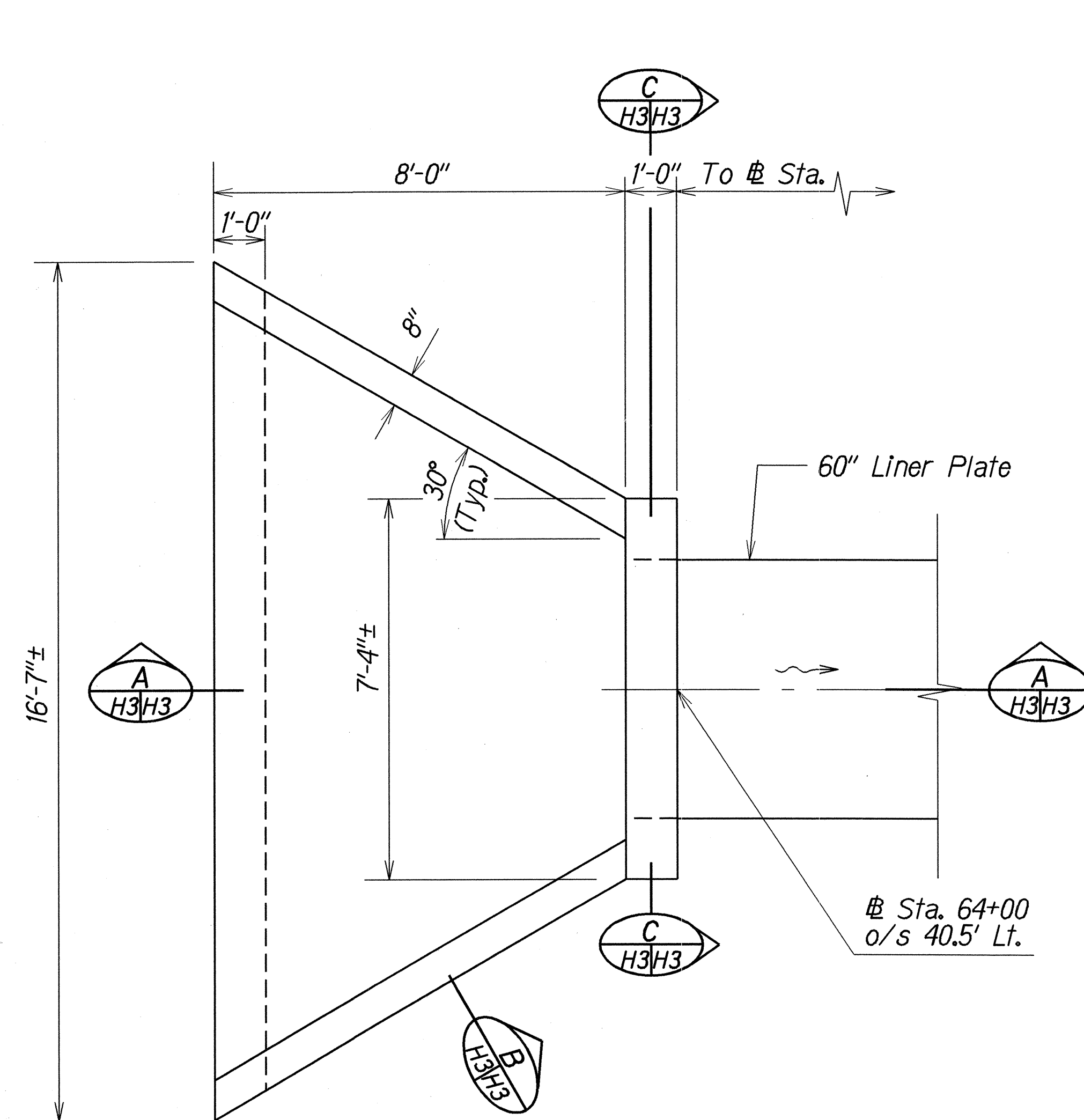
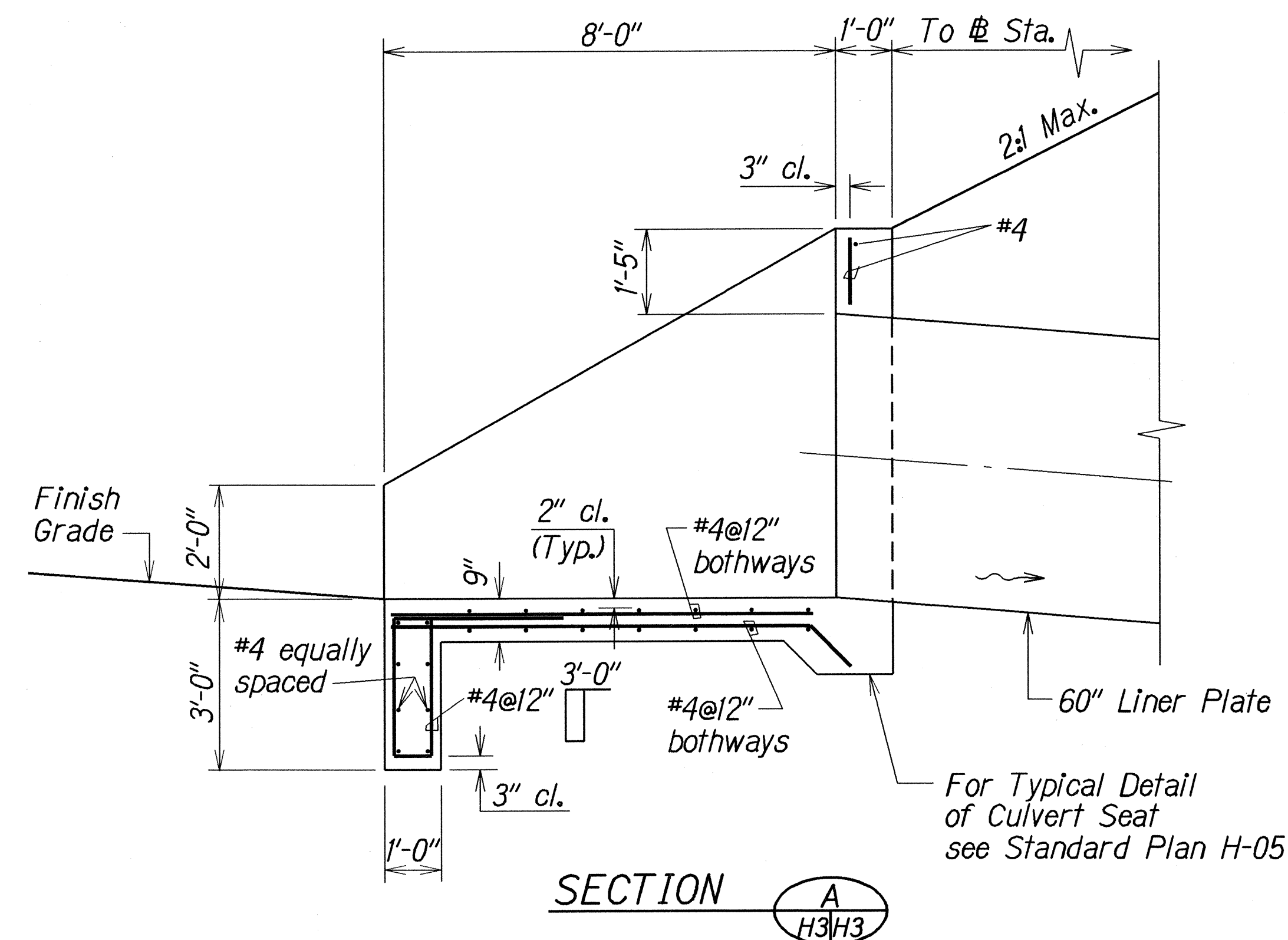


