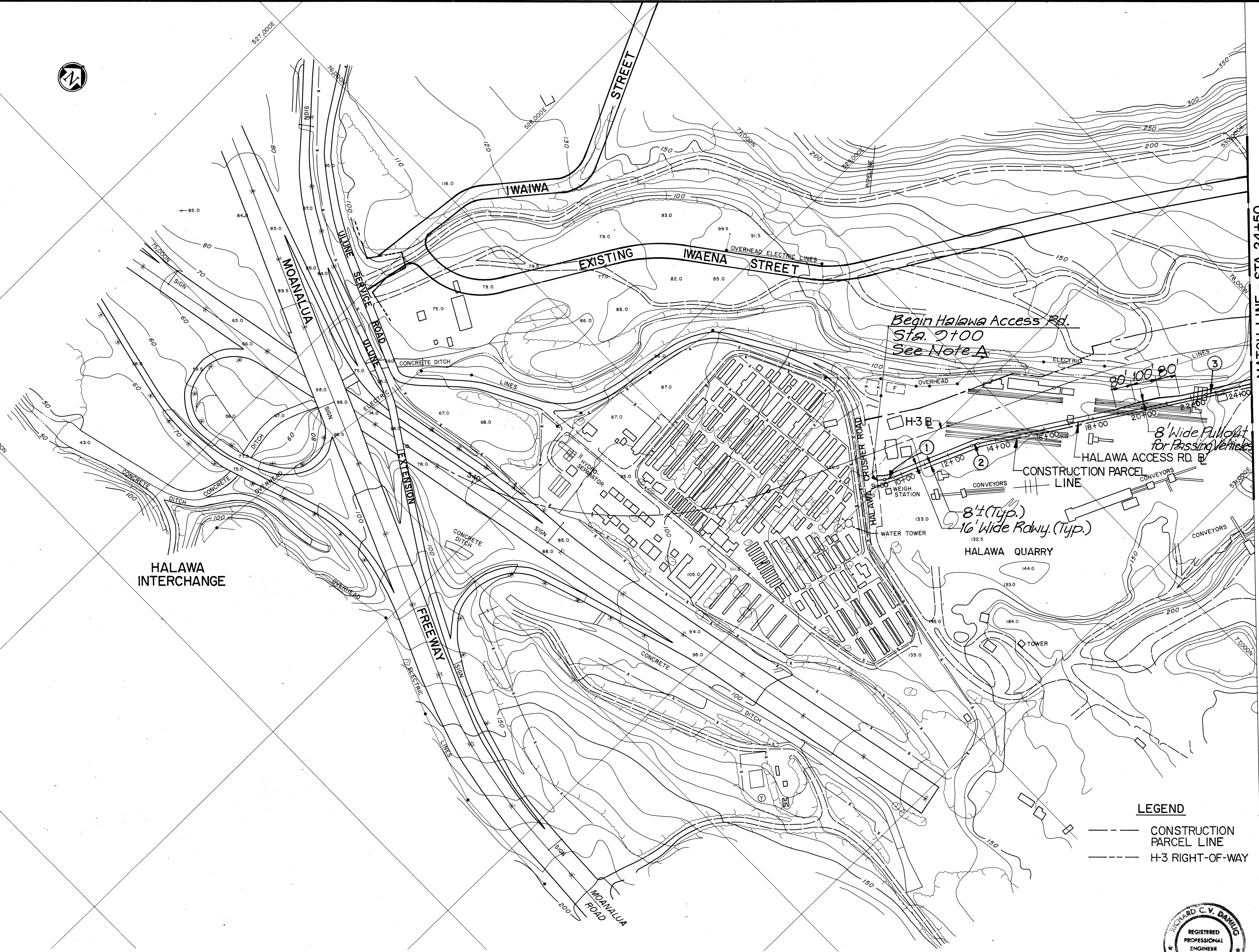


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(51) | 1989 | 106S-1 | 106 |

CONSTRUCTION NOTES:

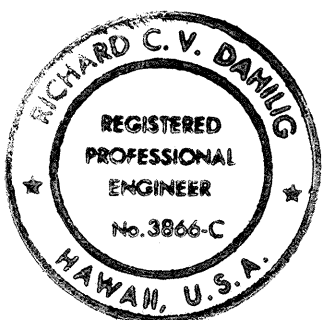
- A) BEGIN HALAWA ACCESS ROAD AT EXISTING DRIVEWAY OFF CRUSHER ROAD. PROVIDE TAPER FROM 50 FEET WIDE DRIVEWAY TO PROPOSED 16 FEET WIDE ACCESS ROAD, SEE SHEETS 5 & 7.
- B) PROVIDE DRAINAGE DITCH TYPE A AT:
1) @ STA. 31+00 TO @ STA. 37+30, RT.
2) @ STA. 34+85 TO @ STA. 37+50, LT.
3) @ STA. 37+80 TO @ STA. 43+50, LT., TIE INTO EXISTING DITCH AT HALAWA ACCESS ROAD @ STA. 43+50± LT.
- C) THE CONTRACTOR SHALL PROVIDE PROTECTION FOR ALL HECO HIGH VOLTAGE POLES. PROTECTIVE MEASURES SHALL BE APPROVED BY THE ENGINEER AND PAID FOR UNDER PAY ITEM 202.1000.

MATCH LINE - STA. 24+50



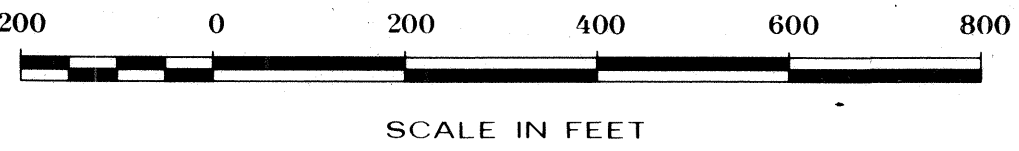
LEGEND

- CONSTRUCTION PARCEL LINE
- H-3 RIGHT-OF-WAY



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Richard C.V. Doherty



INDEX TO SHEETS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HALAWA ACCESS ROAD-PLAN

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(51)

SCALE: 1"=200' DATE:
SHEET NO. 1 OF 3 SHEETS

| | |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY | |
| DESIGNED BY | |
| CHECKED BY | |

NOTES:

- Scale: 1"=200'
- Contour Interval: 10'
- Elevation based on Mean Sea Level.
- Hawaiian plane coordinate system zone III.
5. Sheets 1 and 2 were compiled by photogrammetric methods from photography taken October 6, 1969 at 8,500 ASL and sheet 1 was revised from photography taken December 19, 1976 at 12,000 ASL.
6. All contours in areas where the height of the vegetation exceeds five feet are to be interpreted as form lines only and as such may be substandard.

