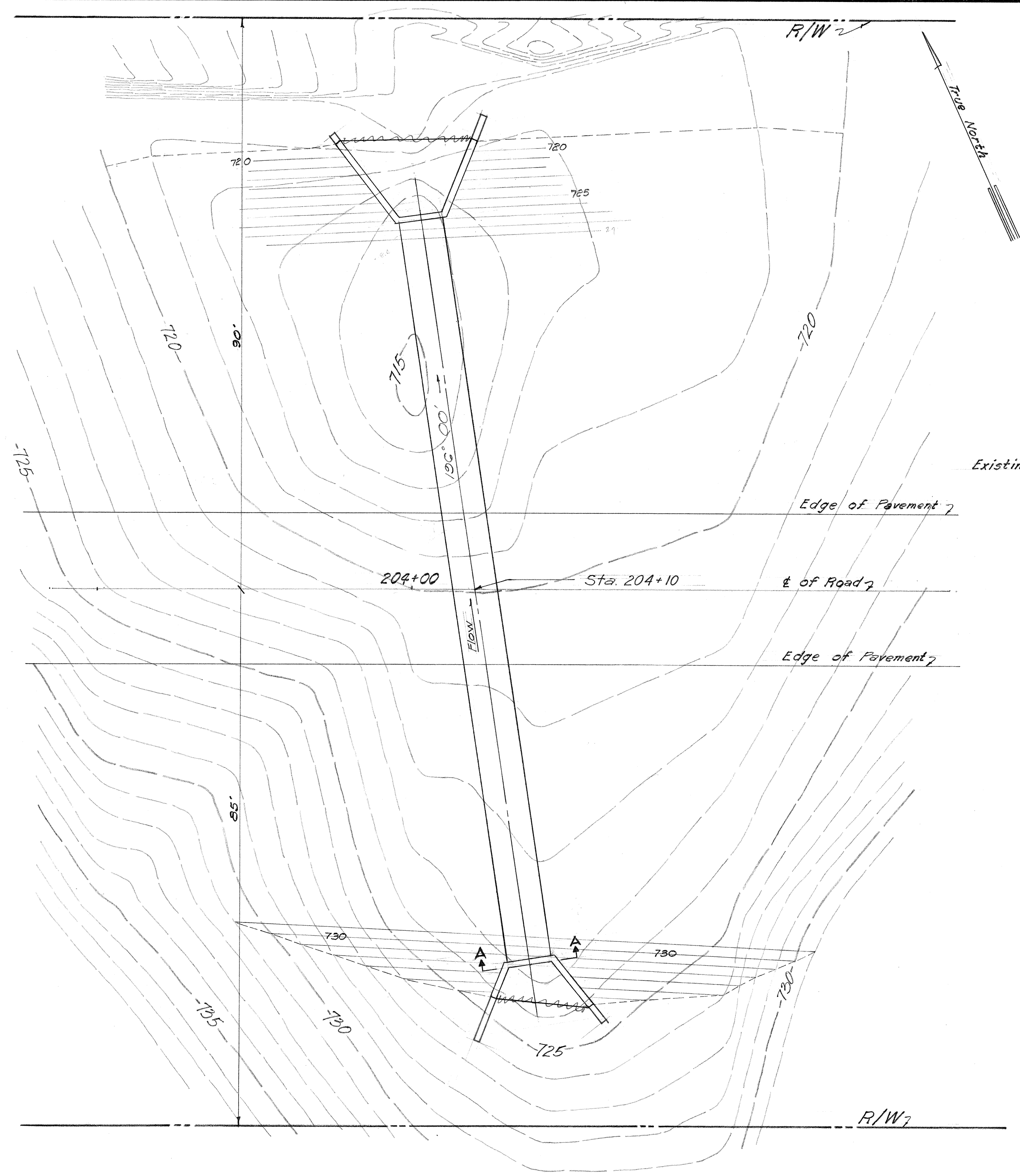
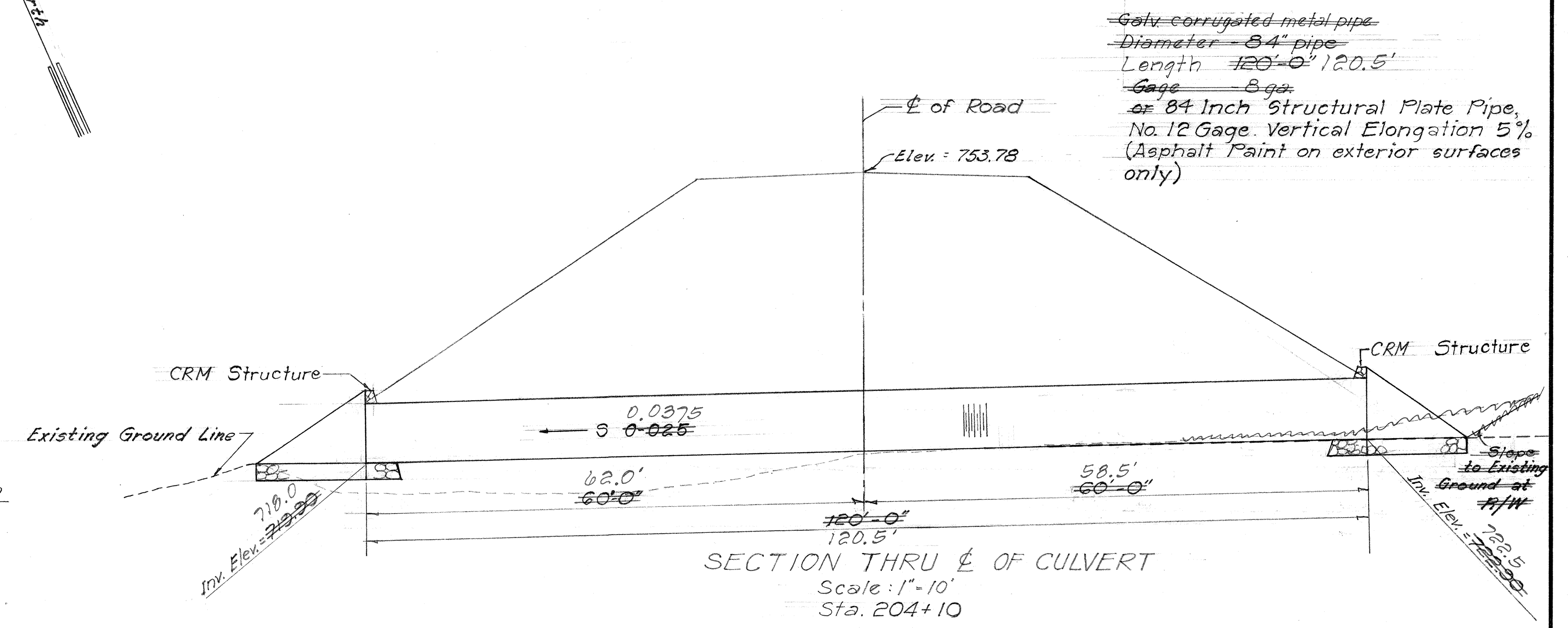


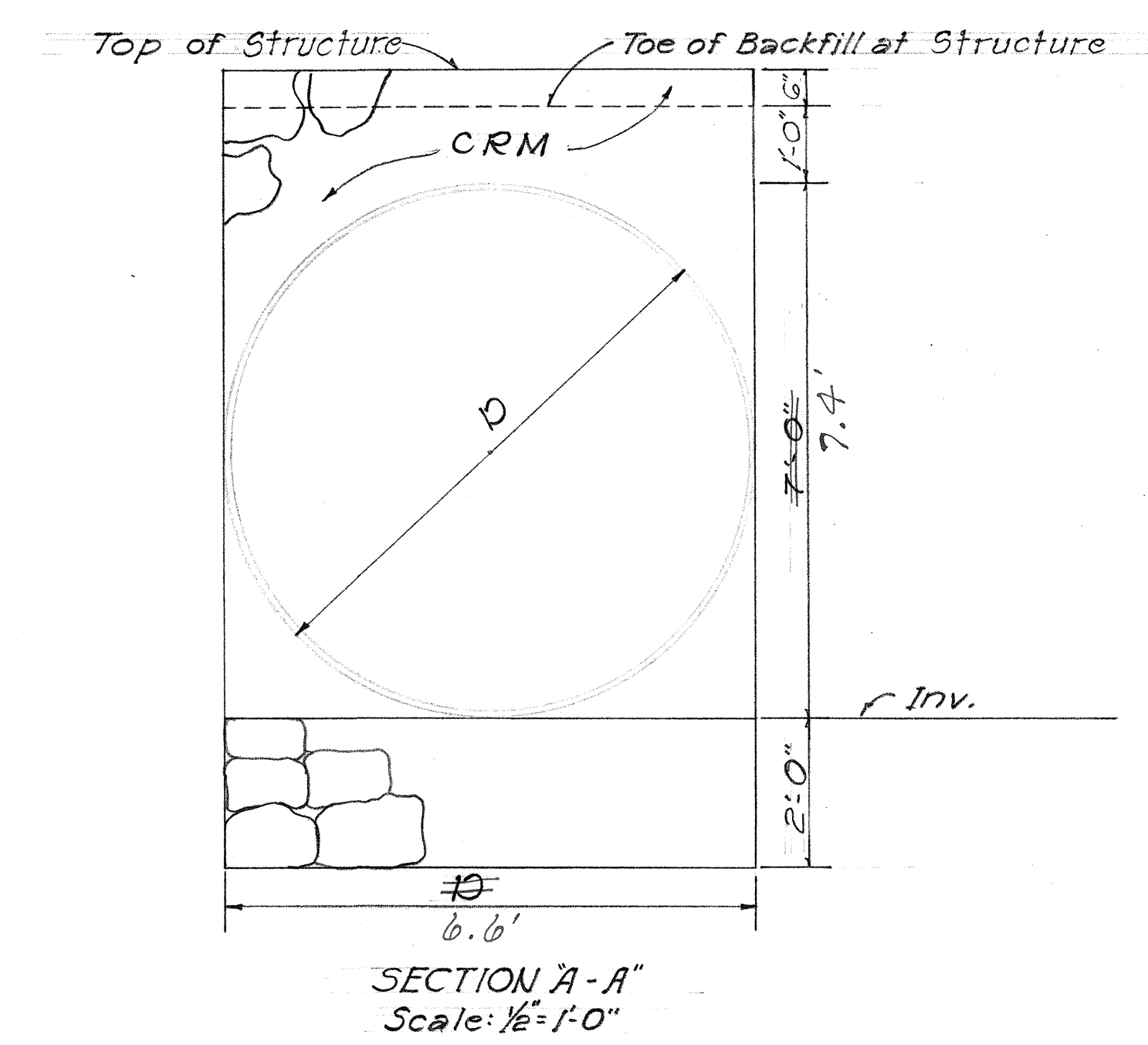
STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	20	67



PLAN
Scale: 1"=10'-0"



Galv corrugated metal pipe
Diameter 84" pipe
Length 120'-0" 120.5'
Gage 8 ggs
or 84 Inch Structural Plate Pipe,
No. 12 Gage Vertical Elongation 5%
(Asphalt Paint on exterior surfaces
only)



Note:
For detail of CRM Structure
see Sht. No. 22

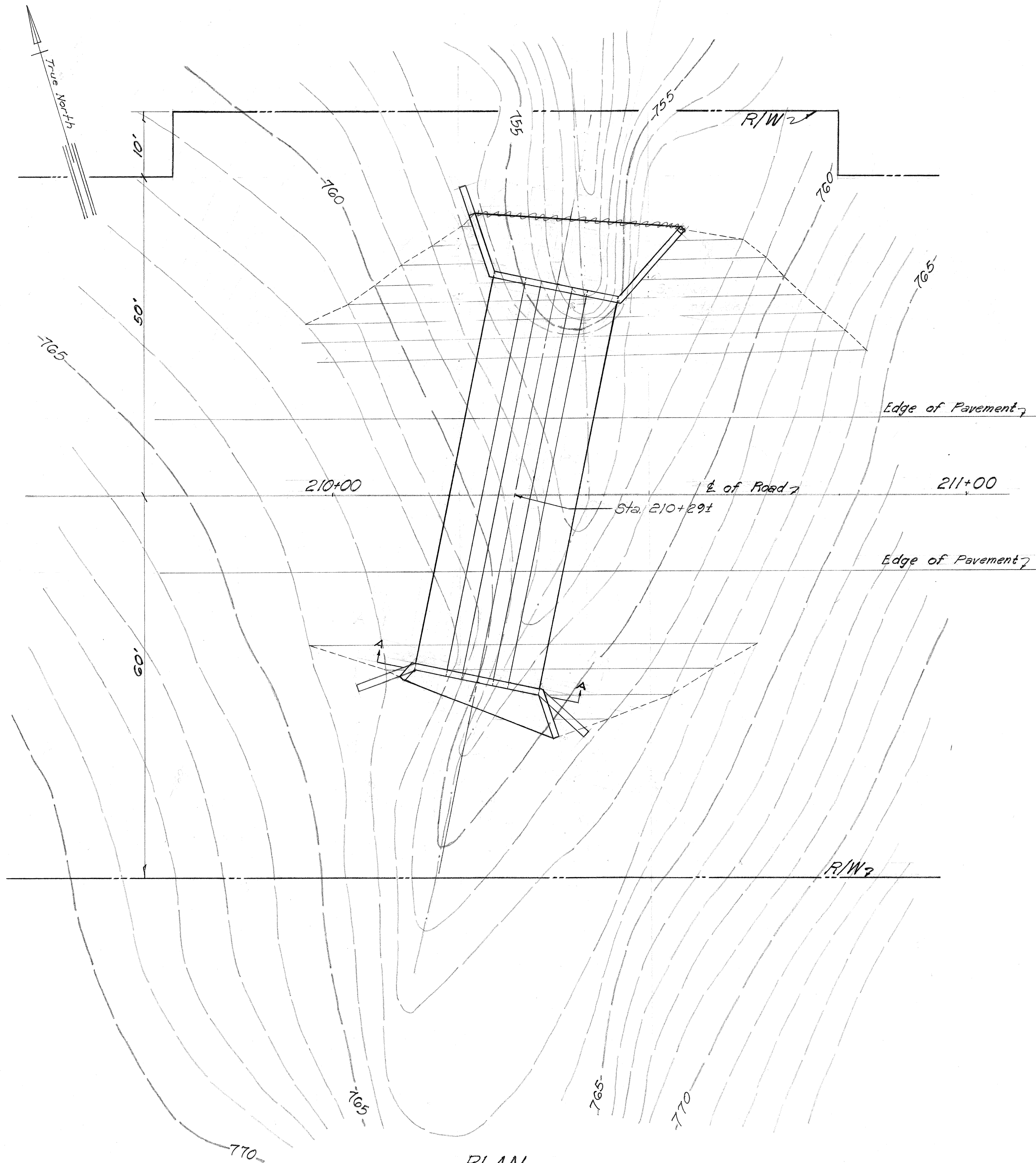
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 204+10

