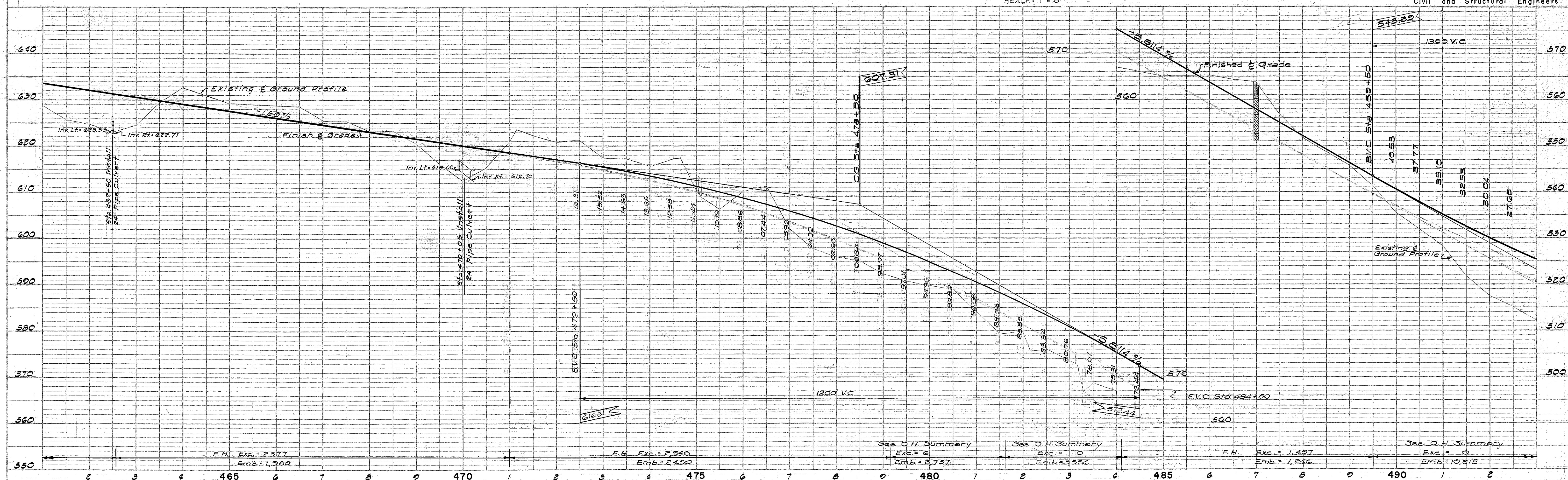
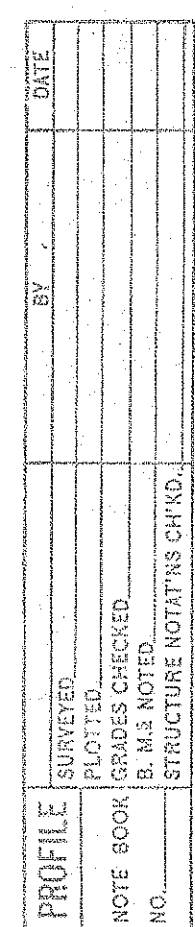
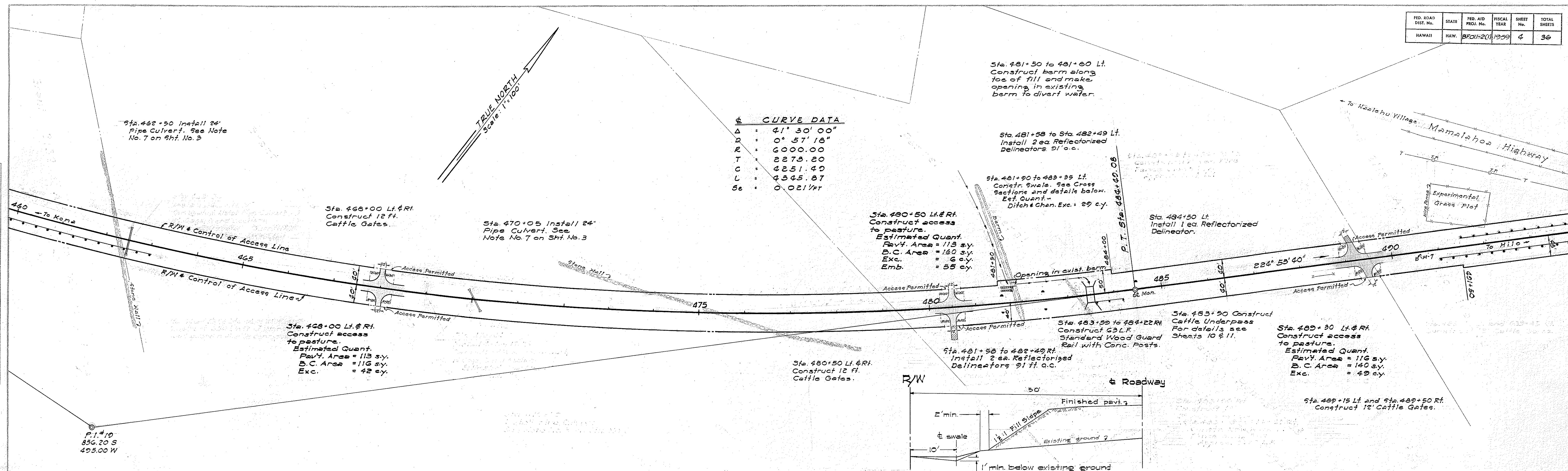
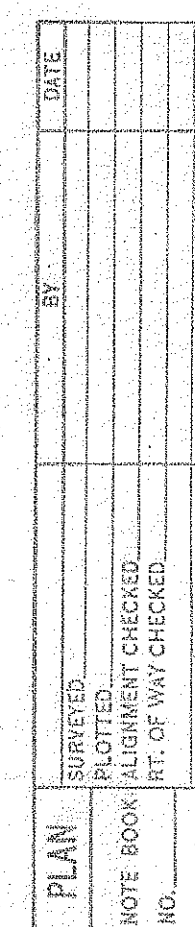




