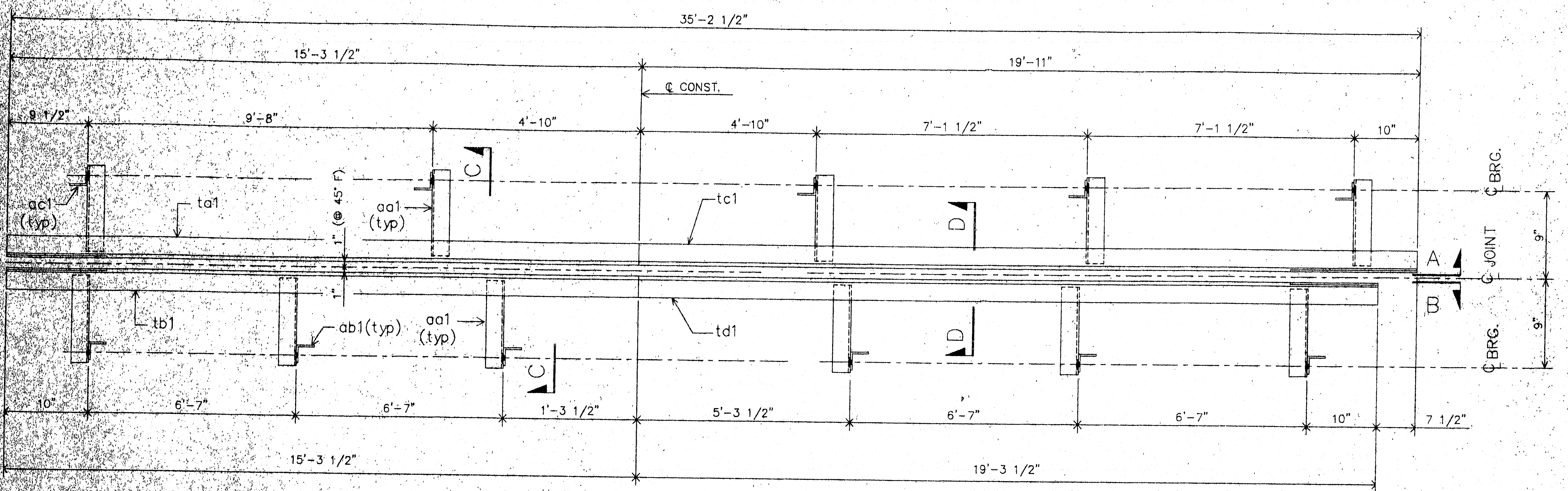
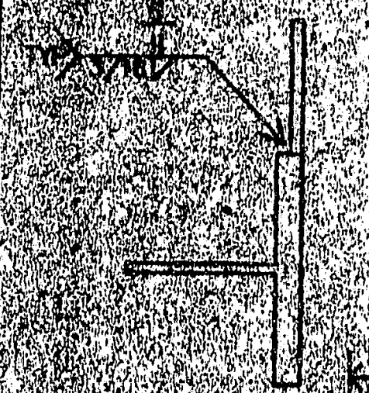
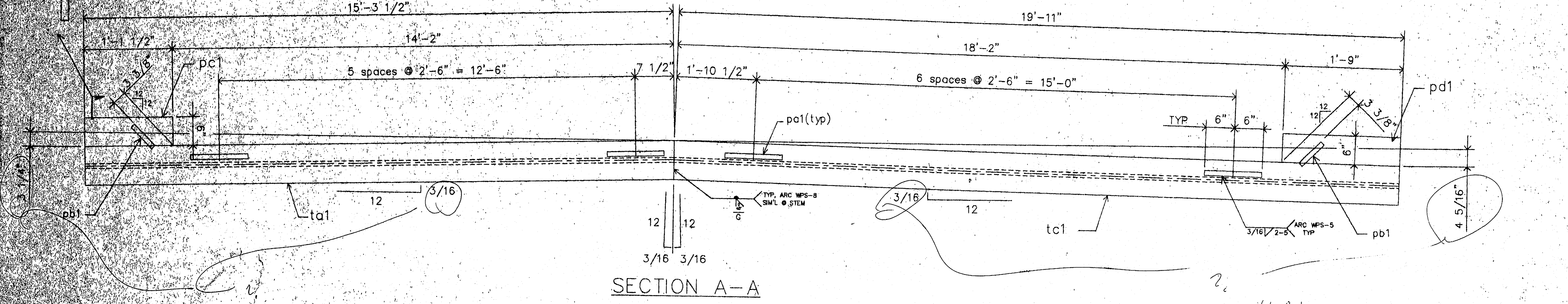


ONE-EXPANSION JOINT-A1
(PLAN)

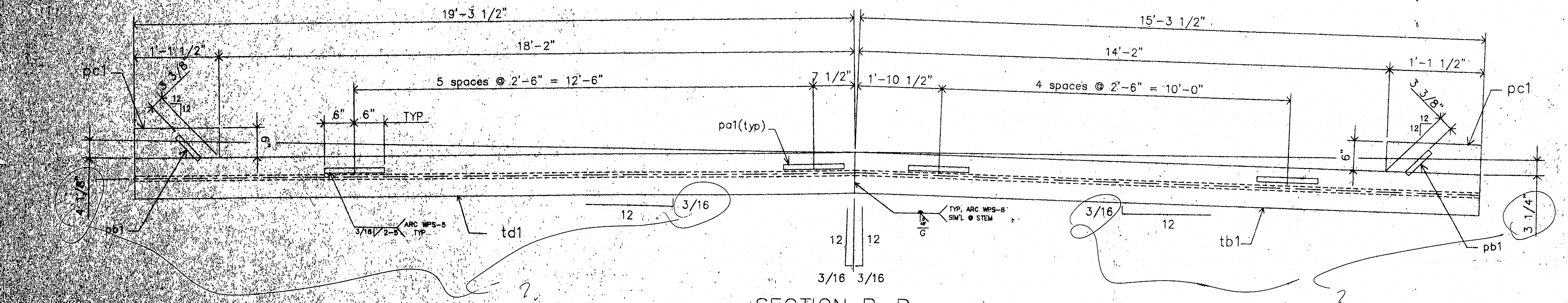
SHOP NOTE:
DIMENSIONS IN PLAN VIEW ARE MEASURED IN A HORIZONTAL PLANE. THERE IS NO GAIN ALONG SLOPE.





SECTION A-A

?
See sht 8 of 49 Contract Dwg.



SECTION B-B

WORK THIS DWG. WITH DWG. 2

MATERIALS LIST

MK	QTY	DESCRIPTION
A1	ONE	EXPANSION JOINT ASSEMBLY
ta1	1	WT 4 X 24 X 15'-3 1/2 B1E
tb1	1	WT 4 X 24 X 15'-3 1/2 B1E
tc1	1	WT 4 X 24 X 19'-11 B1E
td1	1	WT 4 X 24 X 19'-3 1/2 B1E
aa1	11	L 3 1/2 X 3 1/2 X 3/8 X 0'-8 3/4
ab1	6	L 3 1/2 X 3 1/2 X 3/8 X 0'-9 1/2
ac1	5	L 3 1/2 X 3 1/2 X 3/8 X 0'-10 1/2
ad1	14	L 3 1/2 X 3 1/2 X 3/8 X 1'-0
pa1	24	BAR 1 X 3/8 X 1'-0"
pb1	4	BAR 1 X 3/8 X 0'-6"
pc1	3	PL 1/4 X 6 X 1'-1 1/2
pd1	1	PL 1/4 X 6 X 1'-9
ma1	7	ROD 1/2ø X 0'-9" w/ 2N&2W
mb1	78	1/2ø X 0'-8" CONC. STUDS
mc1	11	7/8ø X 0'-2 1/4" H S BOLTS A325 w/N&2W
md1	14	3/4ø X 0'-2" H S BOLTS A325 w/N&2W
me1	1	WATSON-BOWMAN WA300 COMPRESSION SEAL X 36'-0 WITH ADHESIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved
☐ Returned for Corrections
AUG 2[illegible] 1997
☒ Approved as noted
☐ Rejected

PROJ. NO. : BH-043-1(34)
ITEM NO. : 520.22

MATL: A36, UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
PAINT: ~~3 COATS~~ - ZINC RICH PRIMER
3 MDFT PER COAT

Two Coats OK

120-344
FOR APPROVAL ONLY

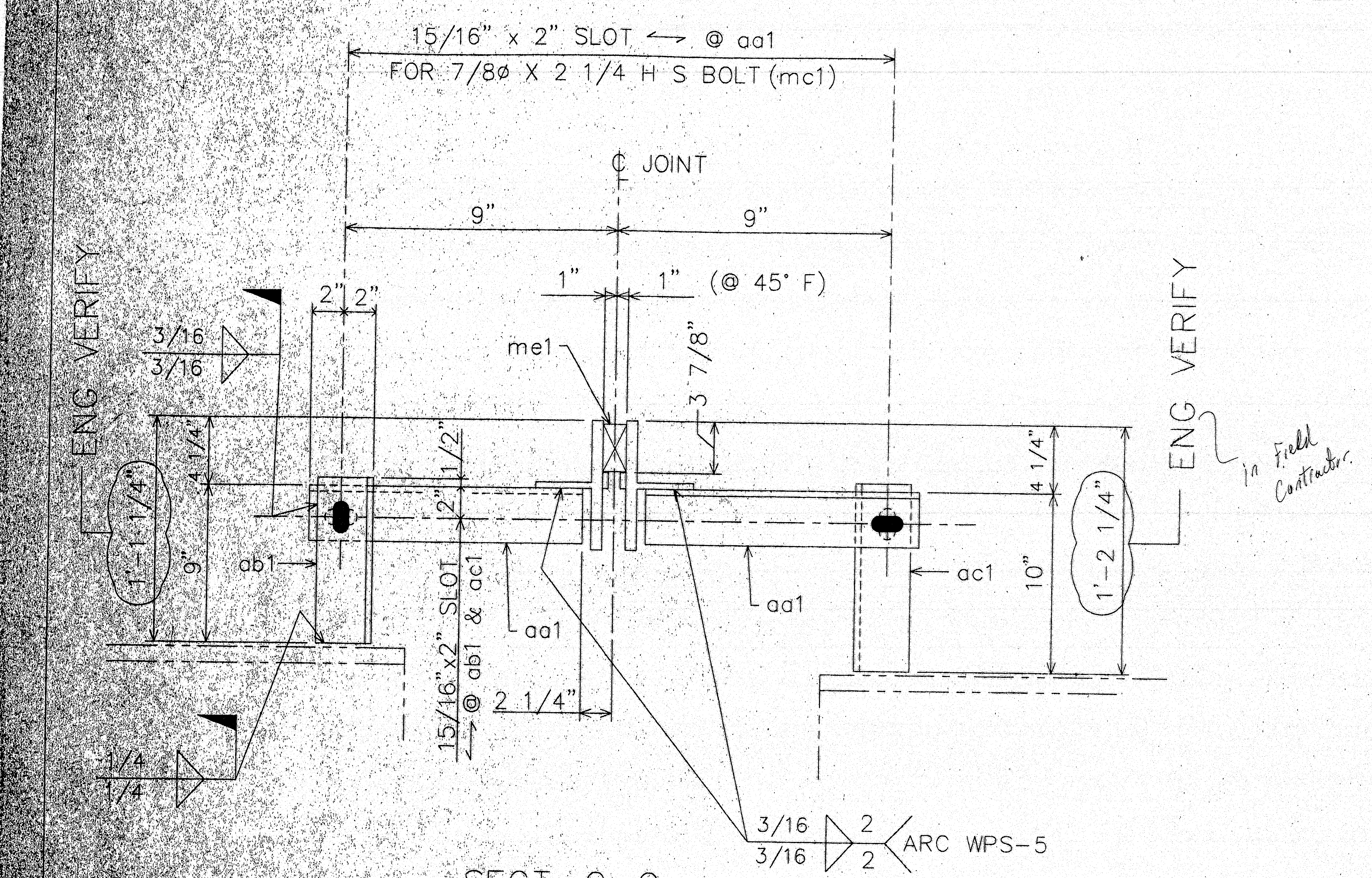
A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME

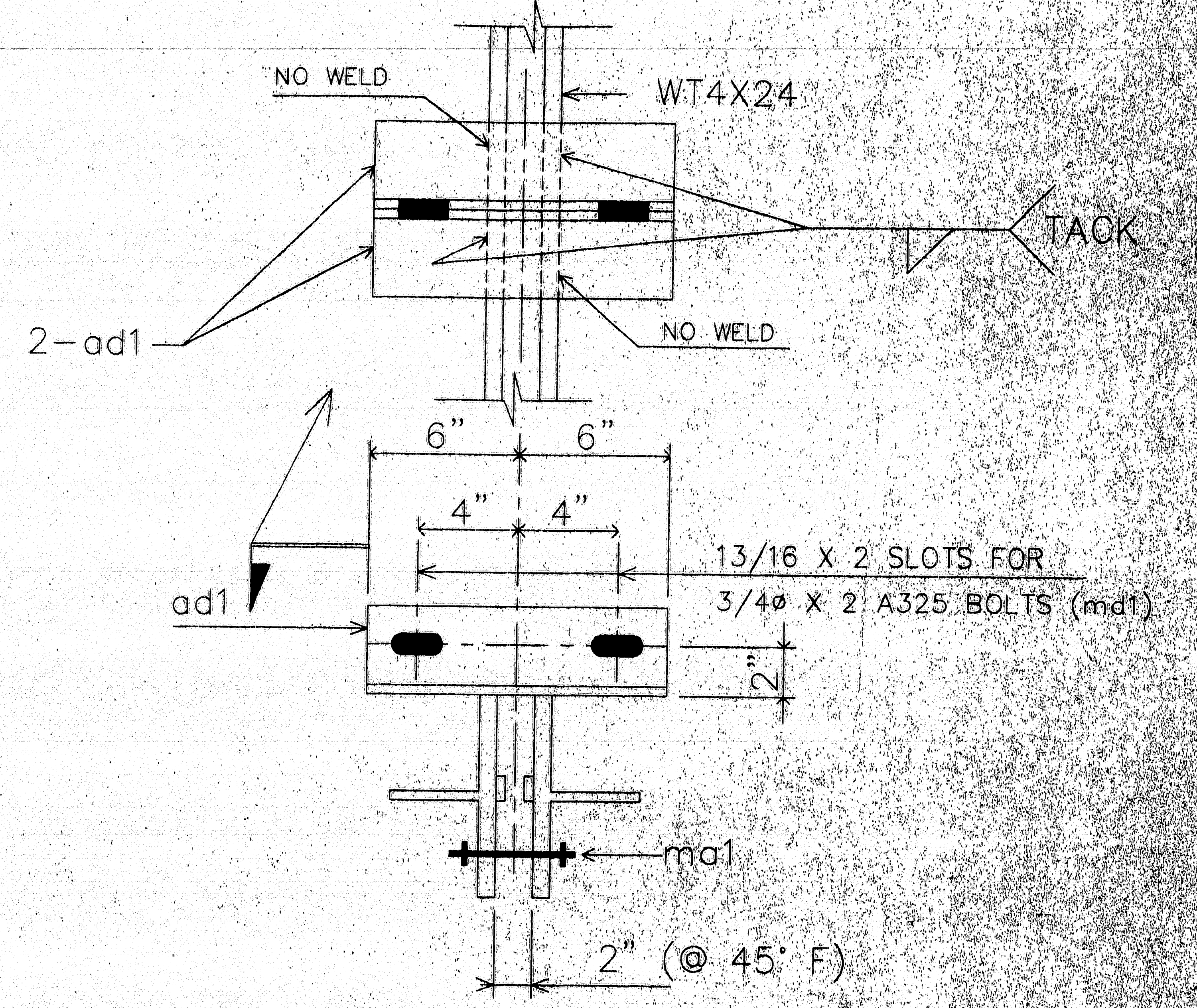
SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 6/97		CHKD. BY:

EXPANSION JOINT DETAIL @ PIER 1

REED & REED | JOB NO. 97-49 | DWG. NO. 1

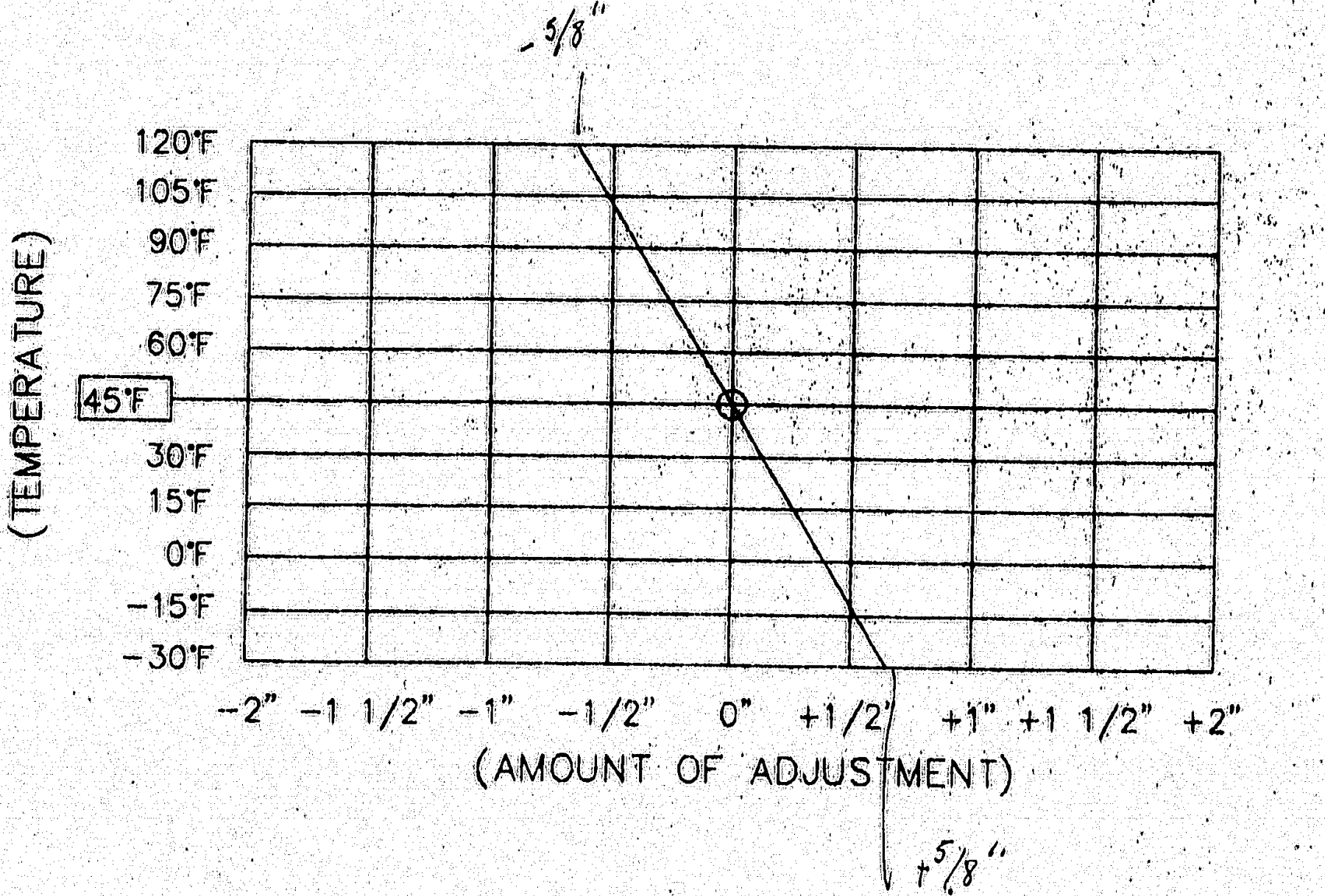


SECT. C-C



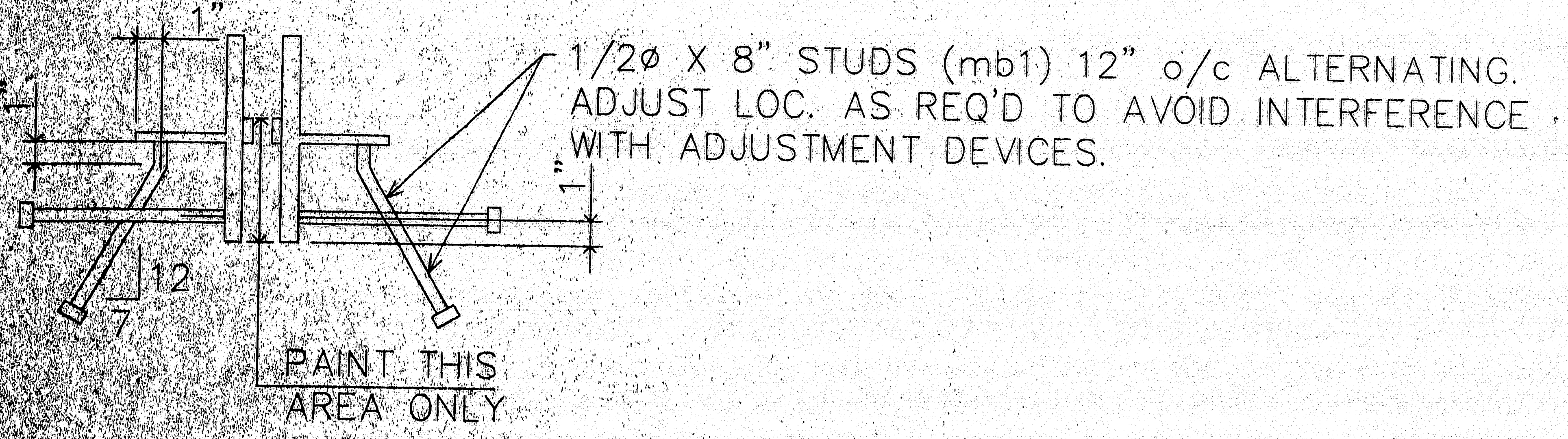
TEMPERATURE ADJUSTING DEVICE

NOTE:
SHOP PLACE ADJUSTING DEVICES AT APPROX. 5'-0" O/C.
SHOP TO PRESET THE JOINT OPENING TO THE 45° F SETTING.
CONTRACTOR TO REFER TO THE DESIGN DWG'S & SPEC'S FOR INSTALLATION INSTRUCTIONS.



COMP. SEAL ADJUSTMENT CHART

FIELD NOTE:
ADJUST JOINT OPENING FOR TEMPERATURE AT TIME OF INSTALLATION. ADJUSTMENT IS TO BE MEASURED PARALLEL TO THE WORKING LINE.


