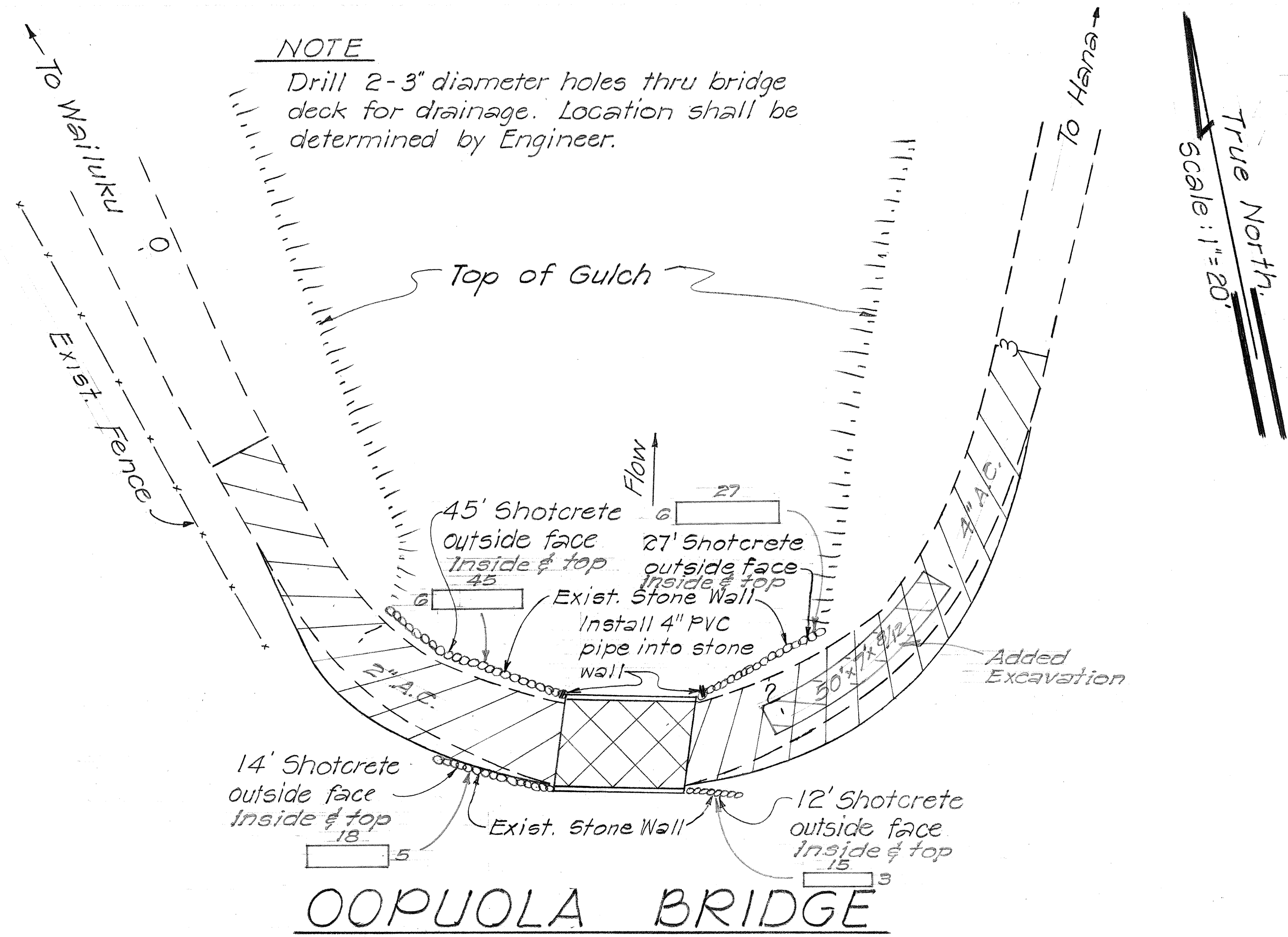
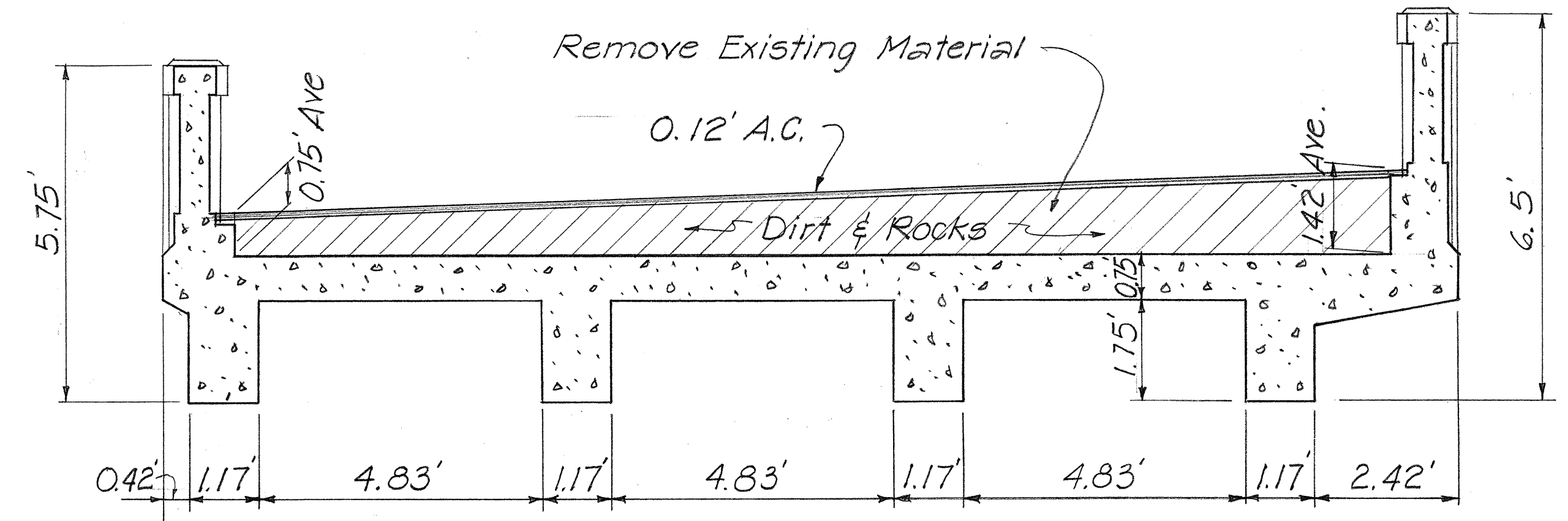


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-0177	1977	3	24

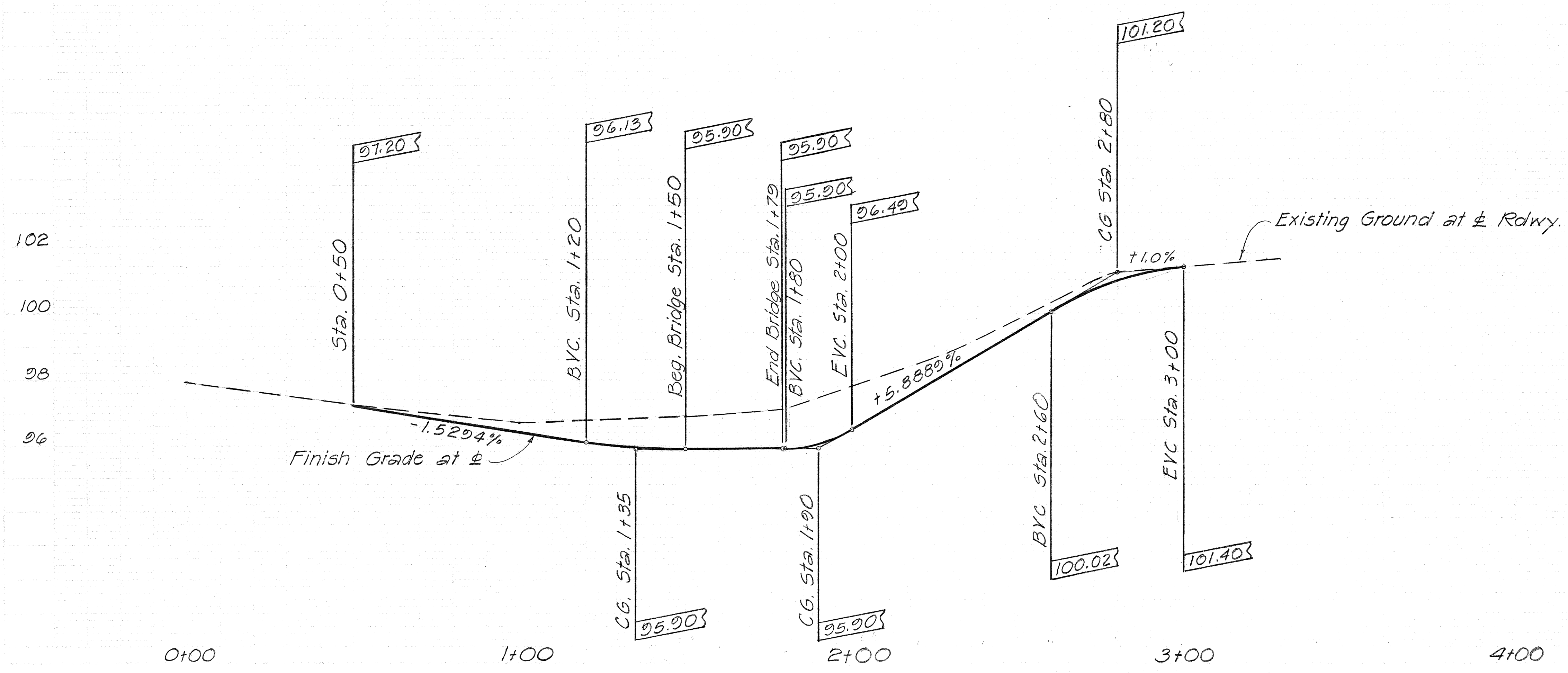


ESTIMATED QUANTITIES

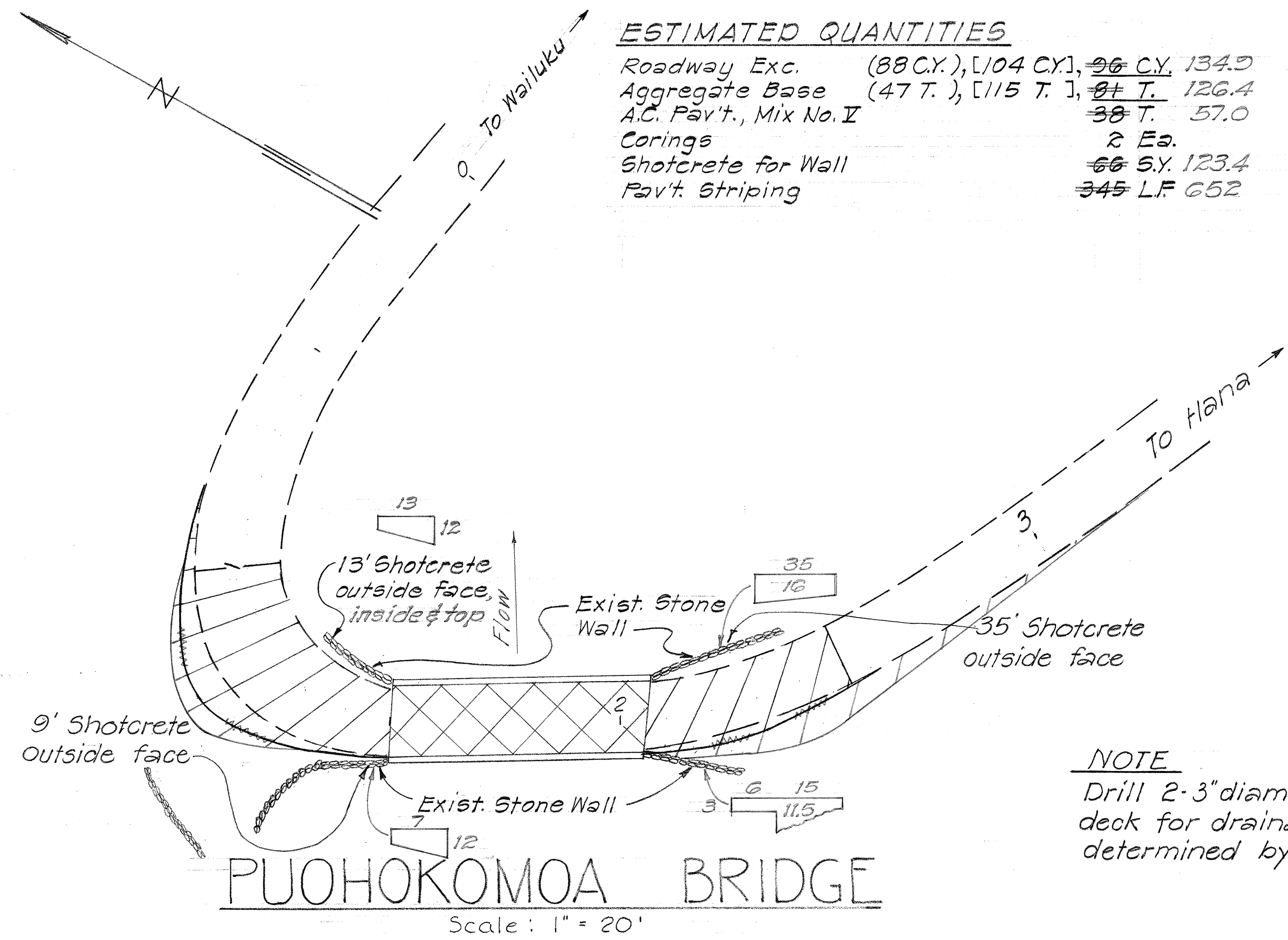
Roadway Exc.	(180 C.Y.), [222 C.Y.], 201 C.Y.	173.5
Aggregate Base	(75 T.), [205 T.], 140 T.	113.2
A.C. Pav't, Mix No. I	37 T.	78.8
Corings	2 Ea.	
Shotcrete for Wall	150 S.Y.	63
Pav't. Striping	610 L.F.	713



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

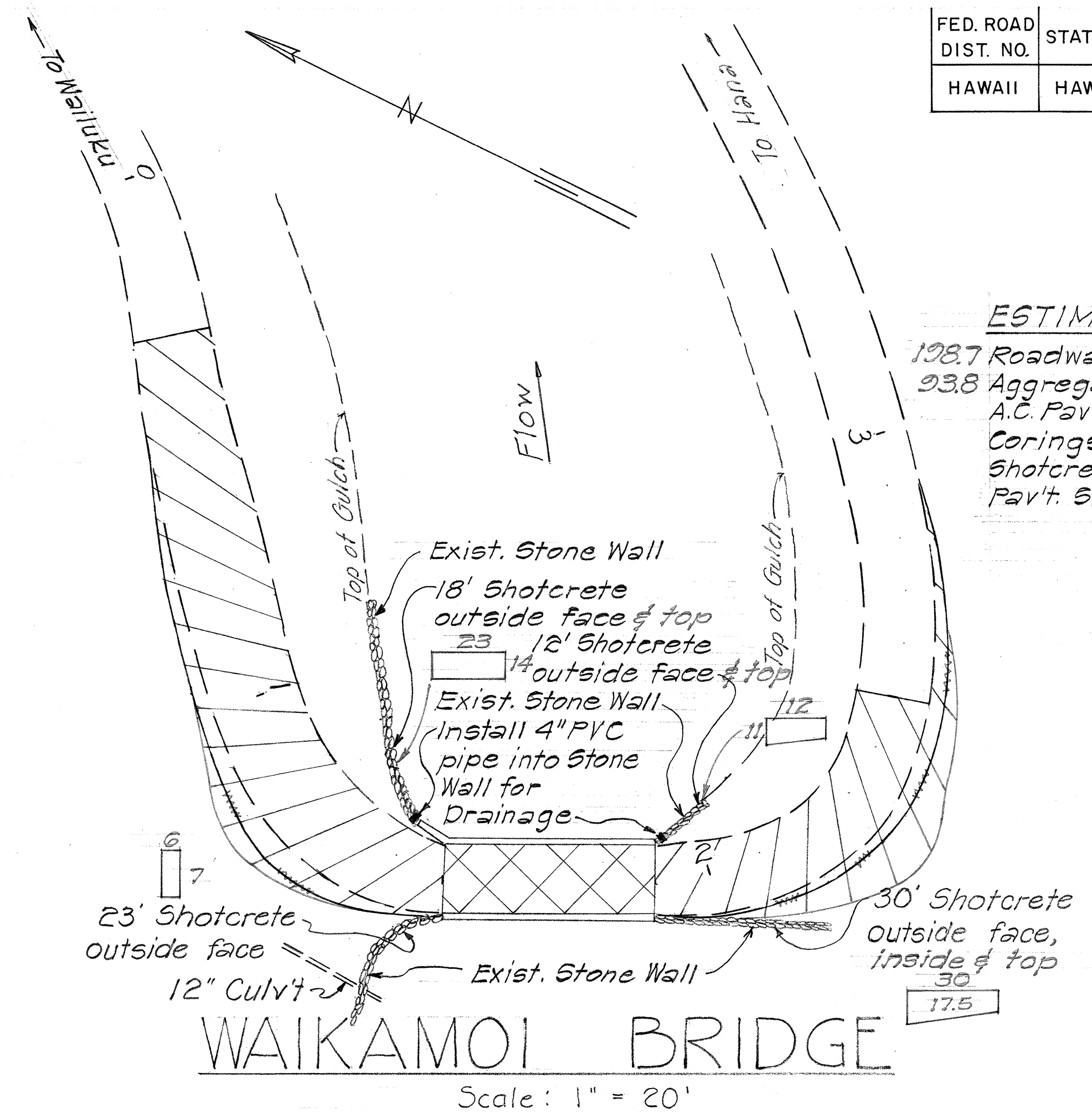


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-0177	1977	4	24



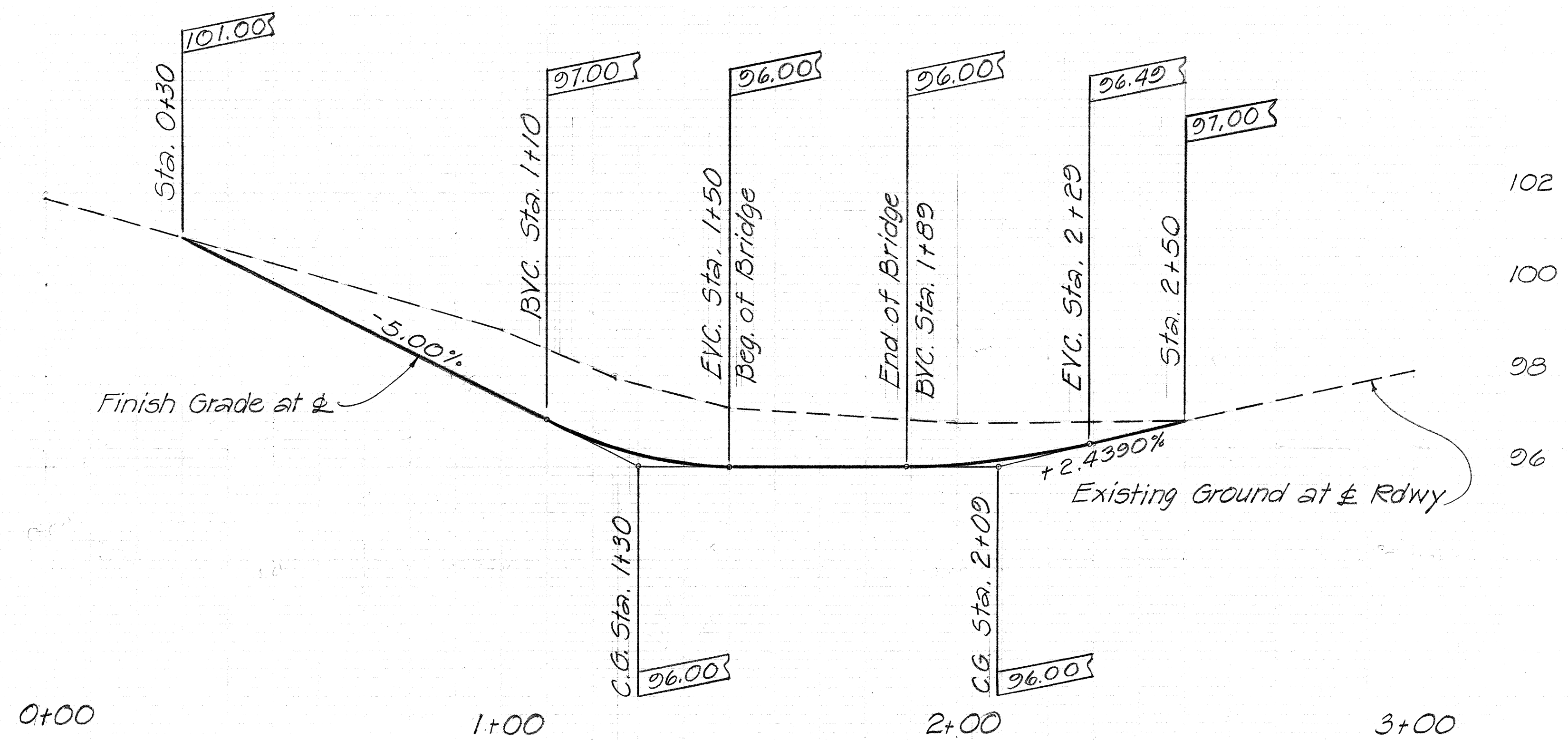
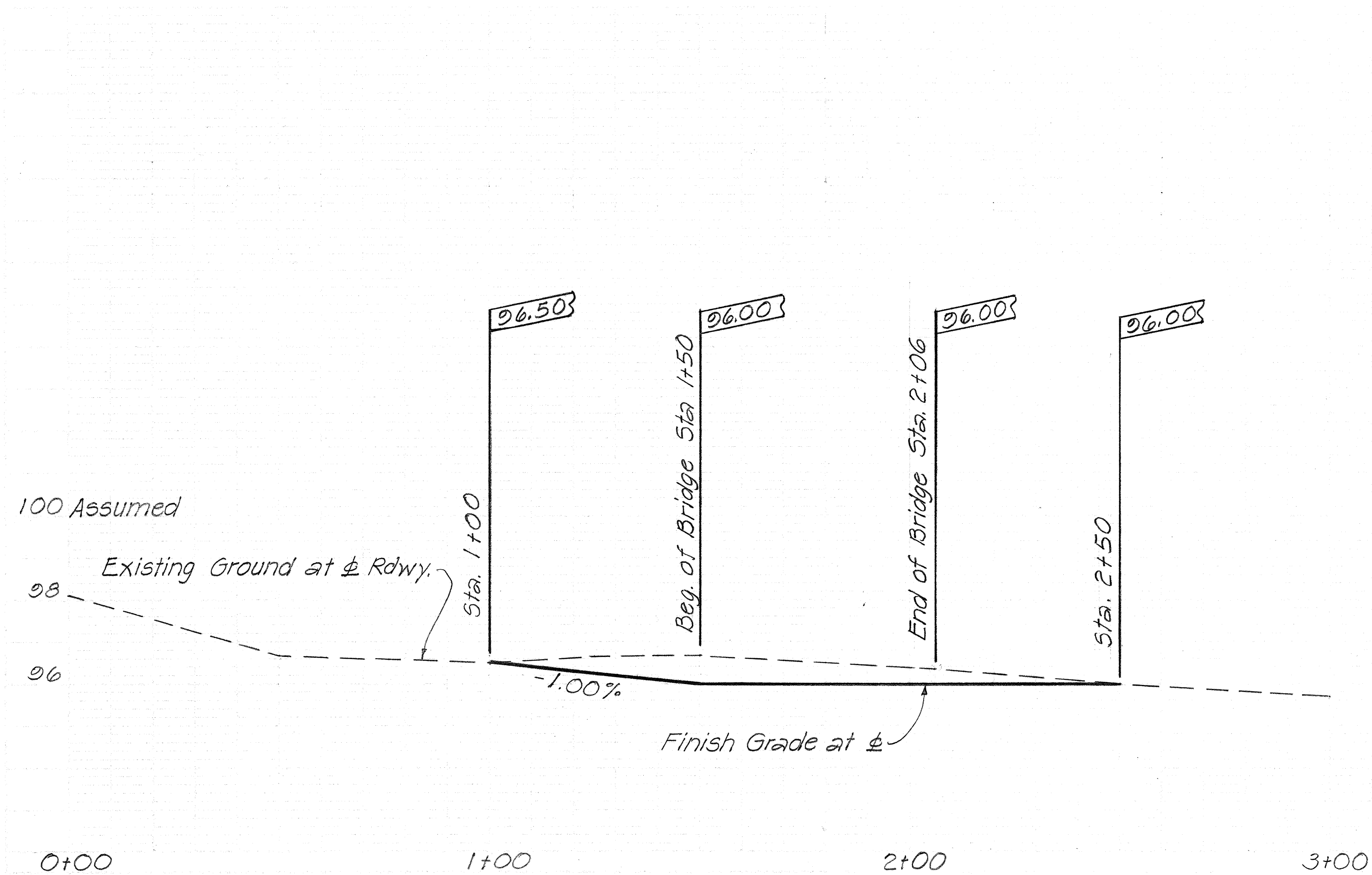
NOTE
See Sht. #5 for Bridge Sections

