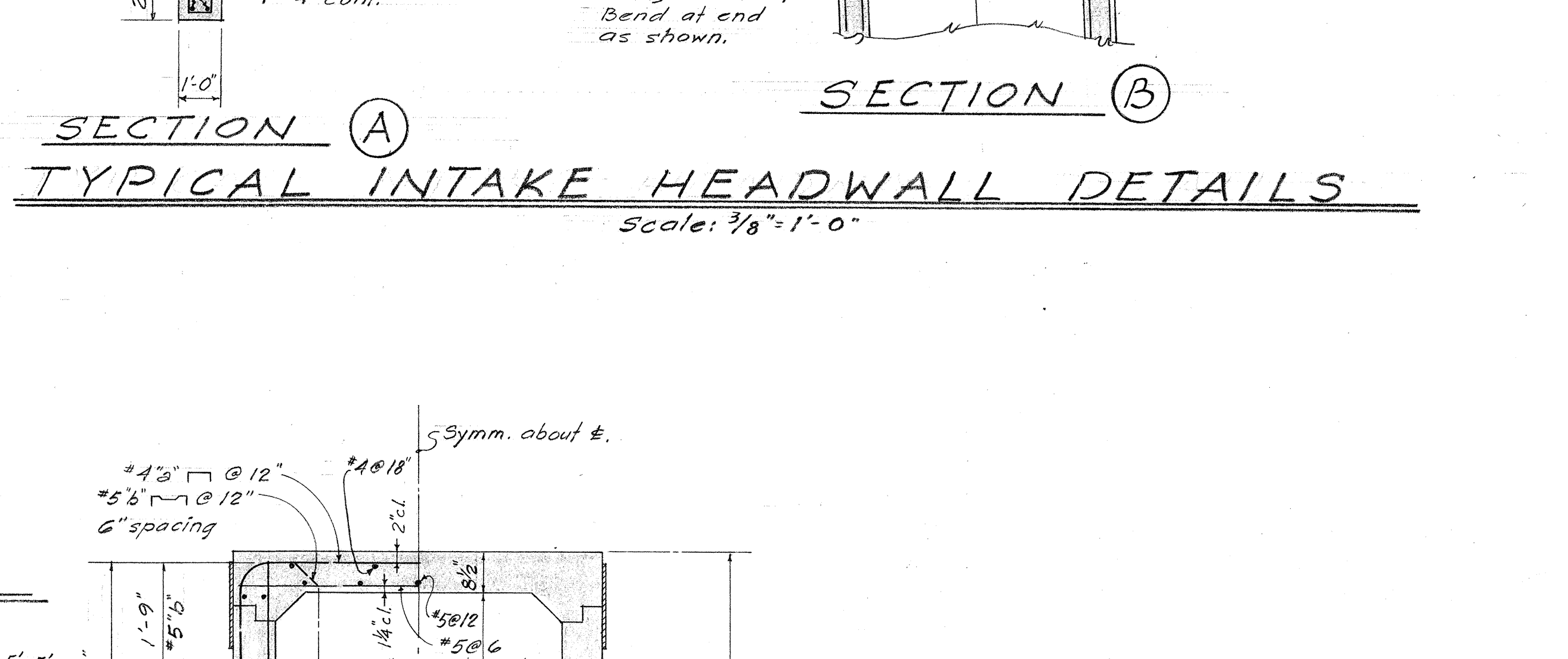
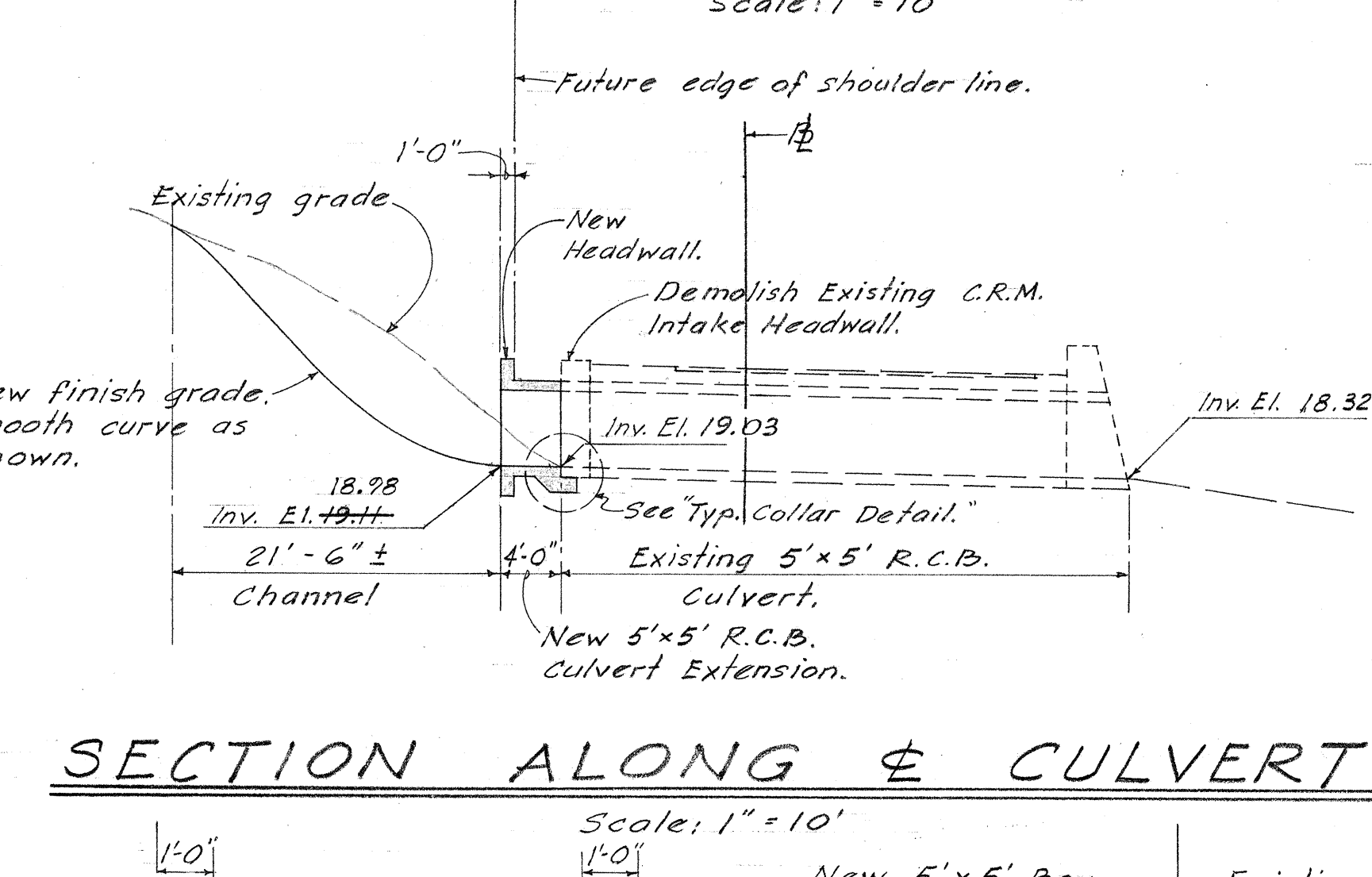
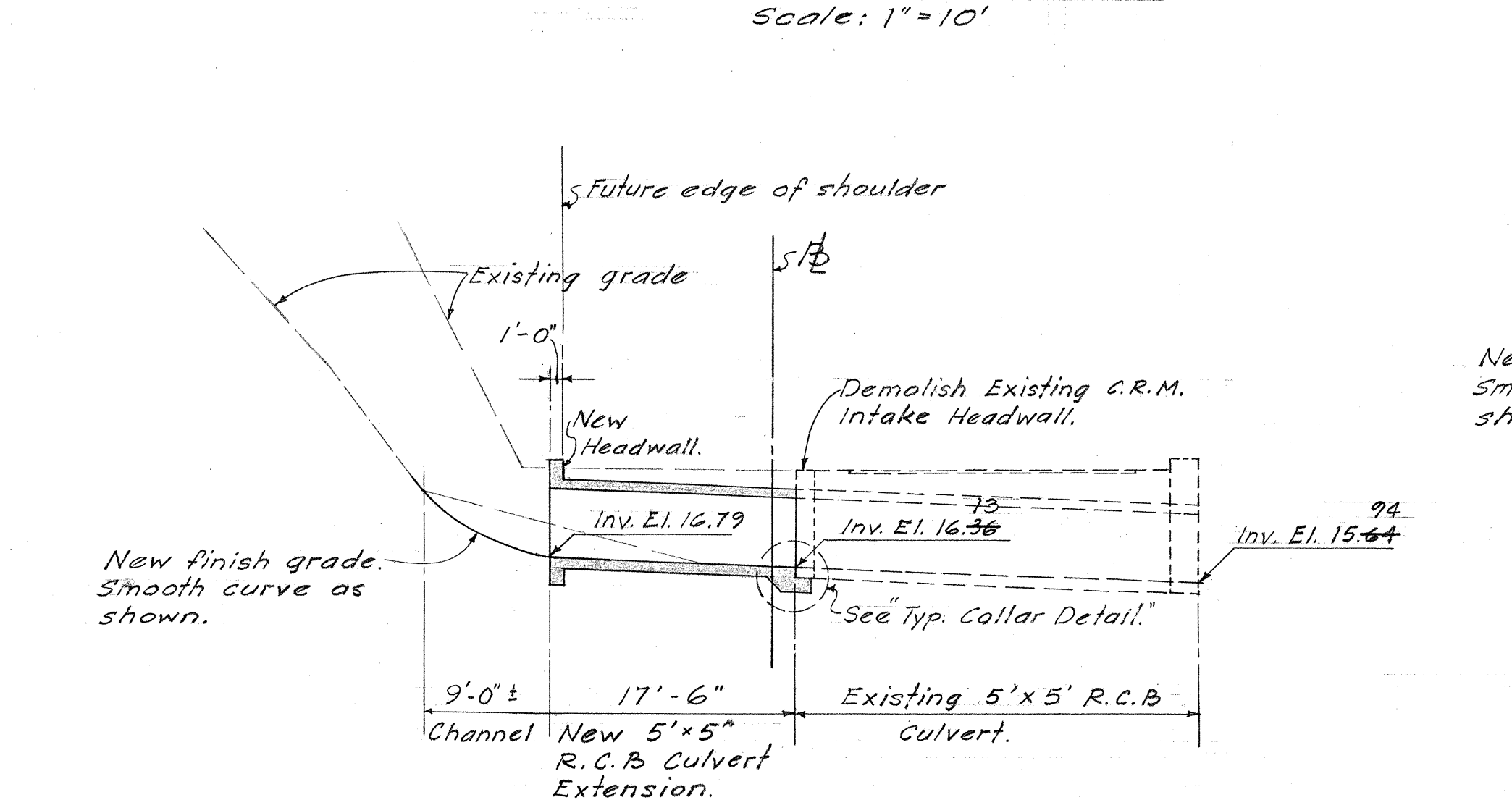
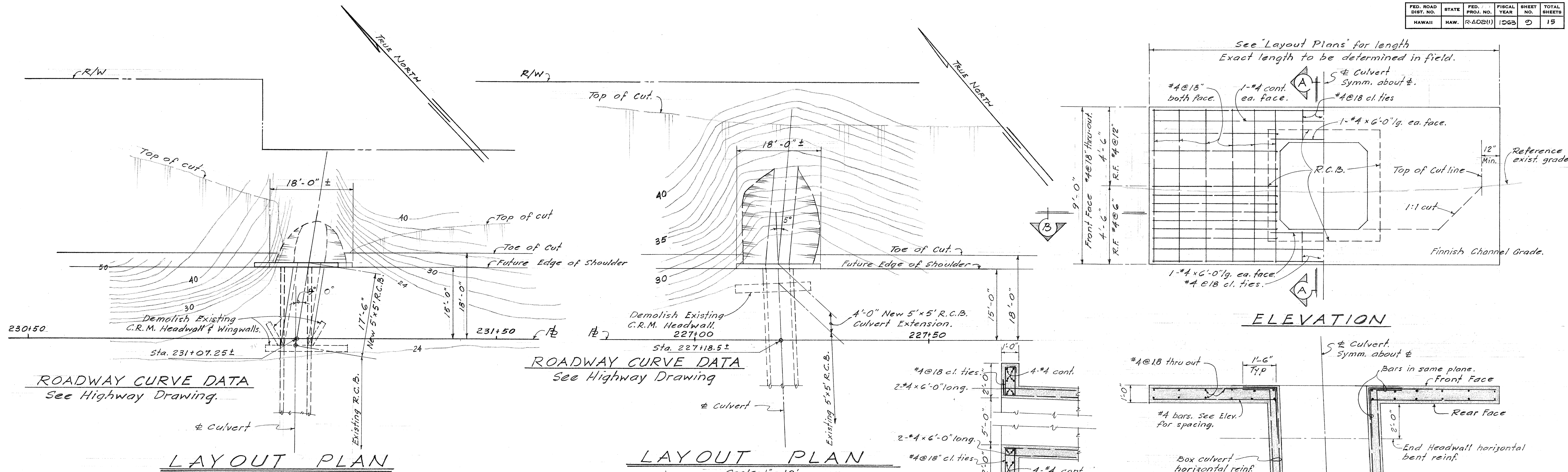
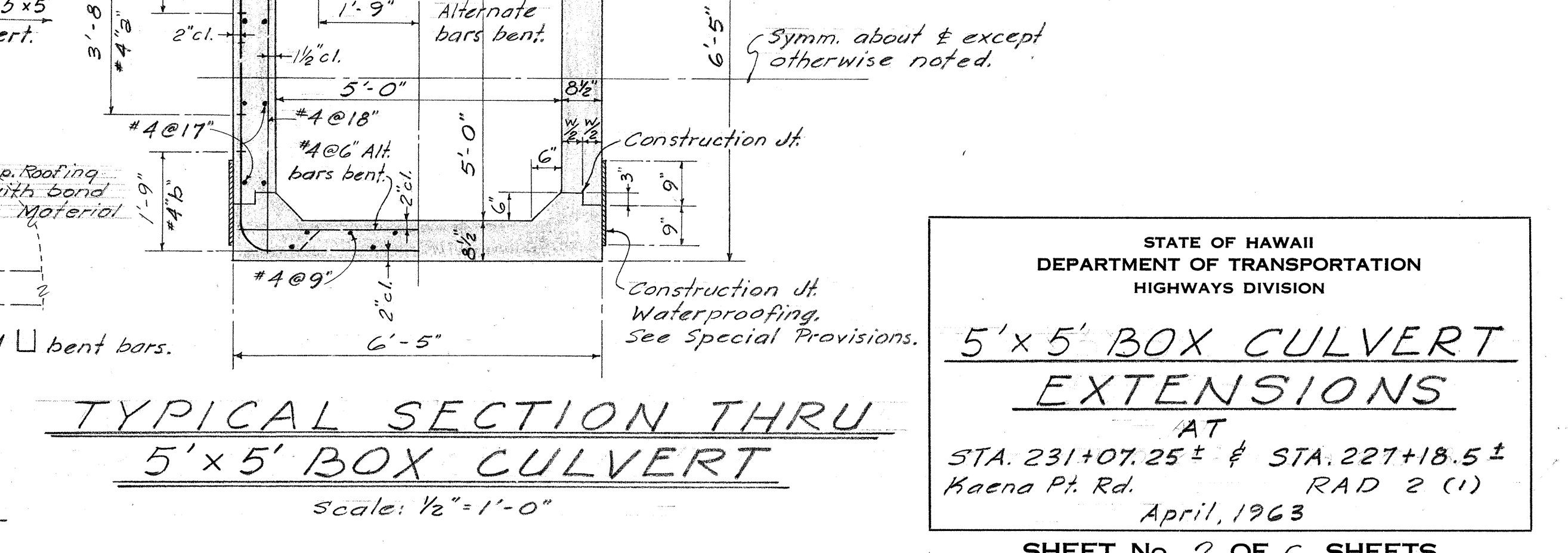
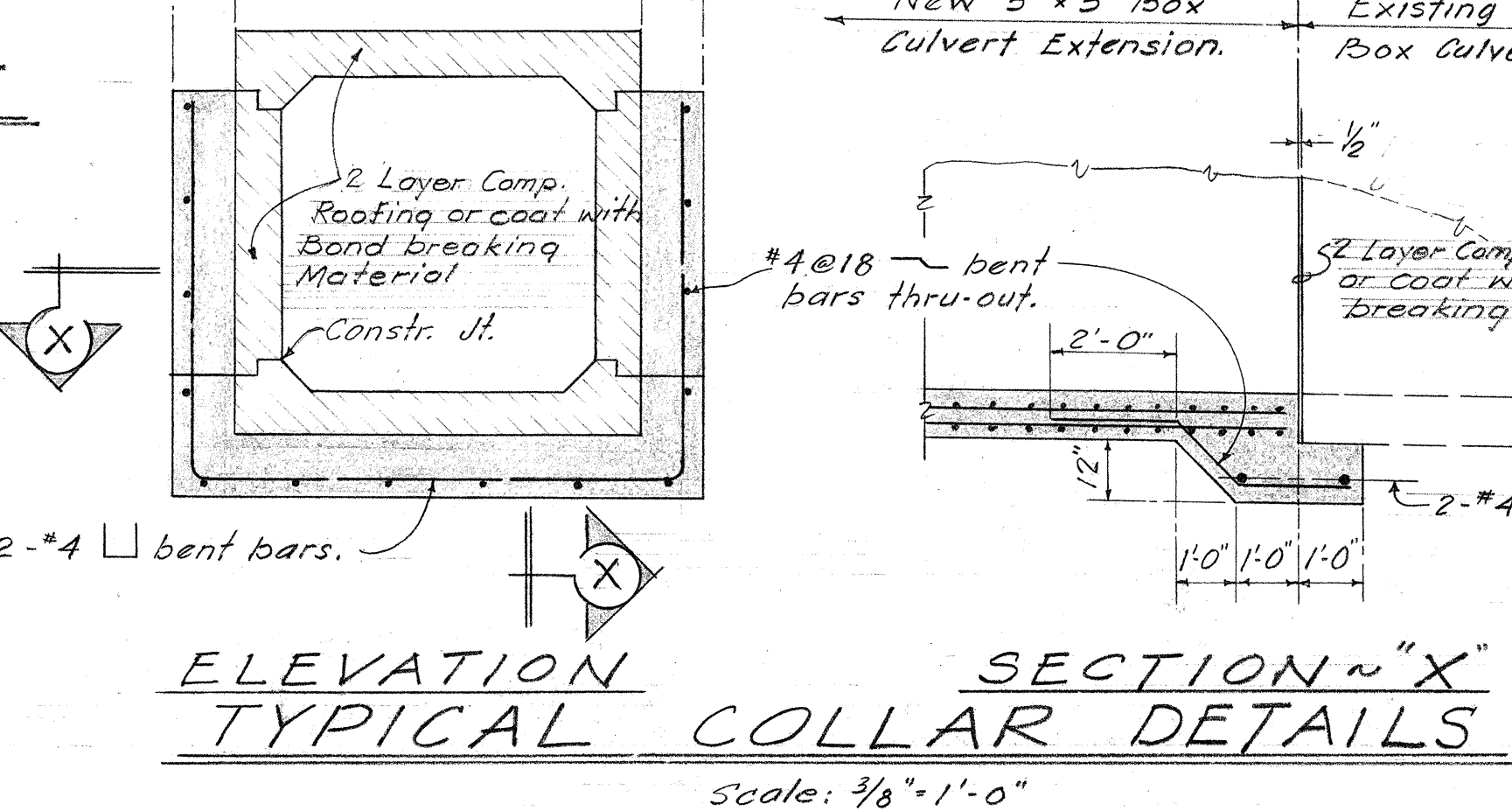