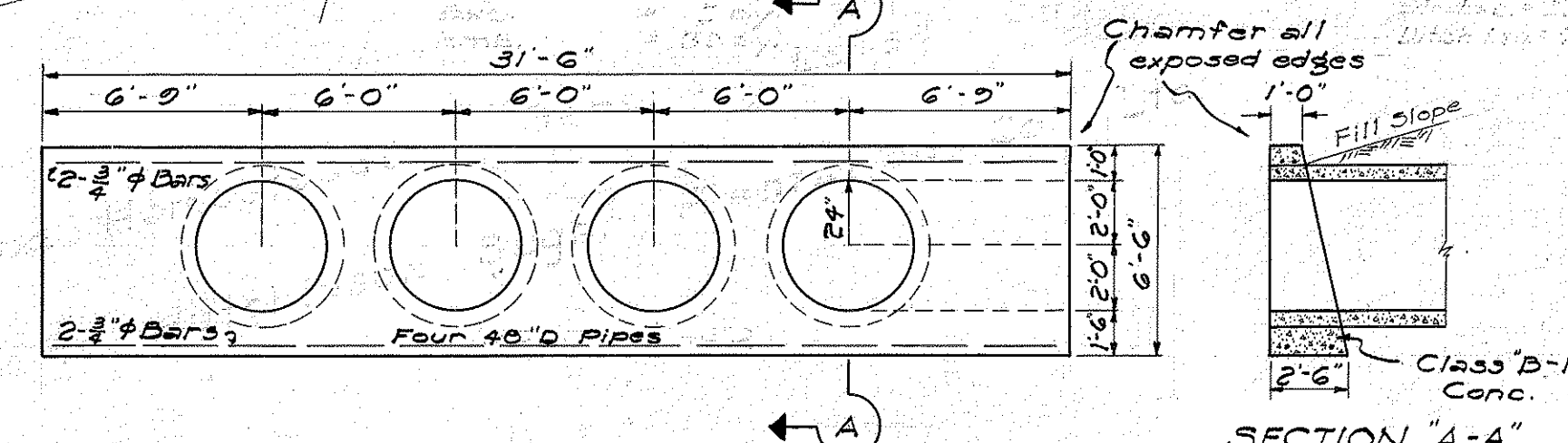
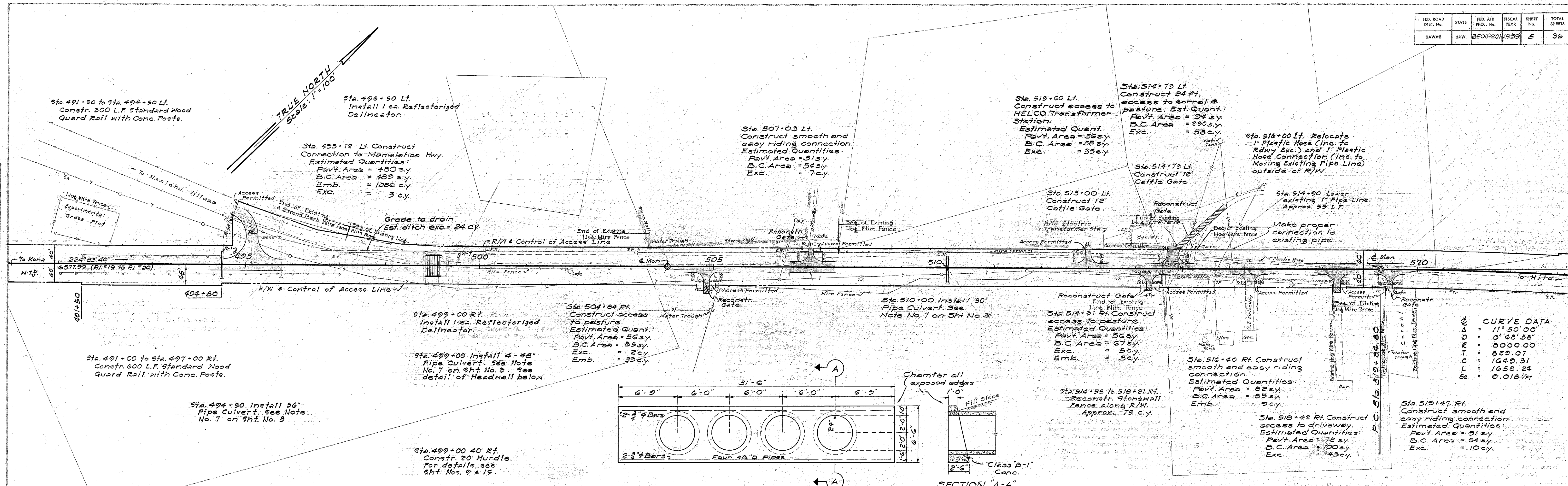
FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	BFOI-2(1)	1959	4	36



FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	5F01-20	1959	5	36

PLAN	DATE	BY
DESIGNED		
PLOTTED		
NOTE BOOK GRASSES CHECKED		
STRUCTURE NOTATION CHECKED		

PROFILE	DATE	BY
DESIGNED		
PLOTTED		
NOTE BOOK GRASSES CHECKED		
STRUCTURE NOTATION CHECKED		



CURVE DATA	
Δ	11° 50' 00"
D	0' 42' 58"
R	8000.00
T	820.07
C	1642.31
L	1652.24
S	0.018 1/ft

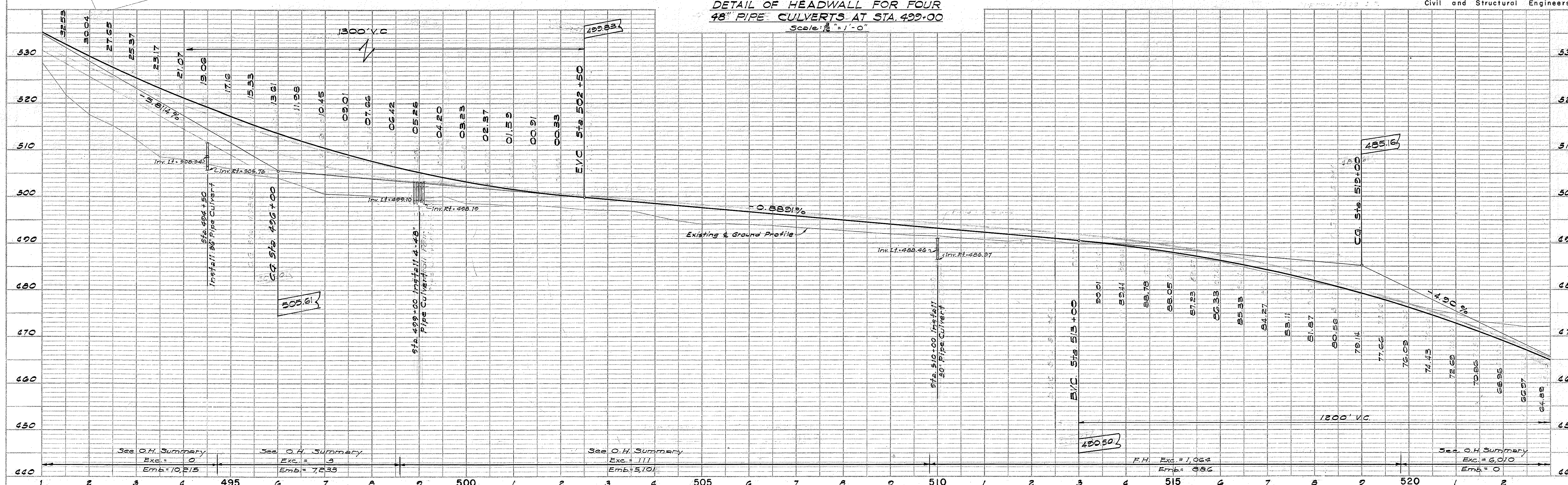


PLATE 1-PLAN-PROFILE O. P. R. & E. STANDARD
KRUEFFEL & EDSEN CO., NEW YORK.

K & E Co. No. 348-10
STRUCTURAL ENGINEERING
14201

4 CURVE DATA
Δ = 11° 50' 00"
D = 0° 42' 58"
R = 8000
T = 829.07
L = 1649.31
C = 1652.24
Se = 0.0181/ft.

4 CURVE DATA
Δ = 40° 43' 40"
D = 1° 25' 57"
R = 4000.00
T = 1484.72
L = 2783.85
C = 2843.34
Se = 0.0331/ft.

Sta. 551+00 Lt. Construct access to pasture. Estimated Quantities: Pavt. Area = 56 sq. B.C. Area = 58 sq. Exc. = 10 cy.

Sta. 550+00 Lt. Relocate existing water and Molasses Trough and make proper connections to Plastic Hose. Approx. 34 L.F.

Sta. 531+80 Lt. & Rt. Construct access to pasture. Estimated Quantities: Pavt. Area = 113 sq. B.C. Area = 52 sq. Exc. = 1 cy.

Sta. 537+00 Install 24" Pipe Culvert. See Note No. 7 on Sht. No. 3

P.M. # N Elev. 452.76 Roof nail in telephone pole #1332, Sta. 527+00

Sta. 532+80 Rt. Install 1ea. ReflectORIZED Delineator

Sta. 534+50 to Sta. 537+50 Rt. Construct 300 L.F. Standard Wood Guard Rail with Concrete Posts

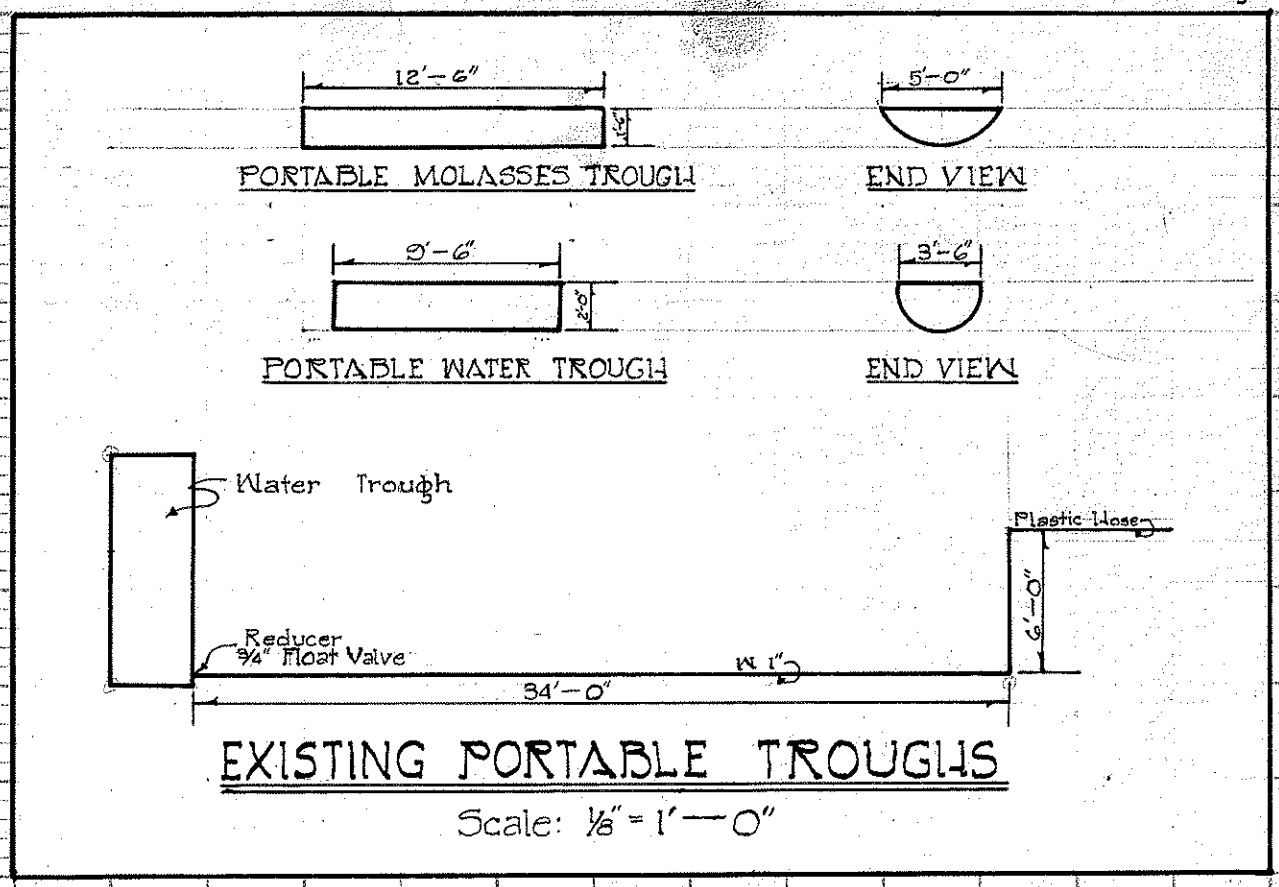
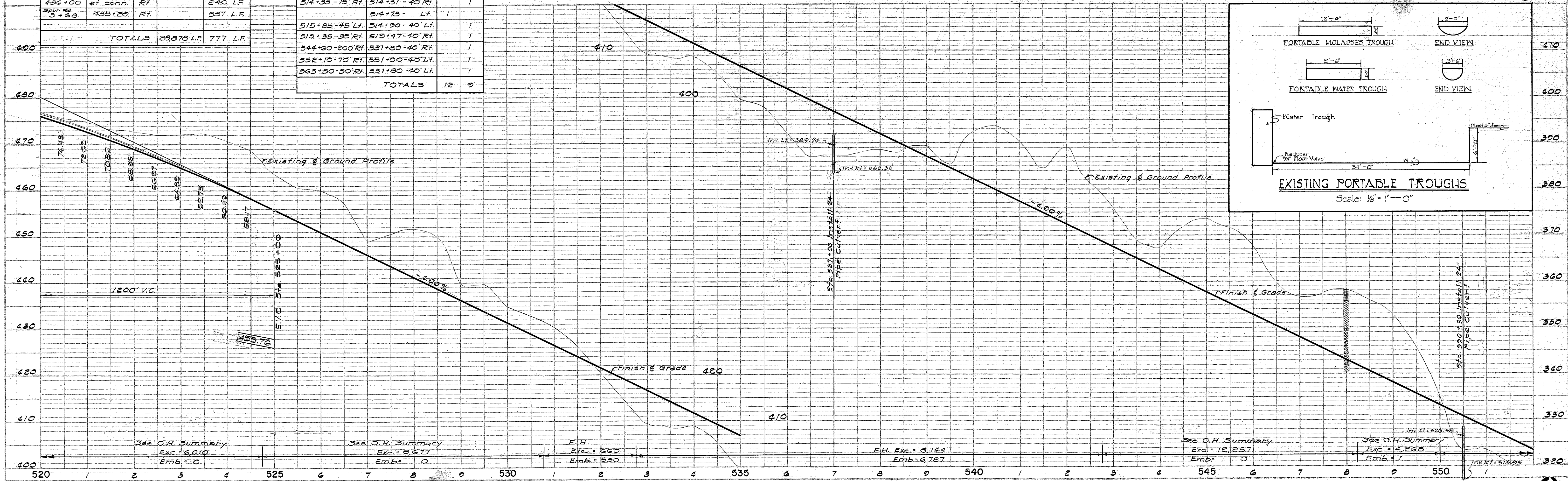
Sta. 550+80 to Sta. 552+50 Right. Construct 170 Lin.Ft. of Standard wood guard rail with conc. posts.

BELT, COLLINS & ASSOC., LTD.
Civil and Structural Engineers

SCHEDULE OF FENCING			
Sta. to Sta.	Left or New Woven Right Wire Fence	Reconstructed Fence	
436+60 - 434+72	Lt.	5,828 L.F.	
435+23 - 514+59	Rt.	7,809 L.F.	
507+67 - 513+90	Lt.	6,111 L.F.	
514+93 - 590+59	Lt.	7,534 L.F.	
513+41 - 563+54	Rt.	4,533 L.F.	
599+25 - 593+00	Rt.	1,018 L.F.	
599+59 - 603+50	Lt.	414 L.F.	
600+79 - 603+50	Rt.	288 L.F.	
Spur Rd. 3+75 - 436+60	Lt.	688 L.F.	
3+75 - 5+68	Rt.	1,051 L.F.	
436+00 at conn.	Rt.		240 L.F.
Spur Rd. 5+68 - 435+20	Rt.		537 L.F.
TOTALS		28,878 L.F.	777 L.F.

SCHEDULE OF GATES			
From Sta.	To Sta.	New	Reconstructed
436+35 - 155' Rt.	436+00 - 155' Rt.		1
	443+90 - Lt. & Rt.	2	
	454+50 - Lt. & Rt.	2	
	468+00 - Lt. & Rt.	2	
	480+50 - Lt. & Rt.	2	
	489+13 - Lt.	1	
	489+50 - Rt.	1	
501+90 - 5' Rt.	504+84 - 40' Rt.		1
507+03 - 60' Lt.	507+03 - 40' Lt.		1
	513+00 - Lt.	1	
514+35 - 15' Rt.	514+31 - 40' Rt.		1
	514+73 - Lt.	1	
515+25 - 45' Lt.	514+90 - 40' Lt.		1
510+35 - 35' Rt.	510+47 - 40' Rt.		1
544+60 - 200' Rt.	531+80 - 40' Rt.		1
552+10 - 70' Rt.	551+00 - 40' Lt.		1
563+50 - 30' Rt.	531+80 - 40' Lt.		1
TOTALS		12	9

NOTE: Relocate entire length of 1" plastic hose outside of Lt. R/W incidental to Roadway Exc.



PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.

TRUE NORTH
Scale: 1"=100'

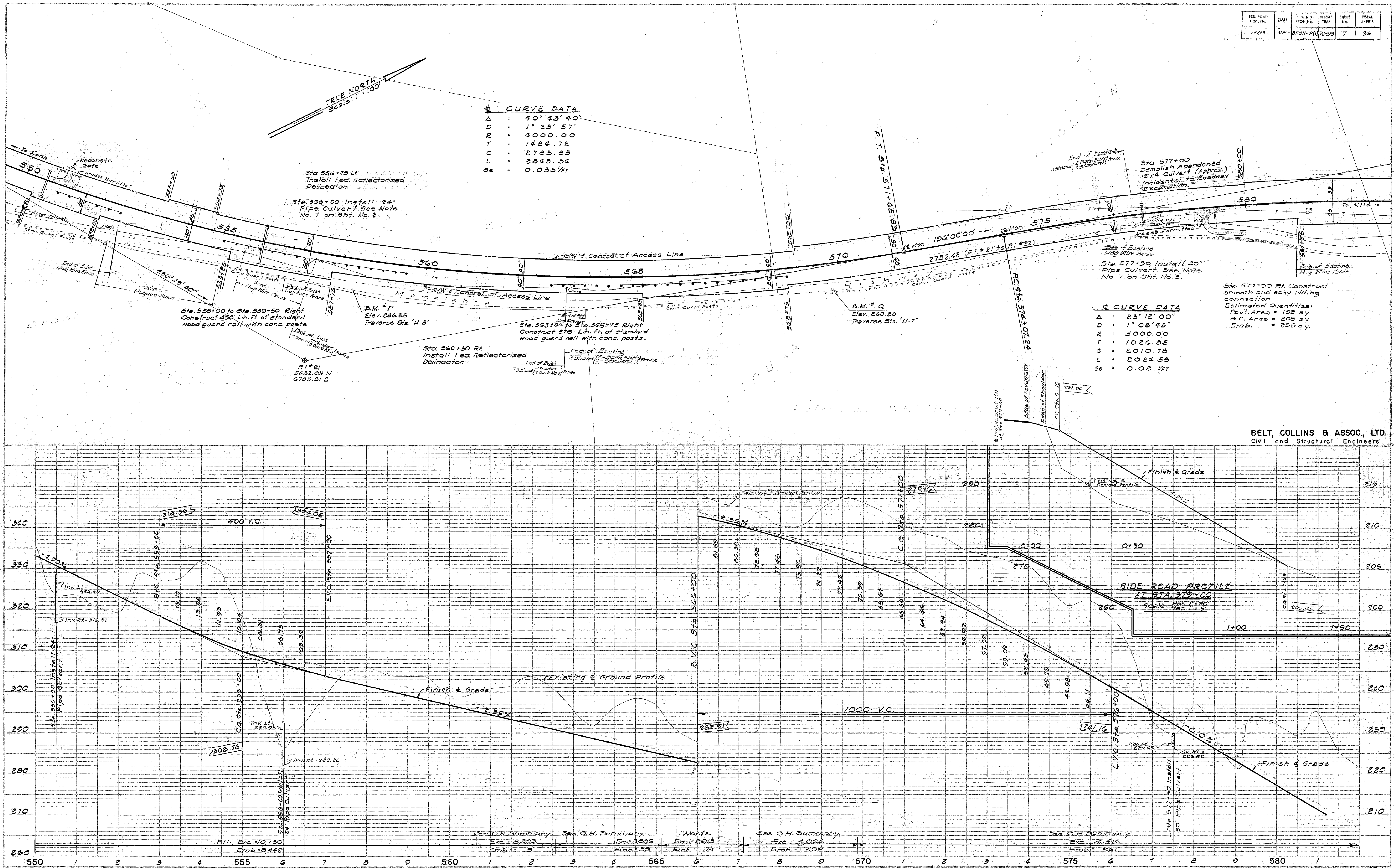
CURVE DATA

Δ	40° 43' 40"
D	1° 25' 57"
R	4000.00
T	1484.72
C	2783.85
L	2843.34
Se	0.033 1/ft

CURVE DATA

Δ	23° 12' 00"
D	1° 08' 45"
R	5000.00
T	1026.35
C	2010.78
L	2024.58
Se	0.02 1/ft

Sta. 579+00 Rt. Construct smooth and easy riding connection.
Estimated Quantities:
Pvt. Area = 192 s.y.
B.C. Area = 208 s.y.
Emb. = 255 c.y.

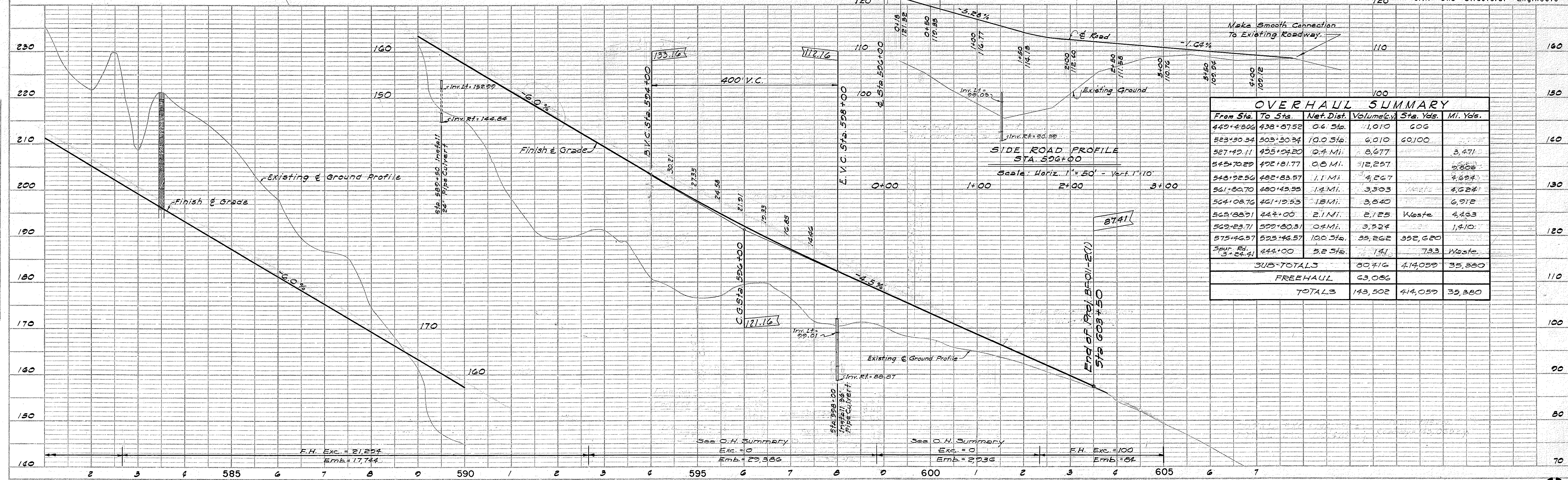
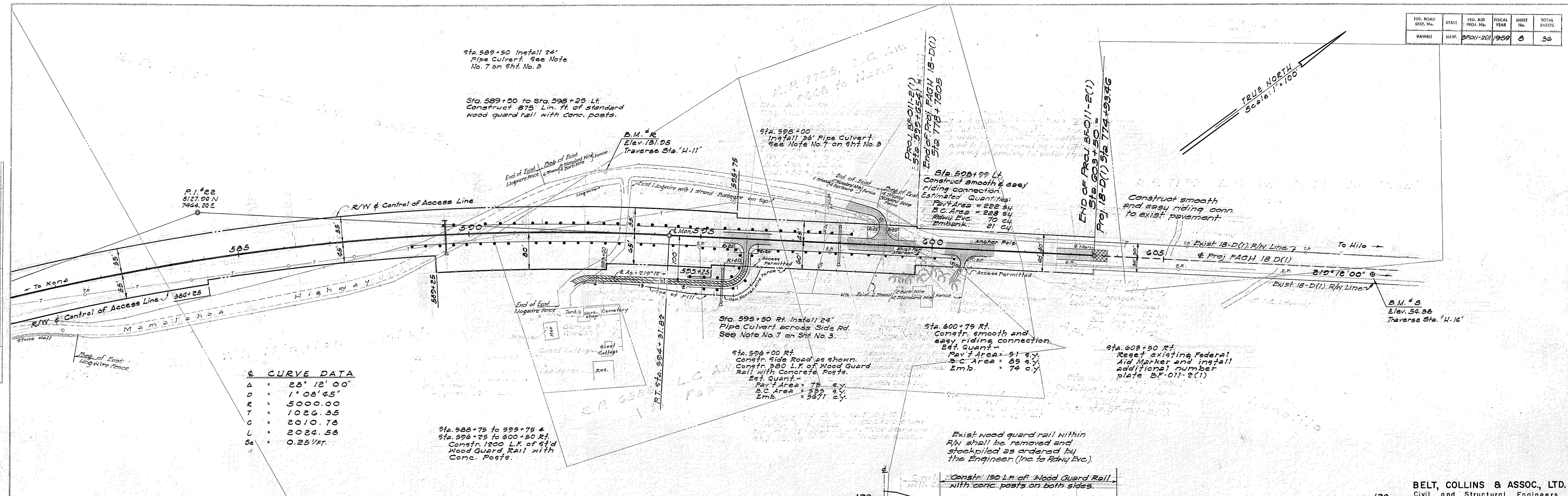


