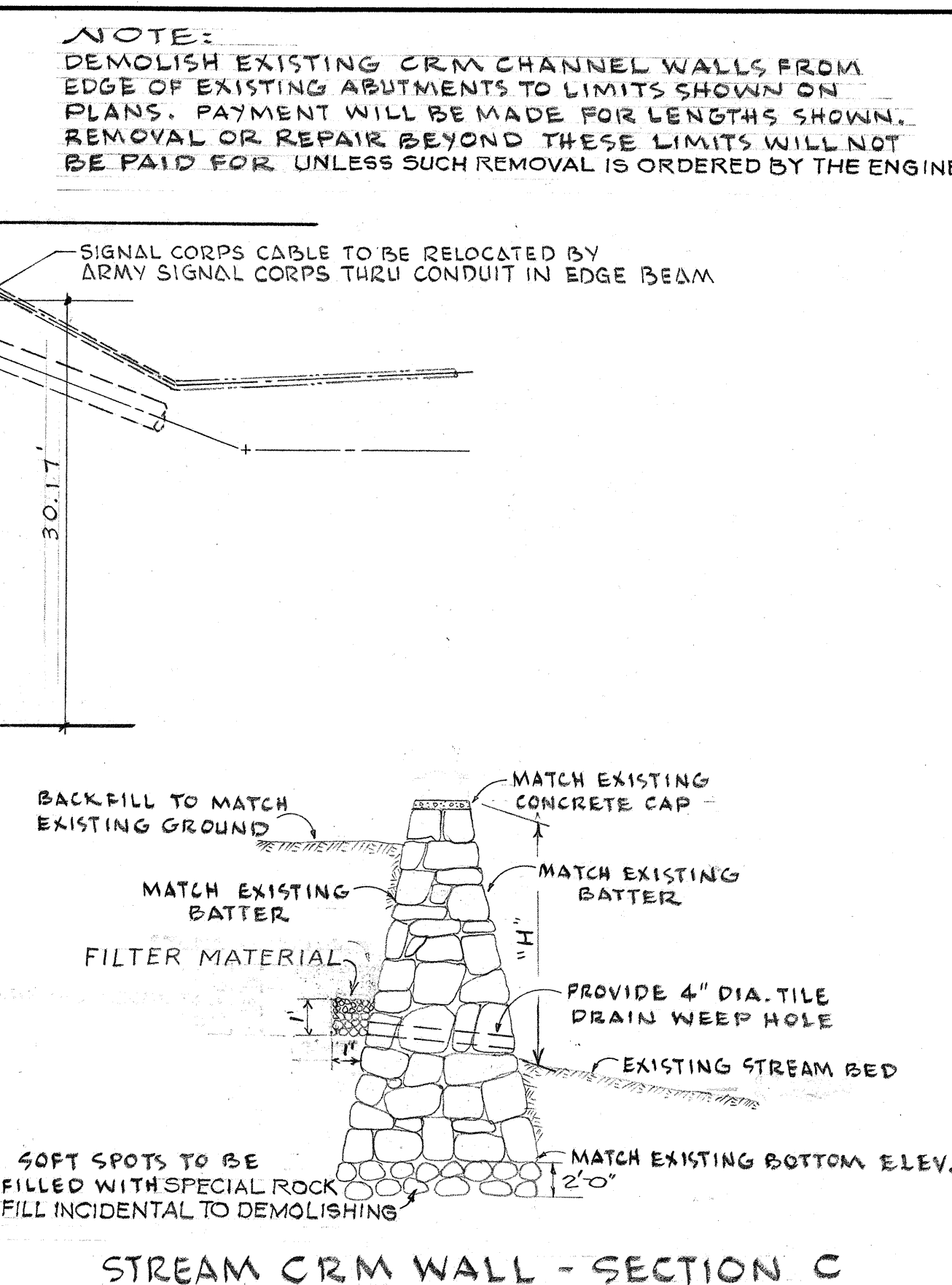


| FED. ROAD<br>DIST. NO. | STATE | PROJ. NO.  | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | C-72-01-G3 | 1963           | 24           | 49              |

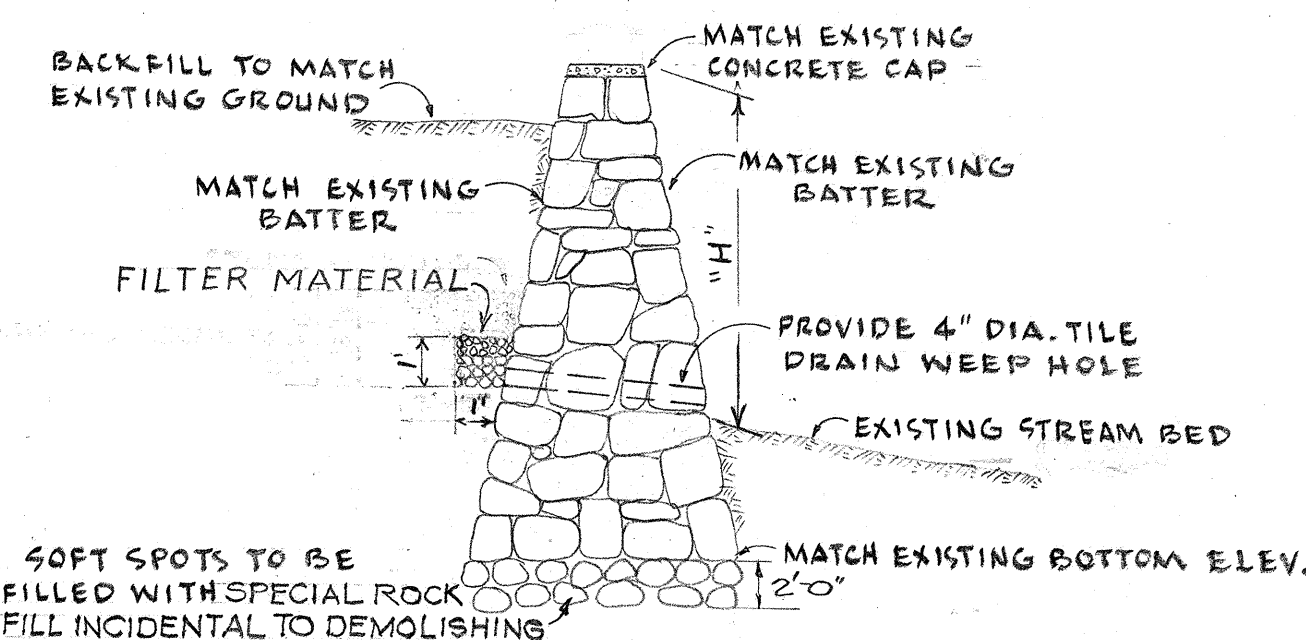
## GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIM., ELEV. AND EXISTING CONDITIONS AND SHALL NOTIFY ENGINEER OF ALL DISCREPANCIES BEFORE COMMENCING WORK.
  2. CONCRETE PILES, SEE SHT. 26
  3. CONCRETE SHALL BE CLASS A-1, UNLESS OTHERWISE NOTED.
  4. ROD REINFORCEMENT SHALL BE INTERMEDIATE GRADE DEFORMED BARS AS PER ASTM A-15 & A-305
  5. DETAILS AND GENERAL PROCEDURE: AS PER "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. TERRITORY OF HAWAII TERRITORIAL HIGHWAY DEPT. MAY 1957".
  6. BAR LENGTHS ON PLANS & DETAILS DO NOT INCLUDE HOOKS OR BENDS.
  7. DESIGN CODE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES A.A.S.H.O. 8TH EDITION 1961.
  8. CONTRACTOR SHALL LOCATE AND PROTECT THE EXISTING 24" WATER AND 16" SEWER MAINS AND SHALL NOTIFY THE BOARD OF WATER SUPPLY AND DIVISION OF SEWERS AT LEAST 24 HOURS PRIOR TO COMMENCEMENT OF WORK.
- PRIOR TO START OF PILE DRIVING, THE ENGINEER SHALL REQUIRE THE CONTRACTOR TO EXPOSE THE UPPER PORTION OF THE CONCRETE JACKET OF THE 24" WATER MAIN & THE 16" SEWER MAIN AT THREE DIFFERENT LOCATIONS SO THAT HE MAY BE ABLE TO VERIFY THE LOCATION OF THE JACKET IN RELATION TO THE NEW PILES. THE CONTRACTOR SHALL DEVISE A METHOD SATISFACTORY TO THE ENGINEER FOR OBSERVING ANY DISTURBANCES TO THE EXISTING MAIN.
- ALL NEW PILES TO BE LOCATED ADJACENT TO THE EXISTING CONCRETE JACKET FOR THE 24" WATER MAIN AND THE 16" SEWER MAIN SHALL BE DRIVEN WITH CAUTION ON EACH SIDE OF THE JACKET ALTERNATELY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE EXISTING WATER SYSTEM AND SEWER SYSTEM.



