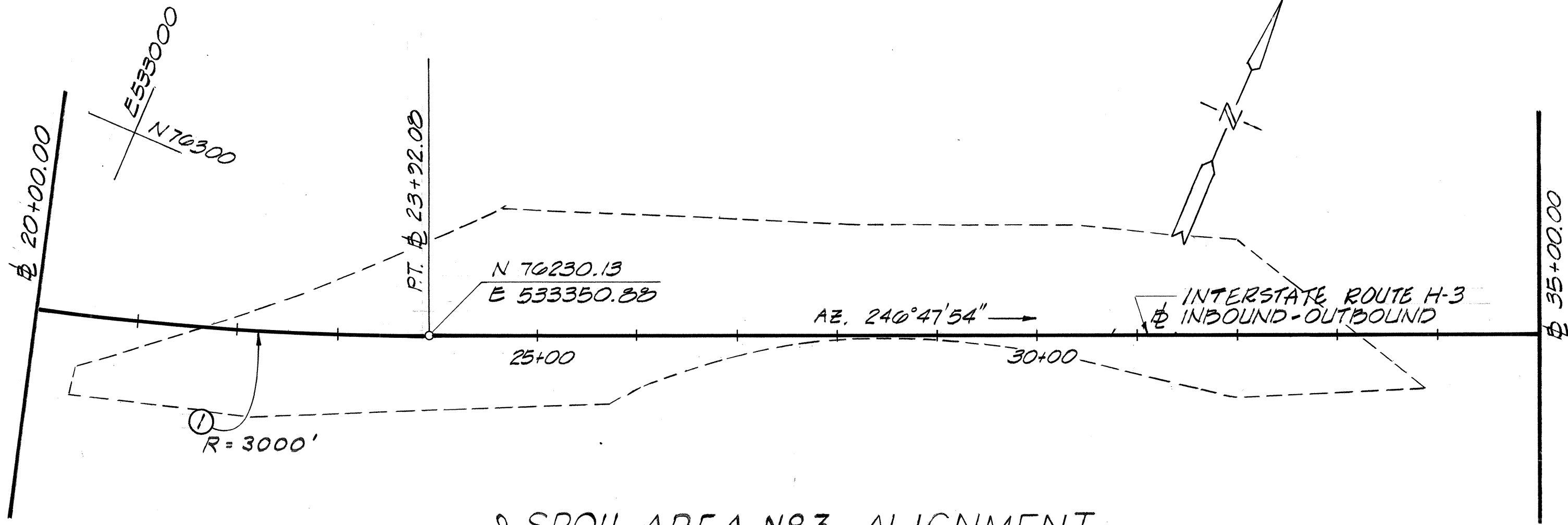


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-H3-1(25)3        | 1975        | 43        | 111          |

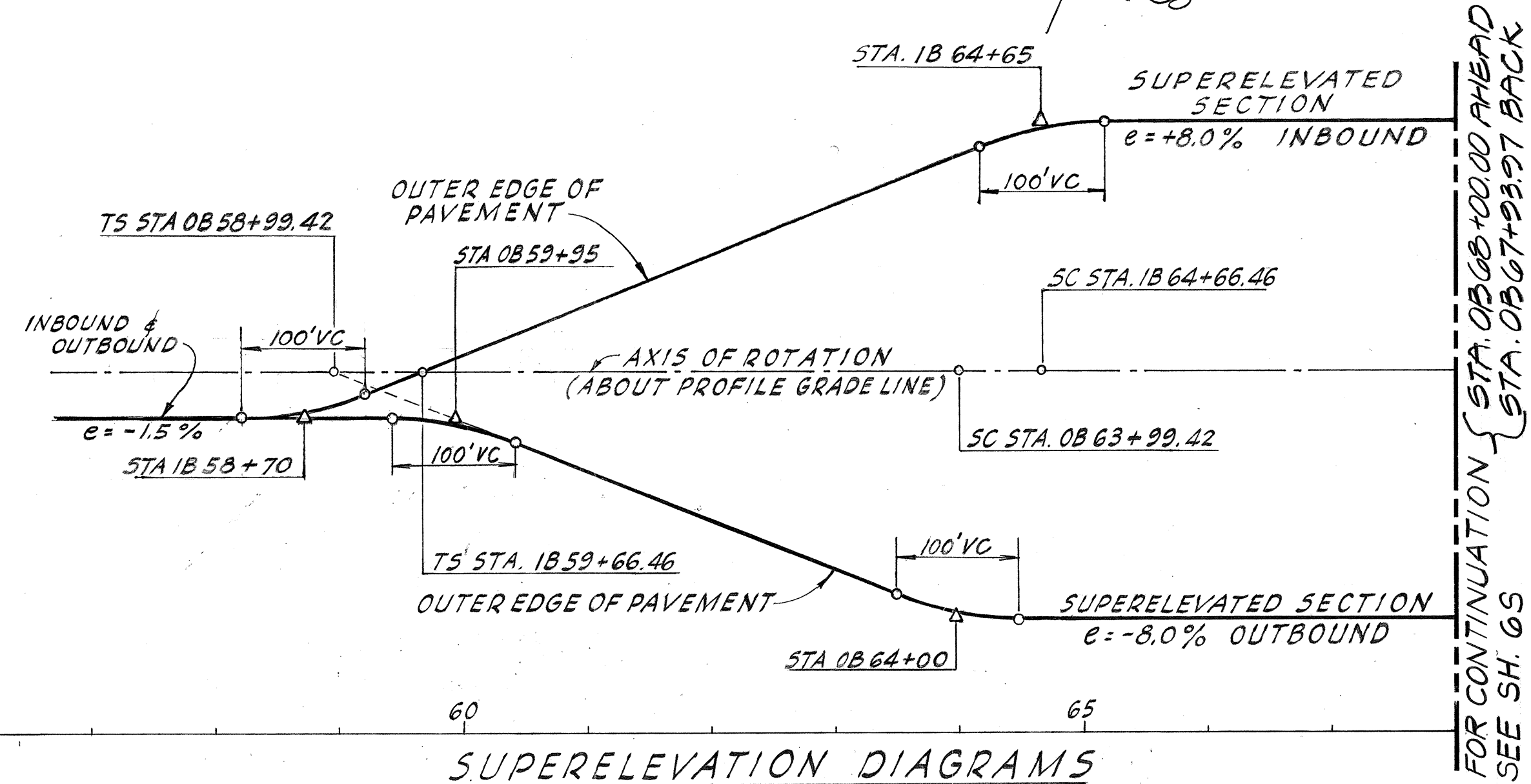
(2a) & (7a) (SPIRALS)  
 $L = 500.00$   $Y = 21.71$   
 $\theta_s = 732'21''$   $L.T. = 333.04$   
 $P = 5.43$   $S.T. = 100.94$   
 $k = 249.50$   $L.C. = 499.02$   
 $x = 499.14$

(1)  
 $R = 3000.00$   
 $\Delta = 11^{\circ}40'09''$   
 $T = 300.56'$   
 $L = 611.00'$

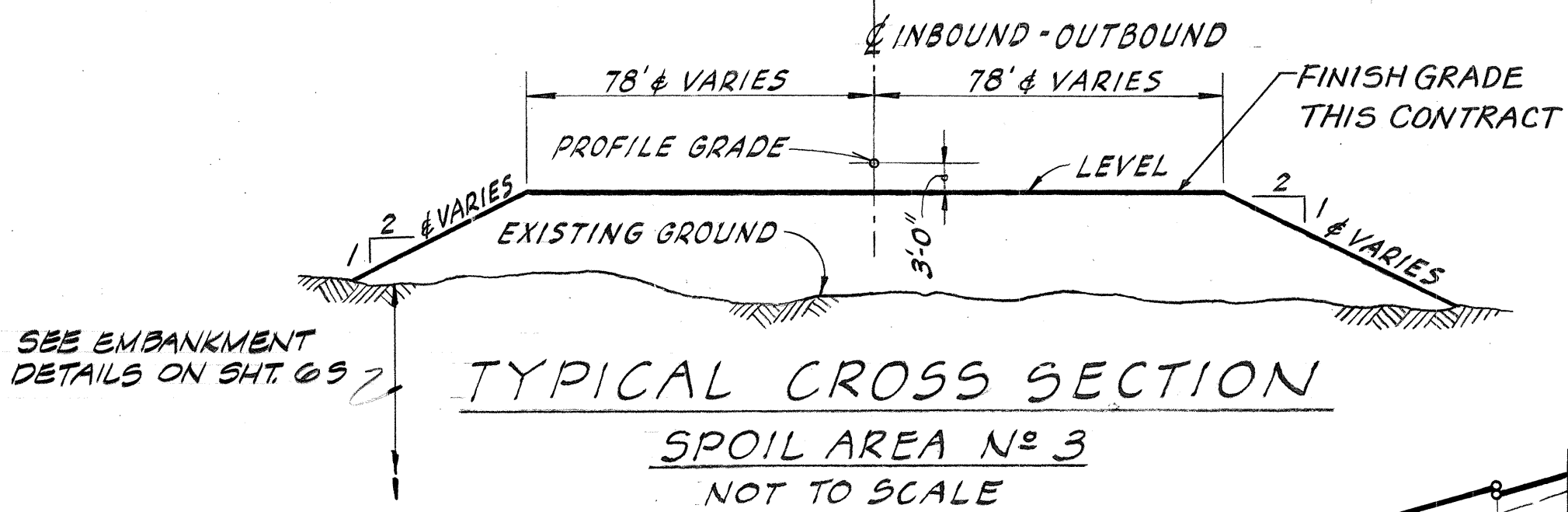


SPOIL AREA NO3 - ALIGNMENT  
 SCALE: 1"=100'

