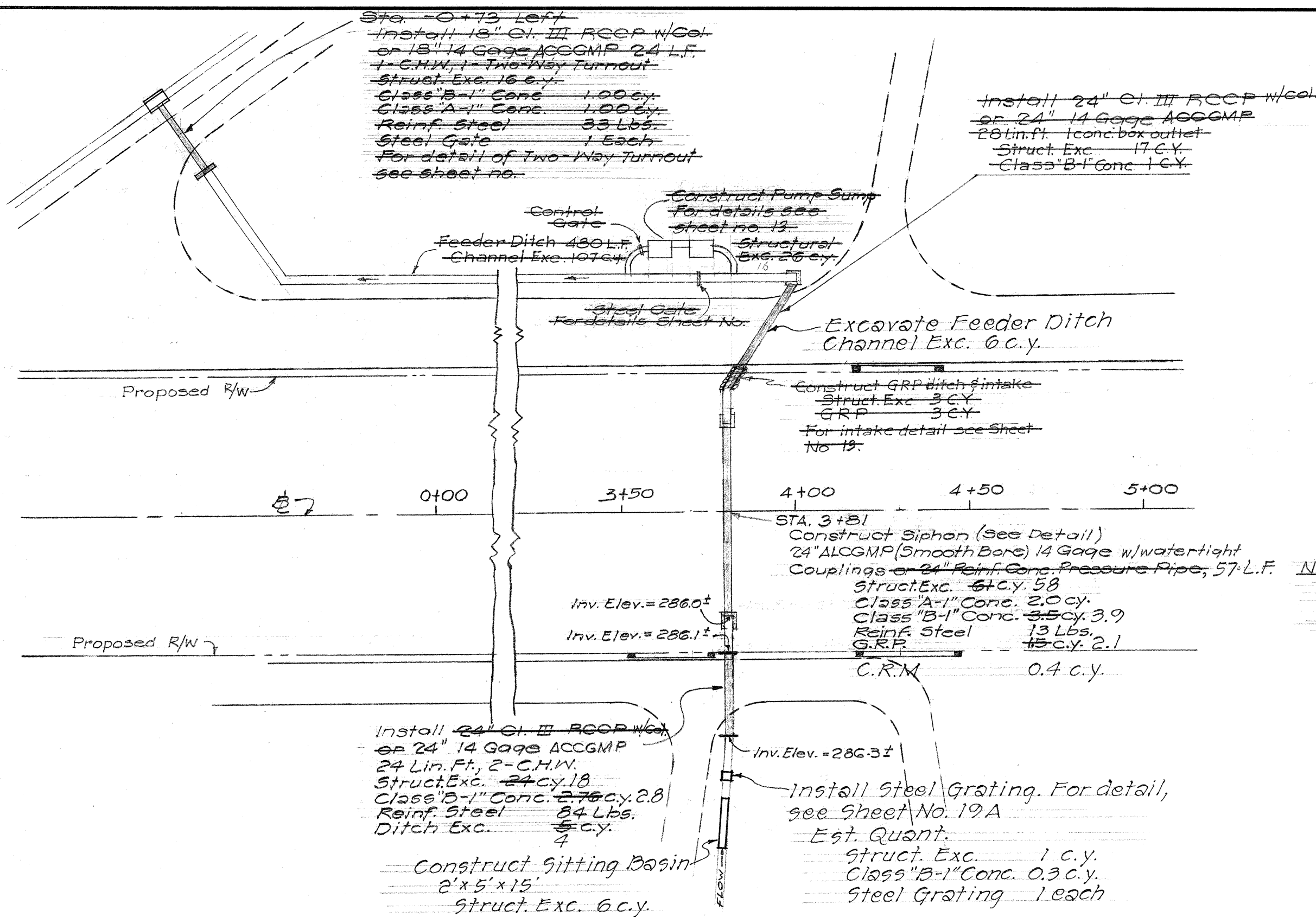
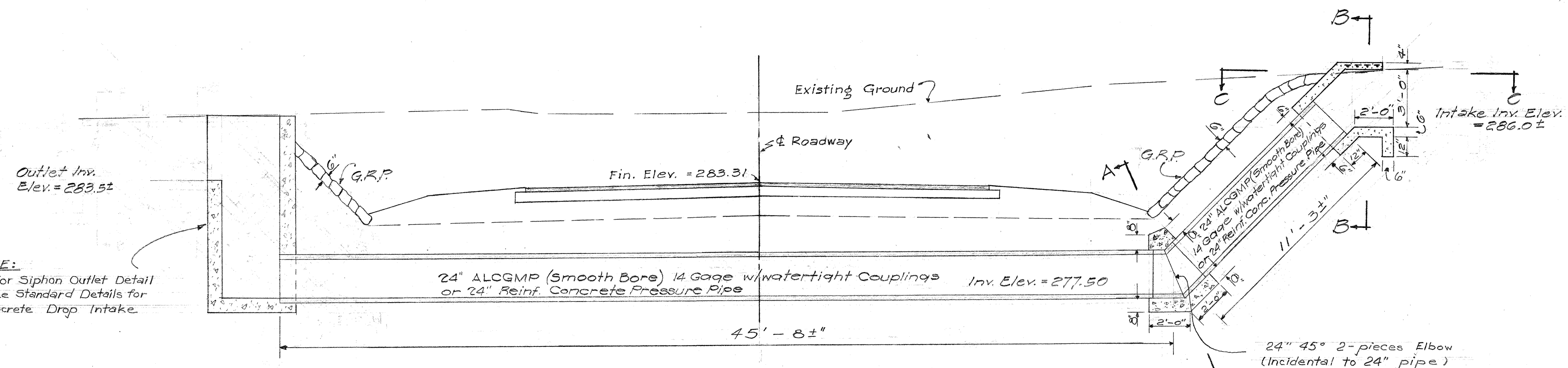


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW   | 5-0560(2)          | 1963        | 15        | 105          |



PLAN SHOWING SIPHON & IRRIGATION SYSTEM  
AT B.L. STATION 3+81  
Scale: 1" = 30'

