

| FED. ROAD DIST. NO. | STATE | FED. PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|----------------|-------------|-----------|--------------|
| HAWAII | HAW. | 5216(3) | 1952 | 52 | 57 |

± CURVE DATA
 $\Delta = 91^{\circ} 20'$
 $R = 130'$
 $T = 133.06'$
 $C = 183.07'$
 $L = 207.23'$
 $SE = 0.1' \text{ PER FT.}$
 $EW = 6'$

SPIRAL DATA C-2
 $\theta_s = 7^{\circ} 20'$
 $L_s = 200'$
 $SE = 0.1' \text{ PER FT.}$
 $EW = 2.0'$

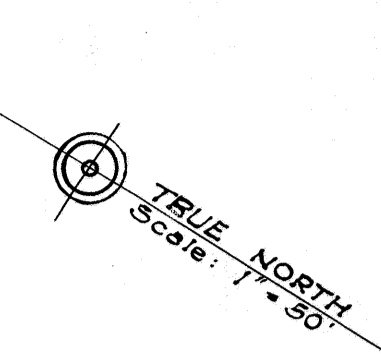
BEG. OF CONNECTION
STA. 0+00 = 143+00

$\theta_s = 6^{\circ} 15'$
 $L_s = 200'$
 $\Delta = 12^{\circ} 30'$
 $T = 200.56'$
 $EW = 2.0'$
 $SE = 0.1' \text{ PER FT.}$

± CURVE DATA
 $\Delta = 31^{\circ} 00'$
 $R = 200'$
 $T = 55.46'$
 $C = 106.92'$
 $L = 108.27'$
 $SE = 0.1' \text{ PER FT.}$
 $EW = 6'$

± CURVE DATA
 $\Delta = 58^{\circ} 13' 55'' 03' 30''$
 $R = 100'$
 $T = 56.24' 52.12''$
 $C = 96.02' 02.44''$
 $L = 102.99' 26.10''$
 $SE = 0.1' \text{ PER FT.}$
 $EW = 6'$

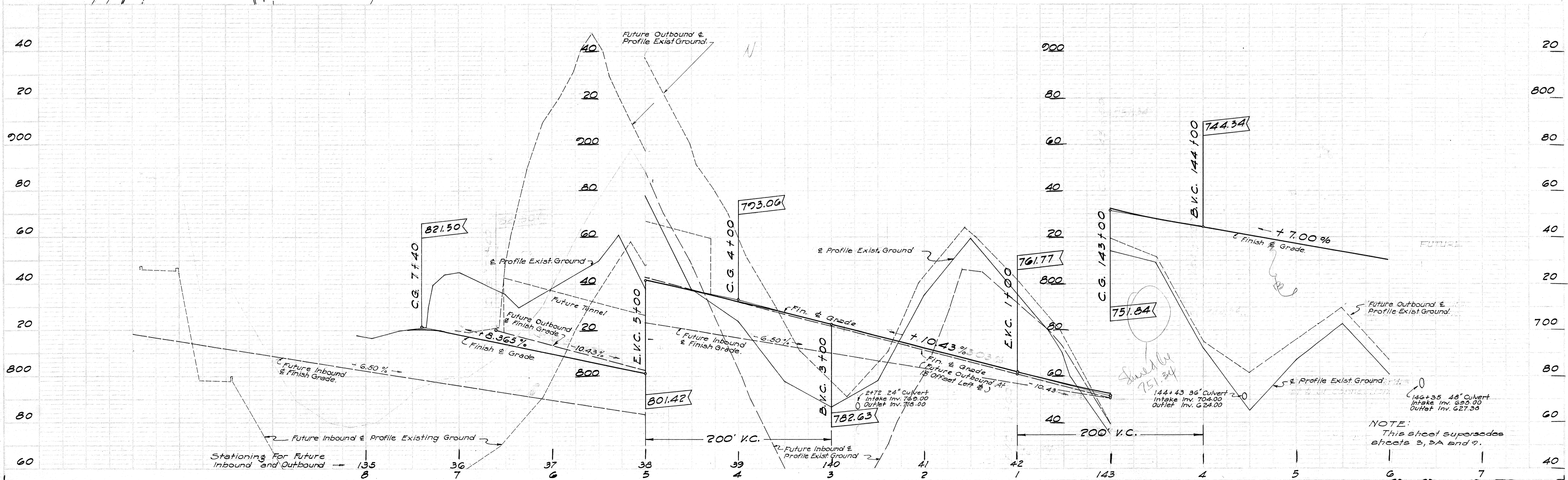
± CURVE DATA
 $\Delta = 12^{\circ} 30'$
 $R = 600'$
 $T = 65.71'$
 $C = 130.64'$
 $L = 130.70'$
 $SE = 0.1' \text{ PER FT.}$
 $EW = 2.00'$



