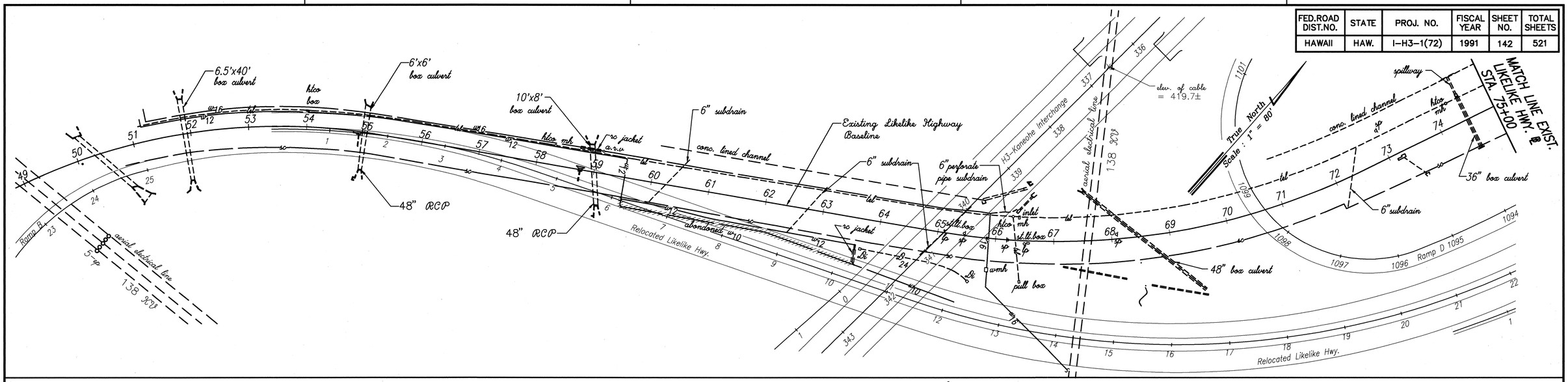
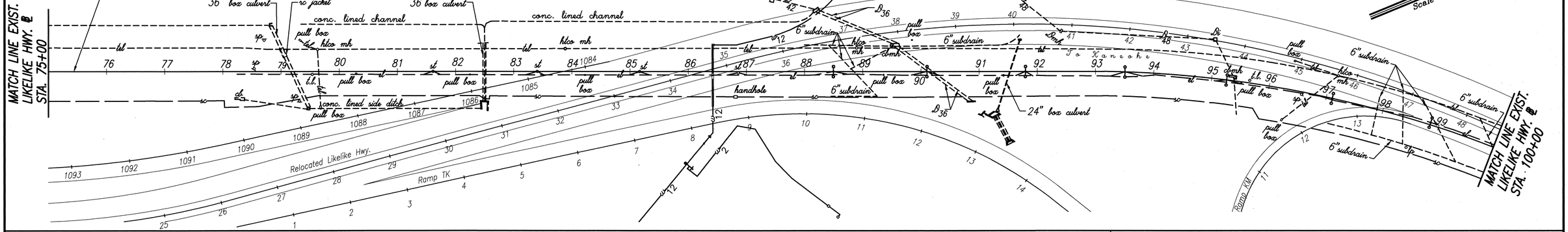
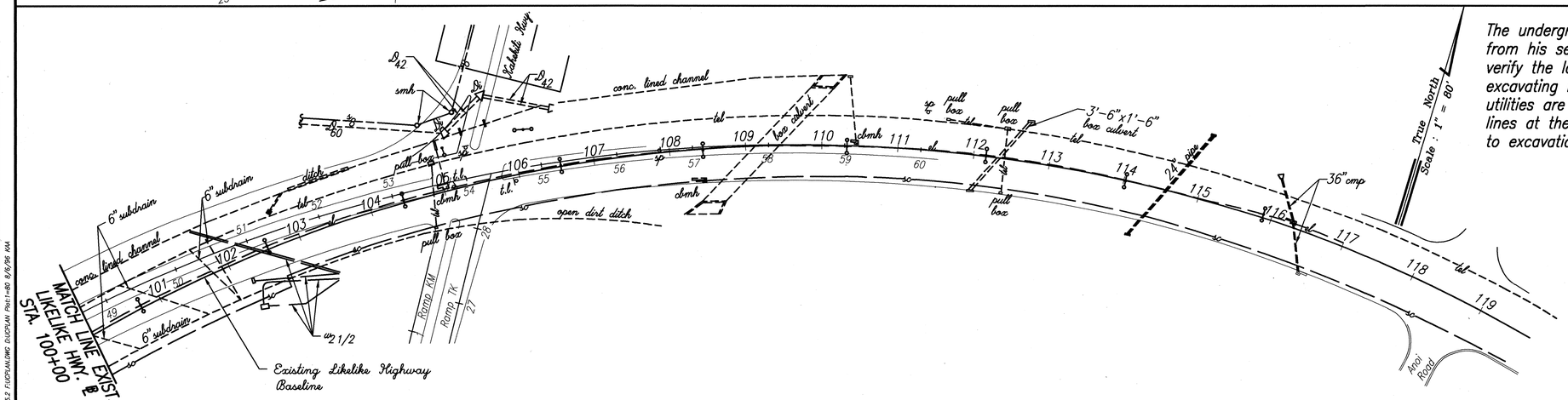
FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	142	521







The underground pipes, cables or ductlines known to exist by the Engineer from his search of records are indicated on the plans. The Contractor shall verify the location and depth of the facilities and exercise proper care in excavating in the area. Whenever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.

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

83-45.2 F:\DCP\PLAN\DWG DUCPLAN PAG1=80 8/6/96 KAI

ROBERT I. ITAGAKI REGISTERED PROFESSIONAL ENGINEER No. 1584-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

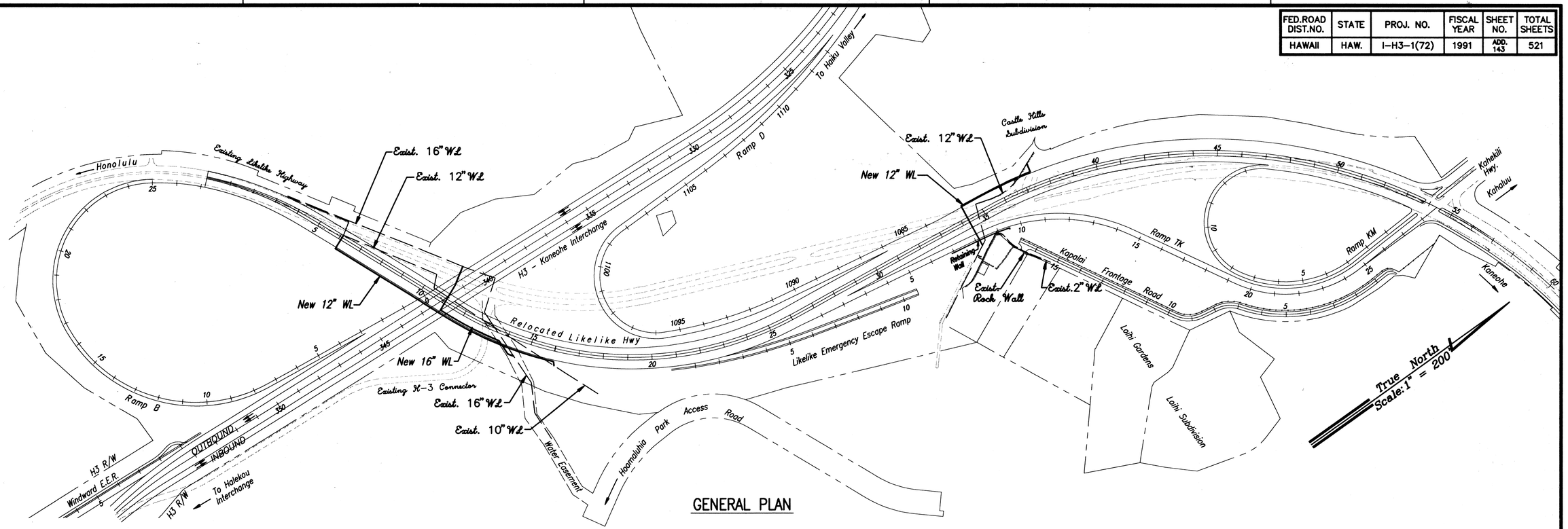
EXISTING UTILITY PLAN
ALONG EXISTING LIKELIKE HIGHWAY

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE:

SHEET No. OF SHEETS

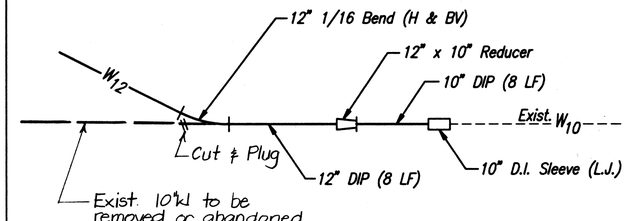
FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	ADD. 143	521



GENERAL PLAN

WATER NOTES FOR RELOCATION OF EXISTING WATER MAINS

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with 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.
2. All Plans approved by the Board of Water Supply are based solely on the adequacy of the water supply. All other features of the water system, such as lines, grades, fittings, drainage, etc., and other features of improvements shall not be the responsibility of the Board of Water Supply.
3. Test Pressure shall be 150 psi for the 16" Water Line and 200 psi for the 12" Water Line.
4. The Contractor shall notify BWS Planning and Engineering Division, Construction Section one week prior to commencing work on the water system.
5. The Contractor shall chlorinate the entire inside surface of each pipe and fitting with disinfection solution of 5 ounces of sodium hypochlorite mixed with 10 gallons of Water.
6. The Contractor shall be responsible for protection of all water lines during construction. The Contractor shall be especially careful when excavating behind water lines, tees and bends wherever there is a possibility of water line improvement due to removal of the supporting earth beyond the existing reaction blocks. That Contractor shall take whatever measure necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction method.
7. 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 the damages to existing utilities.
8. Prior to installation, the Contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cash iron (gray or ductile) fittings for the project conform in all respects to the Water System Standards, dated 1985.
9. Polygon shape for mechanical joint glands as described in AWWA Standard C111 shall be "straight-sided" or an approved equal on a job to job basis.
10. Re-approval shall be required if this project is not under construction within a period of two years.
11. The Contractor shall cut and plug all existing unused laterals at the main whether or not shown on the plans. The damaged area shall be repaired to an equal or better condition than the immediate area. All work shall be done at the expense of the Contractor.
12. All waterline construction requiring shutdown shall be scheduled for the following:
    a. 12"WL (Sht. 146) – after working hours and maximum downtime shall be six (6) hours concurrent at both connections.
    * If connections to 16"W from Haiku Tunnel at Keahala Road is completed, these connections can be made during normal working hours.
    b. 16"WL (Sht. 144) – maximum downtime shall be within a day (24 hrs.) concurrent at both connections.
    c. 12"WL (Sht. 144) – maximum downtime shall be within a day (24 hrs.) concurrent at both connections.



SCHEMATIC CONNECTION DETAIL
NTS

DATE	REVISION
8/21/92	Revised Water Note, Item 12 a, b and c.
1/22/92	Revised Right of Way @ Castle Hills Subd. Added schematic connection detail. Added note for Test Pressure (Note 3.)

APPROVED:

for BWS, CHIEF PLANNING & ENGINEERING — DATE 1/23/92

JOHN L. TANAKA REGISTERED PROFESSIONAL ENGINEER No. 1601-C HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL PLAN

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. OF SHEETS

ADD. 143

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

83-45.2 FileDir:-P-WL:DWG Dwn:H3 RELOCATION OF WL OF 1/23/92 1=200

FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	ADD. 144	521

True North
Scale : 1" = 40'

Exist. Likelike Highway

Kaneohe Interchange

@ Sta. 6+16± (o/s 2'± Lt.)
=0+00 12"WL
Removed Exist. 1/4 Bend Before Connection.
~~Connect to Exist. 12"W~~
1–12"Sleeve, 12" Long
8 LF 12" DIP, CL.52
Temp. For Testing
1–12" Cap w/ 4" C.O.
1–Conc. Blk.

@ Sta. 11+07.74
Rel. LL Hwy. (o/s 70' Lt.)
=0+90 16"WL
1–16" 1/32 Bend
1–Conc. Blk.

@ Sta. 64+50±
Exist. Likelike Hwy.
=0+00 16"WL
Connect to Exist. 16"WL
1–16" 1/4 Bend
1–16" Sleeve, 15" Long
8 LF 16" DIP, CL.52
1–Conc. Blk. w/Structural Strut

Temp. For Testing
1–16" Cap w/4" C.O.
1–Conc. Blk.

Salvage Exist.16" Water Valve

@ Sta. 13+75
GDI
Inv.=301.00

@ Sta. 13+75
MDI
Inv.=304.30

@ Sta. 15+00
DMH
Inv.=294.10

@ Sta. 14+50 Rel. LL
Hwy. (o/s 90.5' Rt.)
=5+70± 16"WL
1–16" 1/8 Bend (H & BV)

@ Sta. 16+25
GDI
Inv.=286.80

@ Sta. 14+12± Rel. LL
Hwy. (o/s 60'± Rt.)
=5+20 16"WL
1–16" 1/32 Bend(TV)

@ Sta. 16+25
MDI
Inv.=291.20

(–)0+40 12"WL
Begin RC Jacket

Connect to Exist. 12"W (Bell ends facing down Station)

Exist. 12" Water

@ Sta. 6+50
MDI
Inv.=346.00

@ Sta. 8+75
GDI
Inv.=333.00

@ Sta. 11+25
GDI
Inv.=317.40

Approx. location of Exist. Signal Corps Cables

Exist. Signal Corps Cable

Cut & Plug

Exist.12" Water (To be Removed or Abandoned After Relocation)

Exist.16" Water (To be Removed or Abandoned After Relocation)

Temporary Connector Baseline

Exist.10" Water (To be Removed or Abandoned After Relocation)

@ PC Sta. 11+48.51

(PT TO PC)
24°07'08" 682.26

RELOCATED LIKELIKE HWY.

Install 100 LF RC Jacket

New 12"WL

New 16"WL (For Profile See Sht. 145)

3'–0"(Min.) Clear. Between New 16"W & 12"W and Guardrail Post

C.R.P. See Det. on Sht. 145

Conc. Jacket Up To Bottom Vert. Bend

Install 40 LF RC Jacket

@ Sta. 16+10± Rel. LL. Hwy. (o/s 75' Rt.)
=10+70 12"WL
Connect to Exist. 10" Water
Cut & Plug Exist. 10" Water
Materials for Connection (See Schem. Det., Sht. 143)
8 LF 12" DIP Cl. "52"
8 LF 10" DIP Cl. "52"
1–10" DI Sleeve (Lead Joint)
1–12" 1/16 Bend (H&BV)
1–12"x10" Reducer SEB
1–Conc. Block w/Struct. Struts
Temp. for Testing:
1–12" Cap w/4" C.O.
1–Conc. Block

@ Sta. 15+95± Rel. LL
Hwy. (o/s 51' Rt.)
=10+45.77 12"WL
1–12" 1/8 Bend(H&TV)

Cut & Plug

@ Sta. 13+88 Rel. LL
Hwy. (o/s 41' Rt.)
=4+88.27 16"WL
1–16" 1/16 Bend(Hor.)
1–16" 1/32 Bend(BV)

@ Sta. 14+70 Rel. LL.
Hwy. (o/s 88' Rt.)
=5+91± 16"WL
Connect to Exist. 16"WL
1–16" 1/8 Bend (H&TV)
1–Conc. Blk. w/ Struct. Strut
1–16" Sleeve, 15" Long
8LF 16" DIP. CL.52
Temp. Testing
1–16" Cap w/4" C.O.
1–Conc. Blk.

@ Sta. 6+19± (o/s 15'± Rt.)
=0+17.50 12"WL
1–12" 1/32 Bend

0+60 12"WL
End RC Jacket

@ Sta. 6+19± (o/s 51' Rt.)
=0+53.50 12"WL
1–12" 1/4 Bend

@ Sta. 6+50
GDI
Inv.=343.40

@ Sta. 8+75
DMH
Inv.=330.00

@ Sta. 8+75
GDI
Inv.=330.50

@ Sta. 11+07.74 Rel. LL. Hwy. (o/s 39' Lt.)
1+21 16"WL
1–16"BFV, FE, CL.150#
1–Type "A" MH for BFV
2–16" F & B Adapter, 3'–0" Long
2–Capping Collars

@ Sta. 11+07.74 Rel. LL. Hwy. (o/s 41' Rt.)
=2+01 16"WL
1–16" 1/4 Bend

@ Sta. 11+25
MDI
Inv.=312.60

@ Sta. 12+50
DMH
Inv.=311.35

Contractor to Install Type"C" Lateral and All Appurtenances in Accordance with BWS Standards to Accomodate the Relocation of the Exist. 1–Inch Water Meter. (M/N 19818445 T–04 & S/N 642–78297 4)

State R/W

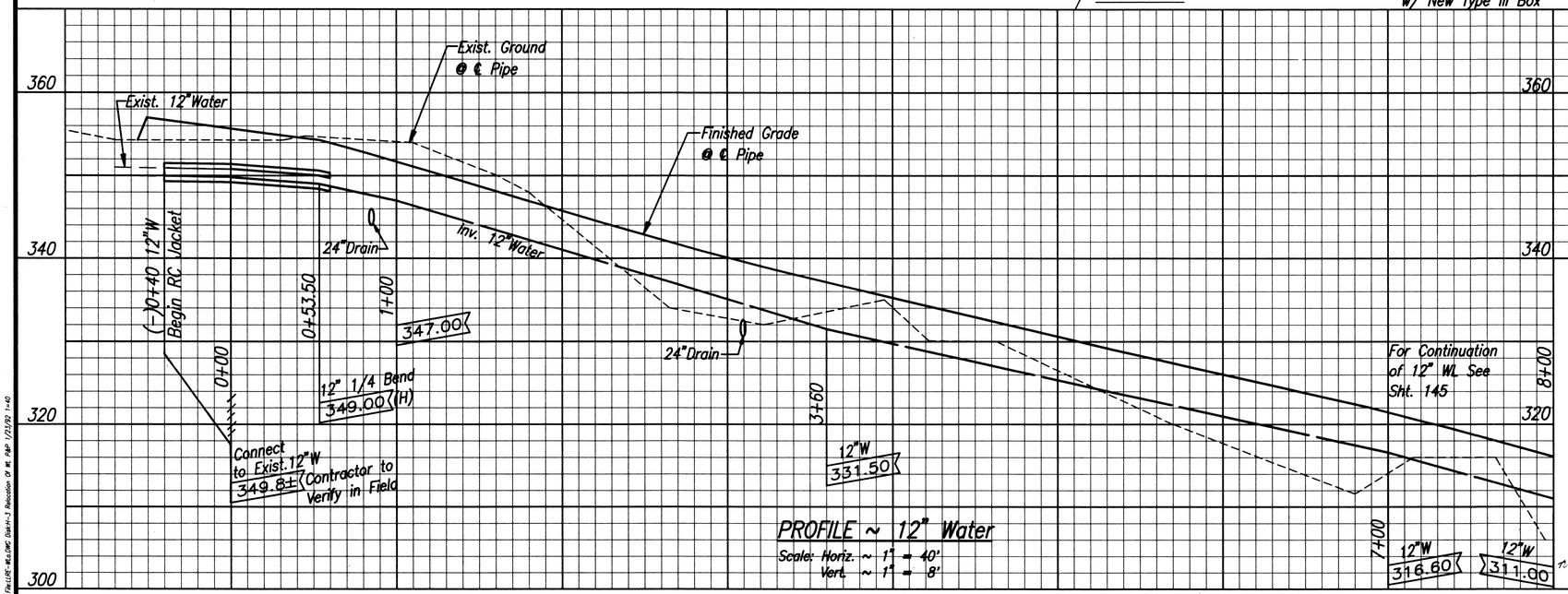
Connect to Exist. WL

GV

Contractor to Relocate Backflow Preventor w/ New Type III Box

Contractor to Install Type"B" Lateral and All Appurtenances in Accordance with BWS Standards to Accomodate the Relocation of the Exist. 5/8–Inch Water Meter. (M/N 78023858 T02 & S/N 642–78267 0)

PLAN



PROFILE ~ 12" Water
Scale: Horiz. ~ 1" = 40'
Vert. ~ 1" = 8'

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

EU-45.3 Pacific Heights Stairs-3 Relocation Of W. Main 1/23/92 1:40

JOHN L. TANABE
REGISTERED PROFESSIONAL ENGINEER
No. 1601-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APPROVED:

for BWS, CHIEF PLANNING & ENGINEERING — DATE 1/31/92

DATE	REVISION
1/22/92	Revised callout at Sta. 16+10±

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RELOCATION OF WATER LINE

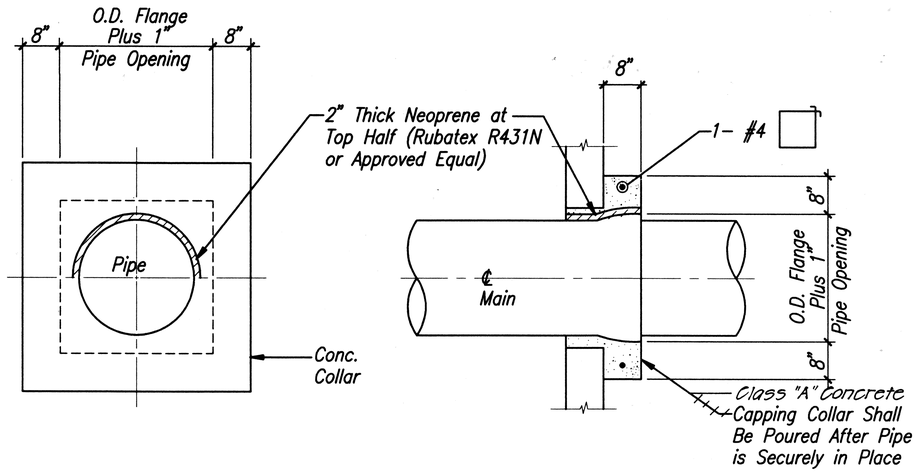
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. OF SHEETS

ADD. 144

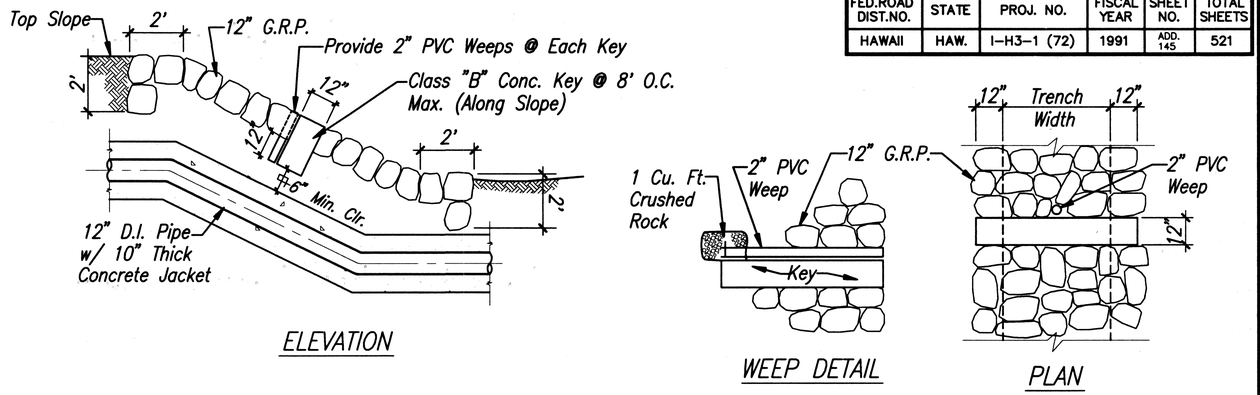
FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (72)	1991	ADD. 145	521



ELEVATION SECTION

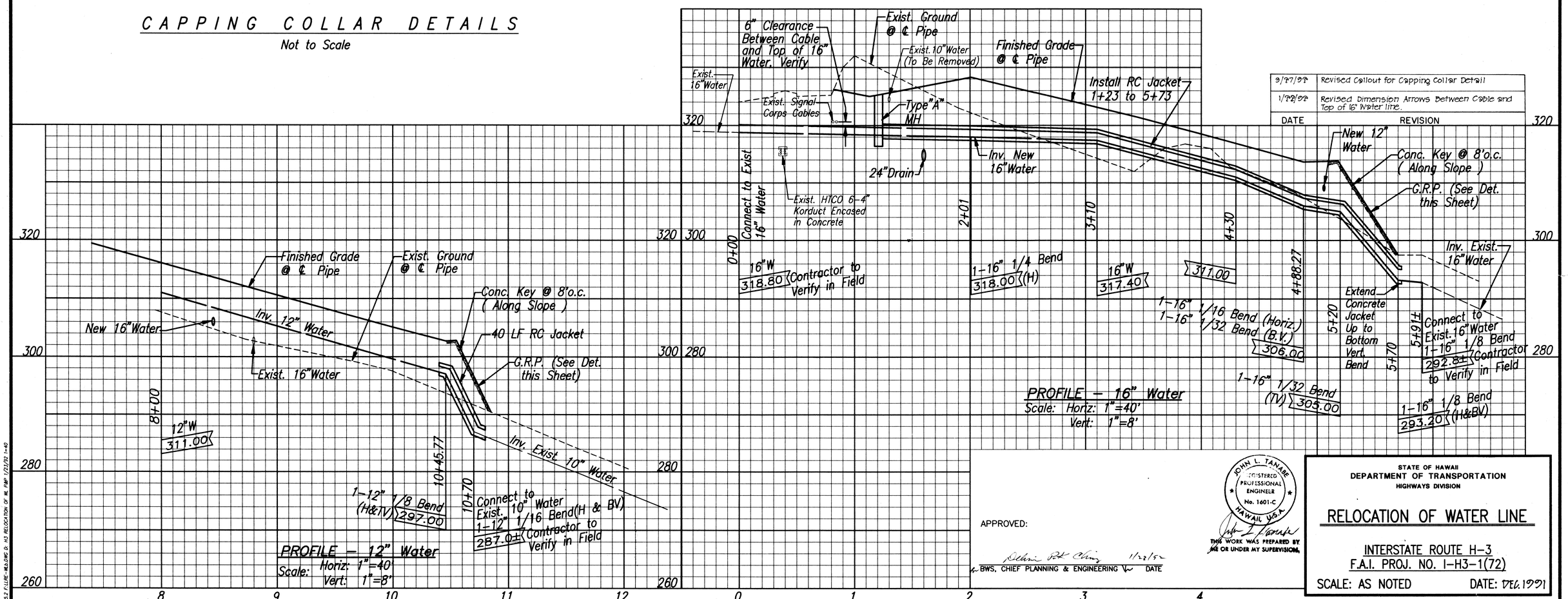
CAPPING COLLAR DETAILS

Not to Scale



TYP. GROUTED RUBBLE PAVING DETAILS

Not to Scale



DATE	REVISION
9/27/95	Revised Callout for Capping Collar Detail
1/22/92	Revised Dimension Arrows Between Cable and Top of 16" Water line.

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

83-45.2 FILE: HI-3 DWG D. H3 RELOCATION OF WL.DGN 1/23/92 1=40

APPROVED:

BWS, CHIEF PLANNING & ENGINEERING — DATE 11/21/91

JOHN L. TANABE REGISTERED PROFESSIONAL ENGINEER No. 1601-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RELOCATION OF WATER LINE

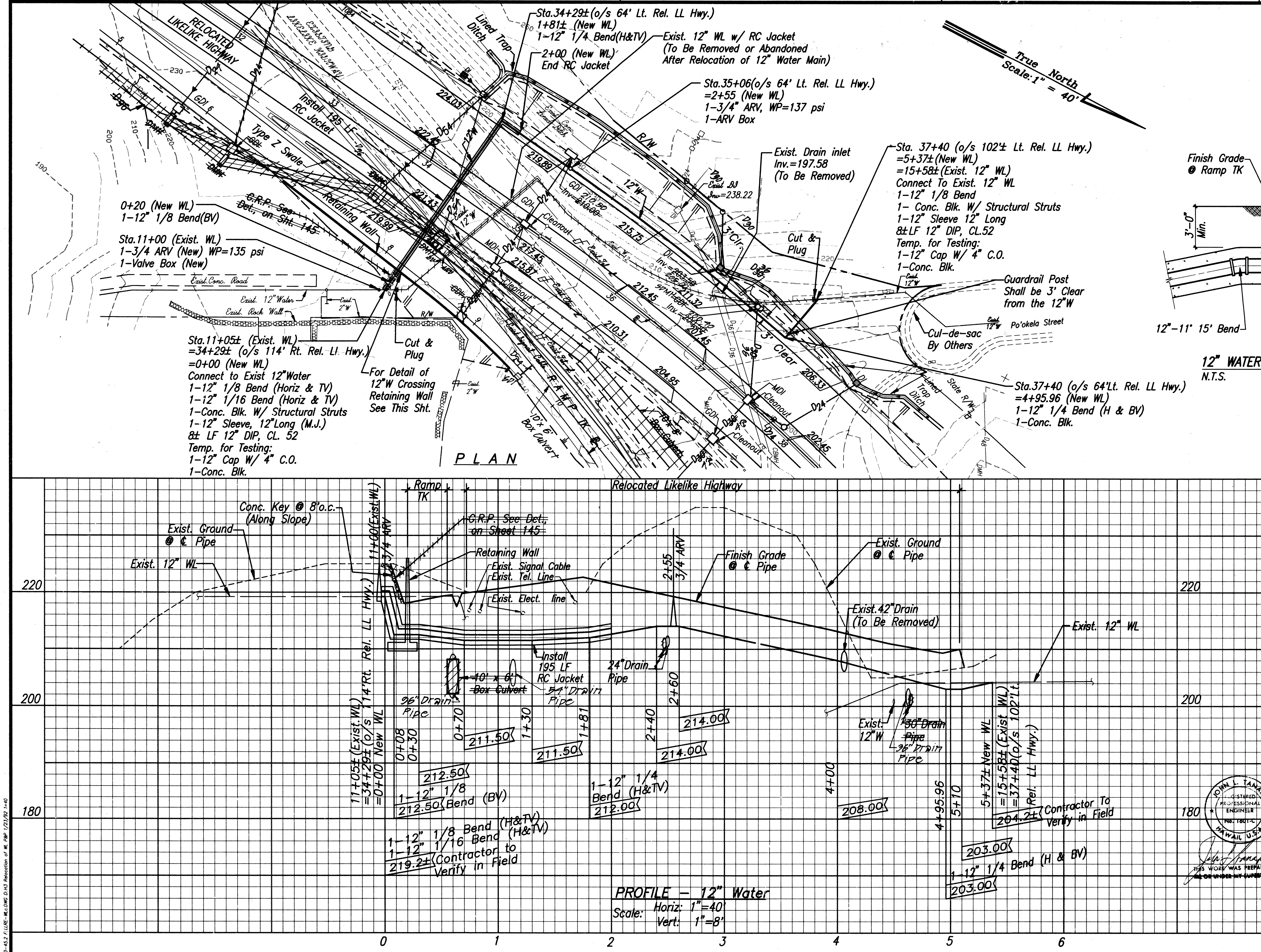
INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

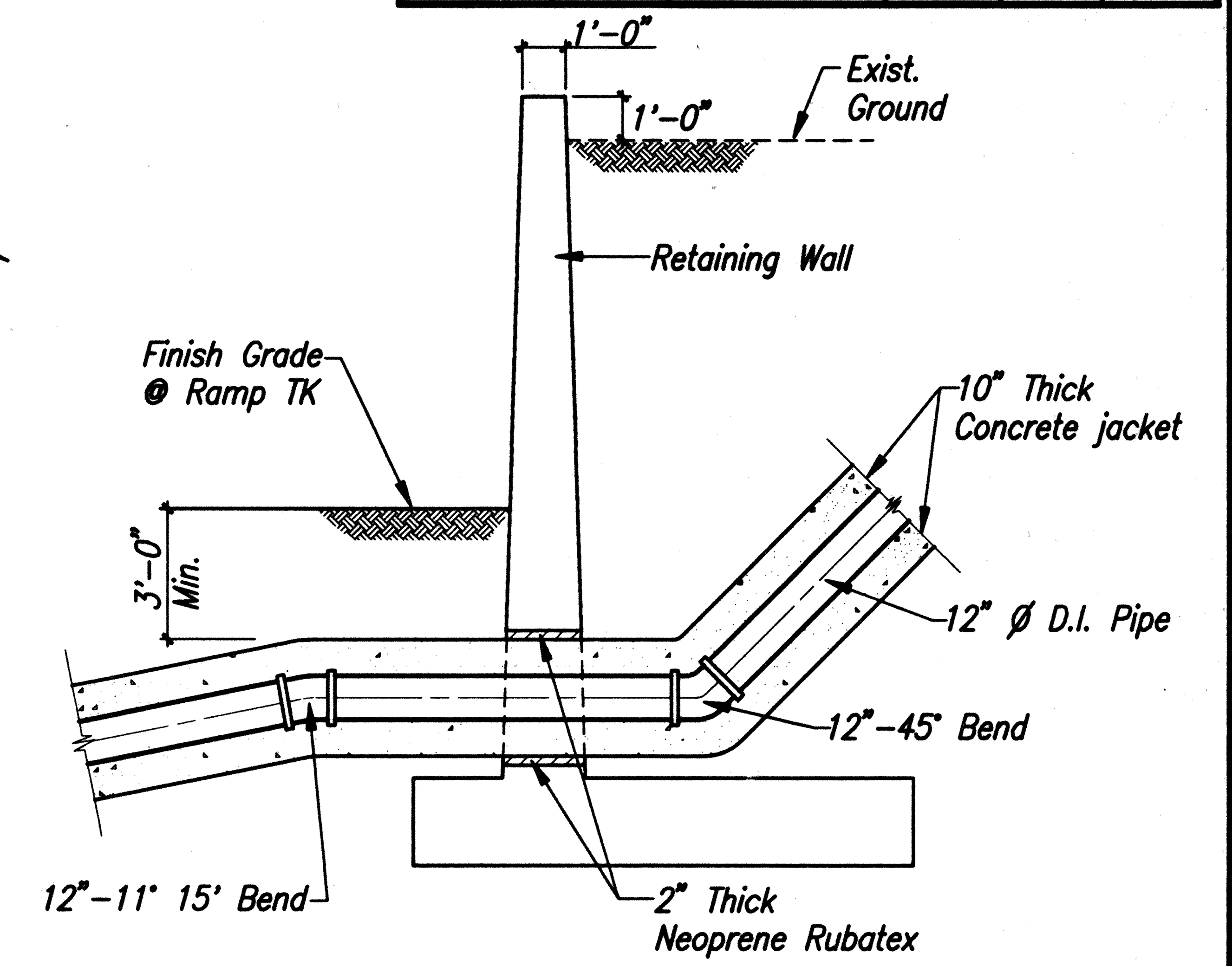
SCALE: AS NOTED DATE: DEC. 1991

SHEET No. OF SHEETS

ADD. 145

FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1 (72)	1991	C.O.ADD. 146	521





12" WATER LINE THROUGH RETAINING WALL
N.T.S.

APPROVED:

[signature] 1/23/92
BWS, CHIEF PLANNING & ENGINEERING DATE

DATE	REVISION
3/29/93	Revised Drainline
12/8/92	Delete GRP behind Rt. Wall
9/27/92	Revised Drainline
9/21/92	Revised 24" Drainline, SDMH, 54" Drainline, 96" Drainline and 10'x 6' Box Culvert.
1/22/92	Revised Right of Way @ Castle Hills Subd.

JOHN L. TANAKE
REGISTERED PROFESSIONAL ENGINEER
No. 1801-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RELOCATION OF WATER LINE

