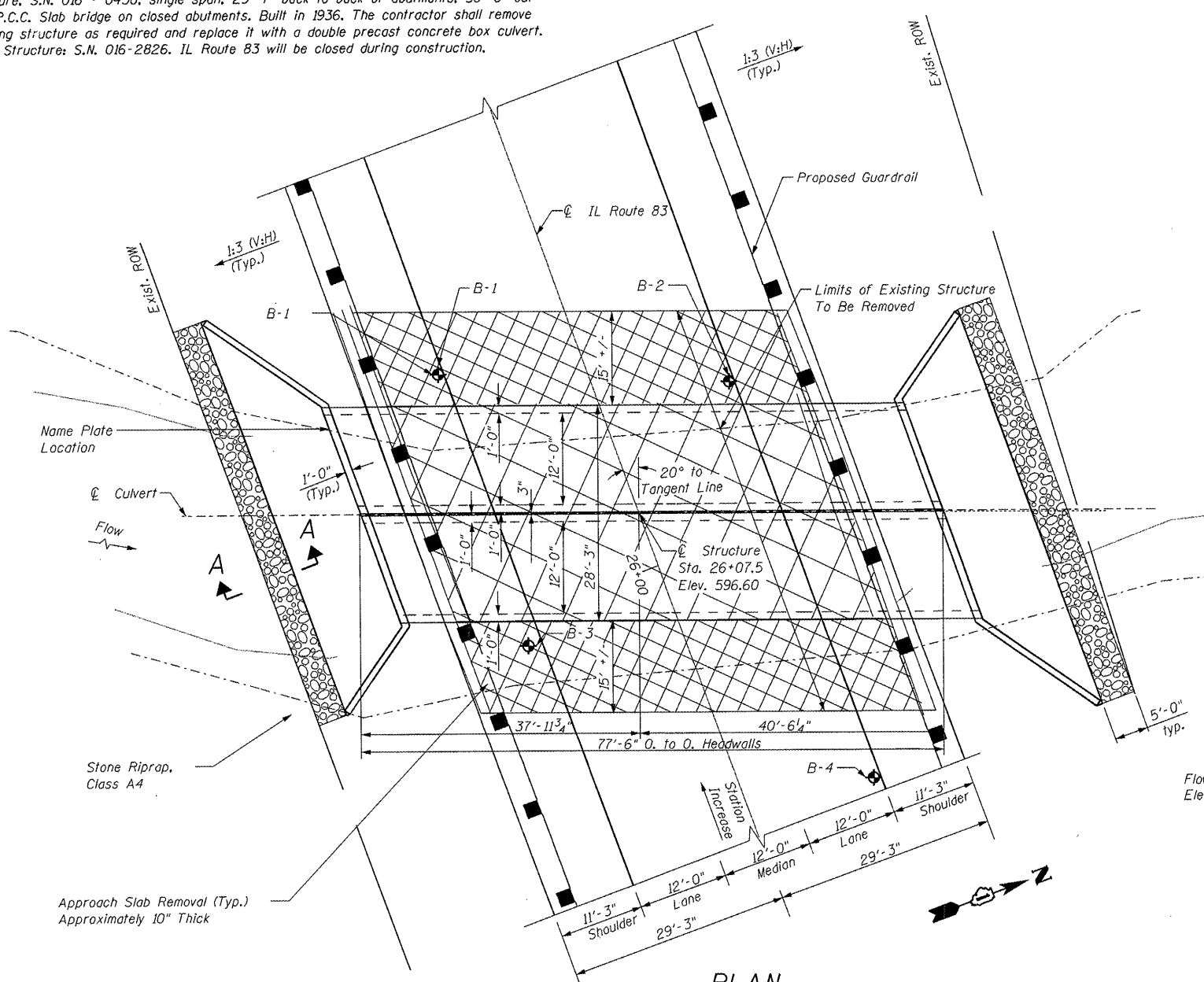


Bench Mark: BM # 4 Chiseled square on Southeast end of Concrete Bridge, Elev. 596.28
 Existing Structure, S.N. 016 - 0430, single span, 29'-7" back to back of abutments, 58'-0" out to out. P.C.C. Slab bridge on closed abutments. Built in 1936. The contractor shall remove the existing structure as required and replace it with a double precast concrete box culvert.
 Proposed Structure: S.N. 016-2826. IL Route 83 will be closed during construction.

