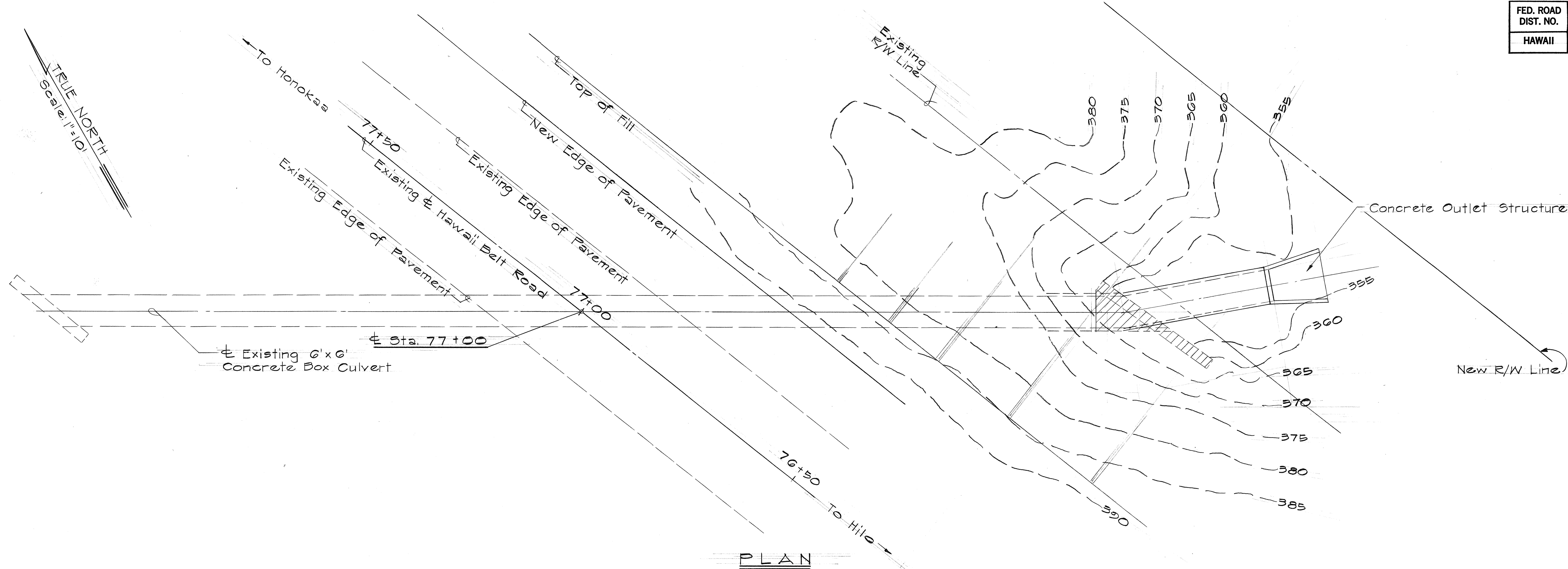
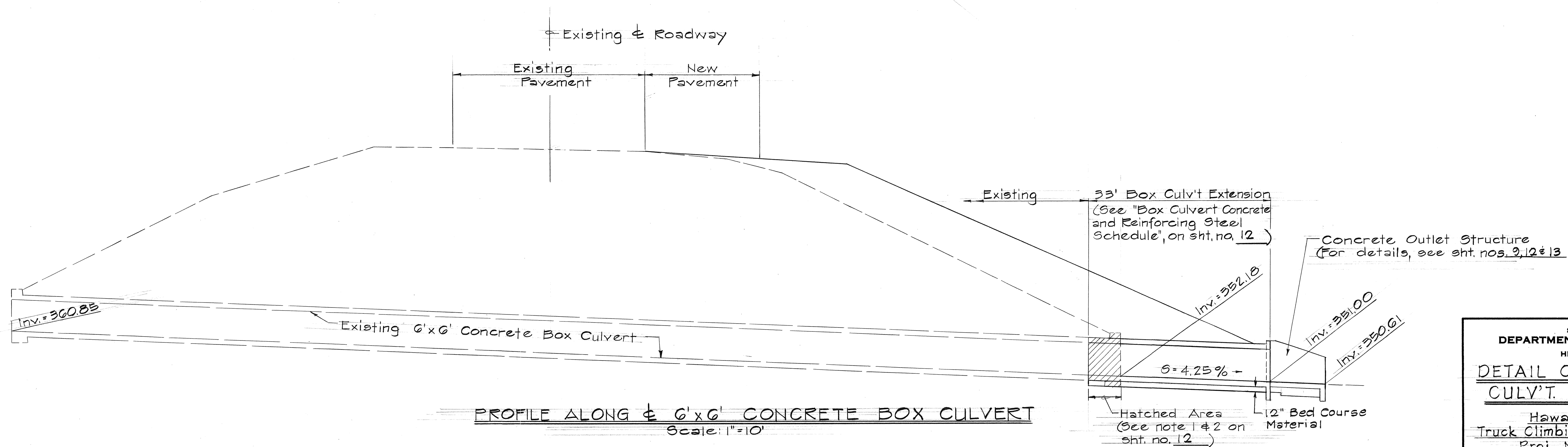


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-02-75 UNIT I	1975	8	42



PLAN



6' x 6' CONCRETE BOX CULVERT EXTENSION AT STA. 77+00 RT.

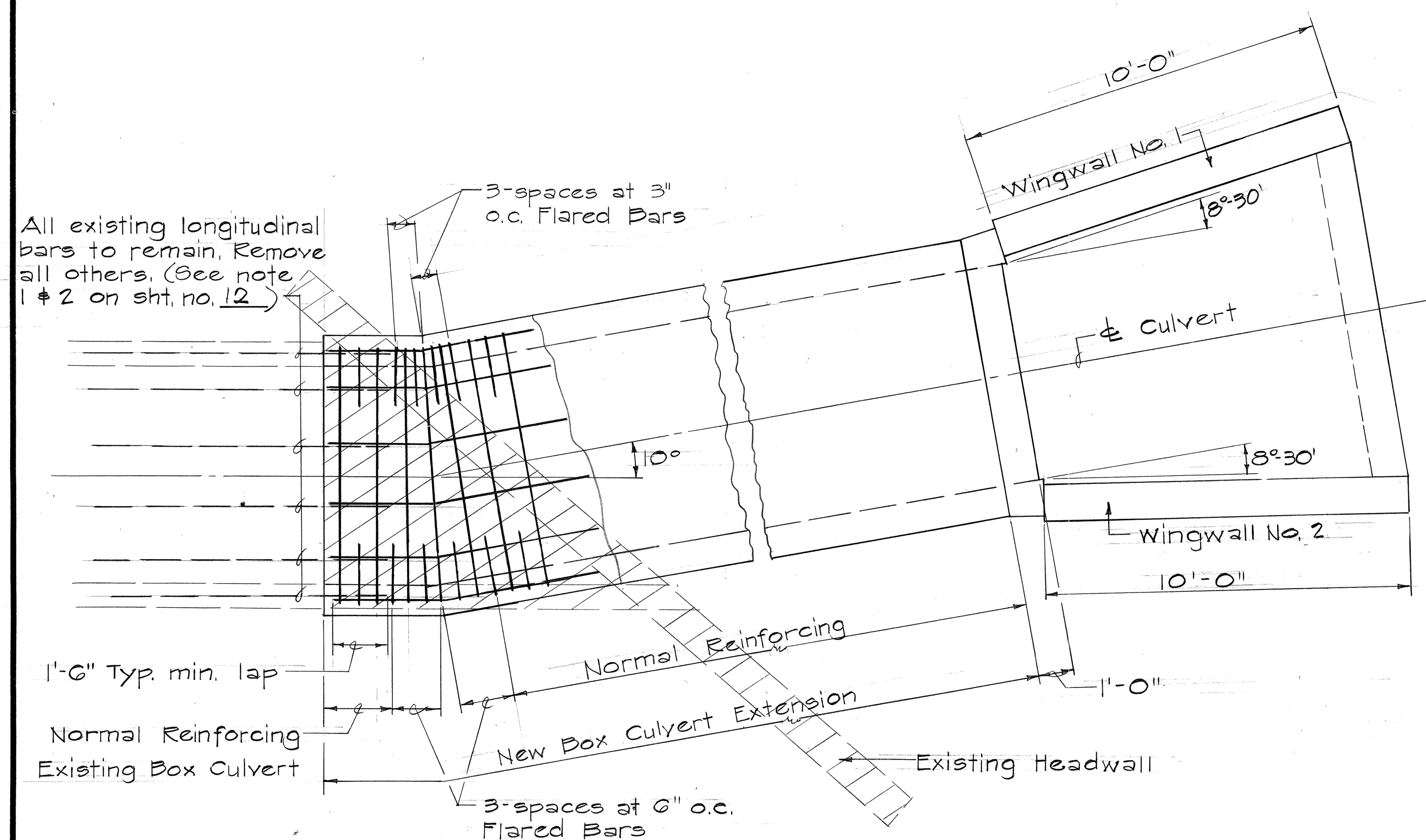
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL OF 6' x 6' CONC. BOX CULV'T. @ STA. 77+00

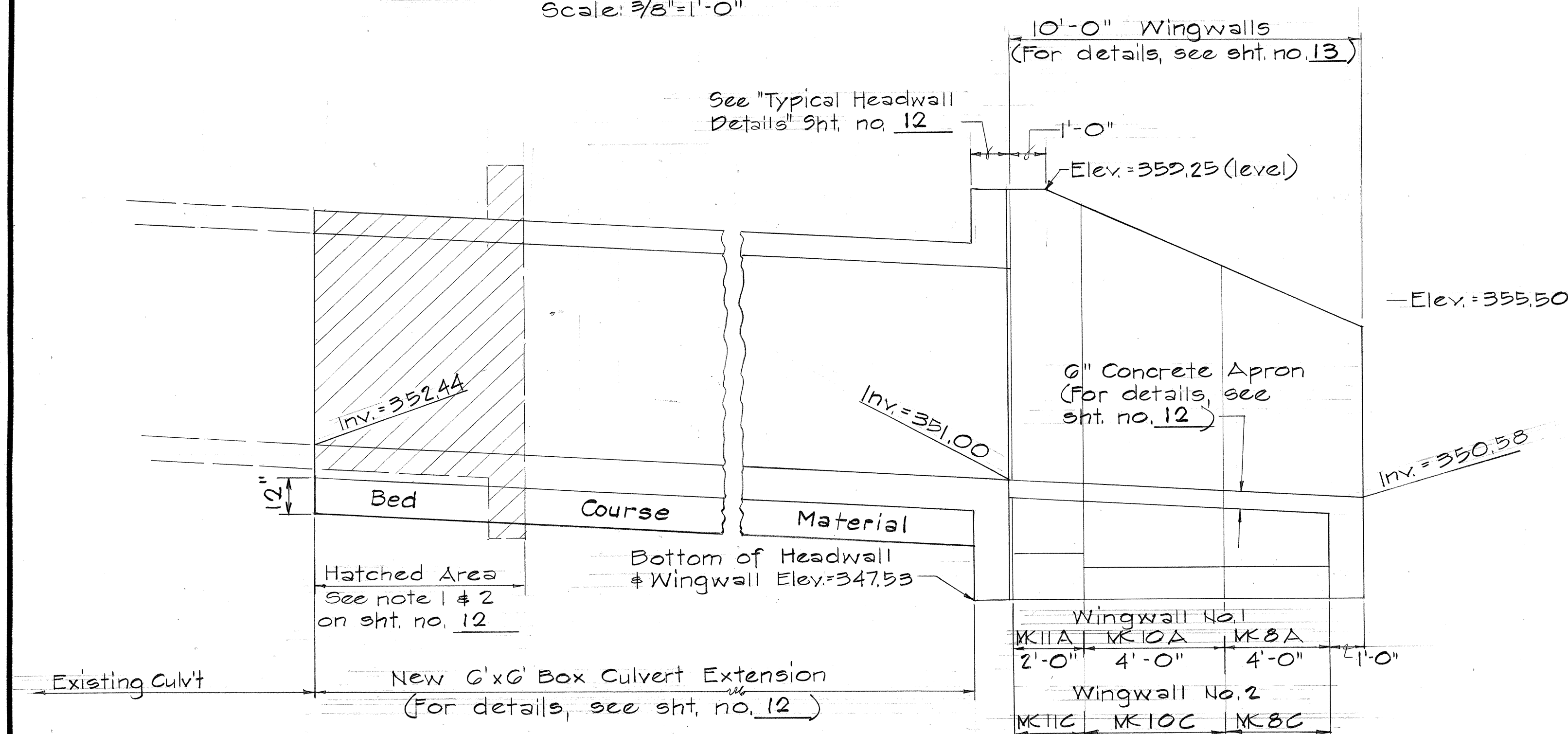
Hawaii Belt Road
Truck Climbing Lane at Pepeekeo
Proj. No. 19J-02-75, Unit I
Scale: As Shown Date: April, 1975

SHEET No. 1 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	2102-75 UNIT I	1979	9	42



CULVERT EXTENSION PLAN
Scale: 3/8"=1'-0"

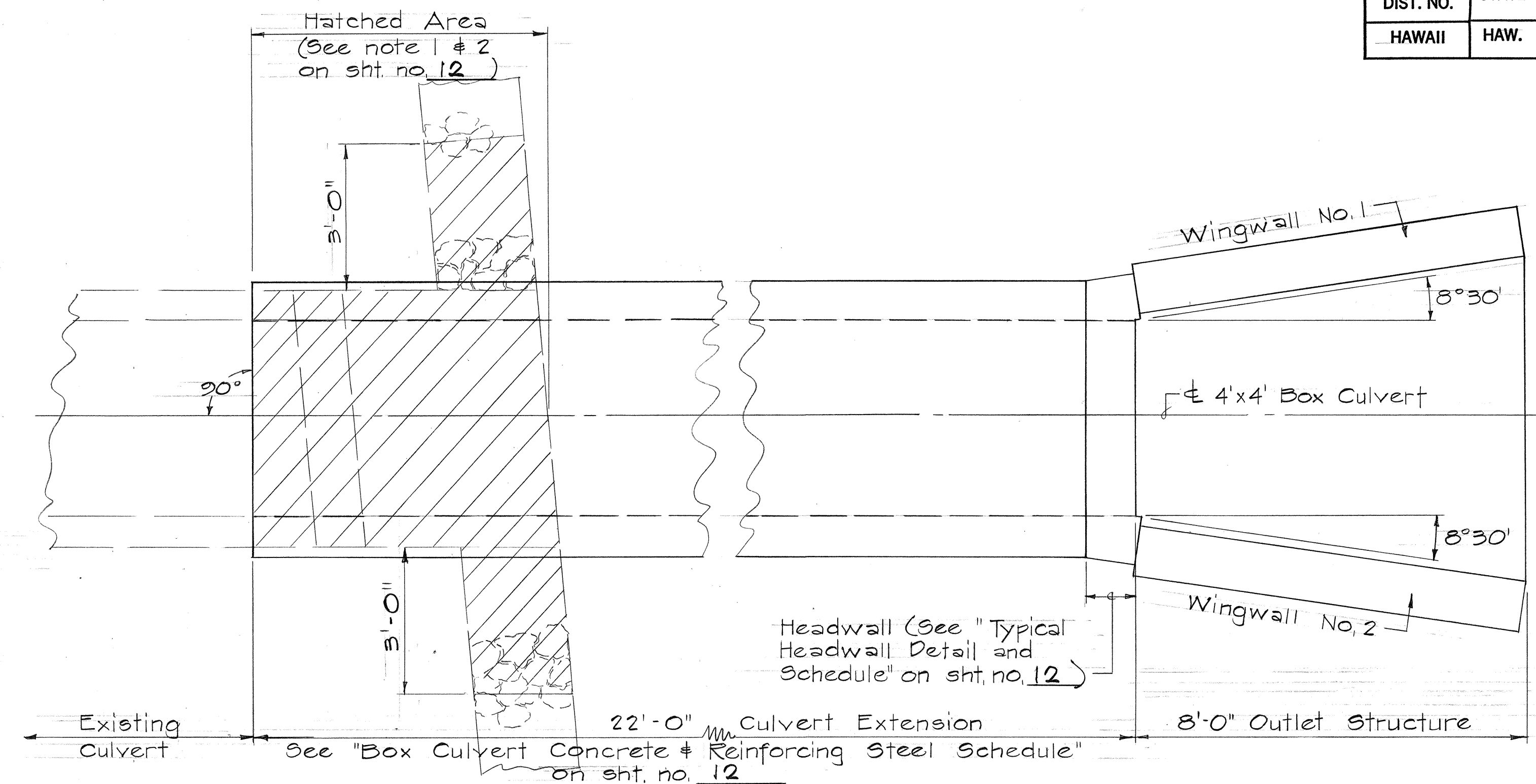
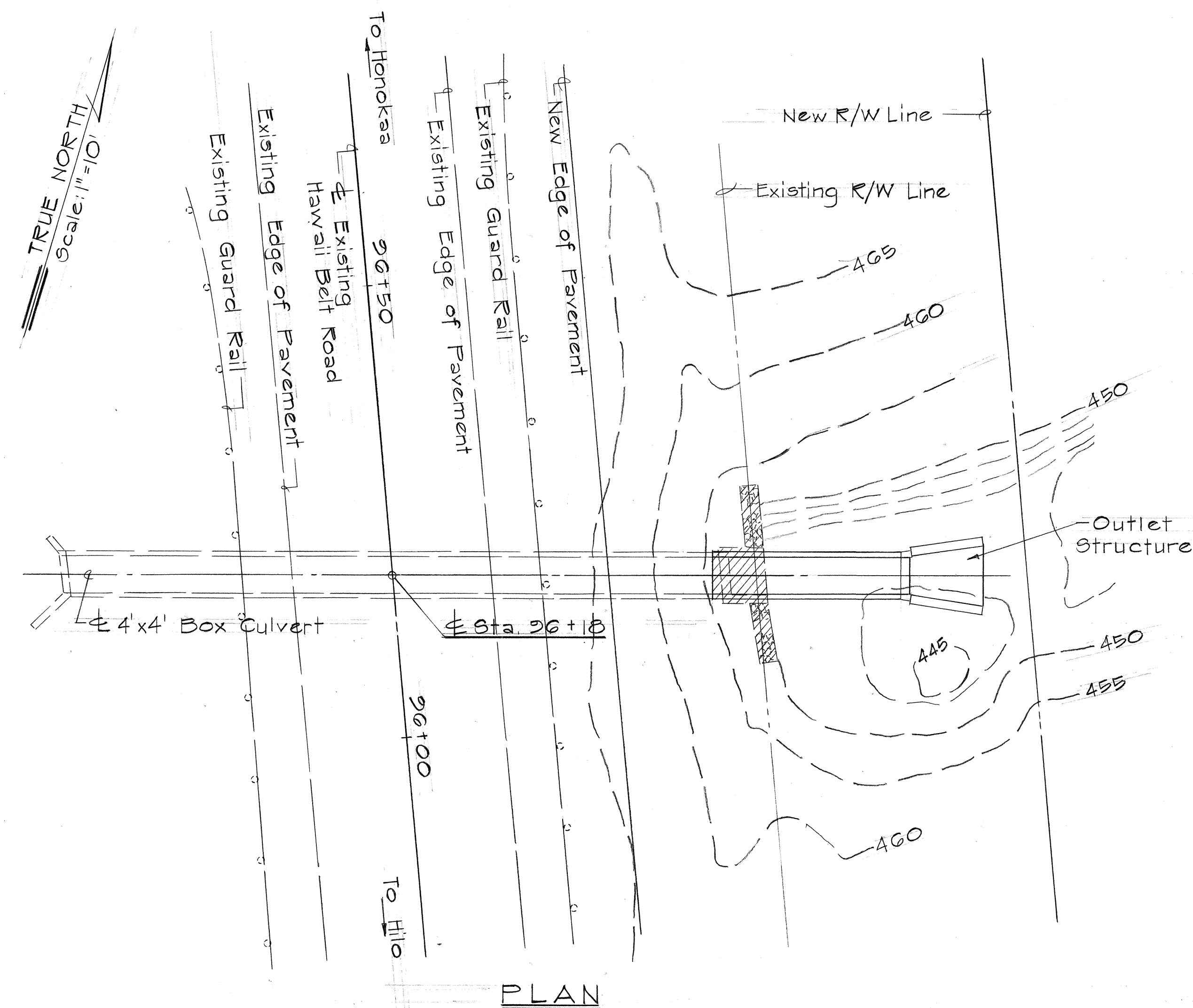


CULVERT EXTENSION PROFILE
Scale: 3/8"=1'-0"

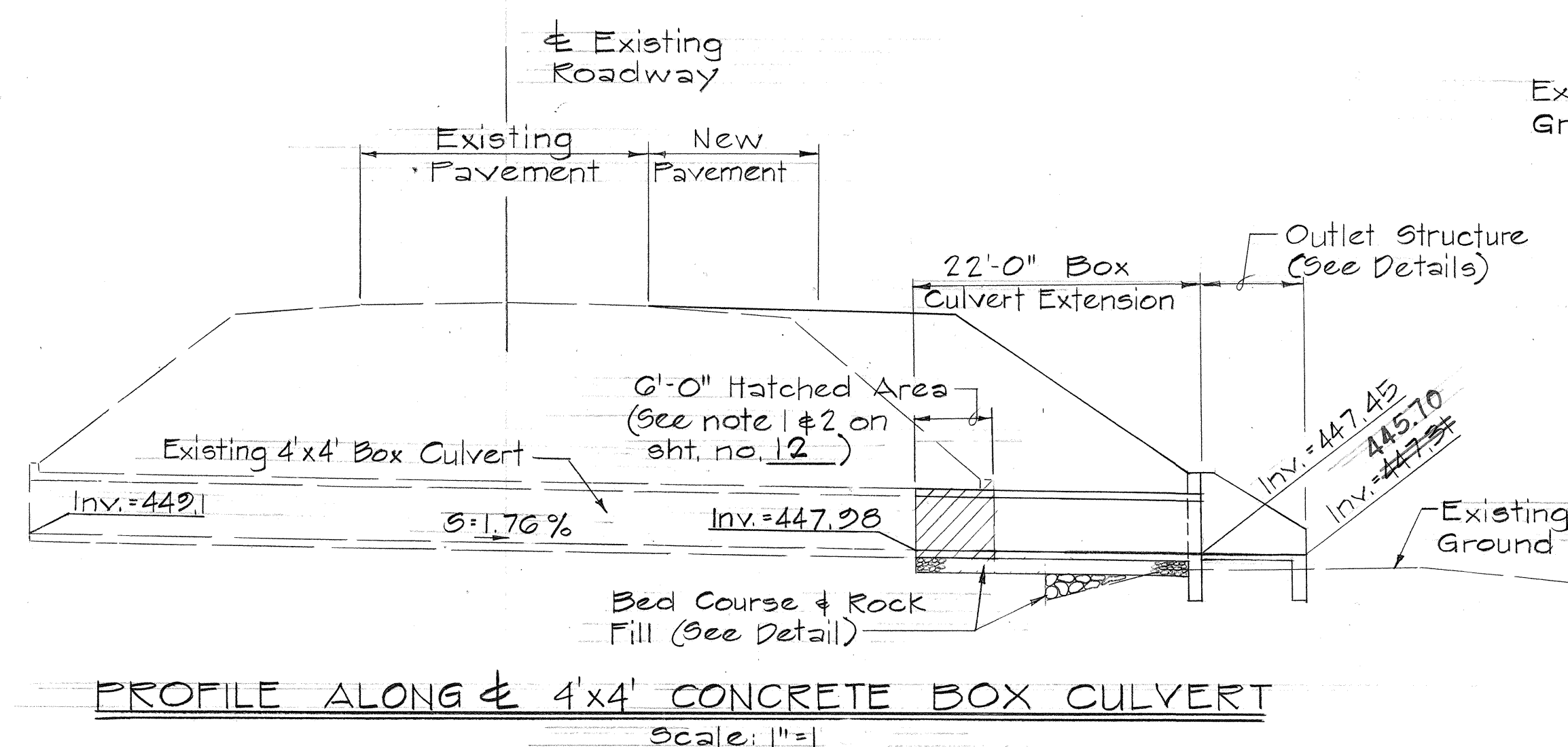
6'x6' CONCRETE BOX CULVERT EXTENSION AT & STA. 77+00 RT.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
DETAILS OF 6'x6' CONC.
BOX CULV'T @ STA. 77+00
HAWAII BELT ROAD
Truck Climbing Lane at Pepeekeo
Proj. No. 19J-02-75, Unit I
Scale: As Shown Date: April, 1979
SHEET NO. 2 OF 6 SHEETS