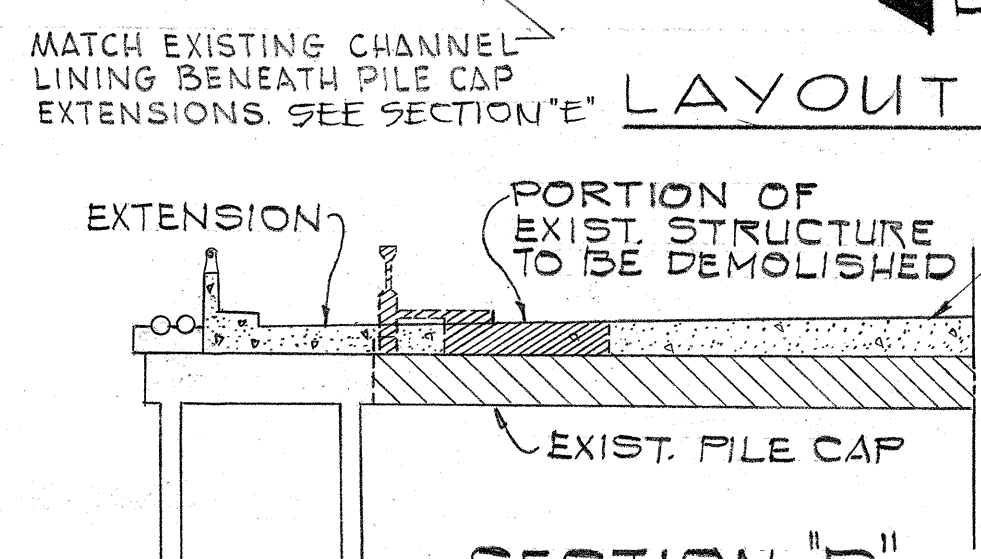
STREAM CRM WALL - SECTION C

NOTE: FILTER MATERIAL SHALL BE CONTINUOUS FOR LENGTH OF C.R.M. WALL WHEN "H" IS 5'-0" OR MORE. NO FILTER MAT'L OR WEEPHOLE ARE REQUIRED WHEN "H" IS LESS THAN 5'-0"



# LAYOUT PLAN

SCALE 1" = 10'



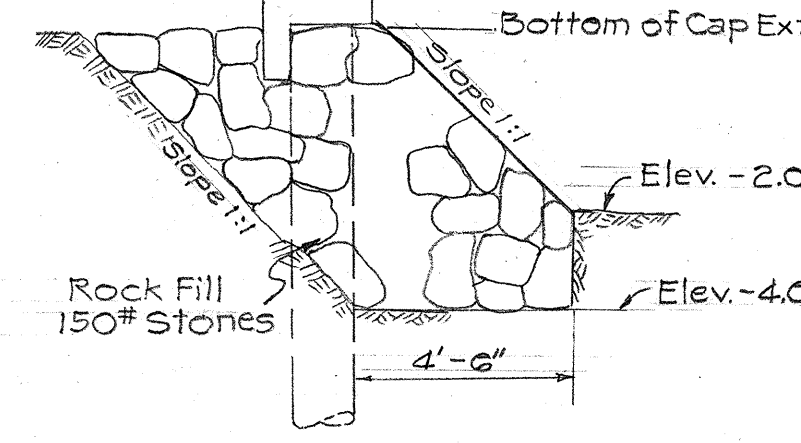
SECTION "I"  
SCALE: 1"=10'

SCALE: 1"=10'



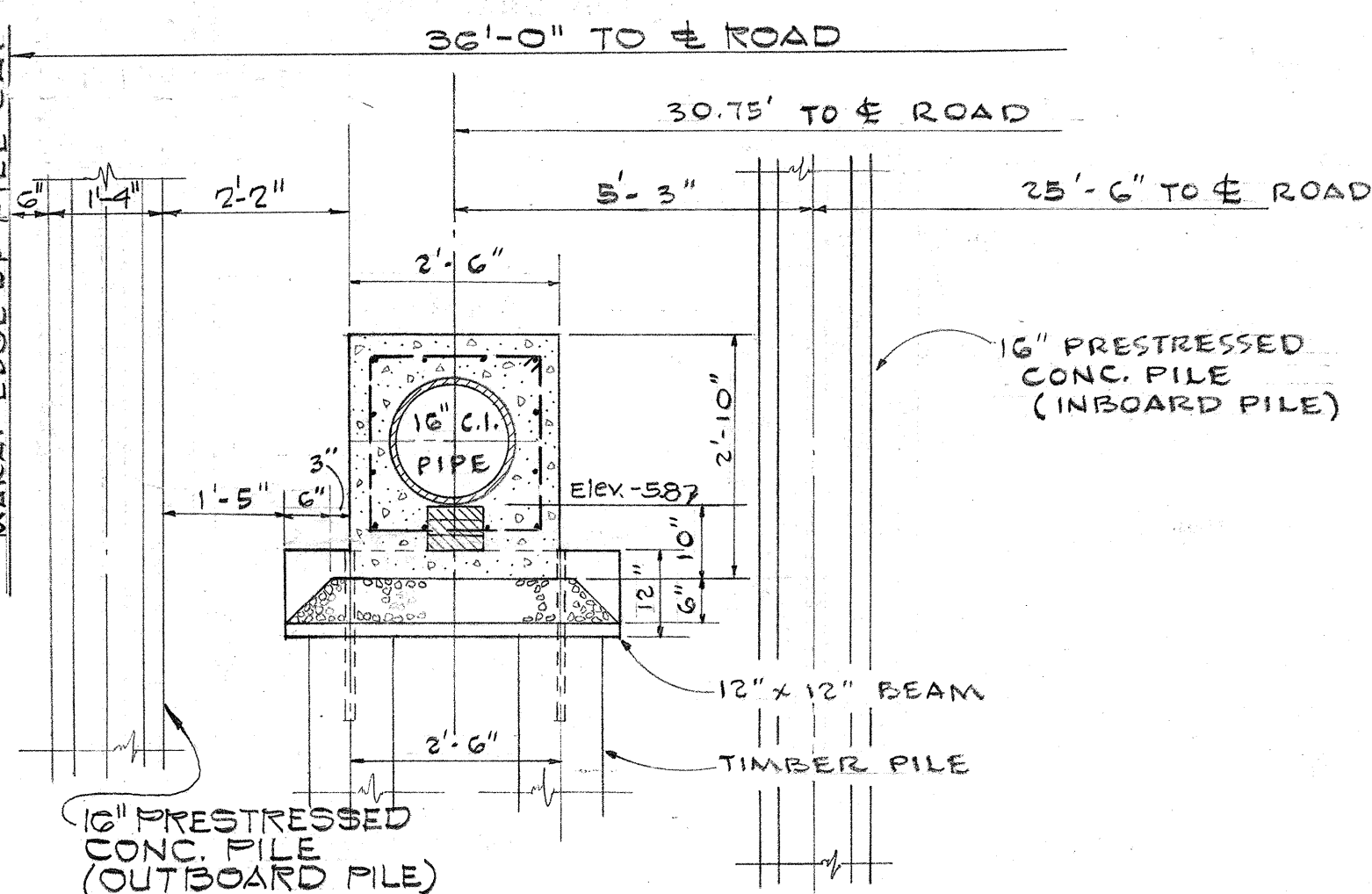
SECTION "E"  
SCALE: 1"=10'

SCALE: 1" = 10'



TYPICAL ROCK FILL AT ABUTMENTS  
SCALE: 1/4" = 1'-0"

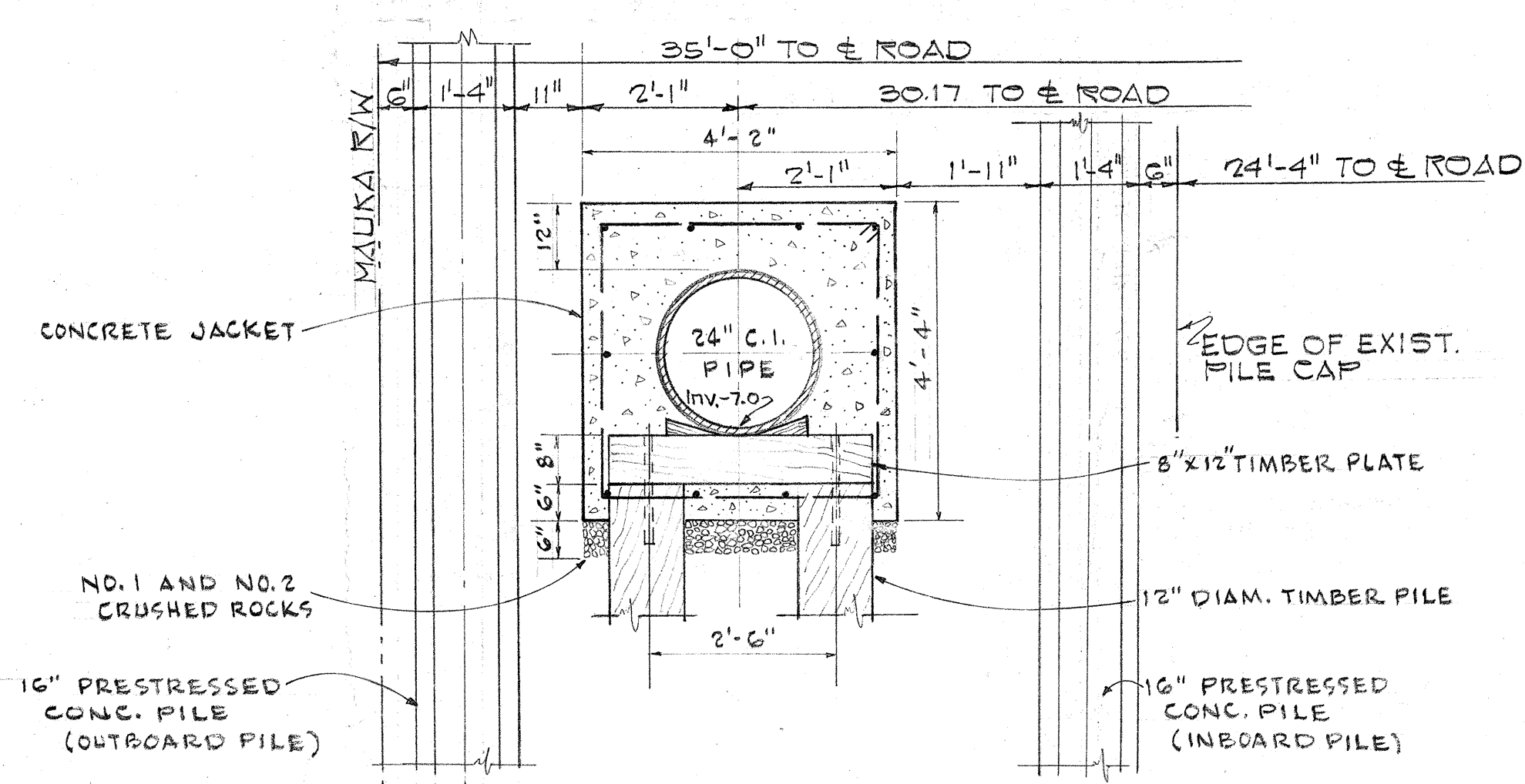
SCALE: 1/4" = 1' = 0



## SECTION

EXISTING 16" SEWAGE FORCE MAIN

SCALE - 1/4" = 1'-0"