NOTE
Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

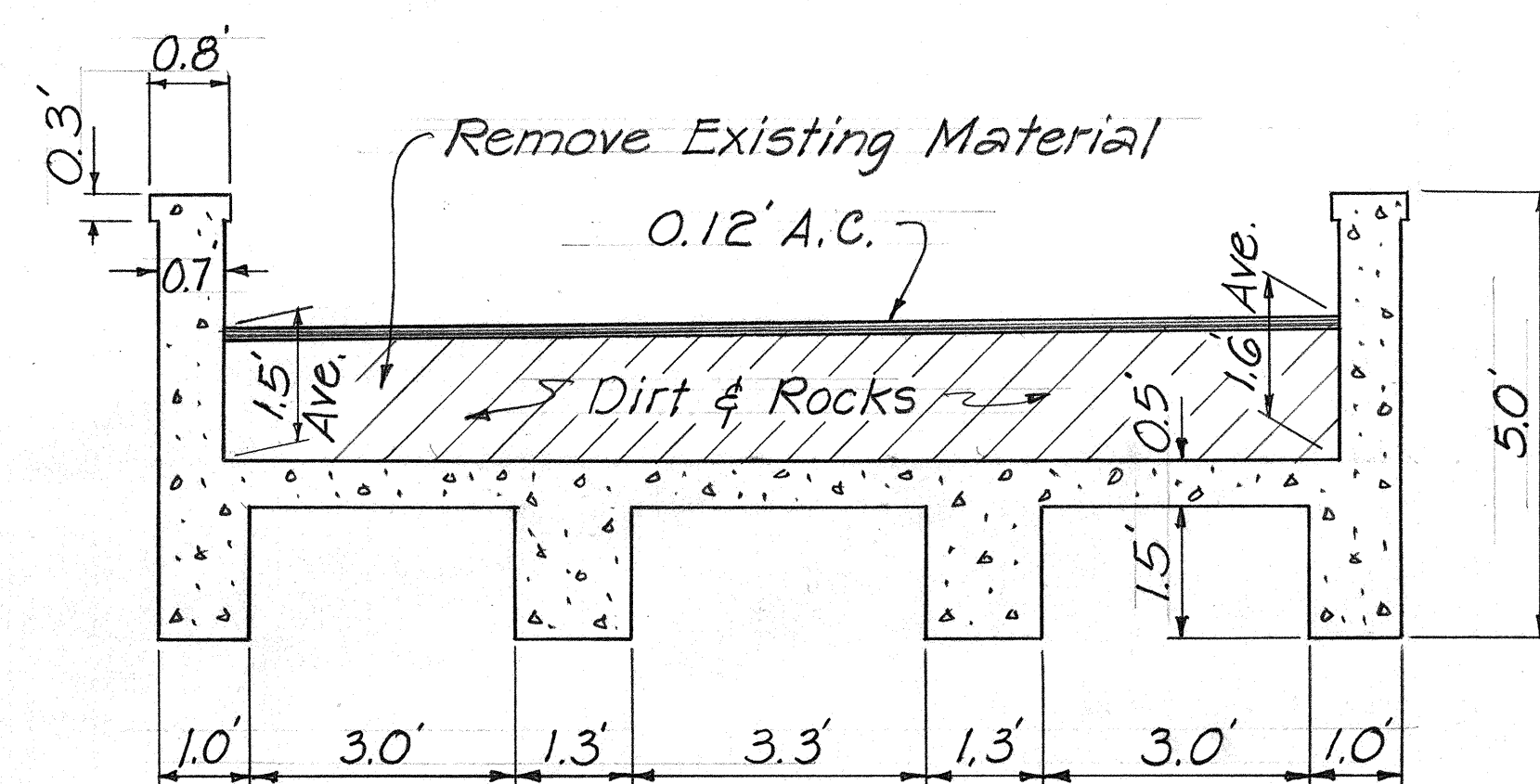


ESTIMATED QUANTITIES

128.7 Roadway Exc.	(168 CY), [213 CY], 101 CY	
93.8 Aggregate Base	(69 T.), [190 T.], 136 T.	
A.C. Pav't., Mix No. V	57.0	46 T.
Corings		2 Ea.
Shotcrete for Wall	113.5	98 S.Y.
Pav't. Striping	672	420 LF

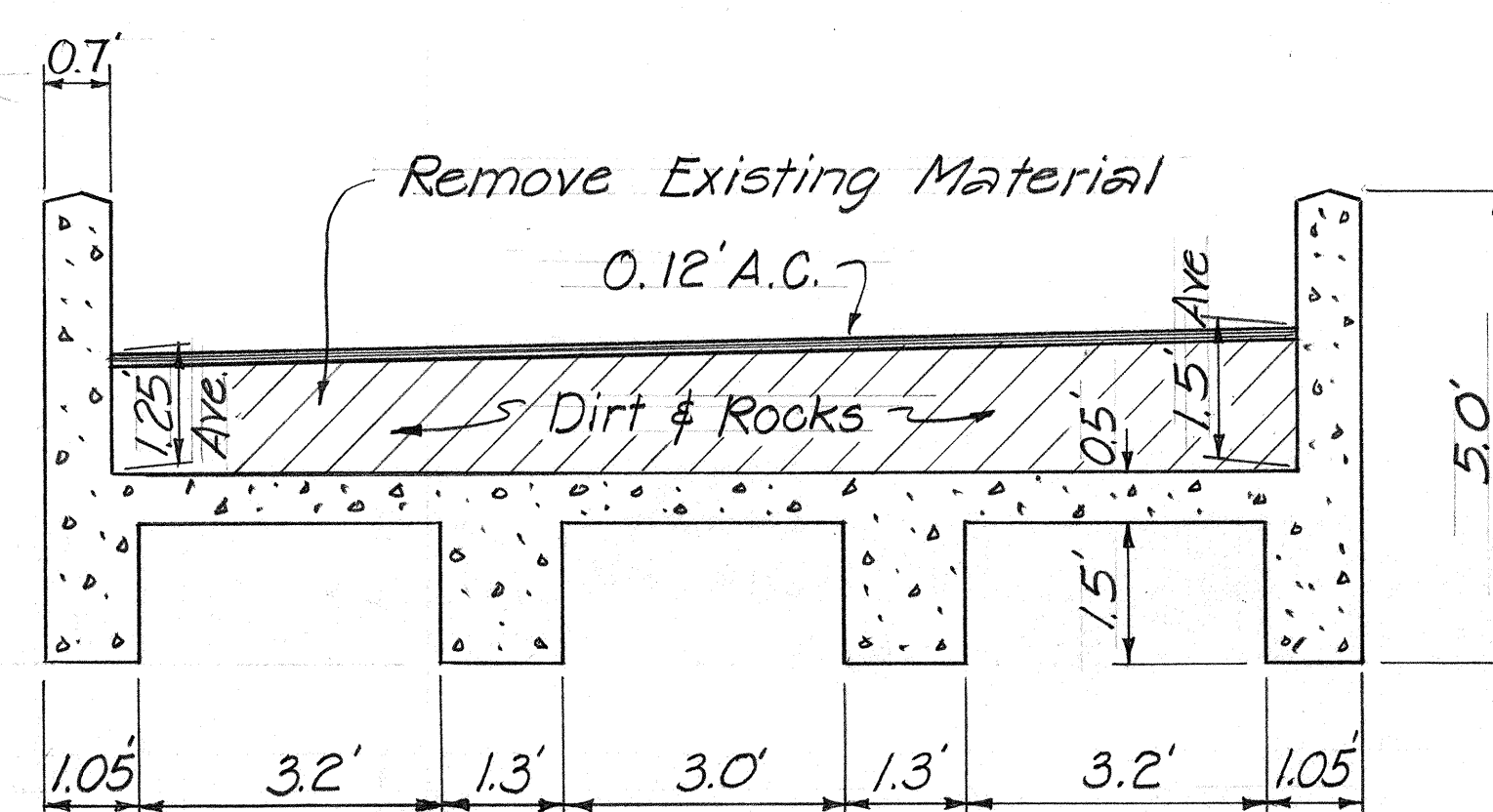


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	5	24



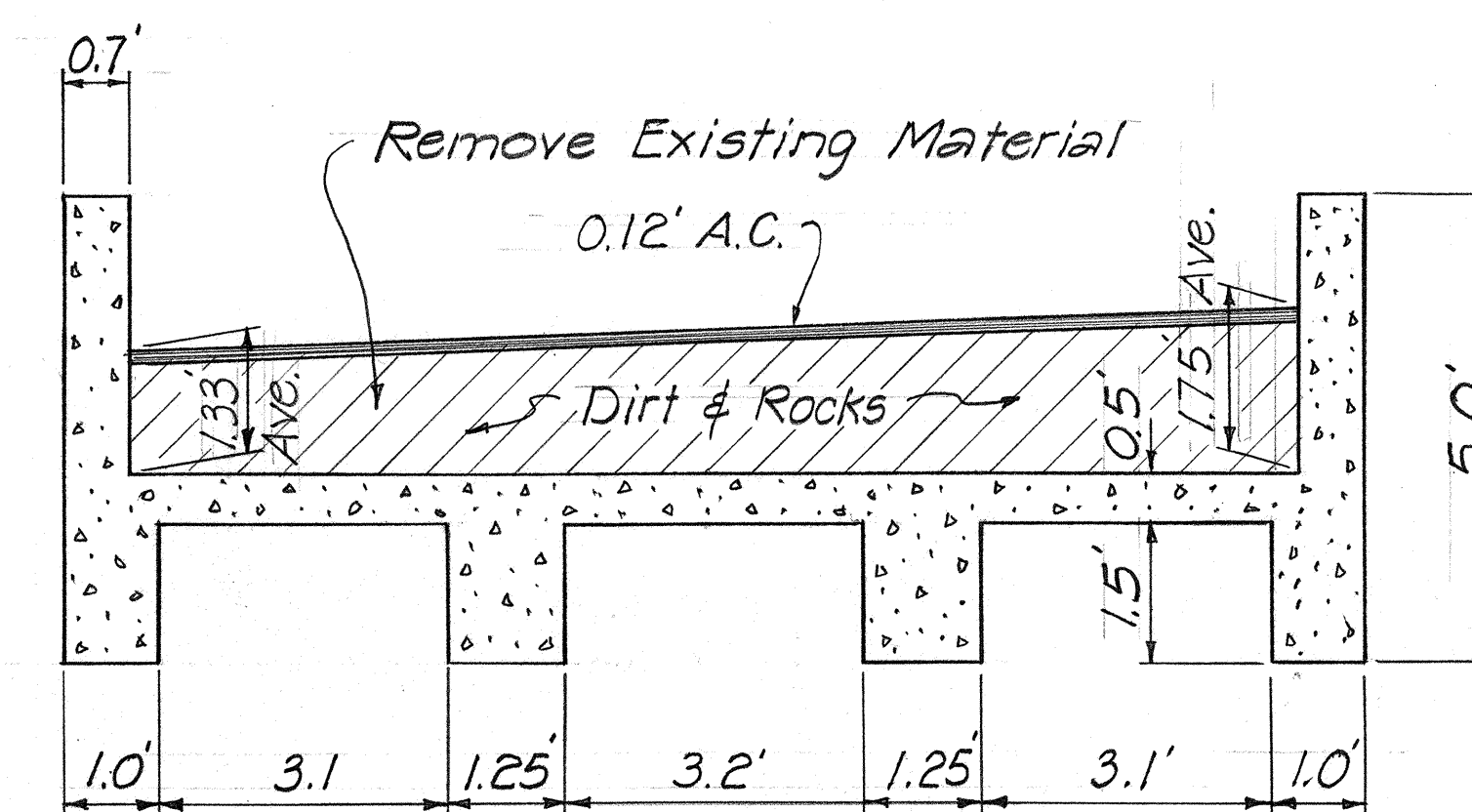
TYPICAL SECTION
Scale: 1/2" = 1'-0"

UNNAMED BRIDGE #1



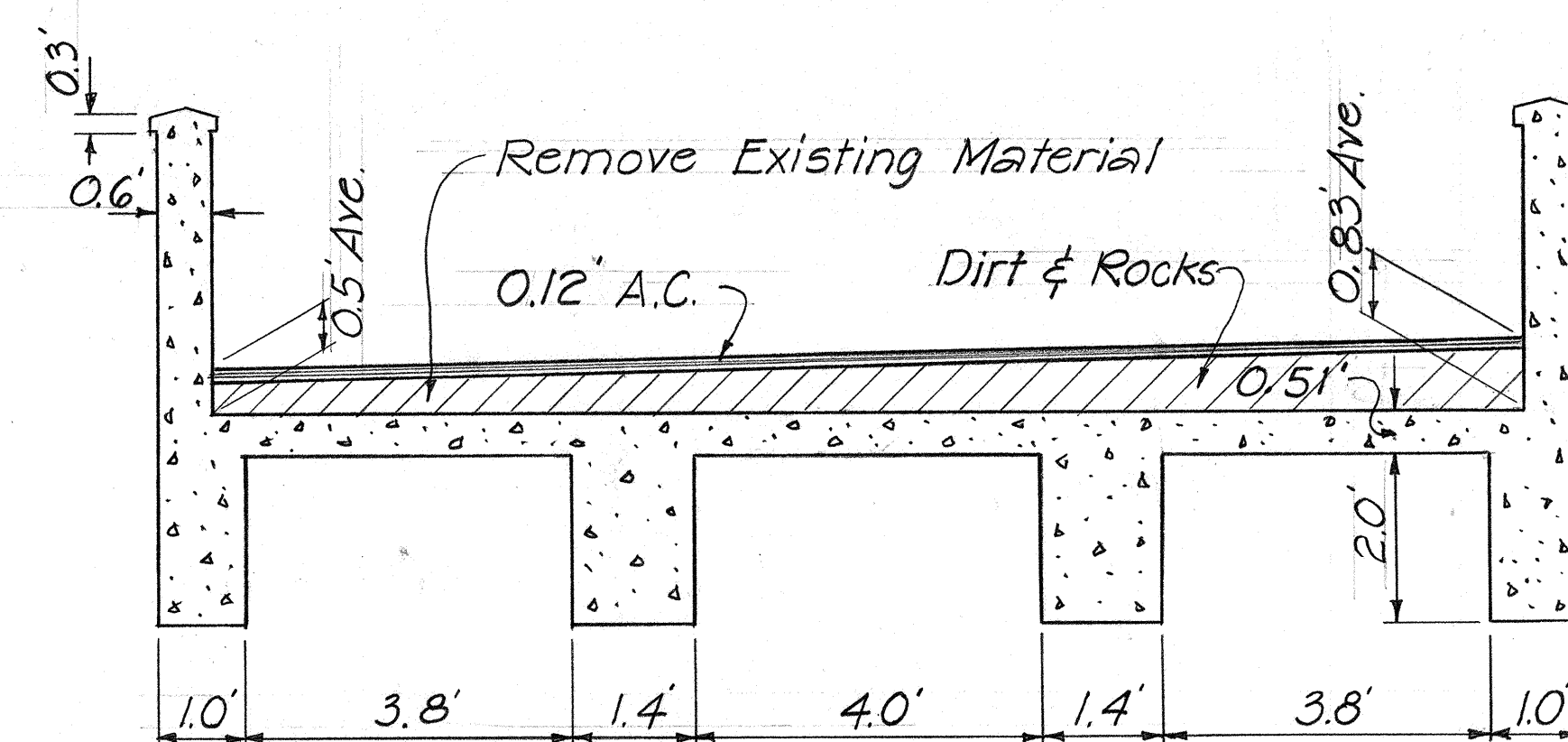
TYPICAL SECTION
Scale: 1/2" = 1'-0"

UNNAMED BRIDGE #2



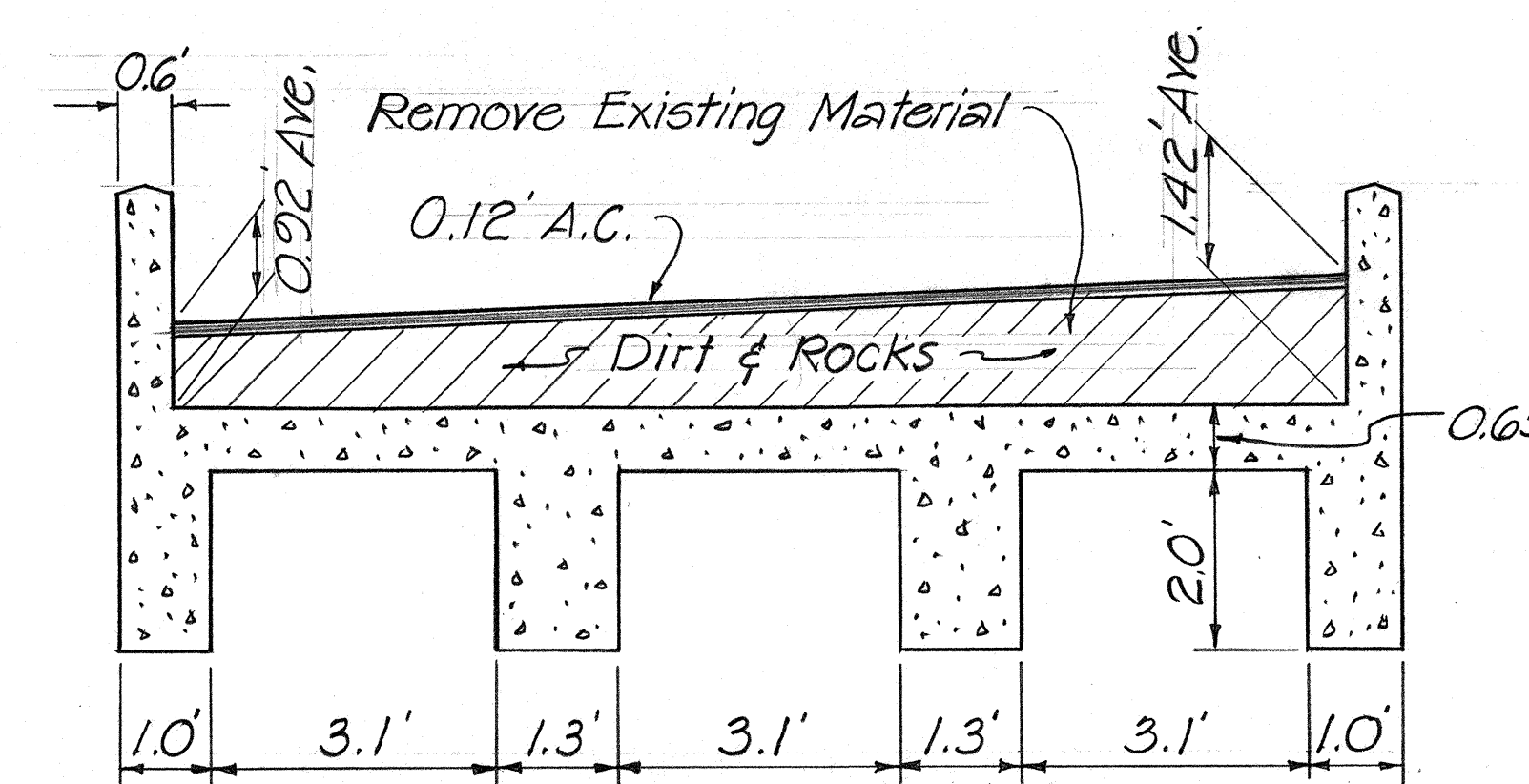
TYPICAL SECTION
Scale: 1/2" = 1'-0"

UNNAMED BRIDGE #3



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

PUOHOKAMOA BRIDGE



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

WAIKAMOI BRIDGE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
HANA BRIDGES OVERBURDEN REMOVAL PROJ. NO. 360AB-01-77	
SCALE: AS NOTED	OCT. 1976
SHEET NO. 3 OF 20 SHEETS	

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

PLAN	DATE
BY	
CHECKED	
NOTED	
NO.	

PROFILE	DATE
BY	
CHECKED	
NOTED	
NO.	

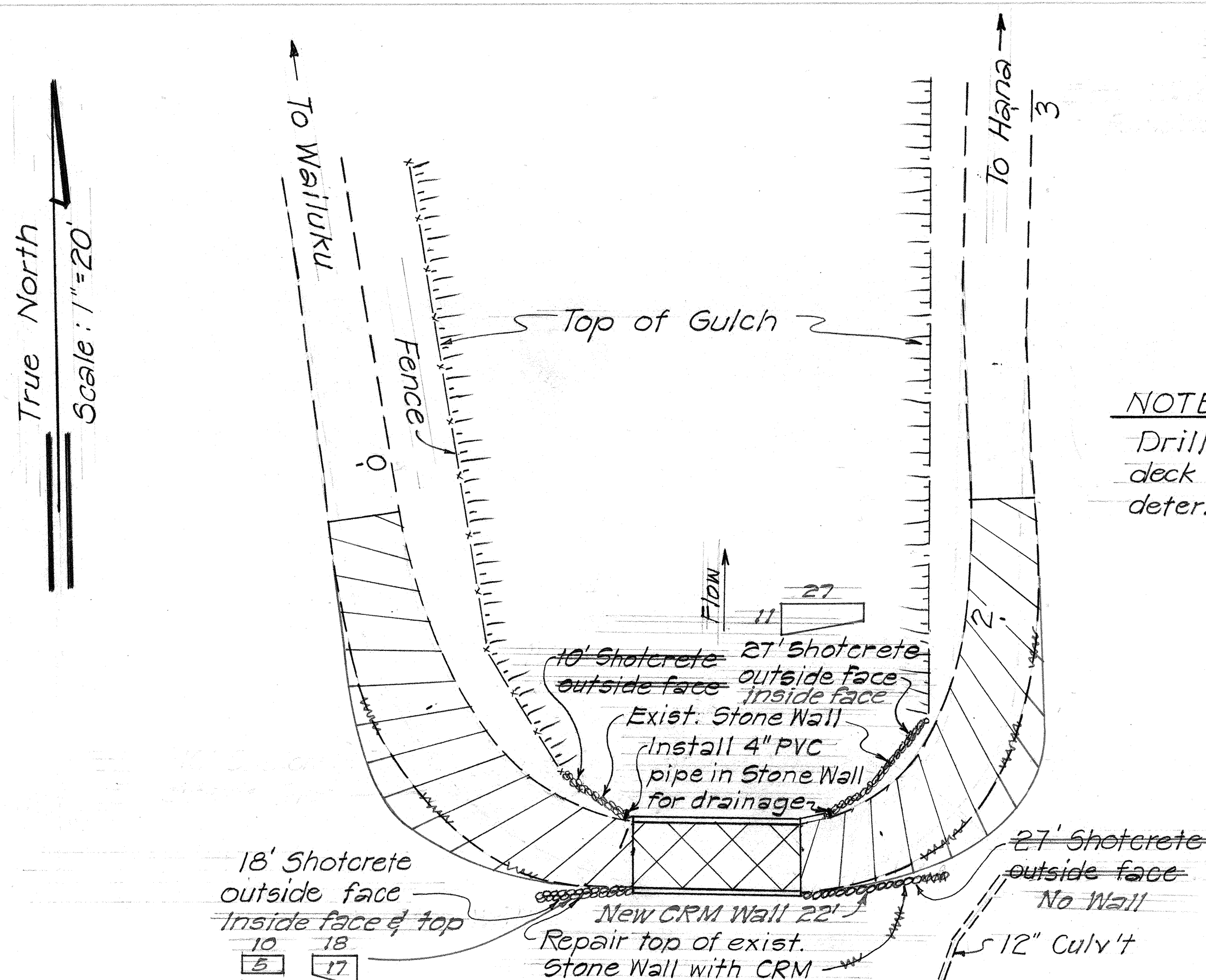
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	6	24

