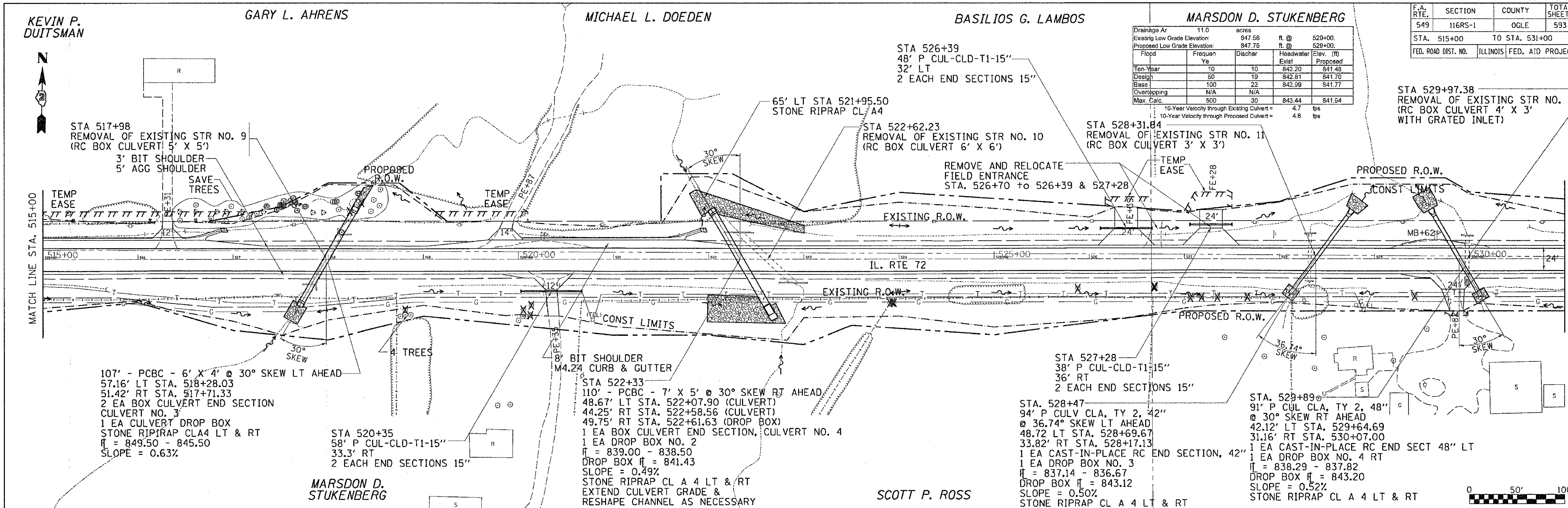
CONTRACT NO. 64178

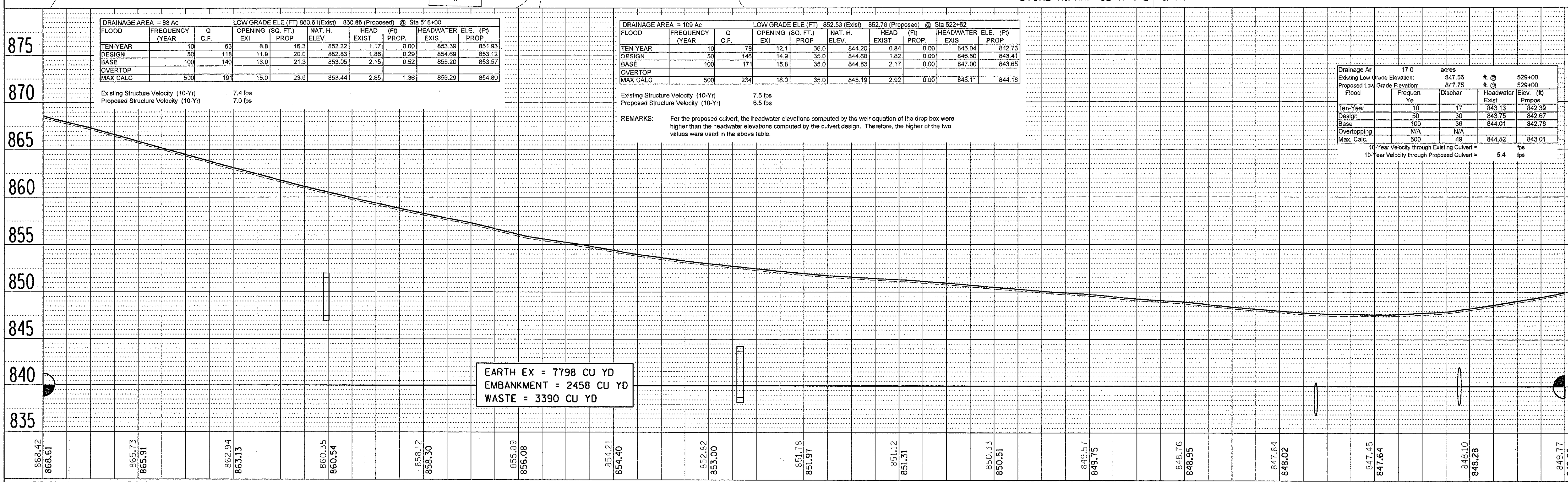
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
549	116RS-1	OGLE	593	80
STA. 515+00		TO STA. 531+00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



