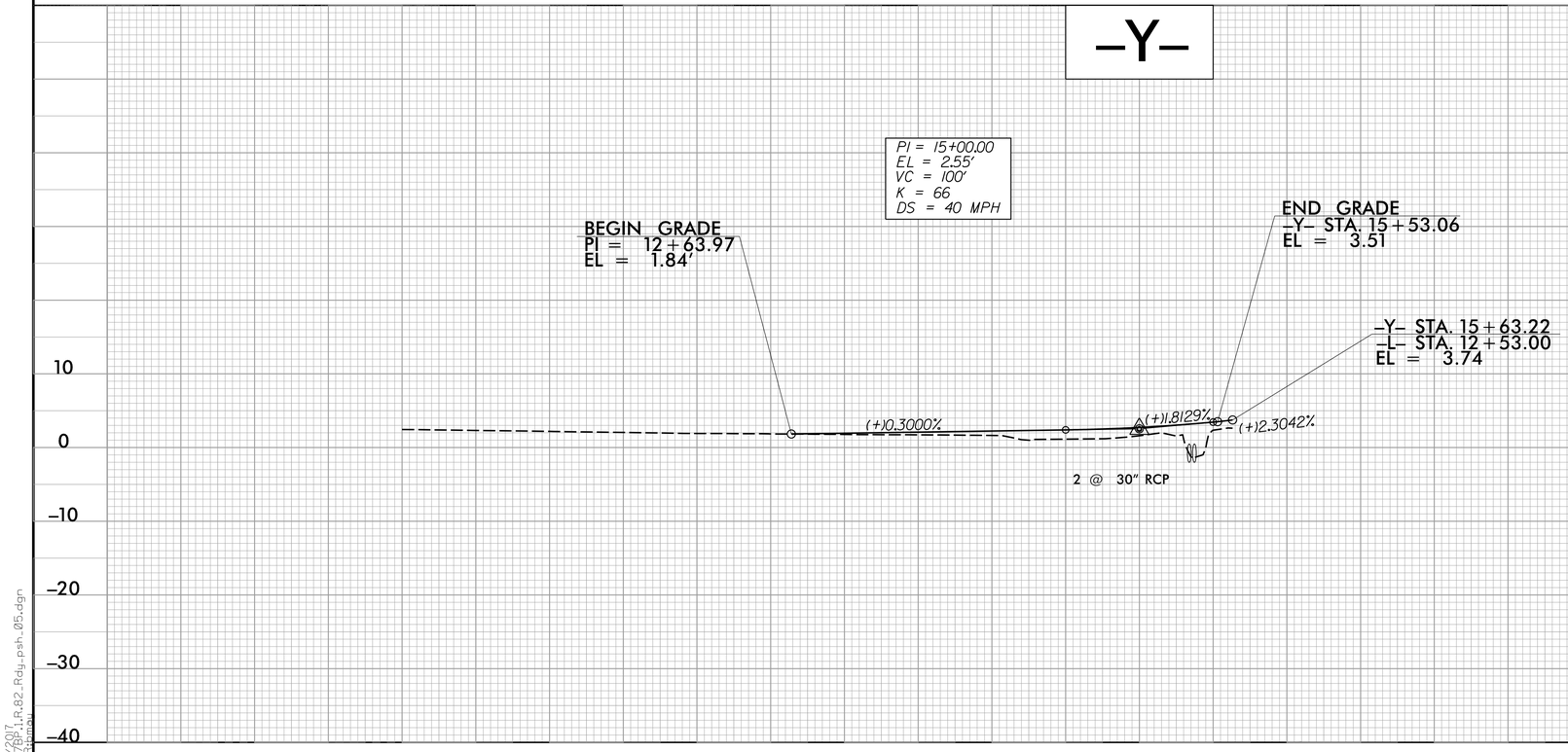
-Y-

PI = 15+00.00
EL = 2.55'
VC = 100'
K = 66
DS = 40 MPH

BEGIN GRADE
PI = 12+63.97
EL = 1.84'

END GRADE
-Y- STA. 15+53.06
EL = 3.51

-Y- STA. 15+63.22
-L- STA. 12+53.00
EL = 3.74



PIPE HYDRAULIC DATA

-Y- Sta.15+34

DRAINAGE AREA	= 200	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 42	CFS
DESIGN HW ELEVATION	= 1.3	FT
100 YEAR DISCHARGE	= 67	CFS
100 YEAR HW ELEVATION	= 3.5	FT
OVERTOPPING FREQUENCY	= 50+	YRS
OVERTOPPING DISCHARGE	= 57	CFS
OVERTOPPING ELEVATION	= 2.4	FT

SEE SHT 4 FOR Y ALIGNMENT

8/7/2017
17BP.1.R.82_Rdy.psh_05.dgn
USER:ppowell