Note:  
For Sections A-A, B-B,  
and C-C, See Sheet No. 13

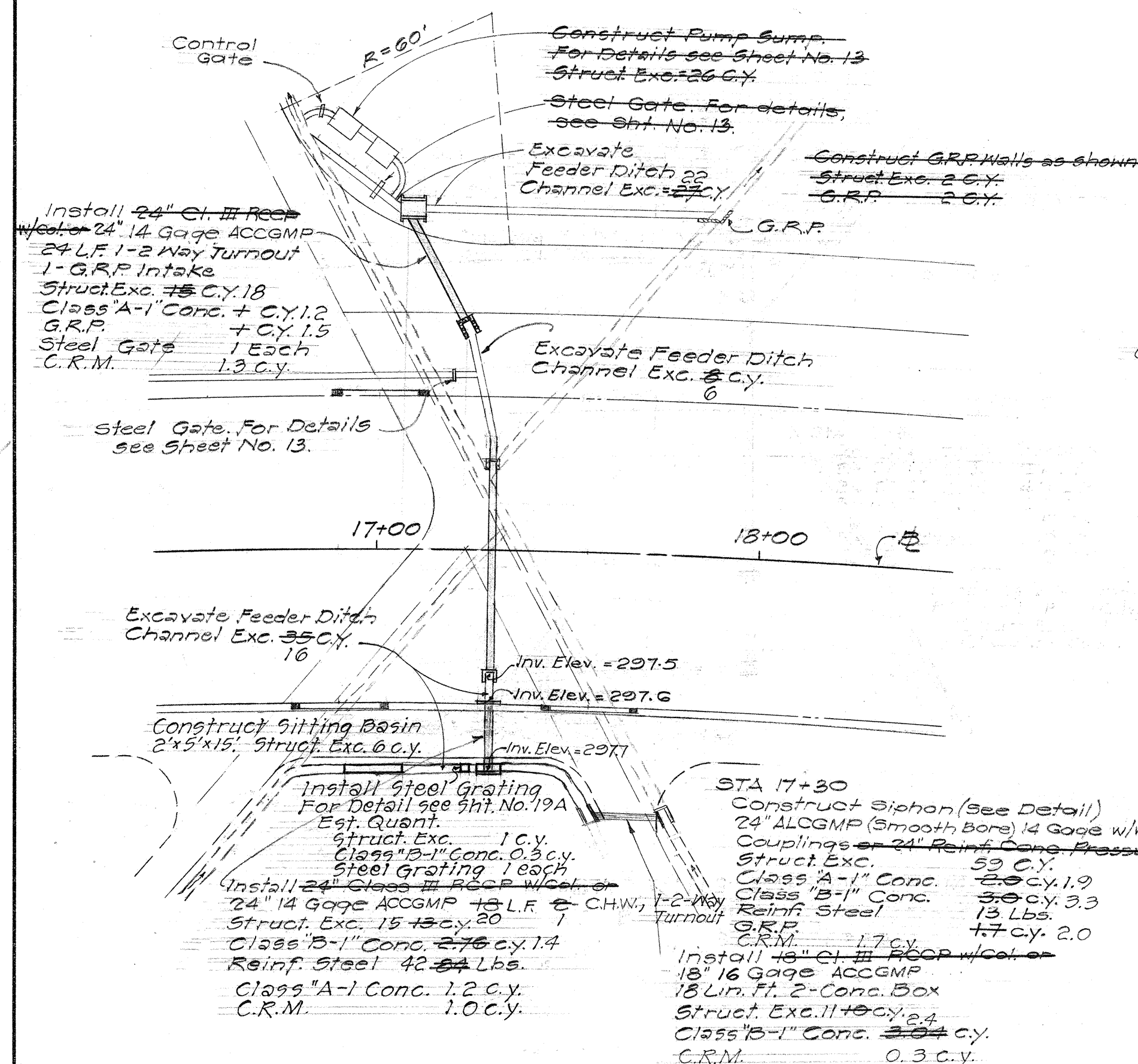


LONGITUDINAL SECTION  
OF SIPHON AT STA. 3+81  
Not to Scale

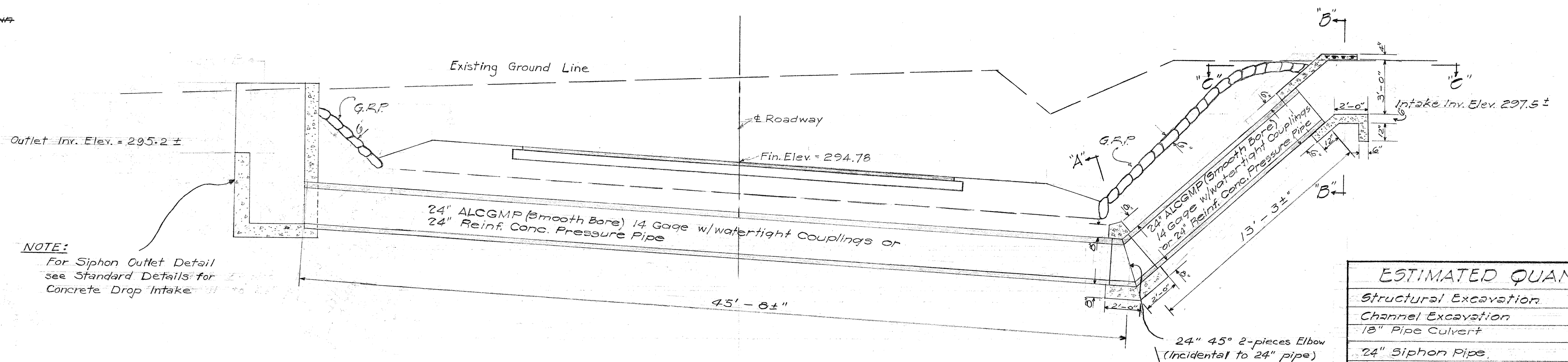
| ESTIMATED QUANTITIES  |                           |
|-----------------------|---------------------------|
| Structural Excavation | 83 <del>117</del> Cu. Yd. |
| Channel Excavation    | 10 <del>42</del> Cu. Yd.  |
| 18" Pipe Culvert      | 24 Lin. Ft.               |
| 24" Siphon Pipe       | 57 Lin. Ft.               |
| 24" Pipe Culvert      | 24 <del>58</del> Lin. Ft. |
| Class "A-1" Concrete  | 20 <del>30</del> Cu. Yd.  |
| Class "B-1" Concrete  | 70 <del>86</del> Cu. Yd.  |
| Reinforcing Steel     | 97 <del>130</del> Lb.     |
| Grouted Rubble Paving | 21 <del>45</del> Cu. Yd.  |

Note: Steel & Control Gates incidental to Class "A-1" Concrete.

|               |          |
|---------------|----------|
| Steel Grating | 1 each   |
| C.R.M.        | 0.4 c.y. |



PLAN SHOWING SIPHON & IRRIGATION SYSTEM  
AT B.L. STATION 17+30  
Scale: 1" = 30'



LONGITUDINAL SECTION  
OF SIPHON AT STA. 17+30  
Not to Scale

| ESTIMATED QUANTITIES  |                            |
|-----------------------|----------------------------|
| Structural Excavation | 110 <del>125</del> Cu. Yd. |
| Channel Excavation    | 44 <del>70</del> Cu. Yd.   |
| 18" Pipe Culvert      | 18 Lin. Ft.                |
| 24" Siphon Pipe       | 50 Lin. Ft.                |
| 24" Pipe Culvert      | 44 <del>42</del> Lin. Ft.  |
| Class "A-1" Concrete  | 4.3 <del>5</del> Cu. Yd.   |
| Class "B-1" Concrete  | 7.4 <del>28</del> Cu. Yd.  |
| Reinforcing Steel     | 55 <del>97</del> Lb.       |
| Grouted Rubble Paving | 3.5 <del>4.7</del> Cu. Yd. |

Note: Steel & Control Gates incidental to Class "A-1" Concrete.

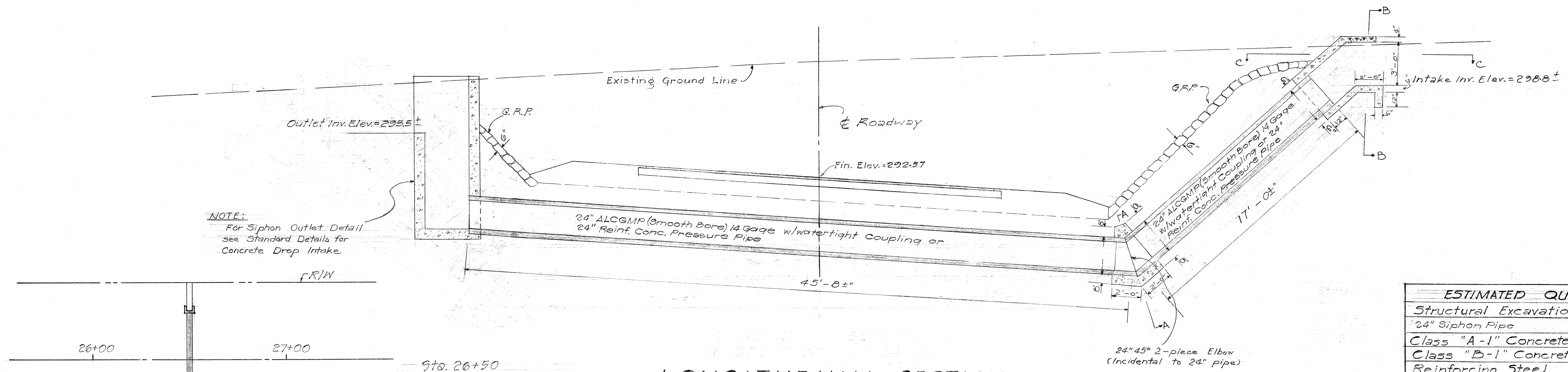
|               |        |
|---------------|--------|
| Steel Grating | 1 each |
|---------------|--------|