ESTIMATED QUANTITIES

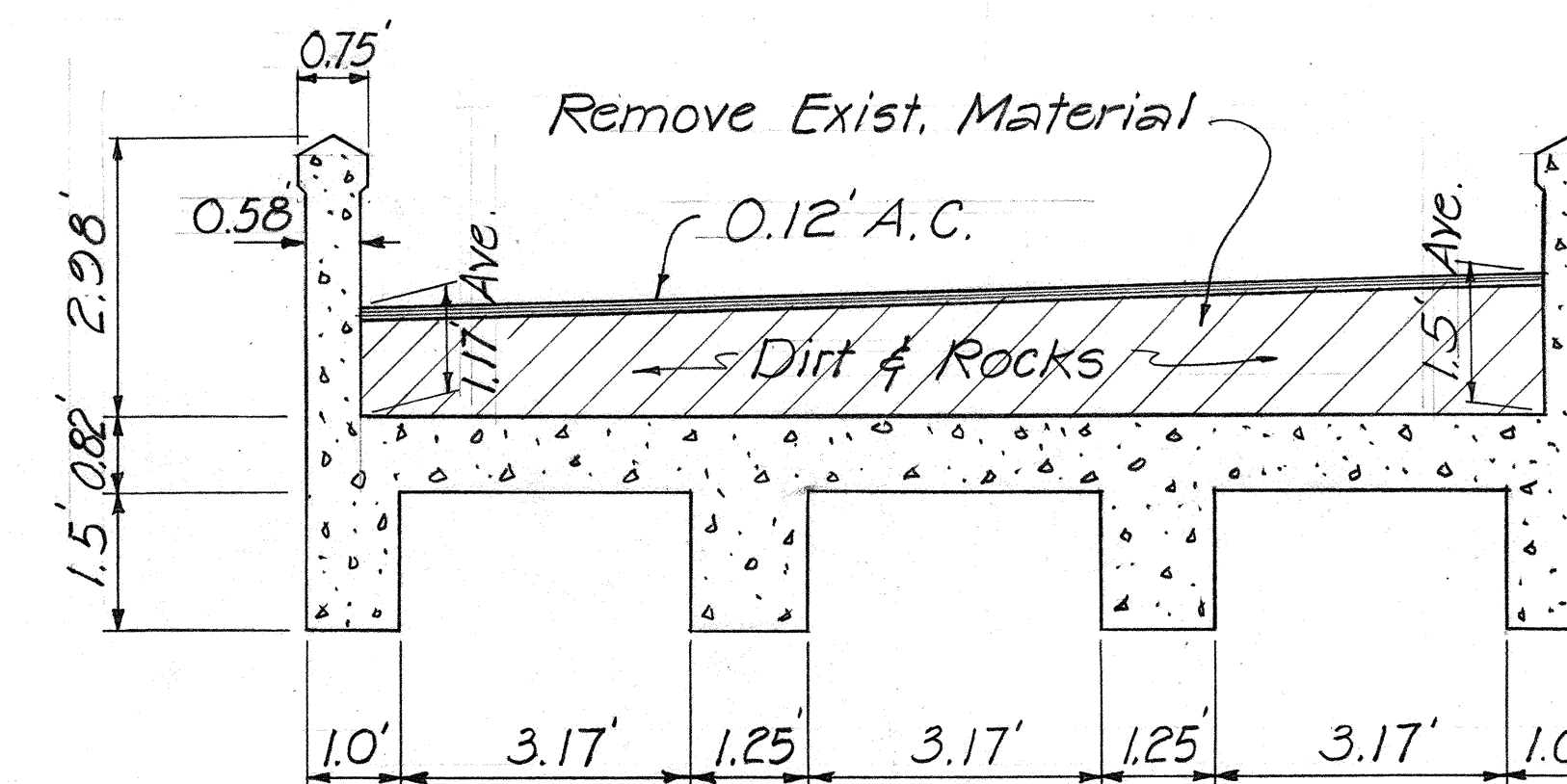
Roadway Exc.	(175 C.Y.), (220 C.Y.), 198 C.Y.	182.5
Aggregate Base (42T.), (1/8" T.), 118 T.		04.0
A.C. Pav't, Mix No. I	43 T.	51.0
CRM	162 C.Y.	608
Corings	2 Ea.	
Shotcrete for Wall	92.5 Y.	72.6
Pav't. Striping	475 L.F.	544

NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

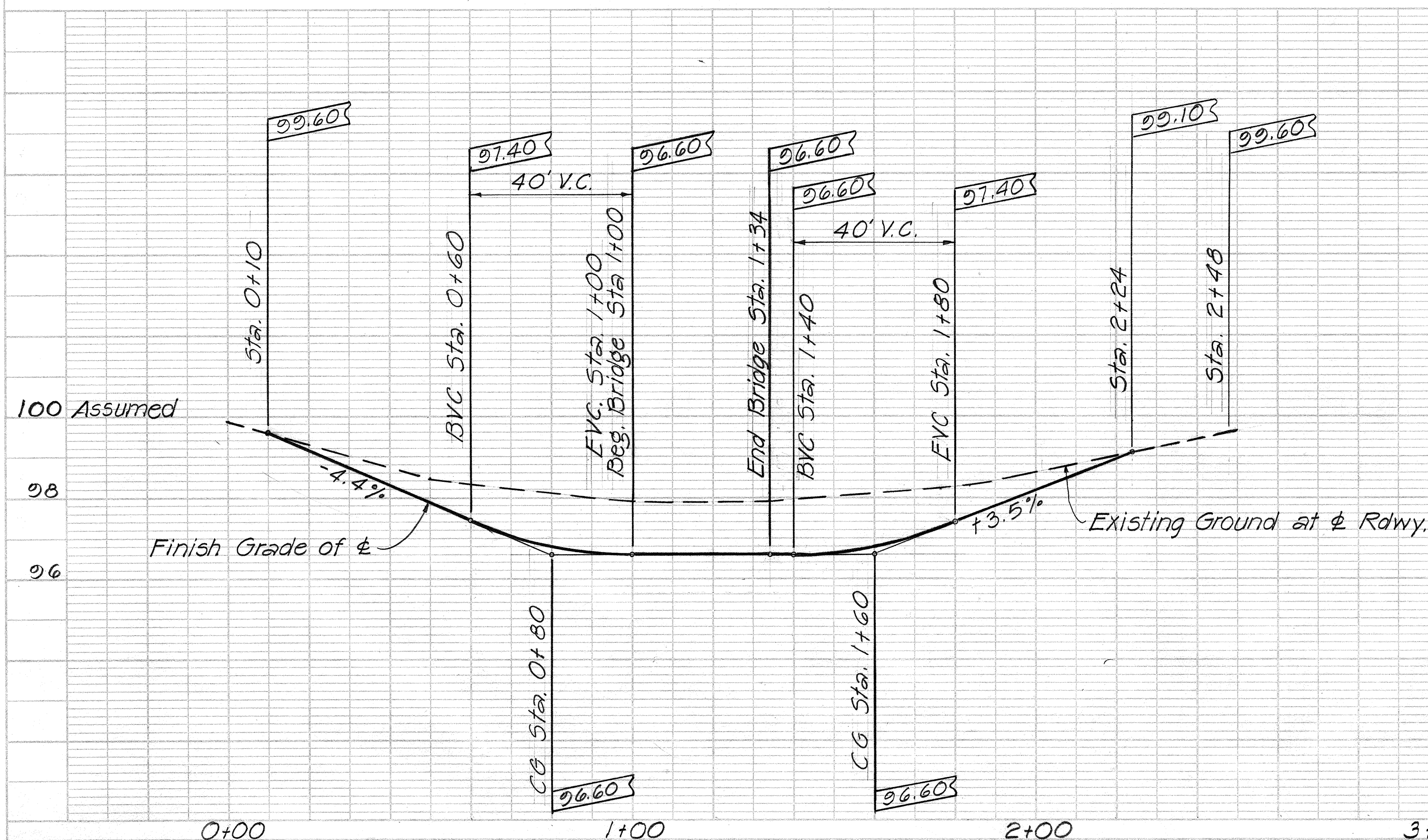


HAIPUAENA BRIDGE



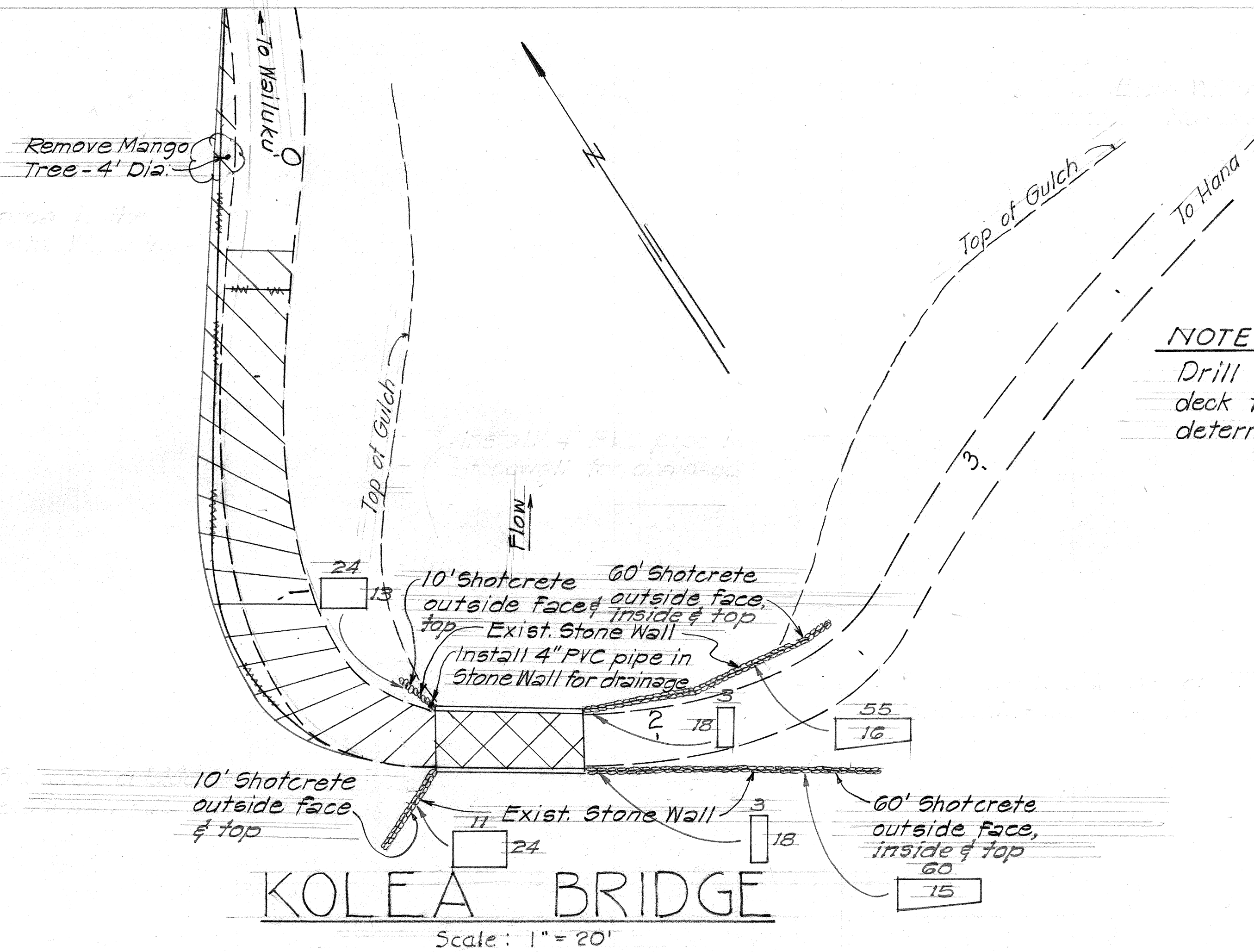
TYPICAL SECTION

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



PLAN	DATE
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CHECKED	
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PROFILE	DATE
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NOTED	
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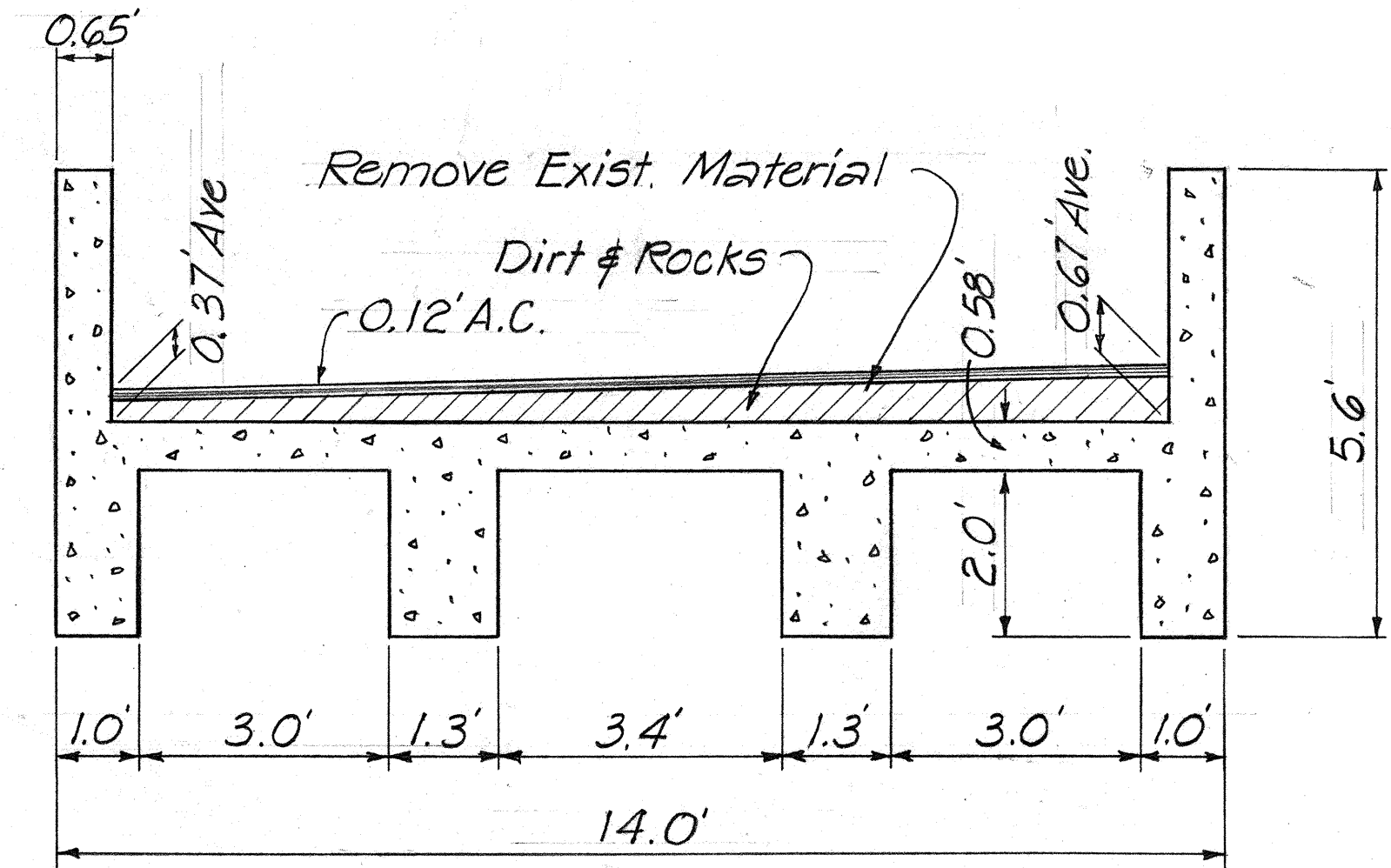


ESTIMATED QUANTITIES

Removing Large Trees	1 Ea.
Roadway Exc. (195 CY), [265 CY], 230 CY	265.8
Aggregate Base (66 T.), [170 T.], 118 T.	73.8
A.C. Pav't., Mix No. V	38 T. 49.6
Corings	2 Ea.
Shotcrete for Wall	175 SY. 273.8
Pav't. Striping	440 LF. 520

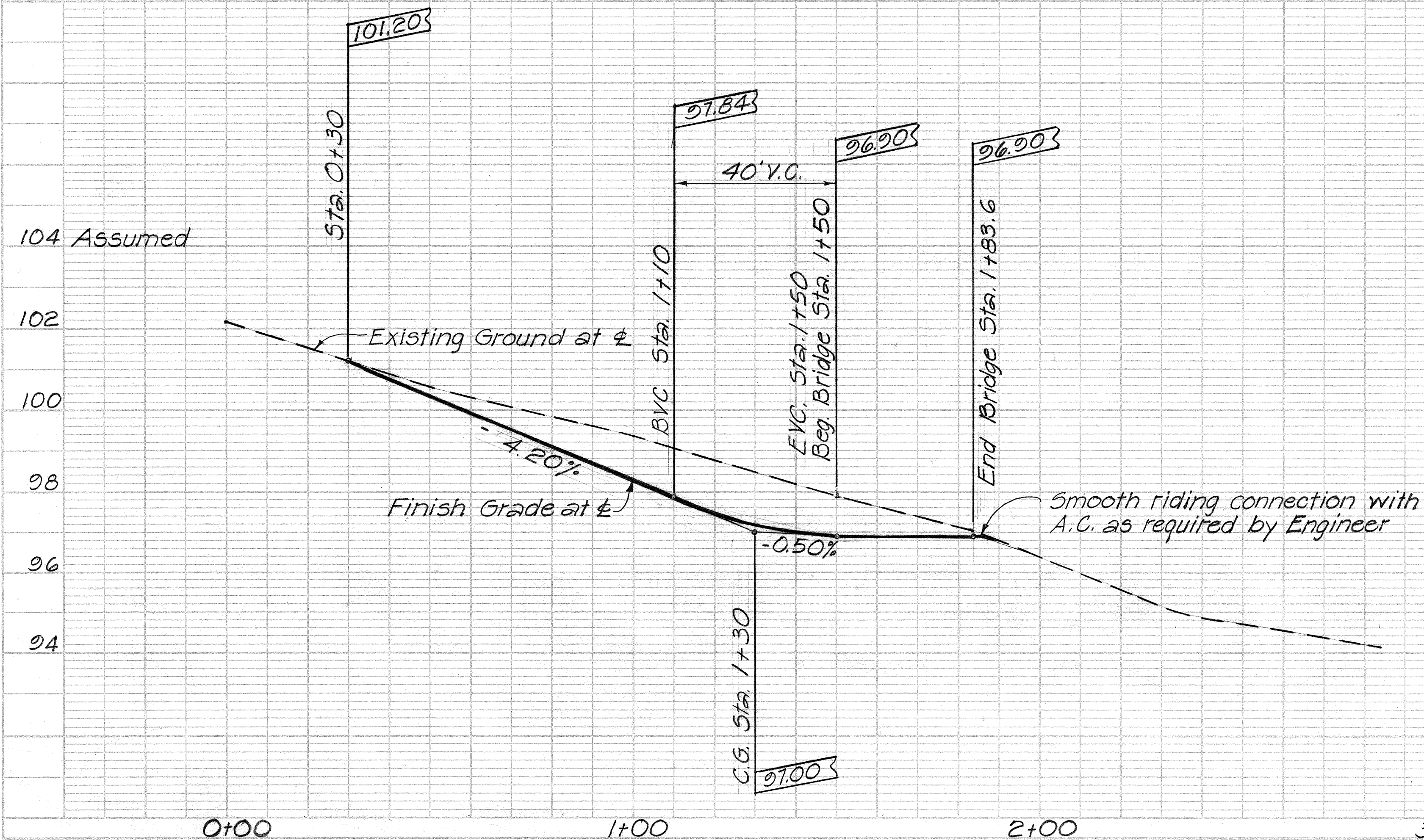
NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.



TYPICAL SECTION

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

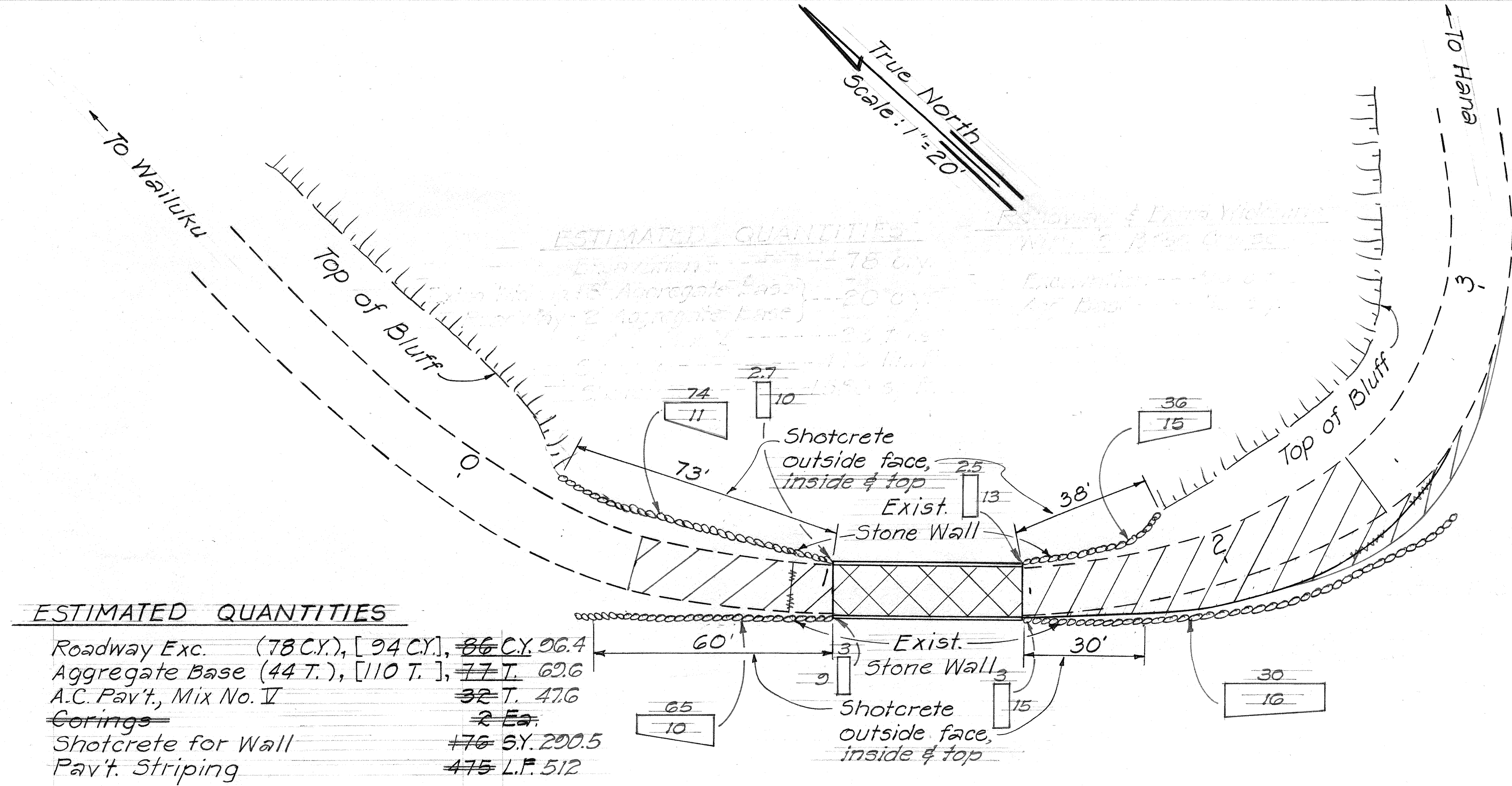


SHEET NO. 5 OF 20 SHEETS

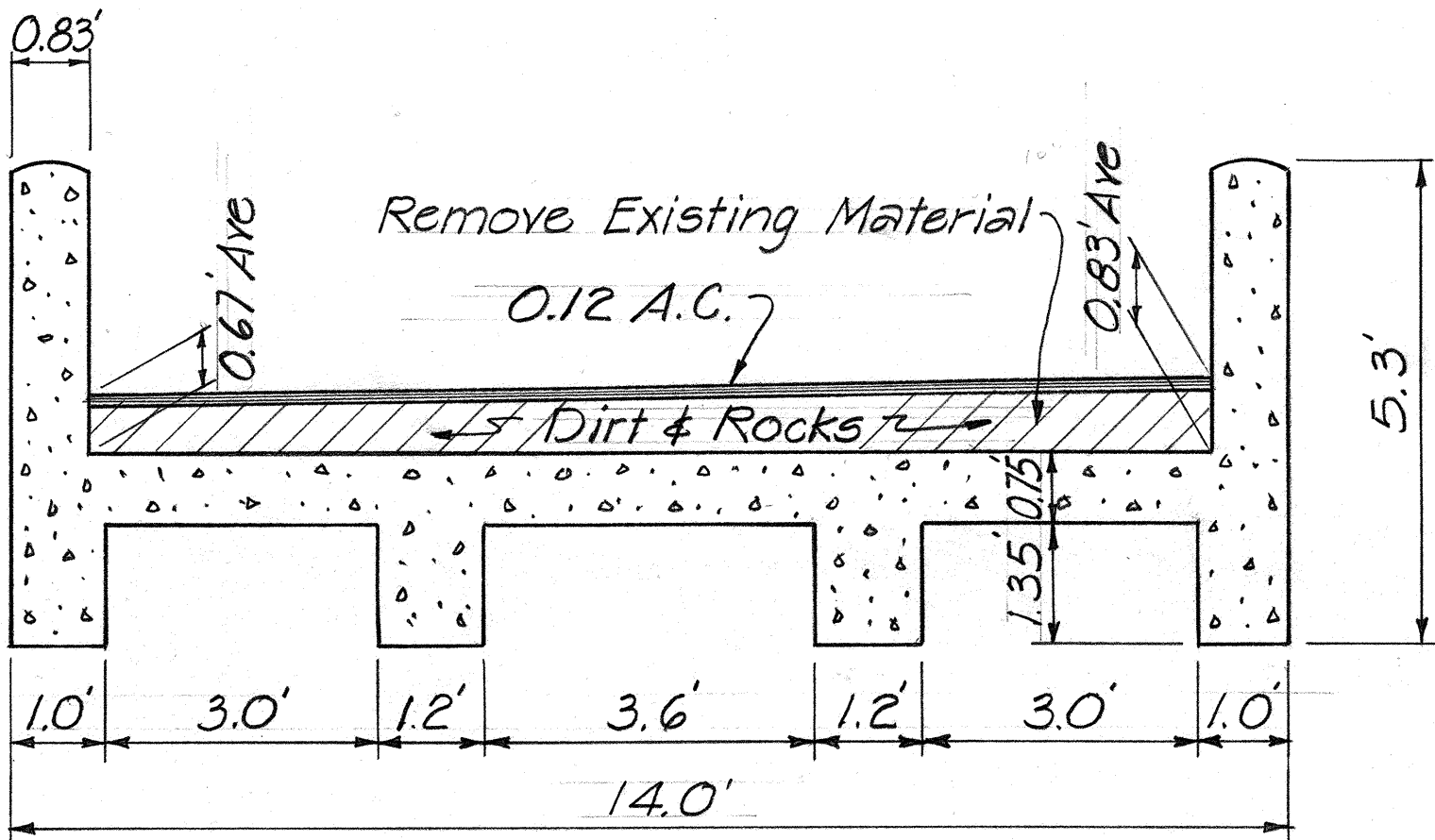
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-0177	1977	8	24

PLAN	DATE
BY	
DESIGNED	
PLOTTED	
NOTE BOOK	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NO.	