ESTIMATED QUANTITIES
5'x5' BOX CULVERTS

ITEM	STA. 231+07.25±	STA. 227+18.5±
Class A-1 Conc.	17.0 c.y.	9.0 c.y.
Reinf. Steel	1,800.0 lbs.	790.0 lbs.
Struct. Exc.	28.0 ±4.0 c.y.	11.0 ±5.0 c.y.
Channel Exc.	18.0 ±6.0 c.y.	23.0 ±6.0 c.y.



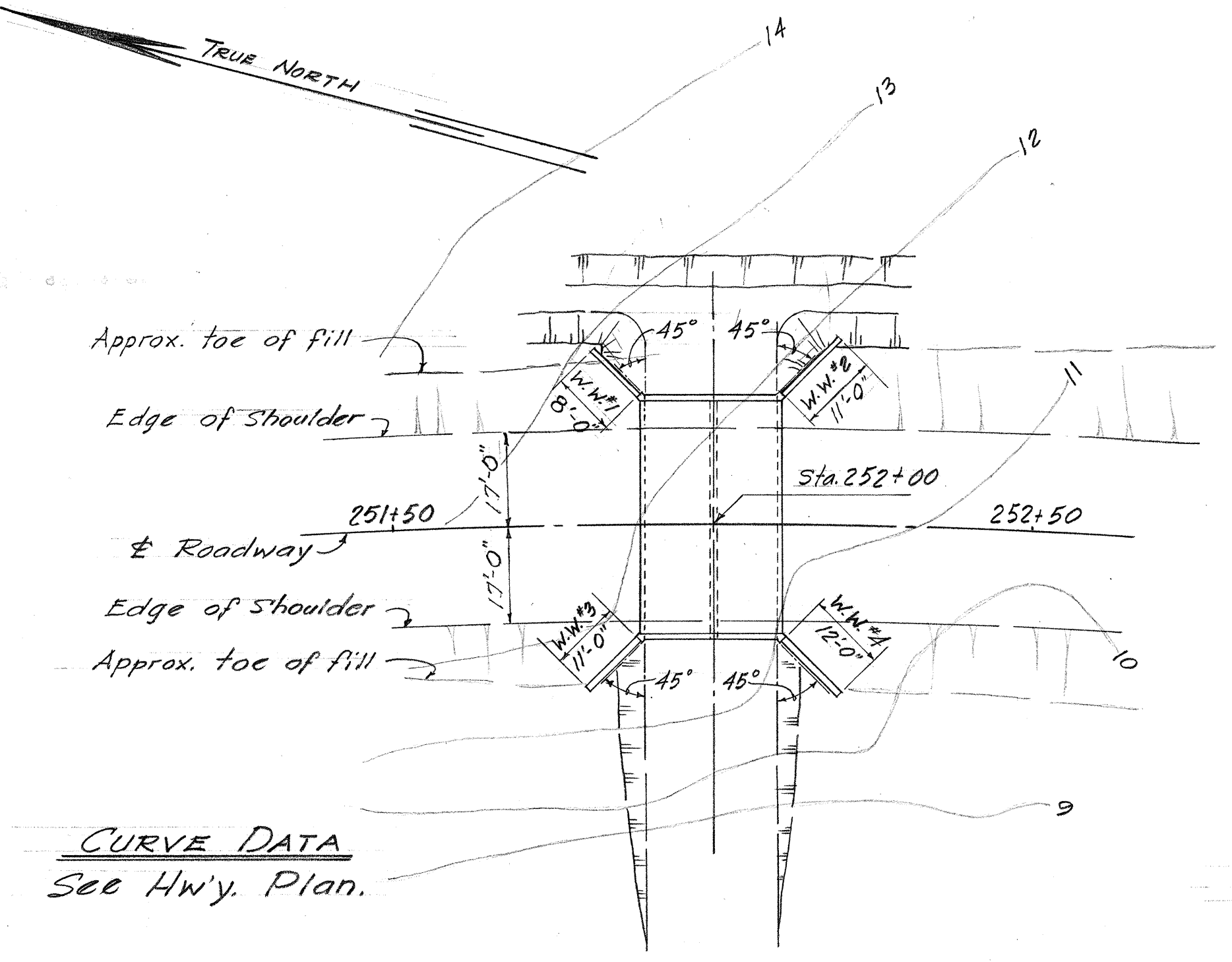
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

5'x5' BOX CULVERT EXTENSIONS
AT
STA. 231+07.25± & STA. 227+18.5±
Kaena Pt. Rd. RAD 2 (1)
April, 1963