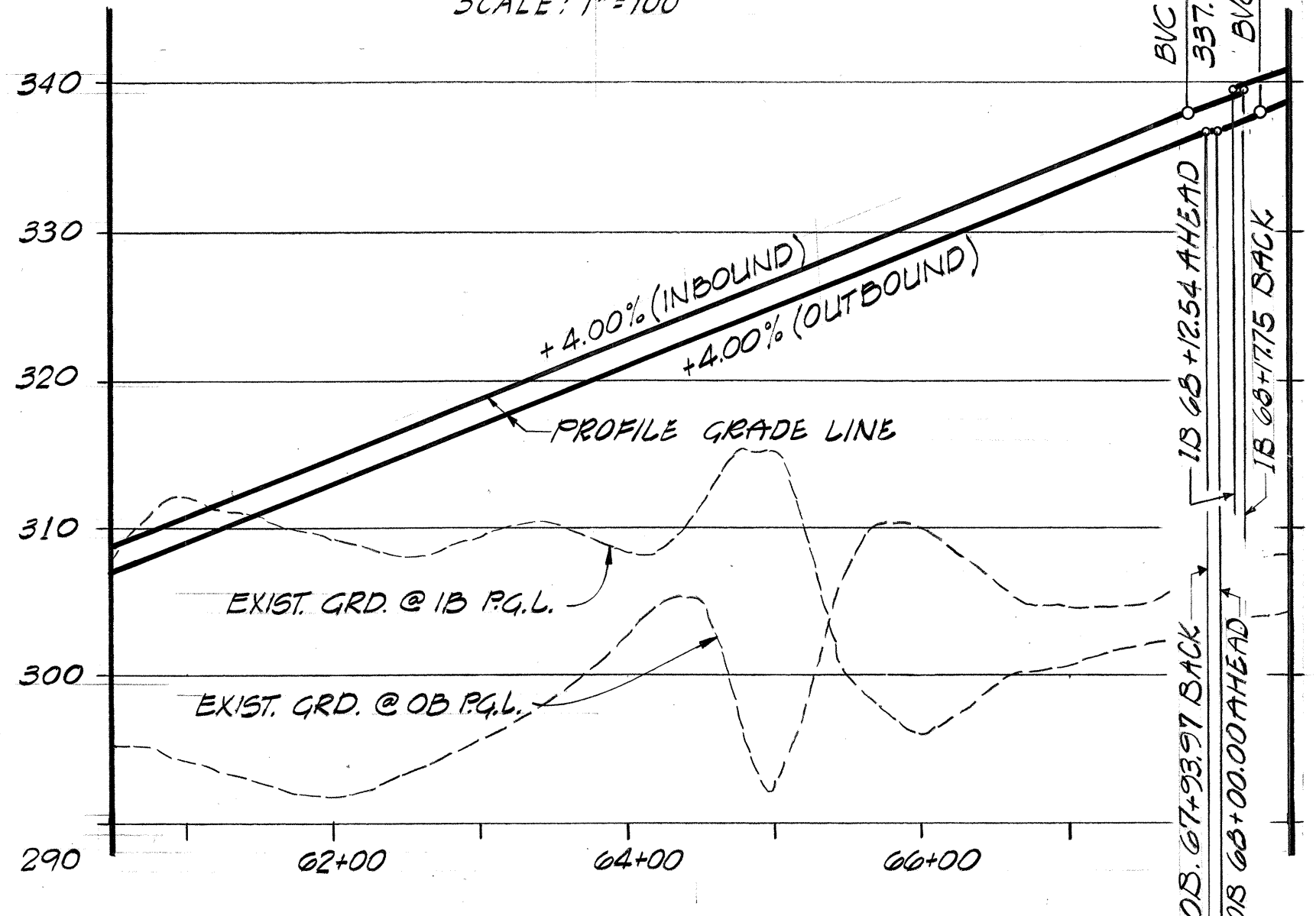
| CENTER OF CURVATURE & P.I. |       |              |               |
|----------------------------|-------|--------------|---------------|
| CURVE                      | POINT | COORDINATES  |               |
| (1)                        | C.C.  | N. 78987.49  | E. 532,168.97 |
|                            | P.I.  | N. 76109.35  | E. 533,069.11 |
| (2)                        | C.C.  | N. 76012.96  | E. 537,604.69 |
|                            | P.I.  | N. 77976.12  | E. 537,568.62 |
| (7)                        | C.C.  | N. 75,931.40 | E. 537,566.70 |
|                            | P.I.  | N. 77,888.54 | E. 537,509.21 |
| (2a)                       | P.I.  | N. 77,797.34 | E. 536,931.01 |
| (7a)                       | P.I.  | N. 77,715.78 | E. 536,893.03 |



SUPERELEVATION DIAGRAMS  
 SCALES: HORIZ. 1"=100' VERT. 1"=4%

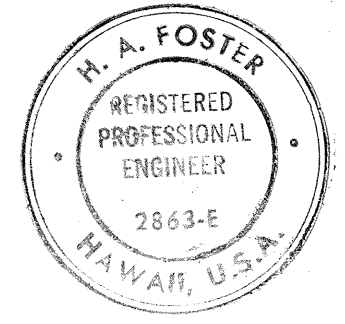


SPOIL AREA NO4 - ALIGNMENT  
 SCALE: 1"=100'



SPOIL AREA NO4 - IB AND OB PROFILE  
 SCALES: HORIZ. 1"=100 VERT. 1"=10'

- NOTES
- 1- FOR GRADING OF SPOIL AREA NO4 SEE SHEETS 24S & 25S.
  - 2- FOR CROSS SECTION THROUGH SPOIL AREA NO4 SEE ROADBED DETAIL ON SHEET 6S



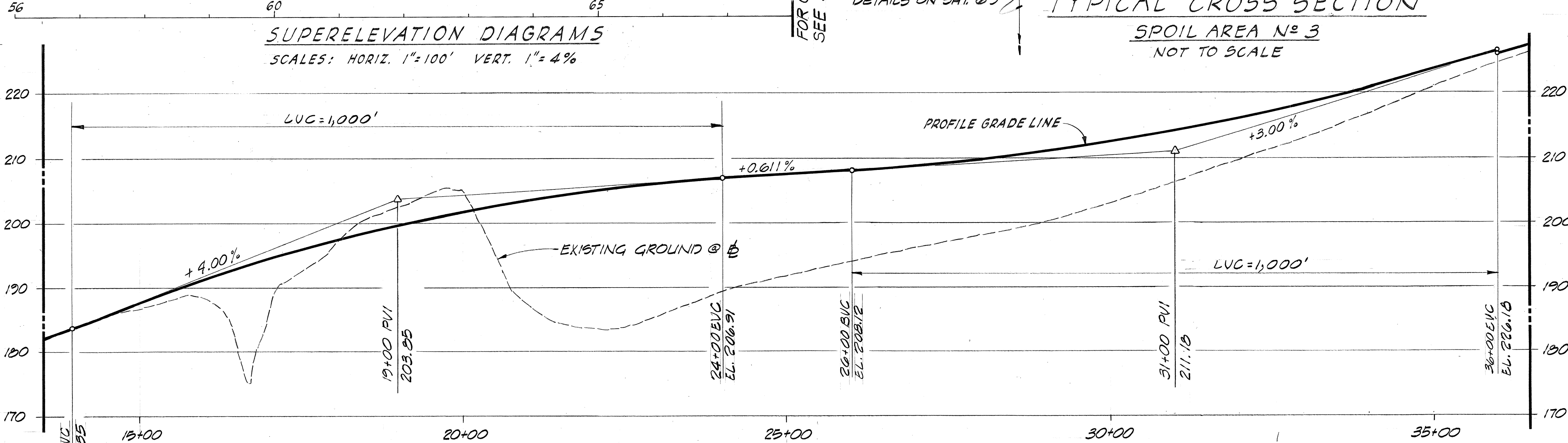
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

RED HILL TUNNELS  
SPOIL AREAS NO3 & 4  
ALIGNMENT & PROFILE  
F.A.I. PROJECT NO I-H3-1(25)3  
SCALE: AS NOTED DATE: JAN 31, 1975  
SHEET NO. 39 OF 44S SHEETS

|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DESIGNED BY   | DATE |
| TRACED BY     | DATE |
| NOTED BY      | DATE |
| CHECKED BY    | DATE |
| APPROVED BY   | DATE |

SPOIL AREA NO3 - BASE LINE PROFILE  
 SCALES: HORIZ. 1"=100' VERT. 1"=10'  
 NOTE: FOR GRADING OF SPOIL AREA NO. 3 SEE SHEETS 40S & 41S