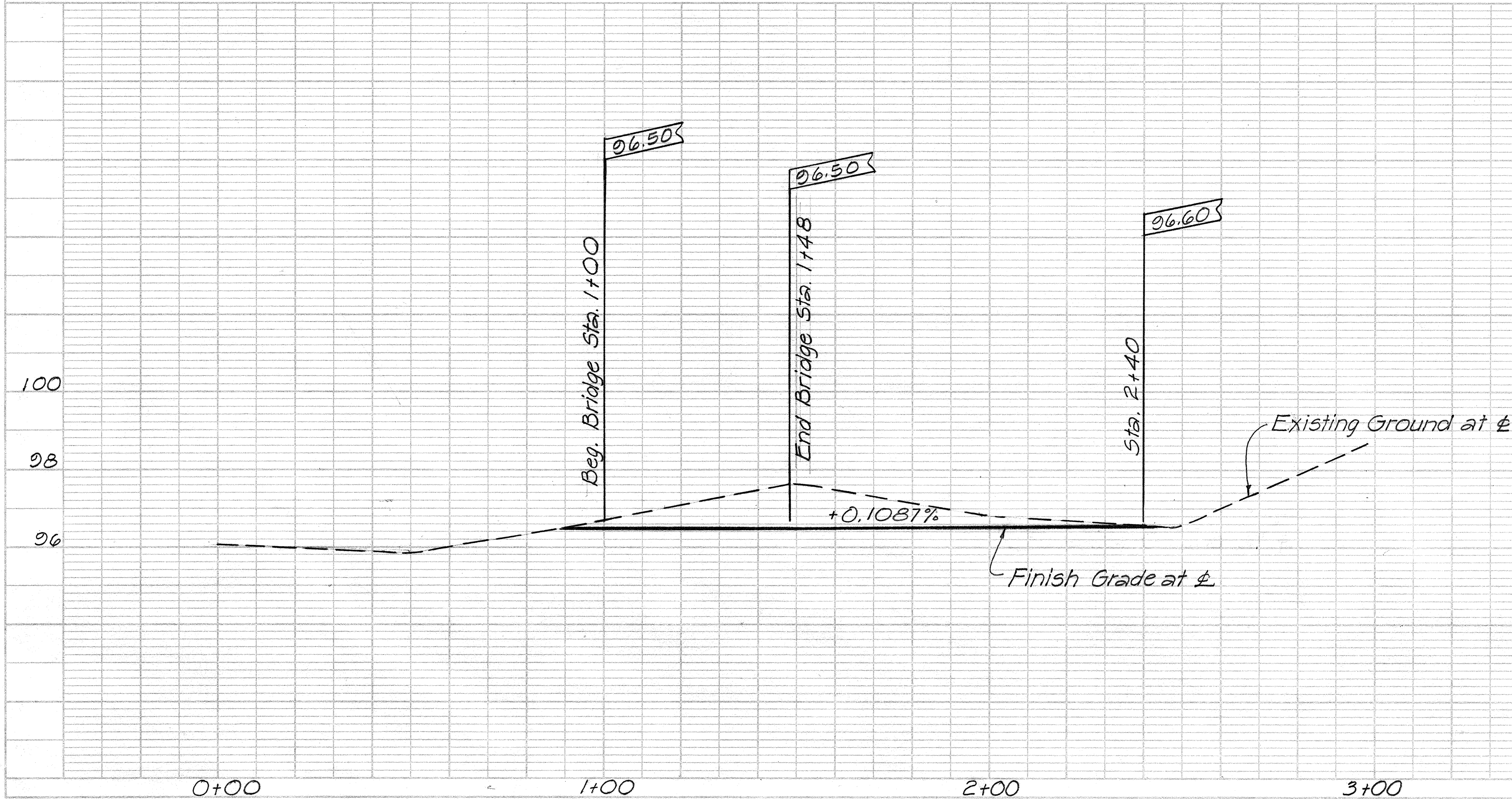
PROFILE	DATE
BY	
DESIGNED	
PLOTTED	
NOTE BOOK	
GRADES CHECKED	
VERT. CURVES CHKD	
NO.	



NOTE
 Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.



HONOMANU BRIDGE



PLAN	DATE
BY	
REVISIONS	
NO.	
NOTE BOOK	
NO.	

PROFILE	DATE
BY	
REVISIONS	
NO.	
NOTE BOOK	
NO.	

NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

True North
Scale: 1" = 20'

LEGEND FOR NUAAILUA BRIDGE

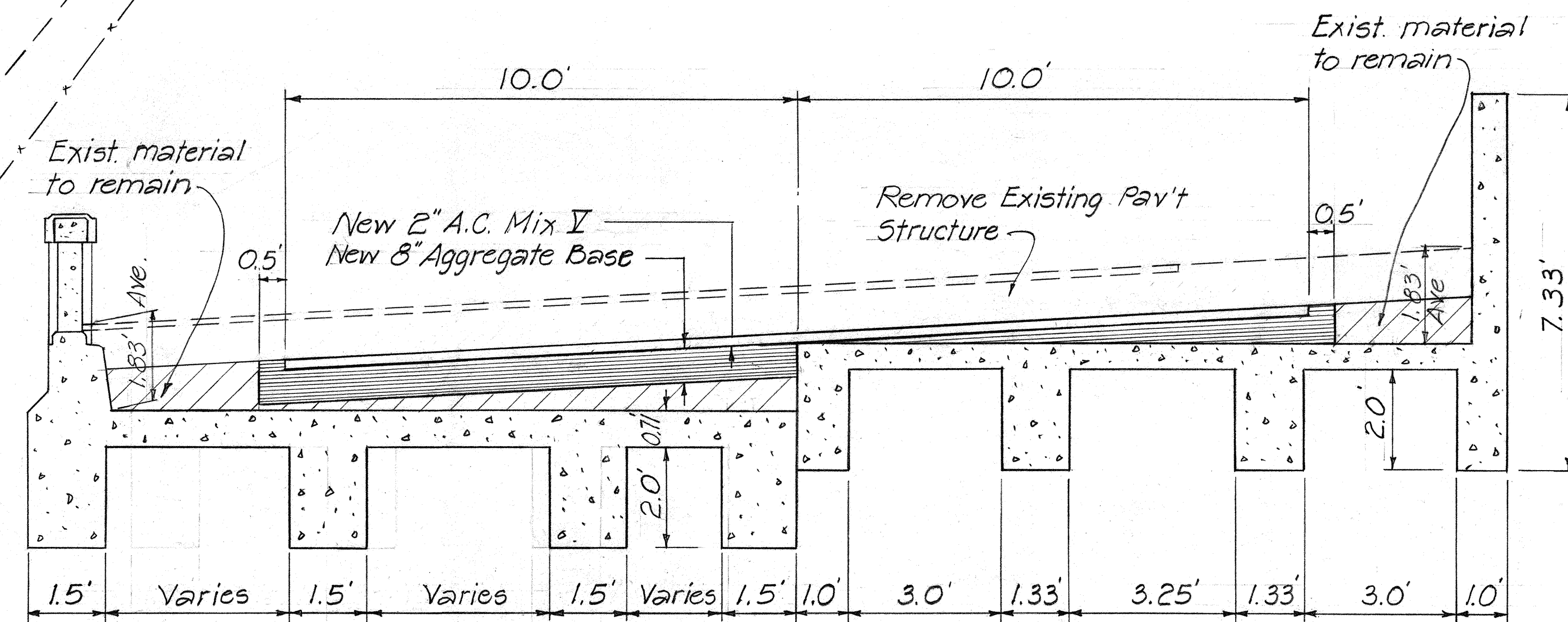
- Remove Overburden as shown on Typ. Sect. and surface with 2" A.C. Pav't, Mix No. I
- Reconstruct Approaches and surface with 2" A.C. Pav't, Mix No. I
- (1000) Quantity using Approach Typ. Sect. No. 1
- [1000] Quantity using Approach Typ. Sect. No. 2
- 1000 Quantity using Average of Approach Typ. Sect. No. 1 and No. 2 to be used for bidding purposes in the Proposal

NUAAILUA BRIDGE

ESTIMATED QUANTITIES

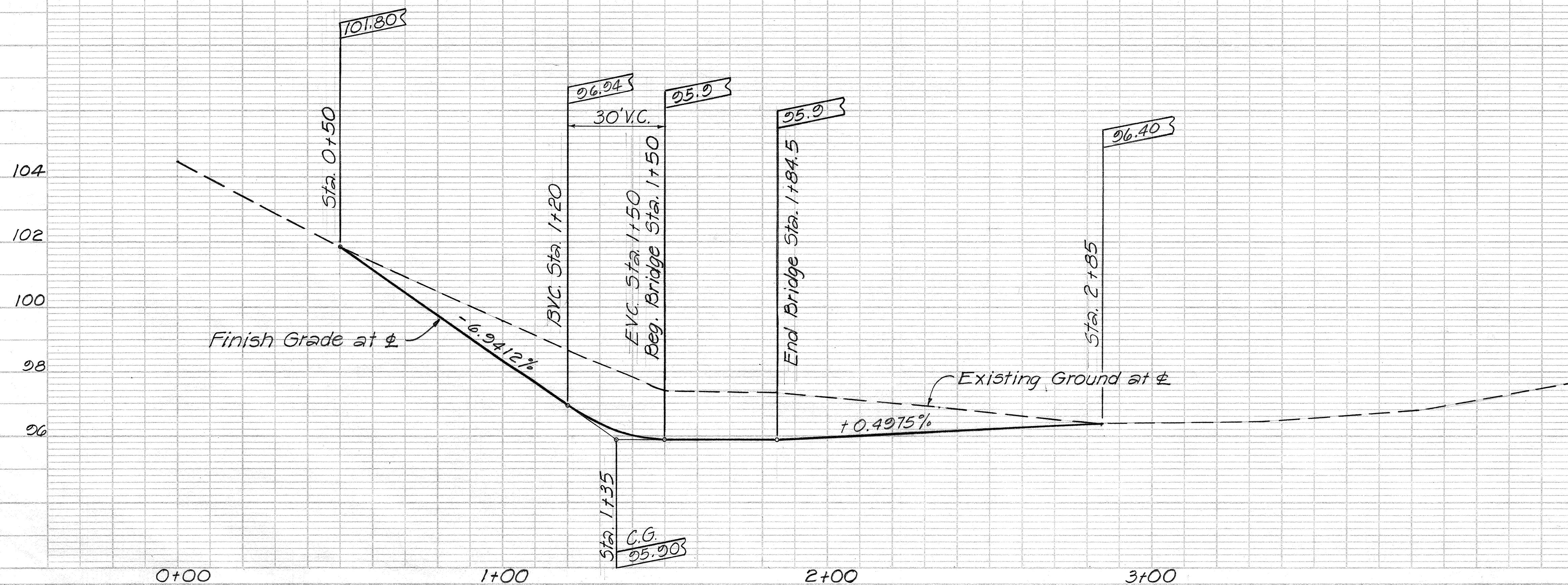
Roadway Exc. (294 C.Y.), [352 C.Y.], ~~323 C.Y.~~
Aggregate Base (62 T.), [254 T.], ~~150 T.~~
A.C. Pav't, Mix No. I ~~62 T.~~ 686
Shotcrete ~~65 S.Y.~~ 829
Pav't Striping ~~720 L.F.~~ 807

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	9	24



TYPICAL SECTION

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



SHEET NO. 7 OF 20 SHEETS

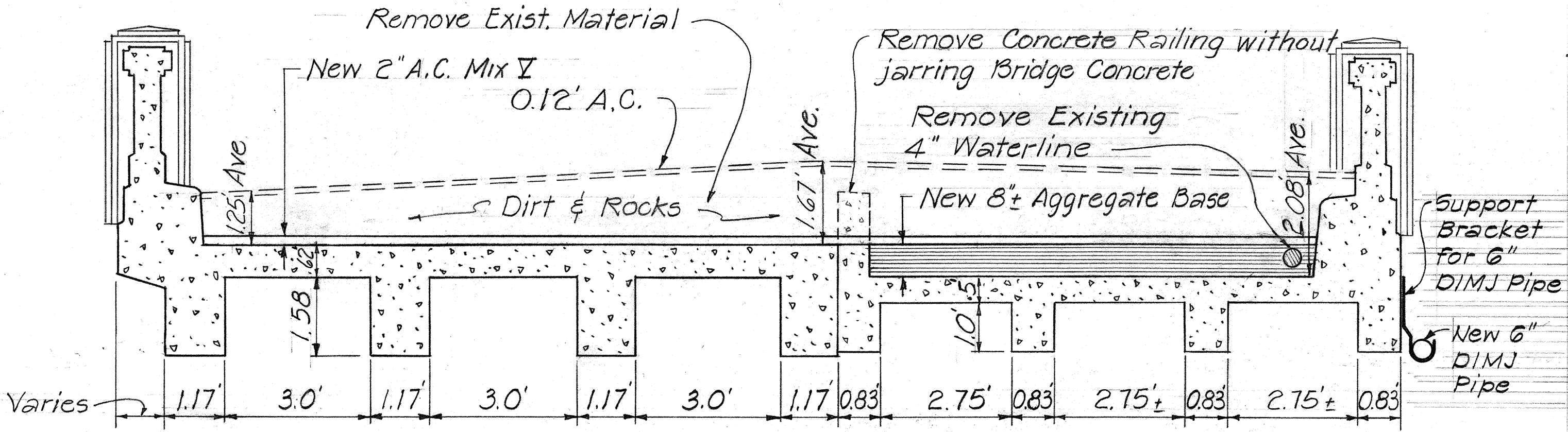
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	10	24

LEGEND FOR WAIOKAMILO BRIDGE

See Plan Sheet No. 9

ESTIMATED QUANTITIES

Removal of Concrete Railing	25 L.F.
Roadway Exc. (167 C.Y.), [207 C.Y.], 167 C.Y. 211.8	
Aggregate Base (58 T.), [176 T.], 176 T. 79.1	
A.C. Pav't, Mix No. V	42 T. 44.6
Corings	2 EA.
Water System	L.S.
Shotcrete for Wall	24 S.Y. 37.4
Pav't Striping	480 L.F. 497



TYPICAL SECTION

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

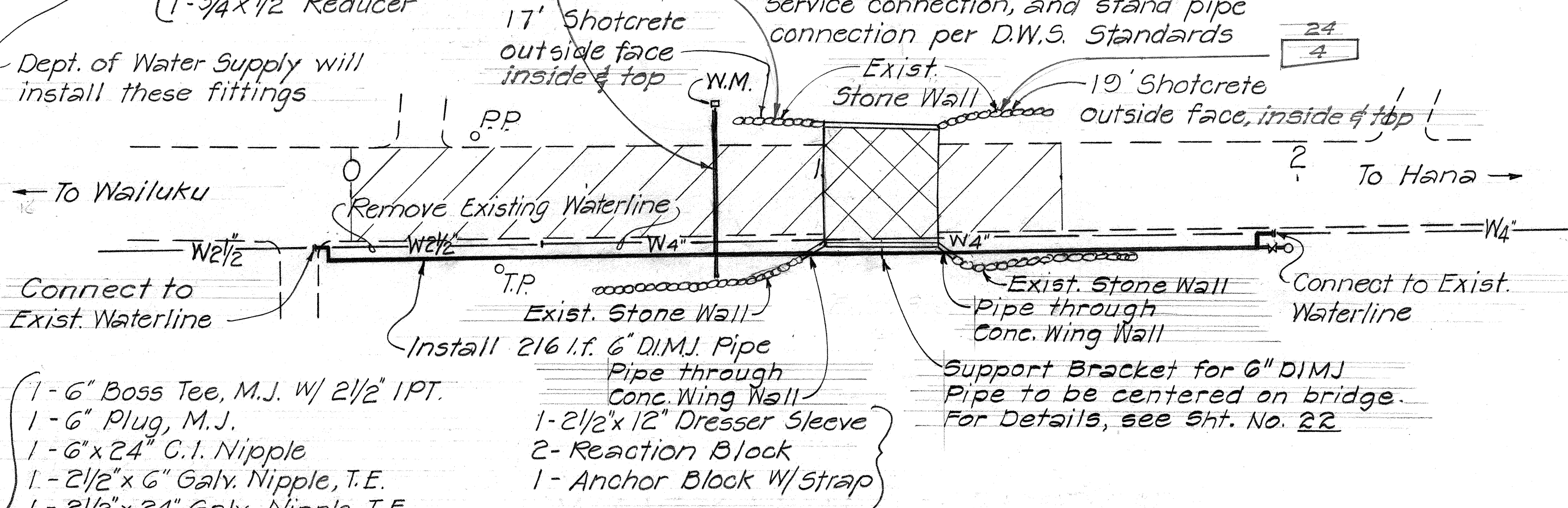
- 1 - 6"x6"x6" Tee, M.J.
- 1 - 6" Plug, M.J. w/4" IPT.
- 1 - 6" Plug, M.J. w/2 1/2" IPT.
- 1 - 4" G.V., S.E.
- 1 - 2 1/2" G.V., S.E.
- 1 - 2 1/2" x 8" Galv. Nipple, T.E.
- 1 - 2 1/2" x 36" Galv. Nipple, T.E.
- 1 - 2 1/2" x 54" Galv. Nipple, T.E.
- 1 - 2 1/2" x 90° St. Elbow
- 1 - 2 1/2" x 90° Elbow
- 1 - Greenberg No. 121 Wharf Hydrant
- 2 - Sliding Valve Box w/ Conc. Cover
- 1 - 4" x 8" Galv. Nipple, T.E.
- 1 - 4" x 24" Galv. Nipple, T.E.
- 1 - 4" x 18" Galv. Nipple, T.E.
- 2 - 4" x 90° St. Elbow
- 2 - 4" x 90° Elbow
- 1 - 4" x 36" Galv. Nipple, T.E.
- 1 - 4" x 12" Sleeve, (Dresser)
- 2 - Reaction Block
- 1 - Anchor Block w/ Strap

NOTE

1. Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.
2. All pipes and fittings will be furnished by Dept. of Water Supply. at Naska Baseyard.
3. 5-Conc. reaction block per D.W.S. Standards.
4. Anchor block w/strap per D.W.S. Standards.
5. 3-Sliding valve box w/ conc. ring, copper service connection, and stand pipe connection per D.W.S. Standards

- Remove existing 1/2" Waterline
Install 401.f.-1" Copper Pipe
- 1-3/4" Corp. Stop
 - 1-1" Brass Union F.S.P.S
 - 1-1" Brass Adapter
 - 1-1" Brass Cock Stop
 - 1-1"x3/4" Brass Bushing
 - 1-3/4" x 2" Brass Nipple
 - 1-3/4" Gate Valve
 - 1-3/4" Check Valve
 - 1-3/4" x 1/2" Reducer

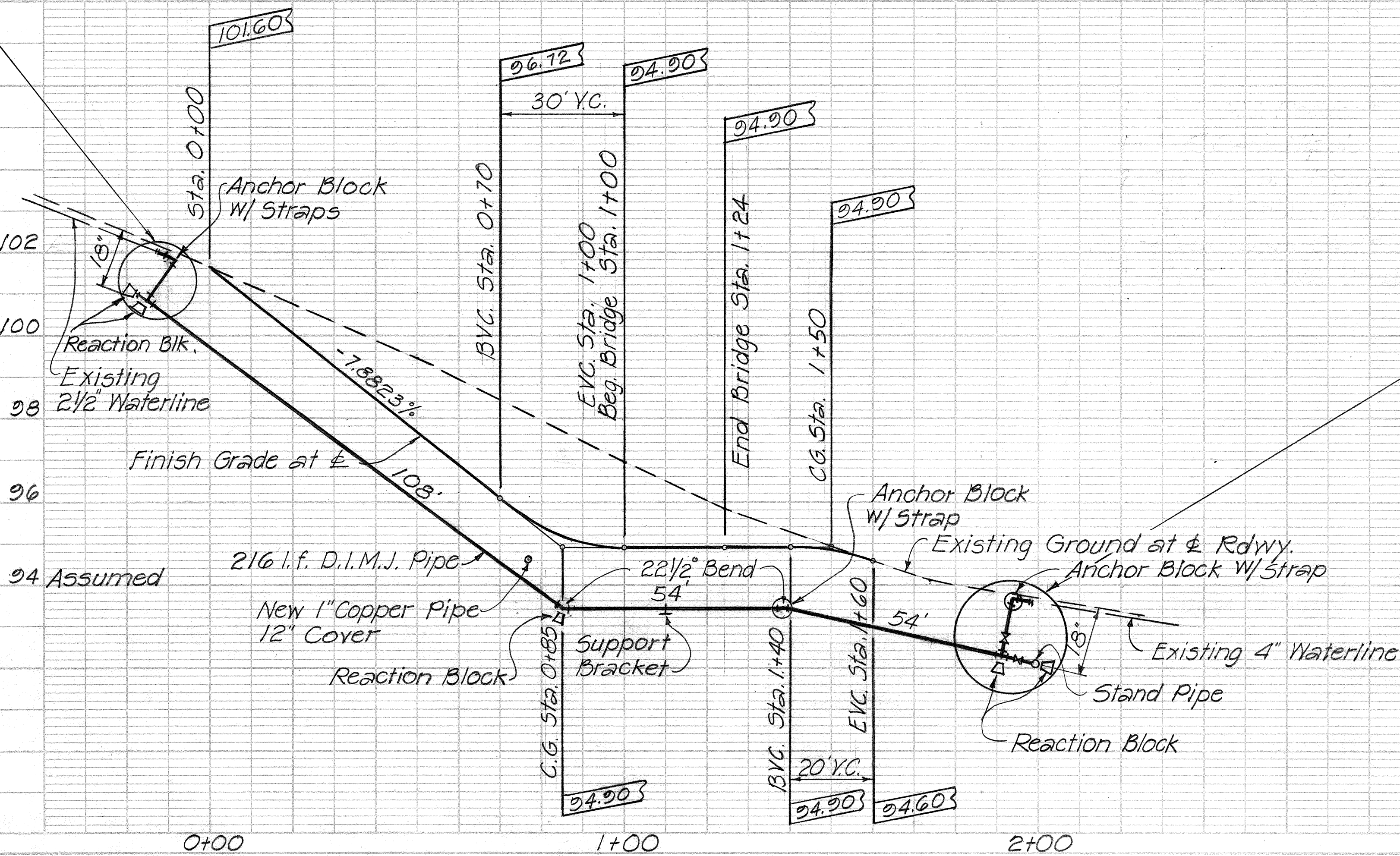
Dept. of Water Supply will install these fittings



- 1 - 6" Boss Tee, M.J. w/ 2 1/2" IPT.
- 1 - 6" Plug, M.J.
- 1 - 6" x 24" C.I. Nipple
- 1 - 2 1/2" x 6" Galv. Nipple, T.E.
- 1 - 2 1/2" x 24" Galv. Nipple, T.E.
- 1 - 2 1/2" G.V., S.E.
- 1 - Sliding Valve Box w/ Conc. Cover
- 2 - 2 1/2" x 90° Elbow
- 2 - 2 1/2" x 90° St. Elbow
- 2 - 2 1/2" x 18" Galv. Nipple, T.E.