BM T-4
 "B" on Conc.
 Elev. 820.39'

LANI
 55003.37
 W3495.50

PLAN
 REVISIONS
 NO. DATE BY
 1 11/15/52 J.L.S.
 2 11/15/52 J.L.S.
 3 11/15/52 J.L.S.
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 97 11/15/52 J.L.S.
 98 11/15/52 J.L.S.
 99 11/15/52 J.L.S.
 100 11/15/52 J.L.S.



NOTE:
 This sheet supersedes sheets 3, 2A and 9.

5488.3B

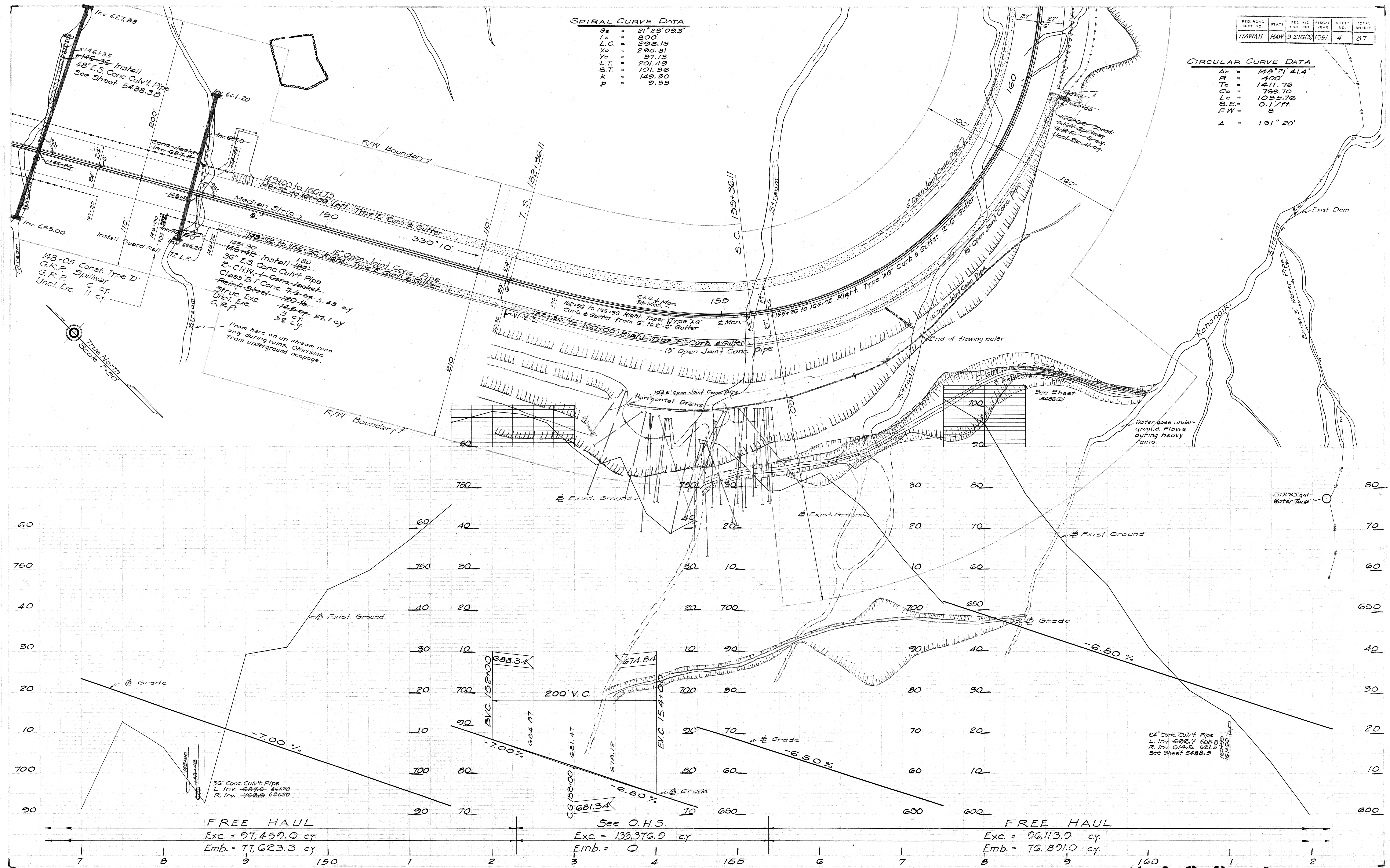
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW | 521G(3) | 1951 | 4 | 87 |

