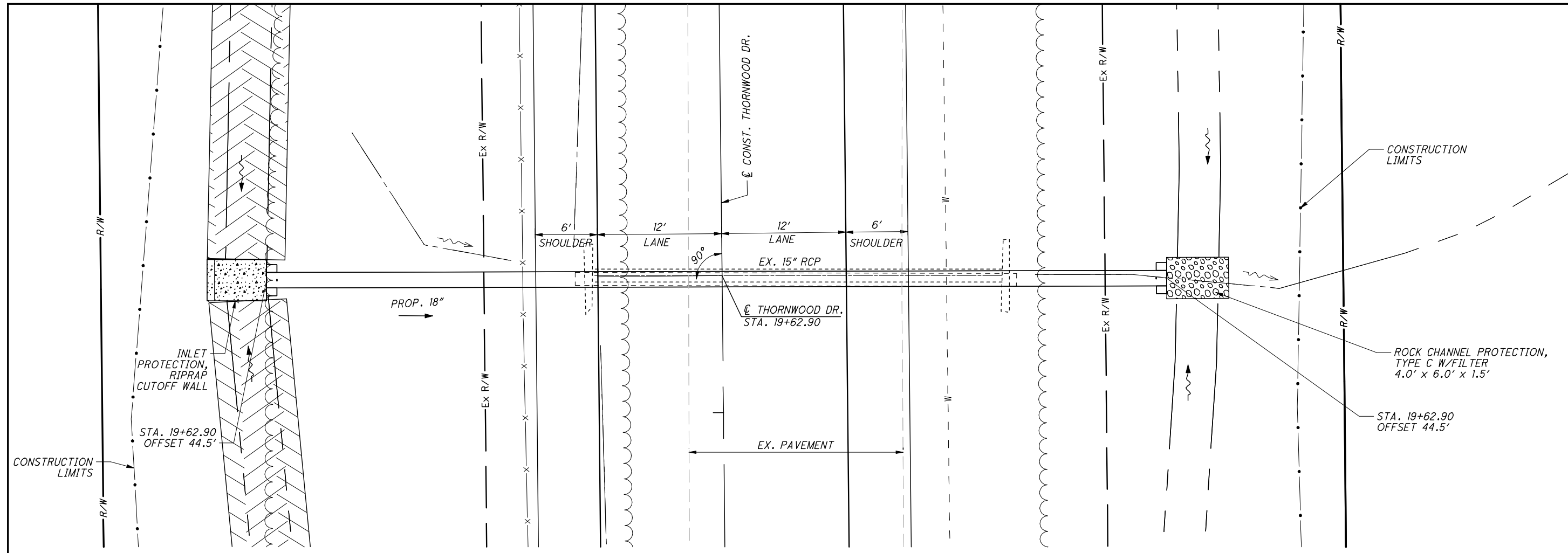




2.5' HORIZONTAL SCALE IN FEET

CALCULATED MAS CHECKED JEL

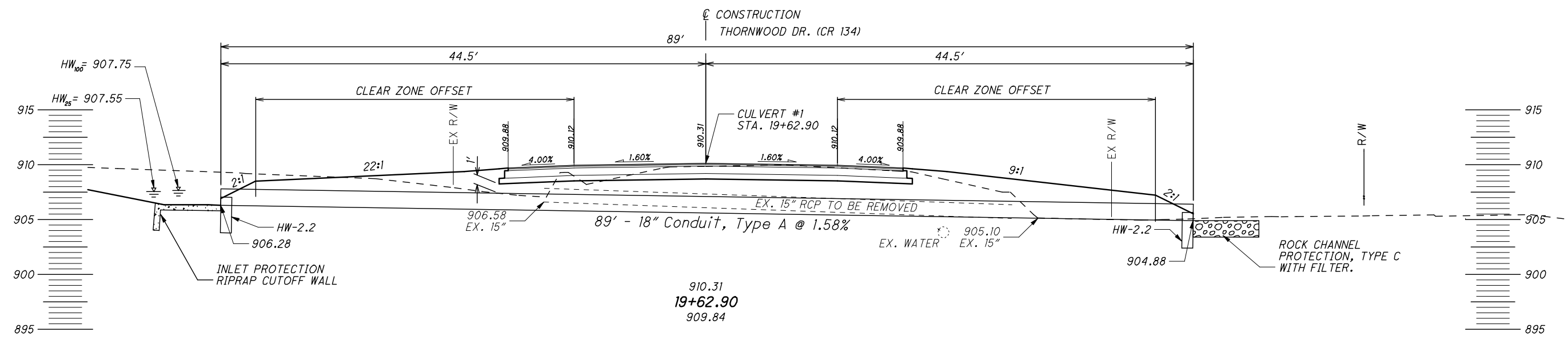


EXISTING STRUCTURE
TYPE: 15" REINFORCED CONCRETE PIPE SKEW: 1° L.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 18" CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 5 ACRES Q(25): 5.13 CFS HW(25): 907.55 FT V(25): 7.41 FT/S Q(100): 6.57 CFS HW(100): 907.75 FT V(100): 7.92 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



**CULVERT DETAIL**  
**CULVERT #1 STA. 19+62.90**

**LIC-THORNWOOD**

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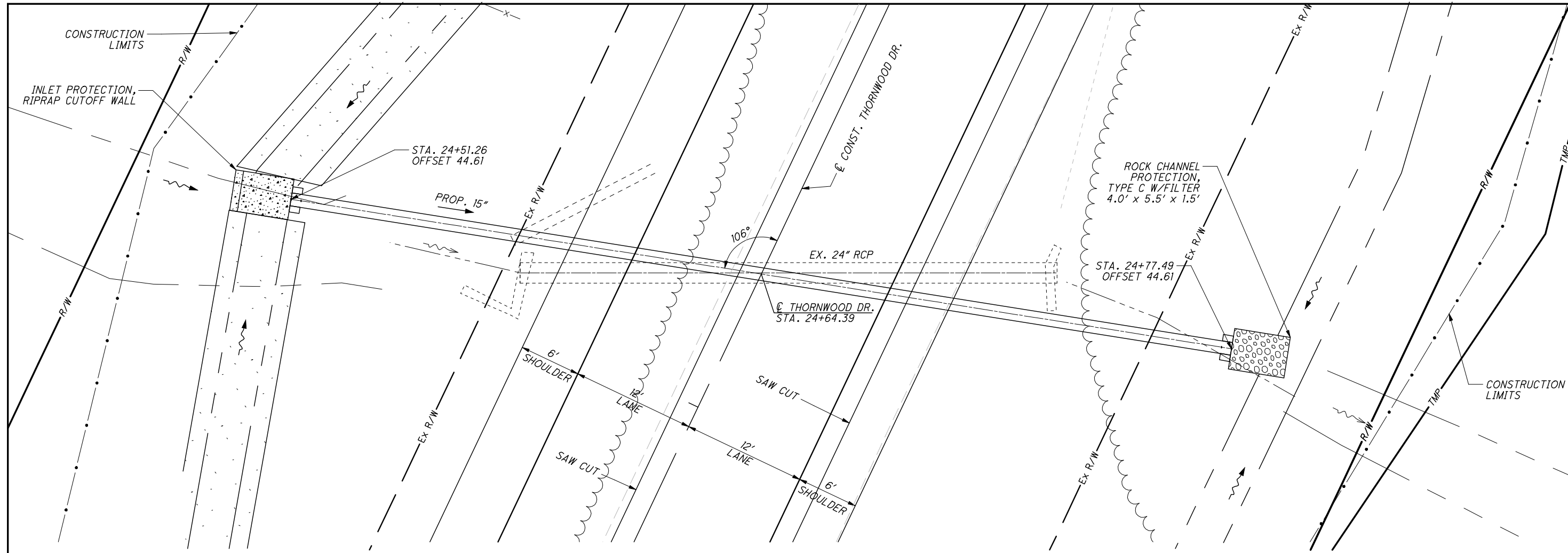
2.5' HORIZONTAL SCALE IN FEET

