

INDEX OF DRAWINGS

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5	STRUCTURAL DETAILS

NOTICE TO CONTRACTORS

1. New Mexico Standard Specifications for Public Works Construction-1979 Edition will be referred to hereon as the "Standard Specification."
2. All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 30 and the Standard Specification."
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer or surveyor so that the conflict can be resolved with a minimum amount of delay.

BRIDGES
APPROVED FOR CONSTRUCTION:

WATER & SEWER
APPROVED FOR CONSTRUCTION:

CITY ENGINEER _____ DATE _____

CITY ENGINEER _____ DATE _____

THOMAS T. MANN JR., NMPE & LS No. 3782 4/8/82
DATE

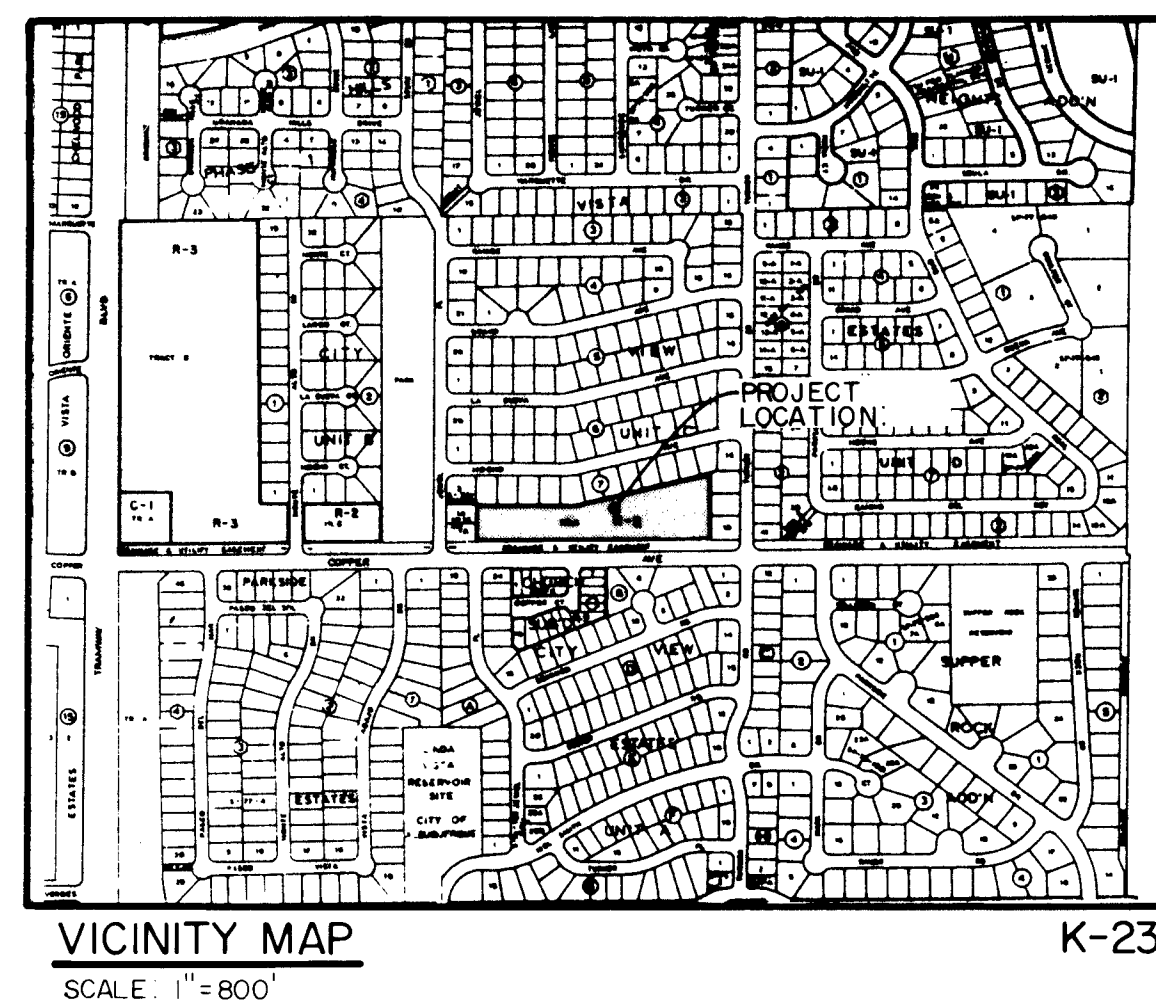
THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☐ All utilities and utility service lines shall be installed prior to paving.
- ☒ Backfill compaction shall be according to specified street use.
- ☐ Tack coat requirements shall be determined by the City Engineer.
- ☐ Sidewalks and wheelchair ramps within the curb returns shall be constructed wherever a new curb return is constructed.
- ☒ If curb is depressed for a driveway, the driveway shall be constructed prior to acceptance of curb and gutter.
- ☐ All storm drainage facilities shall be completed prior to final acceptance.
- ☒ The requestor or developer shall be responsible for repair or replacement of all curb and gutter or sidewalk damaged after approval by the City Engineer of work completed by the Contractor.

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CONSTRUCTION PLANS FOR UTILITY IMPROVEMENTS AT COPPER BRIDGES ALBUQUERQUE, NEW MEXICO

JUNE, 1982

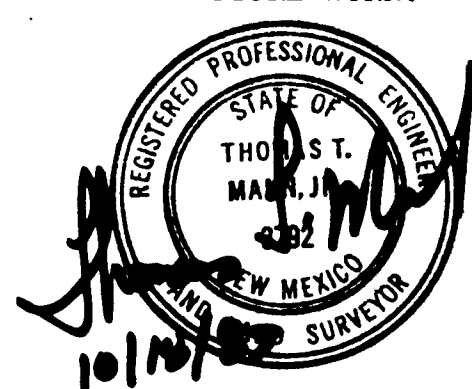


PROJECT BENCHMARK:
CITY OF ALBUQUERQUE BRASS
CAP 6-K23 LOCATED 130' EAST
OF TURNER DR. SOUTHSIDE
COPPER. ELEV. = 5867.28'

PREPARED FOR:
JENKINS CONSTRUCTION CO.
2800 RICHMOND N.E.
ALBUQUERQUE, NEW MEXICO 87107
PREPARED BY:
TOM MANN & ASSOCIATES, INC.
811 DALLAS N.E.
ALBUQUERQUE, NEW MEXICO 87110

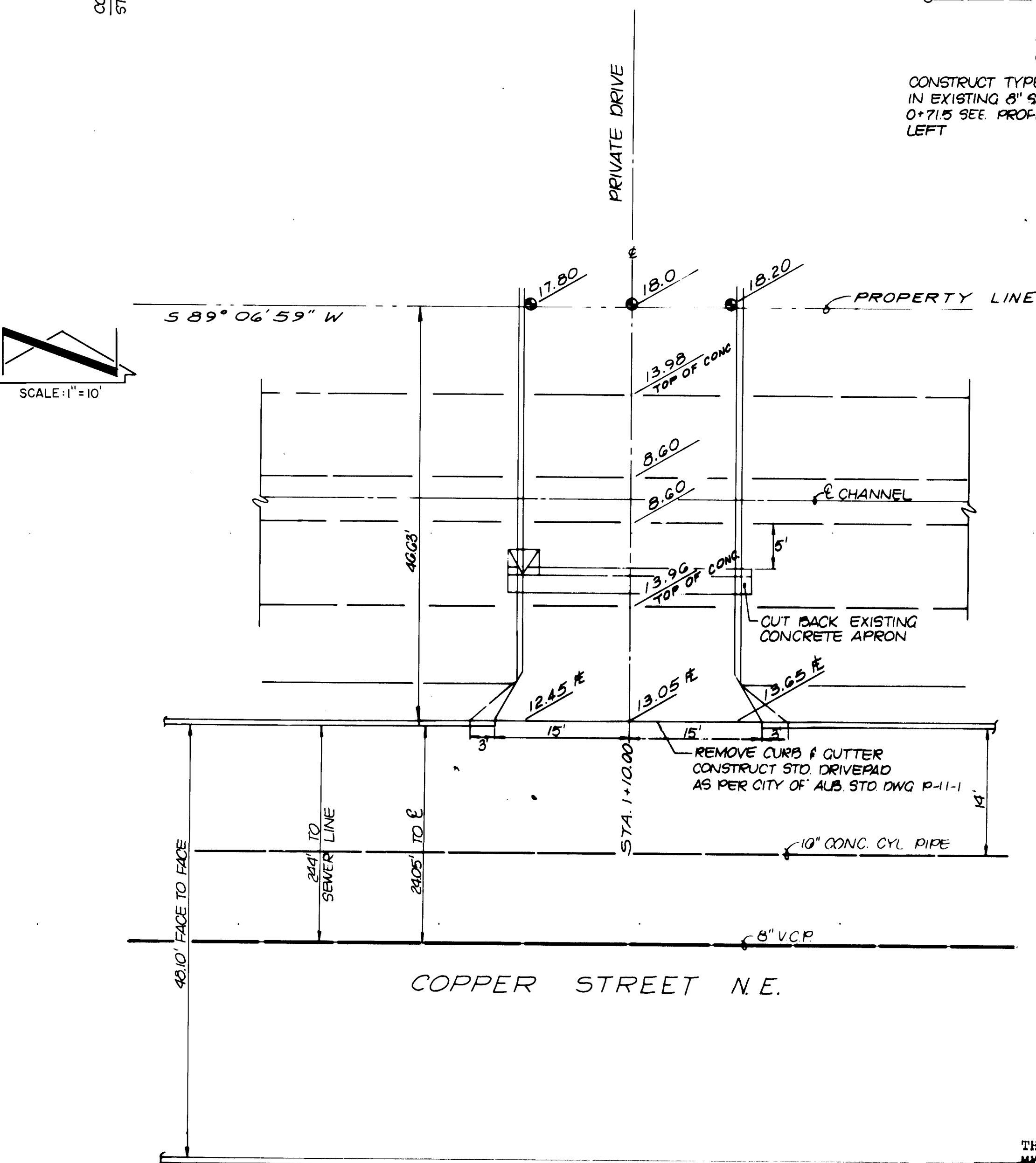
"AS BUILT"