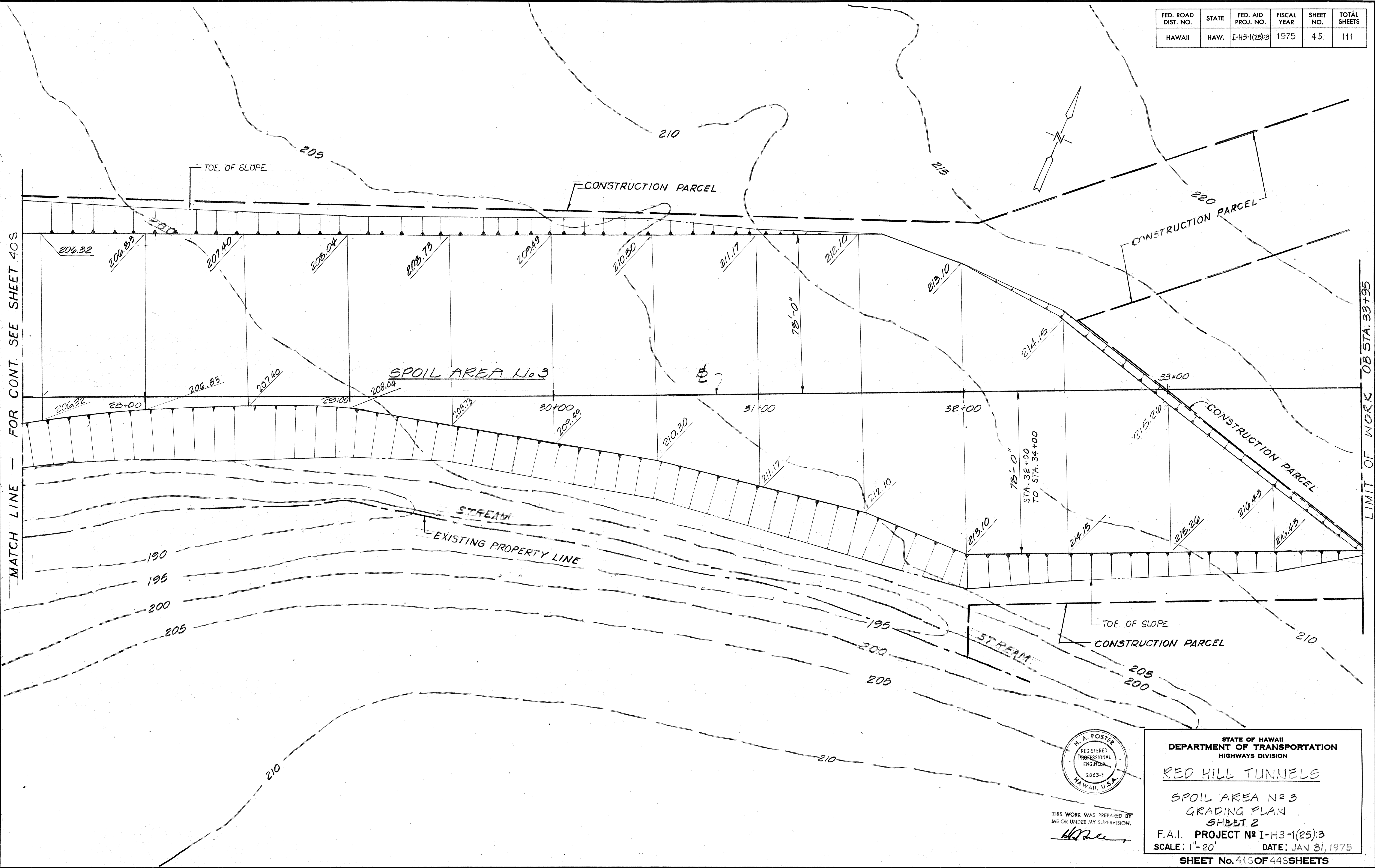
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-H3-1(25):3       | 1975        | 45        | 111          |

|               |         |
|---------------|---------|
| ORIGINAL PLAN | DATE    |
| DESIGNED BY   | 11-7-72 |
| DRAWN BY      | 11-7-72 |
| CHECKED BY    | 11-7-72 |
| NOTED BY      | 11-7-72 |
| NO.           |         |

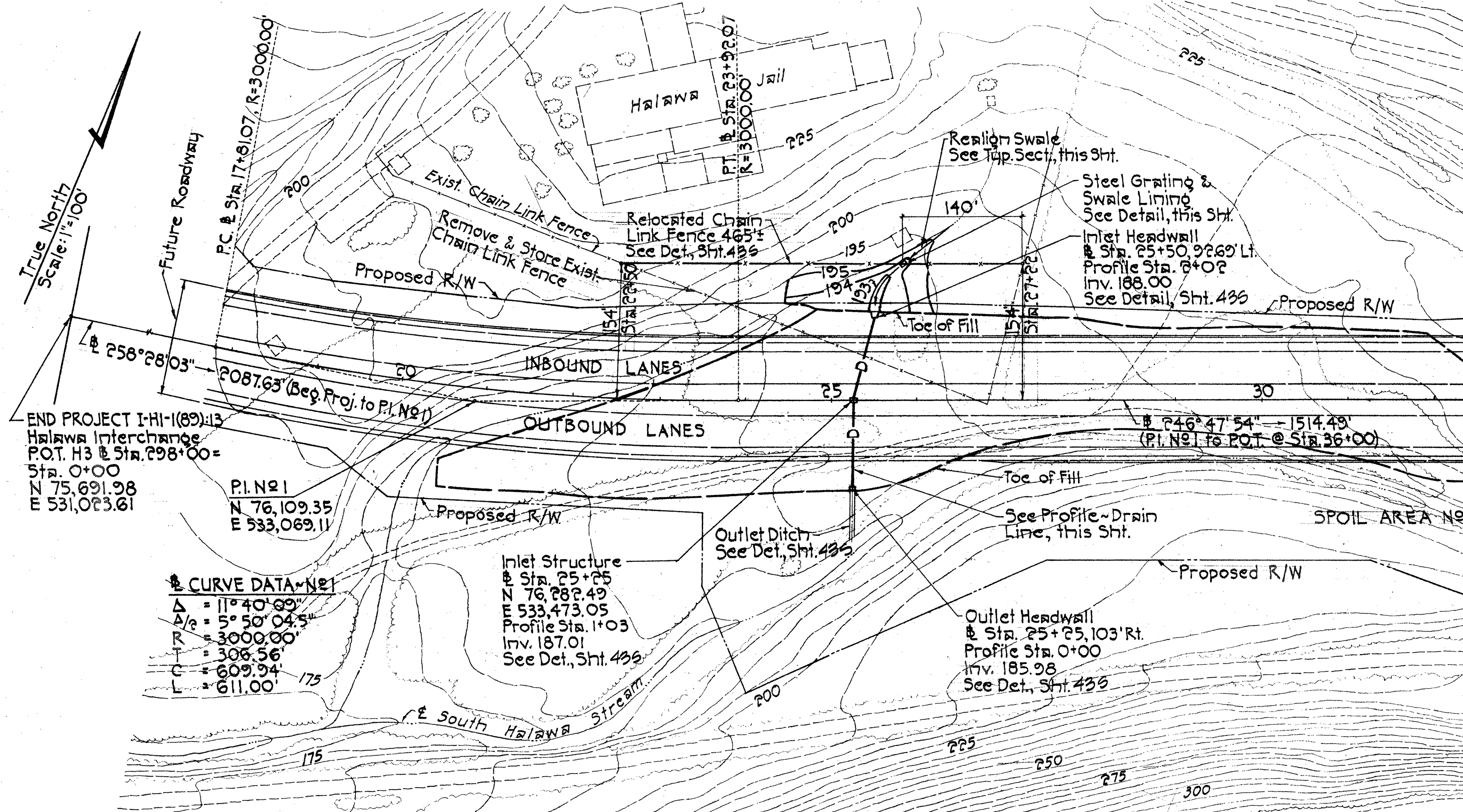
|             |         |
|-------------|---------|
| DESIGNED BY | DATE    |
| DRAWN BY    | 11-7-72 |
| CHECKED BY  | 11-7-72 |
| NOTED BY    | 11-7-72 |
| NO.         |         |