CALCULATED MAS  
CHECKED JEL

**CULVERT DETAIL  
CULVERT #2 STA. 24+64.39**

**LIC-THORNWOOD**

272  
285

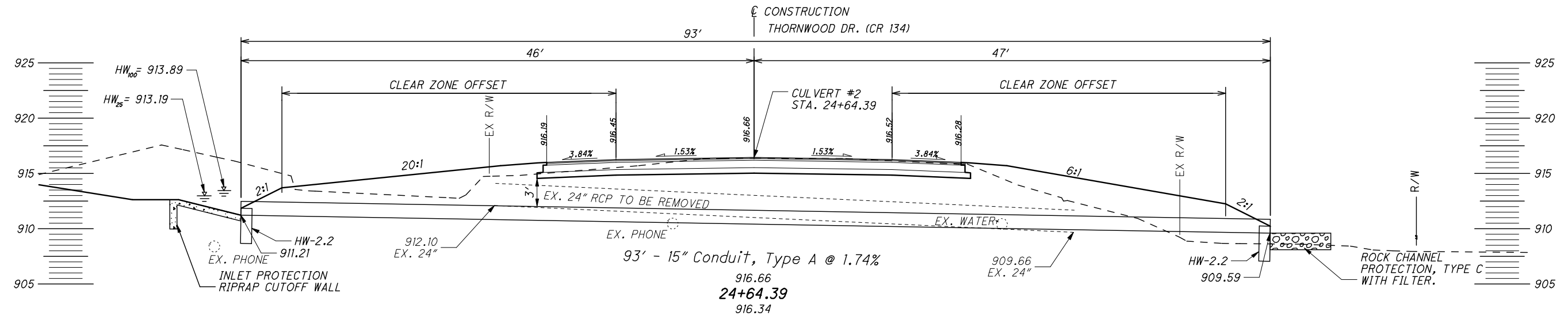


EXISTING STRUCTURE
TYPE: 24" REINFORCED CONCRETE PIPE SKEW: 25° R.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 15" CONCRETE PIPE SKEW: 16° R.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 6 ACRES
Q(25): 7.34 CFS
HW(25): 913.19 FT
V(25): 8.35 FT/S
Q(100): 9.40 CFS
HW(100): 913.89 FT
V(100): 8.57 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX
XXXXXX
XXXXXX
XXXXXX



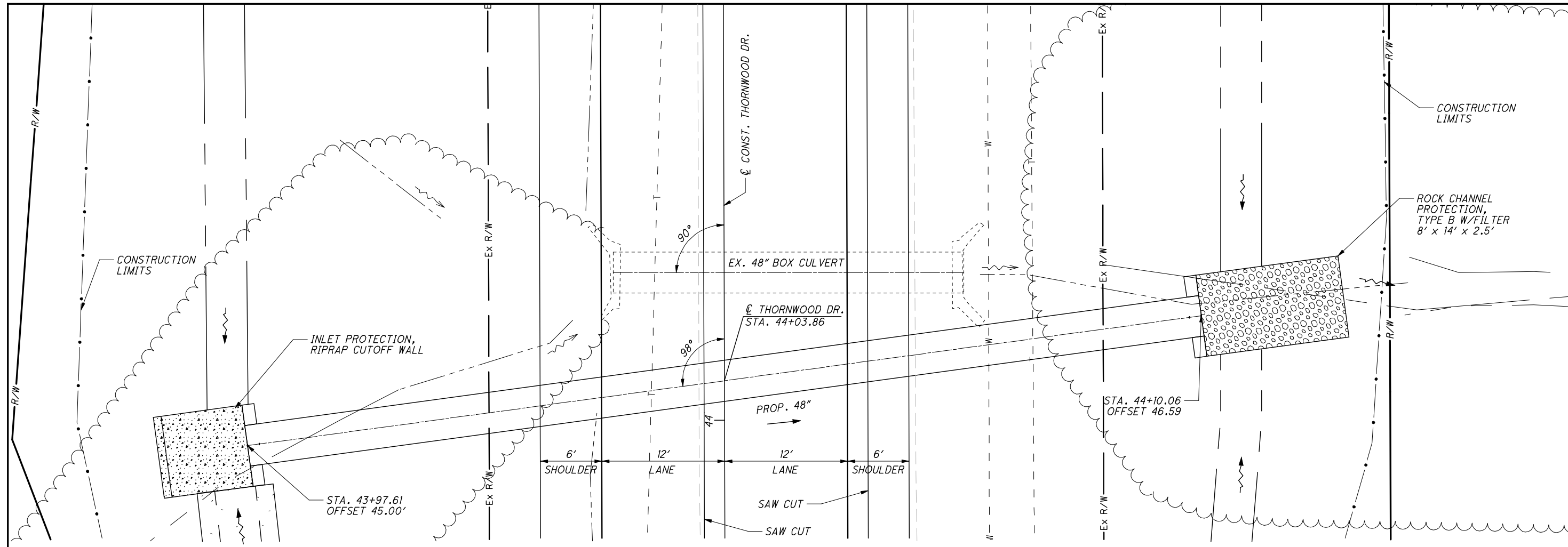
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2.5' HORIZONTAL SCALE IN FEET

CALCULATED MMB CHECKED JEL



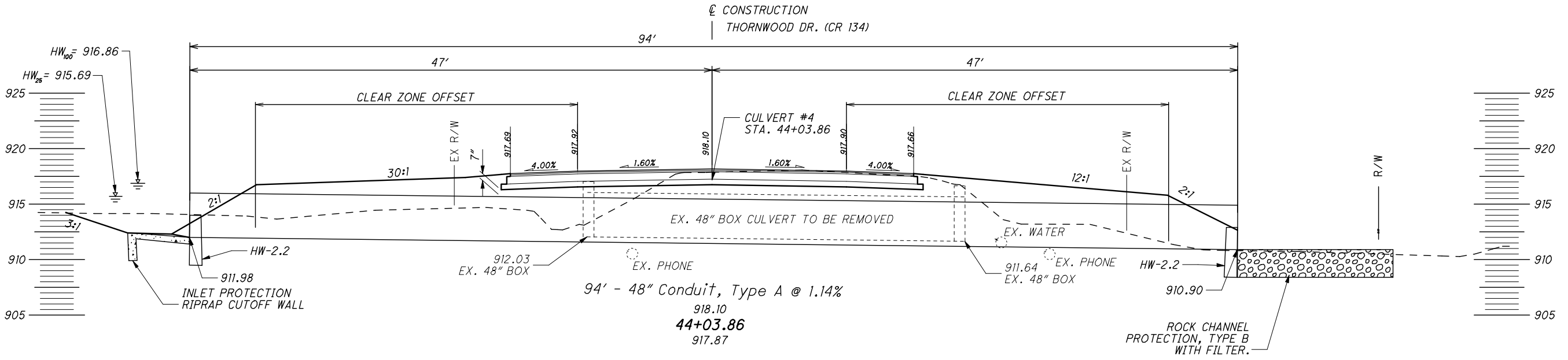
EXISTING STRUCTURE
TYPE: 48" CONCRETE BOX SKEW: 0° L.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 48" CONCRETE PIPE SKEW: 8° R.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 43 ACRES
Q(25): 70 CFS
HW(25): 915.69 FT
V(25): 12.69 FT/S
Q(100): 103 CFS
HW(100): 916.86 FT
V(100): 13.96 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX
XXXXXX
XXXXXX
XXXXXX