THIS DRAWING INDICATES THE "AS-BUILT" CONDITIONS TO THE BEST OF MY KNOWLEDGE AND BELIEF. ALL CONDITIONS SHOULD BE FIELD VERIFIED BEFORE USING THIS DRAWING IN CONJUNCTION WITH FUTURE WORK.



APPROVAL OF AS-BUILT DRAWINGS
ASST. CITY ENGINEER-FIELD
THOMAS T. MANN JR.
DATE 10/26/83

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	Robert S. Hill	6/1/82	Liquid Waste	N.A. Mann	
A.C.E.-Design	Applied	Nov 82	Traffic	W.A. Mann	6/3/82
A.C.E.-Hydrology	John F. H.	6/2/82	Water	John F. H.	6/2/82

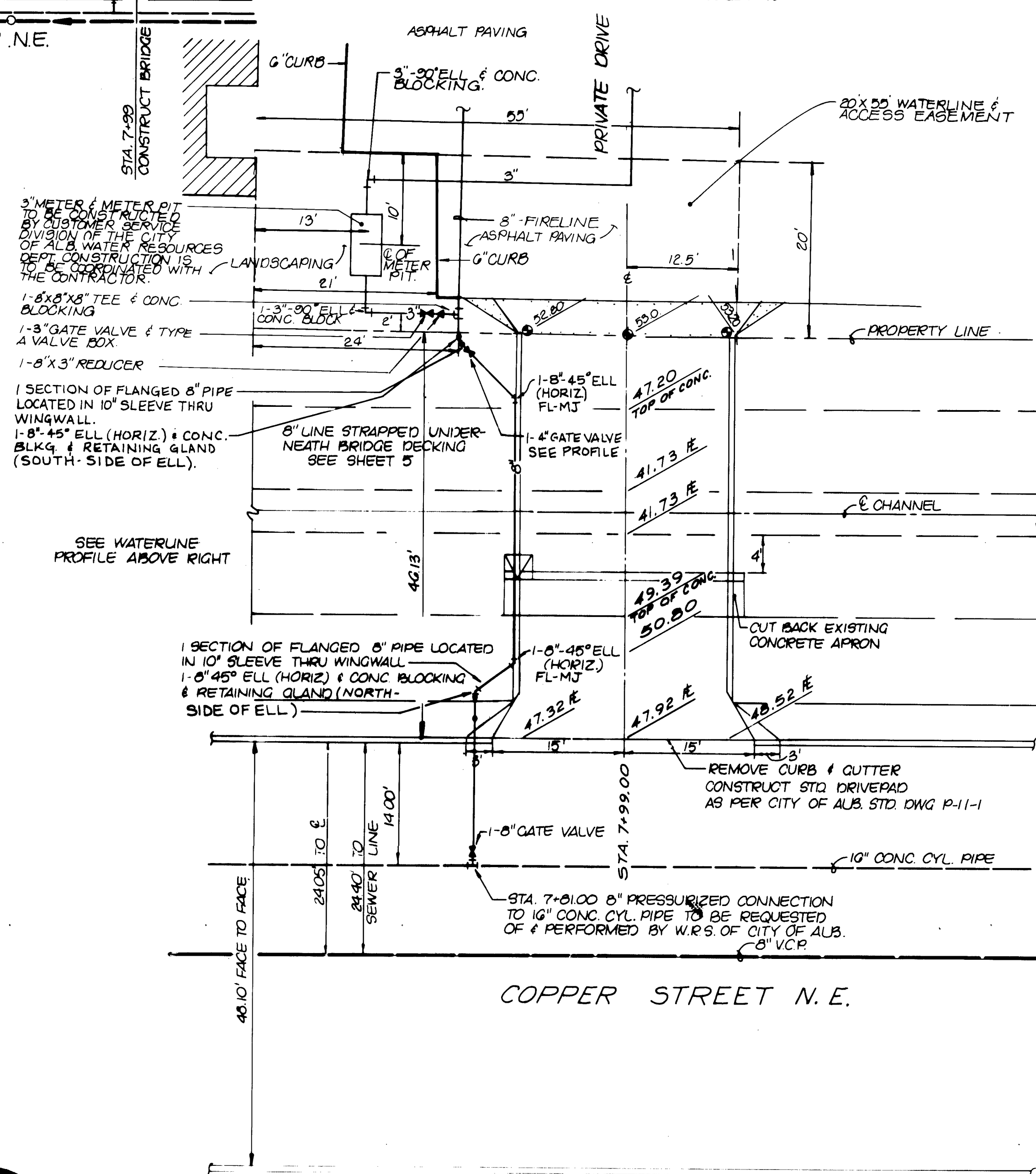


ENTRANCE SITE PLAN

STATION | +10



LOCATION MAP
SCALE: 1" = 100'



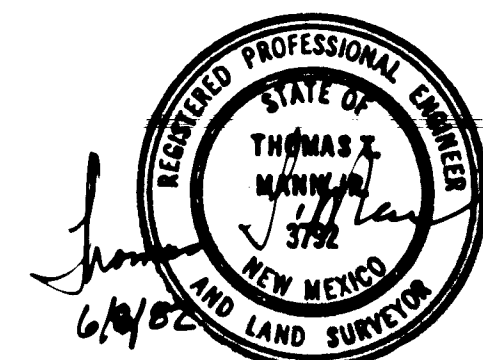
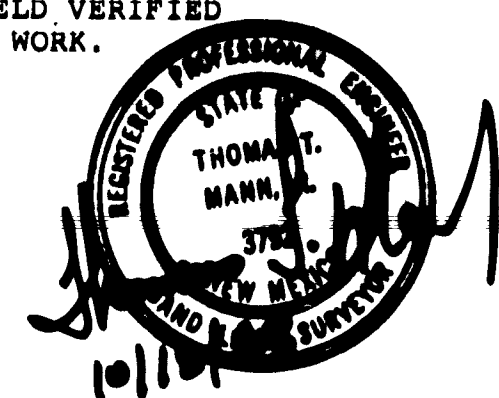
WATERLINE PROFILE

SCALE: 1" = 10'

