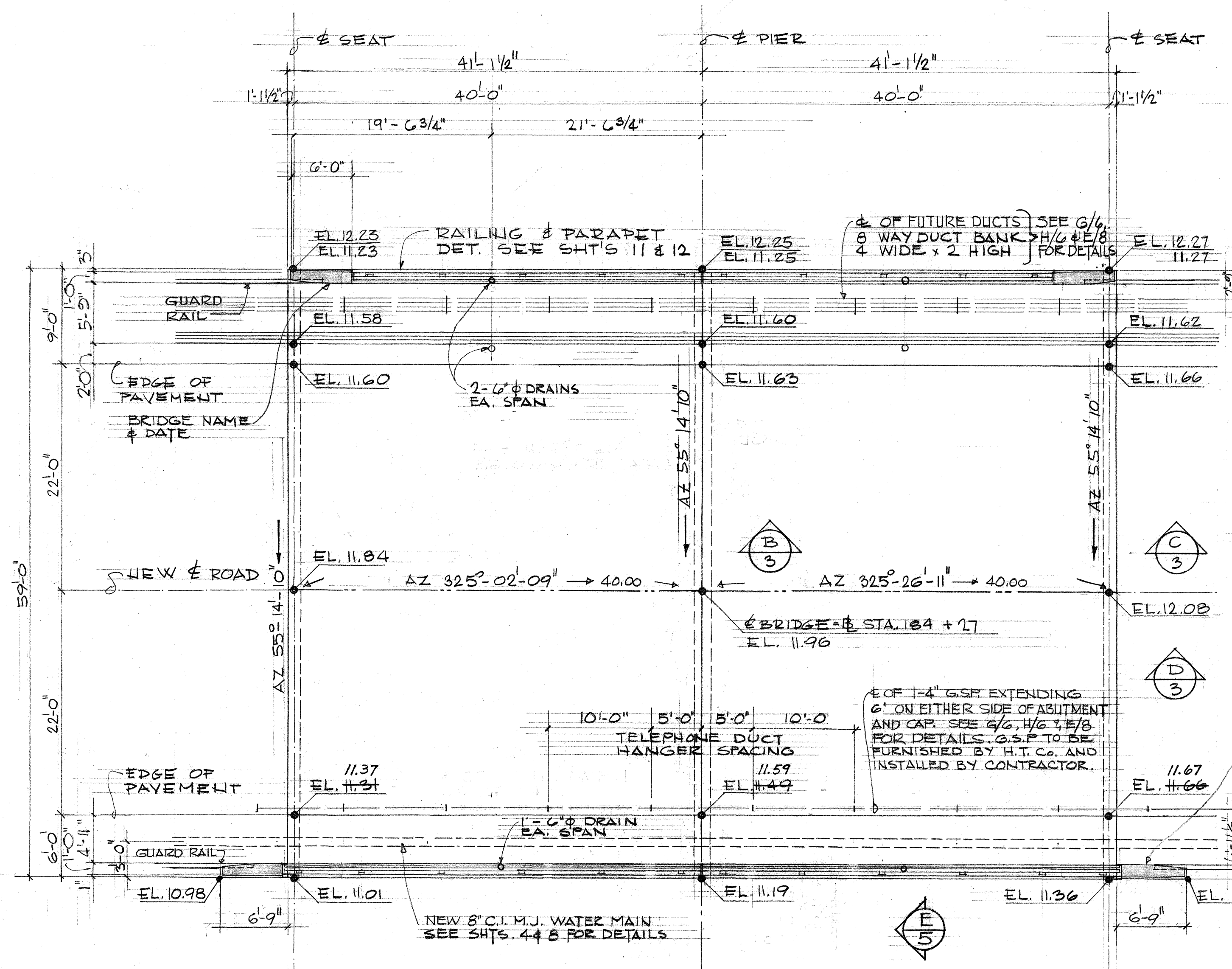
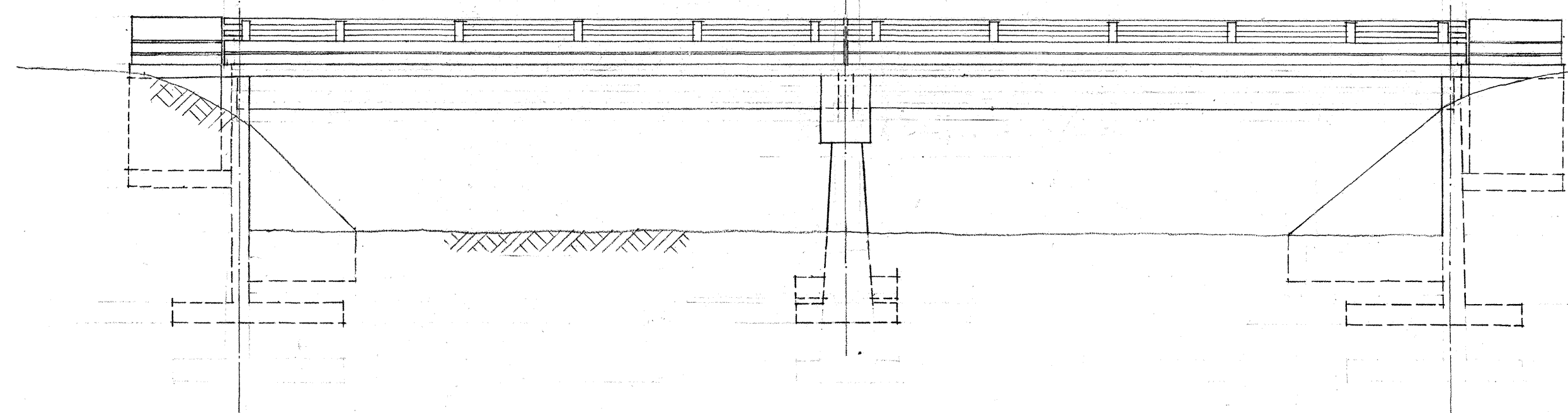
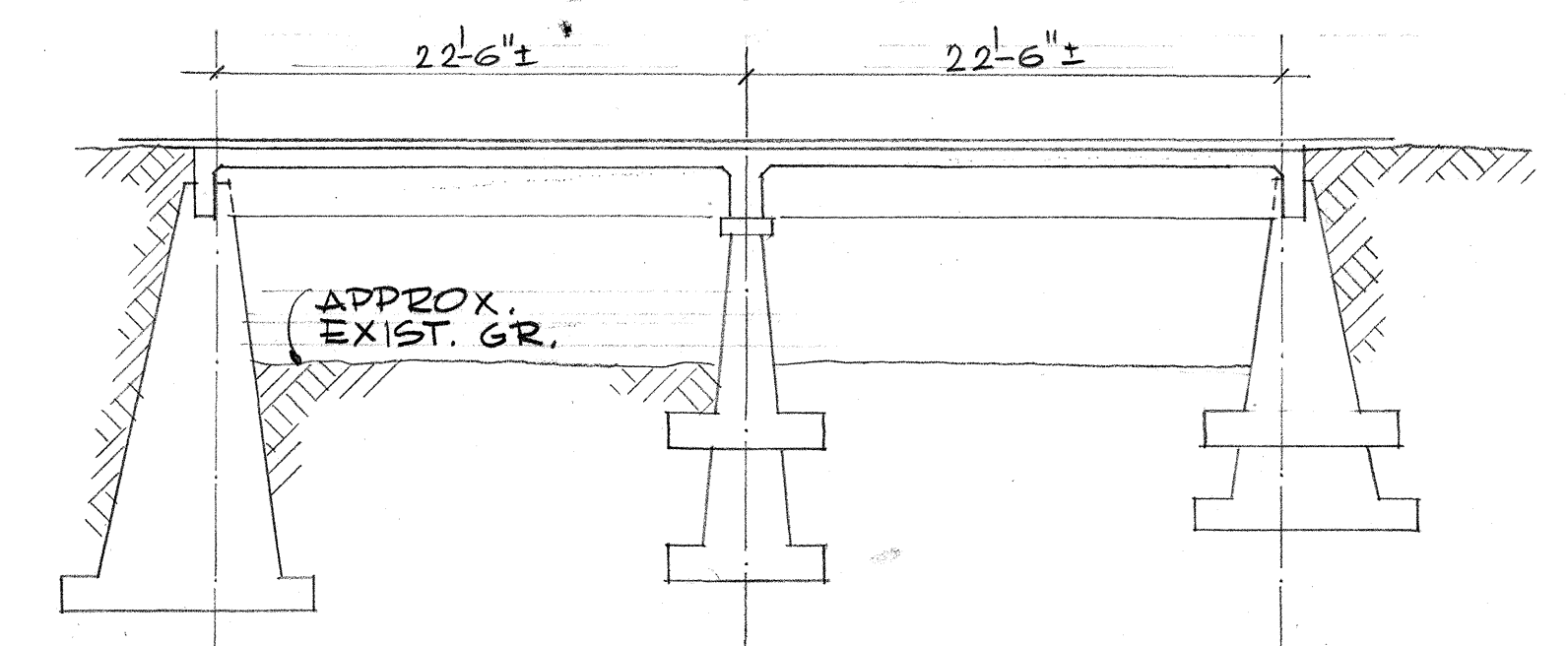




