

LAKE COUNTY
LAK-2-16.49

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CSB-2-56, sheets No. 2 and No. 3 of 6 revised 2-2-59, RB-1-55 revised 2-2-59, AR-1-57 revised 4-2-62, AS-1-54 revised 7-5-62, and to Supplemental Specifications S-101 dated 7-12-62, and S-307 dated 8-23-60.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio Department of Highways, dated 9-1-57, together with current revisions, thereof.

PROCEDURE: The embankment for the abutments shall be placed & compacted up to the base of the rock channel protection at the top of the spill-thru slope after which excavation shall be made for the abutments and the piles driven.

EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments.

PIER FOOTINGS are designed for a max. bearing pressure of 5 tons per sq. ft.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

PLATE GIRDER ERECTION: The Contractor shall submit to the director, for approval, three prints showing proposed erection procedures for the plate girders.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress up grade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

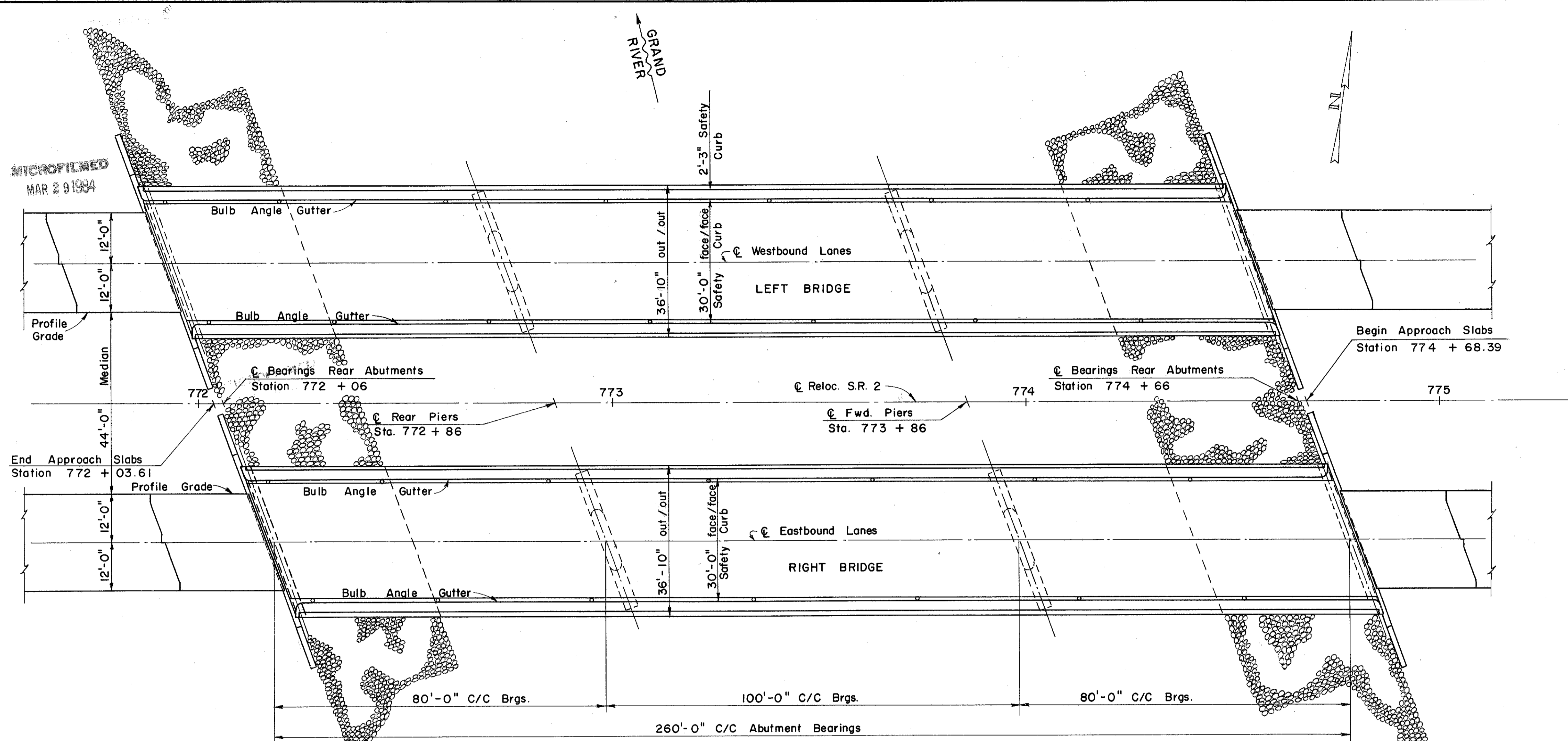
MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