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
STATE OF HAWAII

SIPHON DETAIL  
KAUAI BELT ROAD  
PROJECT NO. S0560(2) UNIT 2  
MOLOAA, KAUAI

Scale: As Shown Date: Jan, 1961

SHEET NO. OF SHEETS

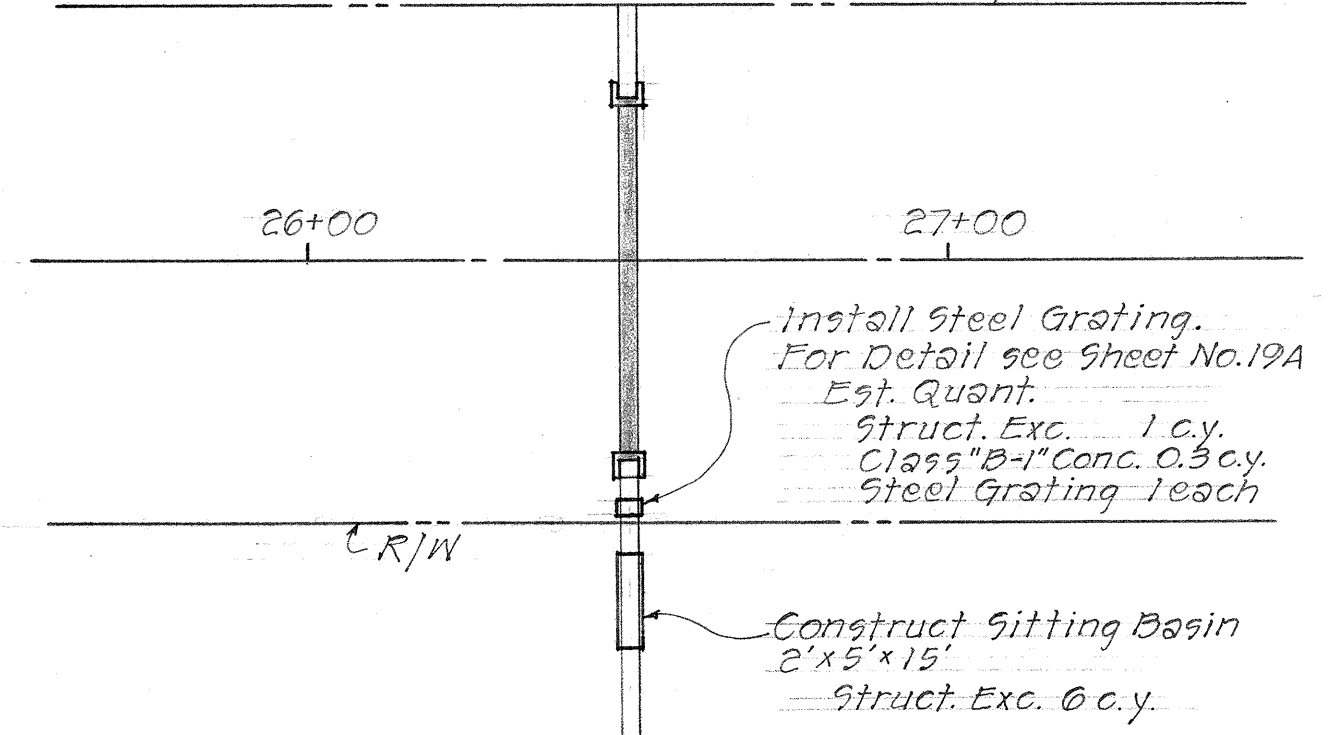


| ESTIMATED QUANTITIES  |              |
|-----------------------|--------------|
| Structural Excavation | 66-65 C.Y.   |
| 24" Siphon Pipe       | 63 L.F.      |
| Class "A-1" Concrete  | 2.1-2.4 C.Y. |
| Class "B-1" Concrete  | 4.1-3.9 C.Y. |
| Reinforcing Steel     | 13 Lbs.      |
| G.R.P.                | 2.4-2 C.Y.   |
| Steel Grating         | 1 each       |
| C.R.M.                | 2.3 c.y.     |

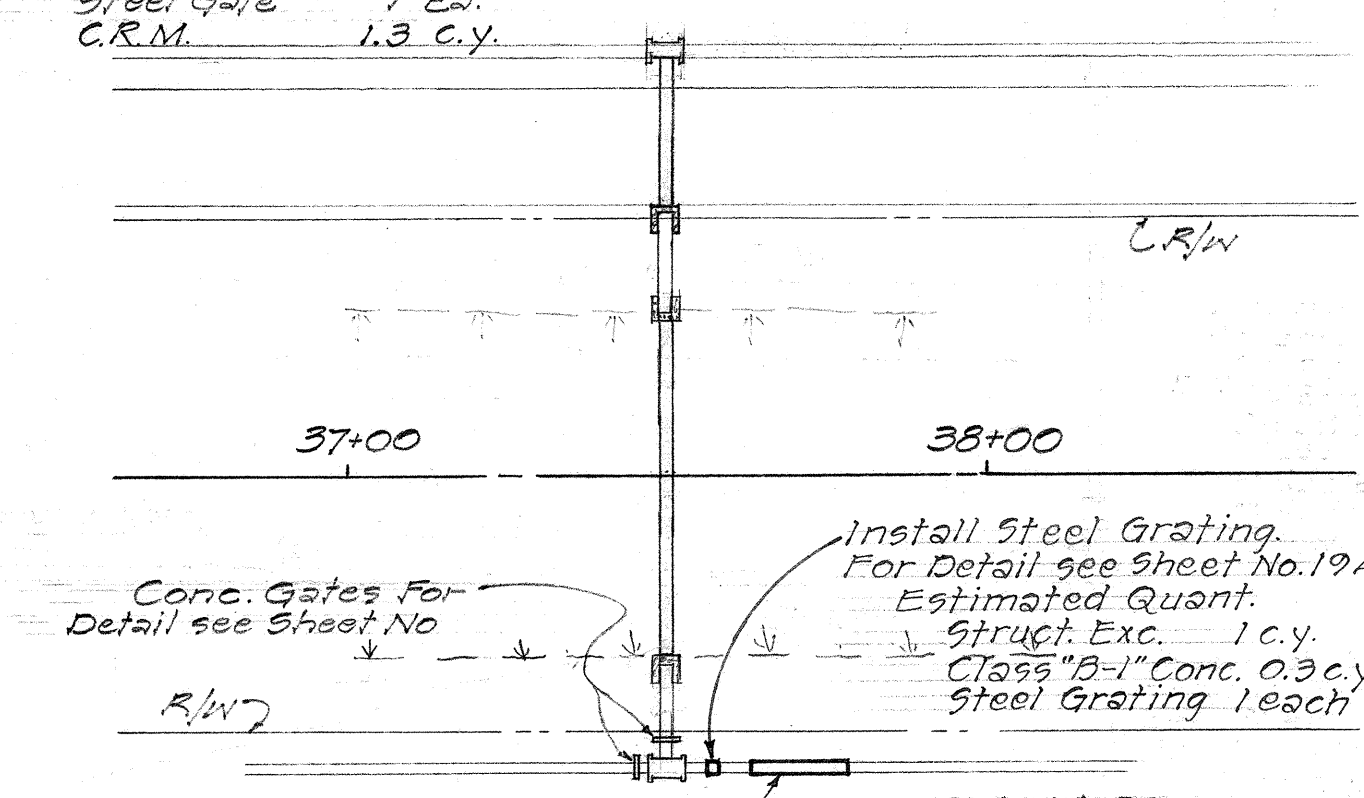
### LONGITUDINAL SECTION OF SIPHON AT STA. 26+50

Not to Scale

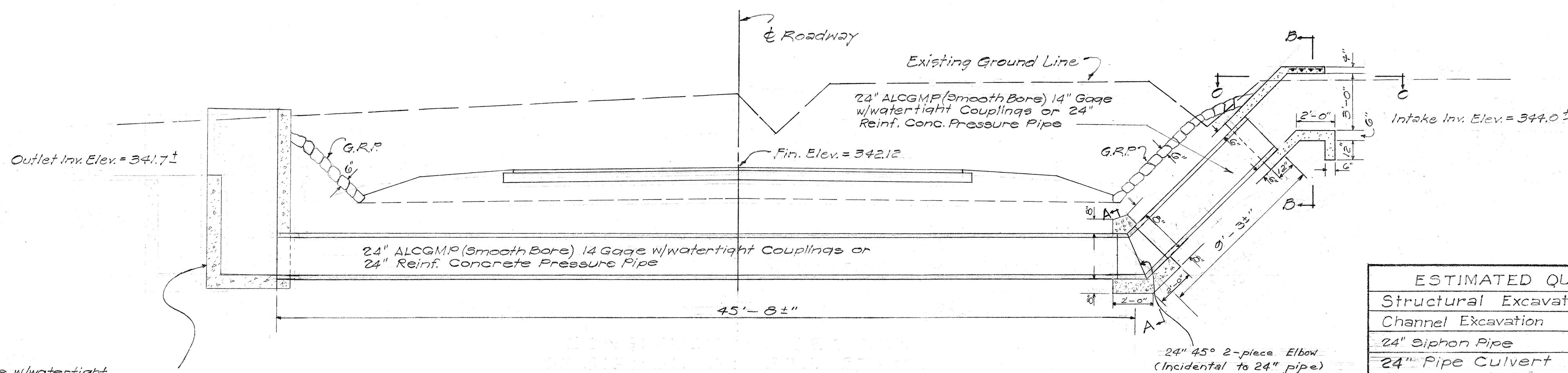
Sta. 26+50  
Construct Siphon (see Detail)  
24" ALCGMP (Smooth Bore) 14 Gauge w/watertight Couplings-55 Lin. Ft.  
Struct. Exc. 59 c.y.  
Class "A-1" Conc. 2.1 c.y.  
Class "B-1" Conc. 3.8 c.y.  
Reinf. Steel 13 c.y.  
G.R.P. 2.4 c.y.  
C.R.M. 2.3 c.y.  
Note:  
For Sections A-A, B-B, and C-C, see Sheet No. 13.