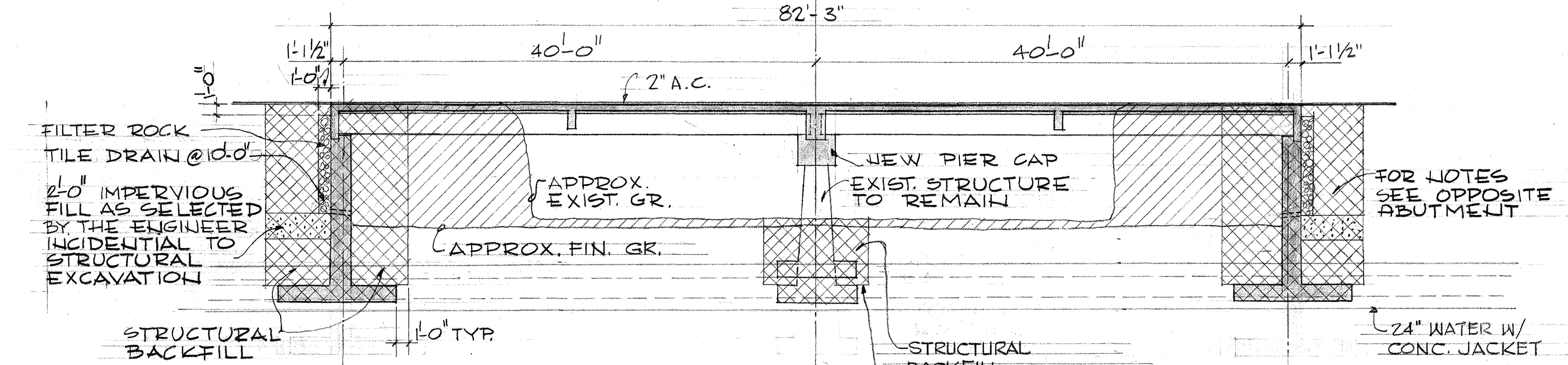
PLAN  
SCALE 1/8" = 1'-0"



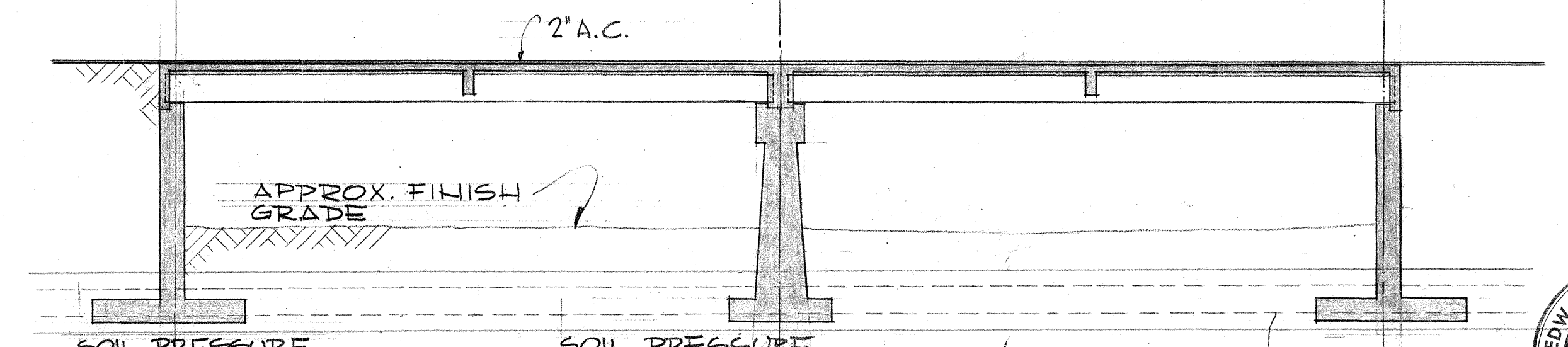
DOWNSTREAM ELEVATION  
SCALE 1/8" = 1'-0"



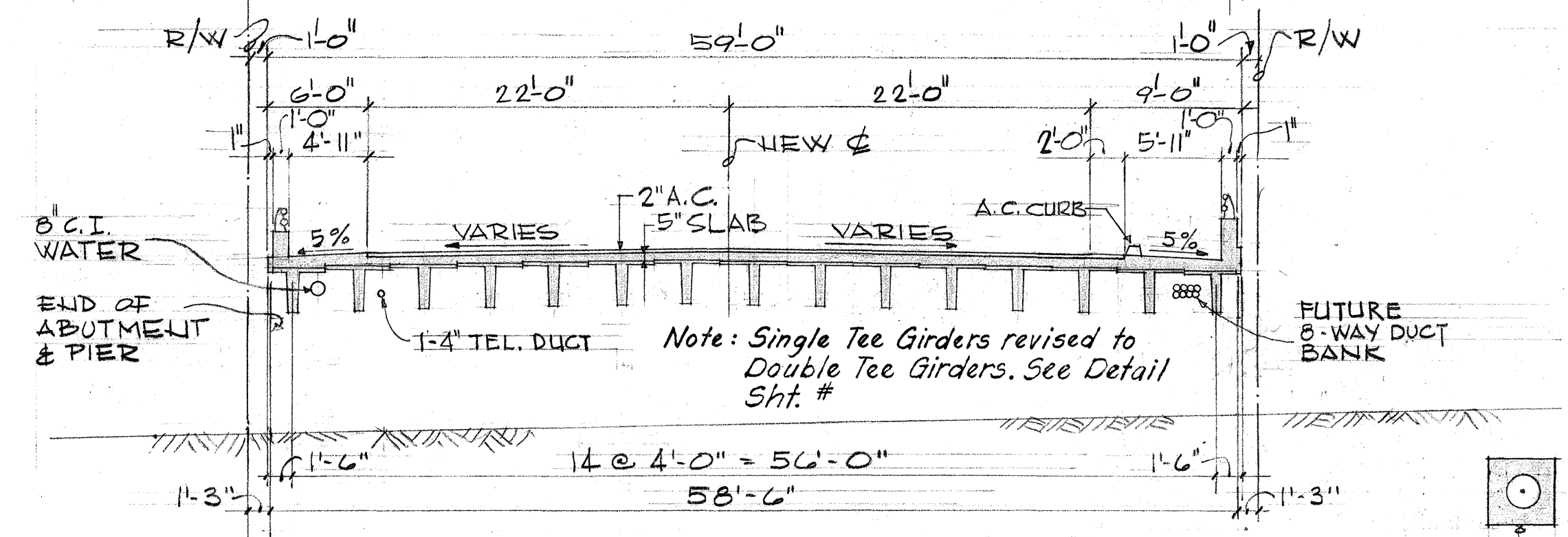
SECTION B  
SCALE 1/8" = 1'-0"



SECTION C  
SCALE 1/8" = 1'-0"



SECTION D  
SCALE 1/8" = 1'-0"



SECTION E  
SCALE 1/8" = 1'-0"

