

REG. ROAD DIST. NO.	STATE	STATE PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	3-185-506	1	

INDEX OF SHEETS

- SHEET No. 1. SKETCH MAP & TITLE PAGE, TABULATION OF LENGTH & DESIGN DATA.
2. TYPICAL SECTION - SUMMARY OF APPROXIMATE QUANTITIES.
 3. DETAILS FOR RAISING SUPERSTRUCTURE, TIMBER BRIDGE, STA. 1399 +
 4. STANDARD LETTERS & FIGURES FOR YEAR & STRUCTURE NUMBERS.
 5. STANDARD MARKER POSTS.
 6. STANDARD TIMBER GUARD POSTS.
 7. TYPICAL SIDE APPROACH ROADS, FLARING, CUT SLOPE TREATMENT AND WIDENING AT BRIDGES.
 8. STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS.
 9. ALIGNMENT PLAN & PROFILE.
 - 10-13. CROSS SECTIONS.
 13. SUMMARY OF EARTHWORK QUANTITIES.

STATE HIGHWAY DEPARTMENT
 COLORADO
 STATE HIGHWAY NO. 3-185-506
 STATE PROJECT NO. 3-185-506
 STATE HIGHWAY NO. 185
 WELD COUNTY

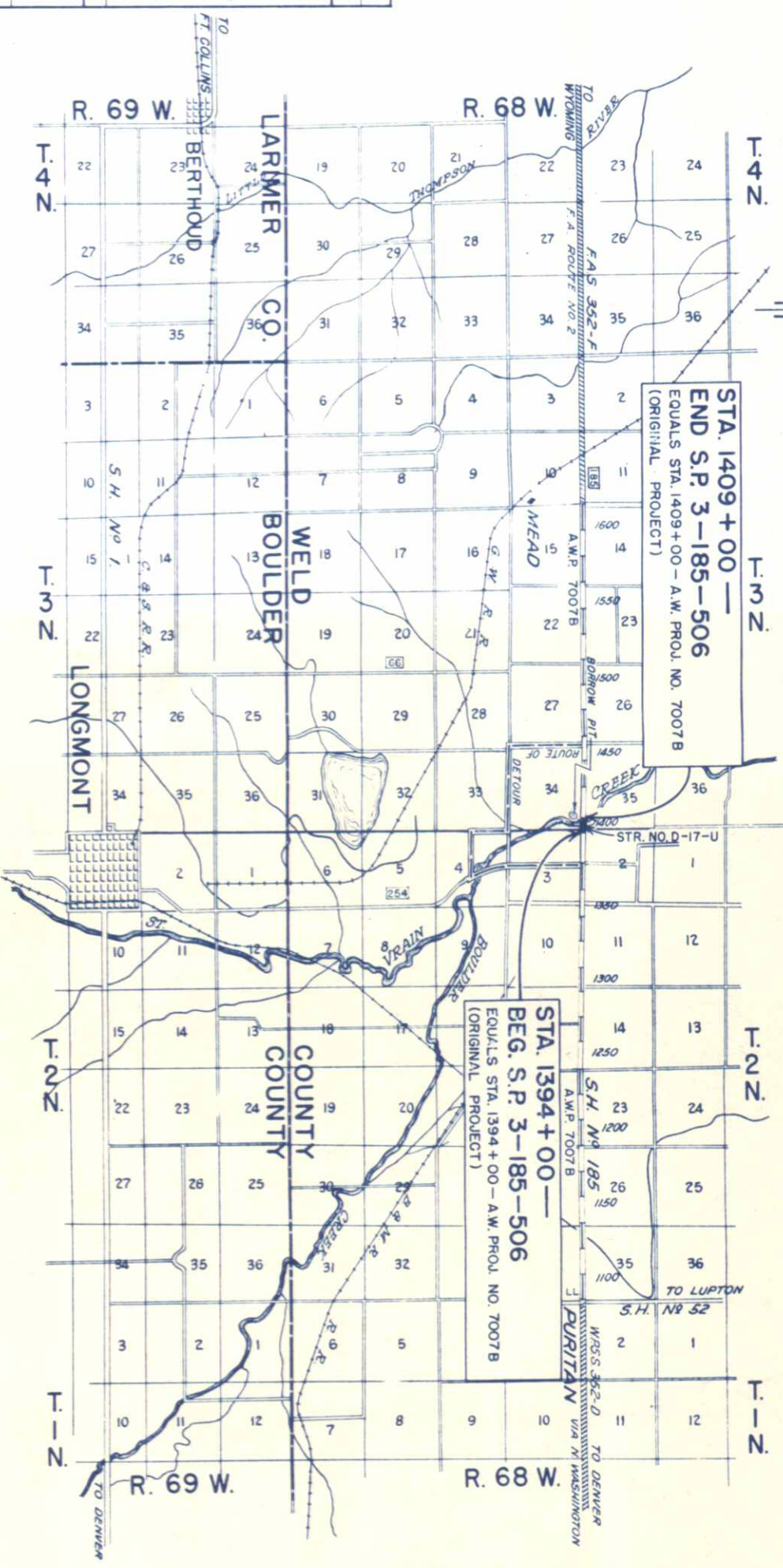
CONVENTIONAL SIGNS

- CENTER LINE OF PROJECT
- RIGHT OF WAY LINES
- TOWNSHIP LINES
- SECTION LINES
- ONE QUARTER SECTION LINES
- TELEPHONE LINES
- BARBED WIRE FENCE
