

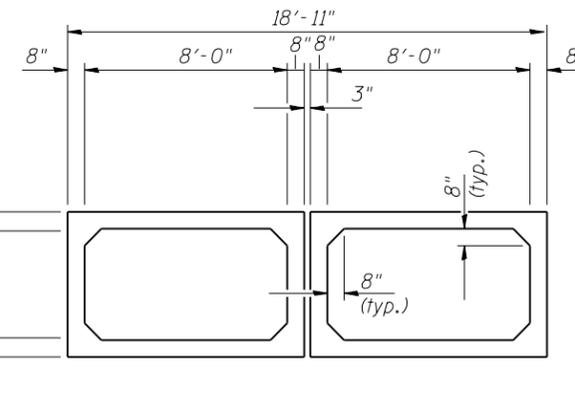
Benchmark: See Roadway Plans

Existing Structure: Double 48" reinforce concrete pipe culvert installed unknown. Extended in 1993 with 48" metal pipe. The existing culverts are to be removed and replaced with a 8' cl. span by 4' cl. height precast double box culvert with poured headwalls utilizing stage construction.

No salvage

**INDEX OF CULVERT PLANS**

1. General Plan and Elevation & Total Bill of Material
2. Staging Details
3. CIP Headwall Details
4. Temporary Soil Retention System Detail & Soil Boring



**SECTION THRU PRECAST BARREL**

**GENERAL NOTES**

1. The Box Culvert has a fill height greater than 2 ft. Precast Concrete Box Culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications and the applicable requirements of ASTM C 1577.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.
4. The Resident Engineer shall contact the District 3 Geotechnical Engineer to determine final depth of Removal and Disposal of Unsuitable Material & Rock Fill.

**WATERWAY INFORMATION**

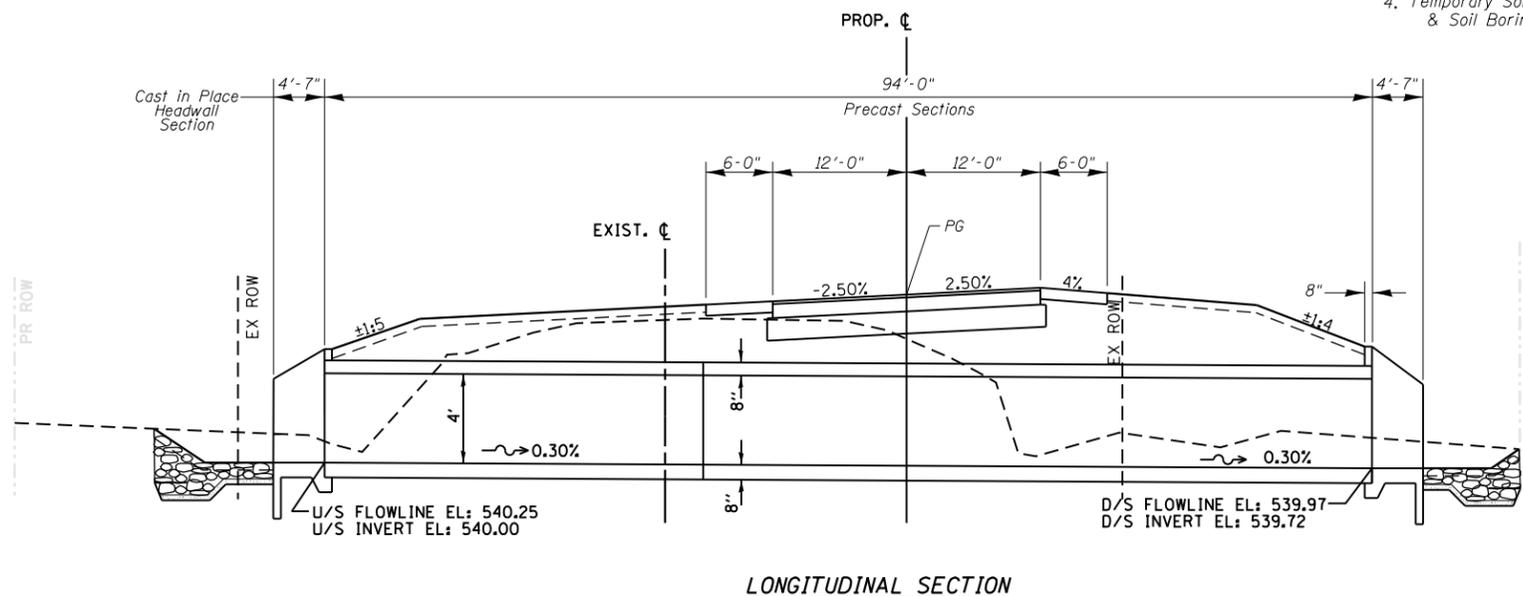
Drainage Area = 0.47 Sq. Mi.  
 Exist. Low Grade Elev. 545.0 @ Sta. 68+36 Prop. Low Grade Elev. 545.0 @ Sta. 66+75