WAIOKAMILO BRIDGE

Scale: 1" = 20'



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	11	24

ESTIMATED QUANTITIES

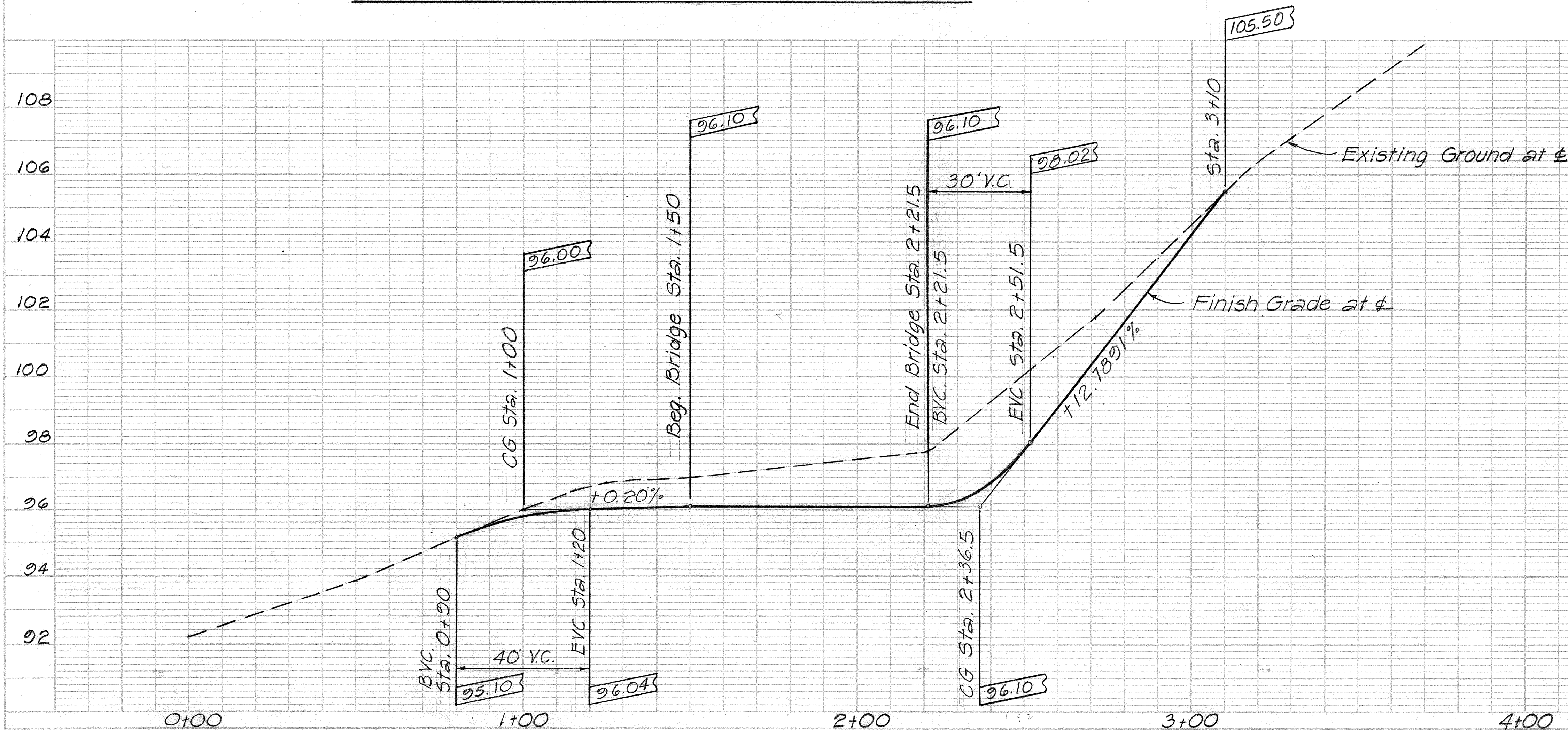
Roadway Exc.	(215 C.Y.), [277 C.Y.], 246 C.Y.	231.7
Aggregate Base (38 T.), [190 T.], 114 T.		72.2
A.C. Pav't, Mix No. V	34 T.	48.1
Corings	2 Ea.	
Shotcrete for Wall	27 S.Y.	47
Pav't Striping	550 L.F.	514

NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

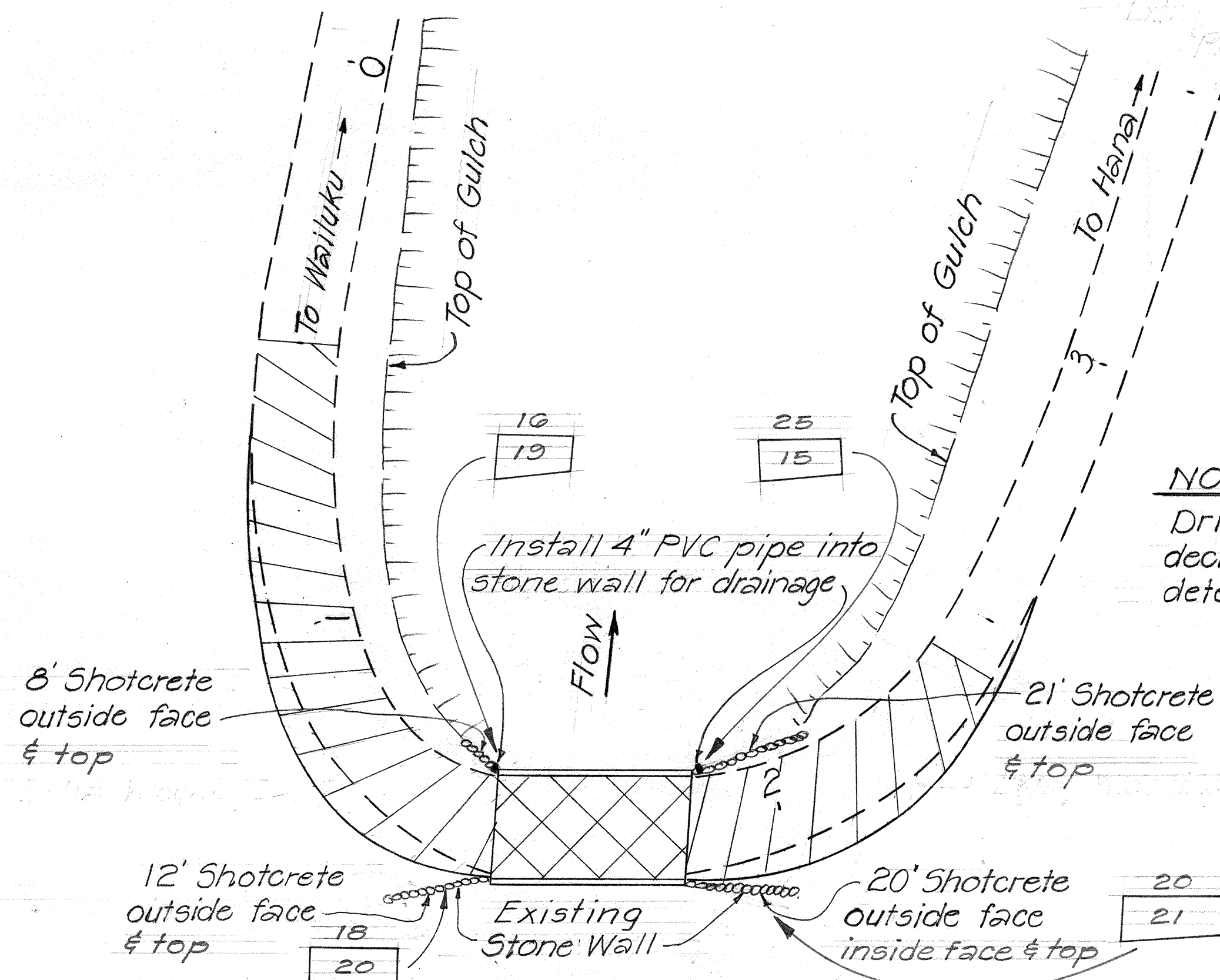
For Bridge Typical Section, see Sht. No. 22

WEST WAILUAIKI BRIDGE



PLAN	DATE	BY
DESIGNED		
CHECKED		
NOTE BOOK		
RT. OF WAY CHECKED		
NO.		

PROFILE	DATE	BY
DESIGNED		
CHECKED		
NOTE BOOK		
B.M. ENGINEER		
STRUCTURAL NOTATION CH'NO		
NO.		



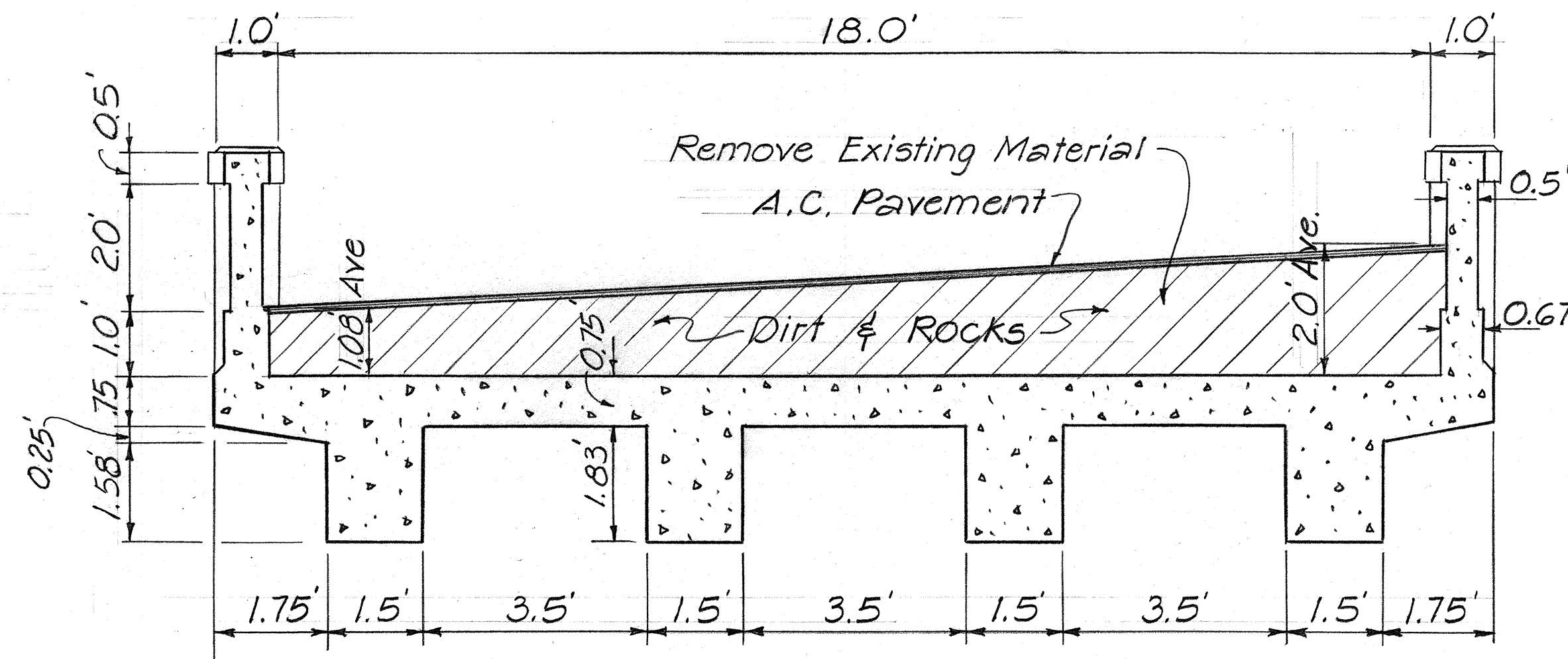
EAST WAILUAIKI BRIDGE
Scale: 1" = 20'

NOTE

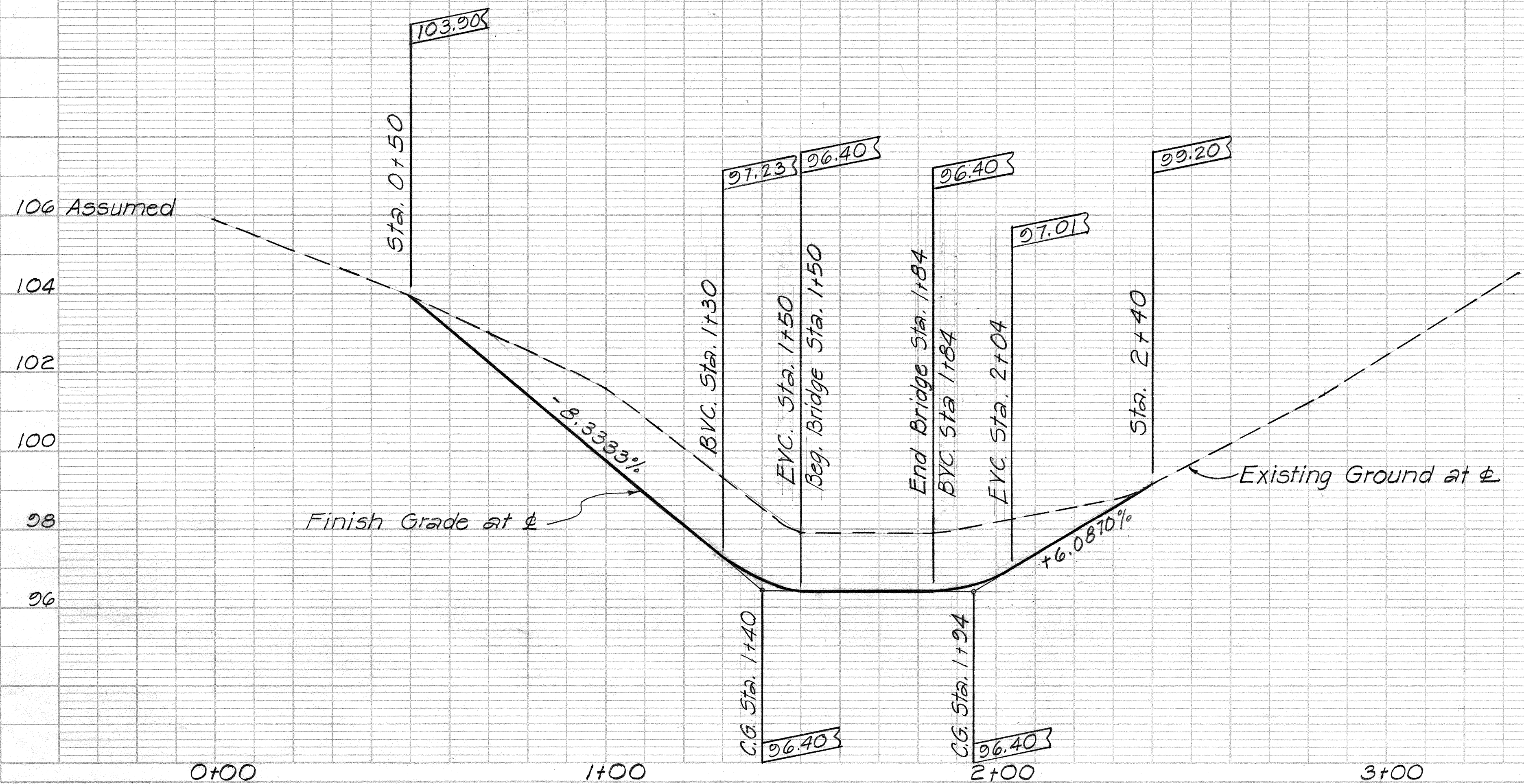
Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

ESTIMATED QUANTITIES

Roadway Exc. (179 CY), [223 CY]	# CY	224.1
Aggregate Base (647.), [2547.]	# T.	105.6
A.C. Pav't., Mix No. V	# T.	58.4
Corings	# Ea	0
Shotcrete for Wall	# S.Y.	102.1
Pav't. Striping	500 L.F.	554



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



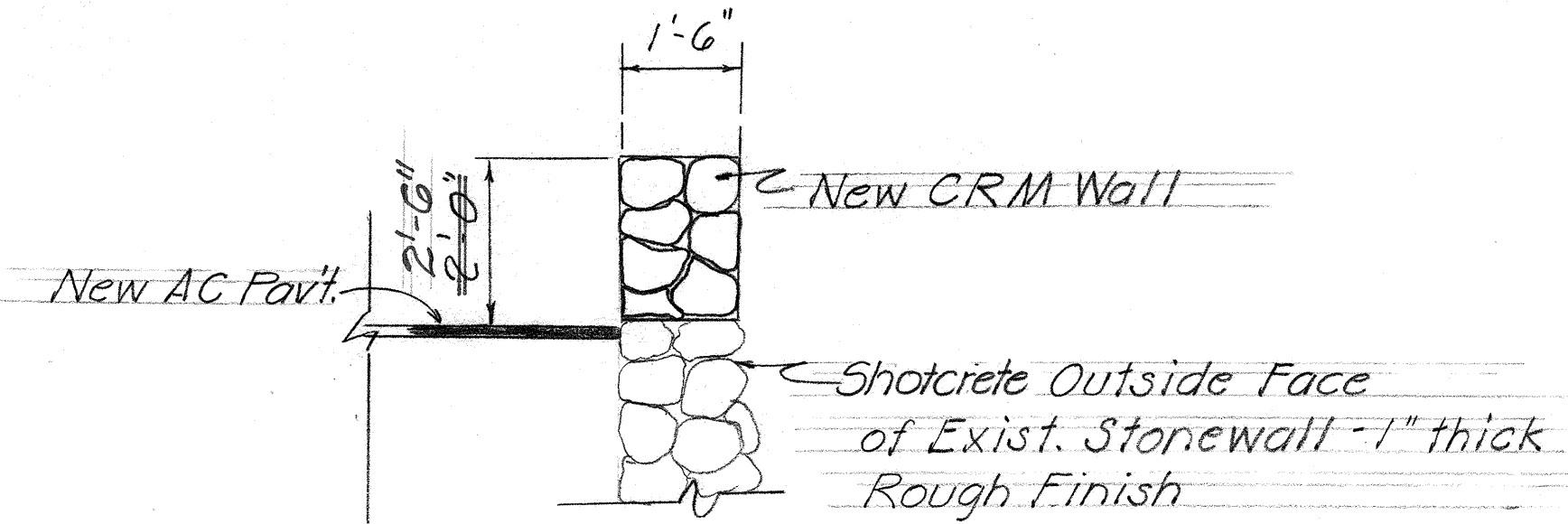
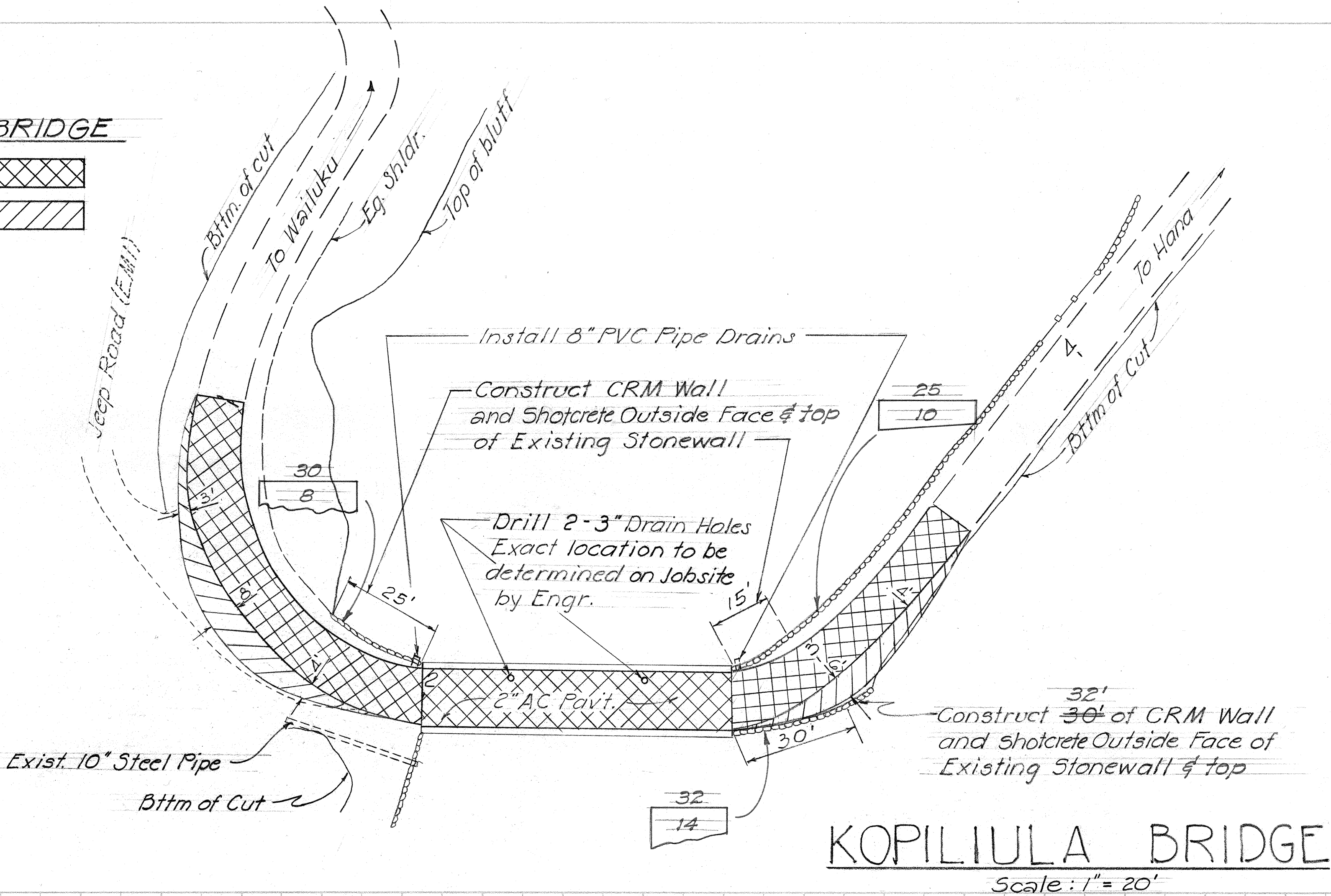
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	13	24

LEGEND FOR KOPILIULA BRIDGE

- Surface w/ 2" A.C. 
- Widening - 2" Base Course w/ 2" A.C. 

PLAN	DATE	
	BY	
	DESIGNED	
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PROFILE	DATE	
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	CHECKED	

PLAN	DATE	
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	DESIGNED	
	CHECKED	
PROFILE	DATE	
	BY	
	DESIGNED	
	CHECKED	



ESTIMATED QUANTITIES

Aggregate Base	47	21.9
A.C. Pav't, Mix No. I	50	53.6
CRM	42	11.38
Corings	2	4
Shotcrete for Wall	43	104.3
Pav't Striping	675	560
Roadway Exc.	25.1	C.Y.

