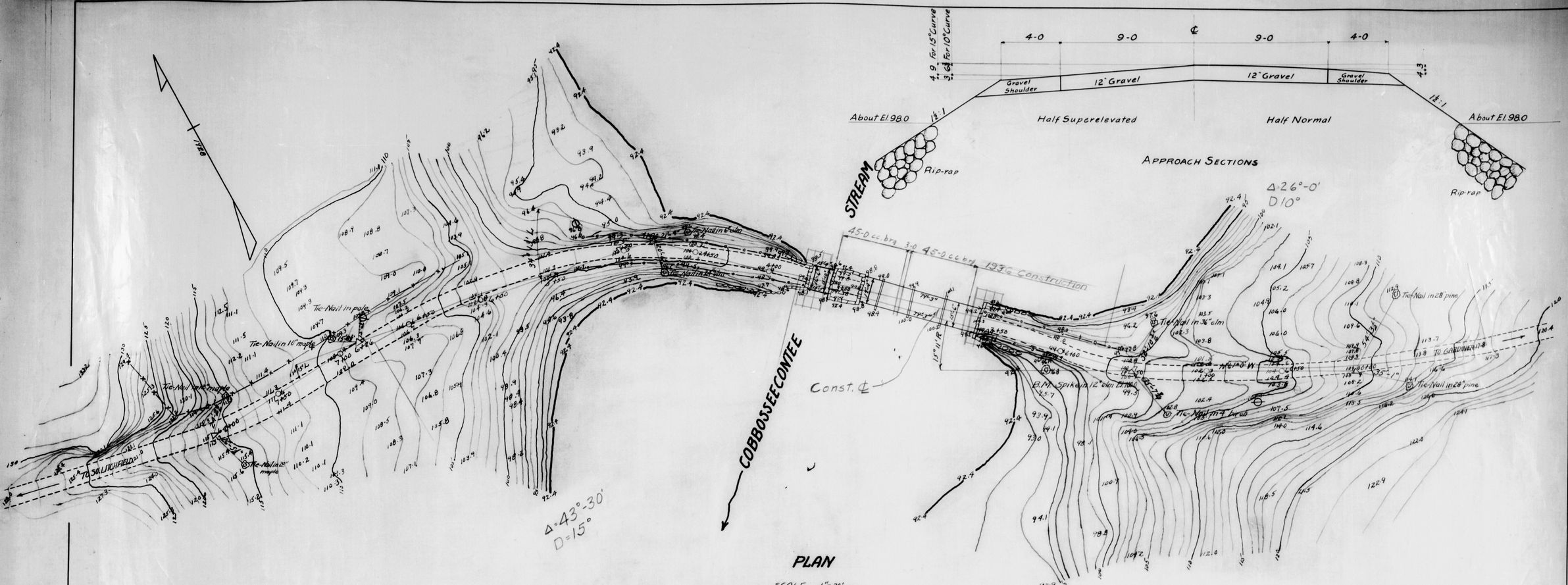
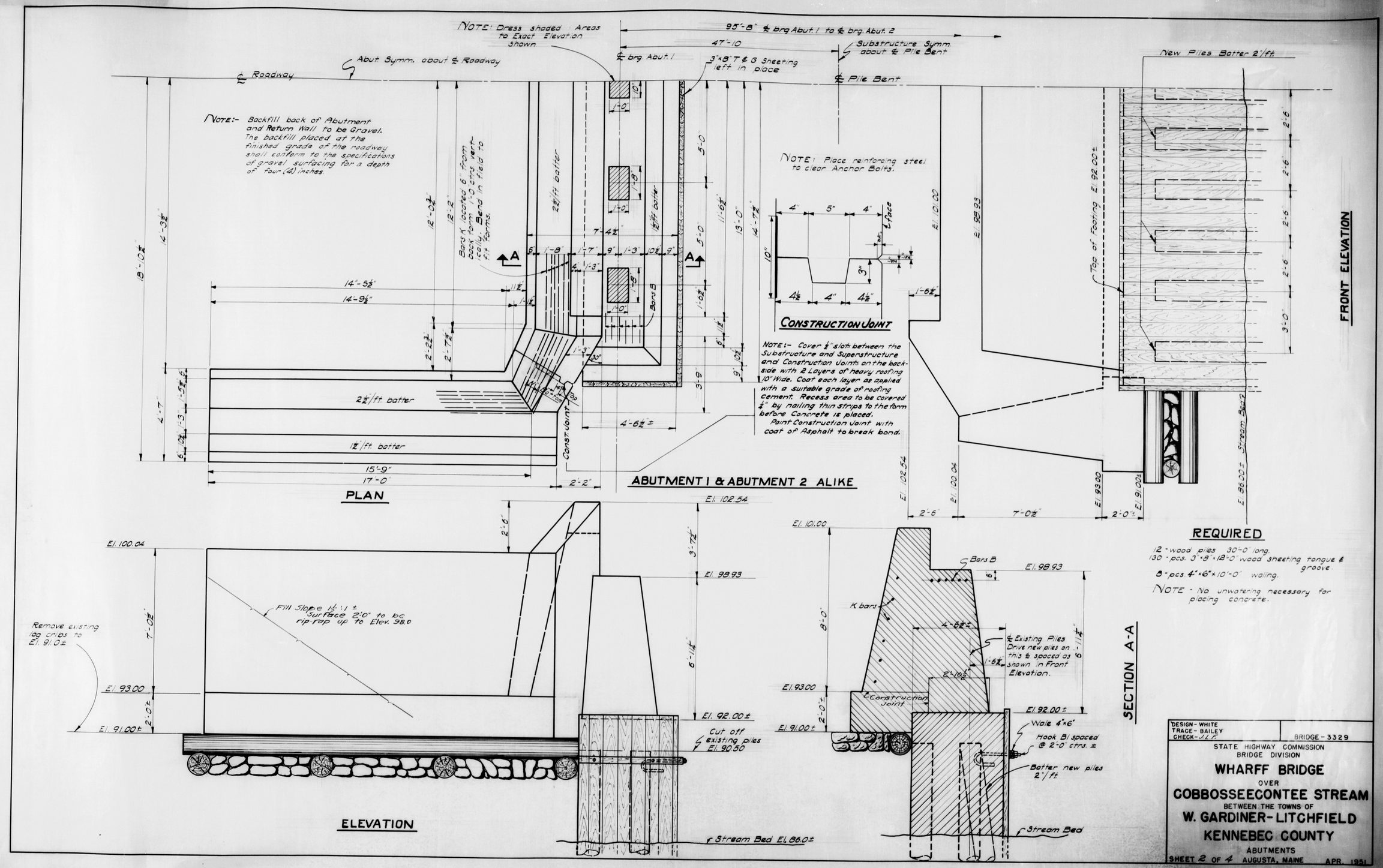
