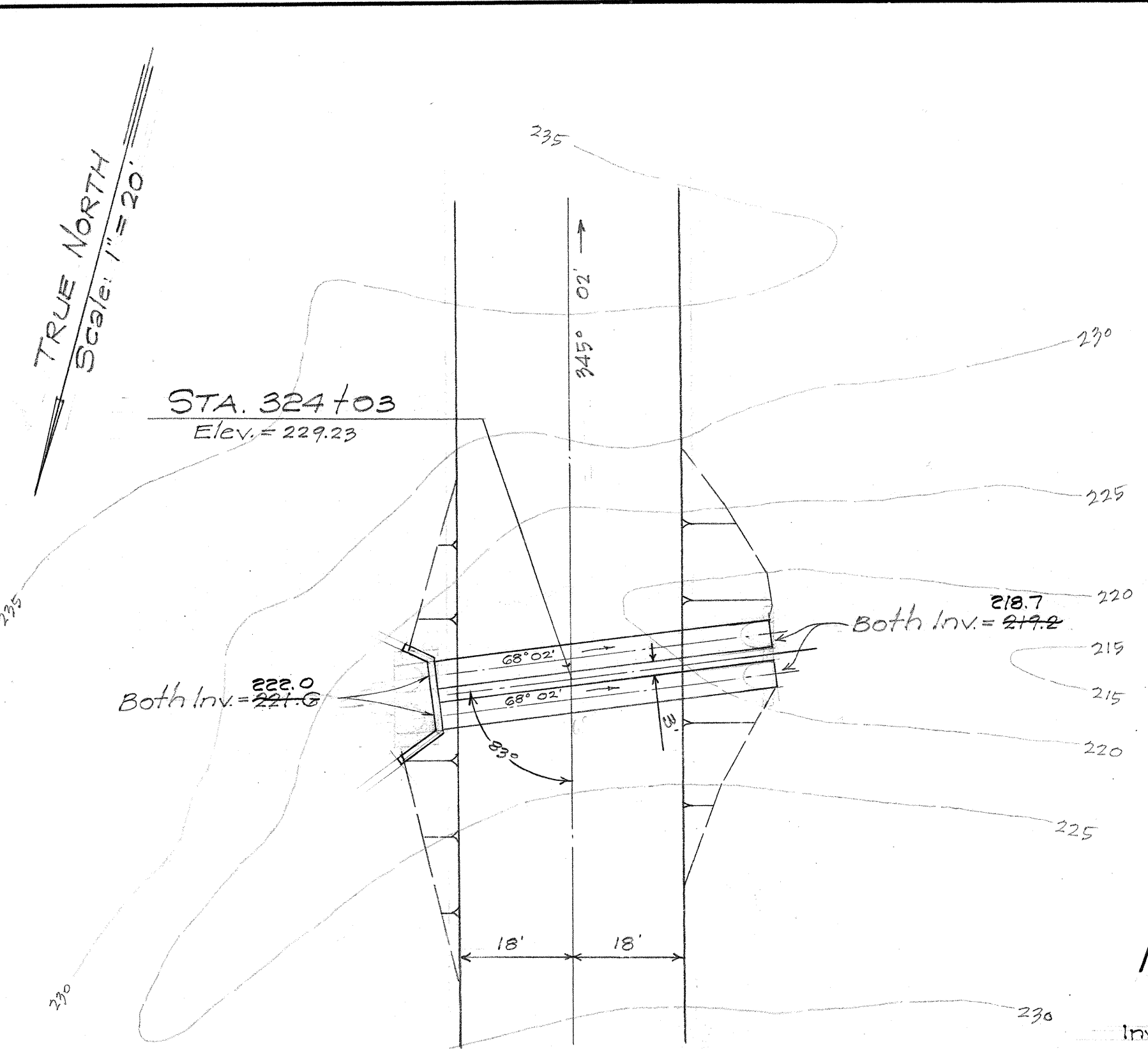
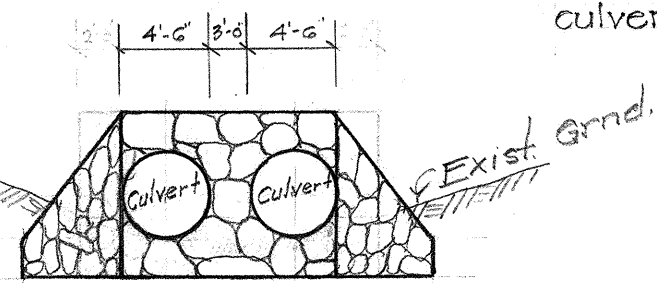


STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	A-270-01-62	1965	8	14

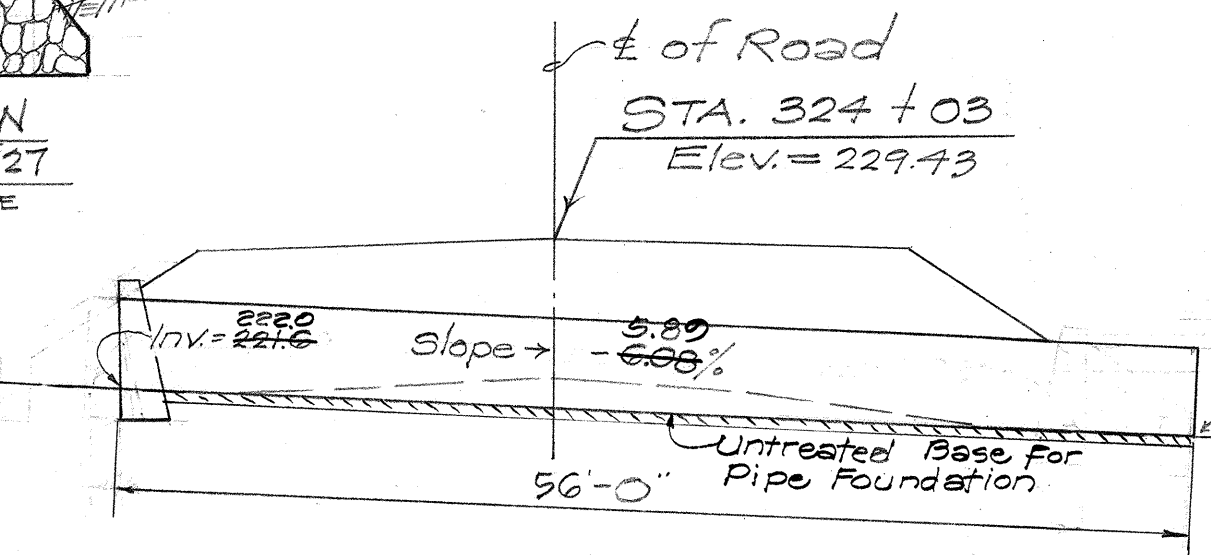


PLAN
Scale: 1" = 20'

NOTE: Typical C.R.M. Inlet Detail on sht. no. 13 shall apply, except for spacing of culverts as shown.

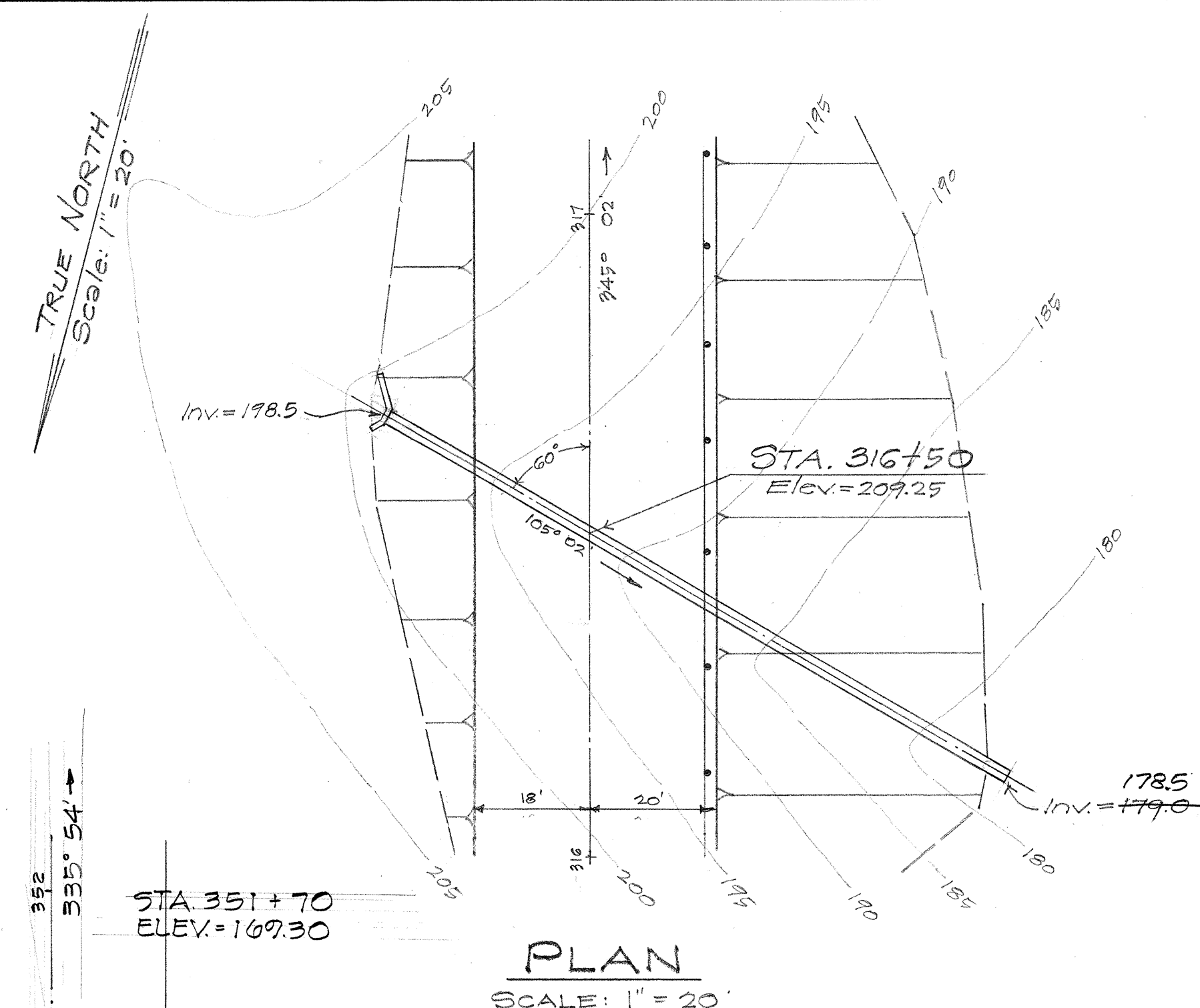


INLET VIEW
STRUCTURE #27
NOT TO SCALE



SECTION THRU ϕ OF CULVERT
SCALE: 1" = 10'
STRUCTURE #27 STA. 324+03

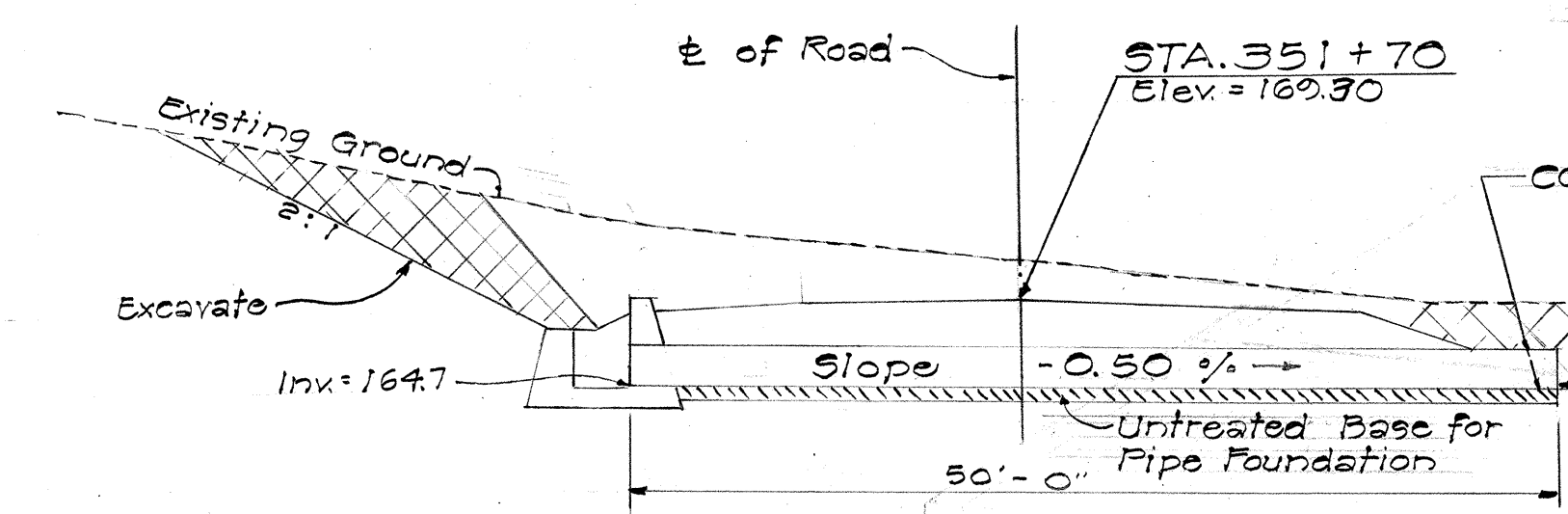
CORRUGATED GALVANIZED METAL PIPE
Dia: Double 34"
Area: 15.9 sq. ft. (31.8 sq. ft. Total)
Gage: 10
or Double 34" R.C.C.P. Class IV



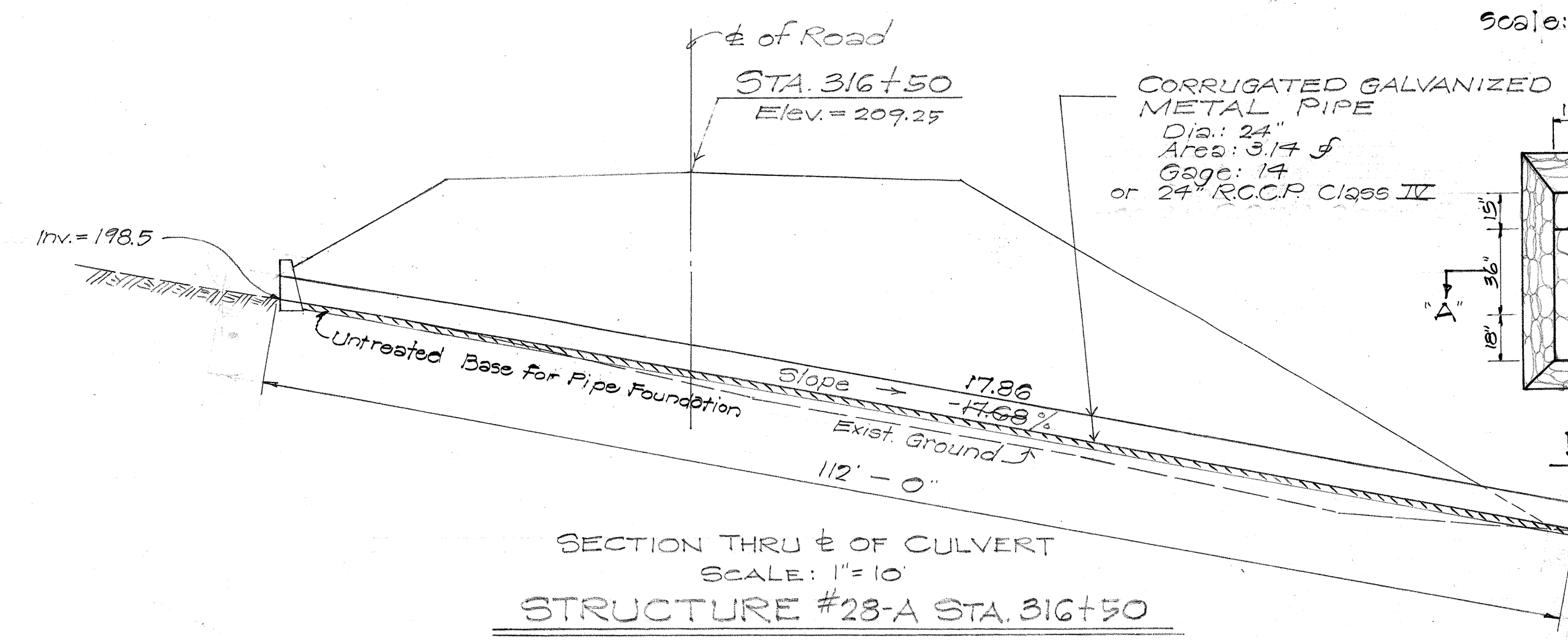
PLAN
SCALE: 1" = 20'

NOTE: See below for CRM Drop Intake

PLAN
Scale: 1" = 20'