ADD106S-1

| CURVE | N. COORDINATE | E. COORDINATE | DATA |
|-------|----------------|---------------|--------------------------------|
| 1 | P.C. 76,458.15 | 529,990.81 | $\Delta = 15^{\circ}-11'-18''$ |
| | P.T. 76,492.49 | 530,010.61 | R = 150.00 |
| | C.C. 76,549.60 | 529,871.91 | L = 39.76 |
| | P.L. 76,474.00 | 530,003.00 | T = 20.00 |
| 2 | P.C. 76,801.87 | 530,138.00 | $\Delta = 09^{\circ}-59'-49''$ |
| | P.T. 76,825.08 | 530,150.03 | R = 150.00 |
| | C.C. 76,744.76 | 530,276.71 | L = 26.17 |
| | P.L. 76,814.00 | 530,143.00 | T = 13.12 |
| 3 | P.C. 77,612.51 | 530,649.30 | $\Delta = 01^{\circ}-40'-03''$ |
| | P.T. 77,672.03 | 530,685.84 | R = 2400.00 |
| | C.C. 78,897.68 | 528,622.40 | L = 69.84 |
| | P.L. 77,642.00 | 530,668.00 | T = 34.92 |
| 4 | P.C. 78,164.17 | 530,978.16 | $\Delta = 06^{\circ}-32'-35''$ |
| | P.T. 78,184.43 | 530,988.68 | R = 200.00 |
| | C.C. 78,266.31 | 530,806.21 | L = 22.84 |
| | P.L. 78,174.00 | 530,984.00 | T = 11.43 |

| CURVE | N. COORDINATE | E. COORDINATE | DATA |
|-------|----------------|---------------|--------------------------------|
| 5 | P.C. 78,282.80 | 531,032.82 | $\Delta = 29^{\circ}-00'-17''$ |
| | P.T. 78,361.01 | 531,095.41 | R = 200.00 |
| | C.C. 78,200.92 | 531,215.29 | L = 101.25 |
| | P.L. 78,330.00 | 531,054.00 | T = 51.73 |
| 6 | P.C. 78,454.37 | 531,220.08 | $\Delta = 39^{\circ}-08'-50''$ |
| | P.T. 78,494.12 | 531,348.05 | R = 200.00 |
| | C.C. 78,294.29 | 531,339.96 | L = 136.65 |
| | P.L. 78,497.00 | 531,277.00 | T = 71.11 |
| 7 | P.C. 78,489.84 | 531,453.97 | $\Delta = 38^{\circ}-37'-29''$ |
| | P.T. 78,528.50 | 531,580.48 | R = 200.00 |
| | C.C. 78,689.67 | 531,462.06 | L = 134.83 |
| | P.L. 78,487.00 | 531,524.00 | T = 70.09 |
| 8 | P.C. 78,779.32 | 531,921.86 | $\Delta = 19^{\circ}-48'-37''$ |
| | P.T. 78,828.99 | 531,969.47 | R = 200.00 |
| | C.C. 78,940.49 | 531,803.44 | L = 69.15 |
| | P.L. 78,800.00 | 531,950.00 | T = 34.92 |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(51) | 1989 | 106 S-2 | 106 |

| EXCAVATION AND EMBANKMENT QUANTITY TAKE-OFF | | |
|---|-------------------|-----------|
| STA. | ROADWAY EXC. (CY) | EMB. (CY) |
| 9+00 | 0 | 0 |
| 22+00 | 494 | 409 |
| 23+00 | 315 | 9 |
| 24+00 | 433 | 185 |
| 25+00 | 305 | 148 |
| 26+00 | 167 | 13 |
| 31+00 | 389 | 65 |
| 34+00 | 433 | 0 |
| 36+00 | 1,319 | 0 |
| 37+50 | 1,111 | 0 |
| 39+00 | 1,372 | 0 |
| 41+50 | 4,148 | 0 |
| 44+00 | 3,690 | 0 |

| TABLE OF ESTIMATED LIMITS OF ROADWAY SECTION TYPE | | |
|---|-------------|--------------|
| I | II | III |
| | 9+00-22+80 | |
| 22+80-24+60 | 25+50-30+00 | 24+60-25+50 |
| 37+45-37+55 | | 30+00-37+45 |
| | | 37+55-44+72± |

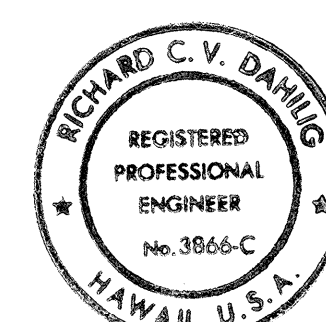
SUMMARY: EXCAVATION 14,176 CY
EMBANKMENT 829 CY

NOTE: QUANTITY TAKEOFFS ARE BASED UPON PLANS PRODUCED FROM HIGH LEVEL AERIAL PHOTOGRAPHY; THEREFORE INFORMATION SHOWN IS APPROXIMATE.

GENERAL NOTES FOR WORK INVOLVING BOARD OF WATER SUPPLY FACILITIES

- Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the specifications and the City and County of Honolulu Board of Water Supply's "Water System Standards", Volume 1, dated 1985, and the "Approved Material List and Standard Details For Water System Construction", Volume 2, dated 1985, and all subsequent amendments and additions.
- The Contractor shall notify the Board of Water Supply in writing one week prior to commencing work.
- The existence and location of underground utilities and structures as shown on the plans are from the latest available data but is not guaranteed as to the accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and shall pay for all damages to existing utilities.
- The Board of Water Supply shall have access to their facilities at all times.
- The Contractor shall take before and after photographs in duplicate of the B.W.S. Waterline Tunnel and appurtenances. The cost shall be considered incidental to the various items of work. One set of photos shall be turned over to B.W.S. Contact Mr. Rodney Nishihara of the B.W.S. (527-6169) at least one week in advance to arrange access to the tunnel.

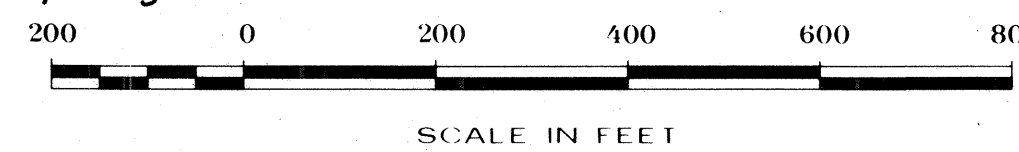
for Delvin P. S. Chung 1/11/89
CHIEF, PLANNING & ENGINEERING, BWS DATE