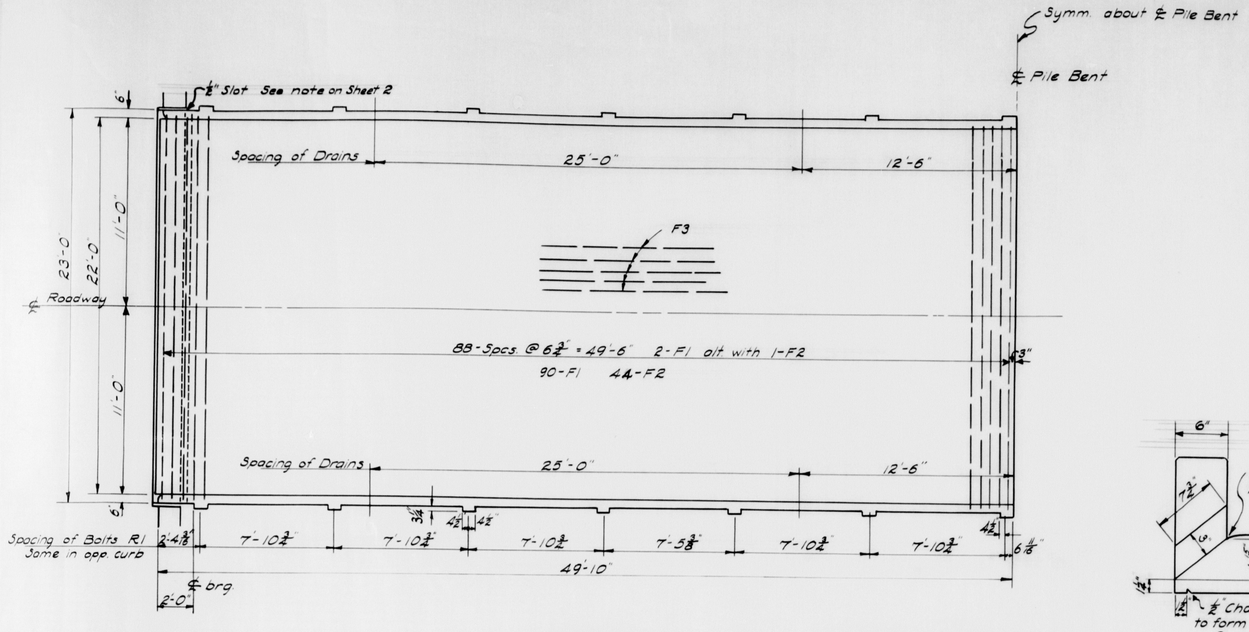
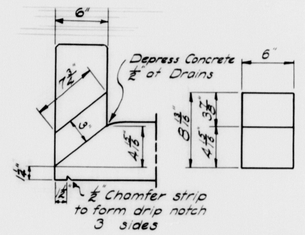