CULVERT DETAIL  
CULVERT #4 STA. 44+03.86



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LIC-THORNWOOD

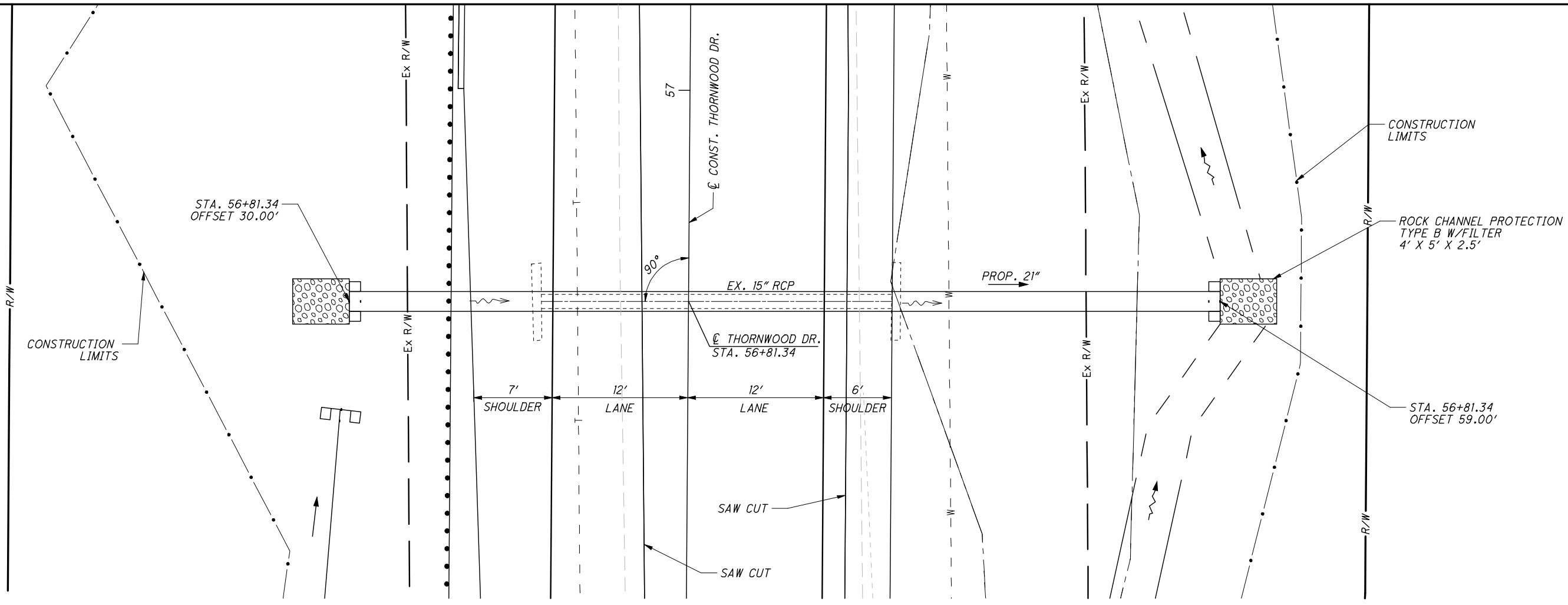


CALCULATED  
MMB  
CHECKED  
JEL

**CULVERT DETAIL**  
**CULVERT #5 STA. 56+81.34**

**LIC-THORNWOOD**

275  
285

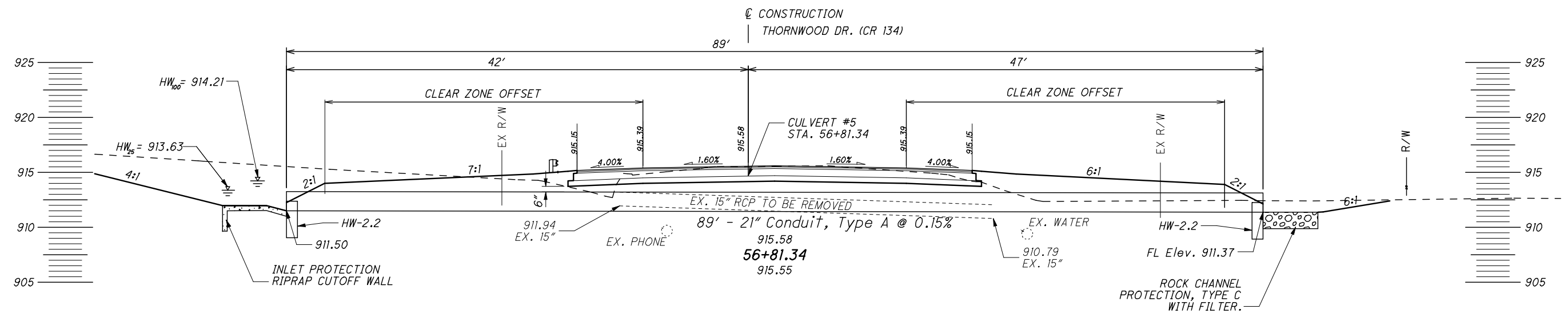


EXISTING STRUCTURE
TYPE: 15" REINFORCED CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: TANGENT

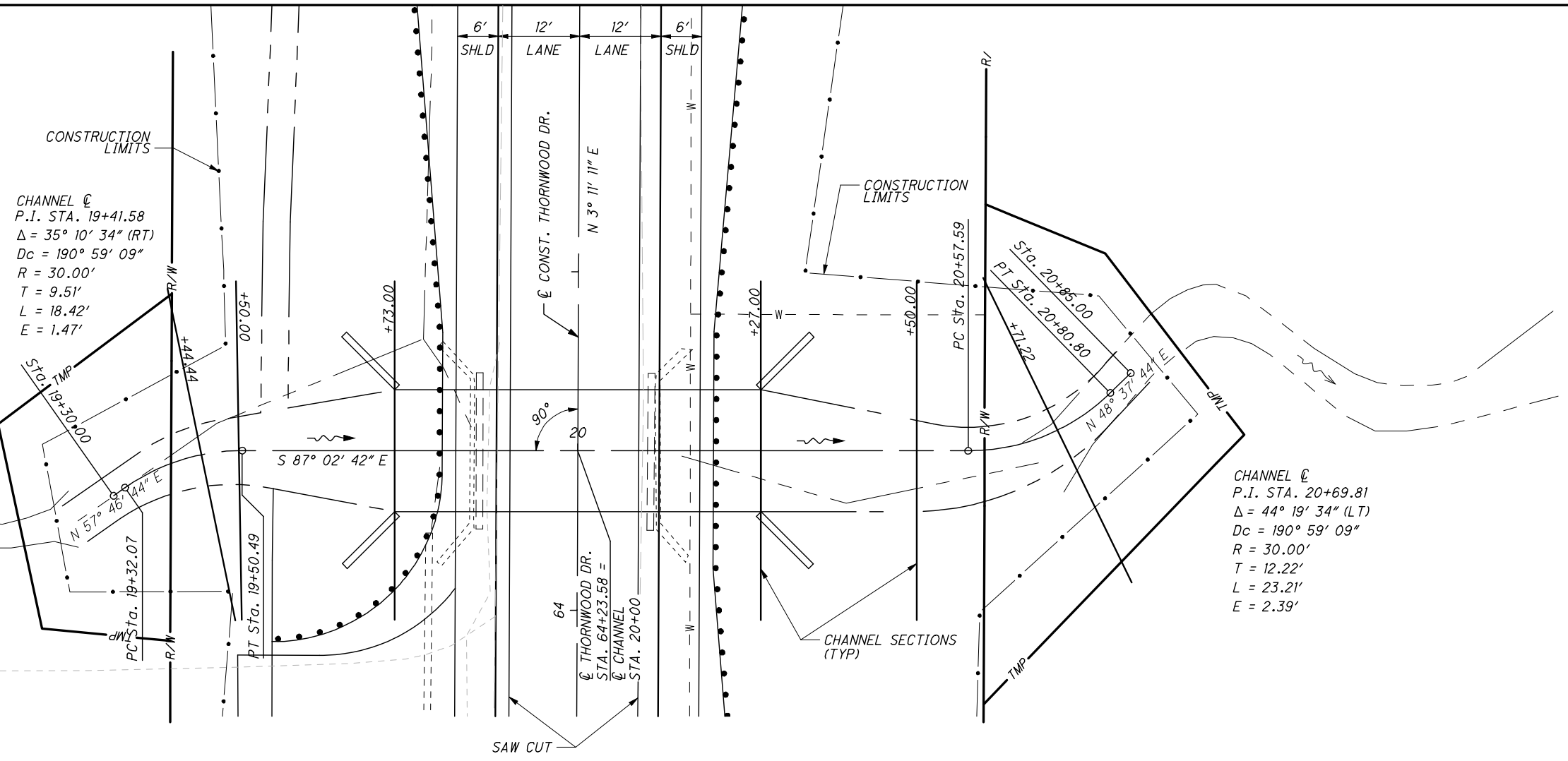
PROPOSED STRUCTURE
TYPE: 21" CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 12 ACRES Q(25): 11.78 CFS HW(25): 913.63 FT V(25): 6.25 FT/S Q(100): 14.98 CFS HW(100): 914.21 FT V(100): 7.11 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