1"
1"
1"
12
7
1/2Ø X 8" STUDS (mb1) 12" o/c ALTERNATING.
ADJUST LOC. AS REQ'D TO AVOID INTERFERENCE
WITH ADJUSTMENT DEVICES.
PAINT THIS
AREA ONLY

SECT. D-D

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved
☐ Returned for Corrections
AUG 28 1997
☑ Approved as noted
☐ Rejected

FOR APPROVAL ONLY

PROJ. NO. : BH-043-1(34)
ITEM NO. : 520.22
120-345

A.R.C. ENTERPRISES
KINGFIELD, MAINE

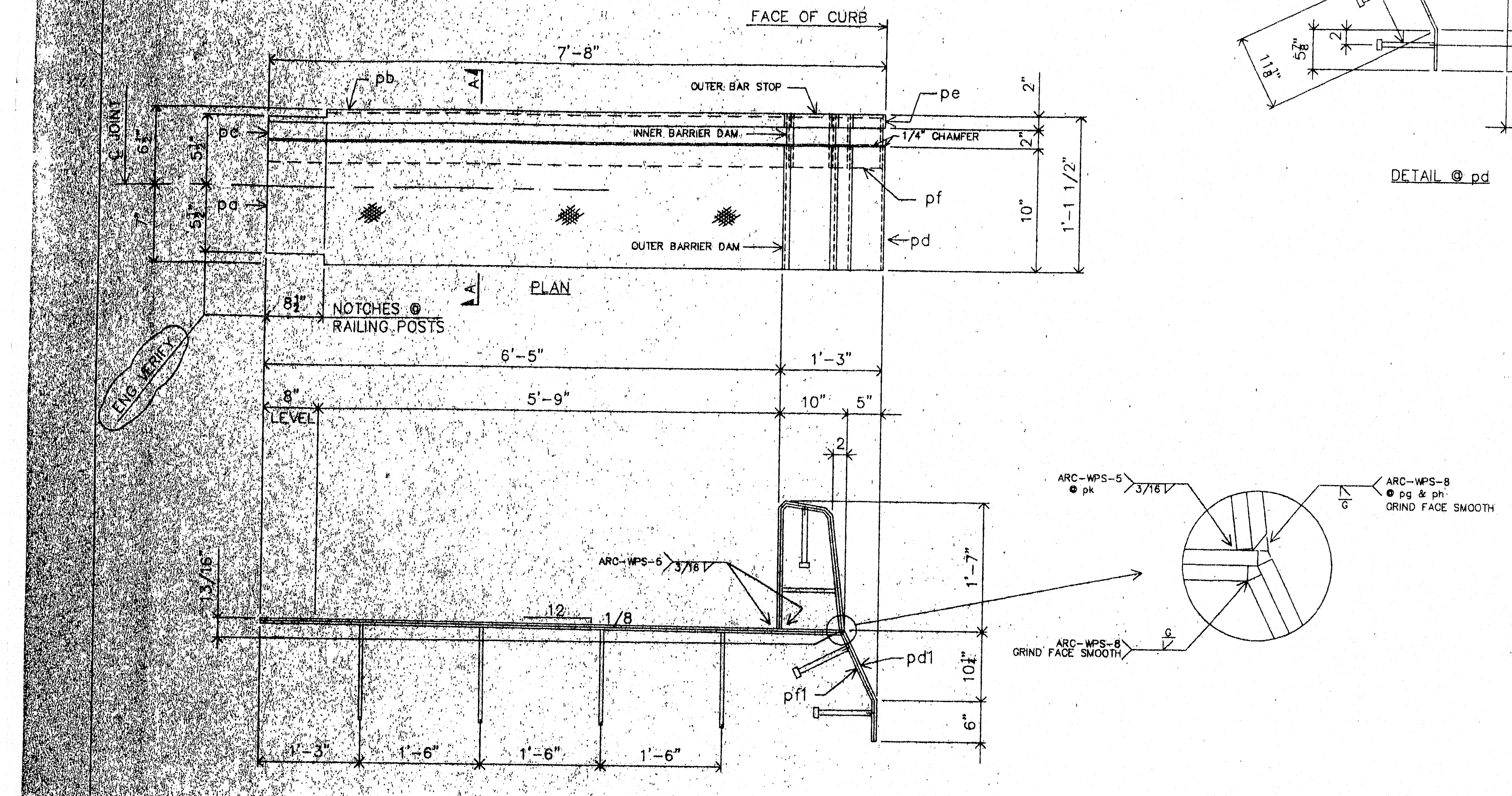
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~	APPROVED BY:	DRAWN BY: RG
DATE: 6/97		CHKD. BY:

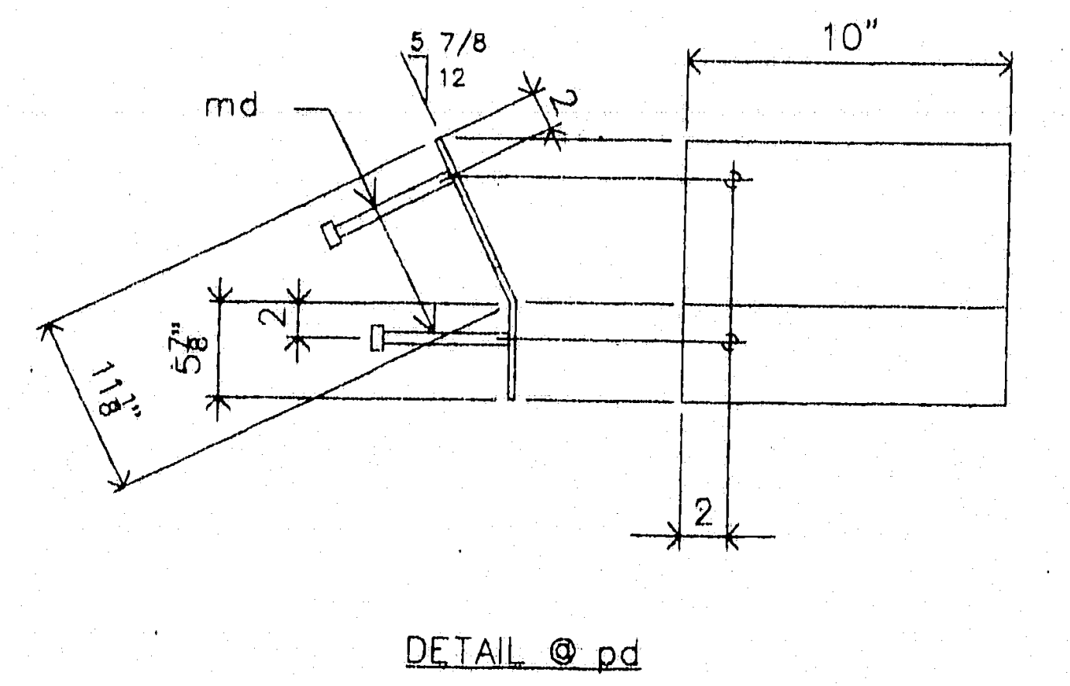
EXPANSION JOINT DETAIL @ PIER 1

REED & REED | JOB NO. 97-49 | DWG. NO. 2

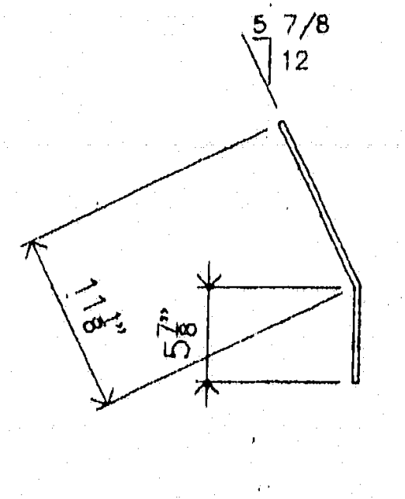
[redacted]



