

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360A-01-80	1980	20	33

GENERAL NOTES

Design Specifications:

AASHTO Standard Specifications for Highway Bridges, 12TH Edition, with subsequent interim Specifications.

Design Loads:

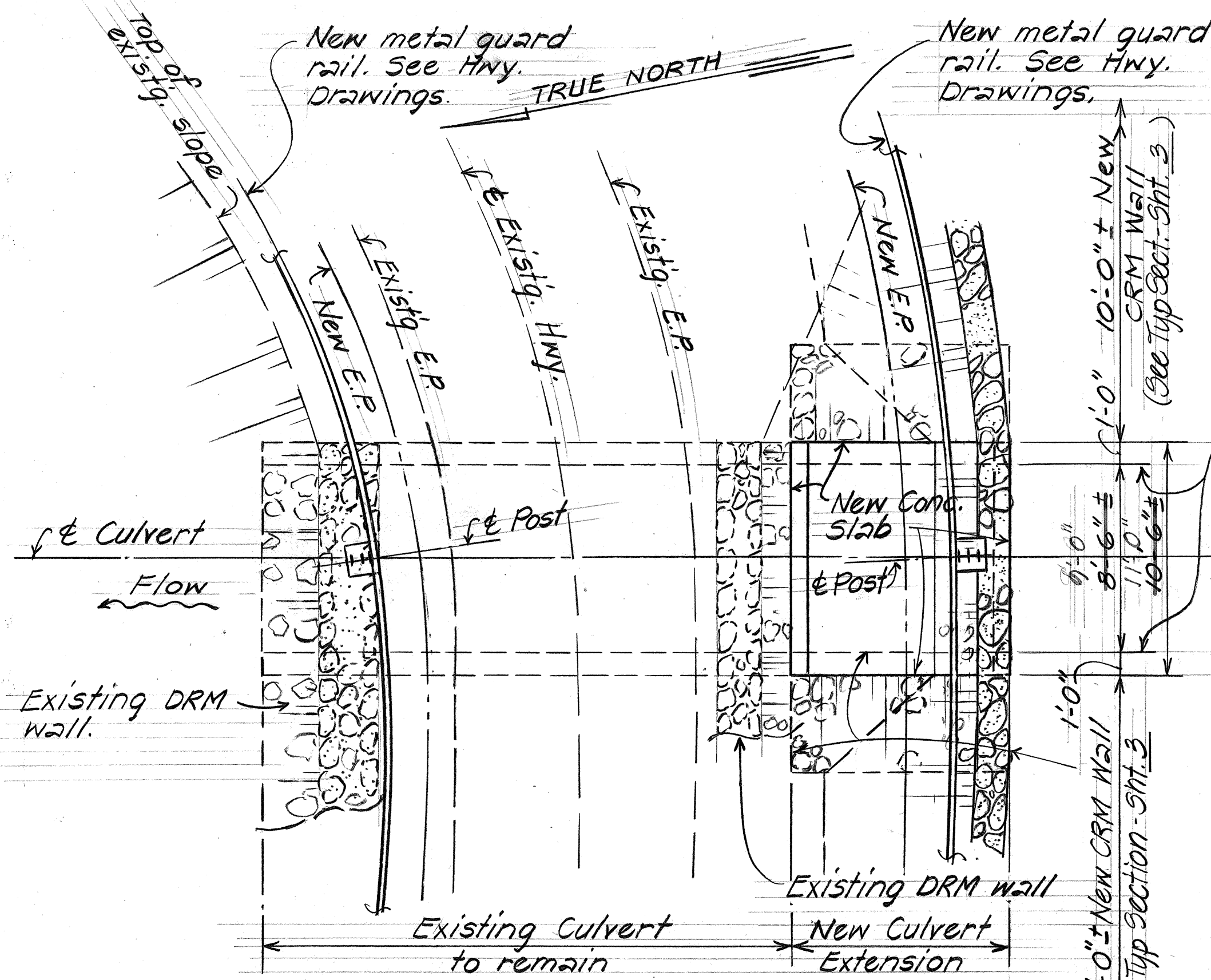
HS-20-44

Materials:

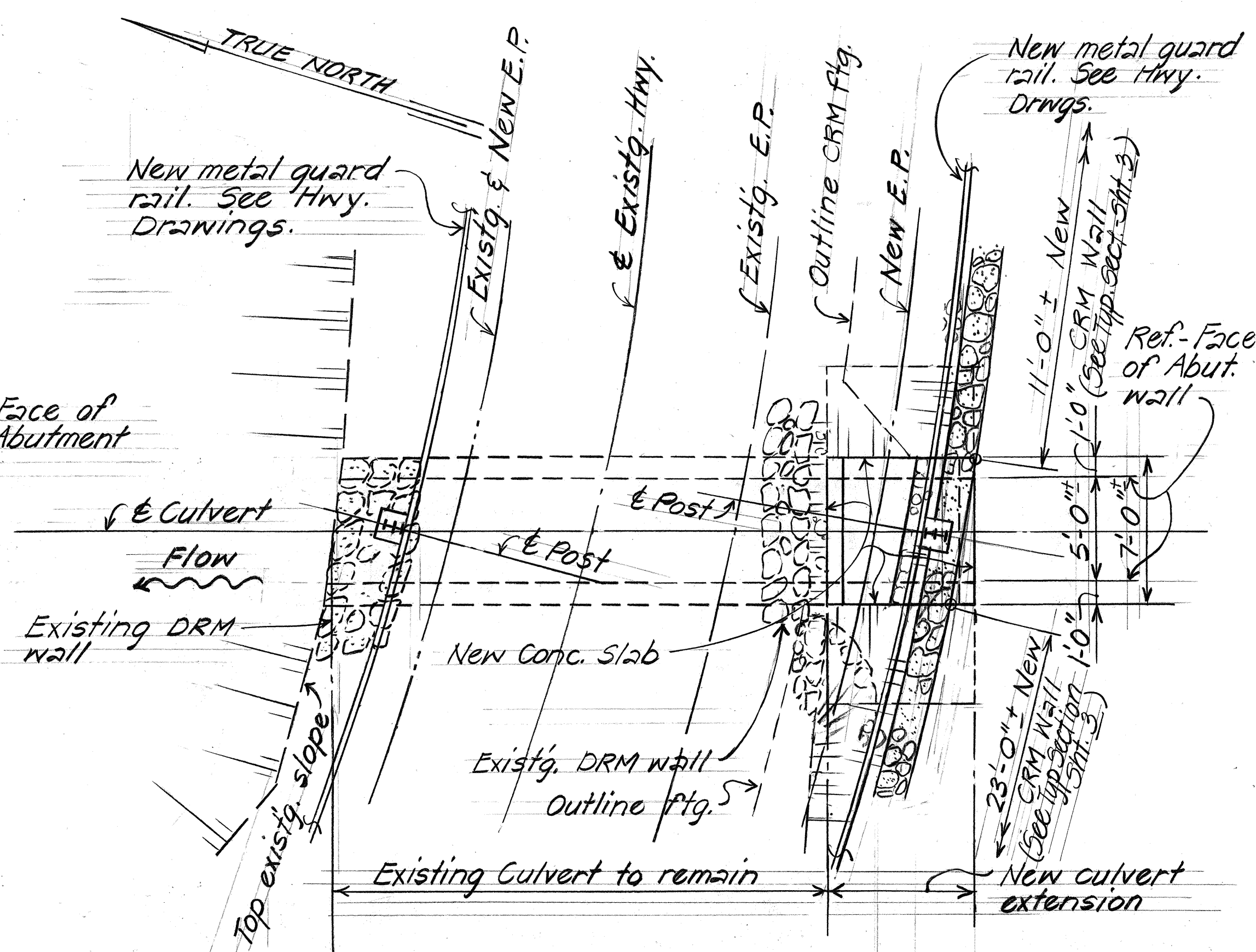
1. Concrete - Class A
2. Reinforcing Steel - ASTM A615 Grade 40.
3. Steel shapes & plates - ASTM A36
4. Stones removed from the existing walls may be reused provided they conform to the requirements of Subsection 508.02 (A) of the Standard Specifications.

Construction Requirements:

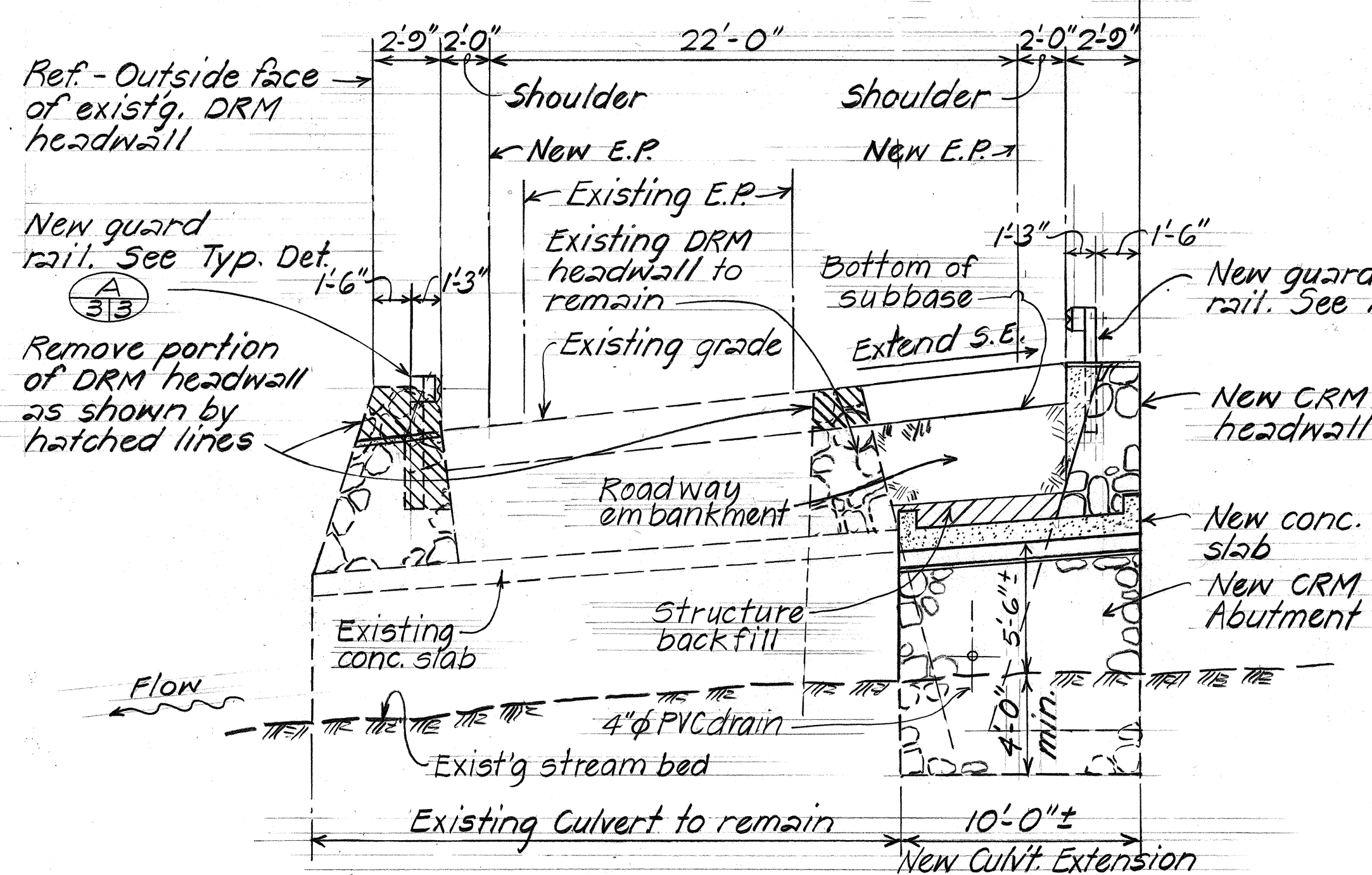
1. See Standard Specifications for Road & Bridge Construction, 1976 Edition & Special Provisions.
2. The Contractor shall verify all dimensions in the field before commencing with the work.
3. The Contractor shall verify the location of all existing utilities near the culverts and notify the respective owners before commencing with the work.
4. All anchor bolts and structural steel shapes & plates shall be hot-dip galvanized after fabrication.
5. Abutments and wingwalls shall be built integrally where they intersect.
6. Extremely large boulders which requires considerable effort to excavate and remove may be left in place, and abutments or wingwalls built integrally about them, provided that they do not impede channel flow to a considerable degree or as directed by the Engineer.
7. Bottom of abutments and wingwalls shall be built level, stepping-up if necessary as determined by the Engineer.
8. DRM headwalls and contiguous walls on the unwidened side of the culverts, including both sides of the culvert at Station 65 + 30 shall be cleaned and shotcreted where the interstices are free from dirt fillings, as determined by the Engineer.
9. Any damage caused by the Contractor's operation to the portions that are to remain shall be repaired at his expense, to the satisfaction of the Engineer.
10. Steel post for metal guard rail, base & anchor bolts, concrete to anchor guard rail posts and all appurtenances and work required to install guard rail posts on the new and existing walls shall be incidental to metal guard rail and will not be paid for separately.



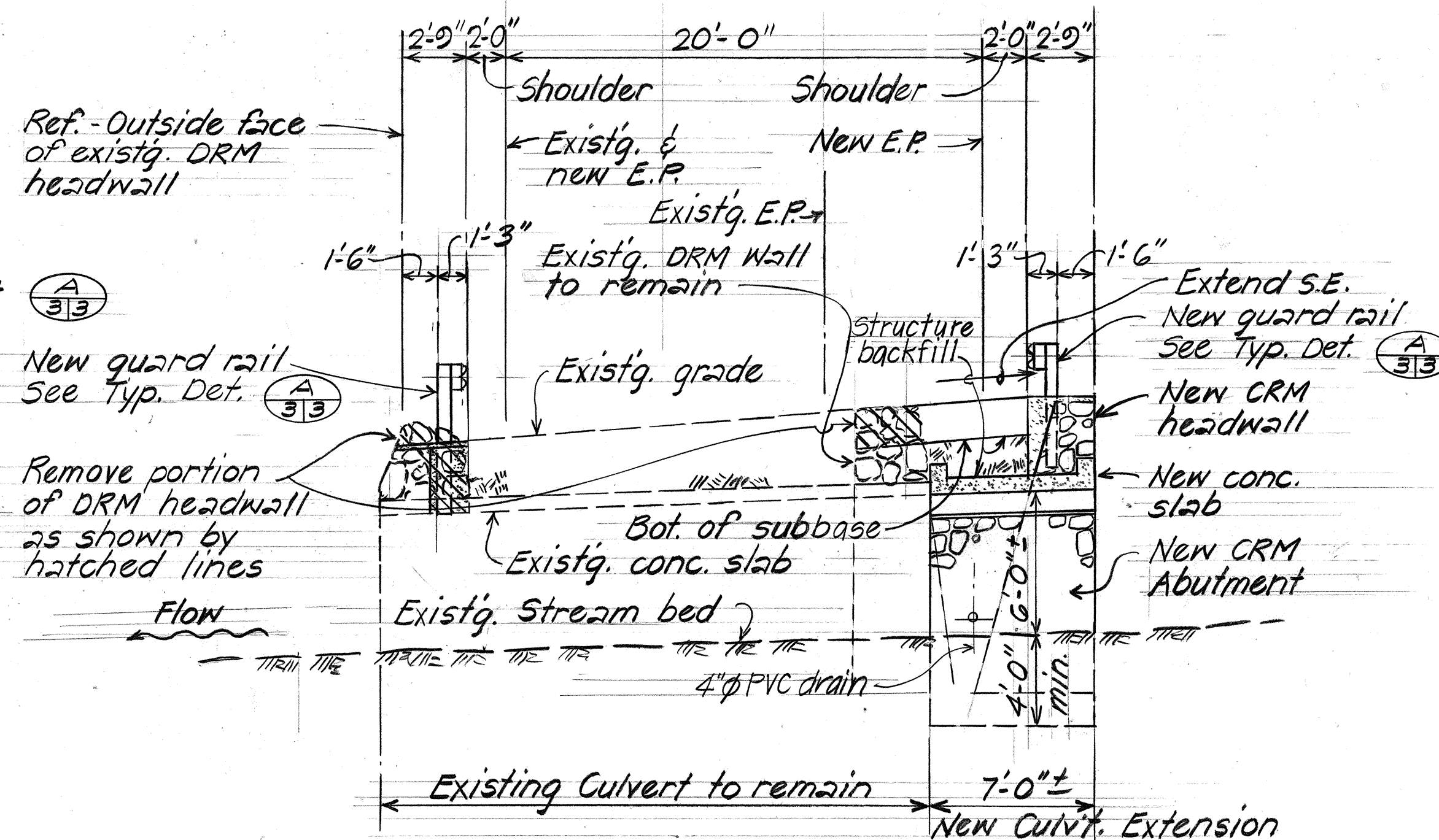
LAYOUT PLAN
(CULVERT AT ± STA. 11 + 60 ±)
Scale: 1" = 5'-0"



LAYOUT PLAN
(CULVERT AT $\pm$ STA. 16 + 70 $\pm$)
Scale: 1" = 5'-0"



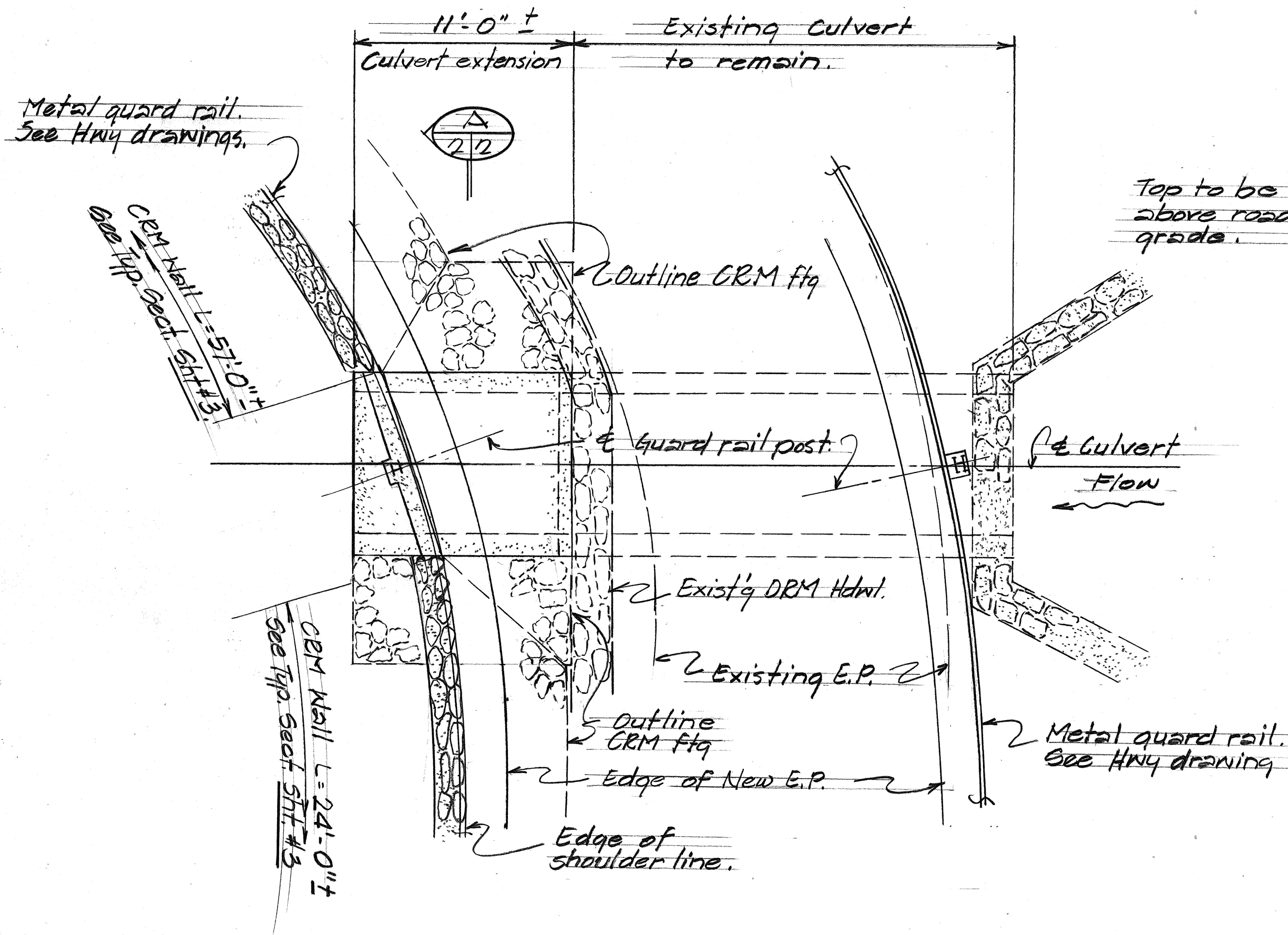
LONGITUDINAL SECTION ALONG E CULVERT
(CULVERT AT E STA. 11 + 60 ±)
Scale: 1" = 5'-0"