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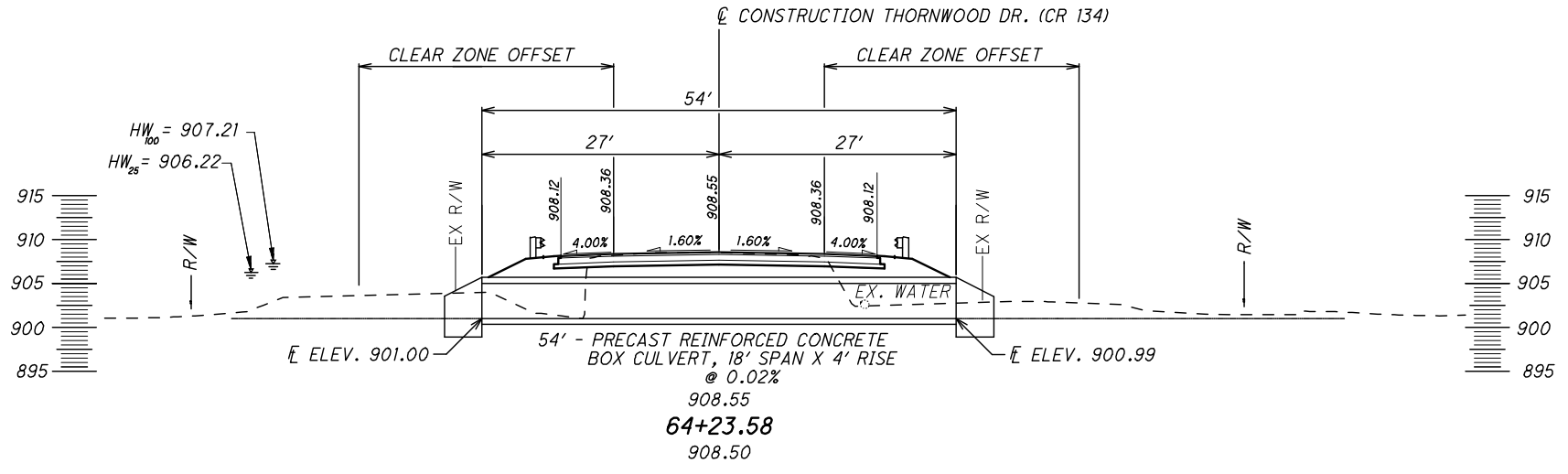


EXISTING STRUCTURE
TYPE: 22' SPAN CONCRETE SLAB BRIDGE SFN: 4561708 SKEW: 0° L.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 18'X4' CONCRETE BOX SKEW: 0° L.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 512 ACRES Q(25): 332 CFS HW(25): 906.22 FT V(25): 2.26 FT/S Q(100): 471 CFS HW(100): 907.21 FT V(100): 1.93 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



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2.5' HORIZONTAL SCALE IN FEET

CALCULATED MMB CHECKED JEL

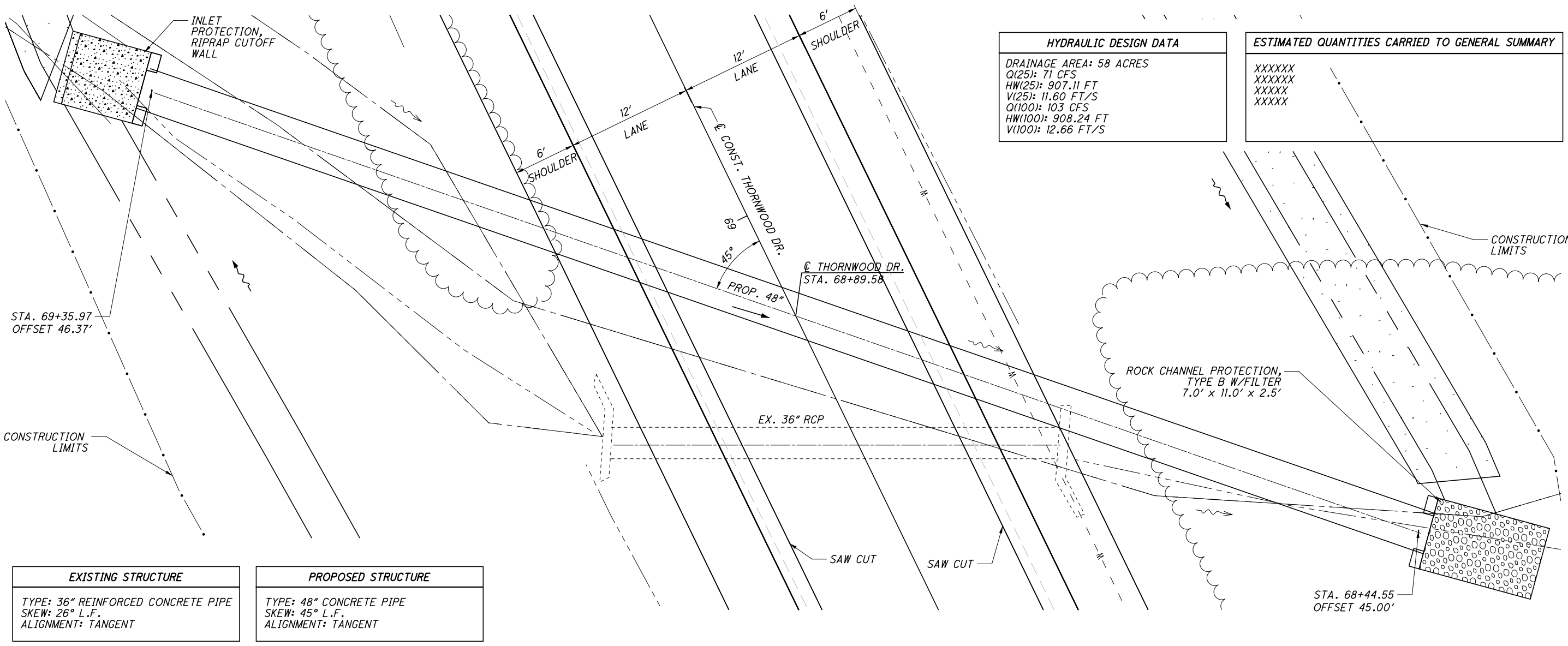
CULVERT DETAIL  
CULVERT #7 STA. 68+89.53

