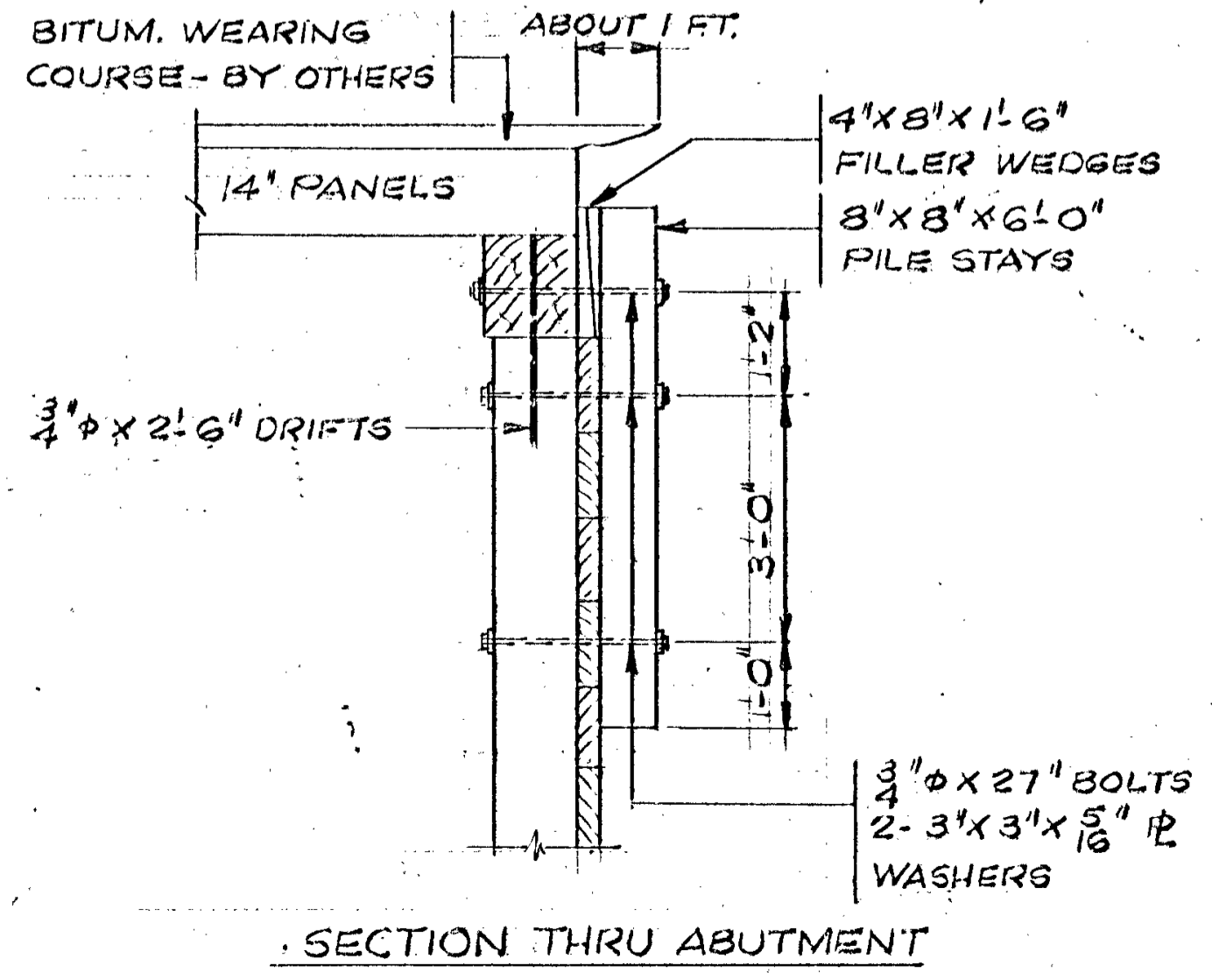