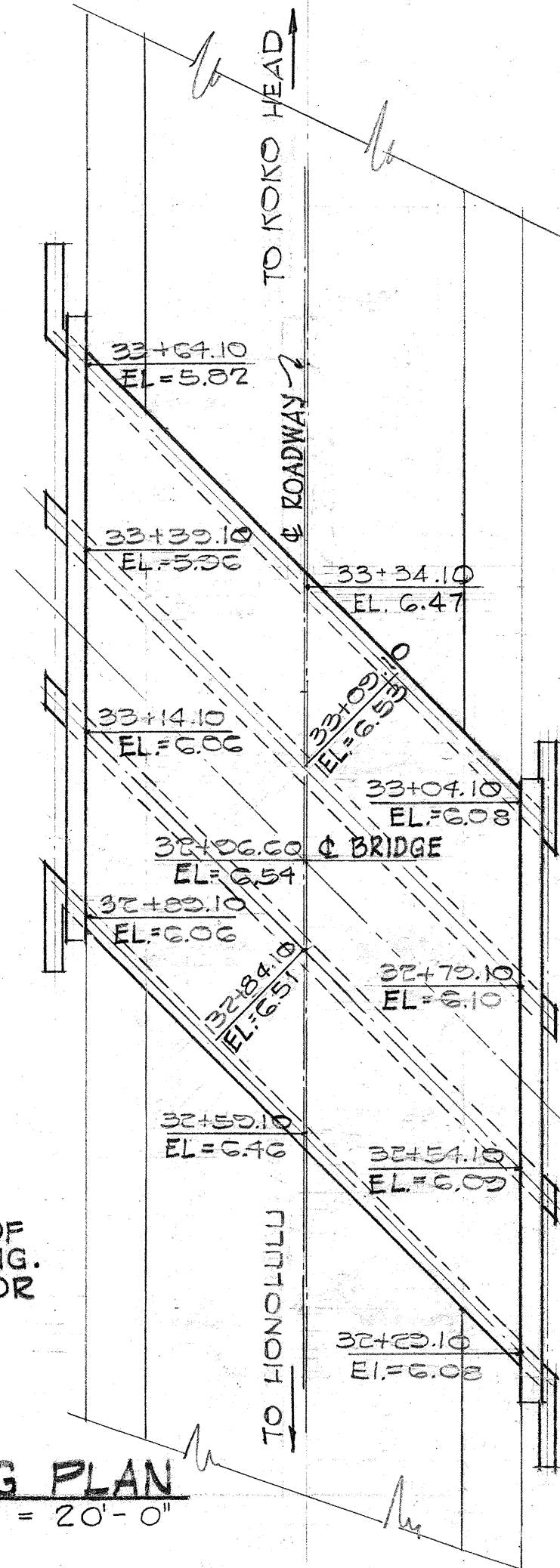


## SECTION I

EXISTING 24" WATER LINE

$$25 \times 15 = \frac{1}{2} \times 15 \times 15$$

NOTE:  
GRADES SHOWN AT TOP OF  
ASPHALT CONCRETE PAVING.  
SUBTRACT 1/2 INCHES FOR  
BRIDGE DECK GRADE.



## PAVEMENT GRADING PLAN

SCALF:  $1'' = 20' - 0''$

| ESTIMATED QUANTITIES          |                            |                       |
|-------------------------------|----------------------------|-----------------------|
| ITEM                          | CONCRETE C.Y.<br>CLASS A-1 | REINFORCEMENT<br>LBS. |
| DECK SLAB & CURBS             | 104.4                      | 23,815                |
| PILE CAPS                     | 48                         | 4,421                 |
| CONC. RAILINGS<br>& END POSTS | 11.3                       | 1,642                 |
| TOTALS                        | 223.7                      | 29,878                |

|                         |                    |
|-------------------------|--------------------|
| ALUMINUM RAILING        | 150 L.F.           |
| EXCAVATION              | 134.5 78 C.Y.      |
| BACK FILL               | 35 C.Y.            |
| C.R.M. WALLS            | 6 48 C.Y.          |
| PRESTRESSED CONC. PILES | 1300<br>+ 318 L.F. |
| HAND LAID RIP RAP       | 83 + 9 C.Y.        |

|         |                   |            |         |  |      |      |
|---------|-------------------|------------|---------|--|------|------|
| SEA     | 1-4-83<br>4-11-83 | SEA        | 13/6/83 |  |      |      |
| SEW DIV | DATE              | BWS        | DATE    |  | DATE | DATE |
| SEA     | 12/10/83          | R. ED.     | 13 DEC  |  |      |      |
| HON GAS | DATE              | ARMY<br>SC | DATE    |  | DATE | DATE |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

KALANIANA'OLE HIGHWAY WIDENING  
NIU BRIDGE

PLAN & GENERAL  
DETAILS

PROJECT No. C72-01-63

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SHEET No. 24 OF 49 SHEETS

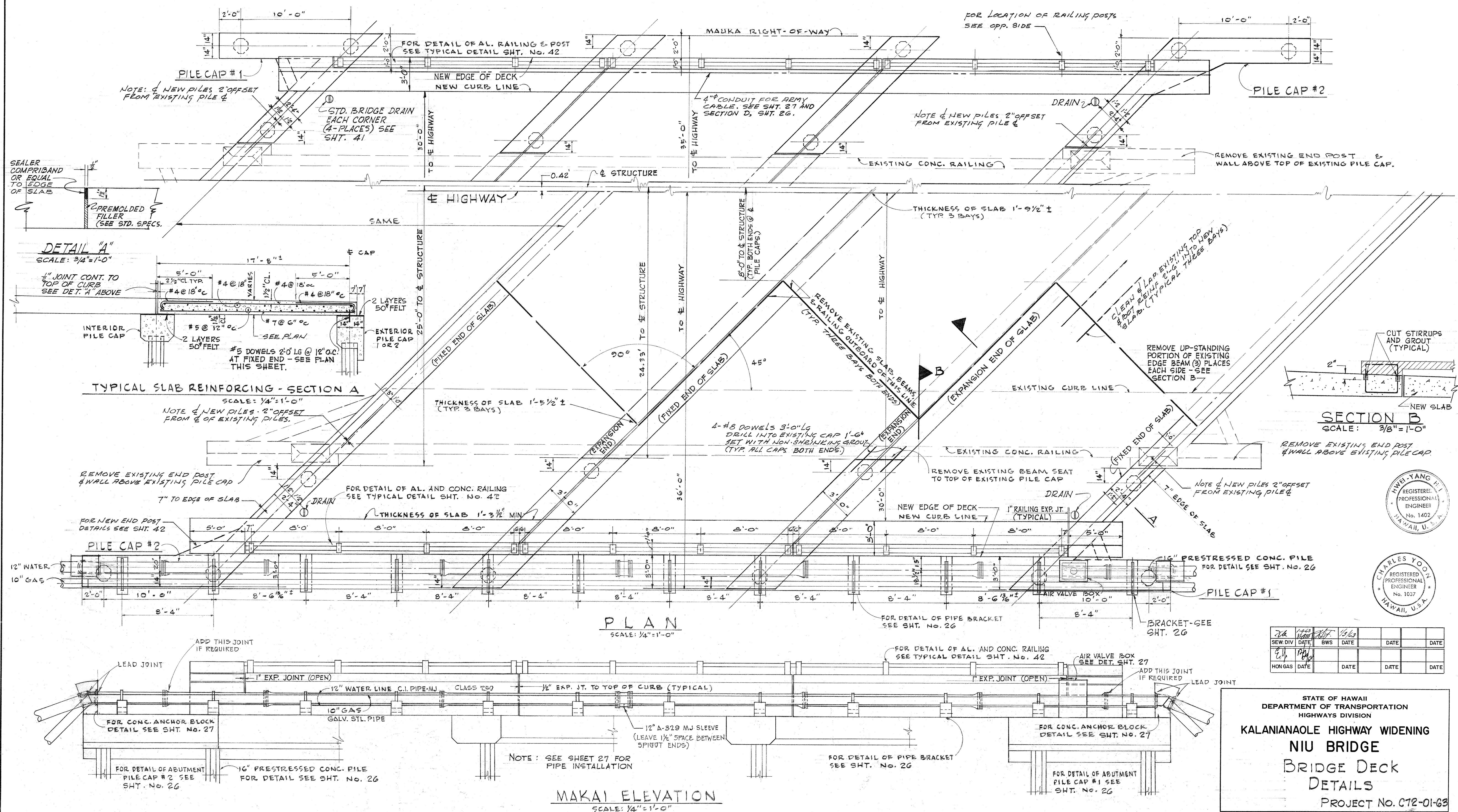


|           |                         |            |
|-----------|-------------------------|------------|
| ORIGINAL  | SURVEY PLOTTED BY ..... | DATE ..... |
| PLAN      | DRAWN BY .....          | .....      |
|           | TRACED BY .....         | .....      |
| NOTE BOOK | DESIGNED BY .....    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