ALL STRUCTURAL STEEL: ASTM A36

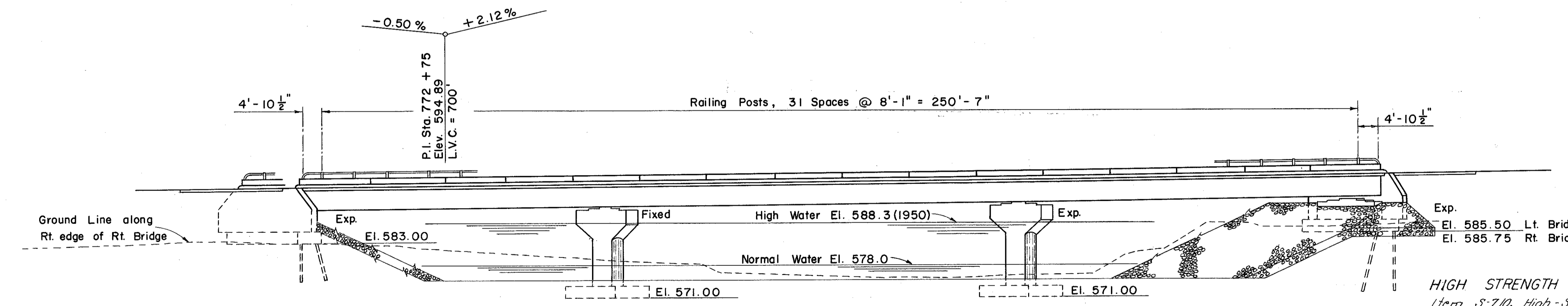
DESIGN LOADING: CF 2,000(57)

BASIC UNIT WORKING STRESSES:

Concrete, Class C:	1,333 p.s.i.
Concrete, Class E:	1,133 p.s.i.
Structural Steel, ASTM A36 (except piling):	20,000 p.s.i.
Reinforcing Steel, ASTM A15, A16 & A160 Deformed, Intermediate or Hard Grade:	20,000 p.s.i.
Spiral Reinforcement, Plain, Structural Grade:	18,000 p.s.i.



PLAN



ELEVATION

Pier Footings shall extend a minimum of 3" into undisturbed shale or to the elevation shown, whichever is lower.

Piles shall be driven with a hammer of not less than 7,000 ft. lbs. per blow to firm contact with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 18.05 is not less than the following value for a pile hammer of the indicated energy rating.

HAMMER FT. LB.	ABUT'S, TONS PER PILE
7,000	40
11,000	35
15,000	30

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 26 tons per pile.

HIGH STRENGTH STEEL BOLTS:

Item S-710, High-Strength Steel Bolts, Nuts and Washers, paragraph two (2), shall be completely revised and the last sentence of paragraph four (4), revised to read as follows:

"In the final assembly of the parts to be bolted, drift pins shall be placed in a sufficient number of holes (not less than 25 percent for field erection) to provide and maintain accurate alignment of holes and parts, and sufficient bolts shall be installed and brought to a snug tight condition to bring the parts into complete contact. Bolts shall then be installed in any remaining open holes and tightened to a snug tight fit, after which all bolts shall be tightened completely by calibrated wrenches or by the turn-of-nut method. Drift pins shall then be replaced with bolts, tightened in the same manner."

"Bolt lengths determined by the use of Table No. 1 shall be adjusted to the next 1/4-inch length increment."

PREPARED BY
CAPITOL ENGINEERING ASSOCIATES, DILLSBURG, PA.
FOR

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL PLAN
BRIDGE NO. LAK-2-1652 L&R
RELOC. SR.-2 OVER GRAND RIVER
LAKE COUNTY
STA. 772 + 03.61
STA. 774 + 68.39

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	M.J.F.	F.W.B.	L.L.D. M.J.F.	G.S.W. M.C.P.	