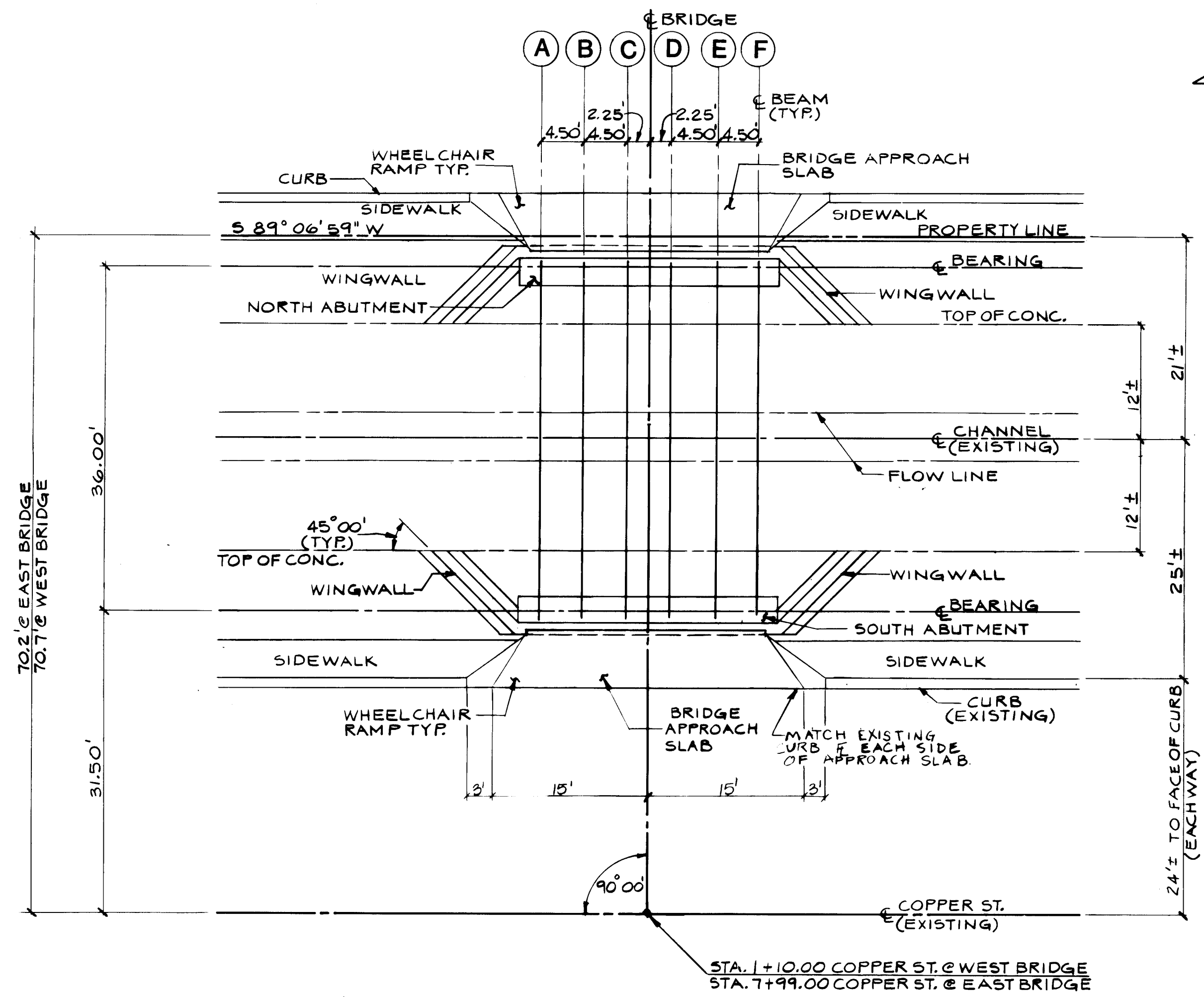
ENTRANCE SITE PLAN
STATION 7+99

"AS BUILT"

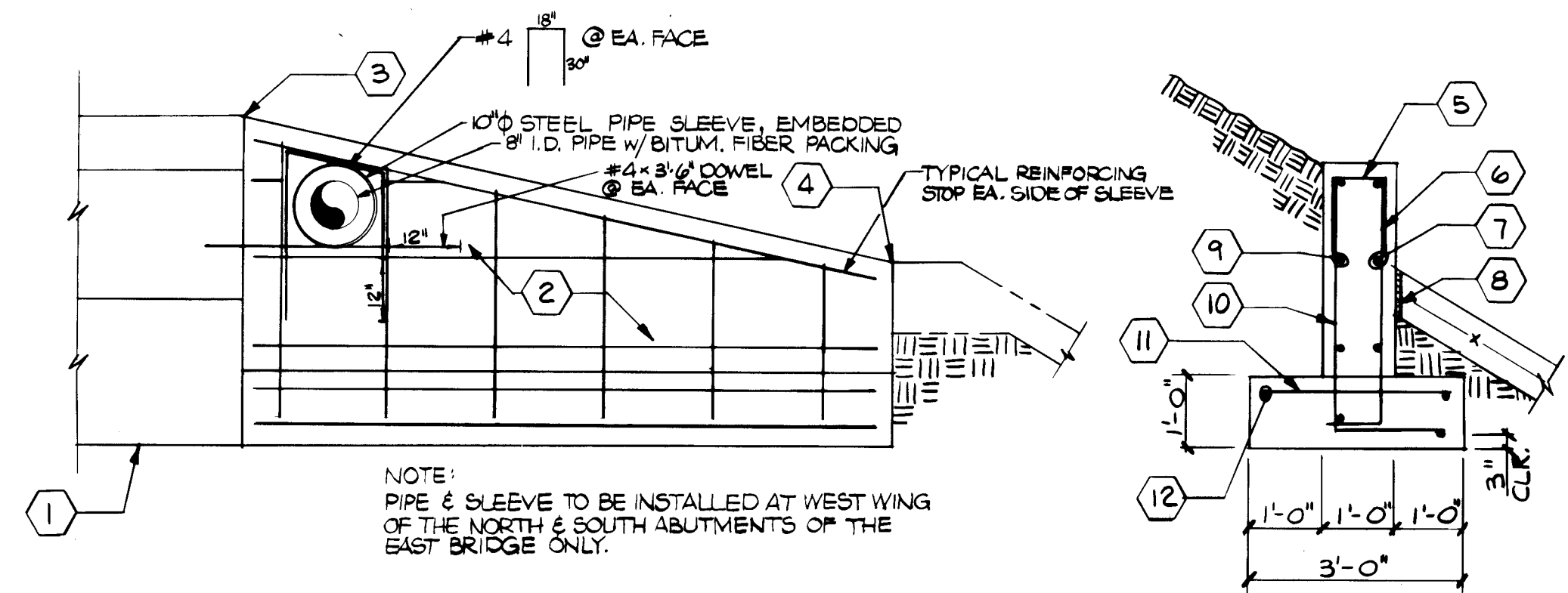
THIS DRAWING INDICATES THE "AS-BUILT" CONDITIONS TO THE BEST OF MY KNOWLEDGE AND BELIEF. ALL CONDITIONS SHOULD BE FIELD VERIFIED BEFORE USING THIS DRAWING IN CONJUNCTION WITH FUTURE WORK.