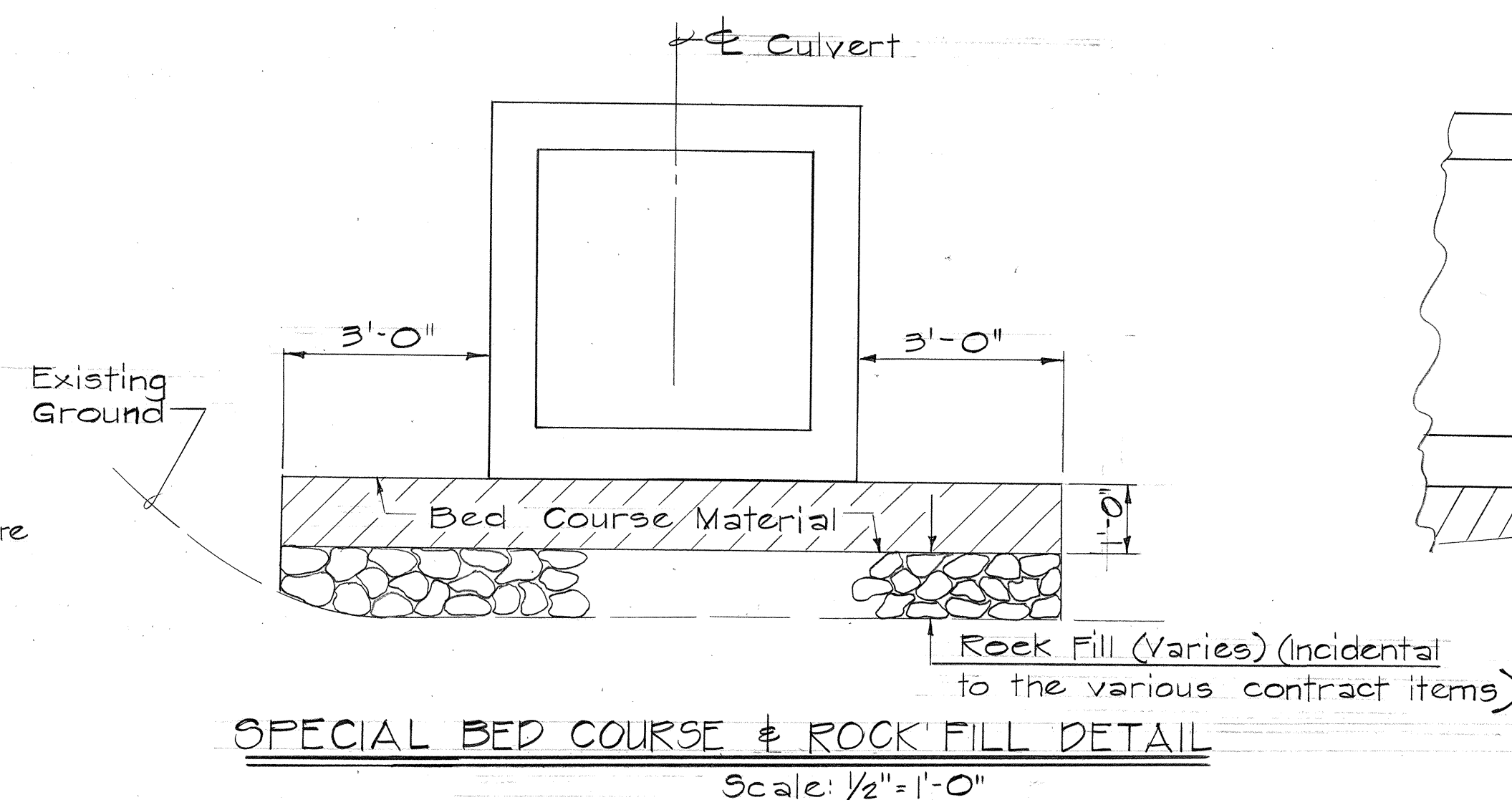
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	10J-02-75 UNIT 1	1979	10	42



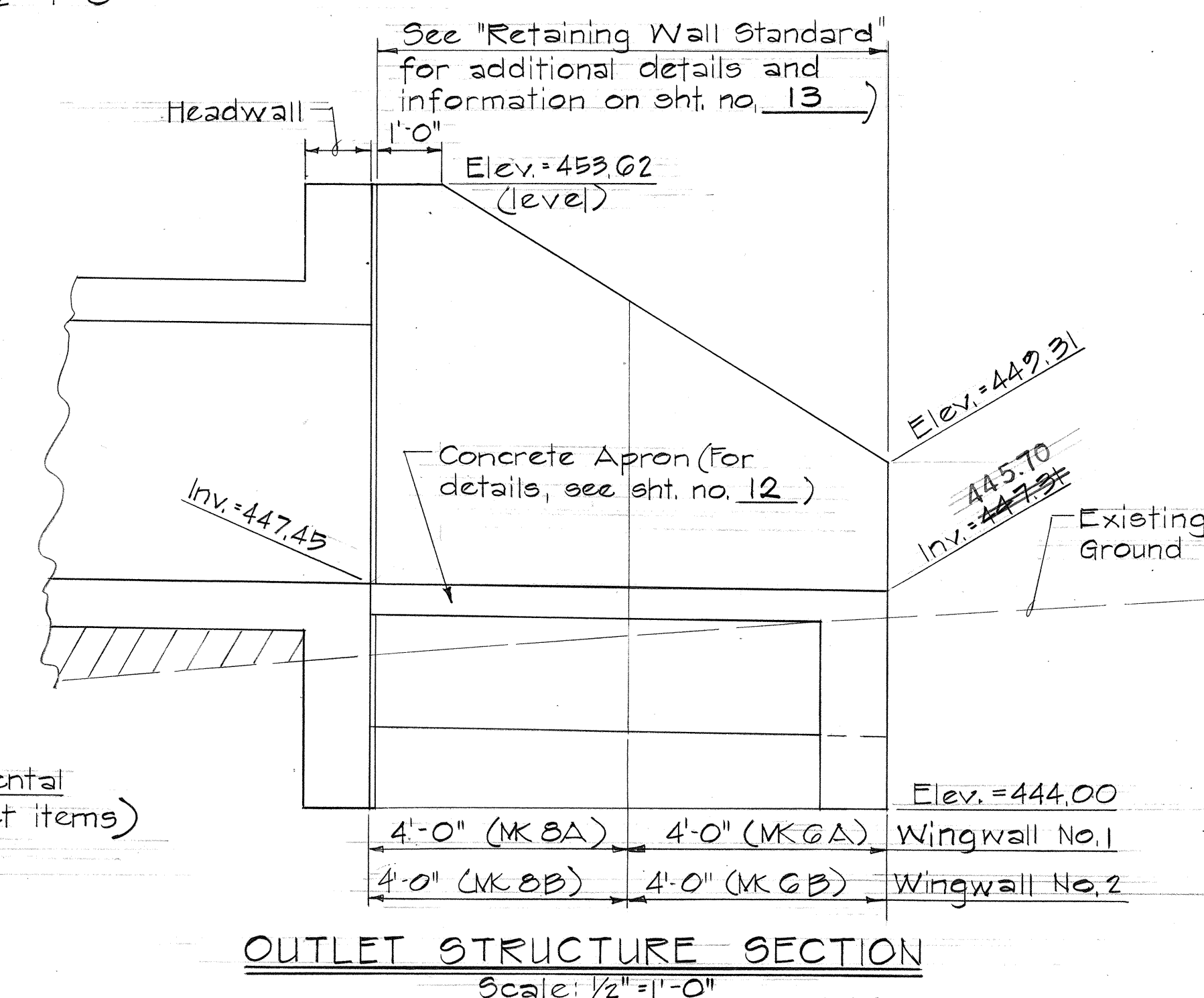
CULVERT EXTENSION PLAN
Scale: 1/2" = 1'-0"



PROFILE ALONG 4x4 CONCRETE BOX CULVERT
Scale: 1" = 1'



SPECIAL BED COURSE & ROCK FILL DETAIL
Scale: 1/2" = 1'-0"



OUTLET STRUCTURE SECTION
Scale: 1/2" = 1'-0"