MATCH LINE - FOR CONT. SEE SHEET 40S

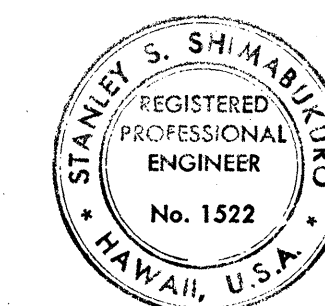
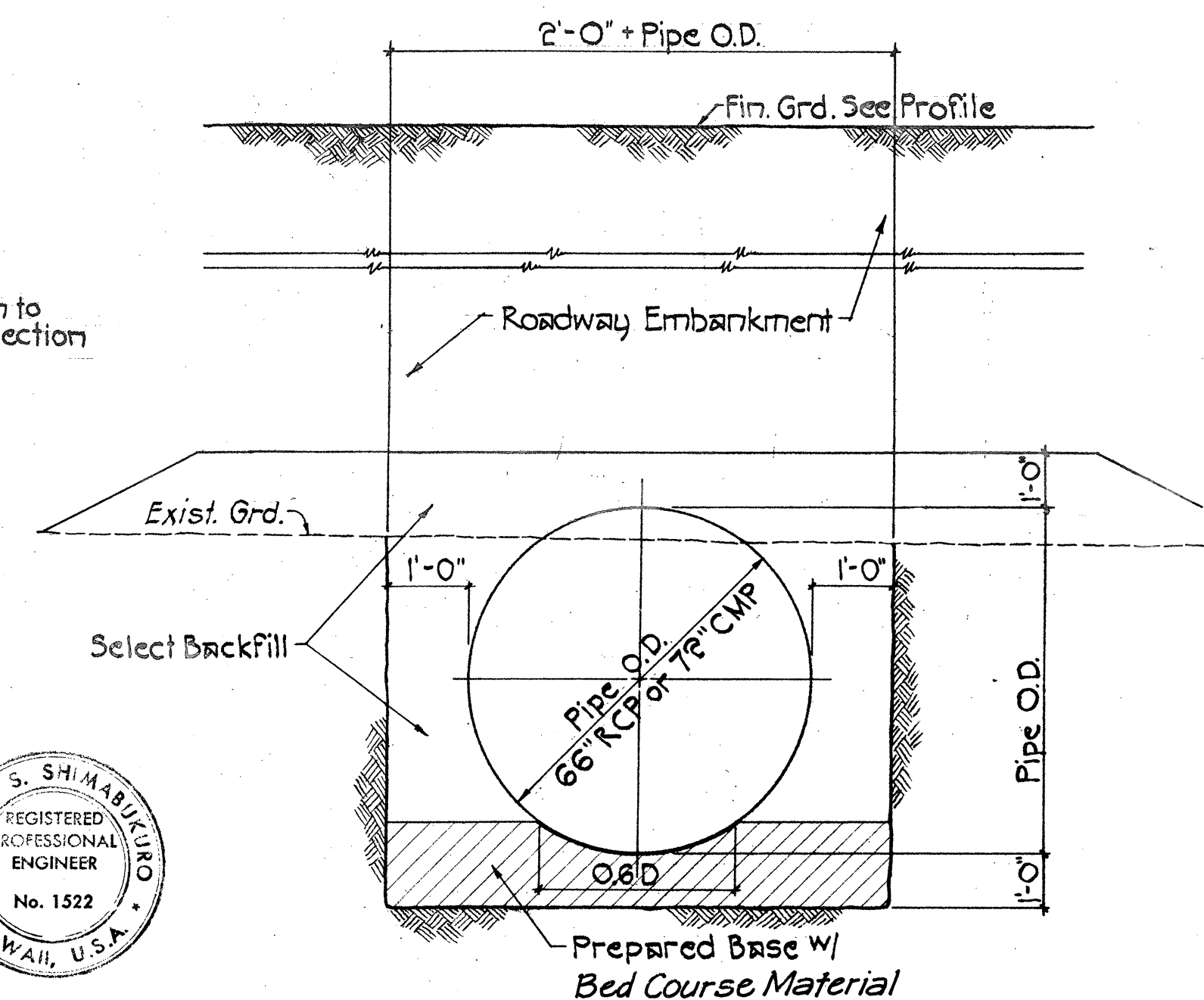
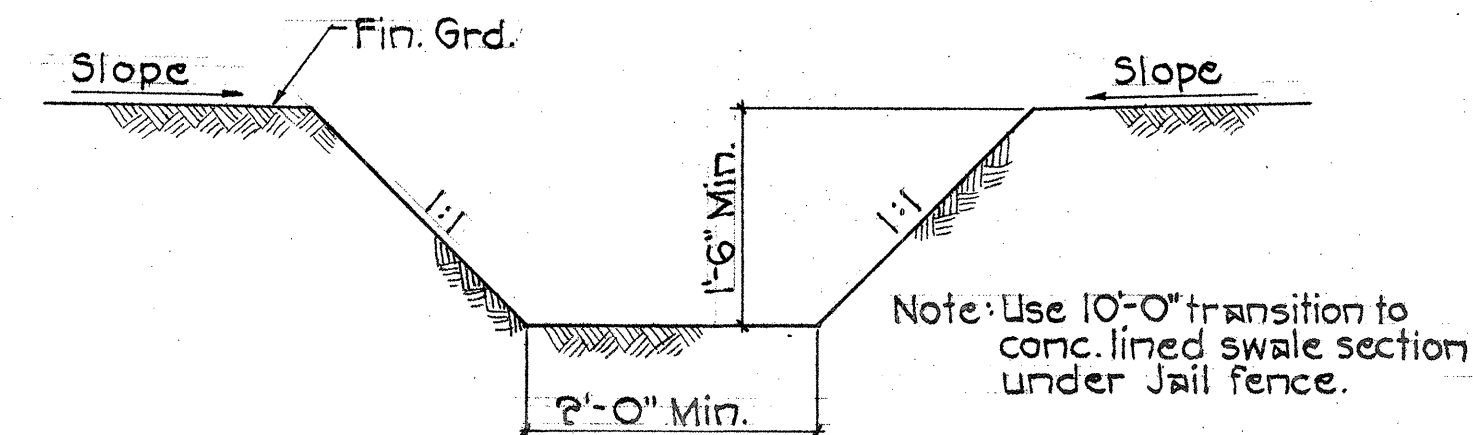
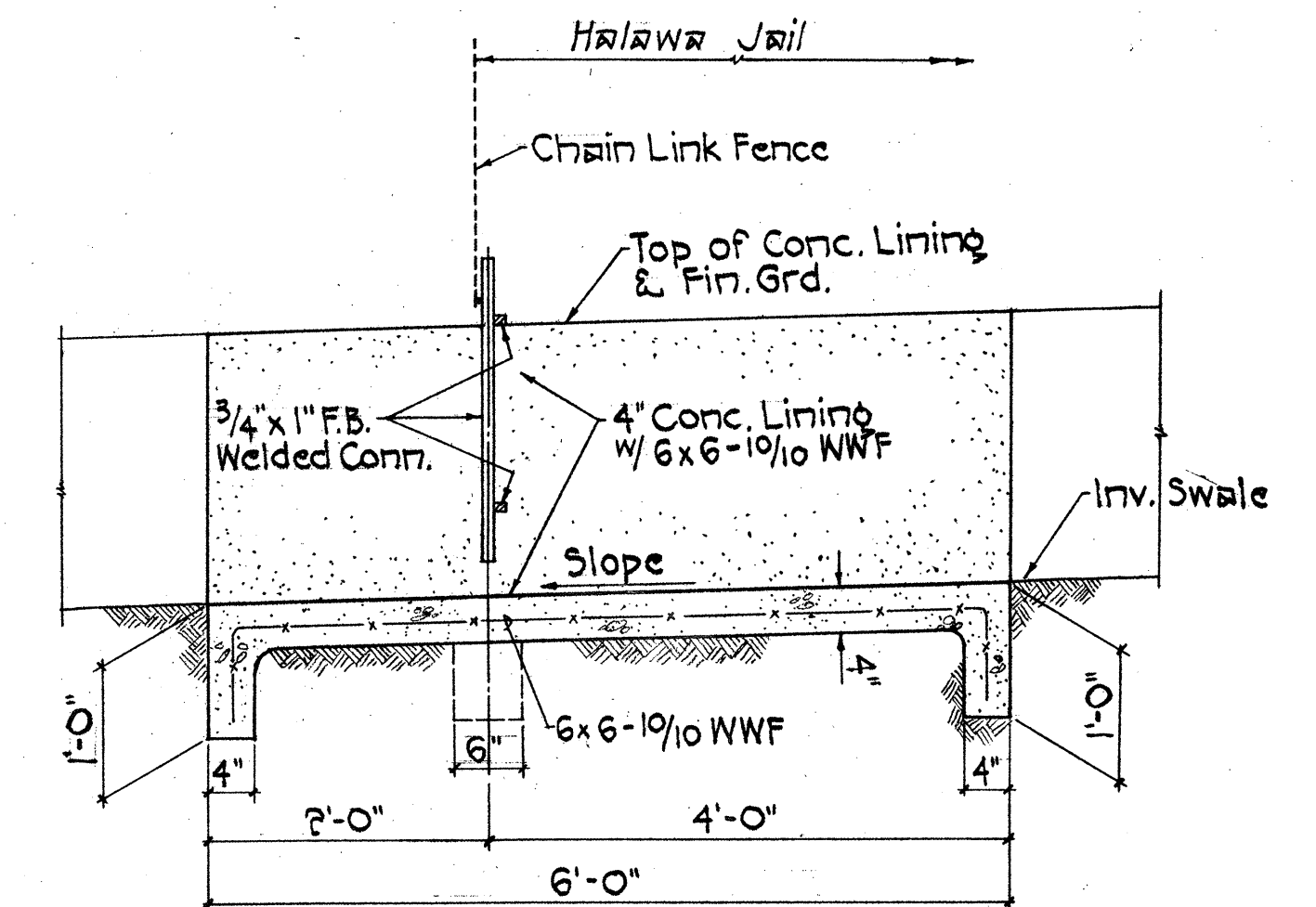
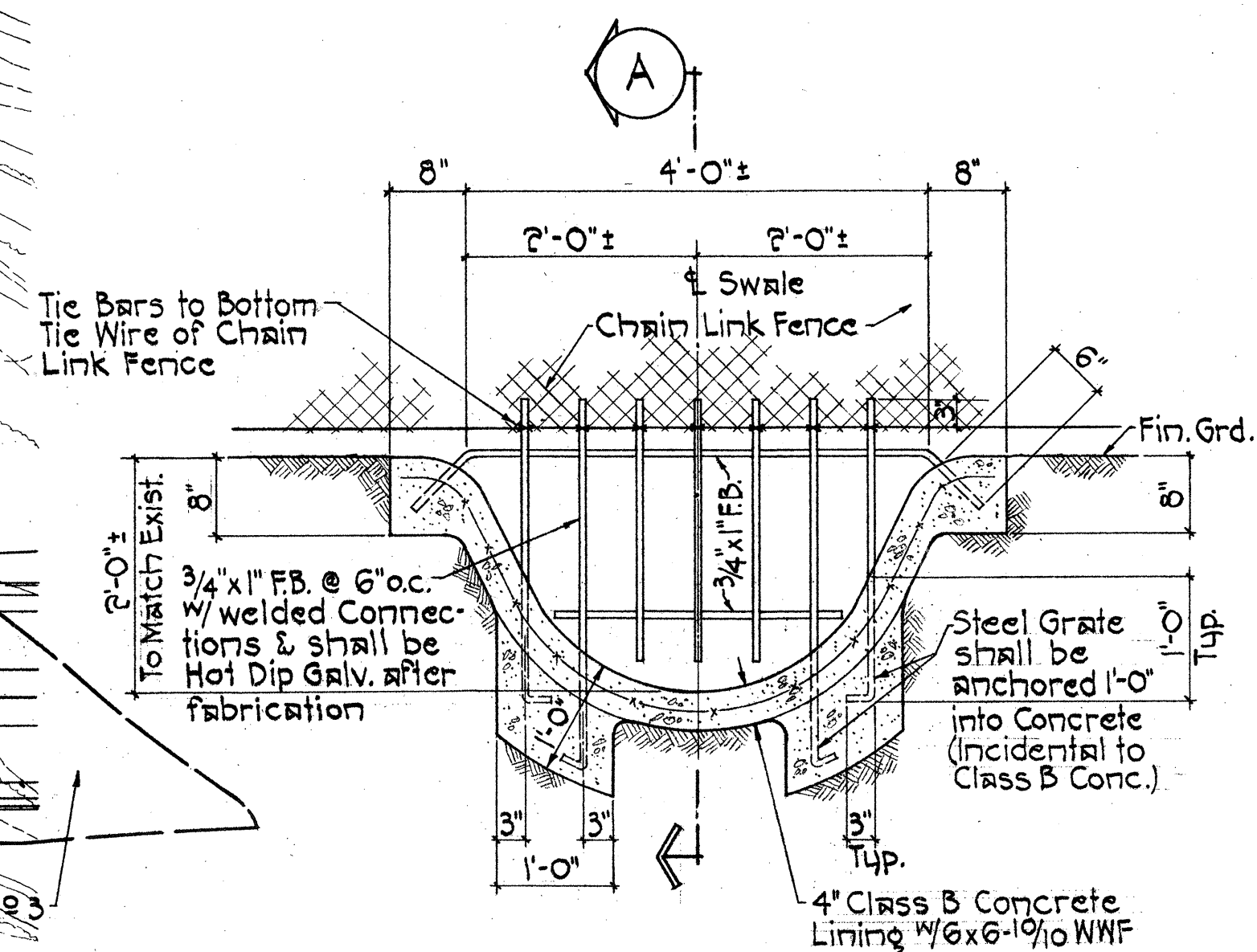
LIMIT OF WORK OB STA. 33+95



