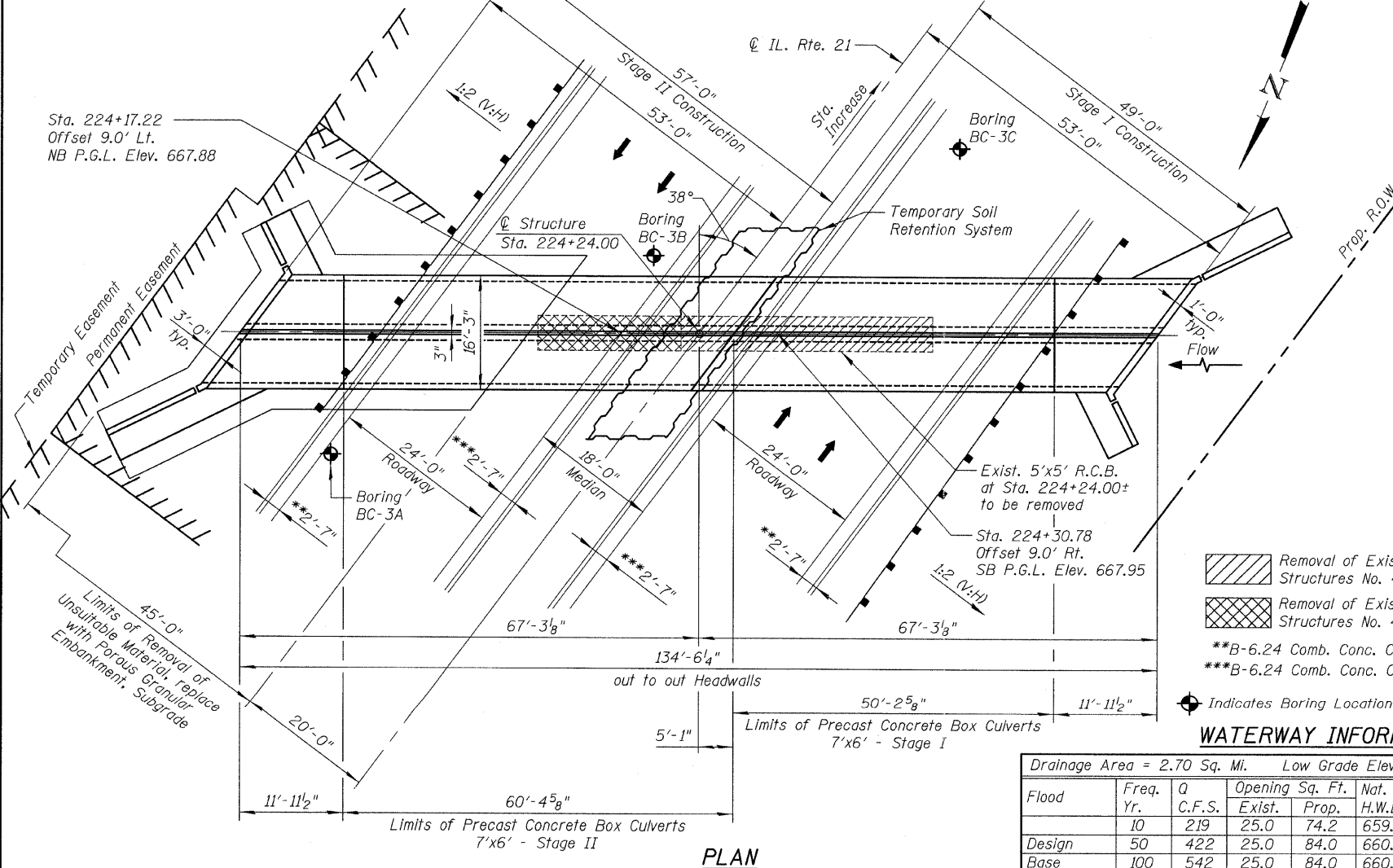
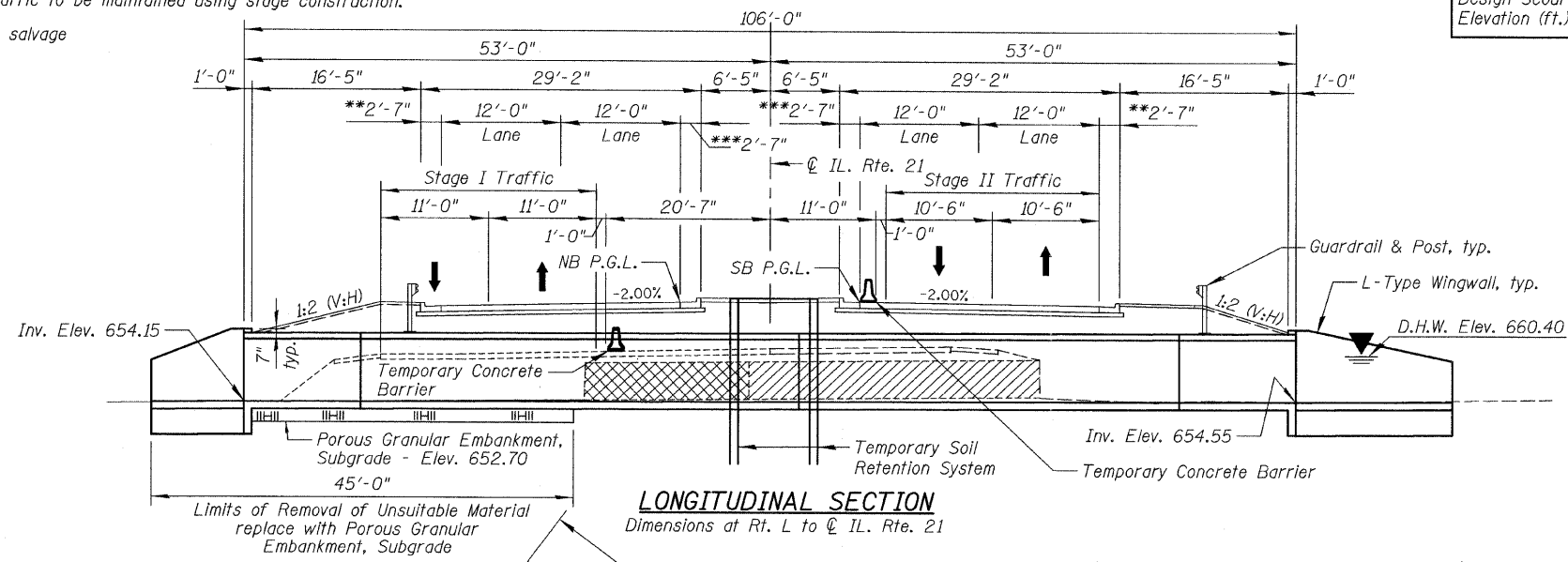