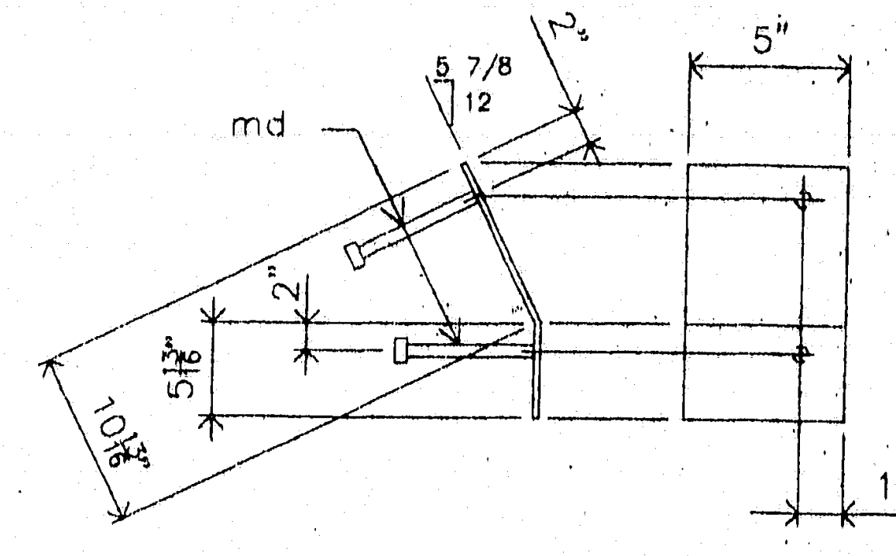
ONE-EXP. JOINT-A3 (AS SHOWN)
ONE-EXP. JOINT-B3 (OPP. HAND)