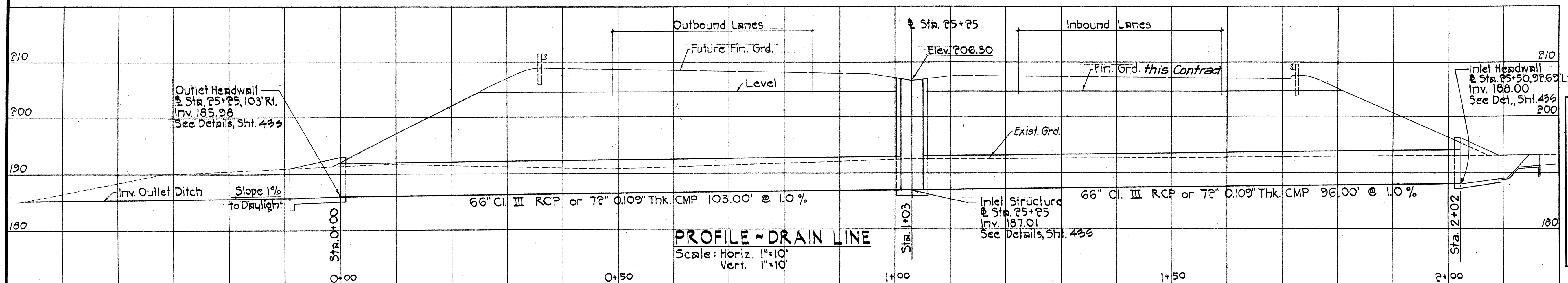
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-H3-1(25):3       | 1975        | 46        | 111          |



| ESTIMATED QUANTITIES                                                                                                            |        |                           |
|---------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------|
| ITEM                                                                                                                            | UNITS  | QUANTITY                  |
| Structure Excavation for Drainage System                                                                                        | Cu Yd  | 431                       |
| Ditch and Channel Excavation                                                                                                    | Cu Yd  | 78                        |
| Concrete for Drainage System                                                                                                    | Cu Yd  | 23                        |
| Class B Concrete for Drainage System                                                                                            | Cu Yd  | 3                         |
| Reinforcing Steel for Drainage System                                                                                           | LB     | 3816                      |
| 72-Inch Corrugated Metal Pipe, 3"x1"                                                                                            | Lin Ft | 125                       |
| Corrugations, Sheet Thickness, 0.109<br>Inch, or 66-Inch Reinforced Concrete<br>Pipe, Class III (Including Bed Course Material) |        |                           |
| Type 61614 Steel Frame and Grate                                                                                                | Each   | 1                         |
| Reinforced Prison Fence                                                                                                         | Lin Ft | 465                       |
|                                                                                                                                 |        | Lump Sum Item No. 599.100 |
|                                                                                                                                 |        | Lump Sum Item No. 648.01  |



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ME OR UNDER MY SUPERVISION.  
Stanley S. Shvachkin



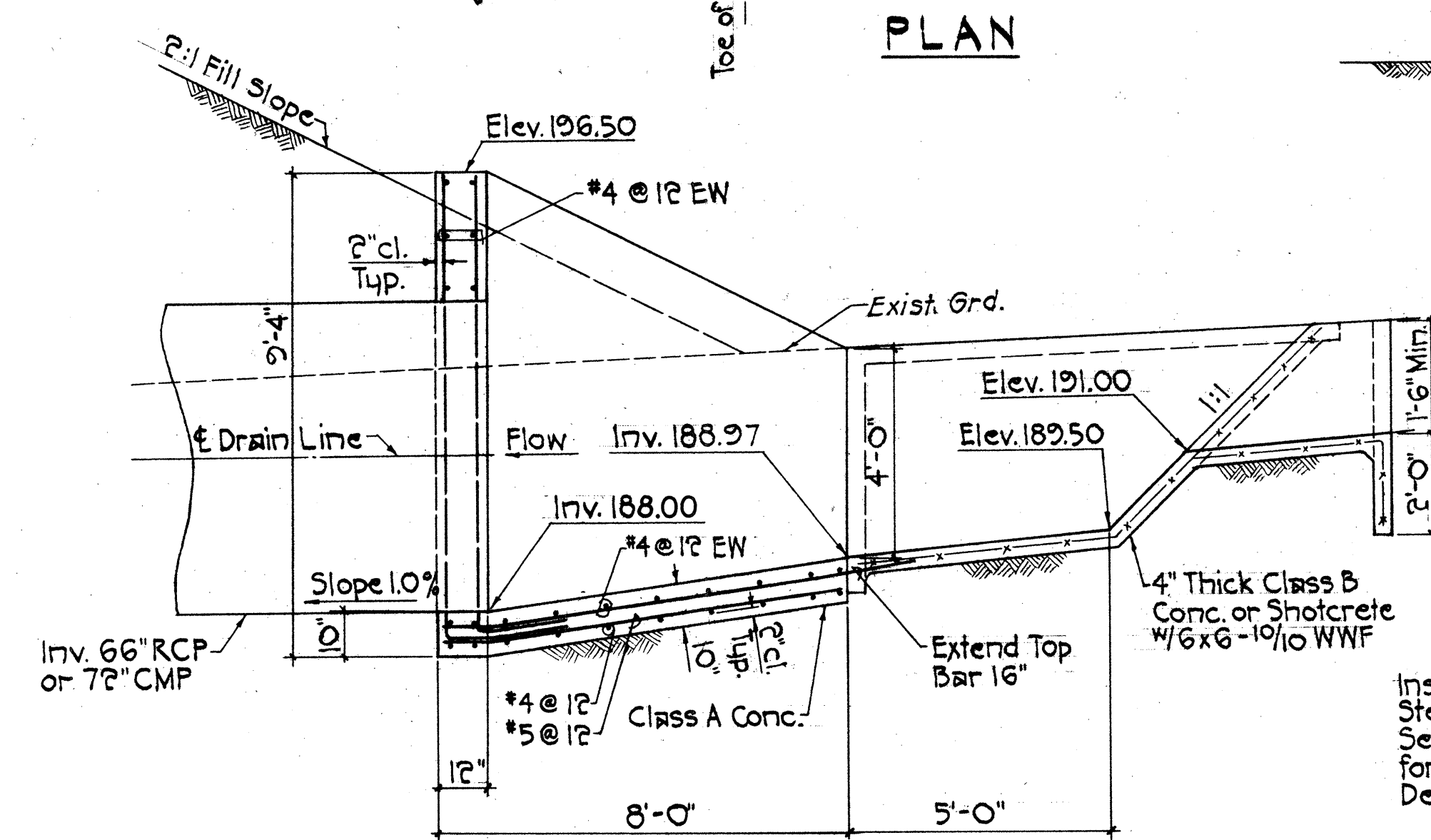
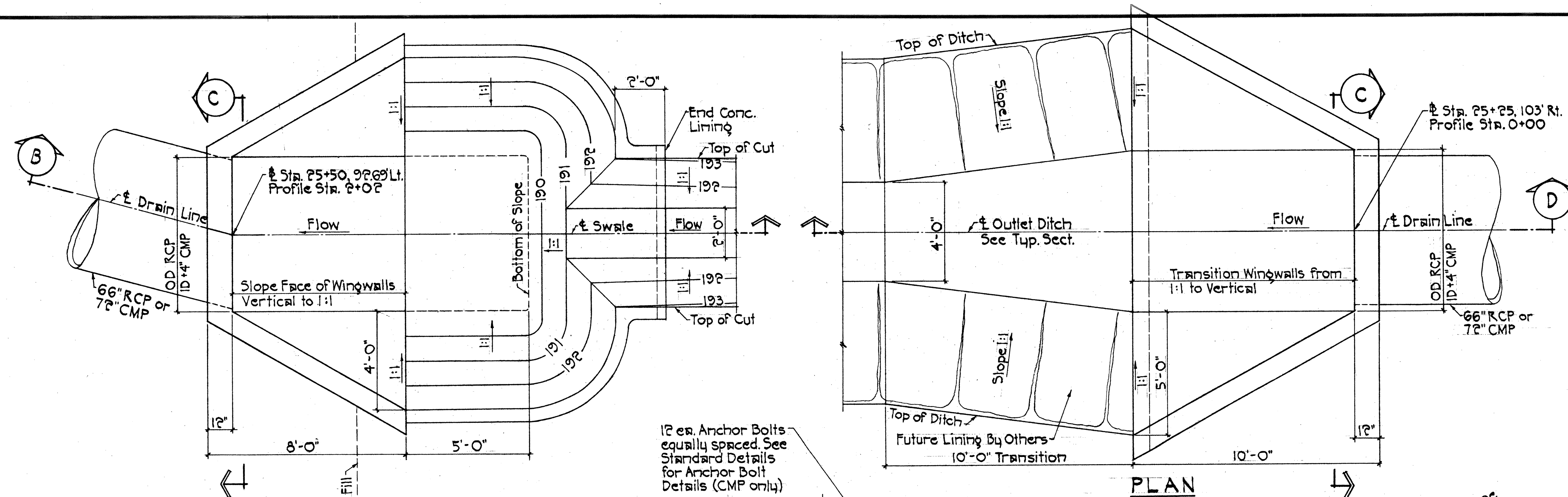
**STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION**