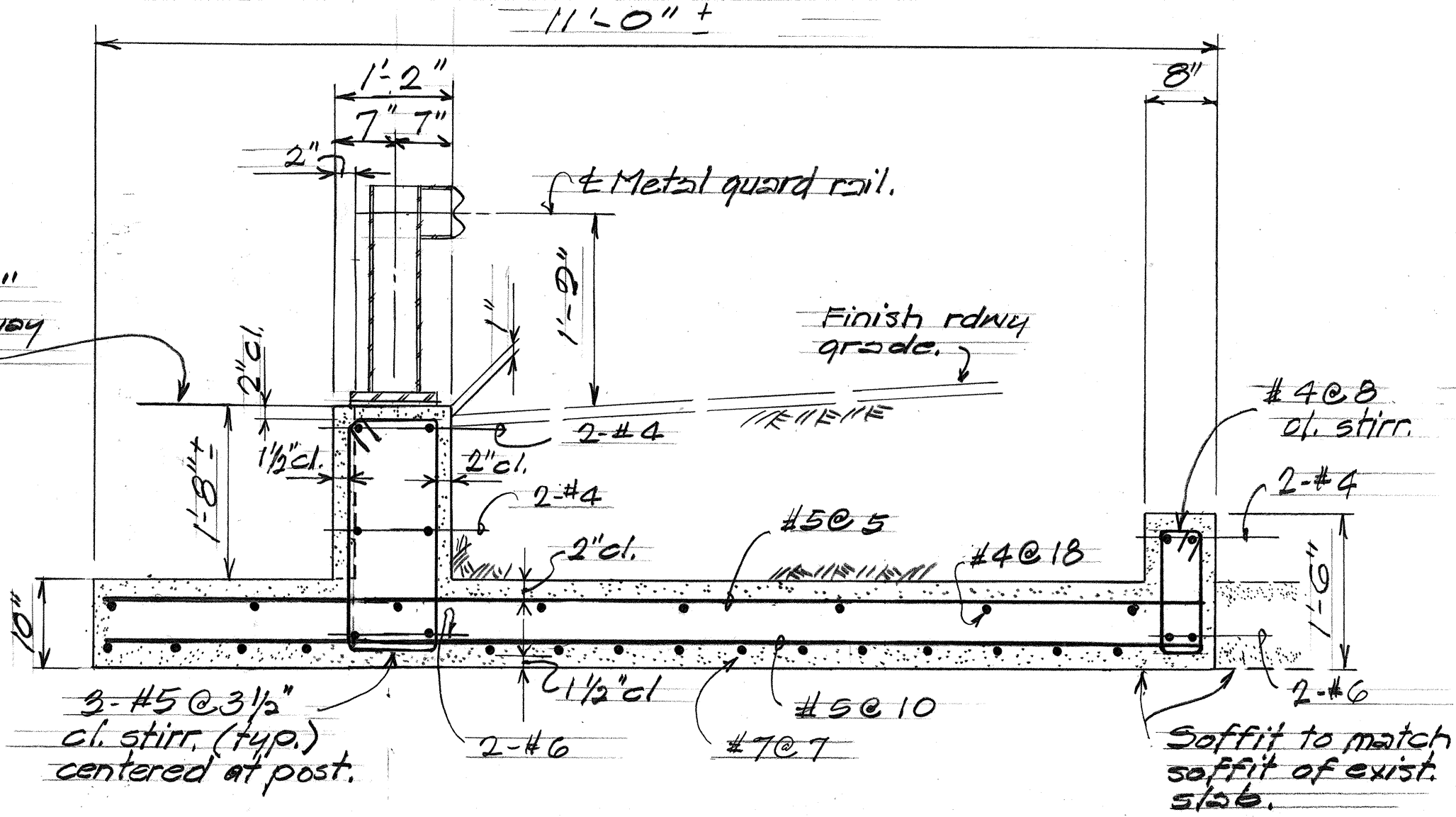
LONGITUDINAL SECTION ALONG & CULVERT
CULVERT AT & STA. 16 + 70 ±
Scale: 1" = 5'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
HANA HIGHWAY IMPROVEMENTS
HUELO TOWARDS WAILUA, PHASE I
CONCRETE CULVERT EXTENSION
AT STA. 11 + 60 ± & STA. 16 + 70 ±
Proj. N^o 360A-01-80 HANA HWY
Scale: As Noted Date: June 1970