LIC-THORNWOOD

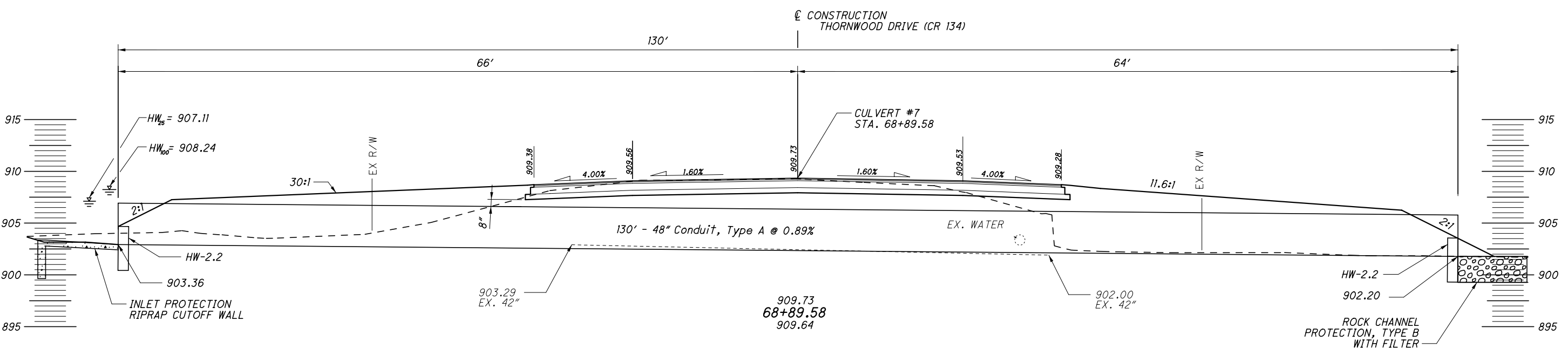
279  
285

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 58 ACRES
Q(25): 71 CFS
HW(25): 907.11 FT
V(25): 11.60 FT/S
Q(100): 103 CFS
HW(100): 908.24 FT
V(100): 12.66 FT/S

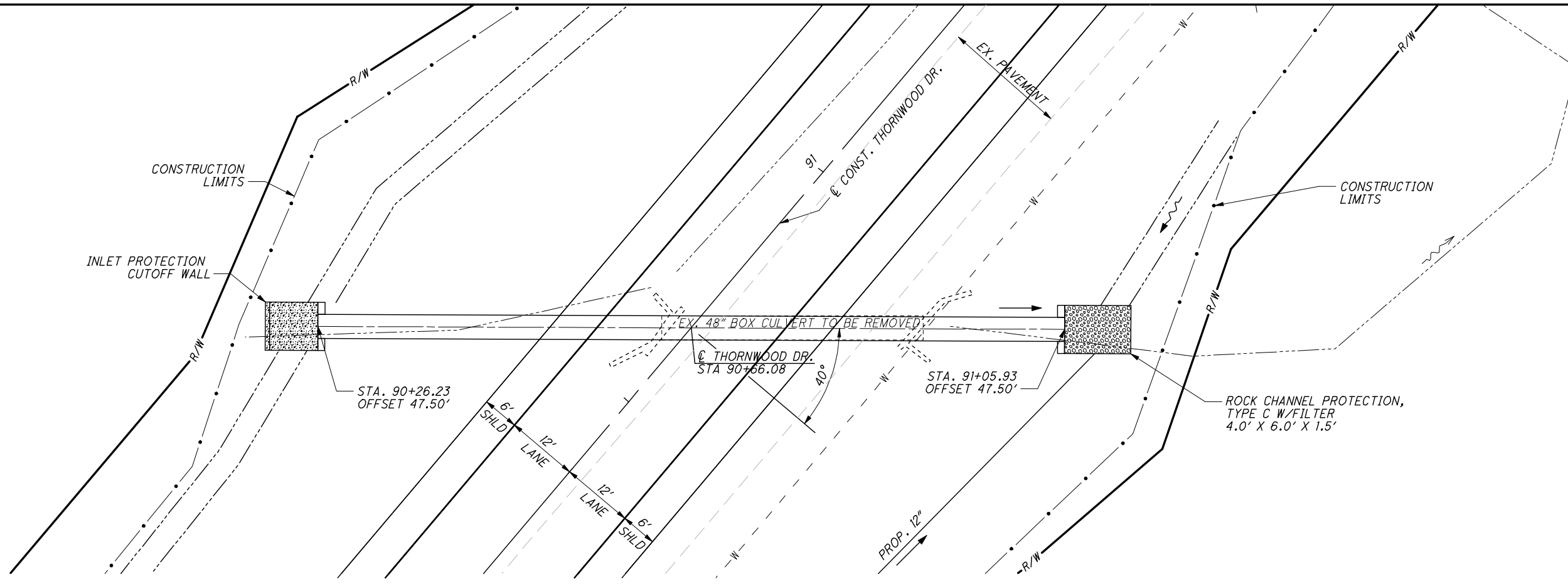
ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX
XXXXXX
XXXXXX
XXXXXX



EXISTING STRUCTURE	PROPOSED STRUCTURE
TYPE: 36" REINFORCED CONCRETE PIPE	TYPE: 48" CONCRETE PIPE
SKEW: 26° L.F.	SKEW: 45° L.F.
ALIGNMENT: TANGENT	ALIGNMENT: TANGENT