RED HILL TUNNELS  
CULVERT AT STATION 25+25  
AND RELOCATED PRISON FENCE  
SHEET 1

F.A.I. PROJECT No. I-H3-1 (25):3  
SCALE: AS SHOWN DATE: JAN 31, 1975

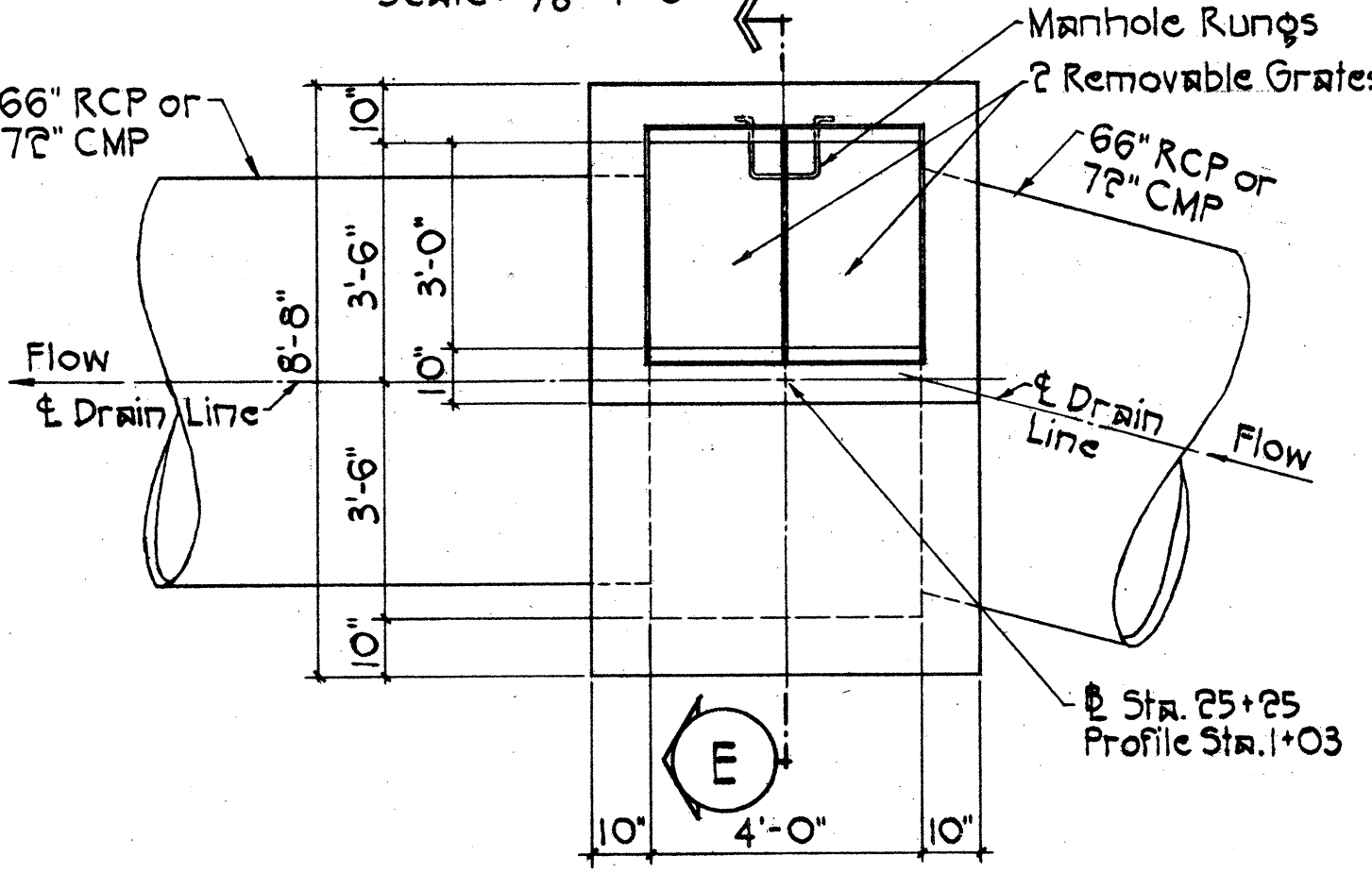
**SHEET No.425 OF 445 SHEETS**

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-43-1(25)3        | 1975        | 47        | 111          |



### INLET HEADWALL DETAILS

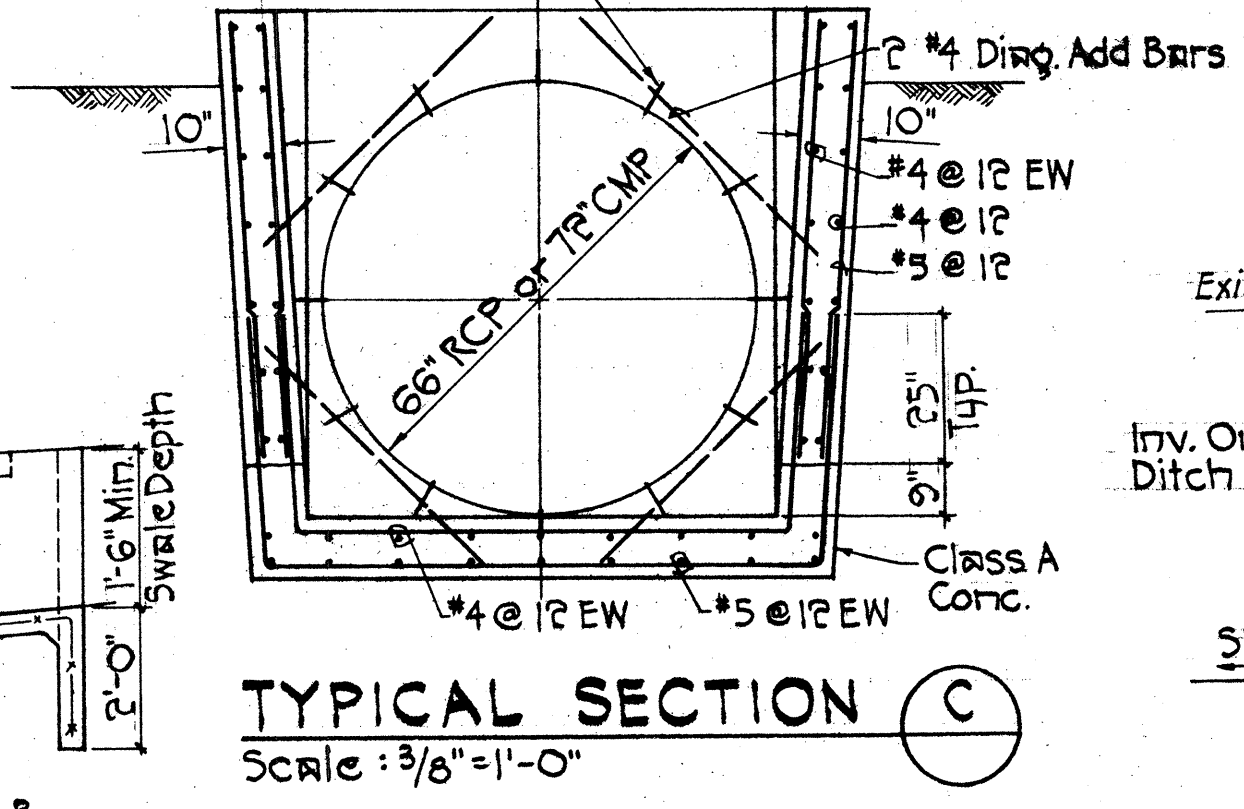
(Sta. 25+50, 92.69' Lt.)  
Scale: 3/8"=1'-0"