- COMBINATION WIRE FENCE
- PRESENT ROAD
- DETOUR ROUTE

WELD COUNTY

AS CONSTRUCTED PLANS
 RETURN TO DIST. 4 DESIGN

SCALES ON ORIGINAL TRACINGS
 ON PLAN, 1 IN. = 100 FT.
 ON PROFILE, 1 IN. = 10 FT. HORIZONTAL
 1 IN. = 10 FT. VERTICAL
 GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
 GROSS LENGTH OF PROJECT } 15000 FT. = 0.284 MILES
 NET LENGTH OF PROJECT }



TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY		BRIDGES	
	LIN. FT.	LIN. FT.	LIN. FT.	LOADING
STA. 1394+00 BEGIN - S.P. 3-185-506 - EQUALS NO. 7007-B (ORIGINAL PROJECT)	5540			
STA. 1399+54 BRIDGE END ST. WRAIN RIVER	668.5	277.5	H-20-44	
STA. 1409+00 END - S.P. 3-185-506 - EQUALS NO. 7007-B (ORIGINAL PROJECT)		277.5		
TOTALS	12225	2775		
SUMMARY	LIN. FT.	MILES		
S.P. 3-185-506 ROADWAY	12225	0.231		
S.P. 3-185-506 BRIDGE	2775	0.053		
TOTAL S.P. 3-185-506	15000	0.284		

DESIGN DATA

MAXIMUM DEGREE OF CURVE
 MAXIMUM GRADE
 MINIMUM N.P.S.D. HORIZONTAL
 MINIMUM N.P.S.D. VERTICAL
 MAXIMUM DESIGN SPEED

TANGENT 1.48%
 > 1300.0 FT.
 720 FT.
 60 M.P.H.

