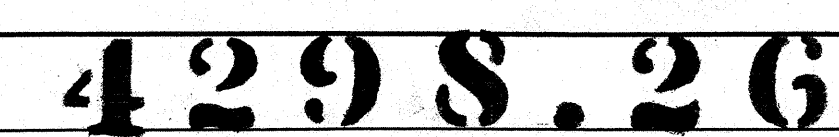
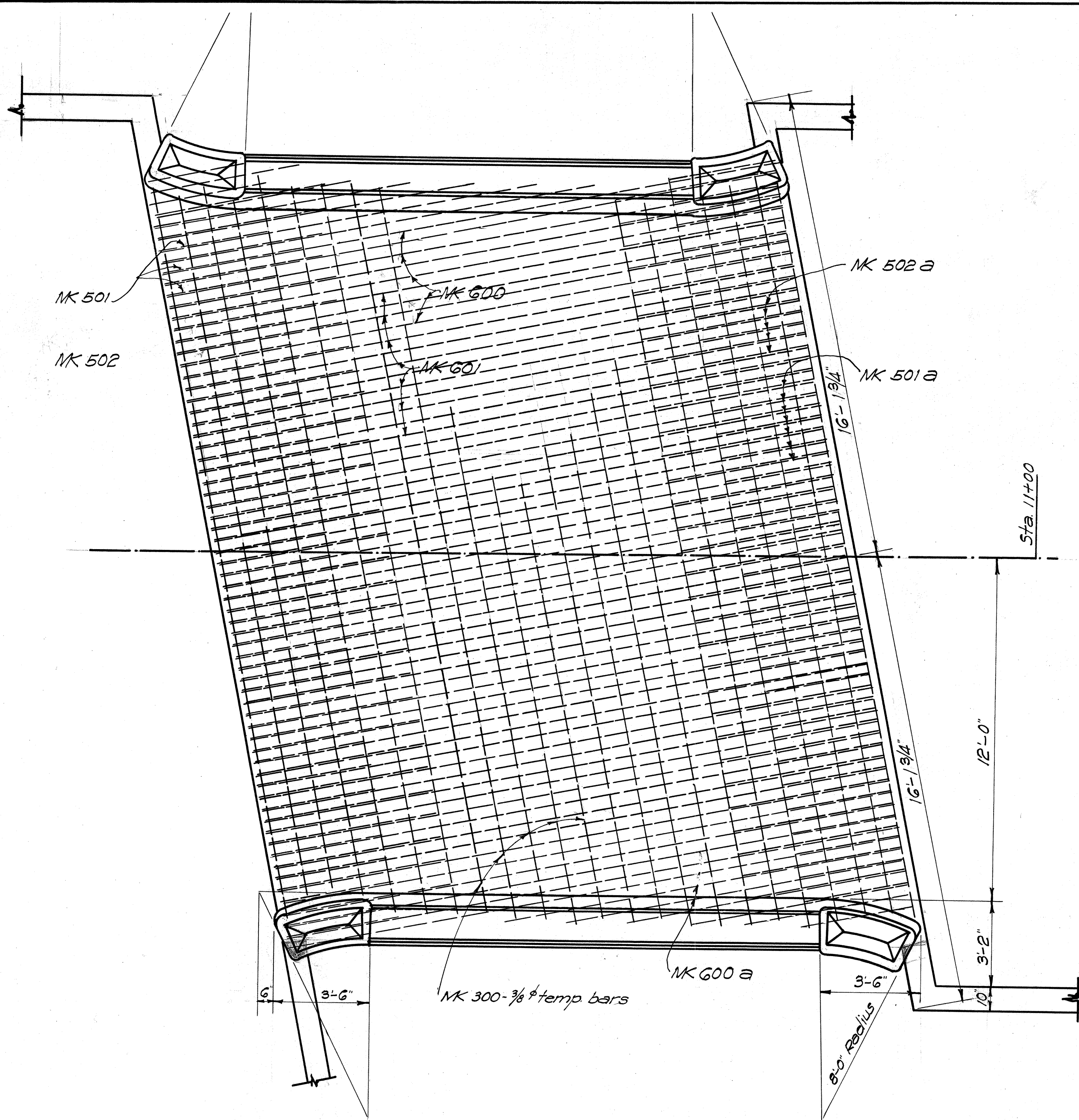


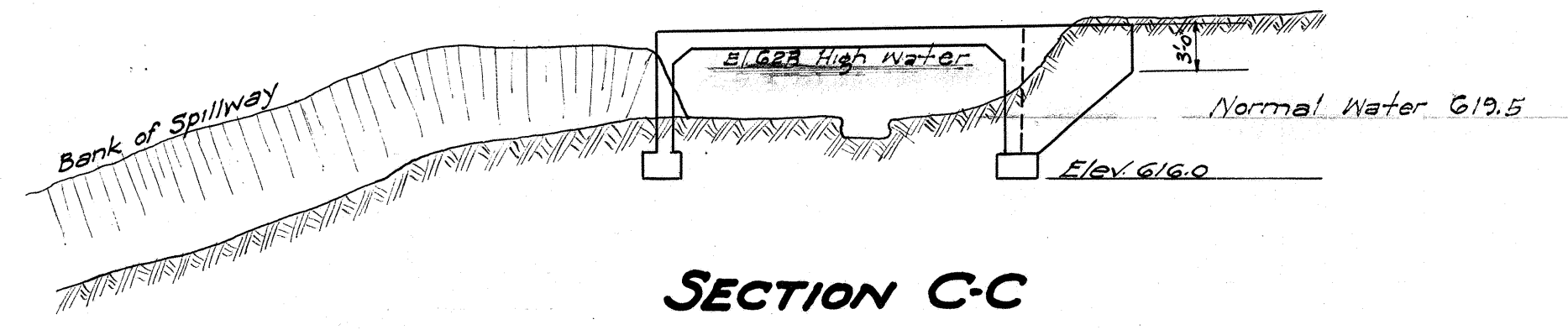
ORIGINAL PLAN	SURVEY PLOTTED BY K. L. B.	DATE.....
	DESIGNED BY C. F. V.	44
	DRAWN BY W. C. B.	46
	TRACED BY R. C. B.	48
	QUANTITIES BY E. J. S.	50
	CHECKED BY	52
		54
		56
		58
		60
		62
		64
		66
		68
		70
		72
		74
		76
		78
		80
		82
		84
		86
		88
		90
		92
		94
		96
		98
		100

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DESIGNED BY	46
	DRAWN BY	46
	TRACED BY	46
NOTE BOOK	QUANTITIES BY	46
	CHECKED BY	46

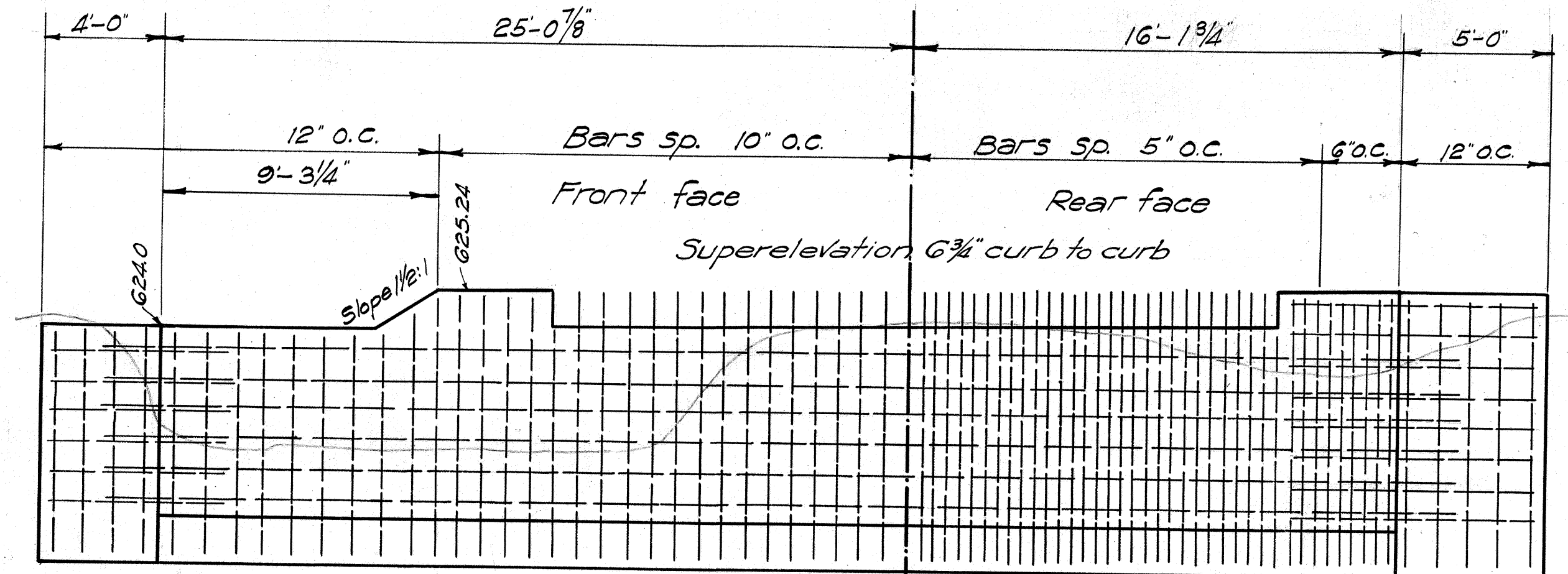




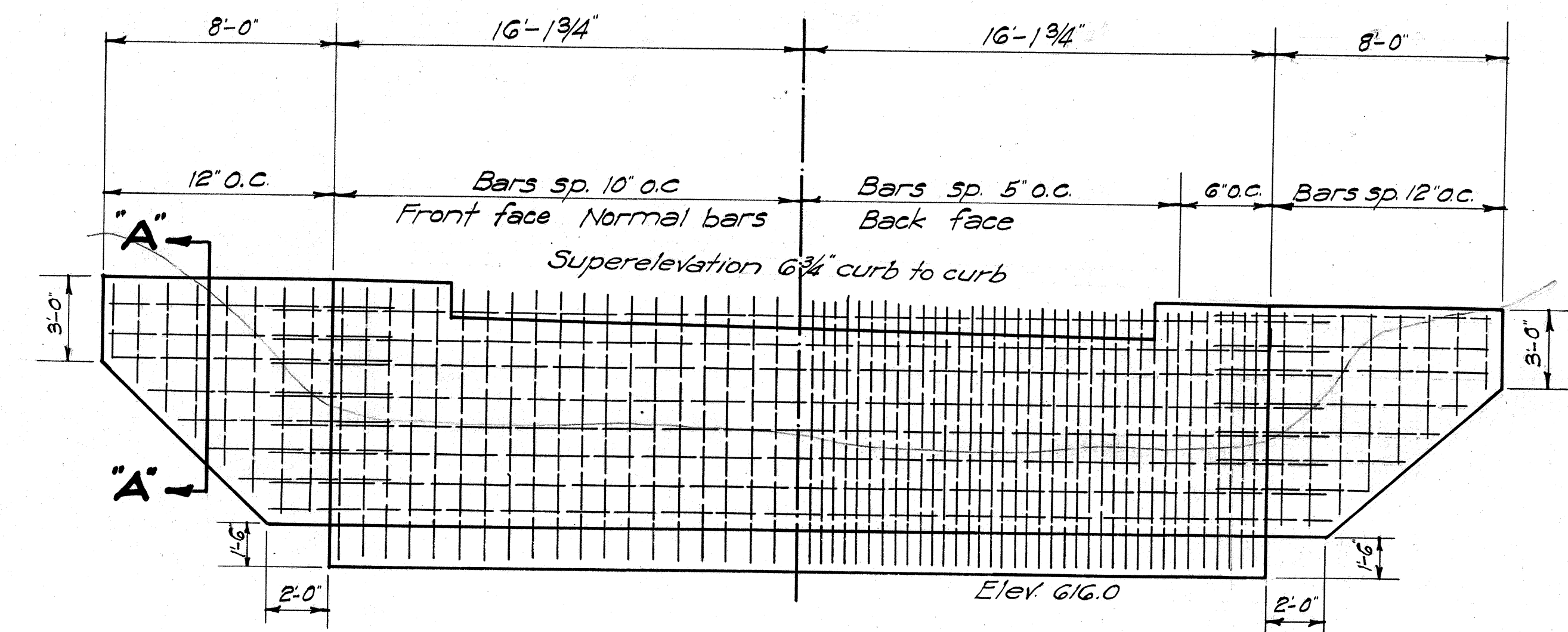
DECK REINFORCING PLAN
Scale $\frac{3}{8}'' = 1'-0''$



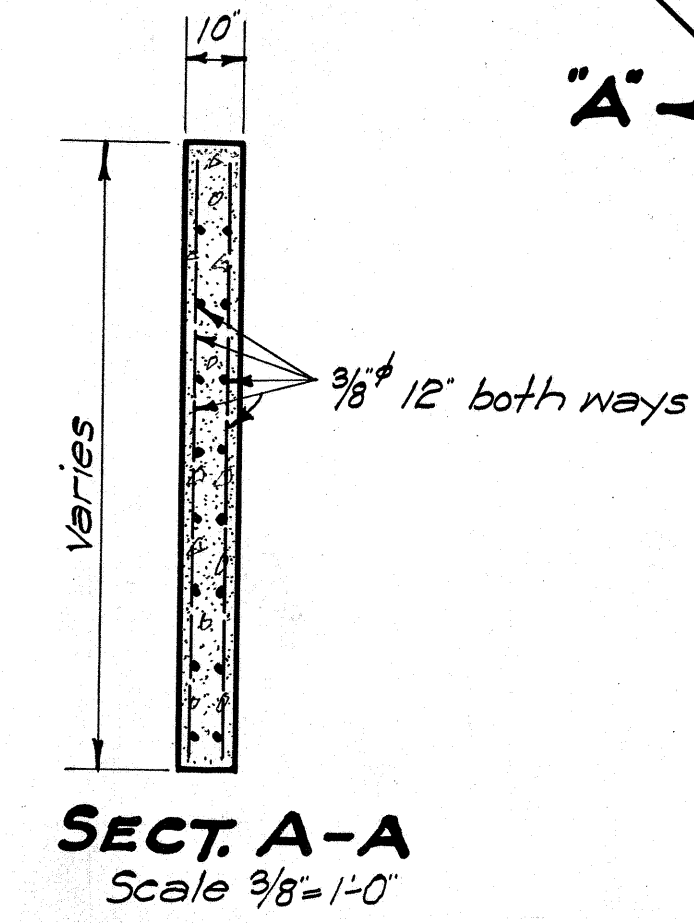
SECTION C-C



ELEV. ABUTMENT STA. 11+08.94
Scale $\frac{1}{4}'' = 1'-0''$



ELEV. OF ABUTMENT STA. 11+29.26
Scale $\frac{1}{4}'' = 1'-0''$



SECT. A-A
Scale $\frac{3}{8}'' = 1'-0''$

QUANTITIES			
LOCATION	STR. EXC.	CONCRETE	STEEL
Footings	29.5 cy	10.0 cy	1520 #
Abutments	21.5 "	24.0 "	3050 #
Superstructure		24.5 "	3878 #
Railing		6.5 "	450 #
Totals	51.0 cy	65.0 cy	8898 #

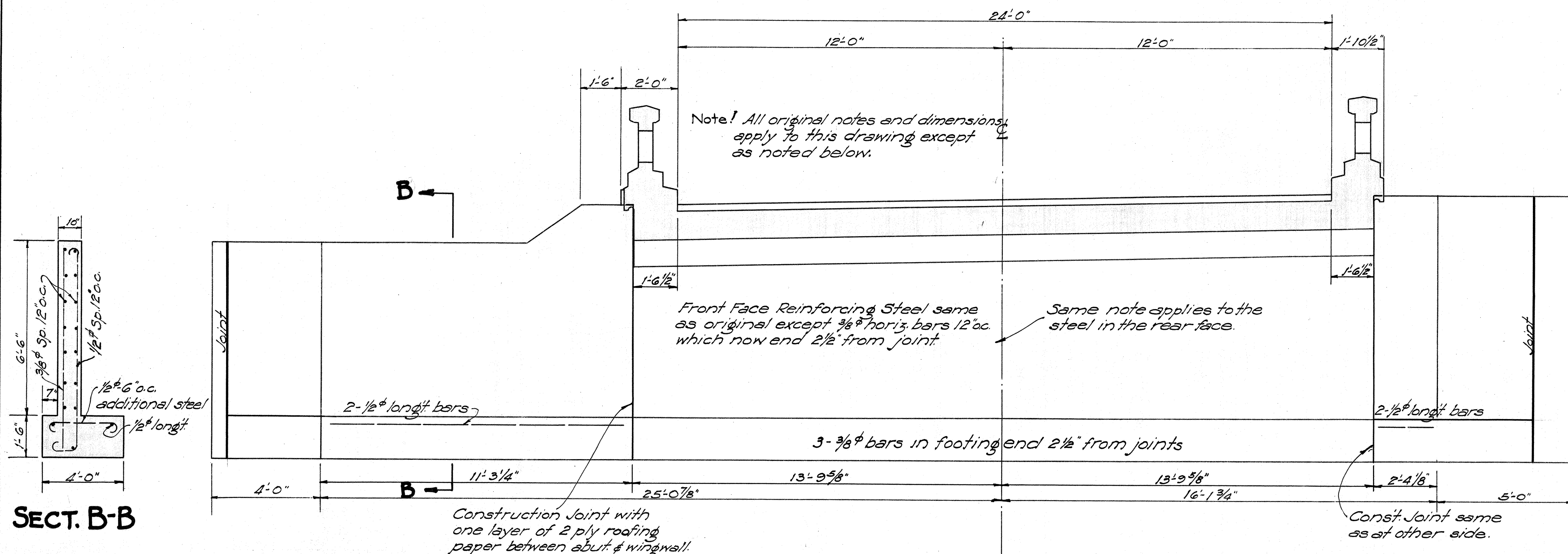
Kauai Belt Road
BRIDGE #7F - STA. 11+19.10
F.A.P. 12B

Sheet 2 of 2 Sheets

4298.27

PARTIALLY REVISED See SHEET No. 4298.27A

ORIGINAL SURVEY PLOTTED BY R.L.G.
DESIGNED BY V.B.B.
DRAWN BY W.C.V.
NOTES BOOK J.C.M.
QUANTITIES BY E.M.B.
CHECKED BY E.J.S.



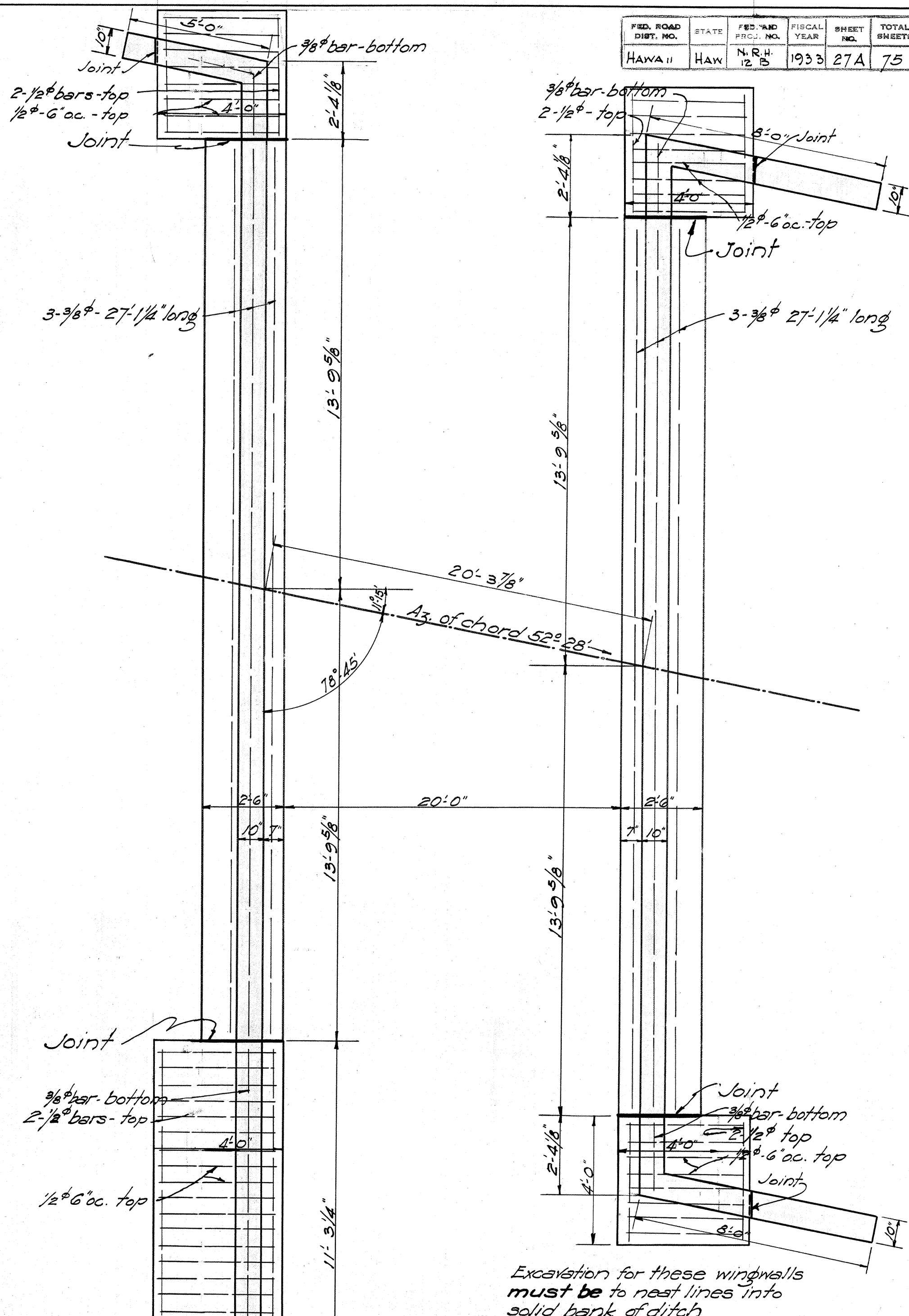
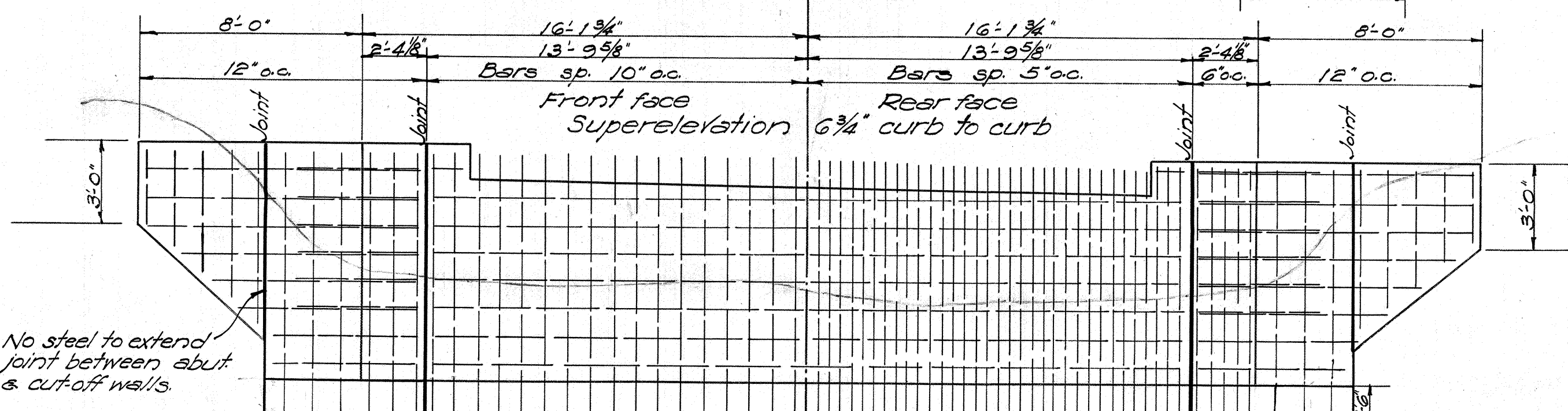
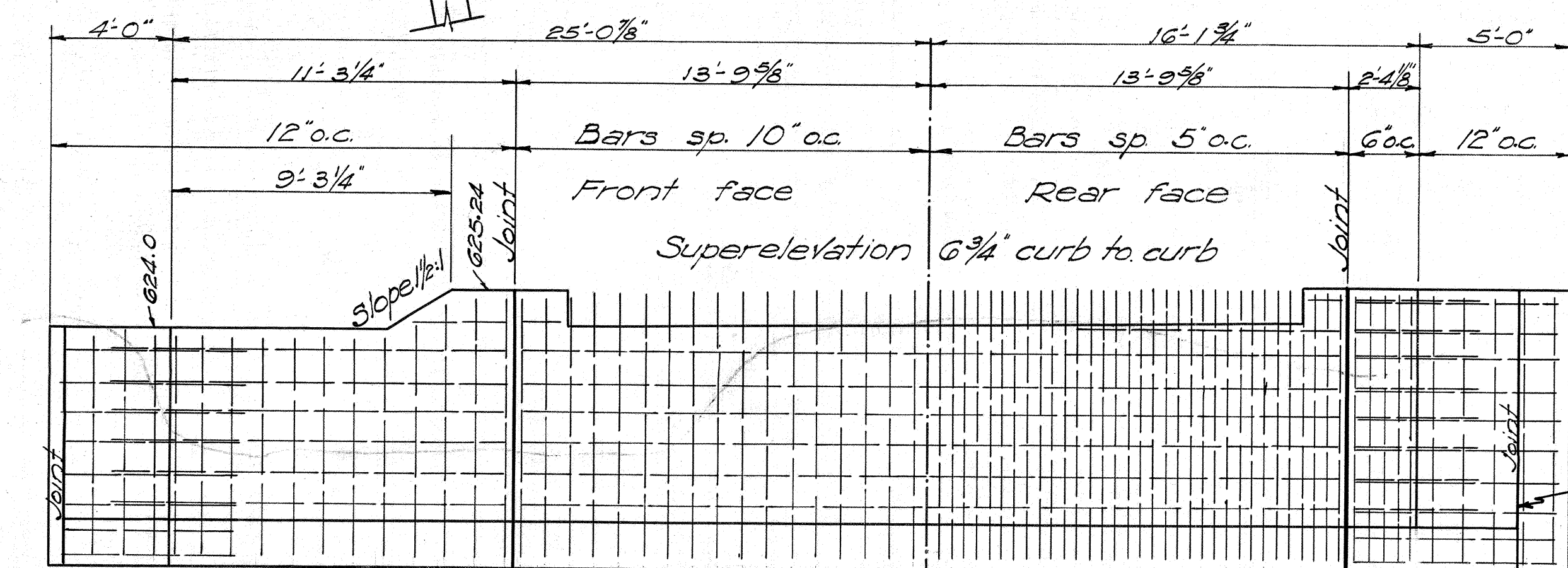
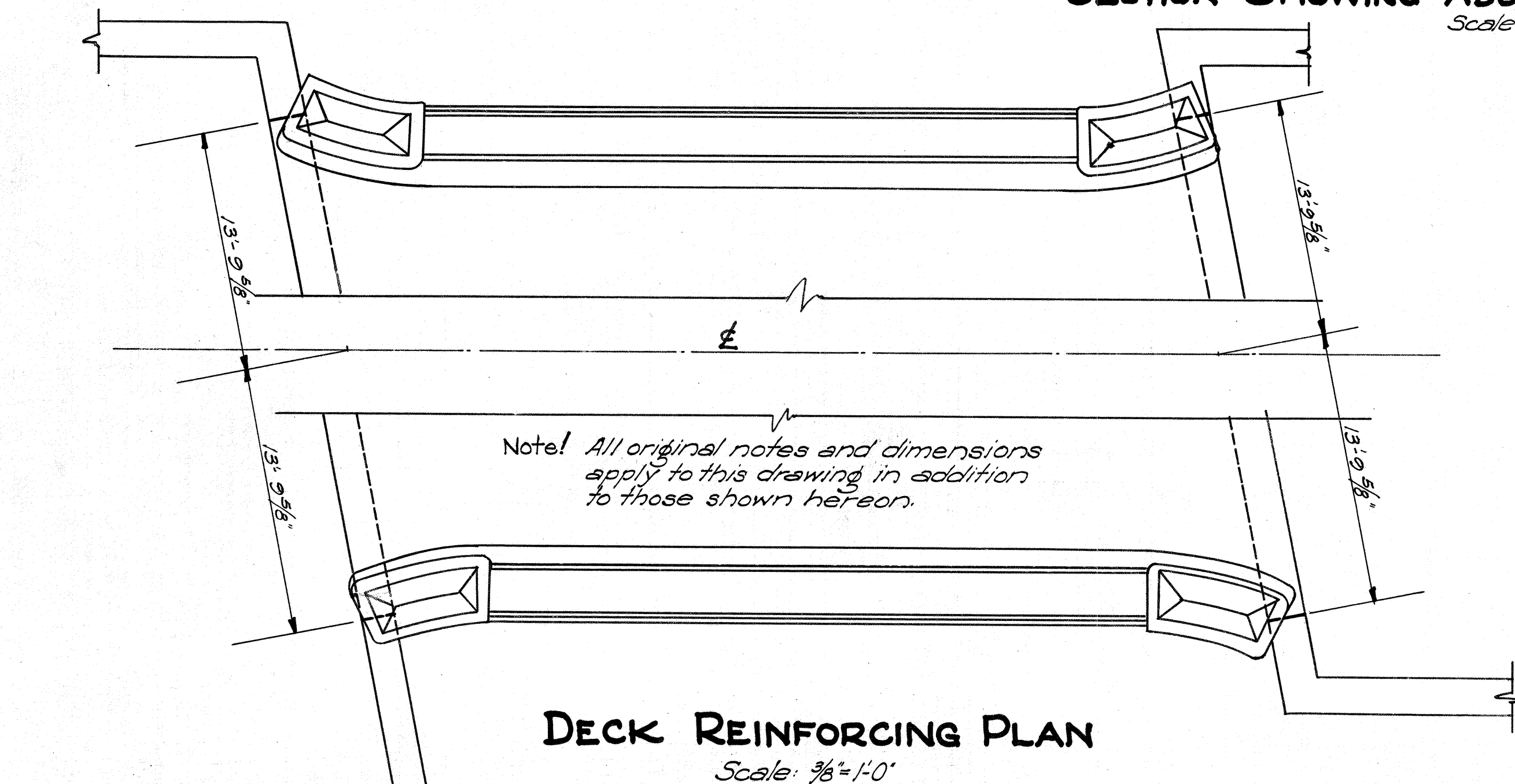
SECTION SHOWING ABUTMENT REINFORCING

Scale: 3/8"=1'-0"

NOTE: DETAILS ON THIS SHEET SUPERSEDE THE CORRESPONDING DETAILS ON SHEETS NO. 4298.26 AND 4298.27. ALL OTHER WORK TO BE IDENTICAL TO THAT SHOWN ON THE ABOVE NUMBERED SHEETS.

REVISED ESTIMATED QUANTITIES

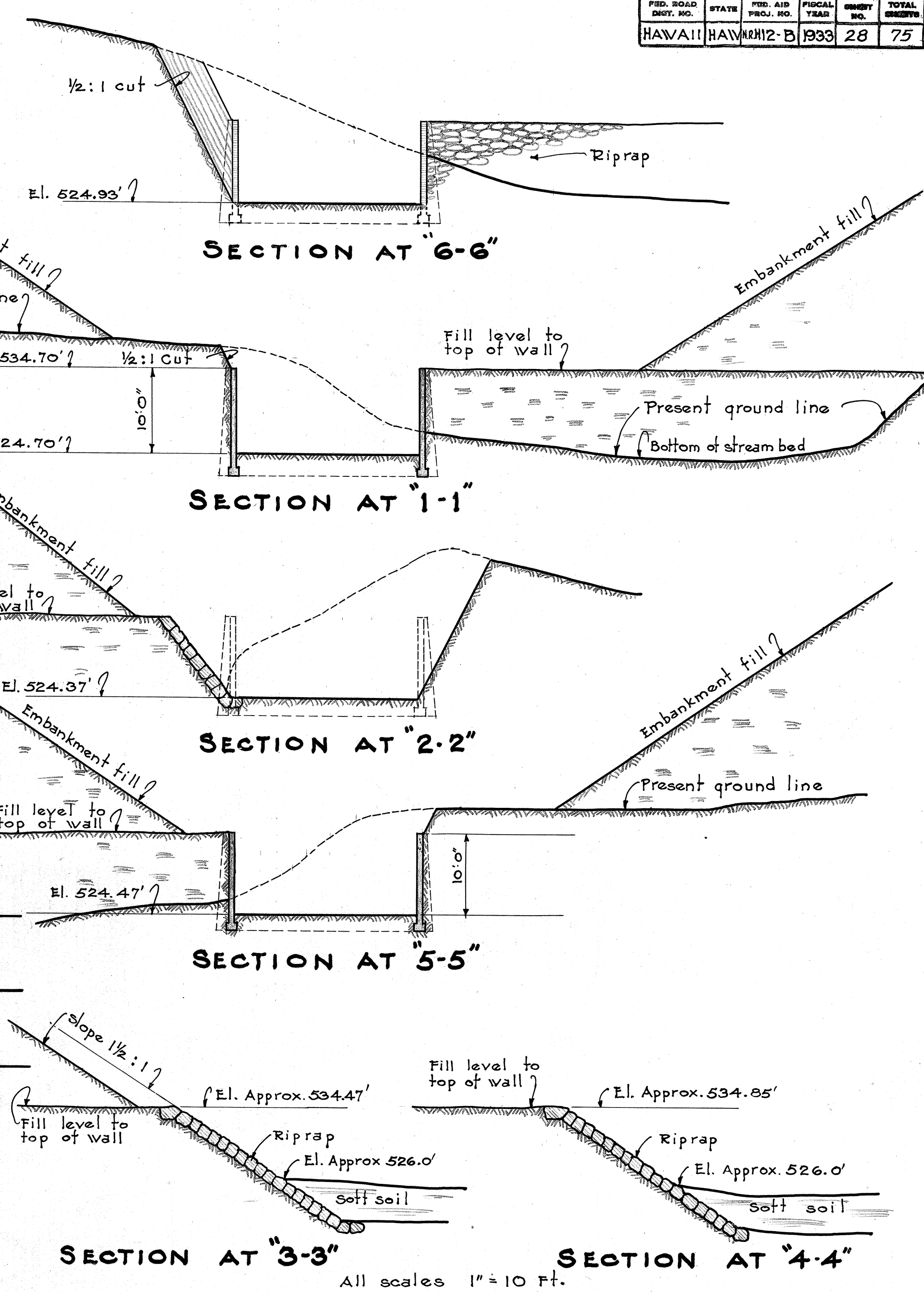
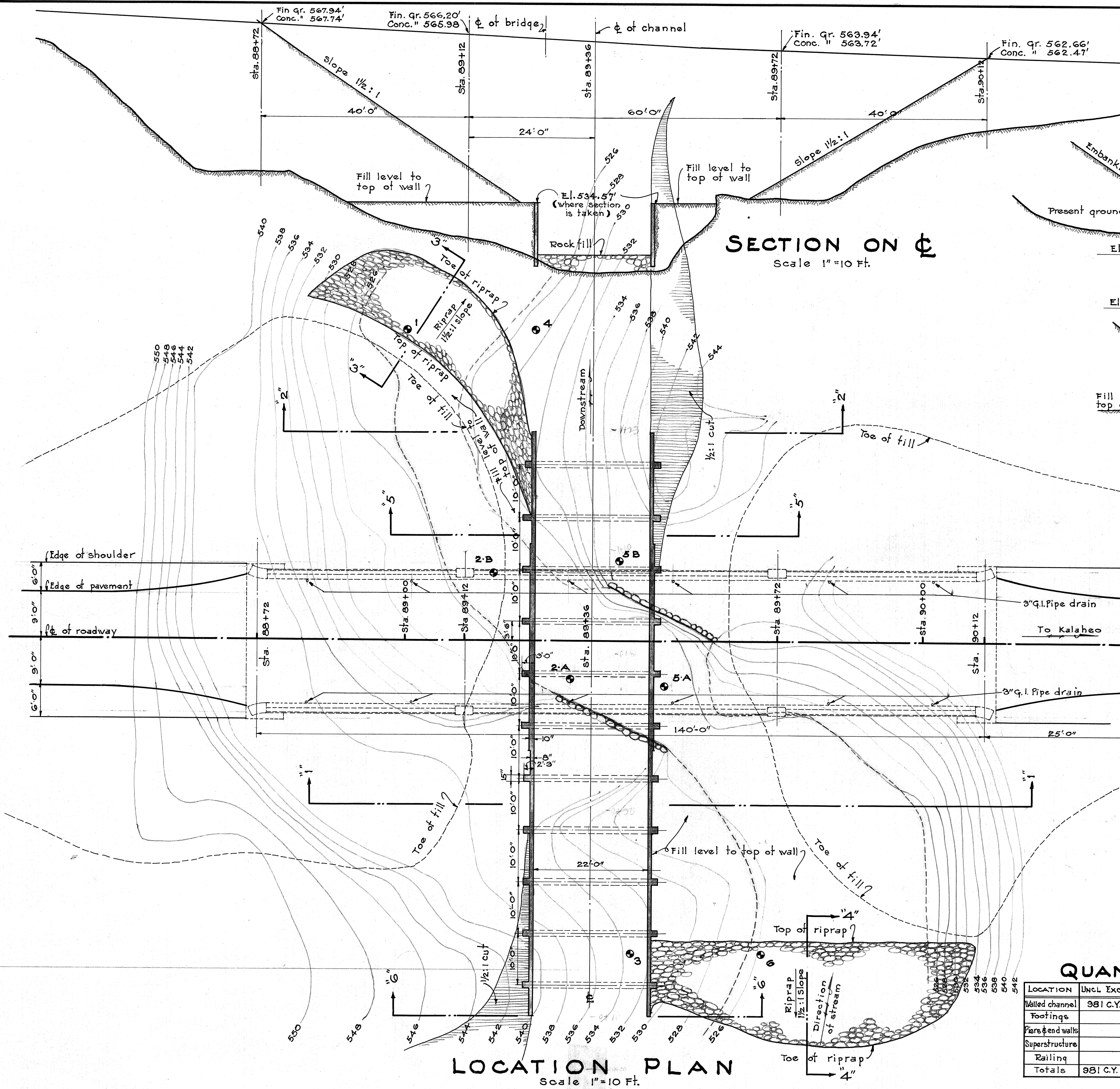
LOCATION	STR. EXC.	CONCRETE	STEEL
Footings	32.2 cy.	12.7 cy.	1,685 lbs.
Abutments	21.5 "	24.0 "	3,215 "
Superstructure	24.5 "	38.78 "	
Reiling		6.5 "	450 "
Totals	53.7 cy.	67.7 cy.	9,228 "



KAUAI BELT ROAD
REVISED DETAILS
BRIDGE #7F STA. 11+19.10
N.R.H. 12B

SUPPLEMENTARY TO SHEETS
No. 4298.26 AND 4298.27

4298.27A



Note!
Excavation to neat lines of channel will be paid for as unclassified excavation. Additional excavation needed for structures to be paid for as unclassified excavation for structures at bridges.

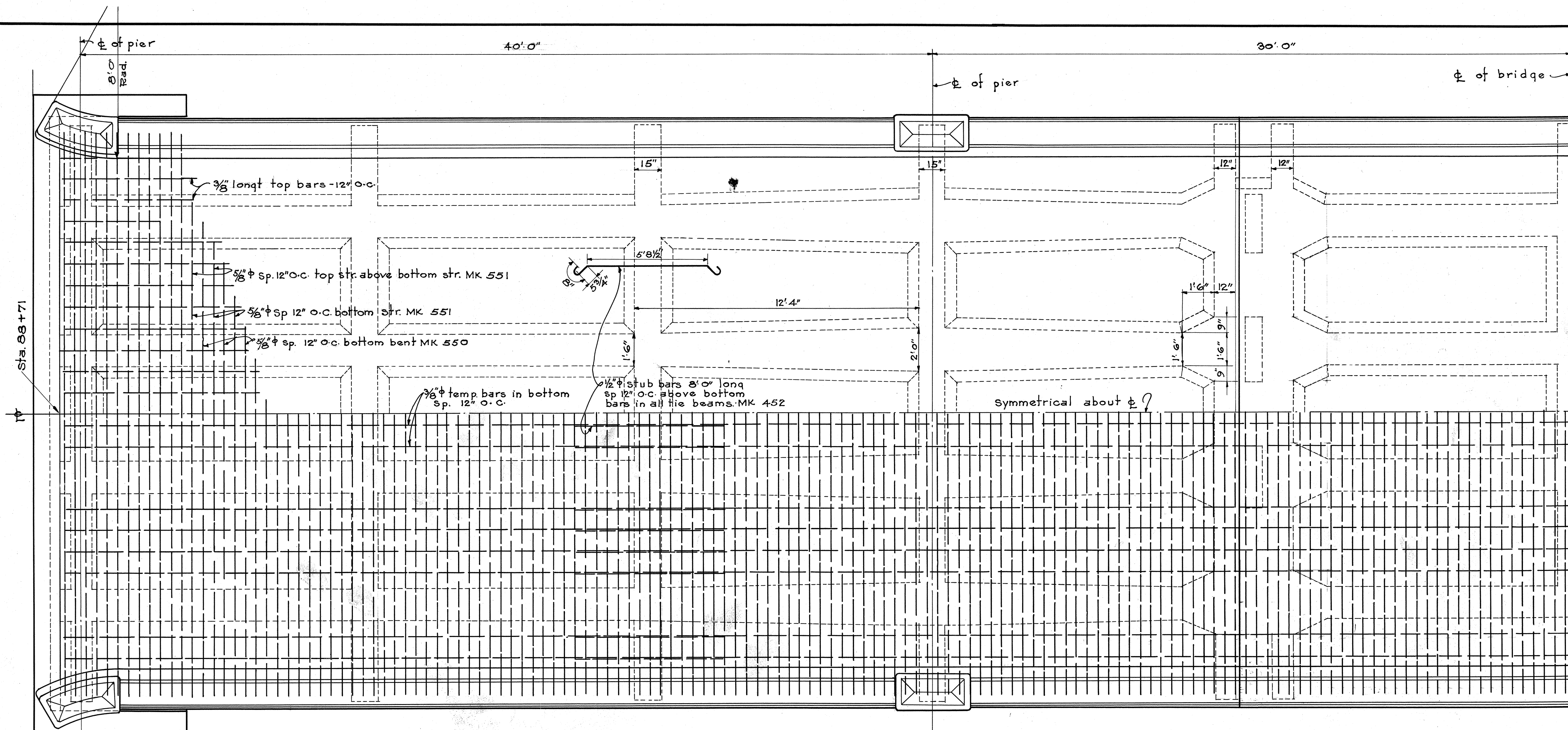
QUANTITY TABLE

LOCATION	UNCL. EXC.	STRUC. EXC.	ROCK FILL	HAND LAID RIPRAP	CONCRETE	STEEL
Walled channel	381 C.Y.	260 C.Y.	33 C.Y.	71.0 C.Y.	111.6 C.Y.	12,597 #
Footings		722 "			91.8 "	15,200 "
Pier & end walls					99.6 "	23,359 "
Superstructure					247.6 "	76,555 "
Railing					23.4 "	7,167 "
Totals	381 C.Y.	982 C.Y.	33 C.Y.	71.0 C.Y.	574.0 C.Y.	134,878 #

BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B OMAO BRIDGE

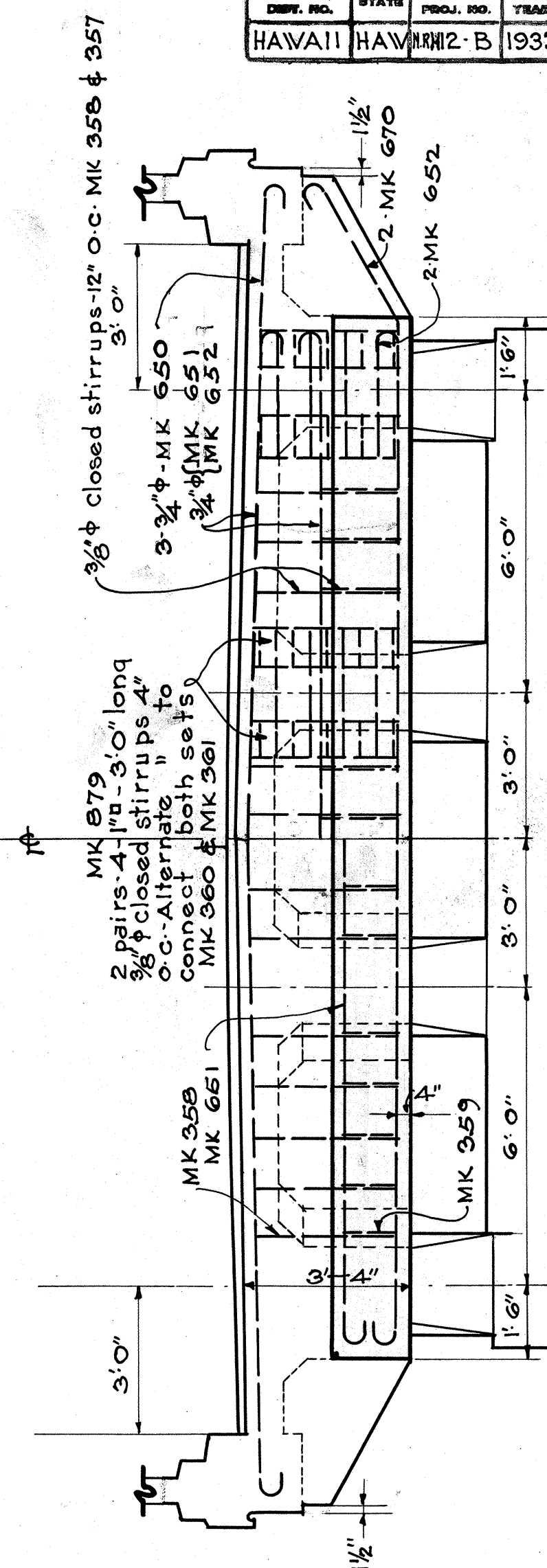
4298.28

FED. ROAD DEPT. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	COUNTY NO.	TOTAL SHEET
HAWAII	HAWAII	RM2-B	1933	30	75



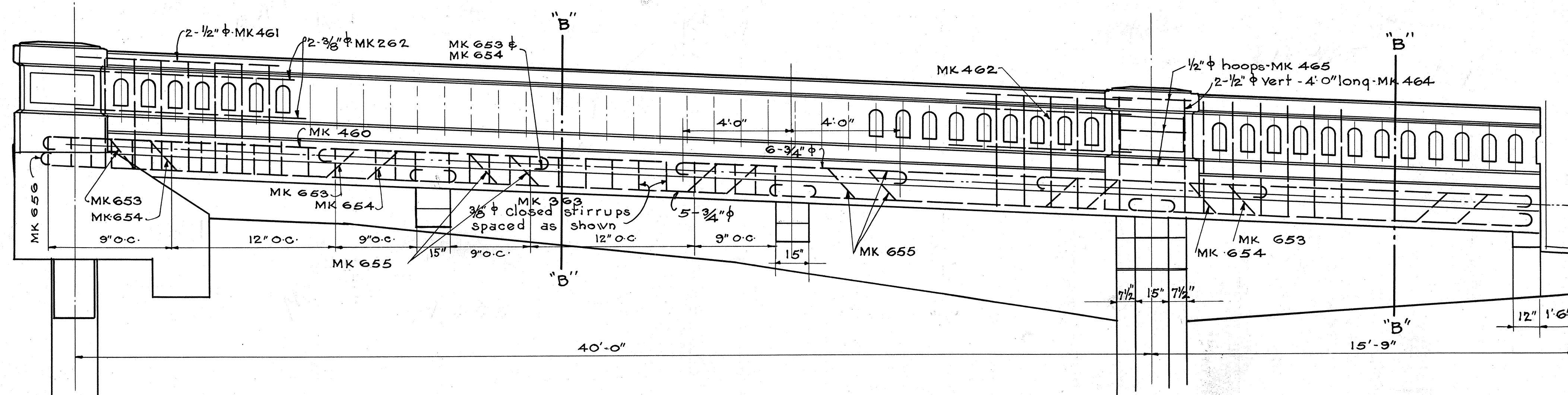
HALF PLAN OF BRIDGE

Scale $\frac{3}{8}$ " = 1'-0"



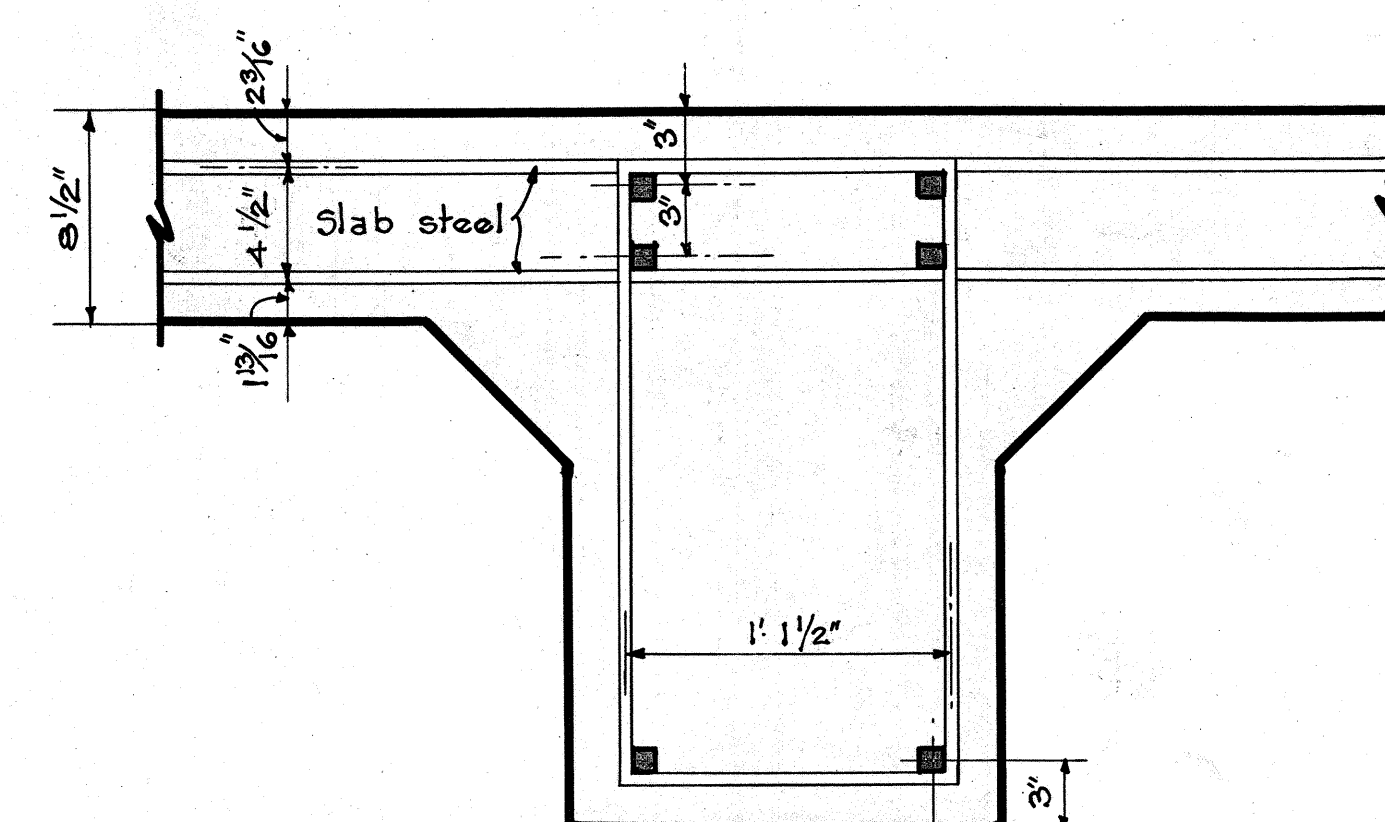
DETAIL OF EXP. END
SECT. 2-2" Scale $\frac{3}{8}$ " = 1'-0"

DETAIL OF PIVOT END
SECT. 1-1" Scale $\frac{3}{8}$ " = 1'-0"



PART ELEVATION OF BRIDGE

Scale $\frac{3}{8}$ " = 1'-0"



DETAIL OF SLAB REINF.

Scale $\frac{1}{2}$ " = 1'-0"

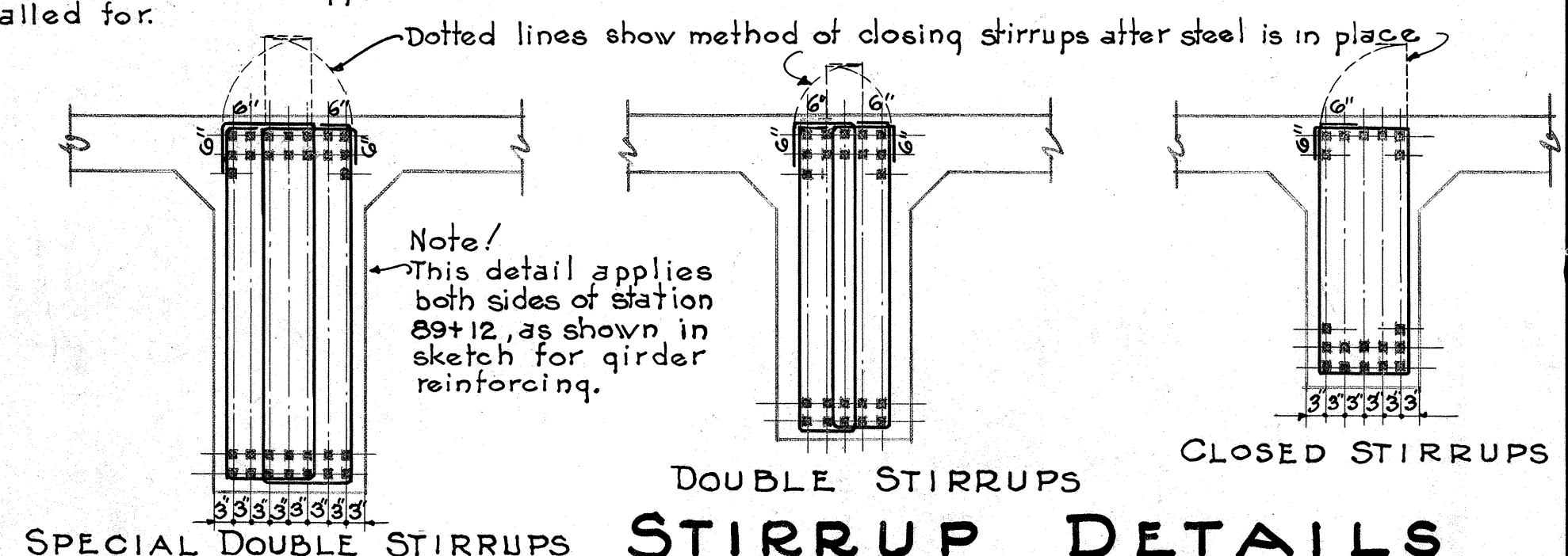
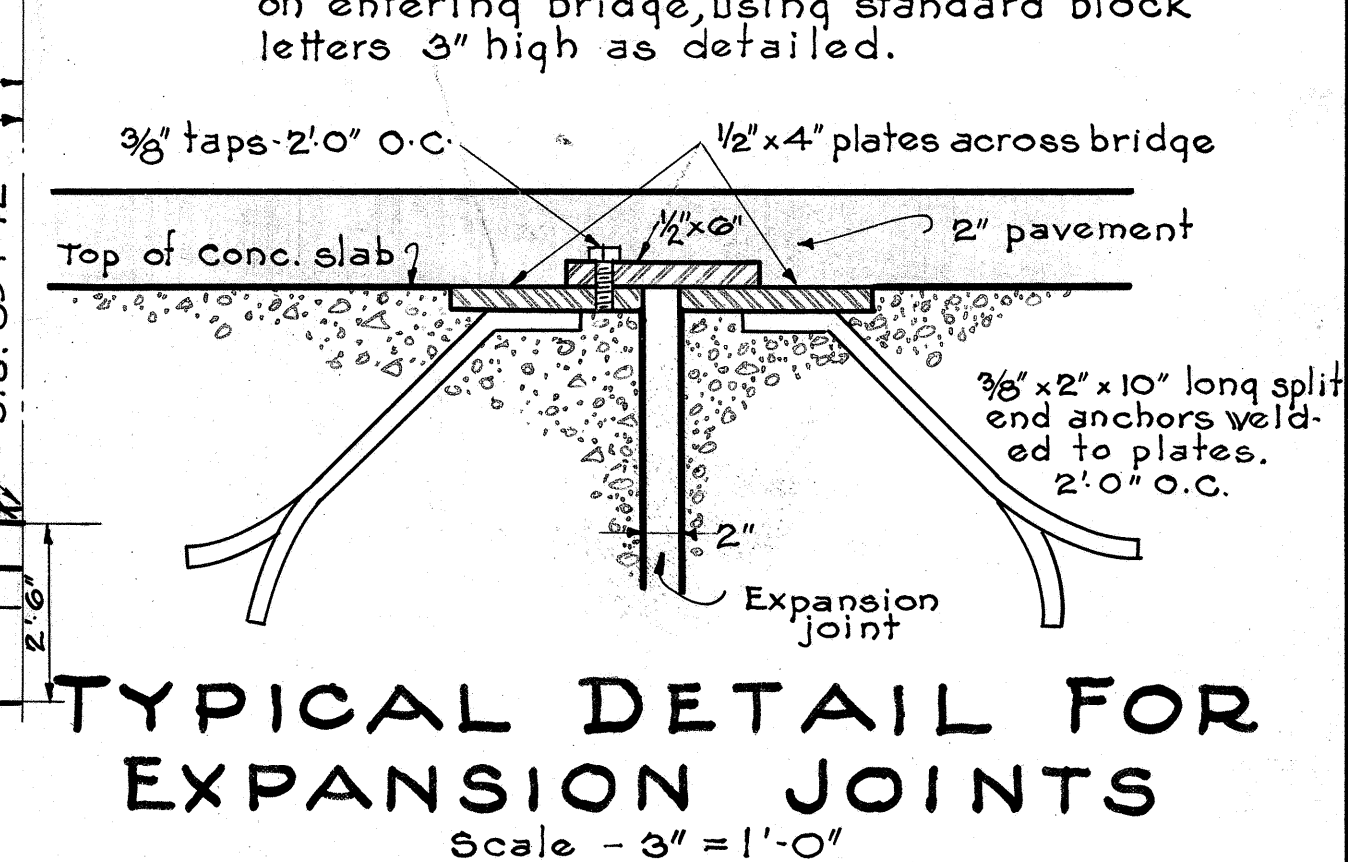
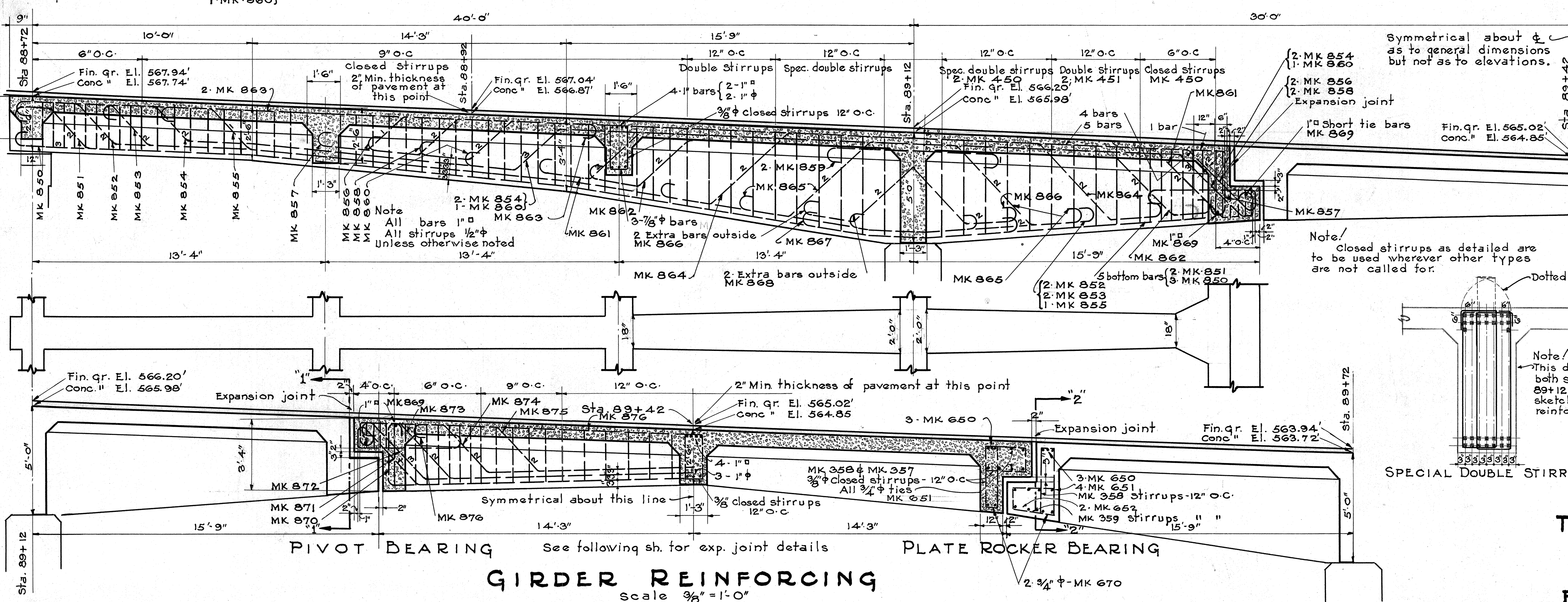
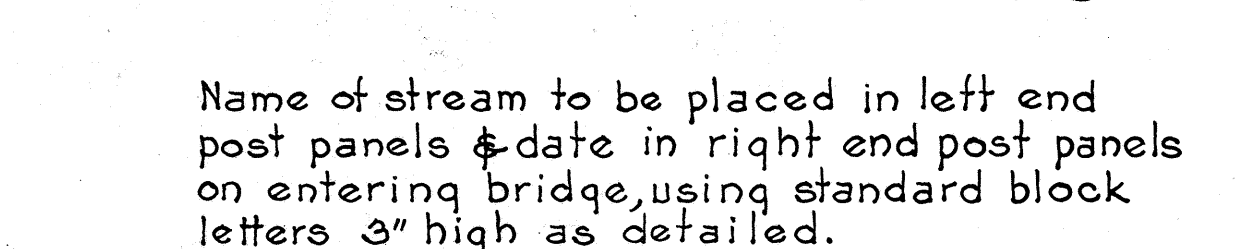
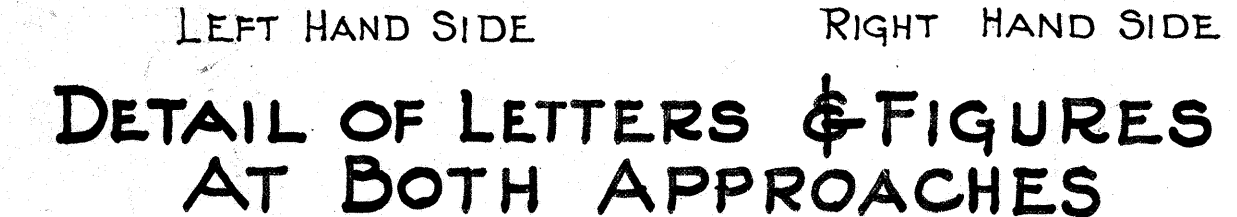
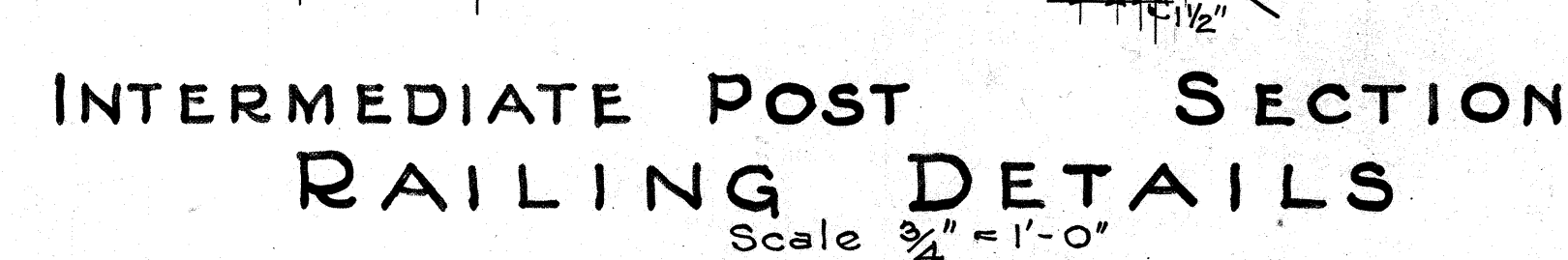
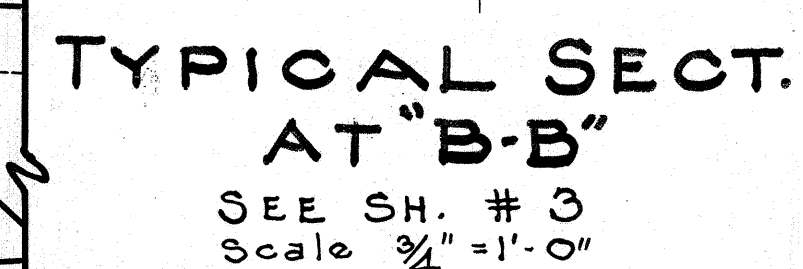
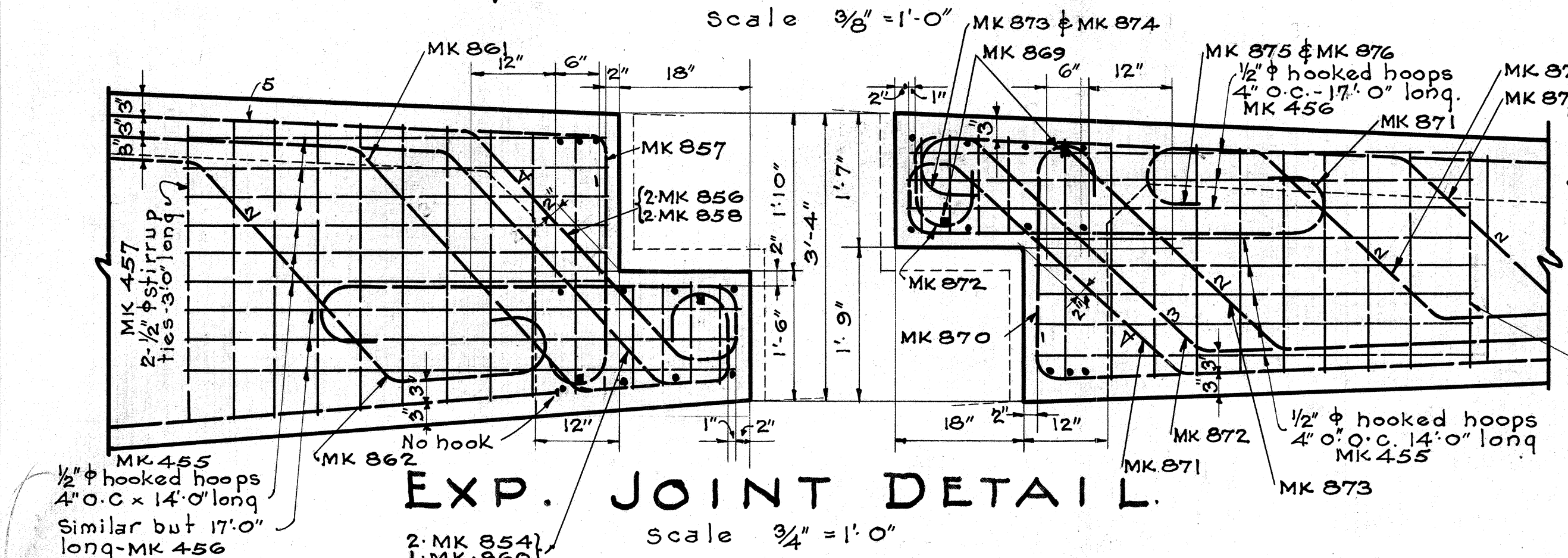
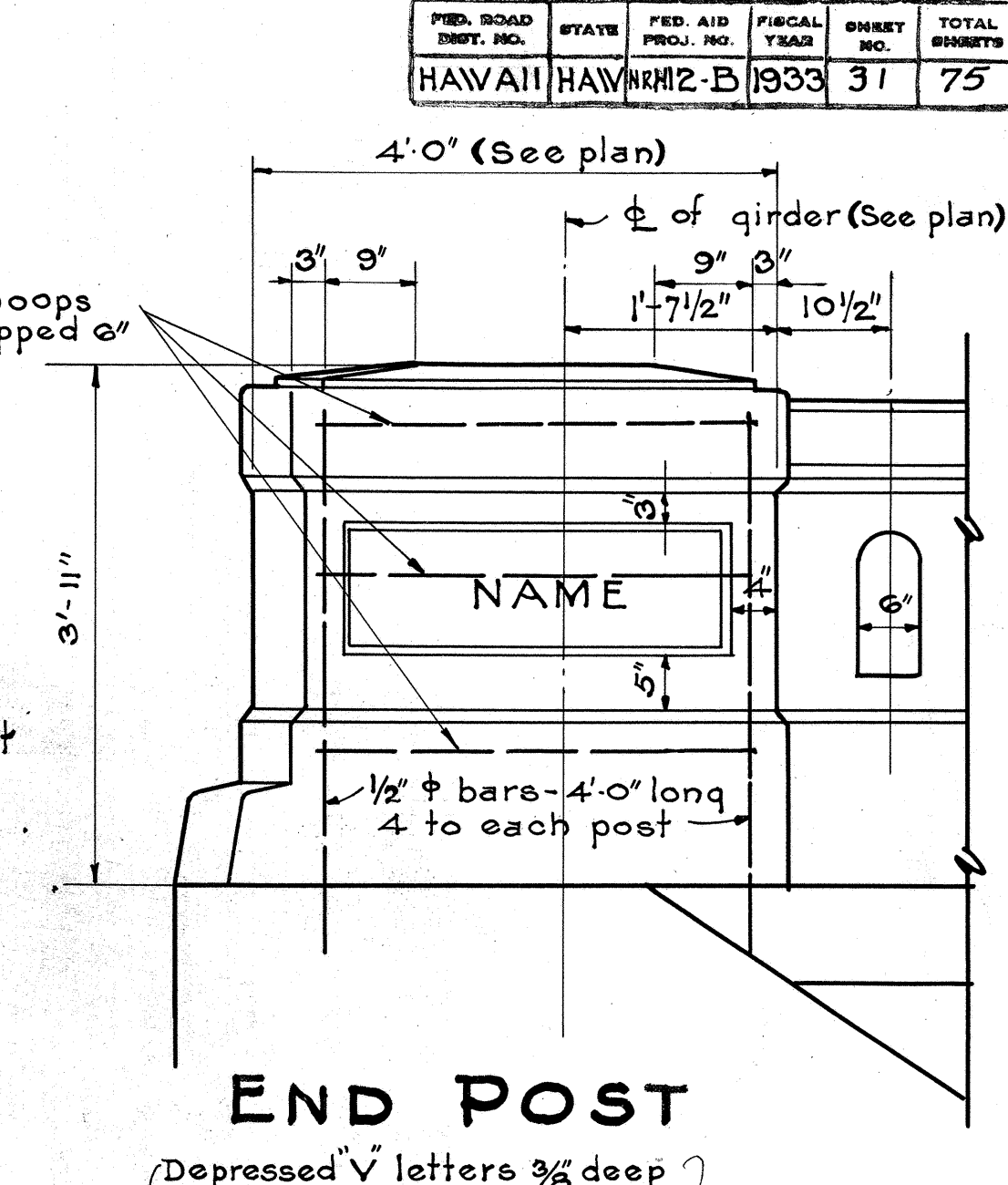
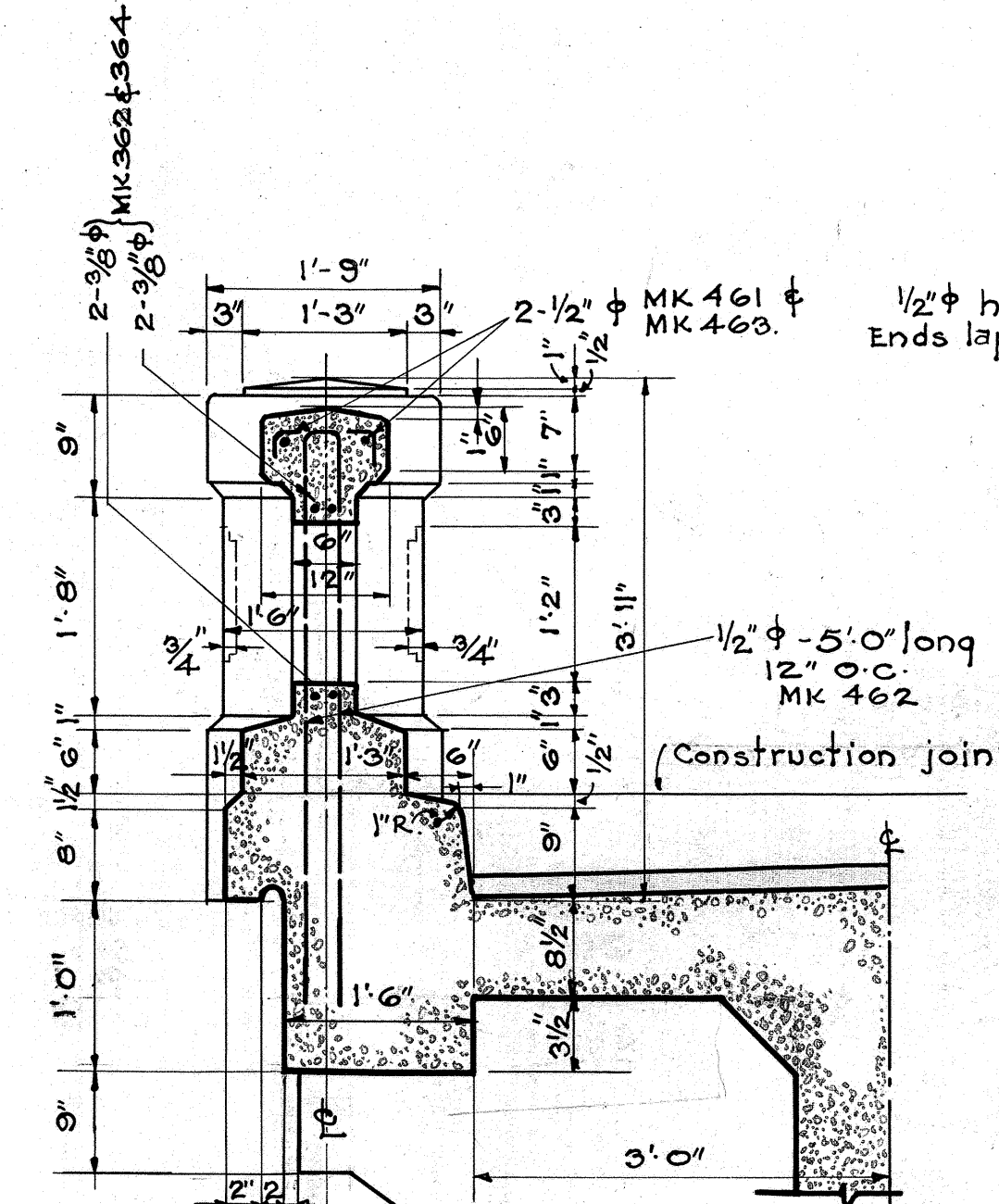
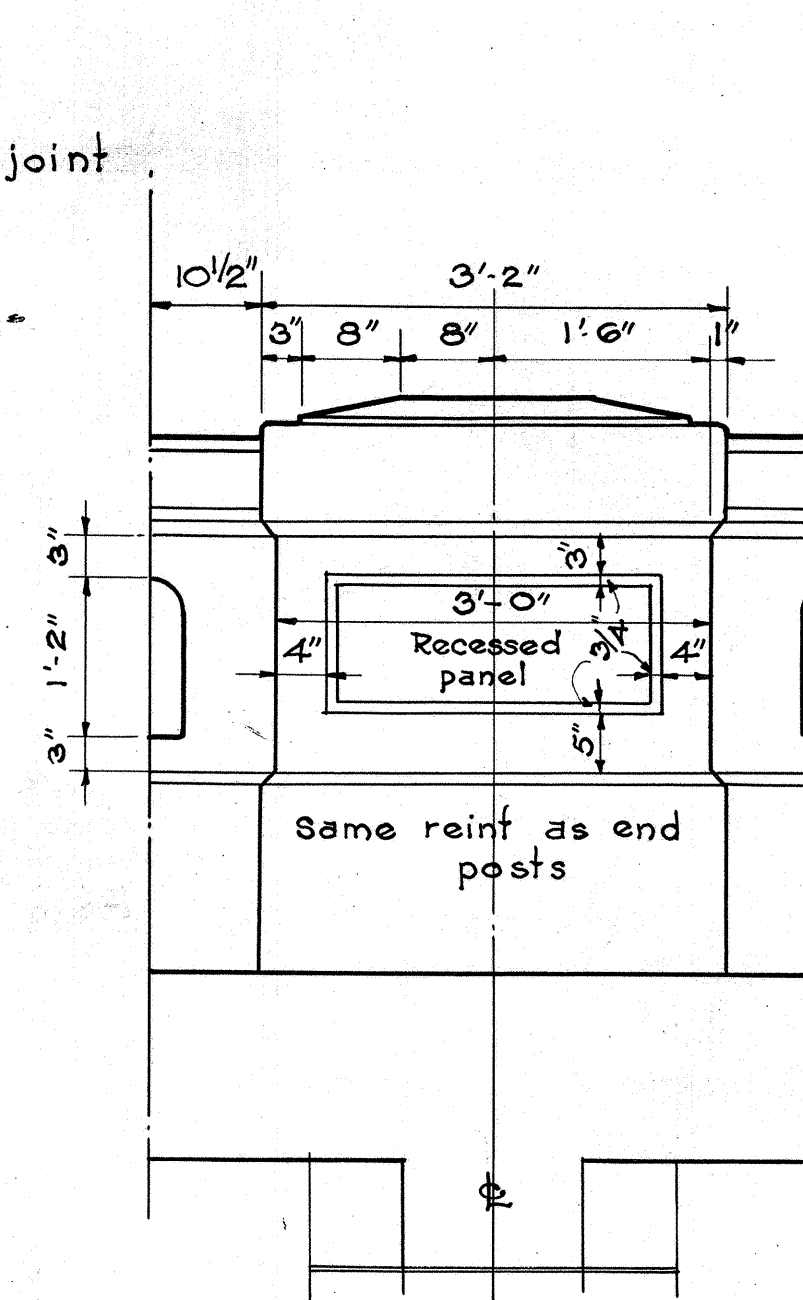
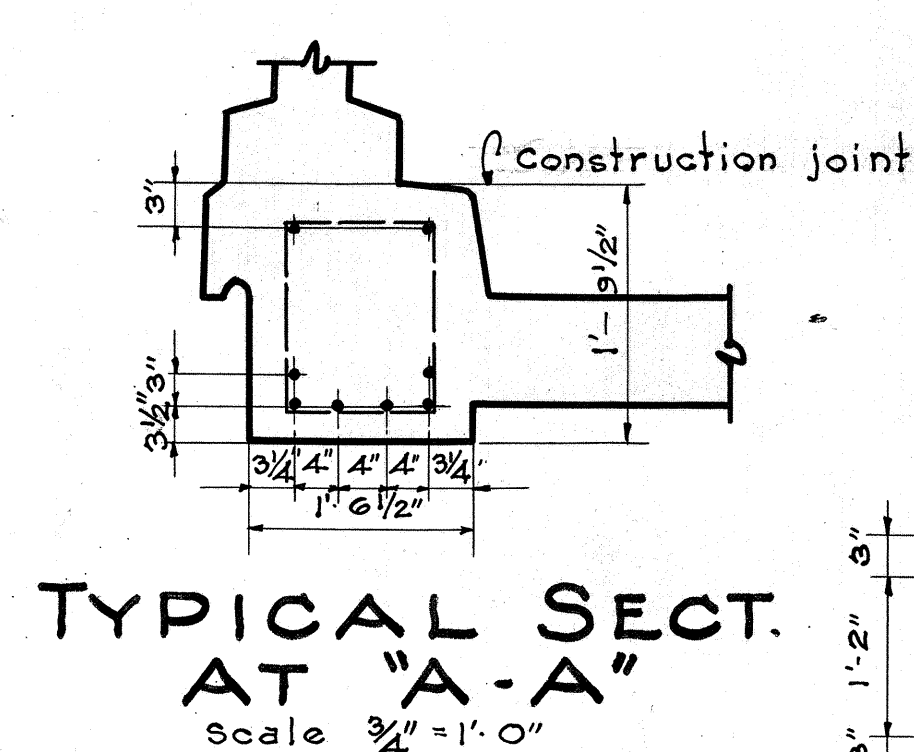
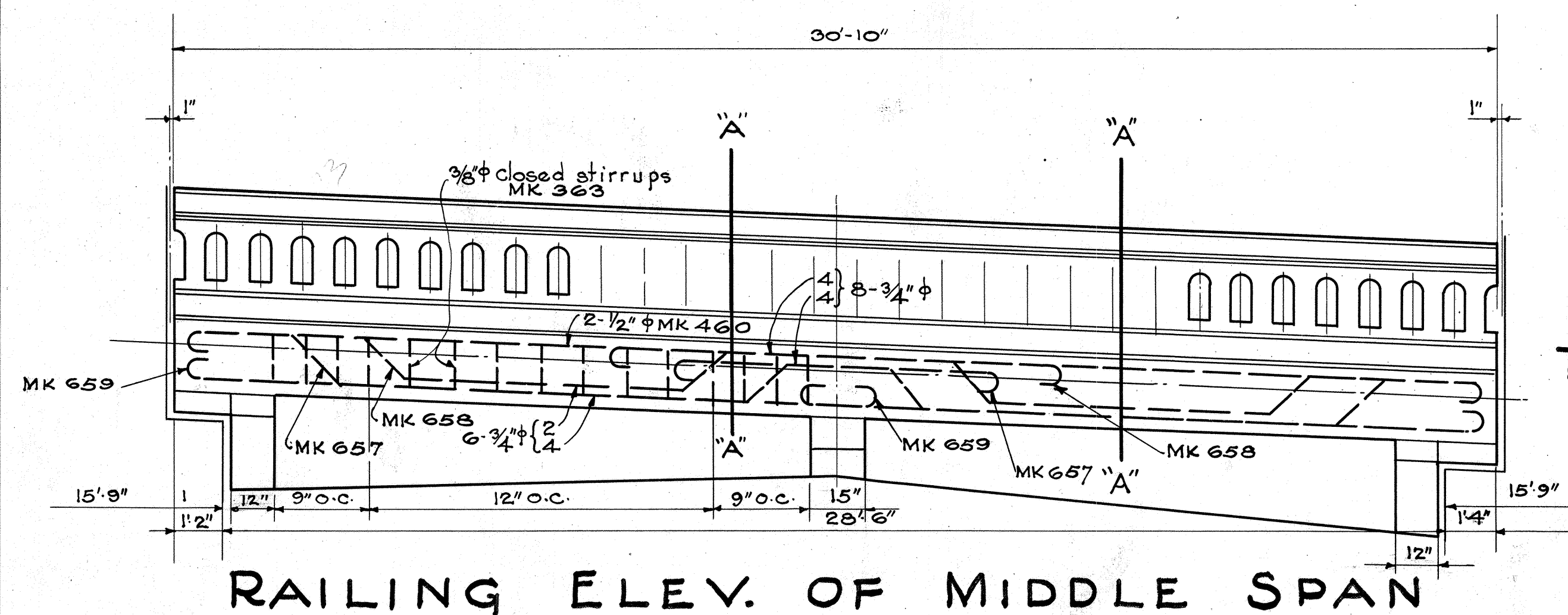
BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B OMAO BRIDGE

4298.30

3
OF
11
SHTS

DESIGNED BY	DATE
W. L. B.	May 1933
TRACED BY	DATE
W. L. B.	July
NOTED BY	DATE
W. L. B.	Aug.
CHECKED BY	DATE
W. L. B.	Sept.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SNRET NO.	TOTAL SNRETS
HAWAII	HAWAII	HRM12-B	1933	31	75

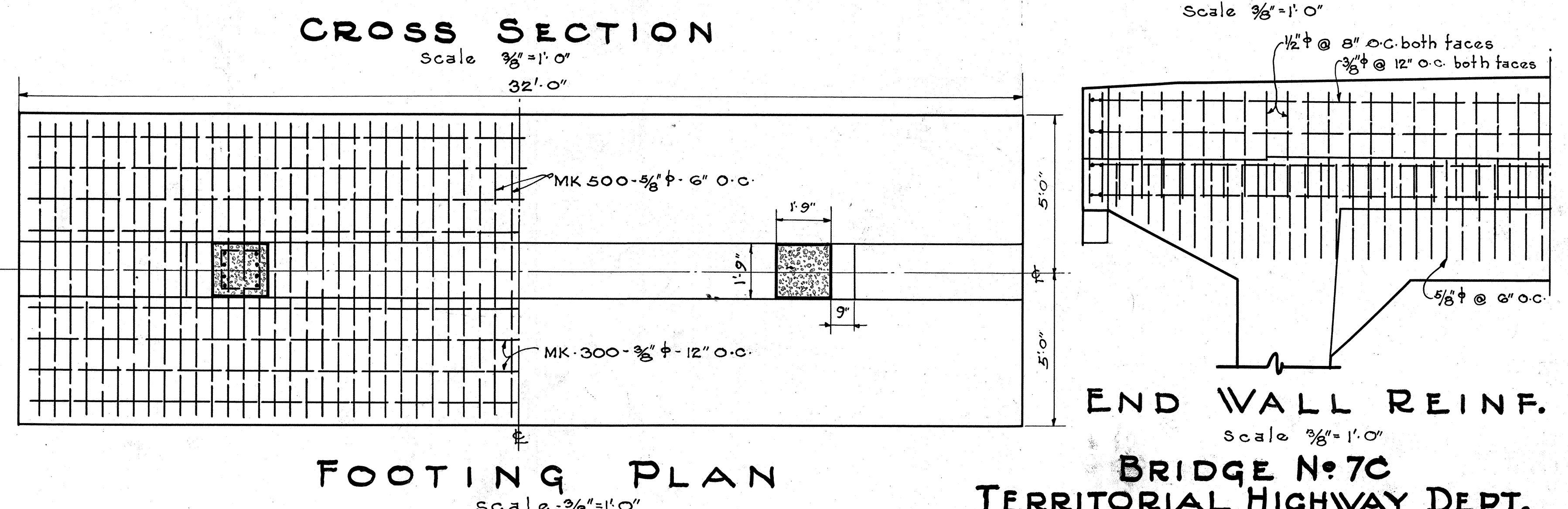
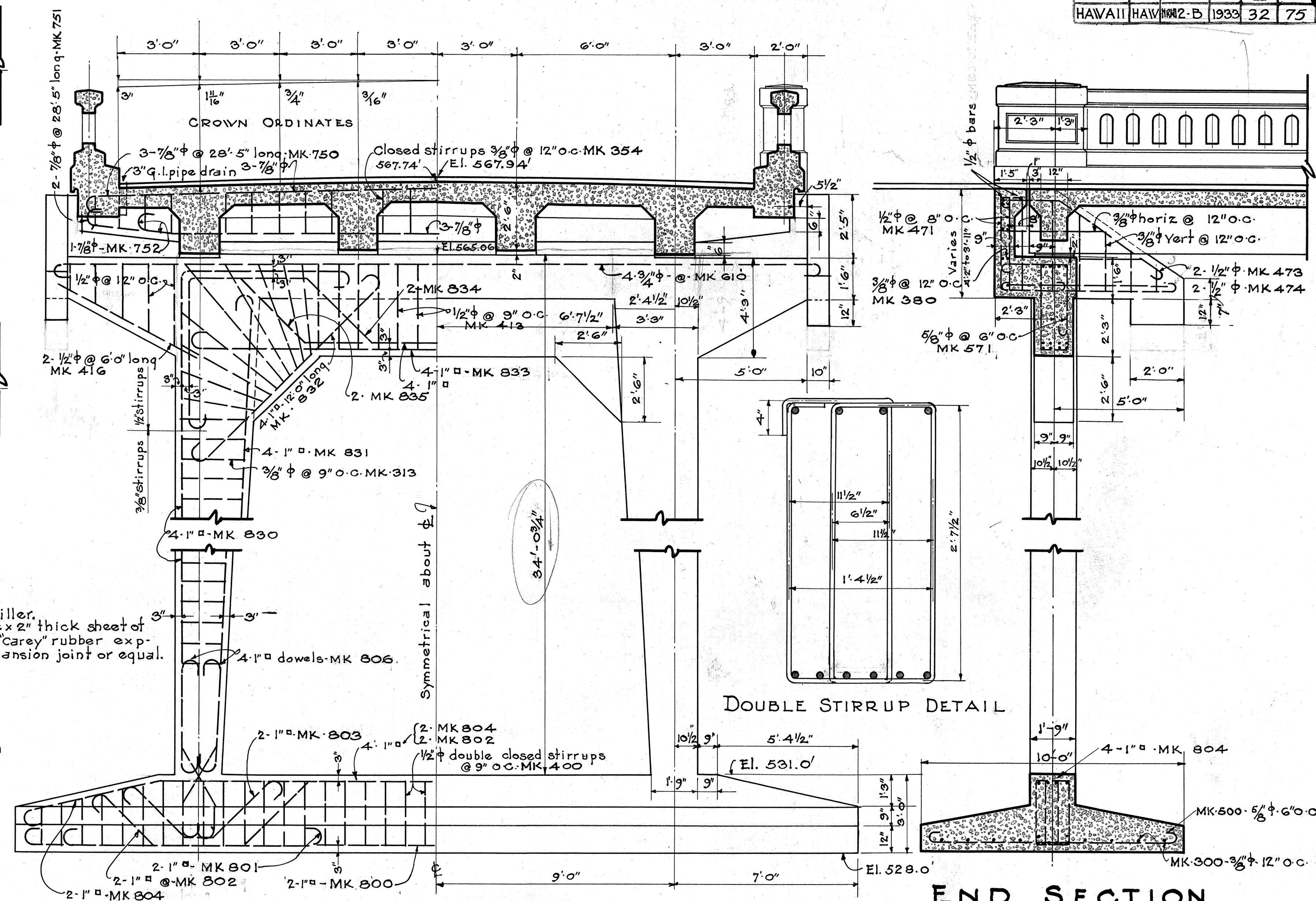
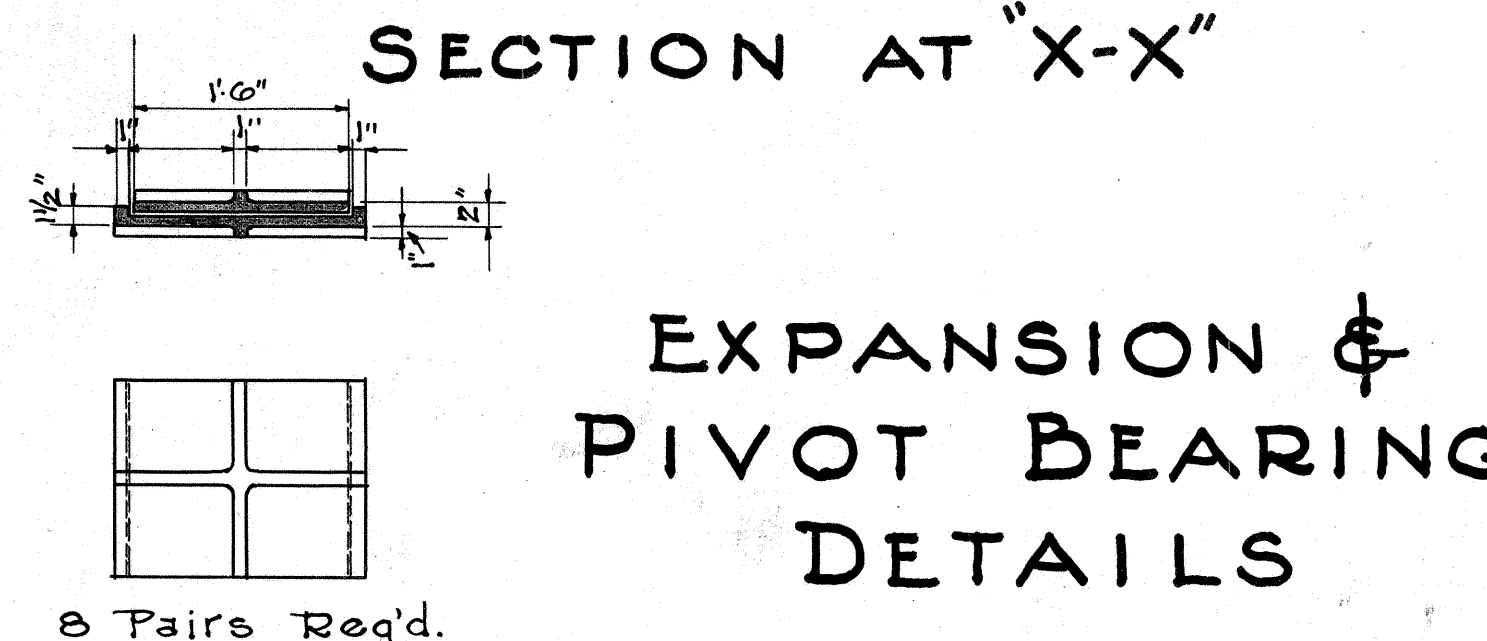
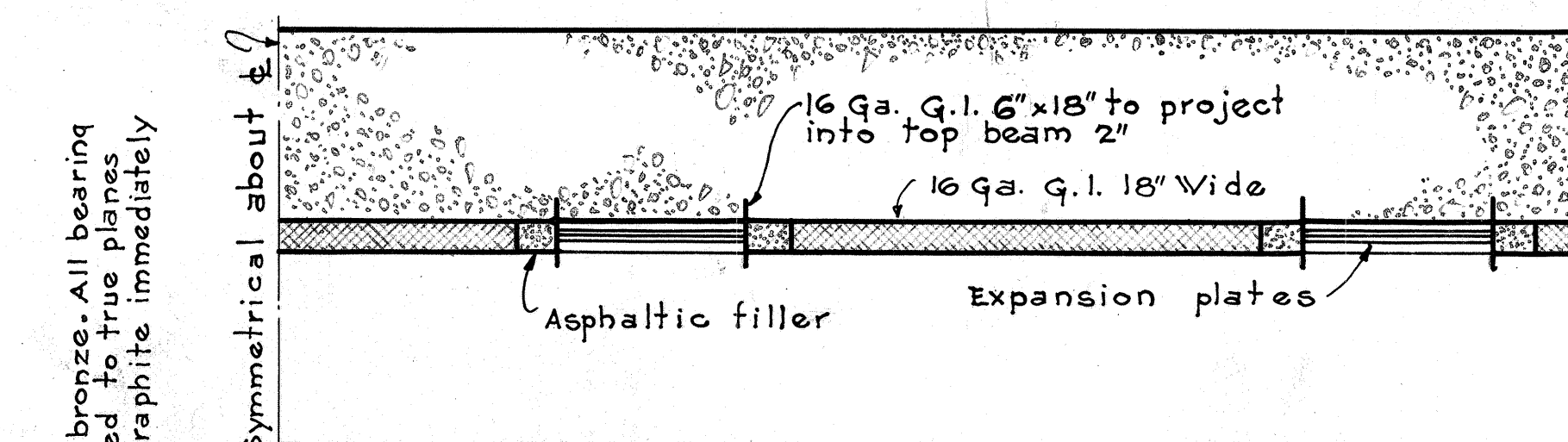
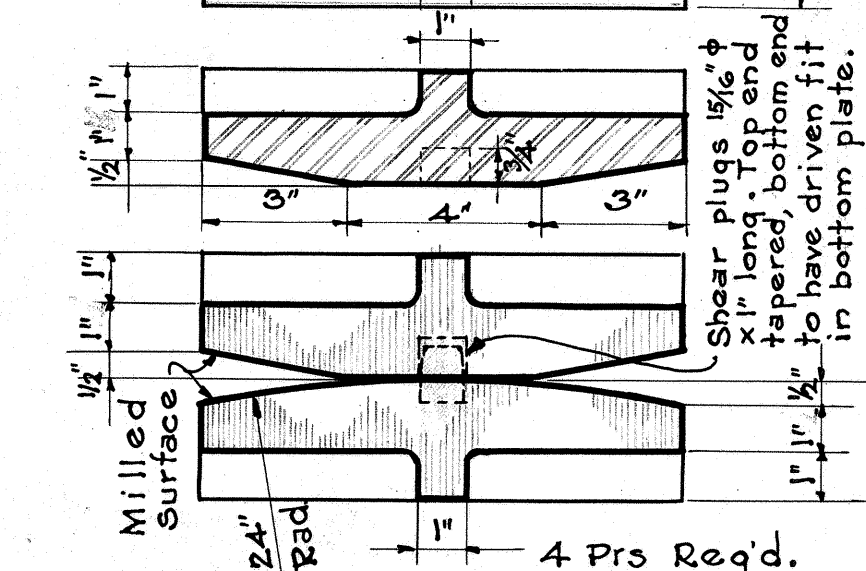
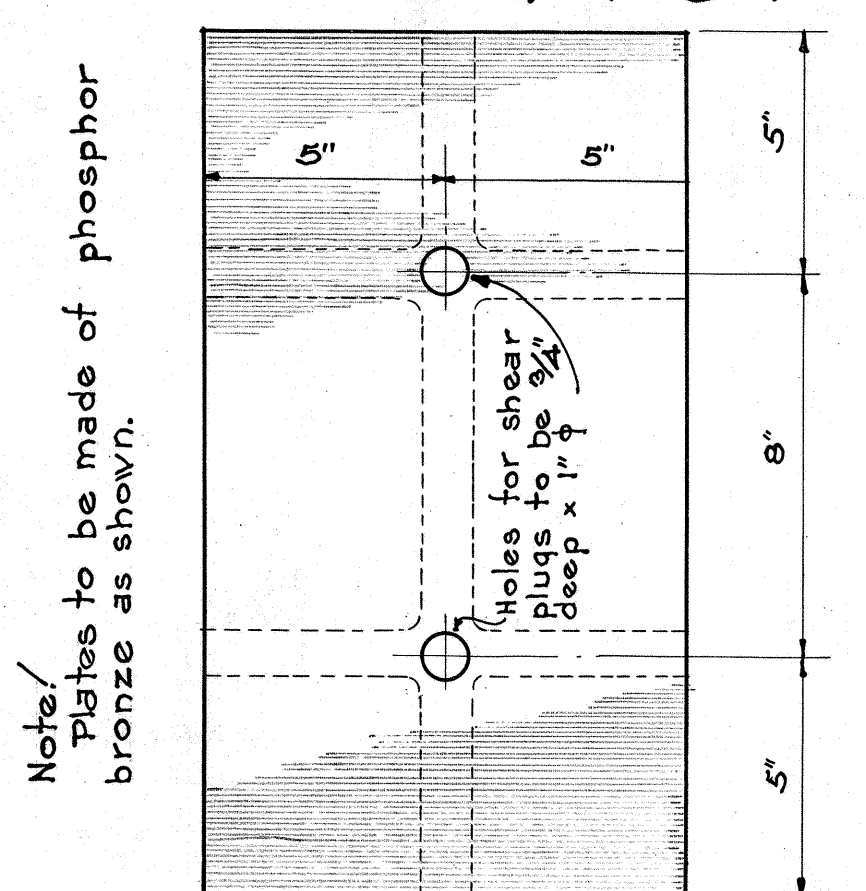
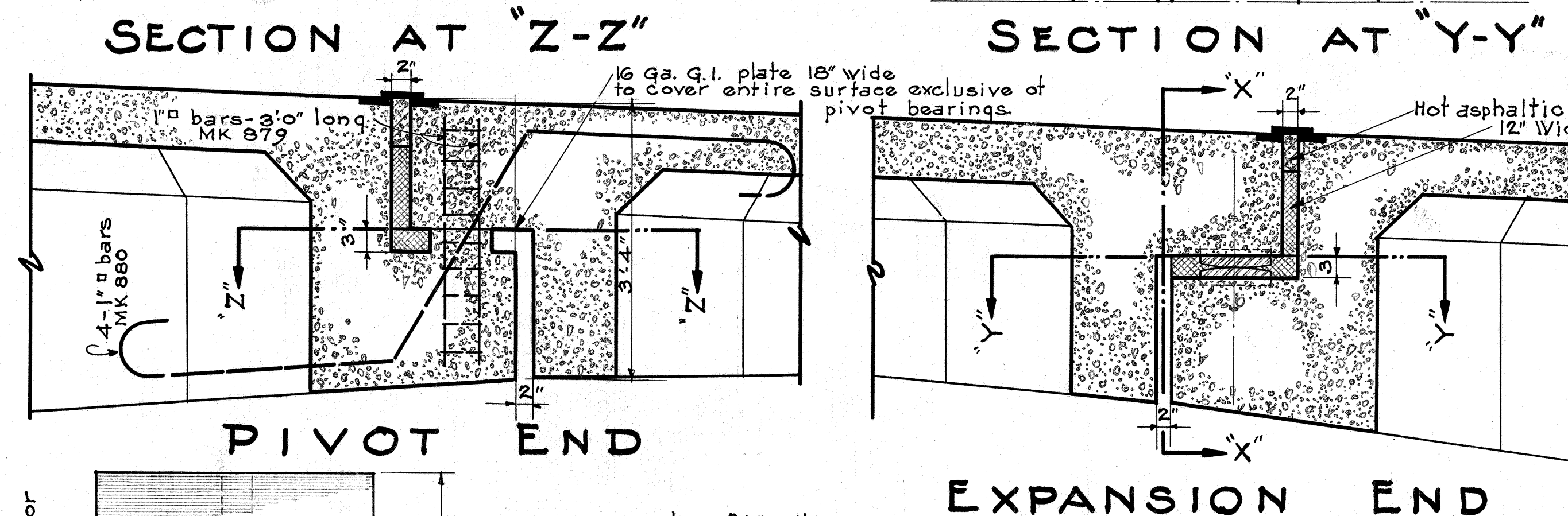
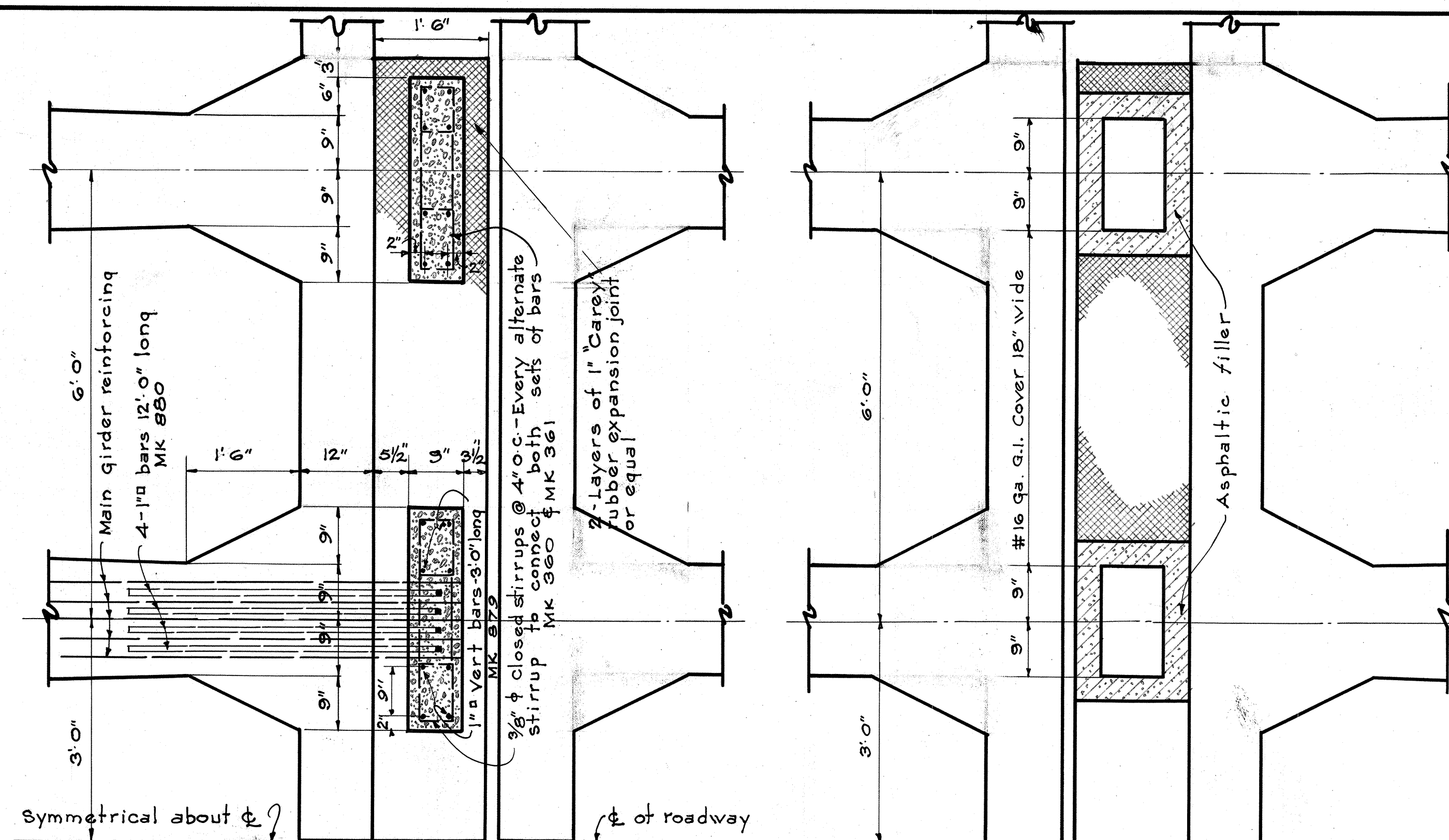


Scale $\frac{1}{2}" = 1'-0"$
BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B OMAO BRIDGE

4298.31

4
OF
11
SH'TS

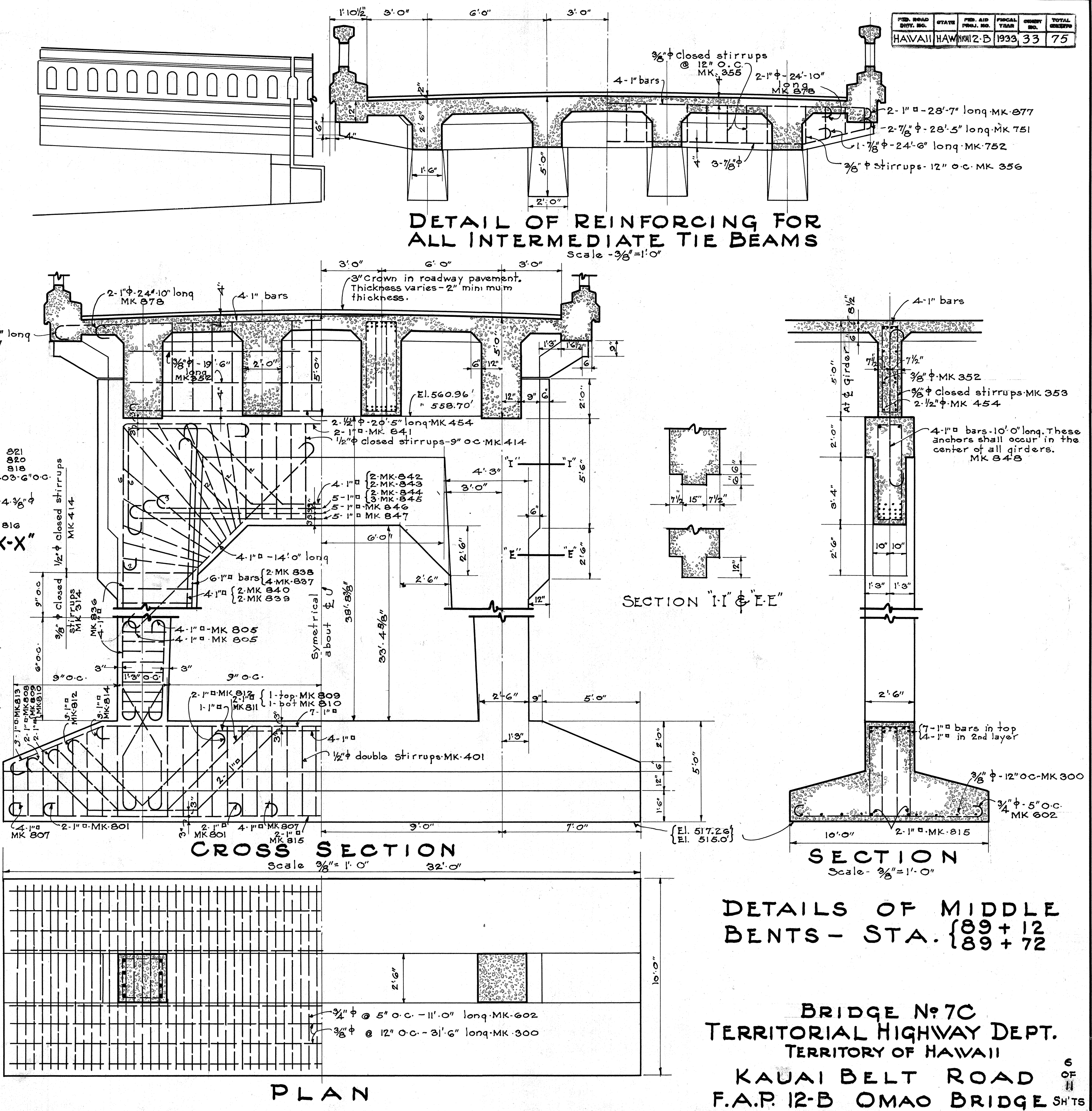
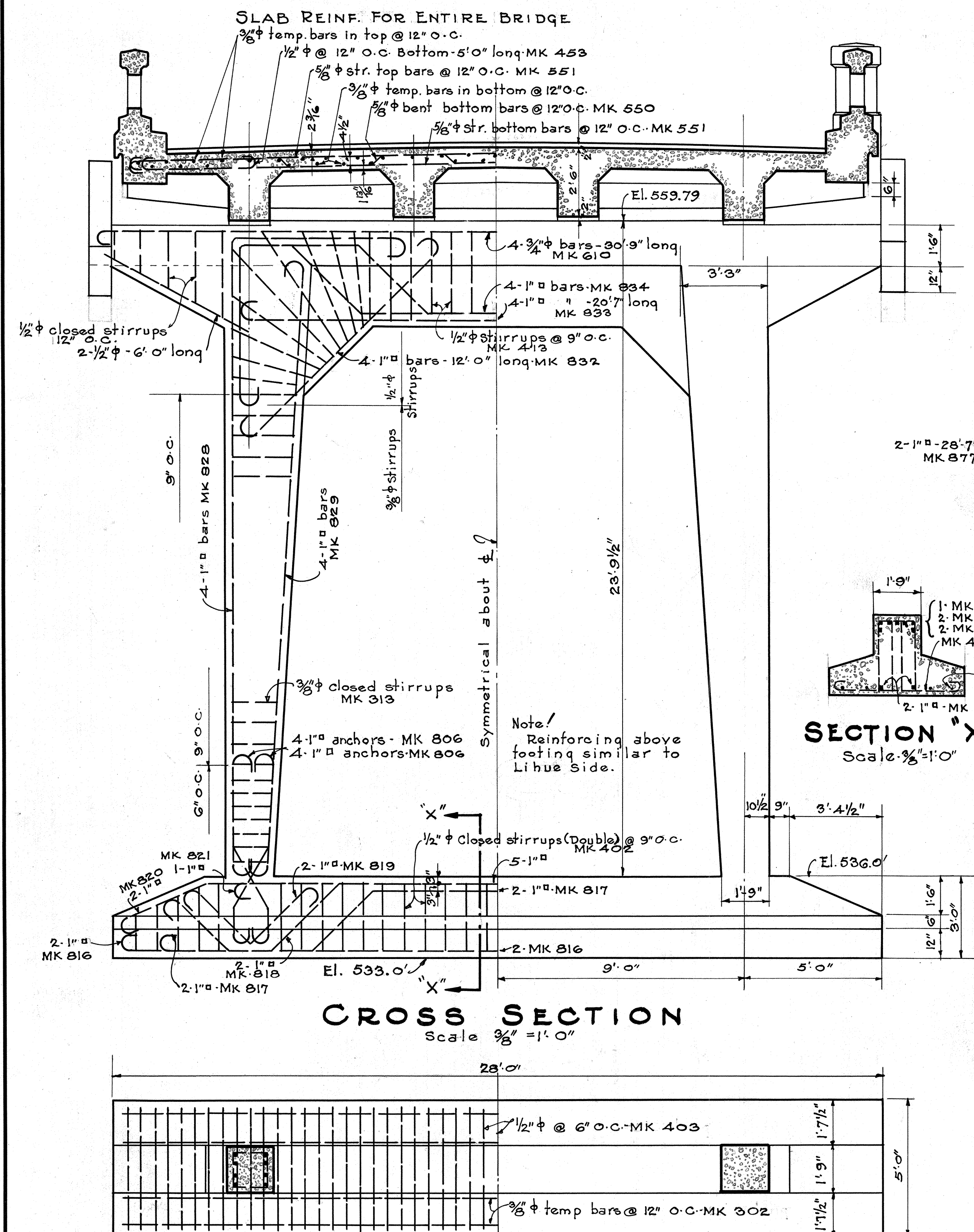
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	CHRYST NO.	TOTAL CHRYST
HAWAII	HAW	HA2-B	1933	32	75



BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B OMAO BRIDGE

4298.32

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	12-B	1933	33	75



4298.38

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

ELEVATION OF BRIDGE
Scale 1/8" = 1'-0"

Sta. 89+12 (at $\frac{1}{2}$)
Fin. gr. El. 562.66
Conc. " El. 562.47

Sta. 89+12 (at $\frac{1}{2}$)
Fin. gr. El. 566.20
Conc. " El. 563.98

Sta. 89+12 (at $\frac{1}{2}$)
Fin. gr. El. 567.94
Conc. " El. 567.74

Sta. 89+12 (at $\frac{1}{2}$)
Fin. gr. El. 562.04 (at $\frac{1}{2}$)
Conc. " El. 566.07

Sta. 89+12 (at $\frac{1}{2}$)
Fin. gr. El. 565.02 (at $\frac{1}{2}$)
Conc. " El. 564.85

Sta. 89+72 (at $\frac{1}{2}$)
Fin. gr. El. 563.94
Conc. " El. 563.72

Sta. 90+12 (at $\frac{1}{2}$)
Fin. gr. El. 563.28 (at $\frac{1}{2}$)
Conc. " El. 563.11

Exp. Joint

Fixed

40'-0"

60'-0"

$\frac{1}{2}$ of Channel
Sta. 89+36

El. 524.57 at $\frac{1}{2}$ of roadway

15' Right of $\frac{1}{2}$

15' Left of $\frac{1}{2}$

15' Right of $\frac{1}{2}$

15' Left of $\frac{1}{2}$

El. 533.0'

El. 517.26

El. 515.0'

El. 520.02

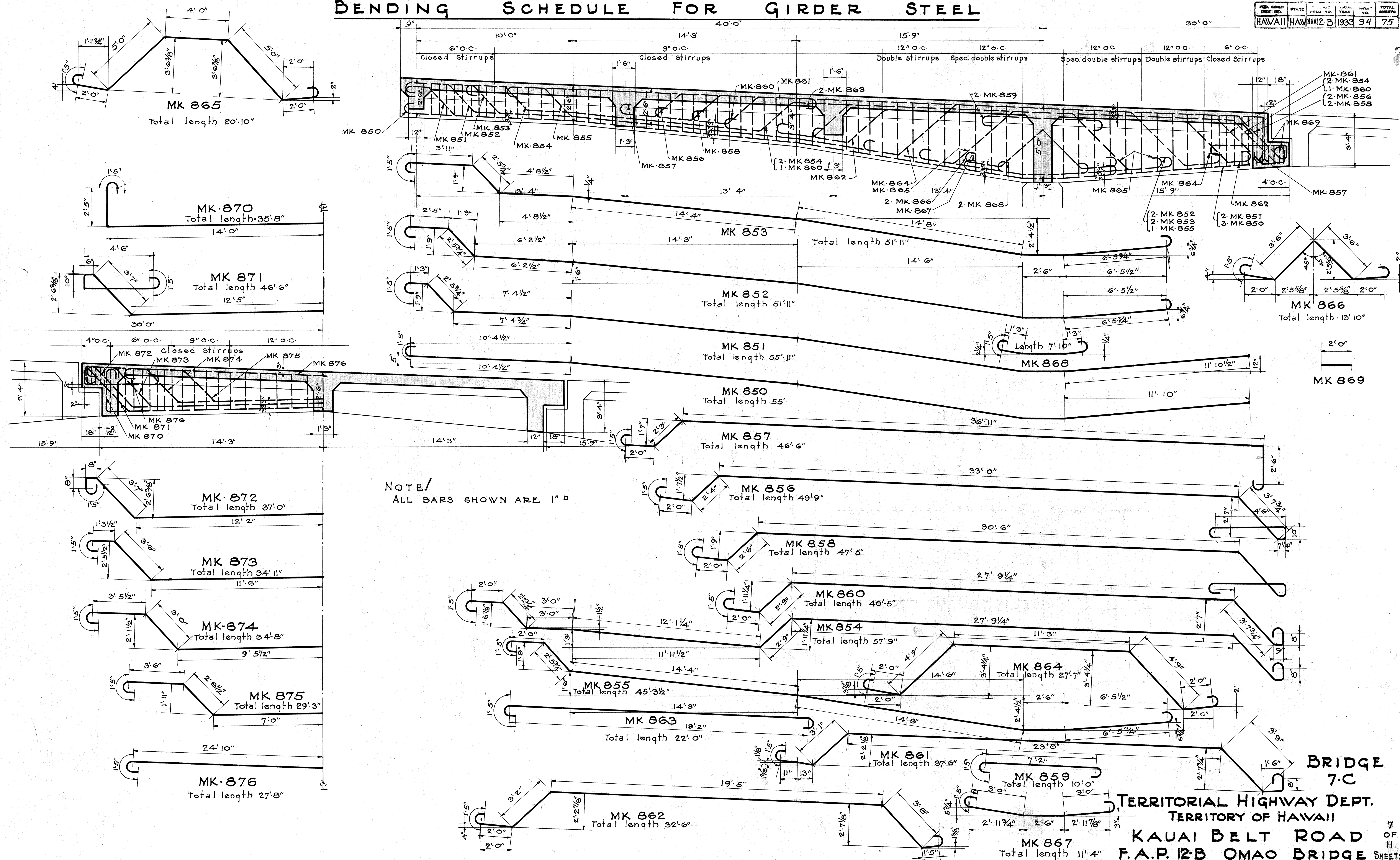
Edge of shoulder

Fin. gr. at $\frac{1}{2}$ of roadway

429 S. 33 A

BENDING SCHEDULE FOR GIRDER STEEL

PROJECT NO.	STATE	PROJ. NO.	YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	2-B	1933	34	75



4298.34

OMAO BRIDGE No 7-C.

LAWAI BRIDGE (CONT.)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw.	N.R.H. 12-B	1933	34-A	75

MK	DESCRIPTION	LOCATION	Size	Length	No. of bars each unit	No. of units	Total No. of bars	Total Length	Weight per foot	Total Weight
834		Pier Tie Beam	1" x 10"	34'-2"	2	2	4	136.68	3.44	470.0
835		"	1" x 10"	34'-2"	2	2	4	136.68	"	470.0
610a		"	3/4" x 4"	19'-3"	2	2	4	77.0	1.52	117.0
880		Piers 1 & 4	1" x 10"	7'-0"	4	8	32	224.0	3.44	771.0
780		End Beams	7/8" x 10"	31'-5"	6	2	12	377.0	2.07	780.0
380		Piers 1 & 4	3/8" x 4"	2'-9"	2	4	8	22.0	0.38	8.0
680		Pier 1 & 4	3/4" x 10"	8'-11"	6	4	24	214.0	1.52	325.0
681		"	"	9'-0"	5	4	20	180.0	"	274.0
381		End Beam	Varies 1 1/2" x 6"	Varies 11'-5"	23	2	46	260.36	0.38	99.0
828		Pier 4	1" x 10"	32'-0"	4	2	8	256.0	3.44	881.0
830		Pier 1	"	42'-0"	4	2	8	336.0	"	1156.0
829		Pier 4	"	25'-3"	6	2	12	303.0	"	1042.0
831		Pier 1	"	34'-10"	6	2	12	417.96	"	1437.0

TOTAL 7830.0 #

LAWAI BRIDGE No 7.

602		Footing Ret. Wall at Sta. 203+85	3/4" x 10"	10'-8"	41	1	41	437.06	1.52	664.0
302		"	3/8" x 10"	38'-0"	5	1	5	190.0	0.38	72.0
500		"	3/8" x 10"	10'-11"	8	1	8	87.36	1.06	93.0
301		"	"	6'-11"	8	1	8	55.36	"	59.0
603		"	3/4" x 10"	9'-2"	42	1	42	385.14	1.52	585.0
303		"	3/8" x 10"	22'-0"	11	1	11	242.0	0.38	92.0
701		"	7/8" x 10"	5'-0"	3	4	12	60.0	2.07	124.0
702		"	"	16'-5"	4	2	8	131.36	"	272.0
703		"	"	22'-4"	2	2	4	89.32	"	185.0
704		"	"	22'-6"	3	2	6	135.0	"	279.0

MK	DESCRIPTION	LOCATION	Size	Length	No. of bars each unit	No. of units	Total No. of bars	Total Length	Weight per foot	Total Weight
304		Footing Ret. Wall at Sta. 203+85	3/8" x 10"	8'-0"	13	2	26	208.0	0.38	79.0
440		"	1/2" x 10"	6'-6"	30	1	30	195.0	0.68	133.0
604		"	3/4" x 10"	20'-0"	22	1	22	440.0	1.52	669.0
605		"	"	14'-0"	19	1	19	266.0	"	404.0
606		"	"	24'-0"	16	1	16	384.0	"	584.0
607		"	"	18'-0"	18	1	18	324.0	"	492.0
608		"	"	19'-0"	20	1	20	380.0	"	578.0
609		"	"	13'-0"	19	1	19	247.0	"	375.0
305		"	3/8" x 10"	14'-6"	58	1	58	841.0	0.38	320.0
306		"	"	57'-3"	13	1	13	744.25	"	283.0
307		"	"	56'-6"	13	1	13	734.50	"	279.0
441		Baffle Wall	1/2" x 10"	8'-6"	46	1	46	391.0	0.68	266.0
442		"	"	27'-6"	9	1	9	247.50	"	168.0
443		"	"	26'-6"	9	1	9	238.50	"	162.0
840		Piers 1 & 4	1" x 10"	33'-4"	2	2	4	133.32	3.44	459.0
841		"	"	33'-4"	2	2	4	133.32	"	459.0
610a		"	3/4" x 10"	19'-0"	2	2	4	76.0	1.52	116.0
830		Pier 1	1" x 10"	30'-2"	4	1	4	120.68	3.44	415.0
830a		"	"	30'-2"	4	1	4	120.68	"	415.0
833		Pier 4	"	15'-5"	2	1	2	30.84	"	106.0
833a		"	"	15'-5"	2	1	2	30.84	"	106.0
810		Pier 1	"	23'-6"	6	2	12	282.0	"	970.0
700		End Beams	7/8" x 10"	31'-5"	6	2	12	377.04	2.07	780.0
300		"	3/8" x 10"	5'-8"	25	2	50	283.0	0.38	108.0
301		Piers 1 & 4	"	2'-9"	2	4	8	22.0	"	8.0
600		"	3/4" x 10"	8'-8"	6	4	24	207.84	1.52	316.0

MK	DESCRIPTION	LOCATION	Size	Length	No. of bars each unit	No. of units	Total No. of bars	Total Length	Weight per foot	Total Weight
601		Piers 1 & 4	3/4" x 10"	9'-0"	5	4	20	180'-0"	1.52	274.0
880		"	1" x 10"	7'-0"	4	8	32	224.0	3.44	771.0
TOTAL										12,520.0 #

CONTRACTORS NOTE

This new schedule shows the bars to be used in place of those listed below which are omitted from the original bending schedule of both bridges due to revisions.

OMAO BRIDGE

MK

828
830
610
834
835
416
470
471
473
475
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

LAWAI BRIDGE

MK

471
380
470
571
474
473
475
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

Bars MK 771 & 772 on original schedule are correct for int. beams only, omit end beams.

THIS SHEET SHALL BE USED IN CONJUNCTION WITH SHEETS 4298.35 TO 4298.38 OF OMAO BRIDGE & SHEETS 4298.44 TO 4298.45 OF LAWAI BRIDGE. N.R.H. 12-B.

LAWAI & OMAO BRIDGES.
KAUAI BELT ROAD.
N.R.H. 12-B. 1934.
TER. OF HAWAII.

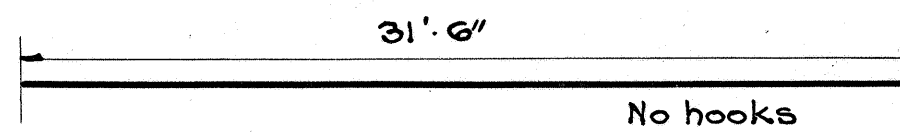
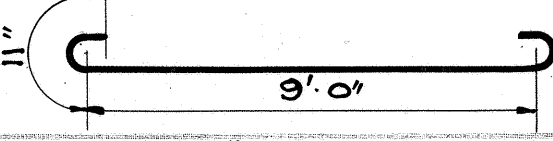
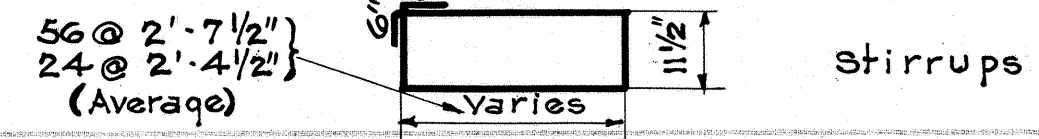
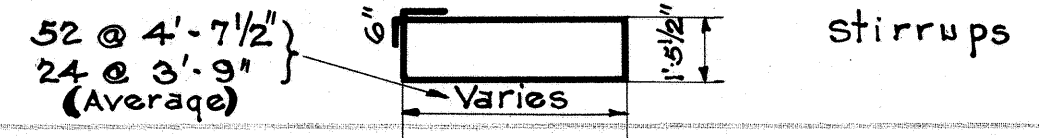
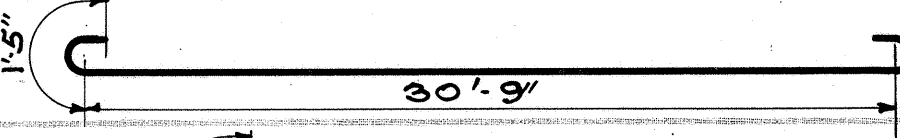
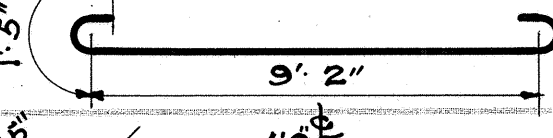
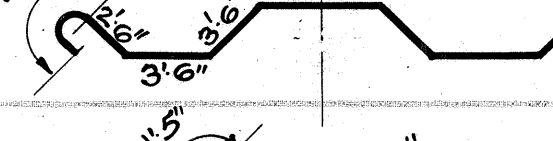
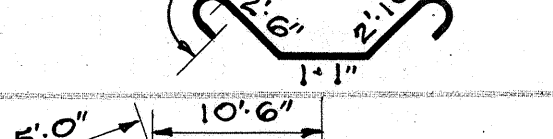
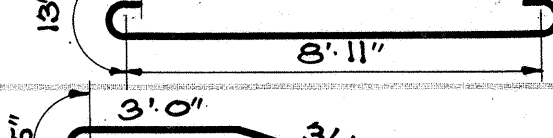
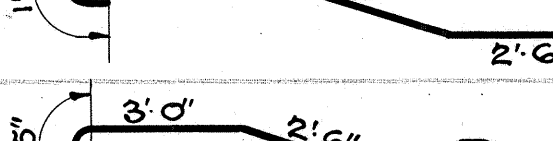
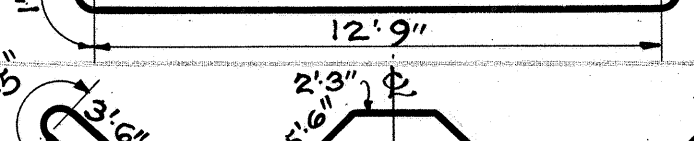
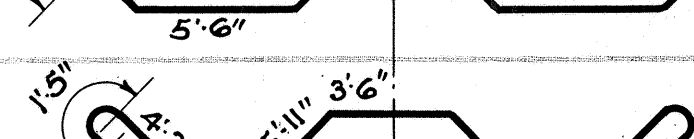
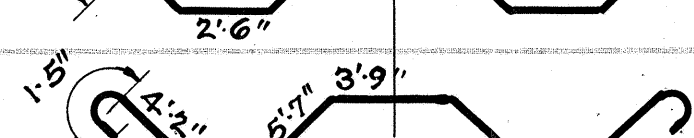
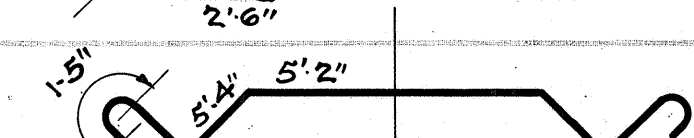
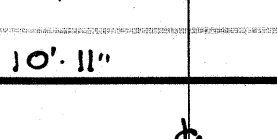
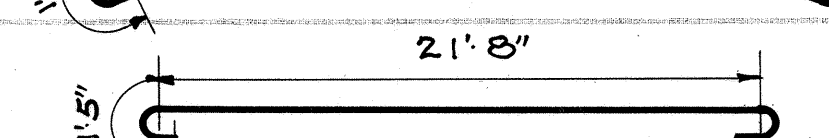
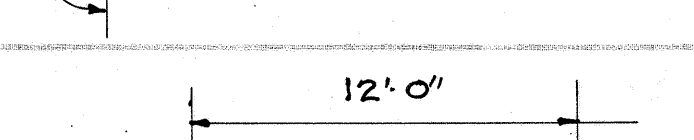
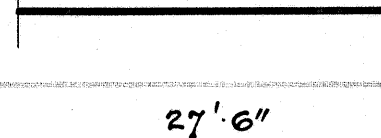
4298.34A

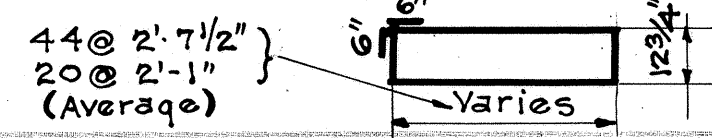
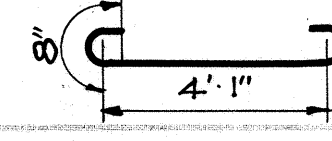
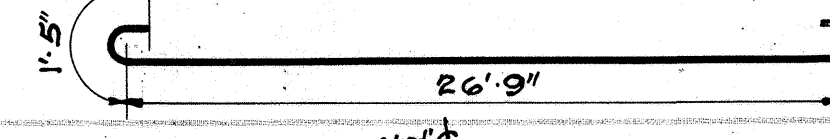
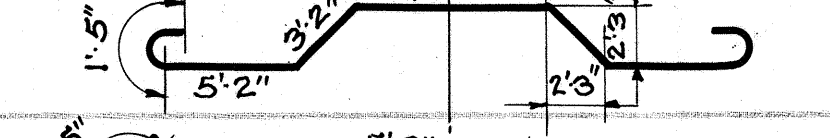
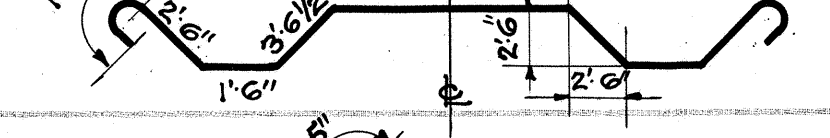
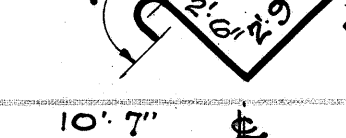
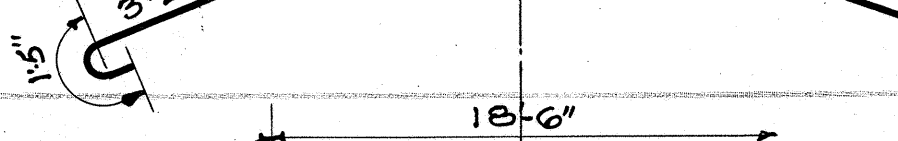
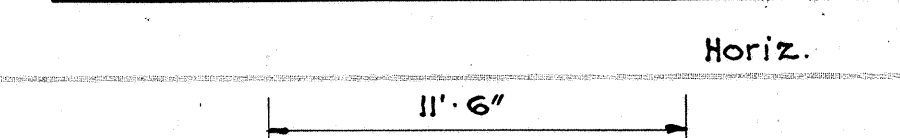
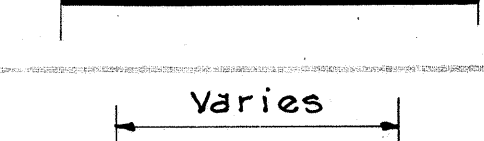
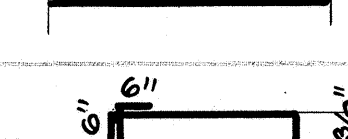
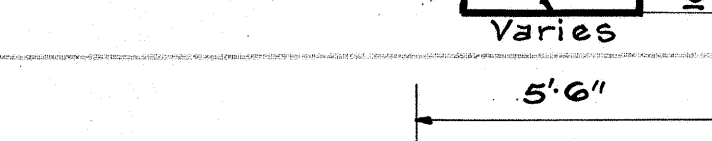
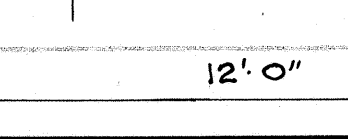
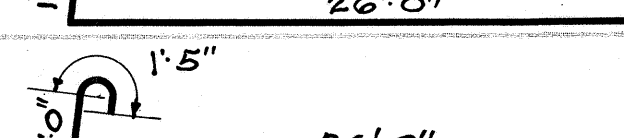
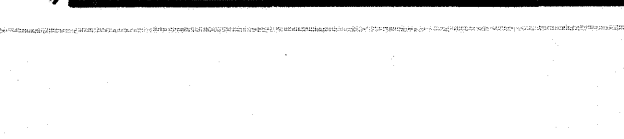
4298.