BELT, COLLINS & ASSOC., LTD.
Civil and Structural Engineers

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	5501-201	1959	8	36

PLAN	DATE	BY
SURVEYED		
PLOTTED		
NOTE BOOK		
RT. OF WAY CHECKED		

PROFILE	DATE	BY
SURVEYED		
NOTE BOOK		
GRADES CHECKED		
B.M. NOTED		
STRUCTURE HOISTS CH'GD		



OVERHAUL SUMMARY					
From Sta.	To Sta.	Net Dist.	Volume	Sta. Yds.	Mi. Yds.
449+48.06	438+67.52	0.6 Sta.	1,010	606	
523+30.34	503+30.34	10.0 Sta.	6,010	60,100	
527+42.11	435+04.20	0.4 Mi.	8,677		3,471
545+70.29	422+18.77	0.8 Mi.	12,257		5,558
548+22.50	482+83.57	1.1 Mi.	4,267		4,624
561+80.70	480+45.55	1.4 Mi.	3,303		4,624
564+08.76	461+19.53	1.8 Mi.	3,840		6,912
565+88.91	444+00	2.1 Mi.	2,125	Waste	4,463
569+23.71	522+60.31	0.9 Mi.	3,524		1,410
575+46.57	525+46.57	100 Sta.	35,262	352,620	
Spur Rd. 3+24.41	444+00	5.2 Sta.	151	733	Waste
SUB-TOTALS			80,416	414,059	35,380
FREEHAUL			63,086		
TOTALS			143,502	414,059	35,380

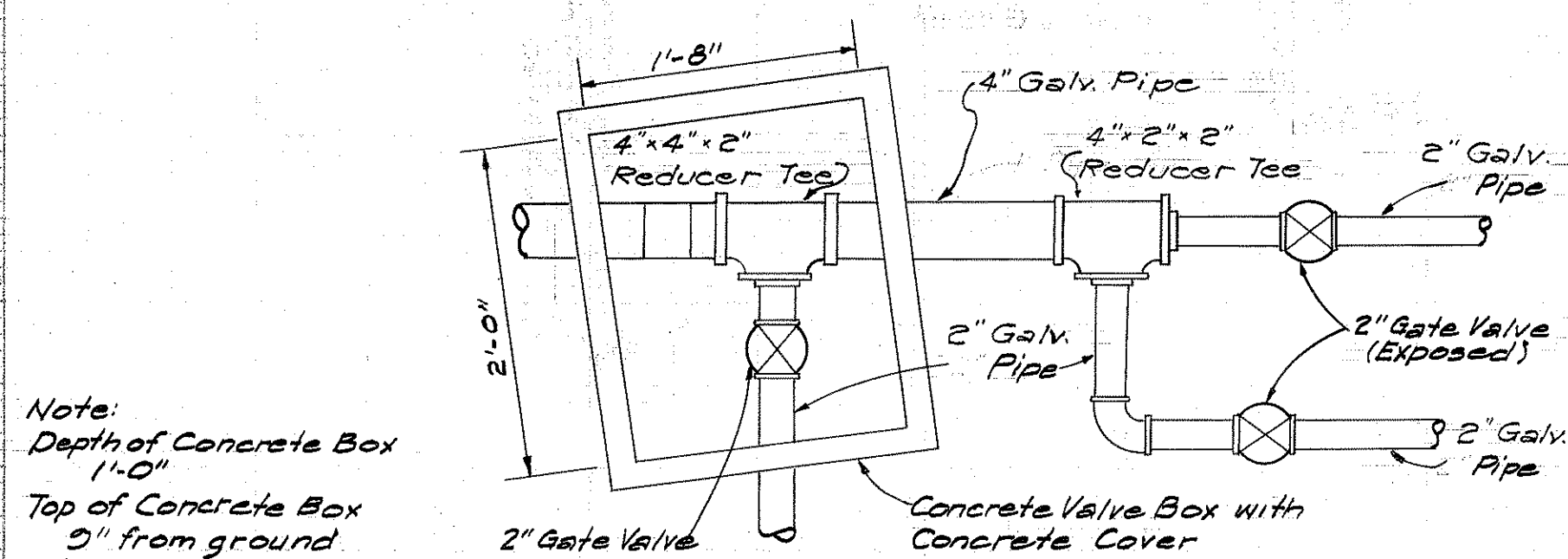
PLAN	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	ALIGNMENT CHECKED		
NO.	RT. OF WAY CHECKED		

DATE	BY	PROFILE
		SURVEYED
		PLOTTED
		NOTE BOOK
		8. M & NOTED
		NO
		STRUCTURE NOTATIONS CHNO.