KEVIN P. DUITSMAN
GARY L. AHRENS
MICHAEL L. DOEDEN
BASILIOS G. LAMBOS
MARSDON D. STUKENBERG
N
STA 517+98
REMOVAL OF EXISTING STR NO. 9
(RC BOX CULVERT 5' X 5')
3' BIT SHOULDER
5' AGG SHOULDER
SAVE TREES
PROPOSED R.O.W.
TEMP EASE
30° SKEW
65' LT STA 521+95.50
STONE RIPRAP CL A4
STA 522+62.23
REMOVAL OF EXISTING STR NO. 10
(RC BOX CULVERT 6' X 6')
STA 526+39
48' P CUL-CLD-T1-15"
32' LT
2 EACH END SECTIONS 15"
REMOVE AND RELOCATE FIELD ENTRANCE
STA. 526+70 to 526+39 & 527+28
STA 528+31.84
REMOVAL OF EXISTING STR NO. 11
(RC BOX CULVERT 3' X 3')
STA 529+97.38
REMOVAL OF EXISTING STR NO. 12
(RC BOX CULVERT 4' X 3' WITH GRATED INLET)
PROPOSED R.O.W.
CONST LIMITS
EXISTING R.O.W.
IL. RTE 72
515+00
520+00
525+00
530+00
MB+62
MATCH LINE STA. 515+00
MATCH LINE STA. 531+00
CONST LIMITS
PROPOSED R.O.W.
30° SKEW
4 TREES
107' - PCBC - 6' X 4' @ 30° SKEW LT AHEAD
57.16' LT STA. 518+28.03
51.42' RT STA. 517+71.33
2 EA BOX CULVERT END SECTION
CULVERT NO. 3
1 EA CULVERT DROP BOX
STONE RIPRAP CLA4 LT & RT
℄ = 849.50 - 845.50
SLOPE = 0.63%
STA 520+35
58' P CUL-CLD-T1-15"
33.3' RT
2 EACH END SECTIONS 15"
MARSDON D. STUKENBERG
8' BIT SHOULDER
M4.24 CURB & GUTTER
STA 522+33
110' - PCBC - 7' X 5' @ 30° SKEW RT AHEAD
48.67' LT STA. 522+07.90 (CULVERT)
44.25' RT STA. 522+58.56 (CULVERT)
49.75' RT STA. 522+61.63 (DROP BOX)
1 EA BOX CULVERT END SECTION, CULVERT NO. 4
1 EA DROP BOX NO. 2
℄ = 839.00 - 838.50
DROP BOX ℄ = 841.43
SLOPE = 0.49%
STONE RIPRAP CL A 4 LT & RT
EXTEND CULVERT GRADE &
RESHAPE CHANNEL AS NECESSARY
SCOTT P. ROSS
STA 527+28
38' P CUL-CLD-T1-15"
36' RT
2 EACH END SECTIONS 15"
STA. 528+47
94' P CULV CLA, TY 2, 42"
@ 36.74° SKEW LT AHEAD
48.72 LT STA. 528+69.67
33.82' RT STA. 528+17.13
1 EA CAST-IN-PLACE RC END SECTION, 42"
1 EA DROP BOX NO. 3
℄ = 837.14 - 836.67
DROP BOX ℄ = 843.12
SLOPE = 0.50%
STONE RIPRAP CL A 4 LT & RT
36.74° SKEW
STA. 529+89
91' P CUL CLA, TY 2, 48"
@ 30° SKEW RT AHEAD
42.12' LT STA. 529+64.69
31.16' RT STA. 530+07.00
1 EA CAST-IN-PLACE RC END SECT 48" LT
1 EA DROP BOX NO. 4 RT
℄ = 838.29 - 837.82
DROP BOX ℄ = 843.20
SLOPE = 0.52%
STONE RIPRAP CL A 4 LT & RT
0 50' 100'