B.M.: Chiseled box on top of S.E. wingwall of existing bridge over Bull Creek, Elevation 669.64

Existing structure is a 5'x5' reinforced concrete box culvert, to be removed.

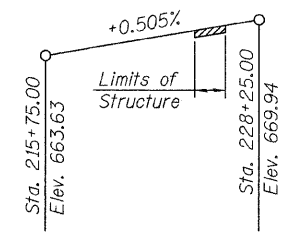
Traffic to be maintained using stage construction.

No salvage



**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	Upstream	Downstream
	651.55	651.15



**PROFILE GRADE**  
(Along NB & SB P.G.L.)

**DESIGN SPECIFICATIONS**  
2002 AASHTO Standard Specifications For Highway Bridges

**DESIGN STRESSES**  
**FIELD UNITS**

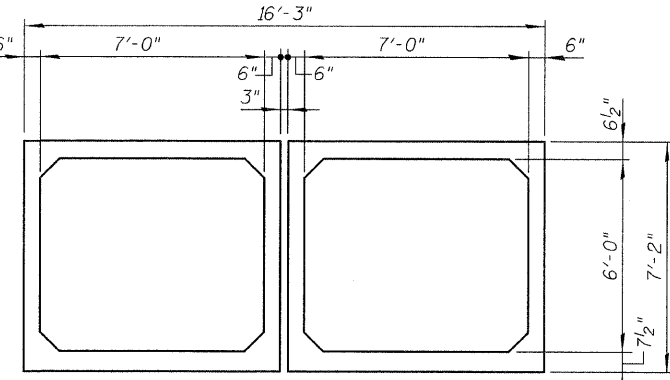
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST UNITS**