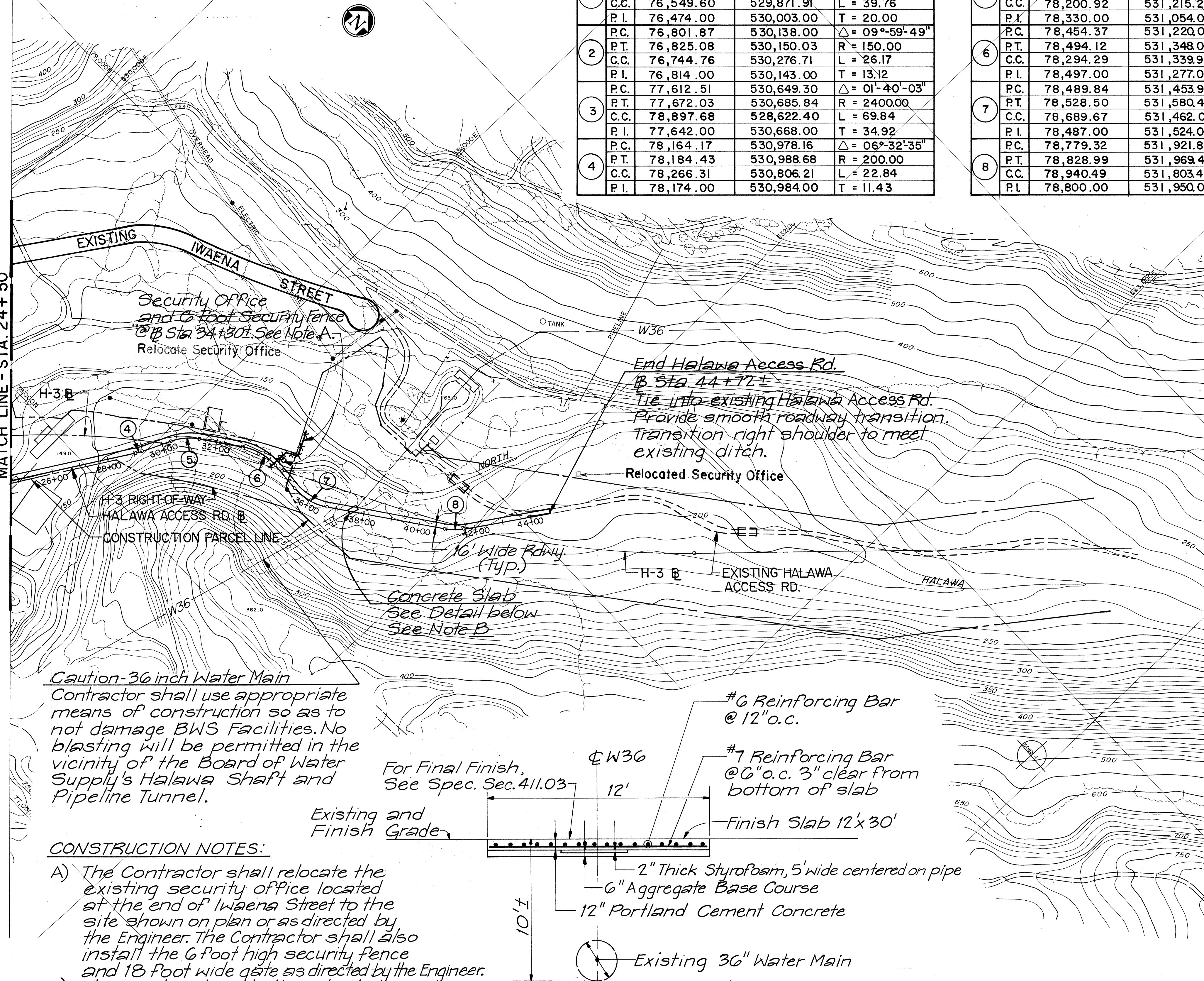
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
Richard C.V. Dahilo

INDEX TO SHEETS

| | |
|--|-------|
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION | |
| HALAWA ACCESS ROAD-PLAN | |
| INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1(51) | |
| SCALE: 1"=200' | DATE: |
| SHEET NO. 2 OF 3 SHEETS | |



MATCH LINE - STA. 24+50



CONSTRUCTION NOTES:

- The Contractor shall relocate the existing security office located at the end of Iwaena Street to the site shown on plan or as directed by the Engineer. The Contractor shall also install the 6 foot high security fence and 18 foot wide gate as directed by the Engineer.
- The Contractor shall grade the area adjacent to the Access Rd. near the BWS 36 inch Water Main @ Sta. 37+55, to drain away from the Access Road.

NOTES:

- Scale: 1"=200'
- Contour Interval: 10'
- Elevation based on Mean Sea Level.
- Hawaiian plane coordinate system zone III.

SLAB OVER BWS 36" WATER MAIN * N.T.S.

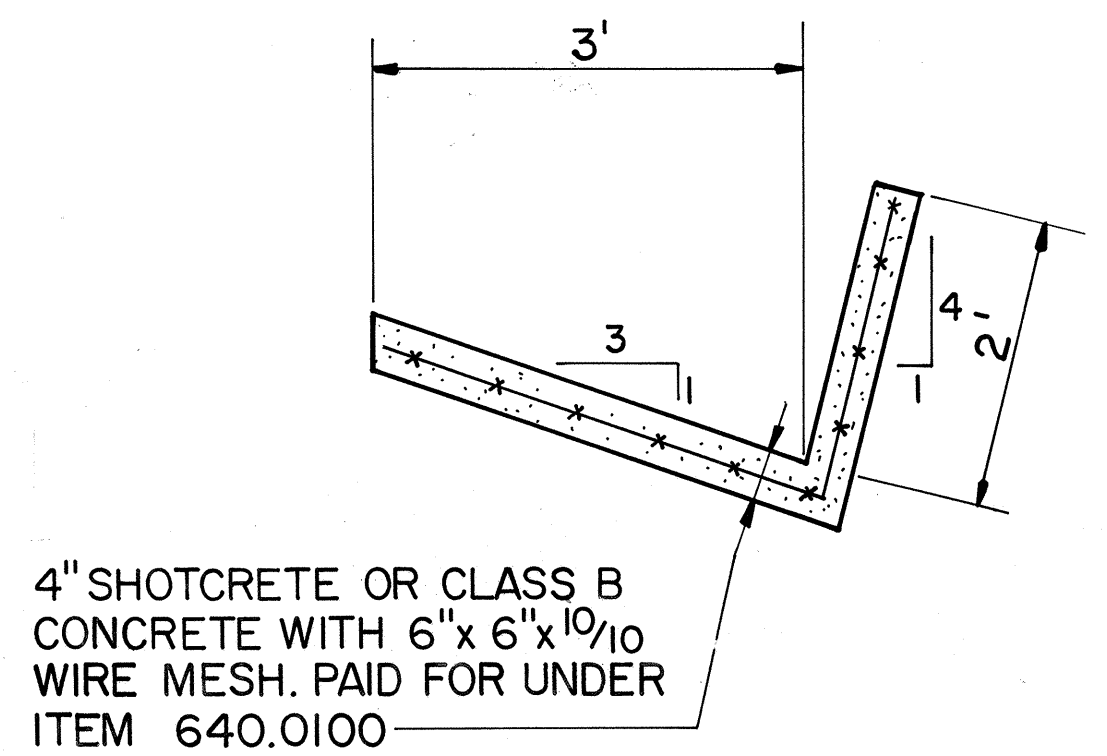
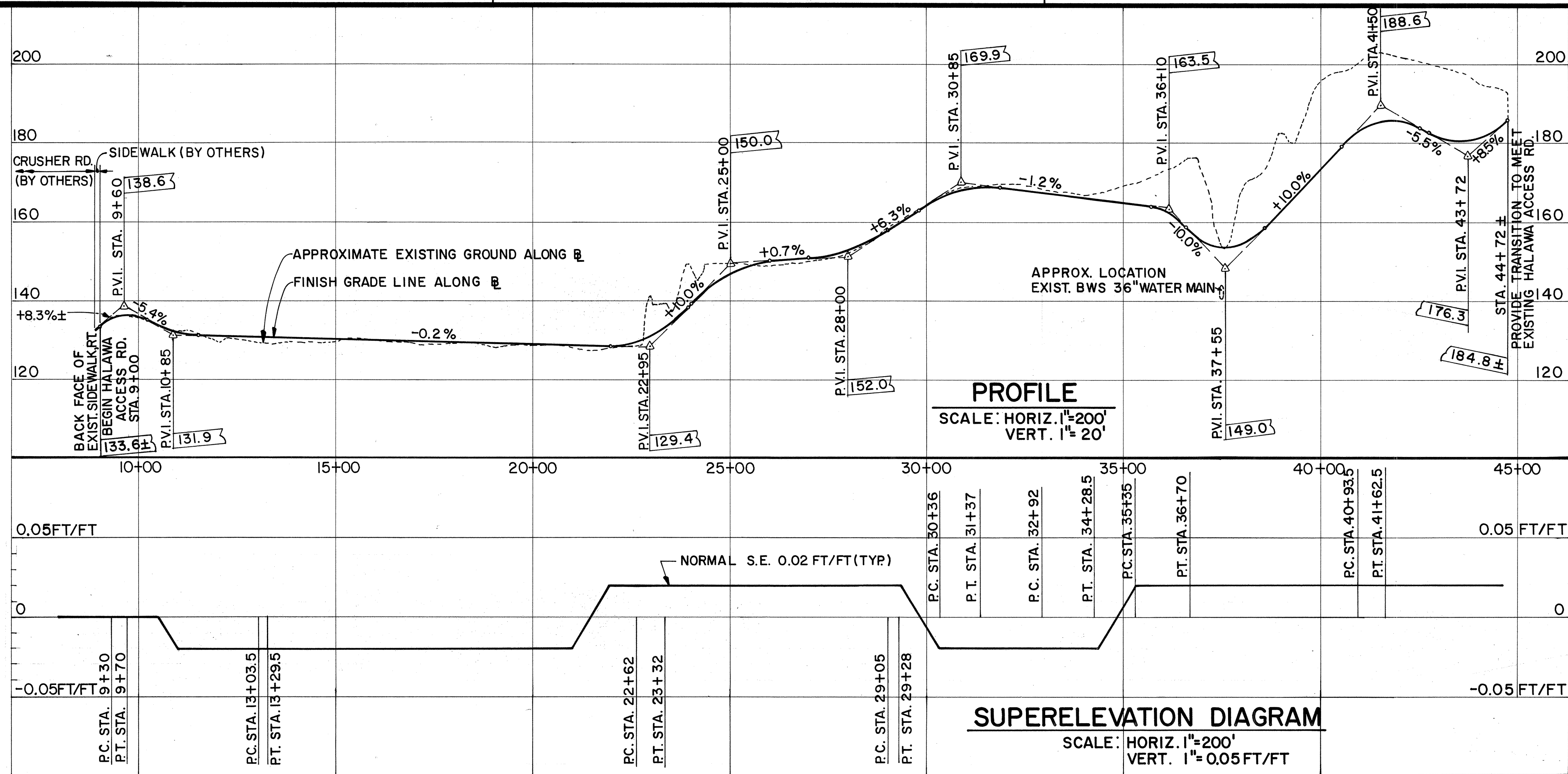
- Sheets 1 and 2 were compiled by photogrammetric methods from photography taken October 6, 1969 at 8,500 ASL and sheet 1 was revised from photography taken December 19, 1976 at 12,000 ASL.
- All contours in areas where the height of the vegetation exceeds five feet are to be interpreted as form lines only and as such may be substandard.

