

BENCH MARK
USGS DISC Dated 1948 in the Southeast Wingwall of the Hobson Road Bridge over the West Branch of the DuPage River.
Elevation 660.28 (201.253)

EXISTING STRUCTURE
The existing structure (S.N. 022-3013) carries Hobson Road over the West Branch of the DuPage River. The original two lane structure was designed for a Live Load of H20-44 and was built in 1947.
The existing structure consists of a 14.6304 m (48'-0") roadway carrying one lane of traffic in each direction along with a partial left turn lane onto southbound Washington Street. The superstructure consists of seven variable depth reinforced concrete T-beams supporting a seven inch reinforced concrete deck. The beams vary in depth from .762 m (2'-6") at midspan to 1.524 m (5'-0") at the center of the pier. The two abutments (reinforced concrete) and the single pier (non-reinforced concrete) supporting the superstructure are supported by spread footings founded on bedrock. These substructure elements are at right angles to the centerline of the roadway. There are steel roller bearings at each abutment and a low profile steel fixed bearing at the pier.
The existing superstructure, pier and abutments shall be removed and disposed of in their entirety. The existing face-to-face of abutment dimension of 31.394m will be maintained. During construction, the bridge shall be closed and traffic will be detoured.

W. J. VEGRYN 4/25/98
WILLIAM J. VEGRYN, ILLINOIS S.E., 081-004983
MY LICENSE EXPIRES 11-30-98

"I Certify that to the best of my knowledge, information and belief, this bridge 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.'"



DATE NO.	SECTION	COUNTY	DATE	SHEET NO.
		DuPage	21	10
12 SHEETS				

GENERAL NOTES

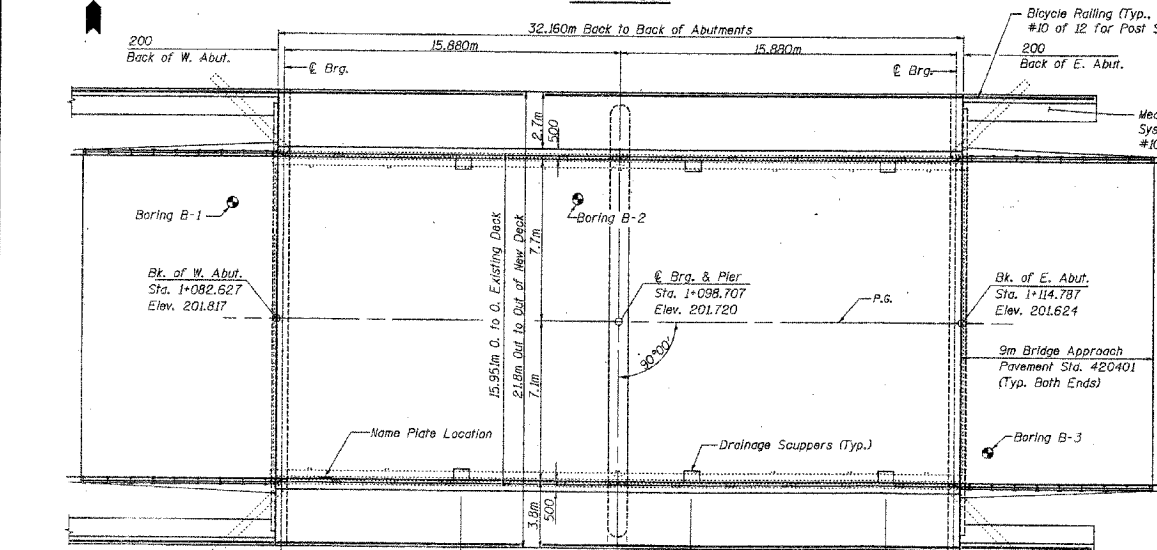
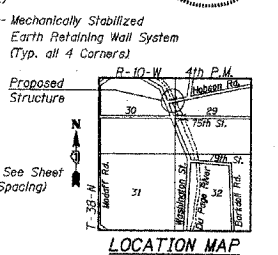
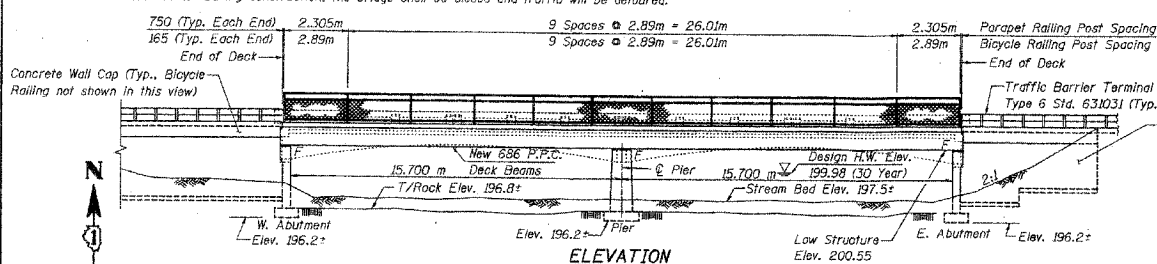
CAST-IN-PLACE CONCRETE
Concrete shall comply with Section 503 of IDOT's Std. Specifications for Roads and Bridges.
All exposed concrete edges shall have a 20mm x 45° chamfer, except where shown otherwise.