PLAN	DATE	
	BY	
	REVISIONS	
	NOTES	

PROFILE	DATE	
	BY	
	REVISIONS	
	NOTES	

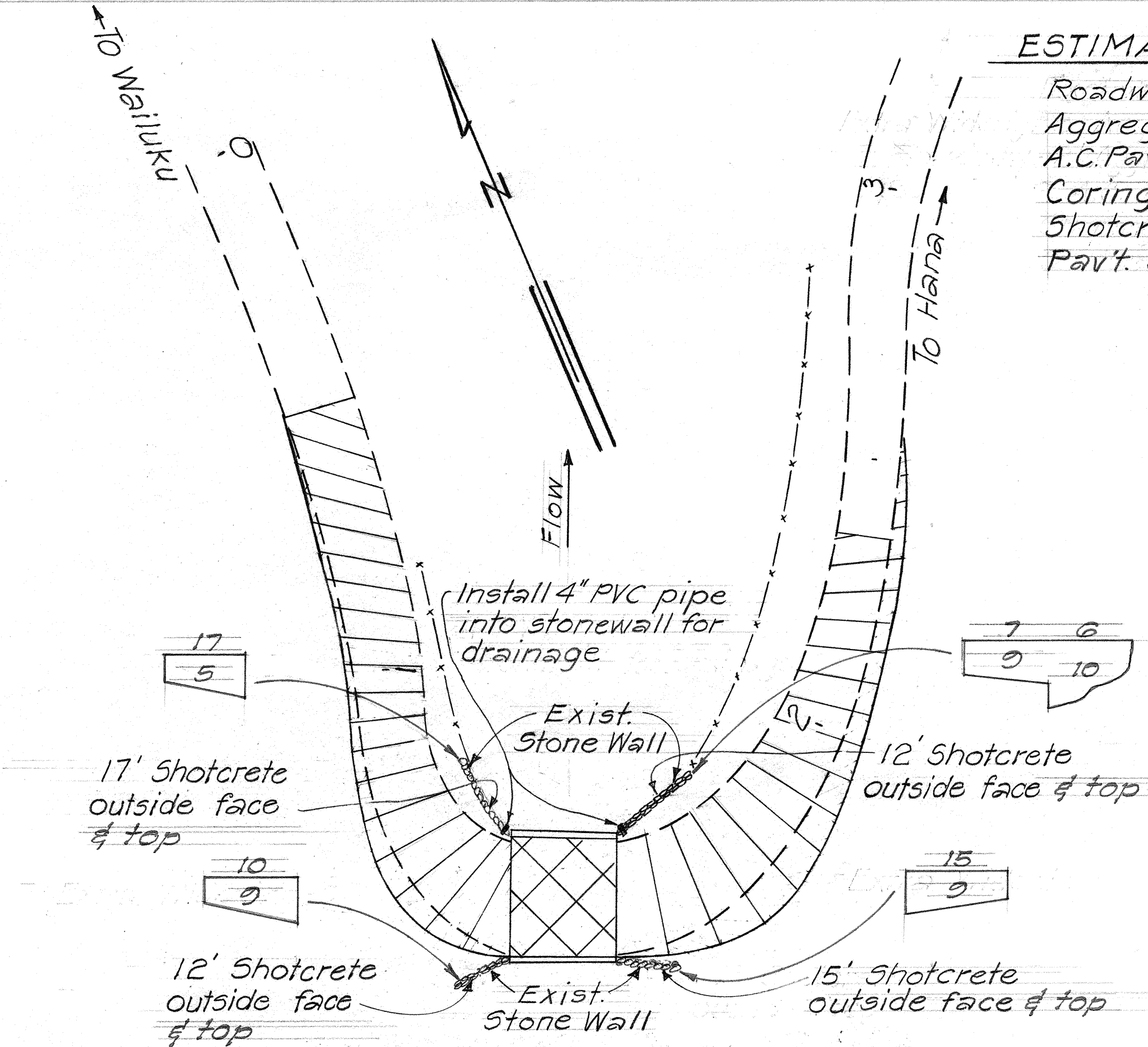
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	14	24

ESTIMATED QUANTITIES

Roadway Exc.	(190 C.Y.), [238 C.Y.], 214 C.Y.	187.2
Aggregate Base	(73 T.), [175 T.], 124 T.	131.9
A.C. Pav't, Mix No. V	33 T.	44.8
Corings	2 Ea.	
Shotcrete for Wall	48 SY	48.1
Pav't. Striping	460 L.F.	505

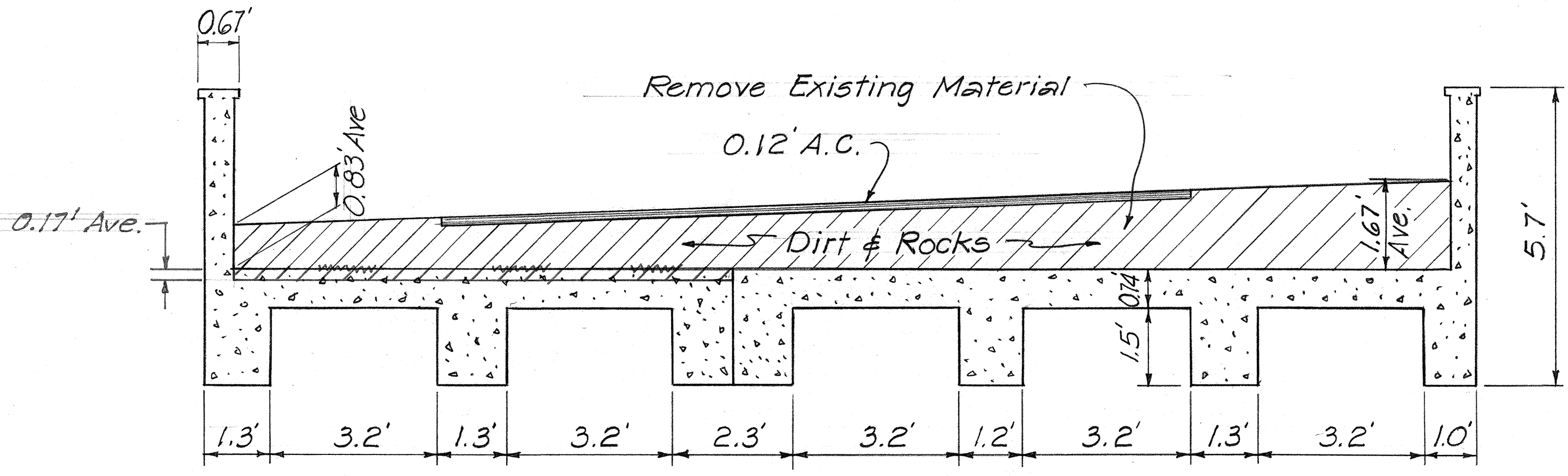
NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.



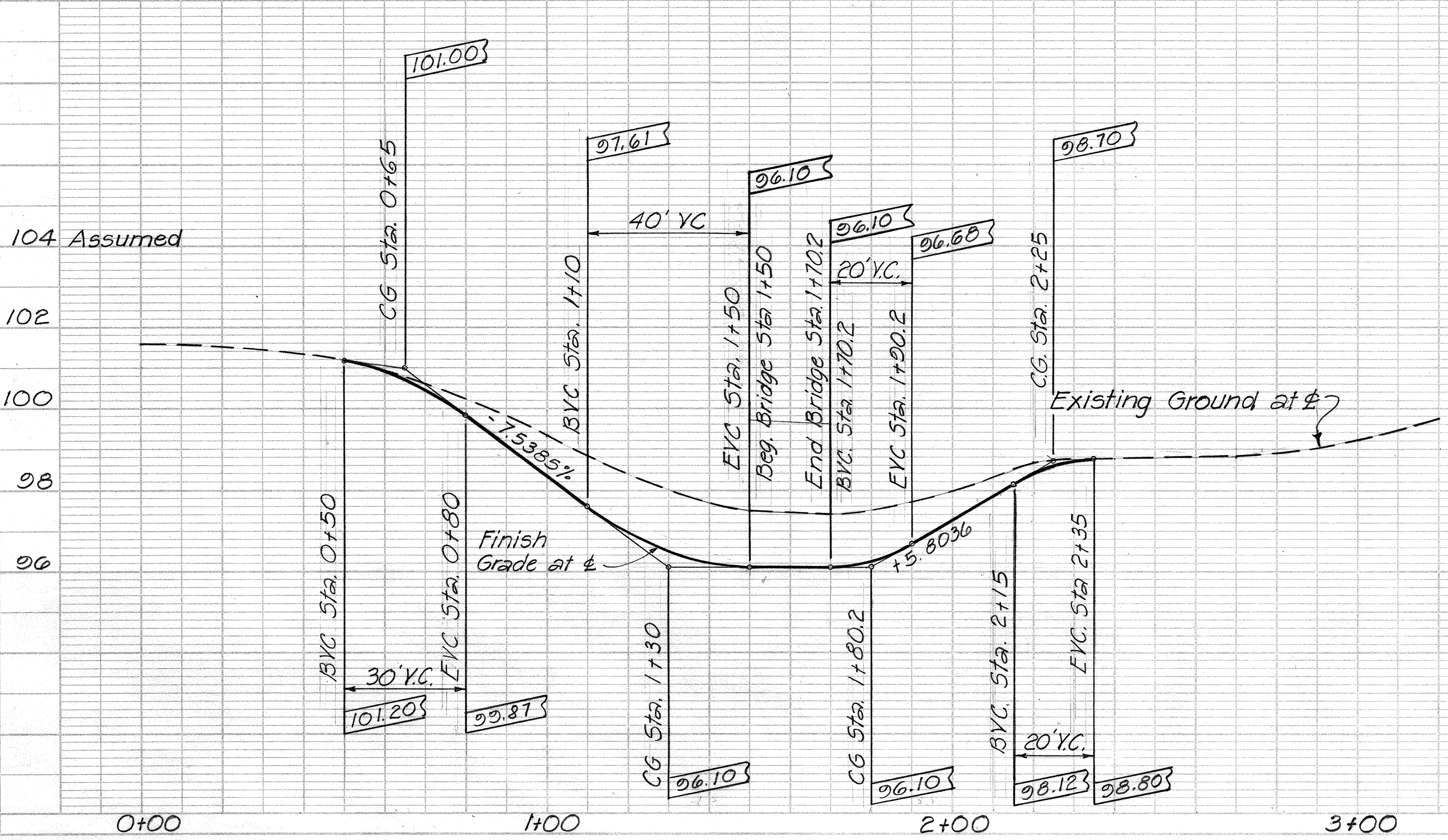
WAIOHUE BRIDGE

Scale: 1" = 20'



TYPICAL SECTION

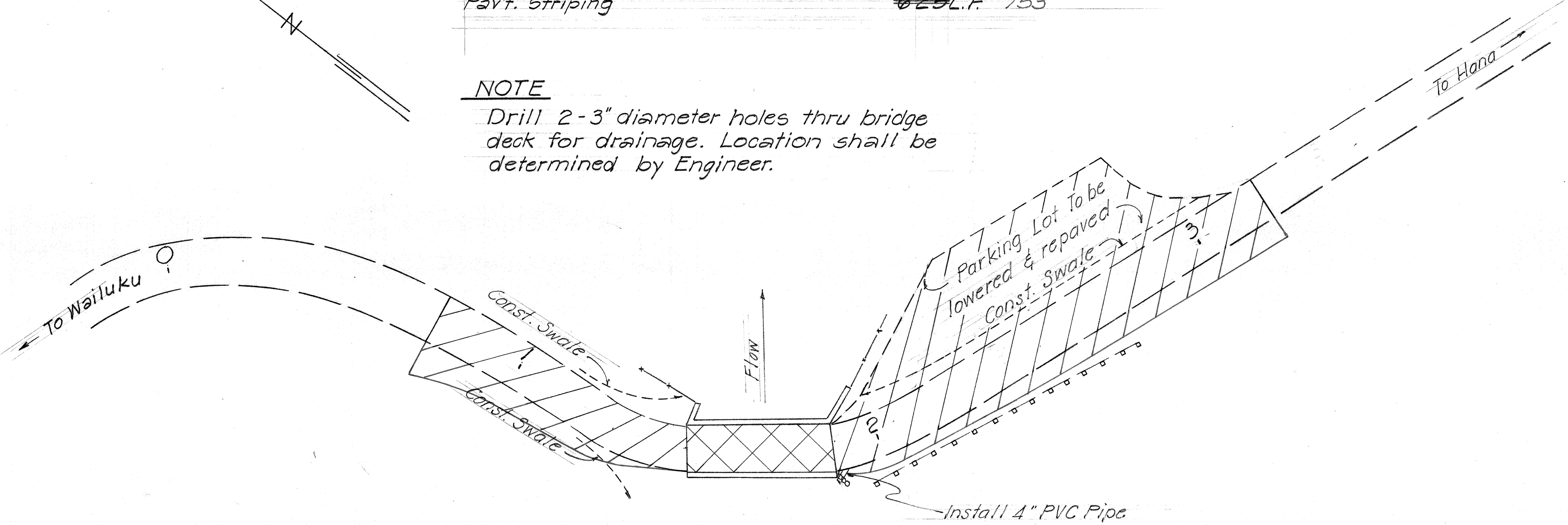
Scale: 1/2" = 1'-0"



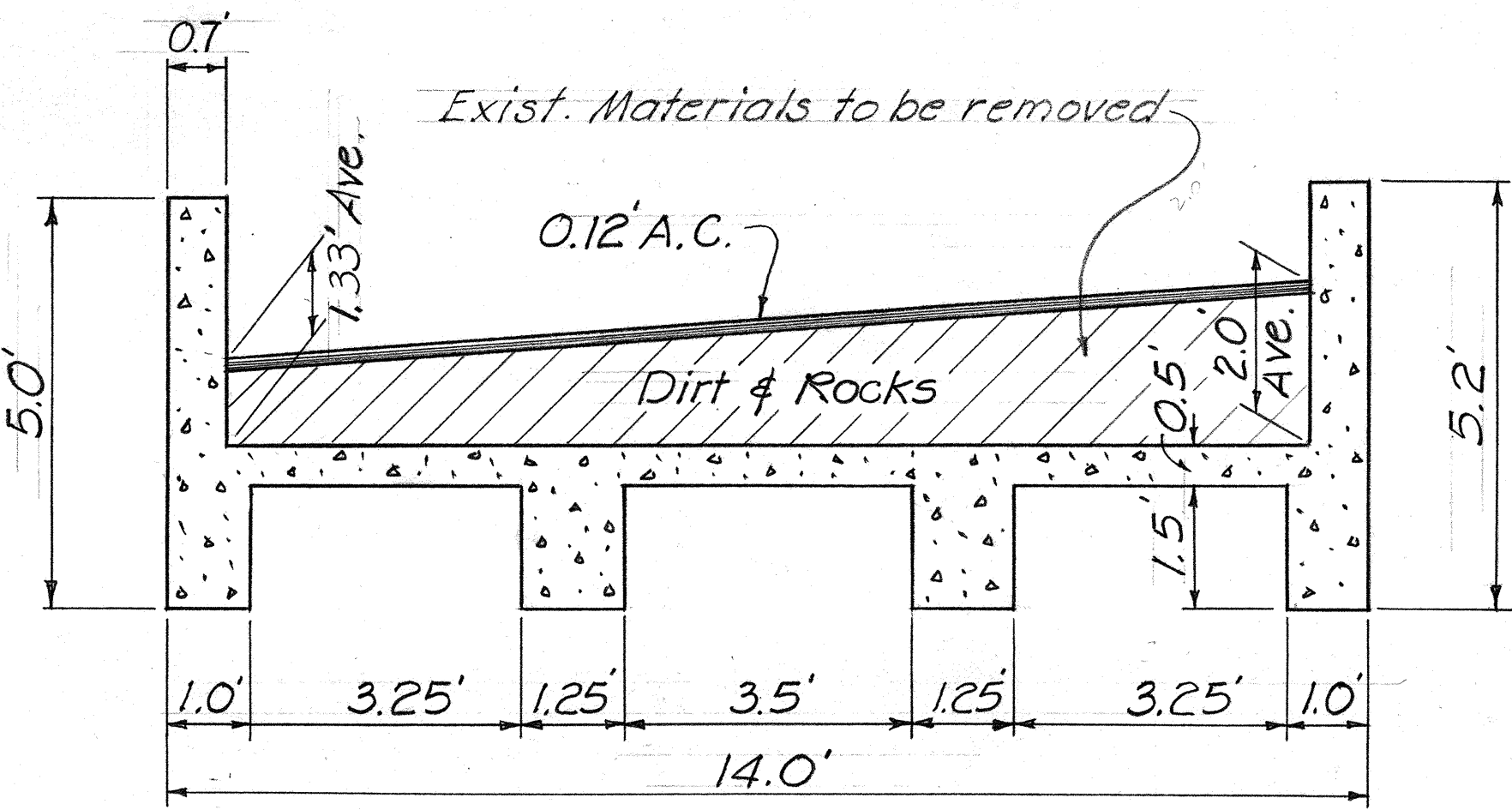
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	15	24

ESTIMATED QUANTITIES			
Roadway Exc.	(310 CY), [364 CY], 337 CY		338.6
Aggregate Base	(887), [2047], 1767		192.7
A.C. Pav't., Mix No. V	687		92.8
Corings		2 EA	
Pav't. Striping		625 L.F.	753

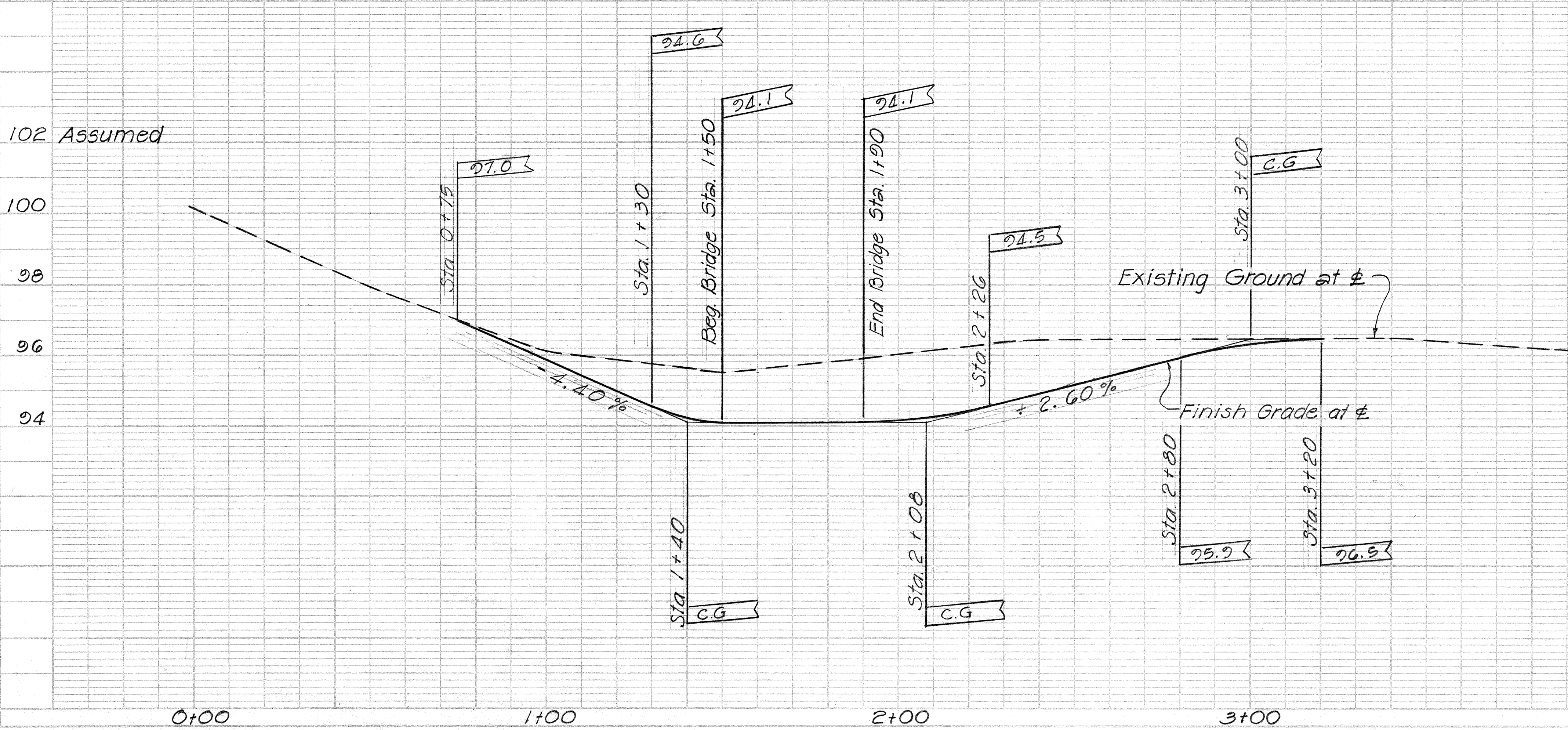
NOTE
 Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.



PAAKEA BRIDGE
 Scale: 1" = 20'



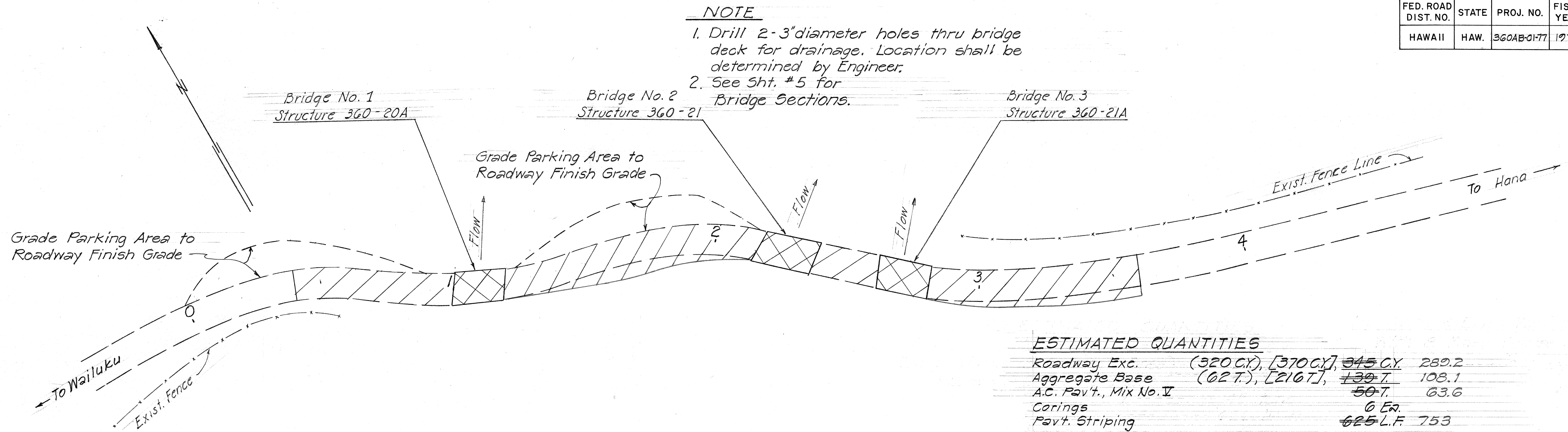
TYPICAL SECTION
 Scale: 1/2" = 1'-0"



PLAN	DATE	
	BY	
	DESIGNED	
	NOTED	
PROFILE	DATE	
	BY	
	DESIGNED	
	NOTED	

PROFILE	DATE	
	BY	
	DESIGNED	
	NOTED	
PLAN	DATE	
	BY	
	DESIGNED	
	NOTED	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	16	24

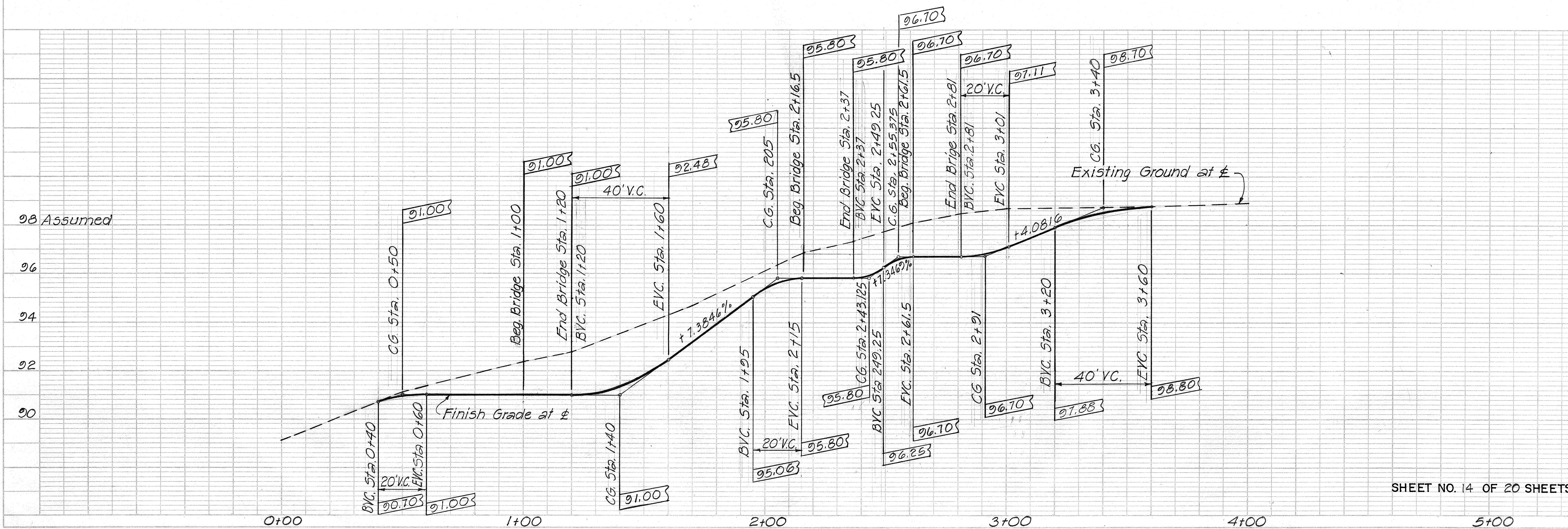


ESTIMATED QUANTITIES

Roadway Exc.	(320 CY), [370 CY], 345 CY	289.2
Aggregate Base	(62 T), [216 T], 139 T	108.1
A.C. Pav't., Mix No. V	50 T	63.6
Corings	6 Ea.	
Pav't. Striping	625 L.F.	753

UNKNOWN BRIDGES NO. 1, 2, & 3

Scale: 1" = 20'



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	3G0AB-0177	1977	17	24

PLAN

DATE

BY

CHECKED

NOTED

NO.