* All concrete, reinforcing steel, and other incidental items necessary to construct the slab, complete in place shall be paid for under pay item 503.0041

| | |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY | |
| CHECKED BY | |
| NOTE BOOK | |
| NO. | |

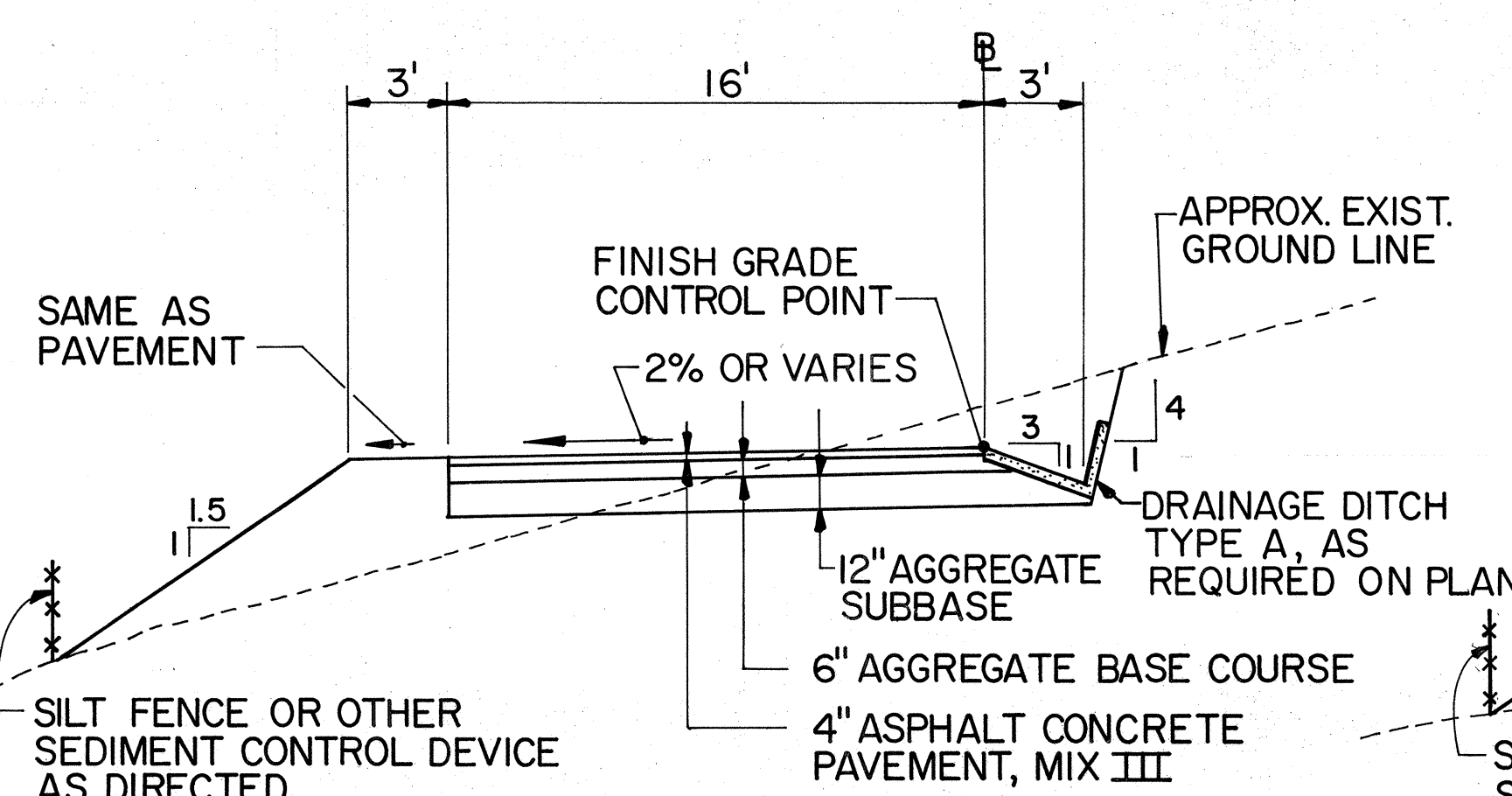
ADD106 S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(51) | 1989 | 106S-3 | 106 |