REINFORCING BARS
Reinforcement Bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M (Fy=400MPa).
Cover from the face of concrete to the face of Reinforcement Bars shall be 15mm for surfaces formed against earth and 50mm for all other surfaces unless otherwise shown.

Reinforcement Bar bending dimensions are out to out. Reinforcement bar bending details shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315, latest edition.
Reinforcement Bars designated "(E)" shall be epoxy coated. Reinforcement Bar splices shall be in accordance with the following table unless shown otherwise on the drawing.

CLASS "C" SPLICE (Fy=400MPa)	SIZE	l _d =24MPa
#10		450mm
#15		640mm
#20		790mm
#25		1.32m

CONSTRUCTION
Do not scale dimensions for construction.
No construction joints except those shown on the plans will be allowed unless ordered by the Engineer.
Backfill shall be placed behind the abutment after the superstructure has been placed and the falsework removed. See Article 502.10 of the Standard Specifications.
After the beams are set, all elevations for determining fillet heights shall be taken at one time.
The back face of closed abutments shall be waterproofed according to Article 503.18 of the Standard Specifications.
A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions shall be used in the concrete for precast prestressed concrete deck beams.
All dimensions are in millimeters (mm) except as noted.



DESIGN SPECIFICATIONS

AASHTO 1996
LOADING MS 18
Allow 1.2 kN/m² for future wearing surface.

DESIGN STRESSES
FIELD UNITS
f_c = 24 MPa
f_y = 400 MPa

PRECAST PRESTRESSED UNITS
f_c = 35 MPa
f_c = 28 MPa
f_s = 1,860 MPa (12.7mm Φ Stress Relieved Strands)
f_s = 1,302 MPa (12.7mm Φ Stress Relieved Strands)

SEISMIC DATA
SPC = A
A = 0.038
S = 1.0

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Cofferdam Excavation	m ³		292	292
Rock Excavation for Structures	m ³		51.3	51.3
Cofferdam	Each		3	3
Concrete Superstructure	m ³			151.0
Protective Coat	m ²			800
Concrete Structures	m ³		194.3	194.3
Precast Prestressed Concrete	m ³	668.7		668.7
Deck Beams (686mm depth)	m	150.4		150.4
Bicycle Railing	kg		1,360	1,360
Reinforcement Bars	kg	16,340	7,600	23,940
Reinforcement Bars, Epoxy Coated	kg			
Name Plates	Each			1
Drainage Scauppers	Each			6
Bridge Deck Grooving	m ²			692
Mechanically Stabilized Earth Retaining Wall System	m ²	266		266

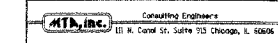
WATERWAY INFORMATION

Drainage Area = 296.8 km² Low Grade Elev. 201.50 @ Sta. 1+142.5

Flood	Freq. Yr.	Opening Sq. m.		Nat. H.W.E.	Head - m		Headwater El.		
		Exist.	Prop.		Exist.	Prop.			
Main Channel	30	128	66.09	68.50	199.98	0.28	0.25	200.26	200.23
		Total	128						
Main Channel	100	159	69.58	75.97	200.28	0.42	0.33	200.64	200.55
		Total	159						
Main Channel	500	212	69.93	87.04	200.59	1.02	0.72	201.61	201.31
		Total	212						

ELEV. FROM HEC-2 MODELS DATED 2/4/25 OF APRIL, 1997

GENERAL PLAN & ELEVATION
HOBSON ROAD (C.H. 2) OVER THE
WEST BRANCH OF THE DUPAGE RIVER
DUPAGE COUNTY
STA. 1+098.707
S.N. 022-3020



FOR INFORMATION ONLY

NOTE:
ELEVATIONS SHOWN ON EXISTING PLANS
ARE ON A DIFFERENT VERTICAL DATUM
THAN CONTRACT PLANS

DESIGNED	-
CHECKED	- SP
DRAWN	-
CHECKED	- SP

REVISIONS	
NAME	DATE

EXISTING HOBSON ROAD BRIDGE
PLANS - 1

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY