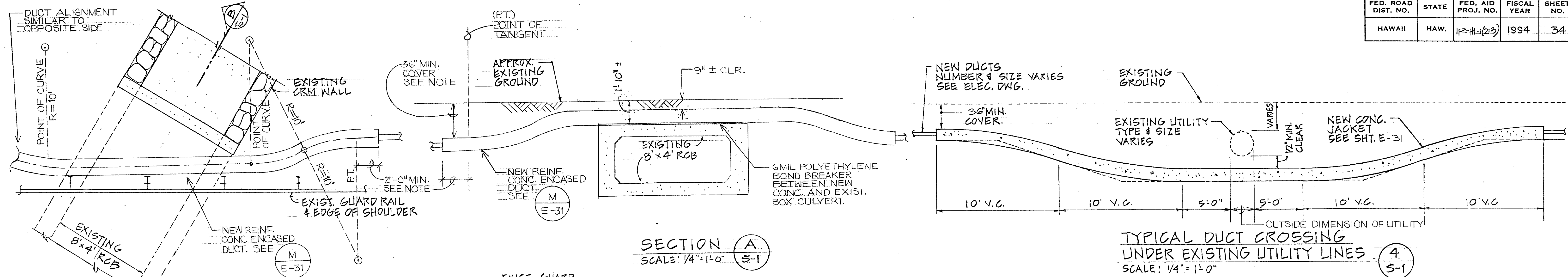
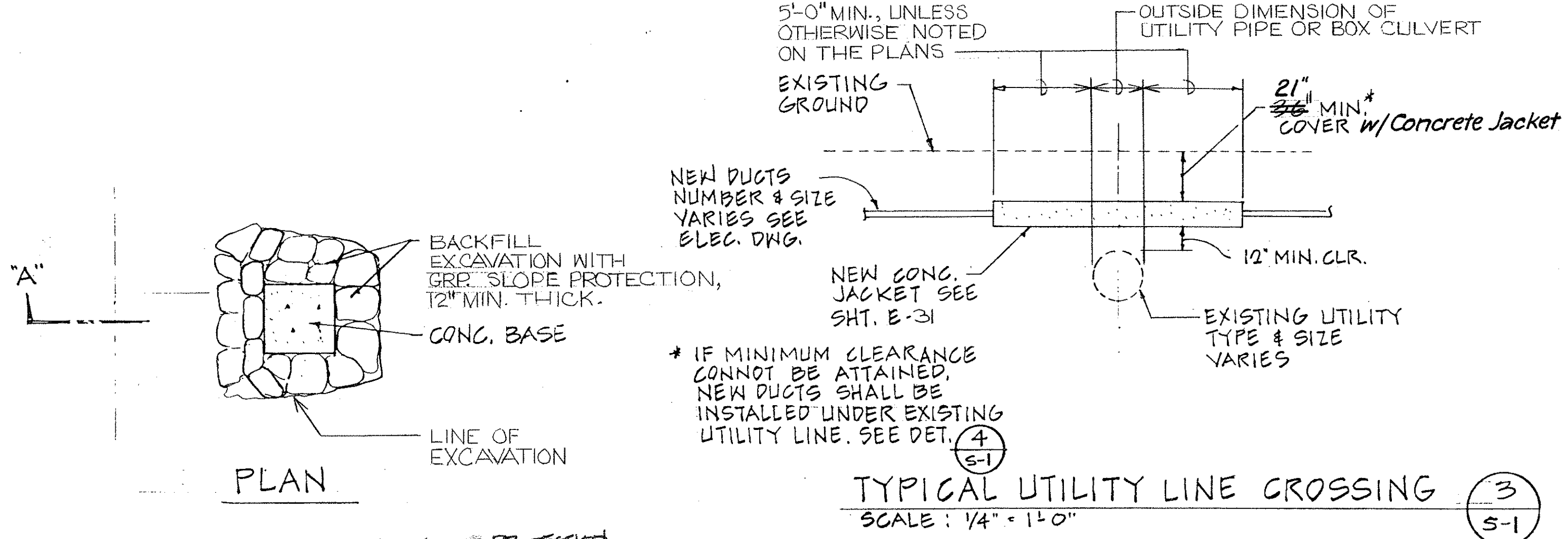
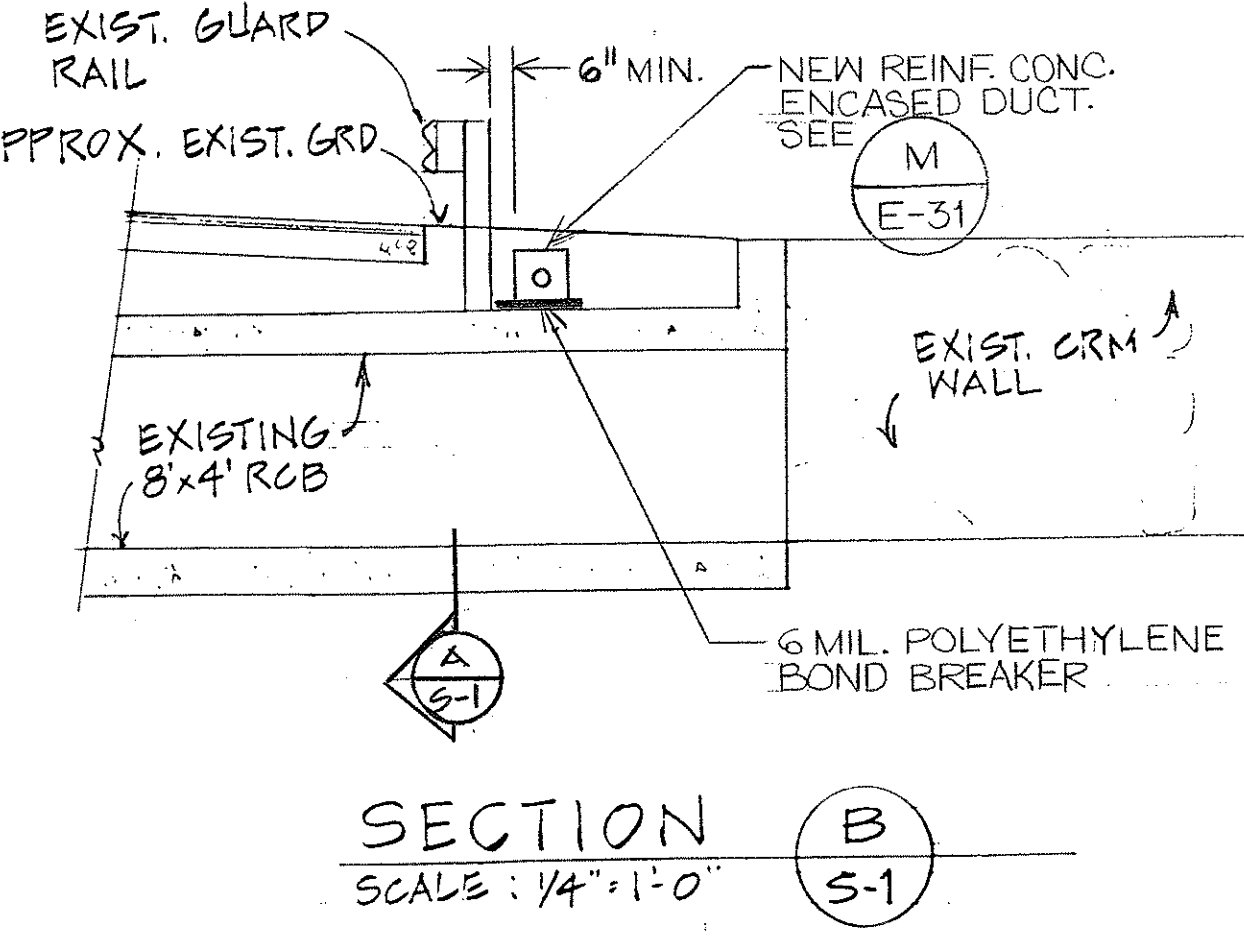


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-HI-1(213)	1994	34	38

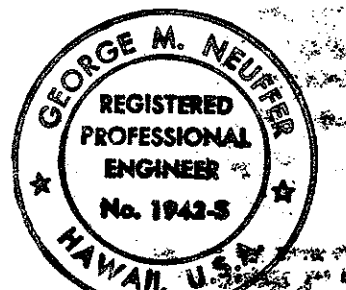


DUCT LINE CROSSING @ STA. 95+00
SCALE: 1/4" = 1'-0"

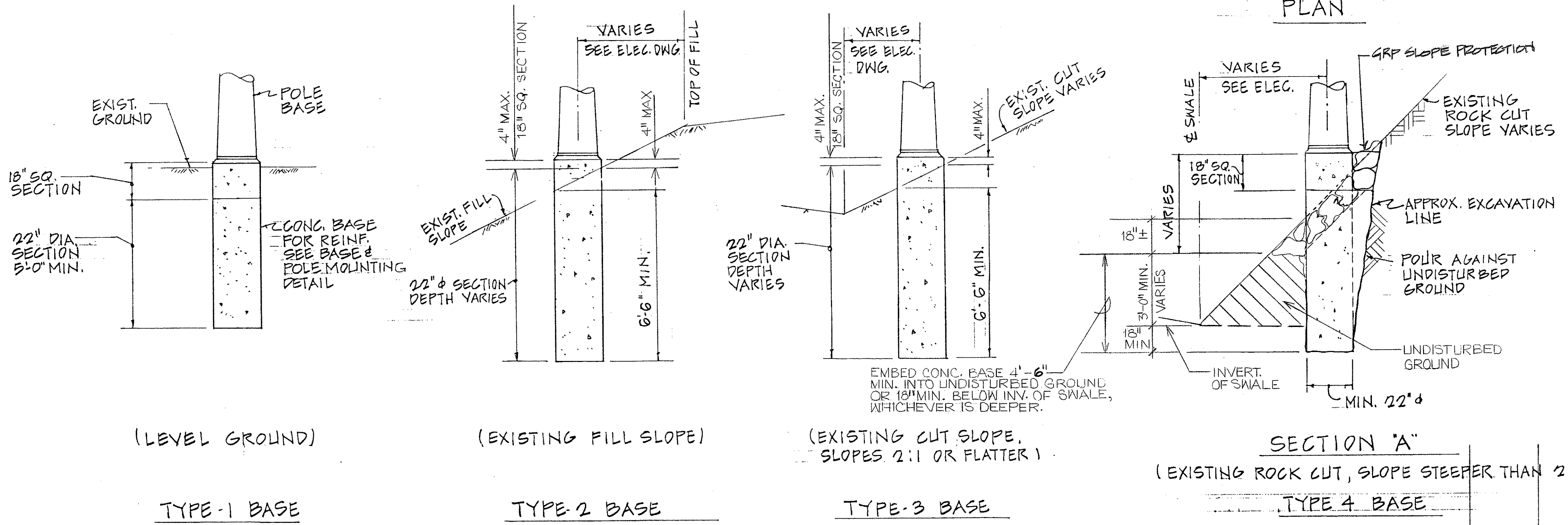


TYPICAL UTILITY LINE CROSSING
SCALE: 1/4" = 1'-0"

- NOTES:
- FOR DETAIL OF REINFORCED CONCRETE ENCASED DUCT, SEE SHEET E-31.
 - NEW REINFORCED CONCRETE JACKET SHALL BE CONSTRUCTED WITH FORMS AND ALLOWED TO CURE A MINIMUM OF 7 DAYS.



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TYPICAL LIGHT STANDARD CONCRETE BASE DETAIL
SCALE: 3/8" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

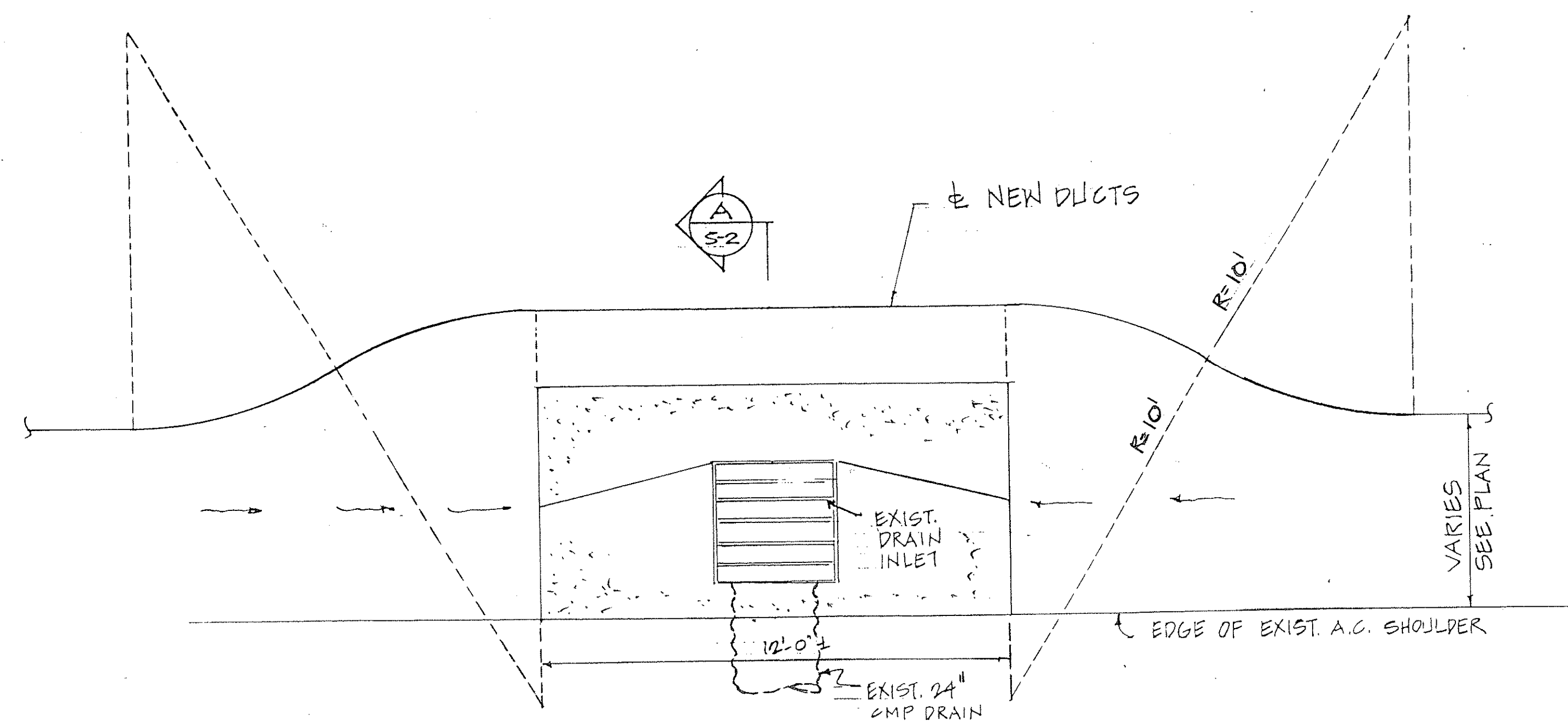
STRUCTURAL DETAILS - No. 1

INTERSTATE ROUTE H-1
PALAILAI I.C. TO KUNIA I.C.
PROJECT NO. 1R-HI-1(213)

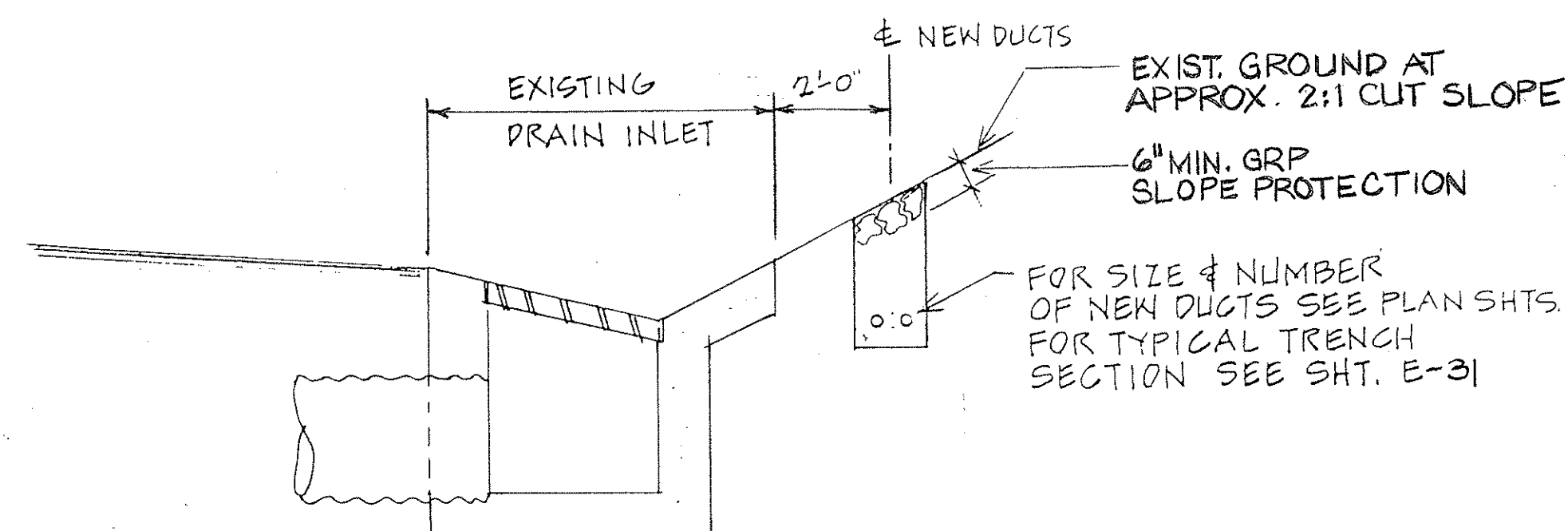
SCALE: AS NOTED

SHEET NO. 1 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-H-1(213)	1994	35	38

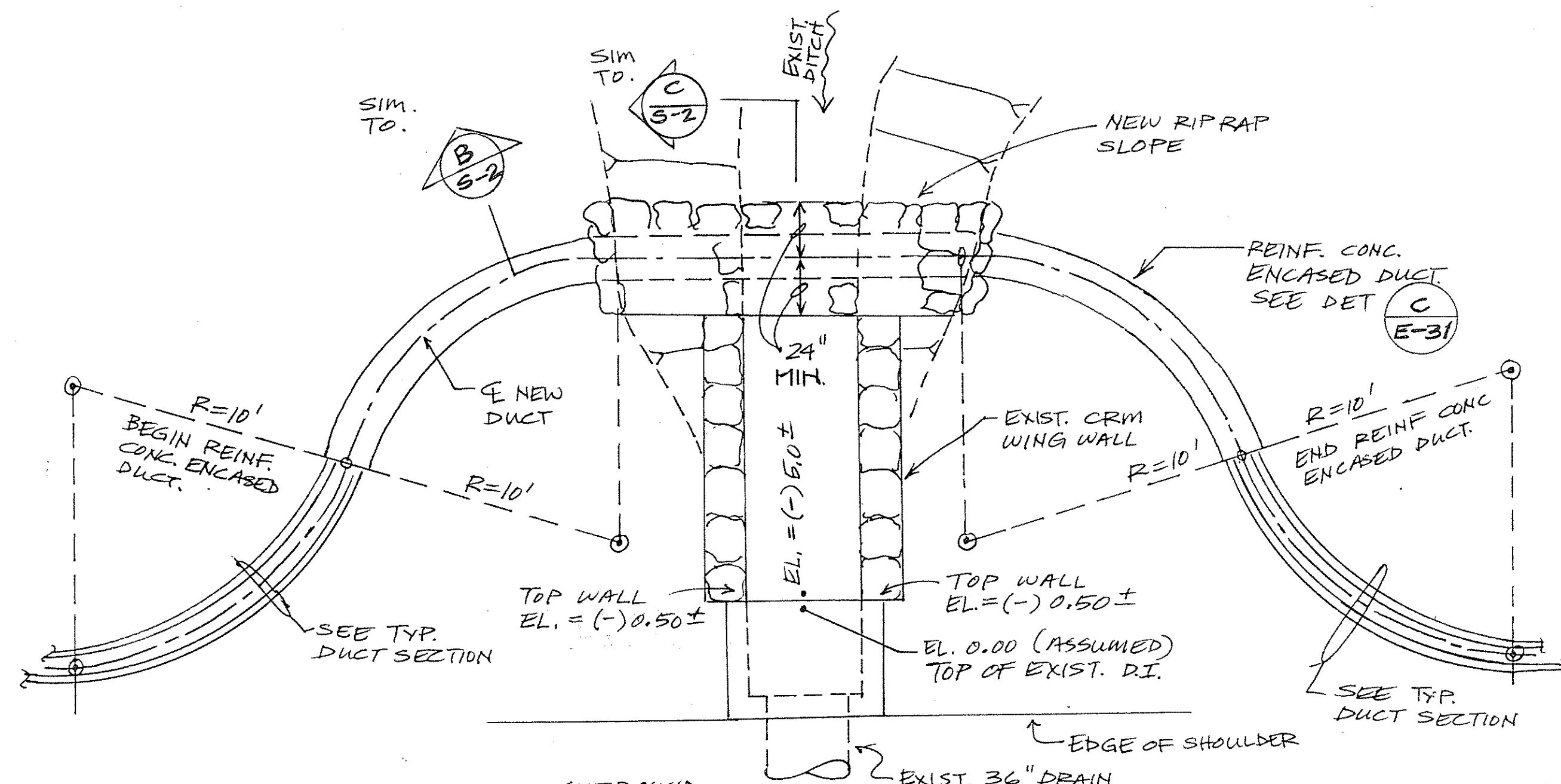


PLAN

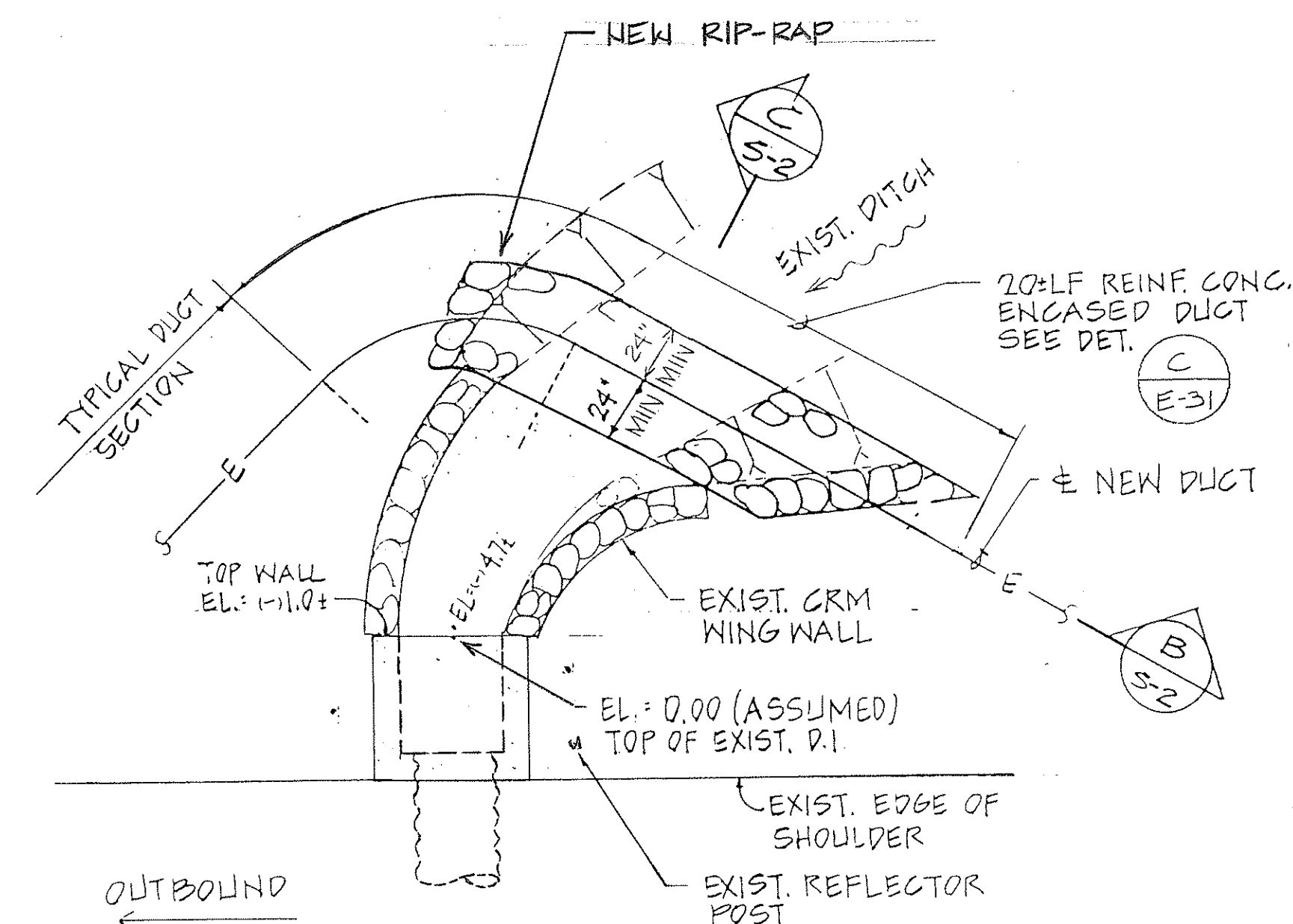


A
S-2 SECTION

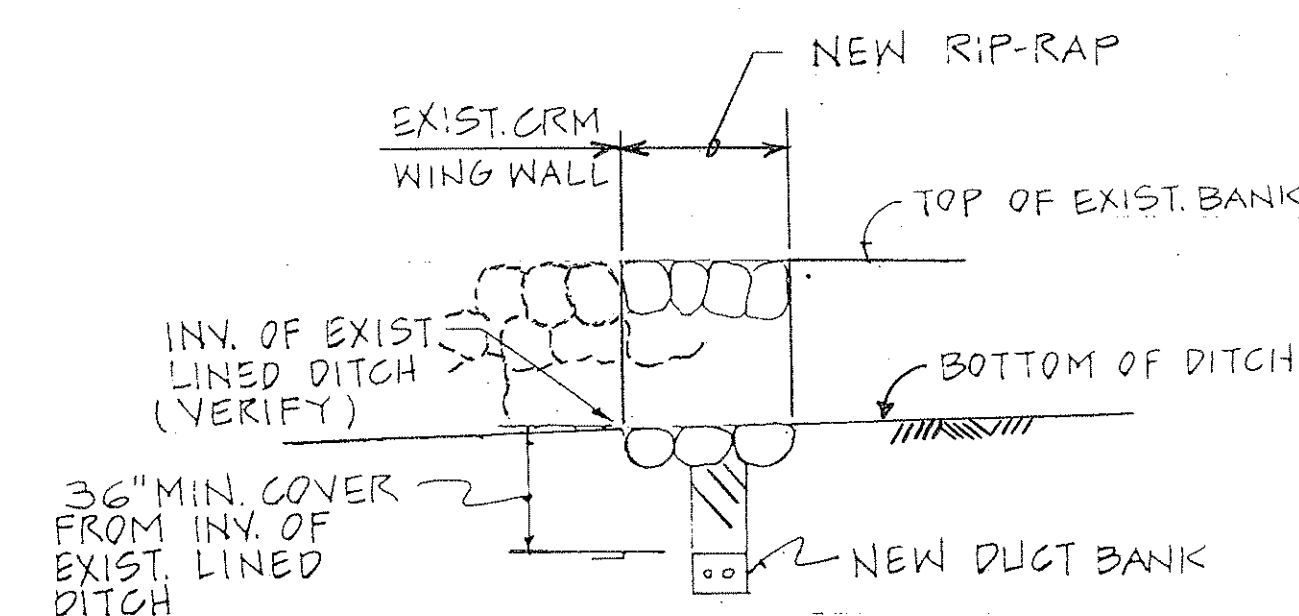
1 TYPICAL DUCT ALIGNMENT AT EXISTING DRAIN INLET
S-2 SCALE: 3/8" = 1'-0"



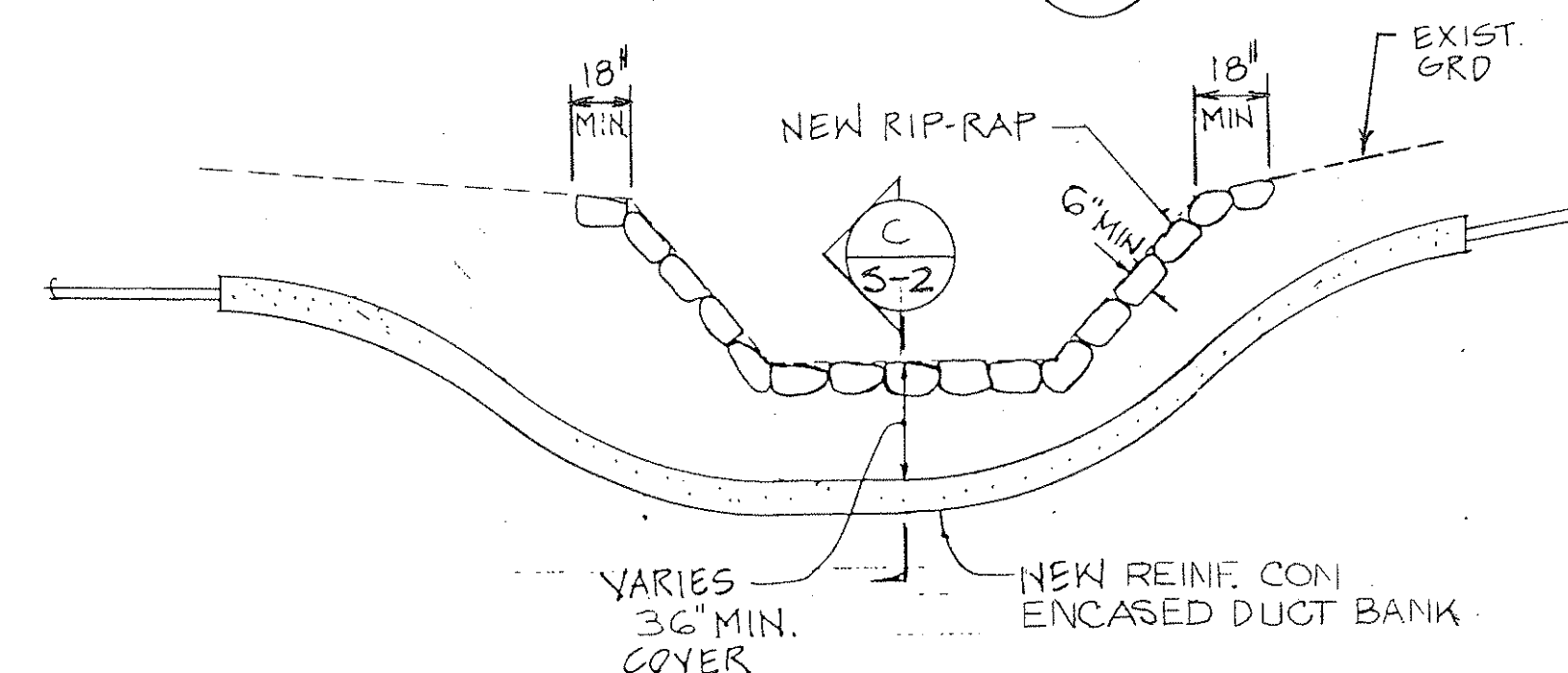
3 PLAN - DITCH CROSSING AT STA. 297+50
S-2 SCALE: 1/4" = 1'-0"



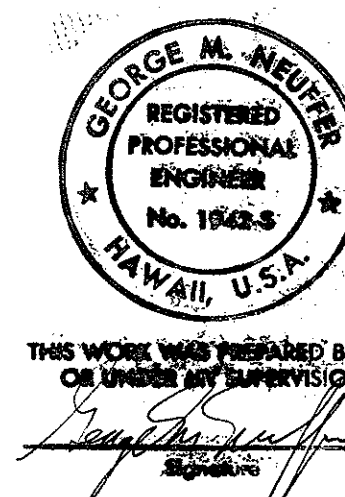
PLAN - DITCH CROSSING @ STA. 248+00 ±
SCALE: 1/4" = 1'-0"



C
S-2 SECTION



B
S-2 SECTION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

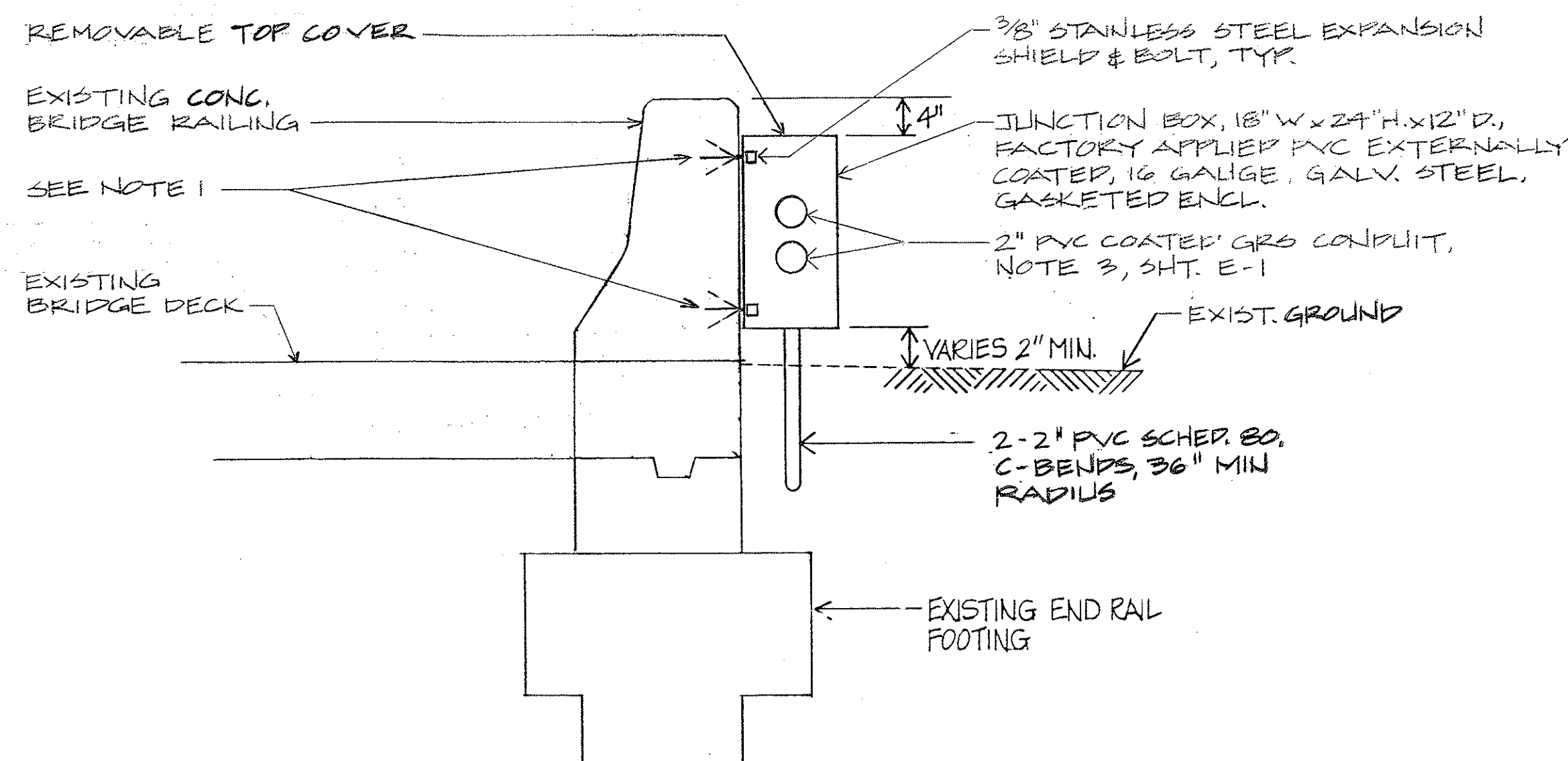
STRUCTURAL DETAILS - No. 2

INTERSTATE ROUTE 4-1
PALAILAI I.C. TO KUNIA I.C.
PROJECT No. IR-H-1(213)

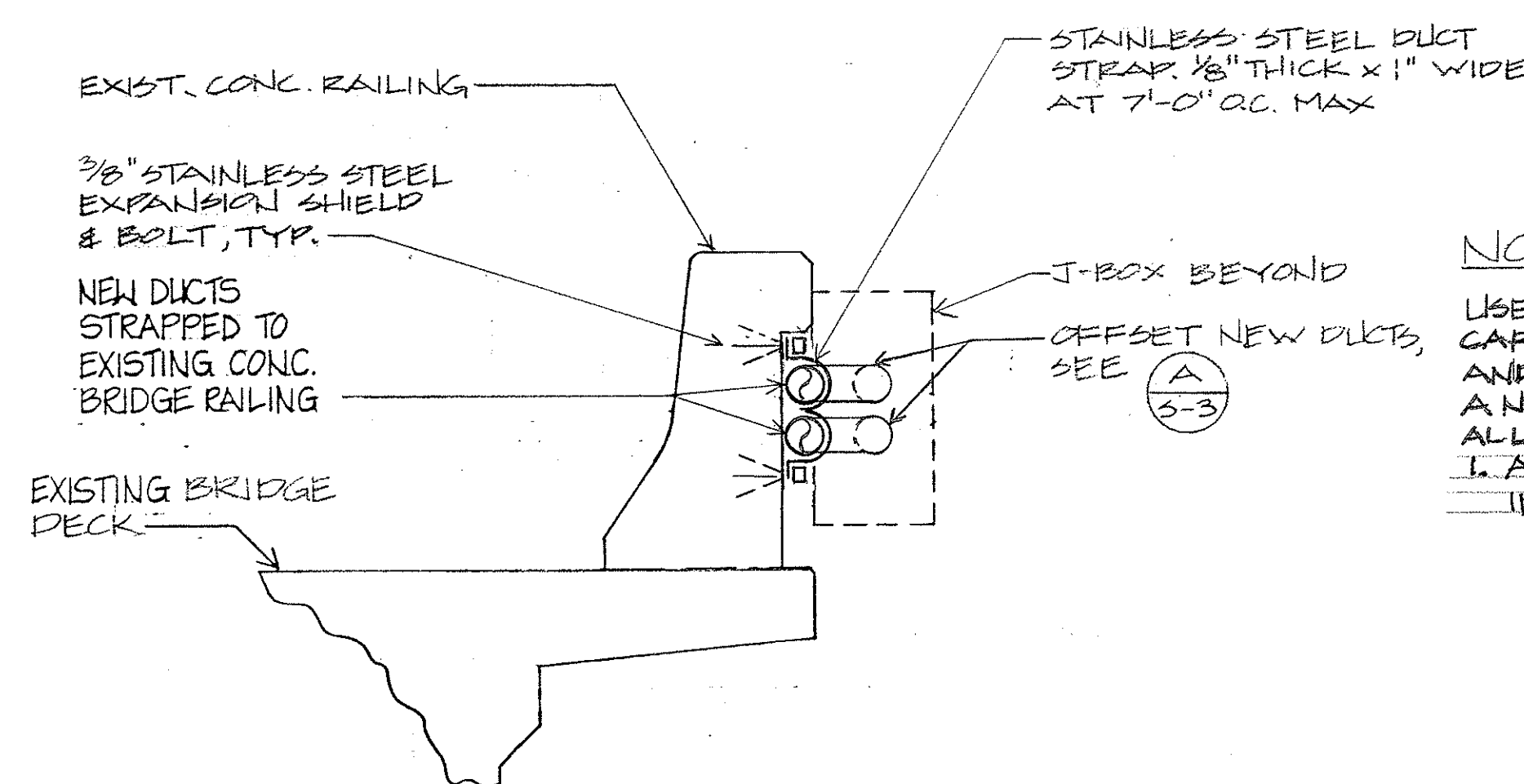
SCALE: AS NOTED

SHEET No. 2 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-H1-1(213)	1994	36	38



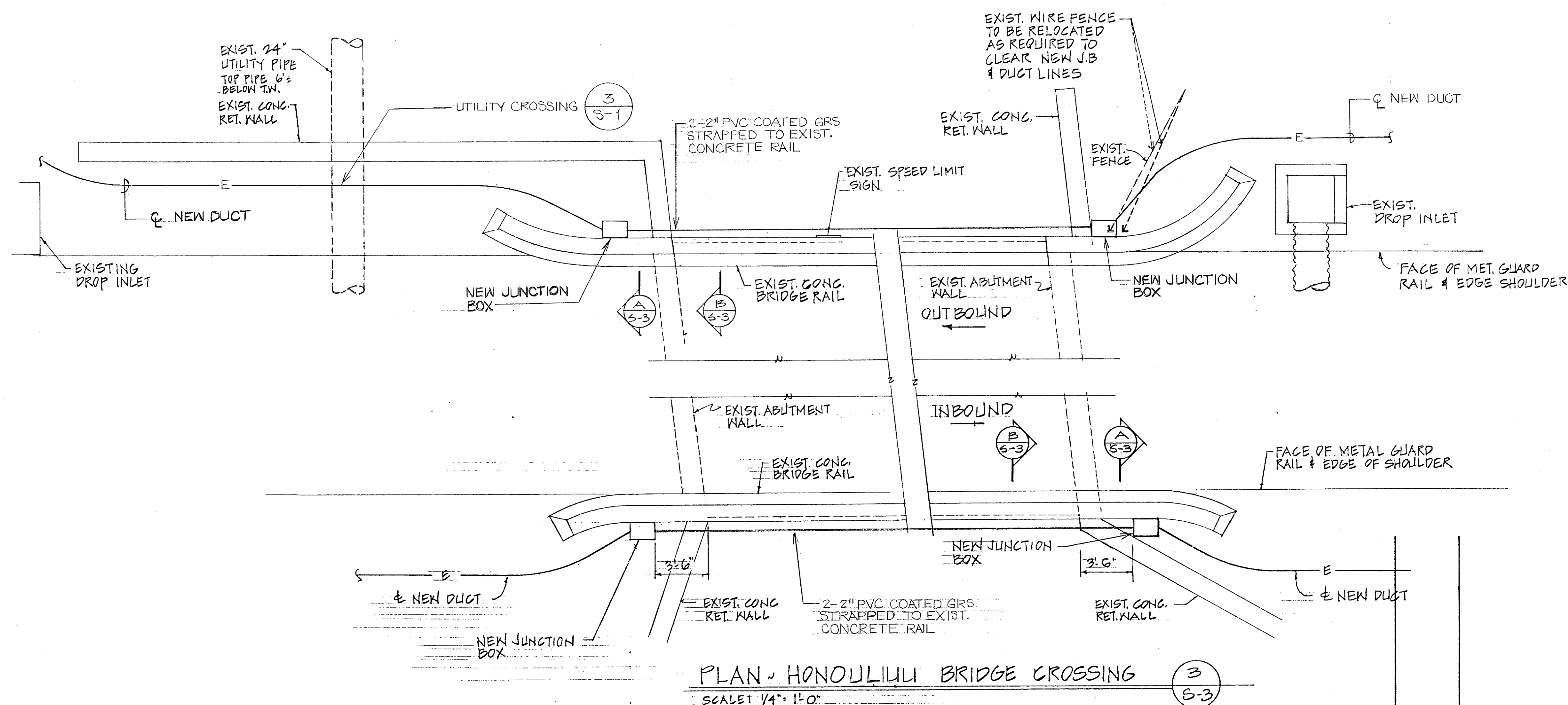
TYPICAL J-BOX INSTALLATION AT EXISTING CONCRETE BARRIER RAILING SECTION A 5-3
NOT TO SCALE