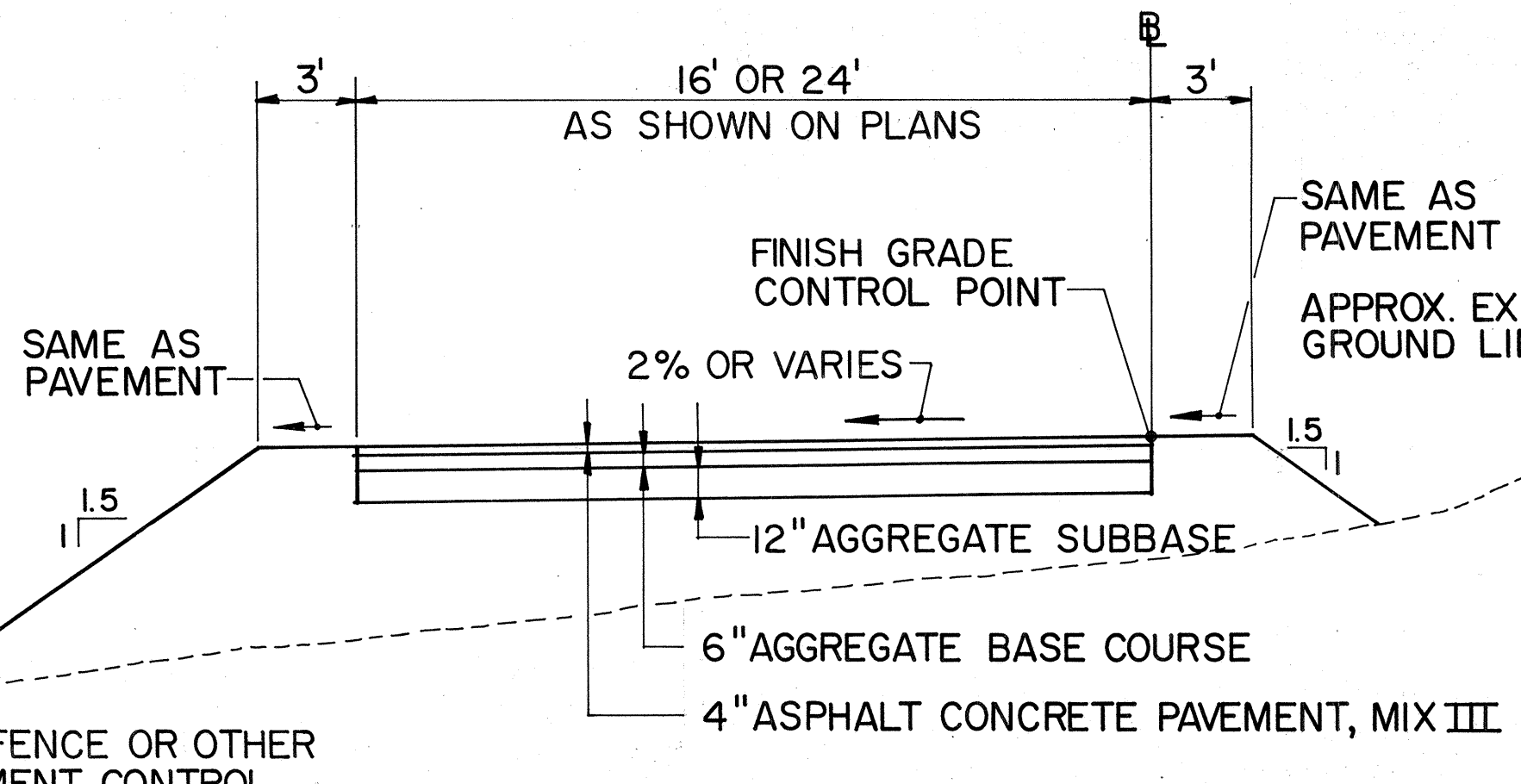


TYPE A
DRAINAGE DITCH DETAIL
SCALE: 3/4"=1'-0"

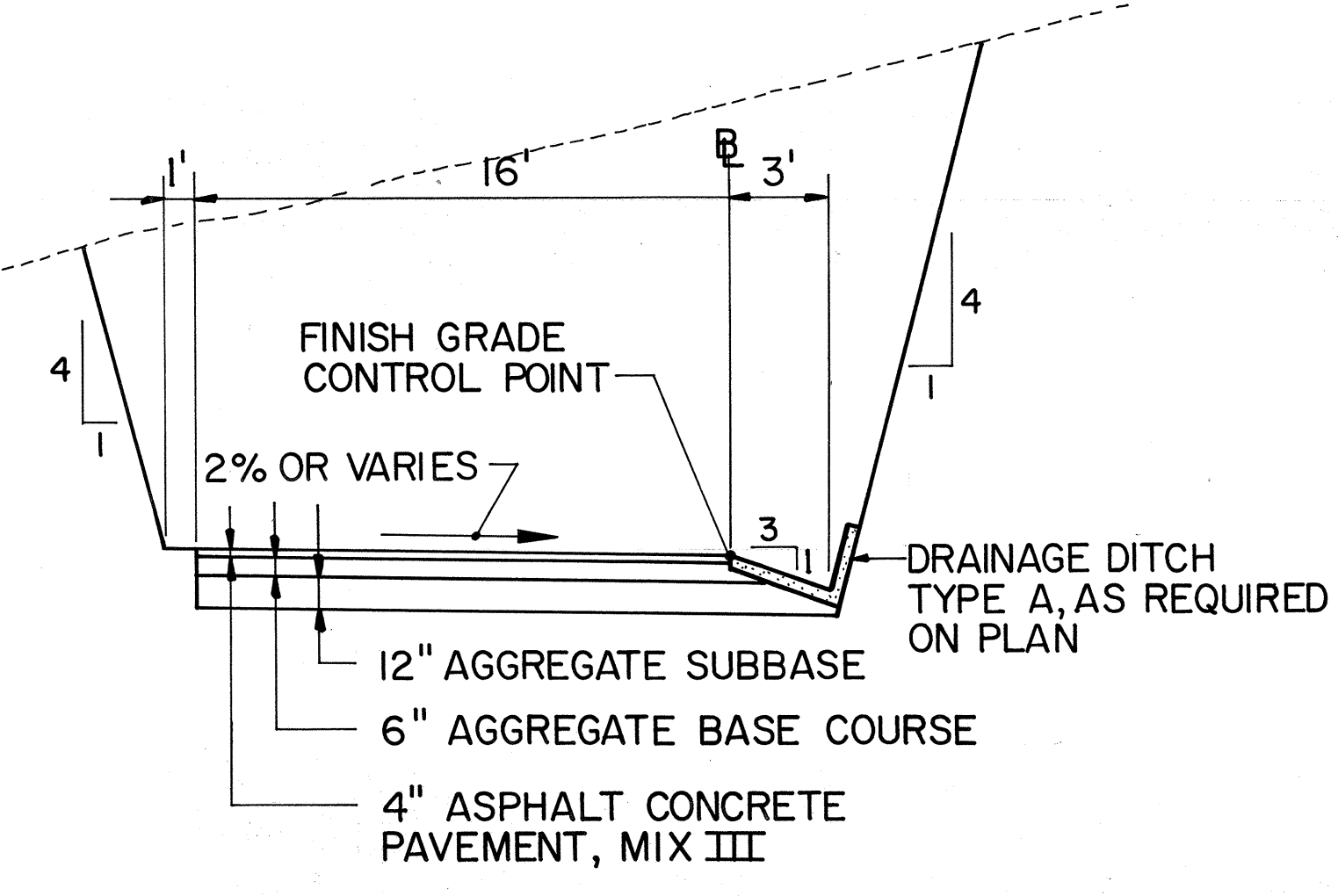
NOTE:
(+) SLOPE - RIGHT EDGE OF PAVEMENT HIGHER THAN LEFT EDGE.
(-) SLOPE - RIGHT EDGE OF PAVEMENT LOWER THAN LEFT EDGE.



TYPICAL SECTION I
SCALE: 1"=5'-0"

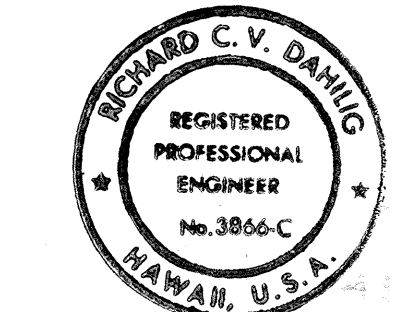


TYPICAL SECTION II
FILL AREA
SCALE: 1"=5'-0"



TYPICAL SECTION III
CUT AREA
SCALE: 1"=5'-0"

| | |
|---------------|-------|
| DATE | _____ |
| DESIGNED BY | _____ |
| DRAWN BY | _____ |
| CHECKED BY | _____ |
| NOTED BY | _____ |
| ORIGINAL PLAN | _____ |



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

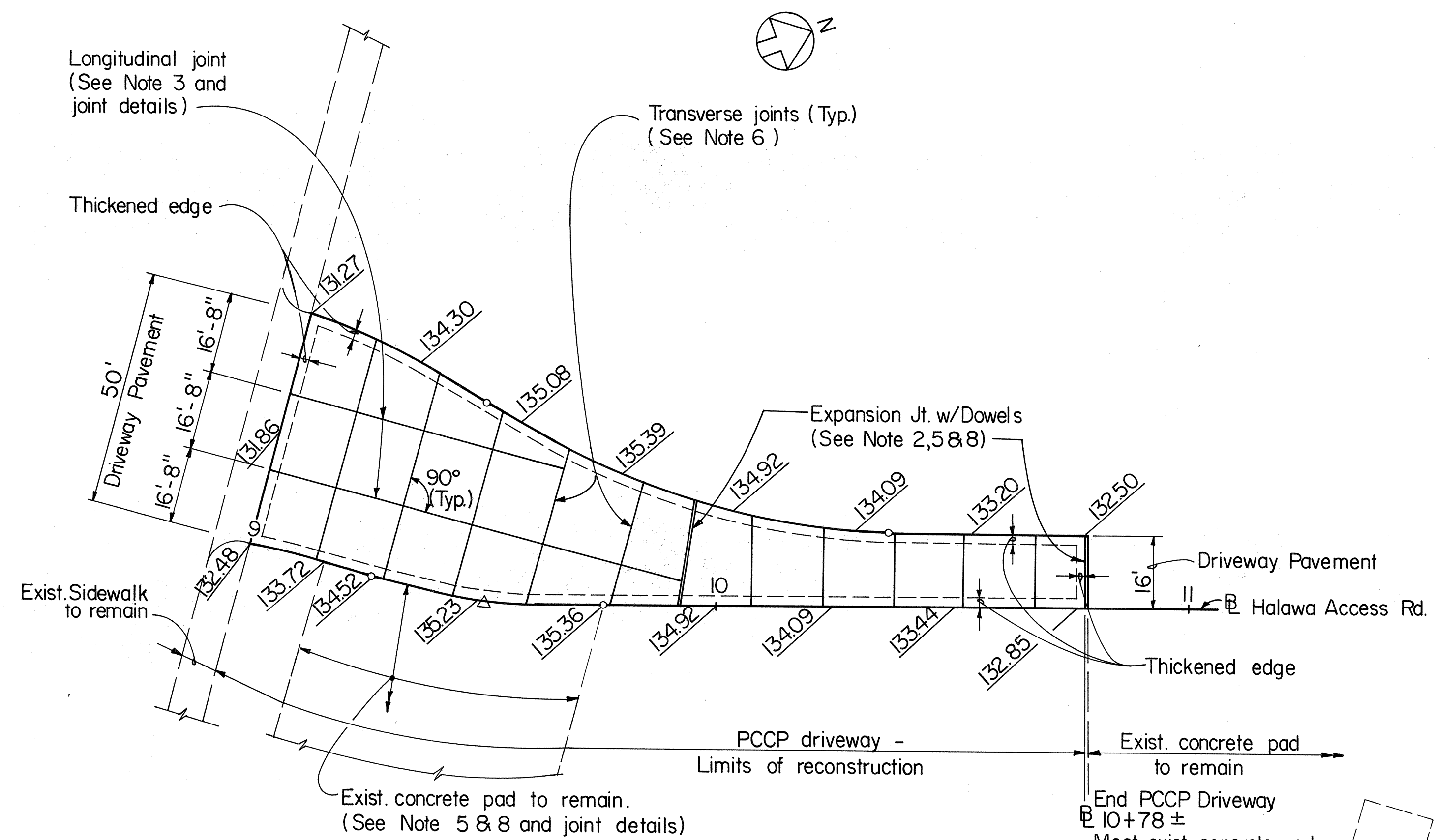
**PROFILE, SUPERELEVATION
DIAGRAM, AND TYPICAL SECTIONS**

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(51)

SCALE: AS SHOWN DATE: _____
SHEET No. 3 OF 3 SHEETS

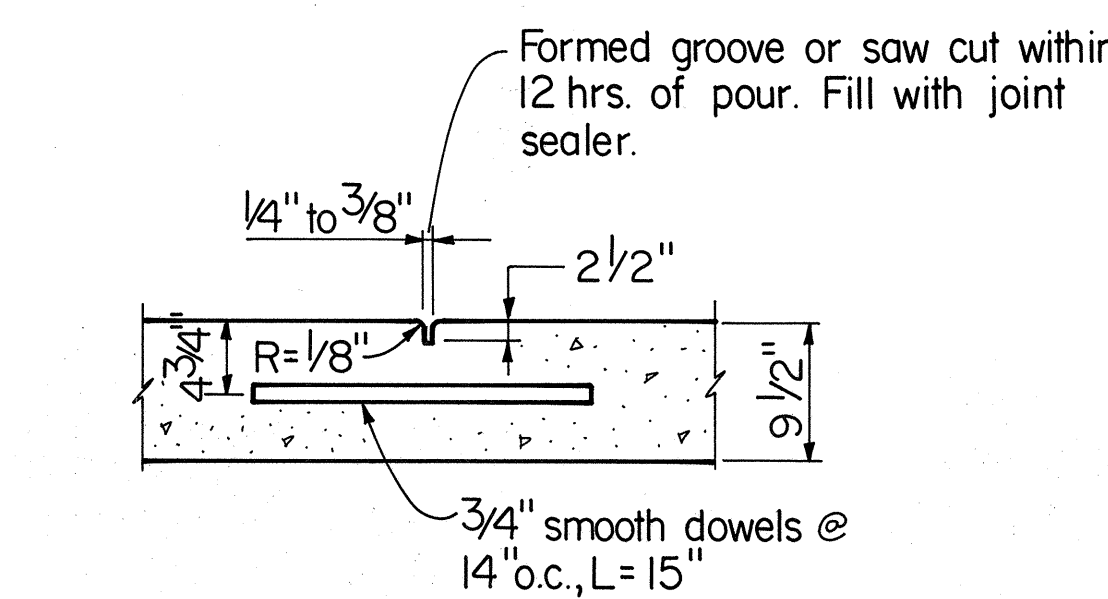
ADD 106S-3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII | HAW. | I-H3-1(51) | 1989 | 106S3A | 106 |