### PLAN

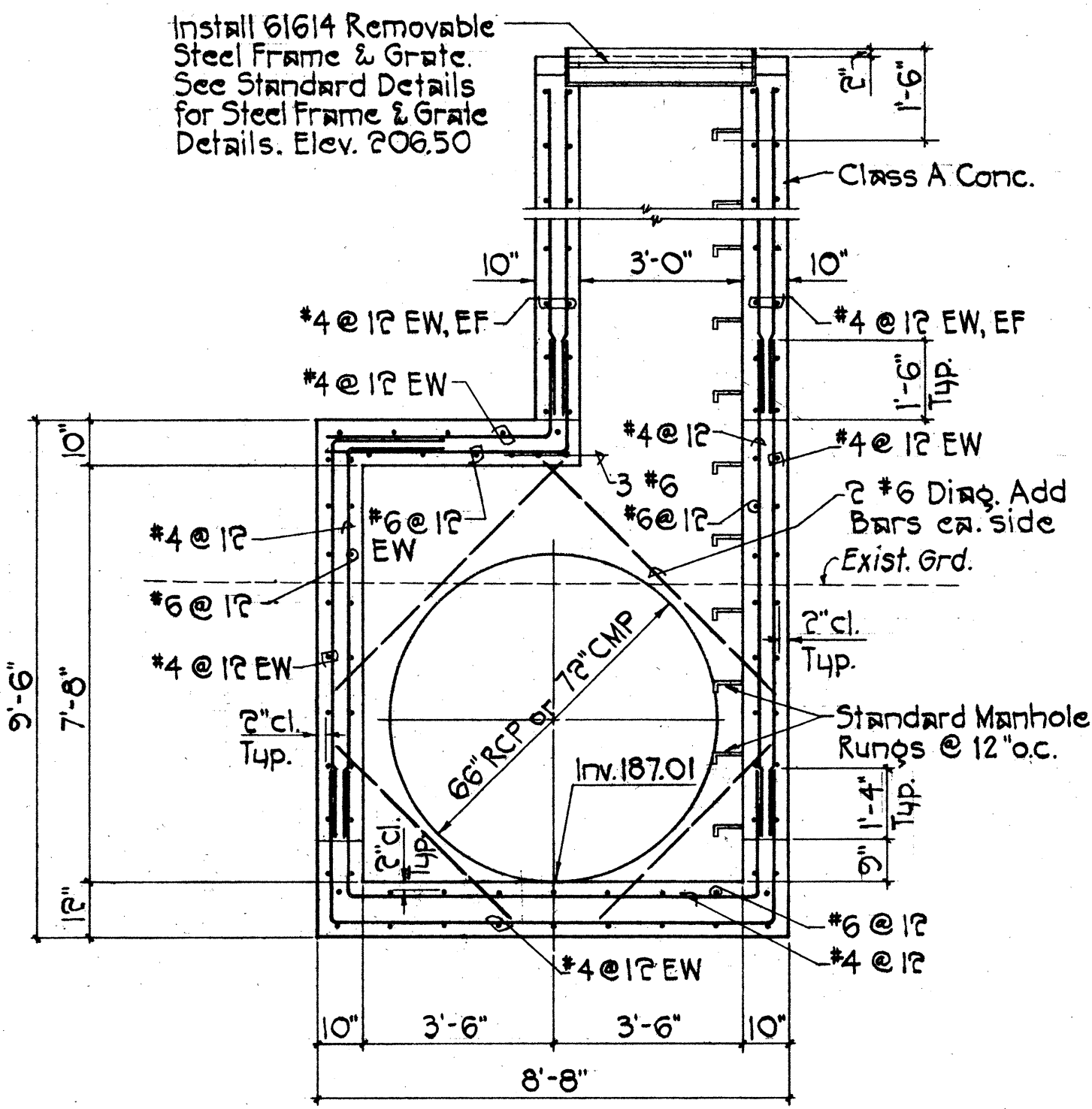
### INLET STRUCTURE DETAILS

(Sta. 25+25) Scale: 3/8"=1'-0"

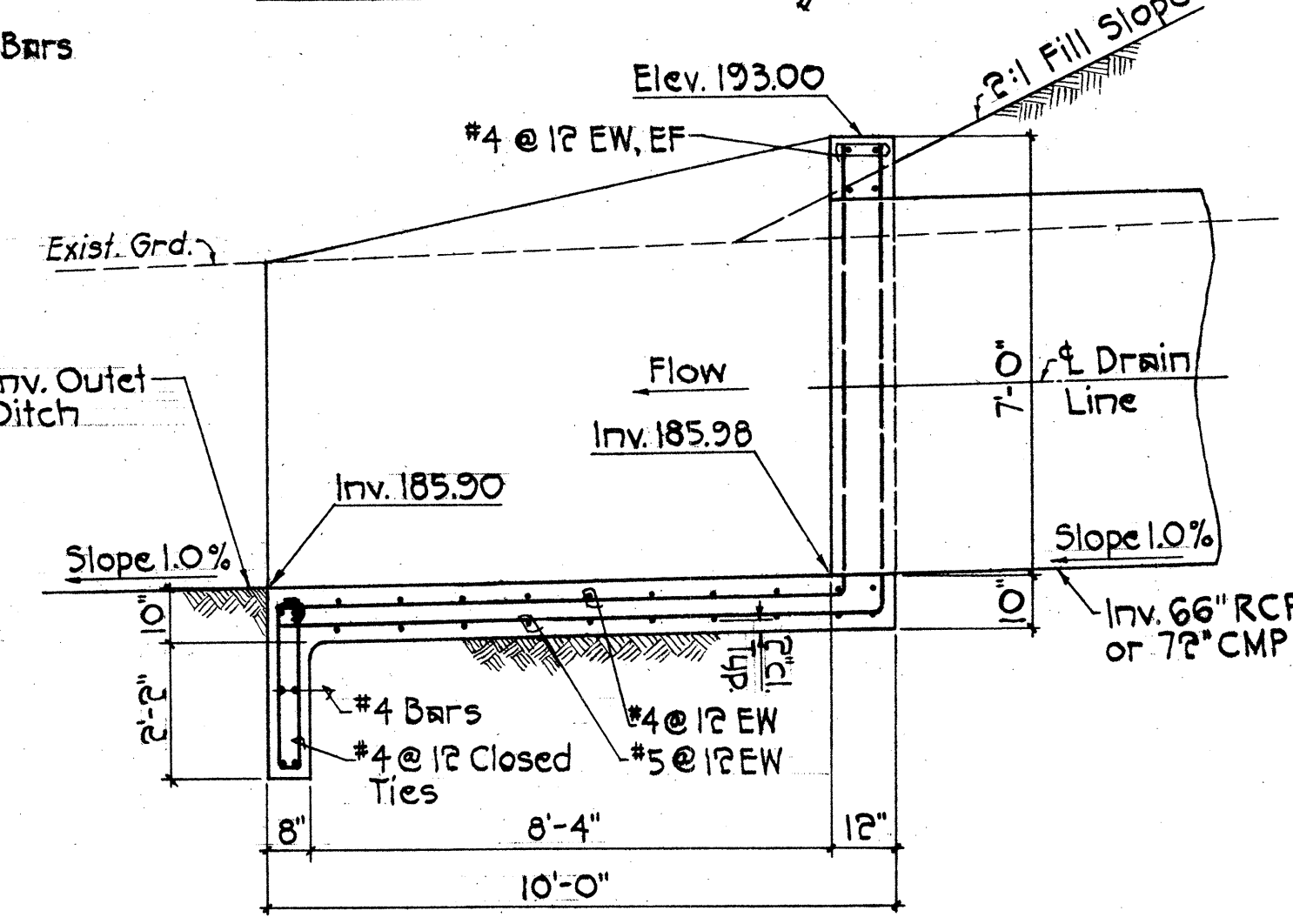


### TYPICAL SECTION C

Scale: 3/8"=1'-0"