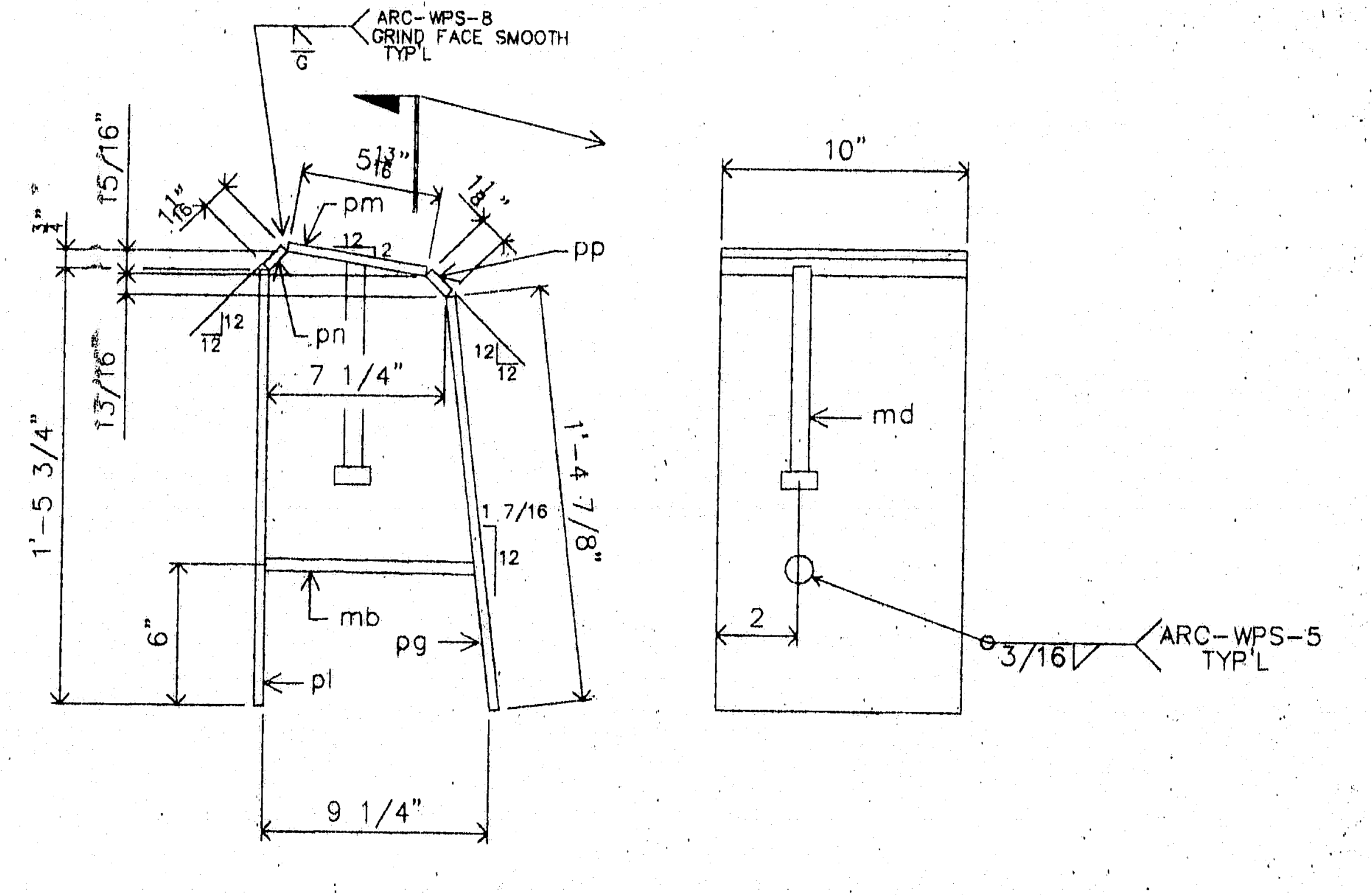
DETAIL @ pd



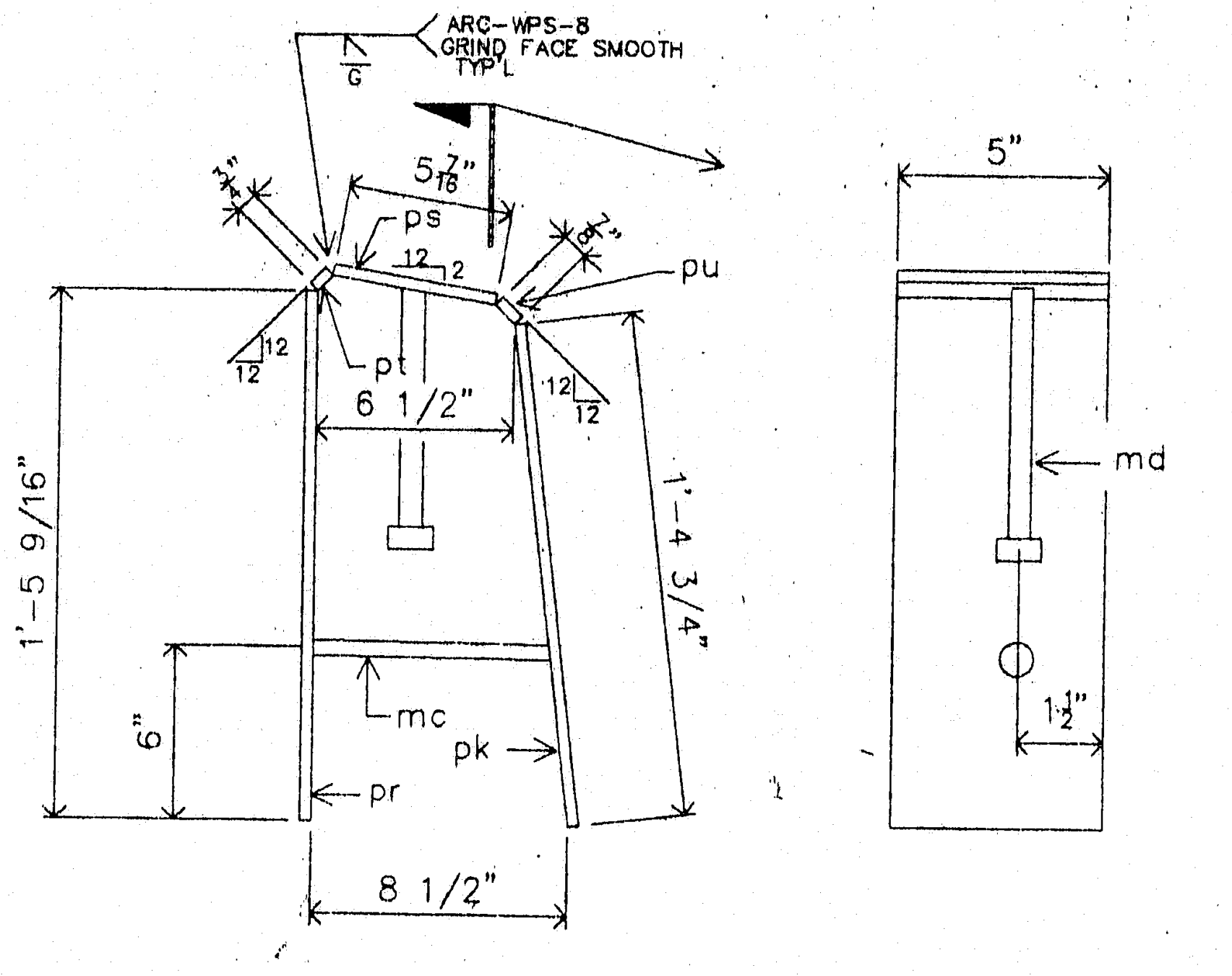
DETAIL @ pe



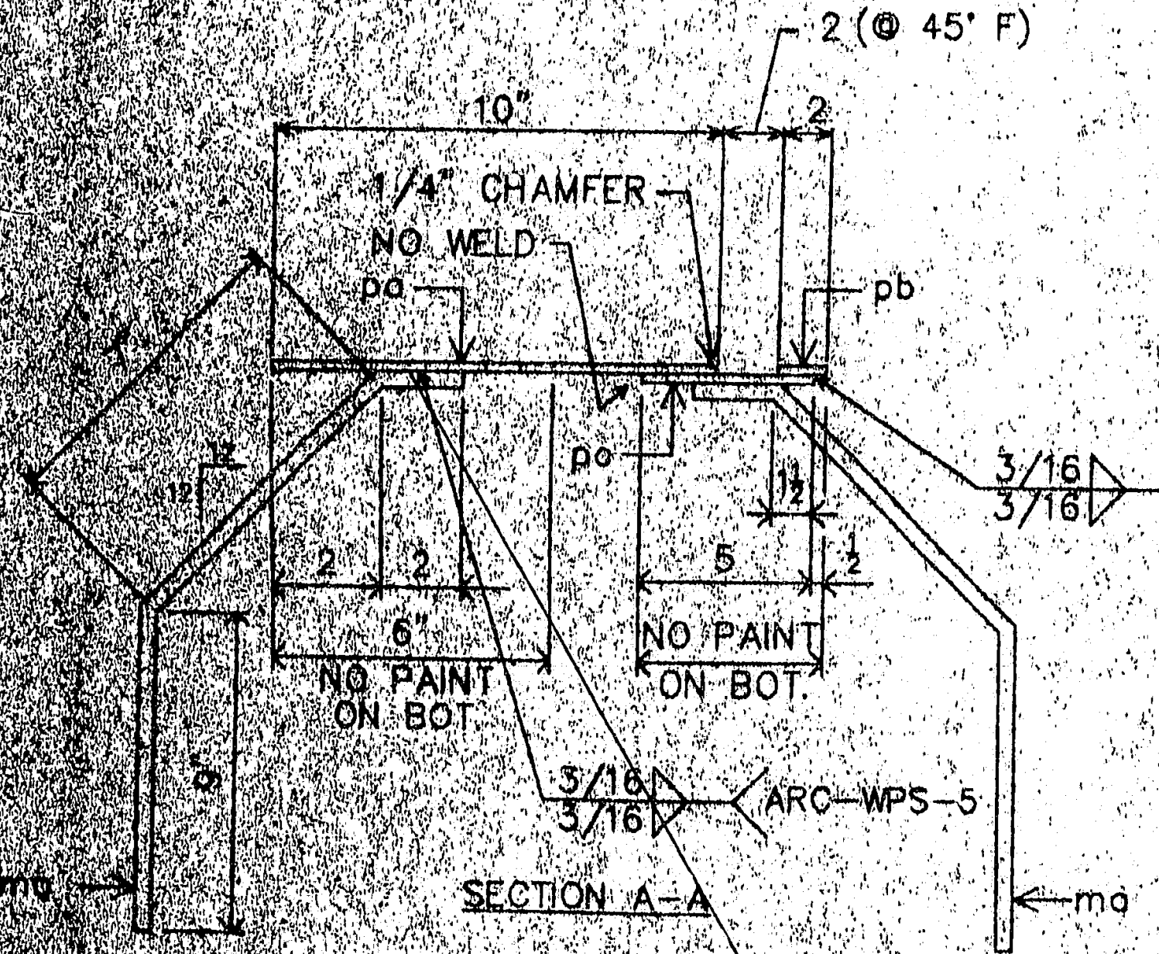
DETAIL @ pf
(BEND TO FIT INSIDE pd)



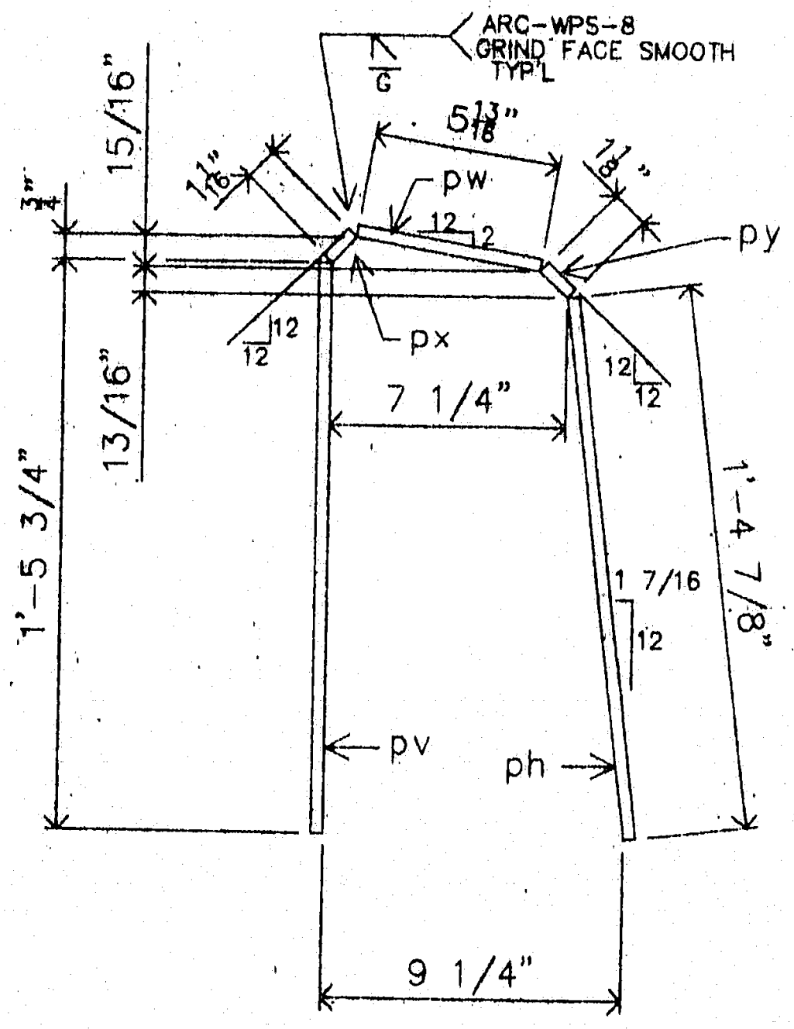
DETAIL @ OUTER BARRIER DAM



DETAIL @ INNER BARRIER DAM



SECTION A-A



DETAIL @ OUTER BAR STOP

Submit WPS
For the weld
Including elevated
temperature Requirements
For Welding Reinforcing
Steel. i.e. AWS D1.4

(or) Substitute a Flat bar of
Appropriate size and
Strength and use an
existing Fillet weld Procedure.