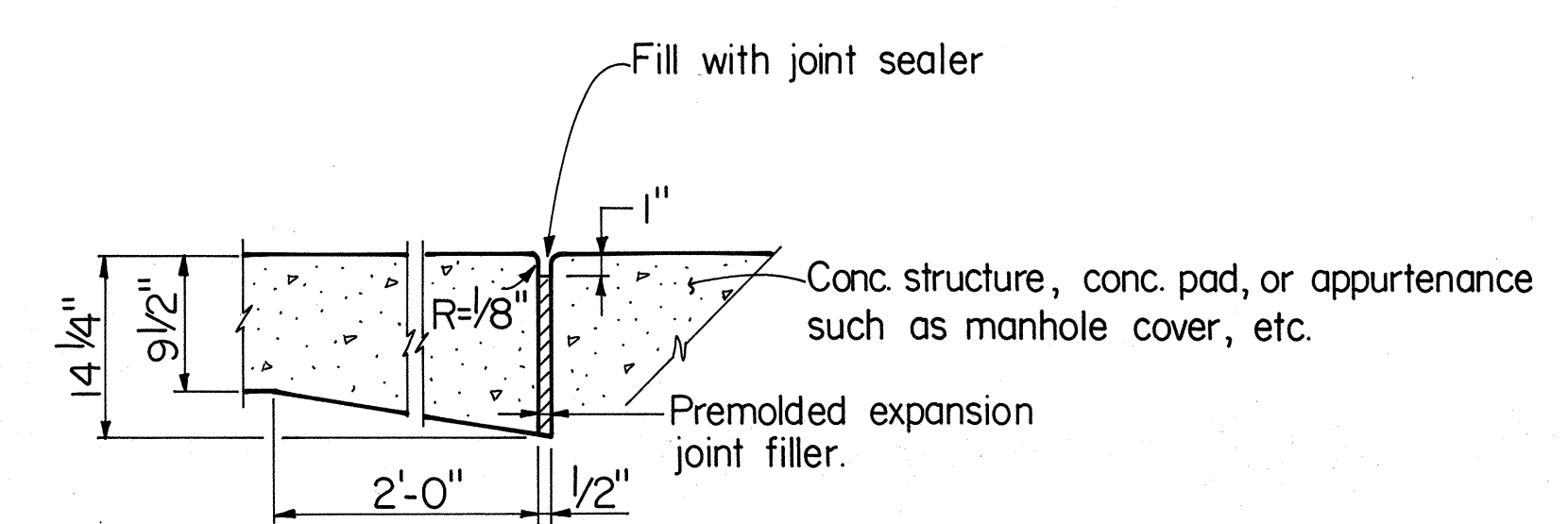


PLAN
Scale: 1"=20'-0"

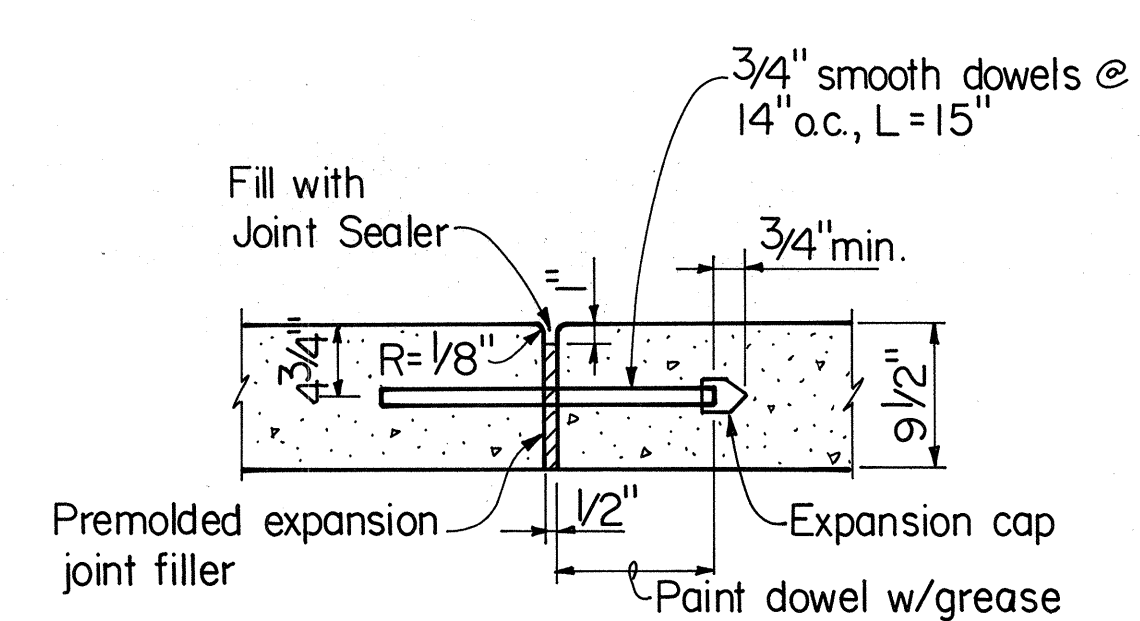
NOTE:
Elevations shown are both finish and exist. grades.



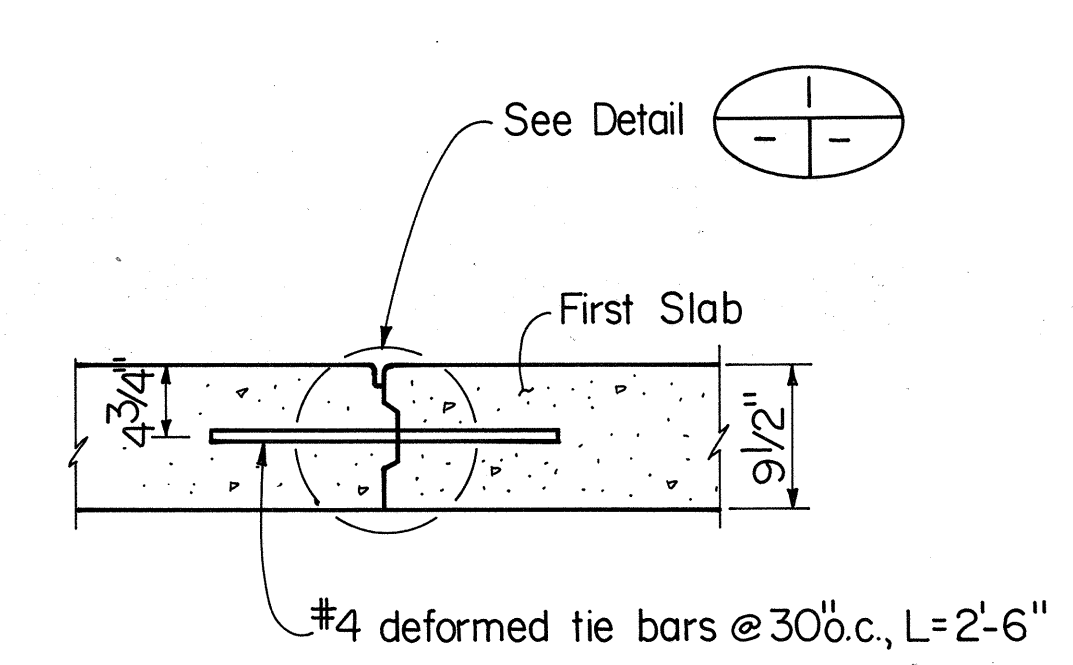
TRANSVERSE WEAKENED PLANE CONTRACTION JOINT
N.T.S.
(See Note 6)