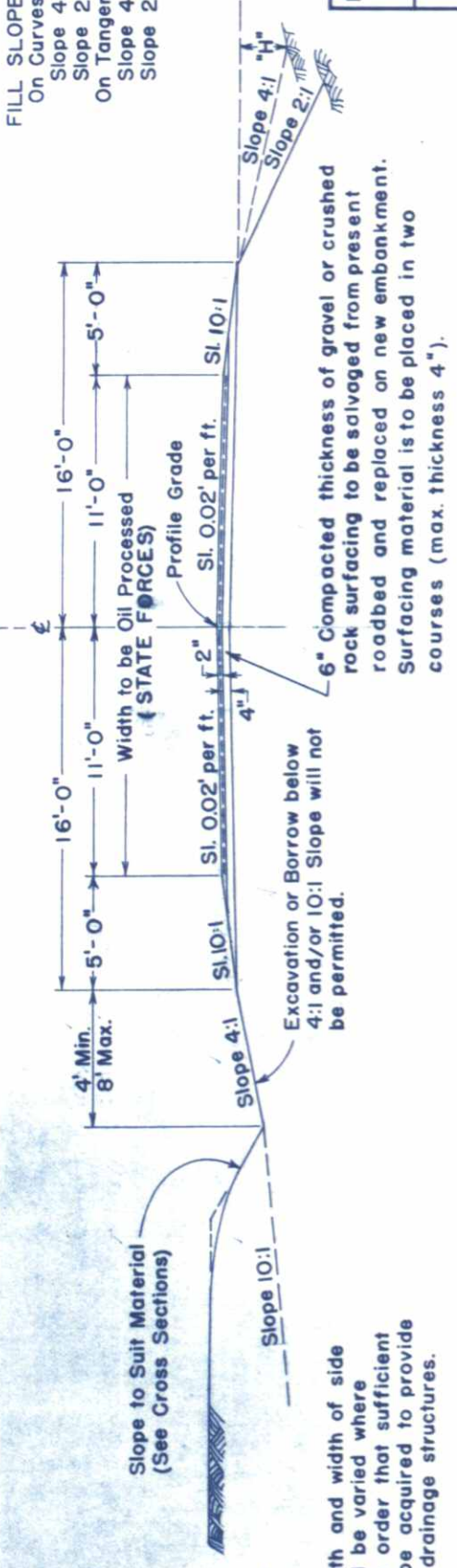
NOTE -
 It is recommended that bidders on this Project go over the plan details with one of the following field representatives of this Department:
 E. W. Oviatt, Division Engineer, Greeley, Colo.
 Resident Engineer

RECOMMENDED FOR APPROVAL
 Assistant Engineer
 5-8-48

APPROVED
 State Highway Engineer
 5-10-48

NOTE: See Standard M-2-C for details of cut slope treatment, flaring and widening for guard fence and/or guard posts.

TYPICAL SECTION



FILL SLOPES:
On Curves
Slope 4:1 When "H" is 5' or less
Slope 2:1 When "H" is over 5 ft.
On Tangents
Slope 4:1 When "H" is 3' or less
Slope 2:1 When "H" is over 3 ft.

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT	ROADWAY	BRIDGE 1399+	PROJECT TOTALS
11b	Removal of Portions of Present Structure & Raising Superstructure.	Lump Sum			•
11c	Remove & Reset Guard Posts	Each	20		20
12b	Removing & Rebuilding Fence	Lin. Ft.	200		200
12c	Line Posts (Treated Wood)	Each	10		10
13c	Unclassified Excavation	Cu. Yd.	7,600		7,600
16a	Structure Backfill (Class 1)	Cu. Yd.		40	40
16b	Mechanical Tamping	/hour		10	10
17c	Rolling with Rubber Tired Roller	/hour	10		10
17f	Furnishing Rubber Tired Roller	Lump Sum	•		•
17g	Wetting	MGal.	260		260
18a	Station Yard Overhaul	Sta. Yd.	26,000		26,000
42b	Treated Bridge Timber	M/lin.		2.0	2.0
43	Asphalt Plank Wearing Surface	Sq. Ft.		660	660
59a	Treated Sheet Piling	Lin. Ft.		2,100	2,100
60a	Treated Timber Piling	Lin. Ft.		368	368
81a	Project Markers	Each	2		2
102	Scarify & Salvage Oil Processed Surfacing	Sq. Yd.	3,190		3,190
104	Salvage, Stockpile & Replace Surfacing	Cu. Yd.	650		650

• To be Furnished & Installed by State Forces

GENERAL NOTES

This project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department adopted January 1, 1948.

All quantities on preliminary plans are to be considered approximate only.

All roadway excavation required to construct this Project is to be obtained as indicated on the plans. Quantities involved beyond the limits of the ditch, as shown on the Typical Section, either noted on the profile as "Borrow" or on the List of Structures as "Embankment", are to be classified and paid for as "Unclassified Excavation". These quantities are to be staked as part of the original excavation at locations indicated on the plans. Slope stakes, beyond the limits of the Typical Section as shown, are subject to change by the Engineer to fit conditions actually met in construction.