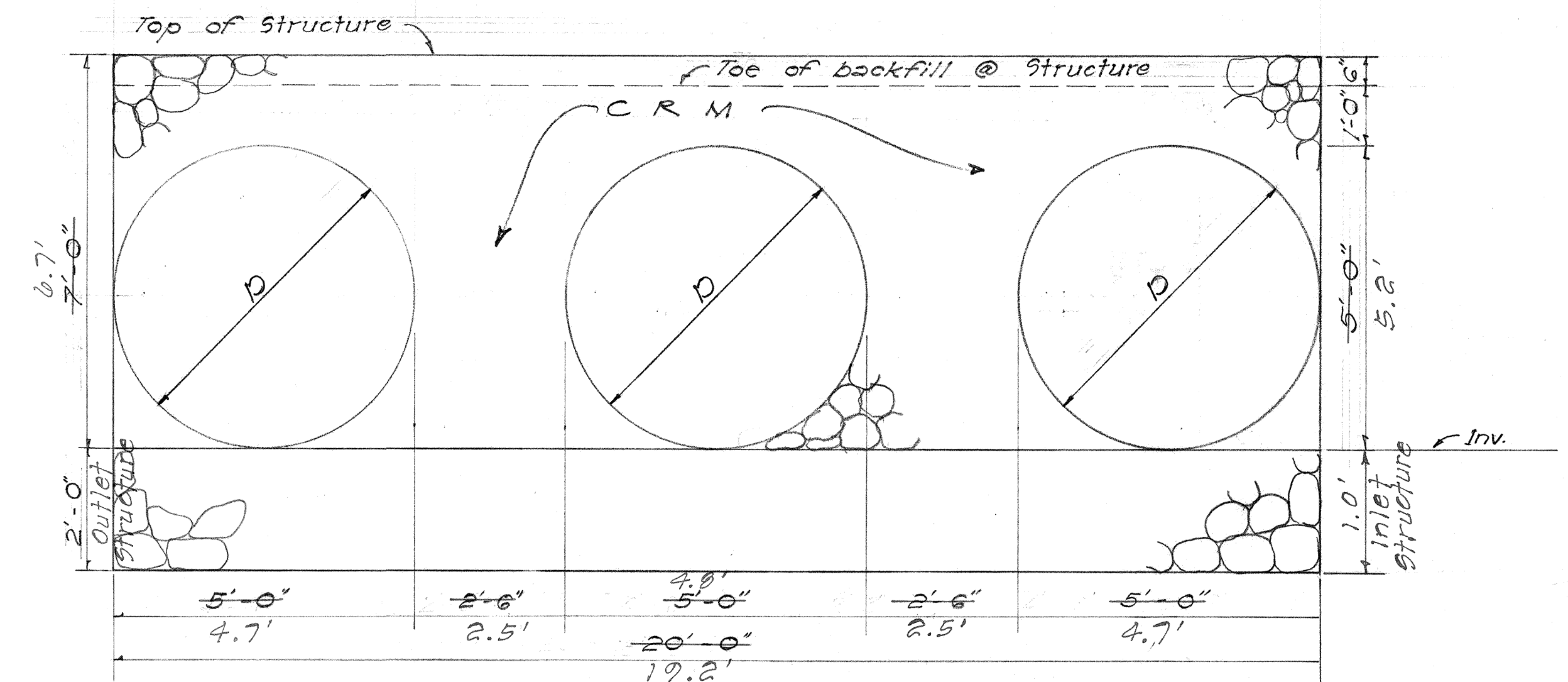
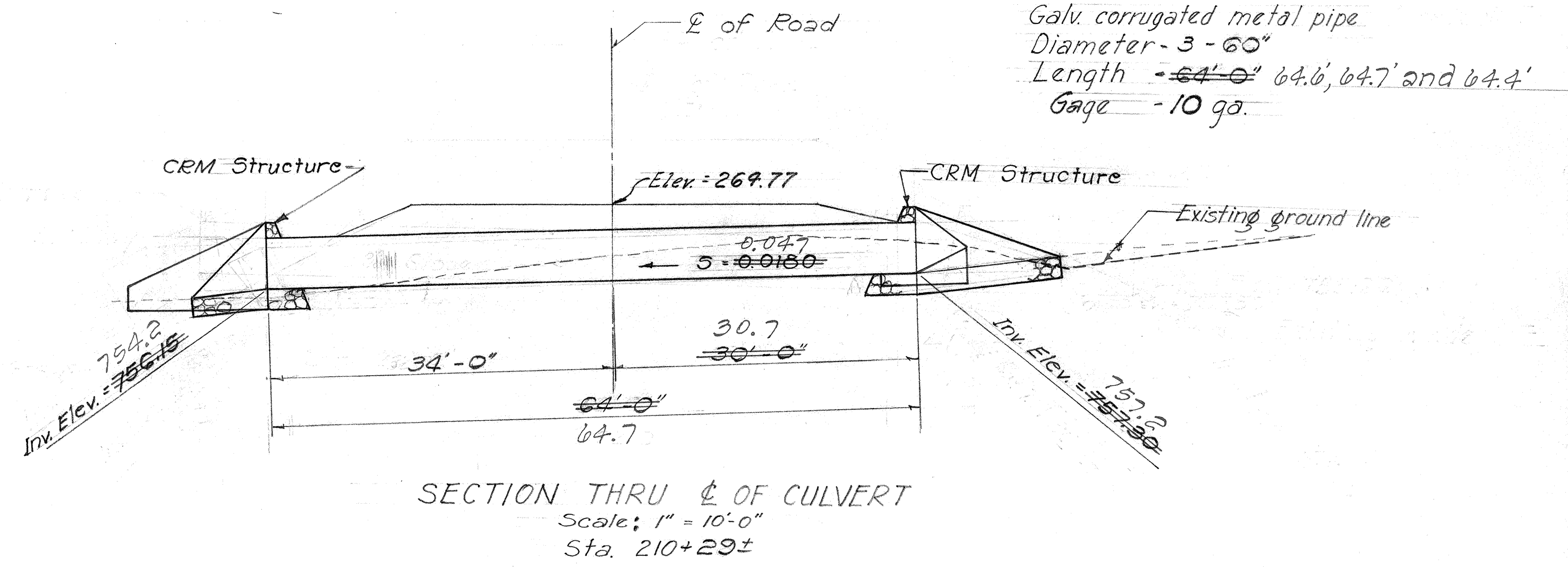
HONOKAA-WAIPIO ROAD Proj. No. 240A-01-G7

DESIGNED BY	DATE
DRIVEN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	21	67



PLAN
Scale: 1"=10'-0"



Note:
For detail of CRM Structure
see Sht. No. 22

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

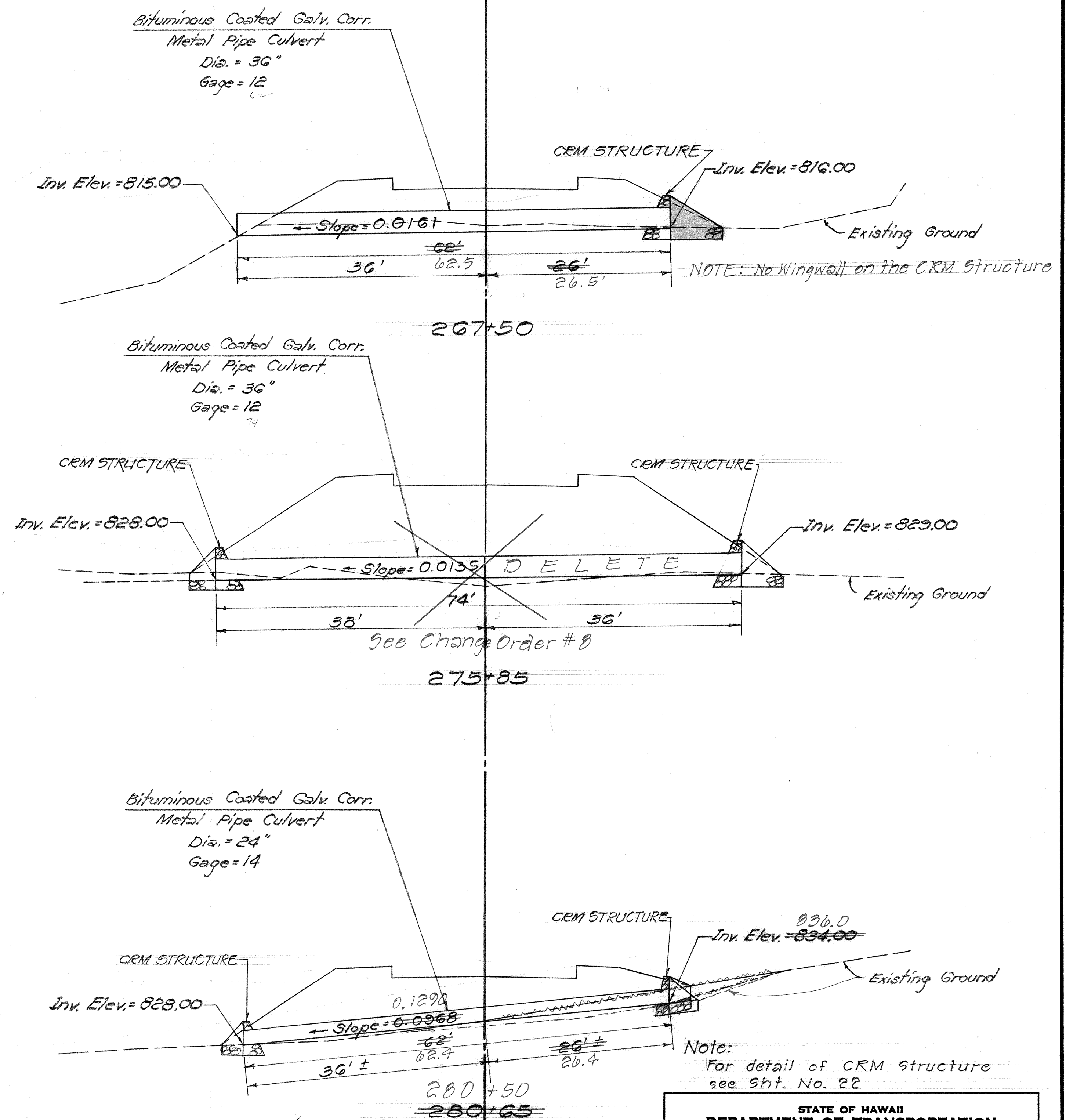
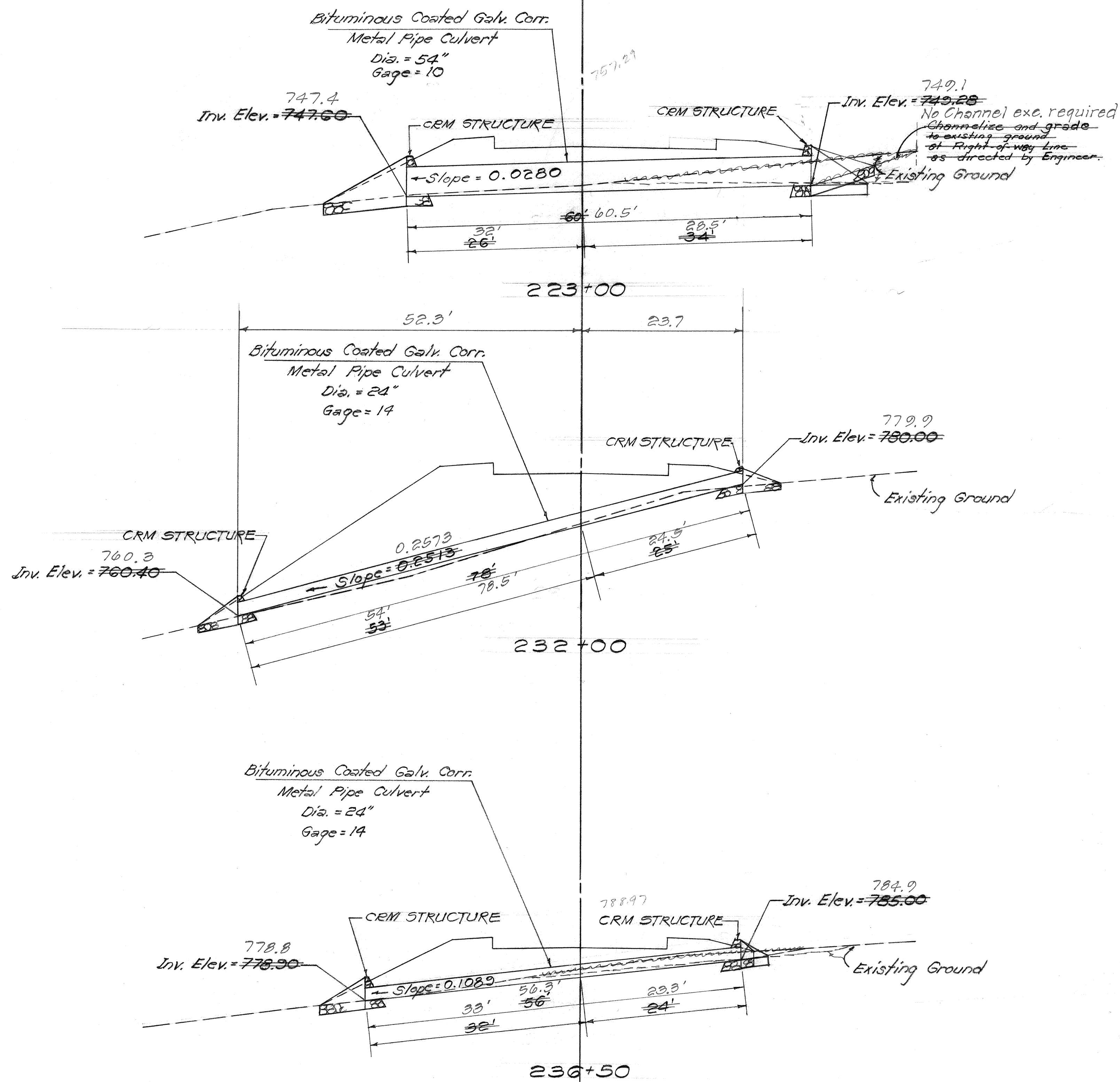
PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 210+29.1

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-G7

SHEET No. 2 OF 14 SHEETS

ORIGINAL	DATE
PLAN	
DESIGNED BY	
NOTED BY	
CHECKED BY	

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	23	67



Scale: 1"=10'

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

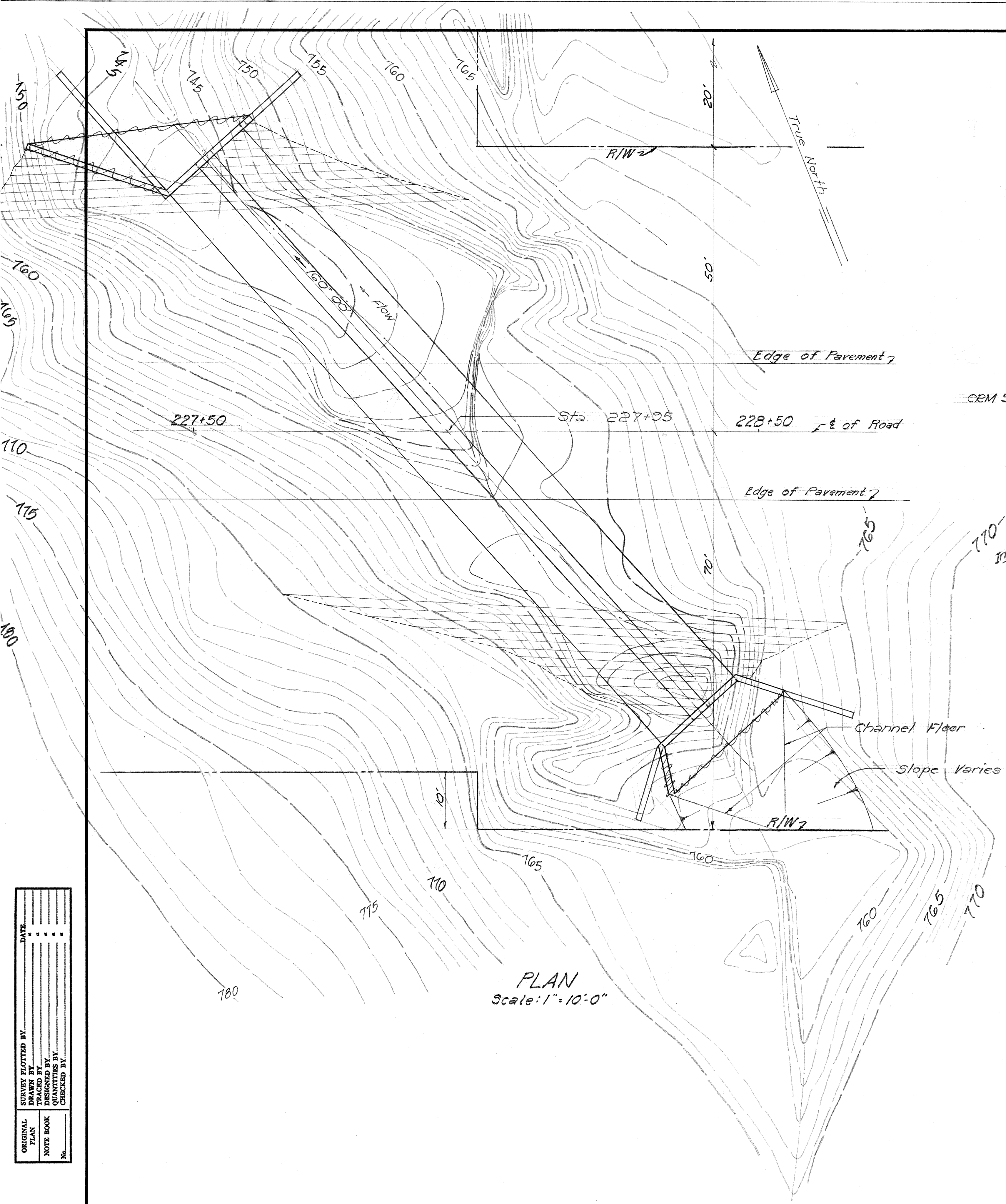
SECTIONS
CULVERTS AT STATIONS 223+00
232+00, 236+50, 267+50, 275+85 &
280+50 280+50

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-67

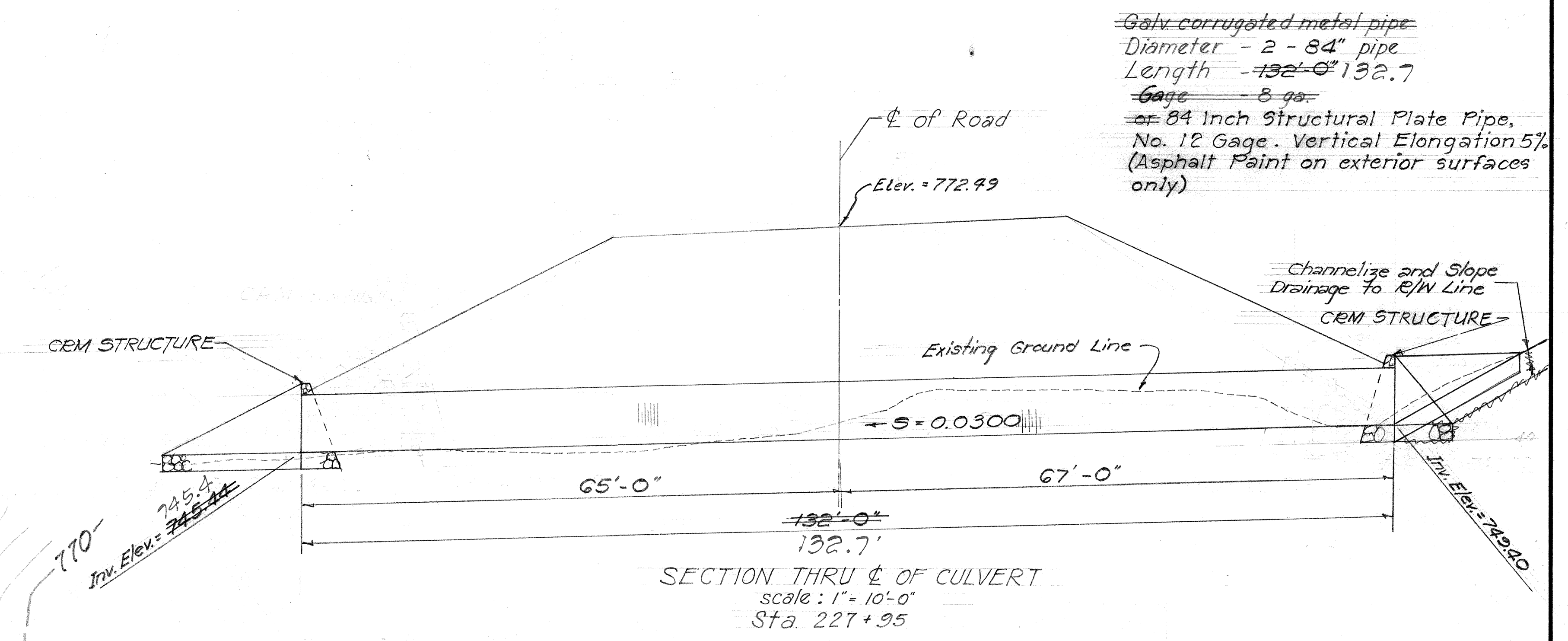
SHEET No. D-4 OF D-14 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