4'x4' CONCRETE BOX CULVERT EXTENSION AT STA. 96+18 RT.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

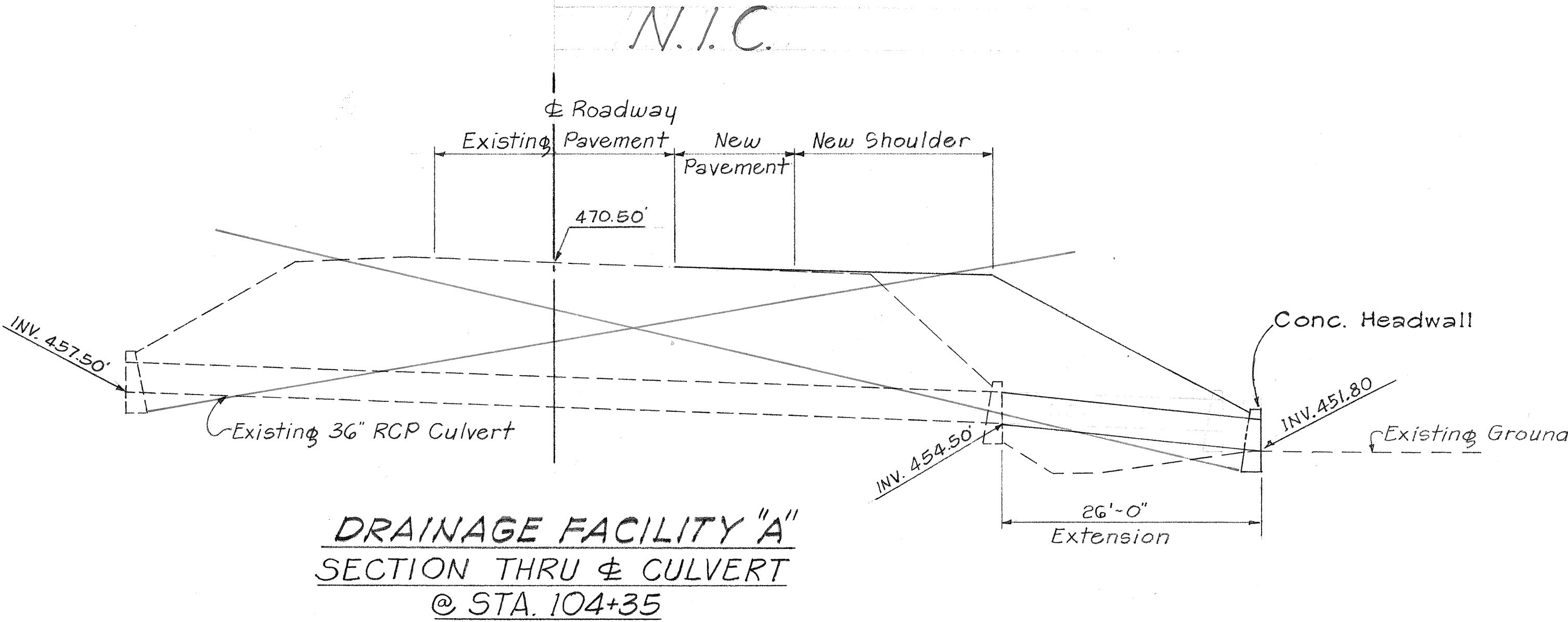
DETAIL OF 4'x4' CONC. BOX CULV'T. @ STA. 96+18

Hawaii Belt Road
Truck Climbing Lane at Pepeekeo
Proj. No. 10J-02-75, Unit 1

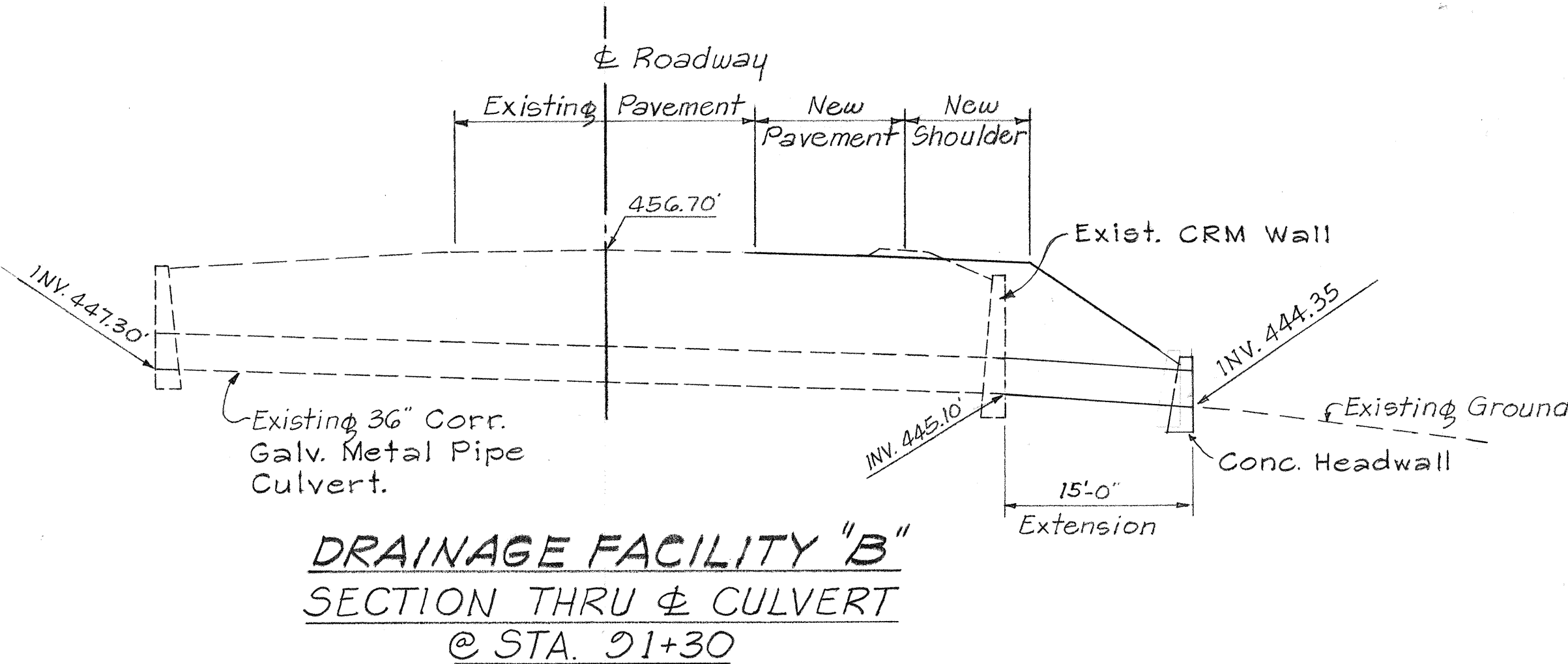
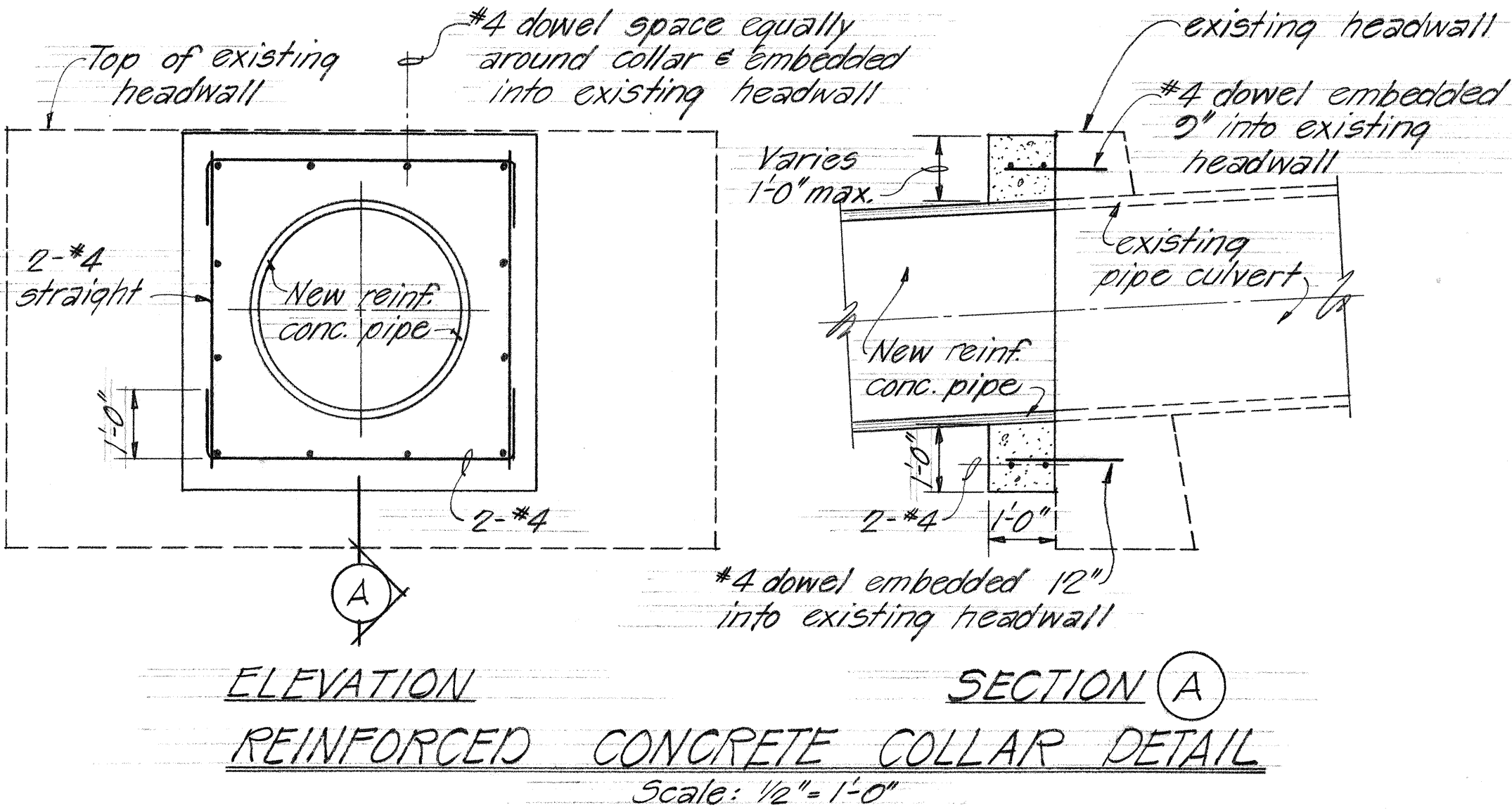
Scale: As Shown Date: April, 1979