Drainage Ar	11.0	acres		
Existing Low Grade Elevation:	847.56	ft. @	529+00.	
Proposed Low Grade Elevation:	847.75	ft. @	529+00.	
Flood	Frequen Ye	Dischar	Headwater Exist	Elev. (ft) Proposed
Ten-Year	10	10	842.20	841.48
Design	50	19	842.81	841.70
Base	100	22	842.99	841.77
Overtopping	N/A	N/A		
Max. Calc.	500	30	843.44	841.94

10-Year Velocity through Existing Culvert = 4.7 fps
10-Year Velocity through Proposed Culvert = 4.8 fps



875
870
865
860
855
850
845
840
835
EARTH EX = 7798 CU YD
EMBANKMENT = 2458 CU YD
WASTE = 3390 CU YD
868.42 868.61
865.73 865.91
862.94 863.13
860.35 860.54
858.12 858.30
855.89 856.08
854.21 854.40
852.82 853.00
851.78 851.97
851.12 851.31
850.33 850.51
849.57 849.75
848.76 848.95
847.84 848.02
847.45 847.64
848.10 848.28
849.77 849.96
515+00
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529+00
530+00
531+00

DRAINAGE AREA = 83 Ac			LOW GRADE ELE (FT) 860.61(Exist) 860.86 (Proposed) @ Sta 518+00						
FLOOD	FREQUENCY (YEAR	Q C.F.	OPENING (SQ. FT.) EXI	PROP	NAT. H. ELEV.	HEAD (Ft) EXIST	PROP.	HEADWATER ELE. (Ft) EXIS	PROP
TEN-YEAR	10	63	8.8	16.3	852.22	1.17	0.00	853.39	851.93
DESIGN	50	118	11.9	20.0	852.83	1.86	0.29	854.69	853.12
BASE	100	140	13.0	21.3	853.05	2.15	0.52	855.20	853.57
OVERTOP									
MAX CALC	500	191	15.0	23.6	853.44	2.85	1.36	856.29	854.80

Existing Structure Velocity (10-Yr) 7.4 fps
Proposed Structure Velocity (10-Yr) 7.0 fps

DRAINAGE AREA = 109 Ac			LOW GRADE ELE (FT) 852.53 (Exist) 852.78 (Proposed) @ Sta 522+62						
FLOOD	FREQUENCY (YEAR	Q C.F.	OPENING (SQ. FT.) EXI	PROP	NAT. H. ELEV.	HEAD (Ft) EXIST	PROP.	HEADWATER ELE. (Ft) EXIS	PROP
TEN-YEAR	10	78	12.1	35.0	844.20	0.84	0.00	845.04	842.73
DESIGN	50	145	14.9	35.0	844.68	1.82	0.00	846.50	843.41
BASE	100	171	15.8	35.0	844.83	2.17	0.00	847.00	843.65
OVERTOP									
MAX CALC	500	234	18.0	35.0	845.19	2.92	0.00	848.11	844.18

Existing Structure Velocity (10-Yr) 7.5 fps
Proposed Structure Velocity (10-Yr) 6.5 fps

REMARKS: For the proposed culvert, the headwater elevations computed by the weir equation of the drop box were higher than the headwater elevations computed by the culvert design. Therefore, the higher of the two values were used in the above table.

Drainage Ar	17.0	acres		
Existing Low Grade Elevation:	847.56	ft. @	529+00.	
Proposed Low Grade Elevation:	847.75	ft. @	529+00.	
Flood	Frequen Ye	Dischar	Headwater Exist	Elev. (ft) Propos
Ten-Year	10	17	843.13	842.39
Design	50	30	843.75	842.67
Base	100	36	844.01	842.78
Overtopping	N/A	N/A		
Max. Calc.	500	49	844.52	843.01

10-Year Velocity through Existing Culvert = fps
10-Year Velocity through Proposed Culvert = 5.4 fps