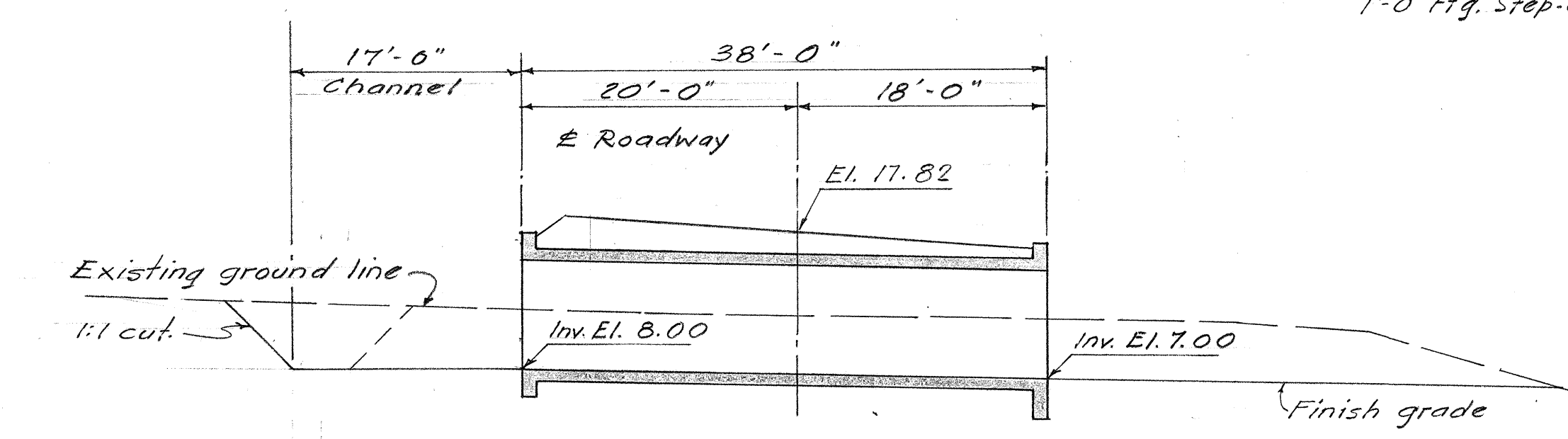
SHEET No. 2 OF 6 SHEETS

ESTIMATED QUANTITIES			
Class A-1 Concrete	104.0	c.y.	
Reinf. Steel	12,930.0	lbs.	
Structural Excavation	235.0	c.y.	
Channel Excavation	170.0	c.y.	
Filter Material	19.0	cu. yd.	

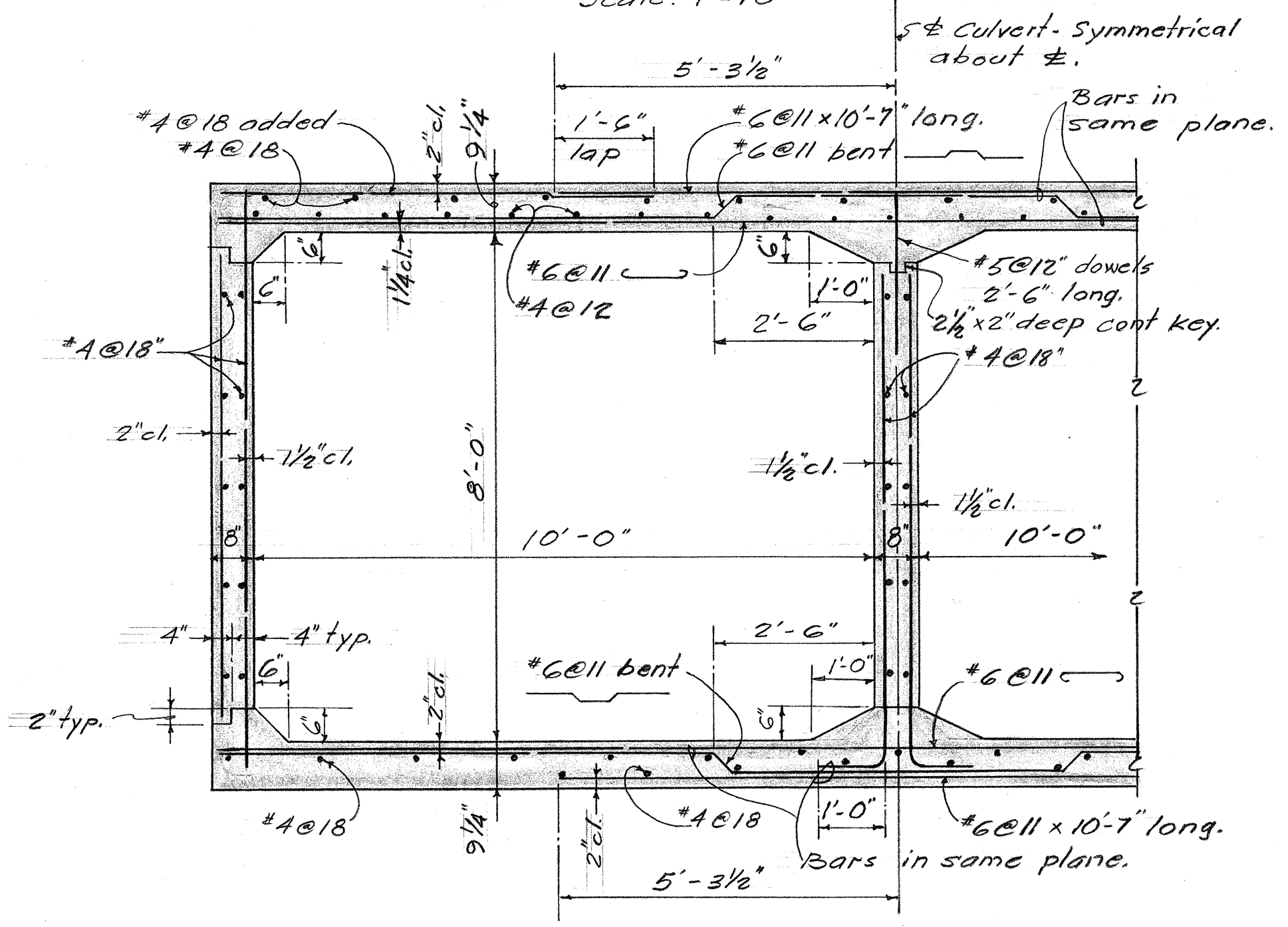
FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RAD 2(1)	1963	10	15



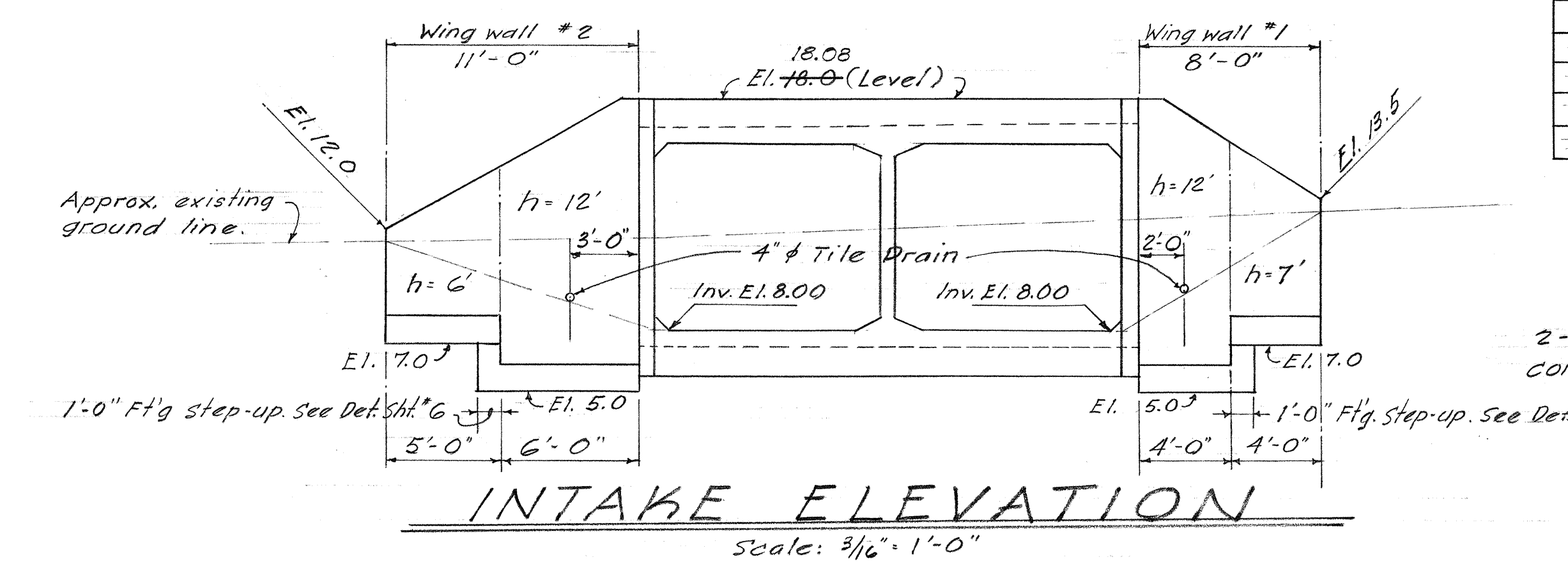
LAYOUT PLAN
Scale: 1" = 20'



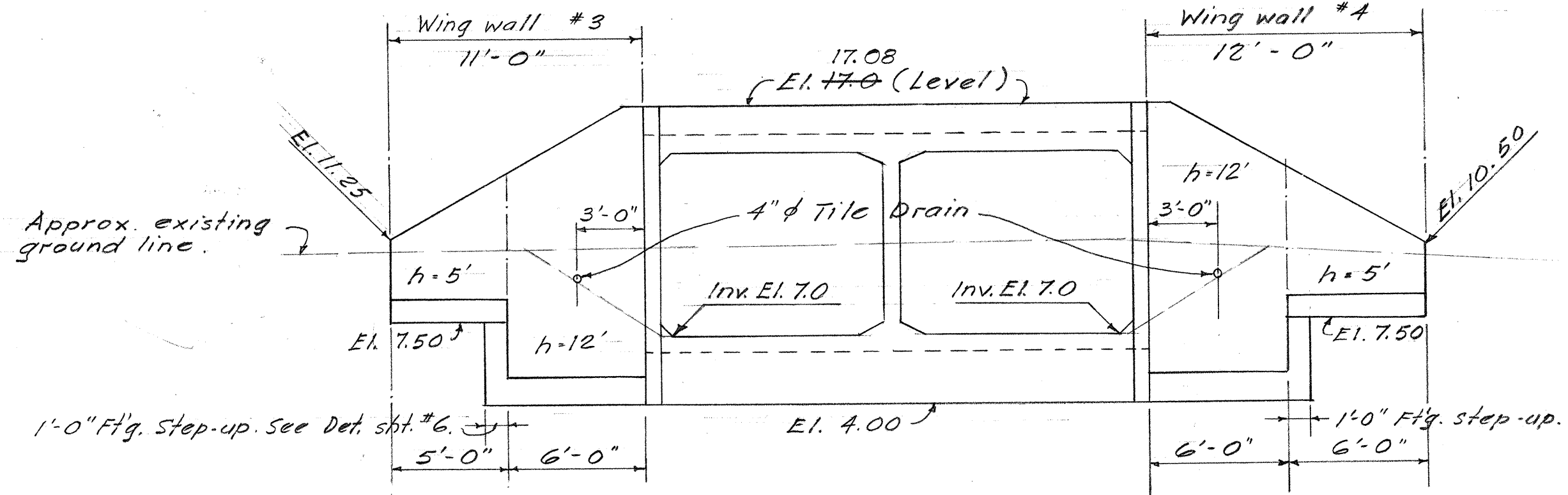
SECTION ALONG & CULVERT
Scale: 1" = 10'