PRINTED ON CLEARPRINT 1000-1



NOTE: OUTER EDGE OF NEW DECK SHALL BE CONTROLLED BY DISTANCE TO  $\phi$  OF HIGHWAY. DIMENSIONS TO  $\phi$  OF STRUCTURE ARE GIVEN FOR REFERENCE ONLY.



|          |      |     |      |      |      |
|----------|------|-----|------|------|------|
| SEW. DIV | DATE | BWS | DATE | DATE | DATE |
| HONG GAS | DATE |     | DATE | DATE | DATE |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

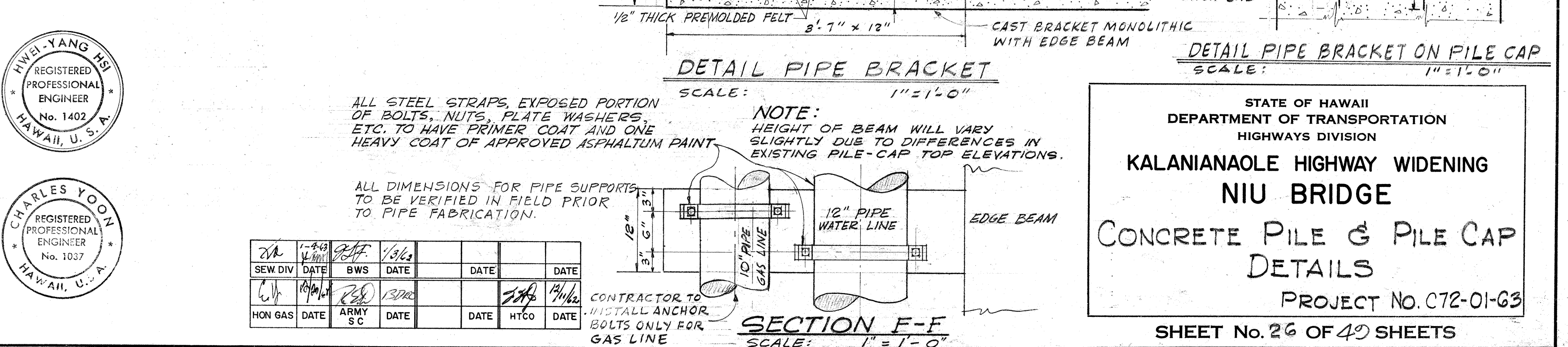
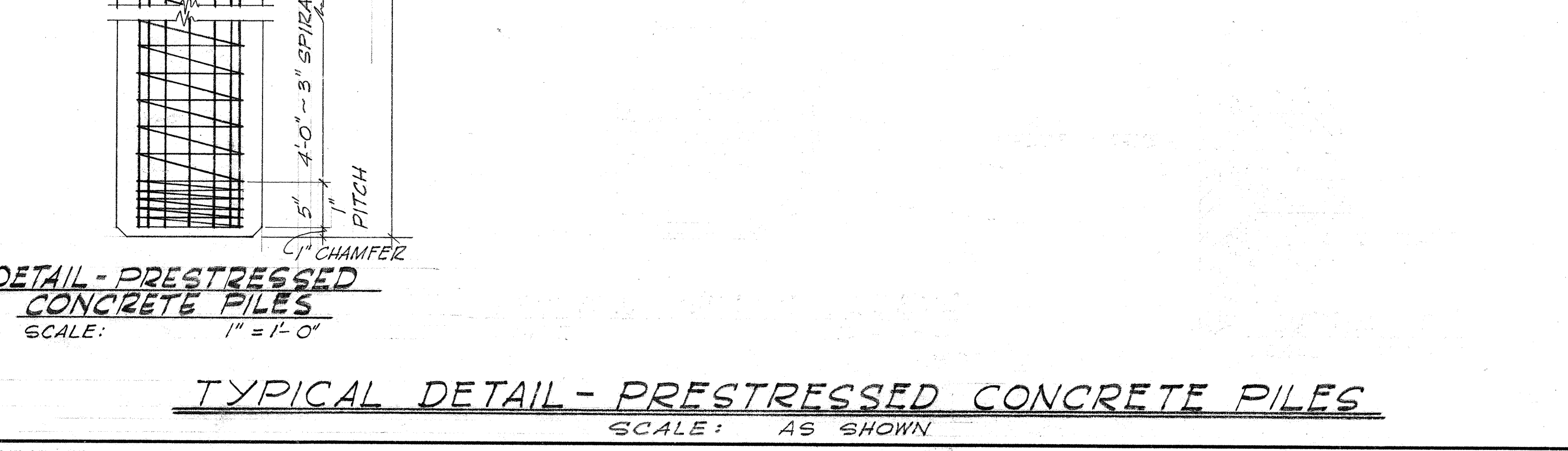
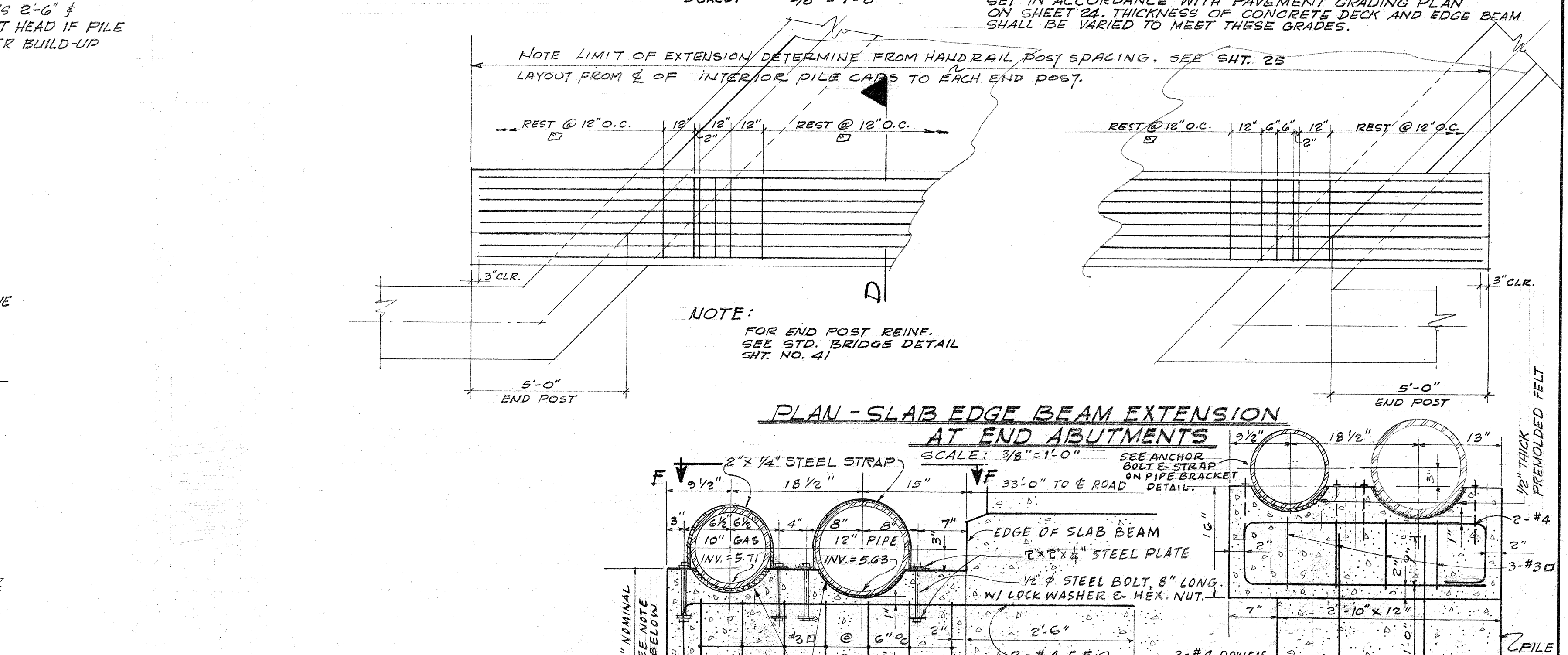
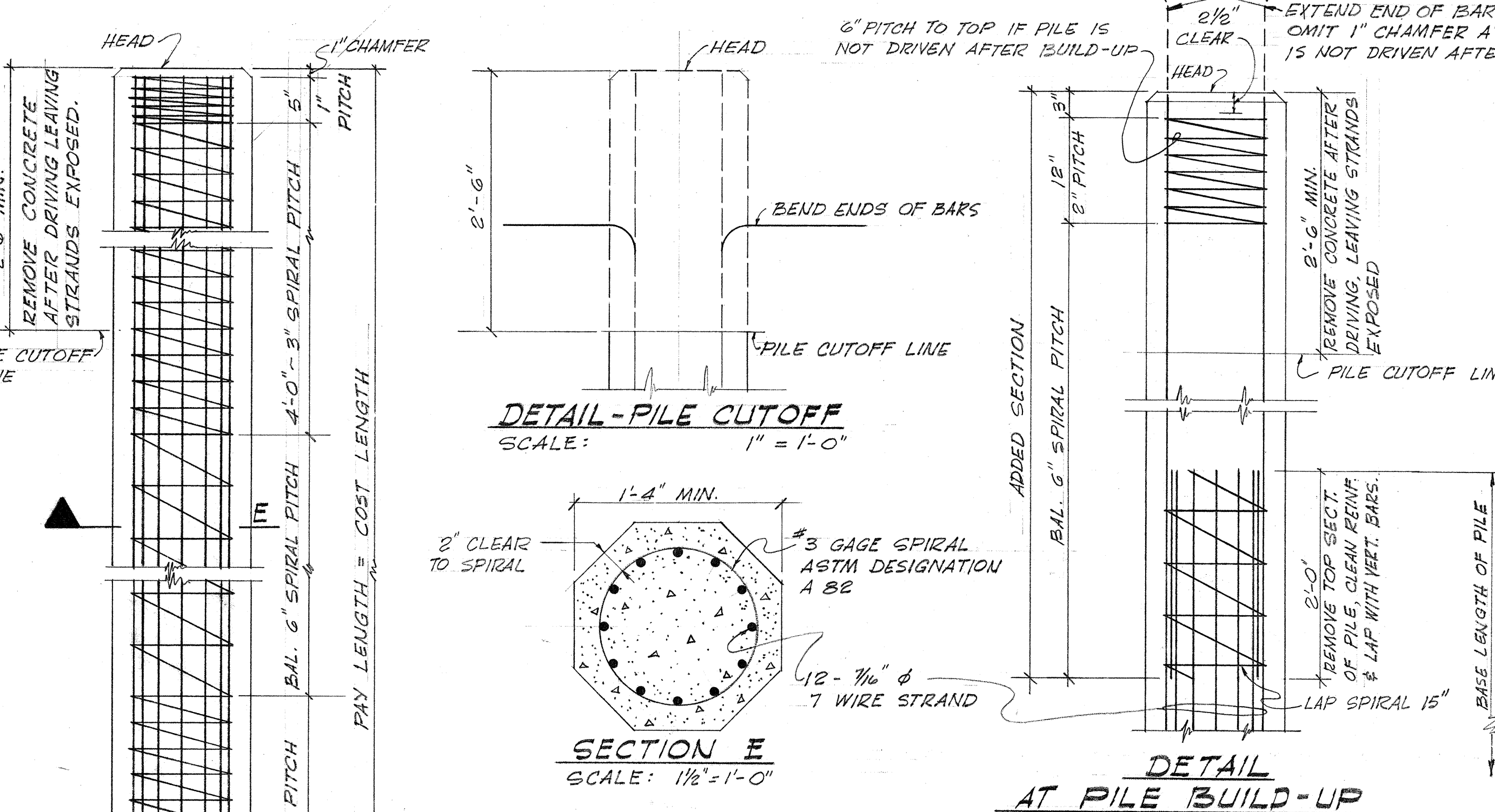
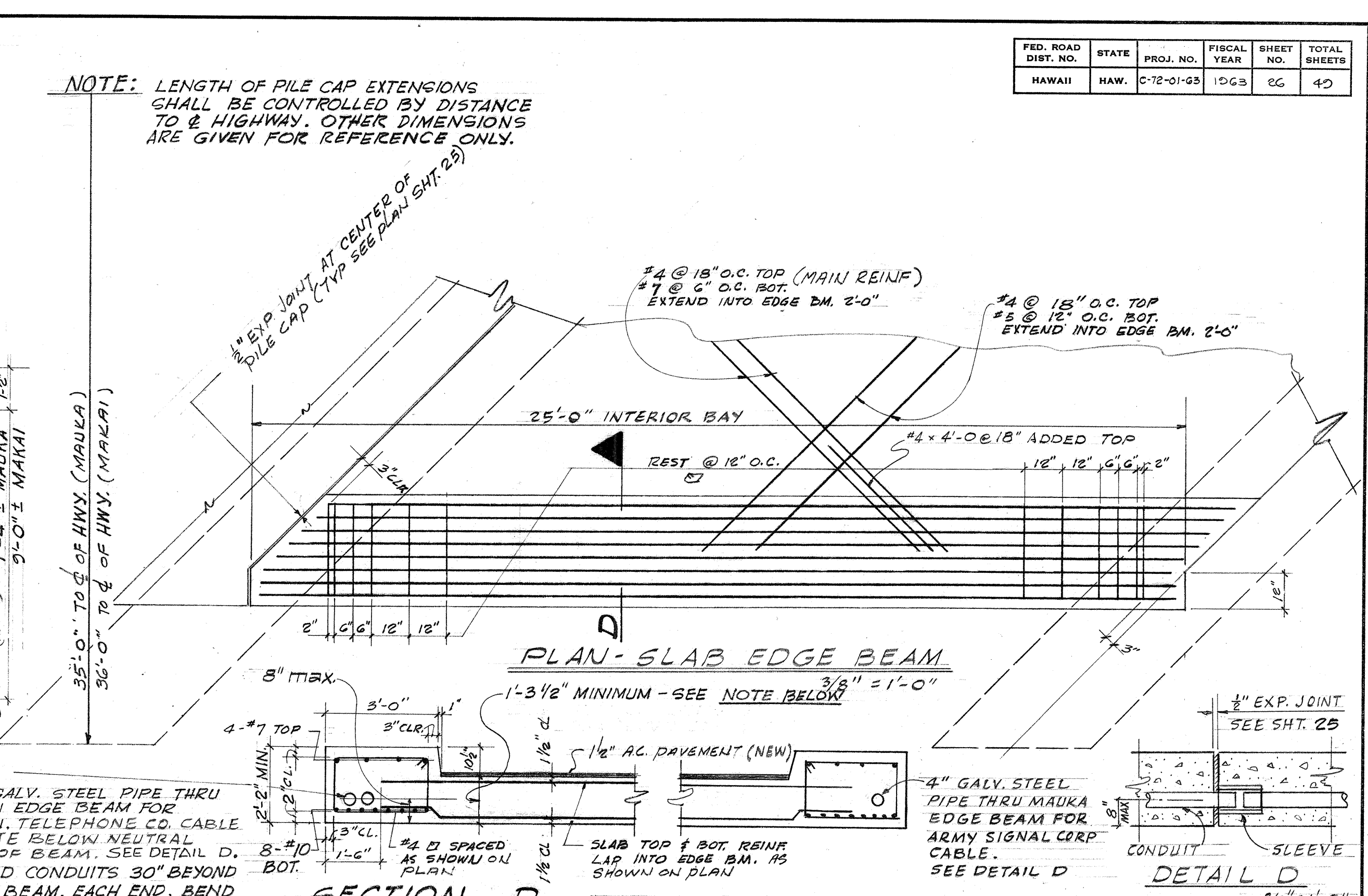
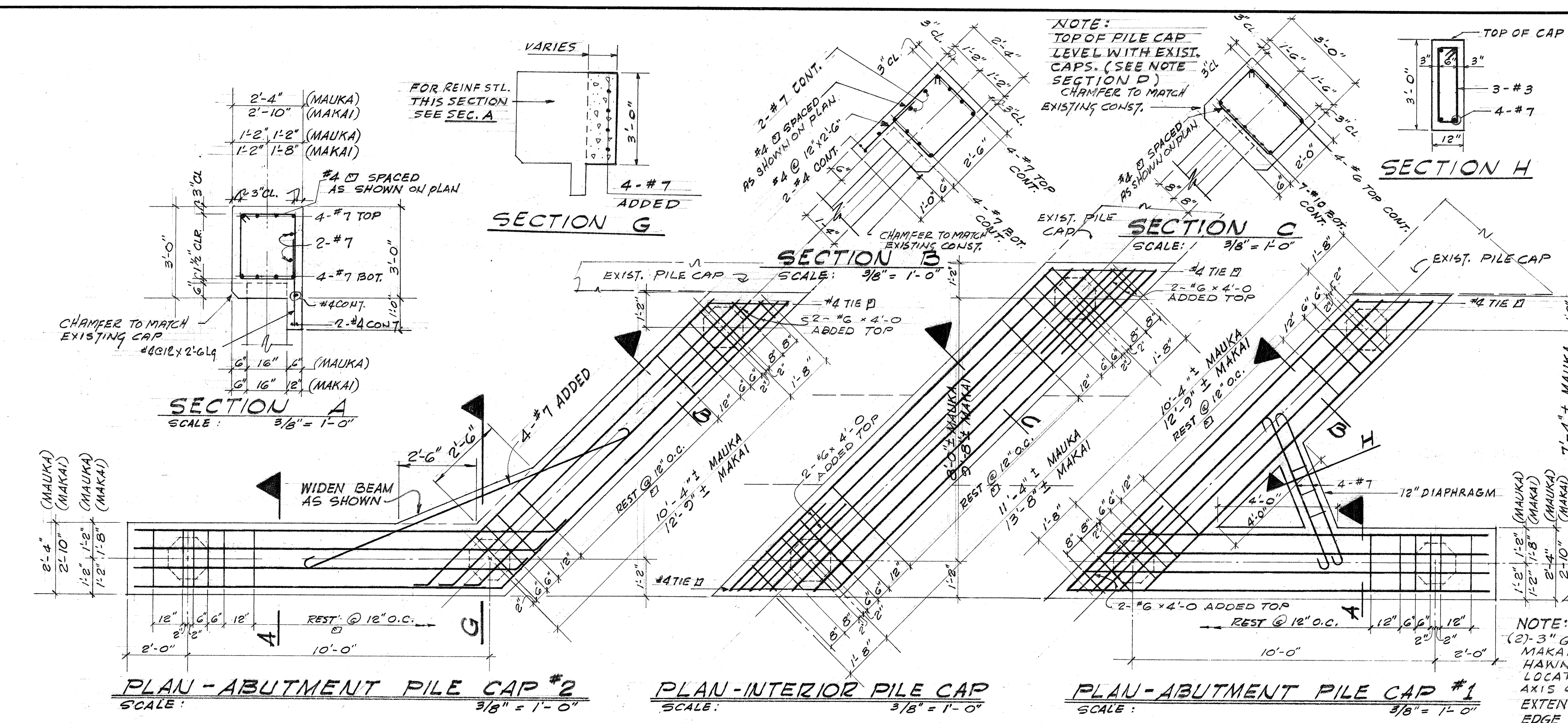
KALANIANA'OLE HIGHWAY WIDENING  
NIU BRIDGE  
BRIDGE DECK  
DETAILS