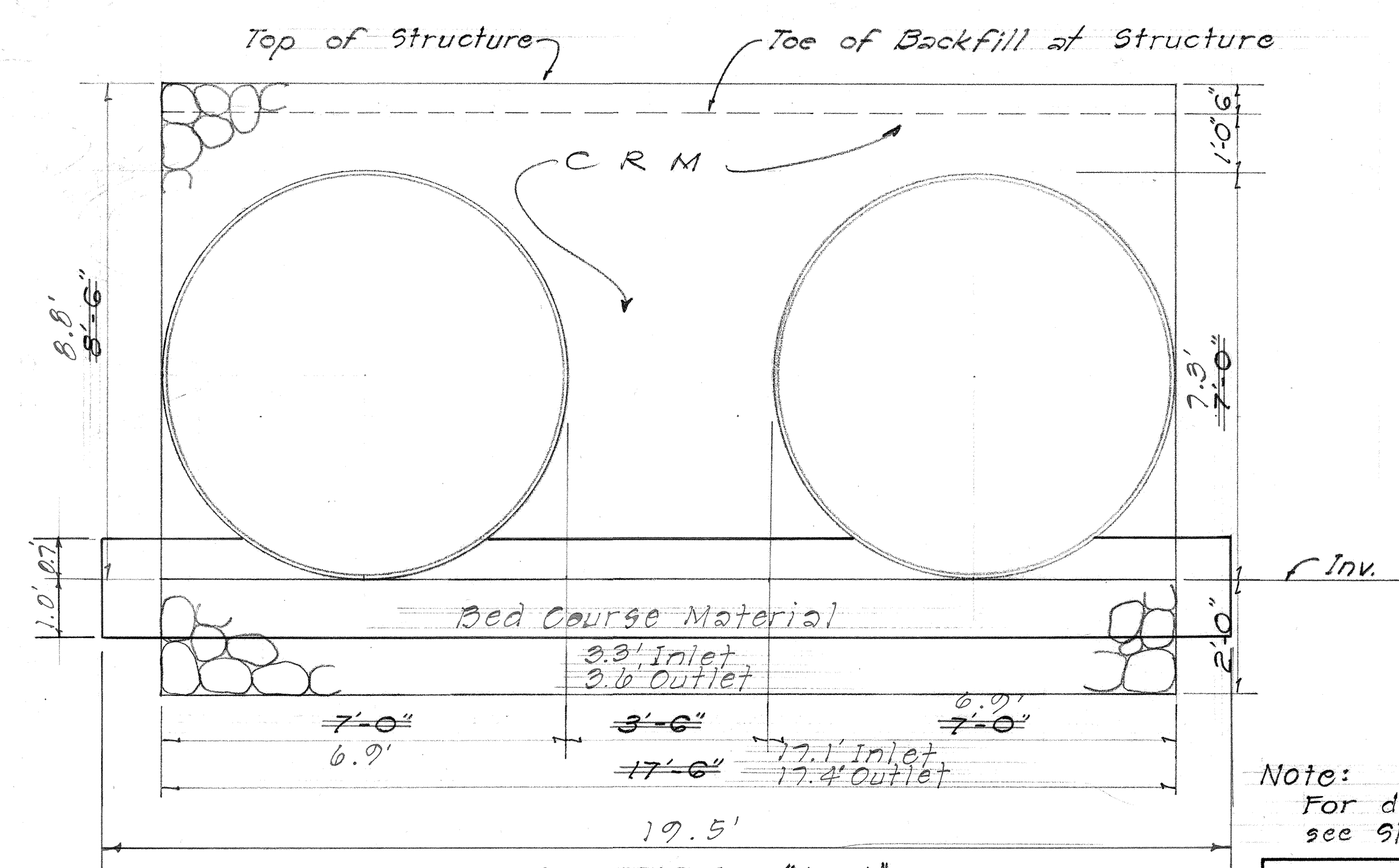
STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	24	67



PLAN
Scale: 1" = 10'-0"



SECTION THRU ϕ OF CULVERT
Scale: 1" = 10'-0"
Sta. 227+95



SECTION 'A-A'
Scale: 1/2" = 1'-0"

Note:
For detail of CRM Structure
see Sht. No. 22

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

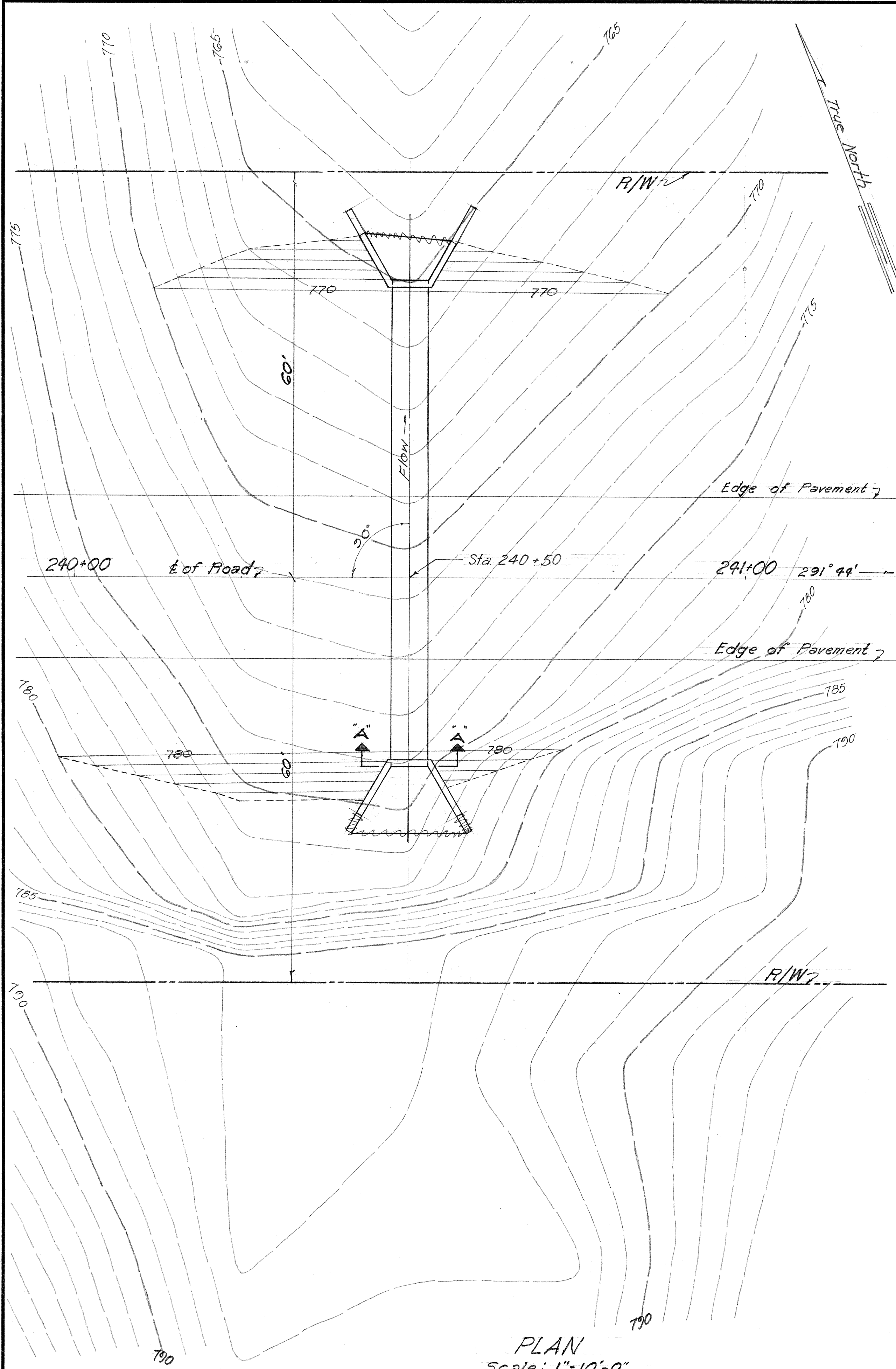
PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 227+95

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-67

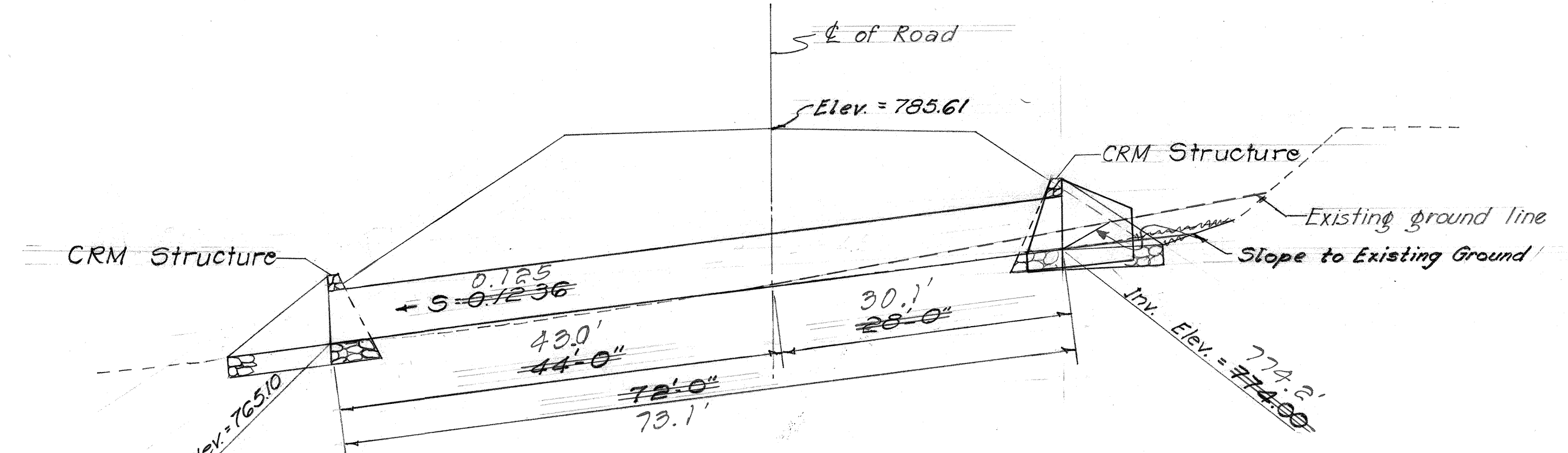
ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	25	69

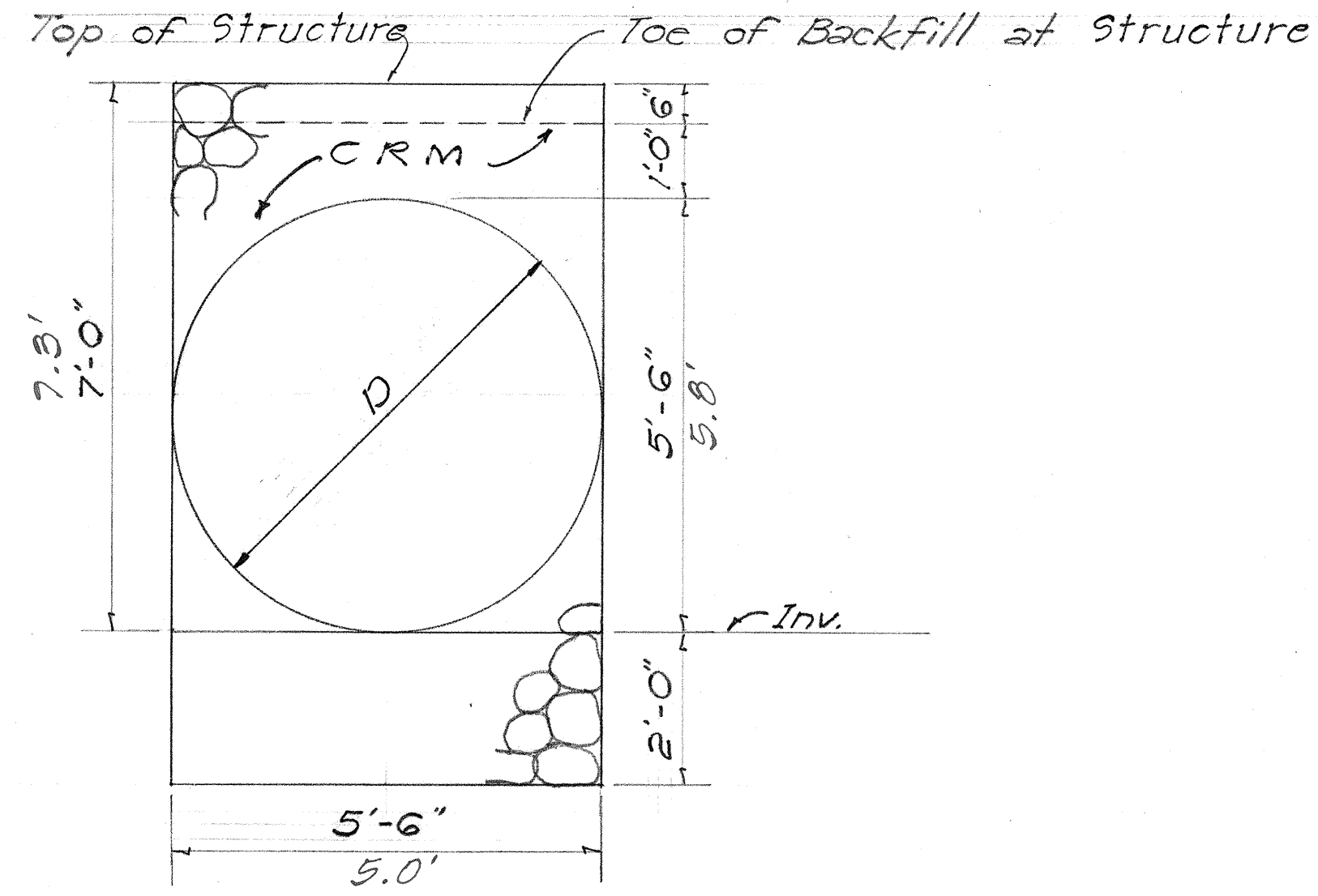
Galv. corrugated metal pipe
Diameter 66"
Length 72'-0" 73.1'
Gage - 10 ga.



PLAN
Scale: 1"=10'-0"



SECTION THRU CULVERT
STA. 240+50
Scale: 1"=10'



SECTION "A-A"
Scale: 1/2"=1'-0"