4-0
9-0
℄
9-0
4-0
Gravel Shoulder
12" Gravel
12" Gravel
Gravel Shoulder
4.9 for 15° Curve
3.6 for 10° Curve
4:3
1½:1
About El 980
Half Superelevated
Half Normal
About El 980
Rip-rap
Rip-rap
APPROACH SECTIONS
STREAM
COBBOSSEECONTEE
45-0 c.c. brg
45-0 c.c. brg
1936 Construction
Const. ℄
Δ=26°-0'
D 10°
Δ=43°-30'
D=15°
To GARDINER
To LITCHFIELD
Tie-Nail in 16" maple
Tie-Nail in maple
Tie-Nail in maple
Tie-Nail in pole
Tie-Nail in 28" maple
Tie-Nail in 36" elm
Tie-Nail in 28" pine
Tie-Nail in 28" pine
Tie-Nail in 6" elm
Tie-Nail in 4" maple
Tie-Nail in 4" maple
B.M. Spike in 12" elm
N 61° 0' W
N 61° 0' W
PLAN
SCALE 1"=30'
Note – No change in alignment or grade for 1951 Construction. See Sheets Nos. 2 and 4 for layout with respect to existing structure.
DRAINAGE AREA = 168 Sq. Mi.
150' V.C.
Ex. 1.15
150' V.C.
Ex. 1.75
FG 106.6
FG 104.04
FG 102.51
FG 102.00
FG 102.00
FG 102.78
FG 103.11
FG 104.00
About -6.13%
About +9.33%
Profile along ℄
Fin. Gr. El. 102.00
45-0 c.c. brg
3-0
45-0 c.c. brg
1936 Construction
High Water El. 97.0
Water El. 92.4
1929 Notes
Main Span – Substructure: Abutments of roughly split stone, and field stone Abut. #1 is bulging slightly. Three timber bents. Pier 1 is new. Piers 2 & 3 are poor. Superstructure: Seven log stringers in fair condition, resting on 12"x12" timber bridge seats. 4" planking, poor.
Overflow Span – Substructure: Abutments of rough split stones chinked with smaller stones, fair. Superstructure: Seven timber stringers in good condition resting on 12"x12" bridge seats. 4" planking, good.
High Water El. 97.0
Stream Bed. Fine sand, covered with silt. Max. penetration 8.0 feet
PROFILE
SCALE H-1"=30' V-1"=10'
MAINE HIGHWAY COMMISSION
BRIDGE DIVISION
WHARFF BRIDGE
OVER
COBBOSSEECONTEE STREAM
IN THE TOWNS OF
W. GARDINER-LITCHFIELD, KENNEBEC.
SURVEY PLAN
SHEET 1 OF 4 AUGUSTA, ME. FEB. 1929
53-97
Survey Thomas 4/1/28
Plan EF&S
0 1 2 3 4 5 INCHES