PROJECT No. C72-01-63

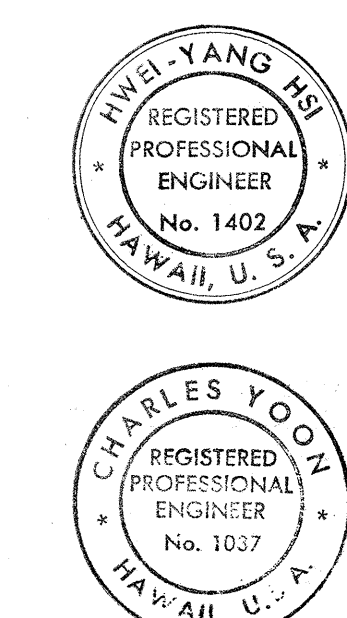
SHEET No. 25 OF 42 SHEETS



| FED. ROAD DIST. NO. | STATE | PROJ. NO.  | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | C-72-01-25 | 1963        | 26        | 40           |



|                   |      |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DESIGNED BY       | DATE |
| TRACED BY         | DATE |
| NOTED BY          | DATE |
| CHECKED BY        | DATE |
| ORIGINAL PLAN     | NO.  |



| SEW DIV | DATE | BWS  | DATE | DATE | DATE |
|---------|------|------|------|------|------|
| HON GAS | DATE | ARMY | DATE | HTCO | DATE |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

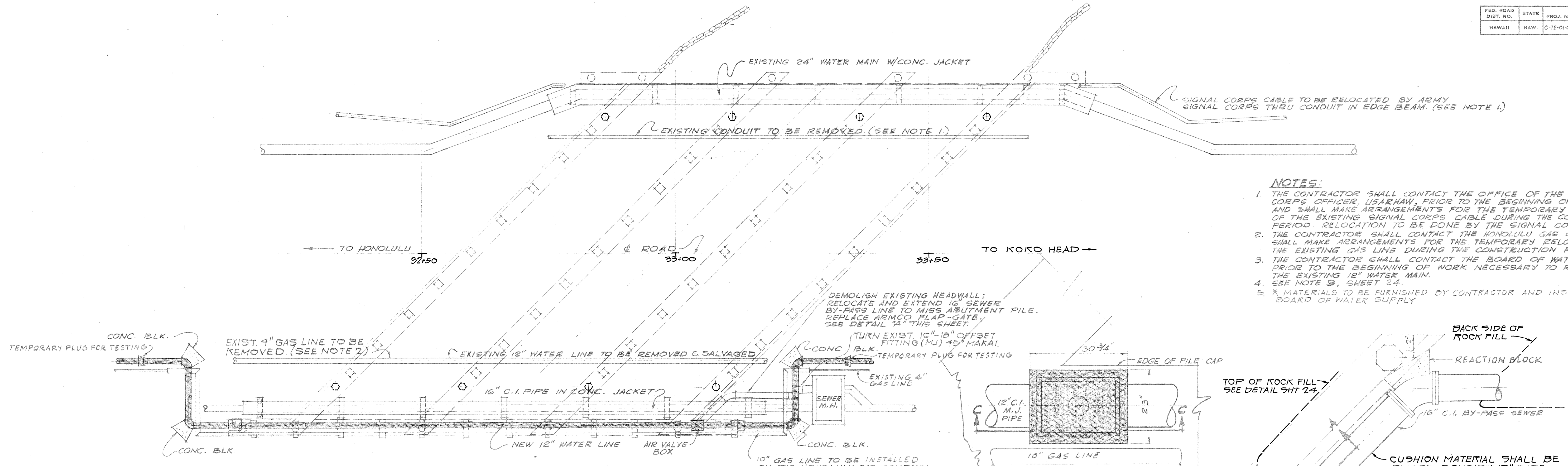
**KALANIANA'OLE HIGHWAY WIDENING  
NIU BRIDGE**

**CONCRETE PILE & PILE CAP  
DETAILS**

PROJECT No. C72-01-25  
SHEET No. 26 OF 40 SHEETS

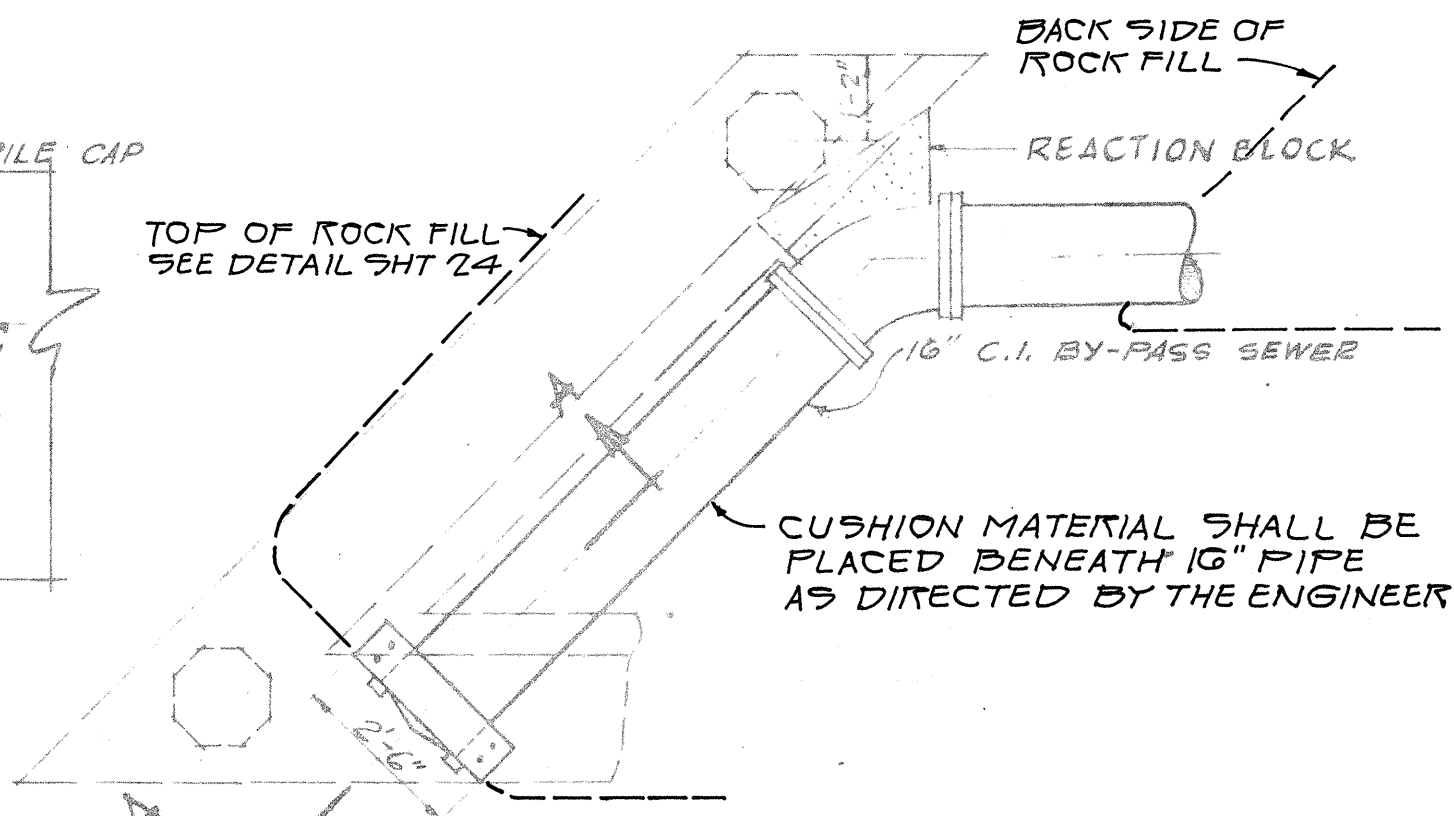


| FED. ROAD DIST. NO. | STATE | PROJ. NO.  | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | C-72-01-63 | 1963        | 27        | 49           |