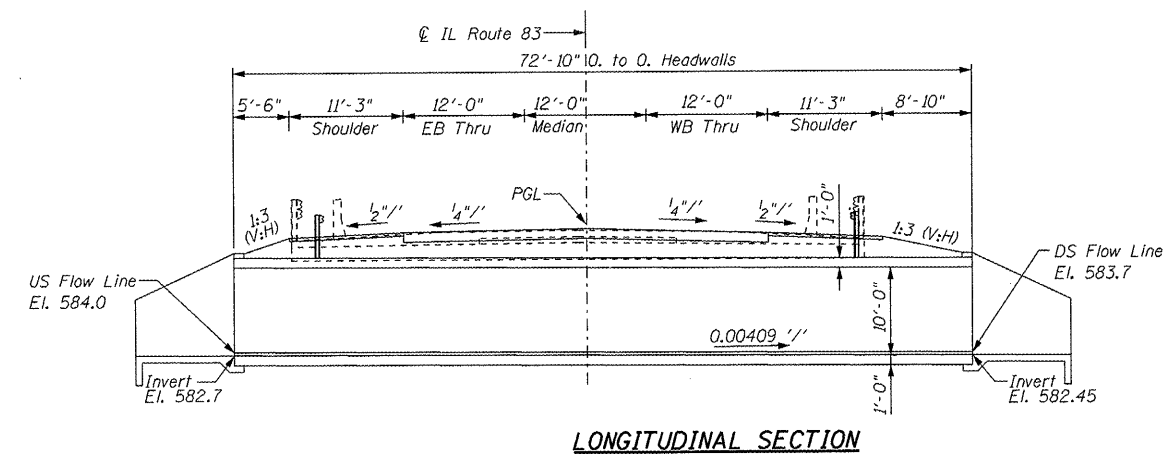
No salvage



PLAN

CURVE DATA

$\Delta = 4^\circ 19' 16''$ (RT)
 $D = 0^\circ 36' 02''$
 $T = 359.90'$
 $L = 719.46'$
 $E = 6.79'$
 $R = 9,539.37'$
 $P.C. = \text{Sta. } 25+02.32$
 $P.T. = \text{Sta. } 32+21.77$
 $P.I. = \text{Sta. } 28+62.22$



LONGITUDINAL SECTION

GENERAL NOTES:

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
 Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

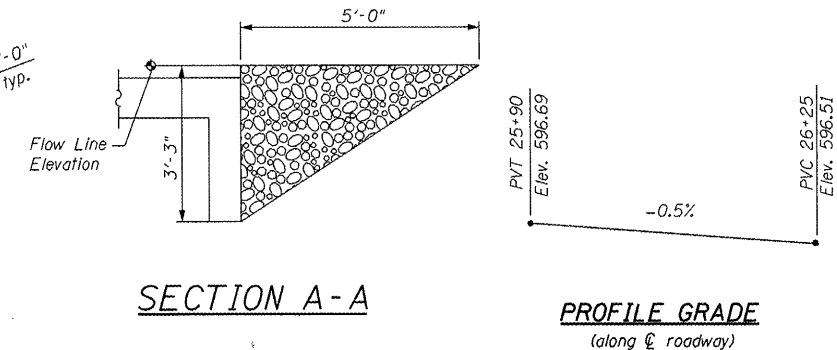
BOX CULVERT END SECTIONS, Culvert No. 1 shall be paid for as noted in Article 540.08, and The Contract Unit Price for BOX CULVERT END SECTIONS, Culvert No. 1 shall include all porous granular bedding material, cast in place wingwalls, headwalls, and aprons, cast in place portions between cells, reinforcement, excavation, backfill, and preformed joint filler.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stone Dumped Riprap, Class A4	Sq. Yd.	65
Removal of Existing Structures	Each	1
Name Plates	Each	1
Box Culvert End Sections, Culvert No. 1	Each	2
Precast Box Culvert 12" X 10"	Foot	155
Approach Slab Removal	Sq. Yd.	185
Porous Granular Embankment, Subgrade	Cu. Yd.	1,035

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. INVERT	U.S. INVERT
	579.45	579.70



SECTION A-A

PROFILE GRADE
(along centerline of roadway)

WATERWAY INFORMATION

Drainage Area = 11.1 Sq. Mi Low Grade Elev. 596.11 @ Sta. 21+50

Flood Yr.	Freq.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
10	684	94	137	588.6	1.1	1.1	589.7	589.7	
Design	50	1470	168	211	591.8	2.3	1.0	594.1	592.8
Base	100	1870	201	216	593.6	1.9	1.5	595.5	595.1
Overtopping	250	2130	201	216	594.0	2.0	2.0	596.0	596.0
Max. Calc.	500	2555	201	216	594.7	2.2	2.4	596.9	597.1

HIGHWAY CLASSIFICATION

F.A.P. Rte. 344 - IL. Rte 83
 ADT: 11,200 (2001); 13,500 (2020)
 ADTT: 923 (2021)
 Functional class: Other Principal Arterial (Rural)
 Design Speed: 55 mph

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

LOADING HS-20-44

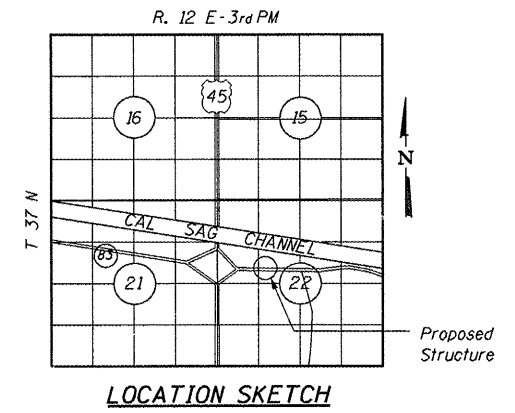
Allow 50#/Sq.ft. for Future Wearing Surface

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)
 Maximum Soil Pressure under culvert = 1950 psf

STATION 26+08
 BUILT 2012 BY
 STATE OF ILLINOIS
 F.A.P. RT. 344 SEC. 102Y-A-B
 F.A. PROJ.
 LOADING HL93
 STR. NO. 016-2826

NAME PLATE
 See Std. 515001



LOCATION SKETCH

To the best of my knowledge, information and belief, this retaining wall design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO Standard Specifications for Highway Bridges".

Mark J. Das
 Structural Engineer Expires 11/30/2012
 HR Green, Inc.



GENERAL PLAN AND ELEVATION
 IL ROUTE 83 OVER MILL CREEK
 F.A.P. ROUTE 344 - SECTION 102Y-A-B
 COOK COUNTY
 STATION 26+07.50
 EXISTING STRUCTURE NO. 016-0430
 PROPOSED STRUCTURE NO. 016-2826