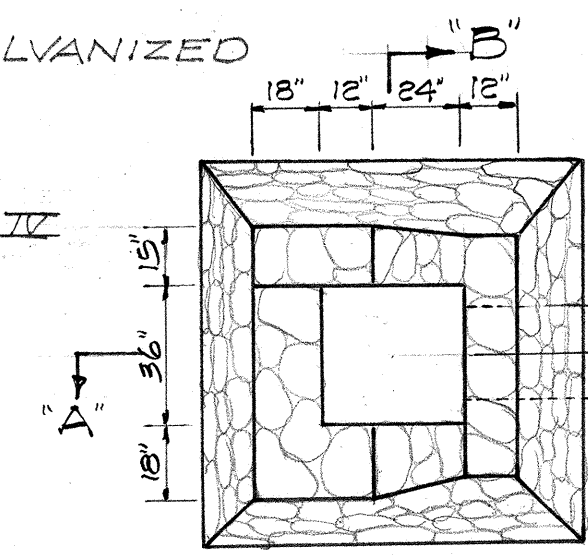


SECTION THRU ϕ OF CULVERT
STRUCTURE #23-C STA. 316+50
Scale: 1" = 10'



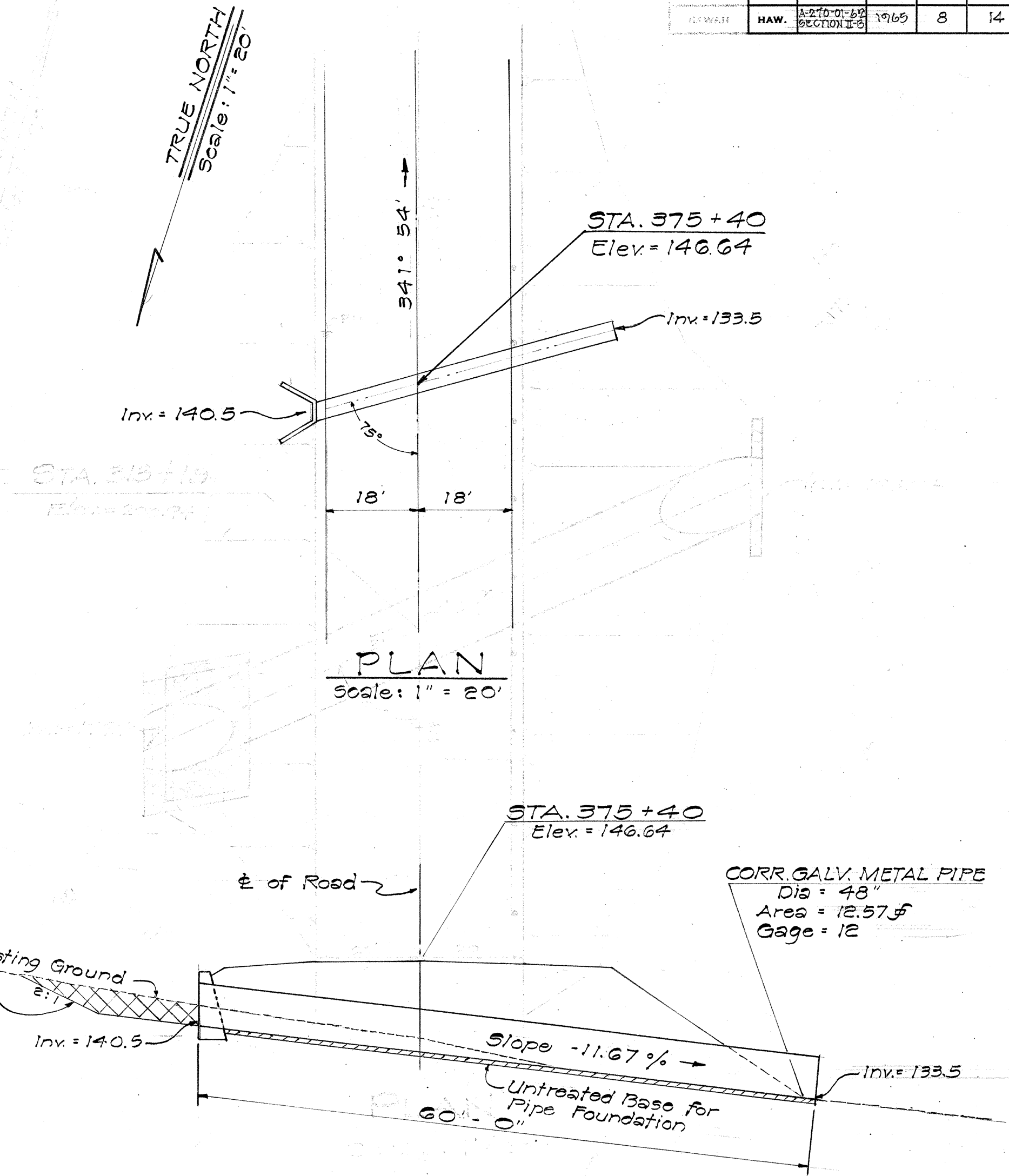
SECTION THRU ϕ OF CULVERT
SCALE: 1" = 10'
STRUCTURE #23-A STA. 316+50

CORRUGATED GALVANIZED METAL PIPE
Dia: 24"
Area: 3.14 sq. ft.
Gage: 14
or 24" R.C.C.P. Class IV



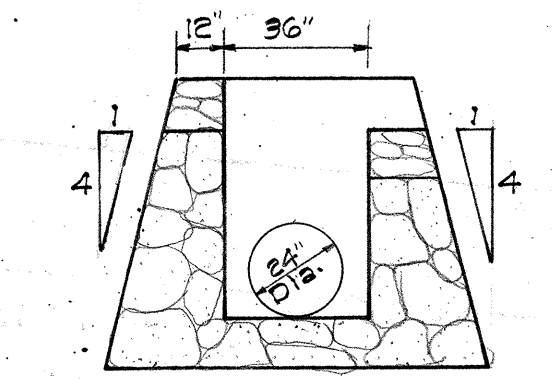
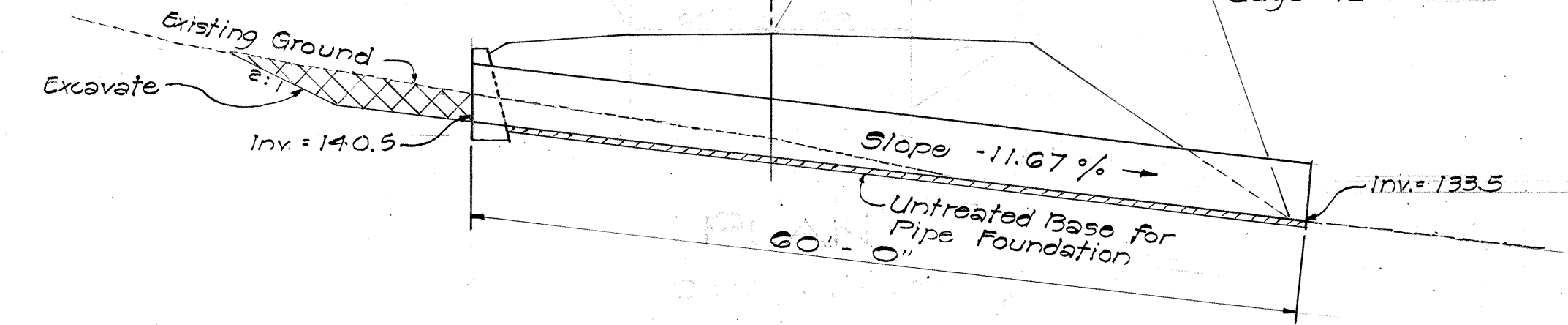
PLAN

DETAIL OF CRM DROP INTAKE
STRUCTURE #23-C & #25-B1
Scale: 1" = 4'



PLAN
Scale: 1" = 20'

SECTION THRU ϕ OF CULVERT
STRUCTURE #21-B STA. 375+40
Scale: 1" = 10'



SECTION "B-B"

DRAINAGE DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERTS
#21-B, #23-C
STRUCTURES: #27 and #28-A
KAWAIHAE-MAHUKONA ROAD
PROJ. A-270-01-62
SECTION II-B