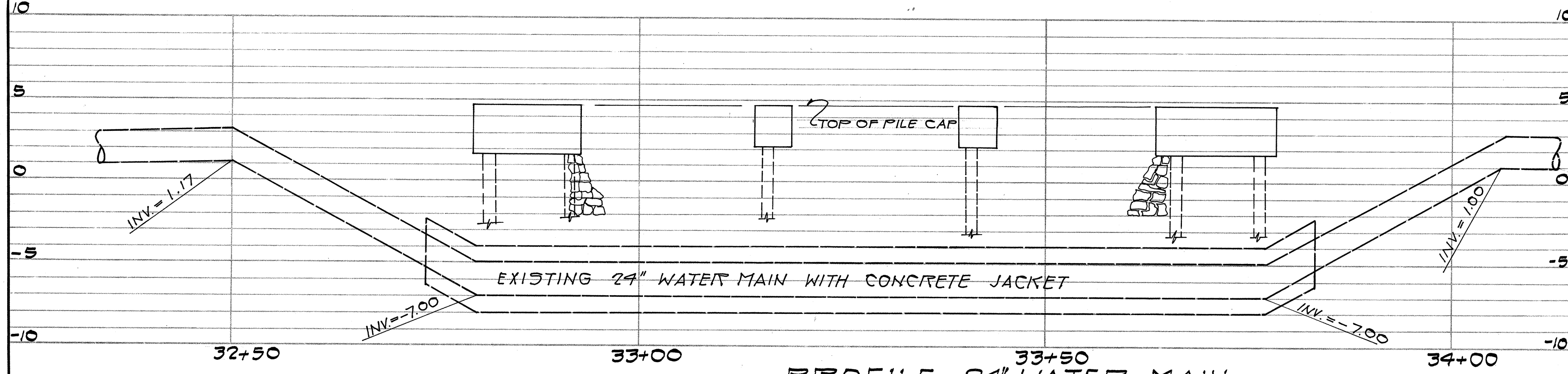


**PLAN - 12" WATER LINE**  
SCALE: 1" = 10'

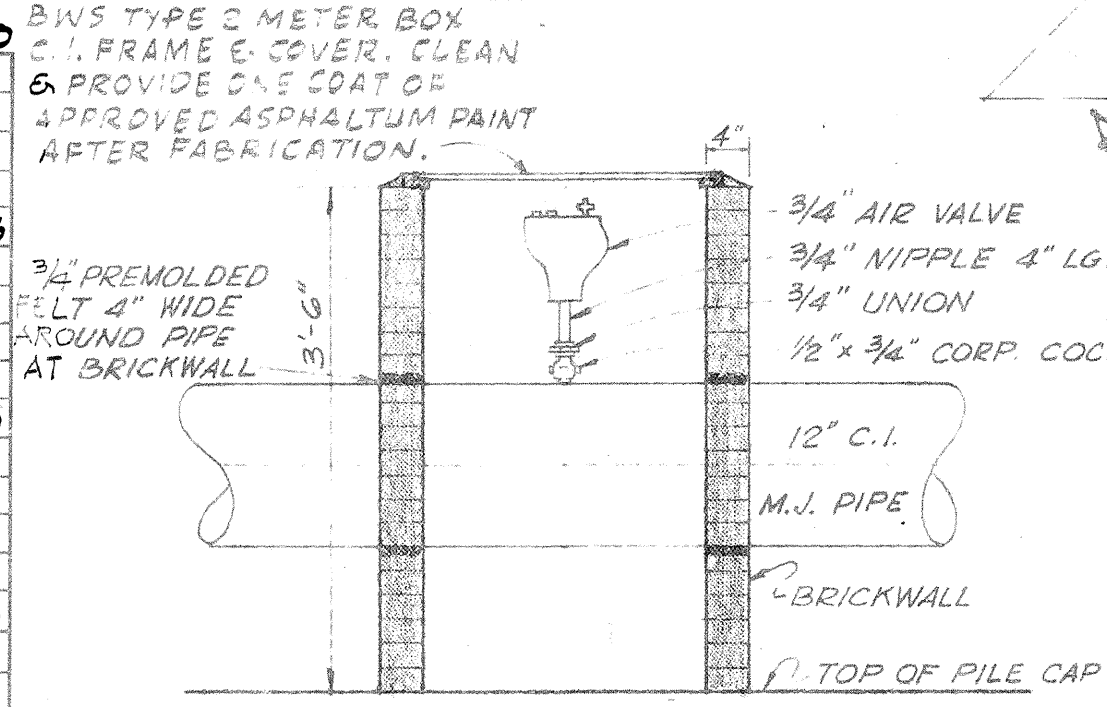
- NOTES:**
1. THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE SIGNAL CORPS OFFICER, USAHAW, PRIOR TO THE BEGINNING OF WORK, AND SHALL MAKE ARRANGEMENTS FOR THE TEMPORARY RELOCATION OF THE EXISTING SIGNAL CORPS CABLE DURING THE CONSTRUCTION PERIOD. RELOCATION TO BE DONE BY THE SIGNAL CORPS.
  2. THE CONTRACTOR SHALL CONTACT THE HONOLULU GAS COMPANY, AND SHALL MAKE ARRANGEMENTS FOR THE TEMPORARY RELOCATION OF THE EXISTING GAS LINE DURING THE CONSTRUCTION PERIOD.
  3. THE CONTRACTOR SHALL CONTACT THE BOARD OF WATER SUPPLY PRIOR TO THE BEGINNING OF WORK NECESSARY TO RELOCATE THE EXISTING 12" WATER MAIN.
  4. SEE NOTE 9, SHEET 24.
  5. \* MATERIALS TO BE FURNISHED BY CONTRACTOR AND INSTALLED BY BOARD OF WATER SUPPLY.



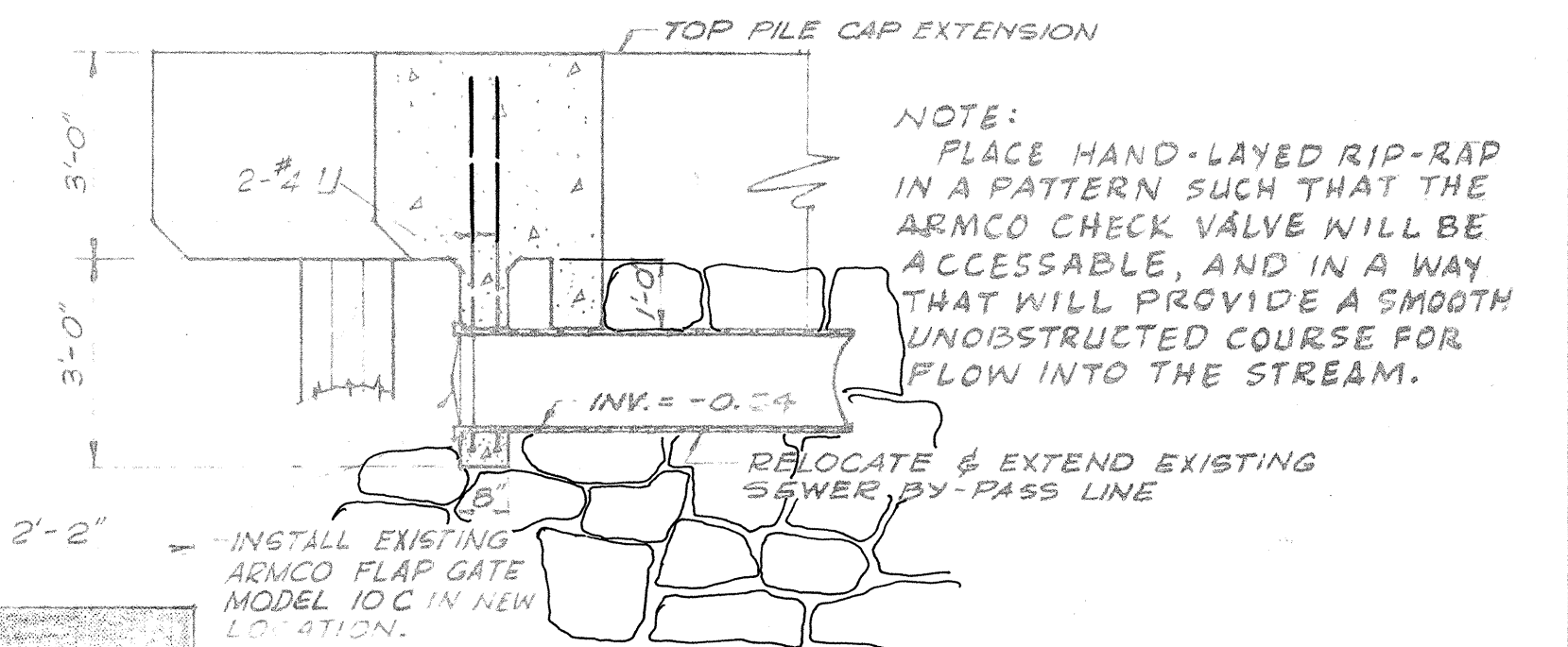
**DETAIL "A"**  
SCALE: 3/8" = 1'-0"