Note:
For detail of CRM structure
see Sht. No. 22

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 240+50

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-67

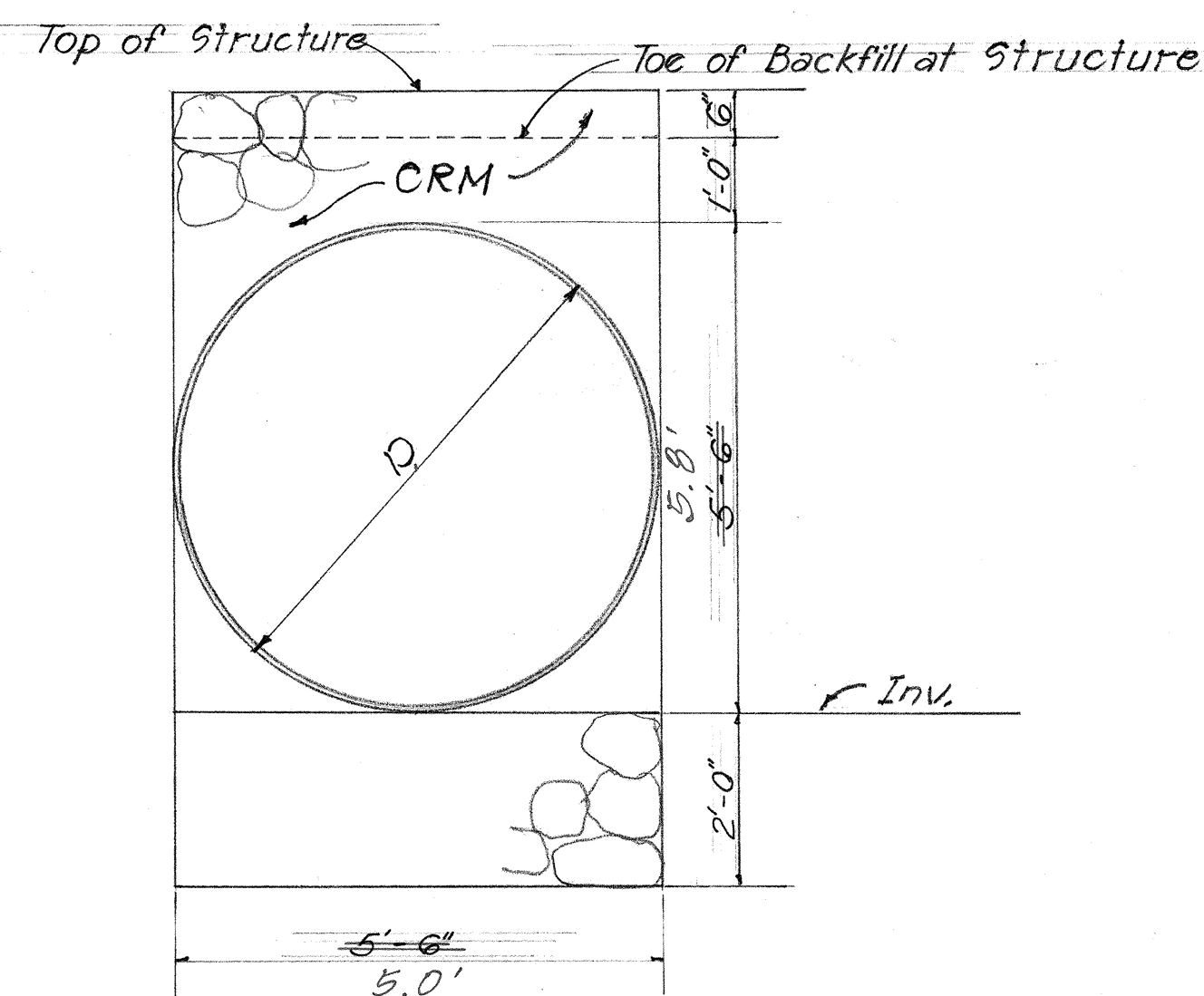
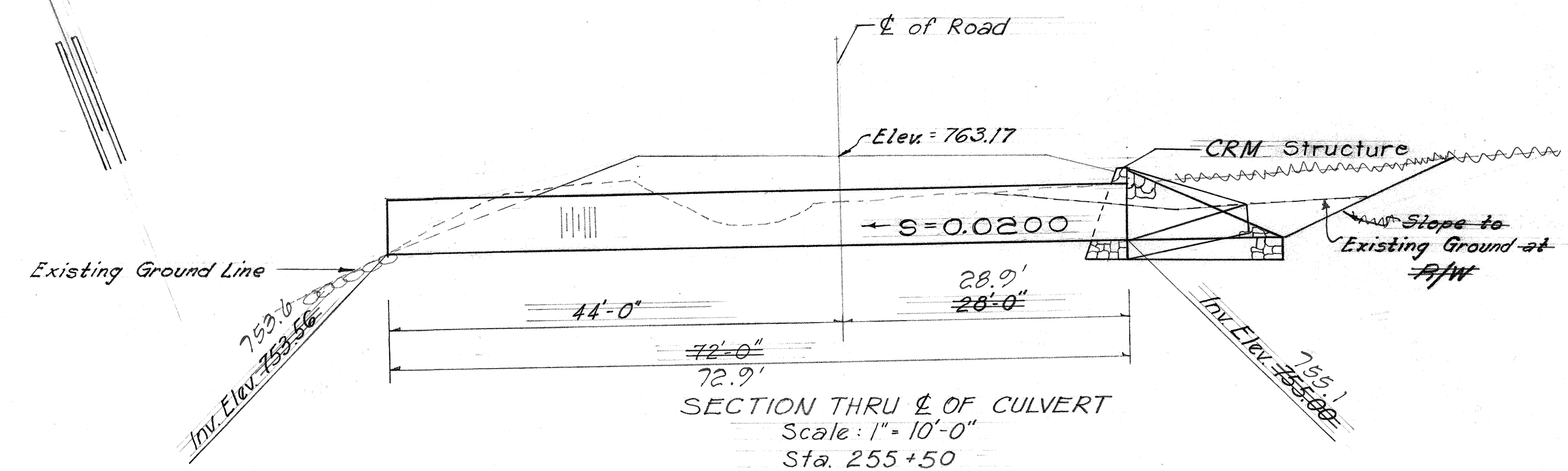
SHEET No. D-COFD-14 SHEETS

25

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

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	26	67

Galv. corrugated metal pipe
Diameter - 66" pipe
Length - ~~72'~~ 72.9'
Gage - 10 ga.



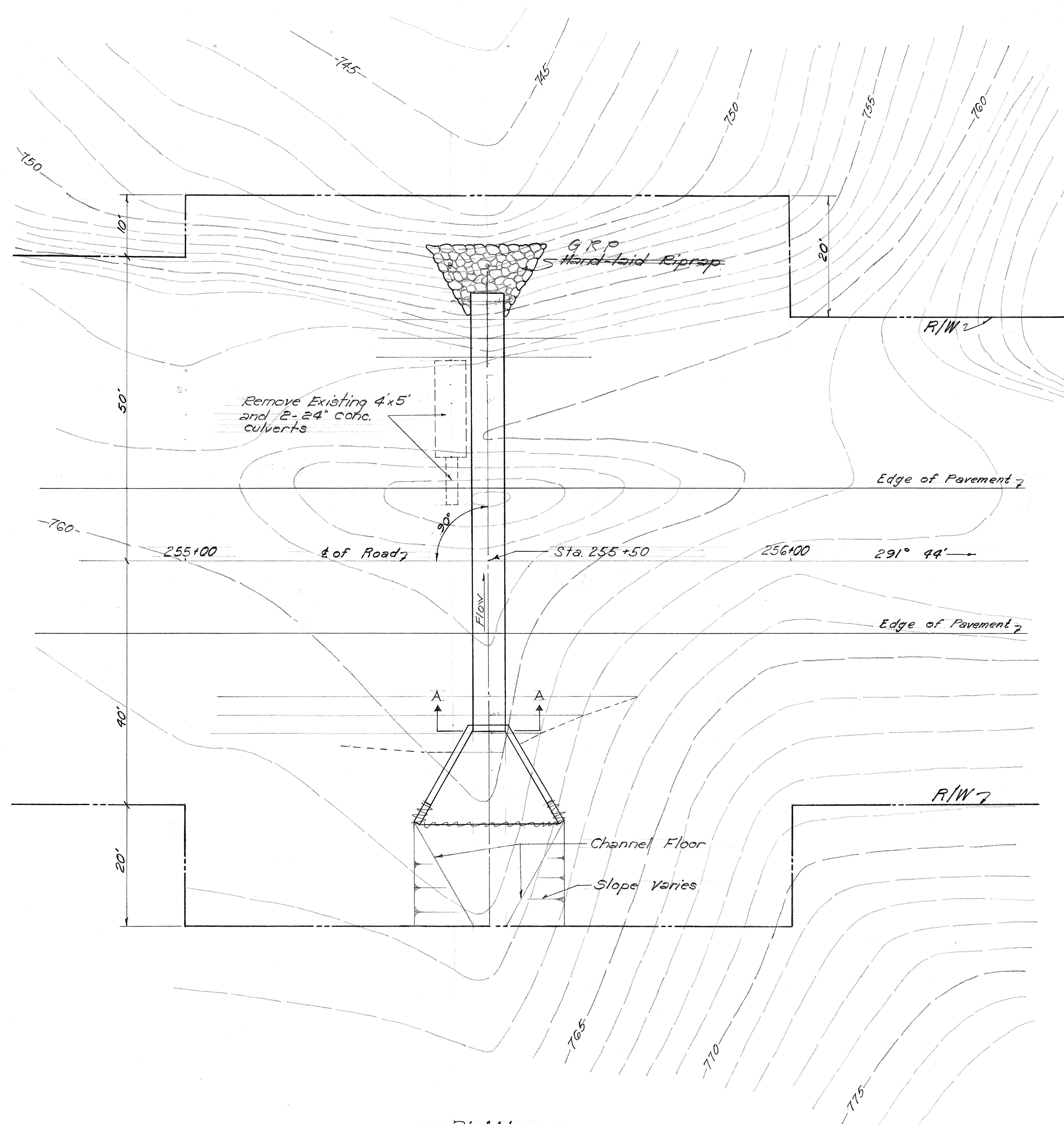
Note:
For detail of CRM structure
see Sht. No. 22

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 255+50

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-C7

SHEET No. 0-7 OF 0-14 SHEETS



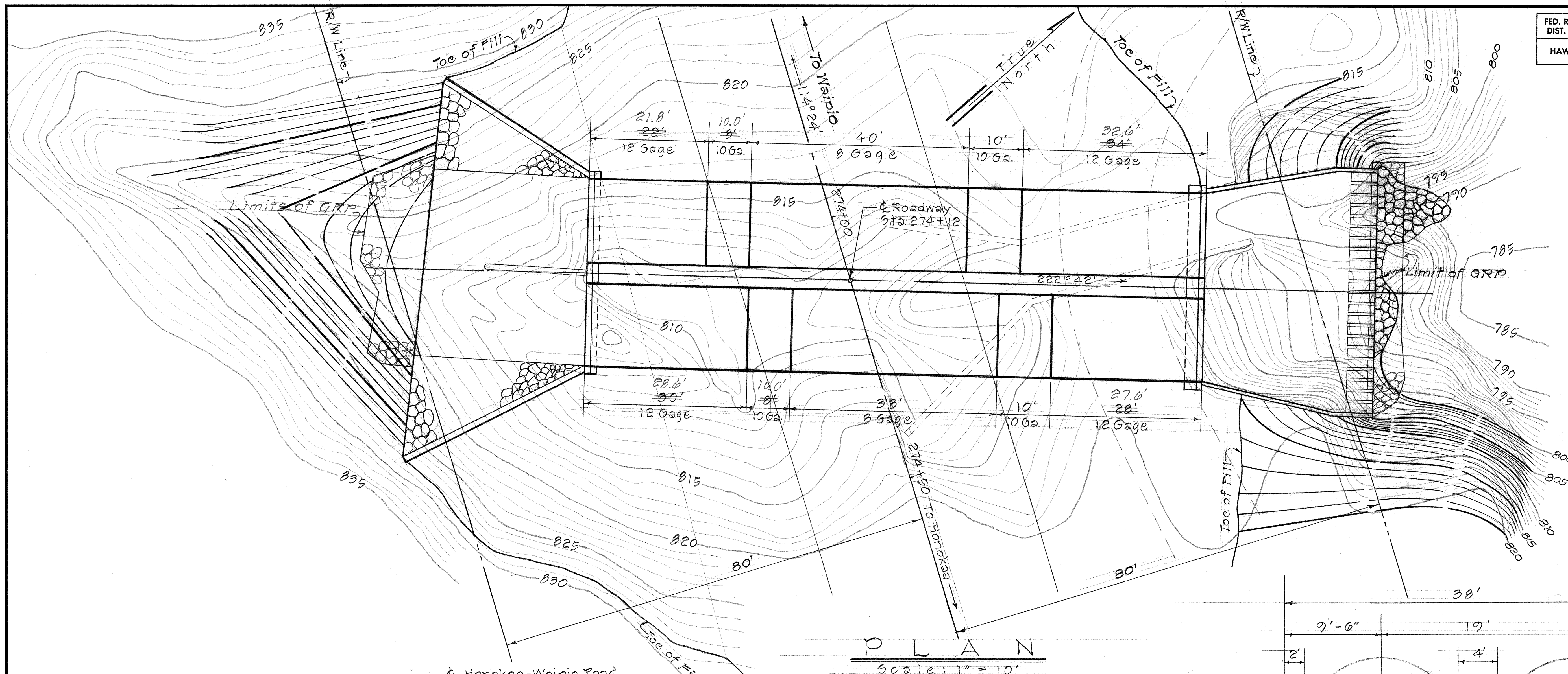
PLAN
Scale: 1" = 10'-0"

ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
DESIGNED BY	
CHECKED BY	
NO.	

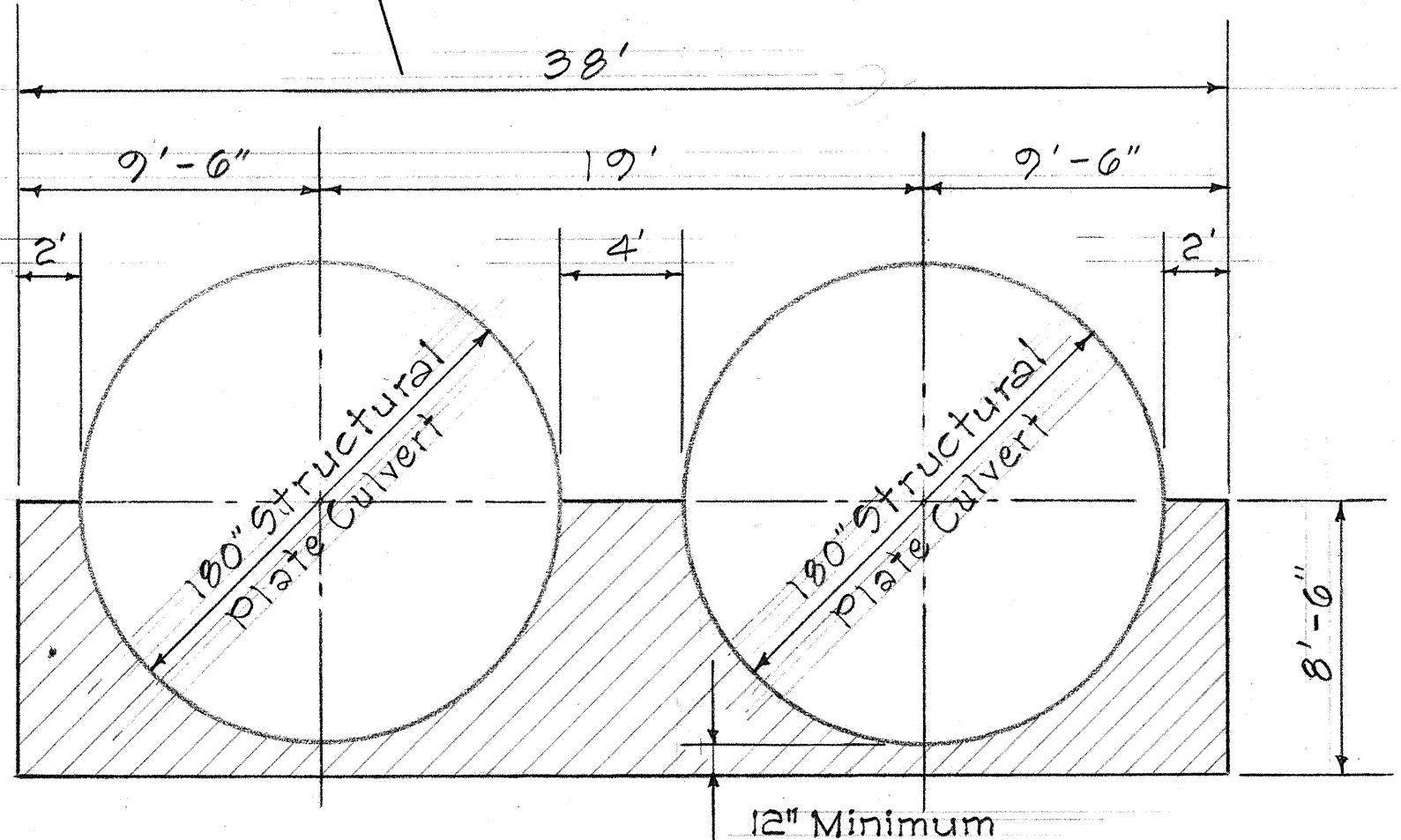
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-G7	1970	27	69

ESTIMATED QUANTITIES

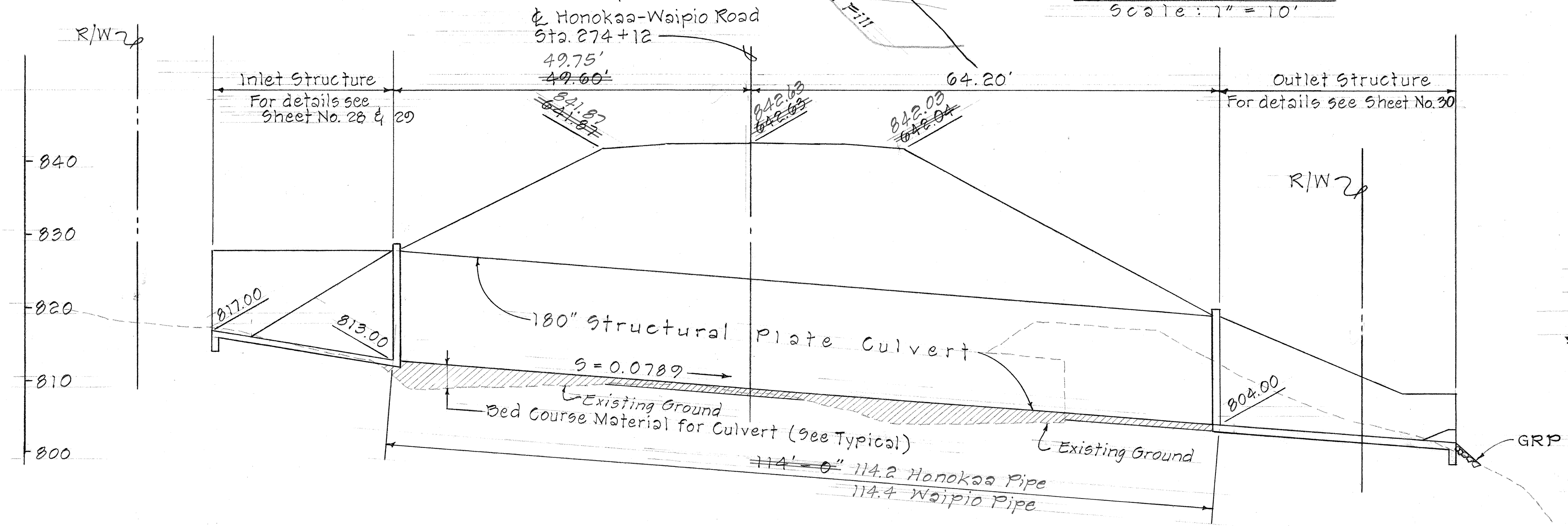
Structural Excavation	148,240 cy
Bed Course Material	105 cy
Concrete	199,260 cy
Reinforcing Steel	18,557 lbs
Cement Rubble Masonry	16,460 lbs
Grouted Rubble Paving	118 cy
180" Structural Plate Culvert	228.6' - 228.1'