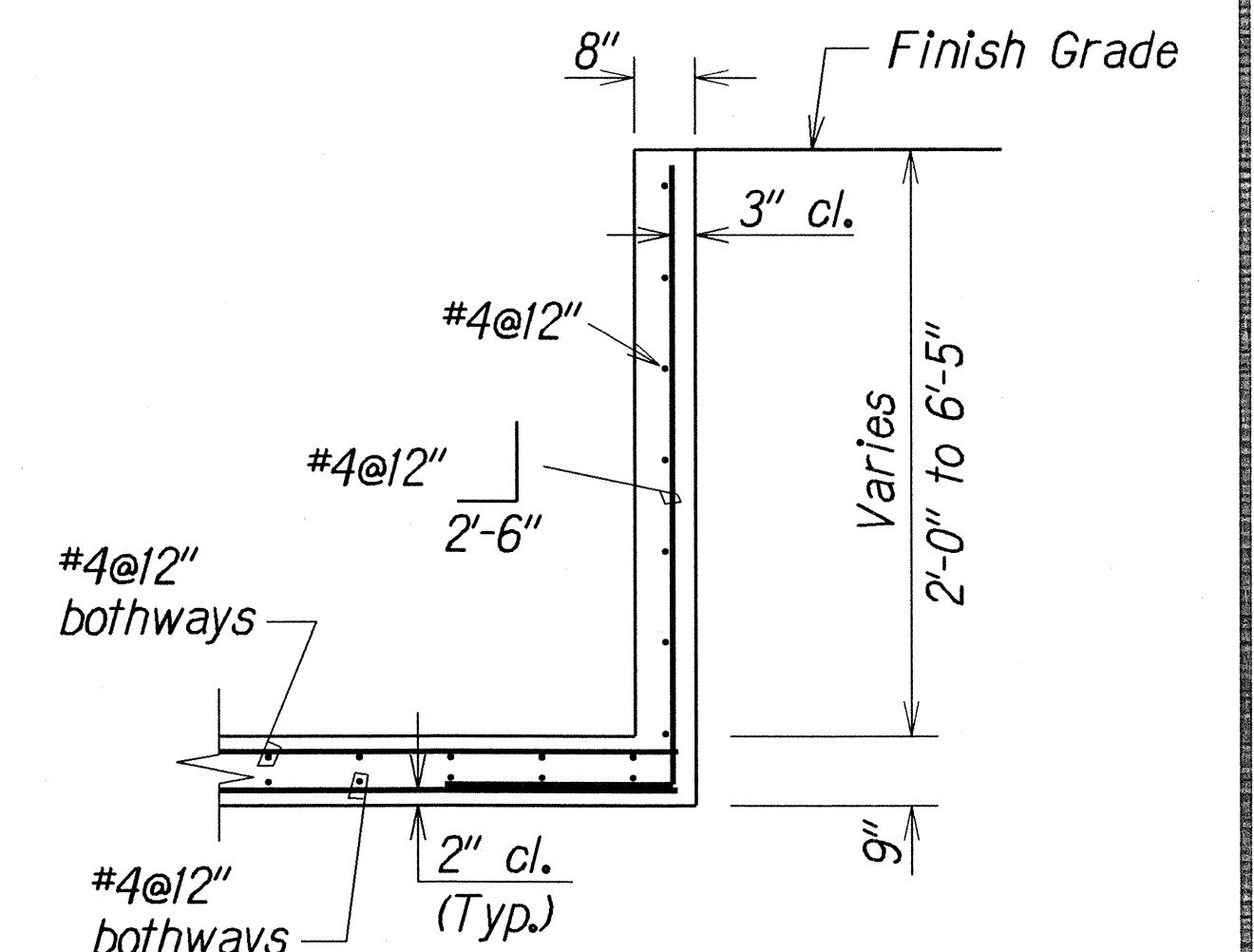
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-019-1(27)      | 2002        | 9         | 18           |



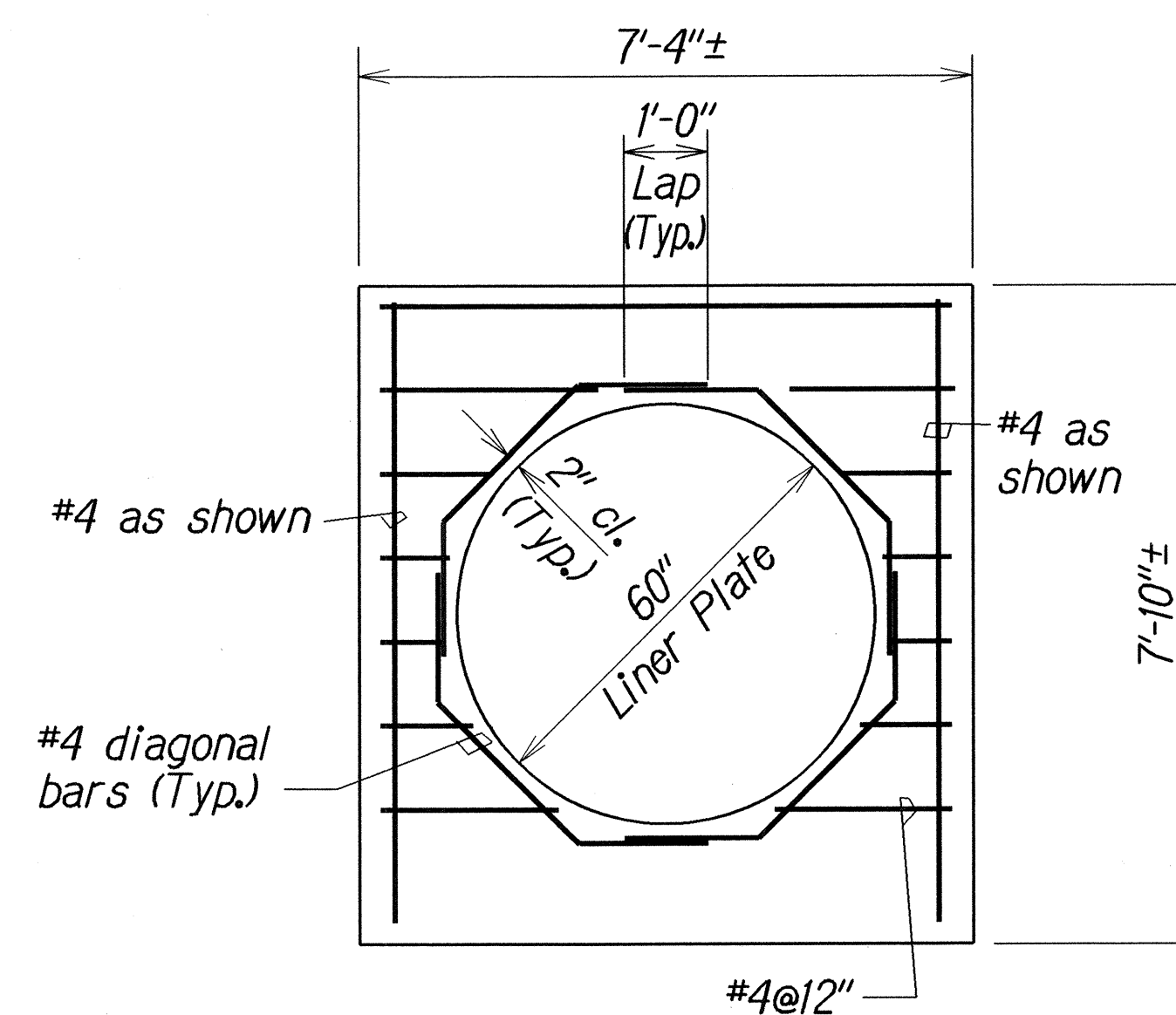
PLAN



SECTION A  
H3/H3



SECTION B  
H3/H3



SECTION C  
H3/H3

DETAILS OF INLET STRUCTURE AT STA. 64+00 o/s 40.5' LT.