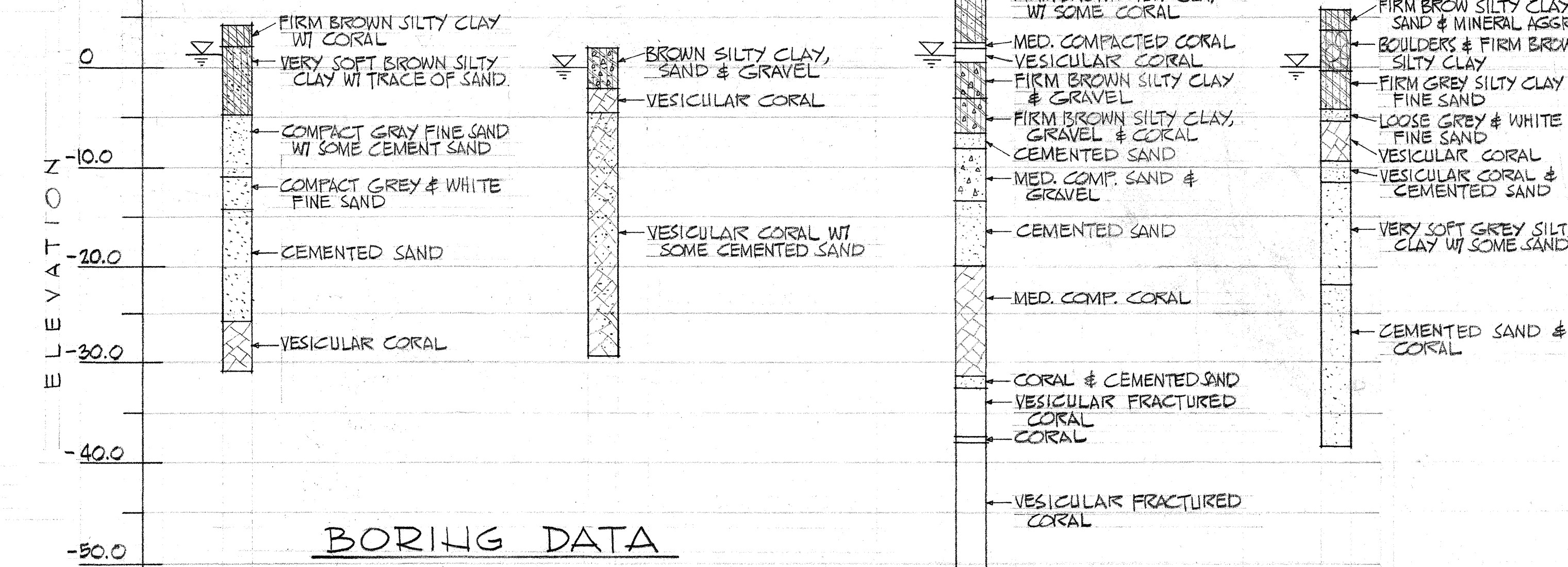
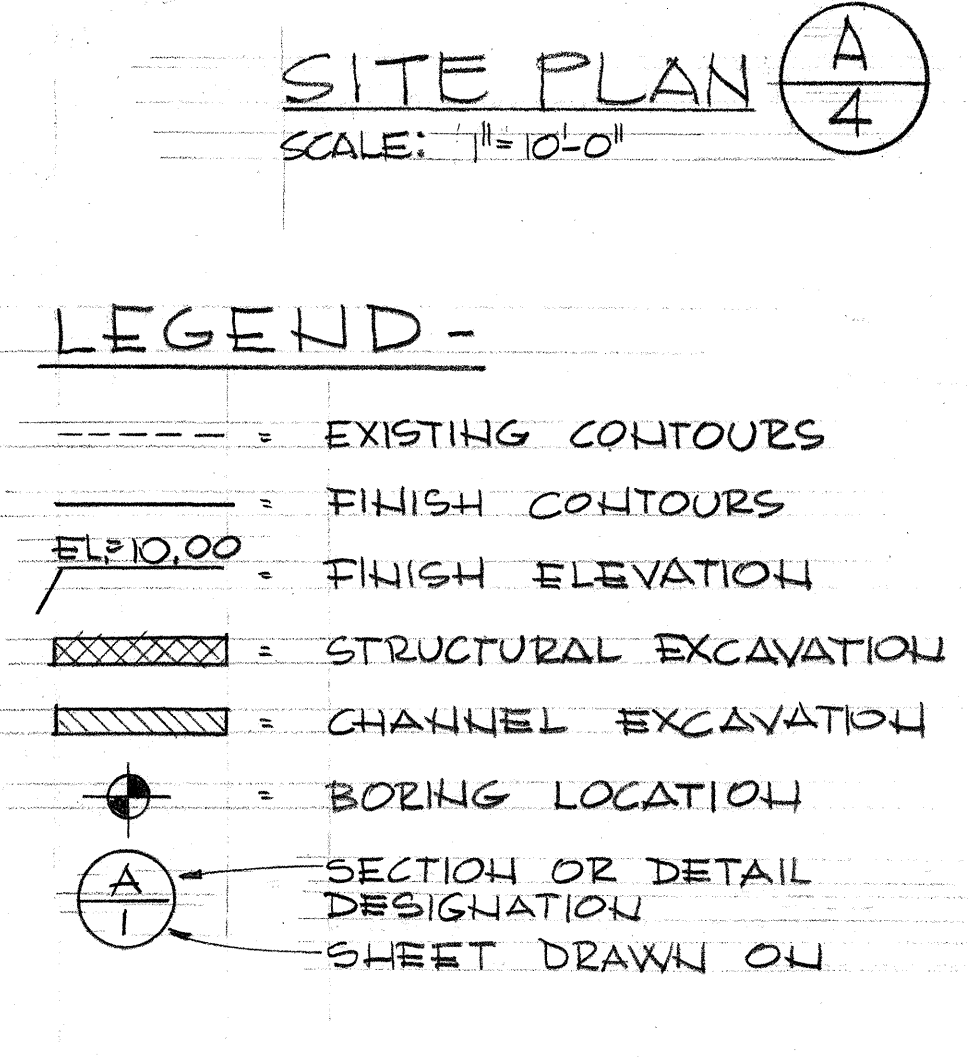
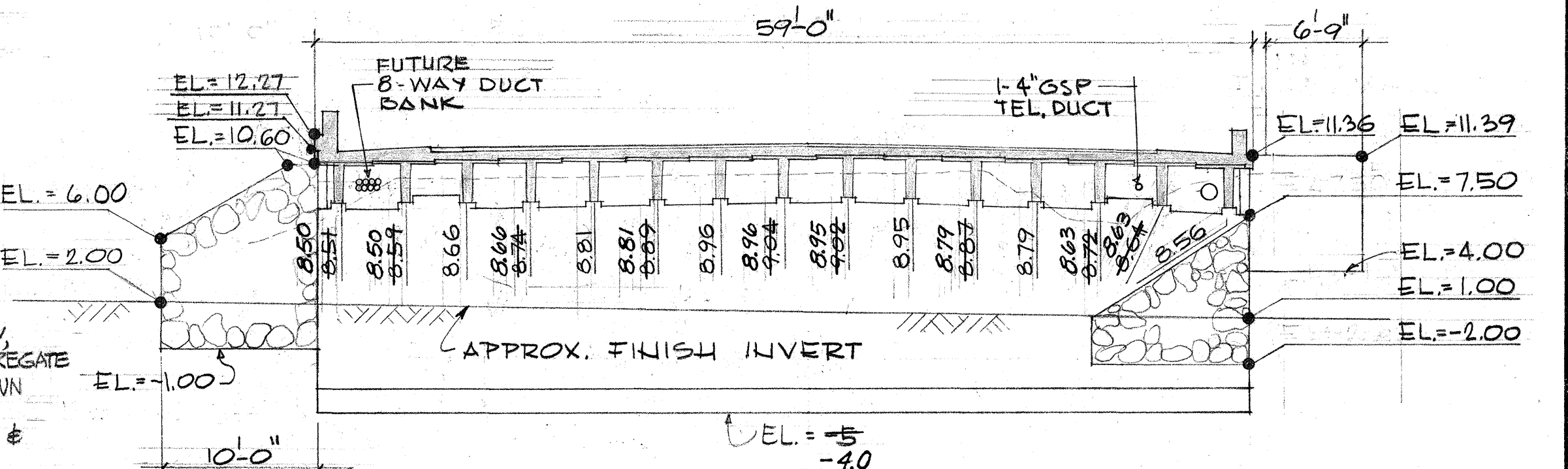
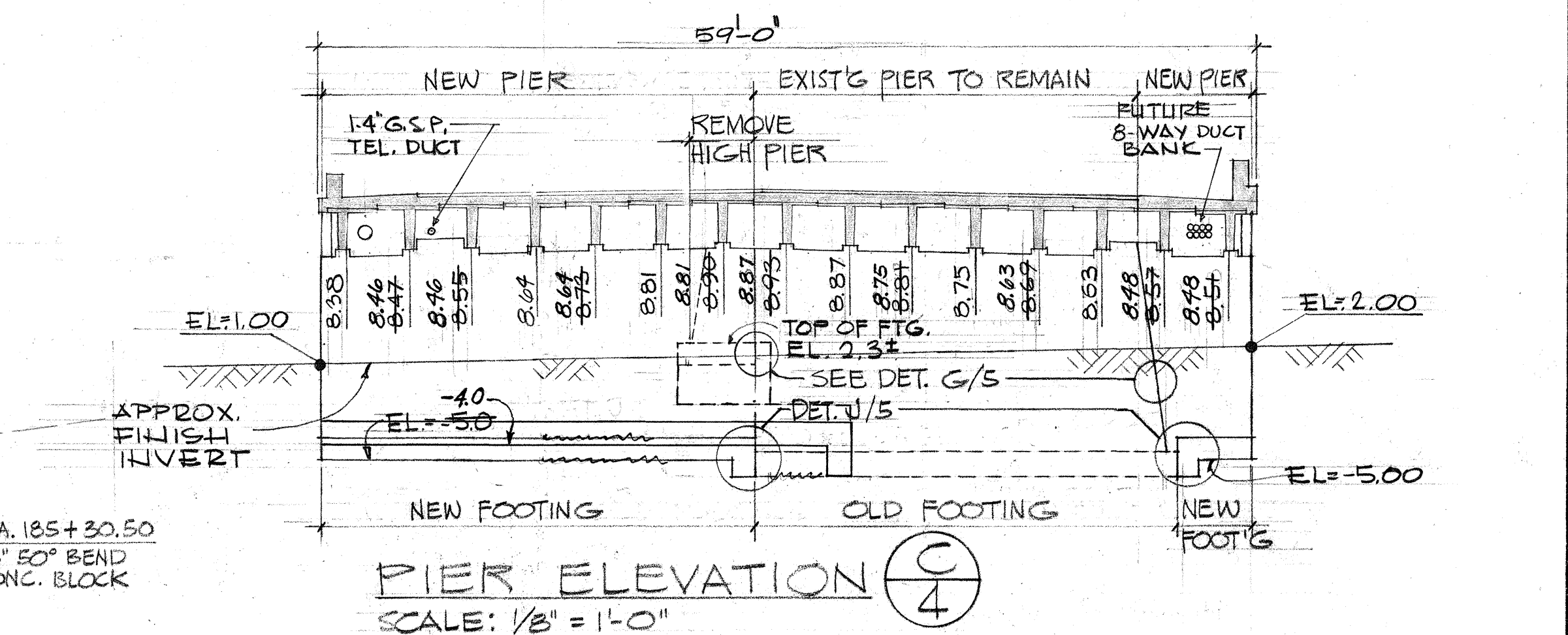