PLAN
Scale: 1" = 10'



**TYPICAL SECTION OF
BED COURSE MATERIAL FOR CULVERTS**
Scale: 3/16" = 1'-0"



PROFILE ~ & OF DOUBLE 180" STRUCTURAL PLATE CULVERTS
Scale: 1" = 10'

Note: Pipe Diameter to be Factory Vertically Elongated 5%

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

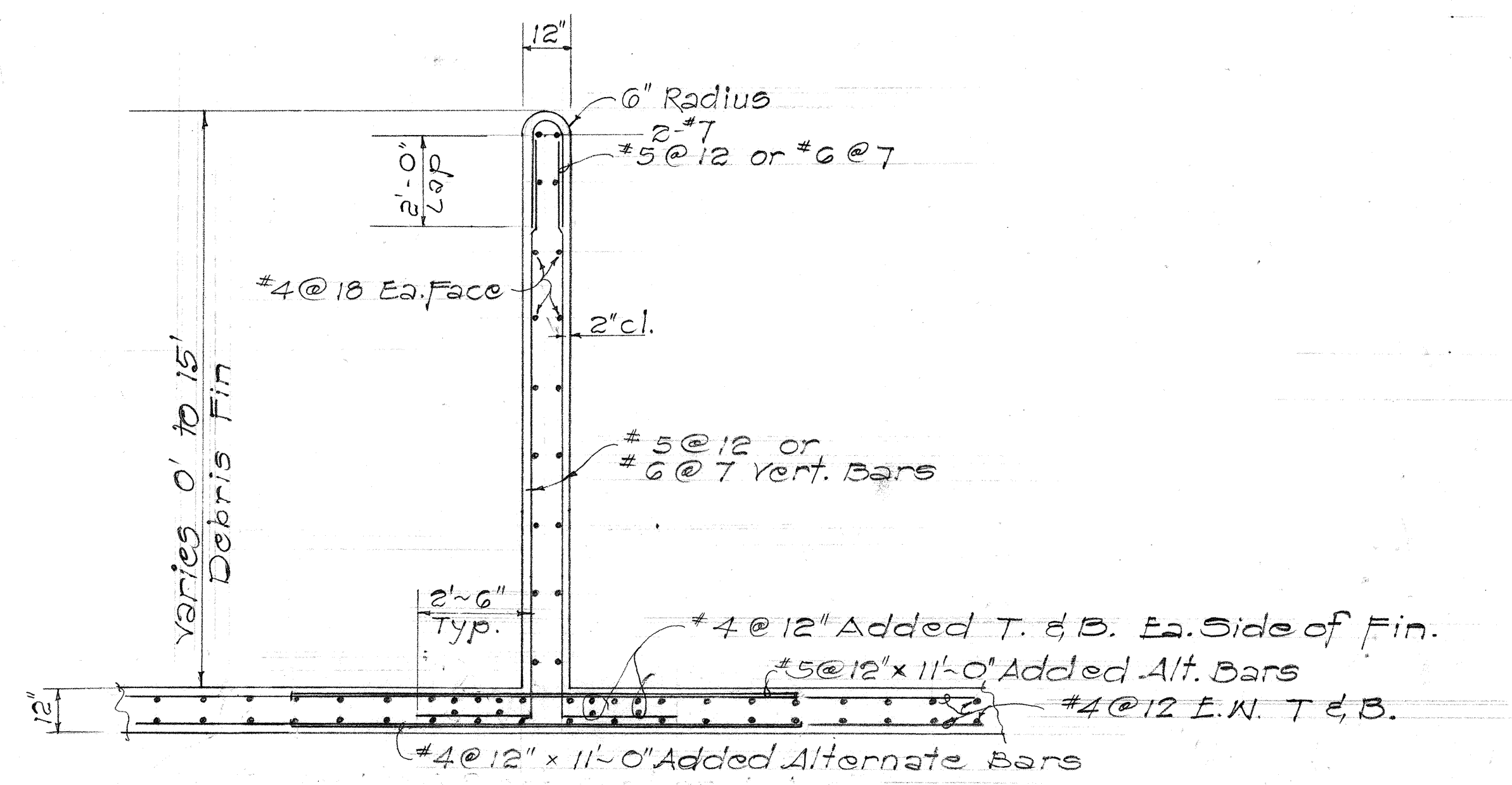
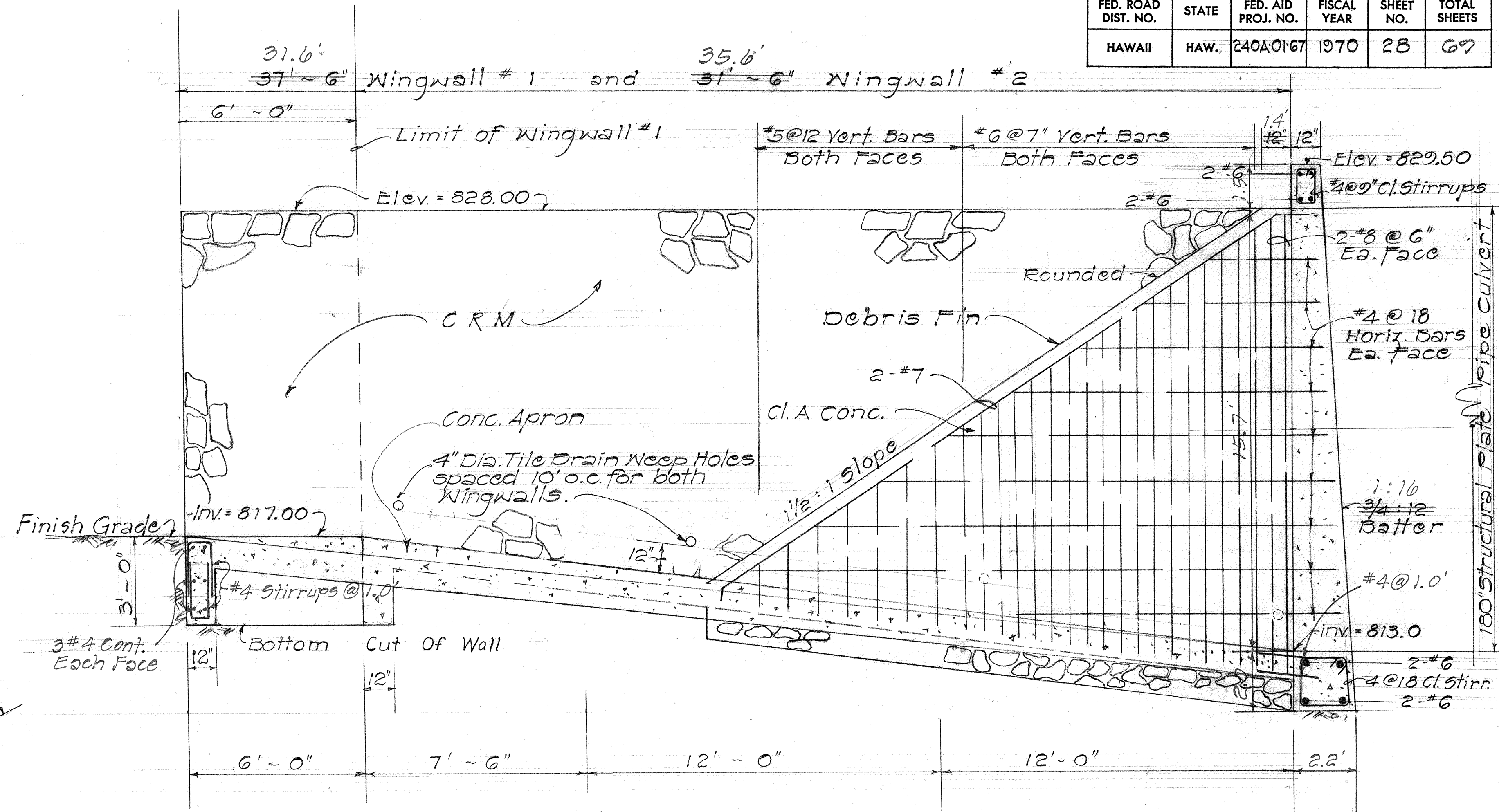
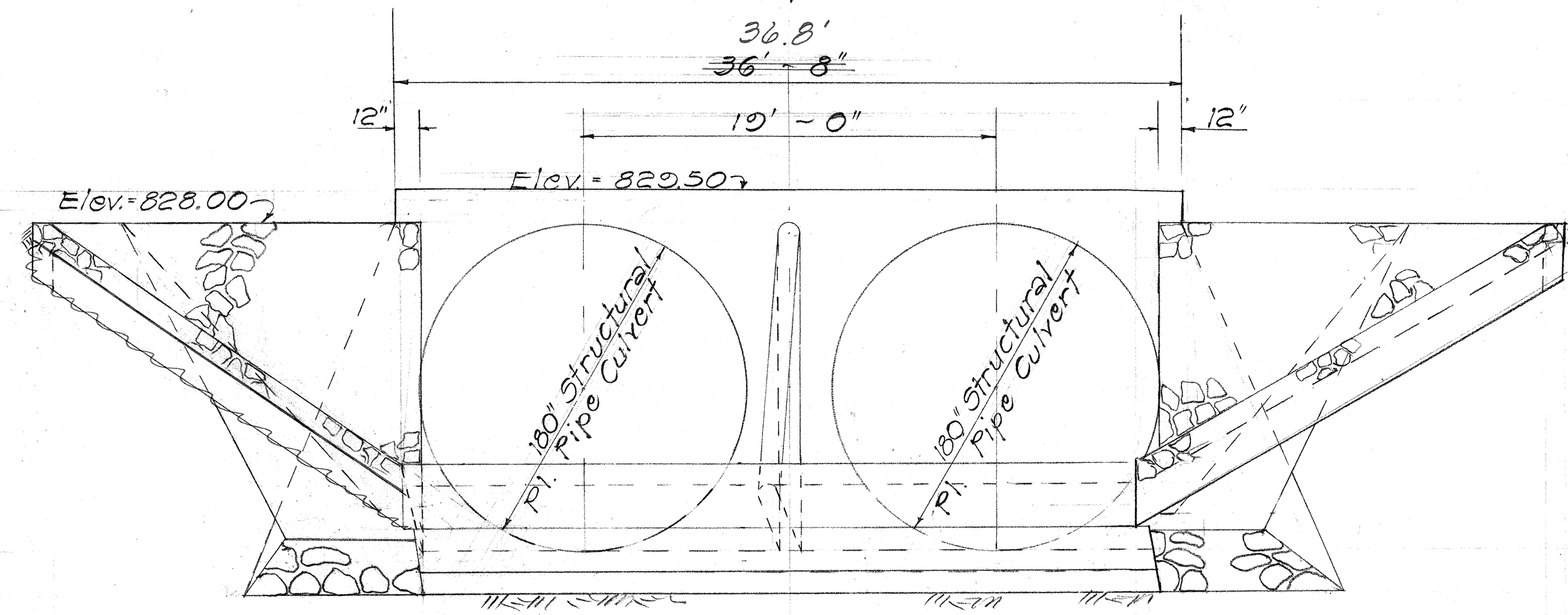
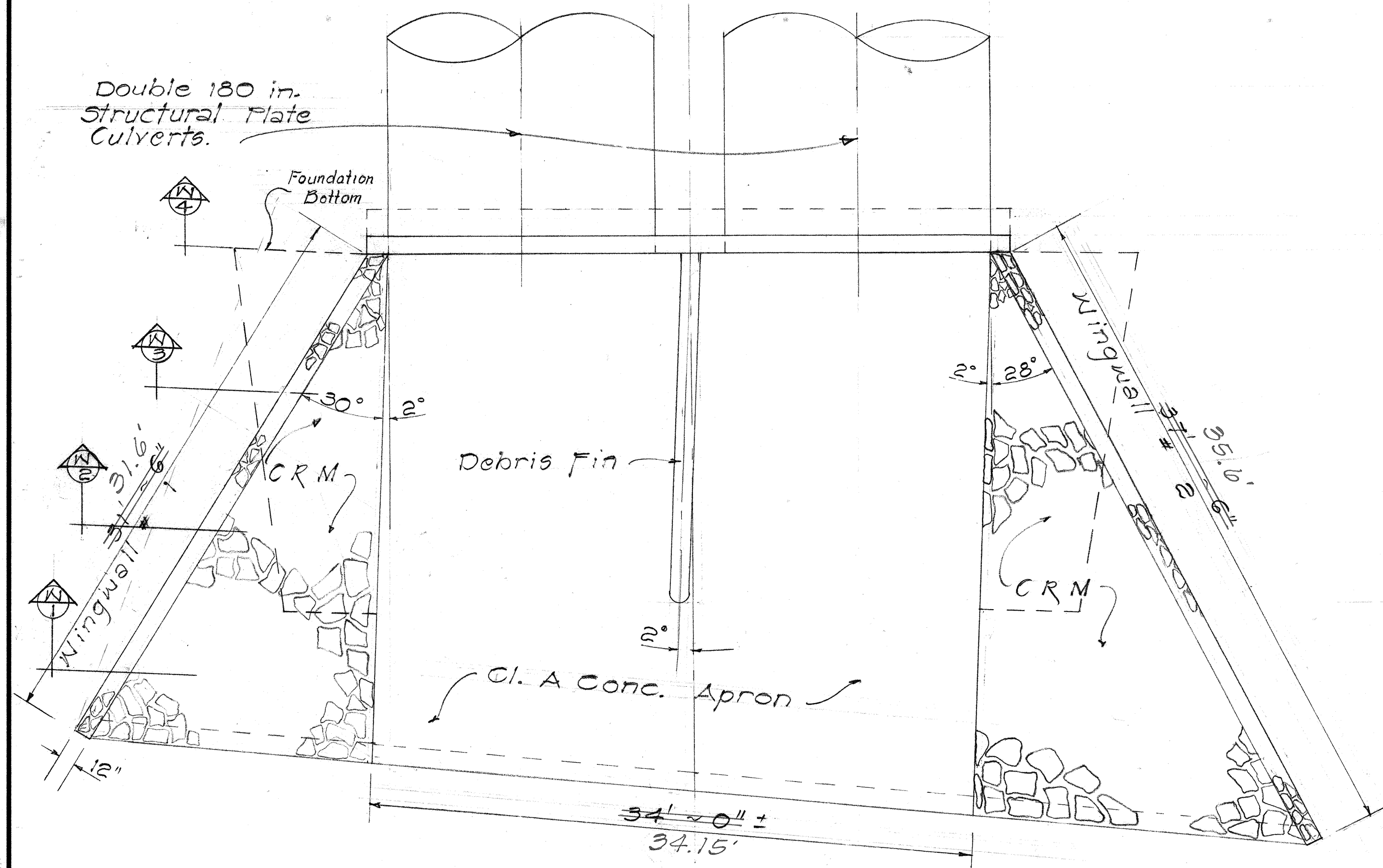
DRAINAGE DETAILS FOR
Double 180" Structural Plate
Culverts @ Sta 274+12

Honokaa - Waipio Road
Proj. No. 240A-01-G7
Scale: As Shown Date: April 1970

SHEET No. 28 OF 69 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
CHECKED BY	
NOTE BOOK	
No.	

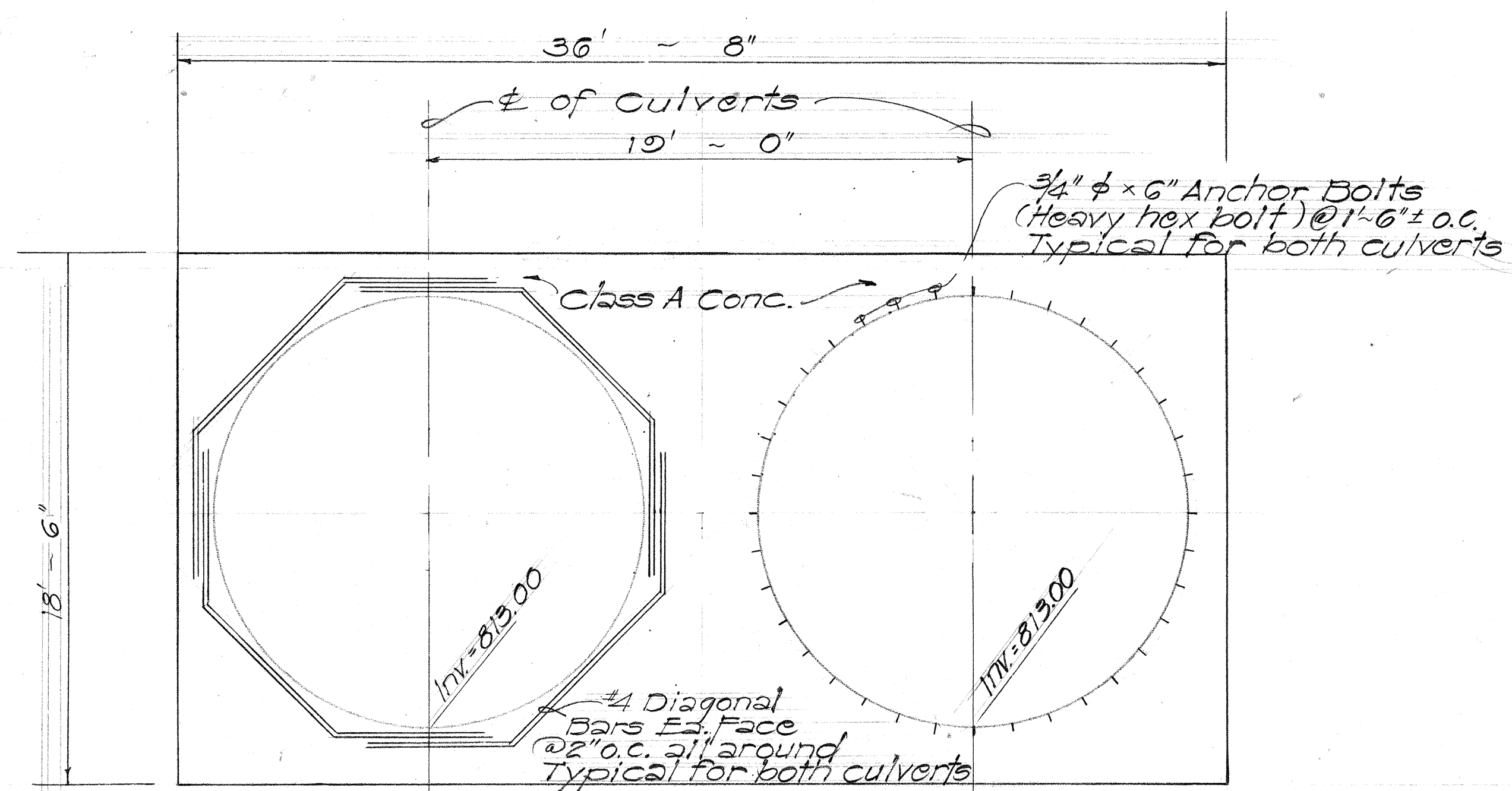
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-67	1970	28	67