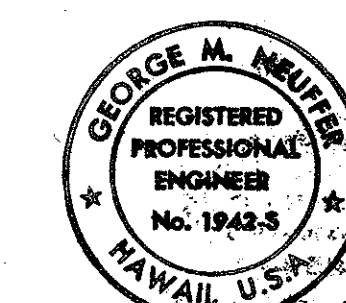
TYPICAL CONDUIT INSTALLATION AT EXISTING CONCRETE BARRIER RAILING - SECTION B 5-3
NOT TO SCALE

NOTES:

USE EXTREME CAUTION WHEN DRILLING BRIDGE STRUCTURE. CARE SHALL BE TAKEN TO AVOID DAMAGING REINFORCING STEEL AND CABLES. IF SUCH STEEL OR CABLES ARE ENCOUNTERED, A NEW HOLE SHALL BE DRILLED TO AVOID THE STEEL OR CABLE. ALL UNUSED HOLES SHALL BE FILLED WITH EPOXY GROUT. 1. AT BOX CULVERT STA. 110+10 INBOUND USE 2" LB. IN LIEU OF JUNCTION BOX.



PLAN - HONOLULU BRIDGE CROSSING SECTION 3 5-3
SCALE: 1/4" = 1'-0"



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5-3

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

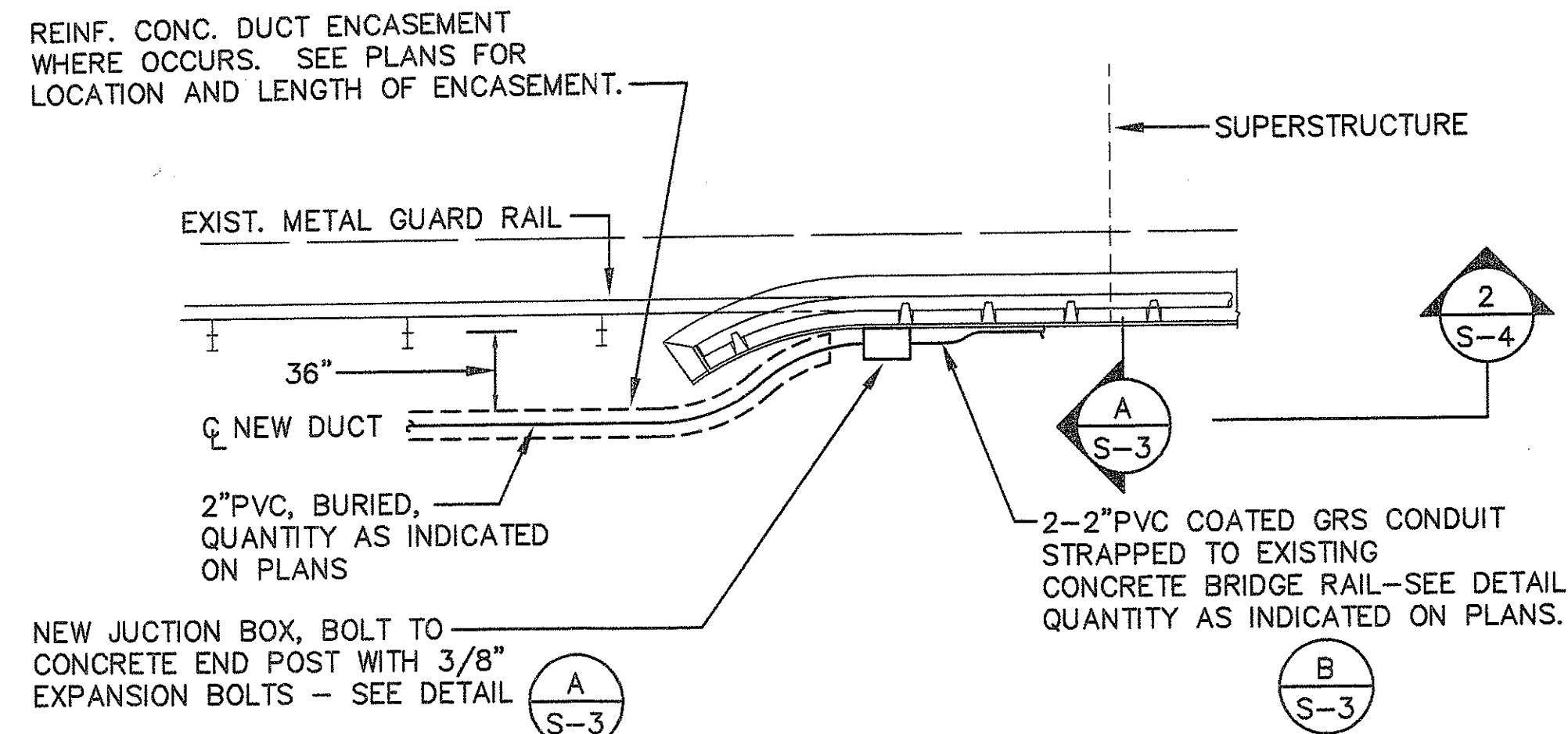
STRUCTURAL DETAILS - No. 3

INTERSTATE ROUTE 4-1
PALAKAI I.C. TO KUNIA I.C.
PROJECT NO. 1R-H1-1(213)