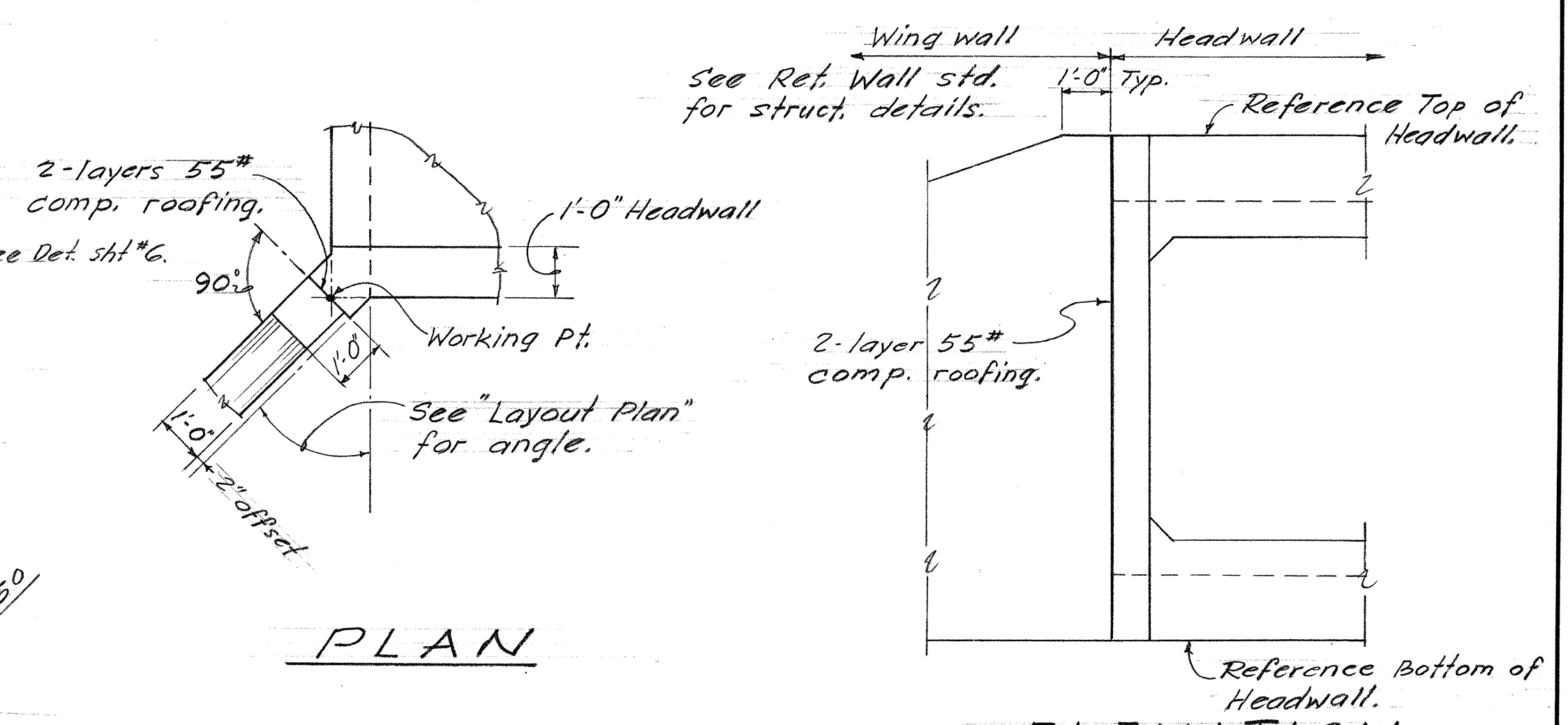
NORMAL SECTION
Scale: 1/2" = 1'-0"



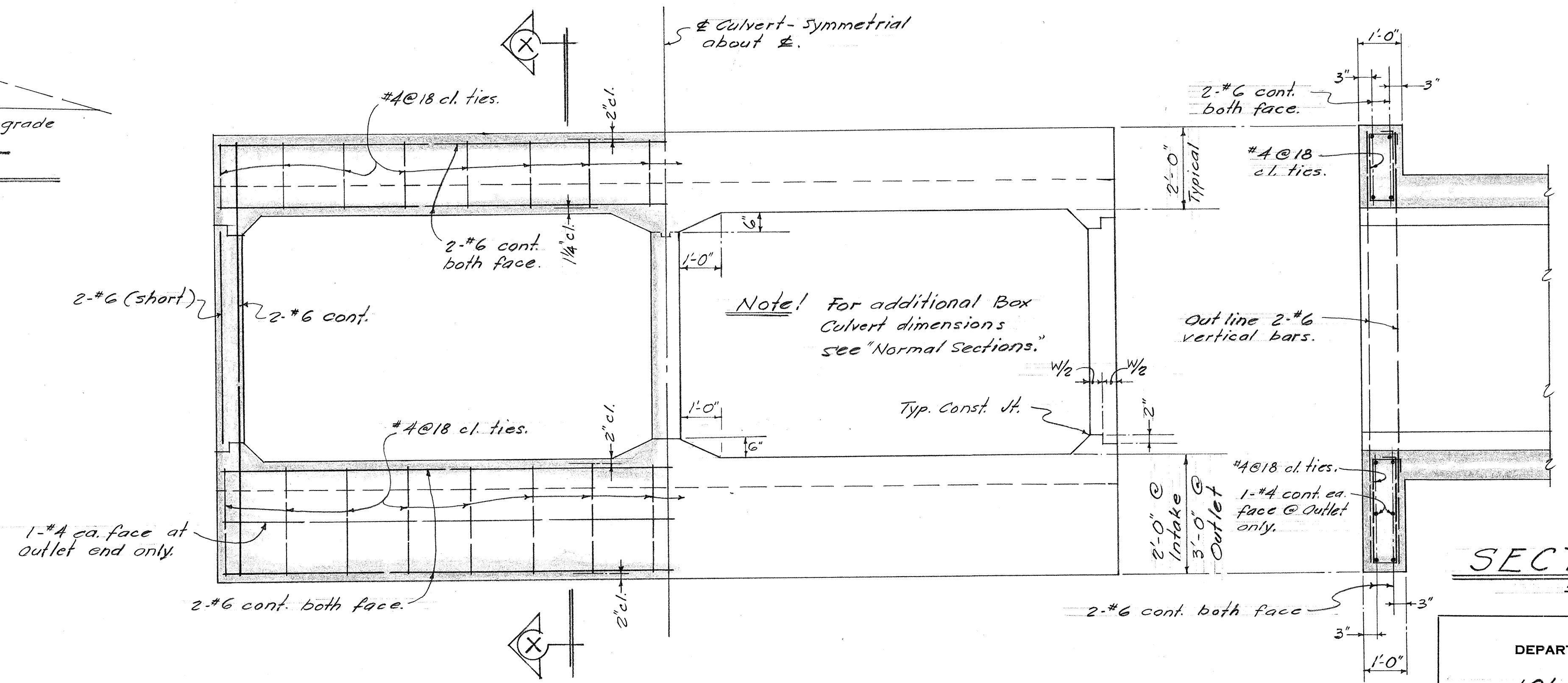
INTAKE ELEVATION
Scale: 3/16" = 1'-0"



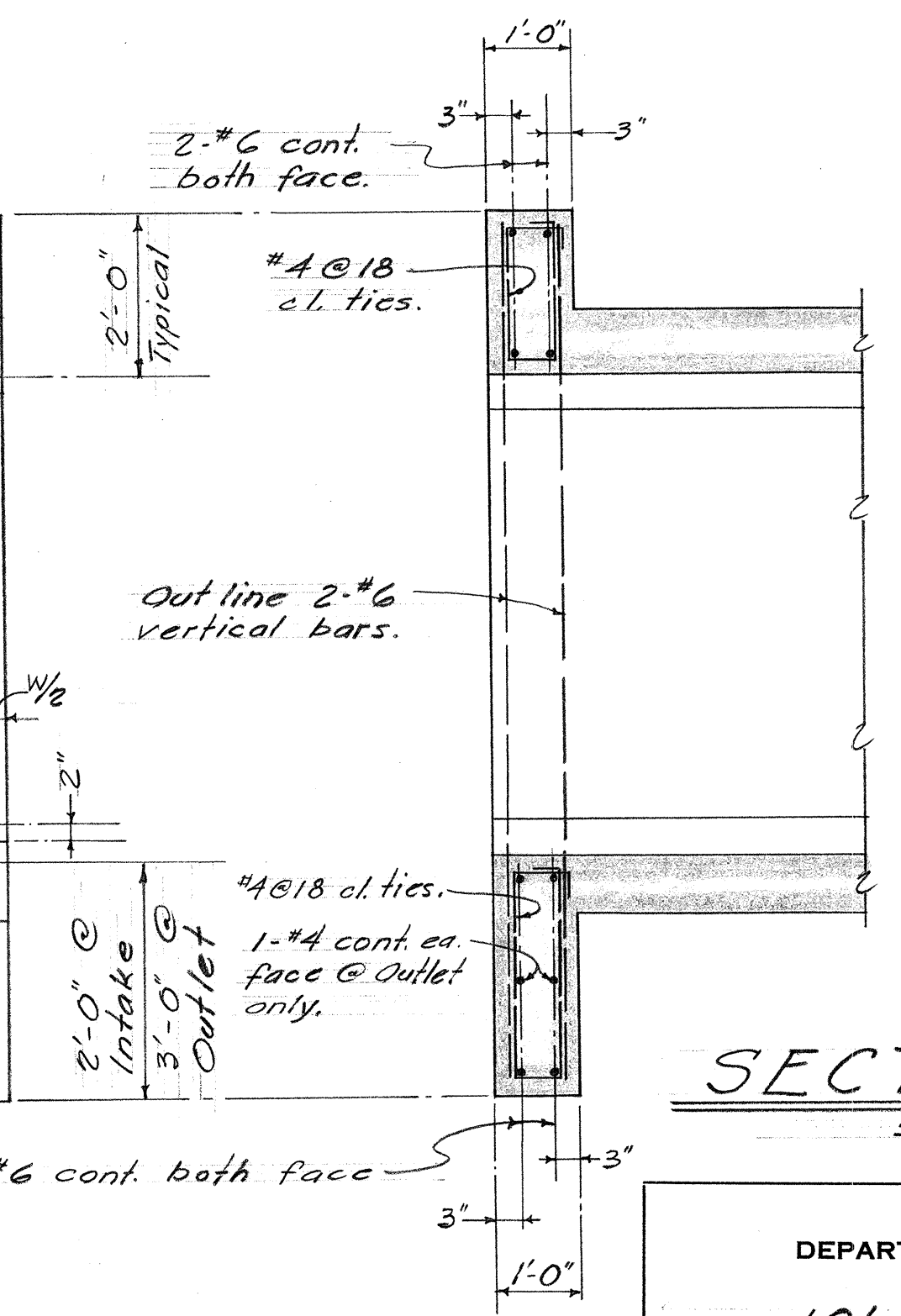
OUTLET ELEVATION
Scale: 3/16" = 1'-0"



TYPICAL WING WALL CONNECTION DETAILS
Scale: 3/8" = 1'-0"