SHEET No. 3 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	10J-02-75 UNIT I	1979	11	42



Note:
Provide reinforced concrete collar tie into existing concrete headwall. (Incidental to all other drainage items.)



Note:
Remove existing CRM headwall and provide standard band coupler. (Incidental to all other drainage items.)

ESTIMATED QUANTITIES										
DESCRIPTION	Structure Excavation for Drainage System	Ditch and Channel Excavation	Class A Concrete for Drainage System	Class B Concrete for Drainage System	Reinforcing Steel for Drainage System	Bed Course Material for Culvert	36-Inch Reinforced Concrete Pipe, Class III	36-Inch Corrugated Metal Pipe, Sht. Thick, 0.109 Inch	Backfill	Filter Material
STATION	C.Y.	C.Y.	C.Y.	C.Y.	LB.	C.Y.	L.F.	L.F.	C.Y.	C.Y.
77+00 (6'x6' Box Culv't)	61.3		44.5		4578	8.4			70.1	4.5
91+30 Drainage Fac. "B" (36" C.M.P. Culv't)	23			3.5	60	2.5		15		
96+18 (4'x4' Box Culv't)	24.2		19.9		1,985	3.0			27.1	2.3
104+35 Drainage Fac. "A" (36" R.C.P. Culv't)	35			3.0	60	4.5	26			

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PIPE CULVERT
EXTENSION DETAILS

HAWAII BELT ROAD
TRUCK CLIMBING LANE
AT PEPEEKEO

PROJ. NO. 10J-02-75, Unit I
Scale: As Shown Date: April, 1979

SHEET No. 4 OF 6 SHEETS

BOX CULVERT & REINFORCING STEEL SCHEDULE

HEADWALL REINFORCING STEEL SCHEDULE

DESCRIPTION	4'x4'	6'x6'	10'x12'	12'x12'
CULVERT SIZE				
Vertical Bent  "f" bar	 2'0" 4-#4	 3'0" 4-#5	 4'4" 4-#7	 5'0" 4-#7
Horizontal "g" bar	4-#4	4-#4	4-#5	4-#5
Horizontal "h" bar	4-#4	4-#5	4-#7	4-#7



TYPICAL HEADWALL DETAILS

Scale: $\frac{1}{2}'' = 1'-0''$

NOTES

1. Hatched area on plans indicate limits of removal of existing culvert & wingwalls. Remove concrete and reinforcing steel except those noted on plans. All remaining exposed reinforcing will be cleaned bent and cut as required. Lap all existing longitudinal bars 1'-6" with new extension longitudinal bars.
2. For removal of existing concrete, saw cut face of existing culvert and wingwalls in a straight line to the plane of the outer edge of the reinforcing.



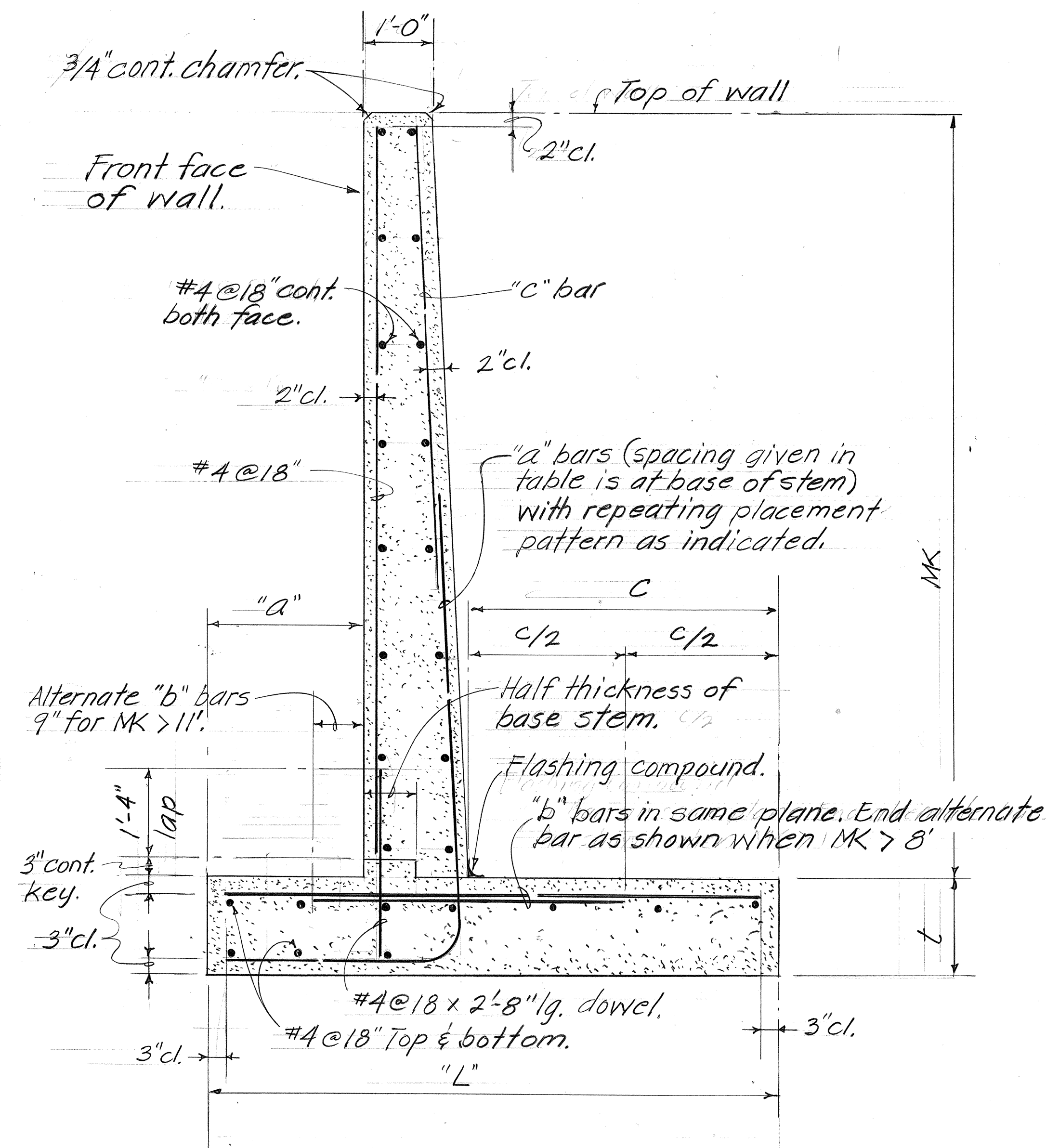
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