|               |         |
|---------------|---------|
| DESIGNED BY   | DATE    |
| DRAWN BY      | 3/12/93 |
| CHECKED BY    |         |
| APPROVED BY   |         |
| NOTED BY      |         |
| QUANTITIES BY |         |
| REVISIONS     |         |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

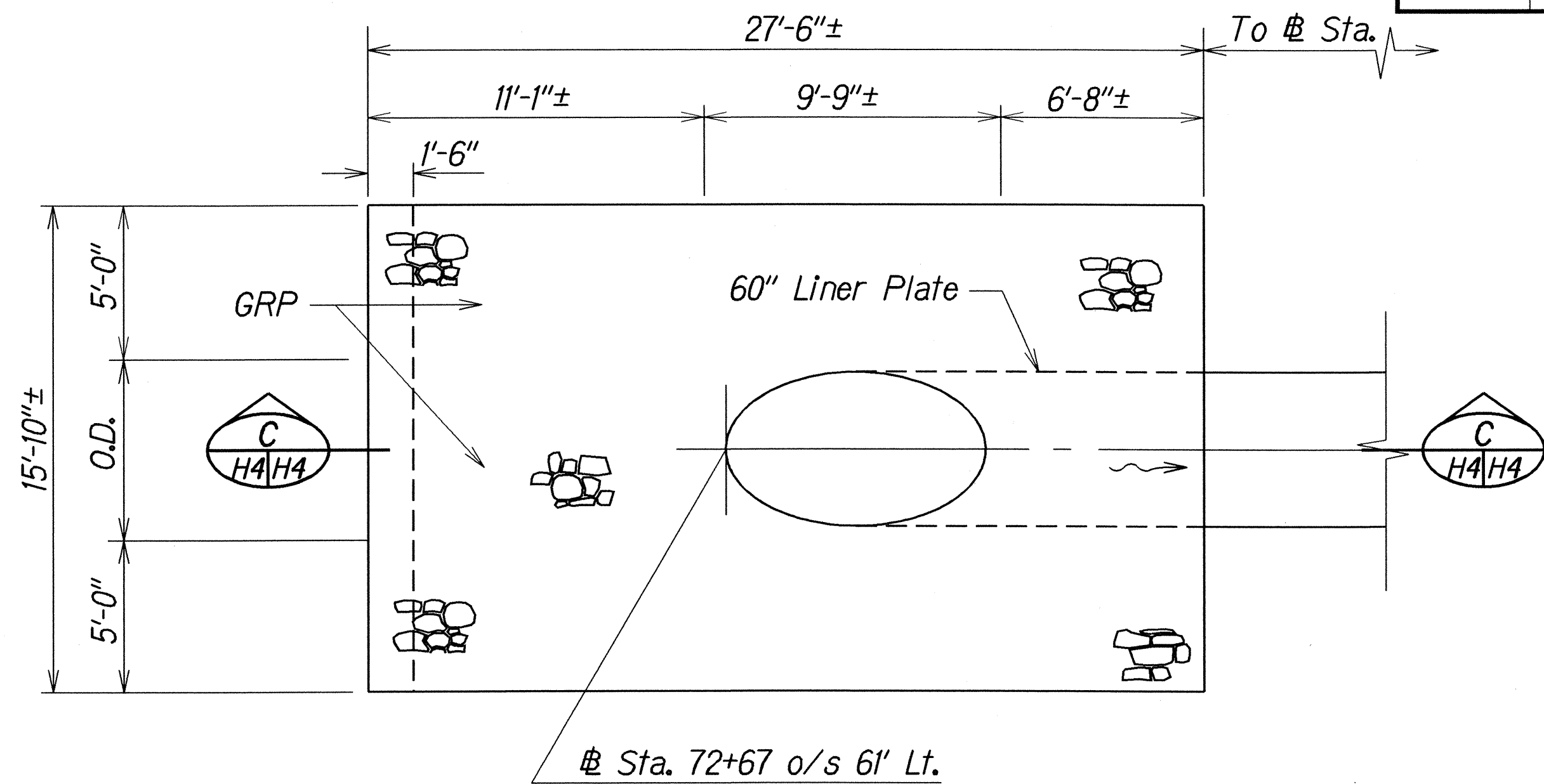
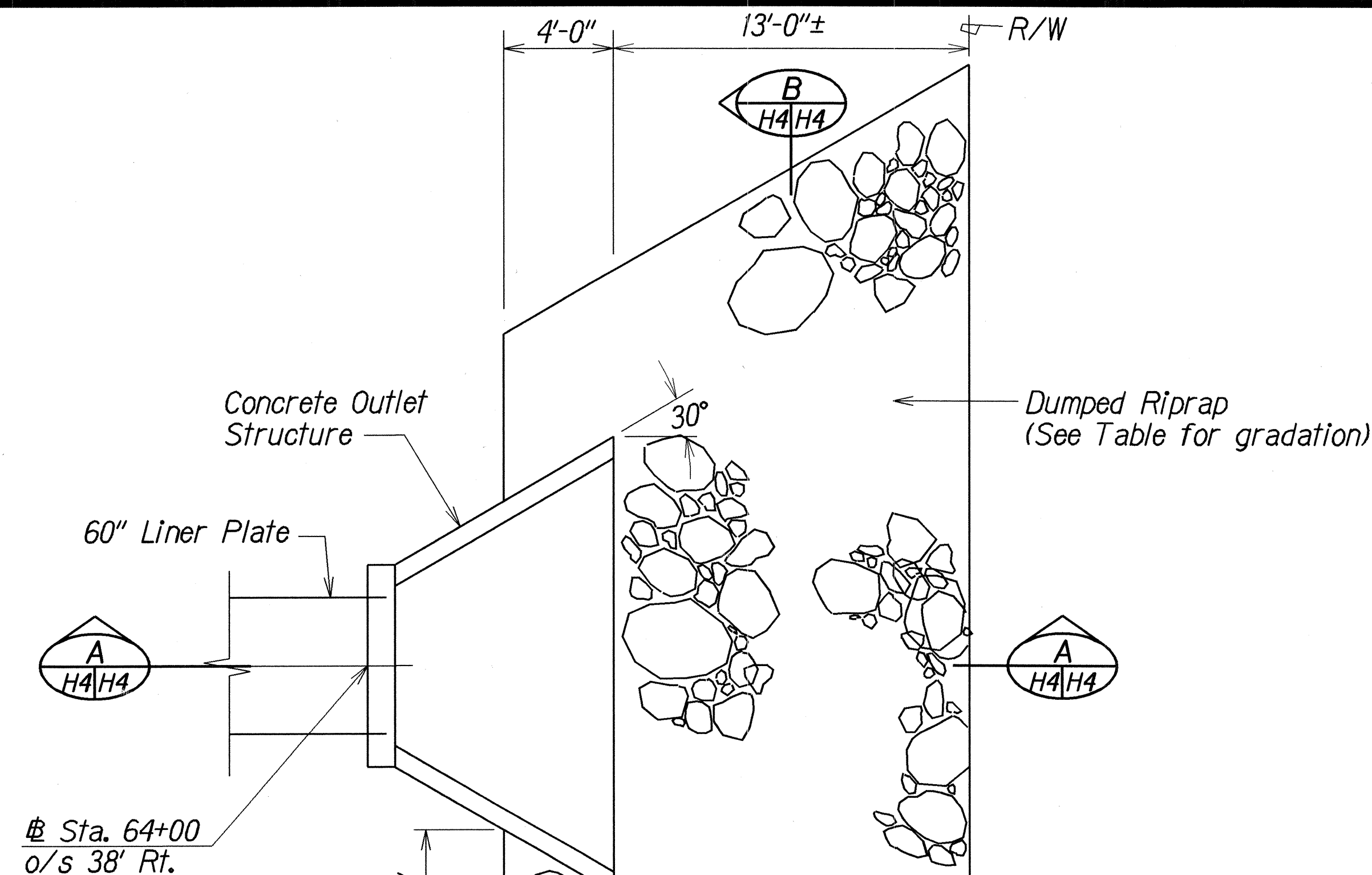
**DRAINAGE DETAILS**