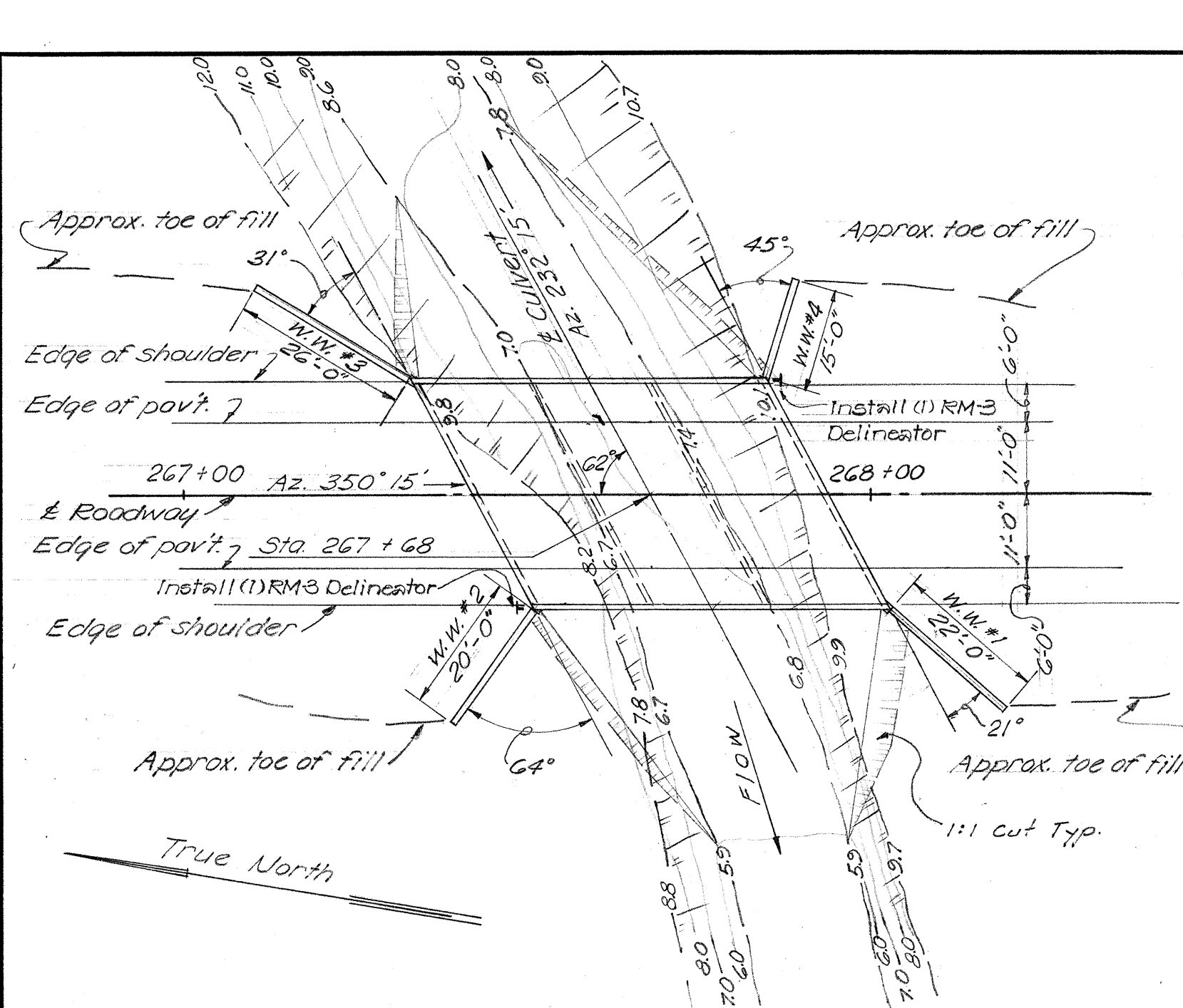
ELEVATION TYPICAL HEADWALL DETAIL
Scale: 1/2" = 1'-0"



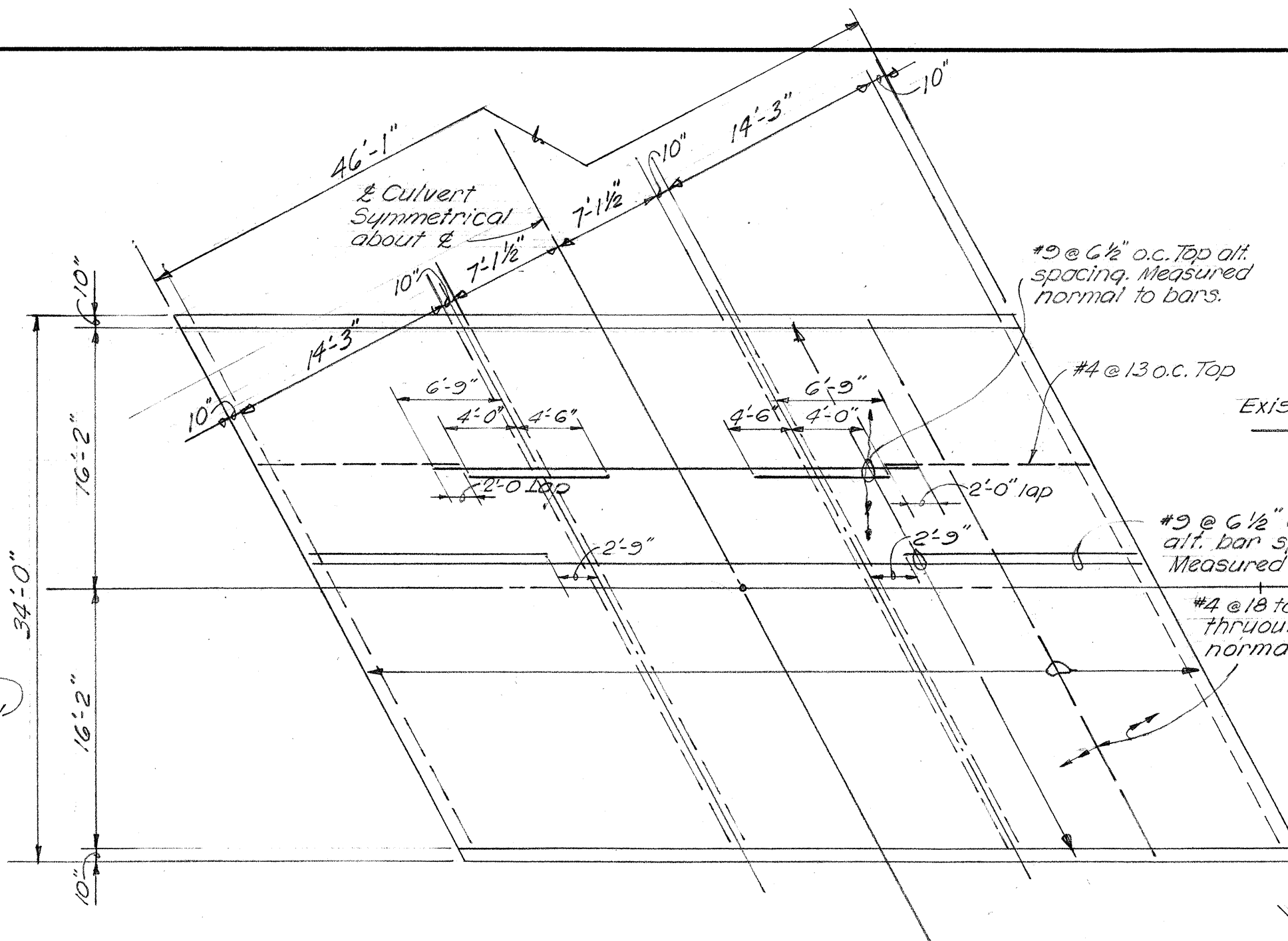
SECTION "X-X"
Scale: 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
10'x8' TWIN BOX CULVERT
and
TYPICAL BOX CULVERT DETAILS 252+00
Kaena Pt. Road RAD 2 (1)
SHEET No. 3 OF 6 SHEETS

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

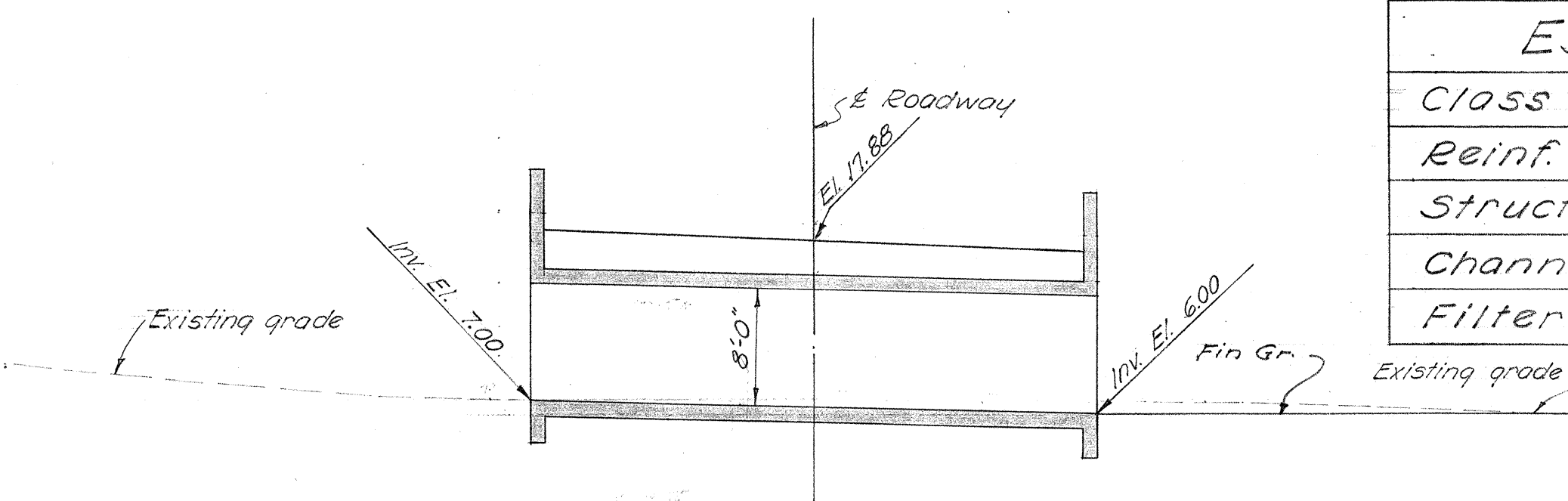


LAYOUT PLAN
Scale: 1" = 20'-0"

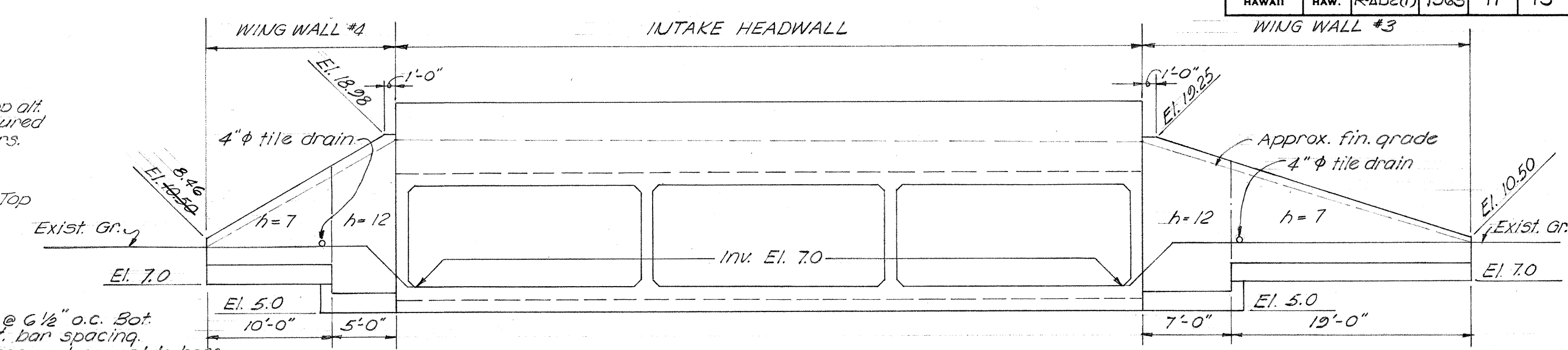


SLAB REINFORCEMENT LAYOUT PLAN
Scale: 1/8" = 1'-0"