NOTE: Dress shaded Areas to Exact Elevation Shown
95'-8" ℄ brg Abut. 1 to ℄ brg. Abut. 2
47'-10
Substructure Symm. about ℄ Pile Bent
℄ brg Abut. 1
3"x8" T & G Sheeting left in place
Abut. Symm. about ℄ Roadway
℄ Roadway
℄ Pile Bent
New Piles Batter 2"/ft.
NOTE:- Backfill back of Abutment and Return Wall to be Gravel. The backfill placed at the finished grade of the roadway shall conform to the specifications of gravel surfacing for a depth of four (4) inches.
Bars K located 6" from back form 1'-0 ctrs vertically. Bend in field to fit forms.
2½"/ft. batter
1½"/ft. batter
Bars B
NOTE: Place reinforcing steel to clear Anchor Bolts.
CONSTRUCTION JOINT
NOTE:- Cover ½" slots between the Substructure and Superstructure and Construction Joints on the backside with 2 Layers of heavy roofing 10" Wide. Coat each layer as applied with a suitable grade of roofing cement. Recess area to be covered ¼" by nailing thin strips to the form before Concrete is placed. Paint Construction Joint with coat of Asphalt to break bond.
Top of Footing El. 92.00±
FRONT ELEVATION
Stream Bed
2½"/ft. batter
1½"/ft. batter
Const. Joint
PLAN
ABUTMENT 1 & ABUTMENT 2 ALIKE
El. 102.54
El. 100.04
El. 98.93
El. 93.00
El. 91.00±
El. 92.00±
Fill Slope 1½:1± Surface 2'-0" to be rip-rap up to Elev. 98.0
Remove existing log cribs to El. 91.0±
Cut off existing piles El. 90.50
Stream Bed El. 86.0±
ELEVATION
El. 101.00
Bars B
K bars
℄ Existing Piles Drive new piles on this ℄ spaced as shown in Front Elevation.
Construction Joint
Wale 4"x6"
Hook B1 spaced @ 2'-0" ctrs. ±
Batter new piles 2"/ft.
Stream Bed
SECTION A-A
REQUIRED
12 - wood piles 30'-0" long.
130 - pcs. 3"x8"x12'-0" wood sheeting tongue & groove.
8 - pcs. 4"x6"x10'-0" waling.
NOTE - No unwatering necessary for placing concrete.
DESIGN - WHITE
TRACE - BAILEY
CHECK - J.L.F.
BRIDGE - 3329
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
WHARFF BRIDGE
OVER
COBBOSSEECONTEE STREAM
BETWEEN THE TOWNS OF
W. GARDINER - LITCHFIELD
KENNEBEC COUNTY
ABUTMENTS
SHEET 2 OF 4 AUGUSTA, MAINE APR. 1951
53-98