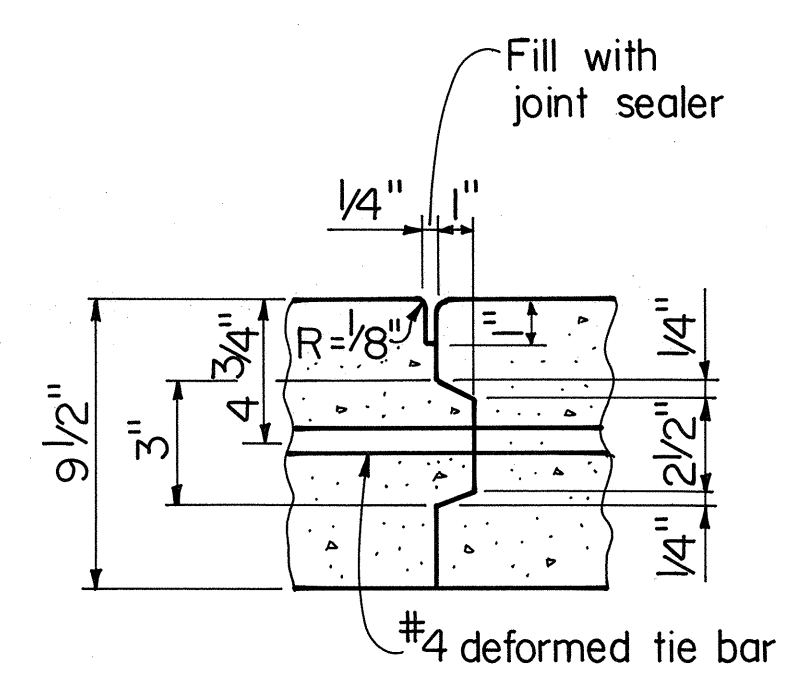
EXPANSION JOINT WITHOUT DOWELS
N.T.S.
(See Note 5)



TRANSVERSE EXPANSION JOINT WITH DOWELS
N.T.S.
(See Note 2 & 4)

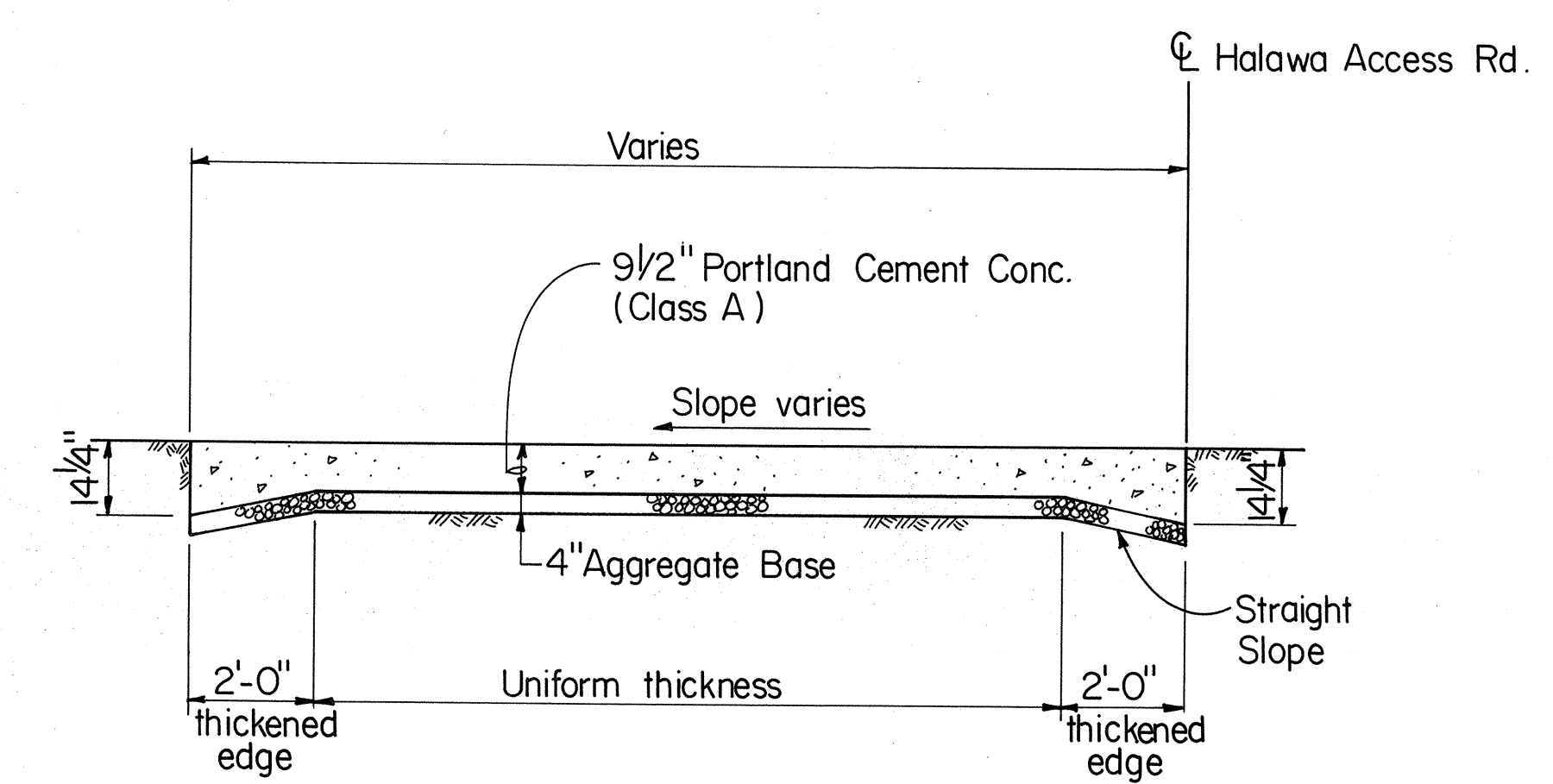


KEYED JOINT WITH TIE BARS
N.T.S.
(See Note 3 & 4)



DETAIL
N.T.S.

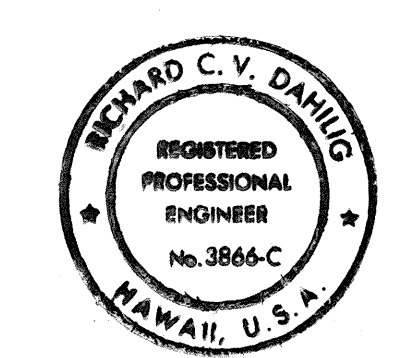
PORTLAND CEMENT CONCRETE PAVEMENT (PCCP) DETAILS



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

NOTES:

- For PCCP construction requirements, see Standard Specifications Section 411 - Portland Cement Concrete Pavement.
- Expansion joints with dowels shall be located as shown on plan.
- Longitudinal joints shall be keyed joints with tie bars.
- Longitudinal construction joints at unplanned locations shall be keyed joints with tie bars. Transverse construction joints shall be transverse expansion joints with dowels.
- Expansion joints without dowels shall be constructed at junctions of concrete pavement and concrete structure, concrete pad or appurtenances such as manhole cover, etc.
- Transverse joints shall be weakened plane contraction joints and shall be spaced at intervals not exceeding 15 feet on center.
- All joints shall be slightly under-filled with joint sealer.
- Reconstructed driveway shall be poured against exist. concrete pad or sidewalk and match exist. grade.
- Contractor shall tone area for existing utilities before construction.
- Joint sealer to comply with Section 705.04 of the Standard Specifications.



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Richard C.V. Dahlgren

| 4/30/90 | Sheet added. |
|---|--------------|
| DATE | REVISION |
| STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION HALAWA ACCESS ROAD - DRIVEWAY RECONSTRUCTION INTERSTATE ROUTE H-3 F.A.I. PROJ. NO. I - H3 - 1 (51) SCALE: AS SHOWN DATE: | |
| SHEET No.3A OF 3 SHEETS | |

| | |
|-------------------|------|
| ORIGINAL PLAN | DATE |
| SURVEY PLOTTED BY | |
| DRAWN BY | |
| DESIGNED BY | |
| QUANTITIES BY | |
| CHECKED BY | |
| NO. | |