4298.

Revised as per Bu. Pub. Rd's Records of 11/21/33 & 12/22/33.

ORIGINAL SURVEY PLOTTED BY DATE
DESIGNED BY V.E. 12/23
PLAN CHECKED BY C.F.V. 12/24
NOTE BOOK REVISIONS BY C.F.V.
QUANTITIES BY C.F.V.
CHECKED BY V.E.B.

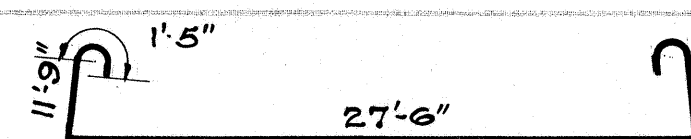
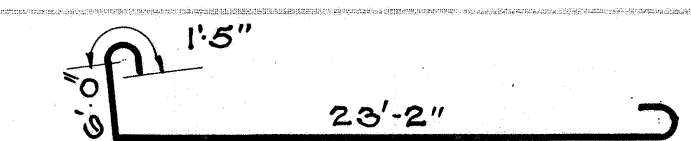
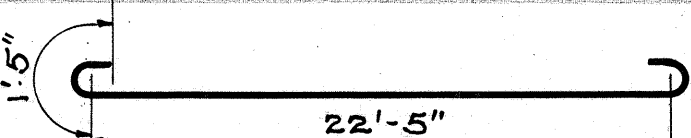
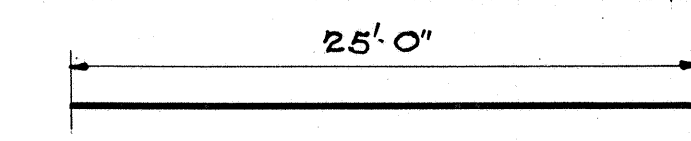
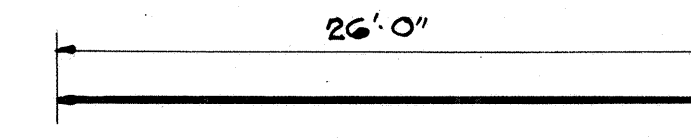
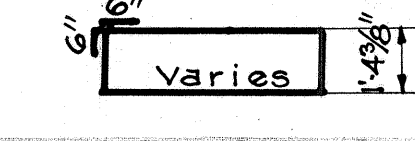
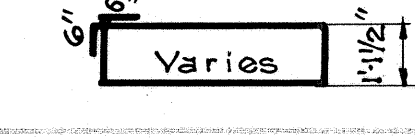
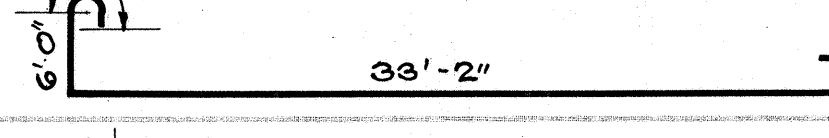
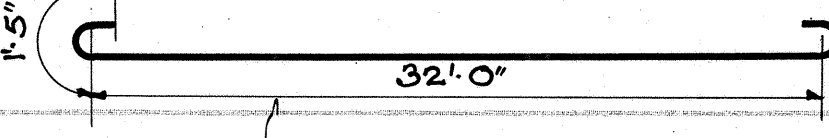
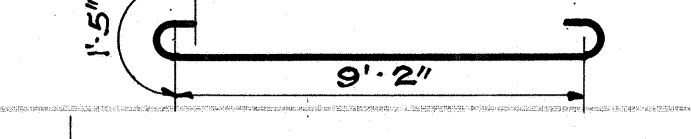
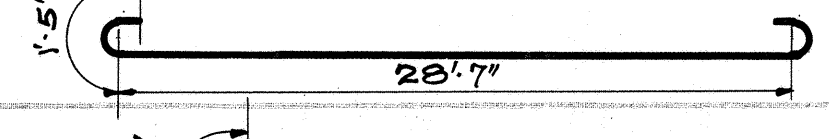
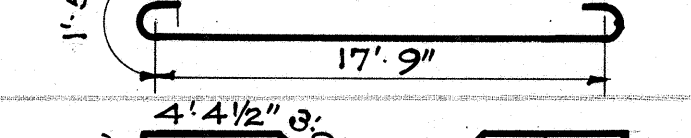
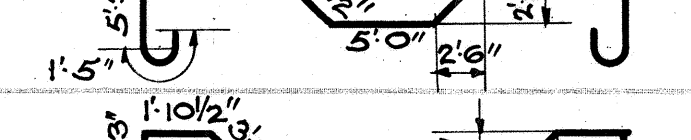
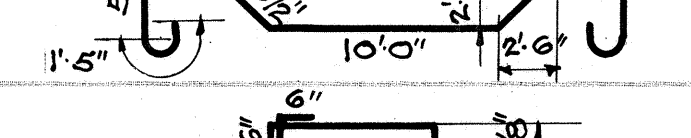
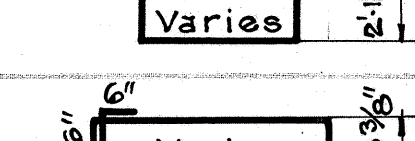
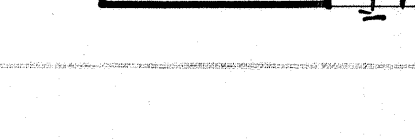
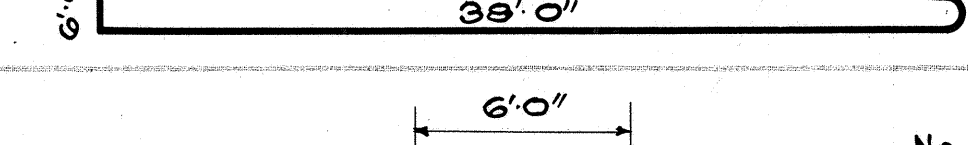
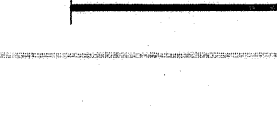
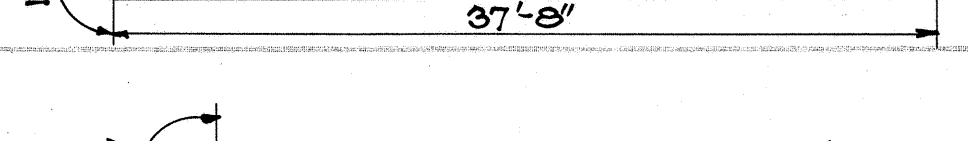
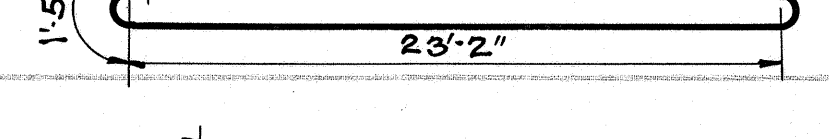
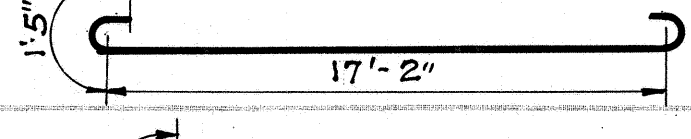
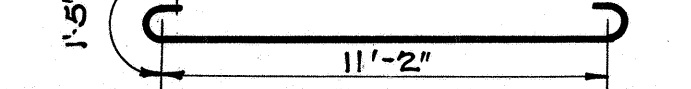
MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
300		FOOTINGS PIERS 1-2 STA. 88+72 89+12	3/8"	31'-6"	8	3	24	756.0	0.38	288
500		PIER 1	5/8"	10'-10"	62	1	62	671.5	1.06	712
400	 stirrups	PIER 1 & 4	1/2"	8'-2" (Average) 7'-8"	56	2	112	905.0	0.68	615
401	 stirrups	PIER 2 & 3	"	13'-2" (Average) 11'-5"	52	2	104	1369.7	"	932
800		PIER 1	1"	33'-7"	2	1	2	67.2	3.44	232
801		PIER 1-2 & 3	"	12'-0"	2	6	12	144.0	"	496
802		PIER 1	"	31'-4"	2	1	2	62.7	"	216
803		"	"	9'-3"	2	2	4	37.0	"	127
804		"	"	33'-10"	2	1	2	67.7	"	233
602		PIER 2 & 3	3/4"	11'-1"	74	2	148	1639.8	1.52	2493
805	 Dowels	"	1"	12'-2"	8	4	32	389.4	3.44	1340
806	 Dowels	PIER 1 & 4	"	9'-4"	8	4	32	298.6	"	1027
807		PIER 2 & 3	"	15'-7"	4	4	16	249.3	"	858
808		"	"	36'-4"	2	2	4	145.3	"	500
809		"	"	36'-0"	1	2	2	72.0	"	248
810		"	"	35'-10"	1	2	2	71.7	"	247
811		"	"	32'-10"	1	2	2	65.7	"	230
812		"	"	12'-4"	2	4	8	98.6	"	340
813		"	"	34'-2"	3	2	6	205.0	"	705
814		"	"	24'-6"	3	2	6	147.0	"	506
815		"	"	12'-0"	2	2	4	48.0	"	651
302		"	3/8"	27'-6"	4	1	4	110.0	0.38	42

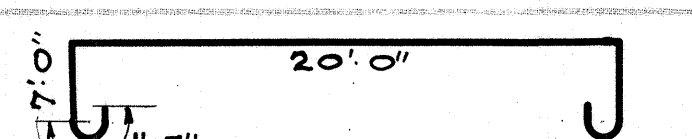
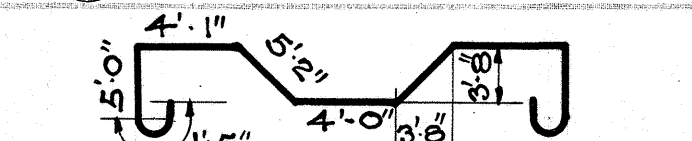
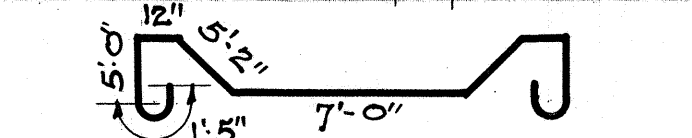
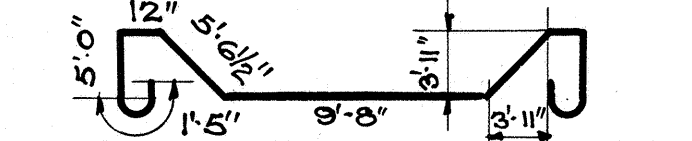
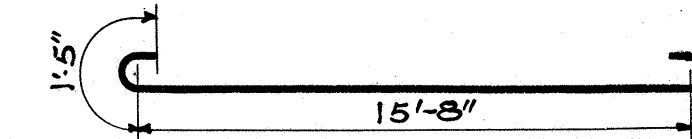
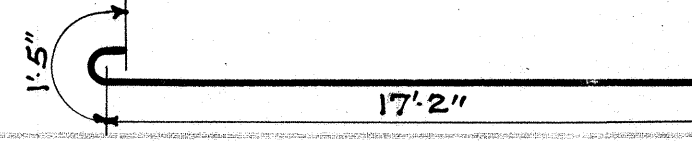
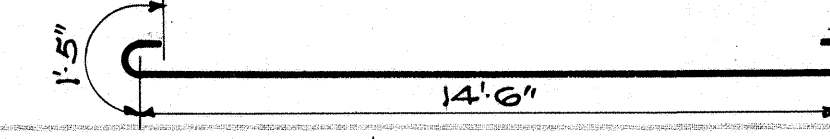
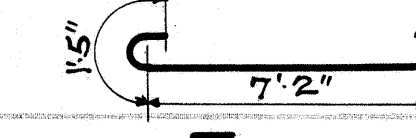
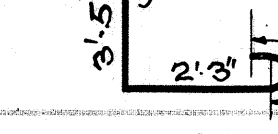
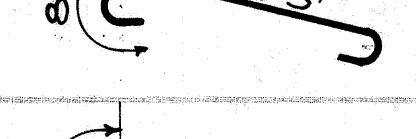
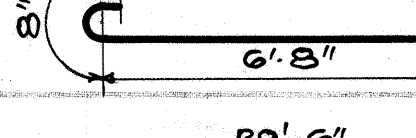
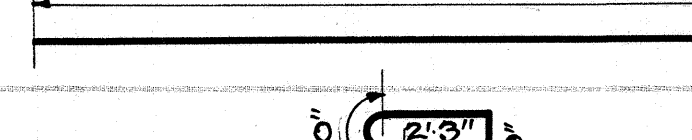
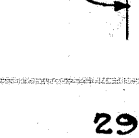
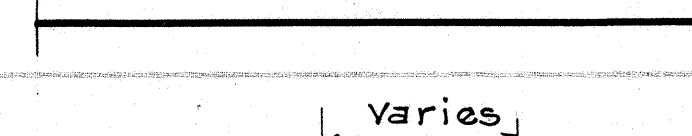
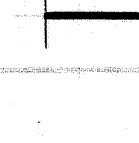
MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
402	 Stirrups	FOOTINGS (CONT'D) PIER 4	1/2" φ	8'-4 1/2" Varies (Average) 7'-3 1/2"	44 20	1	44 20	368.5 145.8	0.68	251 99
403		"	"	5'-5"	55	1	55	298.1	0.68	203
816		"	1" □	29'-7"	2	1	2	59.2	3.44	204
817		"	"	28'-8"	2	1	2	57.3	"	197
818		"	"	29'-5"	2	1	2	58.8	"	202
819		"	"	8'-1"	2	2	4	32.3	"	101
820		"	"	30'-4"	2	1	2	60.7	"	209
821		"	"	21'-4"	1	1	1	21.3	"	73
410	 No hooks Horiz.	WALL	1/2" φ	31'-11"	30	2	60	1915.0	0.68	1302
411	 Continuous straight steel-lengths as available Horiz.	"	"	2600'	1	2	2	5200'	"	3536
310	 No hooks Vert.	"	3/8" φ	11'-6"	82	2	164	1886.0	0.38	717
311	 No hooks Vert.	"	"	Varies 6'-0" Average	14	4	56	336.0	"	126
312	 1'-8 3/8" Average	" Cross members	"	Varies 6'-2 1/2" Average	300	2	600	3725.0	"	1416
412	 No hooks	"	1/2" φ	5'-6"	2	22	44	242.0	0.68	164
415	 No hooks	" Cols	"	12'-0"	2	18	36	432.0	"	302
825		" cross members	1" φ	51'-4"	3	5	15	770.0	2.70	2079
826		"	"	38'-10"	3	2	6	232.9	"	629
					SUB	TOTAL - COLUMN 2			11,810#	
					"	"			13,661#	
					TOTAL =				25,471#	

BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P.-12-B OMAO BRIDGE

4298.35

8
OF
11
SHTS

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL UNITS	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
827		WALL Cross members	1" ϕ	53'-10"	4	4	16	861.3	2.70	2326	
828		PIERS PIER 4	1" $\square$	32'-0"	4	2	8	256.0	3.44	881	
829		"	"	25'-3"	4	2	8	206.0	"	709	
600		No hooks	"	$\frac{3}{4}$ " ϕ	25'-0"	2	7	14	350.0	1.52	532
601		No hooks	"	"	26'-0"	2	4	8	208.0	1.52	316
313		stirrups	PIER 1 ϕ 4	$\frac{3}{8}$ " ϕ	Varies 7'-8 $\frac{1}{2}$ " Average	65	2	130	1012.9	0.38	385
413		stirrups	"	$\frac{1}{2}$ " ϕ	Varies 10.92" Average	43	2	86	939.1	0.68	639
830		PIER 1	1" $\square$	42'-0"	4	2	8	336.0	3.44	1156	
831		"	"	34'-10"	4	2	8	278.6	"	958	
832		PIER 1 ϕ 4	"	12'-0"	4	4	16	192.0	"	661	
610		"	$\frac{3}{4}$ " ϕ	30'-9"	4	2	8	246.0	1.52	374	
833		"	1" $\square$	20'-7"	4	2	8	164.6	3.44	566	
834		"	"	34'-2"	2	2	4	136.7	"	470	
835		"	"	34'-2"	2	2	4	136.7	"	470	
314		stirrups	PIER 2 ϕ 3	$\frac{3}{8}$ " ϕ	Varies 10'-11 $\frac{1}{2}$ " Average	43	4	172	1884.8	0.38	716
414		stirrups	"	$\frac{1}{2}$ " ϕ	Varies 14'-9" Average	16	4	64	944.0	0.68	642
836		"	1" $\square$	46'-10"	4	4	16	749.3	3.44	2578	
416		No hooks	PIER 1 ϕ 4	$\frac{1}{2}$ " ϕ	6'-0"	2	4	8	48.0	0.68	33
837		PIER 2 ϕ 3	1" $\square$	37'-8"	4	4	16	602.7	3.44	2073	
838		"	"	26'-0"	2	4	8	208.0	"	716	
839		"	"	20'-0"	2	4	8	160.0	"	551	
840		"	"	14'-0"	6	4	24	336.0	"	1156	

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
841		PIER 2 ϕ 3	1" $\square$	36'-10"	2	2	4	147.3	3.44	514
842		"	"	35'-4"	2	2	4	141.3	"	486
843		"	"	35'-4"	2	2	4	141.3	"	486
844		"	"	35'-7"	2	2	4	142.3	"	490
845		"	"	18'-6"	3	2	6	111.0	"	382
846		"	"	20'-0"	5	2	10	200.0	"	688
847		"	"	21'-4"	5	2	10	213.3	"	734
848		PIER 1-2-3 ϕ 4	"	10'-0"	4	8	32	320.0	"	1101
470		END WALLS PIERS 1 ϕ 4	1/2" ϕ	7'-1"	45	2	90	637.5	0.68	433
471		"	"	3'-6"	45	2	90	315.0	"	214
473		"	"	7'-7"	2	4	8	60.6	"	41
474		"	"	8'-0"	2	4	8	64.0	"	44
475		"	"	29'-6"	2	2	4	118.0	"	80
571		"	5/8" ϕ	6'-8"	60	2	120	800.4	1.06	848
380		"	3/8" ϕ	29'-6"	8	2	16	472.0	0.38	179
381		"	"	Varies 4'-8" Average	8	4	32	149.4	"	57
					SUB TOTAL - COLUMN 2				6,777#	
					" "				18,908#	
					TOTAL =				25,685#	

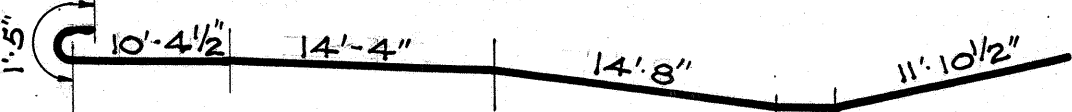
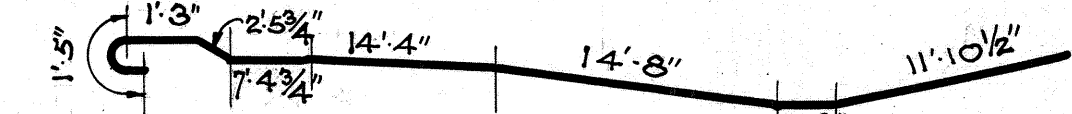
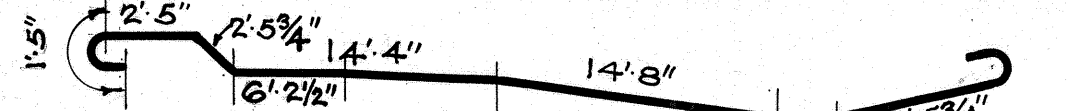
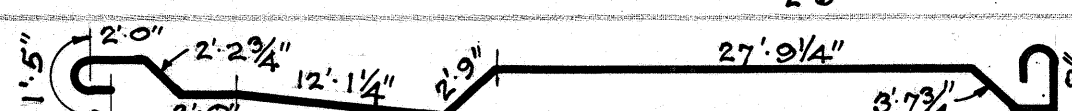
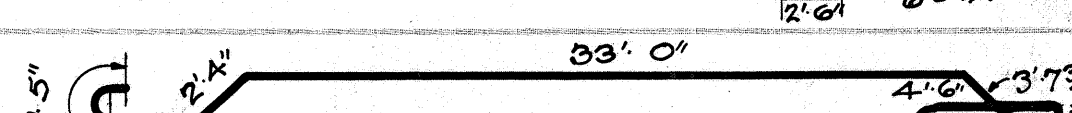
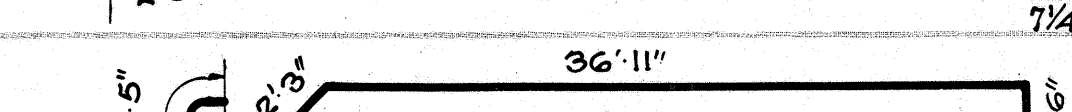
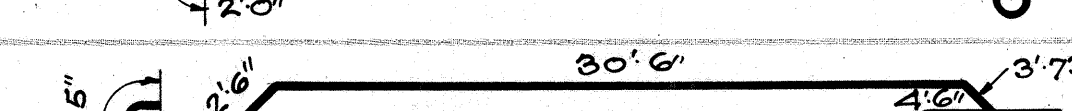
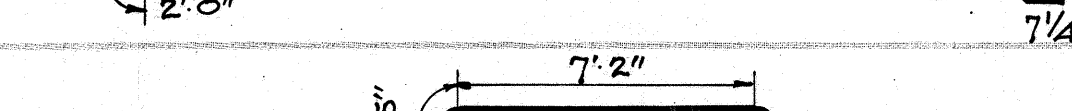
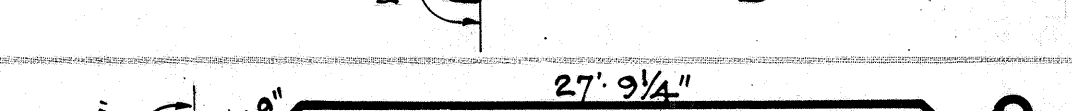
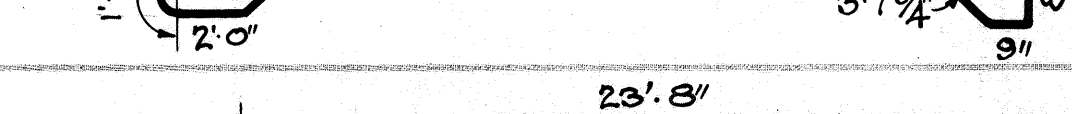
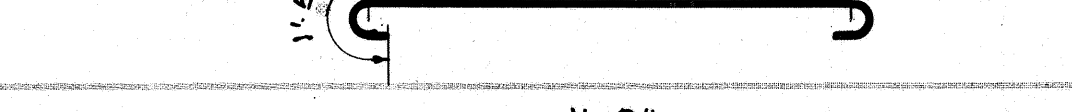
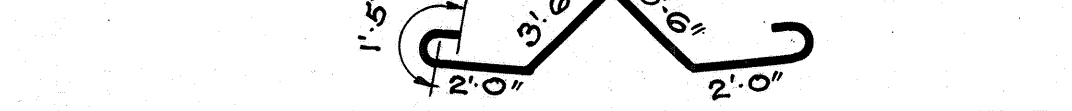
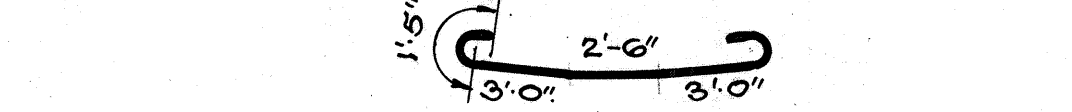
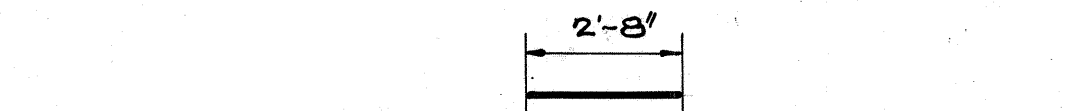
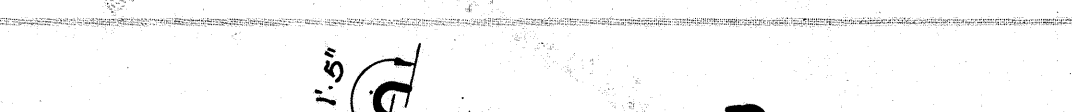
BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B - OMAO BRIDGE

4298.36

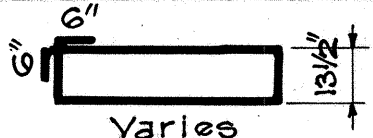
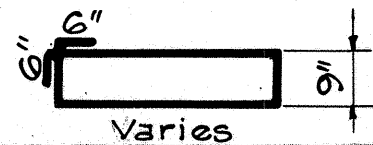
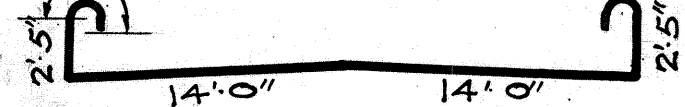
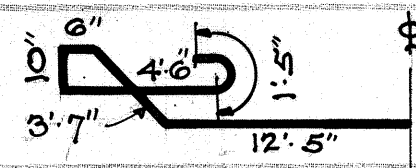
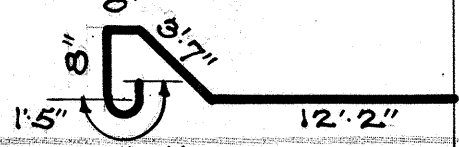
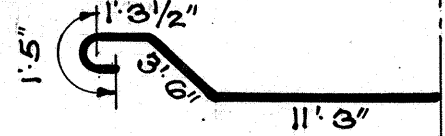
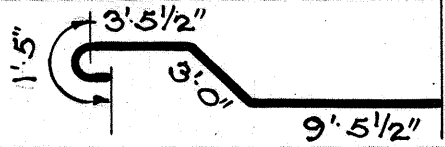
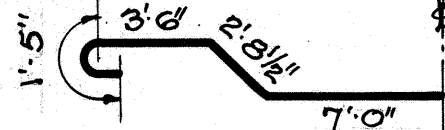
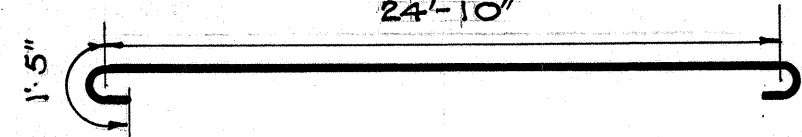
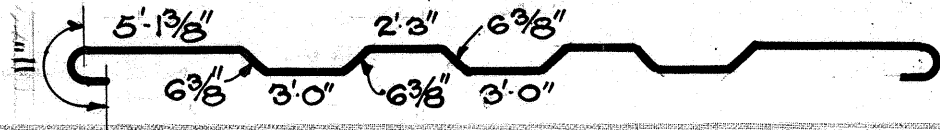
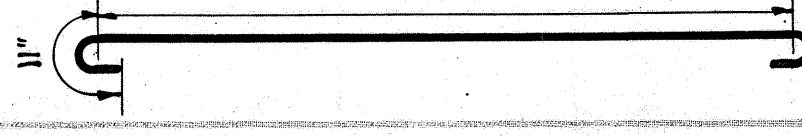
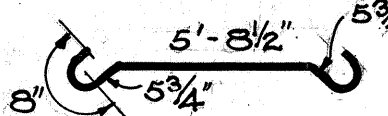
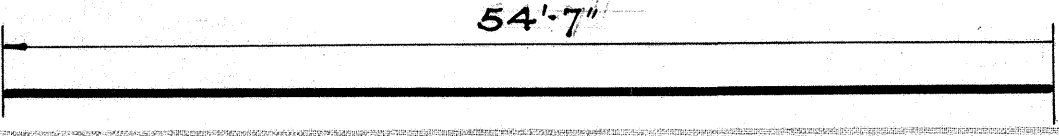
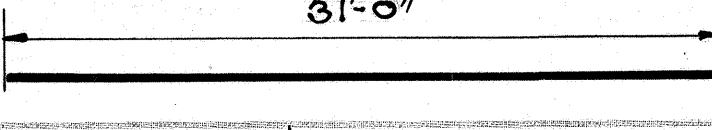
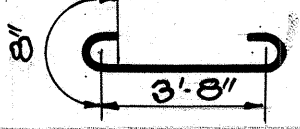
MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
877		BEAMS OVER PIERS 2 1/2 3 INTERMEDIATE BEAMS	1" 1/2	28'-7"	2	6	12	343.0	3.44	1180
878		"	1" 1/2	24'-10"	2	6	12	298.0	2.70	804
352		BEAMS OVER PIERS 2 1/2 3	3/8" 1/2	19'-6"	4	2	8	166.0	0.38	59
353		"	"	Varies 11' - 10" Average	12	2	24	284.0	"	108
454		"	1/2" 1/2	20'-5"	2	2	4	81.7	0.68	56
750		BEAMS OVER PIERS 1 1/2 2	7/8" 1/2	28'-5"	3	2	6	170.5	2.07	353
354		"	3/8" 1/2	Varies 5' - 6" Average	23	2	46	231.0	0.38	88
751		END AND INTERMEDIATE BEAMS	7/8" 1/2	28'-5"	2	6	12	341.0	2.07	706
752		"	"	24'-6"	1	6	6	147.0	"	304
355		INTERMEDIATE BEAMS	3/8" 1/2	6'-8 1/2"	15	5	75	503.1	0.38	191
356		"	"	Varies 5' - 10 1/2" Average	8	5	40	235.0	"	90
357		BEAMS AT EXP END OF JOINT	"	6'-10 1/2"	15	2	30	180.0	"	68
358		BEAMS AT BOTH JOINTS	"	7'-10 1/2"	15	4	60	472.5	"	180
359		"	"	7'-7"	15	2	30	227.5	"	86
879		"	1" 1/2	3'-0"	8	4	32	96.0	3.44	330
880		"	"	12'-0"	4	4	16	192.0	"	660
360		"	3/8" 1/2	4'-0"	10	4	40	160.0	0.38	61
361		"	"	7'-6"	4	4	16	120.0	"	46
650		"	3/4" 1/2	23'-0"	8	2	12	336.0	1.52	501
651		"	"	22'-0"	10	2	20	440.0	"	669
652		"	"	22'-0"	4	2	8	176.0	"	268
670		"	"	29'-2"	2	4	8	233.3	"	1355

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
653		GUARD RAIL END SPANS	3/4" φ	21'-6"	4	4	16	344.0	1.52	523
654		"	"	21'-6"	2	4	8	172.0	"	262
655		"	"	24'-8"	8	4	24	592.0	"	900
656		"	"	17'-0"	8	4	32	544.0	"	826
460		GUARD RAIL ALL SPANS	1/2" φ	11'-0"	20	2	40	440.0	0.68	299
461		GUARD RAIL END SPANS	"	54'-0"	2	4	8	432.0	"	294
362		"	3/8" φ	54'-0"	4	4	16	864.0	0.38	320
363		GUARD RAIL ALL SPANS	"	7'-0"	97	2	194	1358.0	"	516
462		"	1/2" φ	5'-0"	256	2	512	3060.0	0.68	2081
657		GUARD RAIL CENTER SPAN	3/4" φ	21'-6"	4	2	8	172.0	1.52	262
658		"	"	22'-9"	4	2	8	182.0	"	277
659		"	"	17'-8"	4	2	8	141.3	"	215
463		"	1/2" φ	30'-3"	2	2	4	121.0	0.68	82
364		"	3/8" φ	30'-3"	4	2	8	242.0	0.38	92
464		GUARD POSTS	1/2" φ	4'-0"	4	8	32	128.0	0.68	87
465		"	"	8'-0"	3	8	24	192.0	"	131
					SUB TOTAL - COLUMN 2				7,167	
					"				8,163	
					TOTAL =				15,330	

BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B OMAO BRIDGE

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	UNITS	TOTAL BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT
850		GIRDERS	1" □	55'-2"	3	8	24	1324.0	3.44	4565
851		"	"	55'-11"	2	8	16	894.7	"	3078
852		"	"	51'-11"	2	8	16	830.7	"	2858
853		"	"	51'-11"	2	8	16	830.7	"	2858
854		"	"	57'-9"	2	8	16	924.0	"	3189
855		"	"	45'-3 1/2"	1	8	8	362.3	"	1256
856		"	"	49'-9"	2	8	16	796.0	"	2738
857		"	"	46'-6"	1	8	8	372.0	"	1280
858		"	"	47'-5"	2	8	16	758.7	"	2610
859		"	"	10'-0"	2	8	16	160.0	"	550
860		"	"	40'-5"	1	8	8	323.3	"	1112
861		"	"	37'-6"	2	8	16	600.0	"	2064
862		"	"	32'-6"	2	8	16	520.0	"	1788
863		"	"	22'-0"	2	8	16	352.0	"	1211
864		"	"	27'-7"	2	8	16	441.3	"	1518
865		"	"	20'-10"	2	8	16	333.3	"	1147
866		"	"	13'-10"	2	8	16	221.3	"	761
867		"	"	11'-4"	2	8	16	181.3	"	624
456		"	1/2" φ	17'-0"	12	4	48	816.0	0.68	555
457		"	"	2'-8"	20	16	320	853.4	"	580
868		"	1" □	7'-10"	2	8	16	125.3	3.44	431
869		"	"	2'-0"	2	16	32	64.0	"	220

Note!
See sheet No 7 for dimensions for the bending of
all 1" bars in girders from MK 850 to MK 875 (Inc.).