Except as otherwise noted on the plans, payment for overhaul will be based on measurement along the centerline of the Project.

All structure requirements are noted on Sheet No. 9 of Plans. No List of Structures is included herein.

The detour for this project lies along the route indicated on Sheet No. 1 of plans. At all places where local traffic enters the project the contractor shall, at his own expense, prosecute construction in such manner that traffic may readily have access to the detour. The Project shall not be closed to through traffic for a longer period than thirty (30) days.

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SUMMARY OF QUANTITIES FOR ENTIRE STRUCTURE			
ITEM No 42b	TREATED BRIDGE TIMBER (NEW WORK ONLY)		620 LBS
2 Abutments:	4 Wates 4"x8"x30'-0"		320 BdFt
	4 Wates 4"x8"x10'-0"		107 " "
11 Bents:	22 Swagbraces 3"x8"x34'-0"		1496 " "
TOTAL TREATED TIMBER		1923 BdFt	
ITEM No 43	ASPHALT PLANK WEARING SURFACE = 11x2 x 30 = 660 SQFT		
ITEM No 59d	TREATED SHEET PILING	1260 LinFt	
2 Abutments	50 Pieces 3"x8"x14'-0"	840 " "	
4 Wings	60 Pieces 3"x8"x14'-0"	840 " "	
TOTAL TREATED SHEET PILING		2100 LinFt	
ITEM No 60d	TREATED TIMBER PILING	56 LinFt	
2 Abutments:	14 Pieces @ 4'-0" Long	48 " "	
4 Wings:	12 Pieces @ 4'-0" Long	264 " "	
11 Bents:	66 Pieces @ 4'-0" Long (See Table)	264 " "	
TOTAL TREATED TIMBER PILING		368 LinFt	
ITEM No 11b	REMOVAL OF PARTS OF PRESENT STRUCTURE & RAISING OF 12 SPANS OF SUPERSTRUCTURE 4'-0" L.S.		

LIST OF STRAPS, BOLTS, AND WASHERS

DESCRIPTION	SIZE	NO	LENGTH	WEIGHT	TOTAL LB
2 ABUTMENTS - 4 WINGS					
Straps for Pile Splices	1/2" x 3"	52	6'-0"	22.95	1194
Bolts, Straps to Piles to Caps	1/2"	156	1'-3"	2.24	350
Lock Washers, Extra Heavy	1/2"	156		0.057	9
Standard C.I.O.G. Washers	1/2"	4		1.25	5
Teco Flush Type Shear Plates or Equal	4"	312		0.92	287
11 BENTS					
Straps to Pile Splices	1/2" x 3"	264	3'-6"	17.85	4712
Straps to Piles to Caps	1/2" x 3"	132	2'-0"	10.2	1346
Bolts, Straps to Piles to Straps	1/2"	1056	1'-3"	1.49	1573
Bolts, Straps to Piles to Caps	1/2"	264	1'-3"	1.49	395
Bolts, Swagbraces to Piles & Caps	1/2"	154	1'-5"	1.55	254
Lock Washers Extra Heavy	1/2"	1320		0.03	40
Standard C.I.O.G. Washers	1/2"	308		0.75	231
TOTAL STRAPS, BOLTS, & WASHERS					10391

DESCRIPTION	SIZE	NO	LENGTH	WEIGHT	TOTAL LB
II BENTS					
300 GALV	40D	1188		308	944
2 ABUTMENTS AND WINGS					
2970	341			736	113
SUPERSTRUCTURE					1844