1	2	3	4	5	6	7	8	9	10	11	12
26			14	54				03	82		

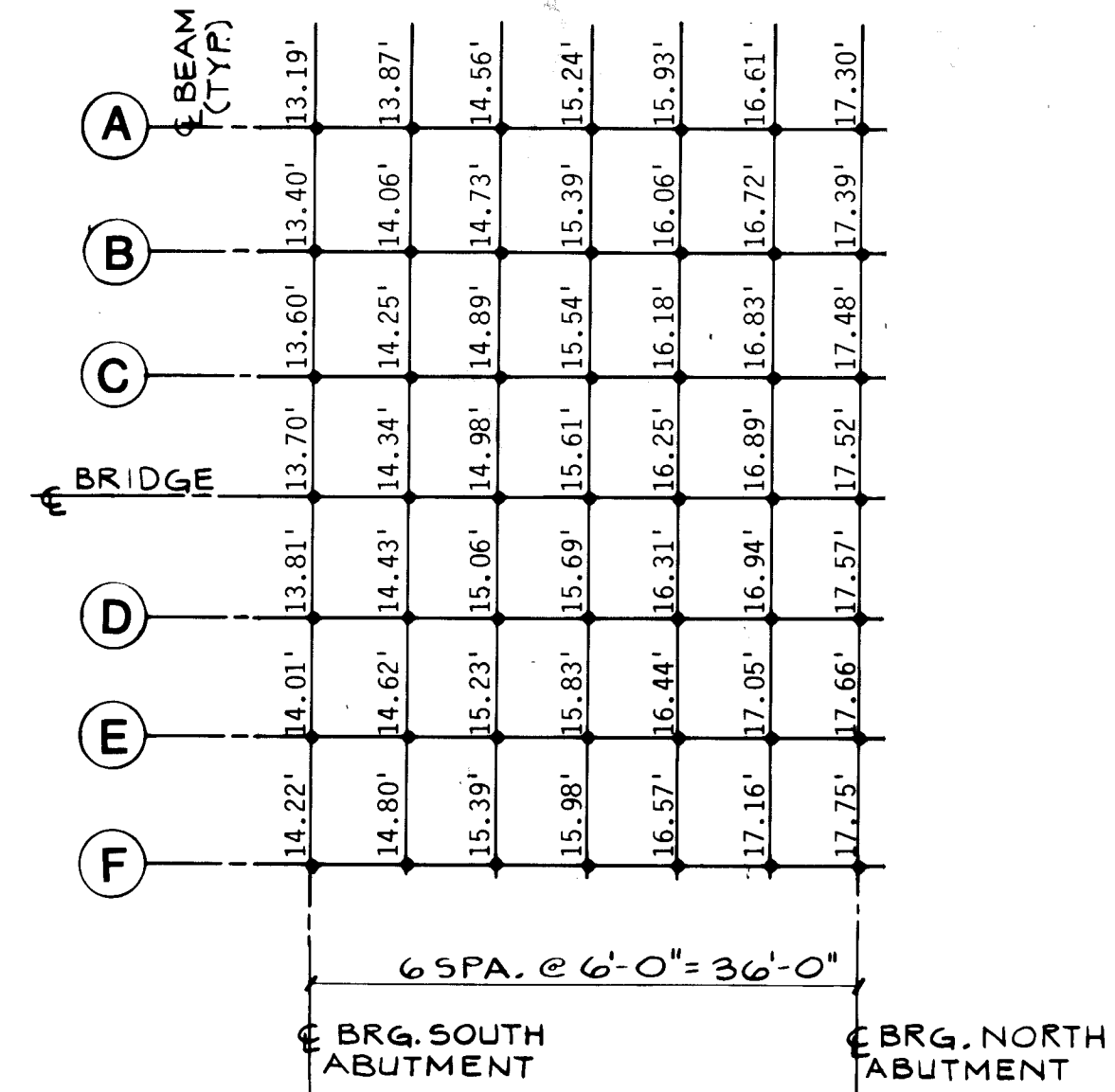


PLAN & BEAM LAYOUT
SCALE 1" : 10'-0"

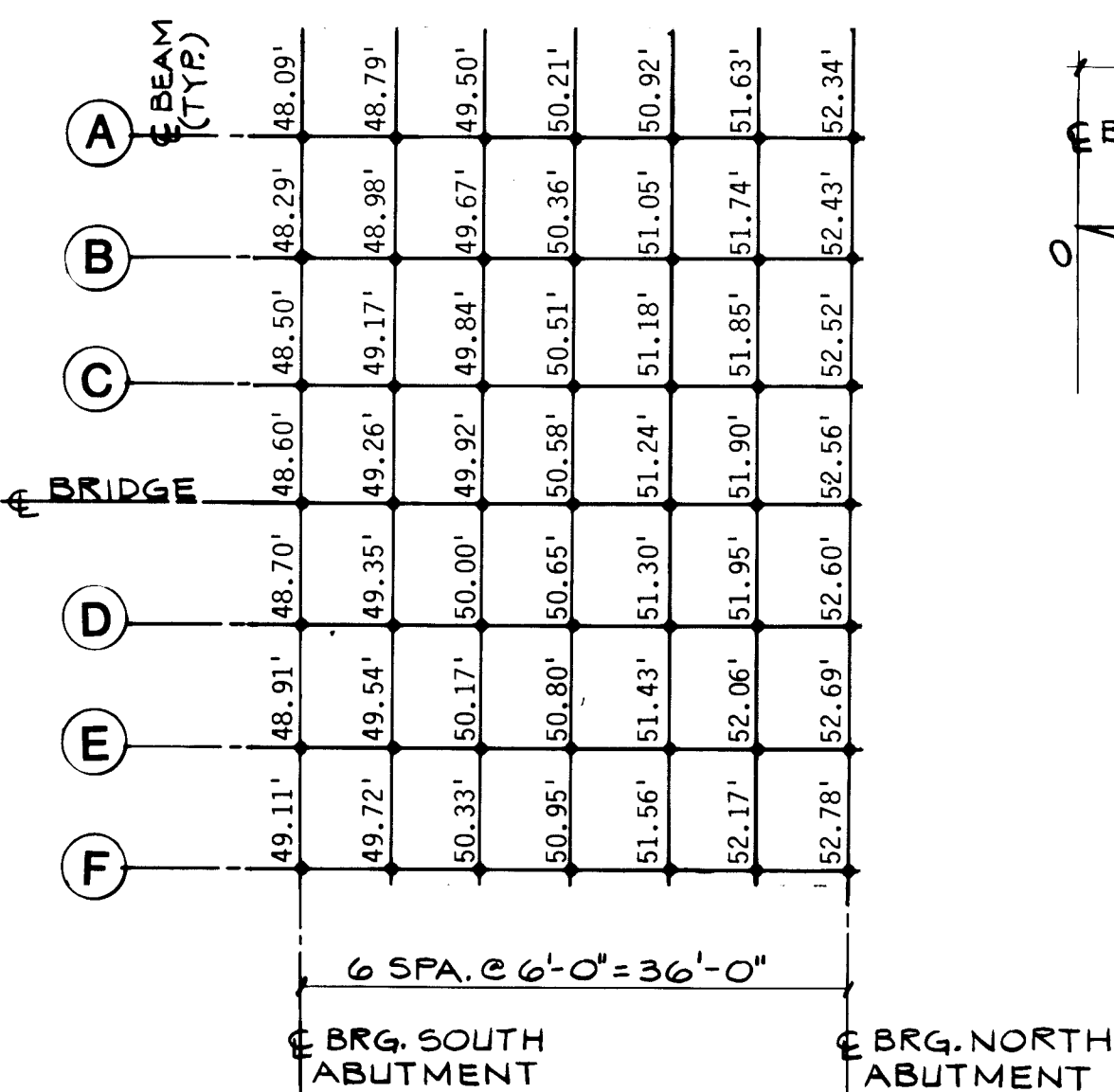


TYPICAL WINGWALL AT EACH SIDE OF ABUTMENTS

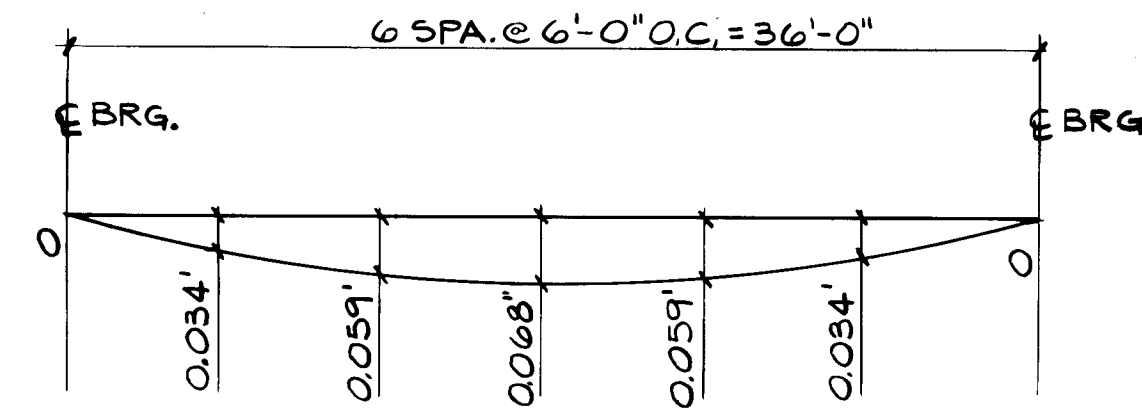
- KEYED NOTES
- 1 ABUTMENT.
 - 2 WINGWALL.
 - 3 TOP OF WALL TO MATCH ABUTMENT BACKWALL.
 - 4 TOP OF WALL TO MATCH EDGE OF CHANNEL.
 - 5 #4 @ 15" @ 12" O.C.
 - 6 #4 @ 18" O.C. VERT.
 - 7 #6 @ 18" O.C. HORIZ.
 - 8 1/2" EXPANSION JOINT.
 - 9 #4 @ 18" O.C. HORIZ.
 - 10 #6 @ 18" O.C. VERT.
 - 11 #4 @ 48" O.C. TRANS.
 - 12 4 - #4 CONT.