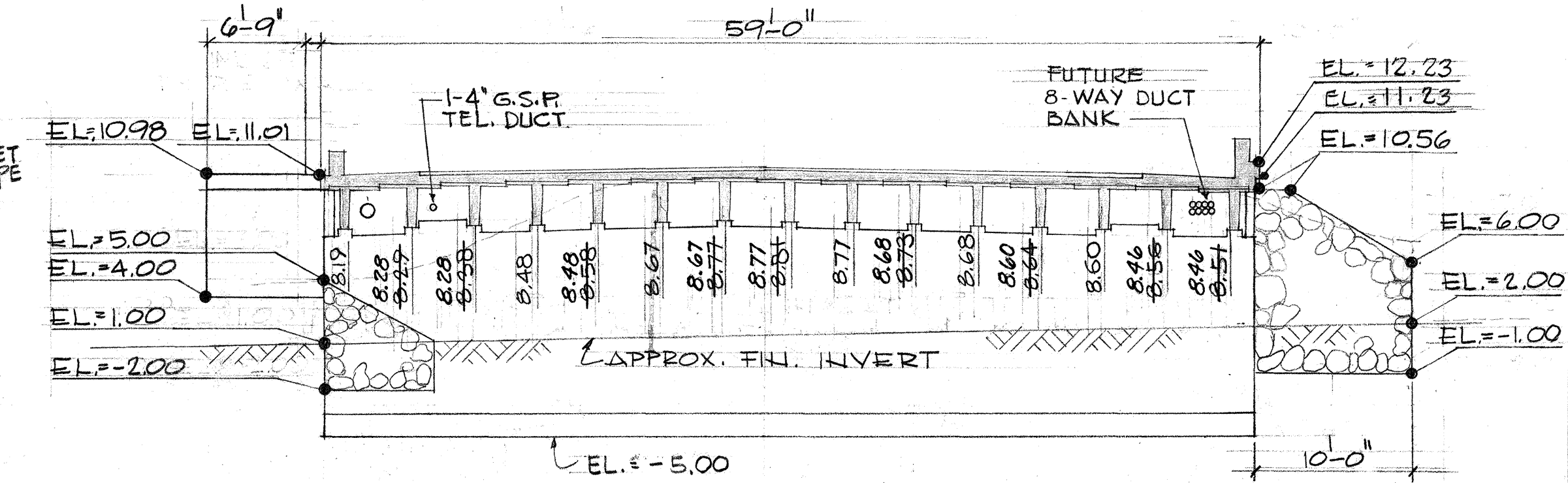
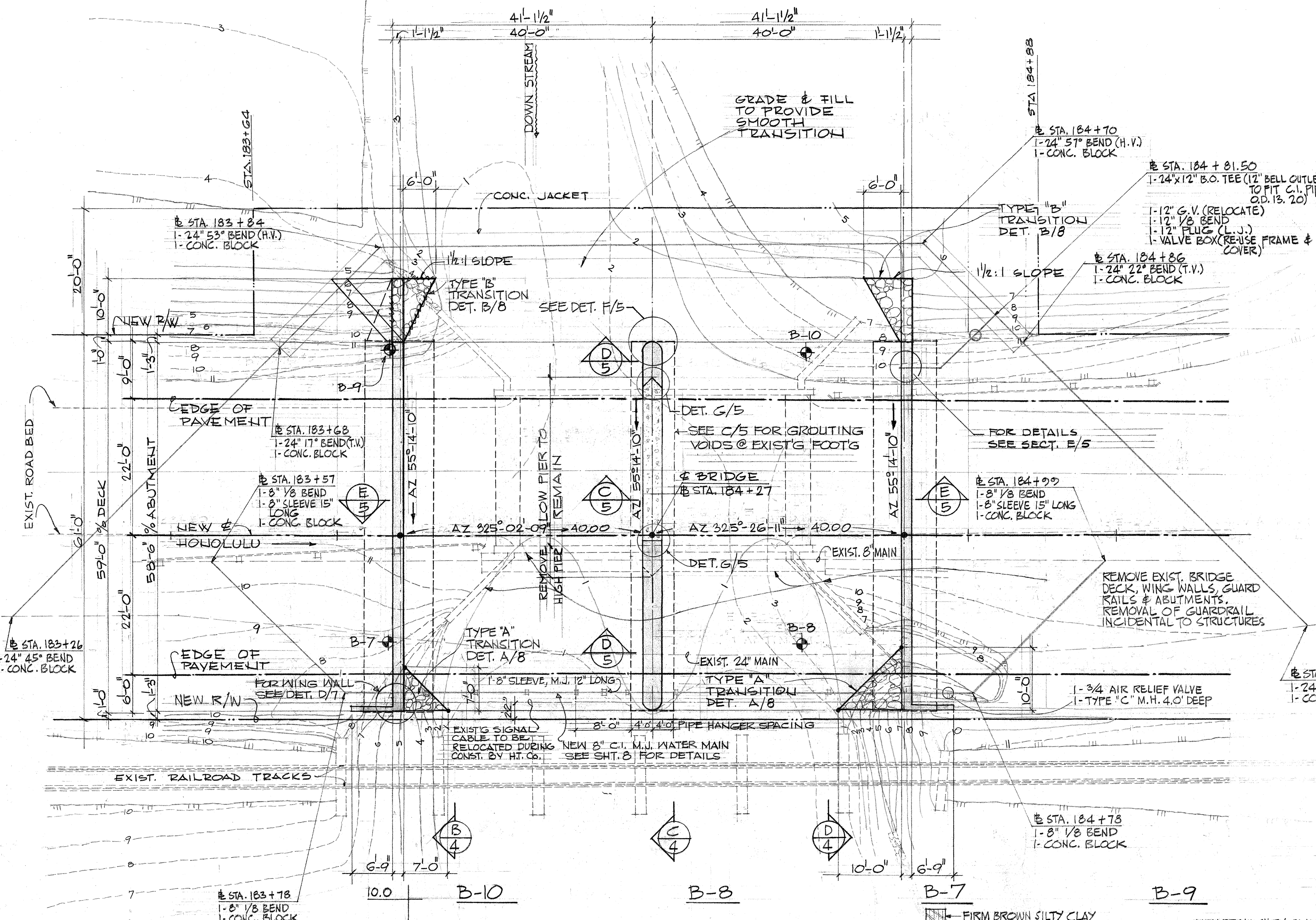
APPROVED BY:  
Hawaiian Telephone Co.  
Date: 3-19-68