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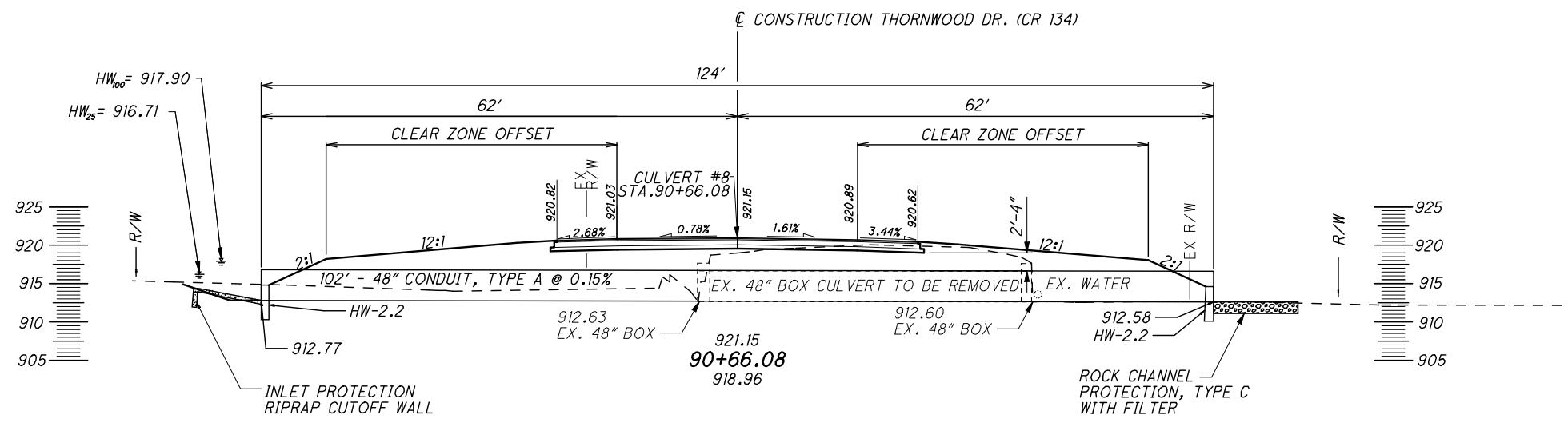
**CULVERT DETAIL**  
**CULVERT #8 STA. 90+66.08**

EXISTING STRUCTURE
TYPE: 48" CONCRETE BOX SKEW: 40° R.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 48" CONCRETE PIPE SKEW: 40° R.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 83 ACRES Q(25): 77 CFS HW(25): 916.71 FT V(25): 6.53 FT/S Q(100): 109 CFS HW(100): 917.90 FT V(100): 9.25 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



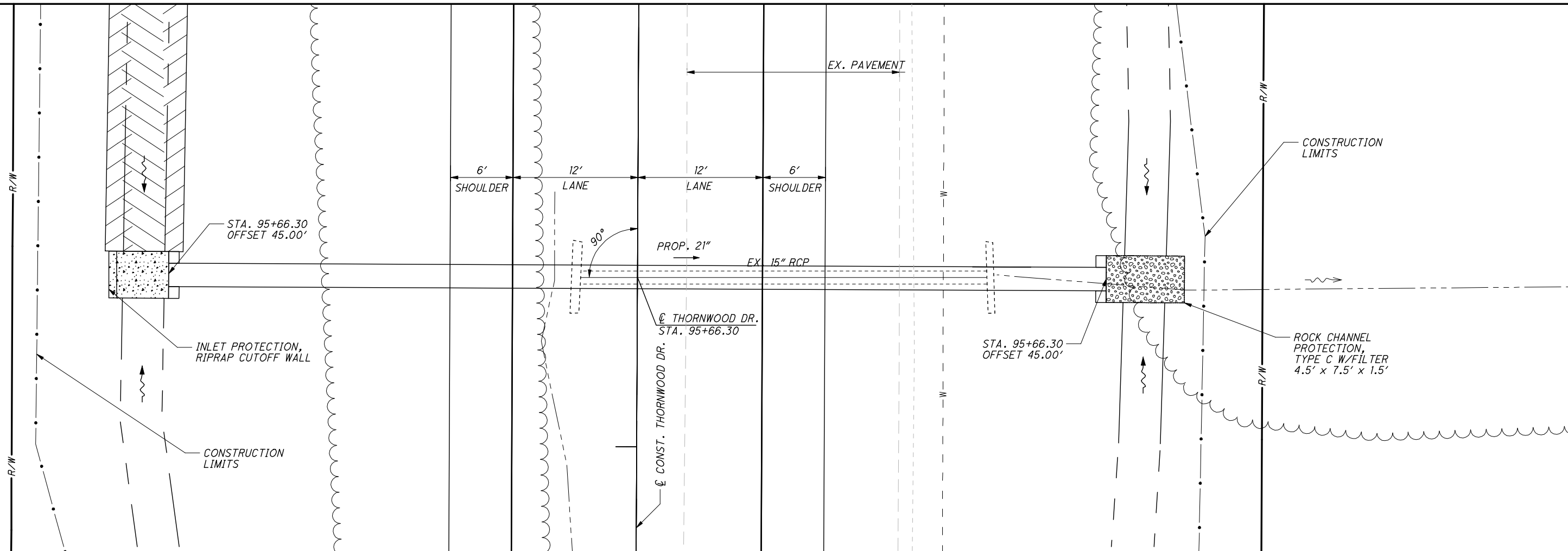
**LIC-THORNWOOD**

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0 5 10  
2.5  
HORIZONTAL  
SCALE IN FEET

CALCULATED  
MMB  
CHECKED  
JEL

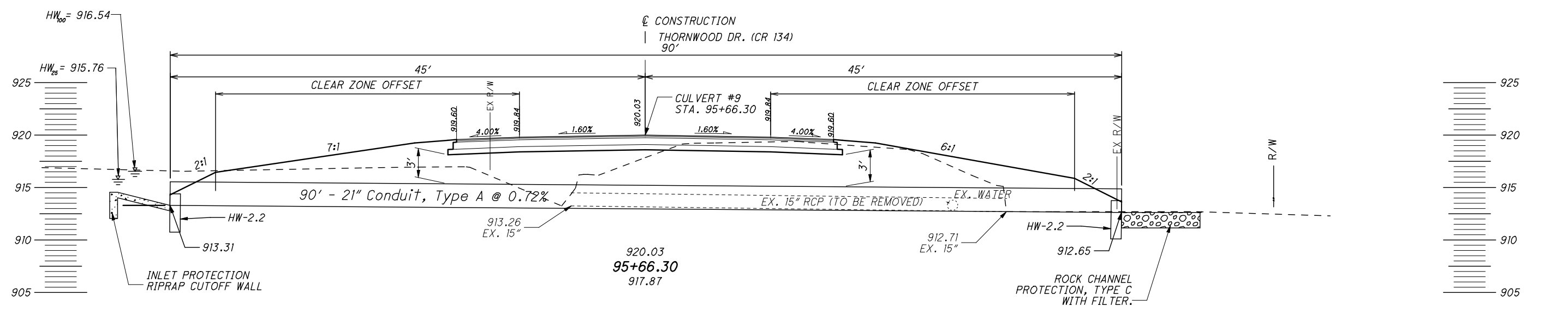


EXISTING STRUCTURE
TYPE: 15" REINFORCED CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 21" CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 13 ACRES Q(25): 15.13 CFS HW(25): 915.76 FT V(25): 6.29 FT/S Q(100): 19.38 CFS HW(100): 916.54 FT V(100): 8.06 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