**FINISHED TOP OF SLAB ELEV'S.
WEST BRIDGE**



**FINISHED TOP OF SLAB ELEV'S.
EAST BRIDGE**



**BEAM DEADLOAD
DEFLECTION DIAGRAM**

GENERAL NOTES

1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, INTERIM SPECIFICATIONS, BRIDGES, 1981.
2. CONCRETE: SUB-STRUCTURAL CAST-IN-PLACE CONCRETE SHALL BE CLASS 'BE' WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. SUPER-STRUCTURAL CAST-IN-PLACE CONCRETE SHALL BE CLASS 'AE' WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4000 PSI. TESTS FOR STRENGTH SHALL BE MADE IN ACCORDANCE WITH AASHTO T23. CHAMFER ALL EXPOSED EDGES OF CONCRETE STRUCTURES 3/4 INCH UNLESS NOTED OTHERWISE ON DETAILS. LIQUID MEMBRANE-FORMING COMPOUNDS USED IN MEMBRANE CURING OF CONCRETE SHALL BE OF THE CLEAR OR TRANSLUCENT TYPE.
3. REINFORCING STEEL: SUB-STRUCTURAL REINFORCING BARS SHALL BE AASHTO M31 (ASTM A615) GRADE 40 (40,000 PSI). SUPER-STRUCTURAL REINFORCING BARS SHALL BE AASHTO M31 GRADE 60 (60,000 PSI). ALL WELDED STEEL WIRE FABRIC SHALL BE AASHTO M55 (ASTM A185) GRADE 70. SHOP PLANS MUST BE APPROVED BY THE ENGINEER BEFORE FABRICATION IS STARTED.
4. JOINT FILLERS AND SEALS: ALL PREFORMED BITUMINOUS JOINT FILLERS SHALL BE AASHTO M213 (ASTM D1751) AND SHALL BE USED WITH CONCRETE PLACED ON GROUND. ALL PREFORMED EXPANSION JOINT FILLERS SHALL BE AASHTO M153 (ASTM D1752) AND SHALL BE USED BETWEEN BRIDGE DECKS AND ABUTMENT BACKWALLS.
5. STRUCTURAL STEEL: STRUCTURAL STEEL SHALL BE AASHTO M183 (ASTM A36) CARBON STEEL. SHOP PLANS MUST BE APPROVED BY THE STRUCTURAL ENGINEER BEFORE FABRICATION IS STARTED.
6. PAINT: ALL STRUCTURAL STEEL SHALL RECEIVE TWO COATS (3 MILS TOTAL, MIN.) OF ORGANIC ZINC PRE-TREATMENT, FOLLOWED BY A VINYL WASH UNDERCOAT. FINISH PAINT OF TWO COATS (2 MILS TOTAL, MIN.) OF VINYL PAINT SHALL BE FIELD APPLIED. DO NOT PAINT CONTACT SURFACES, INCLUDING SURFACES IN CONTACT WITH ELASTOMERIC BEARING PADS, NOR SURFACES TO BE EMBEDDED IN CONCRETE.
7. ELASTOMERIC BEARING PADS: ELASTOMERIC BEARING PADS SHALL BE 100 PERCENT VIRGIN NATURAL POLYISOPRENE (NATURAL RUBBER) OR 100 PERCENT VIRGIN CHLOROPRENE (NEOPRENE). ELASTOMERIC MATERIAL FOR BEARING PADS SHALL MEET AASHTO REQUIREMENTS FOR 50 DUROMETER MATERIAL.
8. BRIDGE SEATS: THE TOP SURFACE OF BRIDGE SEATS SHALL BE ACCURATELY STRUCK OFF TO A PLANE SURFACE. BEARINGS SHALL BE RUBBED SMOOTH AFTER CONCRETE HAS CURED FOR A MINIMUM OF FOURTEEN DAYS WITH CARBORUNDUM BRICK. WHERE NECESSARY, BEARINGS SHALL BE BROUGHT TO CORRECT ELEVATION BY PLACING STEEL SHIMS BETWEEN THE BRIDGE SEAT AND BEARING PADS. AFTER COMPLETION OF THE BRIDGE AND APPROACH SLABS, THE TOP SURFACES OF ALL BRIDGE SEATS SHALL BE THOROUGHLY CLEANED OF ALL DIRT, CONCRETE AND OTHER DEPOSITED MATERIAL.
9. ANCHOR BOLTS: ANCHOR BOLTS SHALL BE AASHTO M164 (ASTM A325). ANCHOR BOLTS SHALL BE PLACED IN ACCURATELY DRILLED HOLES AND GROUTED IN EXACT POSITION.
10. METAL BRIDGE RAILING: METAL BRIDGE RAILING SHALL BE FABRICATED AND INSTALLED ACCORDING TO NEW MEXICO STATE HIGHWAY DEPARTMENT STANDARD DRAWING SERIAL BMR-003-04.
11. EARTHWORK COMPACTION: SLABS, FOOTINGS AND ABUTMENTS SHALL BEAR ON COMPACTED SOILS INSPECTED BY A QUALIFIED SOILS ENGINEER. ENGINEERED FILL SOILS AND BACKFILL SOILS SHALL BE PLACED IN MAXIMUM 8 INCH LOOSE LIFTS AND COMPACTED AT ± 2 PERCENT OF OPTIMUM MOISTURE. PRIOR TO PLACEMENT OF FILL SOILS, THE EXPOSED CUT SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, MOISTENED TO ± 2 PERCENT OF OPTIMUM MOISTURE AND COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T180. FILL SOILS SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T180. EXCAVATED SURFACES BELOW FOOTINGS AND ABUTMENTS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, MOISTENED TO ± 2 PERCENT OF OPTIMUM MOISTURE AND COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T180.

DESIGN STRESSES:

STRUCTURAL STEEL: $f_s = 20,000$ PSI

REINFORCED CONCRETE:

SUPER-STRUCTURE: $f'_c = 4000$ PSI @ 28 DAYS
 $f_y = 60,000$ PSI
 $n = 8$

SUB-STRUCTURE: $f'_c = 3000$ PSI @ 28 DAYS
 $f_y = 40,000$ PSI
 $n = 9$

LIVE LOAD: HS 20-44

WEARING SURFACE: 1/2" MONOLITHIC CONCRETE PLUS 12 PSF ALLOWANCE FOR FUTURE WEARING SURFACE.

HORIZONTAL EARTH PRESSURE: 38 PCF EQUIVALENT FLUID PRESSURE.

HORIZONTAL WIND PRESSURE: 50 PSF

HORIZONTAL EARTHQUAKE FORCE: 6% GRAVITY

MAXIMUM COMPUTED FOOTING PRESSURE: 2.30 KSF

DEAD-LOAD COMPUTED FOOTING PRESSURE: 1.06 KSF

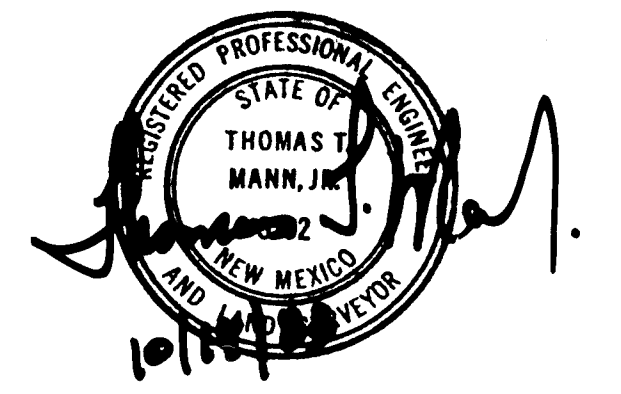
SUPERSTRUCTURE DEPTHS

ITEM	DEPTH	REMARKS
SLAB & BRIDGE FORM	7 1/2"	
THICKENING	0"	
CROWN	0"	
BEAM	18"	
BEARING PAD	1/2"	
BEVELED FILLER PLATE	1/2"	AT C BEARING
TOTAL DEPTH	26 1/2"	

ABUTMENT ELEVATIONS						
C BEAM	(A)	(B)	(C)	(D)	(E)	(F)
WEST BRIDGE		SOUTH ABUTMENT				
FOUNDATION ELEV.	←		08.9'			→
BEAM SEAT ELEV'S.	10.98'	11.19'	11.39'	11.60'	11.80'	12.01'
BACKWALL ELEV'S.	13.02'	(CONSTANT SLOPE)				14.07'
WEST BRIDGE		NORTH ABUTMENT				
FOUNDATION ELEV.	←	12.8' (FIELD VERIFY)				→
BEAM SEAT ELEV'S.	15.09'	15.18'	15.27'	15.36'	15.45'	15.54'
BACKWALL ELEV'S.	17.47'	(CONSTANT SLOPE)				17.89'
EAST BRIDGE		SOUTH ABUTMENT				
FOUNDATION ELEV.	←		43.8'			→
BEAM SEAT ELEV'S.	45.88'	46.08'	46.29'	46.49'	46.70'	46.90'
BACKWALL ELEV'S.	47.91'	(CONSTANT SLOPE)				48.96'
EAST BRIDGE		NORTH ABUTMENT				
FOUNDATION ELEV.	←	46.4' (FIELD VERIFY)				→
BEAM SEAT ELEV'S.	50.13'	50.22'	50.31'	50.40'	50.48'	50.57'
BACKWALL ELEV'S.	52.52'	(CONSTANT SLOPE)				52.93'

"AS BUILT"

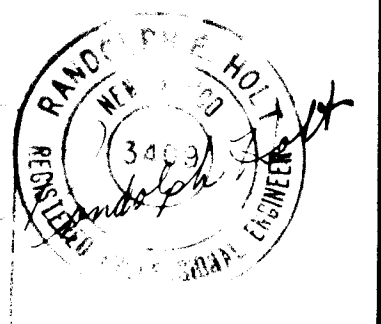
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OWNERSHIP OF DOCUMENTS

The designs and drawings incorporated herein as part of the project are the property of RANDY MANN, JR. and shall not be used in whole or in part without the written authorization of RANDY MANN, JR.