QUEEN KAAHUMANU HWY. DRAINAGE IMPROVEMENTS  
Vicinity of Mauna Kea Beach Hotel  
Fed. Aid Project No. STP-019-1(27)

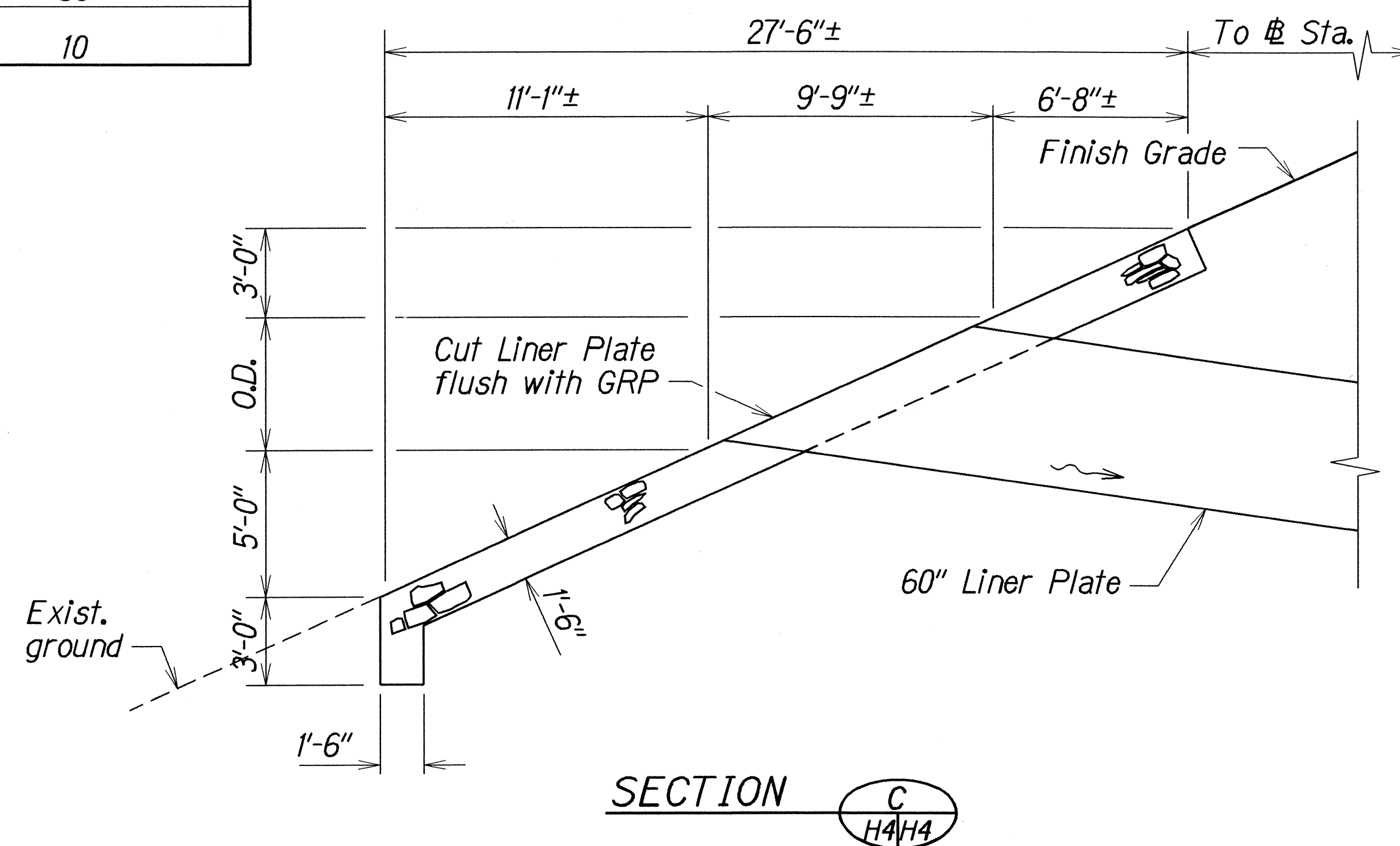
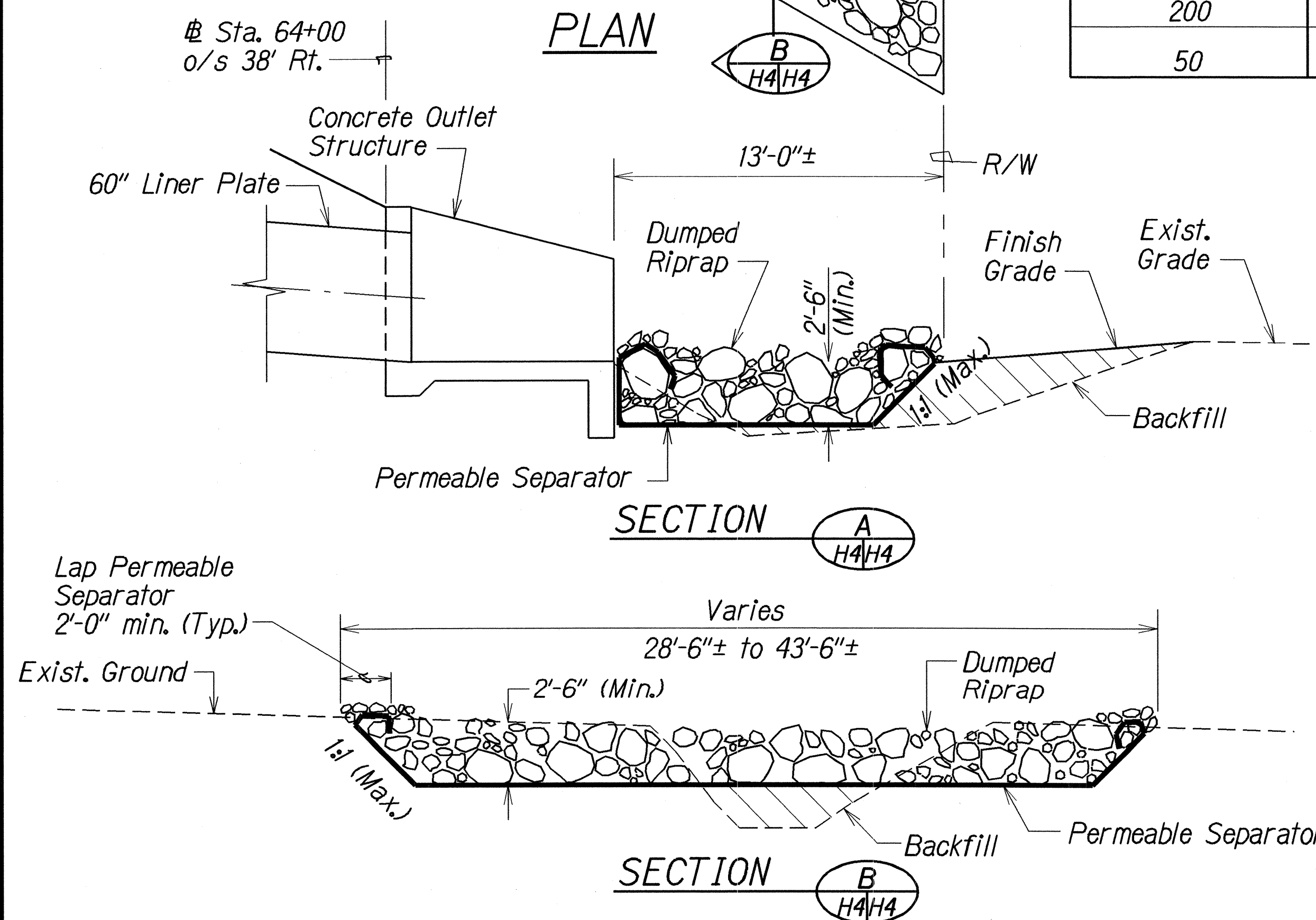
Scale: 1/2"=1'-0" Date: Feb. 2000