CULVERT DETAIL  
CULVERT #9 STA. 95+66.30

LIC-THORNWOOD

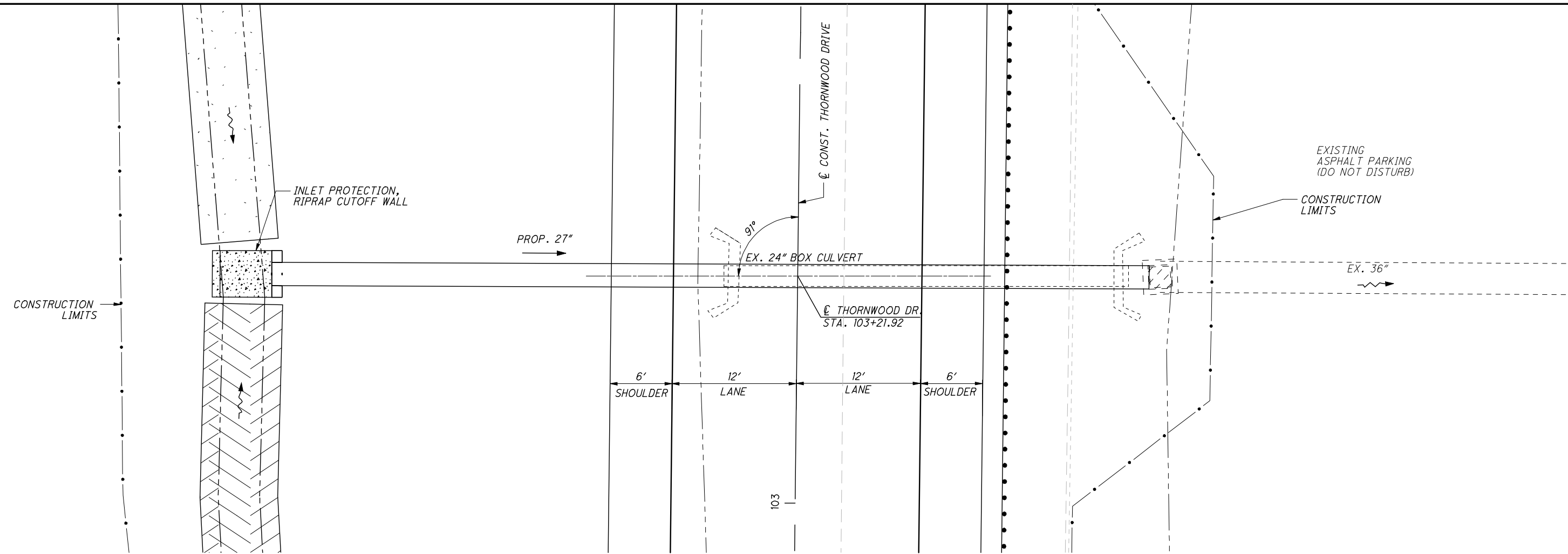
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CALCULATED  
MMB  
CHECKED  
JEL

**CULVERT DETAIL**  
**CULVERT #10 STA. 103+21.92**

**LIC-THORNWOOD**

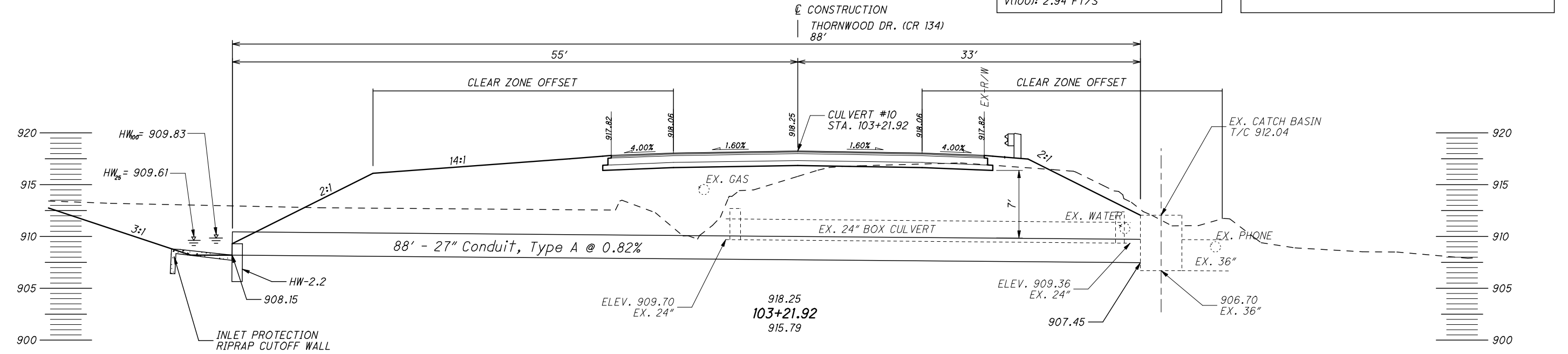


EXISTING STRUCTURE
TYPE: 24" CONCRETE BOX SKEW: 1° L.F. ALIGNMENT: TANGENT

PROPOSED STRUCTURE
TYPE: 27" CONCRETE PIPE SKEW: 1° R.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 10 ACRES
Q(25): 9.2 CFS
HW(25): 909.61 FT
V(25): 6.86 FT/S
Q(100): 11.69 CFS
HW(100): 909.83 FT
V(100): 2.94 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX
XXXXXX
XXXXXX
XXXXXX



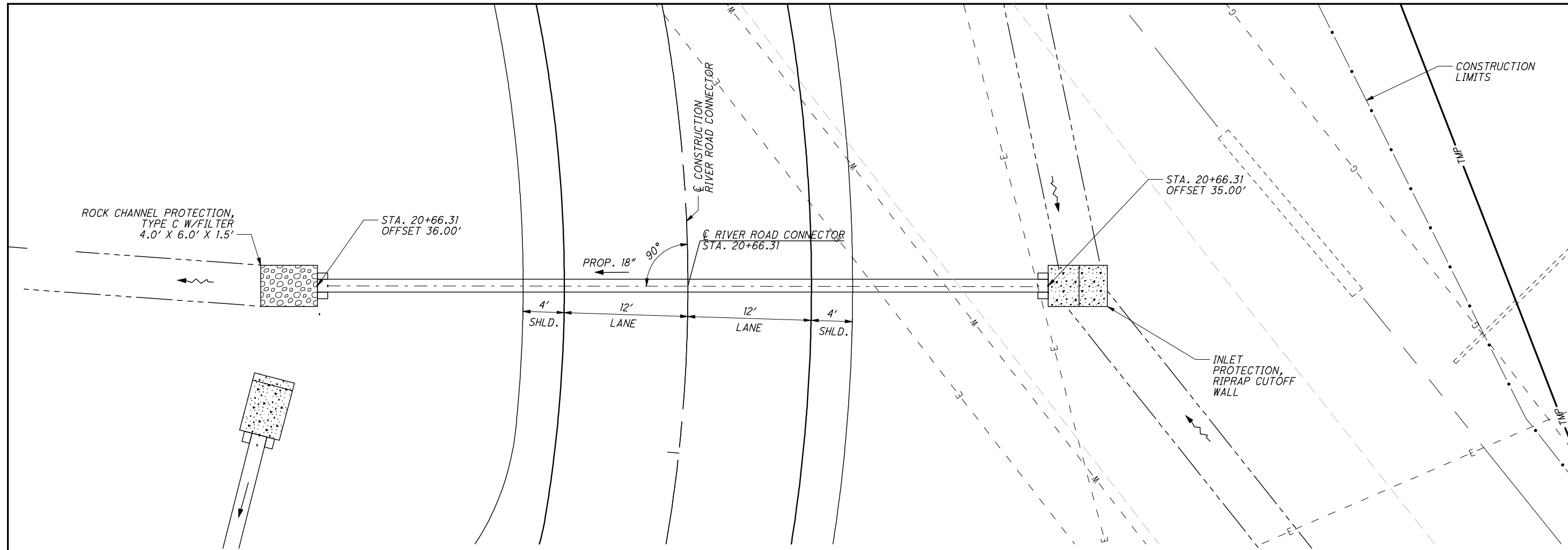
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CALCULATED  
JEL  
CHECKED  
MMS