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	BARS PER UNIT	TOTAL UNITS BARS	TOTAL LENGTH	WT PER FOOT	TOTAL WEIGHT	
450		GIRDERS	1/2" φ	Varies 9.5' Average	194	4	776	7272.0	0.68	4945
451		"	"	Varies 12.0' Average	16	8	128	1536.0	"	1045
870		"	1" □	35'-8"	1	4	4	142.7	3.44	490
871		"	"	46'-8"	4	4	16	744.0	"	2559
872		"	"	37'-0"	3	4	12	444.0	"	1527
873		"	"	34'-11"	2	4	8	279.3	"	961
874		"	"	34'-8"	2	4	8	277.3	"	953
455		"	1/2" φ	14'-0"	22	4	88	1232.0	0.68	838
875		"	1" □	29'-3"	2	4	8	234.0	3.44	805
876		"	"	27'-8"	2	4	8	221.3	"	761
550		SLAB	5/8" φ	28'-9"	142	1	142	4082.5	1.06	4327
551		"	"	27'-11"	284	1	284	7928.4	"	8424
452		"	1/2" φ	8'-0"	16	7	112	896.0	0.68	610
350		"	3/8" φ	54'-7"	41	2	82	4475.8	0.38	1702
351		"	"	31'-0"	41	1	41	1271.0	"	487
453		"	1/2" φ	5'-0"	142	2	284	1420.0	0.68	965
SUB TOTAL - COLUMN 2									31,399#	
" " " 1									36,993#	
TOTAL =									68,392#	

TOTAL AMOUNT OF STEEL IN OMAO BRIDGE = 134,878#

BRIDGE No 7C
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P. 12-B OMAO BRIDGE

4298.38

11
OF
11
SHEETS

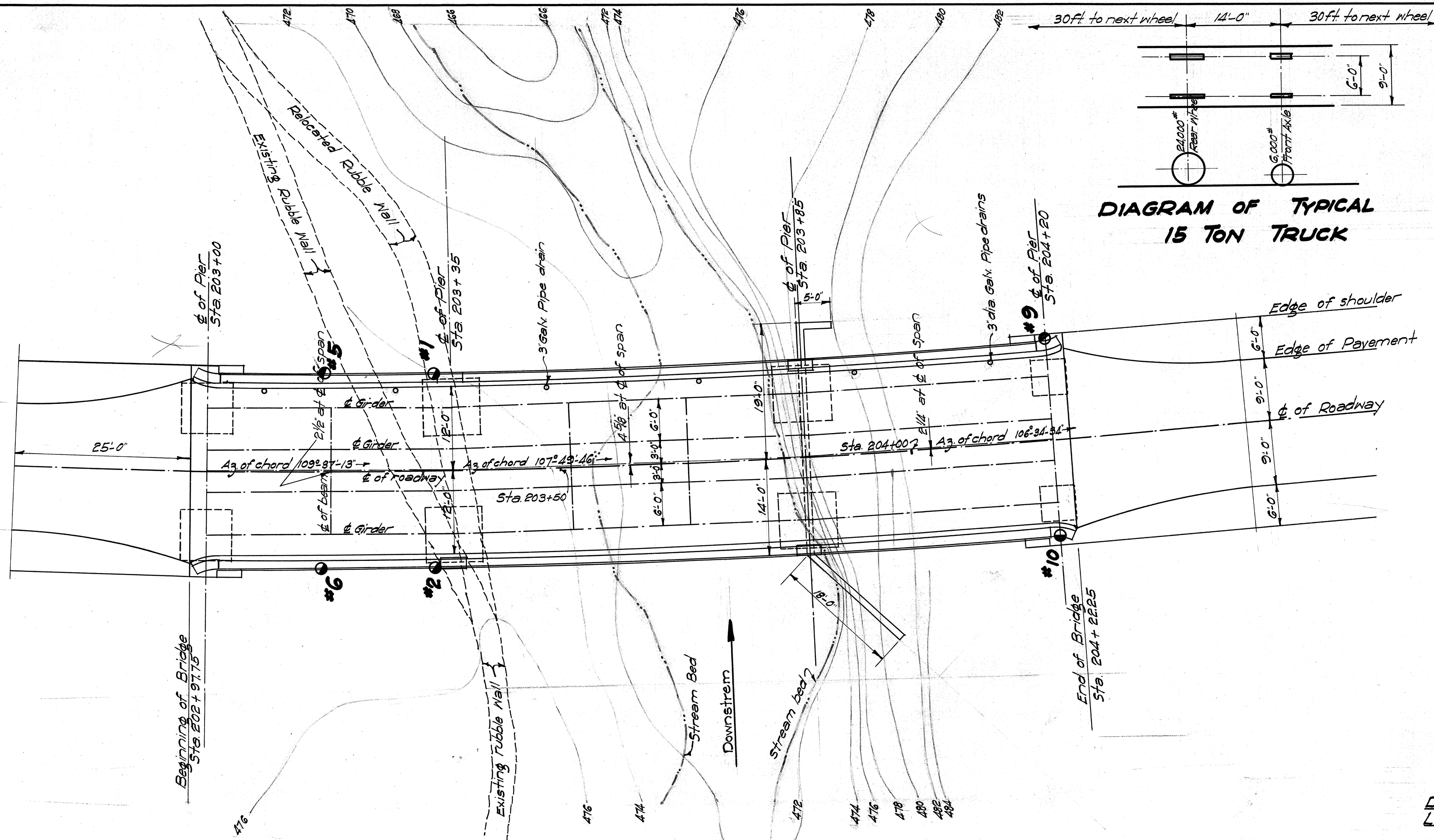
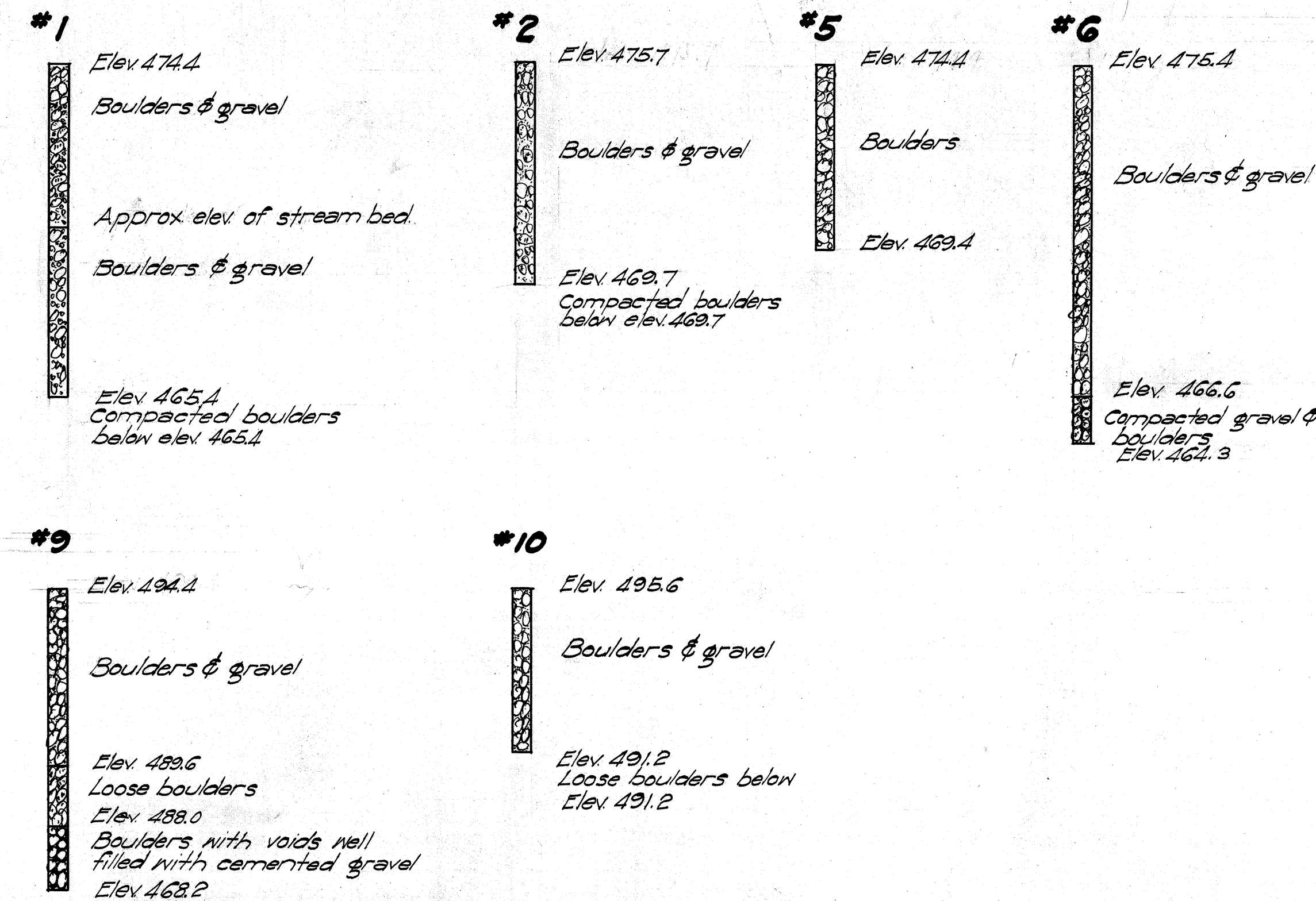


DIAGRAM OF TYPICAL
15 TON TRUCK

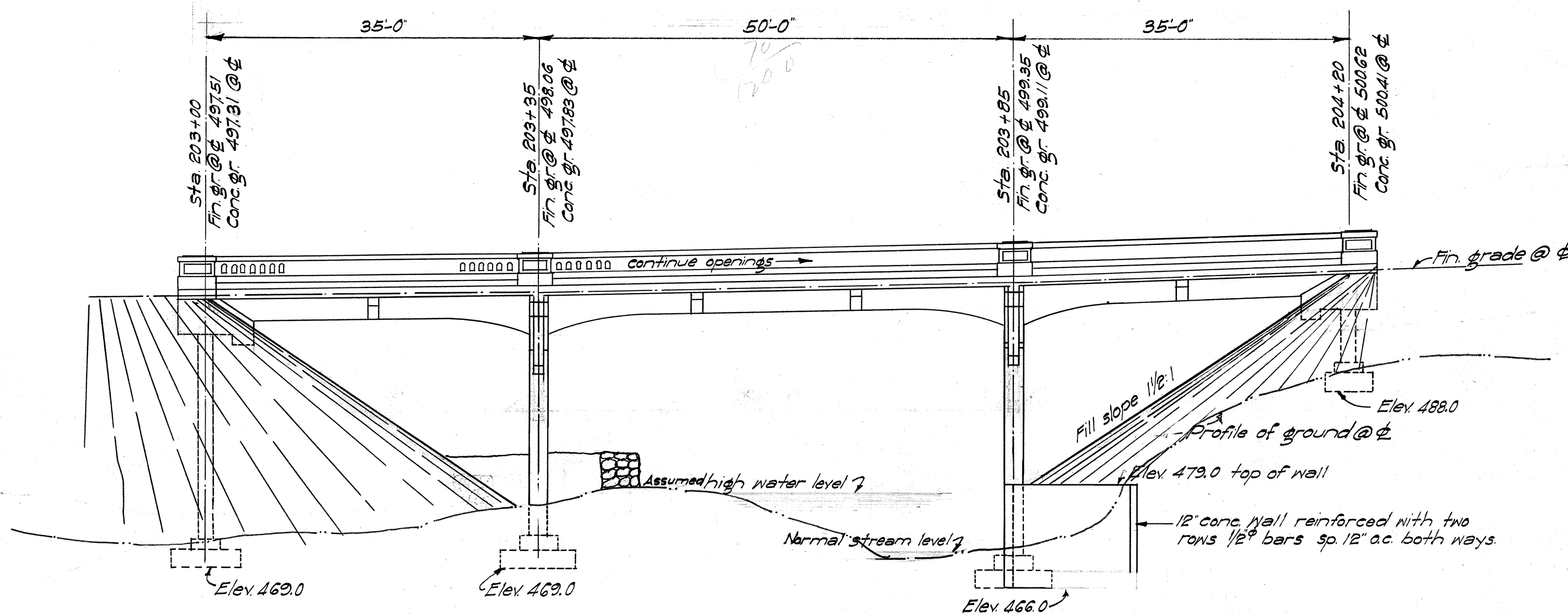


WASH BORING DATA

GENERAL NOTES

DEAD LOAD: Concrete at 150* per cu. ft.
LIVE LOAD: Train of 15 ton trucks in two traffic lanes, with 30% allowance for impact. Spacing of trucks as per diagram.
CONCRETE: Class 'A' (1:2:4) mix with all exposed edges chamfered 3/4" unless otherwise noted. Allowable compression 650* per sq. inch.
REINFORCING STEEL: Allowable tensile stress 16,000* per sq. inch. All steel to be round or square deformed bars of approved design square twisted bars not to be considered deformed. All dimensions relating to reinforcement are to centers of bars unless otherwise noted. Where splicing of reinforcement is necessary bars are to be lapped 40 diameters & splices are to be staggered. Main reinforcing bars in girders & piers cannot be spliced. No allowance will be made in the quantities for extra weight of steel required for splices. Unless otherwise noted the minimum covering measured from the surface of concrete to the face of any steel shall be not less than 2 1/2" in abutments and abutment footings; 2" in beams girders & handrails and 1 1/4" in slabs. Steel to be held rigidly & accurately in place before and during placing of concrete.

LAYOUT PLAN
Scale 1"=10'-0"



UPSTREAM ELEVATION OF BRIDGE
Scale 1"=10'-0"

TABLE OF QUANTITIES				
Location	Struct. Exc.	Dry Rubble	Concrete	Steel
Piers & Abutments	212.0 CY	47.4 CY	114.0 CY	19,146 #
Superstructure			201.0 CY	52,407 #
Totals	212.0 CY	47.4 CY	315.0 CY	71,553 #

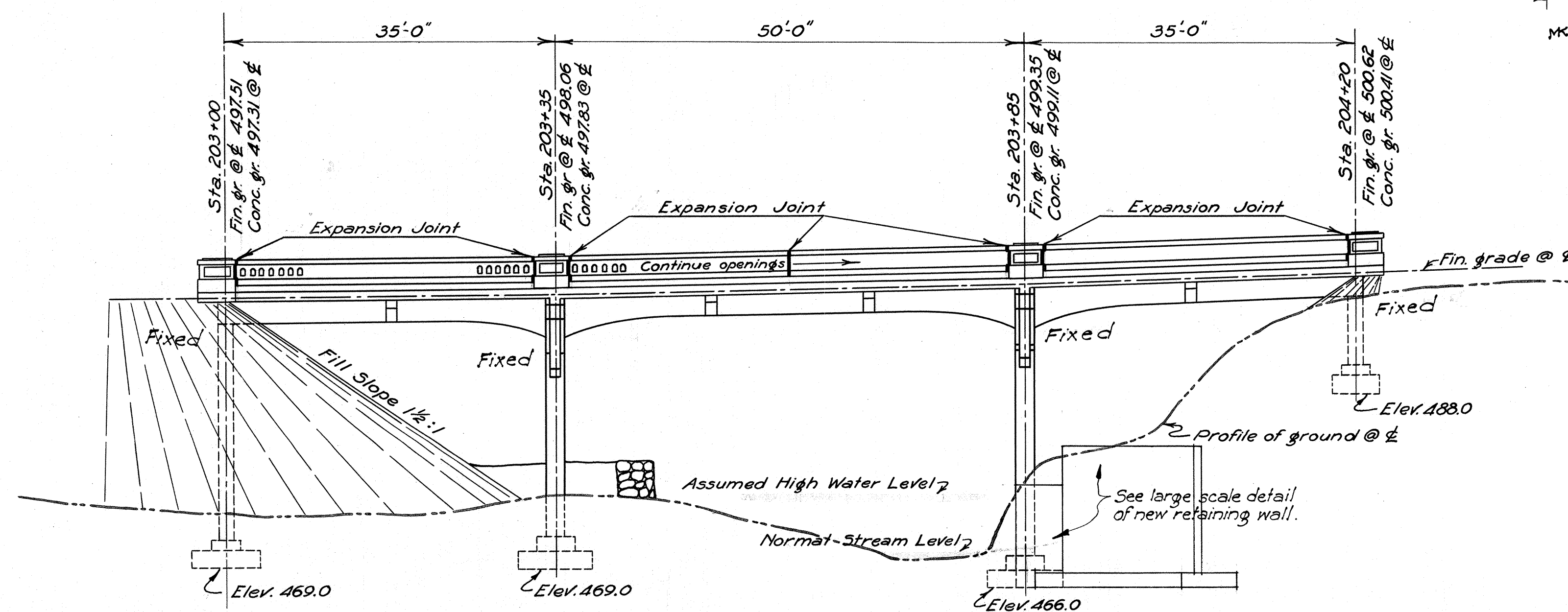
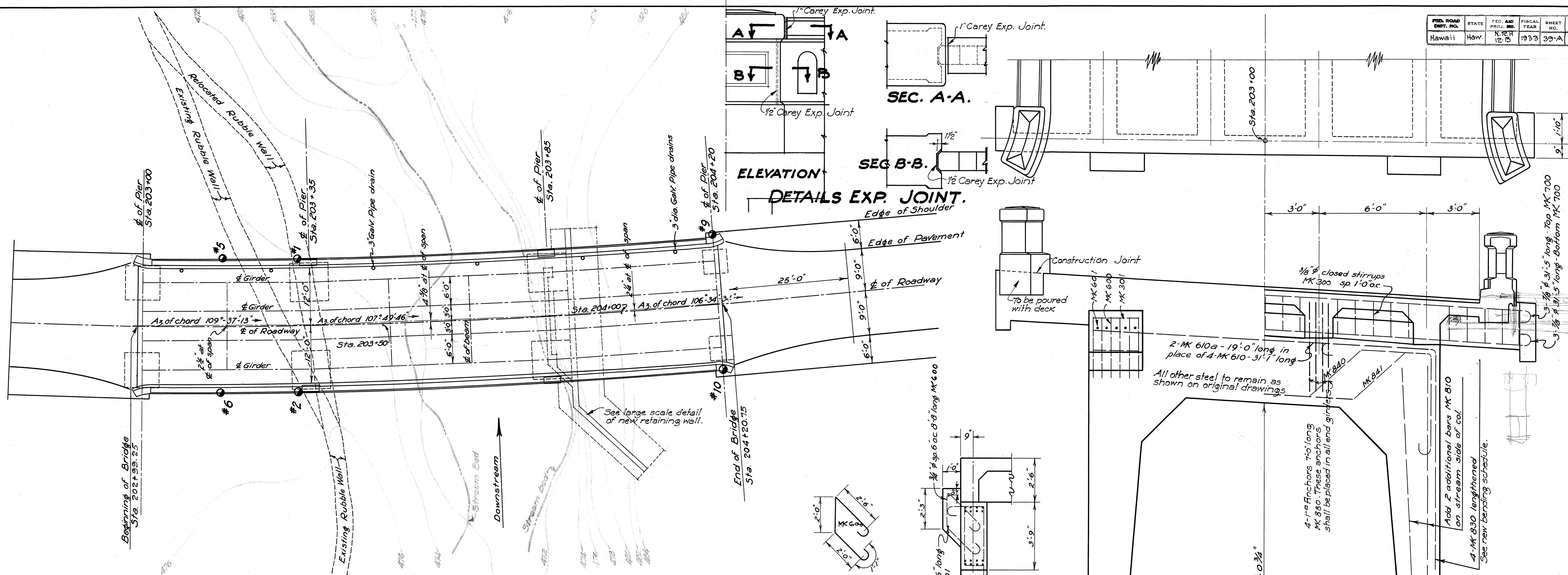
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

BRIDGE No. 7

KAUAI BELT ROAD
F.A.P. 12-B LANAI BRIDGE
Sheet #1 of 7 Sheets

4298.39

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
Hawaii	Haw.	N.R.H 12-B	1933	39-A	75

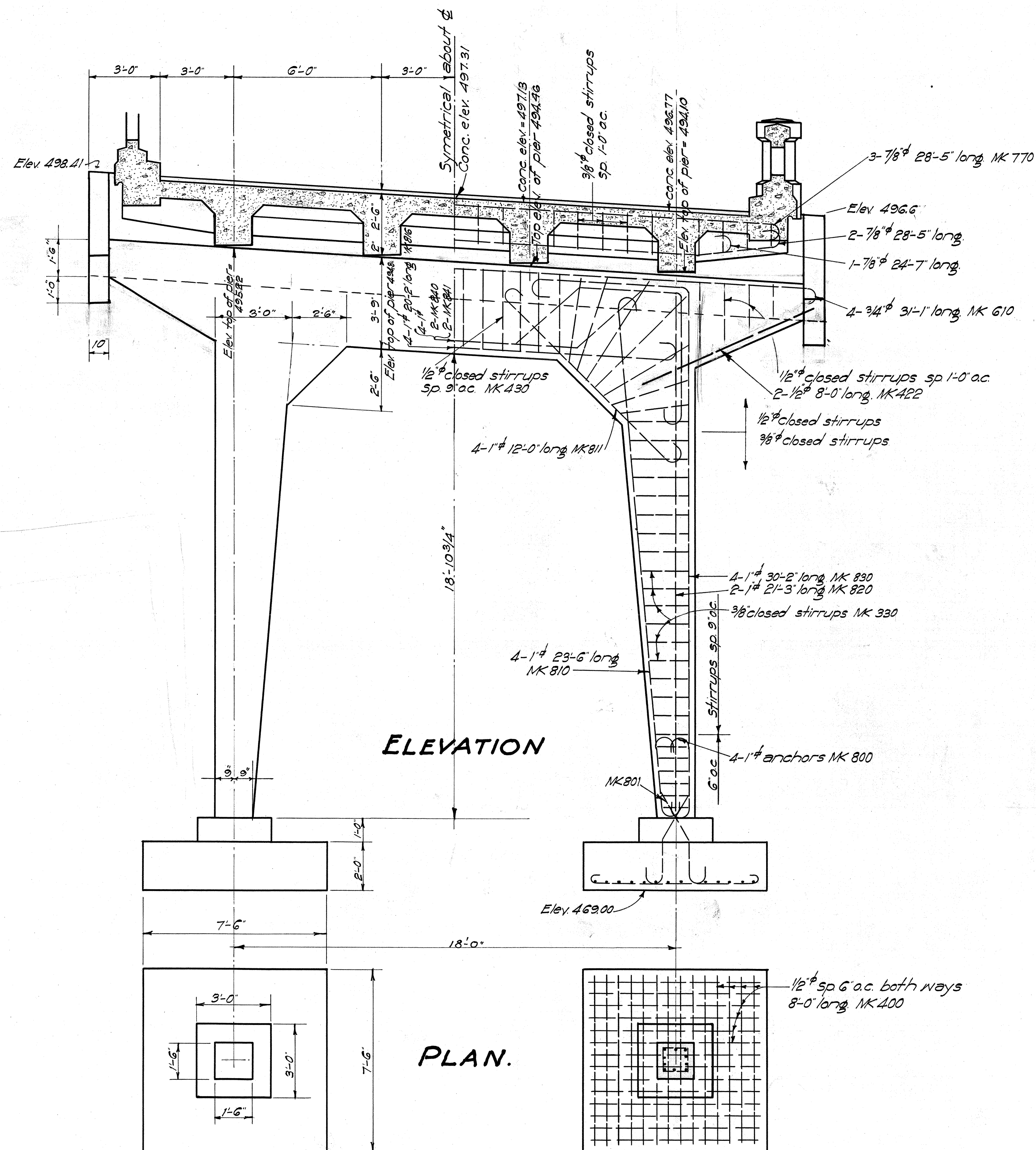


THIS SHEET IS SUPPLEMENTARY TO THE ENTIRE SET
OF DRAWINGS OF LAWAI BRIDGE No 7 N.R.H. 12-B.
SHEETS MK 4298.39 TO 4298.45 INCLUSIVE.

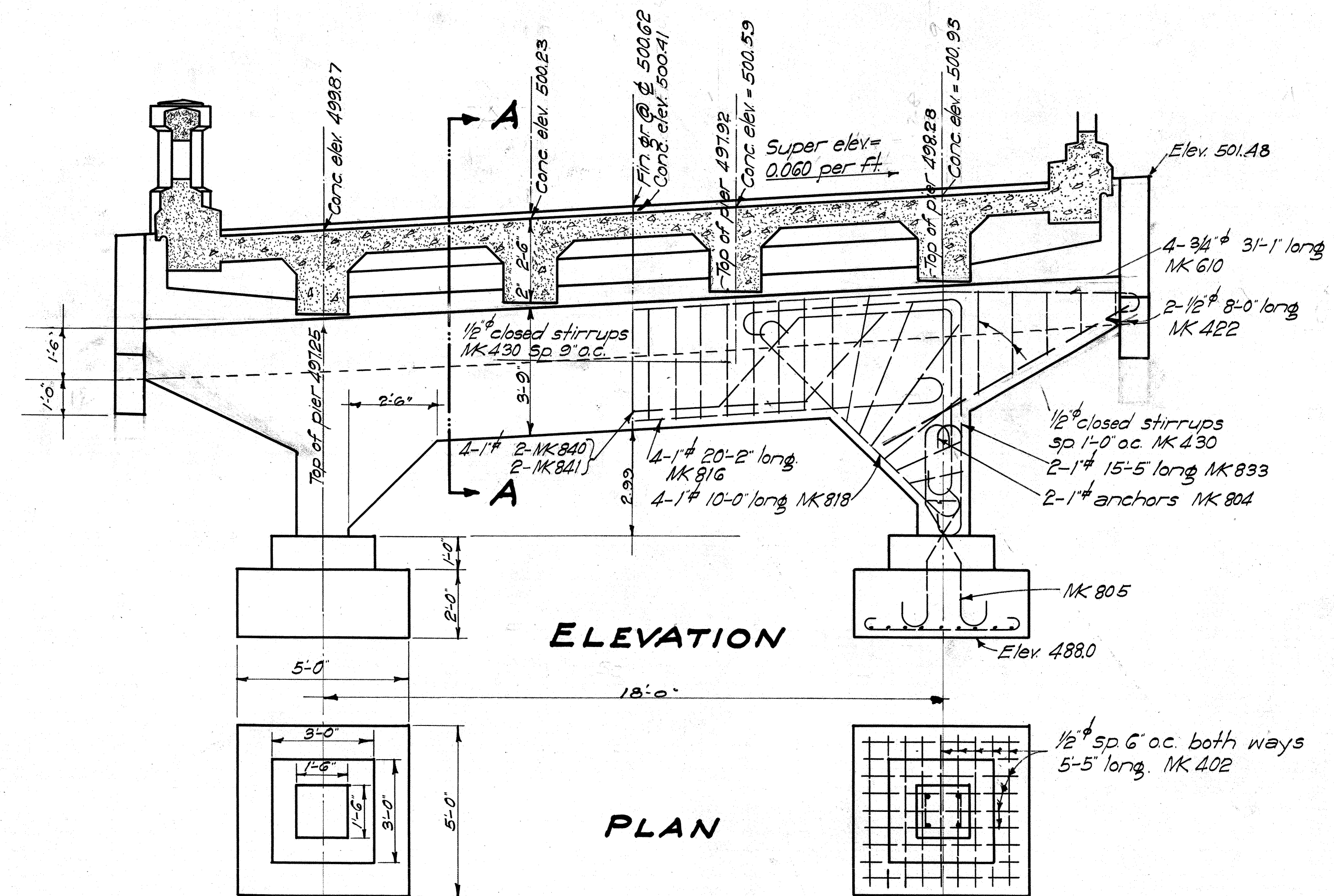
LAWAI BRIDGE No 7
KAUAI BELT ROAD.
N.R.H. 12-B. 1934.
TER. OF HAWAII.

429 S. 39 A

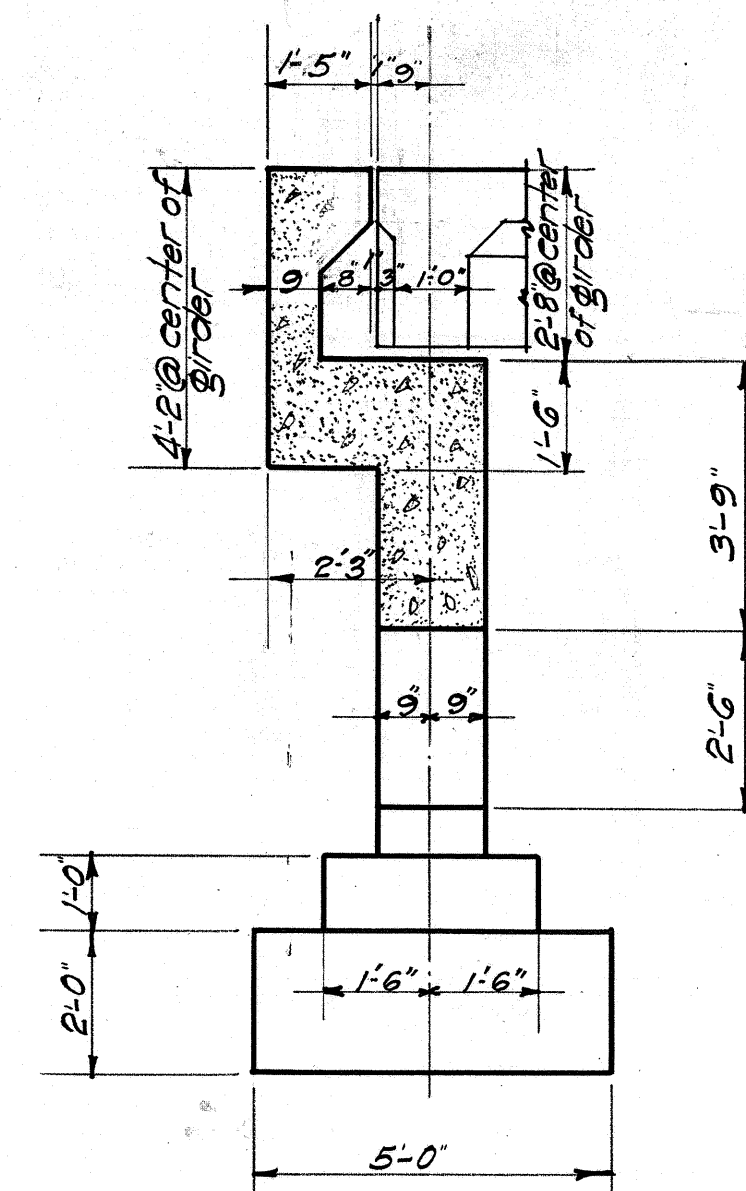
39A



DETAILS OF PIER AT STA. 203+00



DETAILS OF PIER AT STA. 204+20

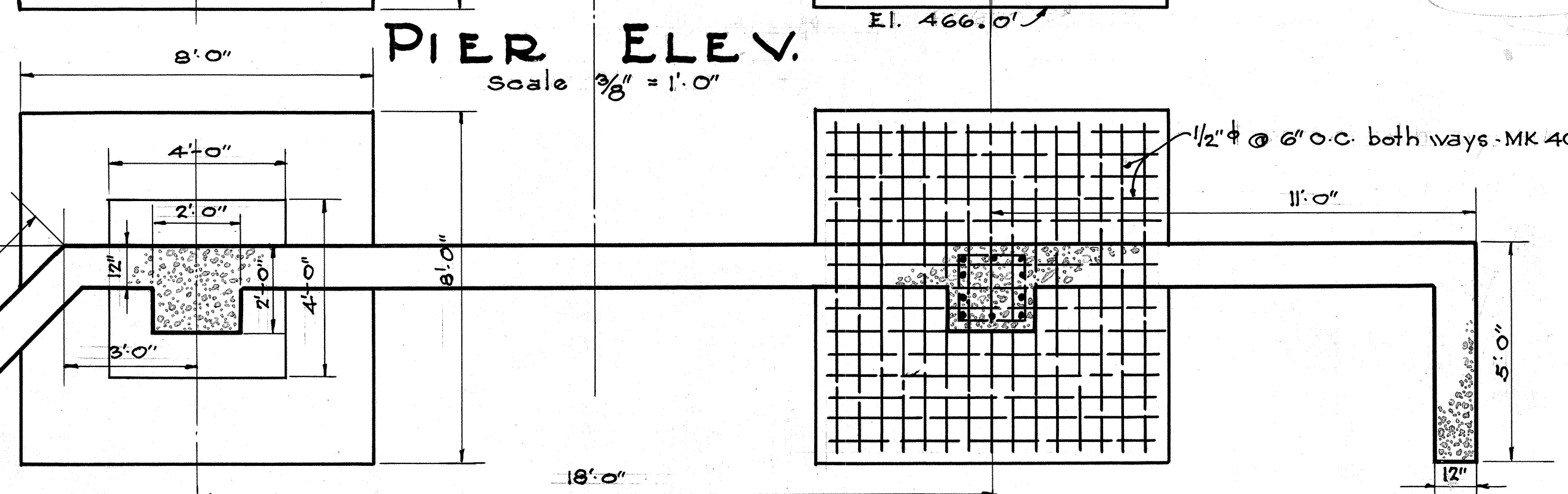
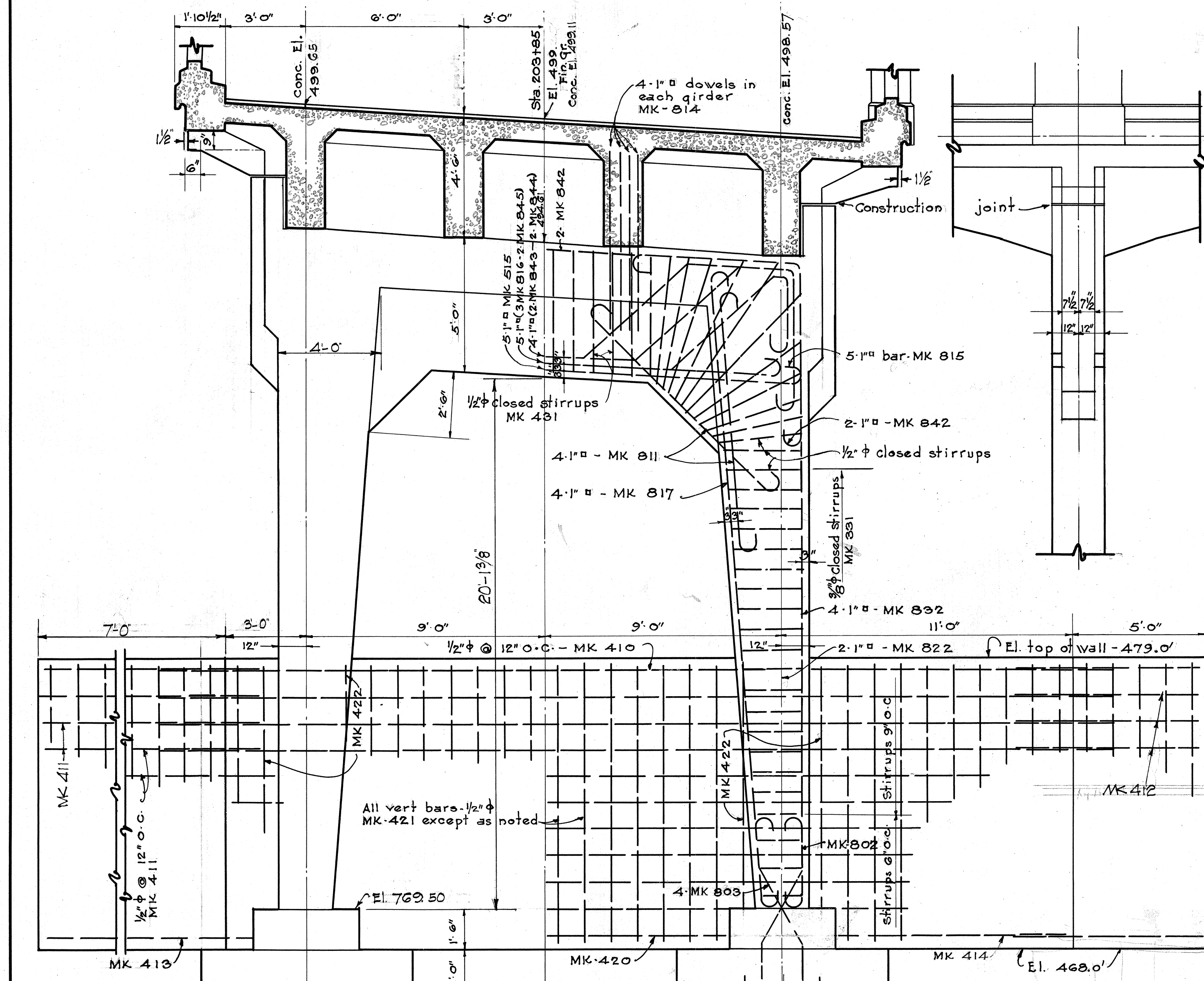


SECTION A-A.