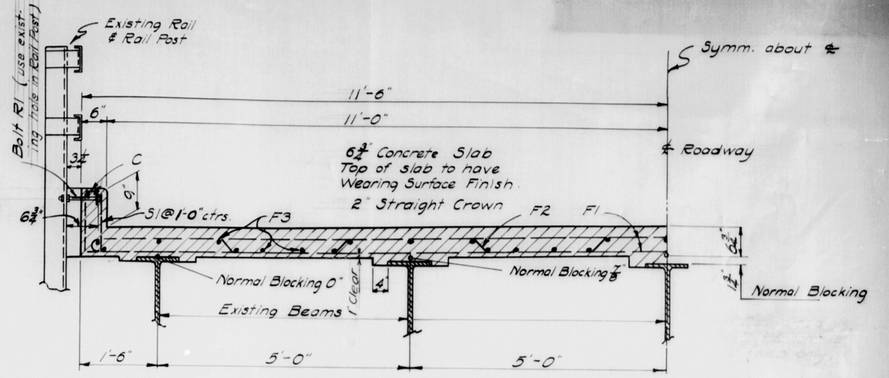


PLAN



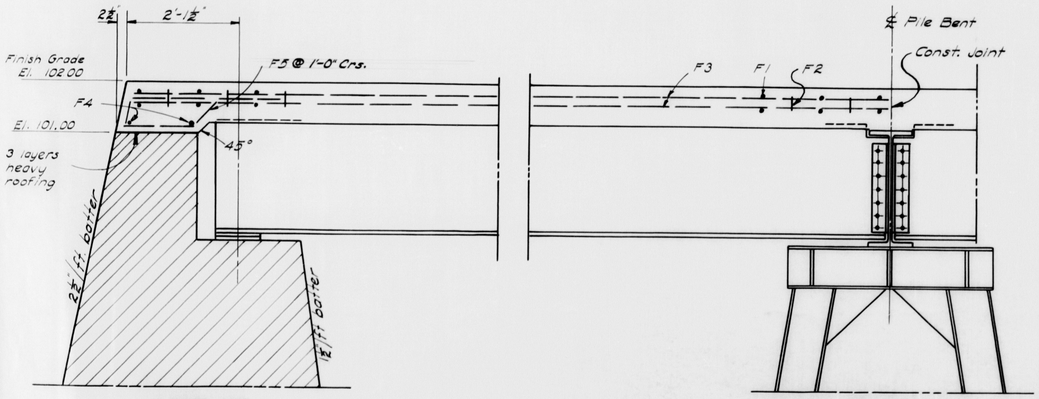
METAL DRAIN FORM

24 Gage Galv. Iron - 8 Required

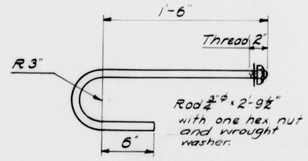


HALF TRANSVERSE SECTION

NOTE:— To Compensate for dead load deflection in the Stringers the blocking over the Stringers shall be increased, from the normal amount shown, an amount varying from 0" at the supports to ⅝" at the mid span points.



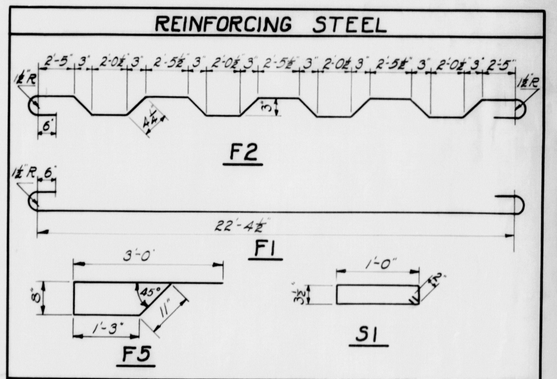
PART LONGITUDINAL SECTION AT ℄



HOOK B1

38 - Req'd

REINFORCING STEEL



BENT BARS

Mark	Size	No.	Length	Location
F1	½" ø (#5)	180	24'-2"	Slab (Transverse)
F2	½" ø (#5)	88	25'-0"	" "
F5	⅝" ø (#5)	46	5'-10"	" Ends
S1	½" ø (#4)	200	2'-11"	Curbs
Hook B1	¾" ø	38	See Detail	Abuts

STRAIGHT BARS

F3	½" ø (#4)	132	25'-4"	(Spliced) Slab Longitudinal
F4	½" ø (#4)	4	22'-6"	" Ends
C	½" ø (#4)	16	25'-2"	(Spliced) Curbs
K	½" ø (#6)	24	11'-0"	Abuts
B	¾" ø (#6)	12	25'-0"	"

CONCRETE CLASSIFICATION

Superstructure - Class A
Substructure footings - Class A
Substructure above footings - Class B

DESIGN- WHITE
TRACE - BAILEY
CHECK - J.L.F.

BRIDGE-3329

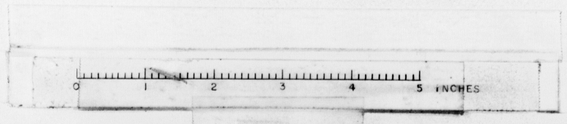
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

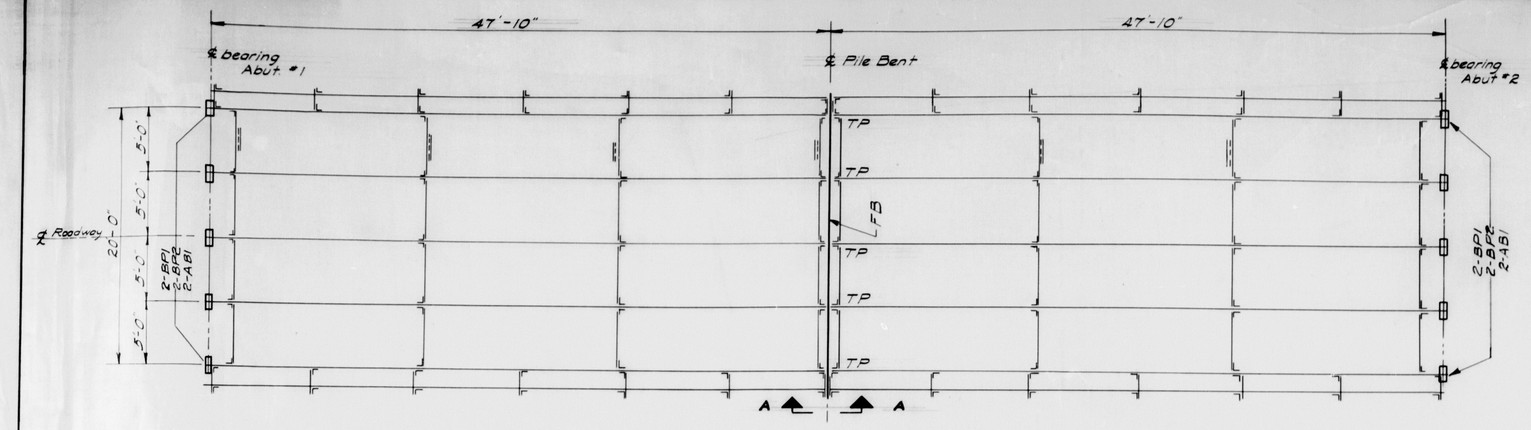
WHARFF BRIDGE
OVER
COBBOSSEECONTEE STREAM
BETWEEN THE TOWNS OF
W. GARDINER-LITCHFIELD
KENNEBEC COUNTY