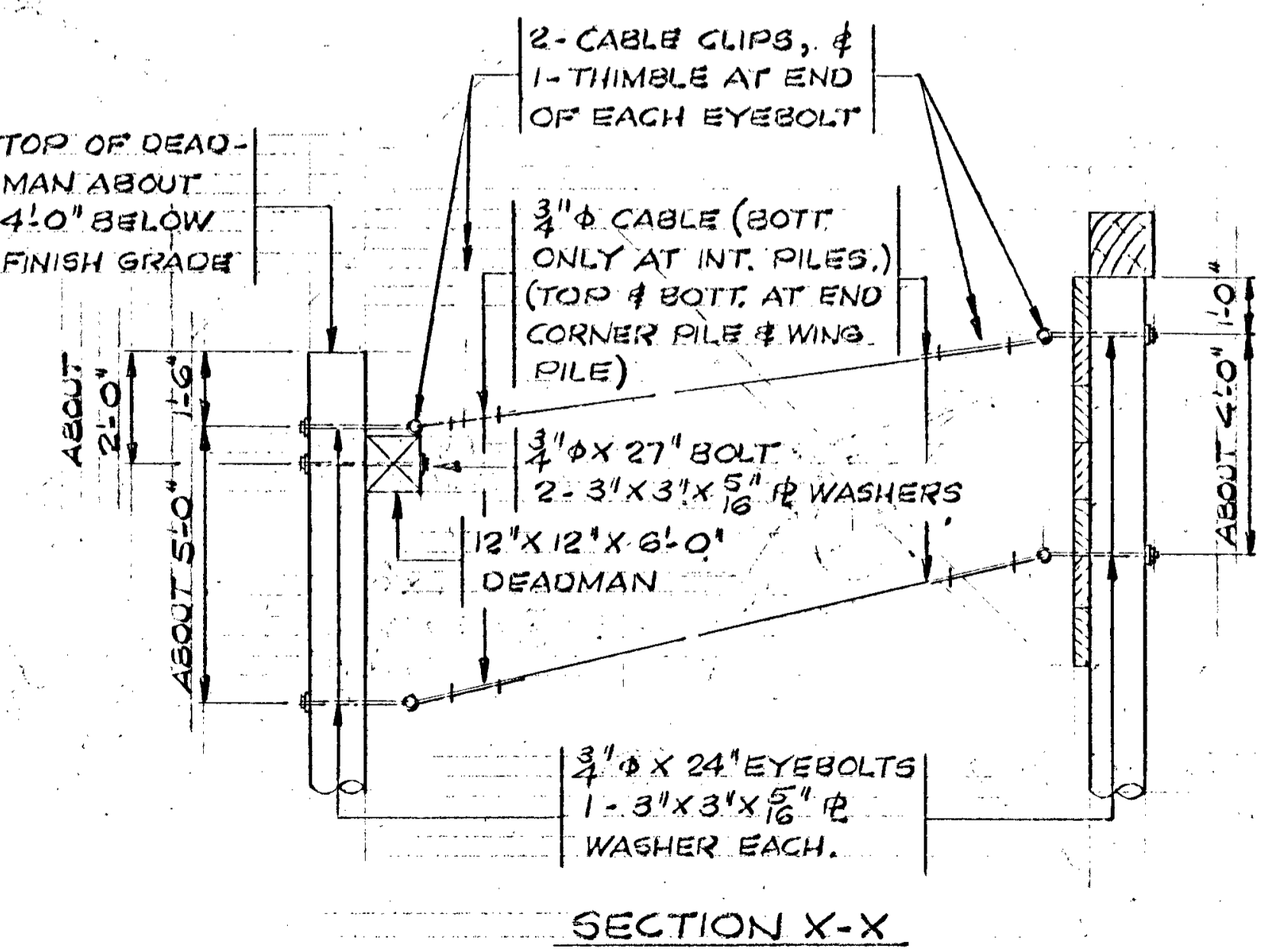
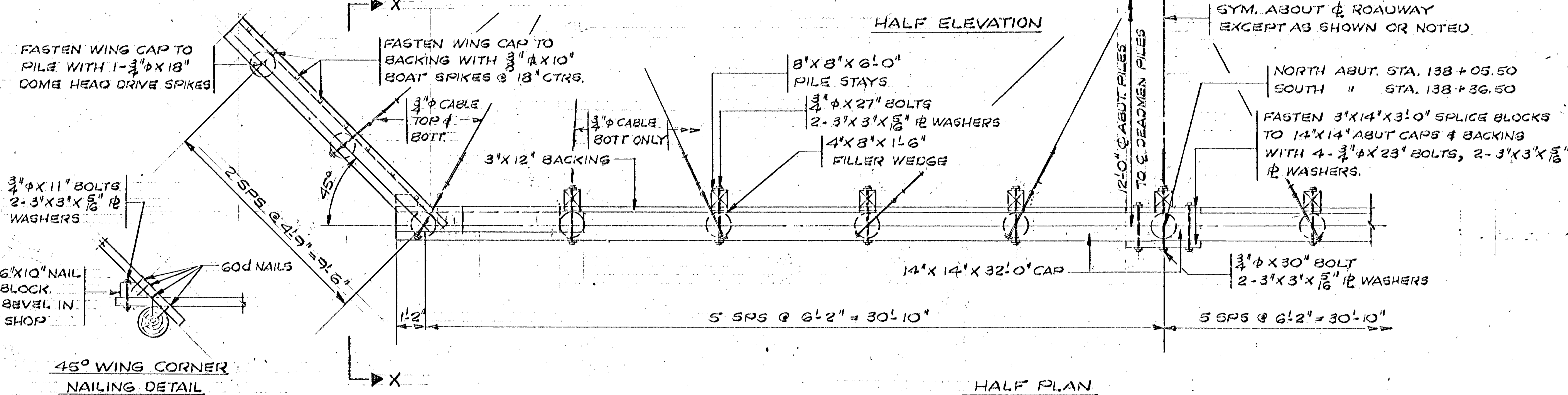
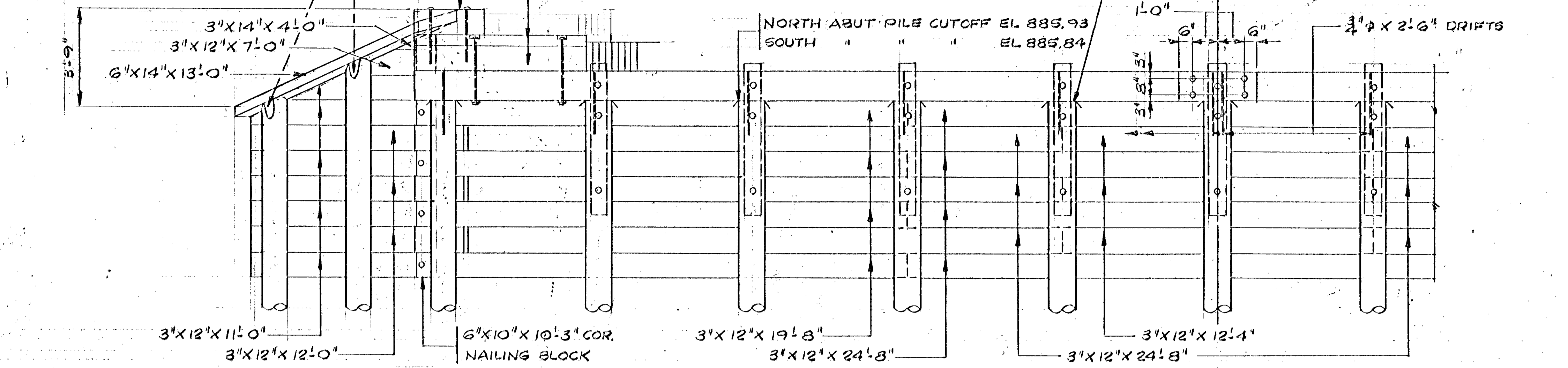