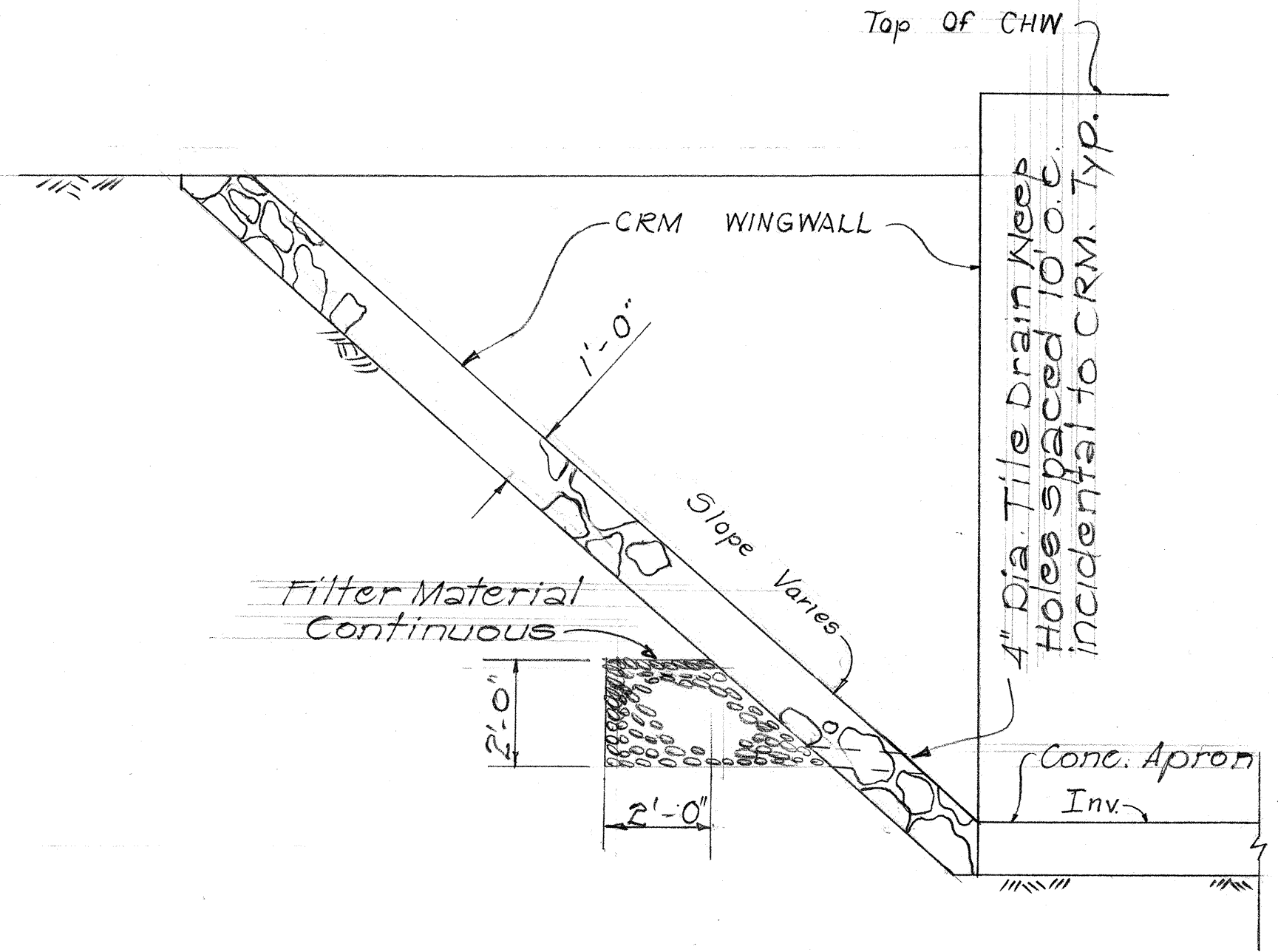
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS FOR
INLET STRUCTURE
Double 180" Structural Plate
Culverts @ Sta. 274+12
Honokaa - Waipio Road
Proj. No. 240A-01-67
Scale: As Shown Date: April 1970
SHEET No. 28 OF 67 SHEETS

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
No. _____

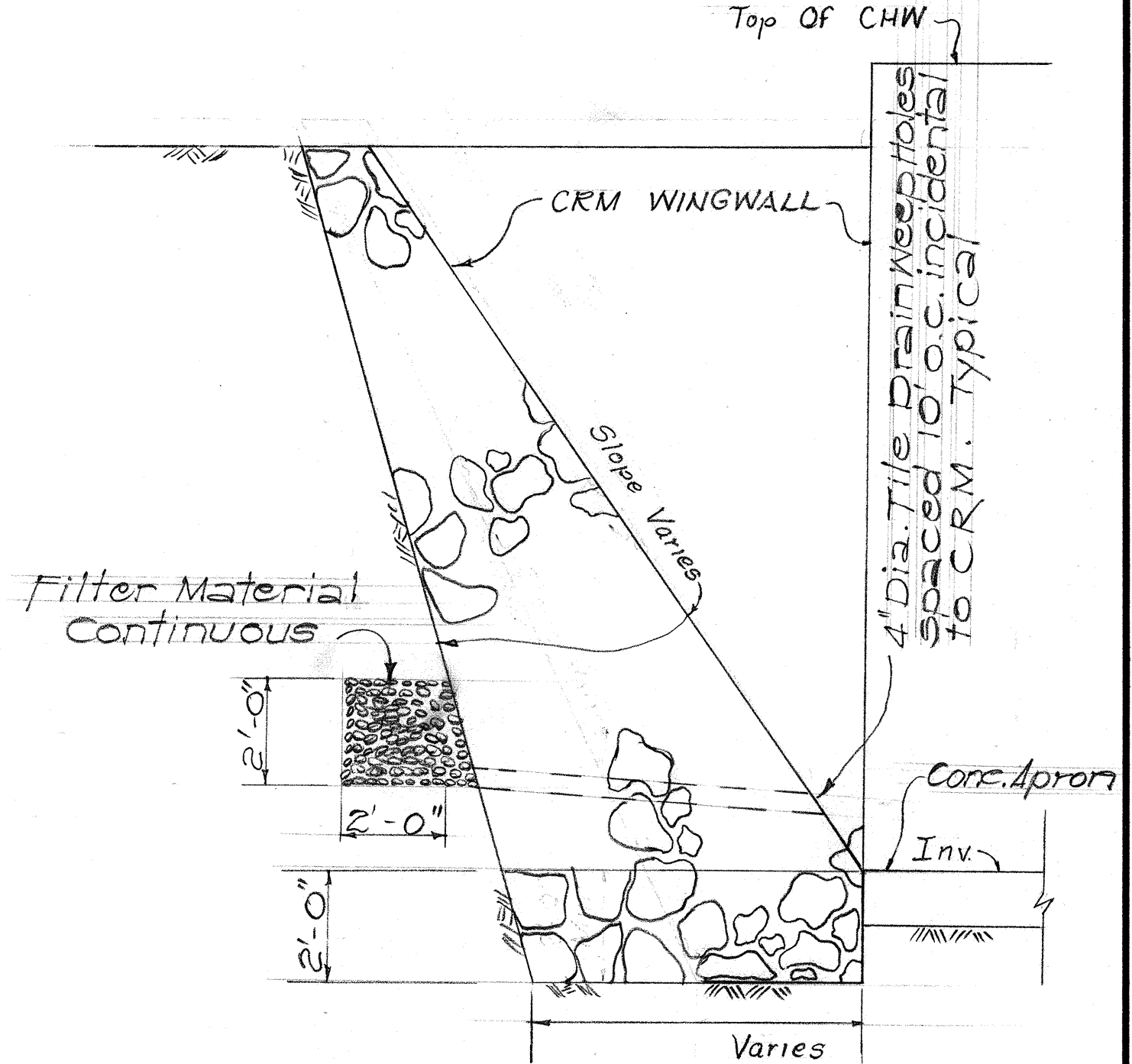
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-67	1970	29	69



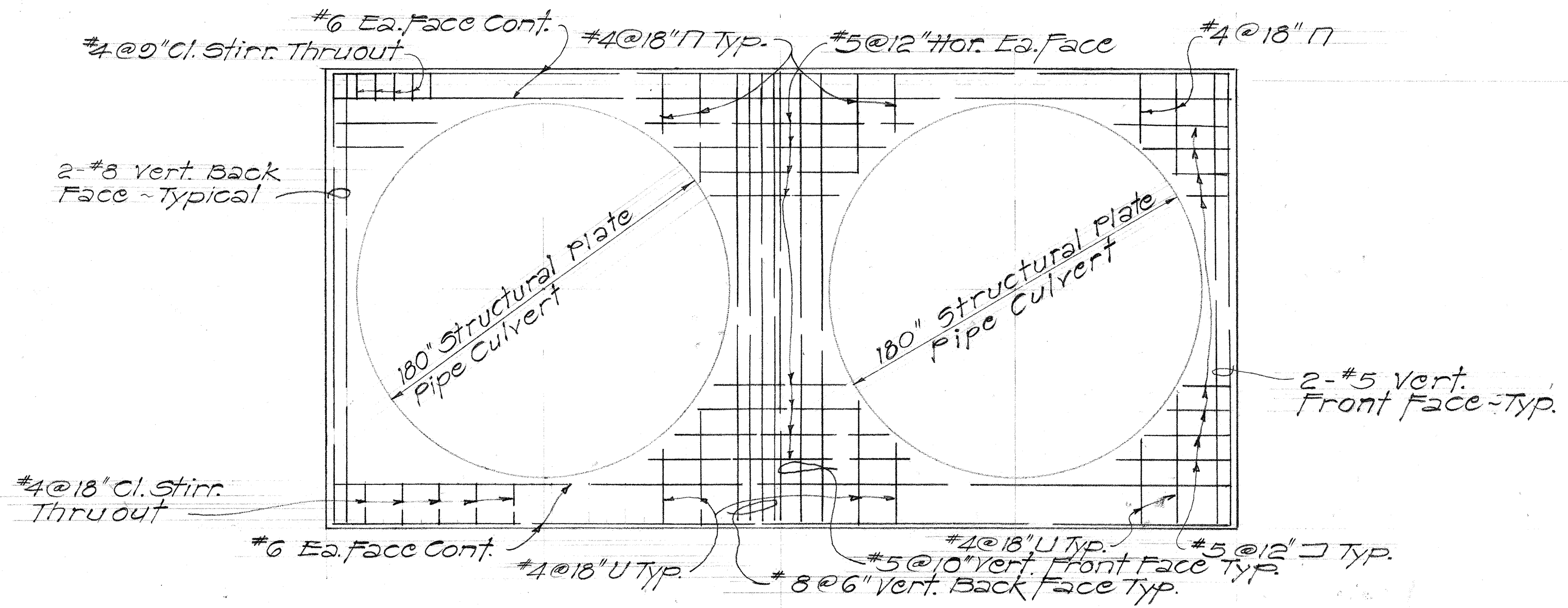
ADD'L. REINF. AROUND PIPE CULVERT OPENINGS IN CONCRETE HEADWALL



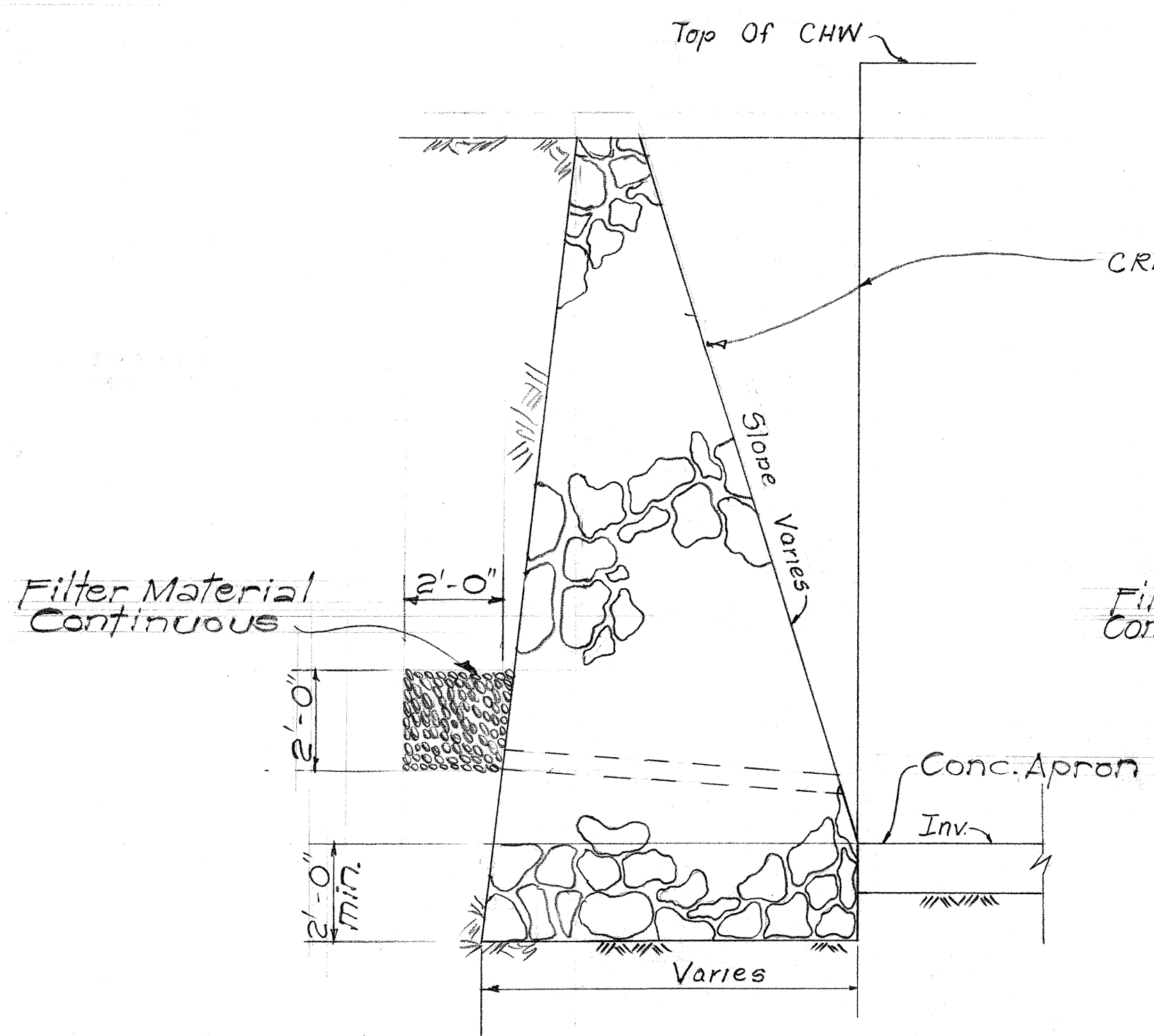
SECTION 1



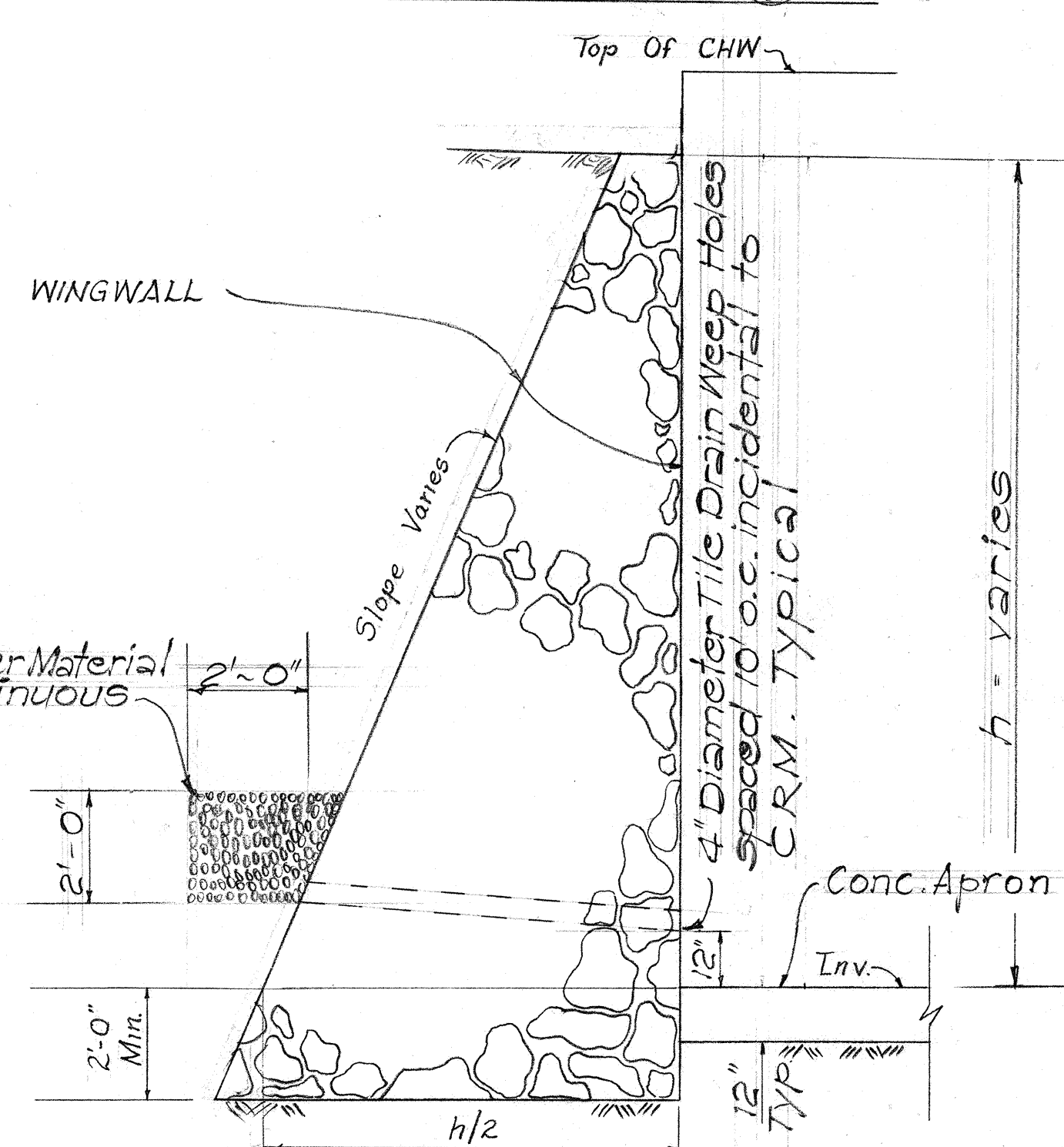
SECTION 2



TYPICAL REINF. DETAIL FOR CONCRETE HEADWALL
Scale: 1/4" = 1'-0"