SLAB DETAILS

SHEET 3 OF 4 AUGUSTA, MAINE APR. 1951

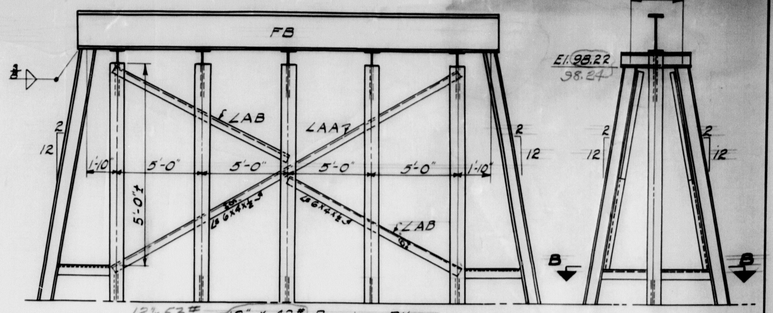
53-89





Use Existing Stringers, Diaphragms, Rail Posts & Rail

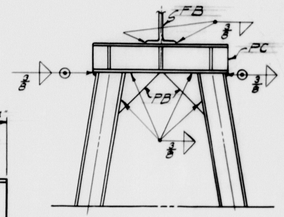
ERECTION DIAGRAM



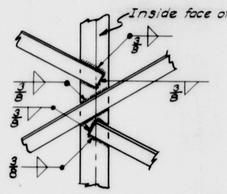
12"x53# 10" x 42" Bearing Piles

SIDE ELEVATION

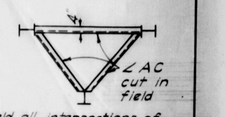
END ELEVATION



PILE CAP ASSEMBLY

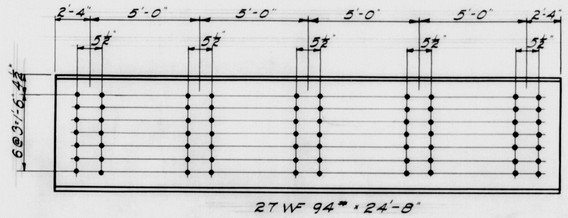


TYPICAL WELDS ANGLES TO PILES



Weld all intersections of angles and piles with ⅜" fillet welds (field)

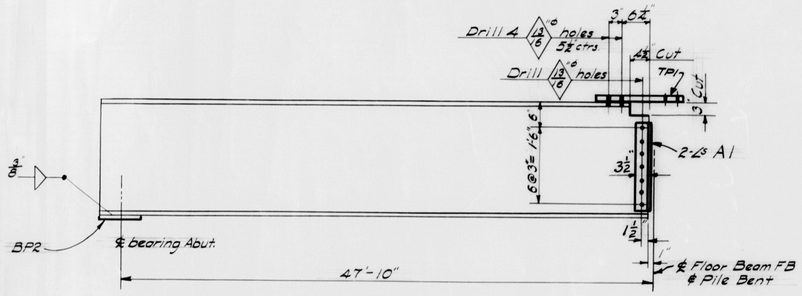
VIEW B-B



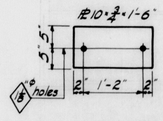
27 WF 94# x 24'-8"