CULV'T. EXTENSION DETAILS

Hawaii Belt Road
Truck Climbing Lane at Pepekeo
Proj. No. 12J-02-75, Unit I

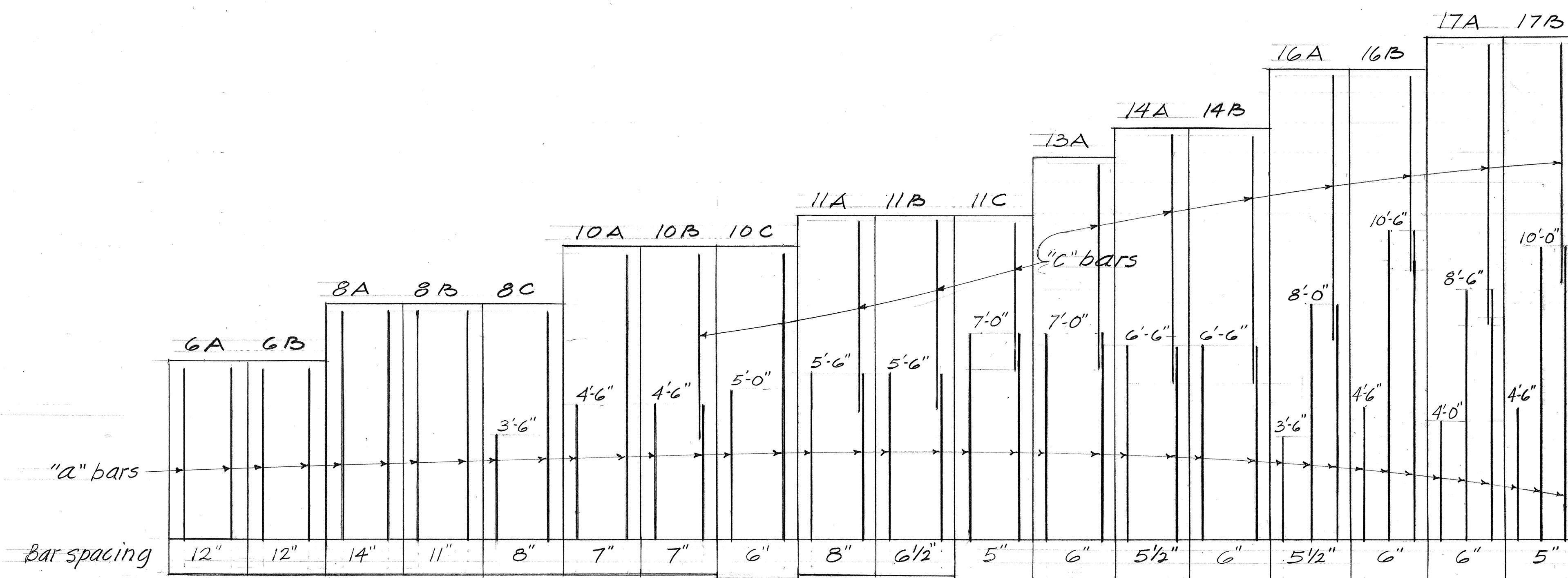
Scale: As Shown Date: April, 1979

SHEET NO. 5 OF 6 SHEETS

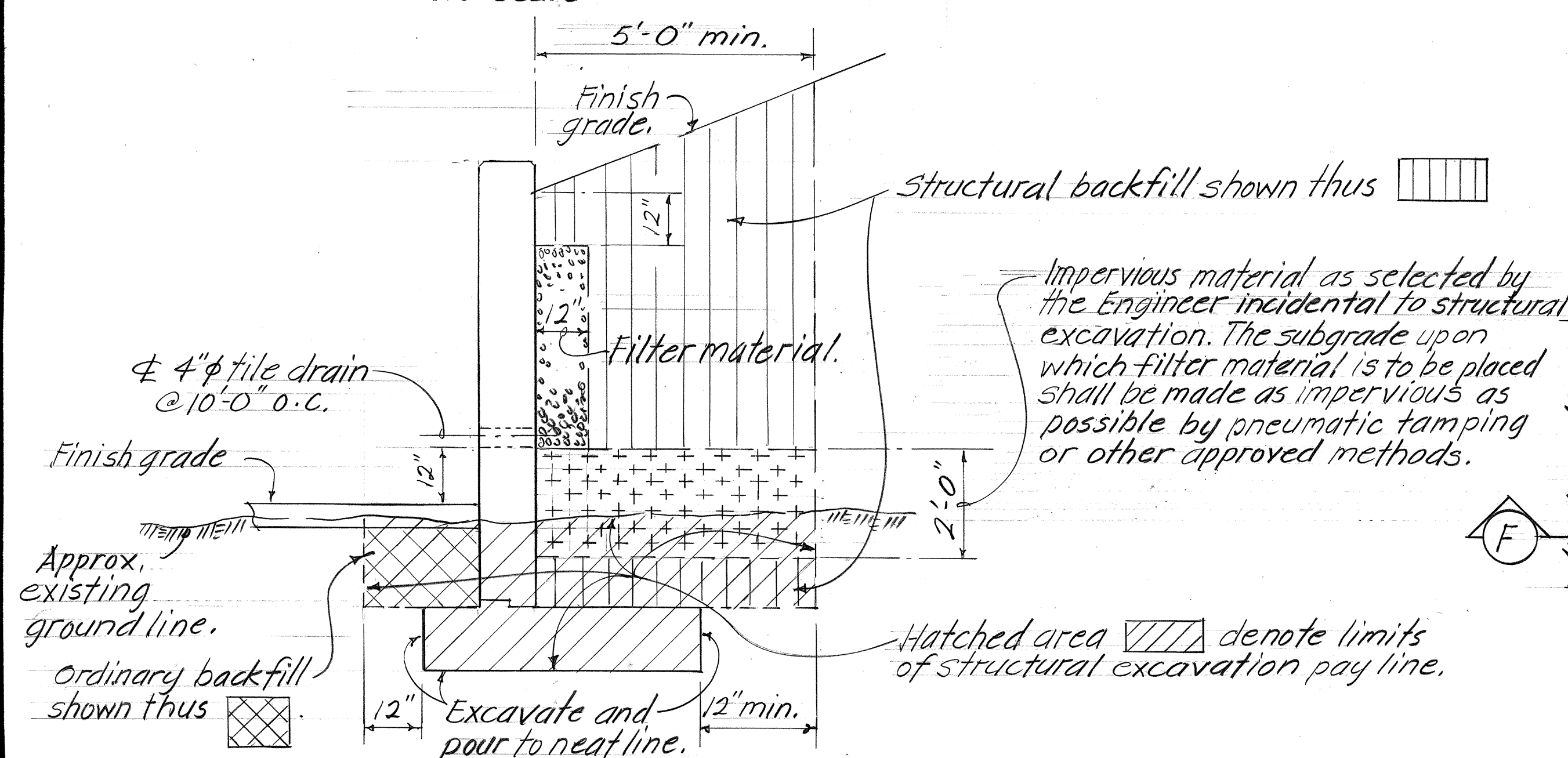


TYPICAL WALL SECTION
No Scale

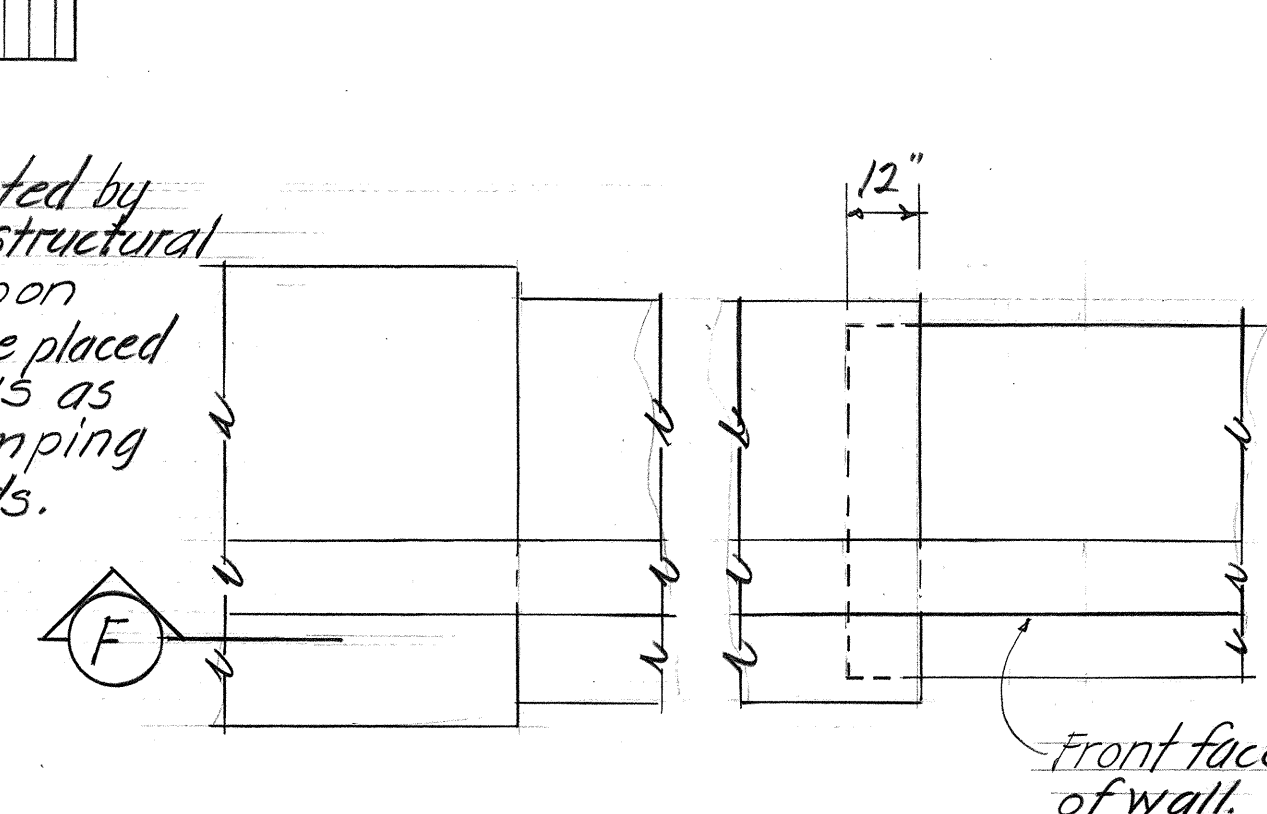
SCHEDULE OF DIMENSIONS AND REINFORCING STEEL																		
Maximum "MK"	6A	6B	8A	8B	8C	10A	10B	10C	11A	11B	11C	13A	14A	14B	16A	16B	17A	17B
a	6"	6"	12"	12"	12"	12"	12"	12"	12"	1'-3"	1'-3"	1'-9"	1'-9"	2'-3"	3'-0"	3'-0"	3'-0"	3'-6"
t	14"	14"	14"	14"	14"	14"	14"	15"	14"	14"	17"	15"	15"	18"	18"	18"	18"	18"