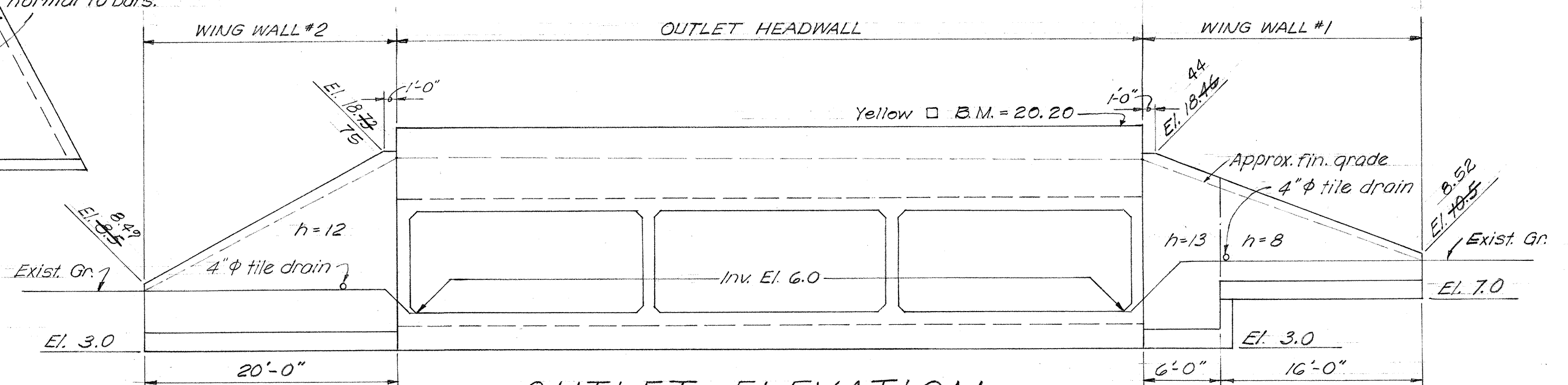
ESTIMATED QUANTITIES	
Class A-1 Concrete	247.0 c.y.
Reinf. Steel	40,600.0 lbs.
Structural Excavation	282.0 ±13.0 c.y.
Channel Excavation	80.0 ±4.0 c.y.
Filter Material	24.0 ±3.0 tons



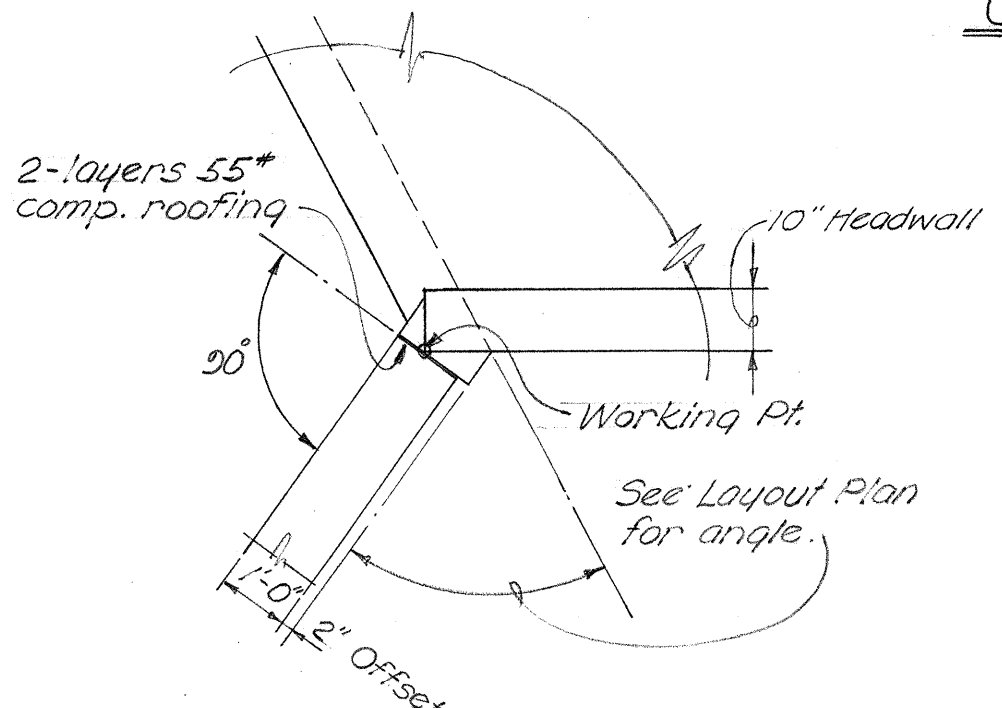
SECTION ALONG & CULVERT
Scale: 1" = 10'-0"



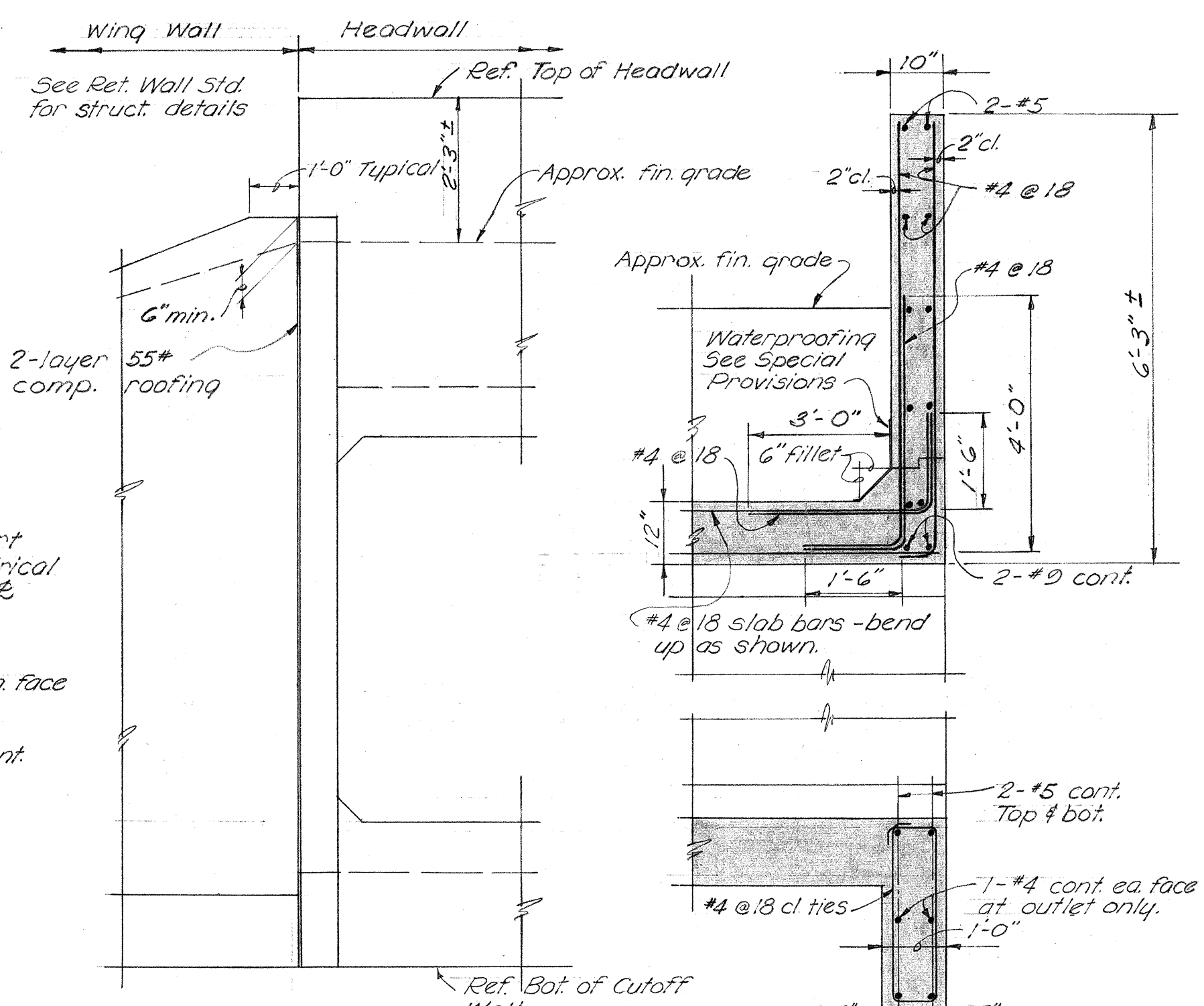
INTAKE ELEVATION
Scale: 1/8" = 1'-0"



OUTLET ELEVATION
Scale: 1/8" = 1'-0"

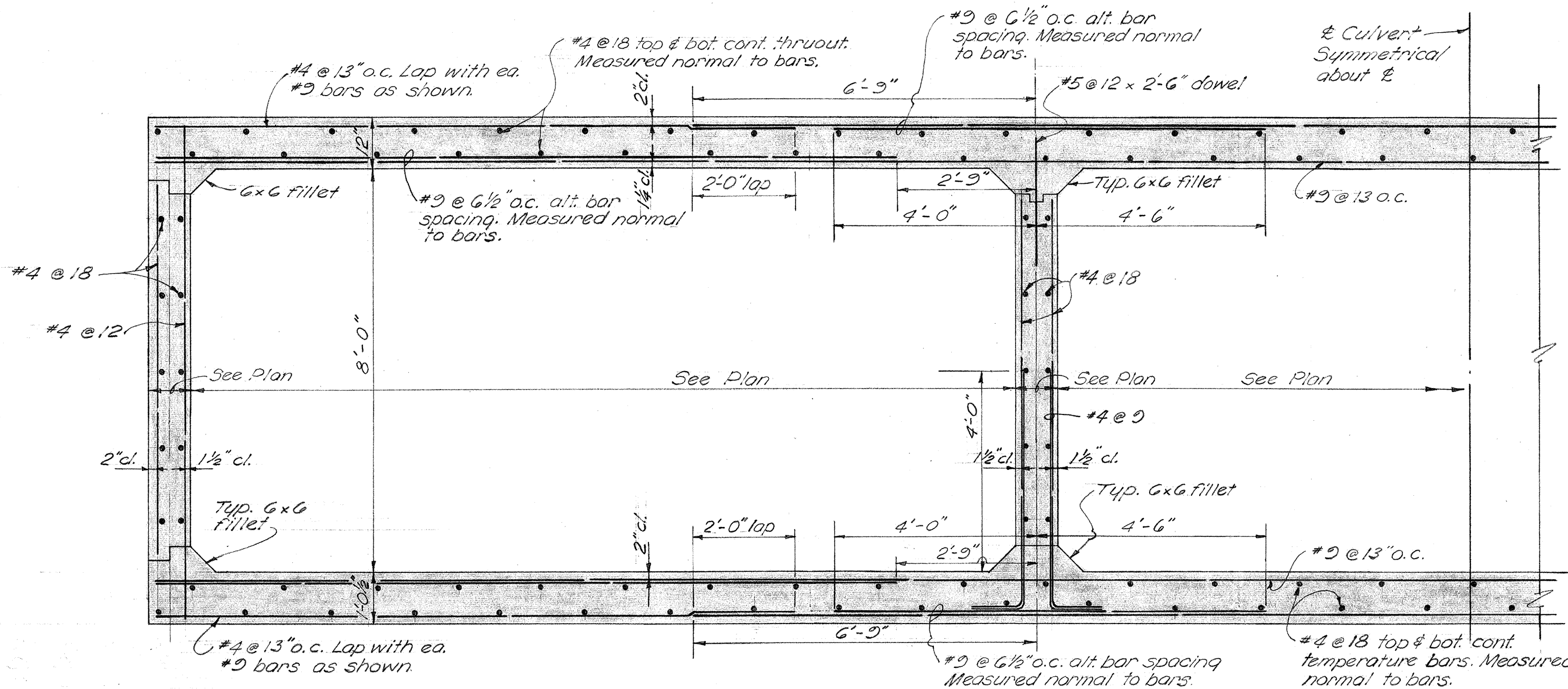


TYPICAL WING WALL CONNECTION DETAIL-PLAN
Scale: 3/8" = 1'-0"