FLOOR BEAM FB

One - Req'd

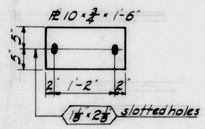


DETAIL OF FIELD WORK REQUIRED ON EXISTING STRINGERS



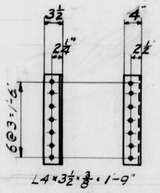
BEARING PLATE BP1

10- Req'd



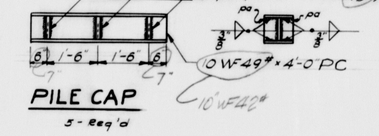
BEARING PLATE BP2

10- Req'd



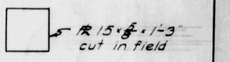
CONNECTION ANGLE A1

20- Req'd



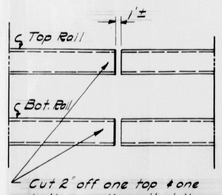
PILE CAP

5 - Req'd



BRACE PLATE PB

PILE BENT DETAILS



Cut 2" off one top & one bottom rail so that the gap between ends of rails of adjacent spans is about 1". Same on opposite side.

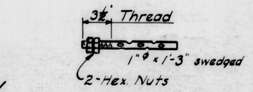
VIEW A-A

Rail Posts omitted

DETAIL OF FIELD WORK REQUIRED ON EXISTING STEEL GUARD RAIL

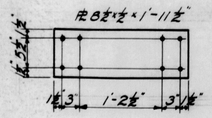
PILE SPLICES

Splices of steel H-beam piles, required because of the length of the piles furnished or because of foundation conditions encountered during driving, shall be made in the field. The full section of the pile shall be developed at the splice by butt welding. Welding shall conform to the current specifications for Welded Highway and Railway Bridges, Design, Construction and Repair of the American Welding Society.



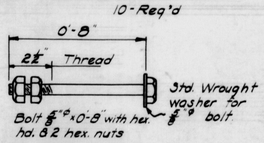
ANCHOR BOLT AB1

20- Req'd



TIE PLATE TP

5 - Req'd



BOLT R1

28 - Req'd

BOLTS TO BE FURNISHED

200 - ¾"⌀ x 0'-2¼" hex. hd. & hex. nut

12-PILES REQUIRED

10" x 42# x 40'-0" Bearing Piles
To be furnished as Structural Steel

① To be furnished by Commission
* No Shop Work Required

STRUCTURAL STEEL REQUIRED

Mark	No. Req'd	Description	
FB	One	27 WF 94# x 24'-8"	* ①
BP1	10	PL 10"x¾"x1'-6"	
BP2	10	PL 10"x¾"x1'-6"	
TP	5	PL 8½"x½"x1'-11½"	
A1	20	L 4"x3½"x⅜"x1'-9"	
AB1	20	Rod 1"⌀x1'-3" 2 hex.nuts ea.	
PC	5	10 WF 49# x 4'-0" 42#	①
pa	30	PL 42"x⅜"x0'-8⅞"	
PB	5	PL 15"x⅜"x1'-3"	*
AA	2	L 6"x4"x½"x22'-0"	*
AB	4	L 6"x4"x½"x12'-0"	*
AC	2	L 6"x4"x½"x11'-0"	*
R1	28	Bolts ¾"⌀x0'-8" With washers & hex nuts ea.	
	200	Bolts ¾"⌀x0'-2¼" hex head & nuts	
	12	Piles 10"x42#x40'-0" (~12"x53#)	* ①

42# (no change in plate)

Specifications — Maine State Highway Comm. Bridge Division Specifications for "Steel Highway Bridges November 1945"
Field connections - ¾" bolts or fillet welds as shown.
Open Holes 13/16" unless noted.

LOADING H 15-44

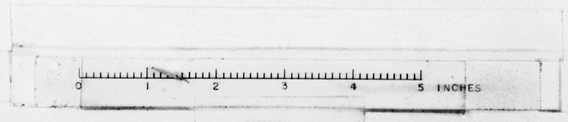
DESIGN-WHITE
TRACE - BAILEY
CHECK - J.L.F.

BRIDGE-3329

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

WHARFF BRIDGE
OVER
COBBOSSEECONTEE STREAM
BETWEEN THE TOWNS OF
W. GARDINER-LITCHFIELD
KENNEBEC COUNTY

STRUCTURAL STEEL

SHEET 4 OF 4 AUGUSTA, MAINE APR. 1951

53-100