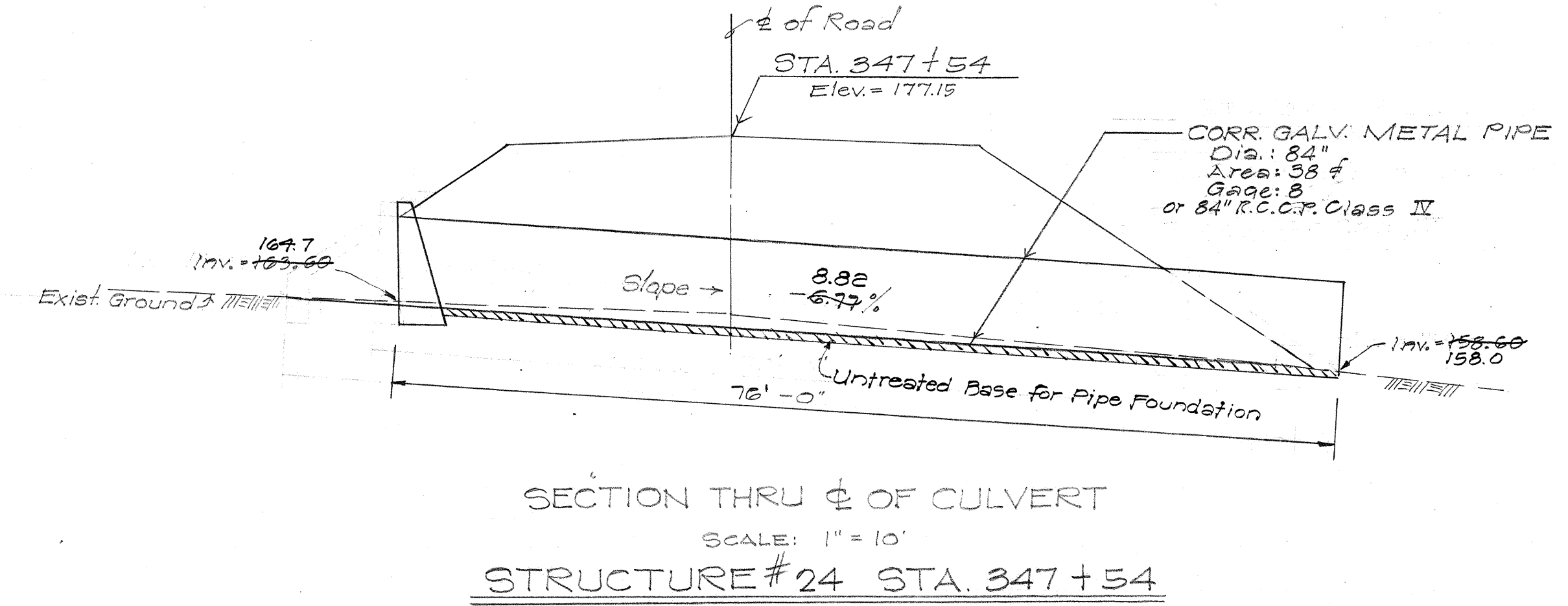
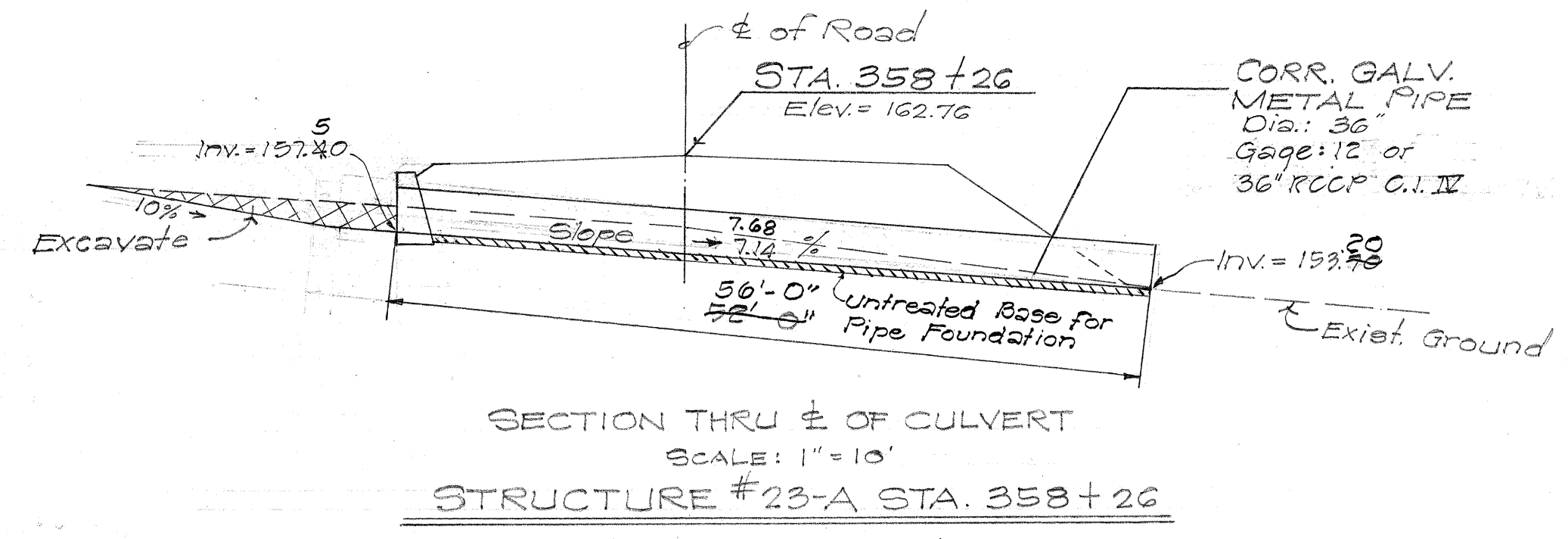
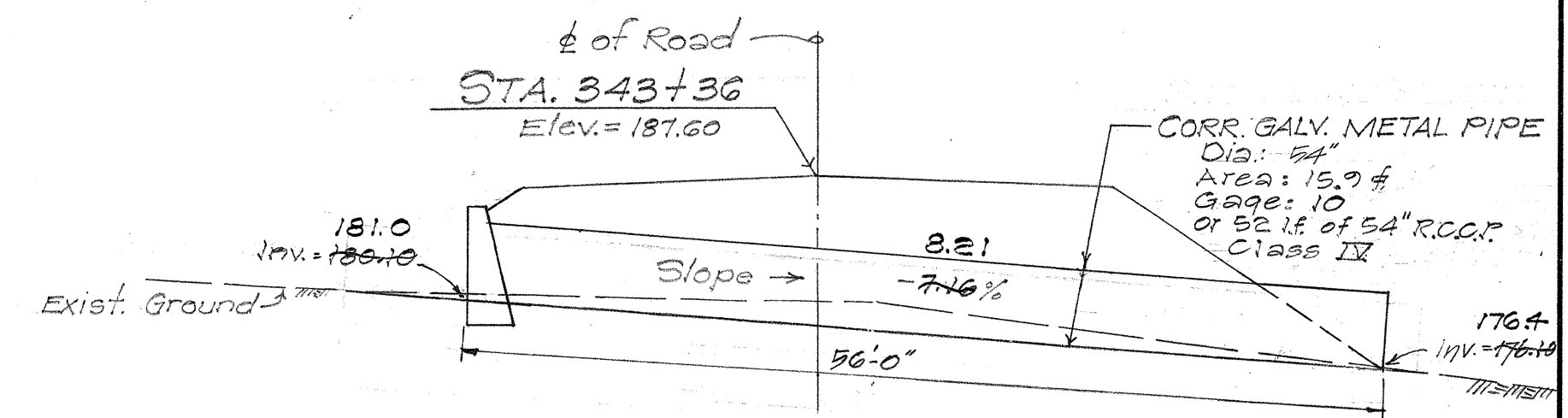
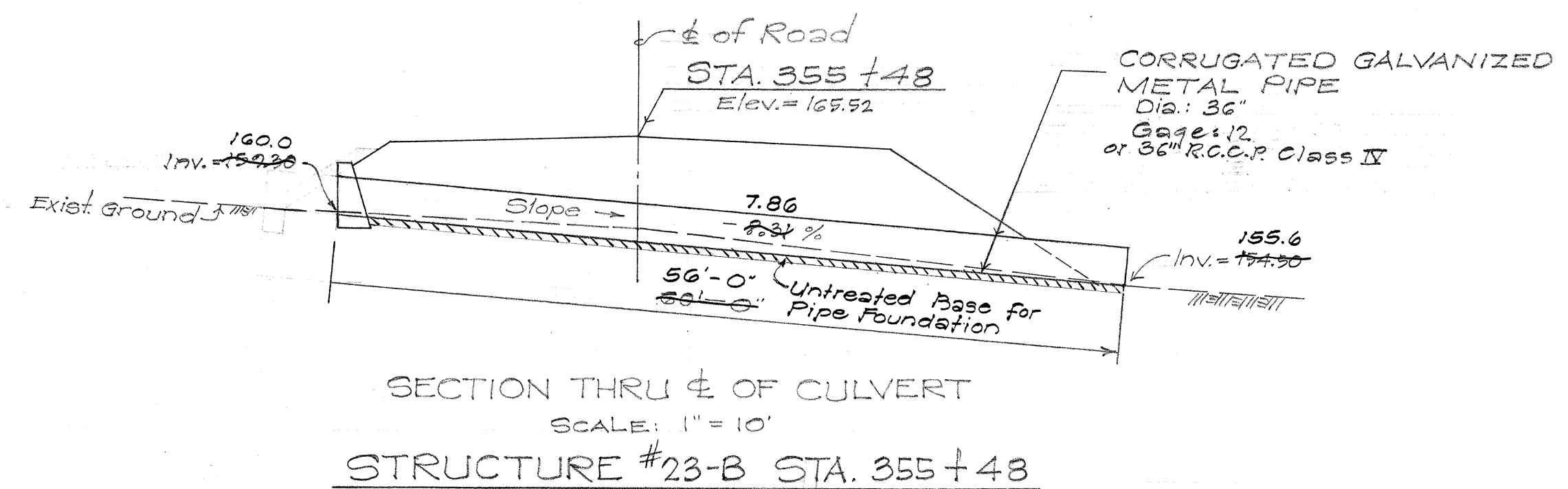
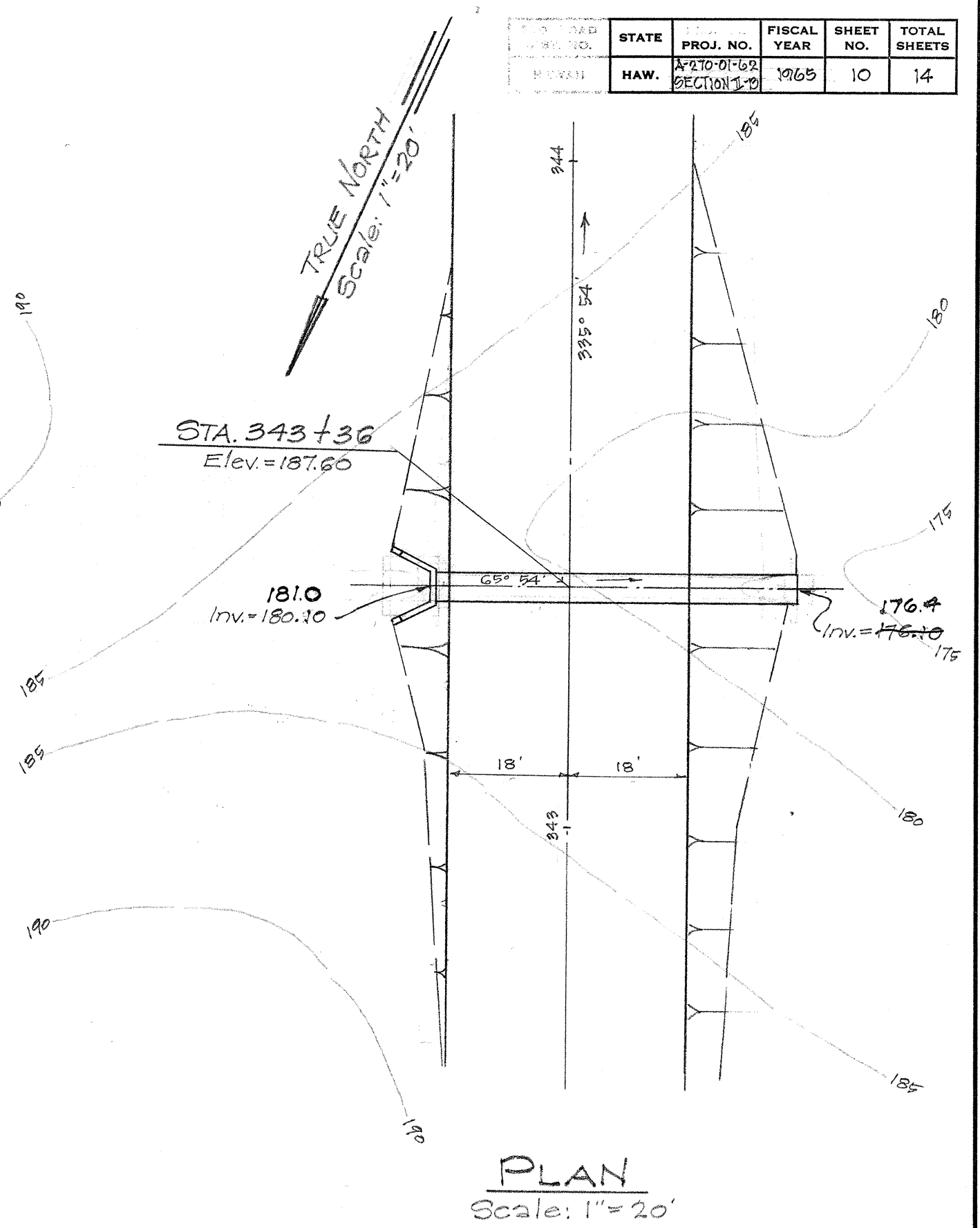
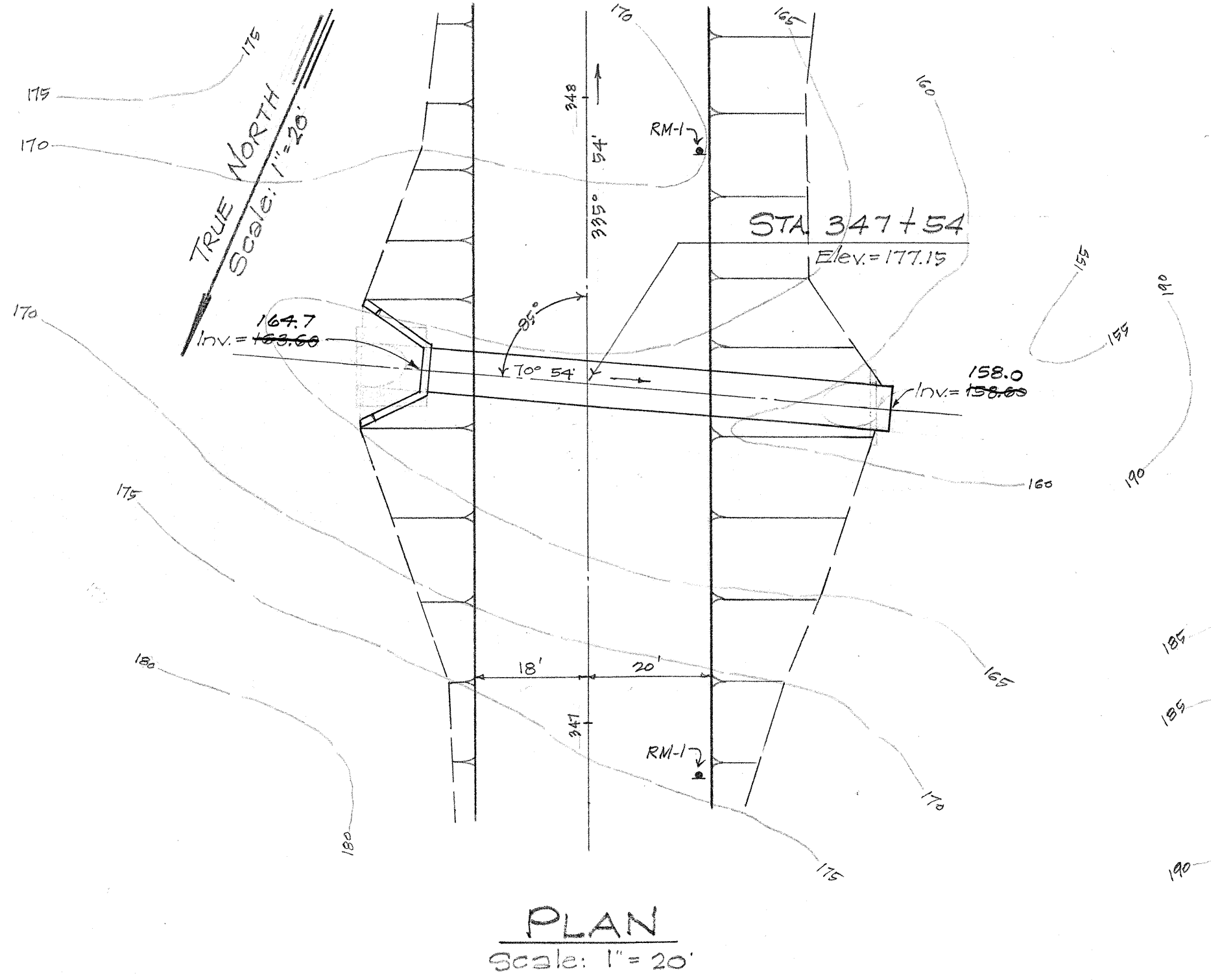
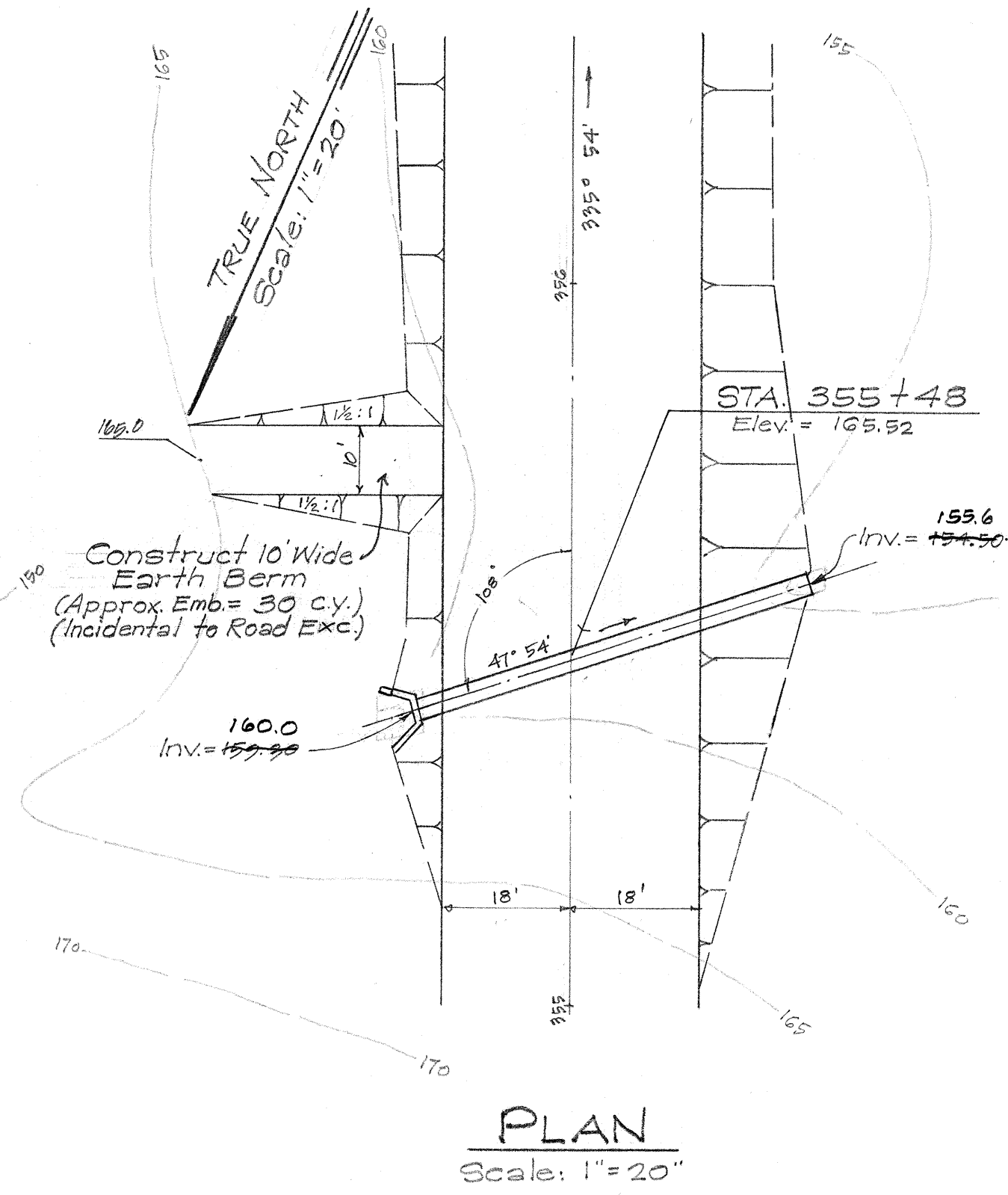
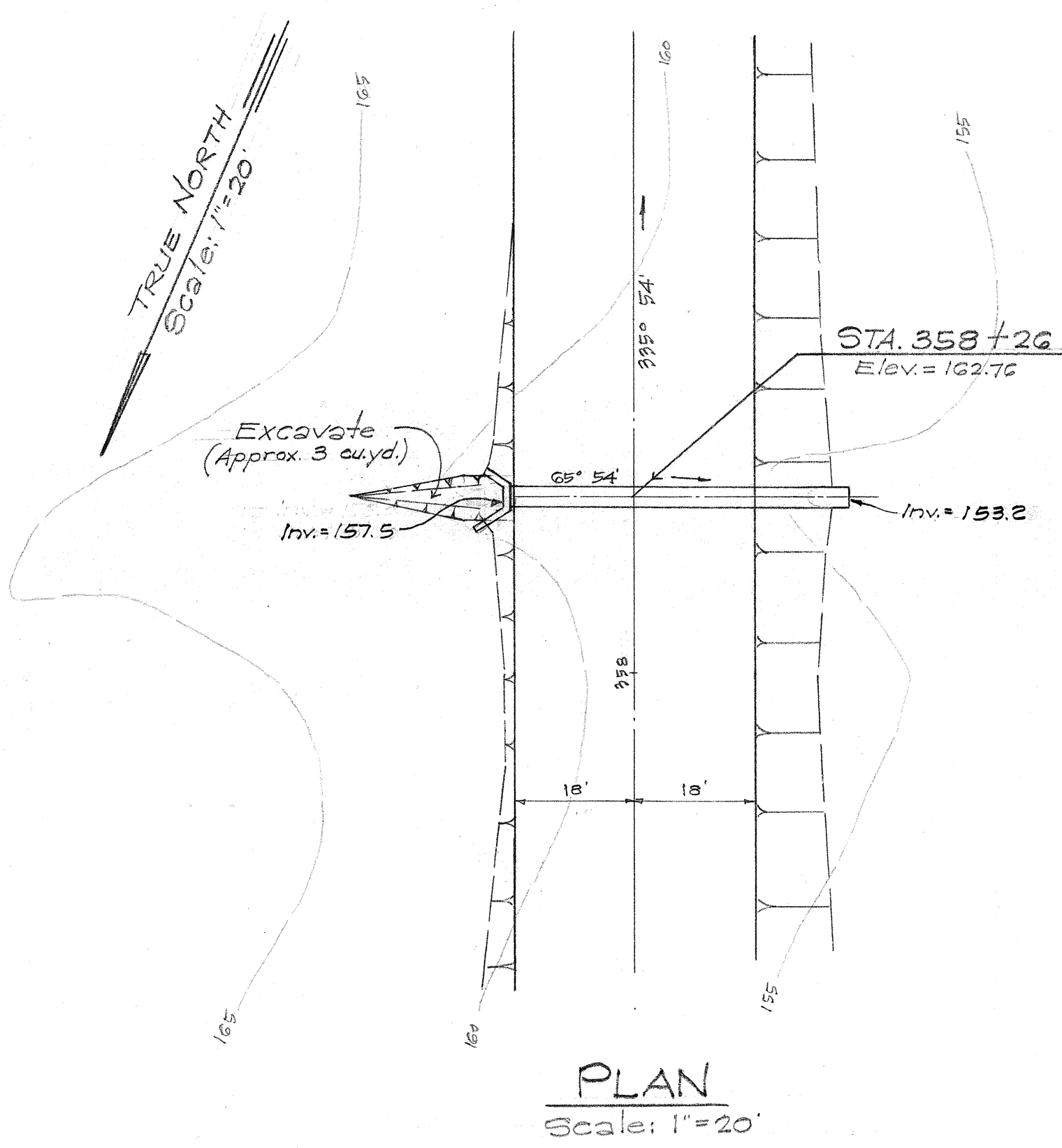
SCALE: As noted JULY 1965
SHEET No. 1 OF 7 SHEETS

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

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



STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	A-270-01-62	1963	10	14



DRAINAGE DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

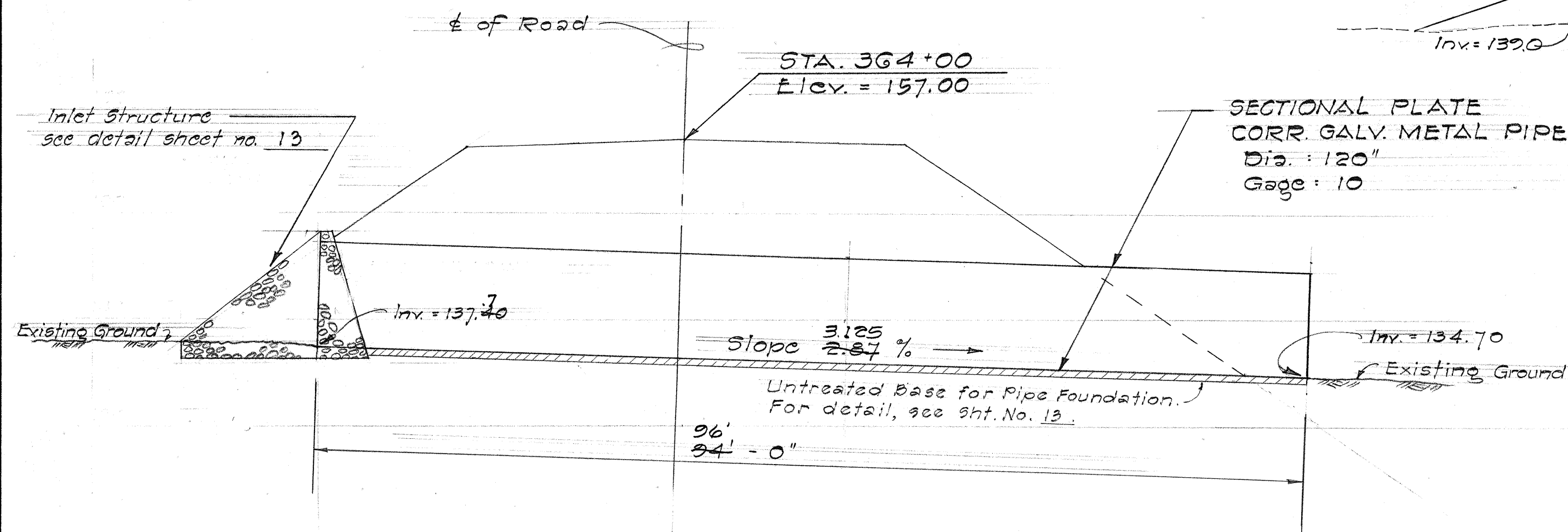
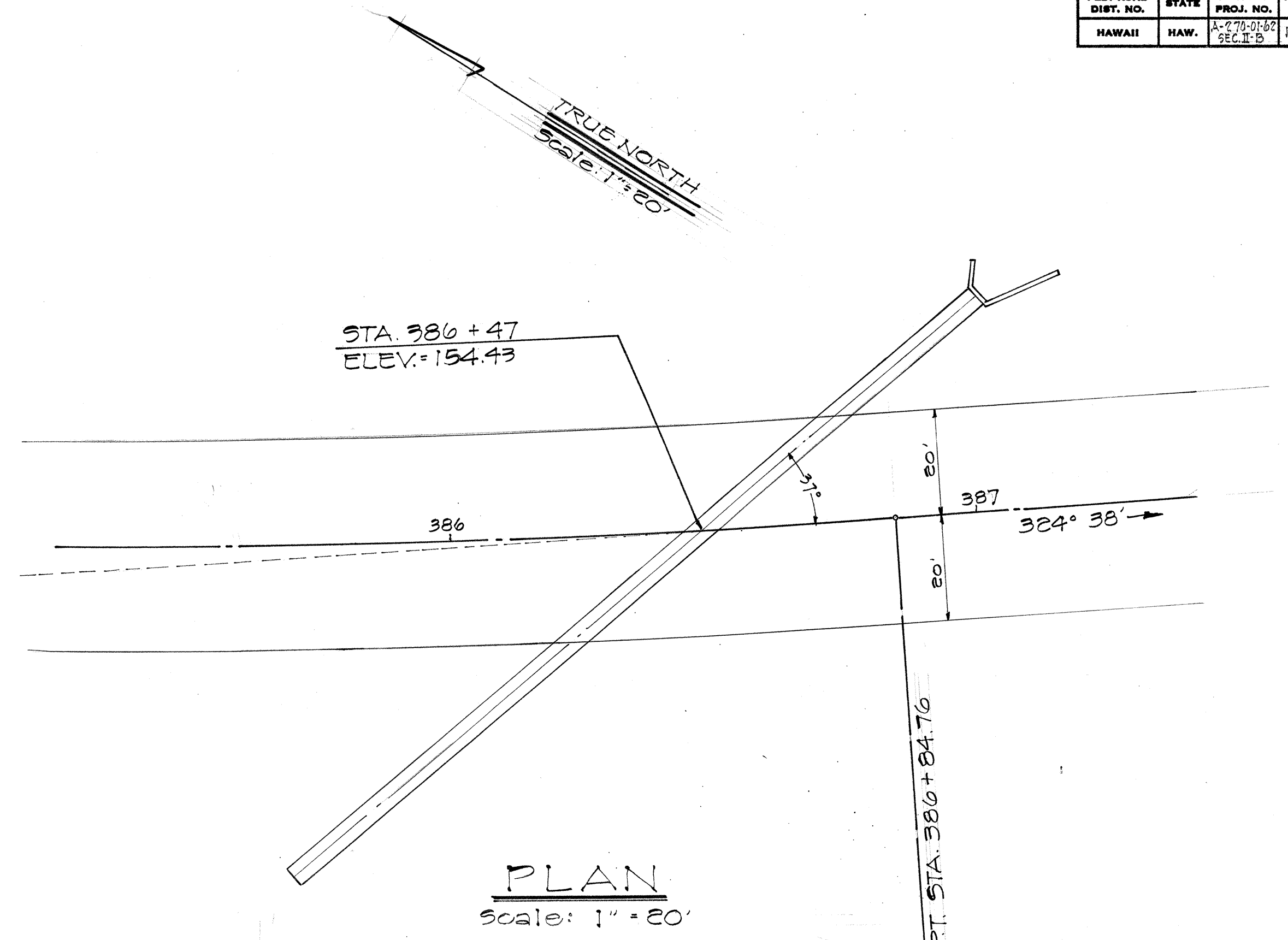
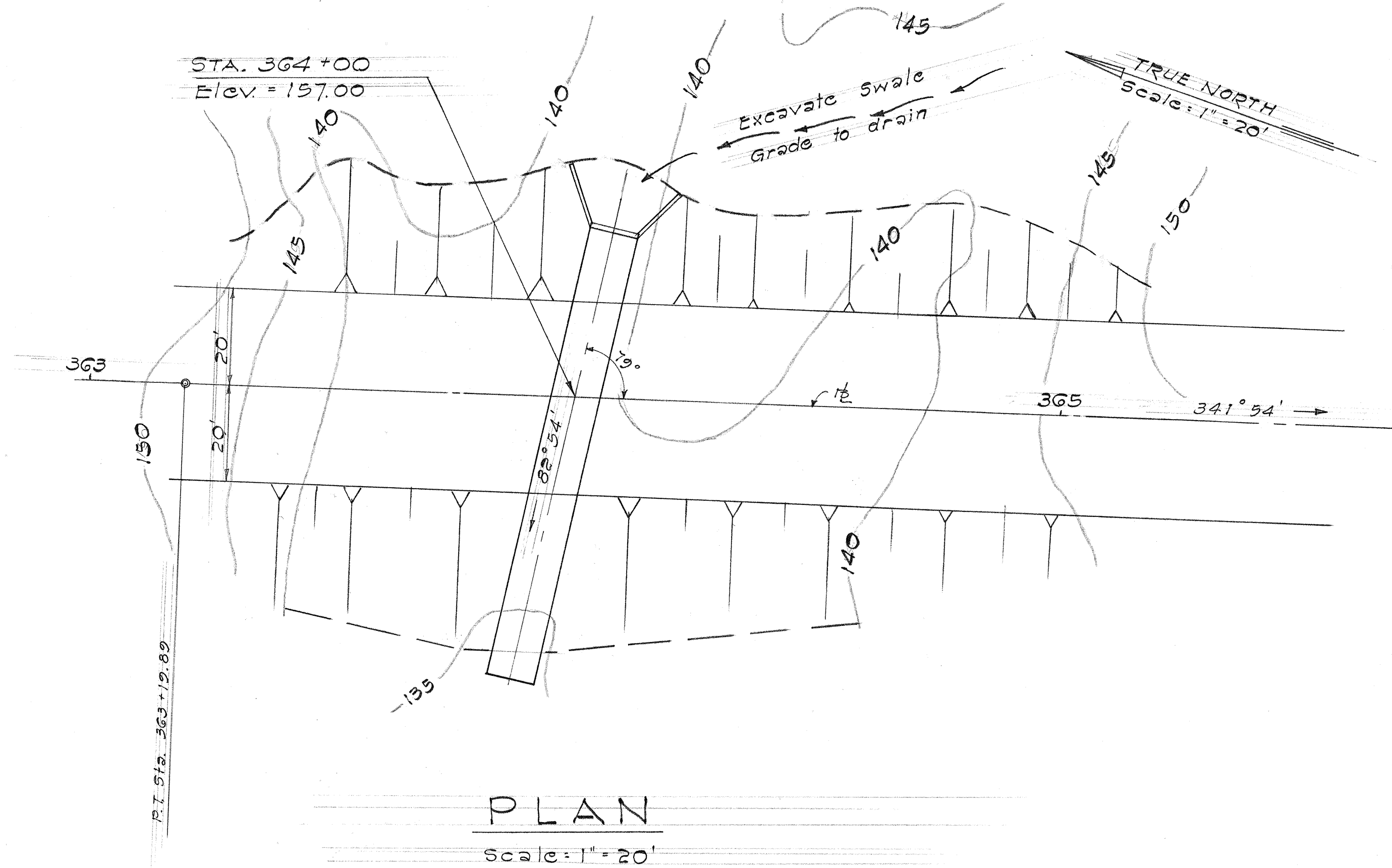
CULVERTS
STRUCTURES: #23-A, 23-B, 24 & 25-A
KAWAIHAE-MAHUKONA ROAD
PROJ. A-270-01-62
SECTION II-B

SCALE: As noted July 1963

SHEET No. 3 OF 7 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	A-270-01-02	1965	11	14



SECTION THRU & OF CULVERT
STRUCTURE #20 STA. 386+47
Scale: 1" = 10'

DRAINAGE DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERT

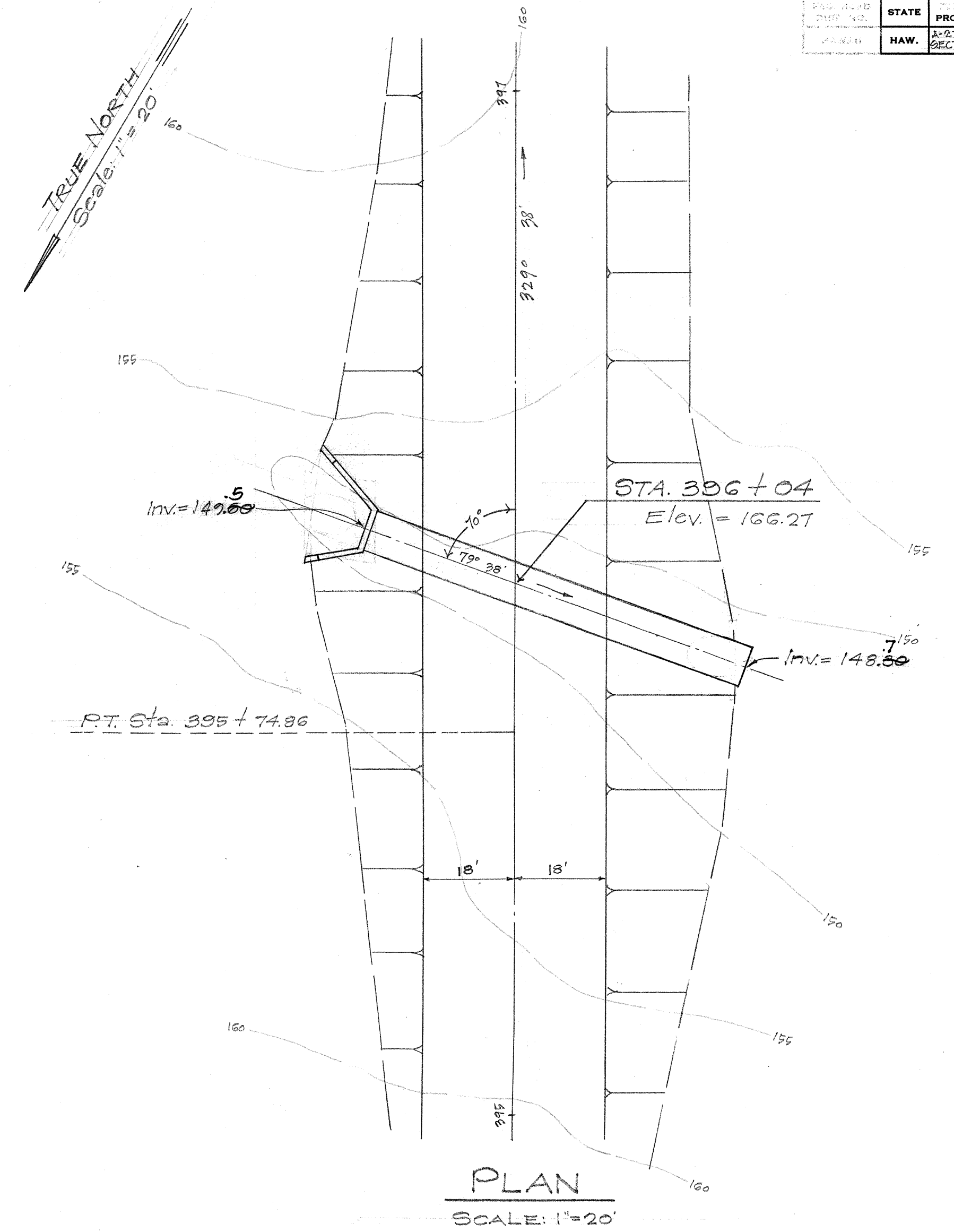
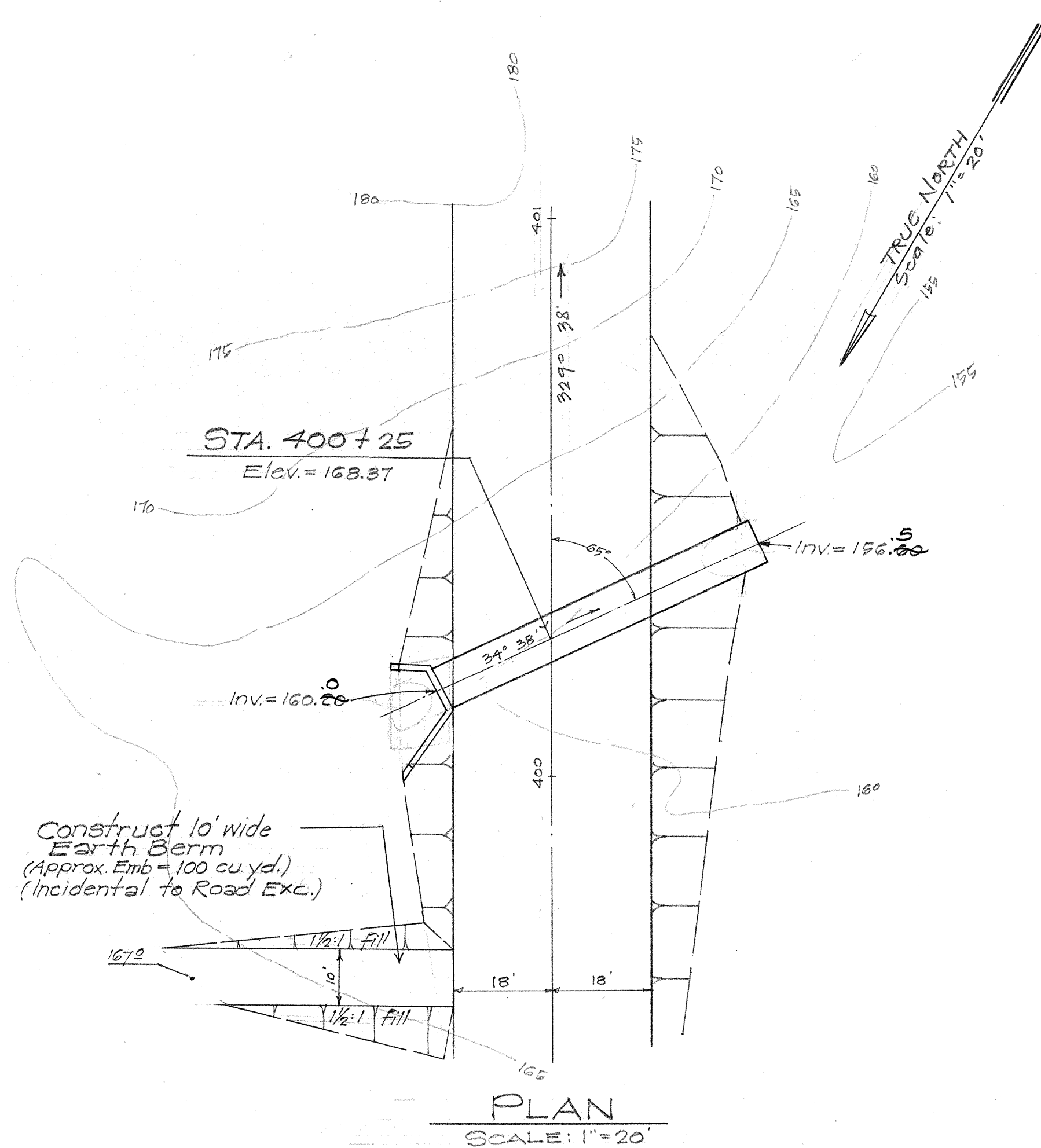
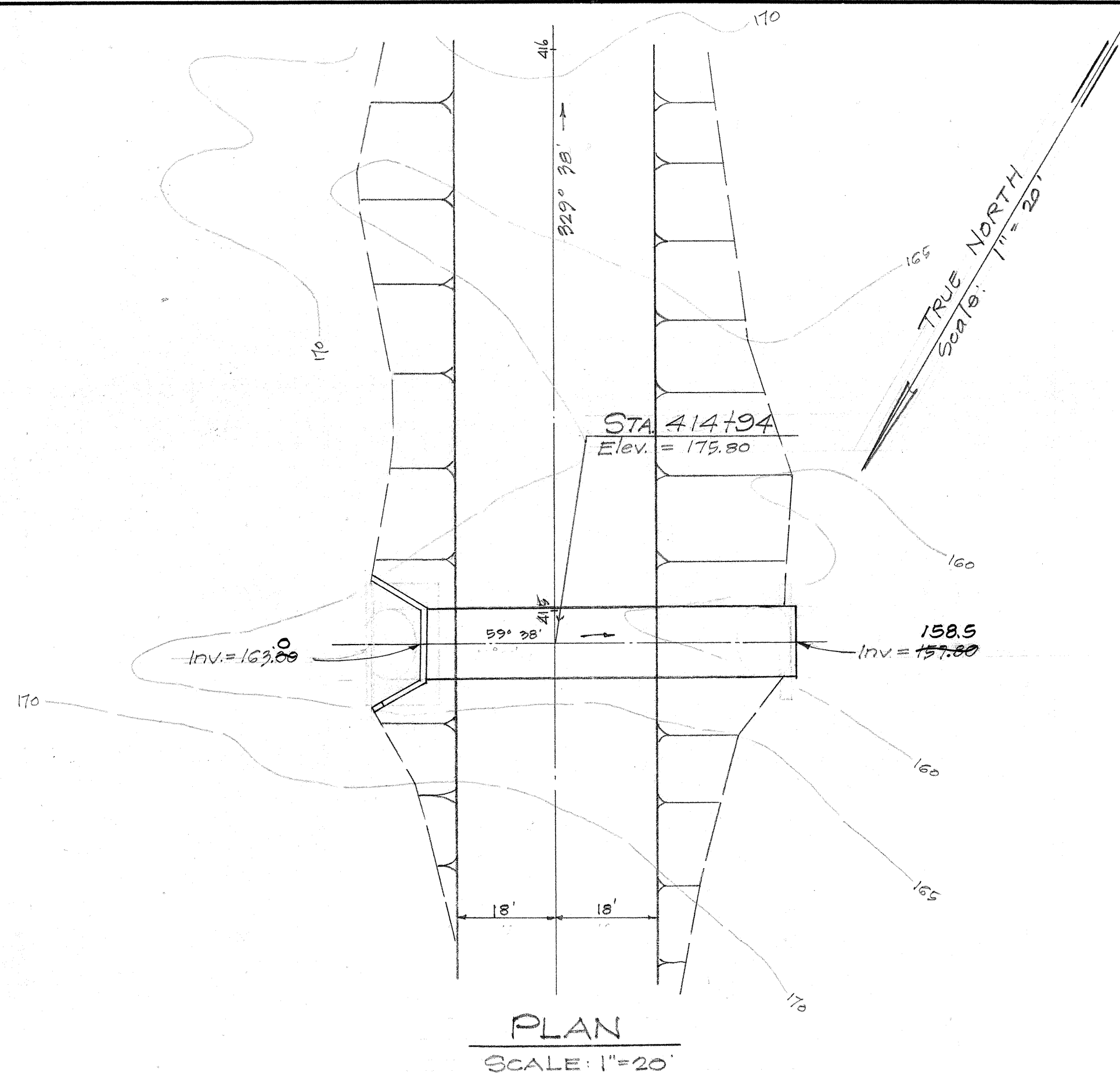
STRUCTURE #22
KAWAIHAE-MAHUKONA ROAD
PROJ. A-270-01-G2
SECTION II-13