Install 24" Class III RCP w/ 14" 14 Gauge ALCGMP  
24" 14 Gauge ALCGMP  
20 L.F. 1-2 Way Turnout  
1 G.R.P. Intake  
Struct. Exc. 12 C.Y. 14  
Class "A-1" Conc. + C.Y. 0.9  
G.R.P. + C.Y. 1.3  
Steel Gate 1 Ea.  
C.R.M. 1.3 c.y.  
For Details of 2 Way Turnout see Sheet No. 13.



Construct 2 Way Turnout. For Details see Sheet No. 13.  
Est. Quant.  
Struct. Exc. 3 C.Y.  
Class "A-1" Conc. 1 C.Y.  
Steel Gate 1 Ea.  
C.R.M. 0.8 c.y.  
Construct Siphon (see Detail)  
24" ALCGMP (Smooth Bore) 14 Gauge w/watertight Couplings-55 Lin. Ft.  
Struct. Exc. 58-60 C.Y.  
Class "A-1" Conc. 1.6-2.0 C.Y.  
Class "B-1" Conc. 3.3 C.Y.  
Reinf. Steel 13 Lbs.  
G.R.P. 1.5-2 C.Y.  
C.R.M. 2.1 c.y.



| ESTIMATED QUANTITIES  |              |
|-----------------------|--------------|
| Structural Excavation | 82-75 C.Y.   |
| Channel Excavation    | 5-6 C.Y.     |
| 24" Siphon Pipe       | 55 L.F.      |
| 24" Pipe Culvert      | 20 L.F.      |
| Class "A-1" Concrete  | 3.5-4.0 C.Y. |
| Class "B-1" Concrete  | 3.6-3.3 C.Y. |
| Reinforcing Steel     | 13 lb        |
| G.R.P.                | 2.8-2.2 C.Y. |

Note: Steel Gates incidental to Class "A-1" Concrete.  
Steel Grating 1 each  
C.R.M. 4.2 c.y.

### LONGITUDINAL SECTION OF SIPHON AT STATION 37+50

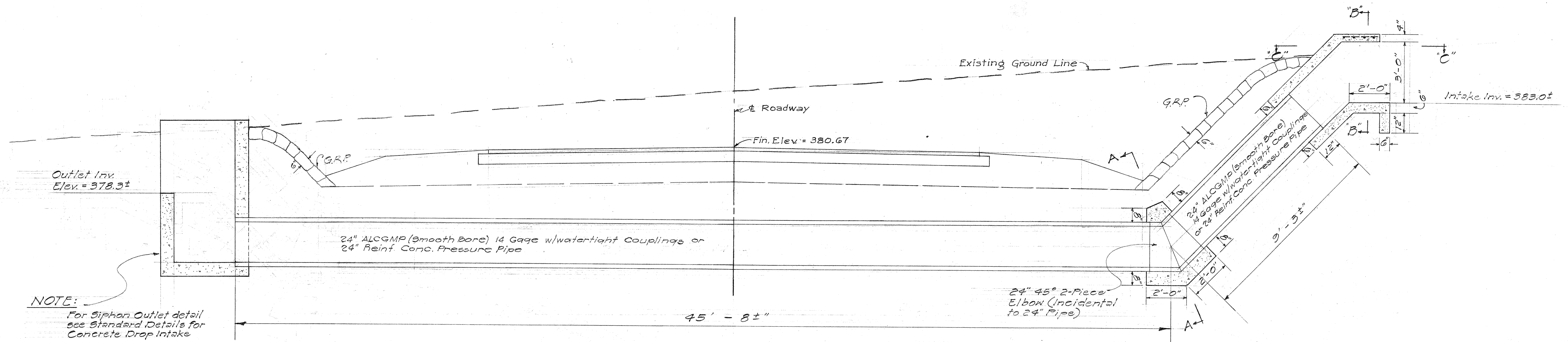
Not to Scale

NOTE:  
For Siphon Outlet detail see Standard Details for Concrete Drop Intake

### PLAN SHOWING SIPHON & IRR. SYSTEM AT B.L. STA. 37+50

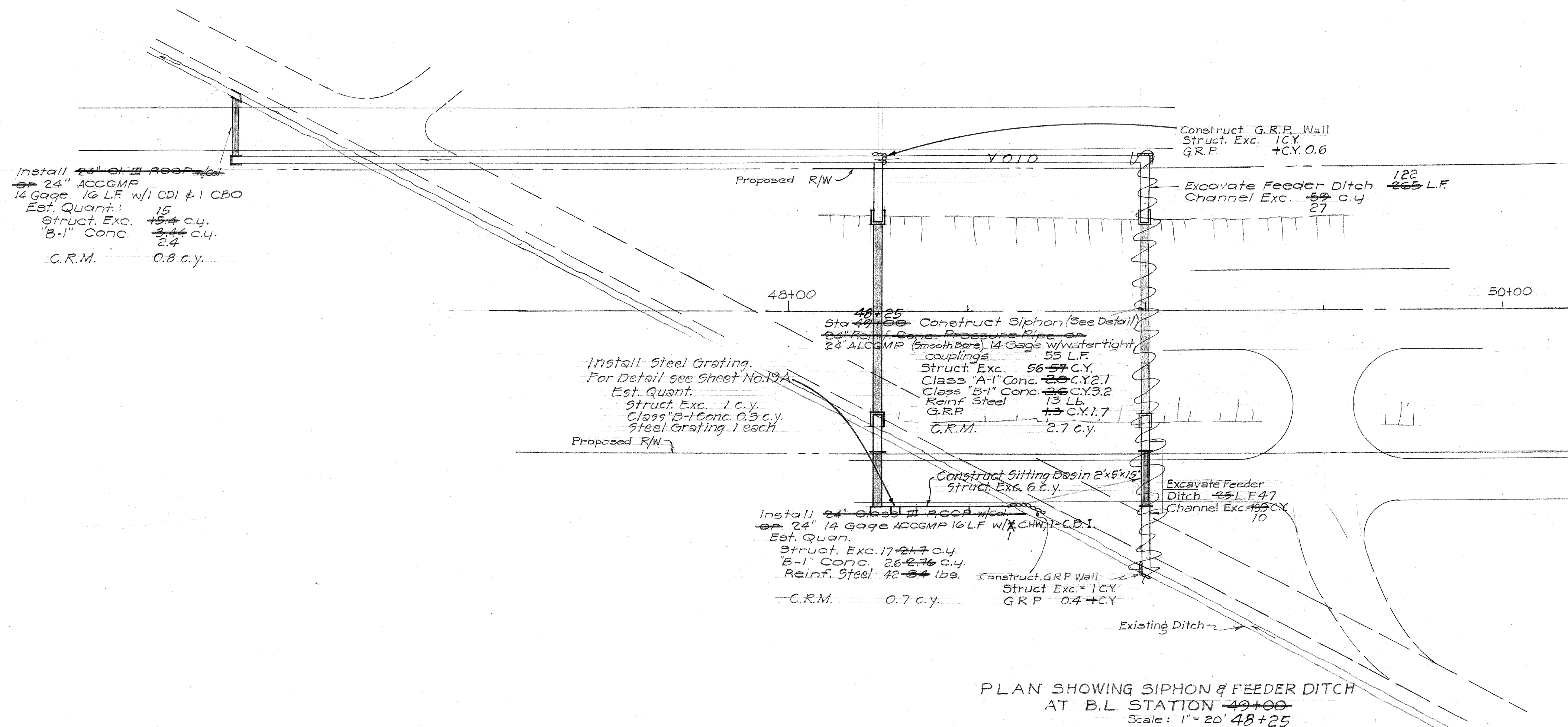
Scale: 1" = 30'-0"

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
STATE OF HAWAII  
  
SIPHON DETAIL  
KAUAI BELT ROAD  
PROJ. No. S-0560(2) UNIT 2  
MOLOAA, KAUAI  
Scale: As Shown Date: Jan. 1961



**LONGITUDINAL SECTION  
OF SIPHON AT STA. ~~49+00~~  
48+25**  
Not to Scale

| ESTIMATED QUANTITIES  |                         |
|-----------------------|-------------------------|
| Structural Excavation | 97 <del>46</del> C.Y.   |
| Channel Excavation    | 37 <del>43</del> C.Y.   |
| 24" Siphon Pipe       | 55 L.F.                 |
| Class "A-1" Concrete  | 2.1 <del>20</del> C.Y.  |
| Class "B-1" Concrete  | 8.5 <del>8.6</del> C.Y. |
| Reinforcing Steel     | 55 <del>97</del> Lb.    |
| G. R. P.              | 2.7 <del>33</del> C.Y.  |
| 24" Pipe Culvert      | 32 L.F.                 |
| Steel Grating         | 1 Each                  |
| C.R.M.                | 4.2 c.y.                |