Flood Year	Freq.	Q cfs	Opening Sq. Ft.		Nat. H.W.E.	Head - Foot		Headwater Elev. (ft)	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
10	88	13	43	542.7	0.8	0.0	543.5	542.7	
Design	50	172	14	51	543.2	3.3	0.0	546.5	543.2
Base	100	225	14	54	543.4	3.2	0.0	546.6	543.4
Overtopping	>500							545.0	545.0
Max. Calc.	500	383	14	62	543.9	2.8	0.0	546.7	543.9

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Pipe Culvert Removal	Foot	98
Reinforcement Bars (Epoxy Coated)	Pound	820
Temporary Soil Retention System	Sq. Ft.	297
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	13.9
Precast Concrete Box Culvert 8'x4'	Foot	188
Stone Riprap Class A4	Sq. Yd.	62
Filter Fabric	Sq. Yd.	62
Porous Granular Embankment	Cu. Yd.	292
Removal and Disposal of Unsuitable Material	Cu. Yd.	319
Rock Fill	Cu. Yd.	319

**GENERAL PLAN**  
**MINOOKA ROAD (CH 16) OVER**  
**TRIBUTARY OF AUX SABLE CREEK**  
**F.A.I. 80 - SECTION (32,47-4)HBR-2**  
**GRUNDY COUNTY**  
**STA. 66+62.55**