SCALE: As Noted DATE: AUG. 1965

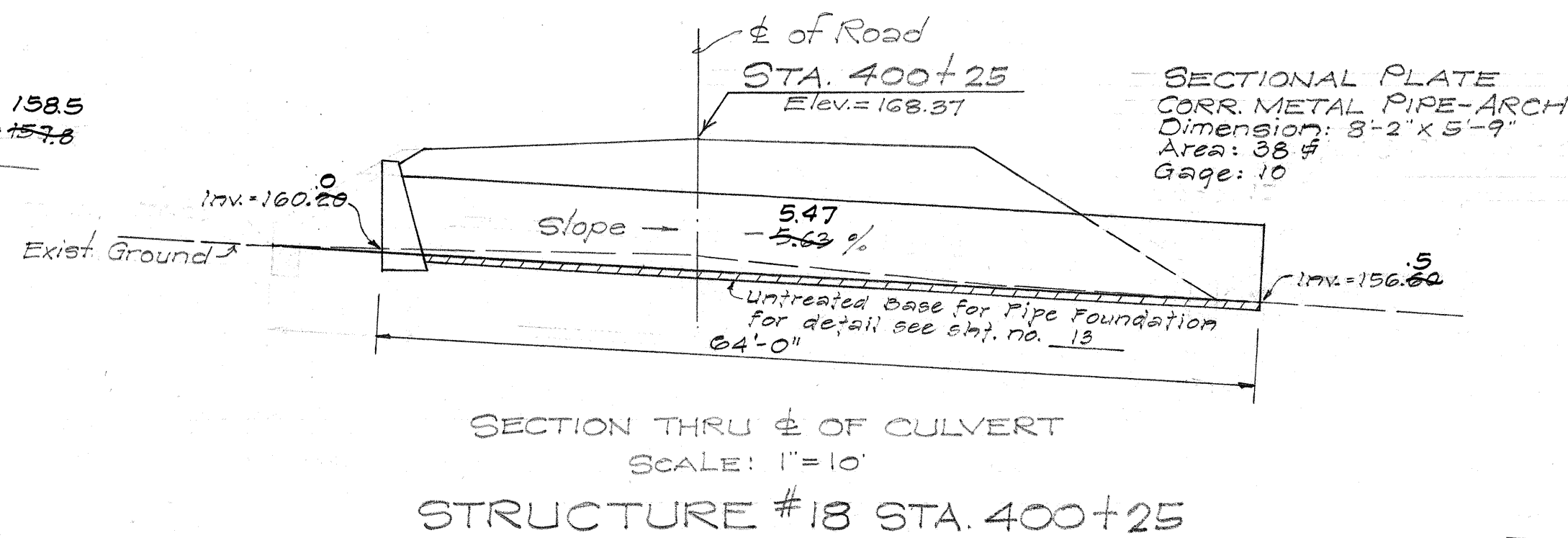
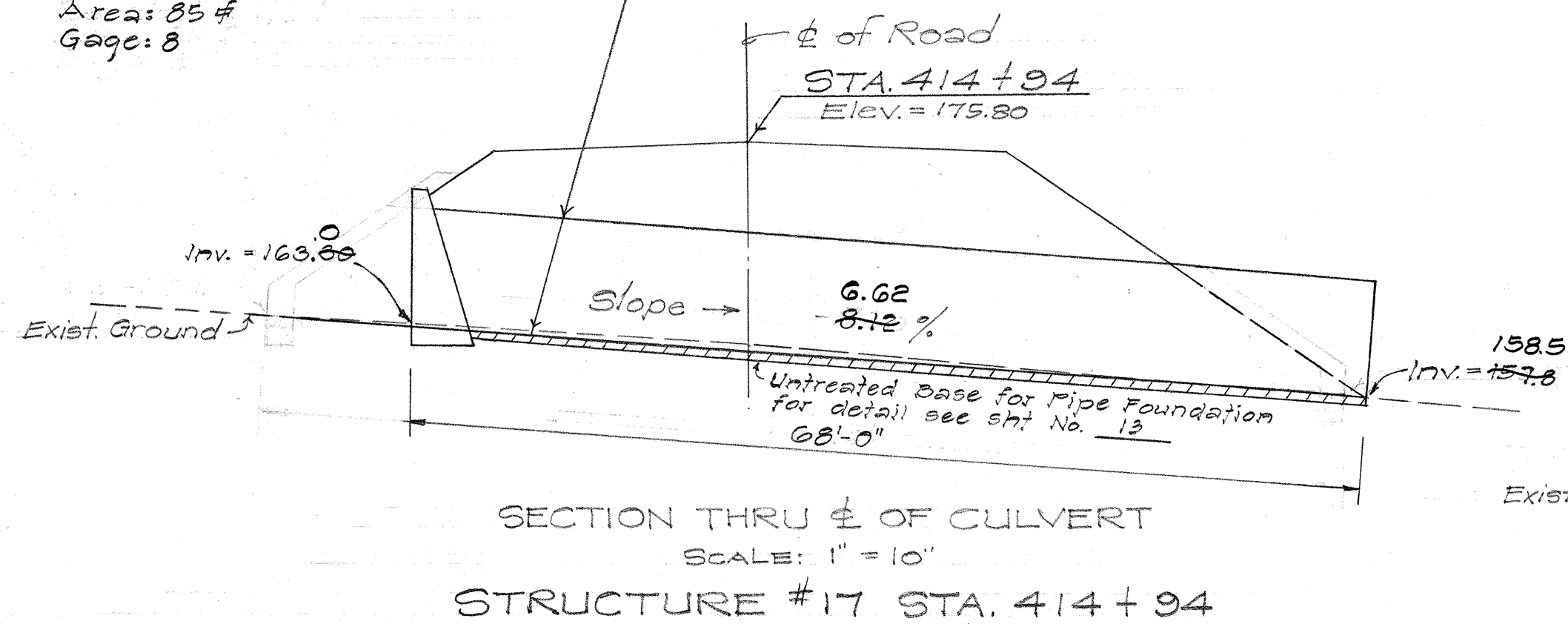
SHEET No. 4 OF 7 SHEETS

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

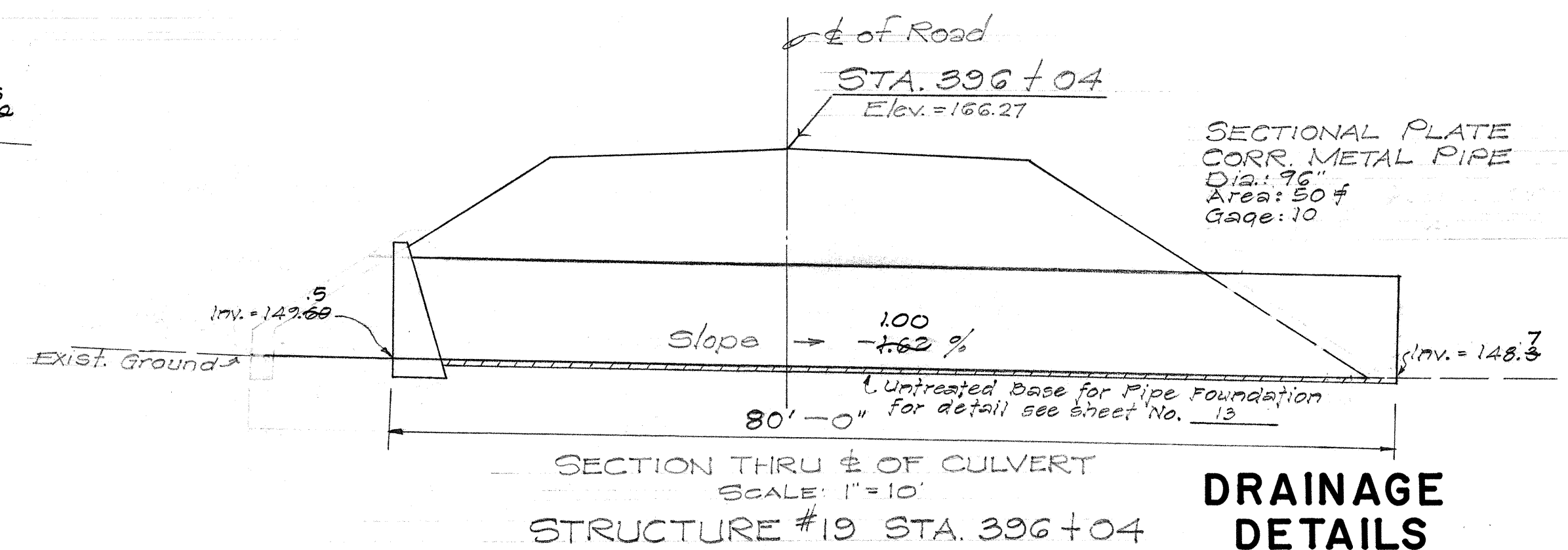
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	A-270-01-62	1965	12	14



SECTIONAL PLATE
CORR. METAL PIPE-ARCH
Dimension: 12'-10" x 8'-4"
Area: 85 sq ft
Gage: 8



SECTIONAL PLATE
CORR. METAL PIPE-ARCH
Dimension: 8'-2" x 5'-9"
Area: 38 sq ft
Gage: 10



SECTIONAL PLATE
CORR. METAL PIPE
Dia: 96"
Area: 50 sq ft
Gage: 10

DRAINAGE DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERTS

STRUCTURES: # 17, 18 & 19
KAWAIHAE - MAHUKONA ROAD
PROJ. A-270-01-62
SECTION I-B

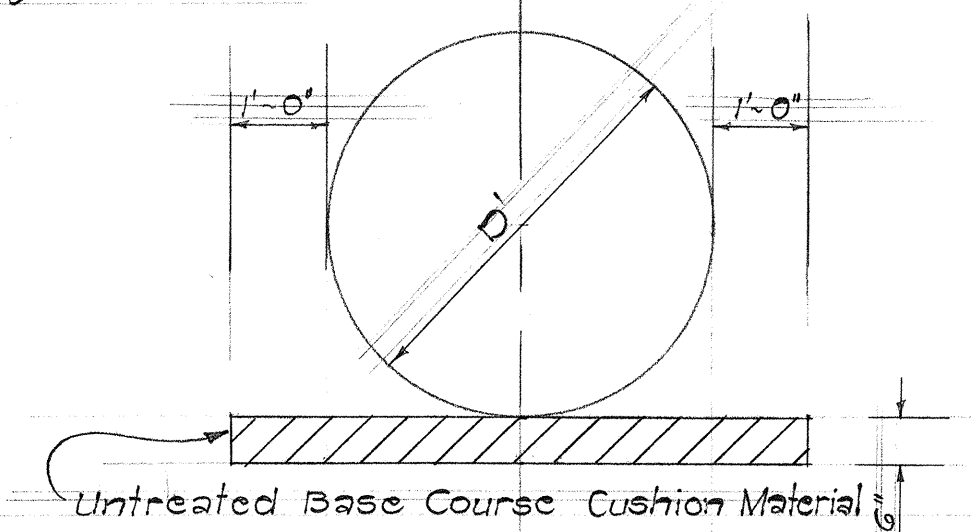
SCALE: As noted JULY 1965

SHEET No. 5 OF 7 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	K-10-01-62 SEC. II-B	1965	13	14

NOTE:

Where Solid Rock or Unsuitable Material is encountered, this detail does not apply. Refer to Section 60, Article 60.3 of the Special Provisions

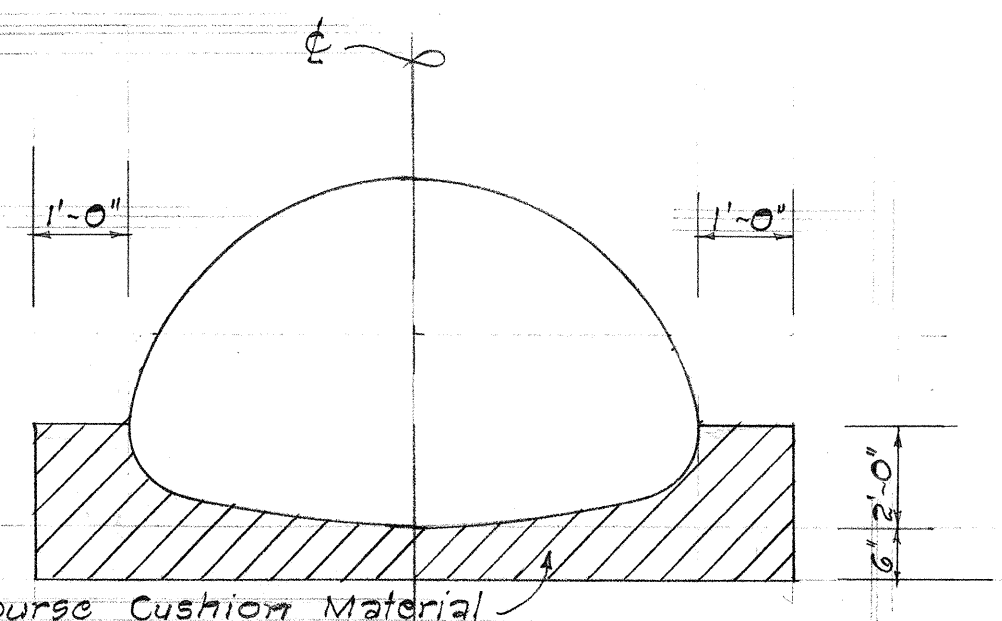


PIPE FOUNDATION FOR SECTIONAL PLATE PIPE CULVERTS

Not to Scale

NOTE:

Where Solid Rock or Unsuitable Material is encountered, this detail does not apply. Refer to Section 60, Article 60.3 of the Special Provisions