SHEET No. H3 OF 6 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-019-1(27)      | 2002        | 10        | 18           |



| DUMPED RIPRAP GRADATION |                               |
|-------------------------|-------------------------------|
| STONE SIZE (lbs)        | PERCENT OF STONE SMALLER THAN |
| 500                     | 100                           |
| 200                     | 50                            |
| 50                      | 10                            |



DETAILS OF DUMPED RIPRAP AT OUTLET STRUCTURE

DETAILS OF GRP INLET STRUCTURE  
AT STA. 72+67 o/s 61' LT.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

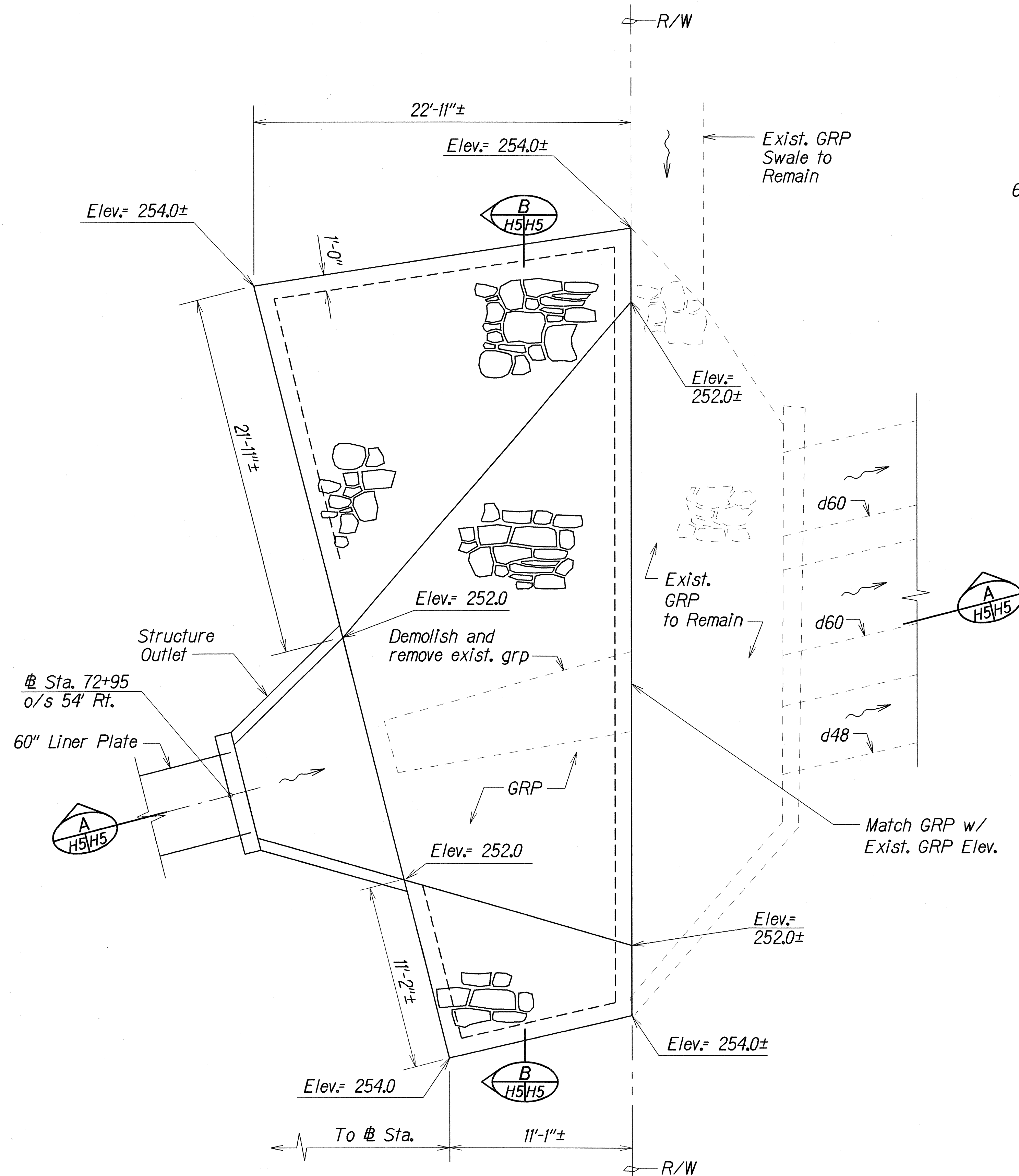
**DRAINAGE DETAILS**  
 QUEEN KAAHUMANU HWY. DRAINAGE IMPROVEMENTS  
 Vicinity of Mauna Kea Beach Hotel  
 Fed. Aid Project No. STP-019-1(27)