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED DATE: DEC. 1991

SHEET No. OF SHEETS

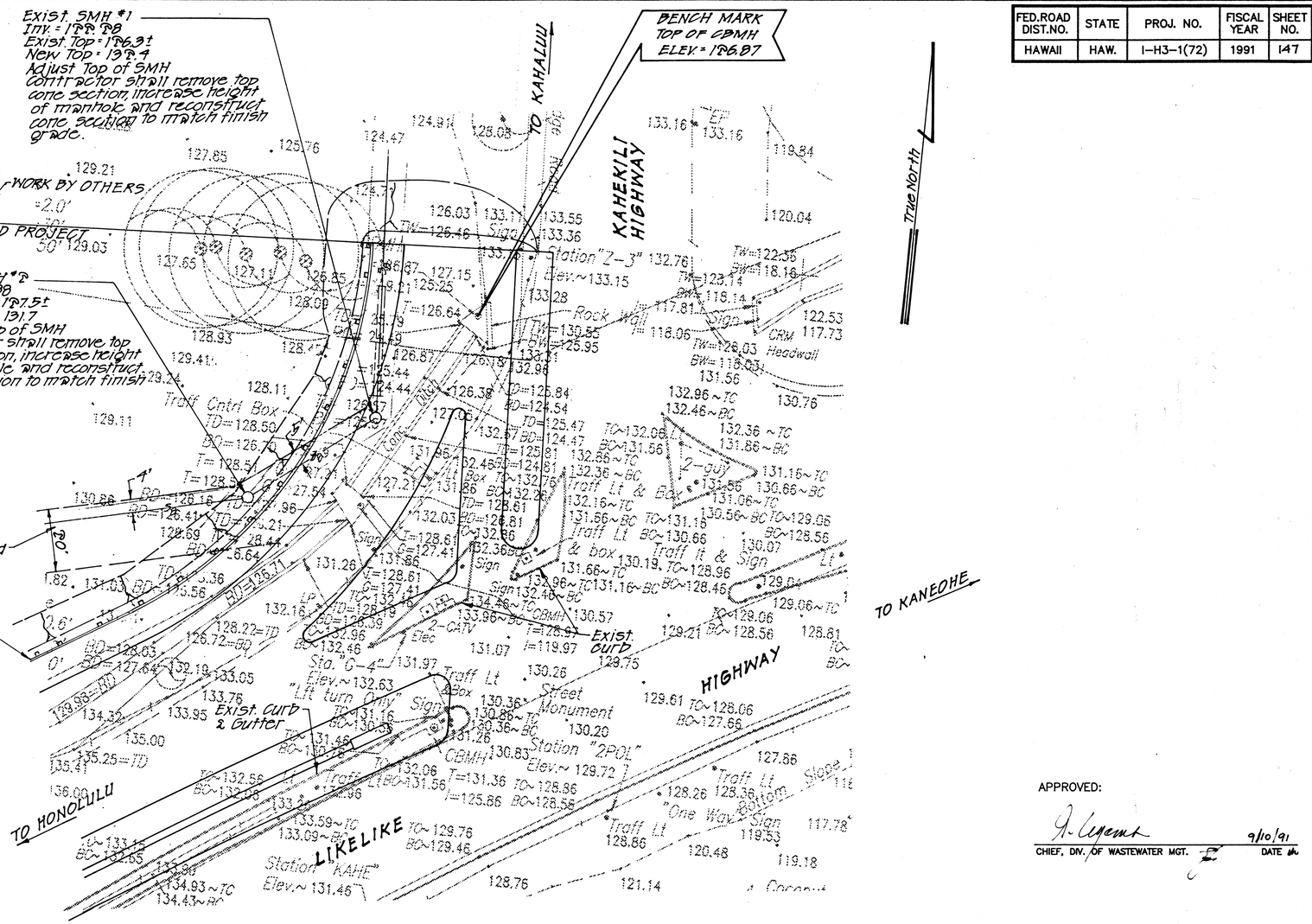
C.O. ADD. 146

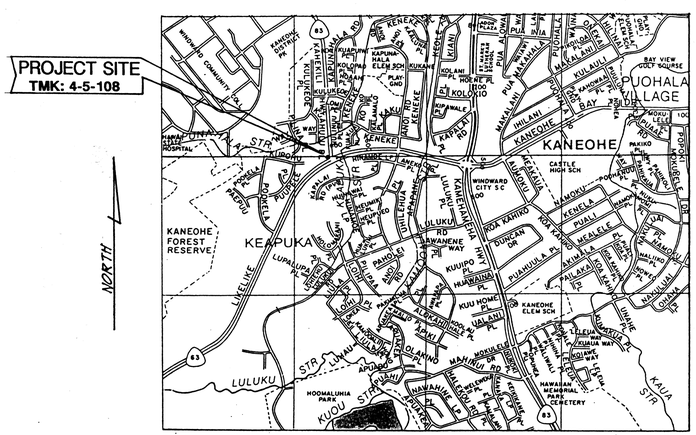
ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
DATE

FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(72)	1991	147	521

SEWER NOTES

1. All sewer construction shall be done in accordance with the Standard Specifications for Public Works Construction, September 1986 and Standard Details for Public Works Construction, September 1984, as amended, of the Department of Public Works, City and County of Honolulu, Current City Practices and Revised Ordinances of Honolulu, 1978, as amended, and Design Standards of the Division of Wastewater Management, Vol. 1, February 1984.
2. In the event that any changes in alignment or grades for the proposed sewers are required due to unforeseen conflict with other utilities, the Project Engineer shall coordinate the work necessary for the required changes which are to be presented to the Division of Wastewater Management for approval.
3. The Contractor shall notify the Construction Section, Division of Wastewater Management at 523-4345 to arrange for inspectional services and submit four (4) sets of approved construction drawings seven (7) days prior to commencement of sewer work.
4. Crushed rock cradle is permitted, unless otherwise indicated. In areas of unstable soil, the Construction Engineer will determine the pipe support required.
5. Trees in the road right-of-way shall be situated a minimum of 6'-0" from the City's sewer pipes.
6. The underground pipes, cables or ductlines known to exist by the Engineer from his search of records are indicated on the plans. The Contractor shall verify the location and depth of the facilities and exercise proper care in excavating in the area. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.
7. The Contractor shall provide for all necessary by-passes, pumps, etc., to insure a continuous uninterrupted flow of sewage to all affected areas at all times. This work shall be considered incidental to pipe installation.
8. The existing utilities have been shown on these plans insofar as it is possible to do so. Their locations as shown are approximate only and the Contractor shall make an independent check on the ground and with the various utility companies and governmental agencies to ascertain their exact locations.
9. Tops of all existing SMH's shall be adjusted to new grades.
10. Bench mark for this project is shown on this sheet.
11. The Project Engineer shall submit to the Division of Wastewater Management "as-built" tracings of the construction plans as actually constructed, showing all changes from the original plans.





LOCATION MAP
Not To Scale

SEWER ADJUSTMENT PLAN
Scale: 1" = 80'

APPROVED:

CHIEF, DIV. OF WASTEWATER MGT. — DATE 9/10/91

DATE	REVISION
1/14/94	Revised Shoulder Radius at Likelike/Kahekili Intersection

ROBERT I. ITAGAKI
REGISTERED PROFESSIONAL ENGINEER
No. 1584-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. 7/1/91

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SEWER ADJUSTMENT PLAN

INTERSTATE ROUTE H-3
F.A.I. PROJ. NO. I-H3-1(72)

SCALE: AS NOTED — DATE: DEC. 1991

SHEET No. 6 OF 6 SHEETS

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

83-4631 DiKaneohe Interchange Interstate Route H-3 Plot1=20