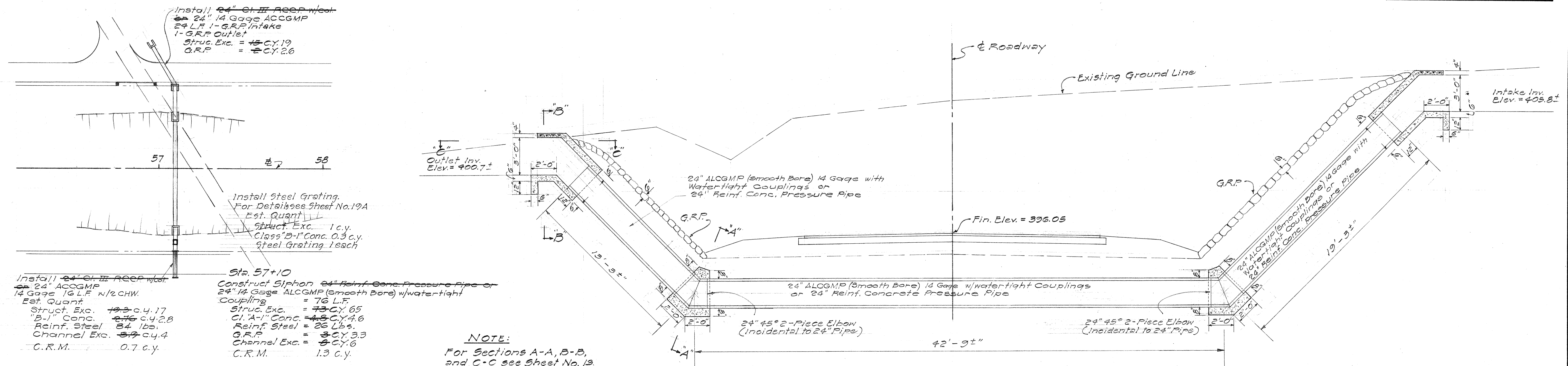


PLAN SHOWING SIPHON & FEEDER DITCH  
AT B.L. STATION ~~49+00~~  
Scale: 1" = 20' 48+25

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
STATE OF HAWAII  
SIPHON DETAIL  
AT STATION ~~49+00~~ 48+25  
KAUAI BELT ROAD  
PROJECT No. 5-0560(2) UNIT 2  
MOLOAA, KAUAI  
Scale: As Shown Date: Feb., 1961



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 50560(2)           | 1963        | 19        | 105          |



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

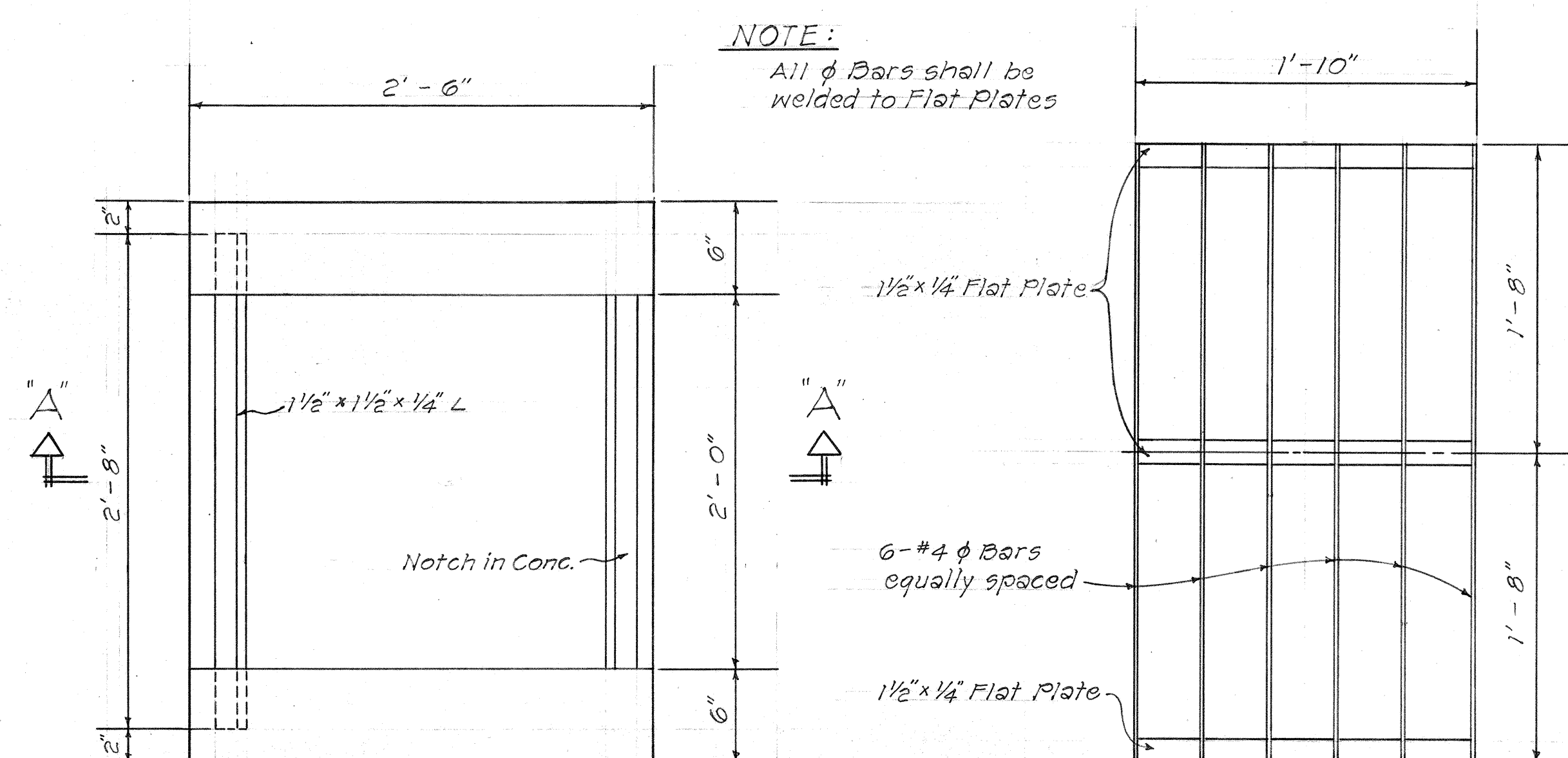
DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 STATE OF HAWAII