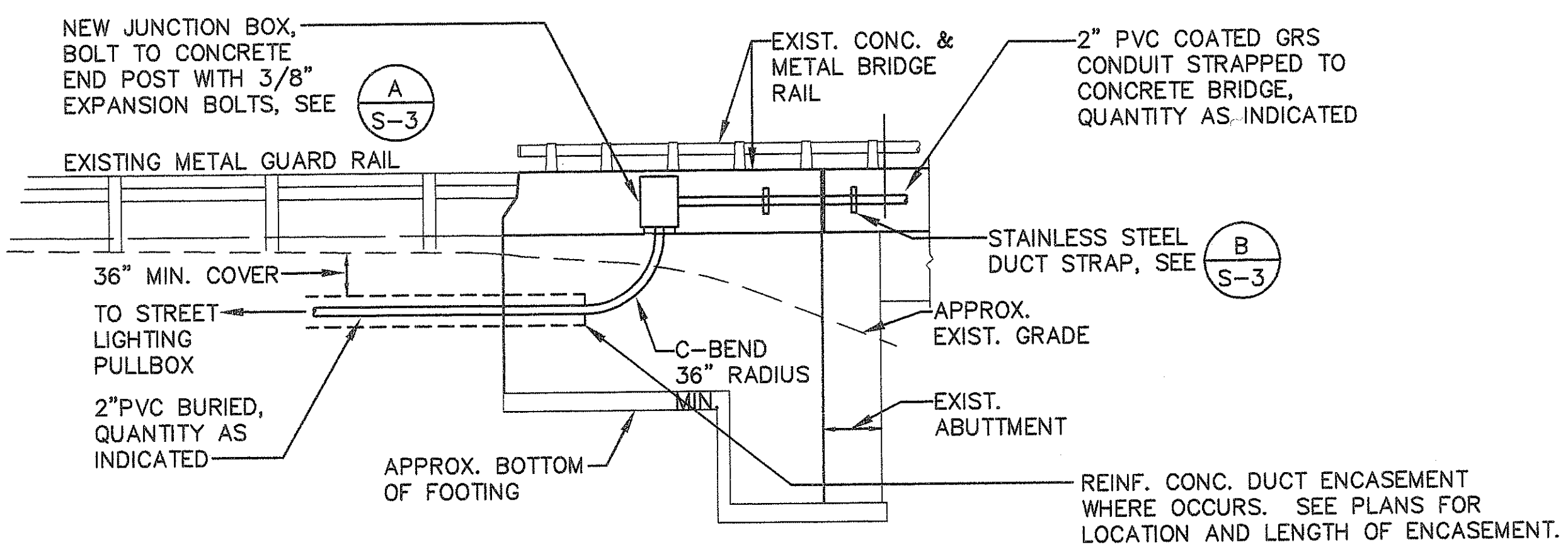
SCALE: AS NOTED

SHEET No. 3 OF 5 SHEETS

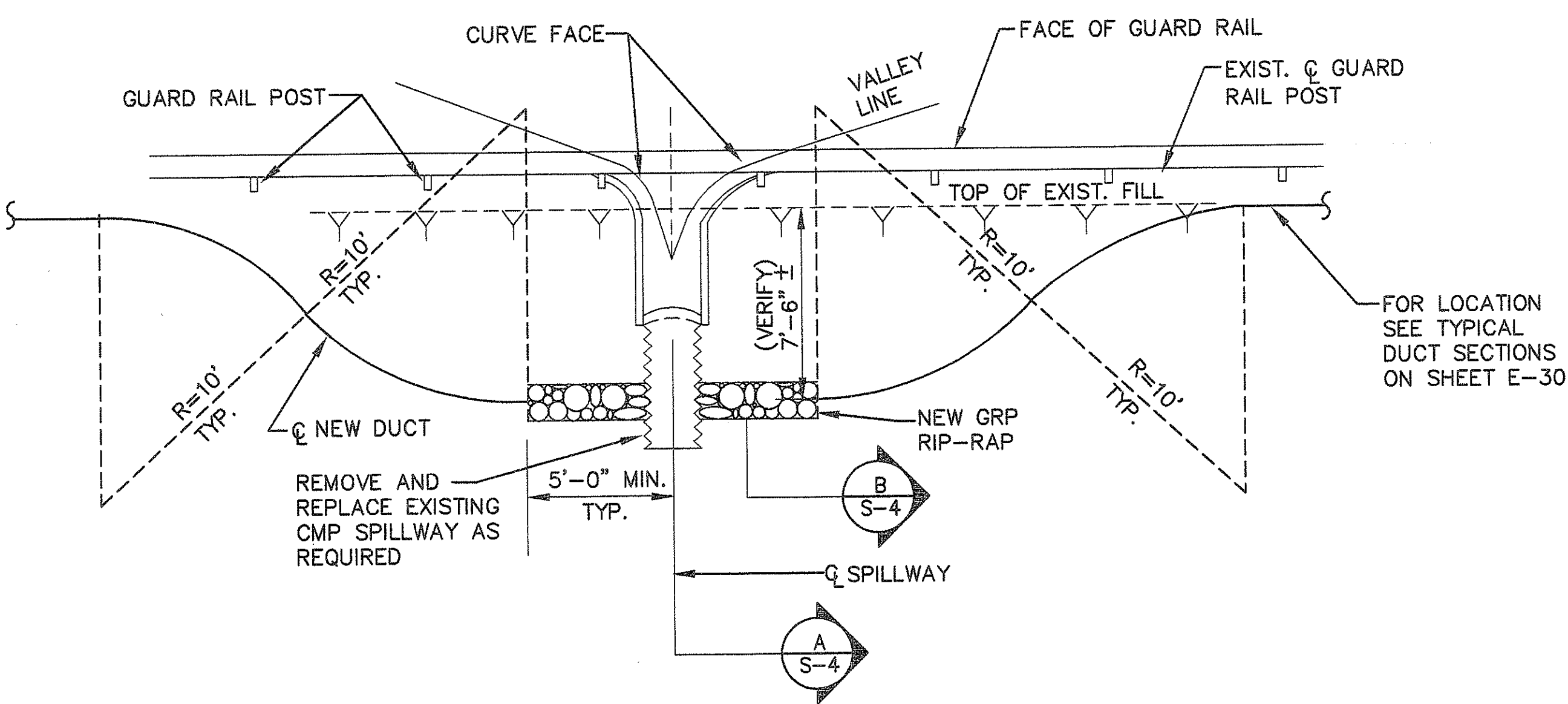
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	IR-H1-1 (213)	1994	37	38



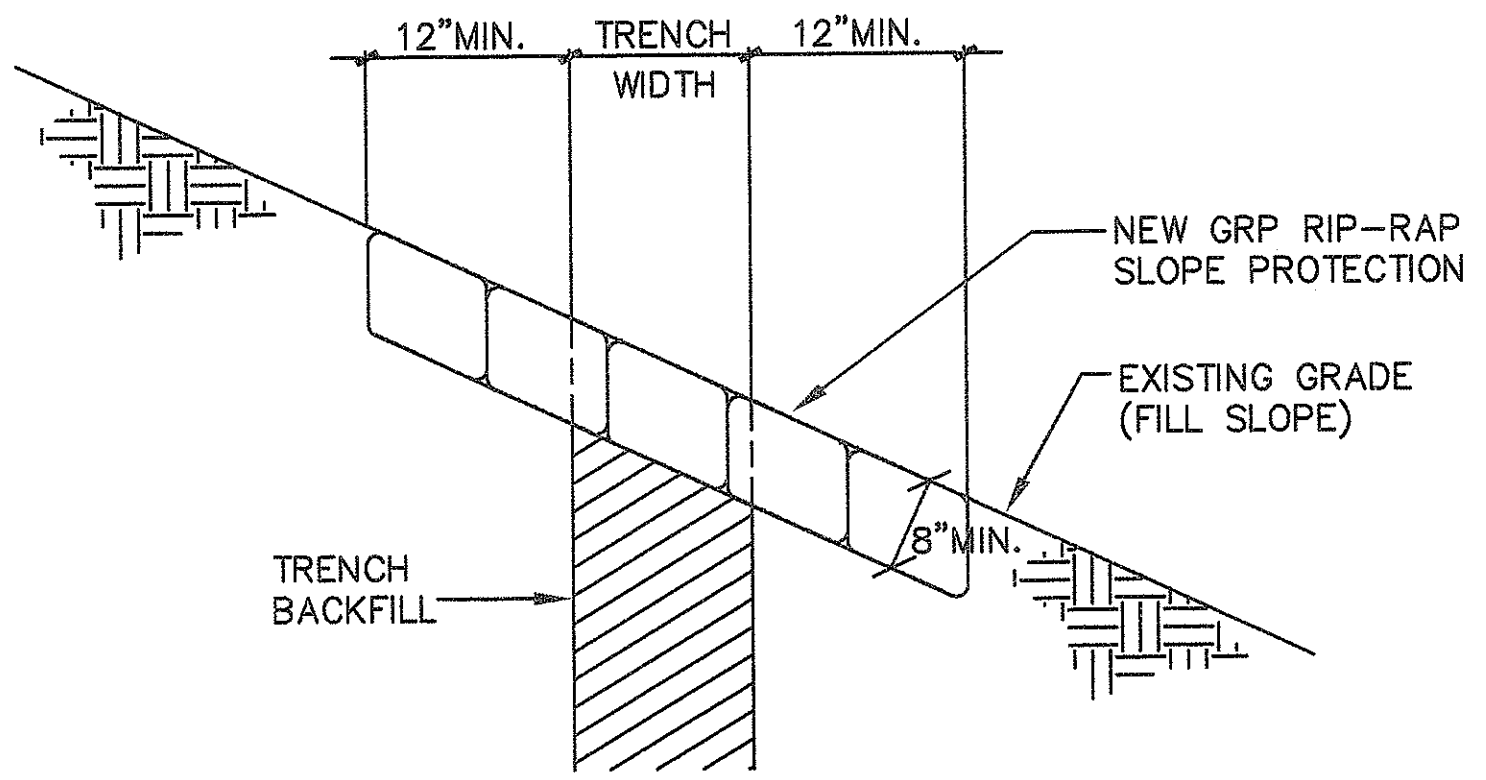
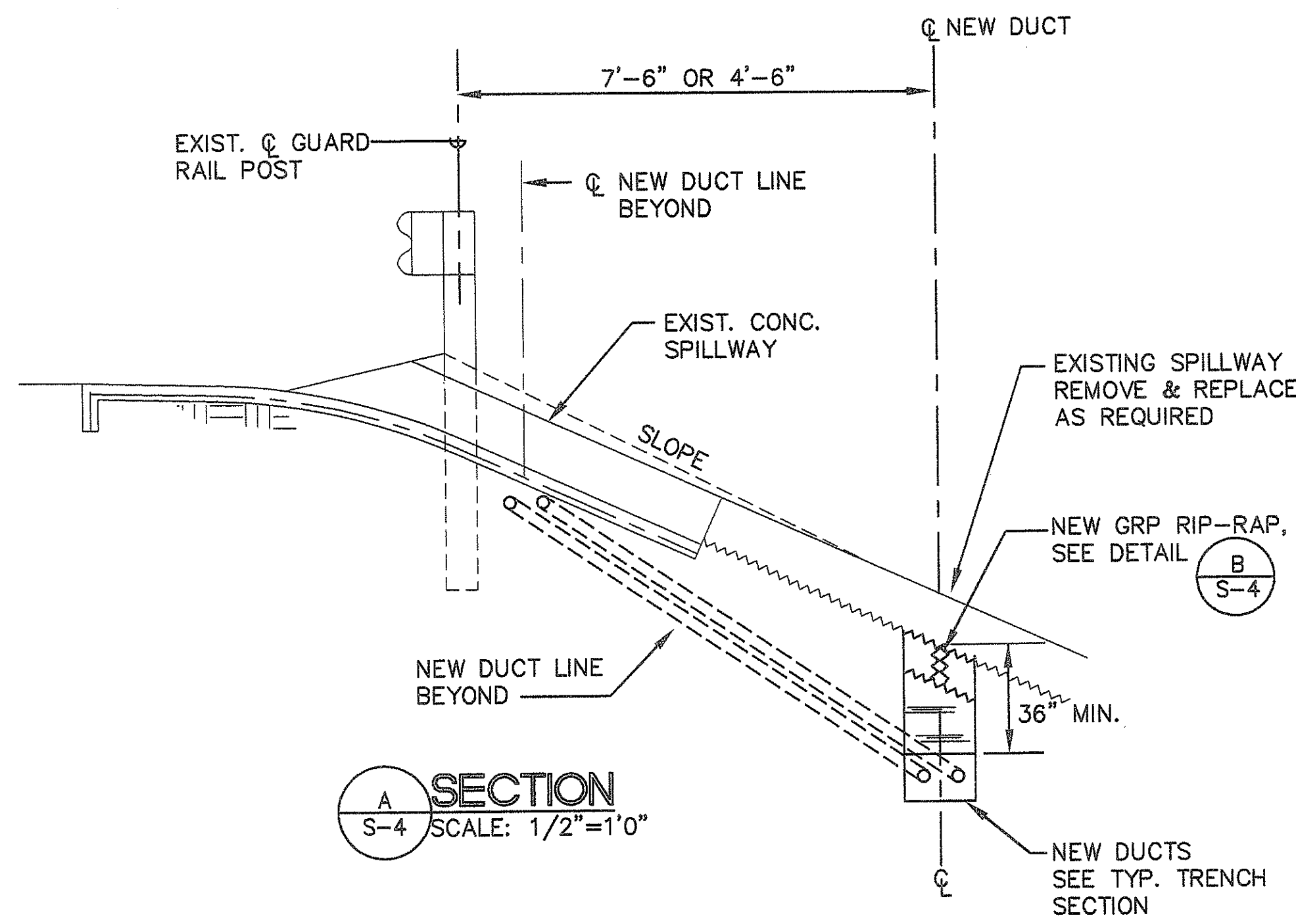
1 PLAN - TYPICAL BRIDGE CROSSING DETAIL
SCALE: 1/4"=1'-0"