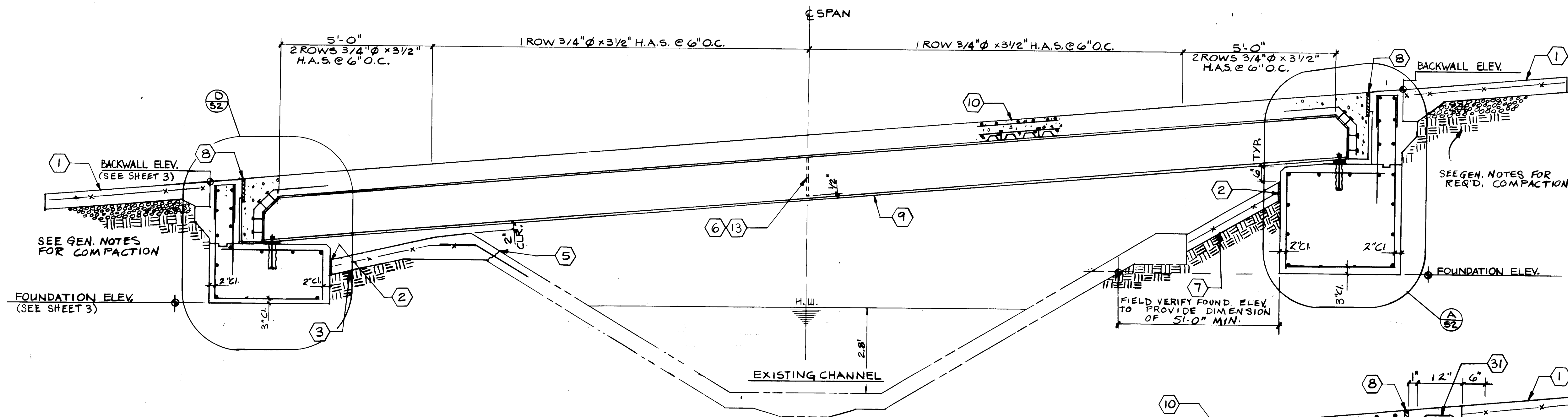


811 DALLAS N.E. • ALBUQUERQUE • NEW MEXICO • 87110
ENGINEERS

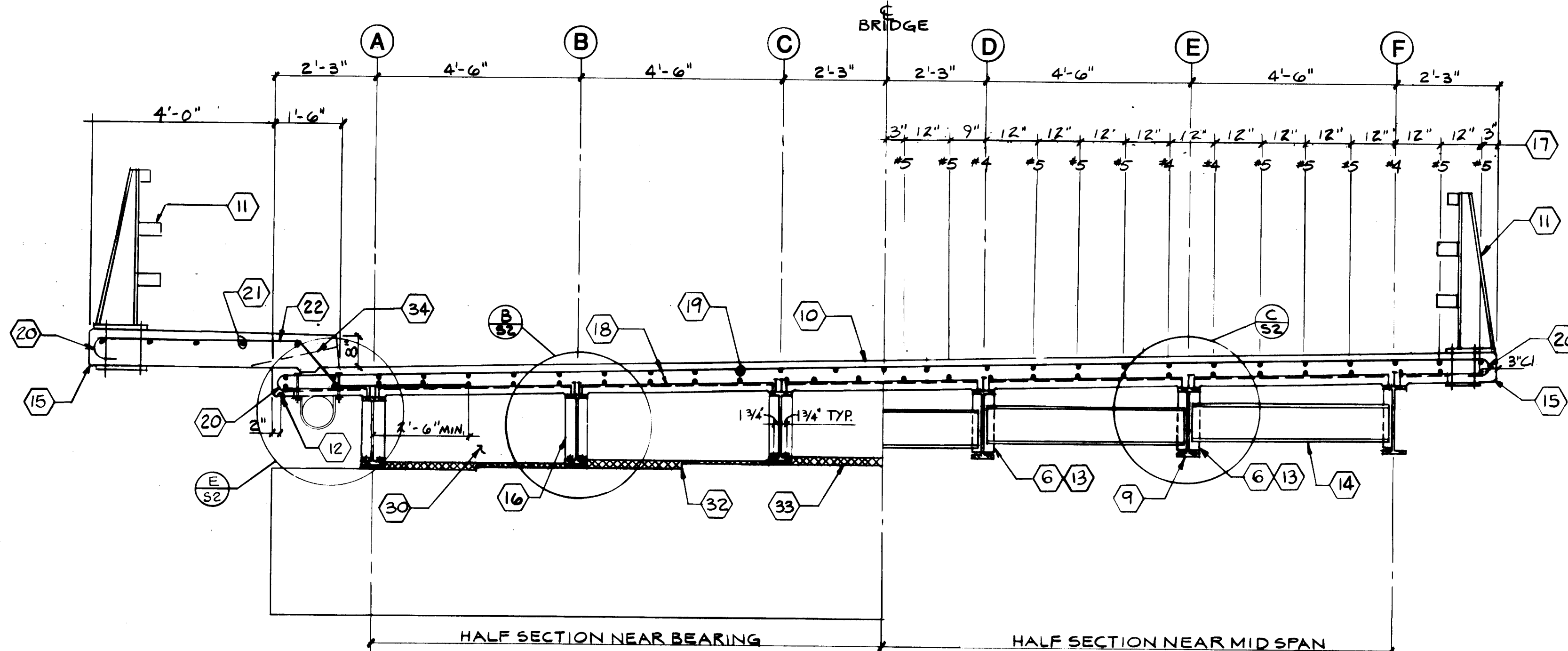
NO.	DATE	BY	REVISIONS

DESIGNED BY: <u>B.C.</u>	JOB NO.
DRAWN BY: <u>K.V.</u>	DATE
APPROVED	

STRUCTURAL DETAILS



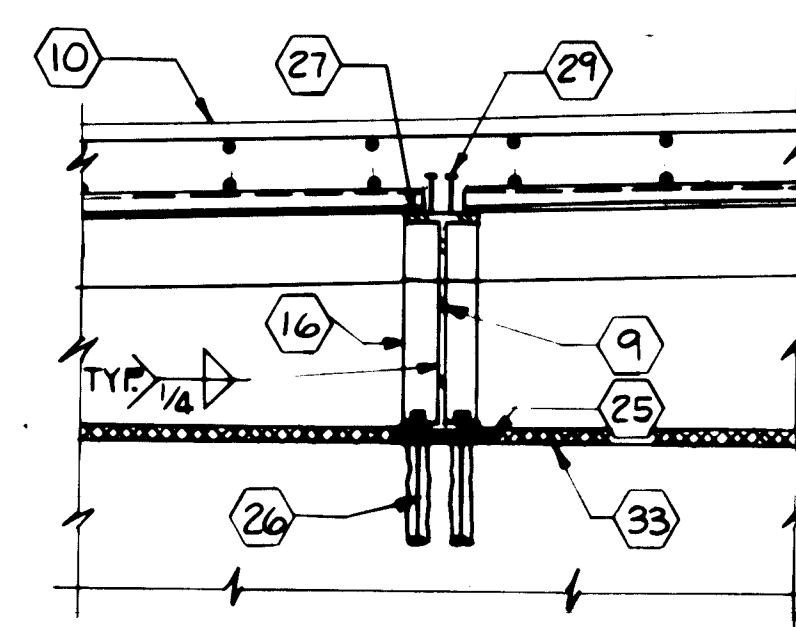
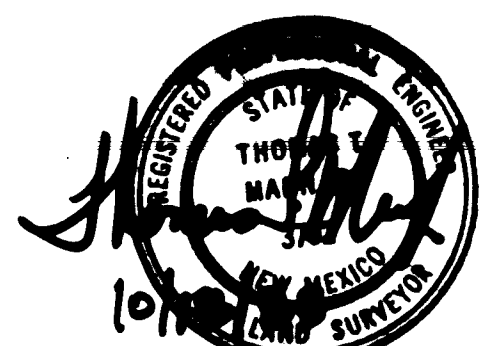
TYPICAL PROFILE
NOT TO SCALE