EDWARD K. WATANABE  
REGISTERED PROFESSIONAL ENGINEER  
No. 947  
HAWAII, U.S.A.  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION  
WALTER LUM ASSOCIATES, INC.  
E.K. Watanabe

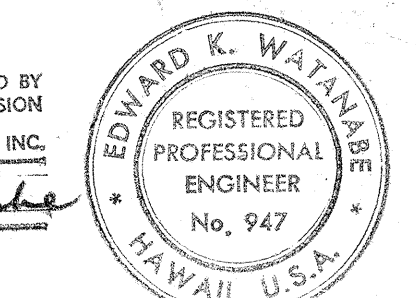
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
  
NANAKULI STREAM BRIDGE  
  
FARRINGTON HIGHWAY WIDENING  
PROJECT B-900-01-64  
UNIT II  
  
SHEET No. 3 OF 13 SHEETS

SURVEY PLOTTED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_





APPROVED BY: *[Signature]* 10/3/67  
 Chief Engineering Div. B.W.S. Date  
 Hawaiian Telephone Co. Date



STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

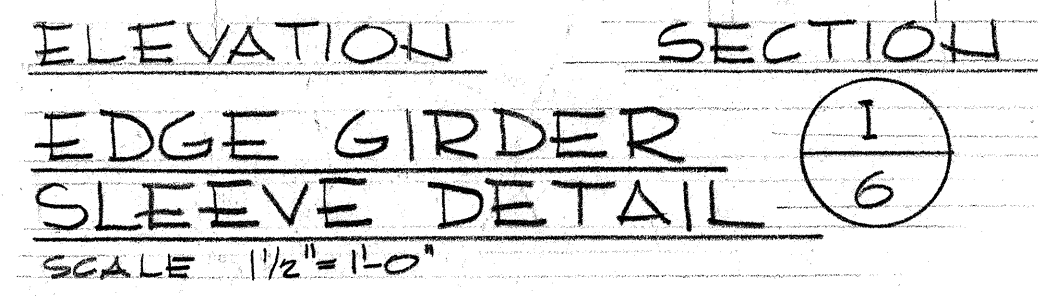
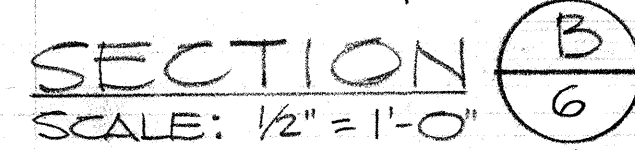
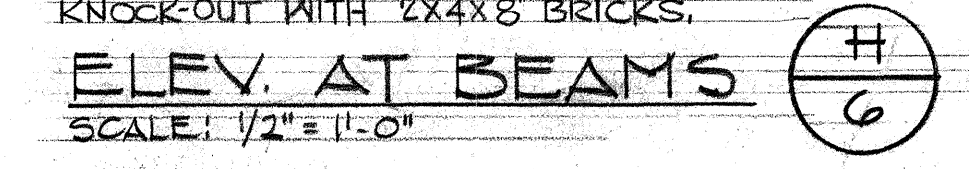
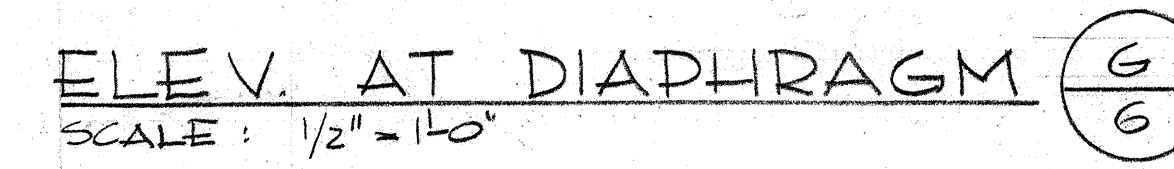
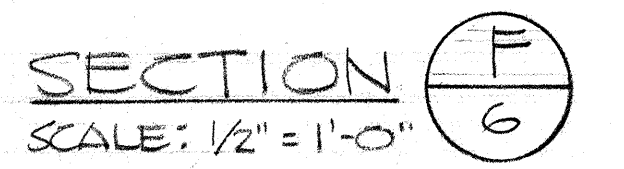
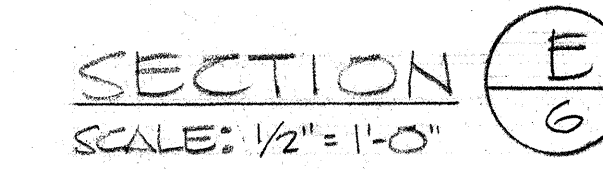
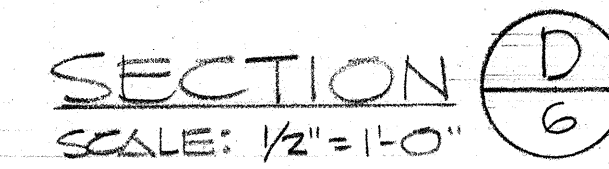
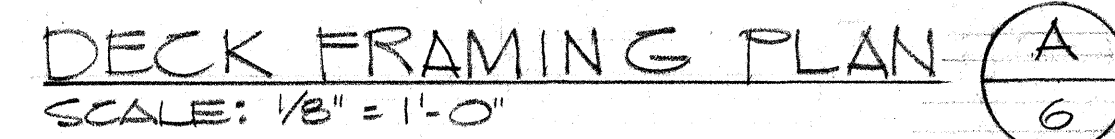
NANAKULI STREAM BRIDGE

FARRINGTON HIGHWAY WIDENING  
 PROJECT B-900-01-64  
 UNIT II









|               |                         |            |
|---------------|-------------------------|------------|
| ORIGINAL PLAN | SURVEY PLOTTED BY _____ | DATE _____ |
| NOTE BOOK     | DRAWN BY _____          | _____      |
|               | TRACED BY _____         | _____      |
|               | DESIGNED BY _____       | _____      |
|               | QUANTITIES BY _____     | _____      |
| No. _____     | CHECKED BY _____        | _____      |

THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION  
WALTER LUM ASSOCIATES, INC.  
By E.K. Katanich

APPROVED BY: *J. A. Swahm* 10/3/67  
Chief Engineering Div B.W.S. Date  
*F. H. Qudd* 3-19-68  
Hawaiian Telephone Co. Date

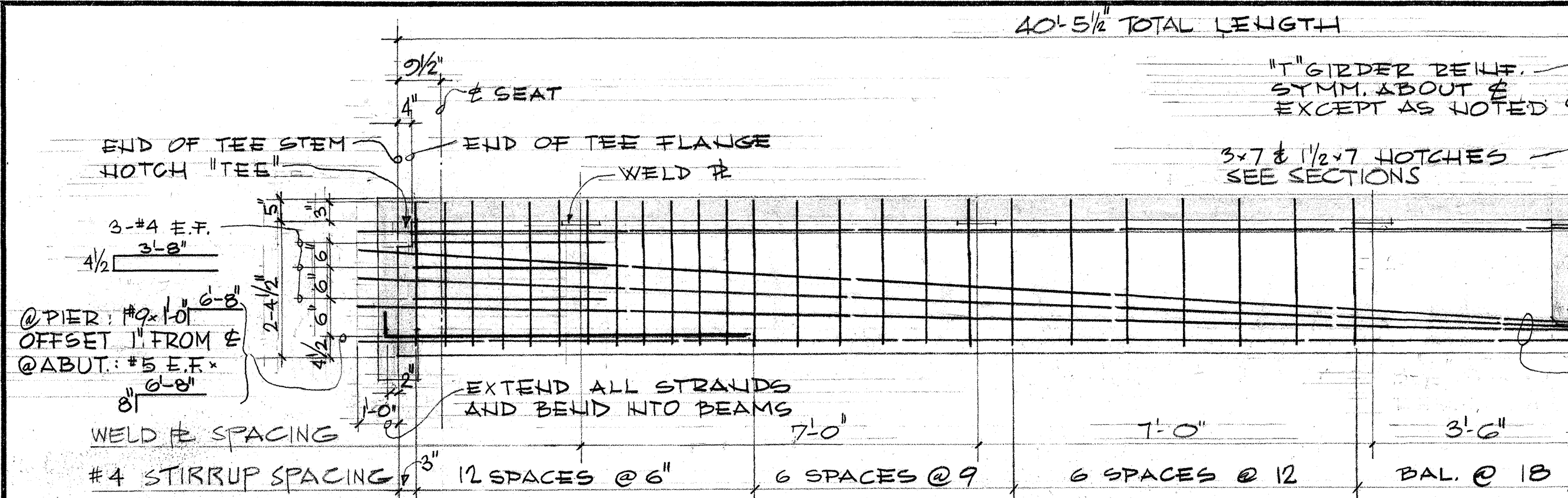
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NANAKULI STREAM BRIDGE

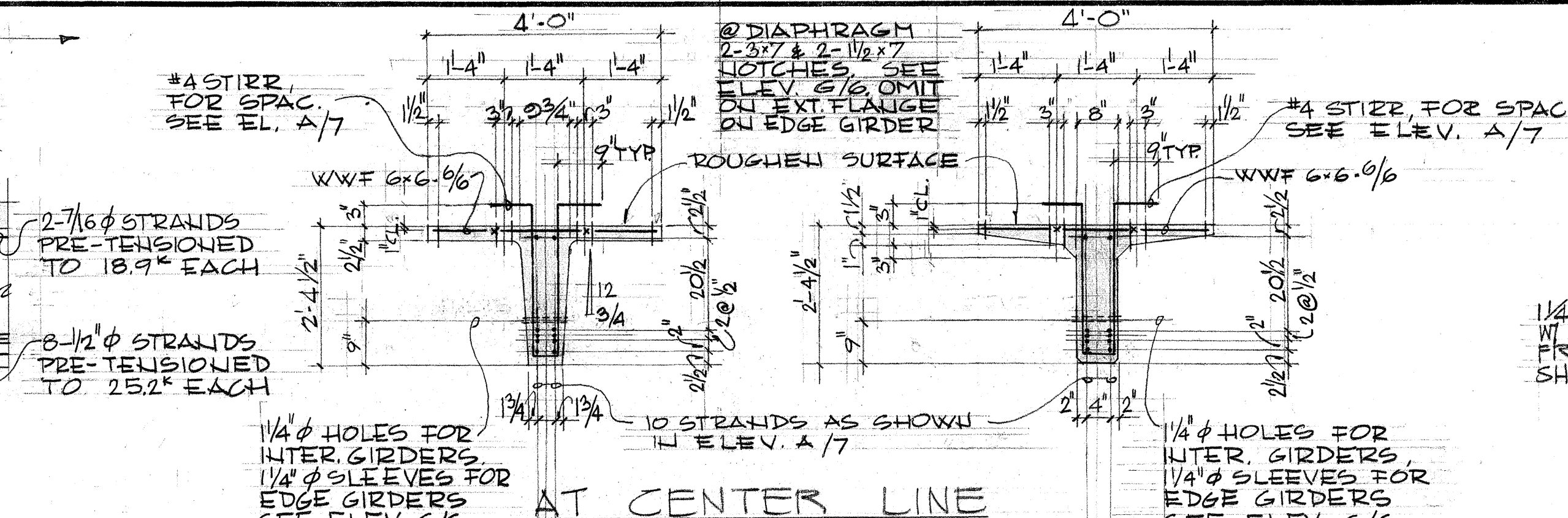
FARRINGTON HIGHWAY WIDENING  
PROJECT B-900-01-64  
UNIT II