Scale: 1/4"=1'-0"
Date: Feb. 2000

SHEET No. H4 OF 6 SHEETS

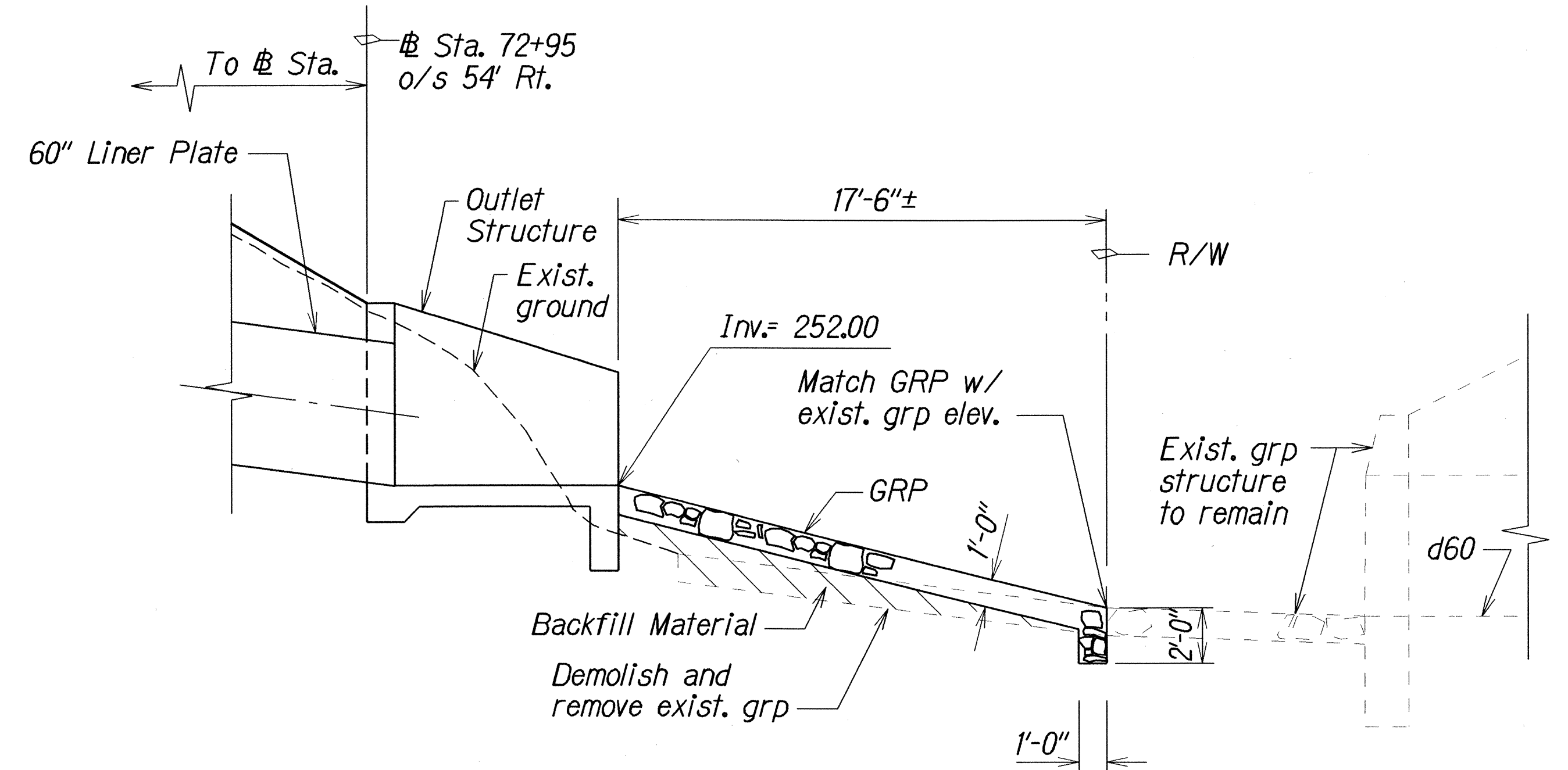
SURVEY PLOTTED BY: DATE: 3/24/00  
 DRAWN BY: MAHA KAMAHANA, RUSSELL SAMA  
 DESIGNED BY: DAVID M. KAMAHANA, JOHN KAMAHANA  
 CHECKED BY: 3/24/00

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-019-1(27)      | 2002        | 11        | 18           |

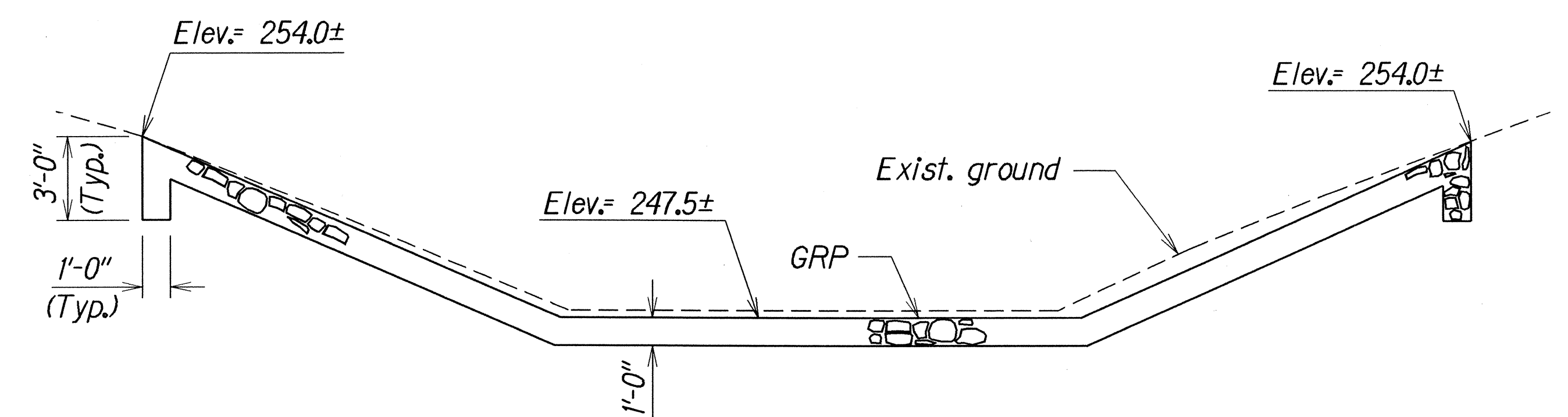


PLAN

DETAILS OF GRP OUTLET STRUCTURE AT STA. 72+95 RT.



SECTION A-A



SECTION B-B

|               |         |
|---------------|---------|
| ORIGINAL PLAN | DATE    |
| DRAWN BY      | 3/24/03 |
| DESIGNED BY   |         |
| CHECKED BY    |         |

STATE OF HAWAII  
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HIGHWAYS DIVISION