SIPHON DETAIL  
 KAUAI BELT ROAD  
 PROJECT No. S-0560(2) UNIT 2  
 MOLOAA, KAUAI

Scale: As Shown DATE: AUG. 1961

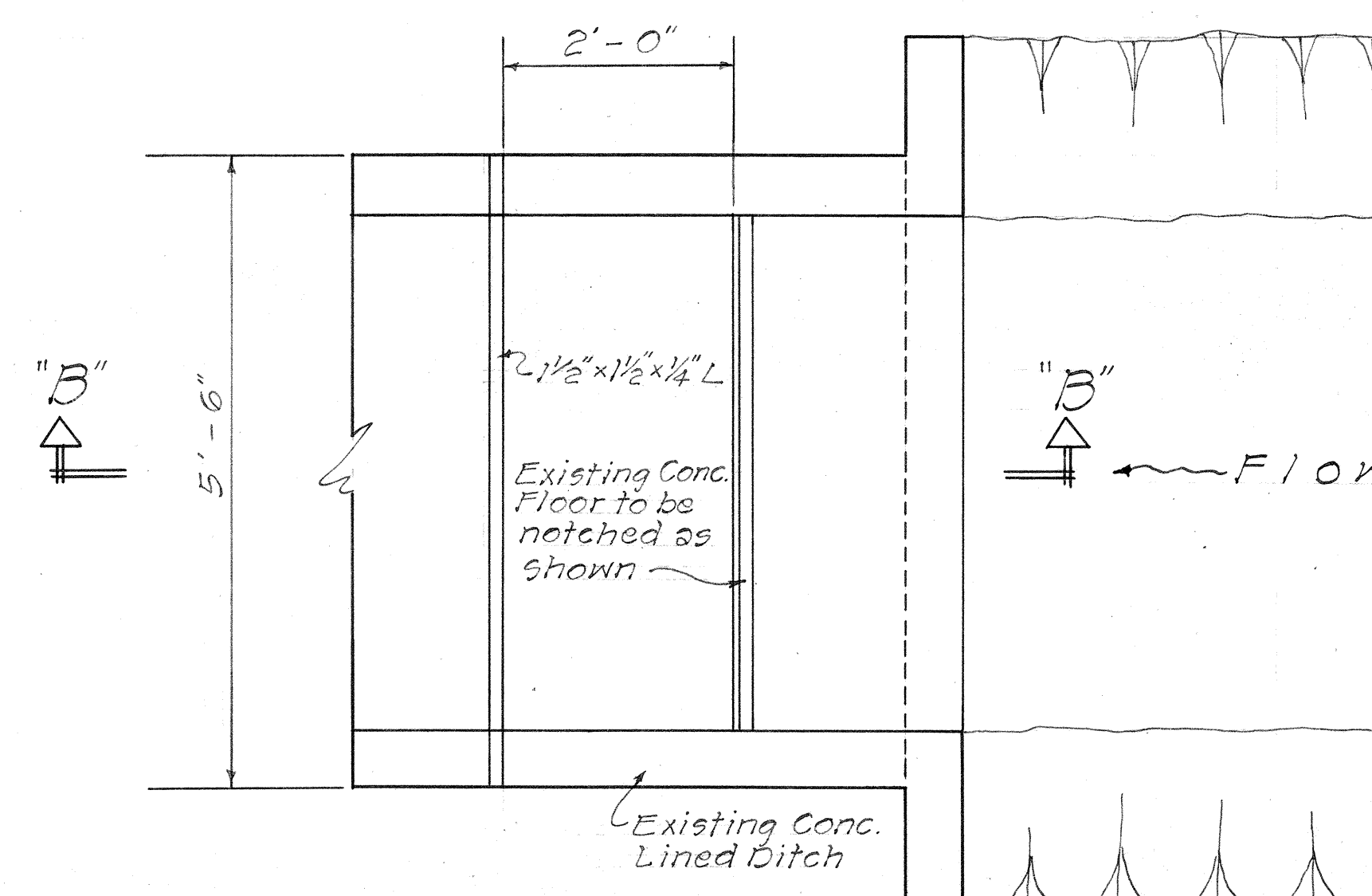
SHEET No. OF SHEETS

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEET |
|------------------------|-------|-----------------------|----------------|--------------|----------------|
| HAWAII                 | HAW.  | 5-0560(2)<br>UNIT 2   | 1967           | 19A          | 102            |