REVISIONS

DATE

BY

REASON

PROFILE

DATE

BY

CHECKED

NOTED

NO.

REVISIONS

DATE

BY

REASON

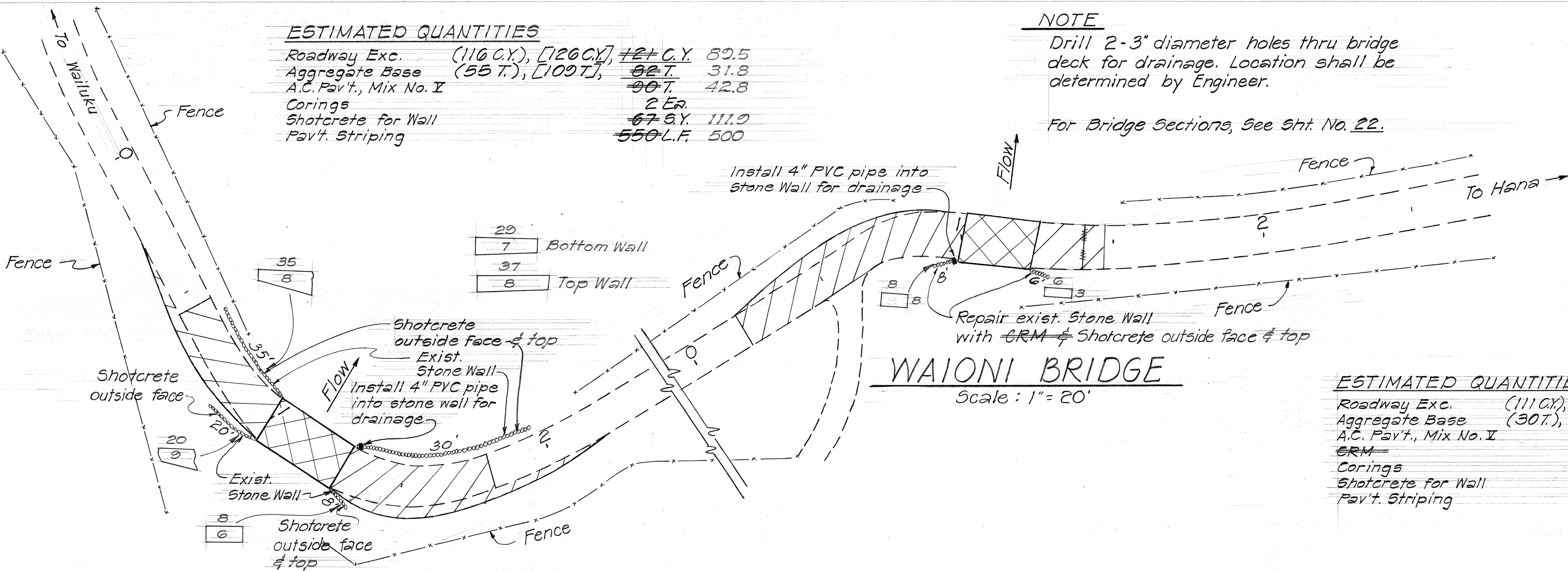
ESTIMATED QUANTITIES

Roadway Exc.	(116 C.Y.), [120 C.Y.]	+2 C.Y.	82.5
Aggregate Base	(55 T.), [109 T.]	62 T.	31.8
A.C. Pav't., Mix No. I		90 T.	42.8
Corings		2 Ea.	
Shotcrete for Wall		67 S.Y.	111.9
Pav't. Striping		550 L.F.	500

NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

For Bridge Sections, See Sht. No. 22.

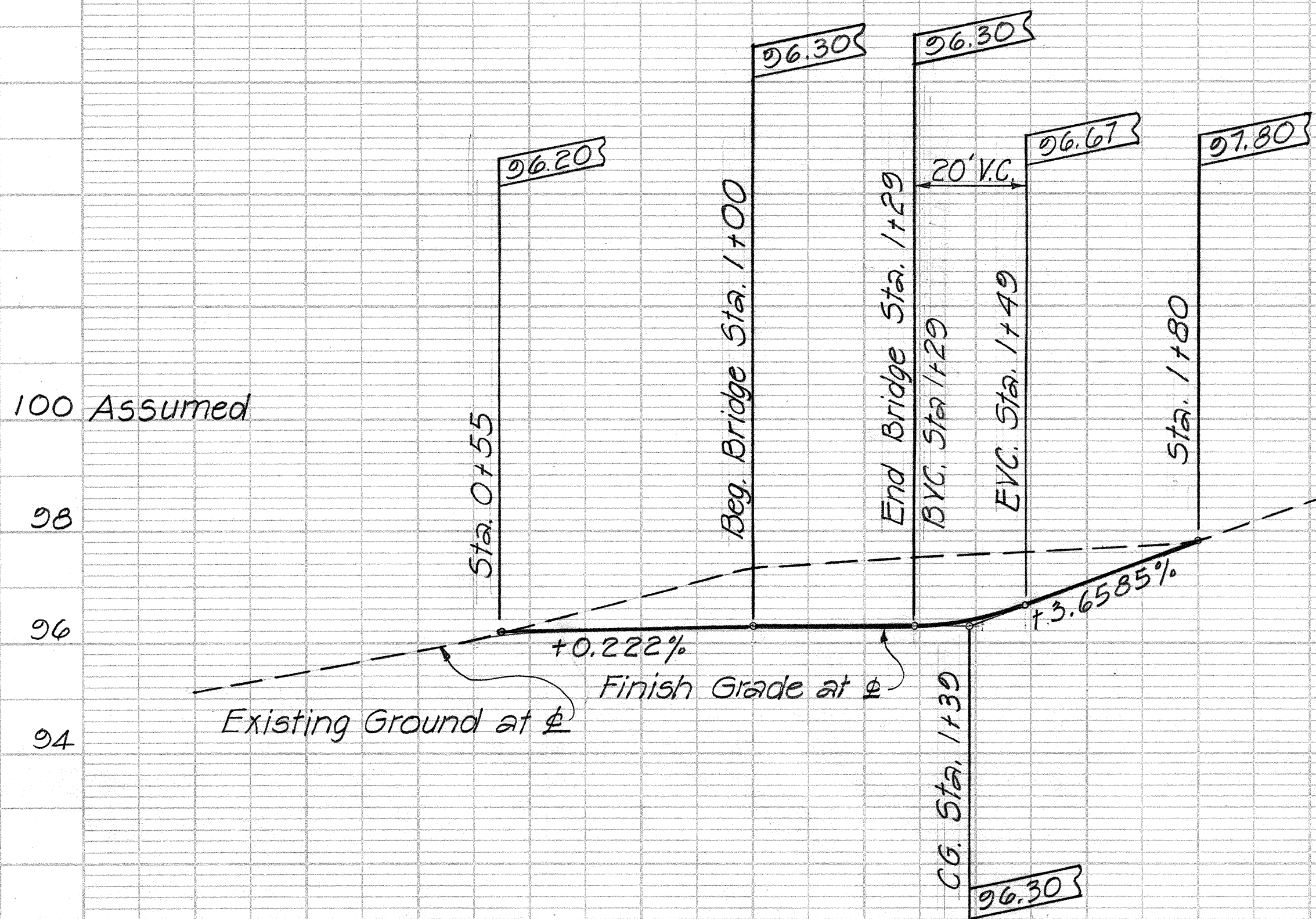


ESTIMATED QUANTITIES

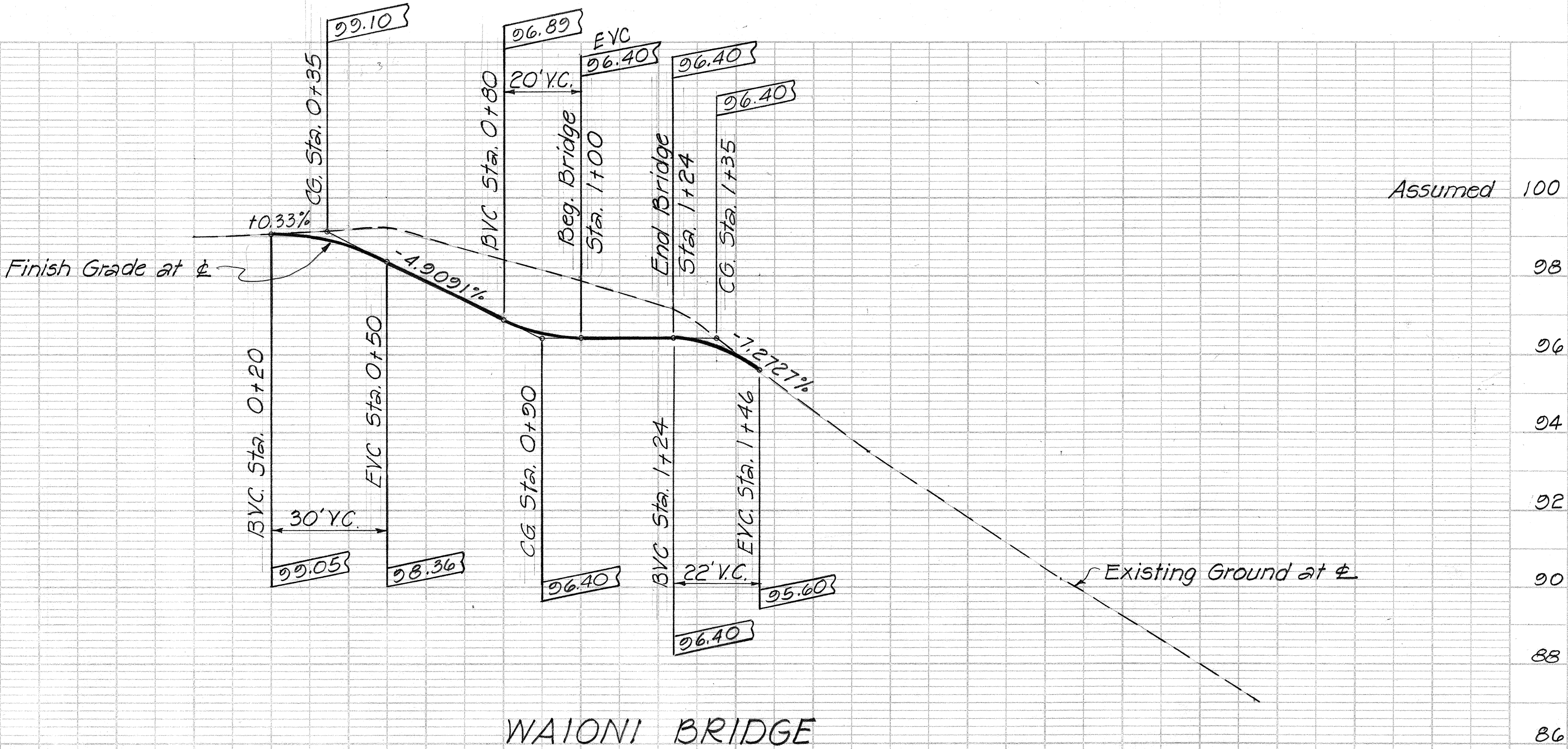
Roadway Exc.	(111 C.Y.), [137 C.Y.]	+24 C.Y.	92.3
Aggregate Base	(30 T.), [110 T.]	70 T.	24.7
A.C. Pav't., Mix No. I		28 T.	33.6
CRM		3 C.Y.	
Corings		2 Ea.	
Shotcrete for Wall		20 S.Y.	9.1
Pav't. Striping		425 L.F.	374

WEST WAIONI BRIDGE

Scale : 1" = 20'



WEST WAIONI BRIDGE



WAIONI BRIDGE

PLAN		BY	DATE
SURVEYED.....			
PLOTTED.....			
ALIGNMENT CHECKED.....			
RT. OF WAY CHECKED.....			
NOTE BOOK			
NO.			

PROFILE	BY		DATE
NOTE BOOK	SURVEYED		
	PLOTTED		
	B.M. 3 NOTED		
NO.	STRUCTURE NOTATIONS CHK'D		

NOTE

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

Scale: 1" = 20'



PLAN	DATE	
	BY	
	REVISIONS	
	NO.	
NOTE BOOK	DATE	
	BY	
	REVISIONS	
	NO.	

PROFILE	DATE	
	BY	
	REVISIONS	
	NO.	
NOTE BOOK	DATE	
	BY	
	REVISIONS	
	NO.	

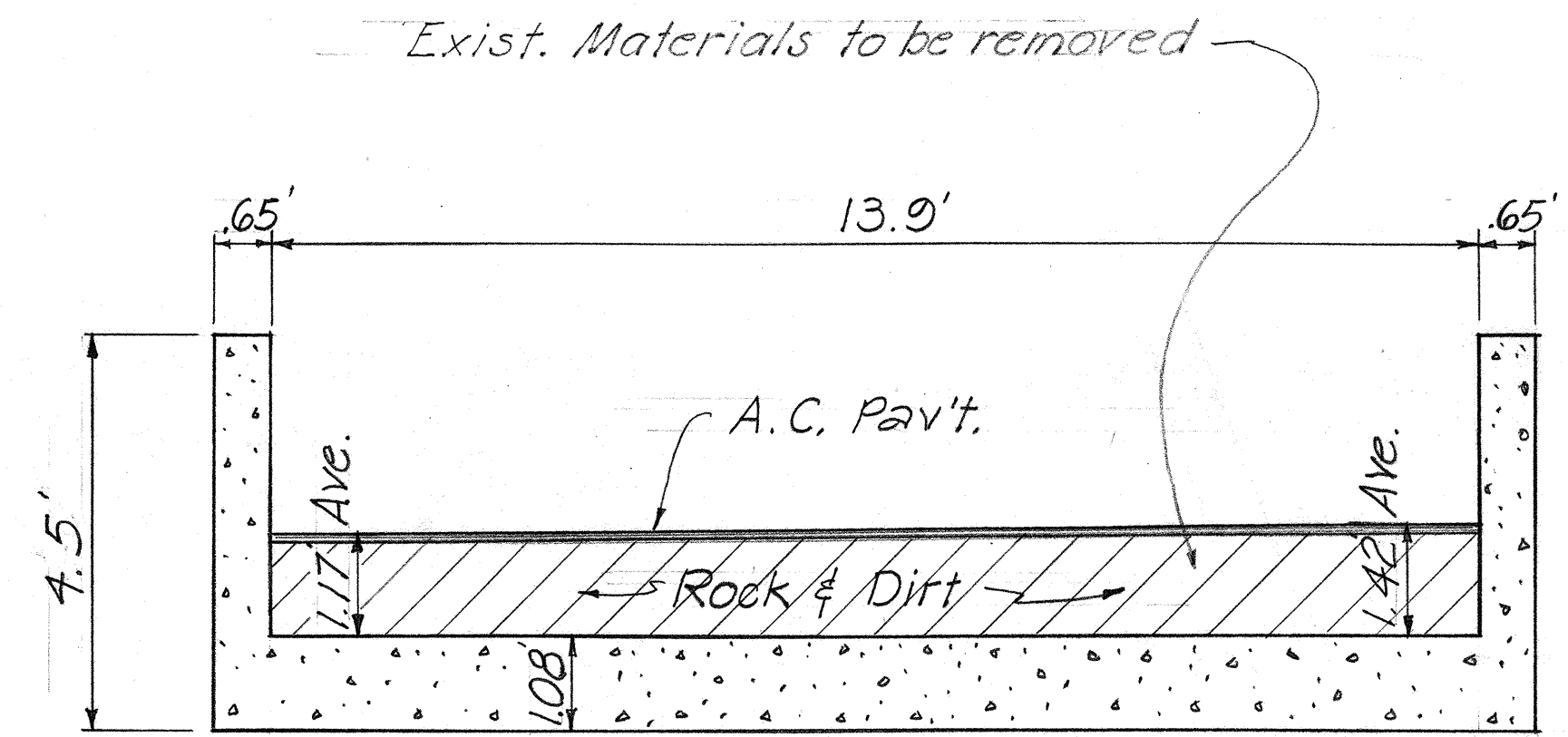
NOTE

Drill 2-3" diameter holes thru bridge deck for drainage. Location shall be determined by Engineer.

ESTIMATED QUANTITIES

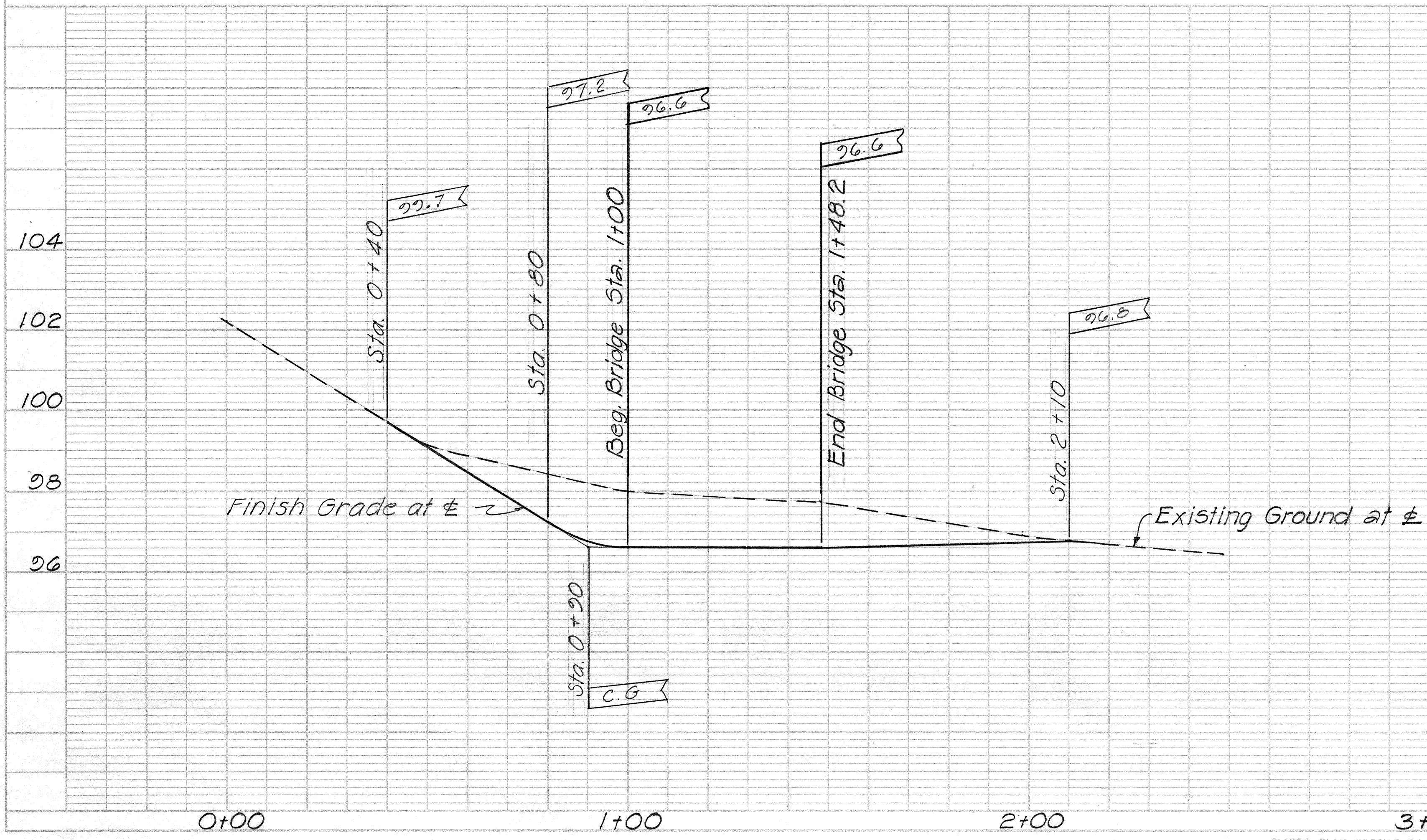
Roadway Exc. (138 C.Y.), [152 C.Y.], ~~145 C.Y.~~ 132.2
 Aggregate Base (53 T.), [119 T.], ~~86 T.~~ 93.1
 A.C. Pav't, Mix No. V ~~28 T.~~ 40.4
 Corings 2 Ea.
 Shotcrete for Wall ~~75 S.Y.~~ 13.6
 Pav't. Striping ~~450 L.F.~~ 377

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	20	24



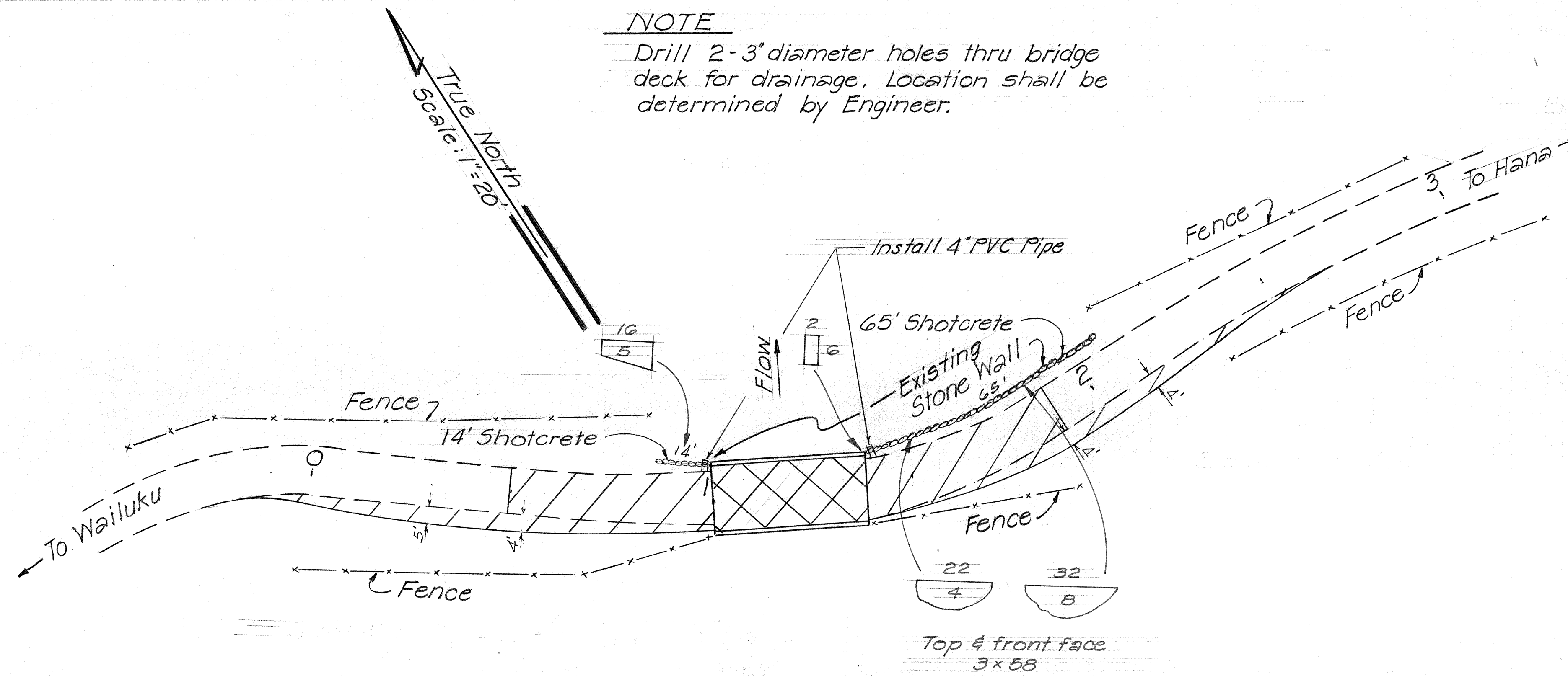
TYPICAL SECTION
 Scale: 1/2" = 1'-0"

MOKULEHUA BRIDGE
 Scale: 1" = 20'



PLAN	DATE	BY
	NO.	NO.
	NO.	NO.
	NO.	NO.