L	3.0'	3.25'	4.0'	4.5'	8.25'	5.0'	7.25'	10.25'	5.5'	6.0'	11.5'	10.0'	7.5'	8.25'	9.5'	12.25'	9.5'	13.75'
Batter								1/2:12			1/2:12	1/2:12			1/2:12	1/2:12	1/2:12	1/2:12
"a" bar	#3@12"	#3@12"	#4@14"	#4@11"	#6@8"	#4@7"	#6@7"	#6@6"	#5@8"	#5@6 1/2"	#6@5"	#7@6"	#6@5 1/2"	#7@6"	#6@5 1/2"	#8@6"	#6@6"	#8@5"
"b" bar	#3@12"	#3@12"	#4@14"	#4@11"	#6@8"	#4@7"	#6@7"	#7@6"	#5@8"	#5@6 1/2"	#7@5"	#7@6"	#5@5 1/2"	#5@6"	#5@5 1/2"	#8@6"	#5@6"	#8@5"
"c" bar							#5		#4	#4	#5	#5	#5	#5	#5	#6	#5	#6



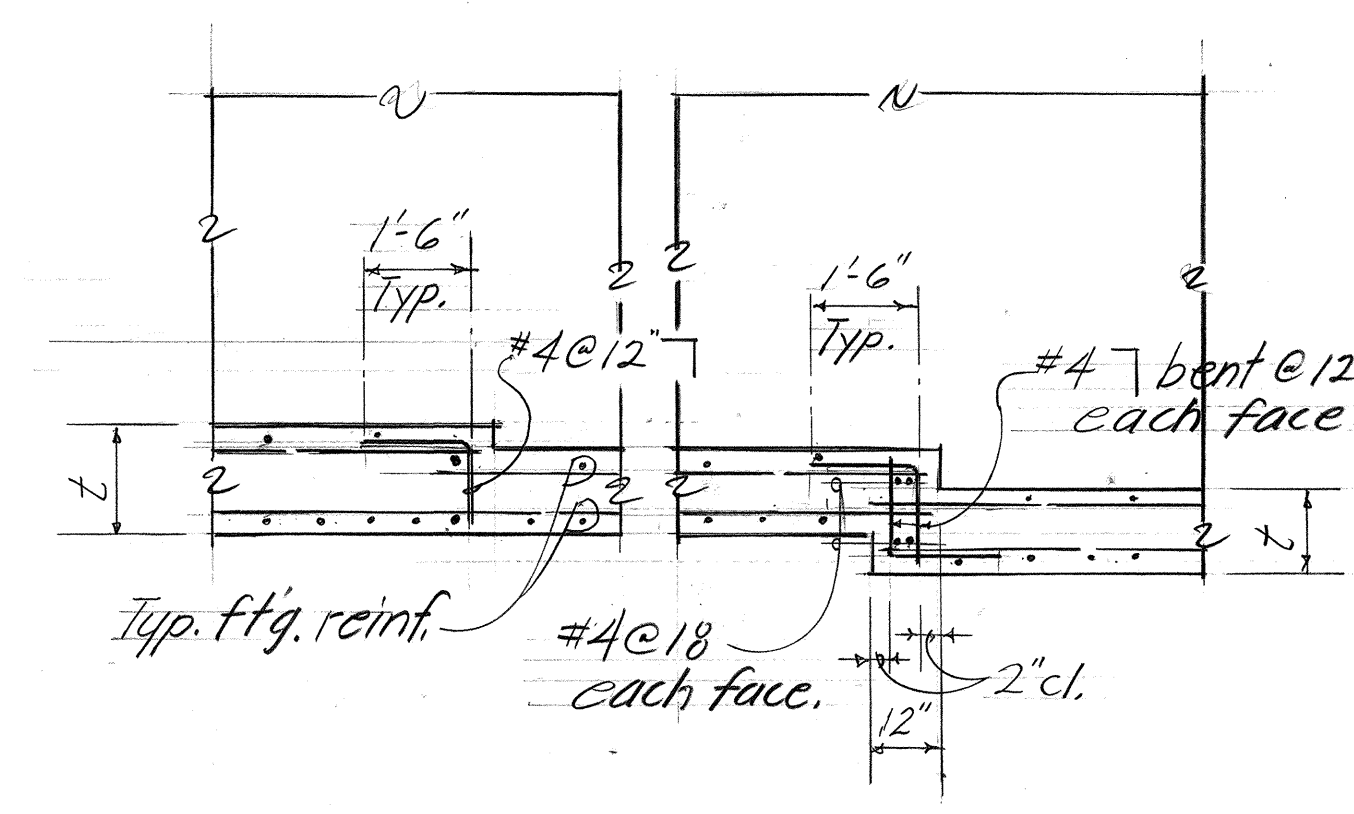
VERTICAL REINFORCING STEEL ARRANGEMENT



STRUCTURAL EXCAVATION & DRAINAGE DETAIL
No Scale



PLAN



SECTION (F)

TYPICAL FOOTING STEP-UP DETAILS
No Scale