F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1631	0(0L)1 1-2	COOK	1	1
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

D-51-285-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark #117: A chiseled square, on top Jersey Wall at the south and easterly pier, of Joe Orr Road Bridge over Illinois Route 394. EL =193.547

Existing Structure: S.N. 016-2121 is a four span, continuous concrete, wide flange beam structure, built in 1954. The structure is approximately 70m long, 22m wide, and has a substandard vertical clearance height of 4.3m, over Illinois Route 394. The contractor shall remove existing superstructure and portions of the substructure as required, and replace with a four span wide flange beam bridge. All approach slabs will be removed and replaced. Repair deteriorated portion of slope wall. The traffic will be detoured to an alternate route.

Salvage: None

All dimensions are in millimeters unless otherwise noted.

DESIGN STRESSES

EXISTING STRUCTURE

f_c = 8.3 MPa (Superstructure and Substructure except foundation)

f_c = 5.5 MPa (Foundation)

f_s = 138 MPa (Reinf.)

NEW CONSTRUCTION

$f'c$ = 24 MPa

$f'c$ = 400 MPa (Reinf.)

F_y = 345 MPa (M270M Grade 345)

HIGHWAY CLASSIFICATION

Joe Orr Road over Illinois Route 394

Route Designation: F.A.U. 1631
Functional Classification: Minor Arterial
ADT: 7700 (2006) ADT: 12500 (2020)
DHV = 940
Design Speed: 70 km/h

IL. Rt. 394 Eisenhower Expy. Rd. to U.S. Rt. 30

Designated Truck Route, Class I
ADT: 53000 (1996) ADT: 62000 (2020)
Posted Speed: 90 km/h
Design Speed: 100 km/h

SEISMIC DATA

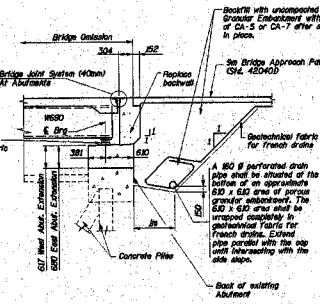
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = .049
Site Coefficient (S) = 1.5

DESIGN SPECIFICATIONS

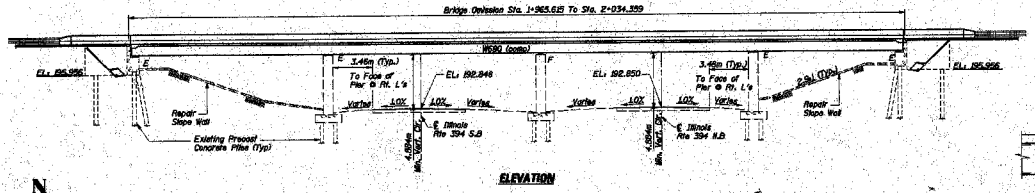
2002 AASHTO

LOADING MS 18

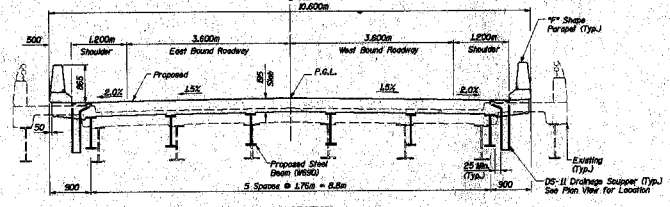
Allow 2.4 km/m² for future wearing surface



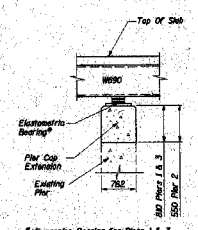
SECTION THRU ABUTMENT
(Looking Northerly)
(Dim. ⊥ Rt. L's)



ELEVATION

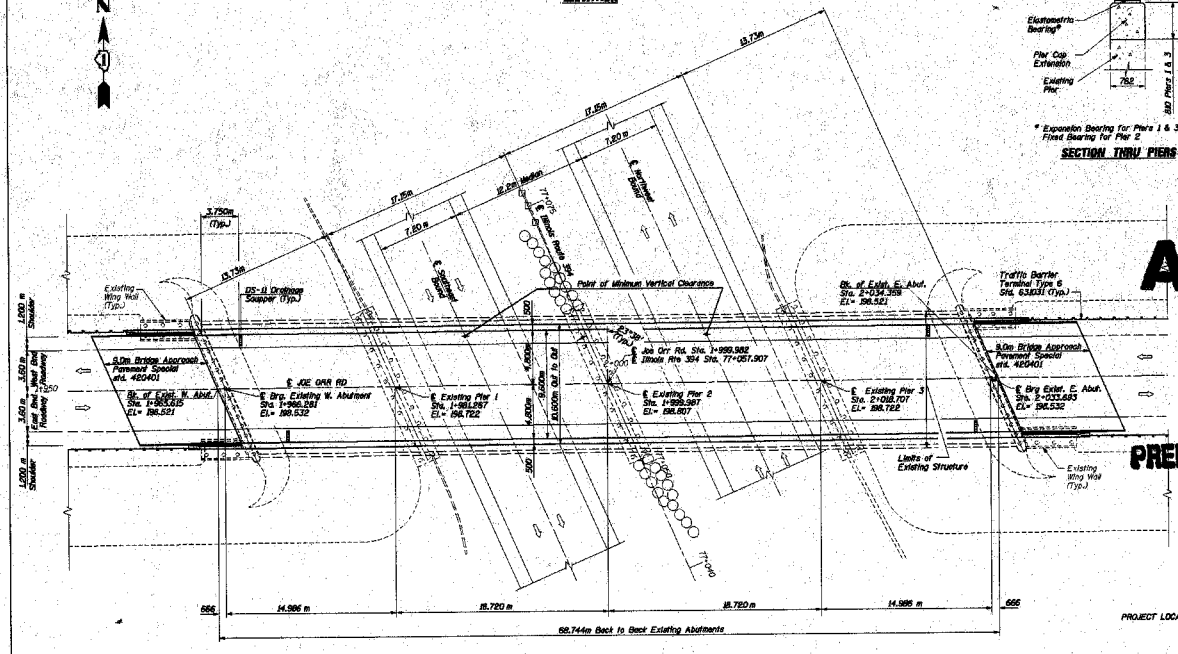


CROSS SECTION
(Looking West)

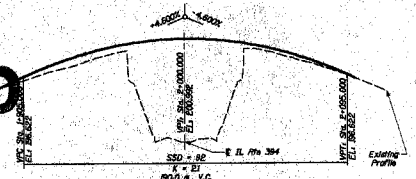


* Expansion Bearing for Piers 1 & 3
Fixed Bearing for Pier 2

SECTION THRU PIERS



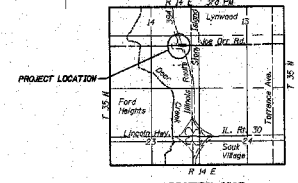
PLAN



PROPOSED PROFILE GRADE:
JOE ORR ROAD
(Looking Northerly)

EXISTING PROFILE GRADE:
(IL. Rte 394 Southeast Bound)

EXISTING PROFILE GRADE:
(IL. Rte 394 Northwest Bound)



LOCATION MAP

N

APPROVED

APR 0 2 2004

AS A BASIS FOR PREPARATION OF DETAILED PLANS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

JOE ORR ROAD OVER ILLINOIS ROUTE 394
F.A.U. ROUTE 1631
SECTION 0(0L)1 1-2
COOK COUNTY
STA. 1+989.982
SN 016-2121

SCALE: N-T-S

DATE 08/05/03

DRAWN BY T. CHURCH

CHECKED BY J. ZHAO