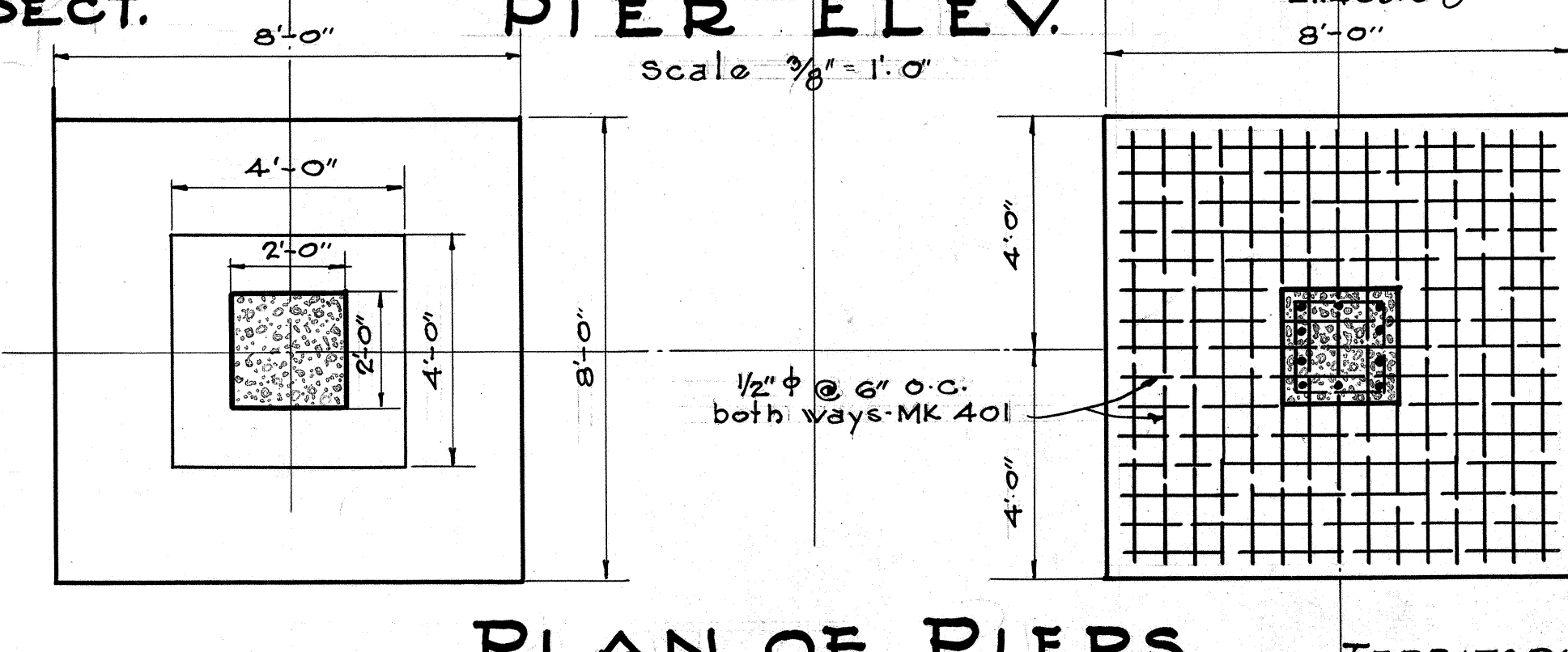
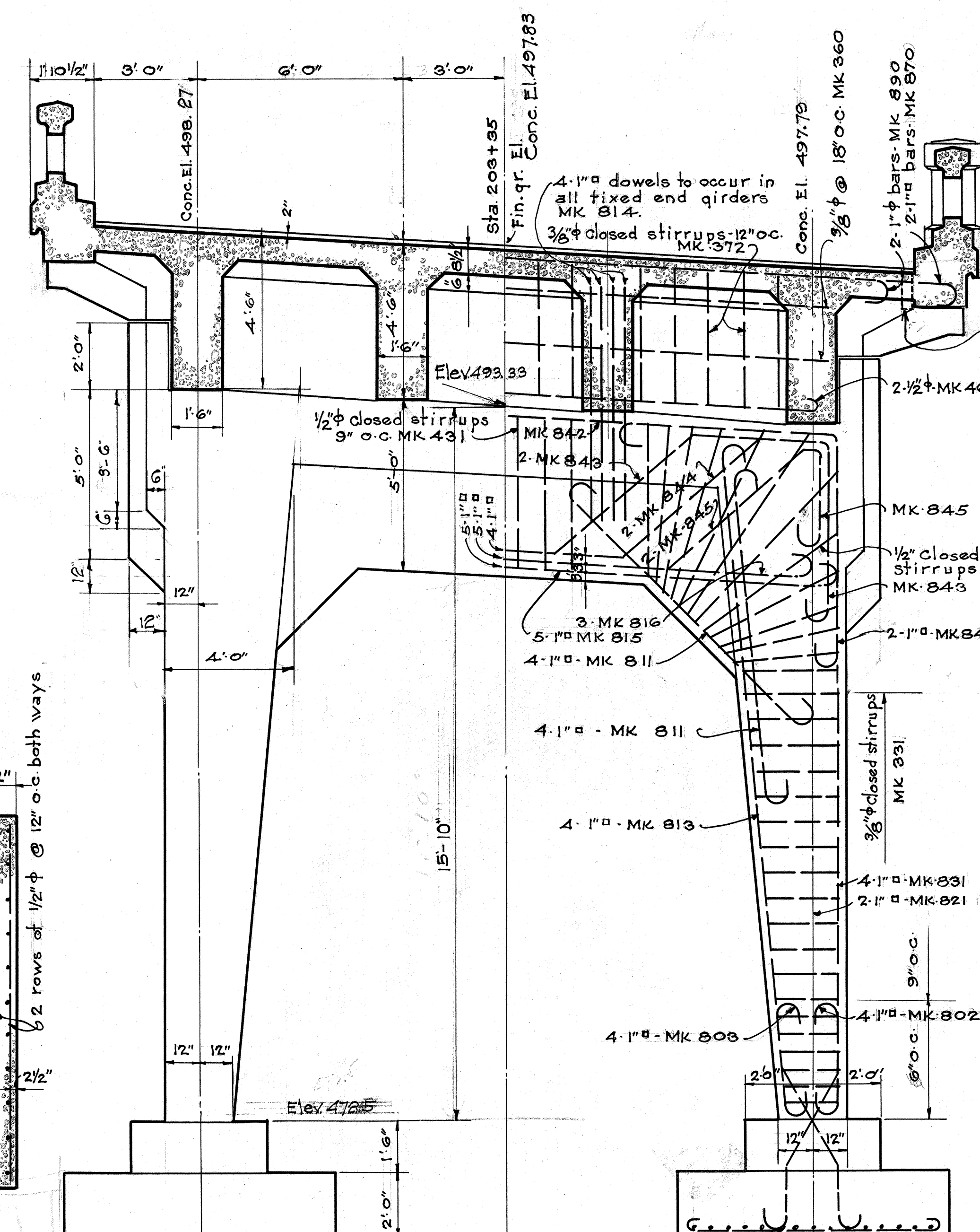
BRIDGE No 7
TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII.
KAUAI BELT ROAD
N.R.H. 12-B LAWAI BRIDGE

2
OF
7
SHEETS.

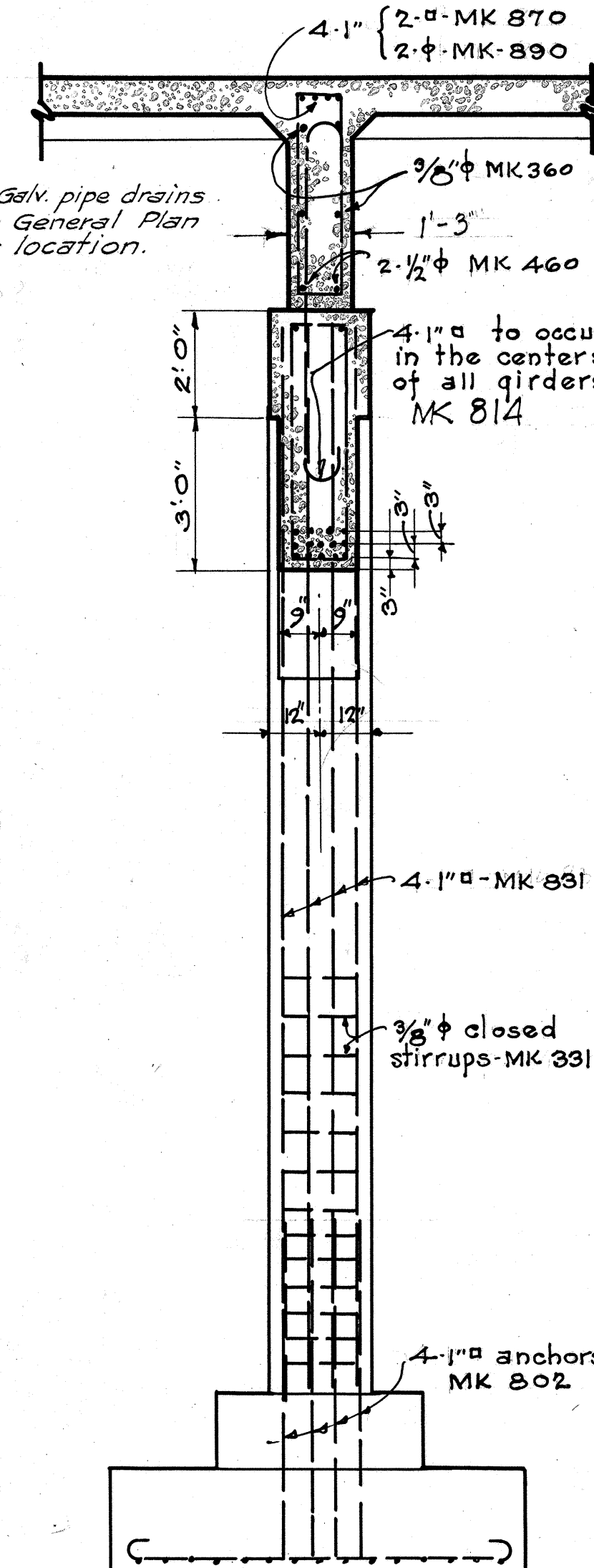
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-8	1938	41	75



DETAILS OF BENT AT STA. 203+85



PLAN OF PIERS



SECT. THRU PIER

DETAILS OF BENT AT STA. 203+35

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

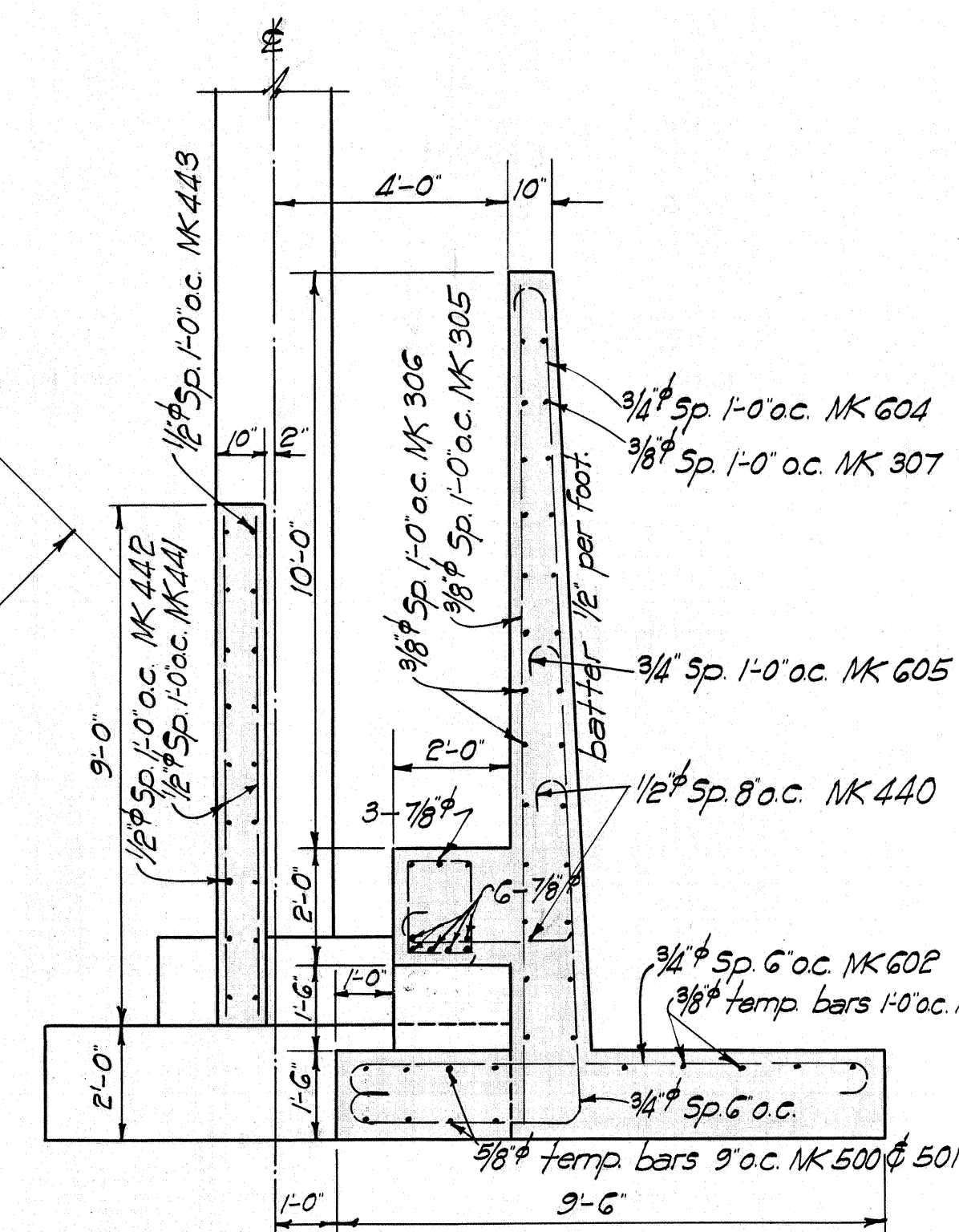
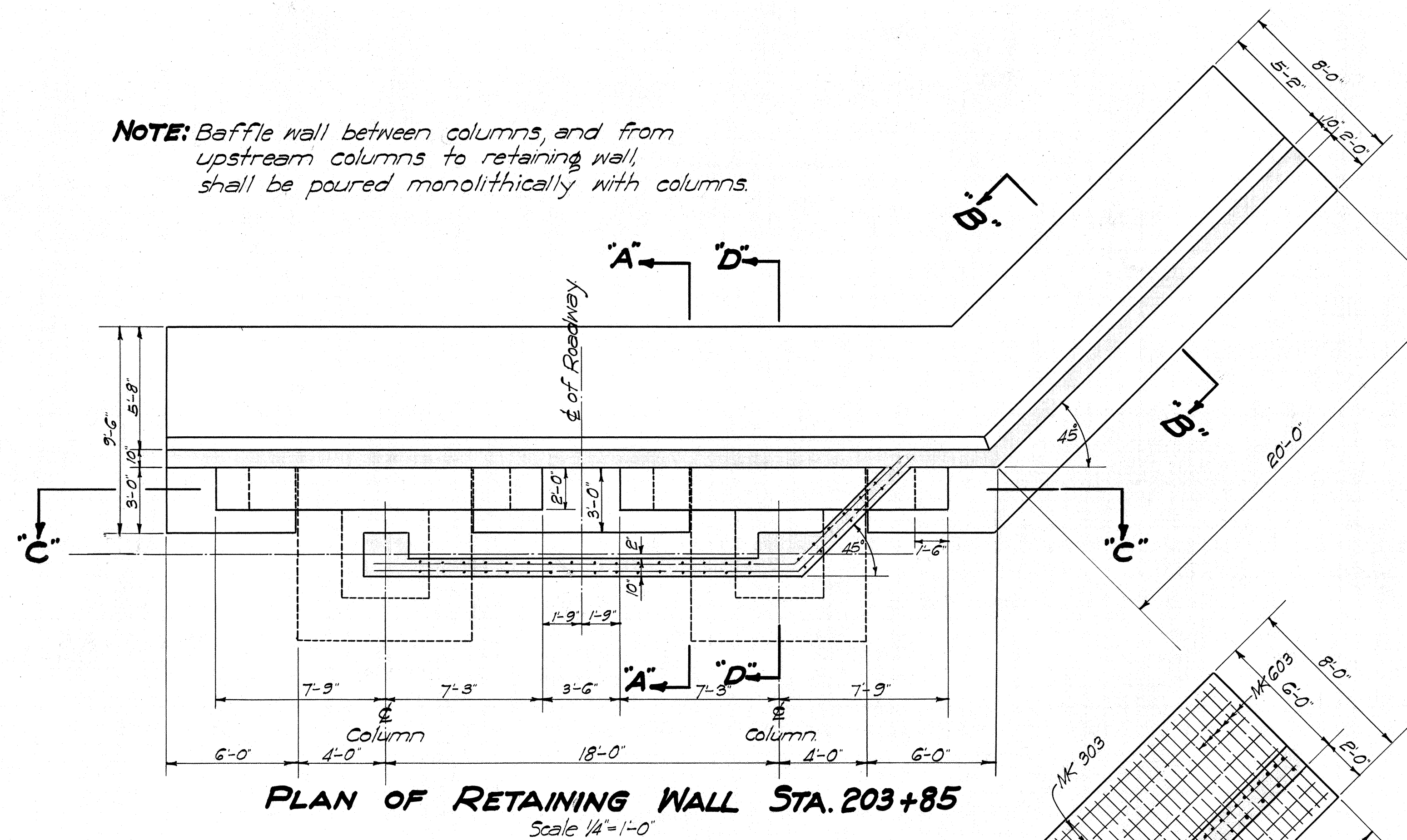
BRIDGE No 7

KAUAI BELT ROAD
F.A.P. 12-8 LAWAI BRIDGE
Sheet #3 of 7 Sheets

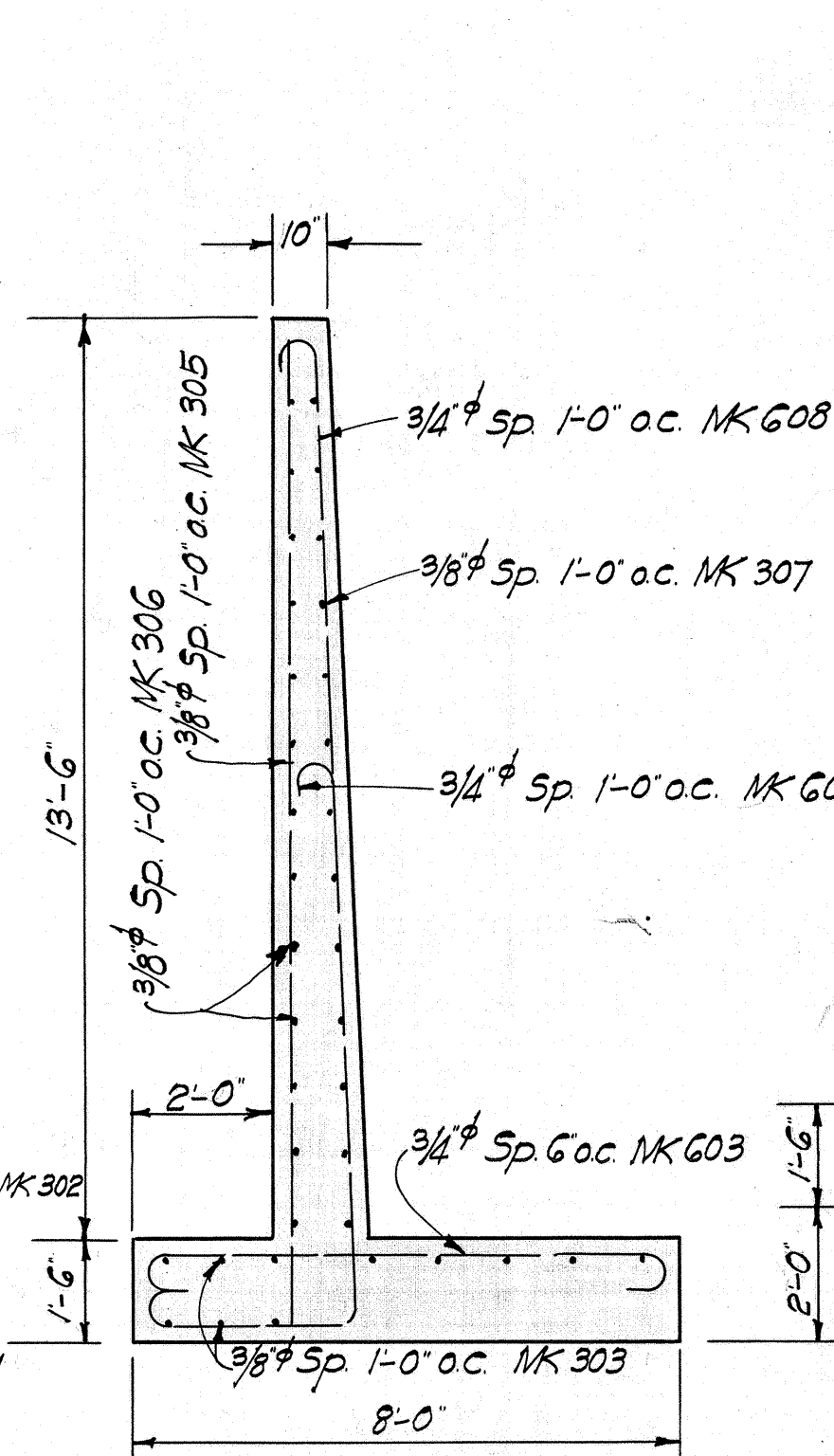
4298.41

FED. ROAD DIST. NO.	STATE	FISC. AID PROJ. NO.	FISC. YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw.	N.R.H. 12-B	1933	41-A	75

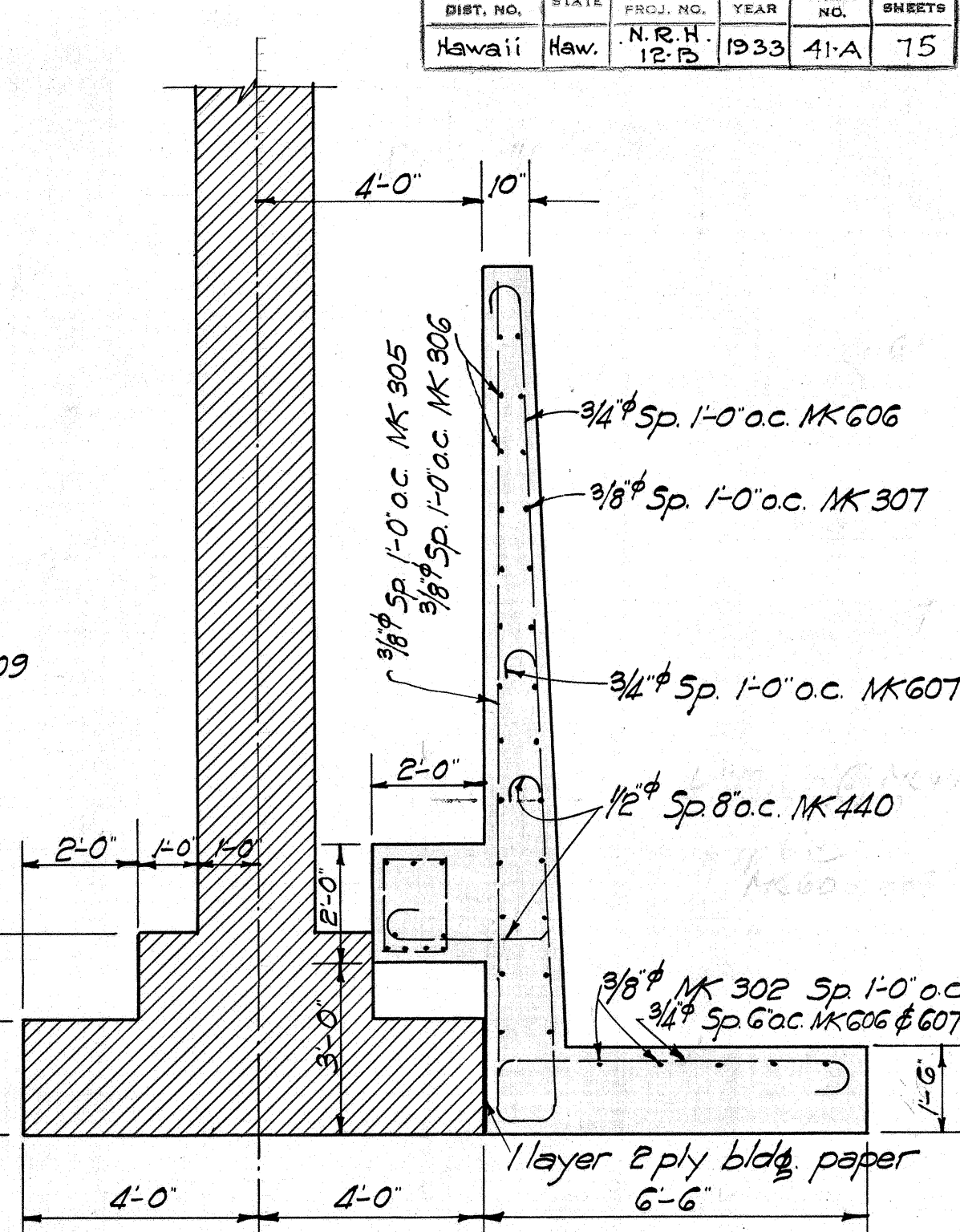
NOTE: Baffle wall between columns, and from upstream columns to retaining wall, shall be poured monolithically with columns.