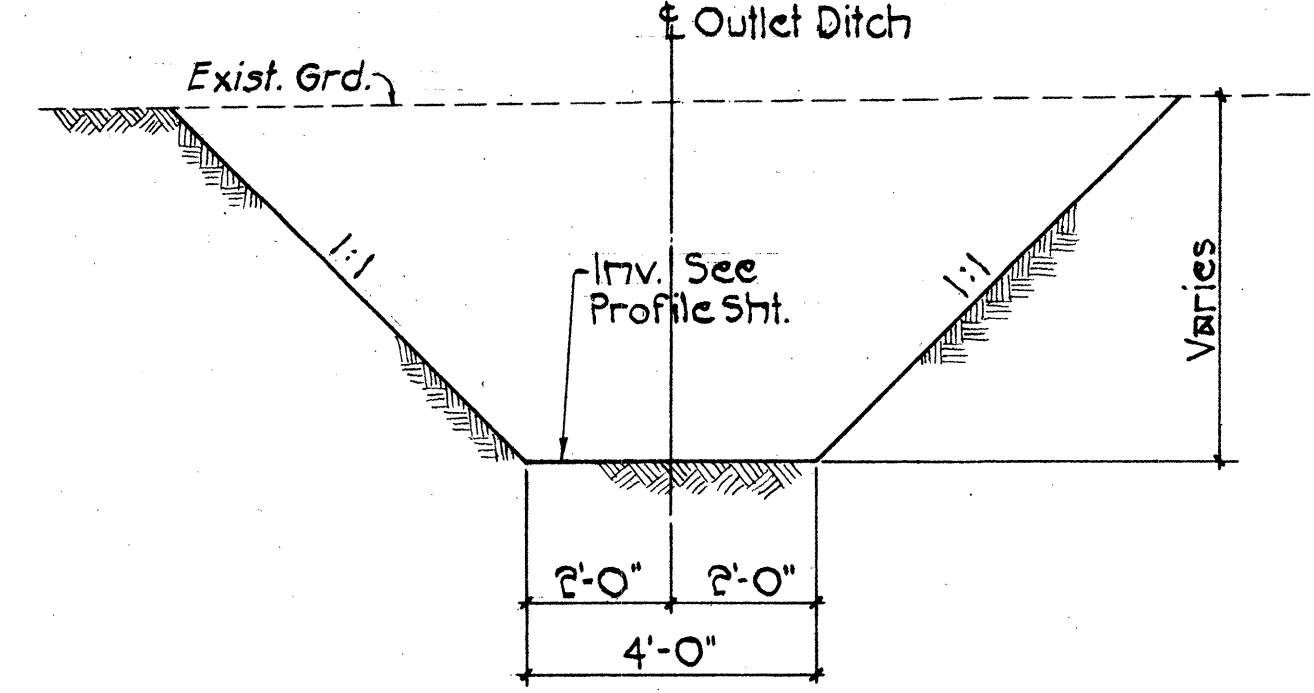
### SECTION E



### SECTION D

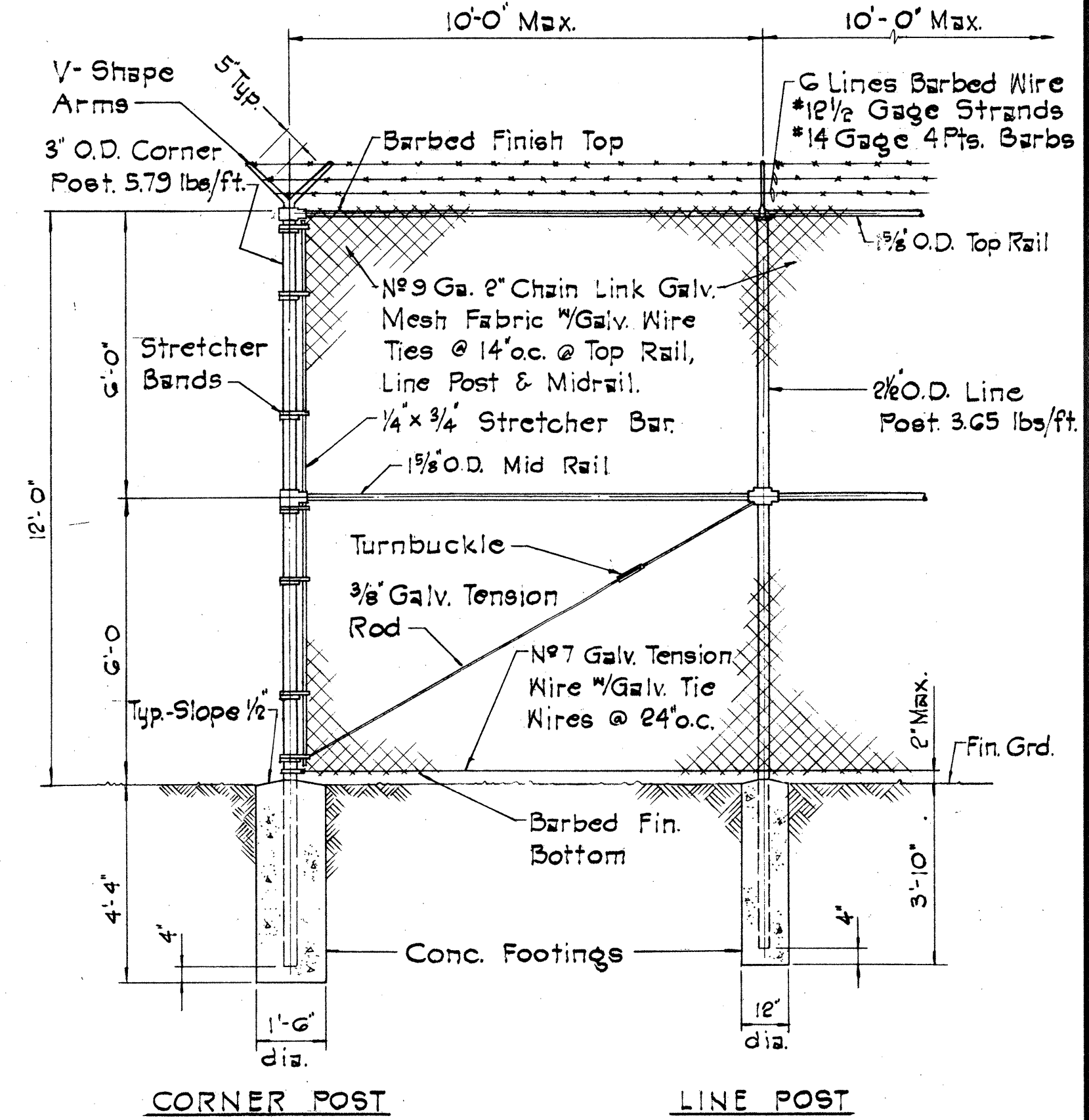
### OUTLET HEADWALL DETAILS

(Sta. 25+25, 103.00' Rt.)  
Scale: 3/8"=1'-0"



### OUTLET DITCH TYP. SECT.

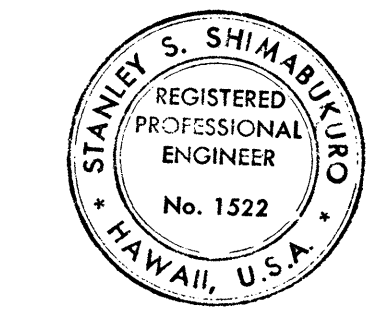
Scale: 3/8"=1'-0"



### RELOCATED 12'-0" CHAIN LINK FENCE DETAIL

Scale: 3/8"=1'-0"

- NOTES:
1. New material shall be similar to and compatible to existing fence. All material proposed for use in the installation must be approved by the Engineer.
  2. The fence shall be installed in the location shown on the plans prior to the removal of the existing fence.
  3. Contractor shall coordinate and perform the work to maintain security in accordance with methods approved by the Hawaii Jail Authorities.
  4. The existing fence material shall be salvaged, cleaned and stored in a location as directed by the Engineer for future use by others.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  
*Stanley S. Shimabukuro*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**RED HILL TUNNELS**

**CULVERT AT STATION 25+25  
AND RELOCATED PRISON FENCE**

**SHEET 2**

F.A.I. PROJECT No. I-43-1(25)3  
SCALE: AS SHOWN DATE: JAN 31, 1975  
SHEET No. 47 OF 44S SHEETS

### GENERAL NOTES

- ## SPACING TABLE

| NO. | REVISION                                                                          | APPROVED BY | DATE              |
|-----|-----------------------------------------------------------------------------------|-------------|-------------------|
| 2   | Curb for Top of Fill Gutters :<br>Spacing on manhole rungs to<br>conform to OSHA. | HHT<br>HHT  | 6-5-11<br>12-1-15 |

HYDRAULIC DESIGN ENGINEER

52-17-69  
DATE

ASSISTANT CHIEF, ENGINEERING

2-11-69  
DATE

TYPE 61614 & 61616  
GRATED DROP INTAKES

Date: Feb. 1969

**SHEET No. 44S OF 44S SHEETS**      **DH 8**



## PLAN

## PLAN



Scale:  $\frac{3}{4}" = 1' - 0"$

**FRAME**  
Scale: 3" = 1' - 0"

## DETAILS

GRATE

Scale:  $3'' = 1' - 0''$

48