SPIRAL CURVE DATA

| | | |
|------------|---|---------------|
| θ_s | = | 21° 29' 09.3" |
| L_s | = | 300 |
| L.C. | = | 298.13 |
| X_c | = | 295.31 |
| Y_c | = | 97.13 |
| L.T. | = | 201.49 |
| S.T. | = | 101.36 |
| k | = | 149.30 |
| p | = | 9.33 |

CIRCULAR CURVE DATA

| | | |
|----------|---|----------------|
| Δ | = | 145° 21' 41.4" |
| R | = | 400' |
| T_c | = | 1411.76' |
| C_c | = | 769.70' |
| L_c | = | 1035.76' |
| S.E. | = | 0.177' |
| E.W. | = | 3' |
| Δ | = | 191° 20' |



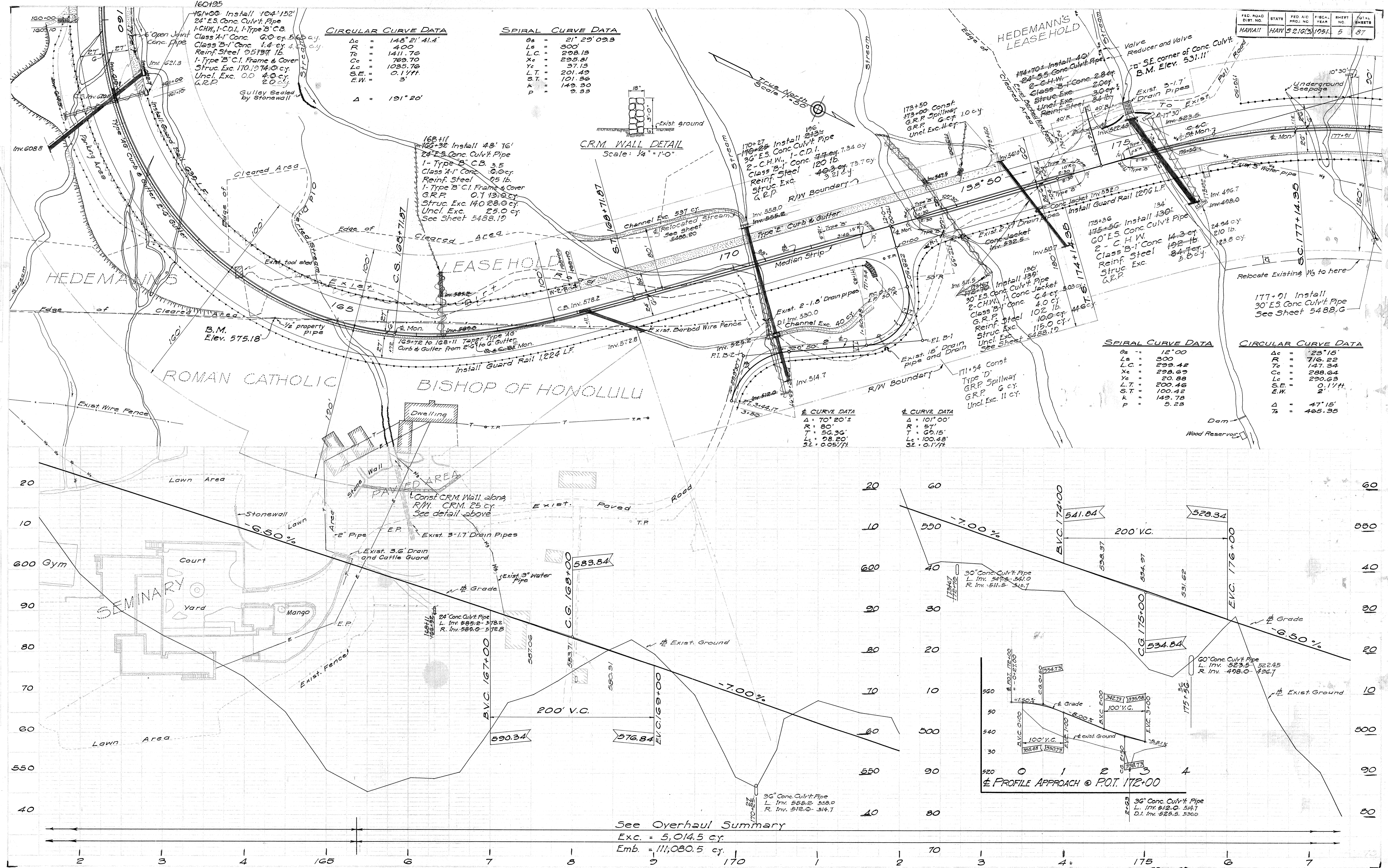
FREE HAUL
Exc. = 97,459.0 cy
Emb. = 77,623.3 cy

See O.H.S.
Exc. = 133,376.0 cy
Emb. = 0

FREE HAUL
Exc. = 96,113.0 cy
Emb. = 76,891.0 cy

5488.4

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW | 5216(3) | 1954 | 5 | 87 |



CIRCULAR CURVE DATA

| | | |
|------|---|----------------|
| Δc | = | 148° 21' 41.4" |
| R | = | 400 |
| Tc | = | 1411.76 |
| Cc | = | 769.70 |
| Lc | = | 1085.76 |
| S.E. | = | 0.177 |
| E.W. | = | 3' |
| Δ | = | 191° 20' |

SPIRAL CURVE DATA

| | | |
|------|---|---------------|
| Δs | = | 21° 29' 09.8" |
| Ls | = | 500' |
| L.C. | = | 298.13 |
| Xc | = | 295.81 |
| Yc | = | 37.13 |
| L.T. | = | 201.49 |
| S.T. | = | 121.86 |
| k | = | 149.30 |
| p | = | 9.33 |

CRM WALL DETAIL
Scale: 1/4" = 1'-0"

SPIRAL CURVE DATA

| | | |
|------|---|---------|
| Δs | = | 12° 00' |
| Ls | = | 300 |
| L.C. | = | 299.42 |
| Xc | = | 298.69 |
| Yc | = | 20.88 |
| L.T. | = | 200.46 |
| S.T. | = | 100.42 |
| k | = | 149.78 |
| p | = | 5.28 |