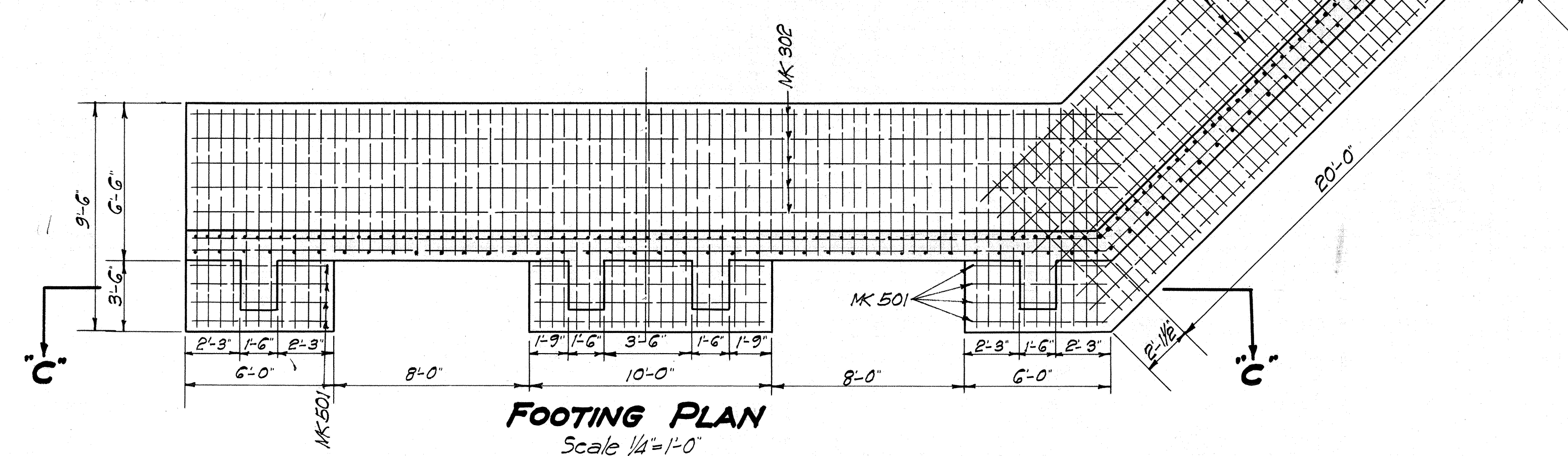
SECTION A-A
Scale 3/8"=1'-0"



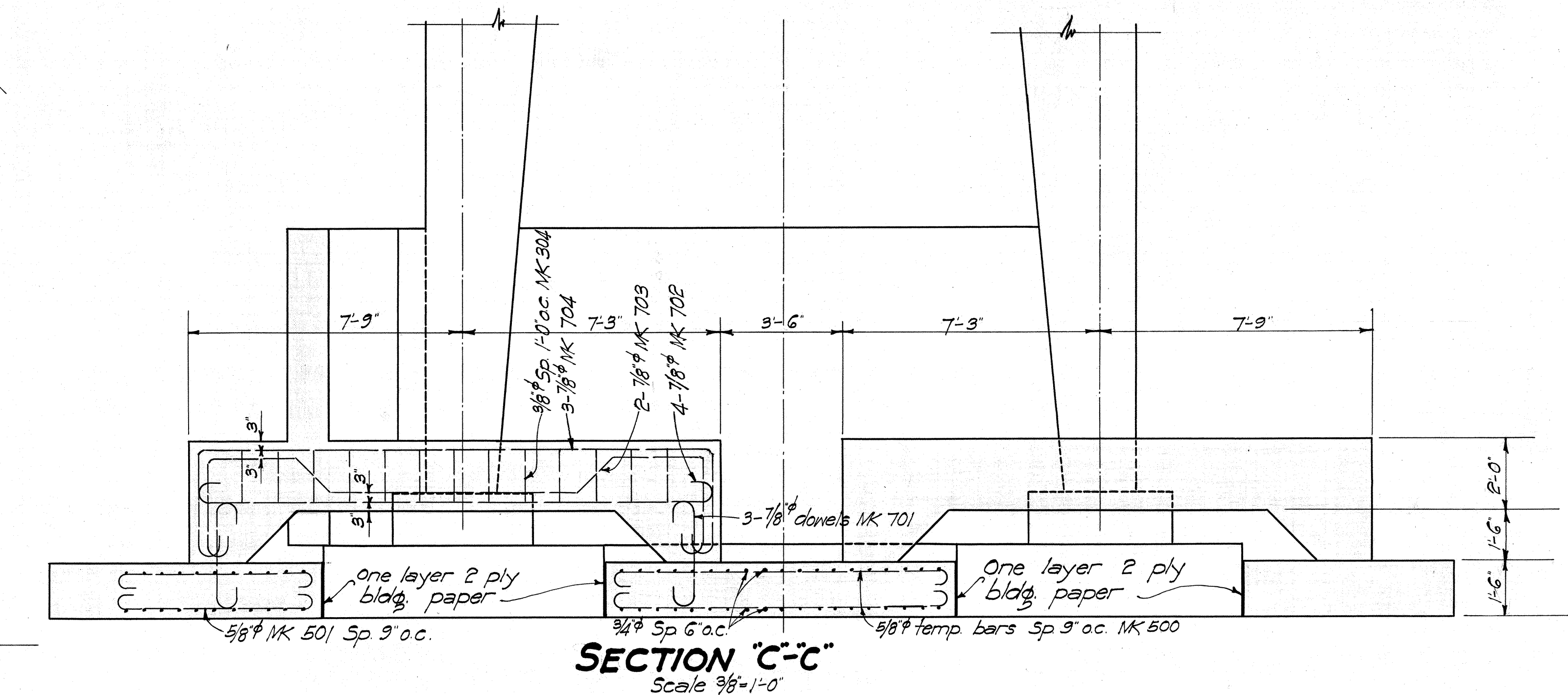
SECTION B-B
Scale 3/8"=1'-0"



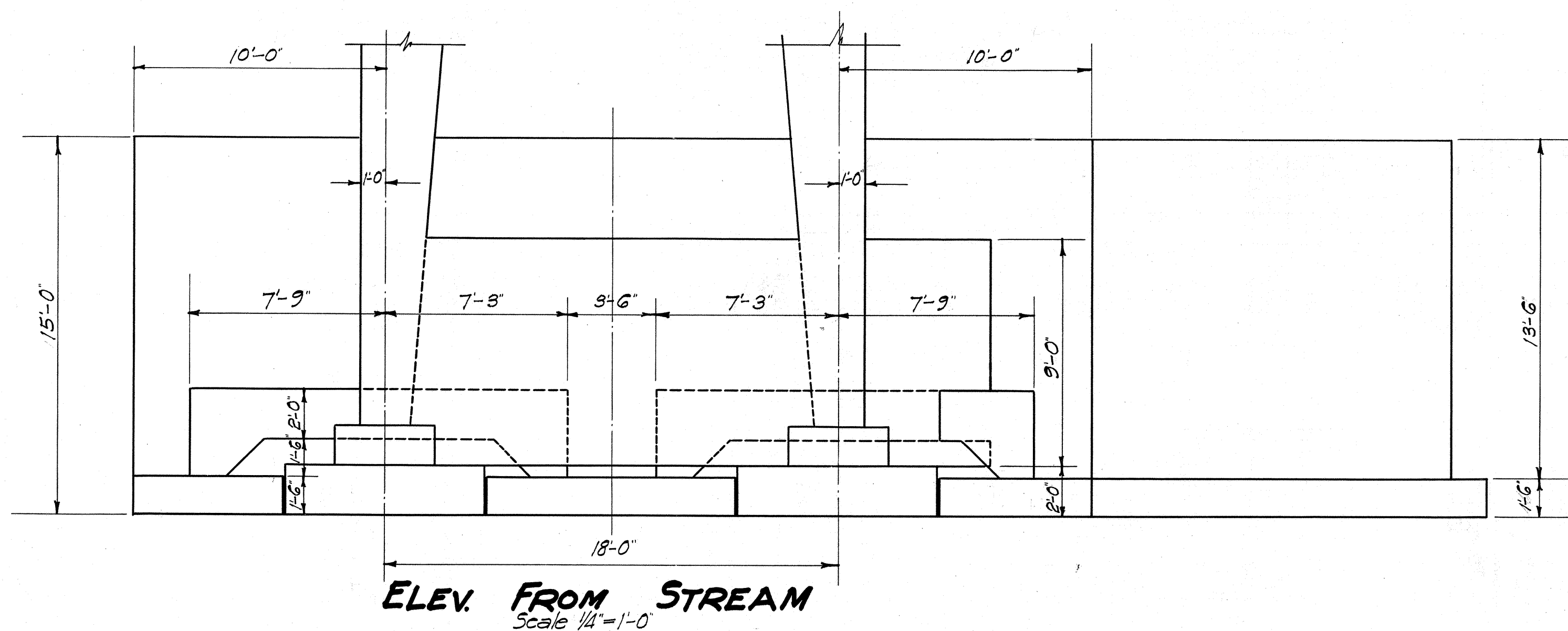
SECTION D-D
Scale 3/8"=1'-0"



FOOTING PLAN
Scale 1/4"=1'-0"



SECTION C-C
Scale 3/8"=1'-0"



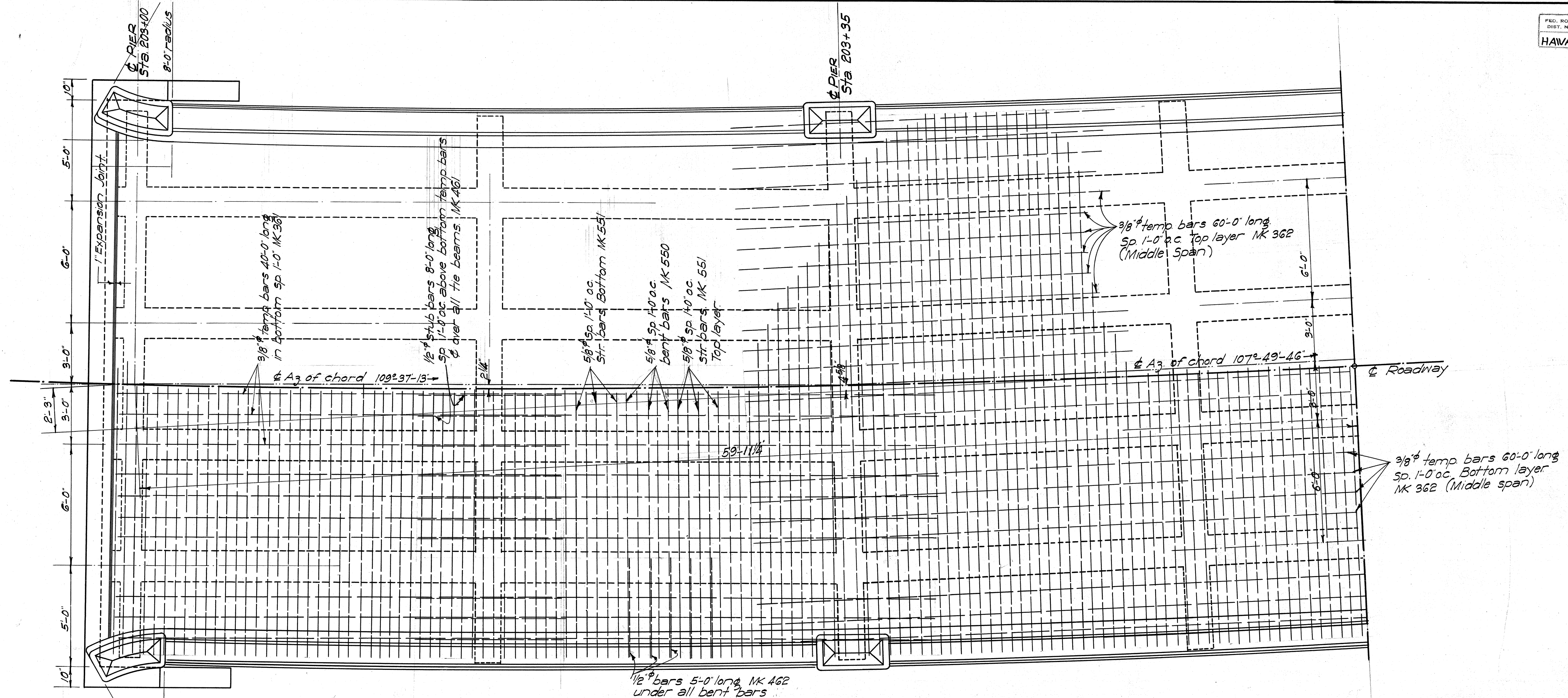
ELEV FROM STREAM
Scale 1/4"=1'-0"

THIS SHEET IS SUPPLEMENTARY TO THE ENTIRE SET OF DRAWINGS OF LAHAI BRIDGE No 7 N.R.H. 12-B. SHEETS MK 4298.39 TO 4298.45 INCLUSIVE.

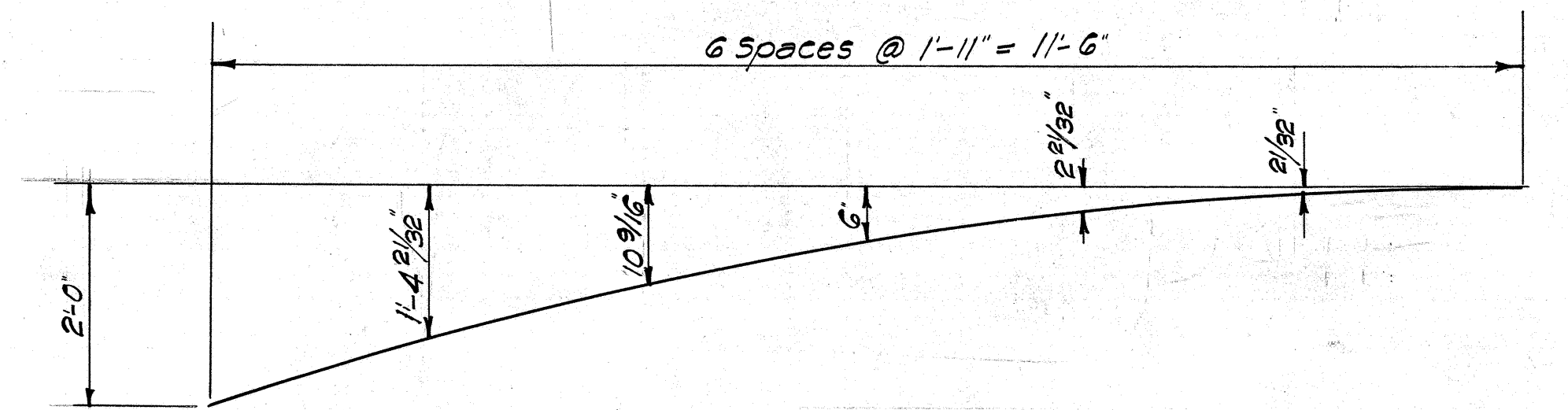
LAHAI BRIDGE No 7
KAUAI BELT ROAD
N.R.H. 12-B. 1934
TERR. OF HAWAII.

4298.41A

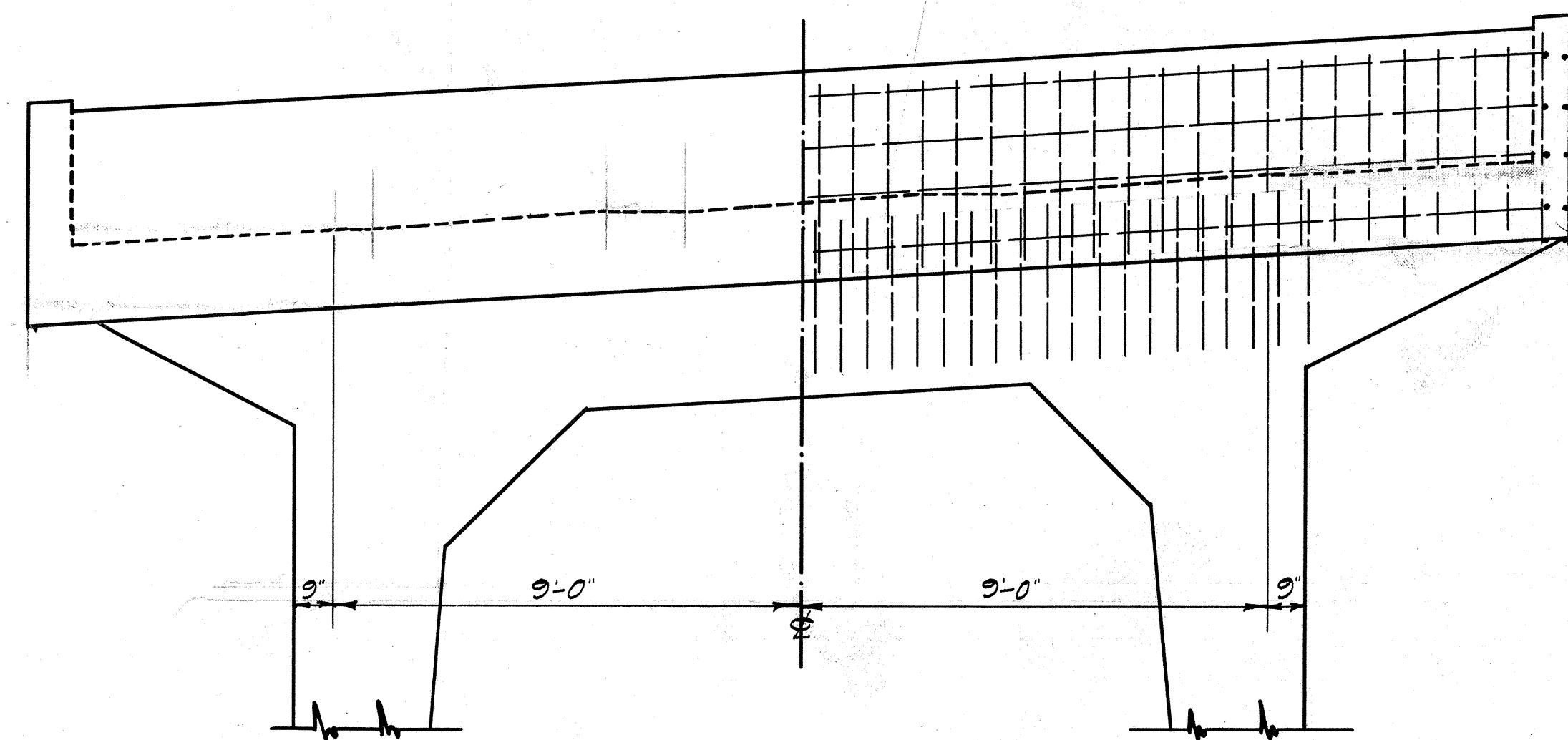
ORIGINAL
PLAN
NOTE BOOK
DESIGNED BY
CHECKED BY
QUANTITIES BY
REVISIONS
DATE
12/22/33
Revised as per Bu. Pub. Revisions of 11/21/33 & 12/22/33.



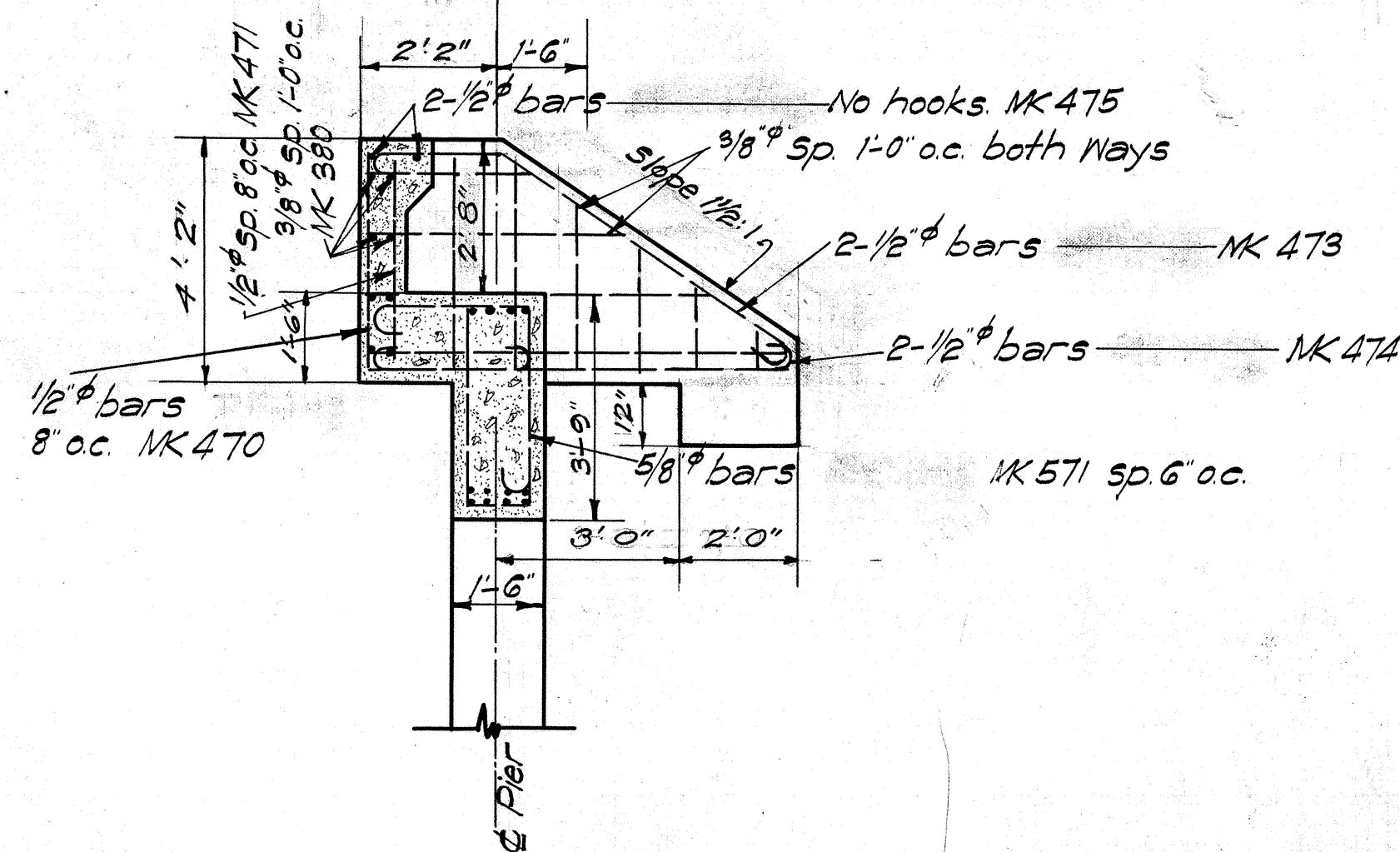
DECK SLAB REINF.
Scale 3/8" = 1'-0"



PARABOLIC CURVE IN GIRDERS
Scale 3/4" = 1'-0"



TYPICAL REAR ELEV. OF END WALL
Scale 3/8" = 1'-0"

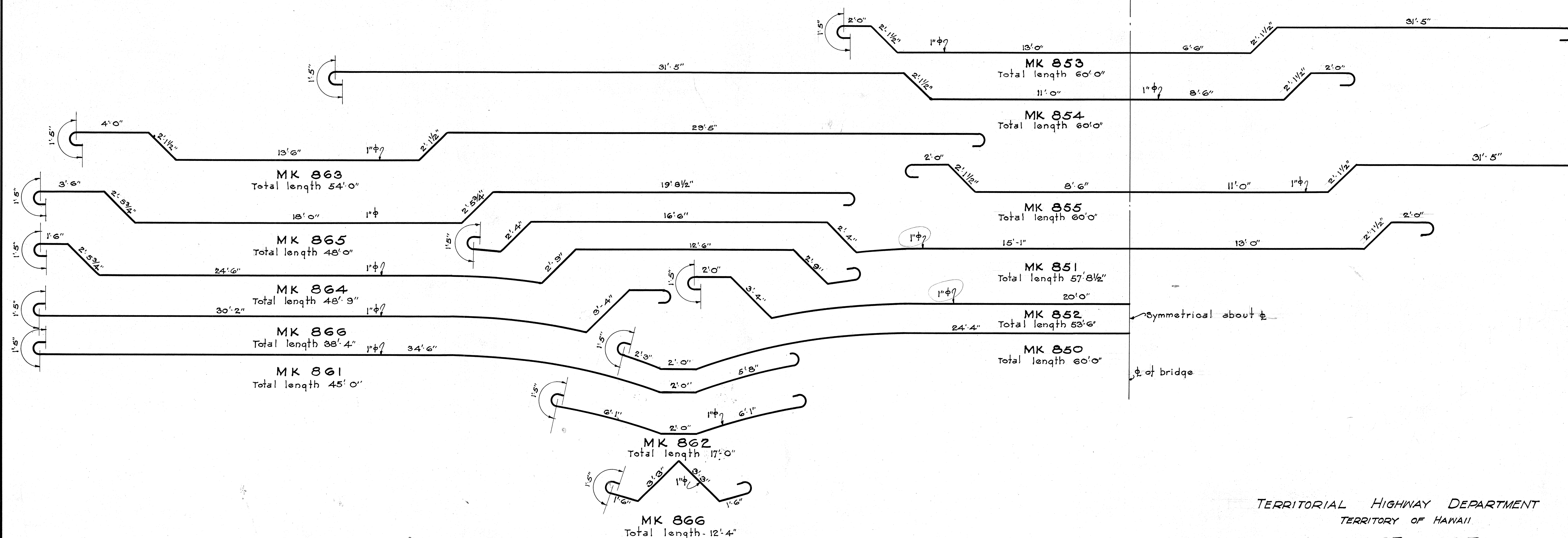
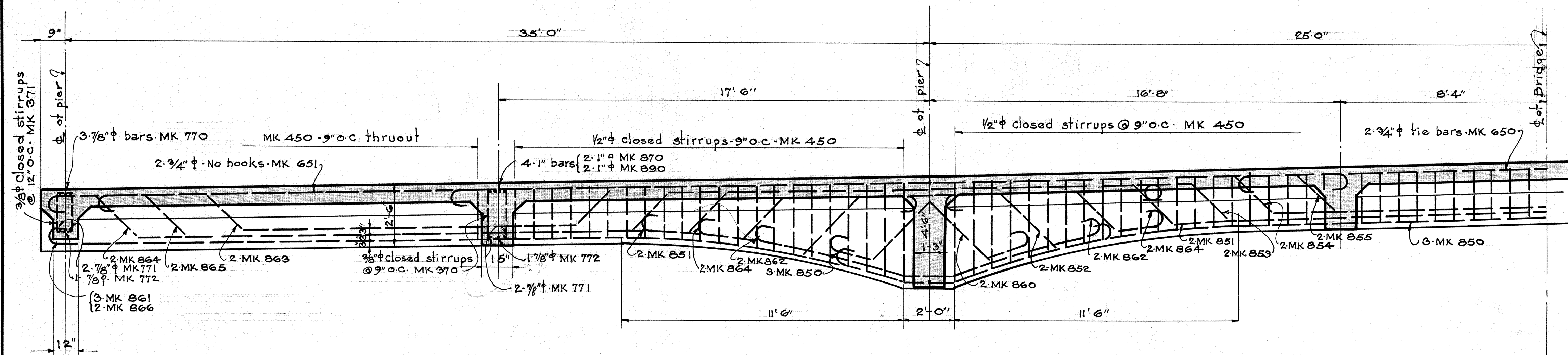


SECTION THRU END WALL
Scale 3/8" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
BRIDGE No 7
KAUAI BELT ROAD
F.A.P. 12-B LAWAI BRIDGE
Sheet # 4 of 7 sheets

ORIGINAL DESIGNED BY DATE 7/3/33
PLAN DRAWN BY W.B.
NOTE BOOK CHECKED BY C.F.N.
REVISIONS BY K.C.M.B.
E.J.S.

12 429 S. 42



BENDING SCHEDULE FOR GIRDER STEEL

Scale 3/8" = 1' 0"

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
BRIDGE No 7
 KAUI BELT ROAD
 F.A.P. 12-B LAWAI BRIDGE
 Sheet # 5 of 7 Sheets

STEEL SCHEDULE

~ PART I.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NRH-12B	1933	44	75

MK.	DESCRIPTION	LOCATION	Size	Length	Bars per Unit	Units	Total Bars	Total Length	Wt. per ft.	Total Weight
400		Footings, Pier 1. Station 203+00	1/2" φ	8'-0"	28	2	56	448.0	0.68	304#
800		" " Anchors	1" φ	8'-6"	4	2	8	68.0	3.44	234
801		" "	1" φ	8'-6"	4	2	8	68.0	3.44	234
401		Footings, Piers 2 & 3. Station 203+35 & 203+85.	1/2" φ	8'-5"	30	4	120	1010.0	0.68	687
802		" "	1" φ	9'-0"	4	4	16	144.0	3.44	495
803		" "	1" φ	9'-0"	4	4	16	144.0	3.44	495
402		Footings, Pier 4. Station 204+20	1/2" φ	5'-5"	18	2	36	196.0	0.68	133
804		" "	1" φ	8'-3"	2	2	4	33.0	3.44	114
805		" "	1" φ	8'-3"	2	2	4	33.0	3.44	114
410		Curtain Wall, Pier 3. Station 203+85	1/2" φ	35'-0" or 35'-7"	10	1	10	350.0 or 355.8	0.68	238 or 242
411		" "	1/2" φ	19'-8" or 19'-6"	10	1	10	196.7 or 195.0	0.68	134 or 133
412		" "	1/2" φ	6'-0" or 6'-6"	11	1	11	66.0 or 72.0	0.68	45 or 49
420		" "	1/2" φ	13'-6"	2	1	2	27.0	0.68	18
413		" "	1/2" φ	19'-3" or 19'-5"	1	1	1	39.0	0.68	27
414		" "	1/2" φ	10'-0" or 10'-6"	1	1	1	20.5	0.68	14
421		" "	1/2" φ	10'-6"	96	1	96	1008.0	0.68	685
422		" "	1/2" φ	9'-0"	8	1	8	72.0	0.68	49
330		Pier 1. Station 203+00	3/8" φ	Varies Avg. 6'-7"	23	2	46	302.8	0.38	115
430		" "	1/2" φ	Varies Avg. 9'-2"	19	2	38	348.4	0.68	237
810		" "	1" φ	23'-6"	4	2	8	188.0	3.44	647
820		" "	1" φ	21'-3"	2	2	4	85.0	3.44	292
830		" "	1" φ	30'-2"	4	2	8	241.3	3.44	830
811		" " & Piers 2 & 3	1" φ	12'-0"	4	9	36	432.0	3.44	1486
840		Piers 1 & 4	1" φ	33'-4"	2	2	4	133.3	3.44	459
841		" "	1" φ	33'-4"	2	2	4	133.3	3.44	459
Sub-total, Column 1.										8969#

MK.	DESCRIPTION	LOCATION	Size	Length	Bars per Unit	Units	Total Bars	Total Length	Wt. per ft.	Total Weight
610		Piers 1 & 4	3/4" φ	31'-1"	4	2	8	248.6	1.52	378#
422		" "	1/2" φ	8'-0"	2	4	8	64.0	0.68	44
331		Piers 2 & 3	3/8" φ	Varies Avg. 8'-78"	43	2	86	755.0	0.38	287
431		" "	1/2" φ	Varies Avg. 12'-83"	36	2	72	923.7	0.68	628
813		Pier 2.	1" φ	22'-0"	4	2	8	176.0	3.44	605
831		" "	1" φ	28'-7"	4	2	8	228.7	3.44	787
821		" "	1" φ	19'-6"	2	2	4	78.0	3.44	268
814		Piers 2 & 3.	1" φ	9'-0"	4	8	32	288.0	3.44	990
842		" "	1" φ	35'-0"	2	2	4	140.0	3.44	482
815		" "	1" φ	21'-9"	5	2	10	217.5	3.44	748
843		" "	1" φ	34'-4"	2	2	4	137.4	3.44	472
844		" "	1" φ	34'-4"	2	2	4	137.4	3.44	472
845		" "	1" φ	28'-10"	2	2	4	115.4	3.44	396
816		Piers 1, 2, 3 & 4.	1" φ	20'-2"	4@2 3@2	4	14	282.4	3.44	972
817		Pier 3.	1" φ	26'-2"	4	2	8	209.3	3.44	720
822		" "	1" φ	23'-9"	2	2	4	95.0	3.44	326
832		" "	1" φ	32'-9"	4	2	8	262.0	3.44	904
430		Pier 4.	1/2" φ	Varies Avg. 8'-6"	20	2	40	340.0	0.68	231
818		" "	1" φ	10'-0"	4	2	8	80.0	3.44	275
833		" "	1" φ	15'-5"	2	2	4	61.7	3.44	212
Sub-total, Column 2										10,201#
" " " 1										8,969#
TOTAL STEEL IN PIERS & ABUTMENTS										19,170#

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
KAUAI BELT ROAD
F.A.P.-12B. LAWAI BRIDGE
Sheet #6 of 7 Sheets

4298.44

ORIGINAL
PLAN
NOTED BY
QUANTITIES BY
CHECKED BY

DATE
8-33
BY
D. M. B.
BY
E. J. S.

STEEL SCHEDULE ~ PART 2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	NRH-12B	1933	45	75

MK.	DESCRIPTION	LOCATION	Size	Length	Bars per Unit	Units	Total Bars	Total Length	Wt. per ft.	Total Weight
850	See Girder Details ~ Sheet No.	Girders	1" ϕ	60'-0"	3	4	12	7200	344	2477#
851	" " " " " "	"	1" ϕ	57'-8"	2	4	8	4617	344	1588
852	" " " " " "	"	1" ϕ	53'-6"	2	4	8	4280	344	1472
853	" " " " " "	"	1" ϕ	60'-0"	2	4	8	4800	344	1651
854	" " " " " "	"	1" ϕ	60'-0"	2	4	8	4800	344	1651
855	" " " " " "	"	1" ϕ	60'-0"	2	4	8	4800	344	1651
860	" " " " " "	"	1" ϕ	12'-4"	4	4	16	197.3	344	678
861	" " " " " "	"	1" ϕ	45'-0"	6	4	24	1080.0	344	3715
862	" " " " " "	"	1" ϕ	17'-0"	4	4	16	272.0	344	936
863	" " " " " "	"	1" ϕ	54'-0"	4	4	16	864.0	344	2972
864	" " " " " "	"	1" ϕ	48'-9"	4	4	16	780.0	344	2683
865	" " " " " "	"	1" ϕ	48'-0"	4	4	16	768.0	344	2642
866	" " " " " "	"	1" ϕ	38'-4"	4	4	16	613.3	344	2110
650		"	3/4" ϕ	27'-0"	2	4	8	216.0	1.52	328
450		"	1/2" ϕ	Varies, Avg. 8'-5"	151	4	604	5085.7	0.68	3458
651		"	3/4" ϕ	22'-0"	4	4	16	352.0	1.52	535
460		Beams at Piers 2 & 3	1/2" ϕ	19'-4"	2	2	4	77.4	0.68	53
360		" "	3/8" ϕ	19'-0"	4	2	8	152.0	0.38	57
372		" "	3/8" ϕ	10'-11"	15	2	30	327.6	0.38	125
870		" " & Intermediate Beams	1" ϕ	28'-8"	2	6	12	344.0	344	1183
890		" "	1" ϕ	24'-10"	2	6	12	297.9	2.70	805
370		Intermediate Beams	3/8" ϕ	Varies, Avg. 6'-3"	23	4	92	575.0	0.38	219
771		Intermediate & End Beams	7/8" ϕ	28'-5"	2	6	12	341.1	2.07	706
772		" "	7/8" ϕ	24'-7"	1	6	6	147.6	2.07	306
770		End Beams	7/8" ϕ	28'-5"	3	2	6	170.5	2.07	353
Sub-Total, Column 1										34,354

MK.	DESCRIPTION	LOCATION	Size	Length	Bars per Unit	Units	Total Bars	Total Length	Wt. per ft.	Total Weight
371		End Beams	3/8" ϕ	Varies, Avg. 5'-2 1/2"	23	2	46	339.7	0.38	91#
550		Slab	5/8" ϕ	28'-11"	122	1	122	3528.2	1.06	3740
551		"	5/8" ϕ	27'-11"	244	1	244	6812.5	1.06	7221
461		"	1/2" ϕ	8'-0"	18	6	108	864.0	0.68	588
462		"	1/2" ϕ	5'-0"	244	1	244	1220.0	0.68	830
361		"	3/8" ϕ	40'-0"	36	2	72	2880.0	0.38	1094
362		"	3/8" ϕ	60'-0"	36	1	36	2160.0	0.38	821
470		End Walls, Piers 1 & 4	1/2" ϕ	7'-1"	45	2	90	637.5	0.68	433
471		" "	1/2" ϕ	3'-6"	45	2	90	315.0	0.68	214
571		" "	5/8" ϕ	6'-8"	60	2	120	800.4	1.06	848
475		" "	1/2" ϕ	29'-6"	2	2	4	118.0	0.68	80
380		" "	3/8" ϕ	29'-6"	8	2	16	472.0	0.38	179
381		" "	3/8" ϕ	Varies, Avg. 4'-8"	8	4	32	149.4	0.38	57
473		" "	1/2" ϕ	7'-7"	2	4	8	60.6	0.68	41
474		" "	1/2" ϕ	8'-0"	2	4	8	64.0	0.68	44
390		Guard Rails	3/8" ϕ	120'-0"	4	2	8	960.0	0.38	365
480		" "	1/2" ϕ	120'-0"	2	2	4	480.0	0.68	326
481		" "	1/2" ϕ	5'-0"	108	2	216	1080.0	0.68	735
482		Guard Posts	1/2" ϕ	8'-0"	3	8	24	192.0	0.68	131
483		" "	1/2" ϕ	4'-0"	4	8	32	128.0	0.68	87
Sub-Total, Column 2										18,052#
" " " " " "										34,354
TOTAL STEEL IN SUPERSTRUCTURE										52,406#

TERRITORIAL HIGHWAY DEPT.
TERRITORY OF HAWAII.
KAUAI BELT ROAD
F.A.P.~12B. LAWAI BRIDGE

Sheet #7 of 7 Sheets

4298.45

STREET PLANNED BY
DESIGNED BY
DRAWN BY
CHECKED BY
DATE
8-33
E. J. S.