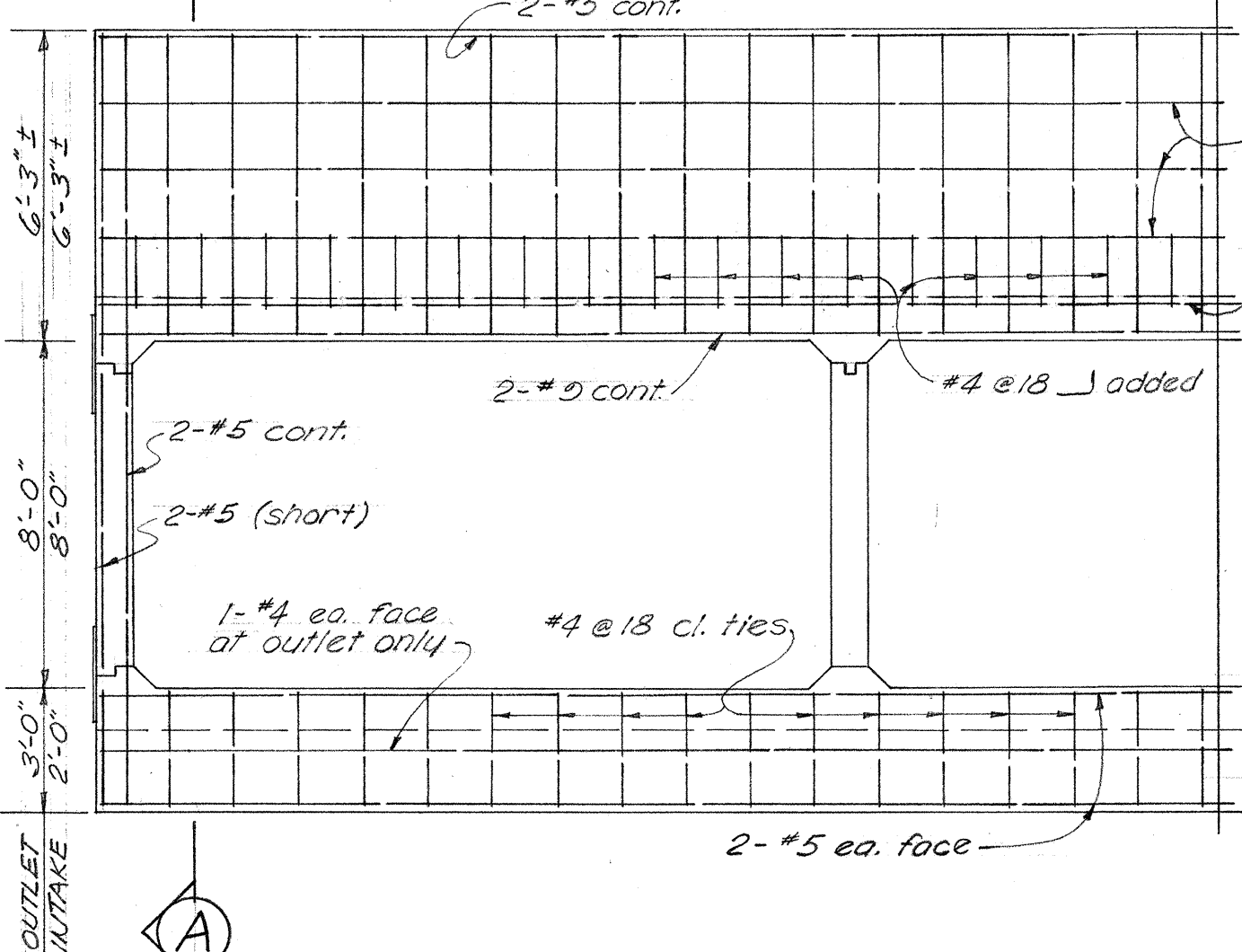


TYPICAL WING WALL CONNECTION DETAIL-ELEVATION
Scale: 3/8" = 1'-0"

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



SECTION -> ALONG & ROADWAY
Scale: 1/2" = 1'-0"



TYPICAL HEADWALL ELEVATION
Scale: 1/4" = 1'-0"

NOTE!! For Wing Wall reinf. & dimension see Typ. Ref. Wall Sht. #

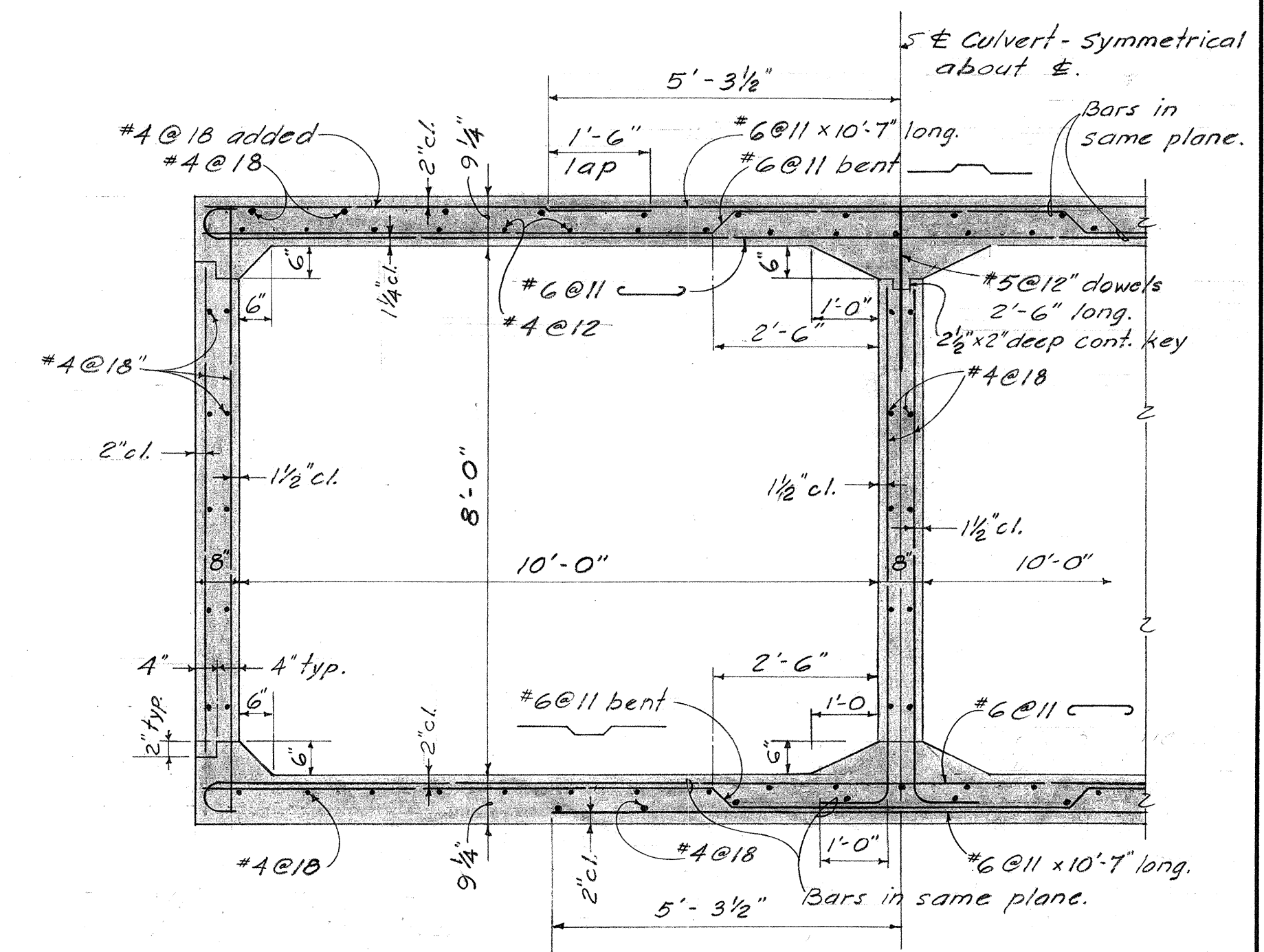
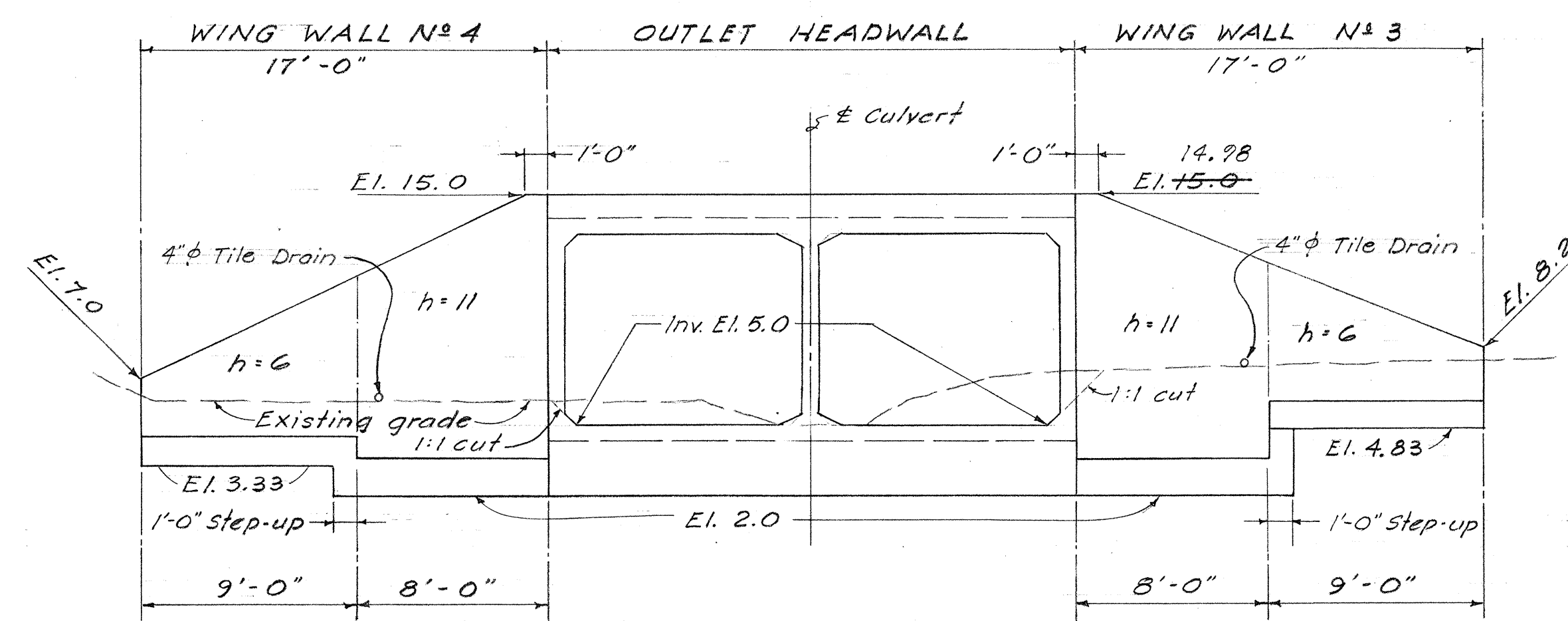
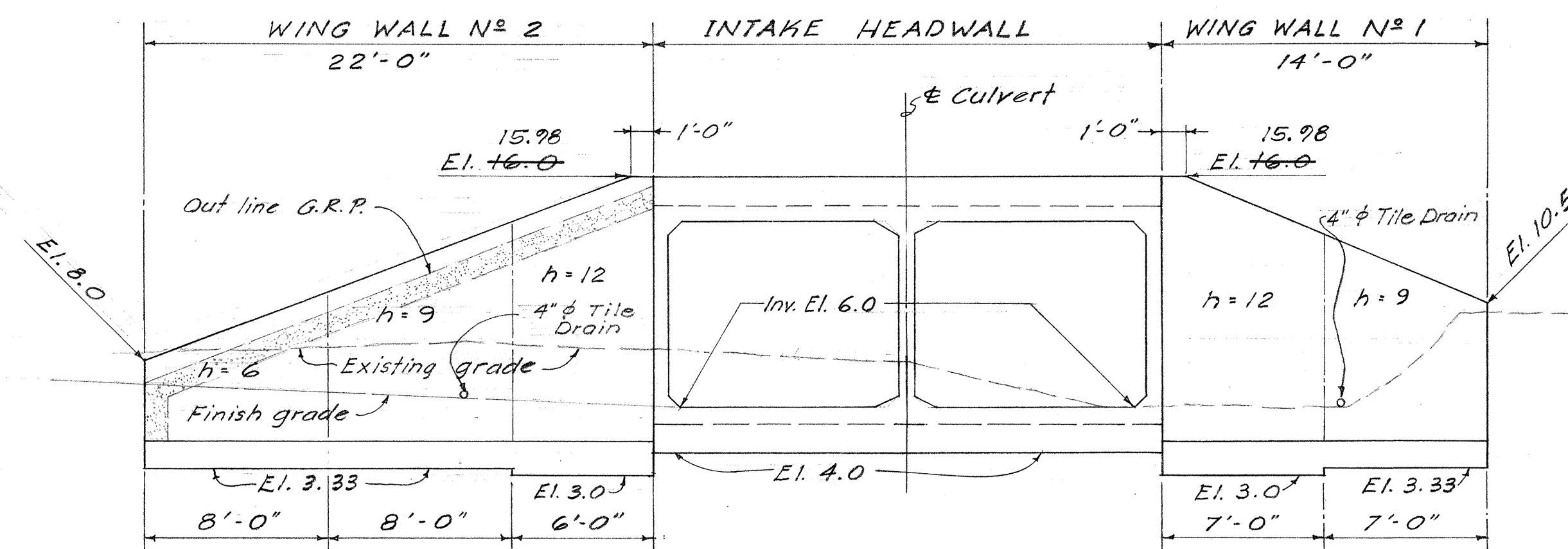
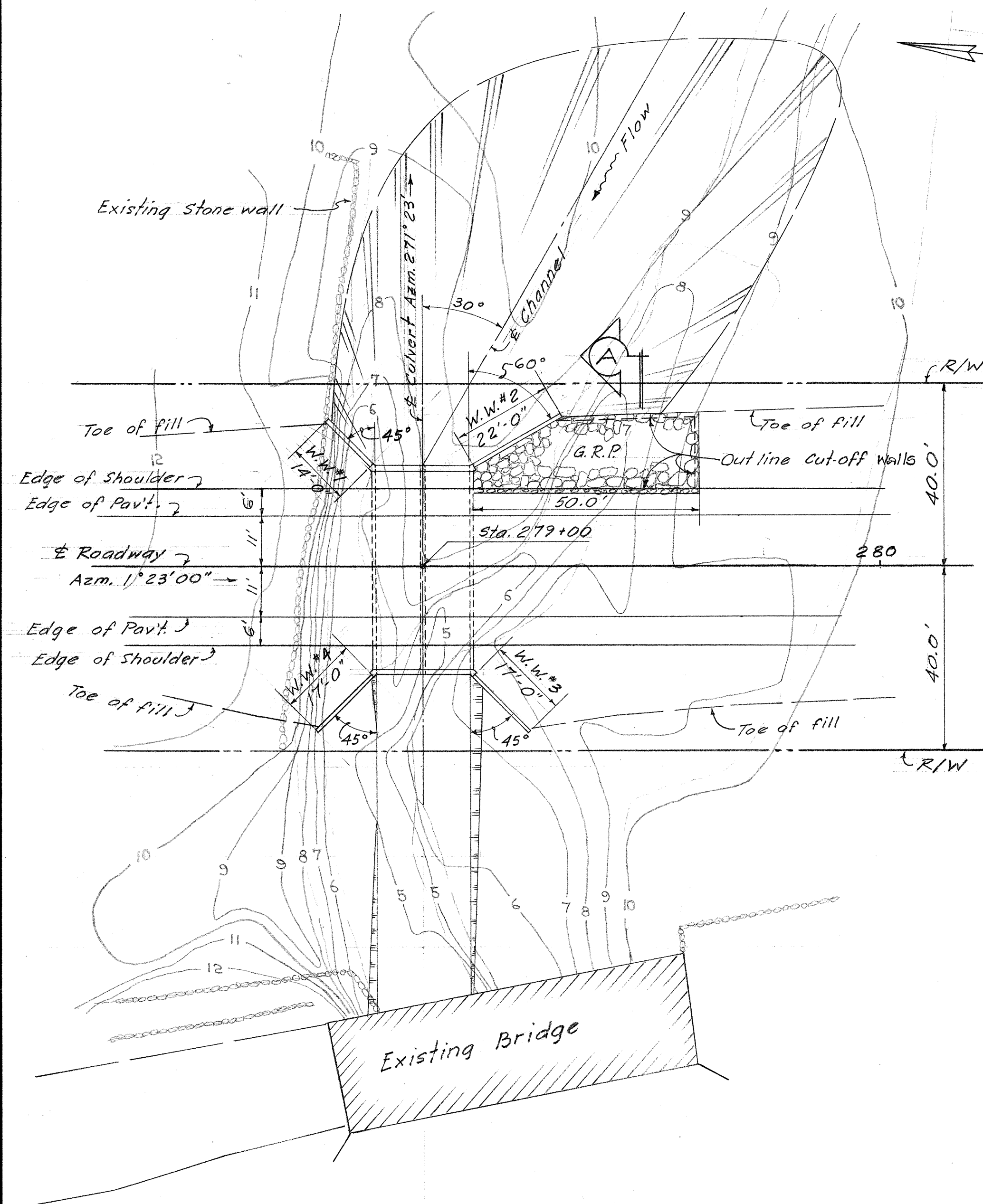
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRIPLE CELL BOX CULVERT