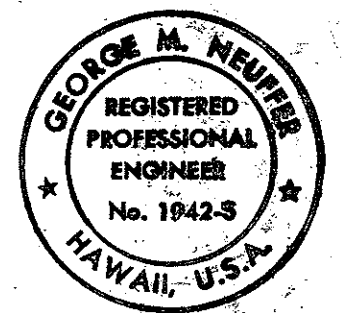
2 ELEVATION - TYPICAL BRIDGE CROSSING DETAIL
SCALE: 1/4"=1'-0"



3 PLAN - TYPICAL OVERSIDE DRAIN CROSSING
SCALE: 1/4"=1'-0"



B SECTION: GRP RIP-RAP DETAIL
SCALE: 1/4"=1'-0"



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S-4

DVM JOB No.: 89104.01
CAD FILE No.: S-4/ 3

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

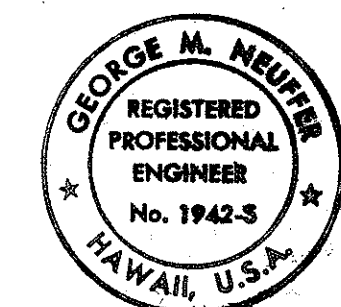
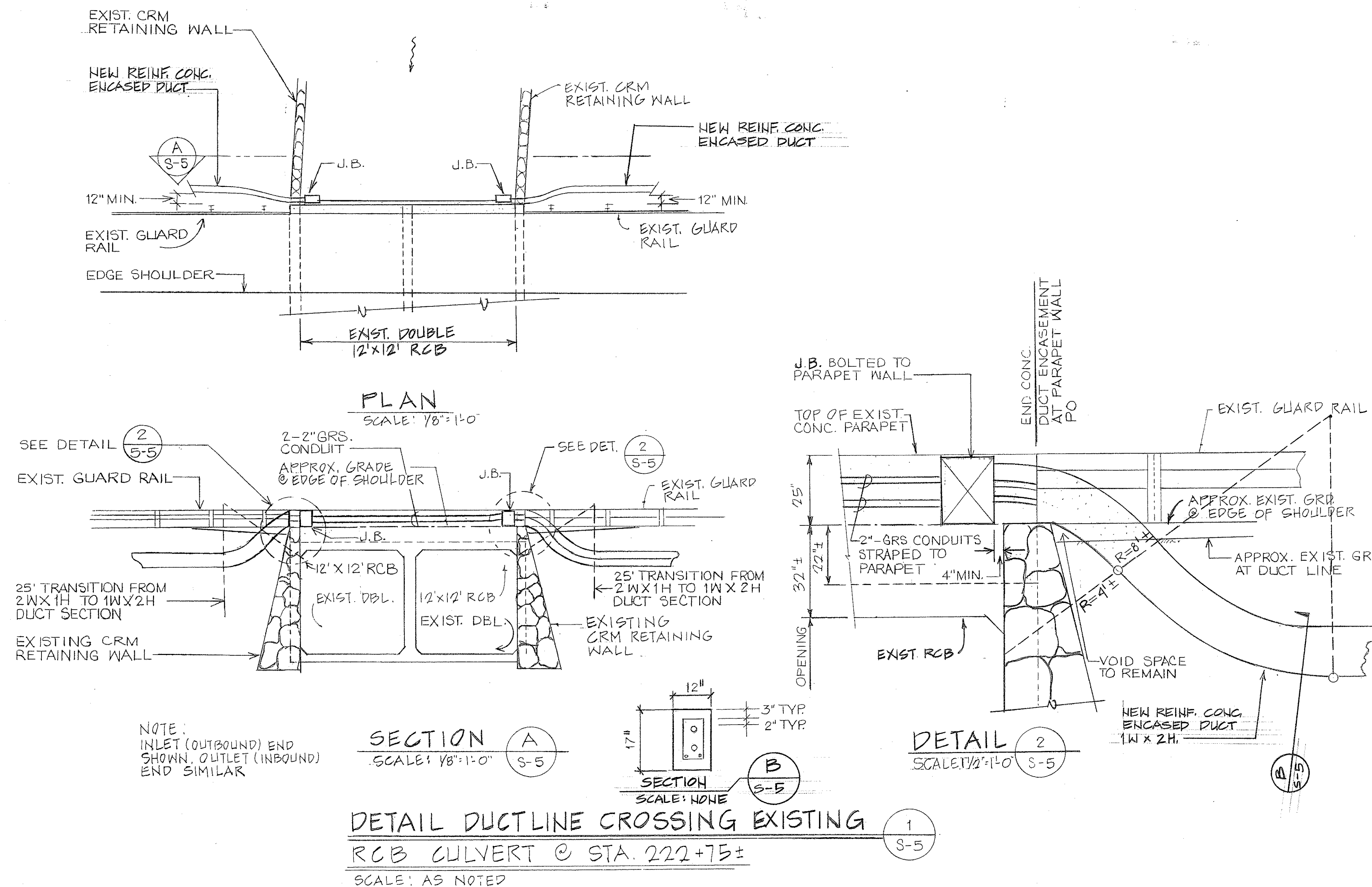
STRUCTURAL DETAILS - NO. 4

INTERSTATE ROUTE H-1
PALAILAI I.C. TO KUNIA I.C.
PROJECT No. IR-H1-1(213)

SCALE: AS NOTED

SHEET No. 4 OF 4 SHEETS

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	IR-H1-1 (213)	1994	38	38



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OR UNDER MY SUPERVISION
George M. Heuer
Engineer

S-5

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURAL DETAILS - NO.5

INTERSTATE ROUTE H-1
PALAILAI I.C. TO KUNIA I.C.
PROJECT No. IR-H1-1(213)

SCALE: AS NOTED

DVM JCB No.: 89104.01
CAD FILE No.: S-5/H-1(3)

DATE REVISION

SHEET No. 5 OF 5 SHEETS