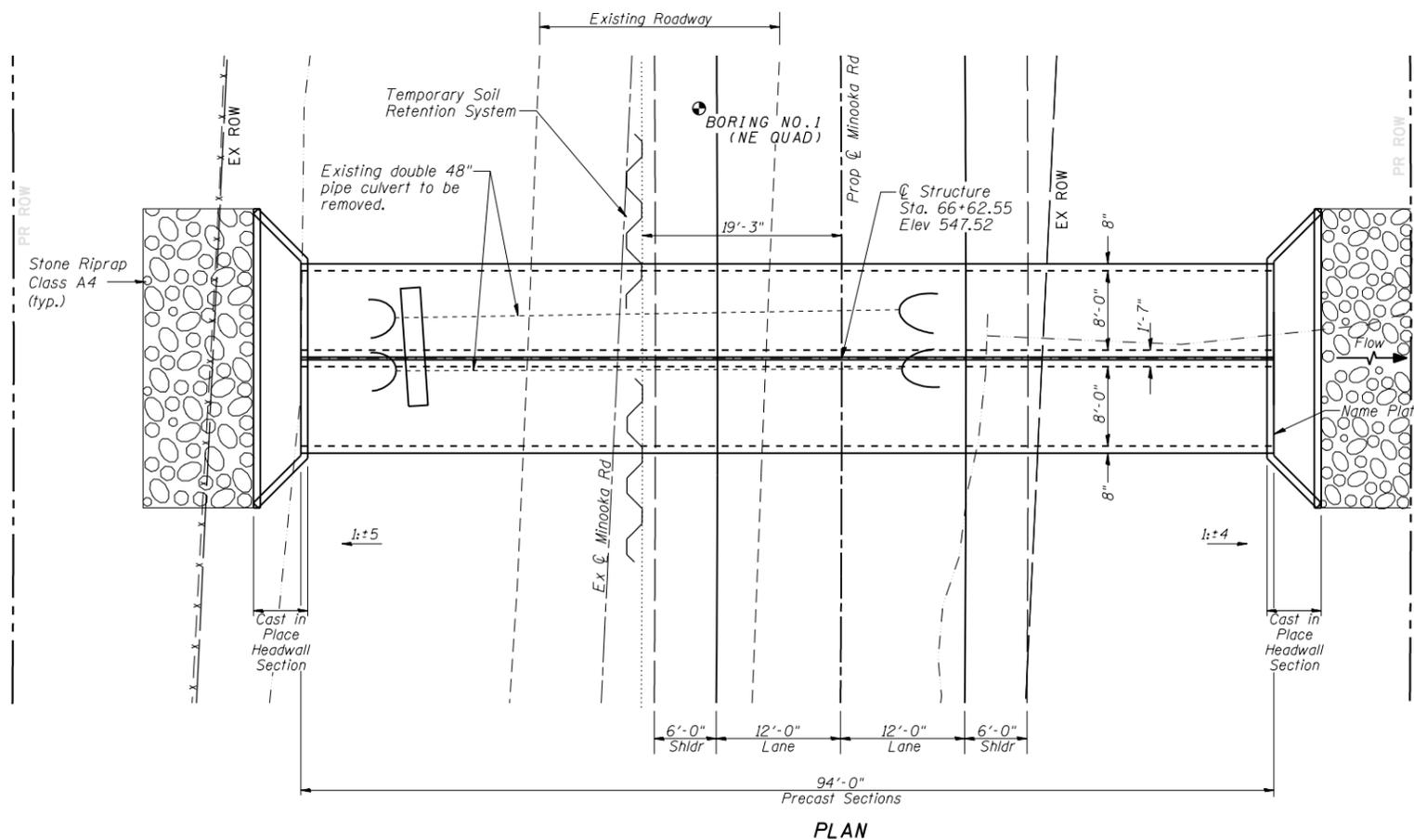


**LONGITUDINAL SECTION**

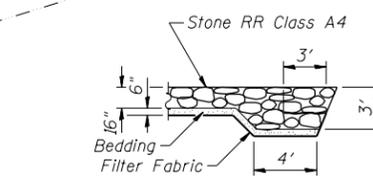
**STATION 66+62.55**  
**BUILT 201 BY**  
**STATE OF ILLINOIS**  
**FAI RT 80 SEC (32,47-4)HBR-2**  
**LOADING HL 93**

**NAME PLATE**

See Std. 515001



**PLAN**



**LOADING HL 93**

Allow 50#/sq. ft. for future wearing surface.  
 Design Fill Ht. > 2'

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

**DESIGN STRESSES**

**PRECAST**  
 $f'_c = 5,000$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 65,000$  psi (welded Wire fabric)

**CAST-IN-PLACE**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

FILE NAME =	USER NAME = duncanbd	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>BOX CULVERT DETAILS</b> <b>GENERAL PLAN AND ELEVATION</b>		F.A.I. RE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pw\work\p1dot\duncanbd\dms58037\ep01904-sht-boxculvertdetails.DGN		DRAWN -	REVISED -		80	(32,47-4)HBR-2	GRUNDY	143	58		
PLOT SCALE = 100.0000' / in.		CHECKED -	REVISED -		CONTRACT NO. 66873						
PLOT DATE = 3/15/2013		DATE -	REVISED -		ILLINOIS FED. AID PROJECT						