**SHEET No. 6 OF 13 SHEETS**

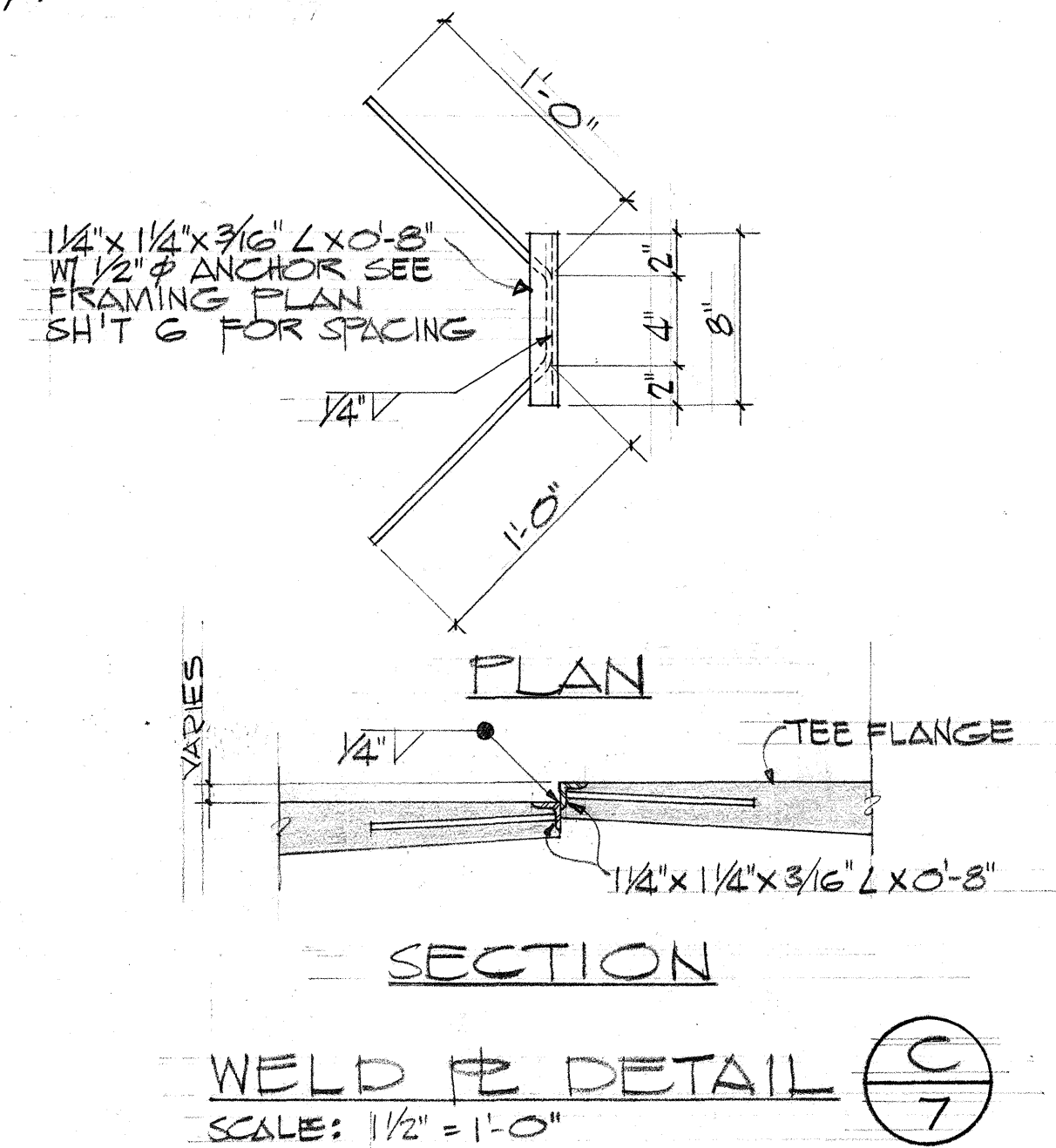




ELEVATION OF PRESTRESSED TEE (A/7)  
SCALE: 1/2" = 1'-0"

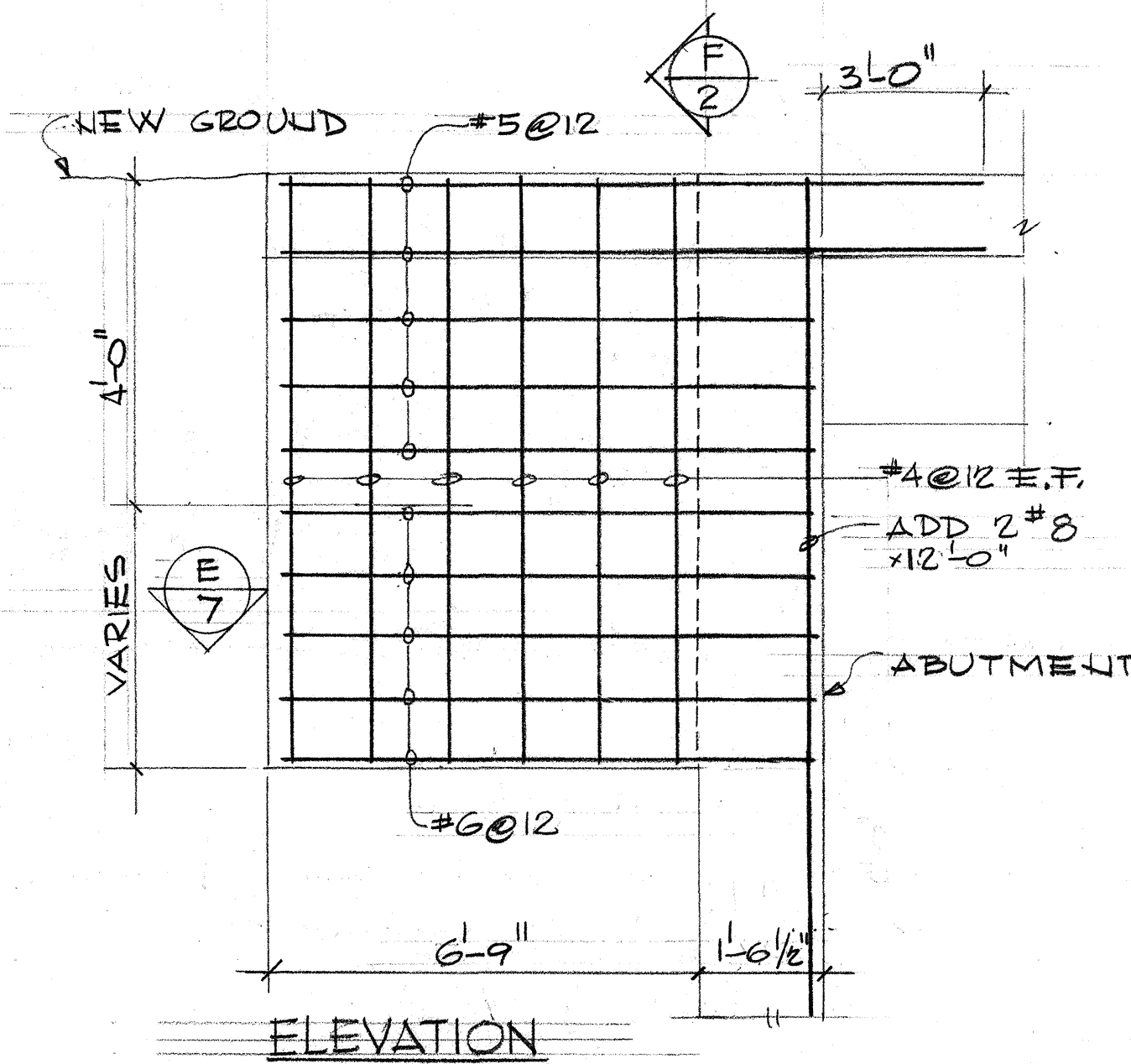


AT ENDS  
TYPICAL TEE SECTIONS (B/7)  
SCALE: 1/2" = 1'-0"