MATERIALS LIST

MK	QTY	DESCRIPTION
A3	1	EXPANSION DEVICE ASSEMBLY
B3	1	EXPANSION DEVICE ASSEMBLY
pa3	2	CHK'D PL 3/8 x 10 x 7'-2 3/4 BEND/SHP'D 1L-1R
pb3	2	PL 3/8 X 2 X 7'-2 3/4 BEND/SHP'D 1L-1R
pc3	2	PL 3/8 X 5 X 7'-2 1/2 BEND
pd3	2	PL 3/8 X 10 X 1'-5 BEND 1L-1R
pe3	2	PL 3/8 X 2 X 1'-5 BEND
pf3	2	PL 3/8 X 5 X 1'-4 5/8 BEND
pg3	2	PL 3/8 X 10 X 1'-4 7/8 BEND 1L-1R
ph3	2	PL 3/8 X 2 X 1'-4 7/8 BEND
pk3	2	PL 3/8 X 5 X 1'-4 3/4 BEND
pl3	2	PL 3/8 X 10 X 1'-5 3/4 1L-1R
pm3	2	PL 3/8 X 5 13/16 X 0'-10 1L-1R
pn3	2	PL 3/8 X 1 1/16 X 0'-10 1L-1R
pp3	2	PL 3/8 X 1 1/8 X 0'-10 1L-1R
pr3	2	FB 3/8 X 2 X 1'-5 3/4
ps3	2	FB 3/8 X 2 X 0'-5 13/16
pt3	2	FB 3/8 X 2 X 0'-1 1/16
pu3	2	PL 3/8 X 2 X 0'-1 1/8
pv3	2	PL 3/8 X 5 X 1'-5 9/16
pw3	2	PL 3/8 X 5 X 0'-5 7/16
px3	2	PL 3/8 X 3/4 X 0'-5
py3	2	PL 3/8 X 7/8 X 0'-5
ma3	16	#6 REBAR X 1'-6 BEND A615,GR 60
mb3	2	#6 REBAR X 1'-5 A615,GR 60
mc3	2	#6 REBAR X 1'-3 1/2 A615,GR 60
md3	12	1/2 ø x 0'-8 CONC STUDS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 2 8 1997
☑ Approved as noted ☐ Rejected

PROJ. NO. : BH-043-1(34)
ITEM NO. 520.22

MATL: A36 UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: ~~3 COATS ZINC RICH PRIMER~~
~~3 MDFT PER COAT~~

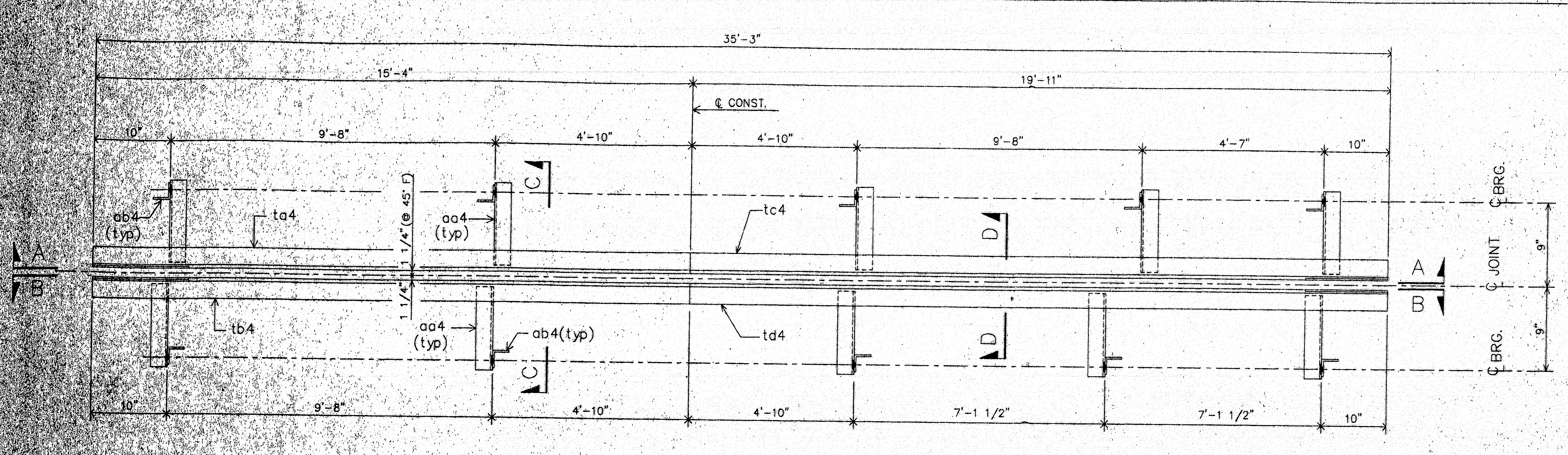
* Prefer - Get Price on Galvanizing Assembly.

or
Use different Paint System.
Use NepCoat List;
Typical Systems:
Carboline
Wasser
Keeler & Long
Should Use
1) Zinc Rich Primer
2) 2 Part epoxy
3) Urethane.

FOR APPROVAL ONLY
120-346

A.R.C. ENTERPRISES
KINGFIELD, MAINE

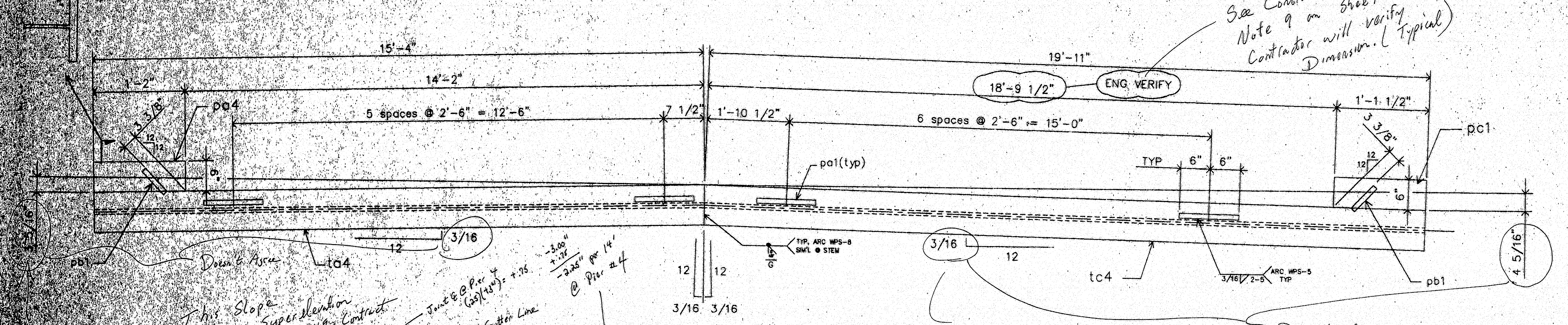
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME
SCALE: ~
DATE: 6/97
APPROVED BY:
DRAWN BY: BB
CHKD BY:
SIDEWALK DAM DETAIL @ PIER 1
REED & REED
JOB NO. 97-49
DWG. NO. 5



ONE-EXPANSION JOINT-A4
(PLAN)

SHOP NOTE:
DIMENSIONS IN PLAN VIEW ARE MEASURED
IN A HORIZONTAL PLANE. THERE IS NO GAIN
ALONG SLOPE.

See Contract Dwgs, Note 9 on Sheet 2. Contractor will verify Dimension. (Typical)



Doesn't Agree

This Slope Varies in Superelevation See Sheet 8 of 49, Contract Dwgs.