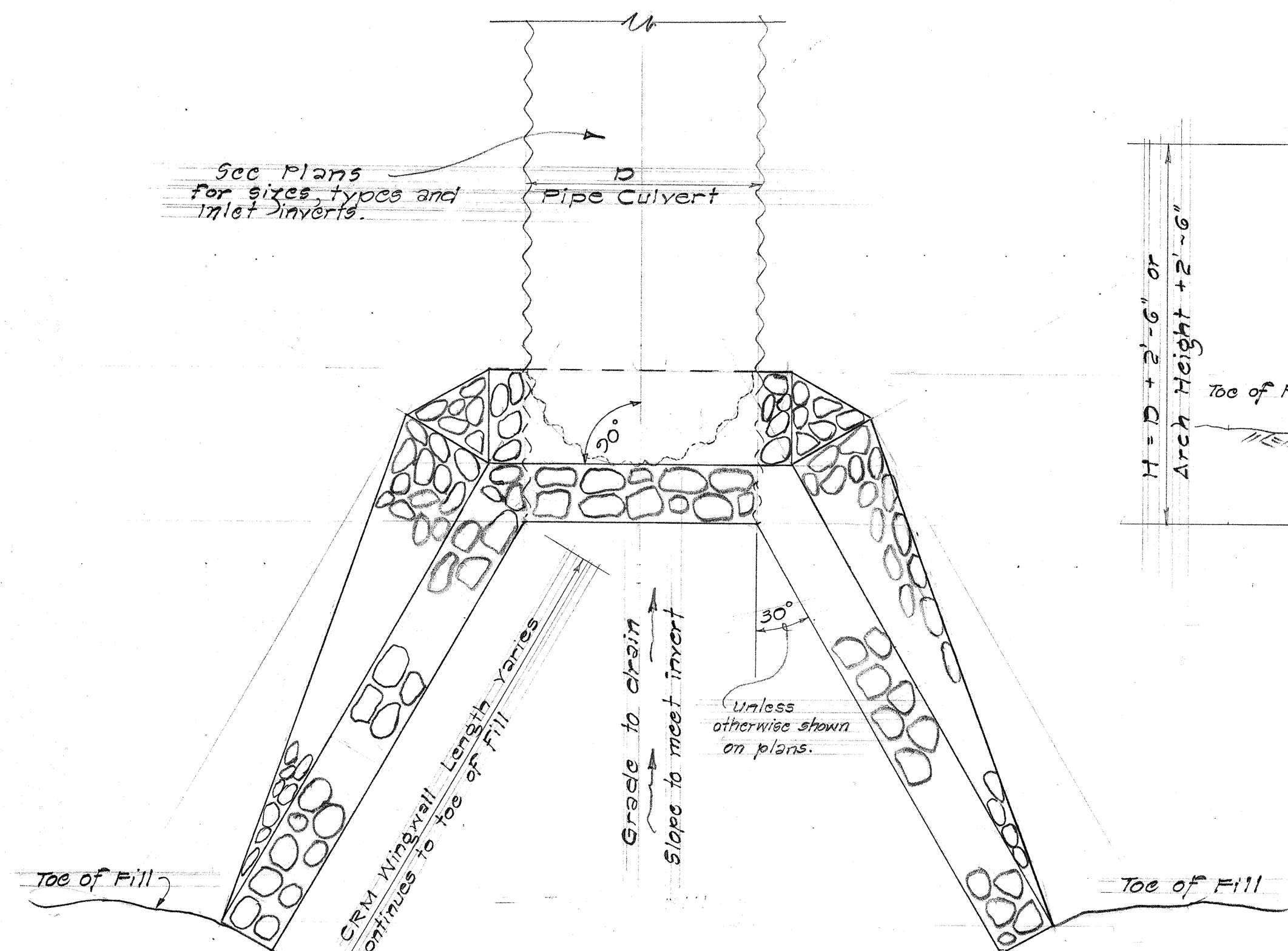


PIPE FOUNDATION FOR SECTIONAL PLATE PIPE-ARCHES

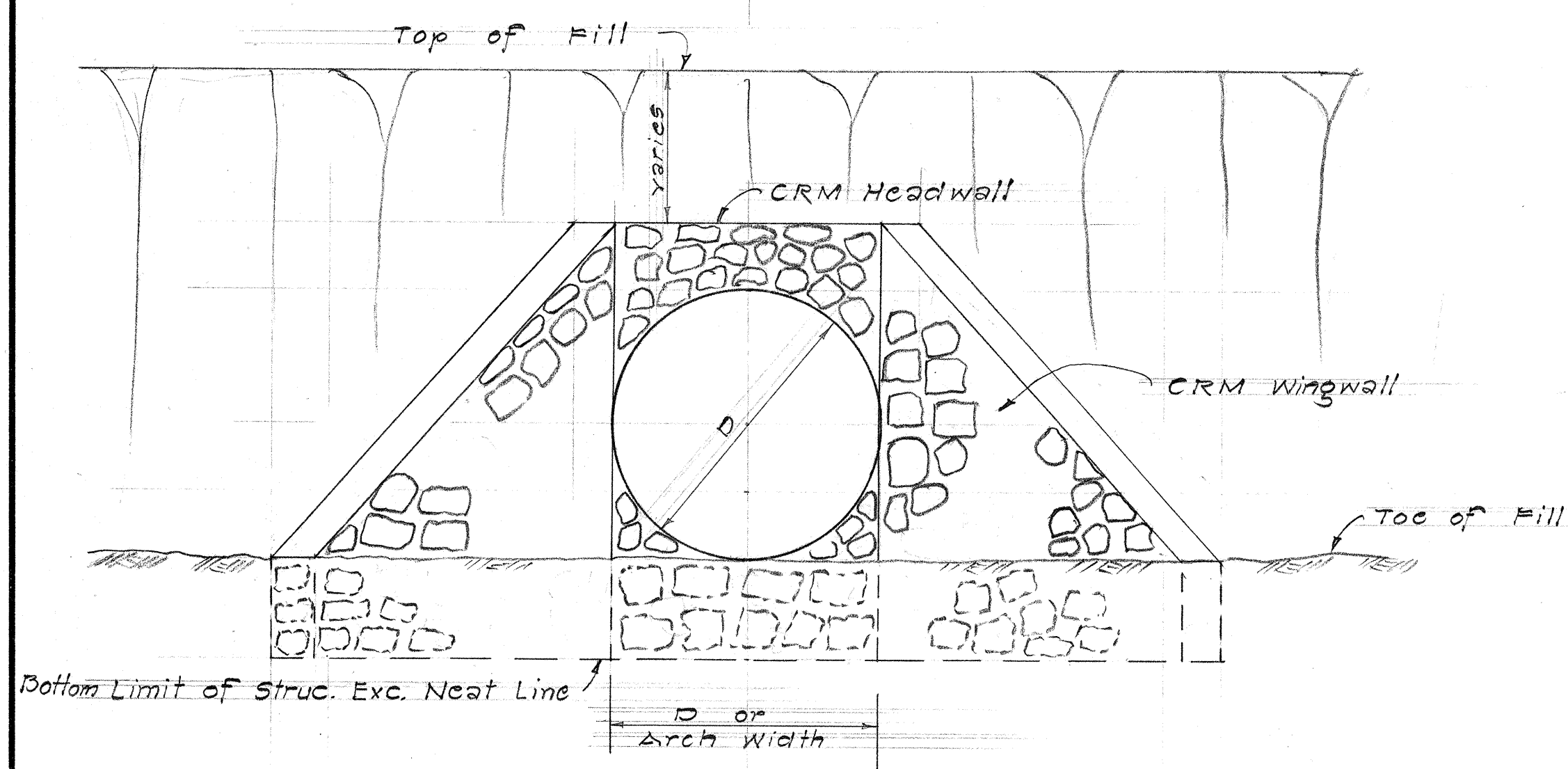
Not to Scale

NOTE:

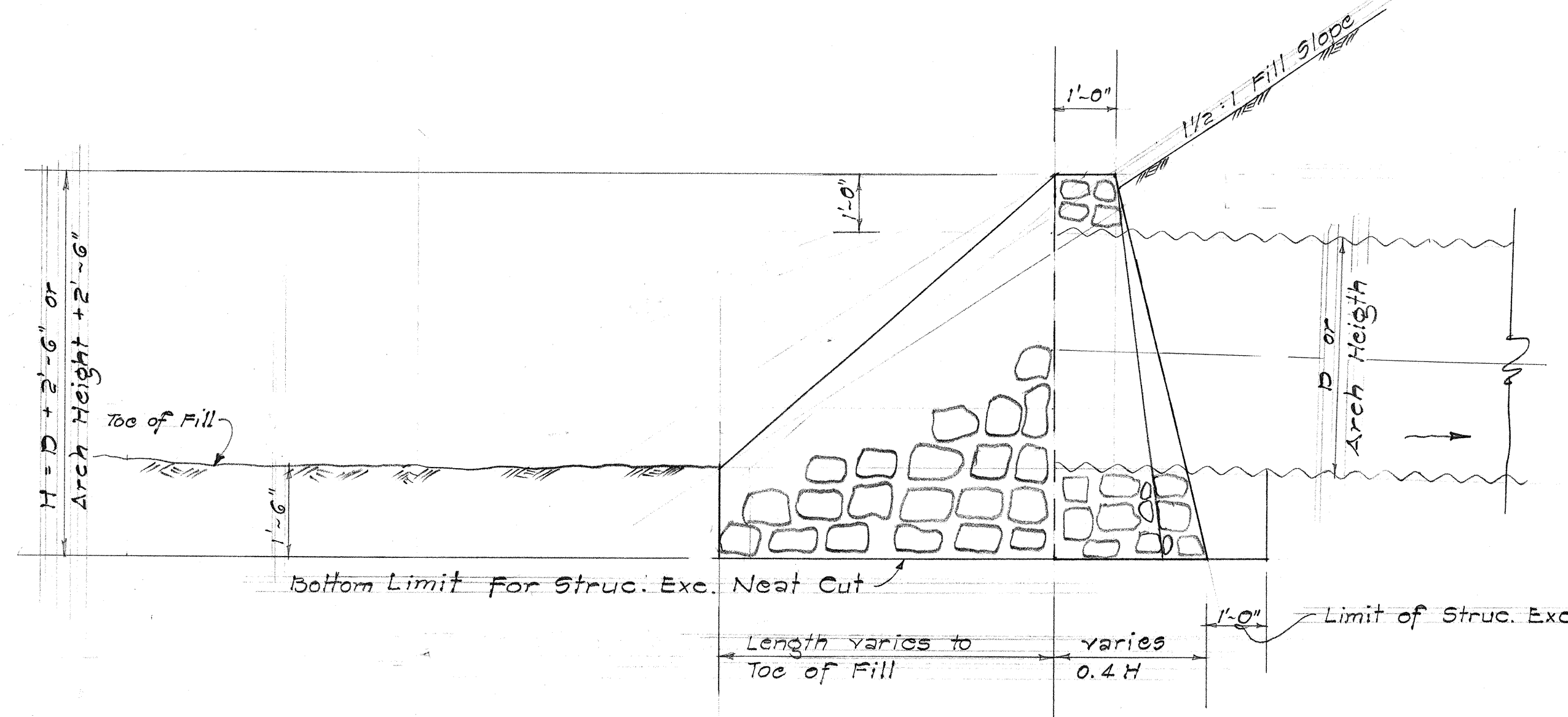
- All Metal Pipe Culverts 84" to 144" (excluding Pipe-Arches) shall be elongated. Smaller pipe culverts where noted on the plans, shall also be elongated.



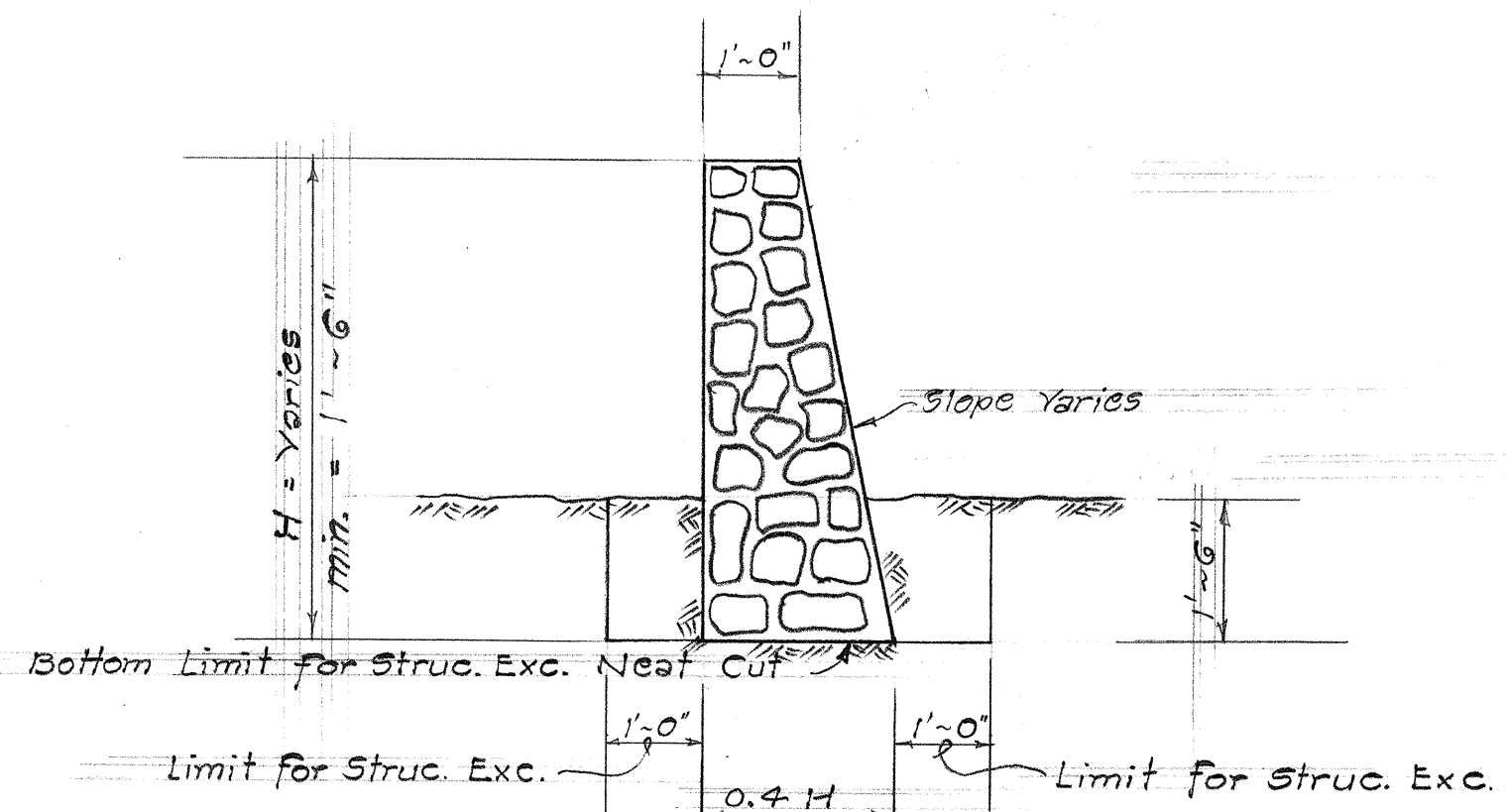
PLAN VIEW



FRONT ELEVATION



SIDE ELEVATION



TYPICAL WINGWALL SECTION

DETAILS OF CRM INLET STRUCTURE FOR 24" TO 144" PIPE CULVERTS AND PIPE-ARCHES

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

DRAINAGE DETAILS

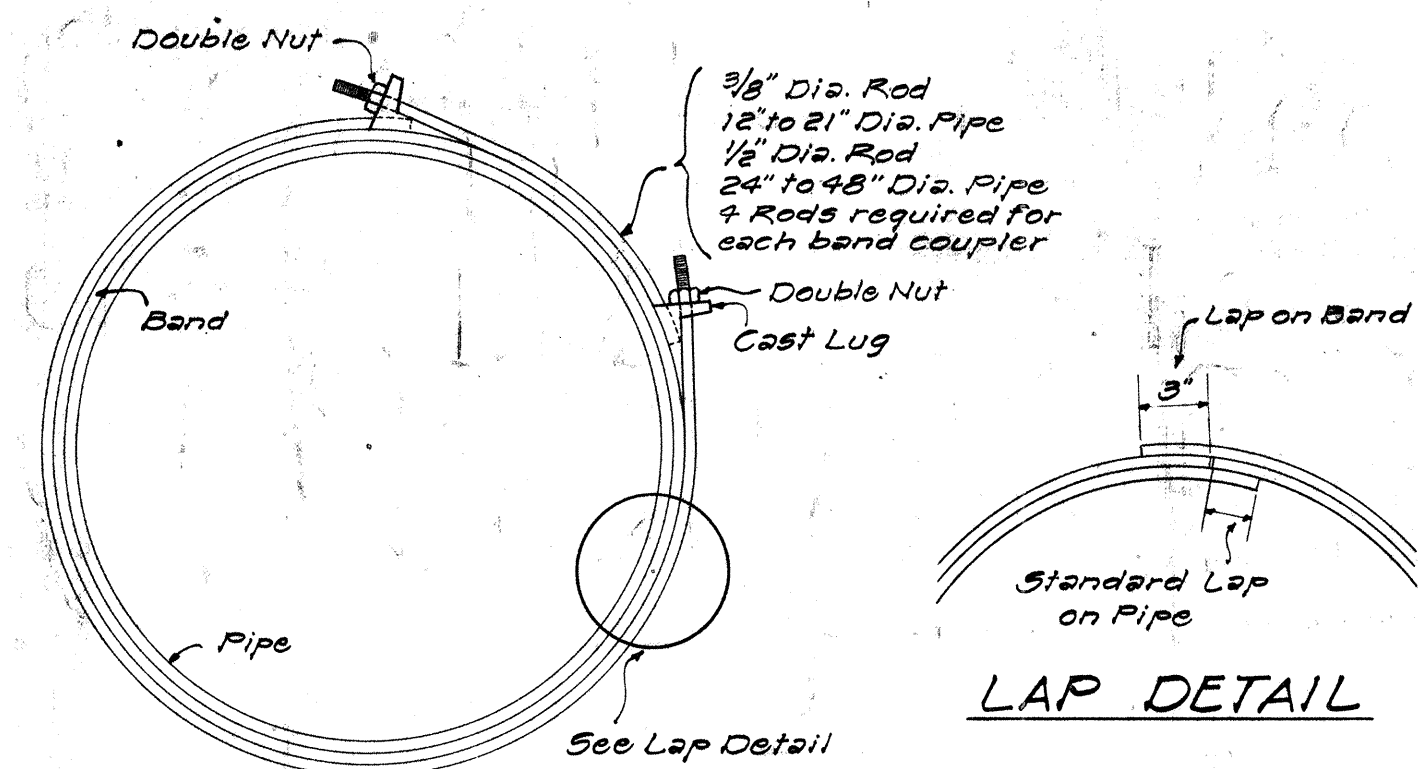
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS OF CRM
INLET AND PIPE FOUNDATIONS