$f'_c = 5,000$  psi  
 $f_y = 65,000$  psi (Welded wire fabric)

**LOADING HS-20**

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



**SECTION THRU PRECAST CULVERT**  
(Wall and Slab thickness may vary as per manufacturer)

- Removal of Existing Structures No. 4 - Stage I
- Removal of Existing Structures No. 4 - Stage II
- \*\*B-6.24 Comb. Conc. Curb & Gutter
- \*\*\*B-6.24 Comb. Conc. Curb & Gutter (Special)
- Indicates Boring Locations

**WATERWAY INFORMATION**

Drainage Area = 2.70 Sq. Mi.		Low Grade Elev. 664.20 @ Sta. 216+90.00							
Flood Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E. Exist.	Prop.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
10	219	25.0	74.2	659.7	1.6	0.3	661.4	660.0	660.0
Design	50	422	25.0	84.0	660.4	1.7	0.6	662.1	661.0
Base	100	542	25.0	84.0	660.6	1.7	1.1	662.3	661.7
Overtopping	340	825	25.0	84.0	661.2	1.2	2.5	660.6	663.7
Max. Calc.	500	921	25.0	84.0	661.4	1.2	2.8	662.6	664.2

**GENERAL NOTES:**

- Reinforcement Bars shall conform to the requirements of ASTM A 706, Gr. 60. See Special Provisions.
- All exposed concrete edges shall be chamfered 3/4" unless otherwise noted.
- Reinforcement Bars designated (E) shall be Epoxy Coated.
- The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.
- The Porous Granular Embankment, Subgrade shall be capped with 6 in. of CA7 and satisfy the Standard Specifications unless otherwise indicated in the Special Provisions. The cost of the capping material shall be included in the Pay Item for "Porous Granular Embankment, Subgrade".

**INDEX OF SHEETS**

- SC4-1 GENERAL PLAN & ELEVATION
- SC4-2 STAGE CONSTRUCTION DETAILS
- SC4-3 CAST-IN-PLACE END SECTION DETAILS-I
- SC4-4 CAST-IN-PLACE END SECTION DETAILS-II
- SC4-5 SOIL BORING LOGS

**TOTAL BILL OF MATERIAL**

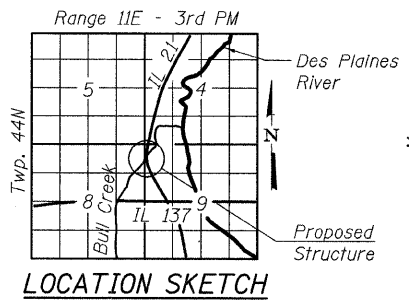
DESCRIPTION	UNIT	QUANTITY
Removal of Existing Structures No. 4	Each	1
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	80
Reinforcement Bars	Pound	7,850
Reinforcement Bars, Epoxy Coated	Pound	170
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	34.0
Precast Concrete Box Culverts 7'x6'	Foot	222
Temporary Soil Retention System	Sq. Ft.	932
Porous Granular Embankment, Subgrade	Cu. Yd.	50



Bhadresh N. Shah  
BHADRESH N. SHAH  
LICENSED STRUCTURAL ENGINEER  
STATE OF ILLINOIS LIC. No. 081-004476  
EXPIRES: 11-30-12

**GENERAL PLAN & ELEVATION**

**ILLINOIS ROUTE 21**  
**TRIBUTARY NO. 1 TO THE**  
**DES PLAINES RIVER**  
**F.A.P. 330 SEC. 128R-3**  
**LAKE COUNTY**  
**STATION 224+24.00**  
**STRUCTURE NO. 049-0241**  
**OUTLET NO. 18**



FILE NAME = D160953-01-GPE.dgn	USER NAME =	DESIGNED - J.C.N./B.N.S.	REVISED -
		CHECKED - B.N.S.	REVISED -
		DRAWN - F.J.M.	REVISED -
		CHECKED - B.N.S./J.C.N.	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION  
STRUCTURE NO. 049-0241

F.A.P. RTE. 330	SECTION 128R-3	COUNTY LAKE	TOTAL SHEETS 518	SHEET NO. 365
				CONTRACT NO. 60953
ILLINOIS FED. AID PROJECT				

CHRISTIAN-ROGE & ASSOCIATES, INC.