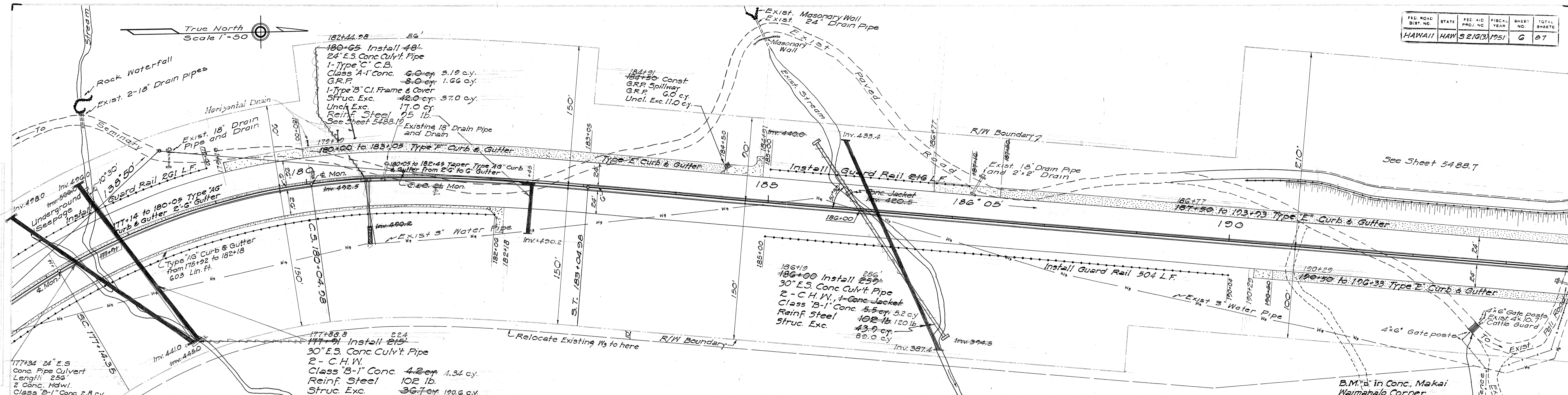
CIRCULAR CURVE DATA

| | | |
|------|---|---------|
| Δc | = | 23° 15' |
| R | = | 716.22 |
| Tc | = | 147.34 |
| Cc | = | 288.64 |
| Lc | = | 290.63 |
| S.E. | = | 0.177 |
| E.W. | = | 2' |
| Δ | = | 47° 15' |
| TΔ | = | 465.35 |

See Overhaul Summary
Exc. = 5,014.5 cy.
Emb. = 114,080.5 cy.