SECTION 3



SECTION 4

TYPICAL SECTIONS FOR CRM WINGWALLS
(For Opposite Wingwall - Reverse Sections)
Scale: 3/8" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

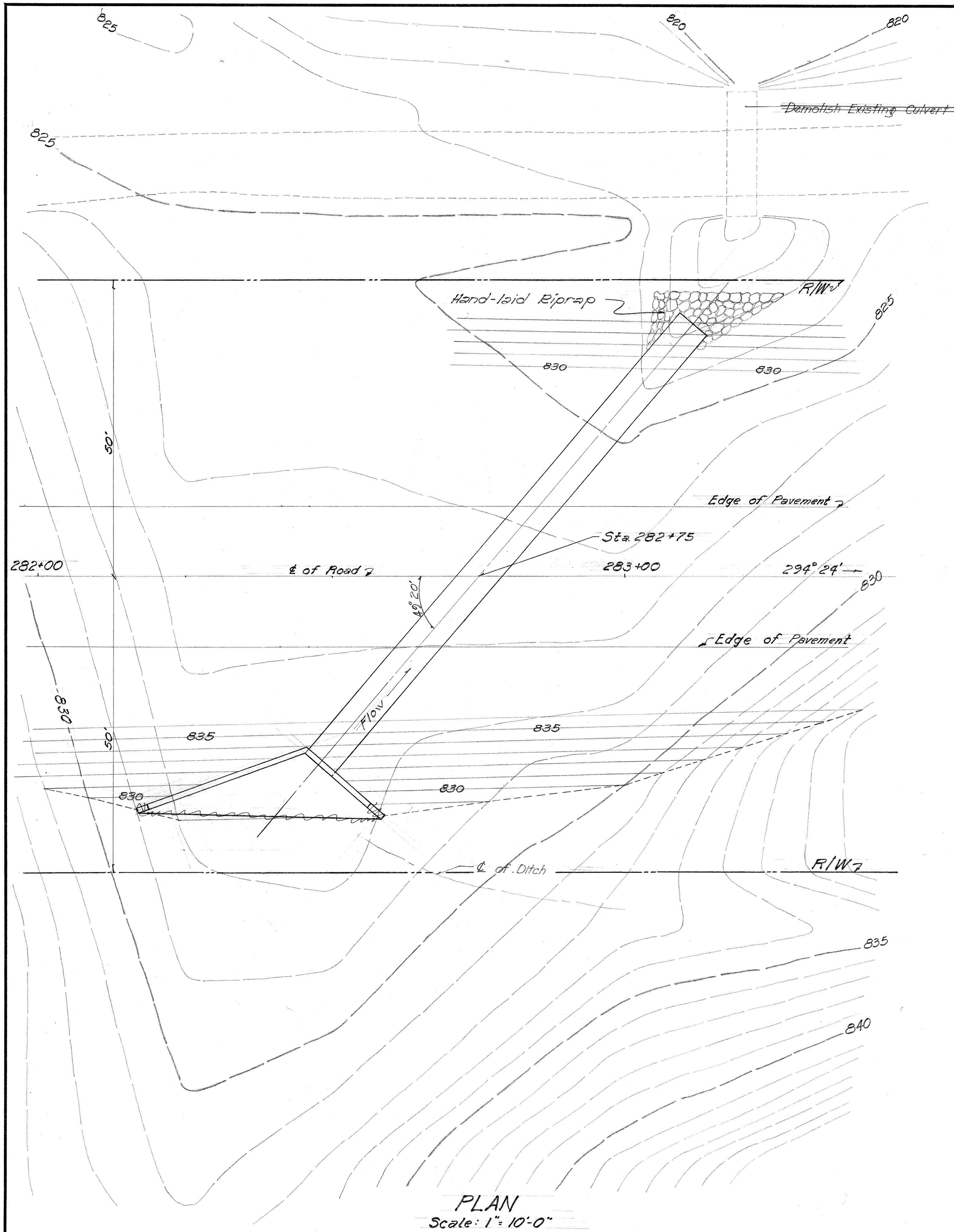
DRAINAGE DETAILS FOR INLET STRUCTURE

Double 180" Structural Plate Culverts @ Sta 274+12
Honokaa - Waipio Road
Proj. No. 240A-01-C7
Scale: As Shown Date: April 1970

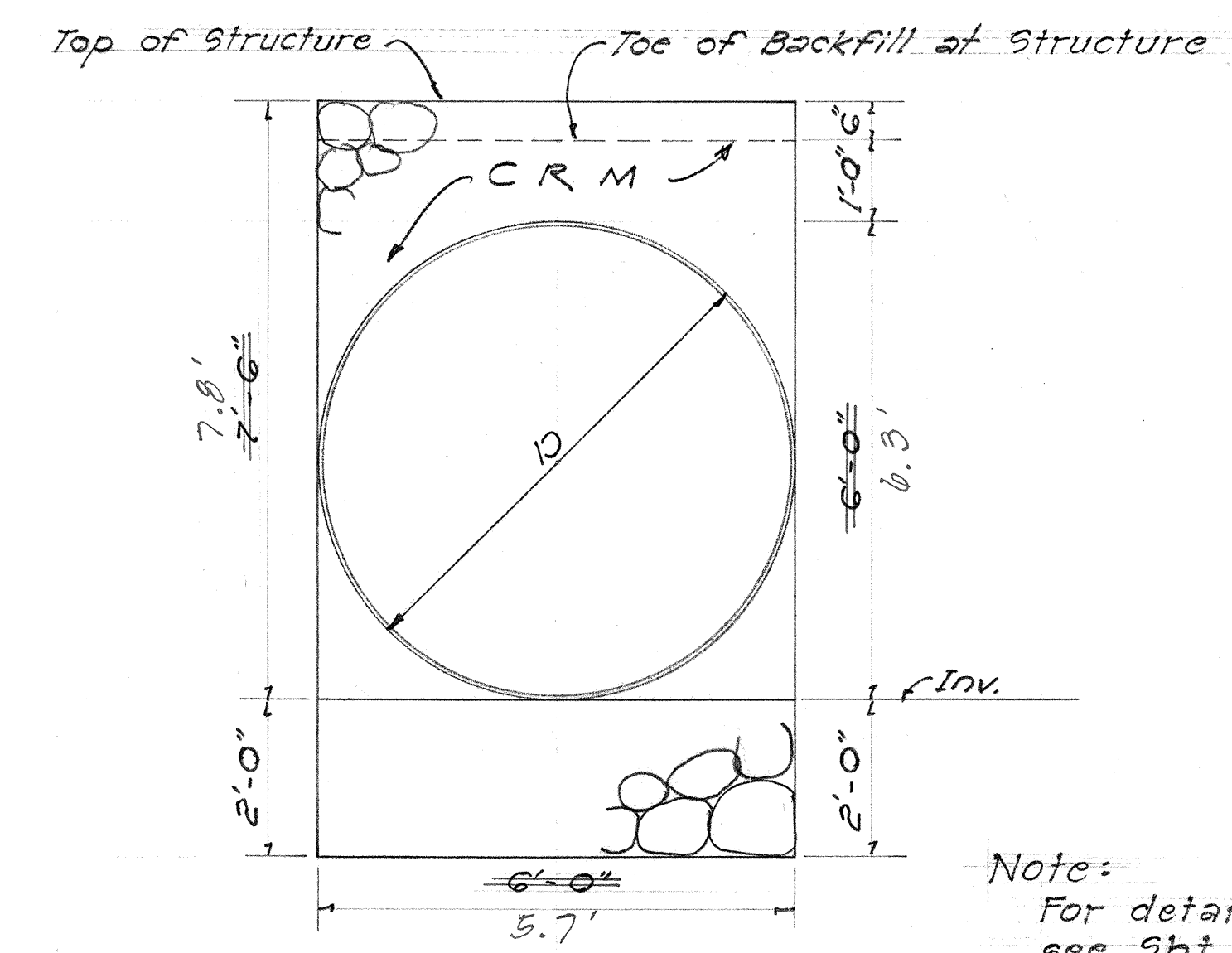
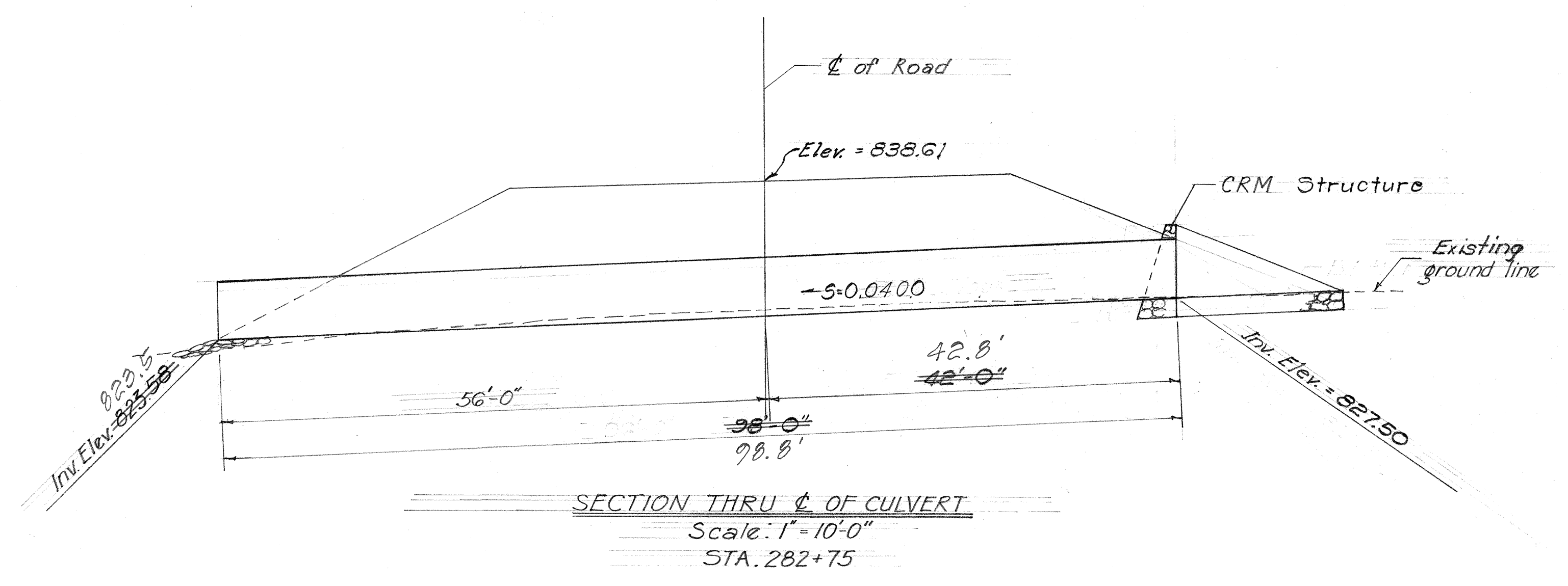
SHEET No. 2-100FD-14 SHEETS

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

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	31	69



PLAN
Scale: 1" = 10'-0"



SECTION "A-A"
Scale: 1/2" = 1'-0"

Note:
For detail of CRM structure
see Sht. No. 22

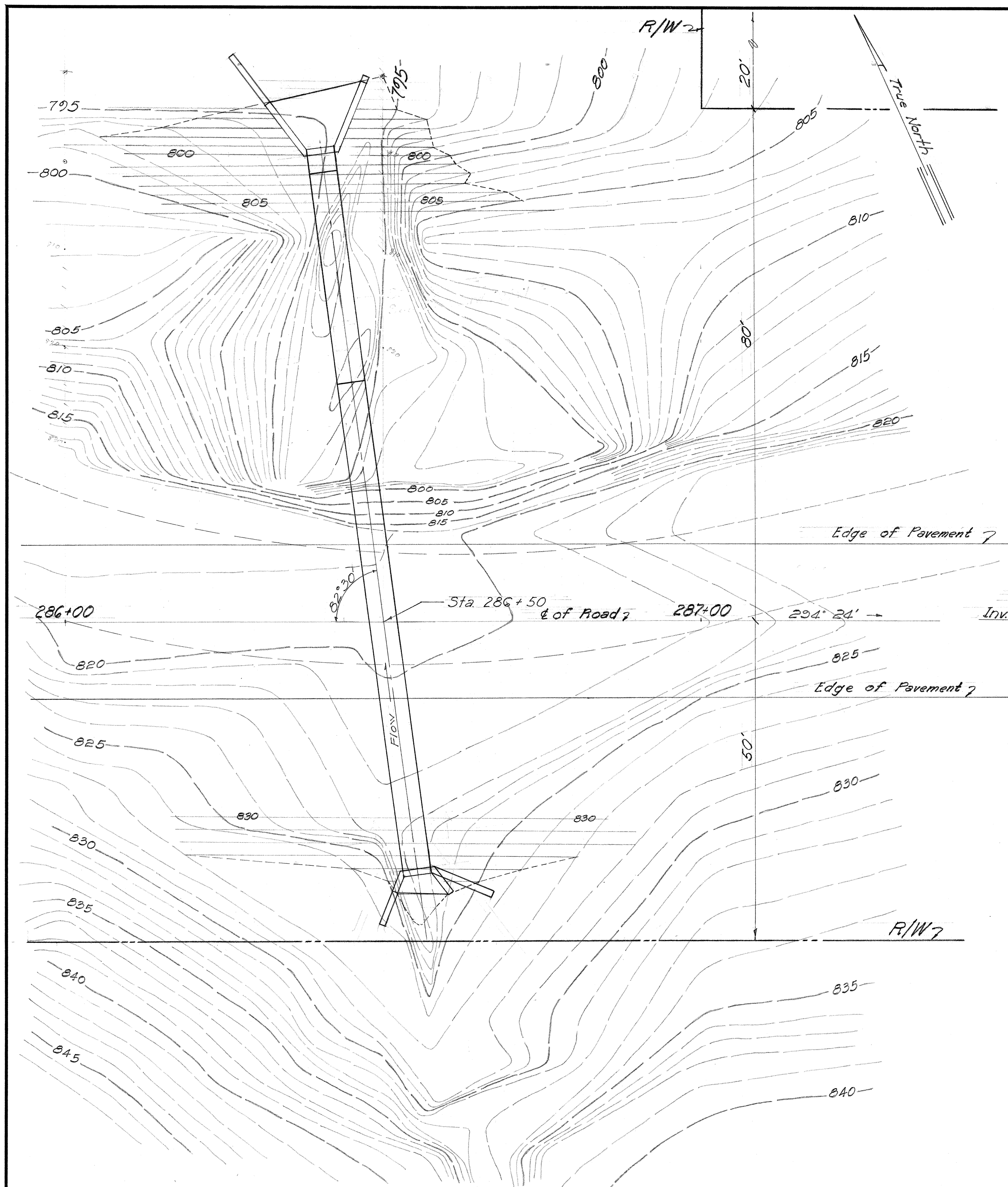
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 282+75