PORTION OF PILE HEADS WHICH PROJECTS OUTSIDE OF WING CAP IS TO BE CUT OR ADZED TO A 45° SLOPE. TREAT TOPS OF BEARING PILES PER M.H.D. 2403.3F.

12"X12"X2'-10" ABUT. BLOCK. FASTEN TO 5"X12" & 12"X12" BLOCKS WITH 2-3/4" X 18" DOME HEAD DRIVE SPIKES

TREAT TOPS OF BEARING PILES WITH 3 COATS OF CREOSOTE PRESERVATIVE OIL CONFORMING TO M.H.D. 3174, THEN PLACE 20"X20" SHEET ZINC 12 GA. SOFT TYPE 1 ON TOP OF BEARING PILES AT BOTH ABUTMENTS PER M.H.D. 2403.3F.

FASTEN 5"X12"X6'-10 1/2" & 12"X12"X6'-10 1/2" S.W. BLOCKS TO 14"X14" CAP WITH 3/4" X 32" (CSK.) DOME HEAD BOLTS & 1-3"X3" X 5/16" WASHER EACH BOLT.



ABUTMENT PILE NOTES.
 2 - TREATED TIMBER TEST PILES 60 FT. LG.
 6 - TREATED TIMBER DEADMEN PILES 30 FT. LG.
 3 - " " WING PILES 35 " "
 20 - " " PILES EST. LENGTH 50 FT.
 36 - " " REQ'D FOR TWO ABUTMENTS
 ESTIMATED PENETRATION 2 FT. LESS THAN LENGTH GIVEN.
 ALL PILES TO BE DRIVEN TO A BEARING OF NOT LESS THAN 24 TONS PER PILE, EXCEPT WING PILES.

BILL OF TREATED TIMBER FOR TWO ABUTMENTS.					
ITEM	NO	FIN	SIZE	LENGTH	F.B.M.
PILE CAPS	4	R	14X14	32'-0"	2091
ABUTMENT BACKING	6	R	3X12	12'-4"	222
" "	16	R	3X12	19'-8"	944
" "	20	R	3X12	24'-8"	1480
SPLICE BLOCK	4	R	3X14	3'-0"	42
PILE STAYS	18	R	8X8	6'-0"	576
CORNER NAILING BLOCK	4	R	6X10	10'-3"	205
WING BACKING	4	R	3X14	4'-0"	56
" "	4	R	3X12	7'-0"	84
" "	20	R	3X12	11'-0"	660
" "	12	R	3X12	12'-0"	432
DEADMEN	6	R	12X12	6'-0"	432
WING CAP	4	S4B	6X14	13'-0"	364
ABUTMENT BLOCK	4	R	12X12	2'-10"	136
SIDEWALK BLOCK	4	R	6X12	6'-10 1/2"	165
" "	4	R	12X12	6'-10 1/2"	330
FILLER WEDGES	16	SEE DET.	4X8	1'-6"	64
TOTAL F.B.M. FOR TWO ABUTMENTS					8223

BILL OF HARDWARE FOR TWO ABUTMENTS			
UNIT	NO	ITEM	TOTAL WT.
3.78	24	3/4" X 2'-6" DRIFTS - CAP TO PILE	91
3.72	58	3/4" X 27" BOLTS - PILE STAYS & DEADMEN	216
4.10	2	3/4" X 30" " " "	8
1.67	16	3/4" X 11" " - COR. NAILING BLK.	27
2.55	8	3/4" X 18" DM. HD. DR. SPKS - WING CAP	21
0.41	32	3/4" X 10" BOAT SPIKES - " "	13
.85	248	3" X 3" X 5/16" WASHERS FOR 3/4" BOLTS	211
10/#		60D NAILS	60
3.21	8	3/4" X 23" BOLTS - SPLICE BLOCKS	26
3.71	68	3/4" X 24" EYEBOLTS - TIEBACK	252
1.00	460	LIN. FT. 3/4" CABLE	460
1.78	136	CLIPS FOR CABLE	238
.50	68	THIMBLES FOR EYEBOLTS	34
4.93	8	3/4" X 32" DM. HD. BOLTS - S.W. BLOCKS	39
2.55	8	3/4" X 18" DM. HD. DR. SPIKES - ABUT. BLKS	20
TOTAL HARDWARE FOR TWO ABUTMENTS			1716

- ② 22 PCS. SHEET ZINC 20"X20" 12 GA. SOFT TYPE 1 PER M.H.D. 3333
- ① WEDGES CUT 2 FROM 1 IN SHOP.
- ② INCLUDED IN PRICE BID FOR OTHER ITEMS
- ③ 616 TO 5" H & M.

NAILING NOTE:
 FASTEN BACKING TO PILES WITH 2-60D NAILS AT EACH INTERSECTION

NOTE:
 FILL IN BACK OF ABUTMENTS IS NOT TO BE PLACED UNTIL AFTER SUPERSTRUCTURE HAS BEEN COMPLETED.

BOLT NOTE:
 BOLT PROJECTIONS EXCEEDING 1" SHALL BE CUT OFF. REPAIR END OF BOLT BY PAINTING WITH ALUMINUM PAINT PER M.H.D. 3527.

PLANS PREPARED BY
 ROBERT E. ERICKSON ENGINEERING CO.
 3340 REPUBLIC AVE.
 ST. LOUIS PARK, MINN.

C.S.A.H. 14 ANOKA COUNTY
 STATE OF MINNESOTA
 DEPARTMENT OF HIGHWAYS

BRIDGE NO. 02527
 ABUTMENT DETAILS
 APPROVED 1/15/15