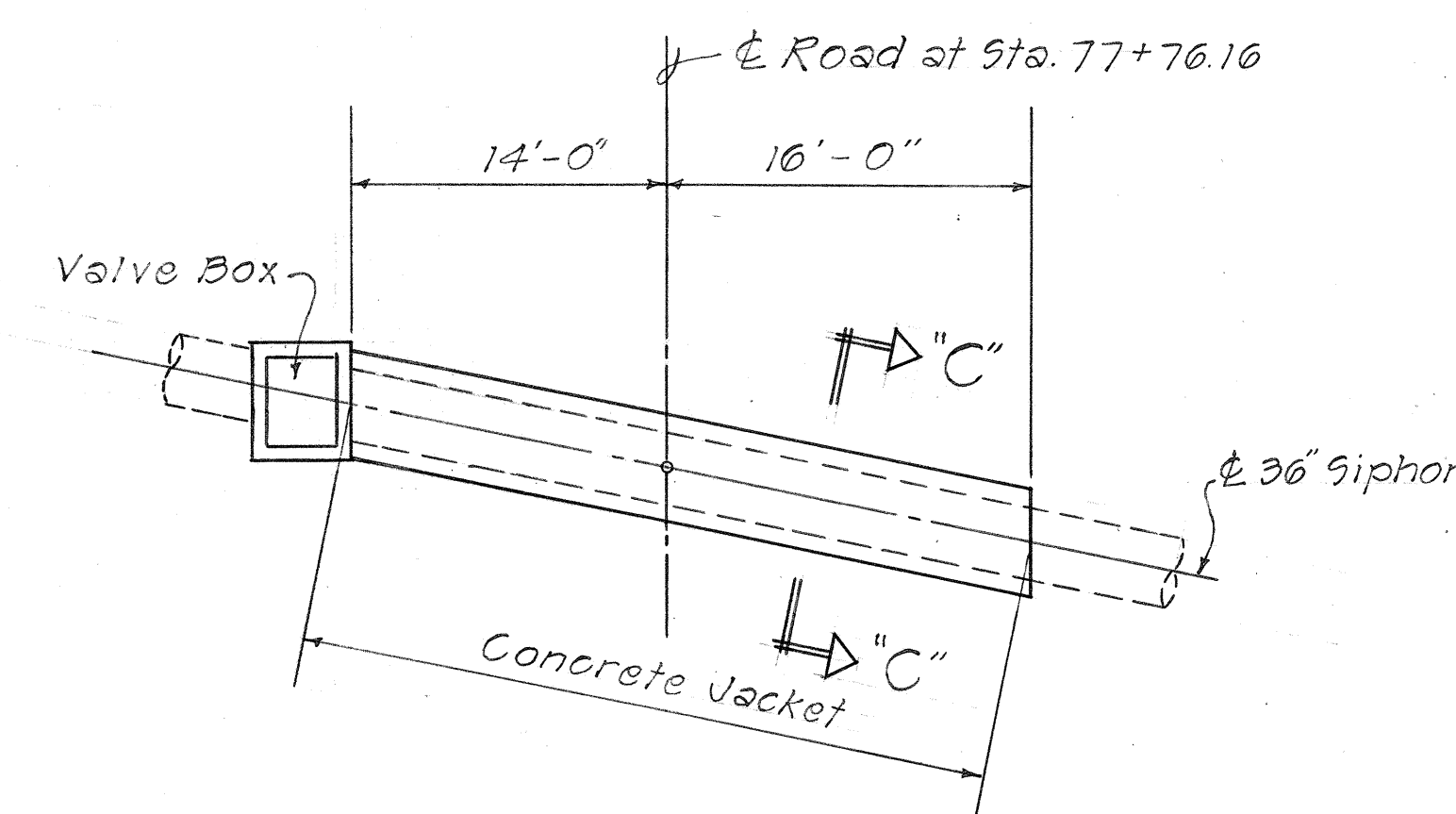


# PLAN

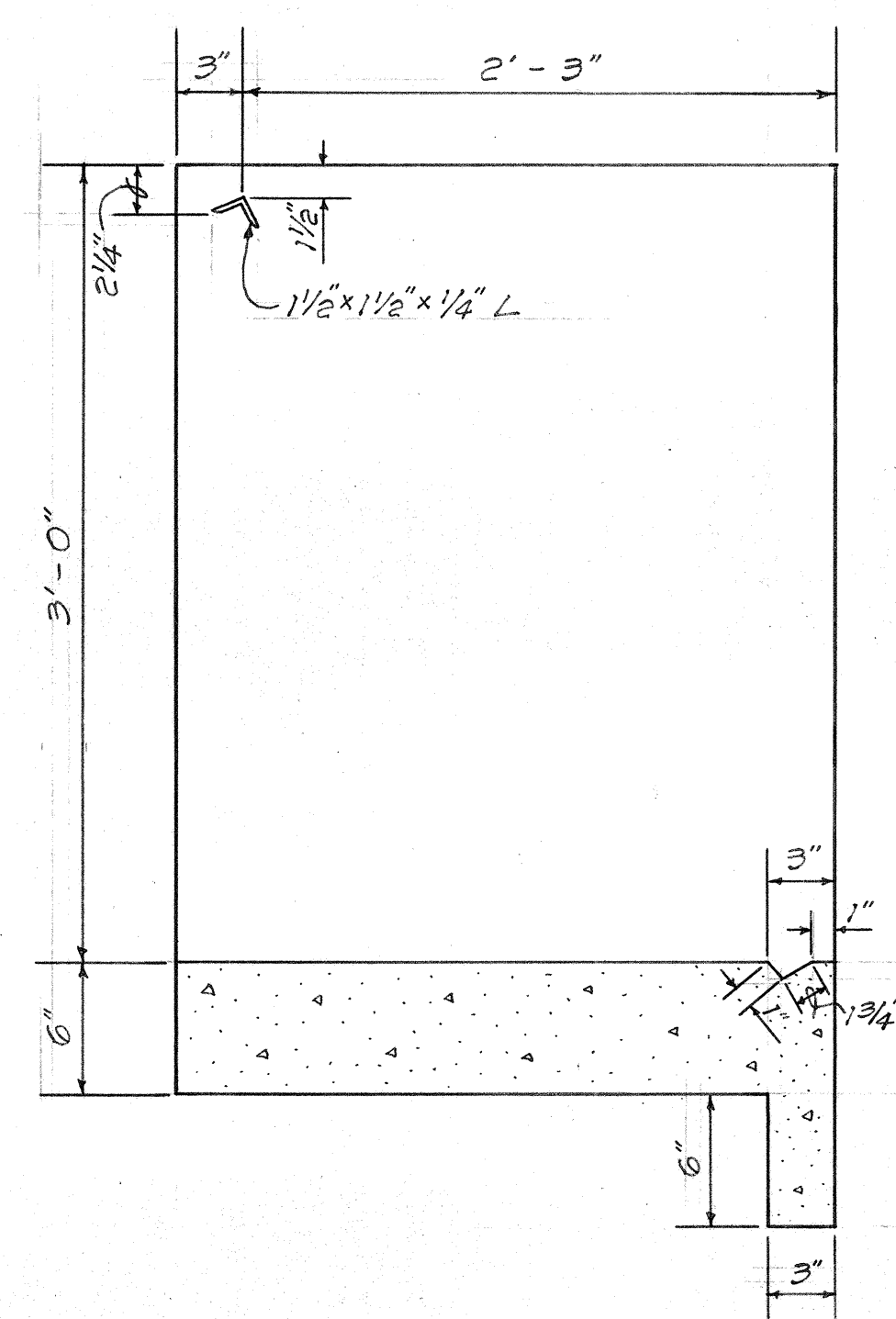
### GRATING DETAIL



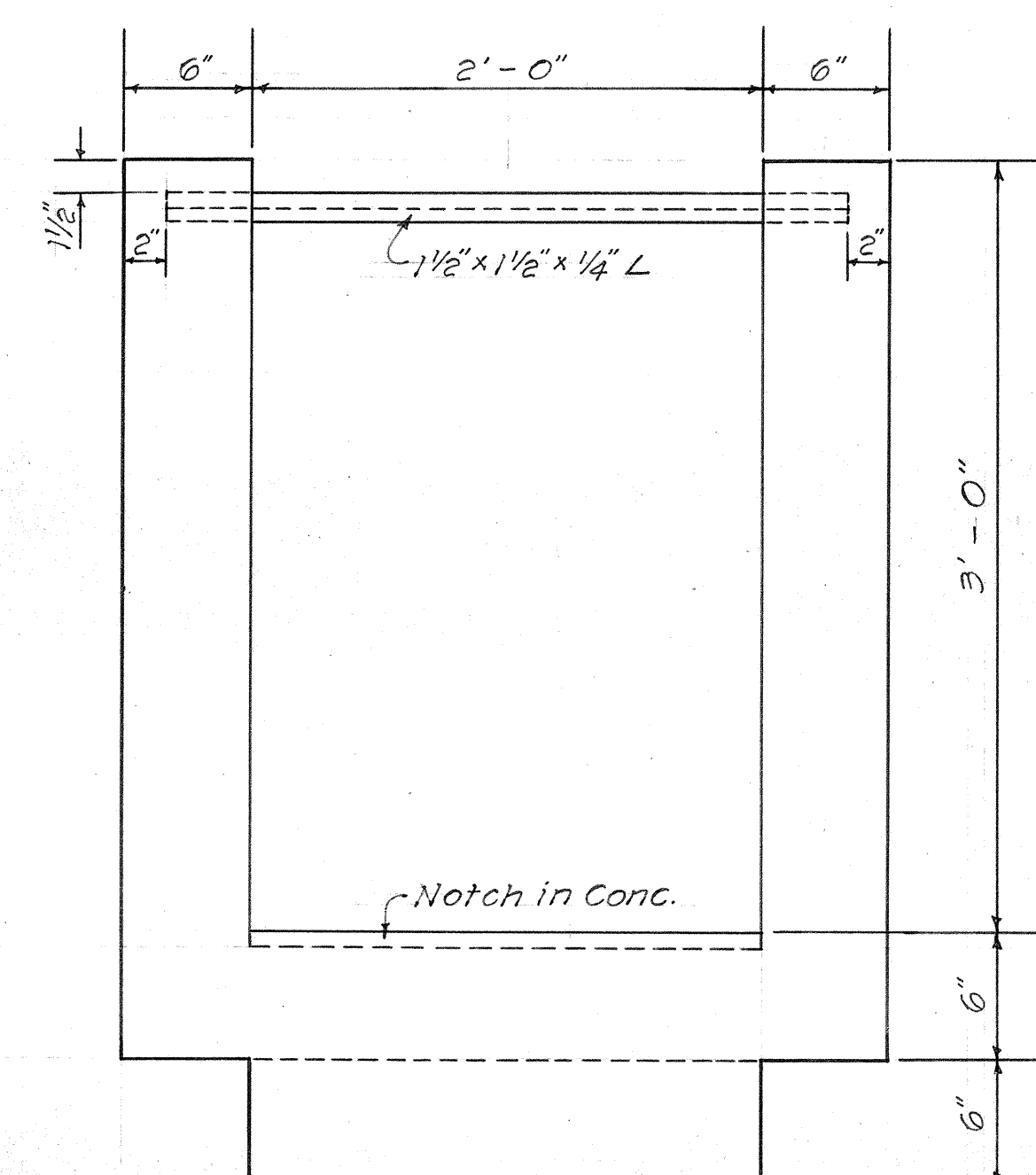
P L A N



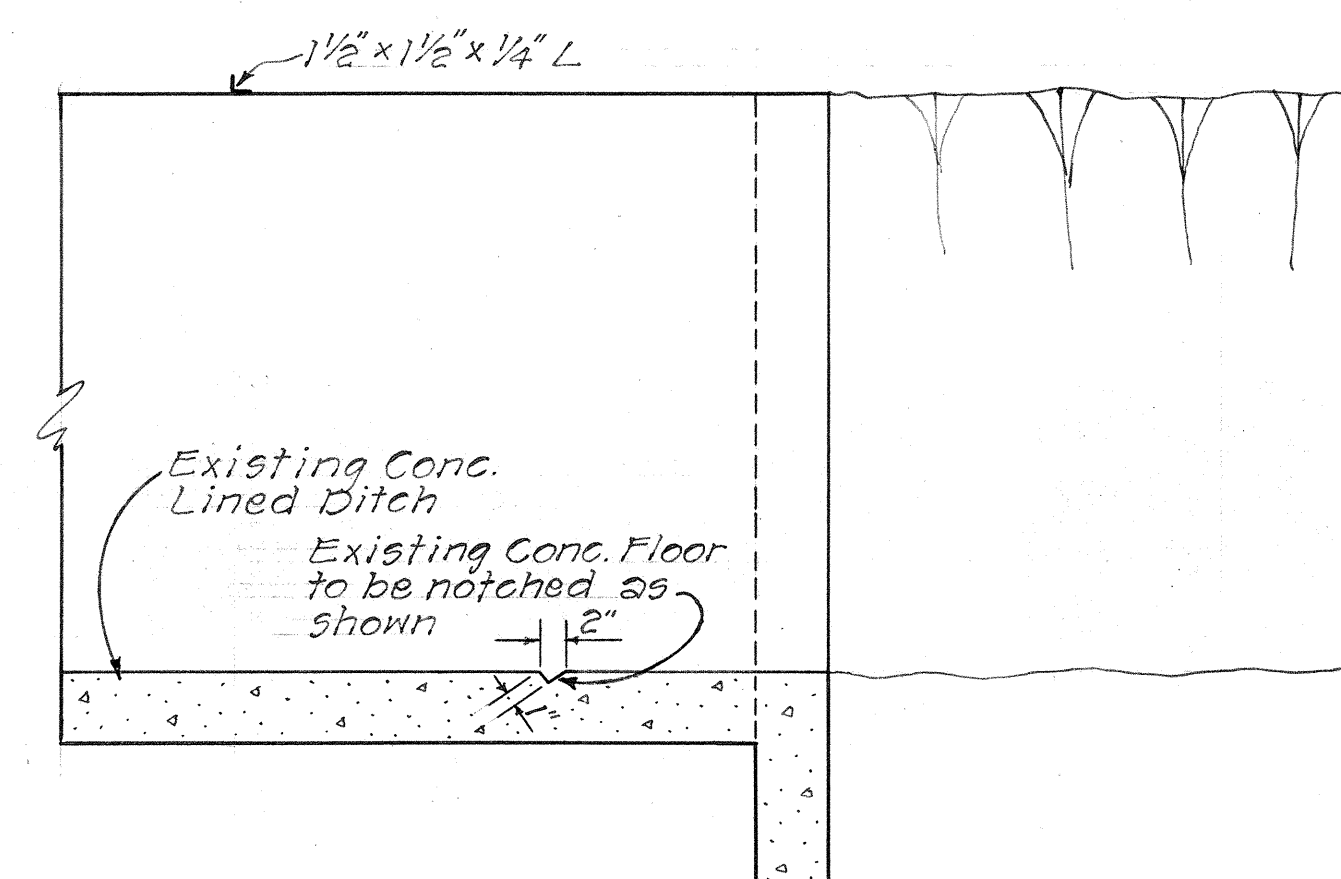
PLAN  
Not to scale



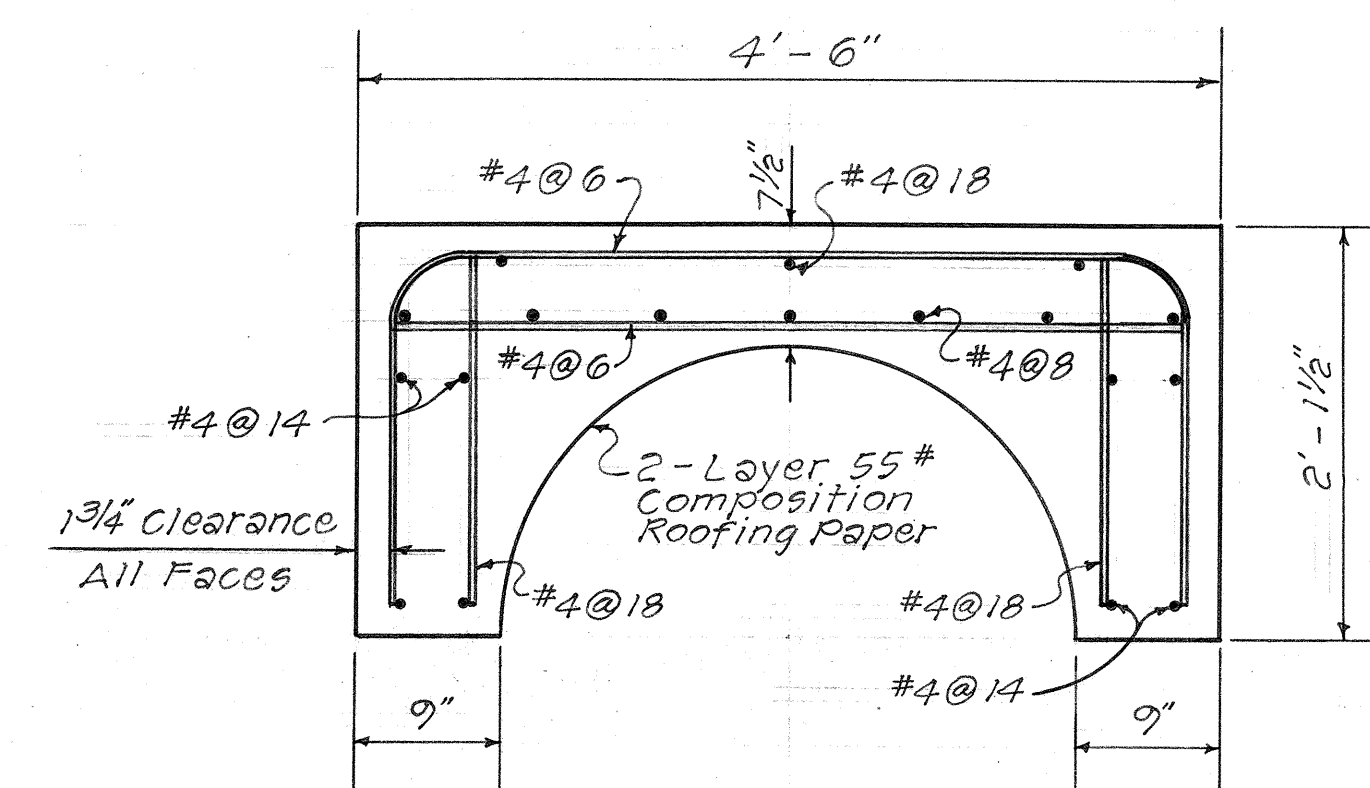
SECTION "A-A"



FRONT ELEVATION



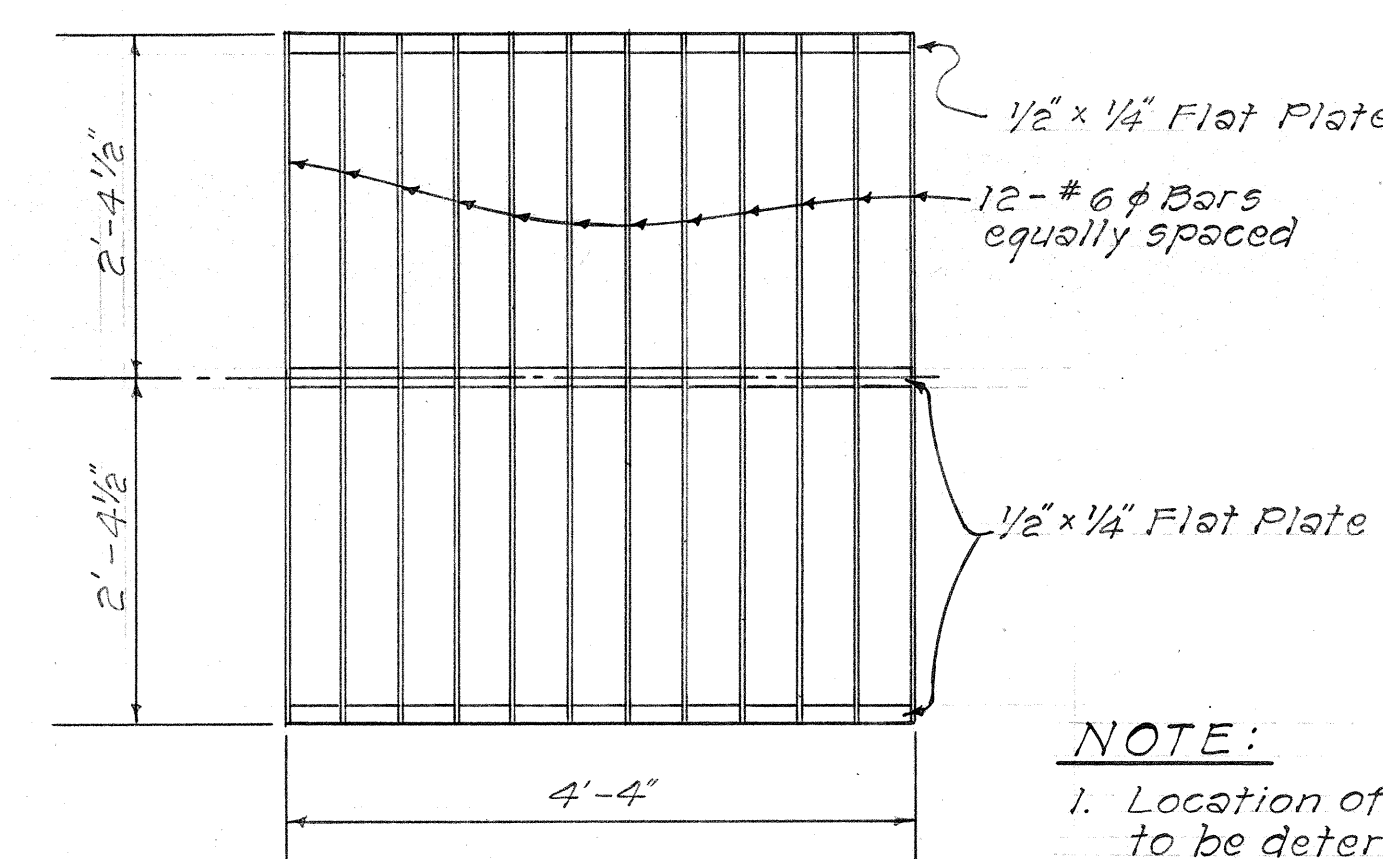
SECTION "B-B"



SECTION "C-C"  
Scale: 1" = 1'-0"

| ESTIMATED QUANTITIES |        |
|----------------------|--------|
| Class "A-1" Concrete | 0.87cy |
| Reinforcing Steel    | 892lb. |
| Struct. Excavation   | 7cy    |

CONCRETE JACKET FOR  
36" SIPHON AT STA. 77+76.16



GRATING DETAIL

NOTE:

1. Location of Grating within Lined Ditch to be determined by the Engineer.
2. All  $\phi$  Bars shall be welded to Flat Plates

GRATING DETAIL FOR CONCRETE  
LINED DITCH RIGHT OF STA. 77+76.16

Scale:  $3/4" = 1' - 0'$ 

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

CONCRETE JACKET  
AND GRATING DETAILS  
PROJECT No. S-0560(2) UNIT 2  
MOLOAA, KAUAI

Scale: As Shown      Date: March, 1967

SHEET No. OF SHEETS

19A

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