5488.5

DD-K-5

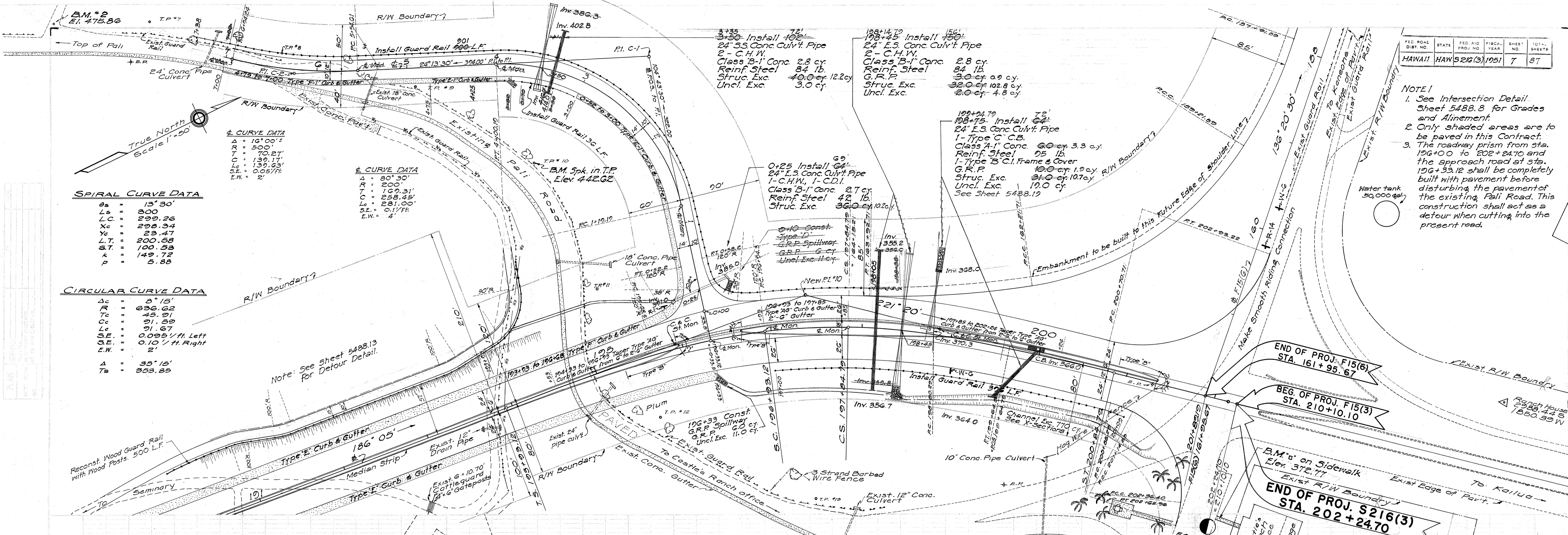


| CIRCULAR CURVE DATA | | SPIRAL CURVE DATA | |
|---------------------|----------|-------------------|---------|
| Δ_c | 23° 15' | θ_s | 12° 00' |
| R | 716.22 | L_s | 300 |
| T_c | 147.34 | $L.C.$ | 299.42 |
| C_c | 288.64 | X_c | 298.69 |
| L_c | 290.63 | Y_c | 20.88 |
| $S.E.$ | 0.10/ft. | $L.T.$ | 200.48 |
| $E.W.$ | 2' | $S.T.$ | 100.42 |
| Δ | 47° 15' | k | 142.78 |
| T_s | 465.35 | P | 6.23 |



5488.6

NOTE:
 1. See Intersection Detail Sheet 5488.8 for Grades and Alinement.
 2. Only shaded areas are to be paved in this Contract.
 3. The roadway prism from sta. 196+00 to 202+24.70 and the approach road at sta. 196+33.12 shall be completely built with pavement before disturbing the pavement of the existing Pali Road. This construction shall act as a detour when cutting into the present road.



True North Scale 1"=50'

SPIRAL CURVE DATA

| | |
|------|---------|
| θs | 13° 30' |
| Ls | 300 |
| Lc | 299.26 |
| Xc | 298.34 |
| Yc | 23.47 |
| L.T. | 200.58 |
| S.T. | 100.58 |
| k | 149.72 |
| p | 5.88 |

CIRCULAR CURVE DATA

| | |
|------|------------------|
| Δc | 8° 15' |
| R | 636.62 |
| Tc | 45.91 |
| Cc | 21.59 |
| Lc | 21.67 |
| S.E. | 0.0251/ft. Left |
| S.E. | 0.1011/ft. Right |
| E.W. | 2' |
| Δ | 35° 15' |
| Ts | 353.85 |