KAWAIIHAE - MAHUKONA ROAD
PROJ. A-270-01-62
SECTION II-B

Scale: As Shown Date: Aug. 1965

SHEET No. 6 OF 7 SHEETS

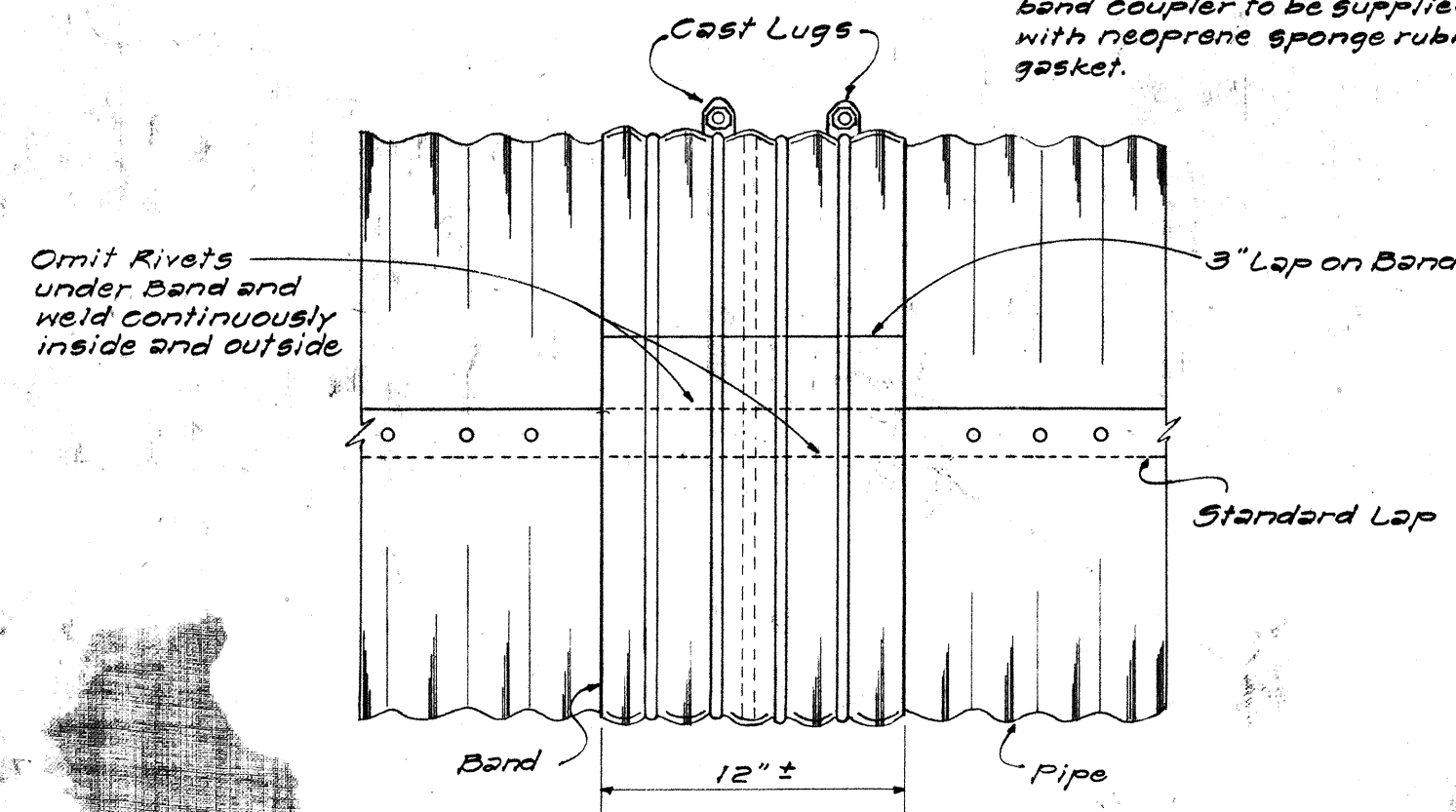


END VIEW

LAP DETAIL

NOTE:

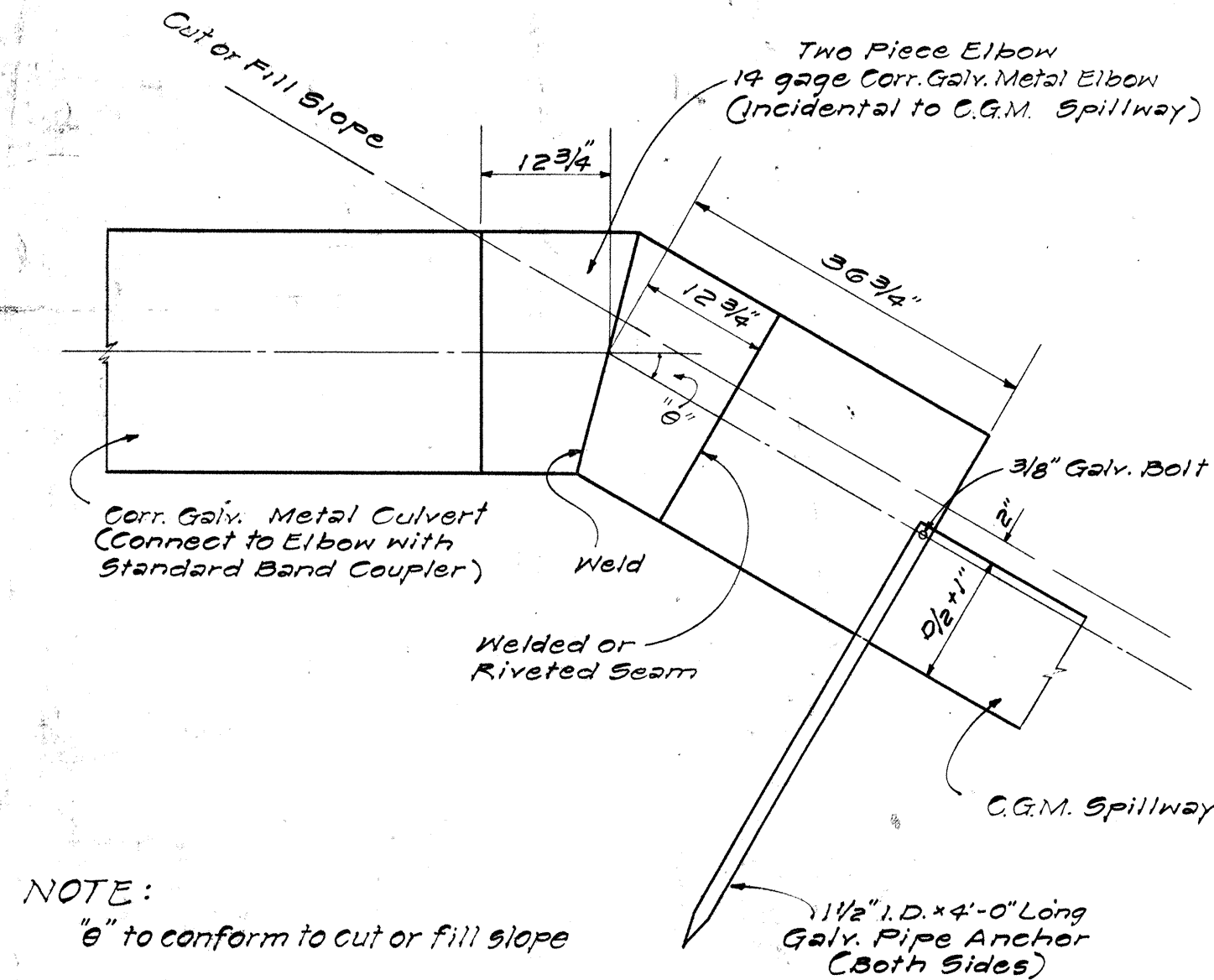
Each watertight band coupler to be supplied with neoprene sponge rubber gasket.



SIDE VIEW

DETAIL OF WATERTIGHT BAND COUPLER

NOT TO SCALE

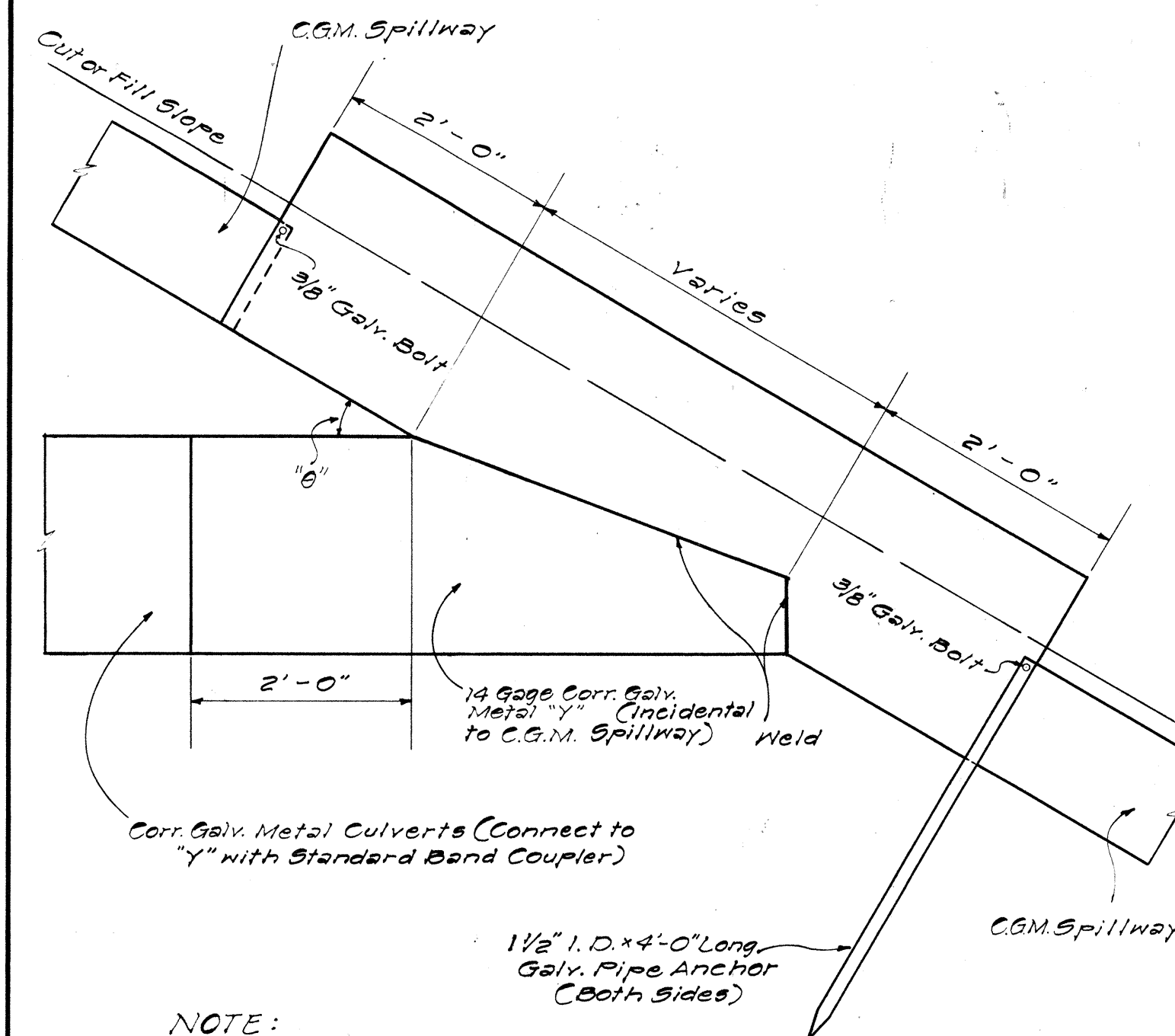


NOTE:

"6" to conform to cut or fill slope

DETAIL OF CULVERT TO SPILLWAY CONNECTION

NOT TO SCALE

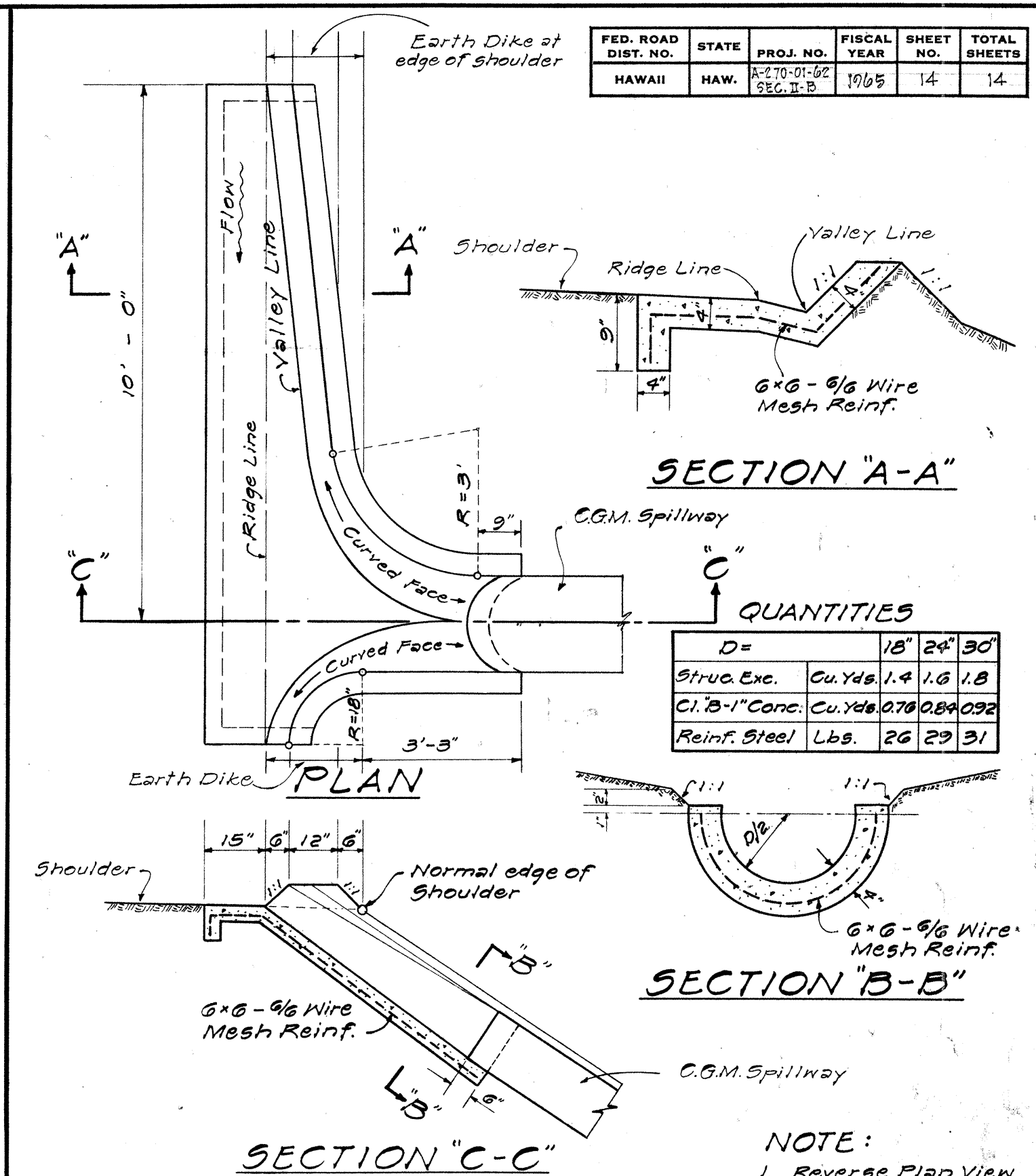


NOTE:

"6" to conform to cut or fill slope

DETAIL OF CULVERT TO SPILLWAY "Y" CONNECTION

NOT TO SCALE



SECTION "A-A"

QUANTITIES

D=	18"	24"	30"
Struc. Exc.	Cu. Yds. 1.4	1.6	1.8
Cl. B-1 Conc.	Cu. Yds. 0.70	0.84	0.92
Reinf. Steel	Lbs. 26	29	31

SECTION "B-B"

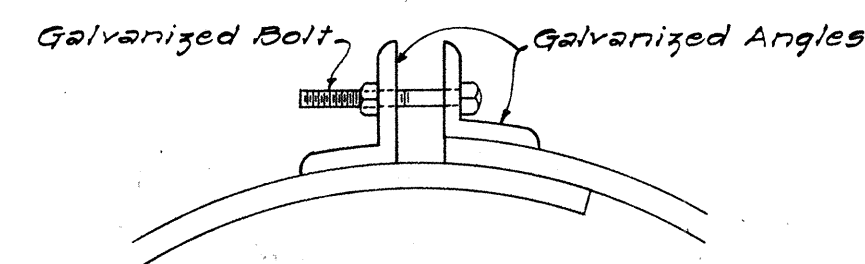
SECTION "C-C"