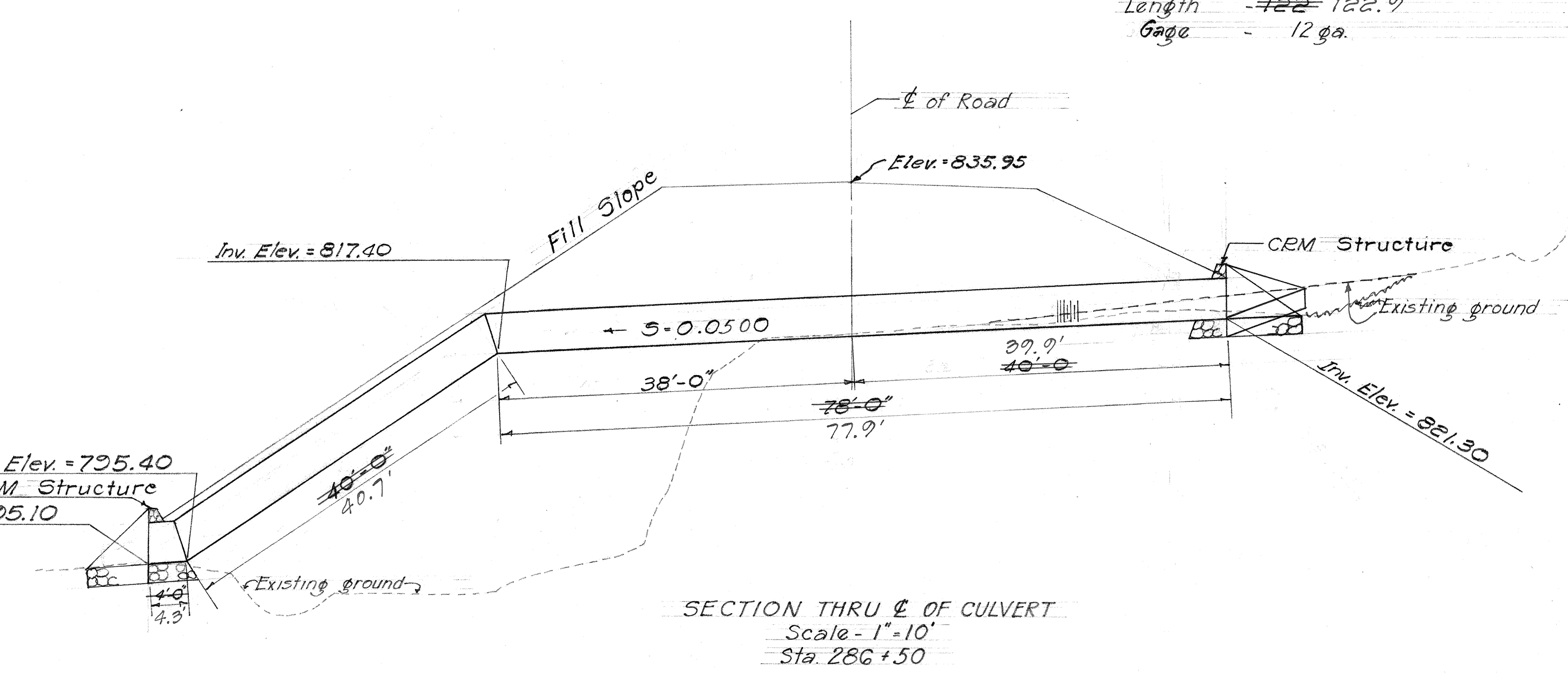
HONOKAA-WAIPIO ROAD Proj. No. 240A-01-67

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
IN CHARGE	

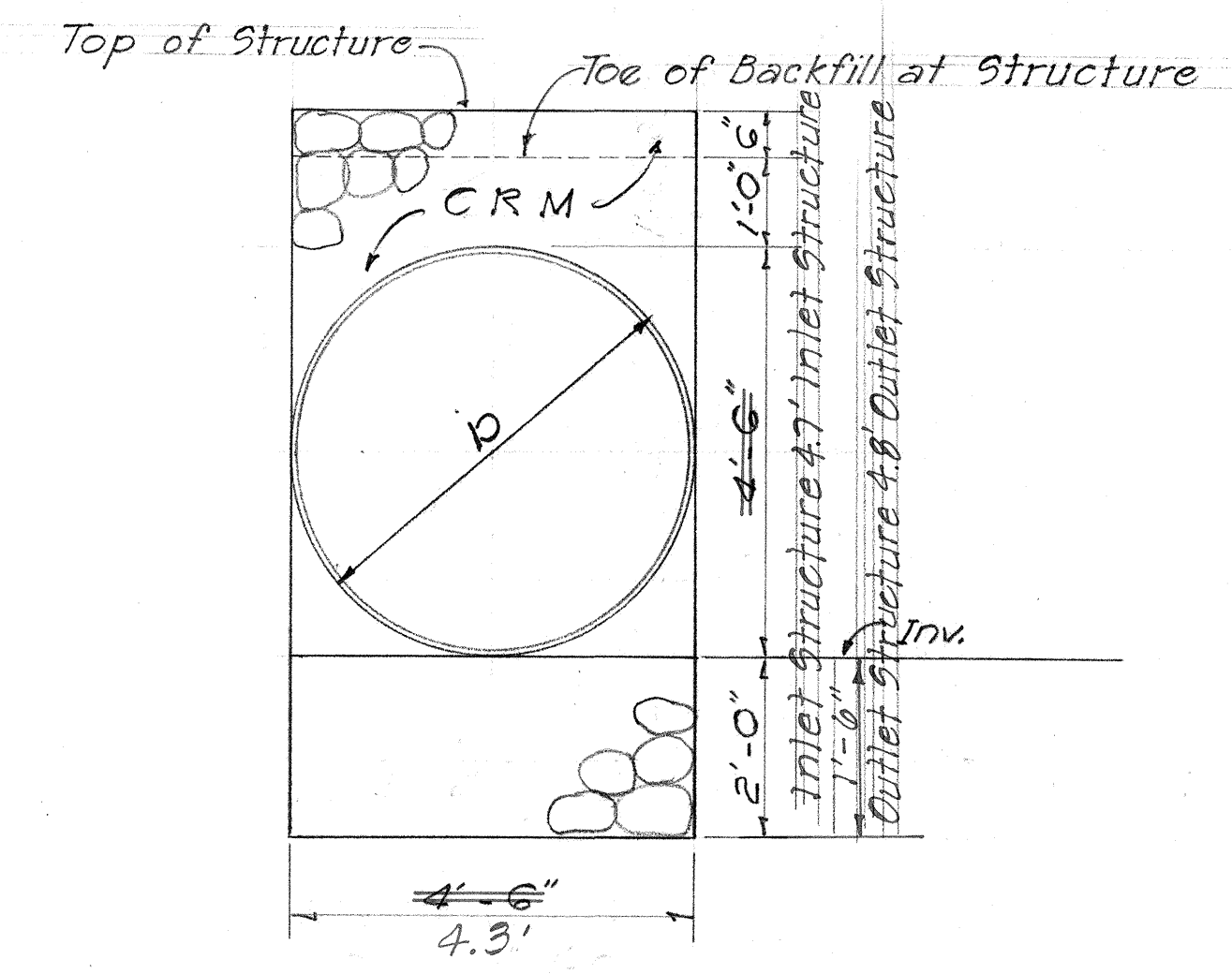
STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	32	67



PLAN
Scale: 1"=10'-0"



SECTION THRU Δ OF CULVERT
Scale: 1"=10'
Sta. 286+50



SECTION "A-A"
Scale: 1/2"=1'-0"

Note:
For detail of CRM structure
see Sht. No. 22

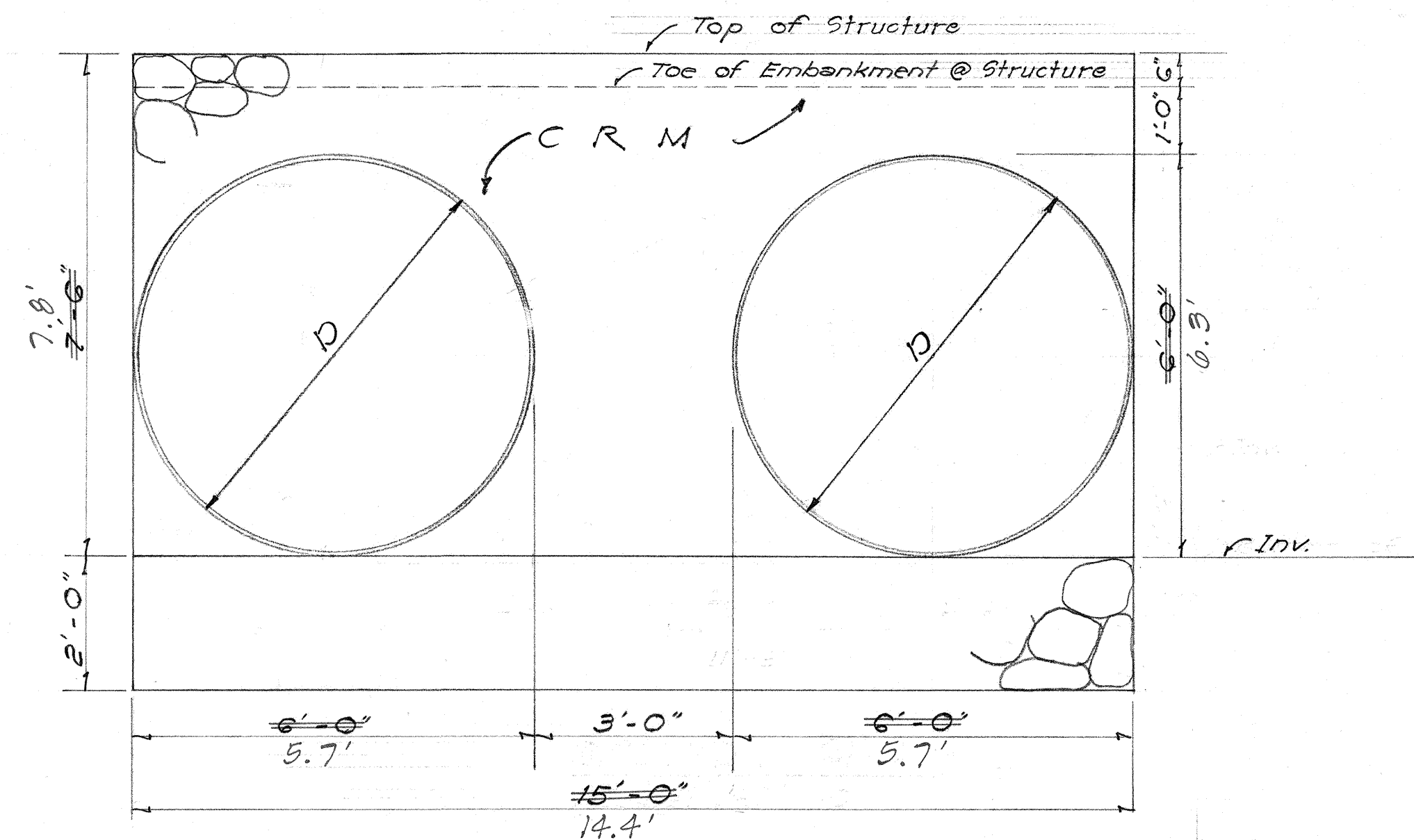
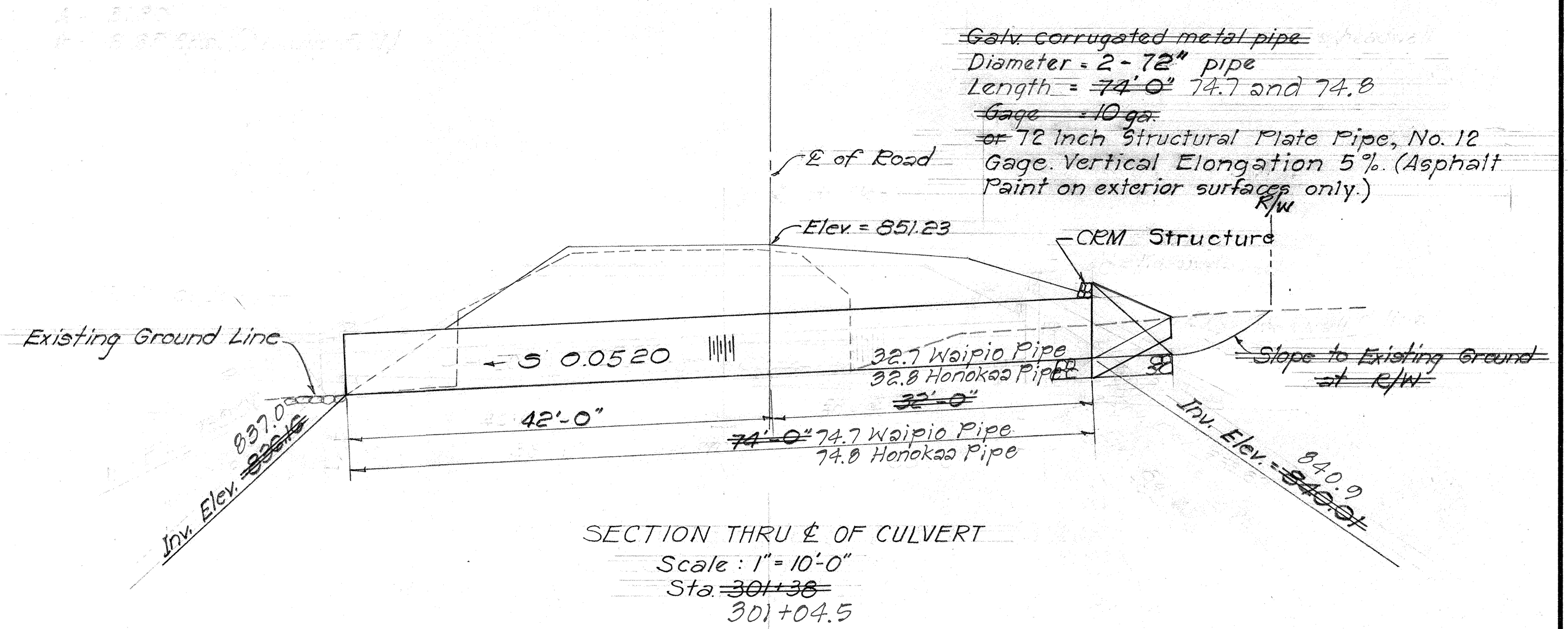
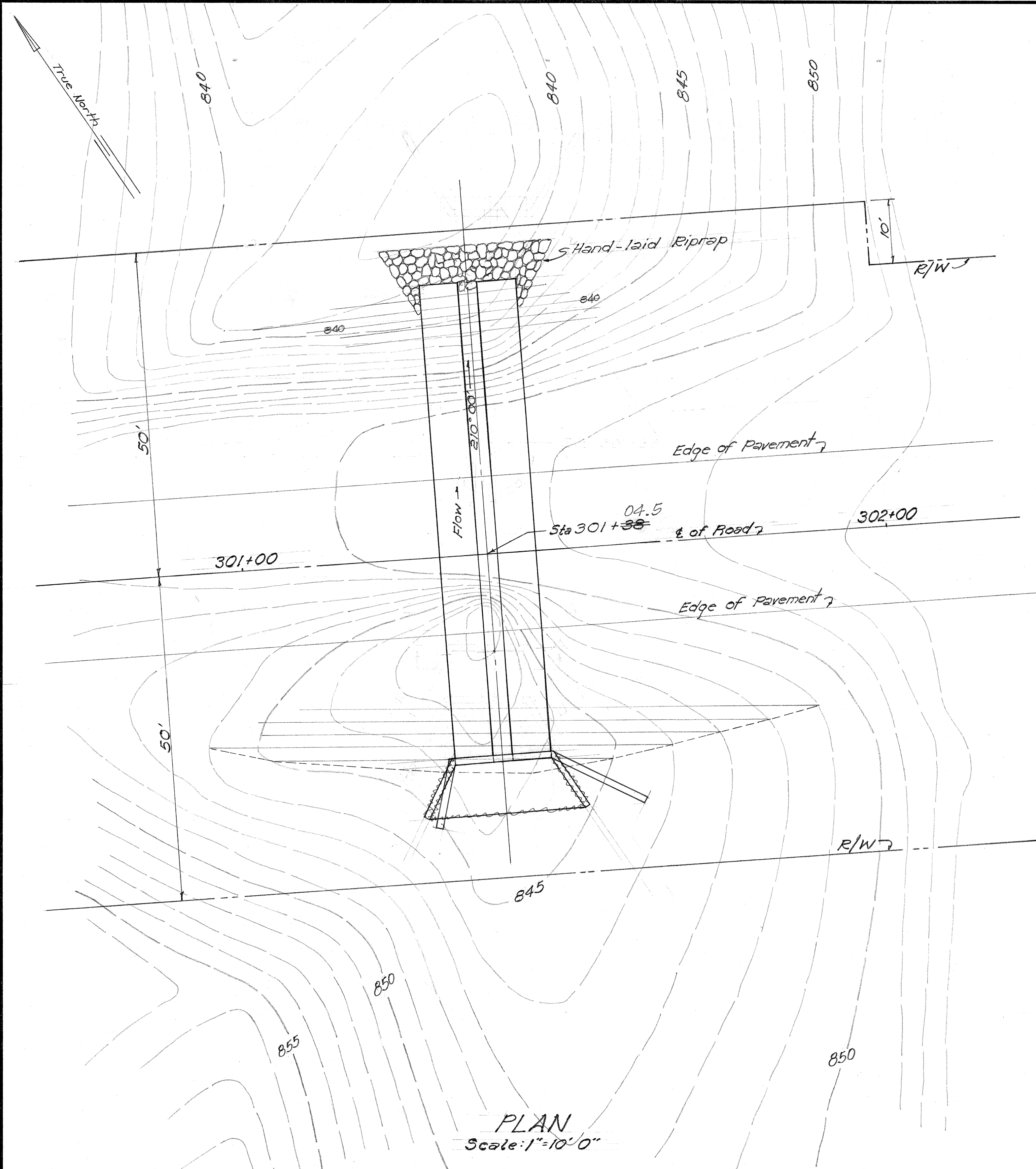
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND SECTIONS
DRAINAGE CULVERT
AT STA. 286+50

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-67

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
ORIGINAL	_____

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1970	33	67



Note:
For detail of CRM Structure
see Sht. No. 22

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN AND SECTIONS
DRAINAGE CULVERT

AT STA. ~~301+38~~
301+04.5

HONOKAA-WAIPIO ROAD Proj. No. 240A-01-67

SHEET No. D-14 OF D-14 SHEETS

33 67