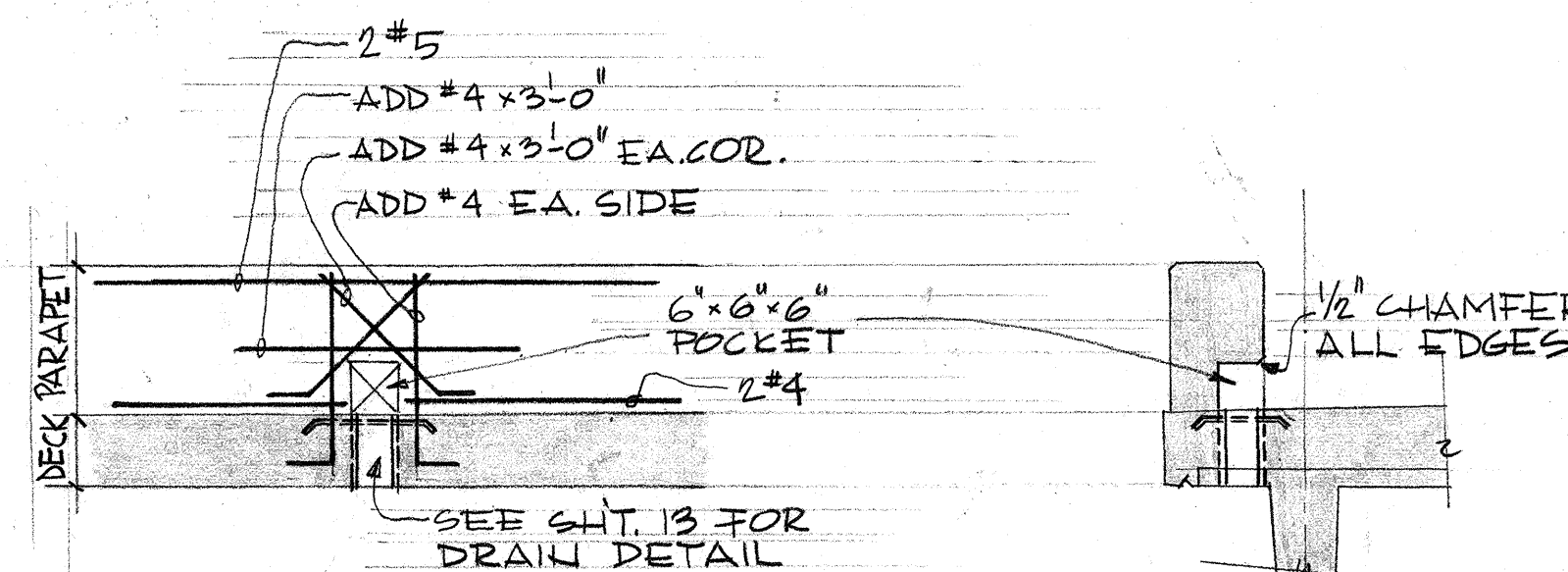


WELD #2 DETAIL (C/7)  
SCALE: 1/2" = 1'-0"

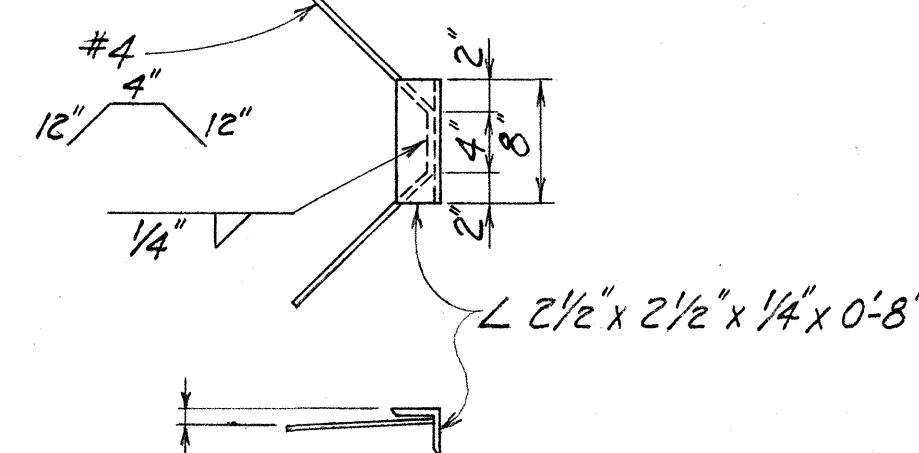
| ESTIMATED QUANTITIES                           |               |
|------------------------------------------------|---------------|
| ITEMS                                          | QUANTITY      |
| CLASS A-1 CONCRETE - LUMP SUM                  | 317. C.Y.     |
| REINFORCING STEEL - LUMP SUM                   | 63,035. LBS   |
| A.C. PAVEMENT & CURB PAID UNDER TACK COAT      | ROADWAY ITEMS |
| PRESTRESSED TEES                               | 4,650 S.F.    |
| METAL BRIDGE RAILING                           | 152. L.F.     |
| CONG. BRIDGE PARAPET INCLUDING END POSTS       | 178. L.F.     |
| STRUCTURAL EXCAVATION                          | 1,004. C.Y.   |
| CHANNEL EXCAVATION                             | 462. C.Y.     |
| C.R.M. WALLS                                   | 35. C.Y.      |
| FILTER MATERIAL                                | 45. C.Y.      |
| REMOVAL OF EXISTING STRUCT. & WALLS - LUMP SUM | 290. C.Y.     |
| GRP                                            | 12. C.Y.      |
| WATER MAINS - PAID UNDER B.W.S. ITEMS          |               |



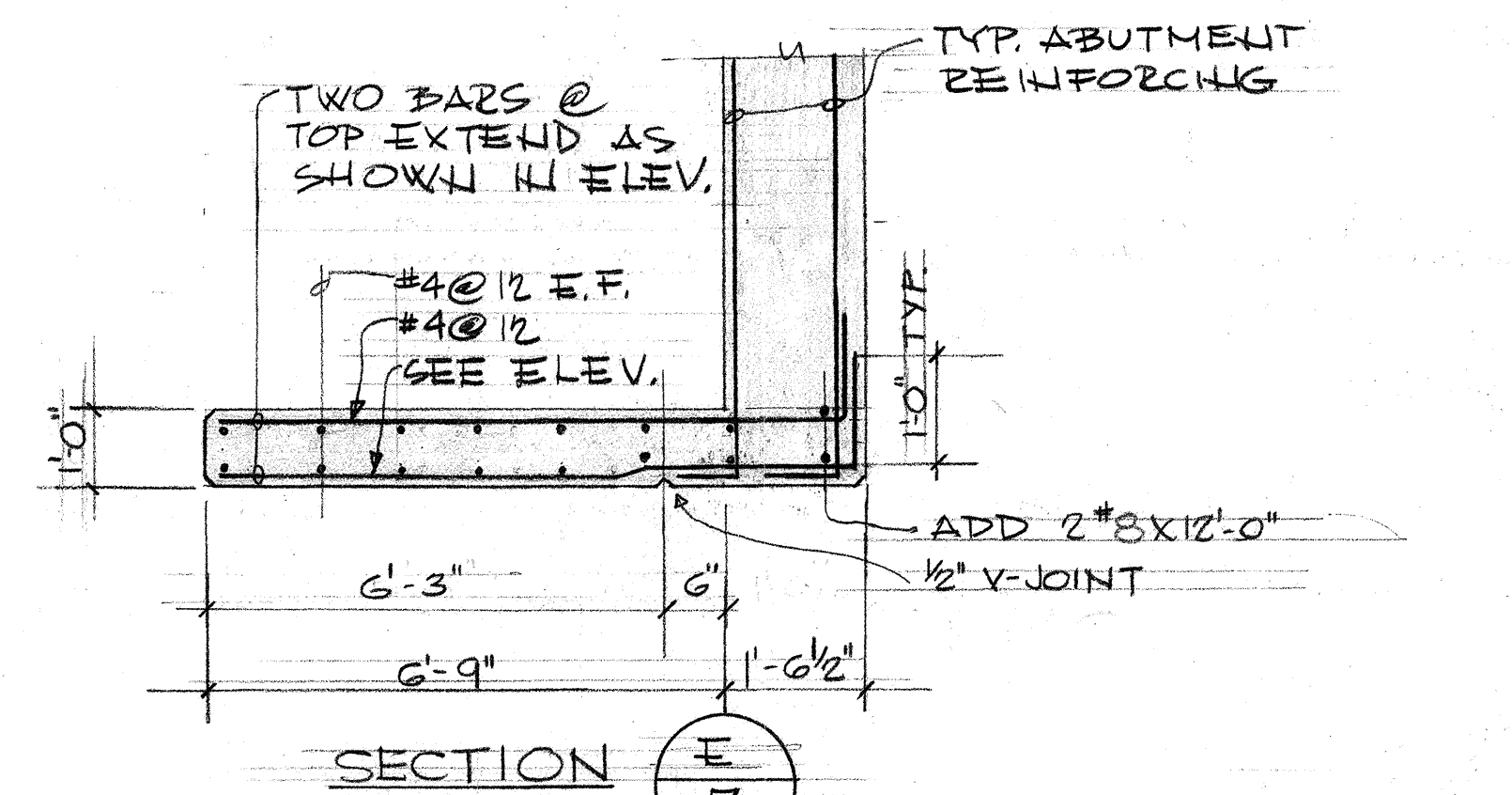
WING WALL DETAILS (D/7)  
SCALE: 1/2" = 1'-0"