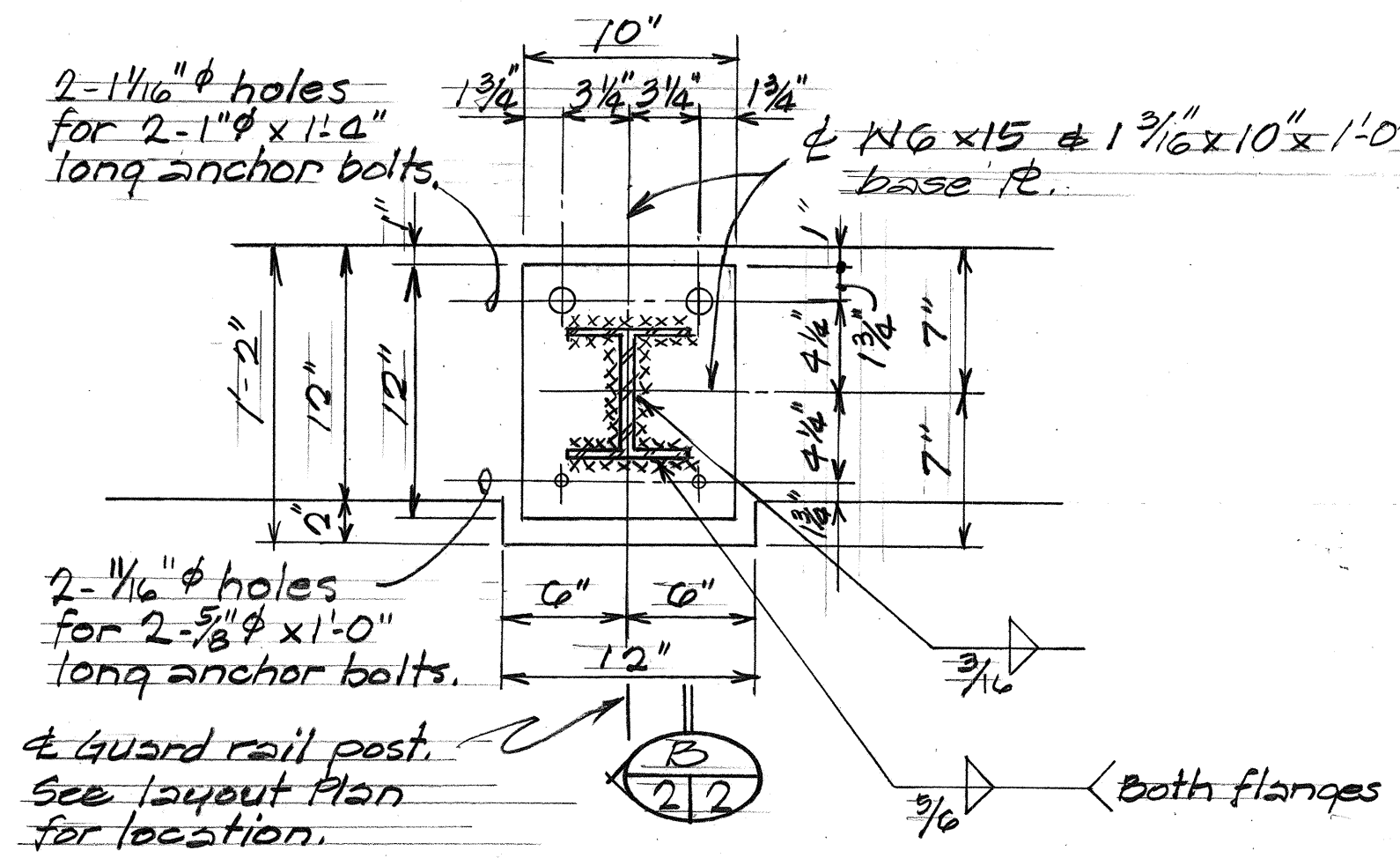
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360A-01-80	1980	21	33



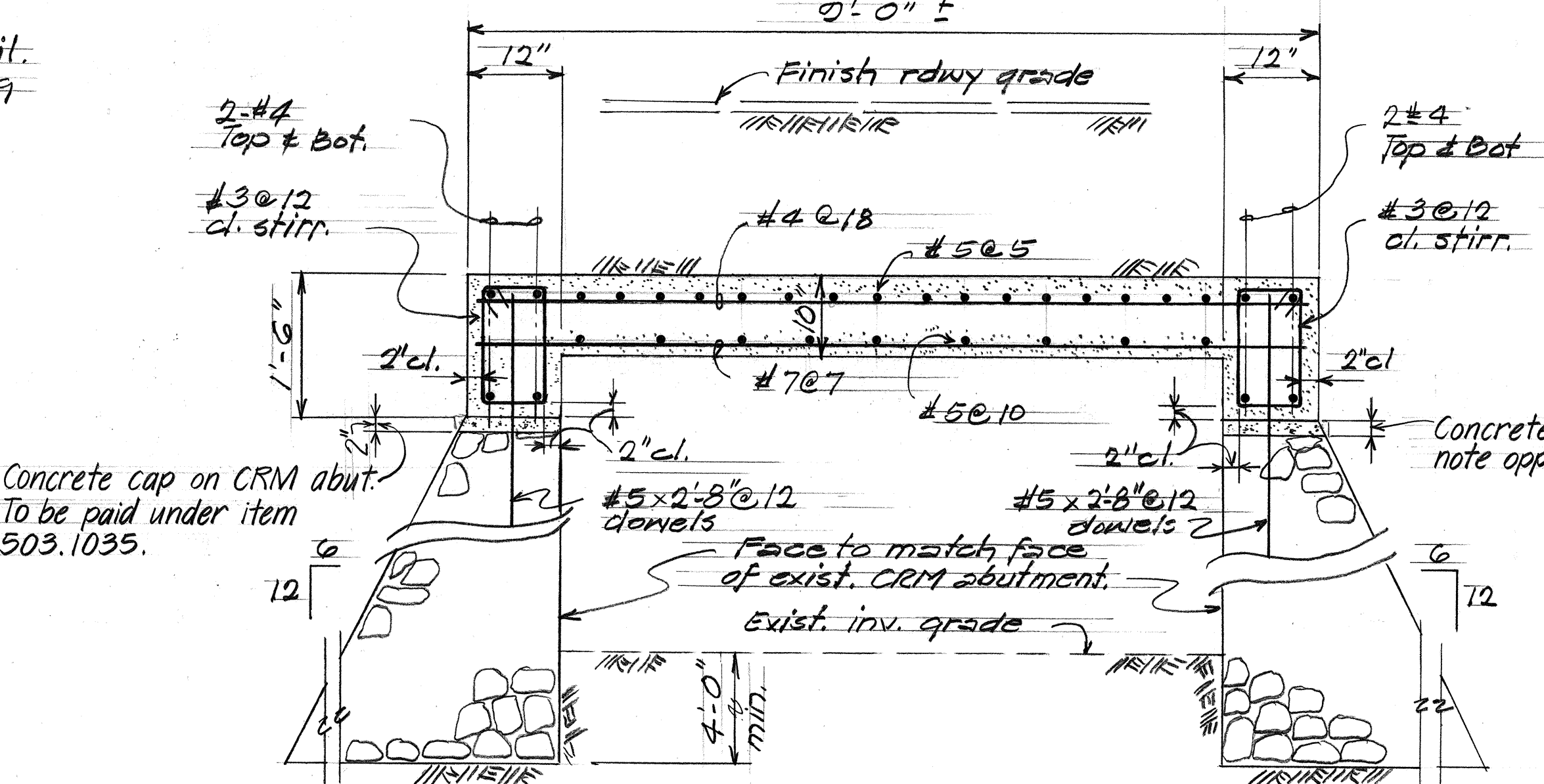
LAYOUT PLAN
(CULVERT @ Sta. 47+20±)
Scale: 1"=5'-0"