LOADING DATA

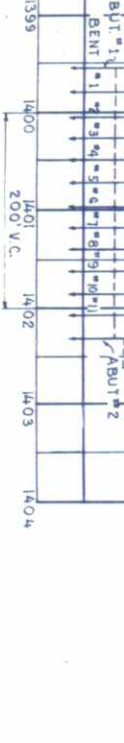
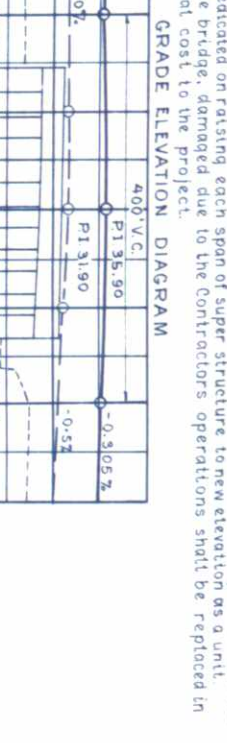
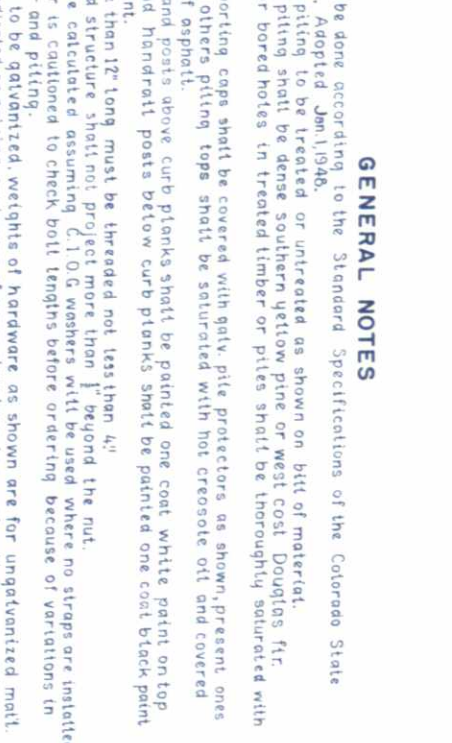
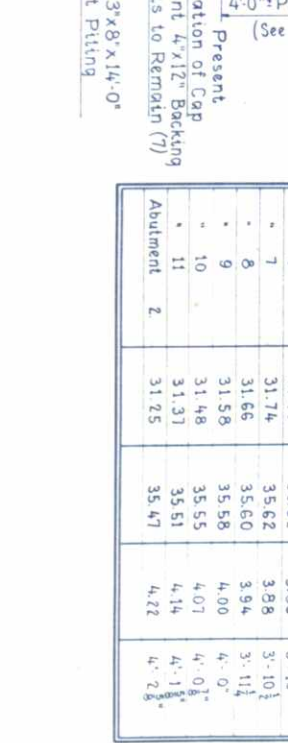
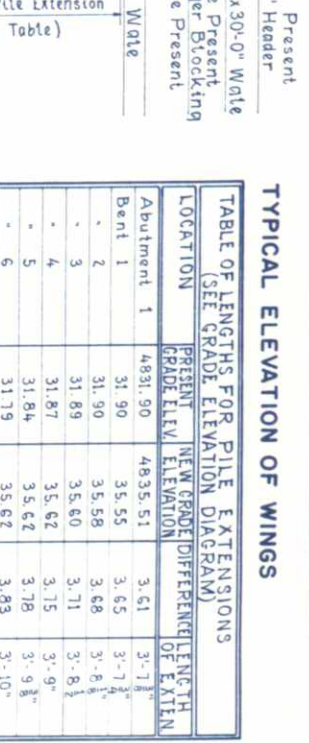
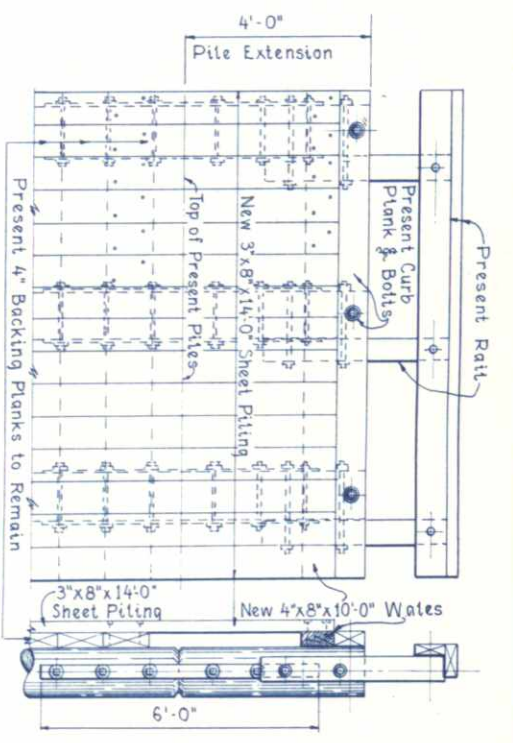
LIVE LOAD = A.A.S.H.O. (H-20-44)
 DEAD LOAD = ASSUMES 25 LBS. PER SQ. FT.
 ADDITIONAL WEARING SURFACE.
 THIS INCLUDES 1/2" ASPHALT PLANK WEARING SURFACE.
 1800# per sq. ft.