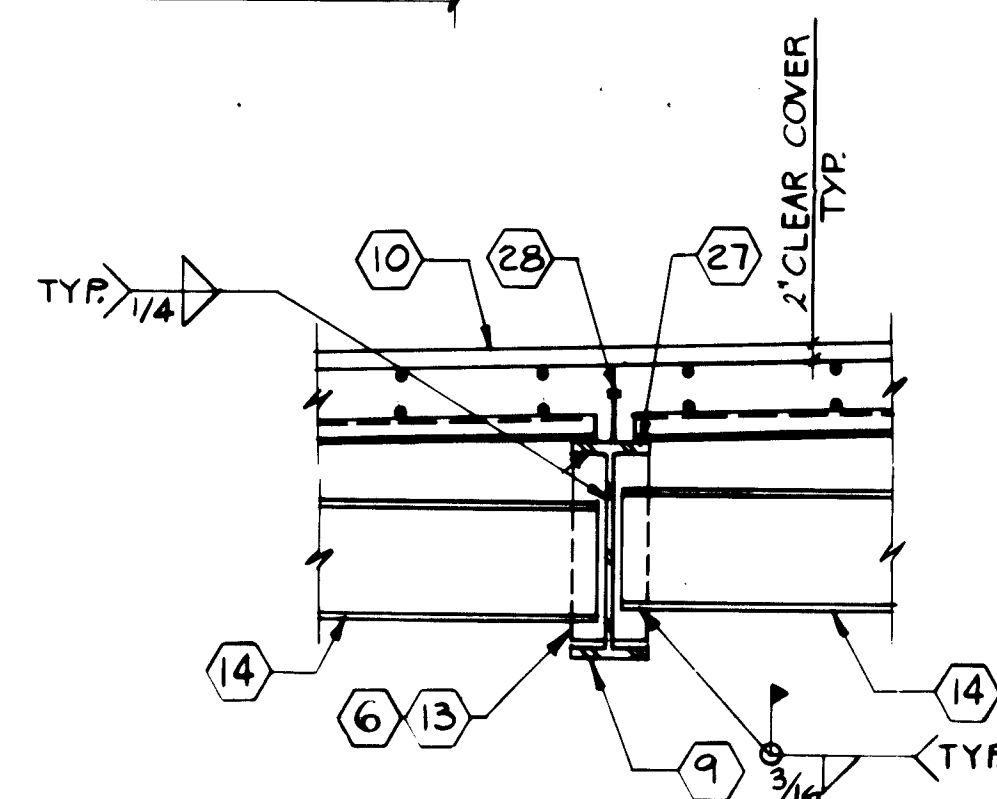
TYPICAL CROSS SECTION
1/2":1'-0"

"AS BUILT"

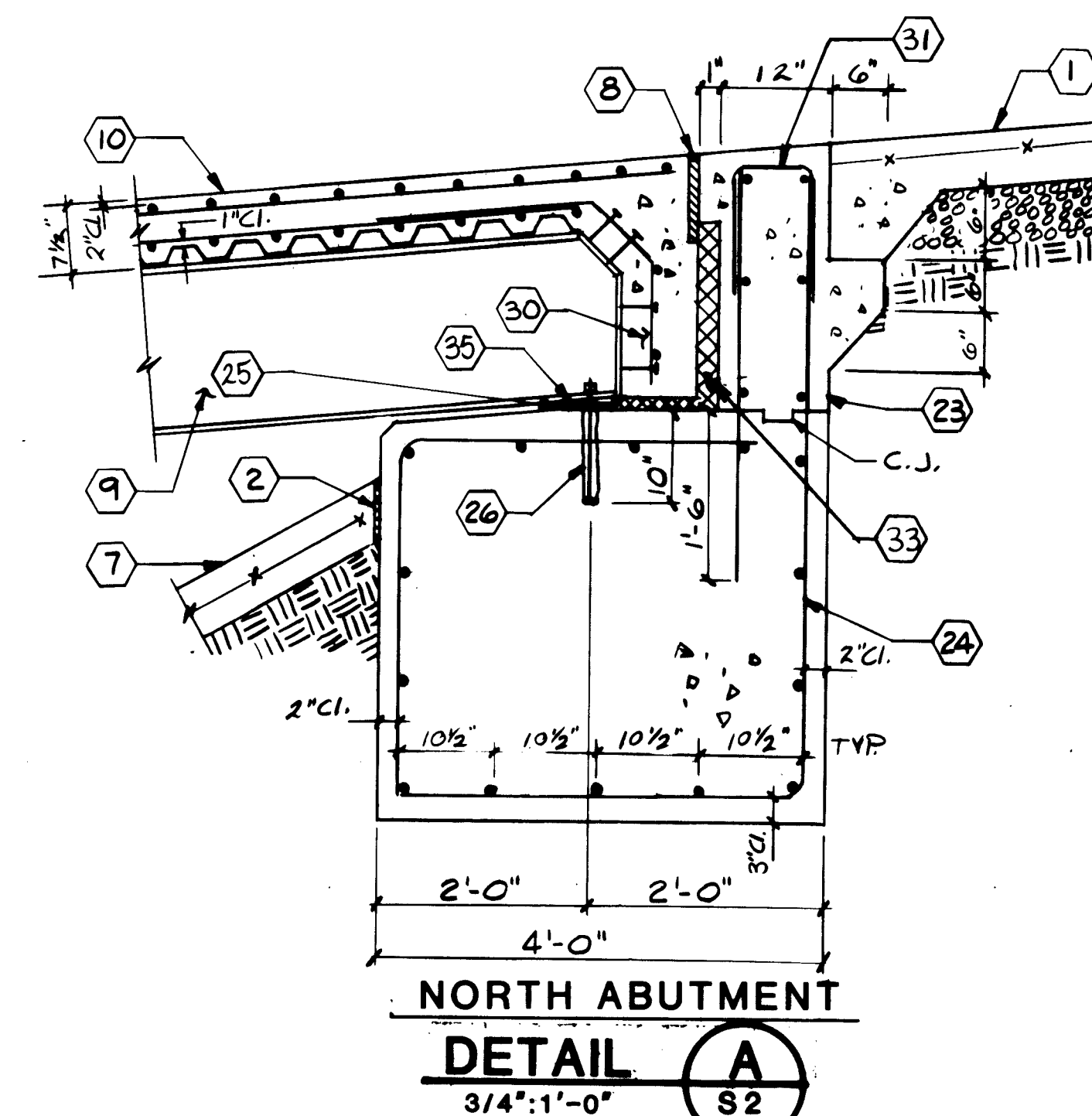
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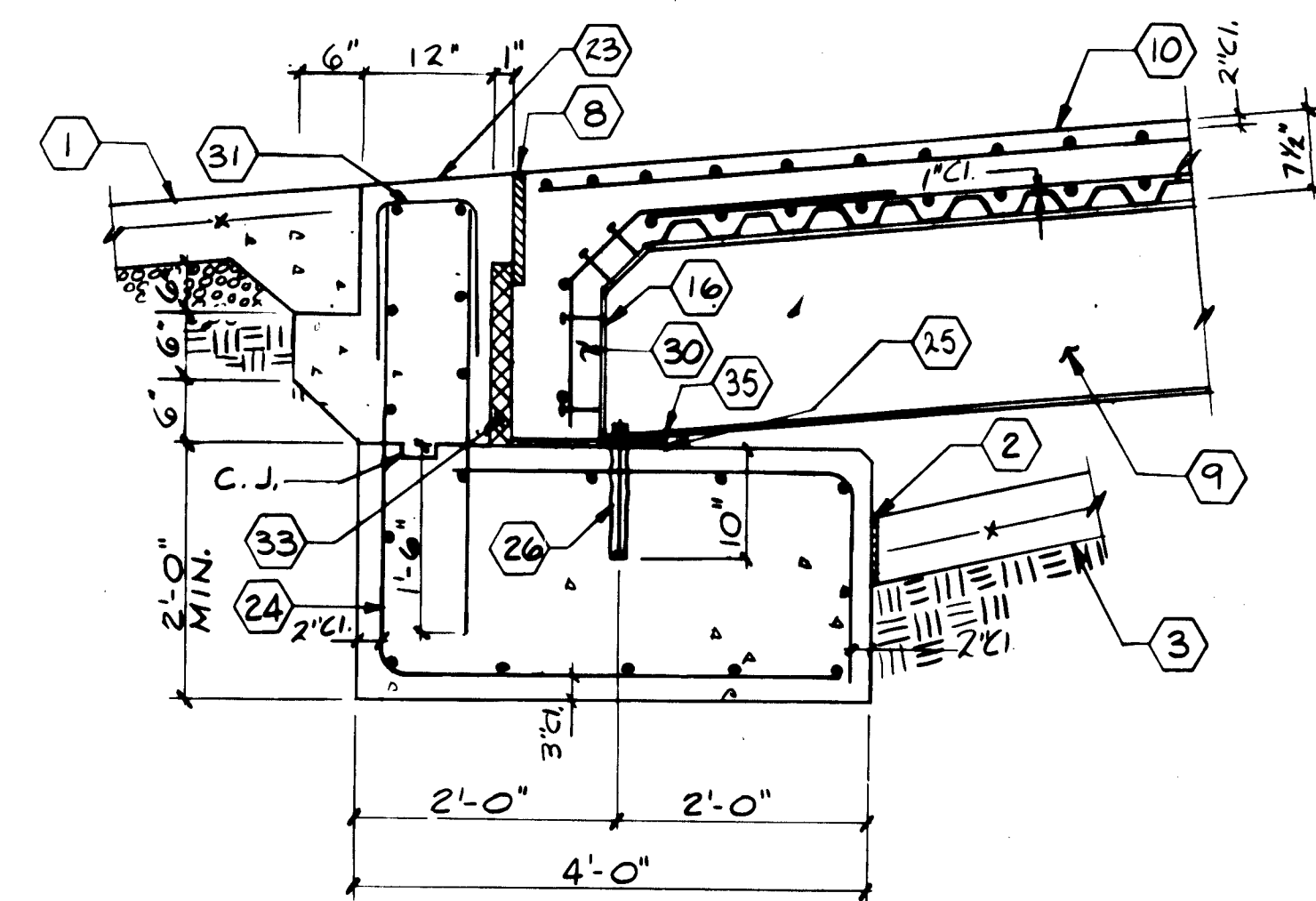
DETAIL B
3/4":1'-0"