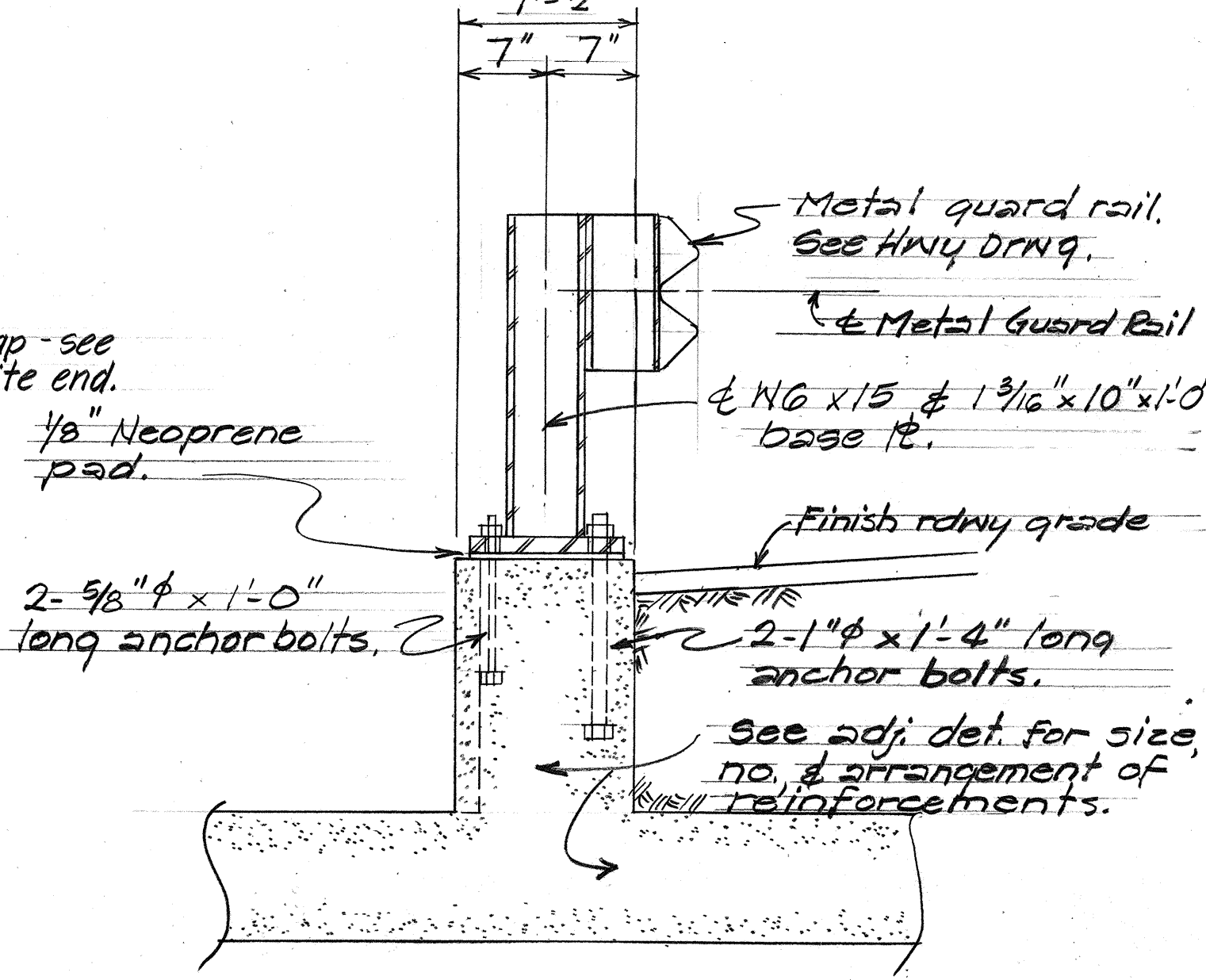
LONGITUDINAL SECTION
Scale: 3/4"=1'-0"