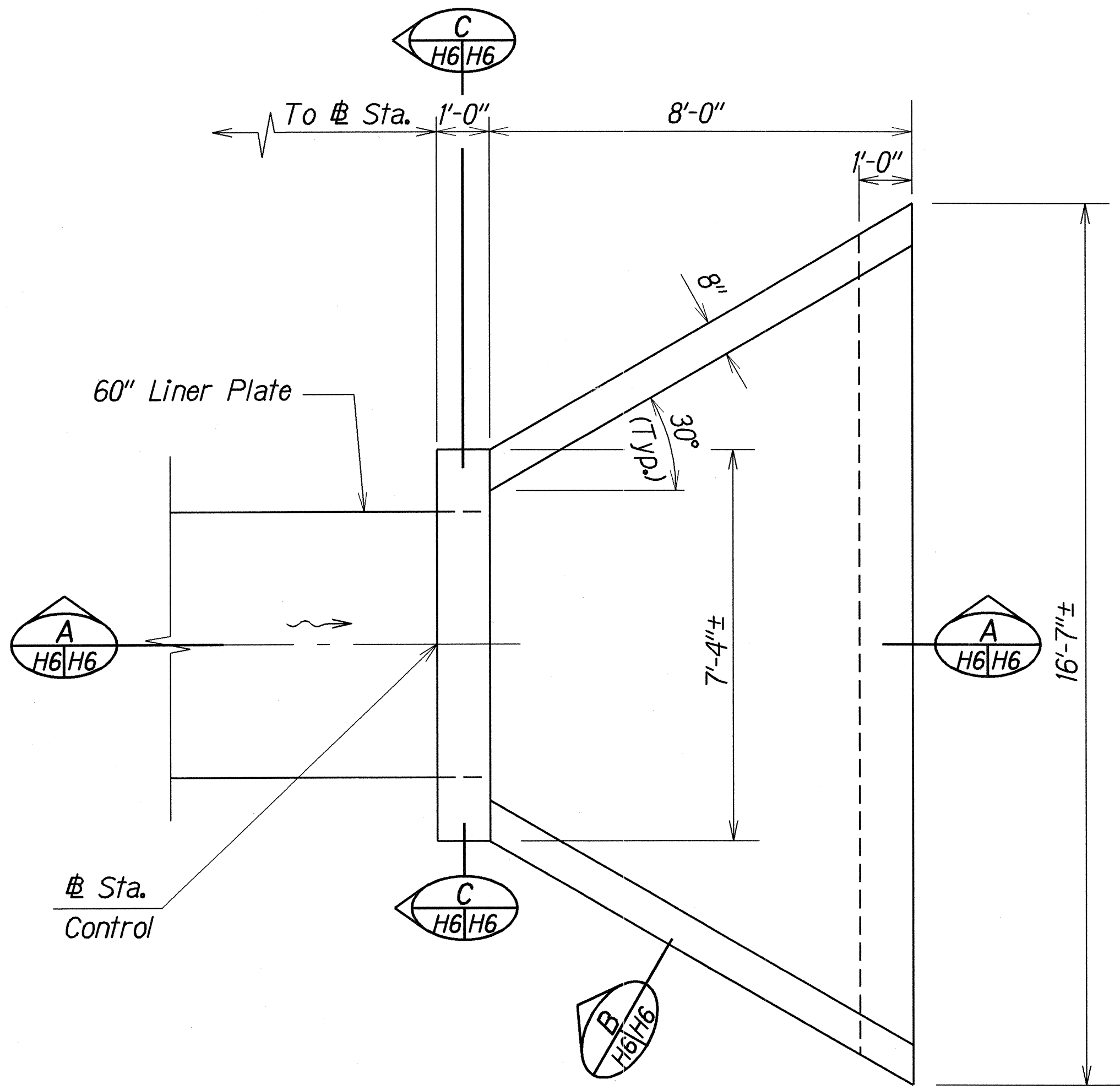
**DRAINAGE DETAILS**

QUEEN KAAHUMANU HWY. DRAINAGE IMPROVEMENTS  
Vicinity of Mauna Kea Beach Hotel  
Fed. Aid Project No. STP-019-1(27)