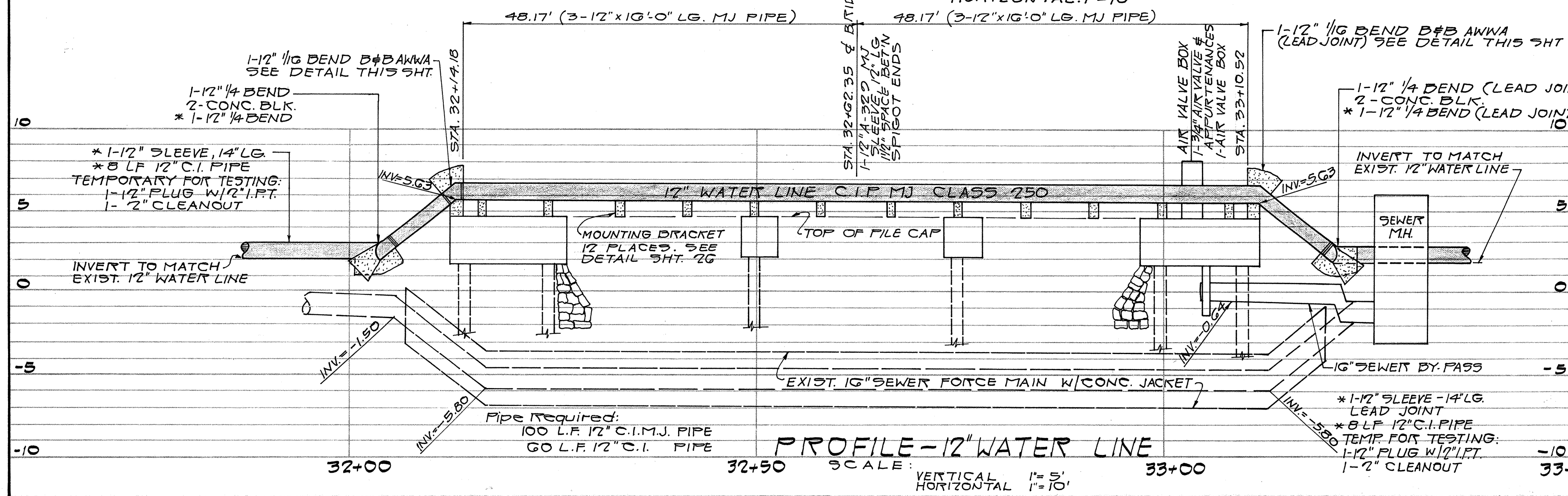
**PROFILE - 24" WATER MAIN**  
SCALE: VERTICAL: 1" = 5', HORIZONTAL: 1" = 10'



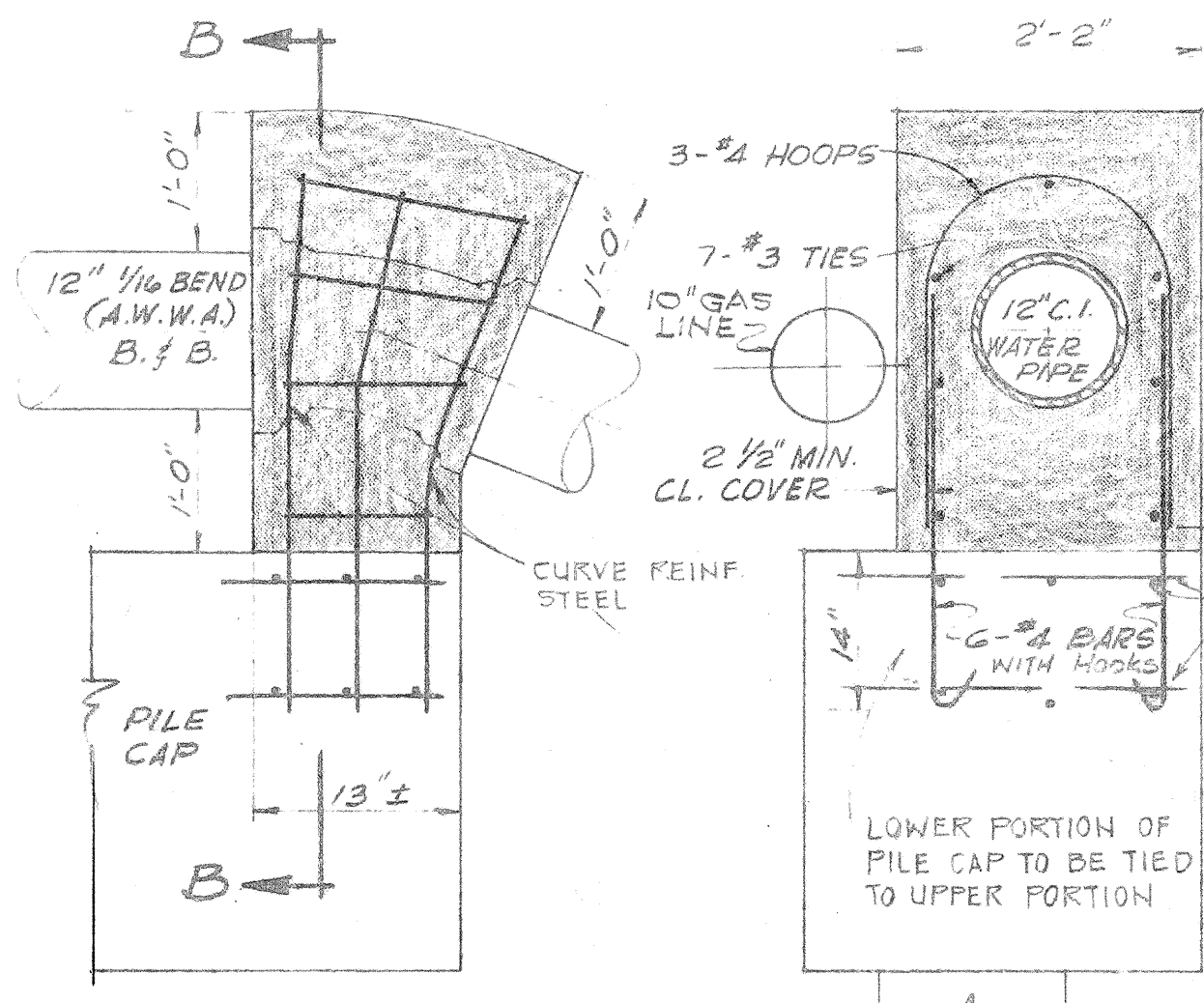
**SECTION C-C**  
**AIR VALVE BOX DETAIL**  
SCALE: 3/4" = 1'-0"



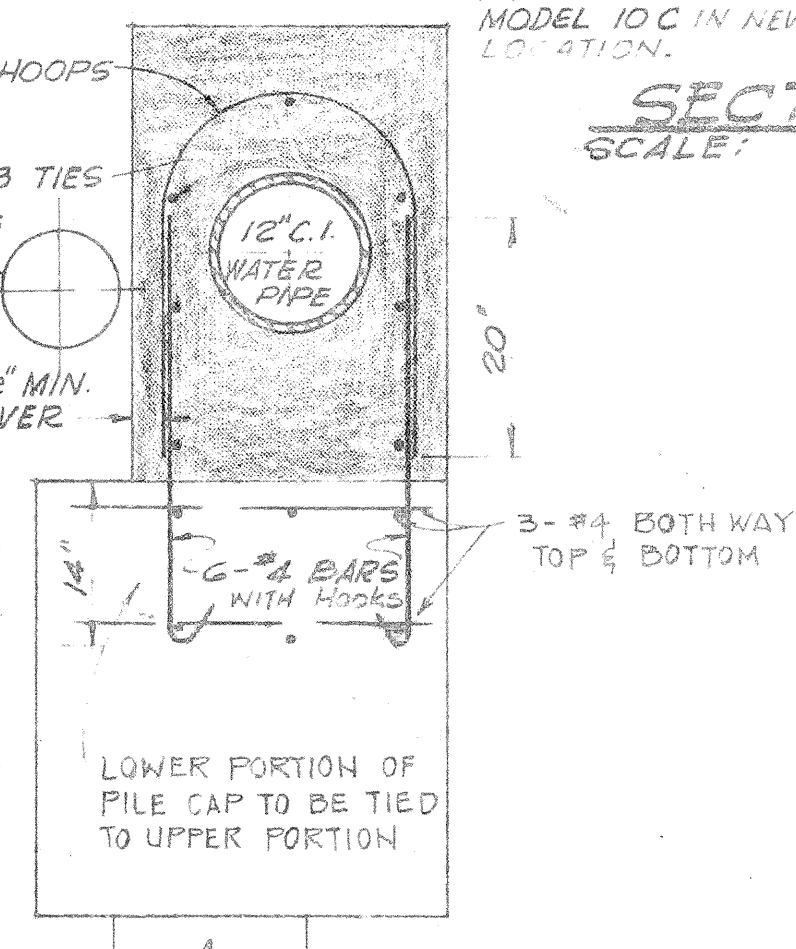
**SECTION A-A**  
SCALE: 3/8" = 1'-0"



**PROFILE - 12" WATER LINE**  
SCALE: VERTICAL: 1" = 5', HORIZONTAL: 1" = 10'



**REACTION BLOCK DETAIL**  
SCALE: 3/4" = 1'-0"



**SECTION B-B**  
SCALE: 3/4" = 1'-0"

| SEW DIV | DATE    | BWS     | DATE    | DATE    | DATE    |
|---------|---------|---------|---------|---------|---------|
| CH      | 1/10/63 | 1/10/63 | 1/10/63 | 1/10/63 | 1/10/63 |
| HON GAS | DATE    | ARMY SC | DATE    | DATE    | HTCO    |
|         |         |         |         |         |         |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**KALANIANA'OLE HIGHWAY WIDENING  
NIU BRIDGE  
PIPING RELOCATION  
DETAILS**

PROJECT NO. C72-01-63  
SHEET NO. 27 OF 49 SHEETS

|               |         |
|---------------|---------|
| DATE          | 1/10/63 |
| DESIGNED BY   | CH      |
| DRAWN BY      | CH      |
| CHECKED BY    | CH      |
| NOTED BY      | CH      |
| QUANTITIES BY | CH      |
| CREATED BY    | CH      |