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

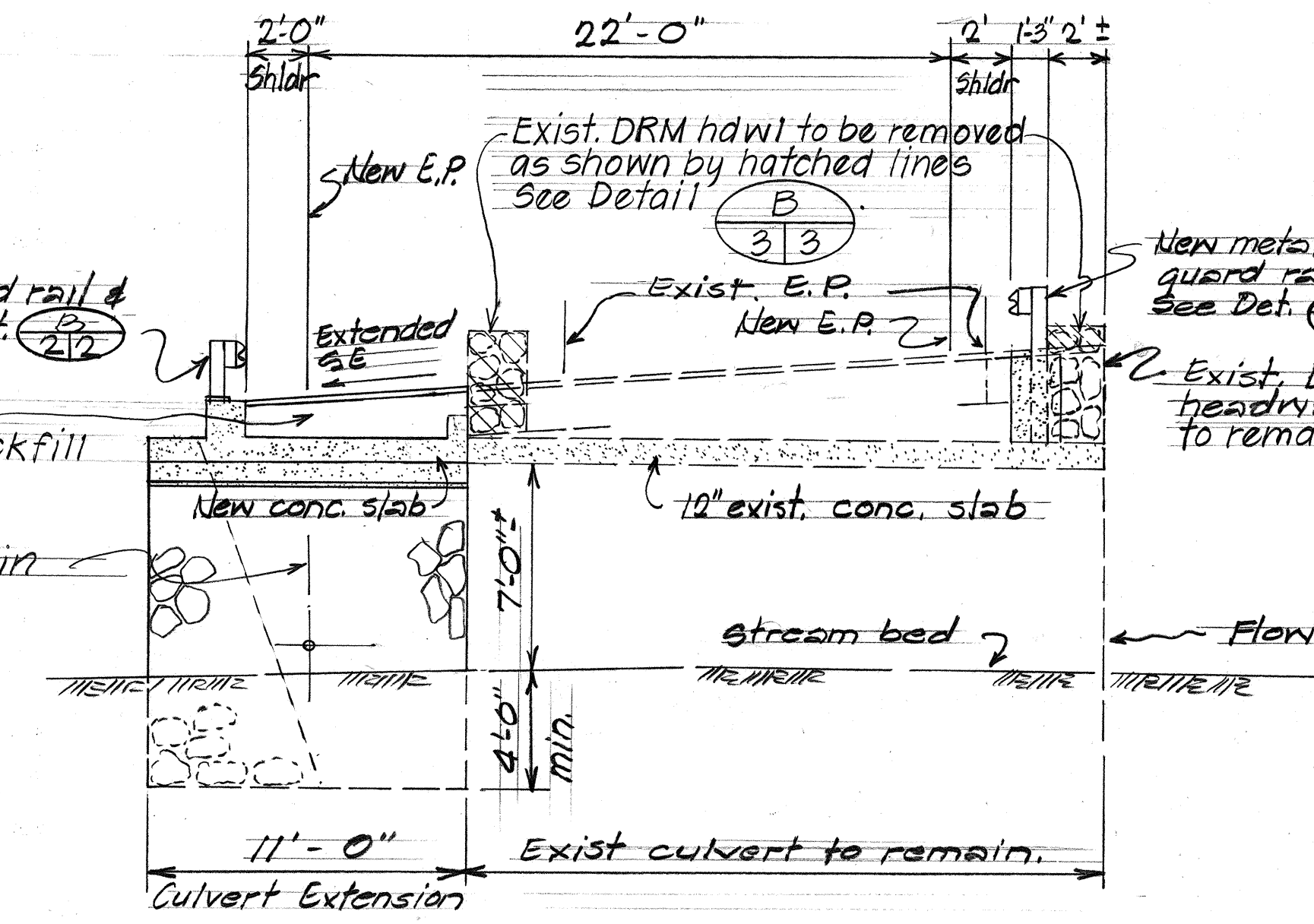


SECTION
Scale: 3/4"=1'-0"



SECTION
Scale: 1"=1'-0"

ESTIMATED QUANTITIES (NOT IN CONTRACT)						
ITEM NO.	ITEM	Unit	Sta. 11+60±	Sta. 16+70±	Sta. 47+20	Sta. 65+30
202.0300	REMOVAL OF PORTION OF EXISTING DRM HEADWALL	L.S.	2 cy.	3 cy.	11 cy.	11 cy.
206.3500	STRUCTURE EXCAVATION	C.Y.	53 cy.	43 cy.	71 cy.	78 cy.
206.7000	STRUCTURE BACKFILL	C.Y.	26 cy.	25 cy.	86 cy.	55 cy.
206.8500	FILTER MATERIAL FOR CRM WALL	C.Y.	1.5 cy.	1.5 cy.	3 cy.	1.5 cy.
503.1035	CONCRETE IN CULVERTS & CRM WALLS	L.S.	5 cy.	3 cy.	5 cy.	5 cy.
508.0100	CRM WALL (INCLUDES CULVERT HEADWALL)	C.Y.	61 cy.	40 cy.	103 cy.	161 cy.
602.0035	REINF. STEEL IN CULVERTS	L.S.	900 lbs	500 lbs	1000 lbs	750 lbs
628.1000	SHOTCRETE FOR DRM WALLS	Sq.Yd.	14 sq.yd.	4 sq.yd.	11 sq.yd.	44 sq.yd.



LONGITUDINAL SECTION ALONG & CULVERT
Scale: 1"=5'-0"

7/22/80

DATE

Deleted Culvert Extension at Sta. 76+10±

REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

LAND TRANSPORTATION FACILITIES DIVISION

HANA HIGHWAY IMPROVEMENTS

HUELO TOWARDS WAILUA PHASE I

CONC. CULVERT EXTENSION AT STA. 47+20±

DETAILS & ESTIMATED QUANTITIES

Proj. No. 360A-01-80 HANA HWY

Scale: As Noted Date: June 1979

SHEET NO. 2 OF 3 SHEETS

21R