@ Sta. 267 + 68
Kaena Pt. Road Proj. No. RAD 2(1)
April 1963

SHEET No. 4 OF 6 SHEETS

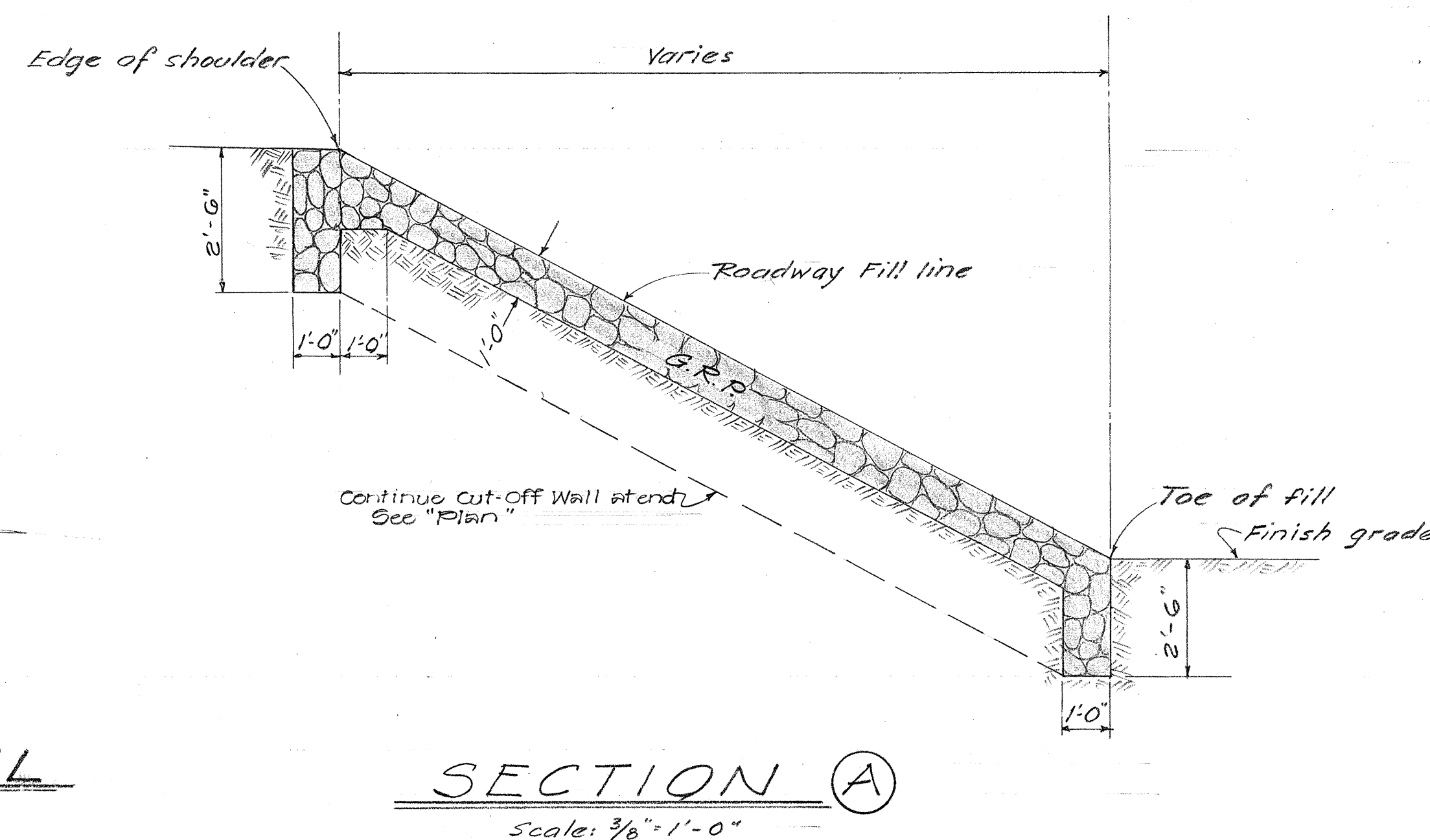
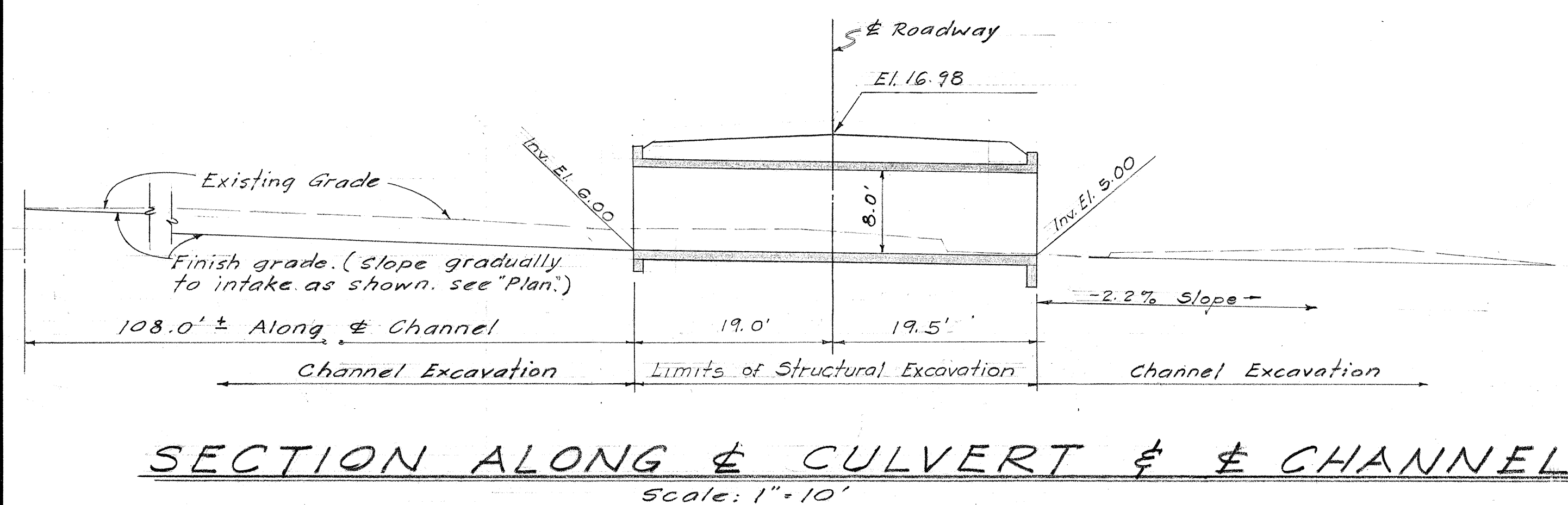
SURVEY PLOTTED BY: DATE: 1/68
DRAWN BY: T. WASHBURN
CHECKED BY: T. WASHBURN
NOTE BOOK
No.



ESTIMATED QUANTITIES	
Class A-1 Concrete	117.0 c.y.
Reinf. Steel	13,600.0 lbs.
G.R.P.	30.6 40.0 c.y.
Structural Excavation	4670 462.0 c.y.
Filter Material	17.0 7.5 str.
Channel Excavation	440 685.0 c.y.

REFERENCE DRAWINGS

- Headwall Details — see Sheet N° 3
- Typical Wing Wall Connection Detail — see sheet N° 3
- Wing Wall Details — see Sheet N° 6
- Wing Wall Footing Step Details — see Sheet N° 6



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

10' x 8' TWIN
BOX CULVERT

Sta. 279+00

Kaena Pt. Road Proj. No. RAD 2(1)
March, 1963

SHEET No. 5 OF 6 SHEETS