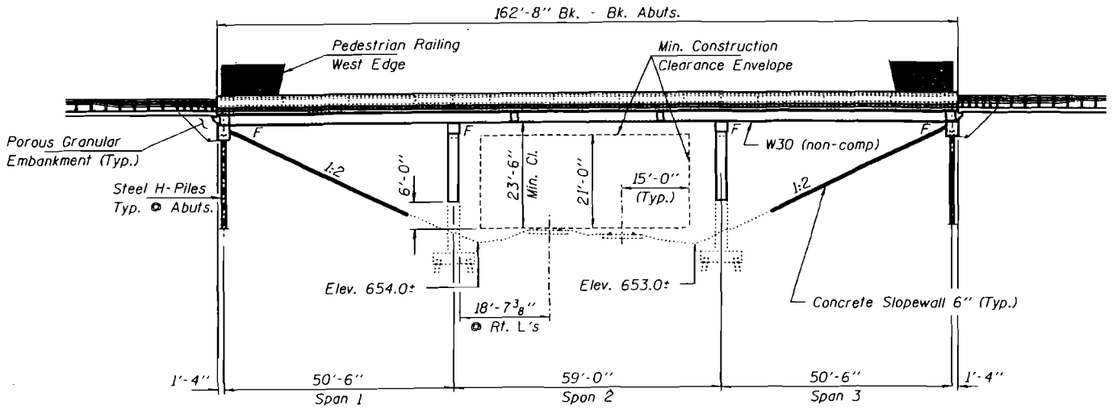
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 9A	07-00022 -01-GS	KENDALL	108	42
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO.	

Sheet 1 of 24

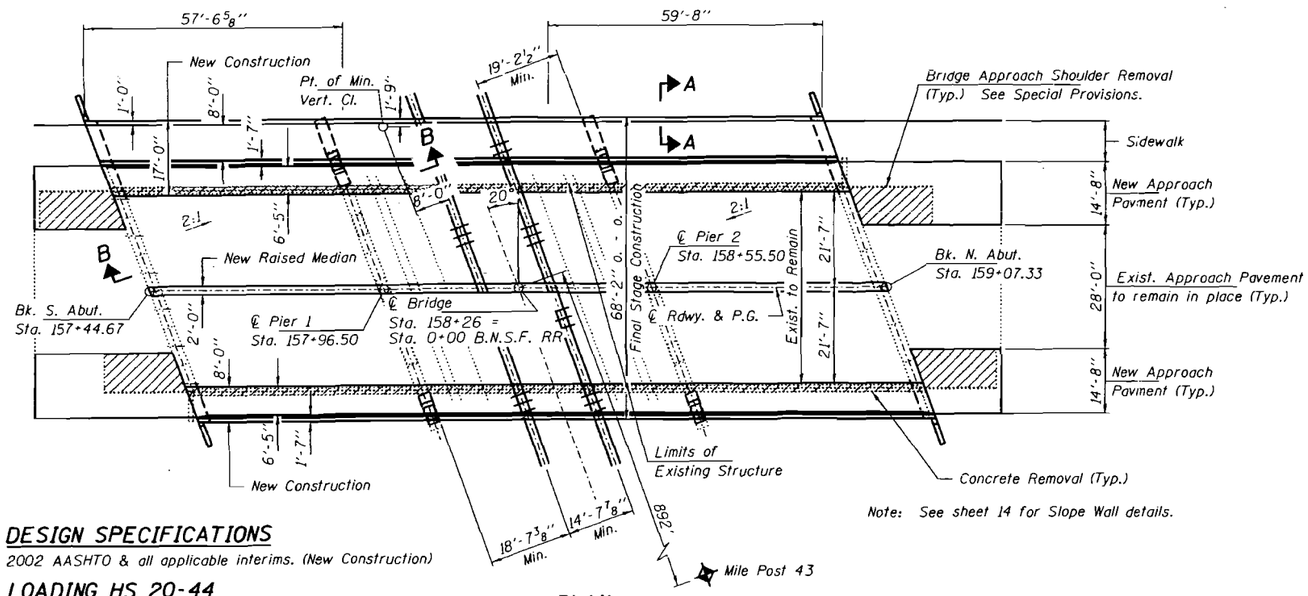
Bench Mark: #25, R.R. Spike in South Face of Utility Pole. 40' Rt. Sta. 0+89 B.N.R.R. (Easterly), Elev. 651.18

Existing Structure: S.N. 047-3132 built in 1993 as Orchard Road over B.N.R.R., Section 88-00022-00-GS. Three span continuous wide flange beams supported by integral abutments and mulit-column hammerhead piers. 162'-8" bk.-bk. abuts, 47'-2" o.-o. The Contractor shall remove portions of the existing structure and widen it as shown. Traffic shall be detoured over parts of the existing structure.

