

Sta. 531+40.27
 10' X 4' X 93' RCB
 D.A. = 378 Ac - R-H
 DES. #111
 REMOVE
 STA 531+02.68
 10' X 6' X 263' RCB CULVERT
 SKEW=30° LA
 FL LT.=886.50
 FL RT.=891.50
 PLACE RIPRAP SPLASH PADS
 AT INLET AND OUTLET.
 RELOCATE CHANNEL AT OUTLET.

PROPOSED PROFILE GRADE ON IA 146

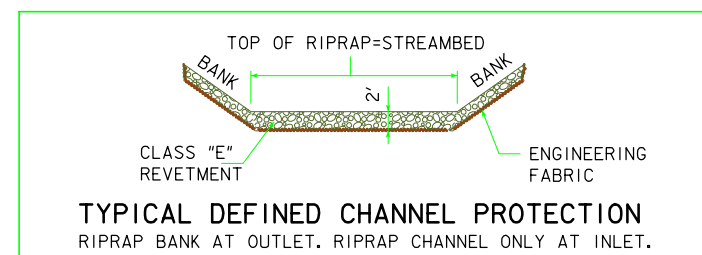
PROFILE GRADE LINE (PGL) IS AT $\frac{1}{2}$ OF LANES.

TRAFFIC ESTIMATE

20?? AADT	?	V.P.D.
20?? AADT	?	V.P.D.
20?? DHV	-	V.P.H
TRUCKS	?	%
TOTAL DESIGN ESAL's	-	

UTILITIES LEGEND:

- PPA ALLIANT ENERGY
- W POWESHIEK RURAL WATER



ESTIMATED REVETMENT QUANTITIES

LOCATION	REVETMENT CL. E (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	50	50	25
OUTLET	300	250	175
TOTALS	350	300	200

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. ASSUMES CHANNEL AND BANKS TO BE GRADED TO GRADING SURFACE PRIOR TO EXCAVATION, THEN RIPRAP PLACED. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

HYDRAULIC DATA

DRAINAGE AREA= 378 ACRES R-H
 10-85 STREAM SLOPE= 62 FT./MI.
 Q₅₀= 541 CFS
 HEADWATER= 898.5
 Q₁₀₀= 649 CFS
 Q₅₀₀= 876 CFS

LOCATION

IA 146 OVER A SMALL STREAM
 T-83N R-17W
 SECTION 13/14
 LEGRAND TOWNSHIP
 MARSHALL COUNTY
 LATITUDE 42.002341° N
 LONGITUDE 92.785144° W



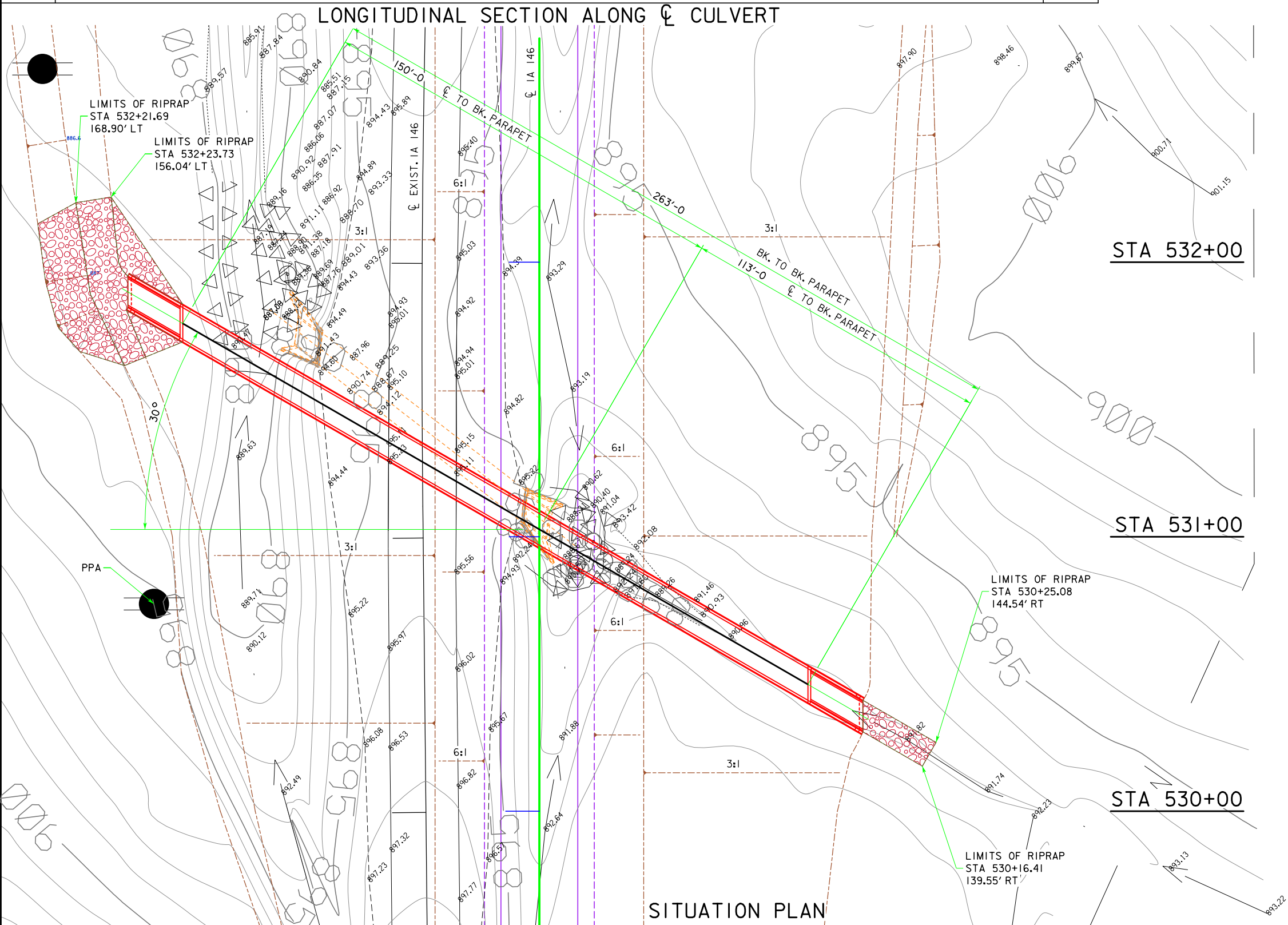
PRELIMINARY

DESIGN FOR 30° LA SKEW
10' x 6' x 263' REINFORCED CONCRETE BOX CULVERT
 WITH 30° HEADWALLS

SITUATION PLAN
 STATION: 531+02.68

MARSHALL COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. _____ OF _____ FILE NO. 27772 DESIGN NO. 218



SITUATION PLAN