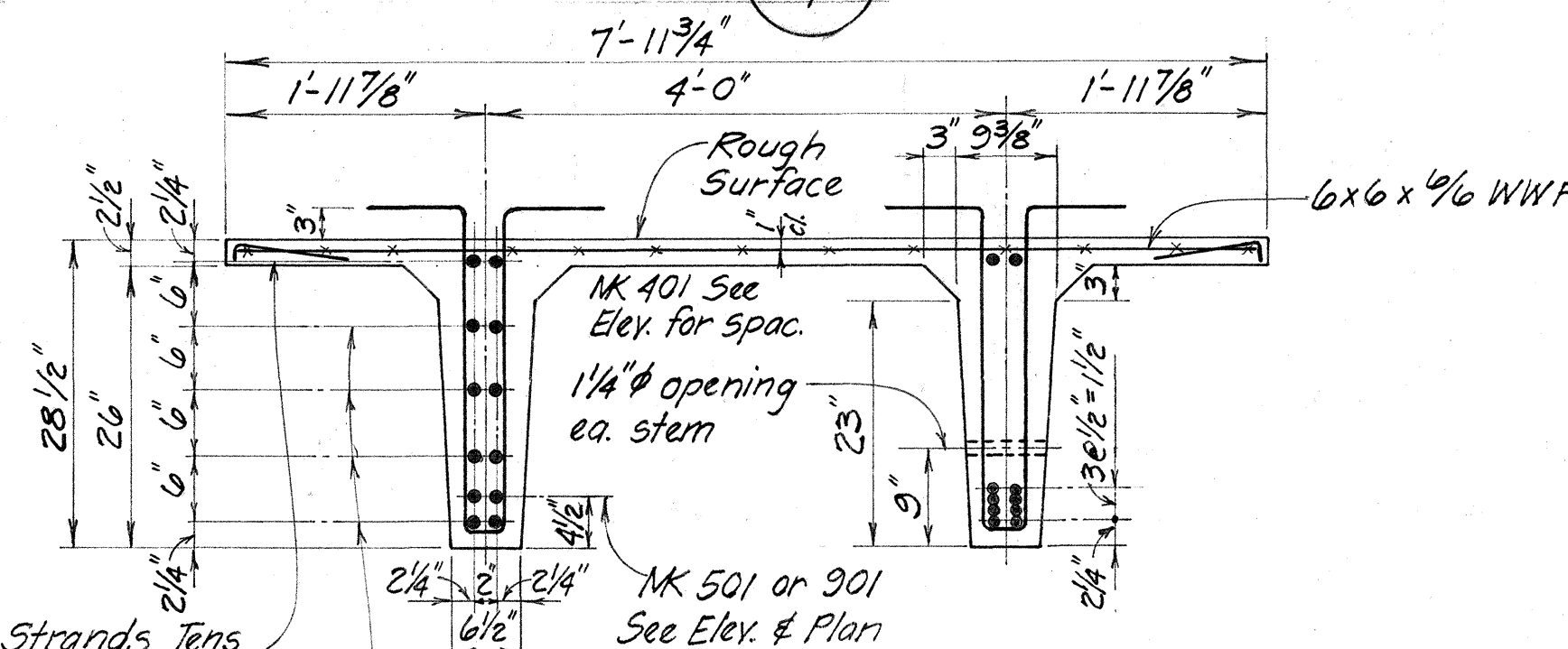
ELEVATION  
DRAIN DETAIL (G/7)  
SCALE: 1/2" = 1'-0"



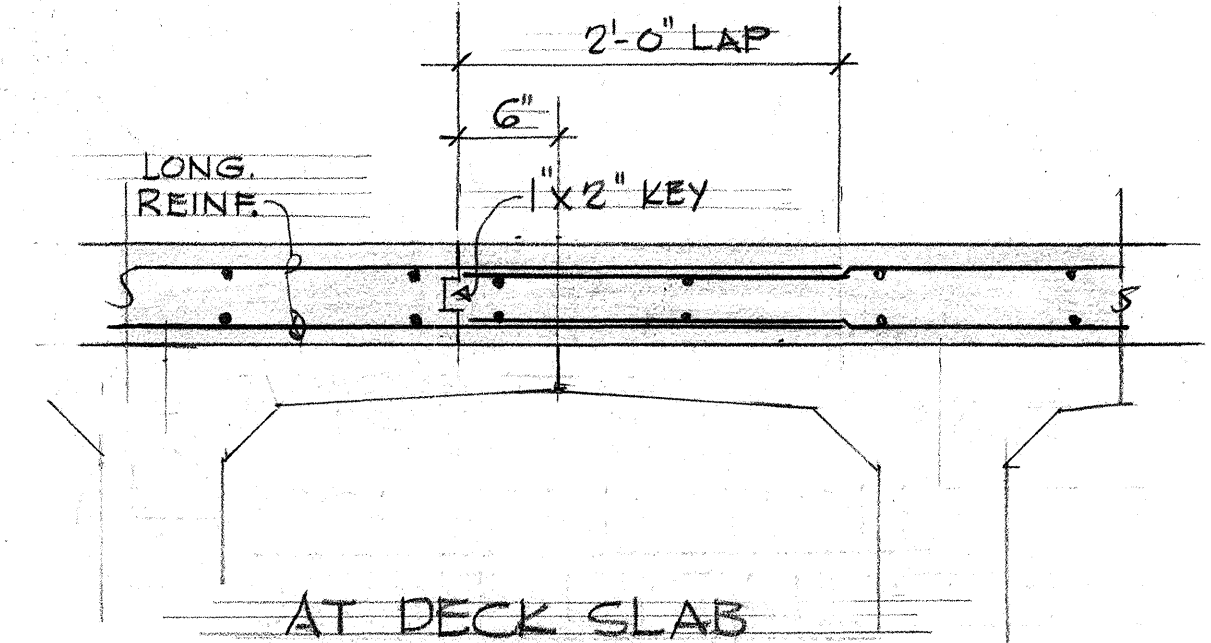
MK 1 DETAIL



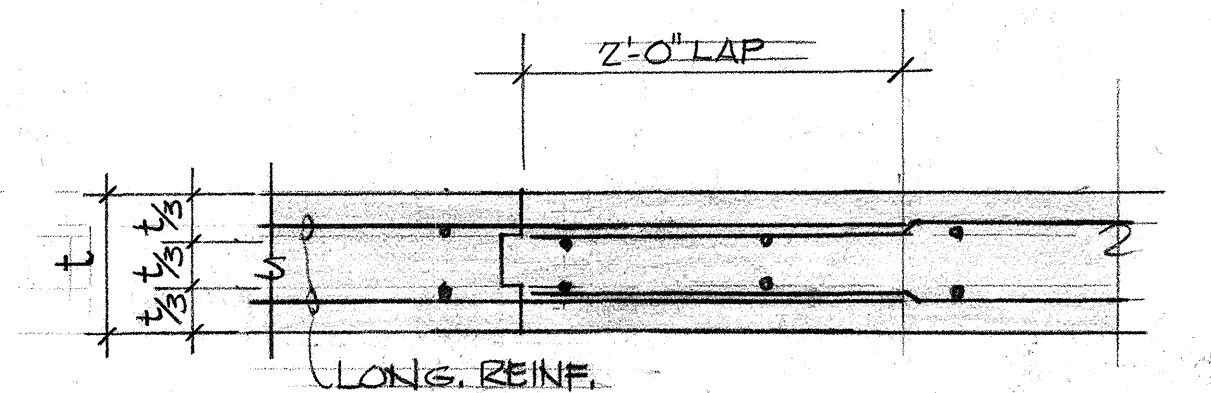
SECTION (E/7)



END MIDSPAN  
TYPICAL SECTION

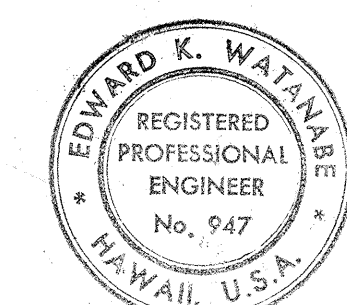


AT DECK SLAB



AT ABUTMENT PIER & FOOTING

(F/7) CONSTRUCTION JOINT DETAILS  
SCALE: 1" = 1'-0"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION  
WALTER LUNA ASSOCIATES, INC.  
By E.K. Watanabe

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
  
NANAKULI STREAM BRIDGE  
  
FARRINGTON HIGHWAY WIDENING  
PROJECT B-900-01-64  
UNIT II