No Solvage.

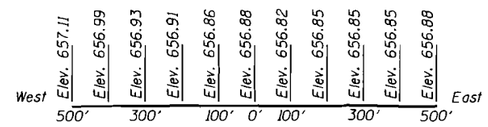


ELEVATION

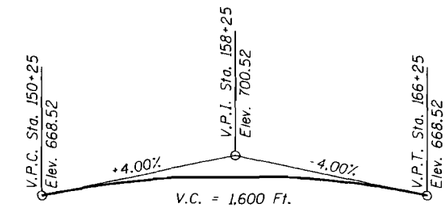


Note: See sheet 14 for Slope Wall details.

PLAN

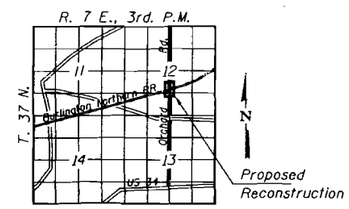


PROFILE OF HIGH RAIL, B.N.S.F.



PROFILE GRADE

Orchard Road



LOCATION SKETCH

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 3/4"ϕ, holes 13/16"ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 69,420 Pounds.

All structural steel shall be AASHTO M 270 Grade 50W.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that cannot be removed by grinding 1/4 inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

See sheets 8 of 24 for Sections A-A & B-B.

The layout of the slopewalls may be varied in the field as directed by the Engineer.

The Contractor shall drive the test pile to 110% of the nominal required bearing specified in a production location at the South Abutment or approved by the Engineer before ordering the remainder of the piles.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Ton			135
Concrete Removal	Cu. Yd.	51.9	21.7	73.6
Protective Shield	Sq. Yd.	204		204
Structure Excavation	Cu. Yd.		53	53
Concrete Structures	Cu. Yd.		65.2	65.2
Concrete Superstructure	Cu. Yd.	165.5		165.5
Bridge Deck Grooving	Sq. Yd.	232		232
Protective Coat	Sq. Yd.	628		628
Furnishing and Erecting Structural Steel	L. Sum	1		1
Reinforcement Bars, Epoxy Coated	Pound	42,150	18,910	61,060
Bar Splicers	Each	42		42
Bridge Fence Railing (Sidewalk)	Foot	160		160
Slope Wall Removal	Sq. Yd.			70
Parapet Railing	Foot	162		162
Slope Wall 6 inch	Sq. Yd.			104
Furnishing Steel Piles HP10x42	Foot		350	350
Driving Piles	Foot		350	350
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each	1		1
Mechanical Splice	Each	1,254	40	1,294
Pipe Underdrain for Structures	Foot		112	112
Geocomposite Wall Drains, 6"	Sq. Yd.		42	42
Concrete Headwall for Pipe Drains	Each		4	4

DESIGN SPECIFICATIONS

2002 AASHTO & all applicable interims. (New Construction)

LOADING HS 20-44

25#/Sq. Ft. included in dead load for future wearing surface.

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)
fy = 50,000psi (ASSHTO M270 Grade 50W)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.2

B.N.S.F. R.R.
REBUILT 200_ BY
KENDALL COUNTY
SEC. 07-00022-01-GS
STATION 158+26
STR. NO. 047-3132
LOADING HS 20

NAME PLATE

See Std. 515001

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

3-10-2008
ILLINOIS STRUCTURAL NO. 081-6529

Expires 11-30-08

LICENSED STRUCTURAL ENGINEER SCOTT M. BRAUP 081-6529 SPRINGFIELD, IL STATE OF ILLINOIS

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
ELGIN • SPRINGFIELD

PROJECT NUMBER 12-06-0034-1		DATE 03/06/08
DESIGNED P.S.L.	CHECKED S.M.S.	DRAWN D.A.B.

GENERAL PLAN AND ELEVATION

ORCHARD ROAD OVER B.N.S.F. RR

SECTION 07-00022-01-GS

KENDALL COUNTY

STRUCTURE NO. 047-3132 / STATION 158+26.00

EXHIBIT A Overpass Agreement