DETAIL C
3/4":1'-0"

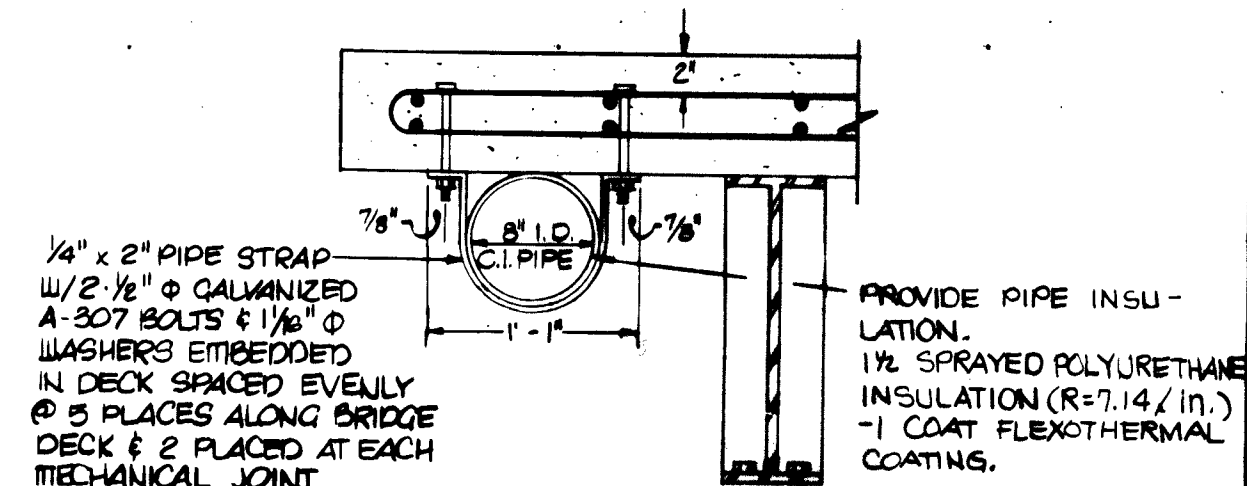


NORTH ABUTMENT DETAIL A
3/4":1'-0"



SOUTH ABUTMENT DETAIL D
3/4":1'-0"

- KEYED NOTES**
- 6"x6"-0" CONC. APPROACH SLAB W/ 6x6-W2.9xW2.9 W.W.F. (FLAT SHEETS) 2" FROM TOP OF SLAB ON 6" AGGREGATE BASE COURSE.
 - 3/4" EXPANSION JOINT.
 - NEW 6" CONC. BLANKET W/ 6x6-W2.9xW2.9 W.W.F.
 - NOT USED
 - BREAK OFF CHANNEL LINING & EXTEND REINF. INTO NEW BLANKET.
 - 5/16" STIFFENER R. EACH SIDE OF WEB @ CENTER OF SPAN (INSIDE ONLY @ EDGE STRINGERS).
 - 6" CONC. SLOPE BLANKET W/ 6x6-W2.9xW2.9 W.W.F.
 - CONT. 1" WIDE x 1/2" THICK 2 PART POLYURETHANE JOINT SEALANT ON 1" PREMOLED EXPANSION JOINT FILLER, TYPICAL.
 - W18x50 STRINGER W/ HEADED ANCHOR STUDS.
 - 7 1/2" BROOM FINISHED CONC. DECK ON 2"x6", 22 GAGE BRIDGE FORM.
 - TYPE 'B' BRIDGE RAILING (NMSHD STD. BMR-003-07)
 - 3/4" DRIP GROOVE.
 - 5/16" STIFF. R. FITTED & WELDED TO TOP FLANGE & WEB, CUT BACK FROM BOTTOM FLANGE, TYPICAL.
 - C10x15.3 DIAPHRAGMS WELDED IN PLACE, TYP.
 - 3/4" CHAMFER, TYPICAL
 - 5/16"x6" BENT R. W/ 2 ROWS 3/4"x3 1/2" H.A.S. @ 6" O.C. @ ENDS OF EA. STRINGER.
 - LONGITUDINAL REINF. @ BOTTOM OF SLAB SYMMETRICAL ABOUT C_L OF ROADWAY.
 - #4 & #5 ALTERNATE @ 6" O.C. TRANSVERSE @ TOP & BOTTOM OF SLAB.
 - #4 @ 12" O.C. LONGITUDINAL @ TOP OF SLAB.
 - 180° STD. HOOK.
 - #4 @ 12" O.C. LONGITUDINAL.
 - #5 @ 12" O.C. TRANSVERSE.
 - 1'-0" BACKWALL W/ #4 @ 12" O.C. EACH WAY, EACH FACE.
 - #4 @ 12" O.C. EACH WAY, EACH FACE.
 - 1/2"x5"x0'-8" BEARING PAD @ EA. STRINGER; STRUCTURAL GRADE ELASTOMER, 50 DUROMETER. POLISH BEAM SEAT BELOW BEARING PAD SMOOTH WITH CARBORUNDUM BRICK.
 - 2 - 1" HIGH STRENGTH ANCHOR BOLTS @ EACH STRINGER, STANDARD HOLES IN FLANGES @ NORTH ABUTMENTS; LONG SLOTTED HOLES IN FLANGES @ SOUTH ABUTMENTS. SET ANCHOR BOLTS IN DRILLED HOLES IN ABUTMENTS WITH EPOXY GROUT.
 - 1" O.D. x 14 GA. WASHER - PLUG WELD @ 12" O.C. TYPICAL; SEE NOTES 28 & 29 BELOW.
 - ROW OF HEADED ANCHOR STUDS @ CENTERLINE OF STRINGER, WELDING STUDS THROUGH BRIDGE FORM IS AN ACCEPTABLE ALTERNATE TO PLUG WELDS.
 - 2 ROWS OF HEADED ANCHOR STUDS, SPACED 2" EACH SIDE OF CENTERLINE OF STRINGER, WELDING STUDS THROUGH BRIDGE FORM IS AN ACCEPTABLE ALTERNATE TO PLUG WELDS.
 - 8" THICK CONCRETE DIAPHRAGM WITH #4 @ 12" O.C. EACH WAY.
 - #4 @ 15" @ 12" O.C.
 - STEP ABUTMENT BRIDGE SEATS MIDWAY BETWEEN STRINGERS.
 - STYROFOAM FORM.
 - 4"x4" DRAIN SPOUT @ 10'-0" O.C.
 - 6"x9" BEVELED FILLER PLATE WELDED TO BEAM.



PIPE HANGER DETAIL E
1":1'-0"

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OWNERSHIP OF DOCUMENTS
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