**CULVERT DETAIL**  
**CULVERT #12 STA. 20+66.31**

**LIC-THORNWOOD**

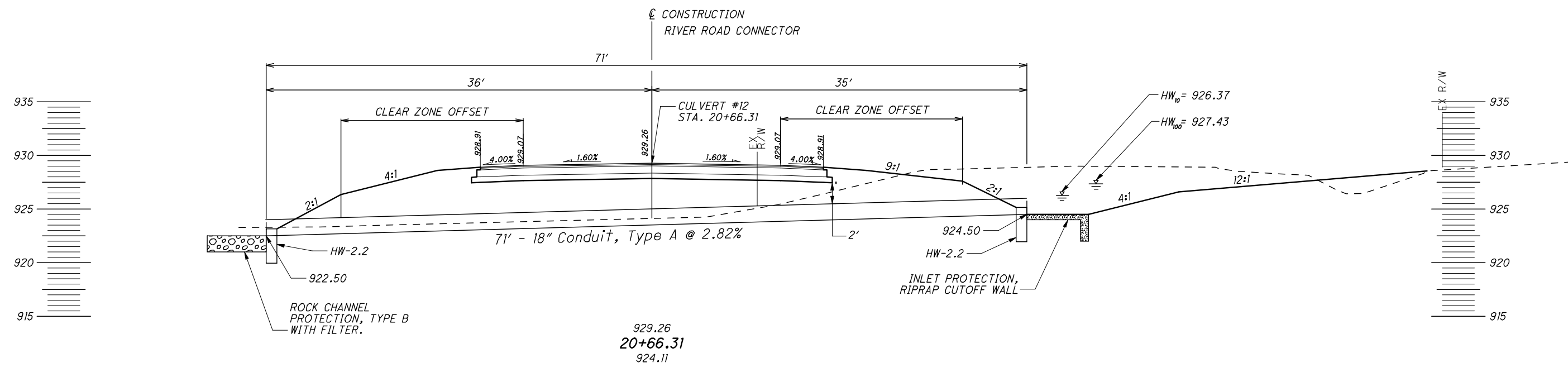


EXISTING STRUCTURE
TYPE: NONE SKEW: NONE ALIGNMENT: NONE

PROPOSED STRUCTURE
TYPE: 18" CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: TANGENT

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 6.21 ACRES Q(10): 9.09 CFS HW(10): 926.37 FT V(10): 10.67 FT/S Q(100): 13.80 CFS HW(100): 927.43 FT V(100): 11.78 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



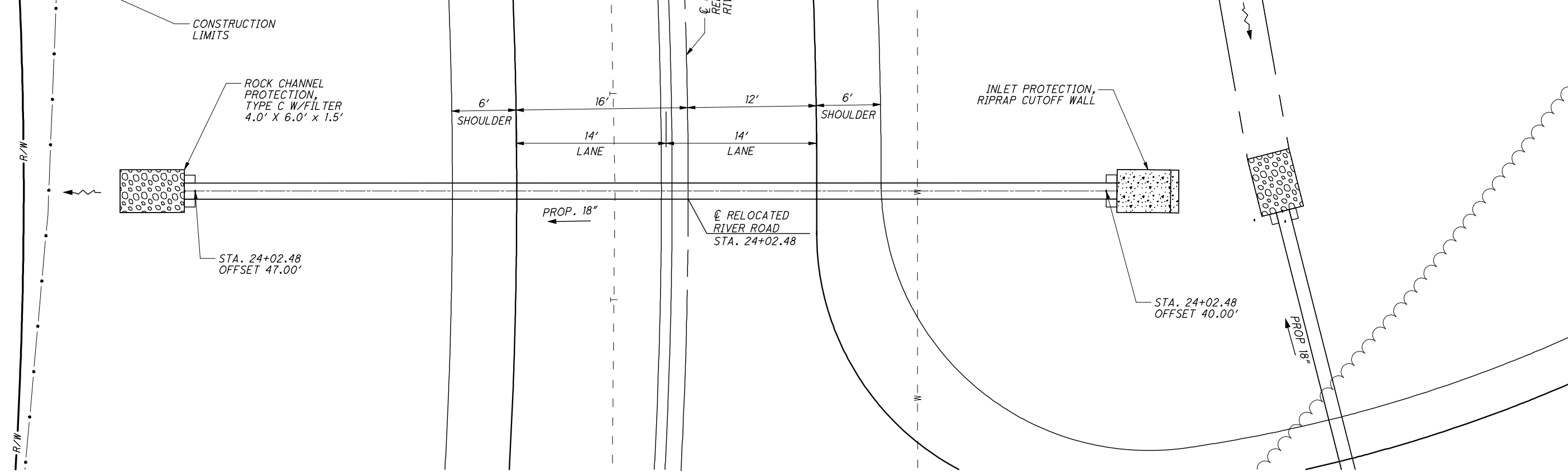
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CALCULATED  
JEL  
CHECKED  
MAS

**CULVERT DETAIL  
CULVERT #13 STA. 24+02.48**

**LIC-THORWOOD**

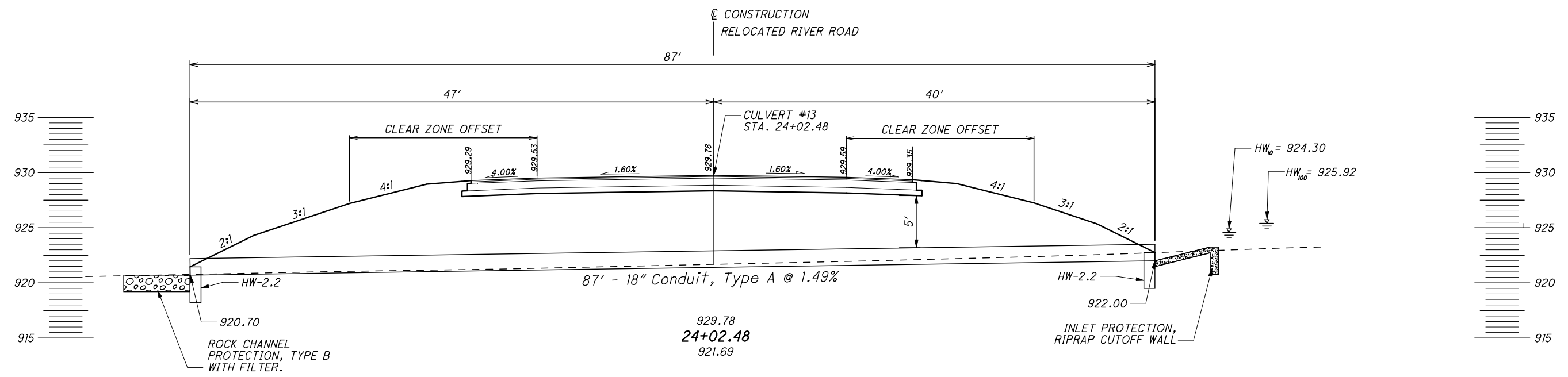


EXISTING STRUCTURE
NONE

PROPOSED STRUCTURE
TYPE: 18" CONCRETE PIPE SKEW: 0° L.F. ALIGNMENT: CURVE

HYDRAULIC DESIGN DATA
DRAINAGE AREA: 7.68 ACRES Q(10): 11.24 CFS HW(10): 924.30 FT V(10): 8.77 FT/S Q(100): 17.07 CFS HW(100): 925.92 FT V(100): 9.66 FT/S

ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY
XXXXXX XXXXXX XXXXXX XXXXXX



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