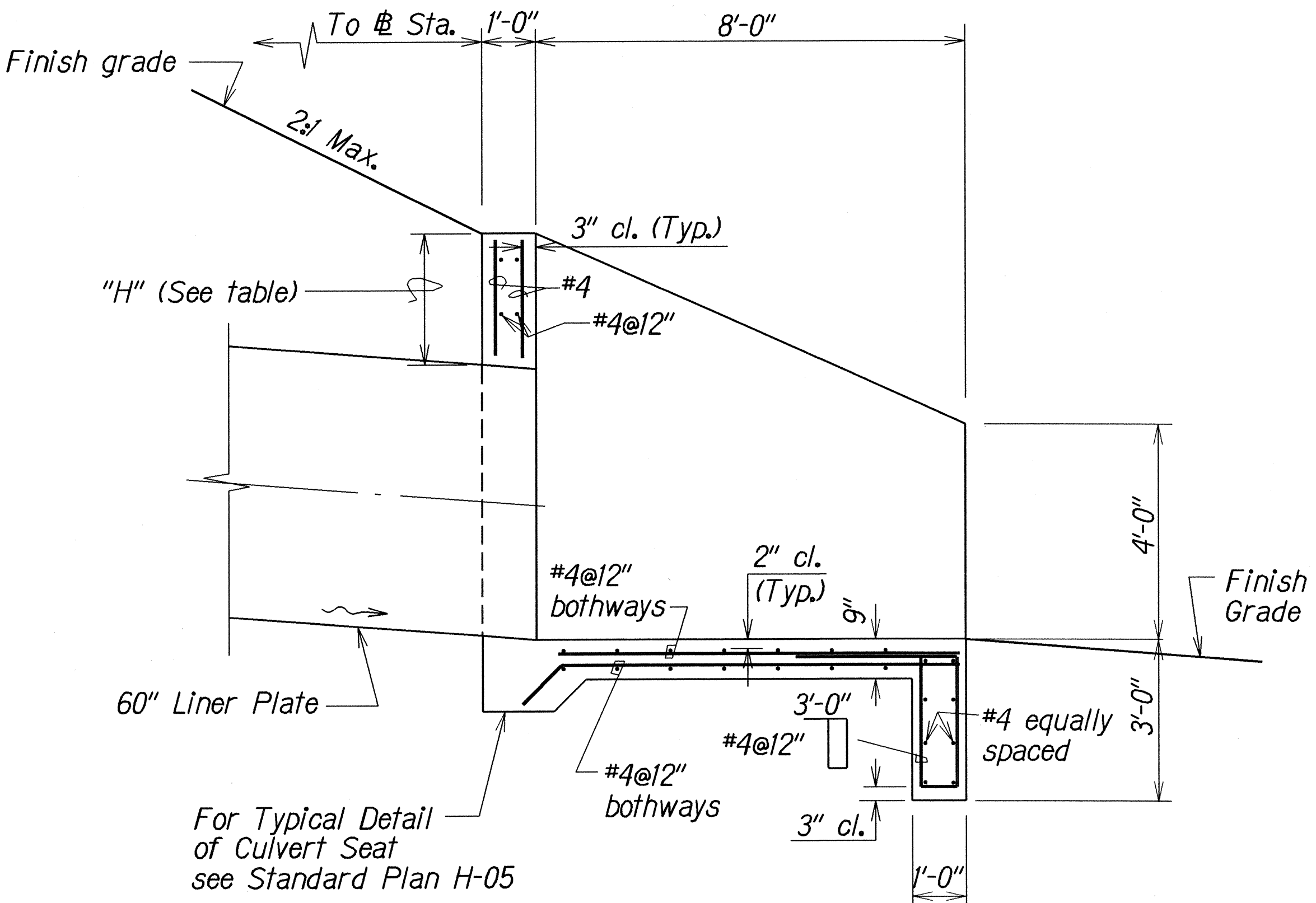
Scale: 1/4"=1'-0" Date: Feb. 2000

SHEET No. H5 OF 6 SHEETS

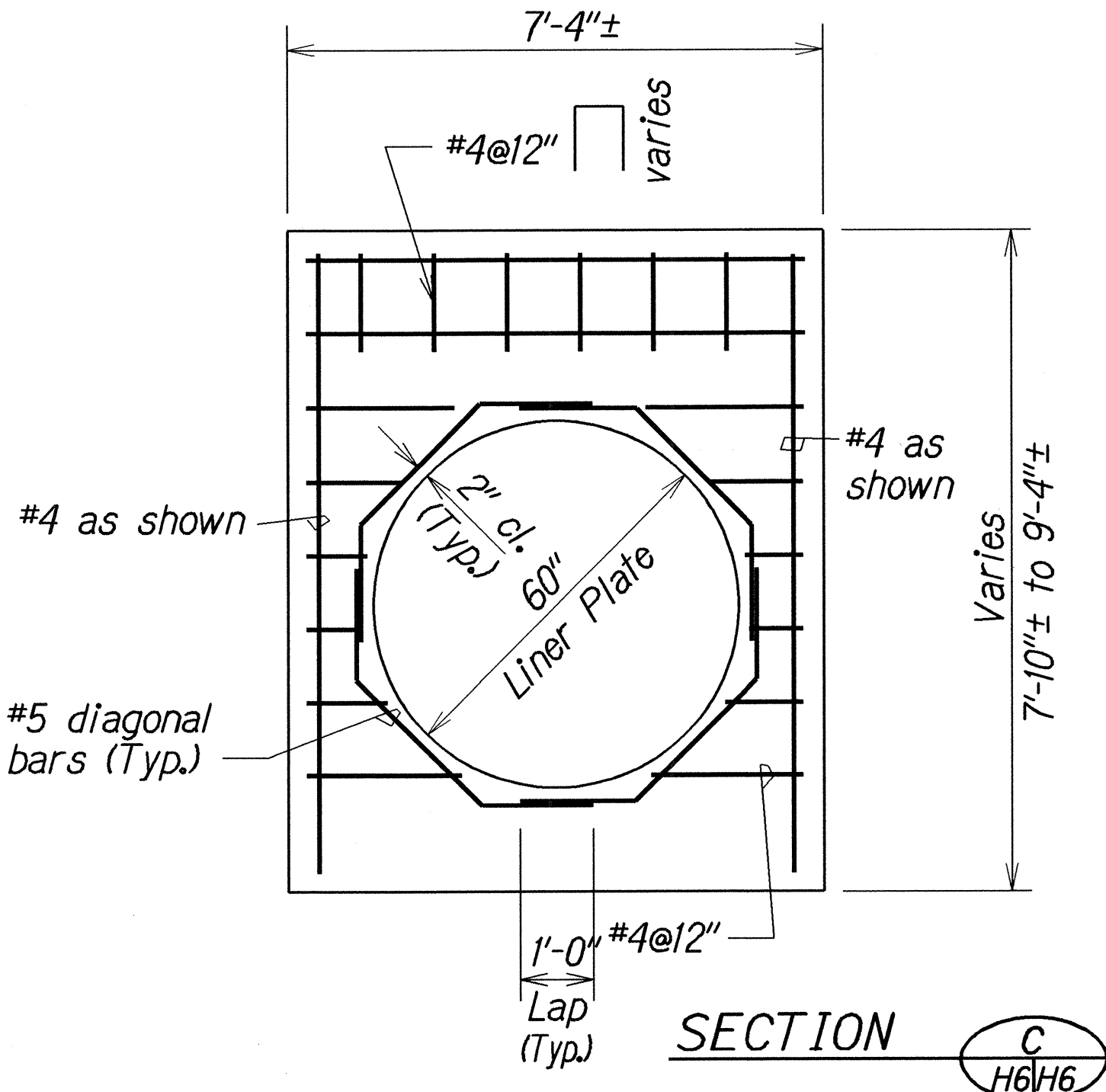
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-019-1(27)      | 2002        | 12        | 18           |



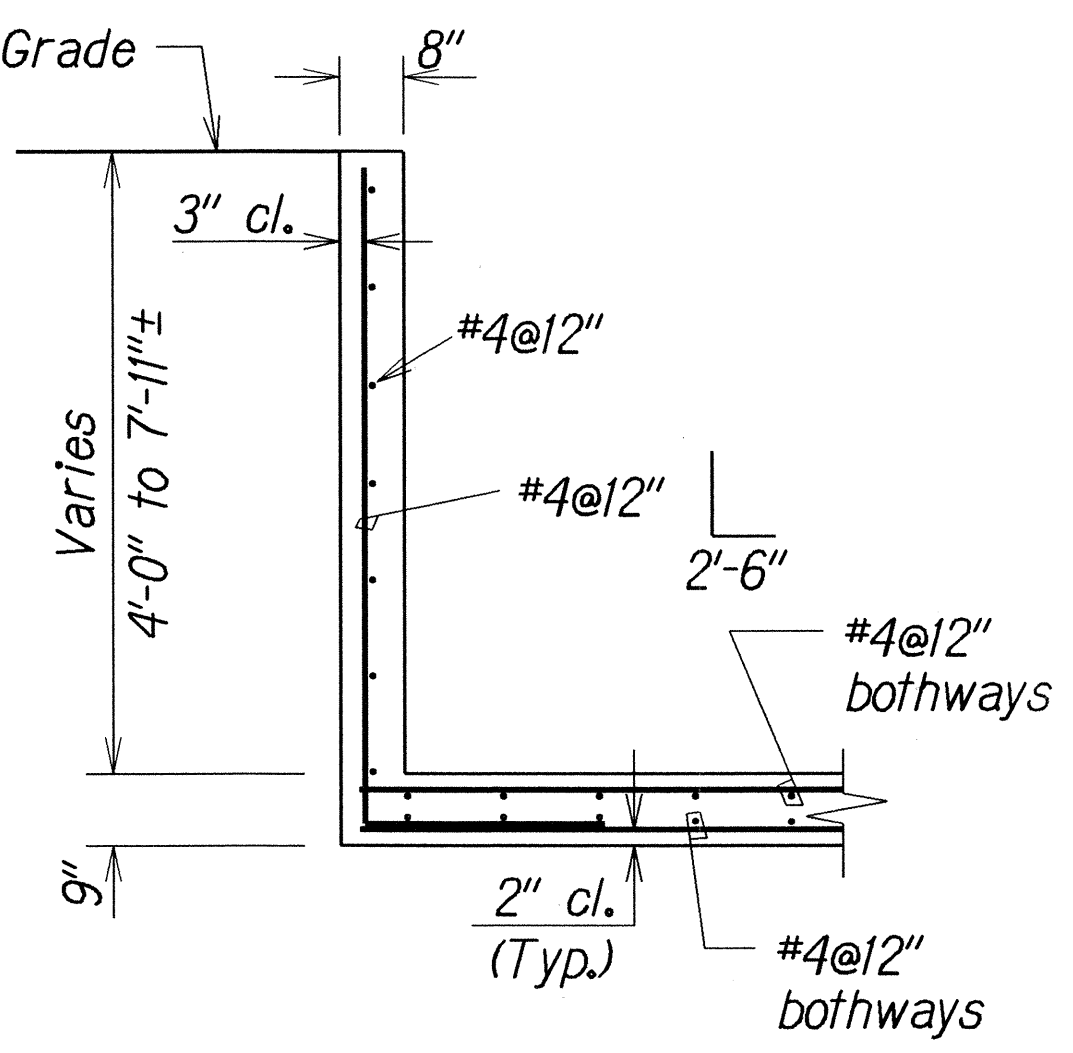
PLAN



SECTION A  
H6/H6



SECTION B  
H6/H6



SECTION C  
H6/H6

| TABLE                  |        |
|------------------------|--------|
| STRUCTURE LOCATION     | "H"    |
| Sta. 64+00 o/s 38' Rt. | 2'-11" |
| Sta. 72+95 o/s 54' Rt. | 1'-5"  |

TYPICAL DETAILS OF OUTLET STRUCTURE

|               |         |
|---------------|---------|
| DESIGNED BY   | DATE    |
| TRACED BY     | 3/13/99 |
| DESIGNED BY   |         |
| QUANTITIES BY |         |
| CHECKED BY    |         |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**  
**QUEEN KAAHUMANU HWY. DRAINAGE IMPROVEMENTS**  
Vicinity of Mauna Kea Beach Hotel  
Fed. Aid Project No. STP-019-1(27)

Scale: 1/2"=1'-0"  
Date: Feb. 2000