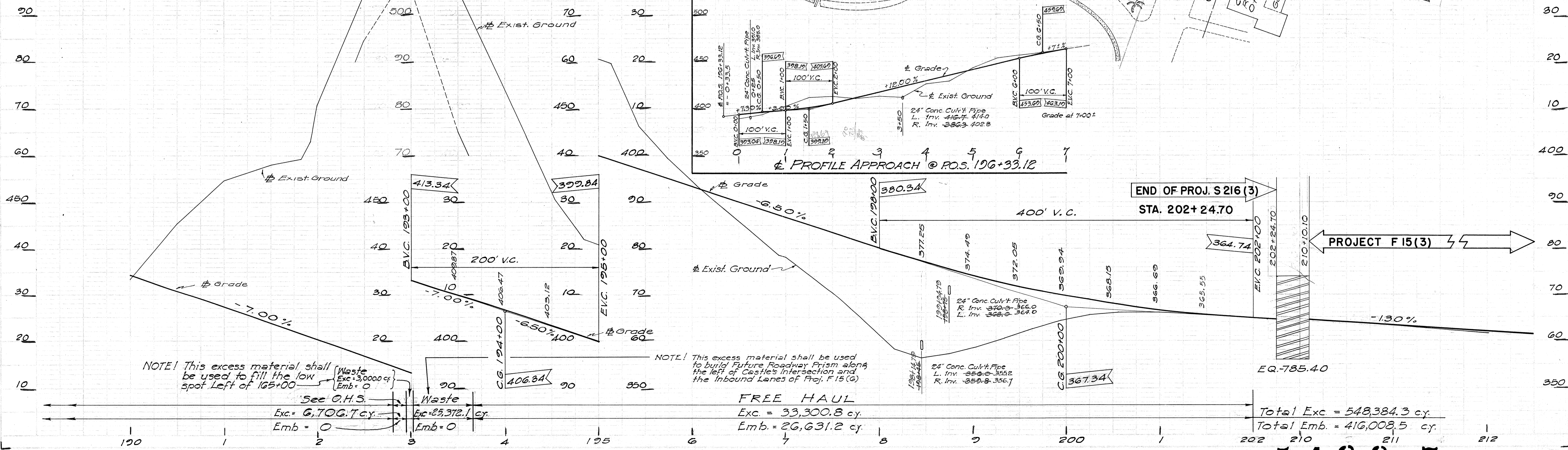
3+50 Install 10' 24" E.S. Conc. Culv't. Pipe
 2" - C.H.W.
 Class B-1" Conc. 2.8 cy.
 Reinf. Steel 84 lb.
 Struc. Exc. 40.0 cy.
 Uncl. Exc. 3.0 cy.

198+45 Install 10' 24" E.S. Conc. Culv't. Pipe
 2" - C.H.W.
 Class B-1" Conc. 2.8 cy.
 Reinf. Steel 84 lb.
 G.R.P. 32.0 cy.
 Struc. Exc. 40.0 cy.
 Uncl. Exc. 4.8 cy.

0+25 Install 10' 24" E.S. Conc. Culv't. Pipe
 1" - C.H.W., 1" - C.D.I.
 Class B-1" Conc. 2.7 cy.
 Reinf. Steel 42 lb.
 Struc. Exc. 36.0 cy.

199+04.70 Install 10' 24" E.S. Conc. Culv't. Pipe
 1" - Type C.C.B.
 Class A-1" Conc. 6.0 cy.
 Reinf. Steel 05 lb.
 1" - Type B.C.I. Frame & Cover
 G.R.P. 10.0 cy.
 Struc. Exc. 21.0 cy.
 Uncl. Exc. 19.0 cy.
 See Sheet 5488.19

Note: See Sheet 5488.13 for Detour Detail.



PROFILE APPROACH @ P.O.S. 196+33.12

NOTE! This excess material shall be used to fill the low spot left of 165+00

NOTE! This excess material shall be used to build Future Roadway Prism along the left of Castles intersection and the Inbound Lanes of Proj. F 15 (G)

| | | | | | | | |
|--------------------|----------|---------------------|----------|---------------------|---------------------|----------------------------|----------------------------|
| Exc. = 6,706.7 cy. | Emb. = 0 | Exc. = 28,372.1 cy. | Emb. = 0 | Exc. = 33,300.8 cy. | Emb. = 26,631.2 cy. | Total Exc. = 548,384.3 cy. | Total Emb. = 416,008.5 cy. |
|--------------------|----------|---------------------|----------|---------------------|---------------------|----------------------------|----------------------------|

5488.7

00-K-5