GENERAL NOTES

All work shall be done according to the Standard Specifications of the Colorado State Highway Department, Adopted Jan 1, 1946.
 All timber and piling shall be treated with creosote oil and covered with a thick layer of asphalt.
 All handrails and posts above curb planks shall be painted one coat white paint on top of present paint and handrail posts below curb planks shall be painted one coat black paint on top of present paint.
 All bolts more than 12" long must be threaded not less than 4".
 Bolts in finished structure shall not project more than 1" beyond the nut.
 Bolt lengths are calculated assuming C.I.O.G. washers will be used where no straps are installed.
 The Contractor is cautioned to check bolt lengths before ordering because of variations in thickness of lumber and piling.
 All hardware to be galvanized, weights of hardware as shown are for ungalvanized material.
 This plan is predicated on raising each span of super structure to new elevation as a unit.
 Members of the bridge, damaged due to the Contractor's operations shall be replaced in kind without additional cost to the project.

TABLE OF LENGTHS FOR PILE EXTENSIONS

LOCATION	PRESENT GRADE ELEVATION	NEW GRADE DIFFERENCE	LENGTH OF PILING
Abutment 1	4831.90	4835.51	3.61
Bent 1	31.90	35.55	3.65
2	31.90	35.58	3.68
3	31.89	35.60	3.71
4	31.87	35.62	3.75
5	31.84	35.62	3.78
6	31.79	35.62	3.83
7	31.74	35.62	3.88
8	31.66	35.60	3.94
9	31.58	35.58	4.00
10	31.48	35.55	4.07
11	31.31	35.51	4.20
Abutment 2	31.25	35.47	4.22



DETAIL OF BENT PILE SPLICE

4'-0" Pile Extension (See Table)
 2-1/2" x 3"x2'-0" Straps Each Pile
 Pile Extension
 Cap
 Washers Each Pile
 4-1/2" x 15" Bolts & Lock Washers Each Pile

DETAIL OF ABUTMENT PILE SPLICE

Recess Pile to Fit Strap
 1" Dia x 1'-3" Bolts
 Teco Flush Type 4" Shear Plates or Equal
 Lock Washers
 3"x6" Laminated Flooring
 5/16" Asphalt Plank
 Stringer Blocking to Remain in Place
 New 4"x12" Cap
 New Sheet Piling
 Present Backing Planks to Remain
 4'-0" Pile Extension (See Table)

ELEVATION OF ABUTMENT

Contractor may Dismantle Stringer Blocking and Re-Install after Raising of Super Structure Span.
 New Railway Elev. 35.90
 2 Swagbraces 3"x8"x34'-0"
 8"x17" Bolts
 Lock Washers
 4-1/2" x 15" Bolts & Lock Washers
 Present Location of Cap
 New Location of Cap
 4-1/2" x 15" Bolts & Lock Washers
 16 8"x15" Bolts with Lock Washers Each Pile

ELEVATION OF BENTS

Shear plates must be installed by dapping with a #24 MP dapping tool furnished by the Timber Engineering Company or equal. Hand dapping will not be permitted.

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LOCATION	PRESENT GRADE ELEVATION	NEW GRADE DIFFERENCE	LENGTH OF PILING
Abutment 1	4831.90	4835.51	3.61
Bent 1	31.90	35.55	3.65
2	31.90	35.58	3.68
3			