PROFILE	DATE	BY
	NO.	NO.
	NO.	NO.
	NO.	NO.

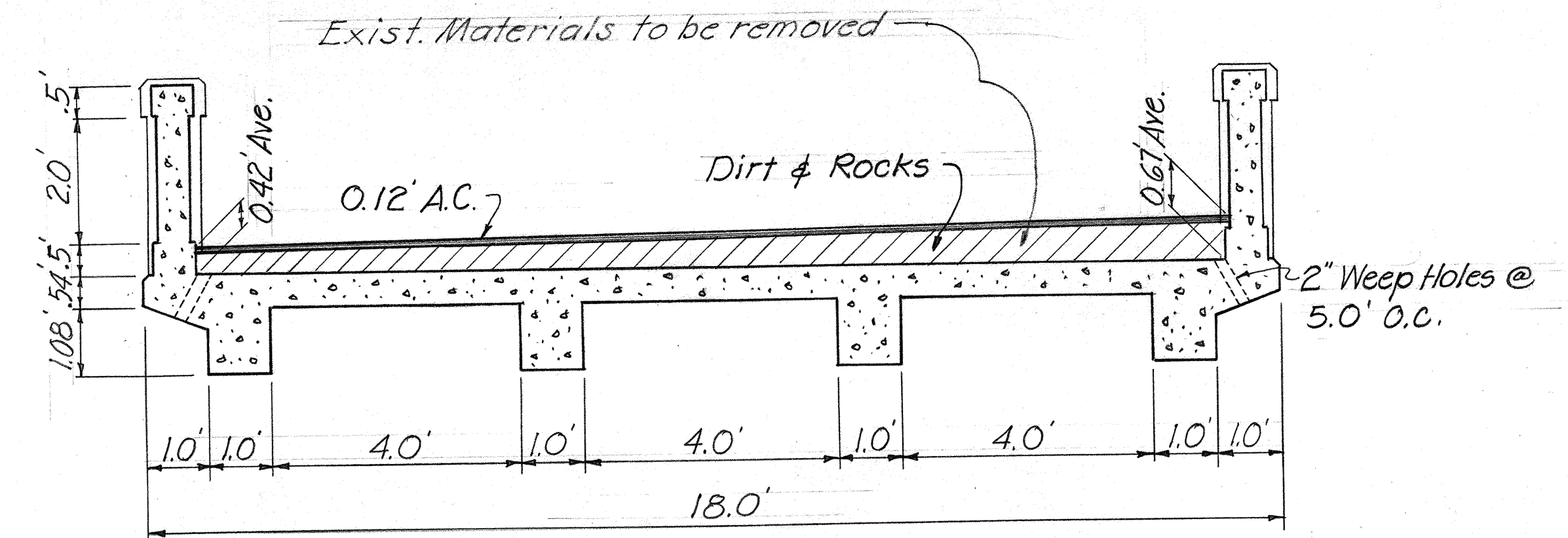


E. HONOMAELE BRIDGE

ESTIMATED QUANTITIES

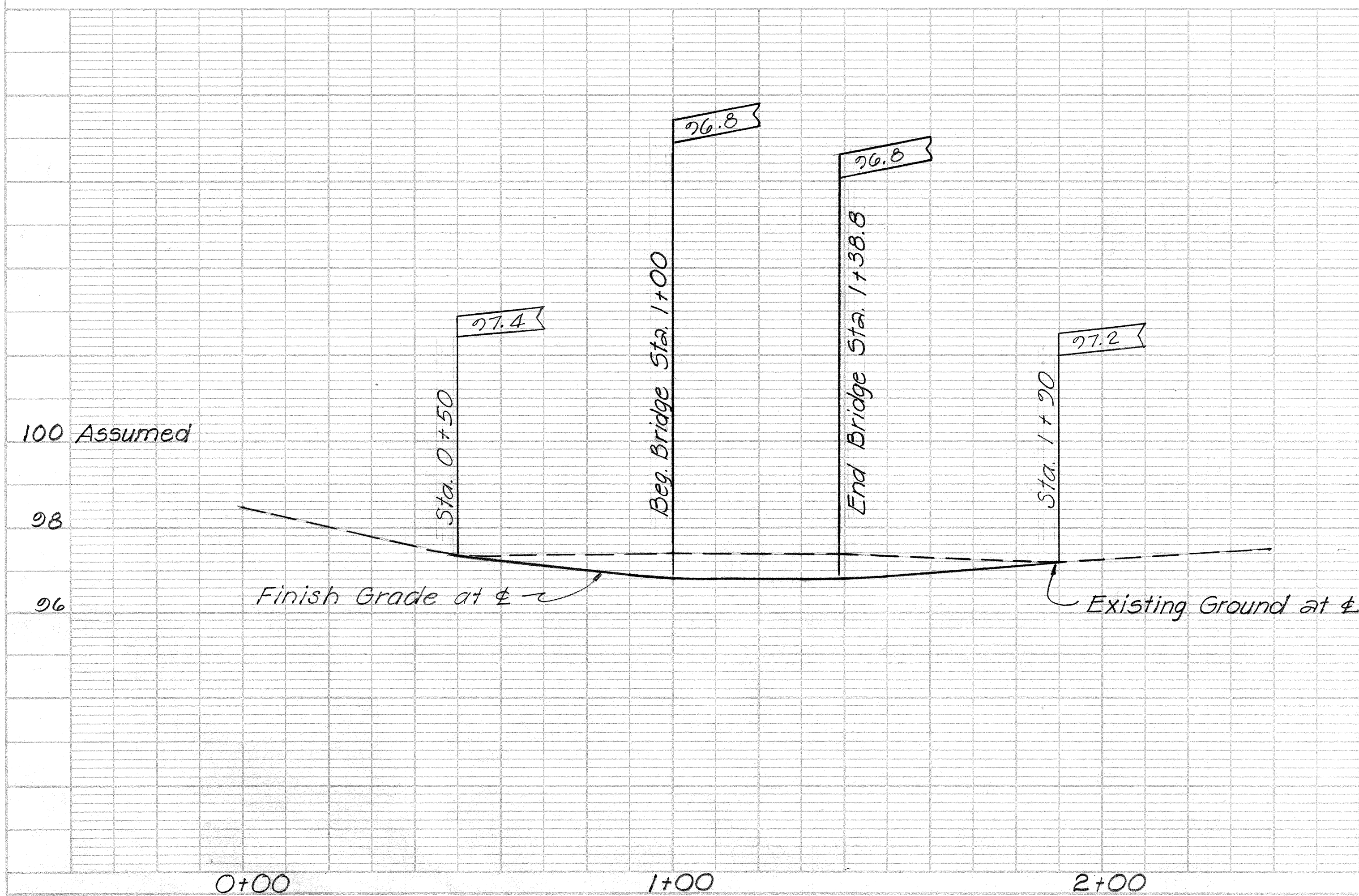
Roadway Exc.	(93 C.Y.), [119 C.Y.] 106 C.Y.	52.7
Aggregate Base	(91 T.), [143 T.] 117 T.	52.7
A.C. Pav't, Mix No. I		42.6
Corings		2 Ea.
Shotcrete for Wall		67.7
Pav't. Striping		350

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-0177	1977	21	24

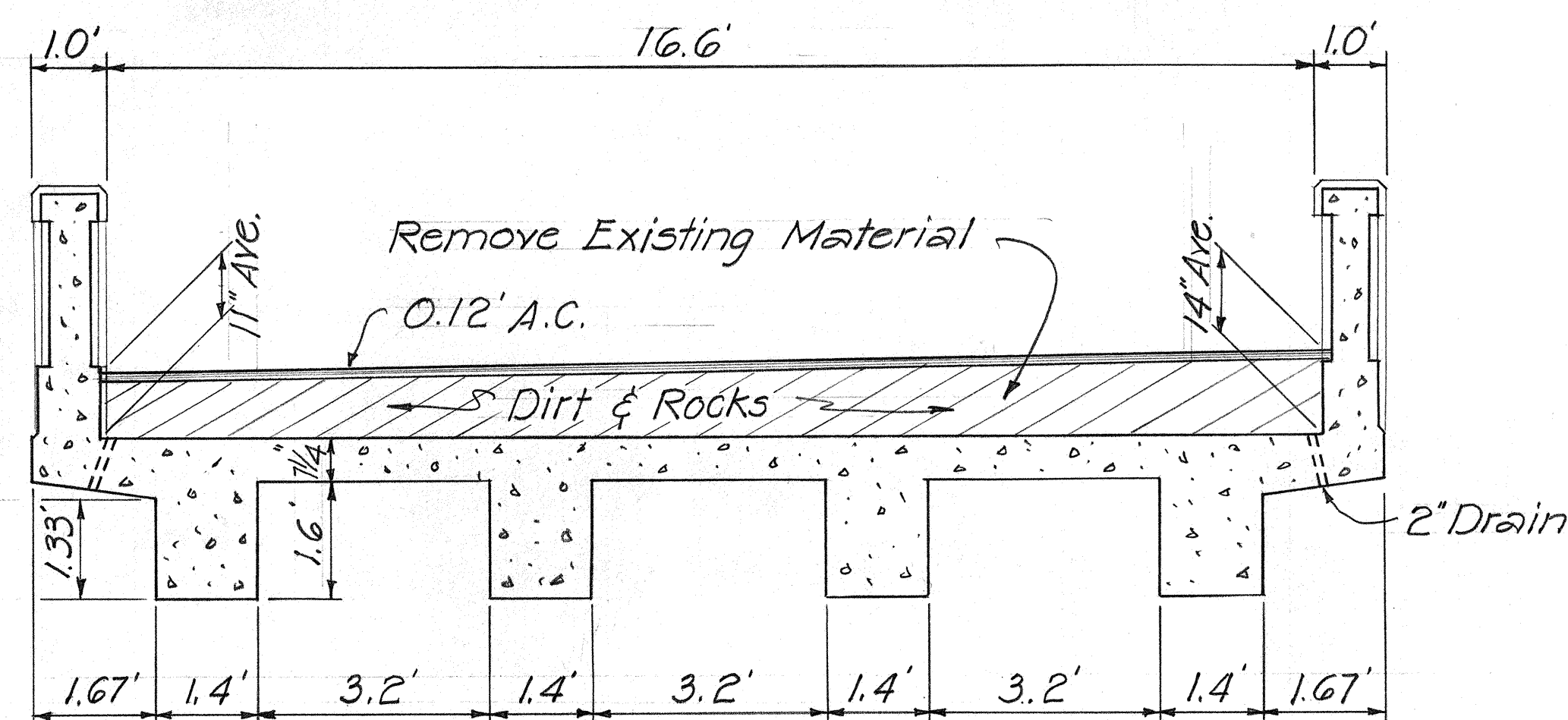


TYPICAL SECTION

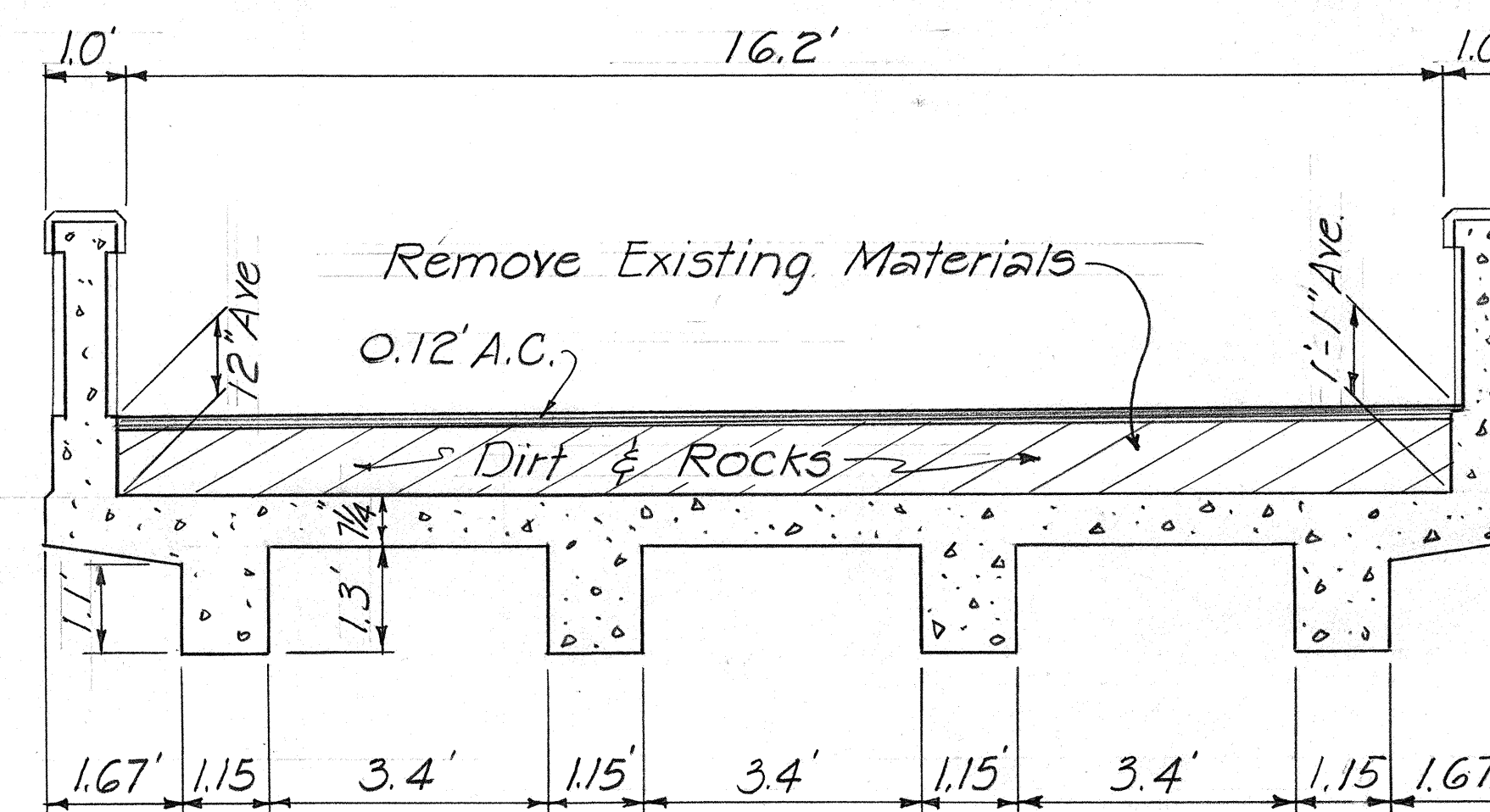
Scale: 1/2"=1'-0"



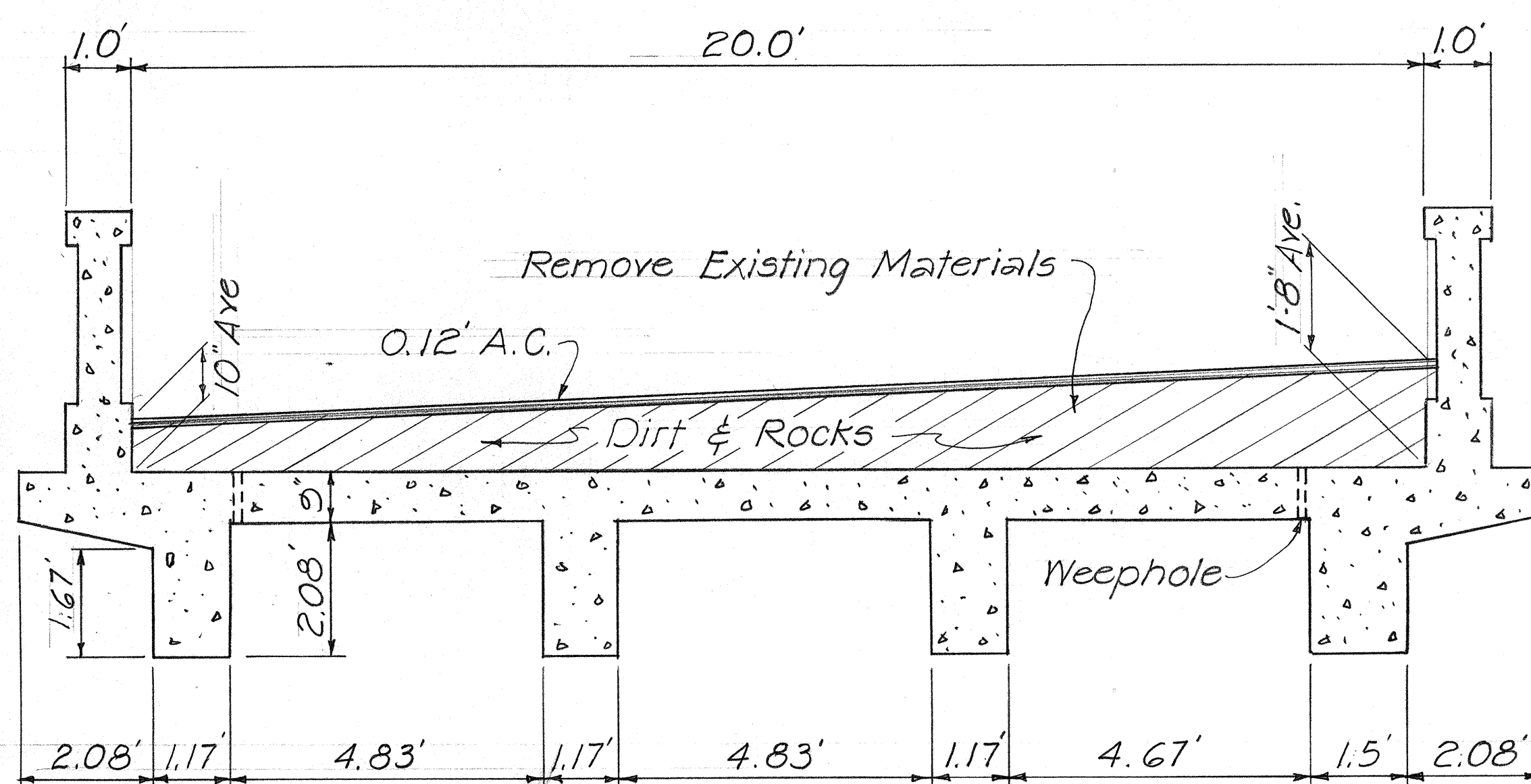
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	360AB-01-77	1977	22	24



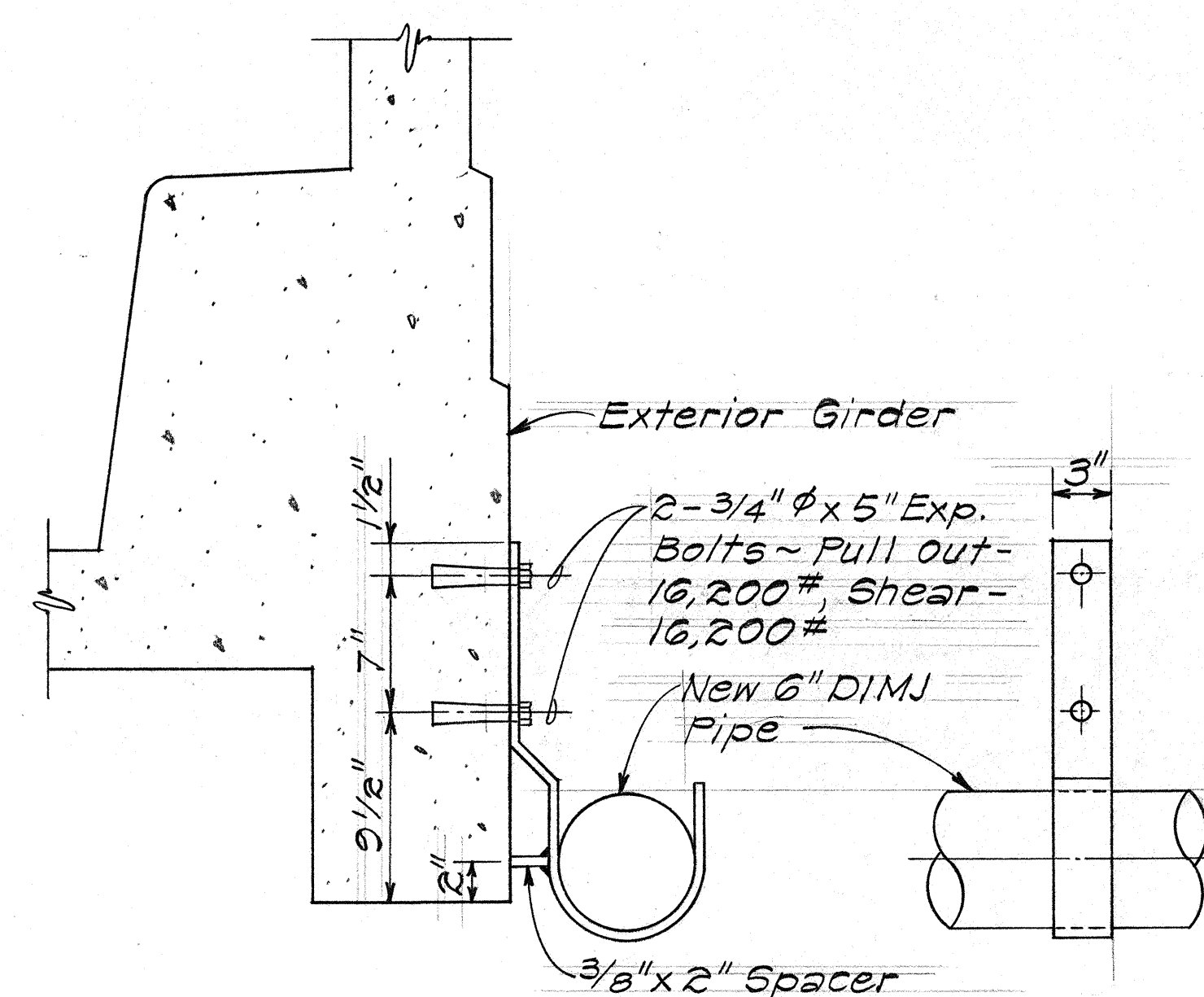
WEST WAIONI BRIDGE
Scale: 1/2" = 1'-0"



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



WEST WAILUAIKI BRIDGE
Scale: 1/2" = 1'-0"



SUPPORT BRACKET DETAIL FOR DIMJ PIPE
Scale: 1/2" = 1'-0"

NOTES:

All Structural Plates shall be 3/8" thick.

All Structural Steels and Hardware shall be hot dip galvanized.

All Welds to be 3/16" continuous fillet weld. It shall conform to the latest Specifications for Welded Highway and Railway Bridge Design.

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
TRACED BY	
DRAWN BY	
STUDY PLOTTED BY	

TYPICAL BRIDGE SECTION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
HANA BRIDGES OVERBURDEN REMOVAL PROJ. NO. 360AB-01-77
SCALE: AS NOTED NOV. 1976 SHEET NO. 20 OF 20 SHEETS