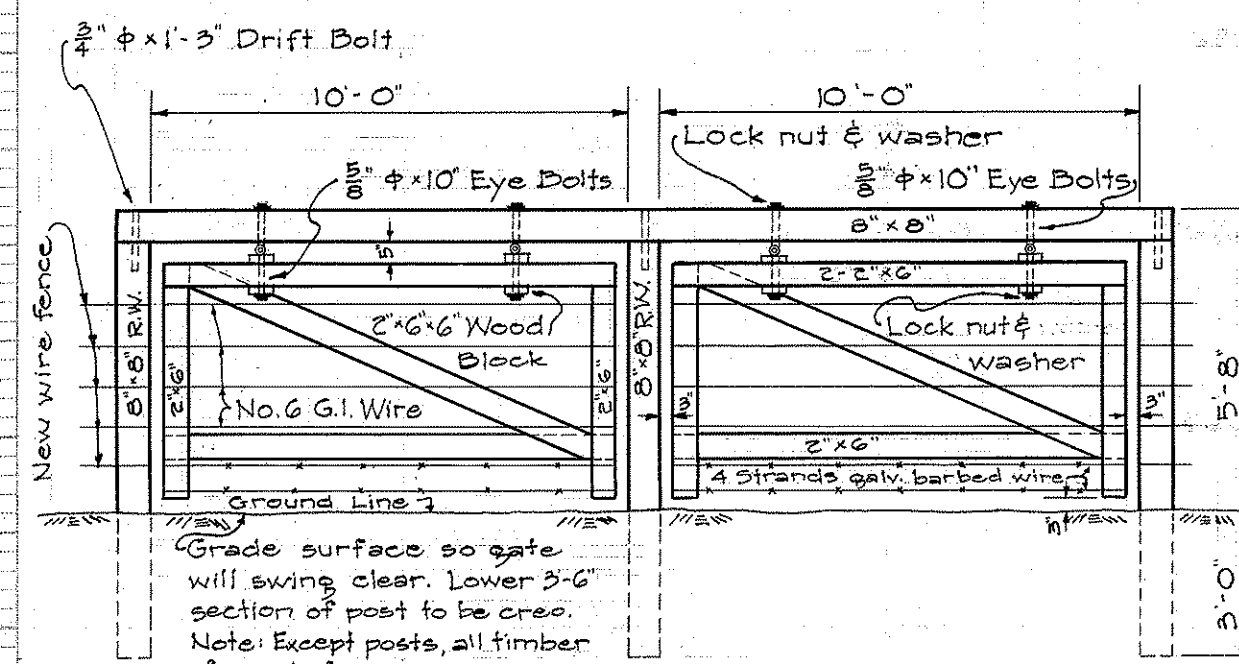


1. Minimum cover of pipes to be buried shall be 1'-6".
2. Relocation of existing valve box shall be incidental to moving pipe lines.
3. Where existing pipe lines are exposed, relocated lines shall be left exposed.
4. All work involved in the relocation of the pipe lines and valve boxes shall conform to the applicable articles of Section 96 and 100 of the Standard Specifications and Special Provisions.

SUMMARY OF PIPE CULVERTS																								
STATION	ALTERNATE "A"										ALTERNATE "B"													
	Galv. Corr Metal Pipes				End Sections	Struct Exc.	Ditch & Chan.	Item #46(2) Exc.	Item #40(1) Reinf. Conc.	Select Fill Mat.	Reinf. Conc. Class IV	Ditch & Chan.	Item #40(2) Reinf. Conc.	Item #46(1) Reinf. Steel	Item #40(1) Reinf. Steel	Select Fill Mat.								
	24"	30"	36"	48"													24"	30"	36"	48"	24"	30"	36"	48"
	146a	146a	126a	126a													24"	30"	36"	48"	24"	30"	36"	48"
439+00		58			2		26				60		26		434		102							
462+30	58				2		7	4			60		7	4	876		84							
470+05	56				2		4				56		4	1	276		84							
494+50			26		2		2				65				548		120							
499+00	176			176			45	9	22	375		176	45	9	22	375								
510+00	44				2		31	2			44		31	2	434		102							
537+00	58				2		5				60				276		84							
550+30	60				2		7				60		7		434		102							
556+00	90						40	28	3	42	12	32	40	28	3	42	12							
577+50		46			1		15		172				25		172	217	51							
589+30	68				1		25	23	158	42	4	68	25	23	158	42	4							
593+00					2		67	1				84	67	1	548		120							
Total Roadway	330	148	150	176	5	5	4	271	78	2810	452	25	322	132	152	176	271	78						
Sidewalk at 595+50	74				2		4				76		4		276		84							
Spur Road at 2+90		56			2		40				56		40		434		102							
TOTALS	464	204	150	176	11	7	4	215	78	2810	452	25	472	208	152	176	315	78						
															2891	450	891	25						



EXISTING VALVE BOX & GATE VALVES
STA 3+70±
Scale: 1"=1'-0"



DETAILS OF HURDLE
AT STA. 499+00
Scale: $\frac{1}{4}$ " = 1'-0"

