

**TOTAL BILL OF MATERIAL**

Item	Unit	Quantity
Concrete Box Culverts	Cu. Yd.	182.3
Reinforcement Bars	Pound	41360
Granular Culvert Backfill	Cu. Yd.	234
Temporary Soil Retention System	Sq. Ft.	399
Name Plates	Each	1
Rockfill- Foundation	Ton	354
Bar Splicers	Each	101
Removal of Existing Structures	Each	1

**WATERWAY INFORMATION**

Drainage Area = 1.76 Sq. Mi.		Ex. Low Grade Elev. 646.18 ft. @ Sta. 450+00		Pr. Low Grade Elev. 649.95 ft. @ Sta. 452+00		
Flood	Freq. Yr.	0 C.F.S.	Opening Sq. Ft.	Natural H.W.E. Exlst. Prop.	Head - ft. Exlst. Prop.	Headwater El. Exlst. Prop.
Design	10	491	31.6 82.1	645.2 645.3	0.1 0.6	645.3 645.9
Base	50	787	31.6 94.3	645.9 646.0	0.4 1.2	646.3 647.2
Overtopping	100	919	31.6 98.6	646.1 646.2	0.5 1.5	646.6 647.7
Max. Calc.	500	1240	31.6 107.6	646.6 646.7	0.6 2.4	647.3 649.1

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation	D.S. Invert	U.S. Invert
	637.2	637.5

**GENERAL NOTES**

Reinforcement bars shall conform to the requirements of A.S.T.M. A 706, Grade 60. See Special Provisions.  
 For backfilling and embankment, see Special Provisions.  
 Cast in place concrete exposed edges shall be beveled  $\frac{3}{4}$ ".  
 Precast alternative is not allowed.  
 A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with wingwalls

**LOADING HS20-44**

Allow 50#/sq.ft. for future wearing surface

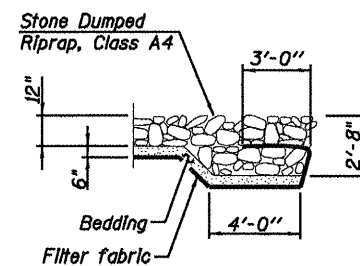
**DESIGN SPECIFICATIONS**

2002 A.A.S.H.T.O. Standard Specifications for Highway Bridges.

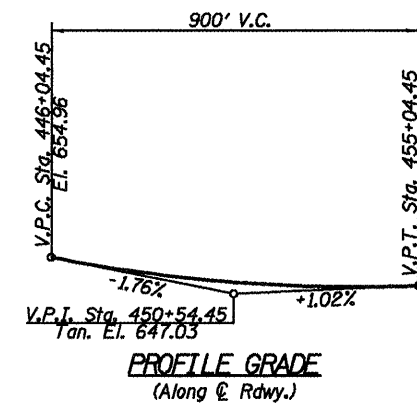
**DESIGN STRESSES**

**FIELD UNITS**

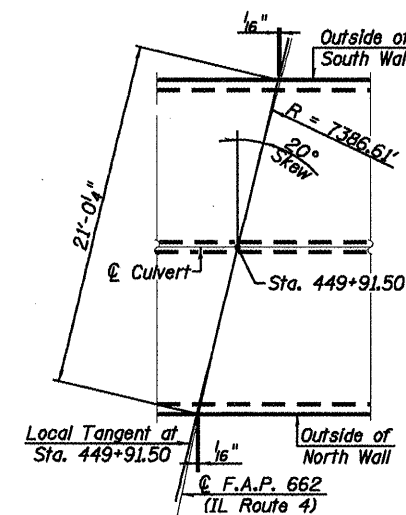
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)



**RIPRAP FLANK DETAIL**



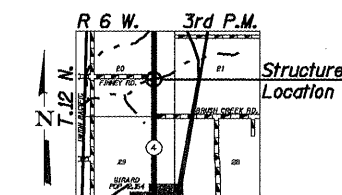
**PROFILE GRADE**  
(Along C. Rdwy.)



**OFFSET SKETCH**

STA. 449+91.50  
 BUILT 20 BY  
 STATE OF ILLINOIS  
 F.A.P. RTE. 662-SECTION DW-3,RS-1D  
 LOADING HS20  
 STR. NO. 059-7101

**NAME PLATE**  
(Standard 51500)



**LOCATION SKETCH**

**GENERAL DATA**  
**STRUCTURE NO. 059-7101**



**Allen Henderson & Associates, Inc.**  
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 62703 Phone: (217)544-8033 IL. Design Firm  
 No. 184-001907

SHEET NO. 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	662	D(W-3,RS-11,CR)	MACOUPIN	102	65
9 SHEETS	CONTRACT NO. 72765				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			