NOTE:

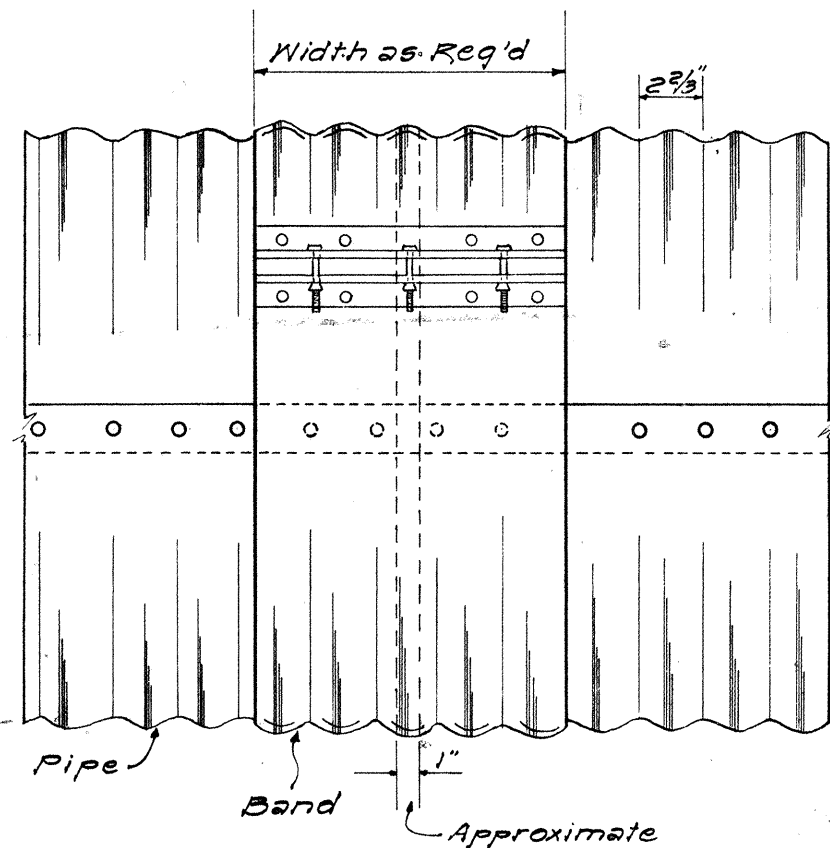
- Reverse Plan View when Flow is in direction opposite to that shown.
- All Conc. to be cl. B-1

DETAIL OF SPILLWAY INLET

NOT TO SCALE



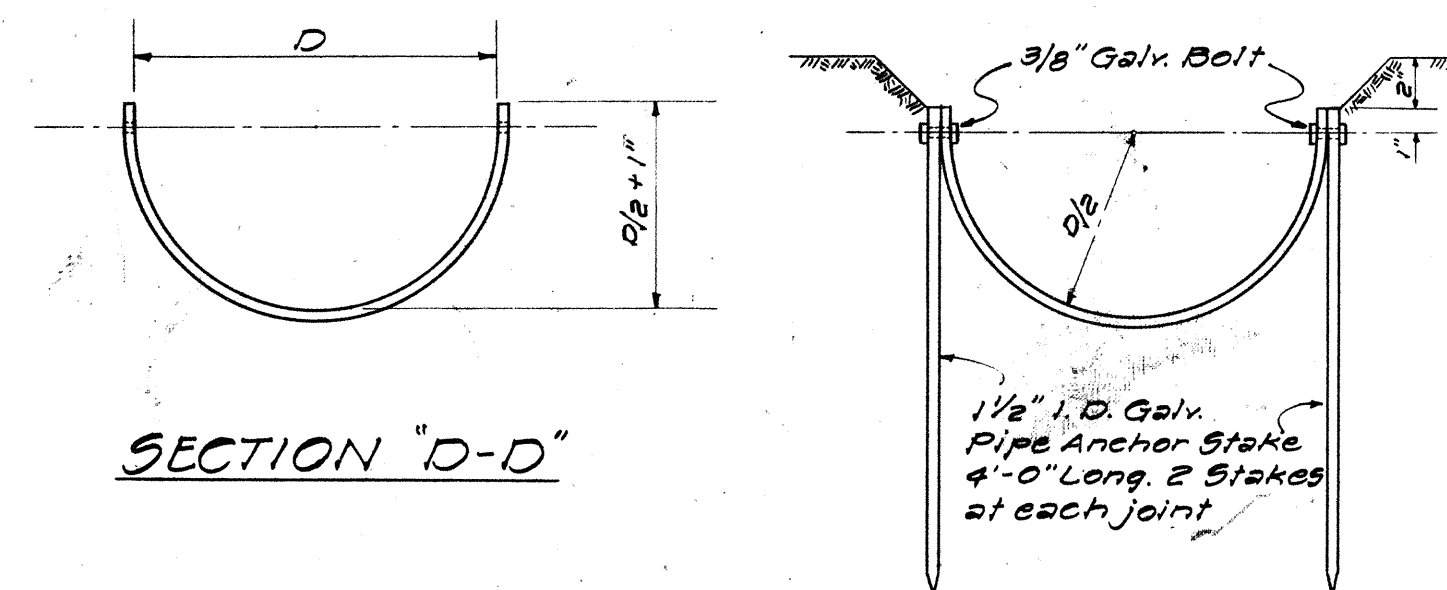
BAND DETAIL



SIDE VIEW

DETAIL OF STANDARD BAND COUPLER

NOT TO SCALE

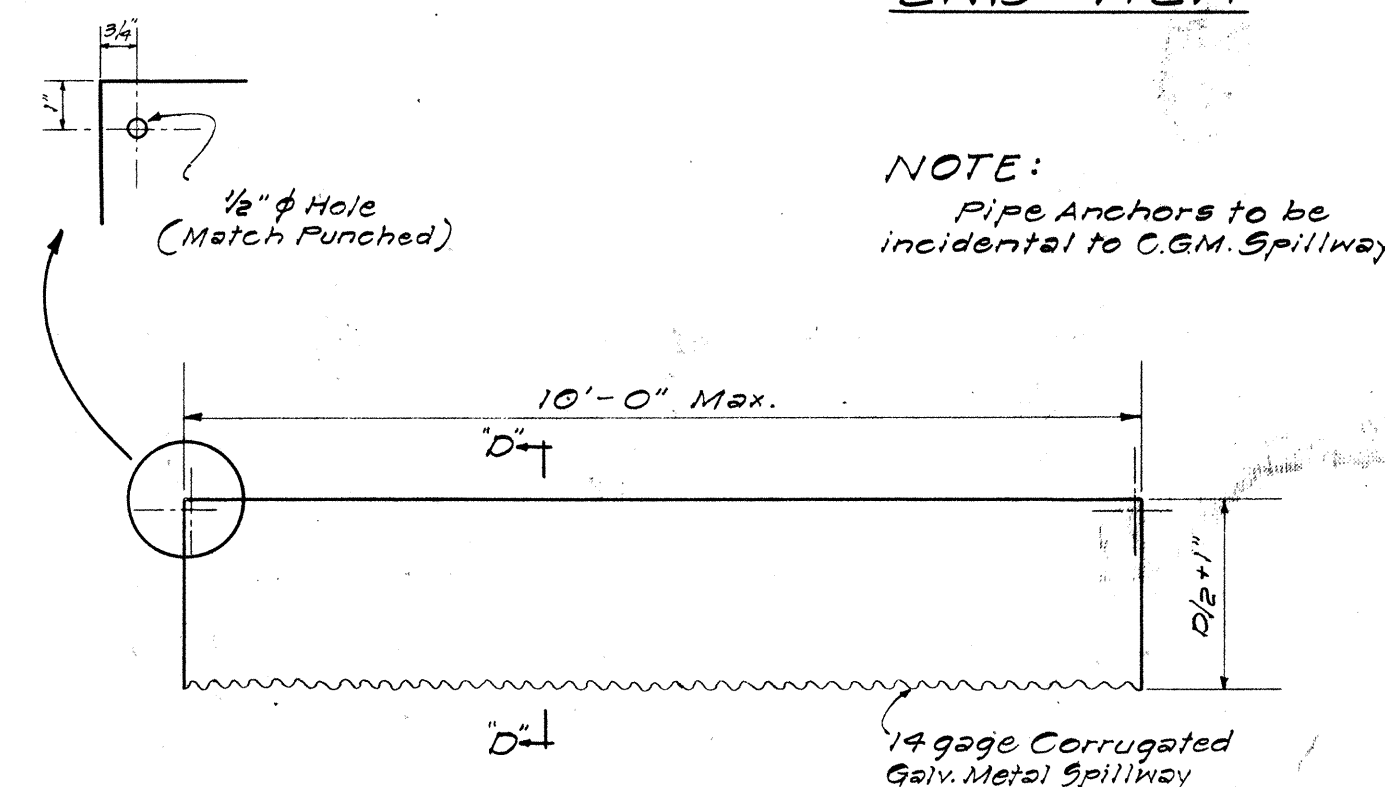


SECTION "D-D"

END VIEW

NOTE:

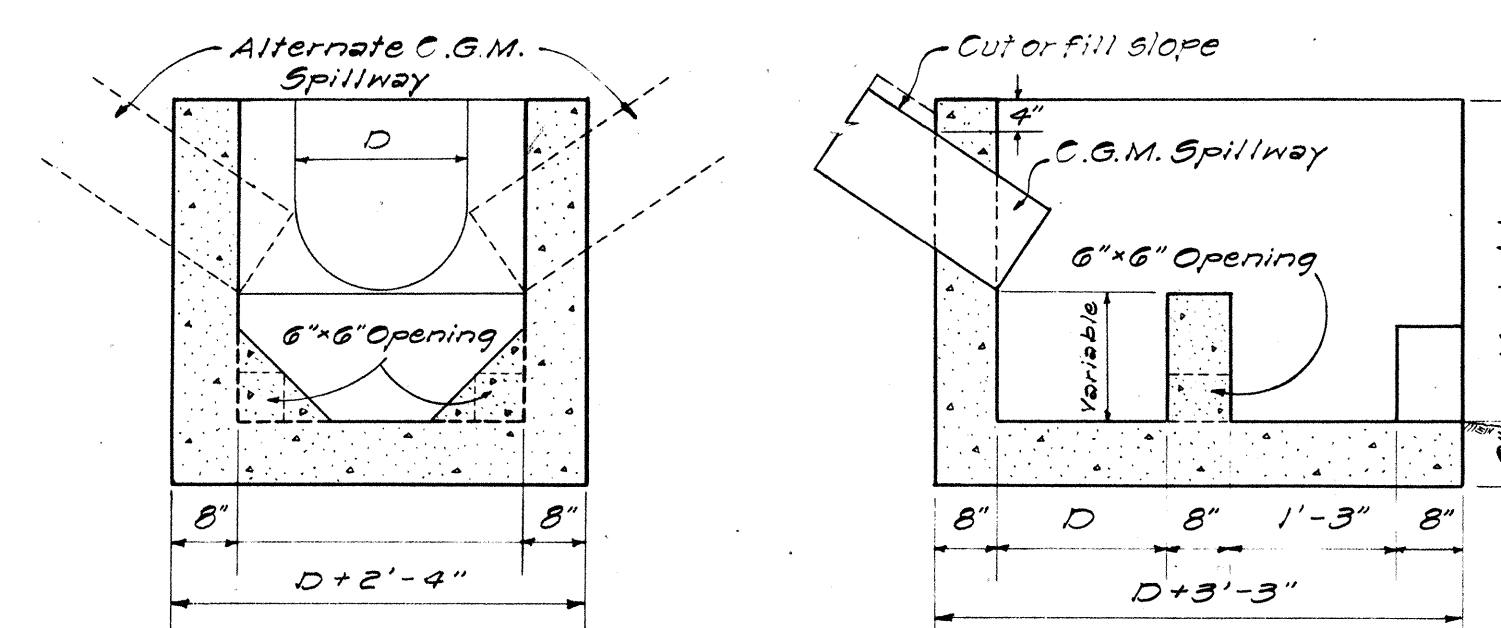
Pipe Anchors to be incidental to C.G.M. Spillway



SIDE VIEW

C. G. M. SPILLWAY

NOT TO SCALE



SECTION "H-H"

SECTION "G-G"

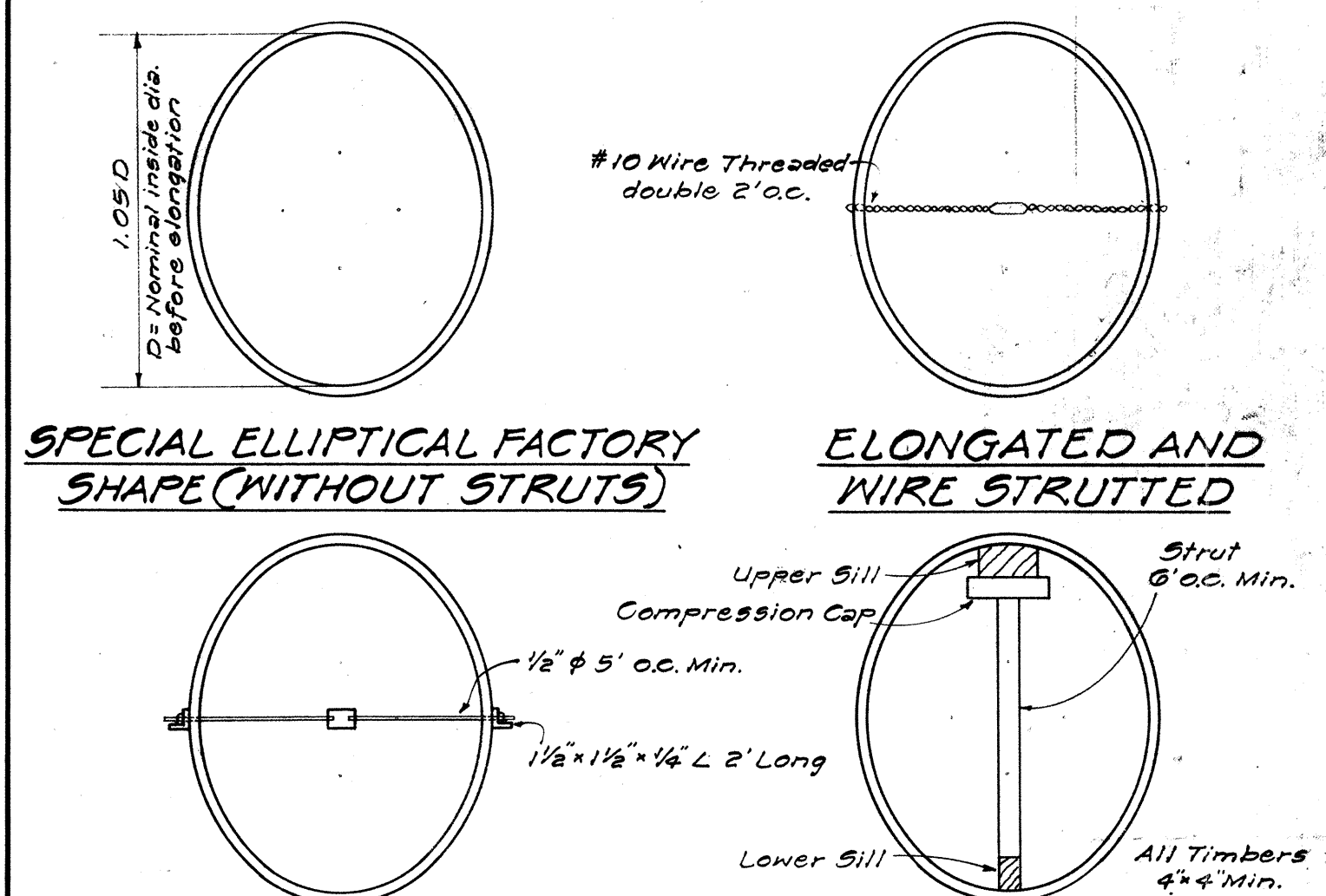
QUANTITIES

D=	18"	24"	30"
Struc. Exc.	Cu. Yds. 3.3	4.2	5.1
Cl. B-1 Conc.	Cu. Yds. 1.5	1.8	2.2

NOTE:
All Concrete to be Class "B-1"

DETAILS OF CONC. DROP BOX AT OUTLET OF C.G.M. SPILLWAY

NOT TO SCALE



SPECIAL ELLIPTICAL FACTORY SHAPE (WITHOUT STRUTS)

ELONGATED AND WIRE STRUTTED

ELONGATED WITH ROD AND TURNBUCKLE

ELONGATED WITH TIMBER STRUT

METHOD OF ELONGATING AND STRUTTING CORRUGATED PIPE

NOT TO SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CORRUGATED GALVANIZED METAL
CULVERTS, SPILLWAYS, AND
SPECIAL DETAILS

SCALES AS NOTED
SHEET NO. 7 OF 7 SHEETS

APPROVED: DATE: 8-14-61
DIRECTOR OF TRANSPORTATION

DATE: 5-24-61
DRAWN BY: Y
DESIGNED BY: G.M.
CHECKED BY: G.M.
ORIGINAL FILED IN: 5-24-61
NOTE BOOK: 5-24-61
No.