Joint ℄ @ Pier 4
(.25)(14.5) = 3.75

-3.00
+.75
-2.25" per 14' @ Pier #4

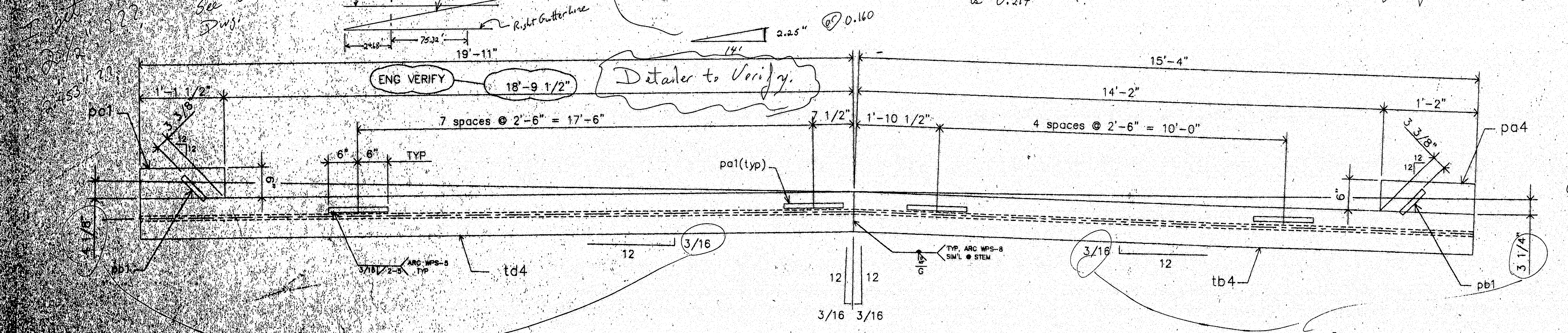
℄ Const.
Left Gutter Line
Right Gutter Line

2.25" @ 0.160
14'

Doesn't Agree. See sheet 8 of 49 of Contract Dwgs.

3" in 14 feet is 0.214" ?

SECTION A-A



Detailer to Verify.

SECTION B-B

MK	QTY	DESCRIPTION
A4	ONE	EXPANSION JOINT ASSEMBLY
ta4	1	WT 4 X 24 X 15'-4 B1E
tb4	1	WT 4 X 24 X 15'-4 B1E
tc4	1	WT 4 X 24 X 19'-11 B1E
td4	1	WT 4 X 24 X 19'-11 B1E
aa4	10	L 3 1/2 X 3 1/2 X 3/8 X 0'-8 1/2
ab4	10	L 3 1/2 X 3 1/2 X 3/8 X 0'-10 1/2
ad1	14	L 3 1/2 X 3 1/2 X 3/8 X 1'-0
pa1	26	BAR 1 X 3/8 X 1'-0"
pb1	4	BAR 1 X 3/8 X 0'-6"
pc1	2	PL 1/4 X 6 X 1'-1 1/2
pa4	2	PL 1/4 X 6 X 1'-2
ma1	7	ROD 1/2ø X 0'-9" w/ 2N&2W
mb1	78	1/2ø X 0'-8" CONC. STUDS
mc1	11	7/8ø X 0'-2 1/4" H S BOLTS A325 w/N&2W
md1	14	3/4ø X 0'-2" H S BOLTS A325 w/N&2W
me4	1	DS BROWN H-4000 COMPRESSION SEAL X 36'-0 WITH ADHESIVE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 28 1997
☑ Approved as noted ☐ Rejected

PROJ. NO. : BH-043-1(34)
ITEM NO. : 520.22

MATL: A36, UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
PAINT: 3 COATS - ZINC RICH PRIMER
3 MDFT PER COAT

2 Coats Ok.

FOR APPROVAL ONLY

120-347

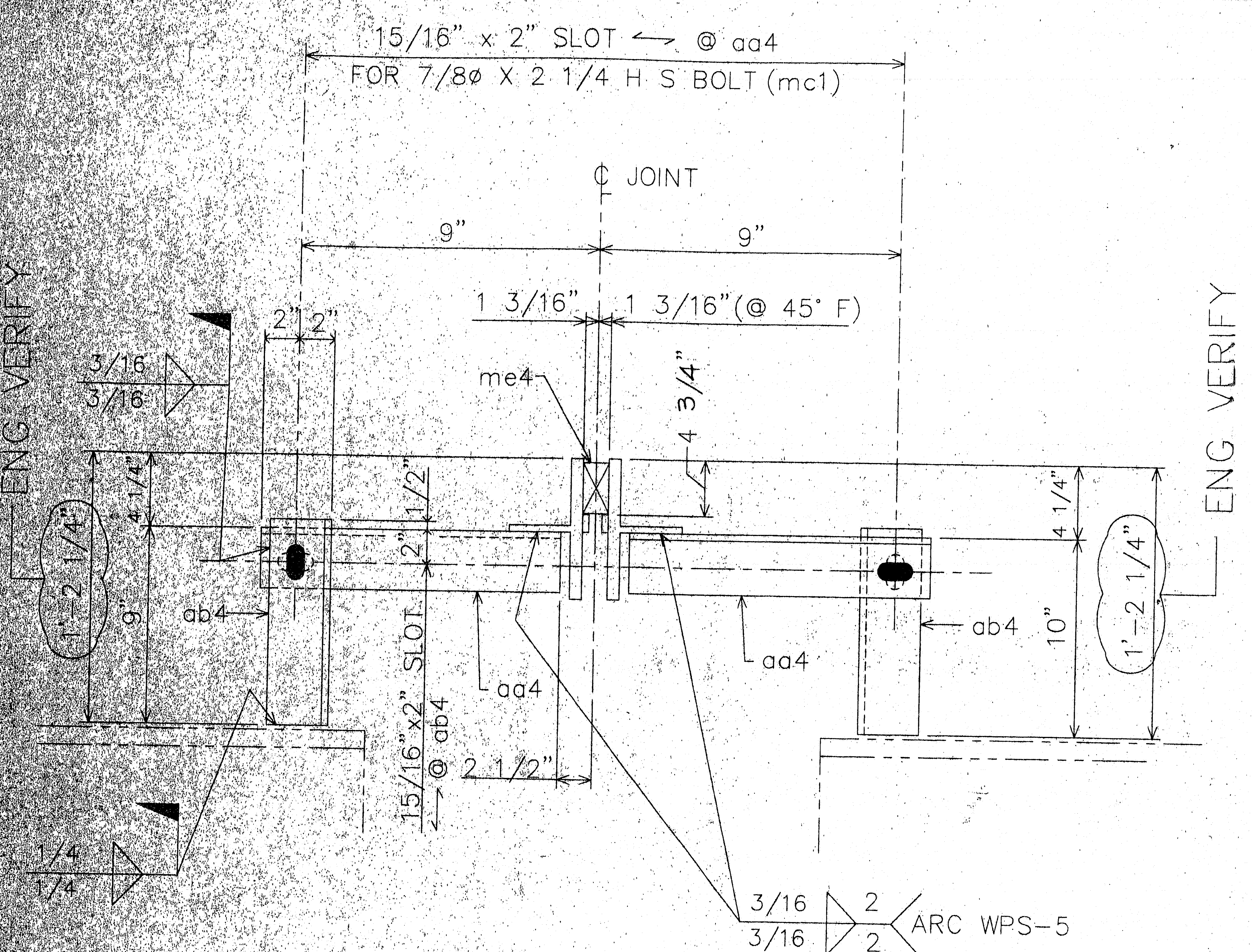
A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 6/97		CHKD. BY:
EXPANSION JOINT DETAIL @ PIER 4		
REED & REED	JOB NO. 97-49	DWG. NO. 10

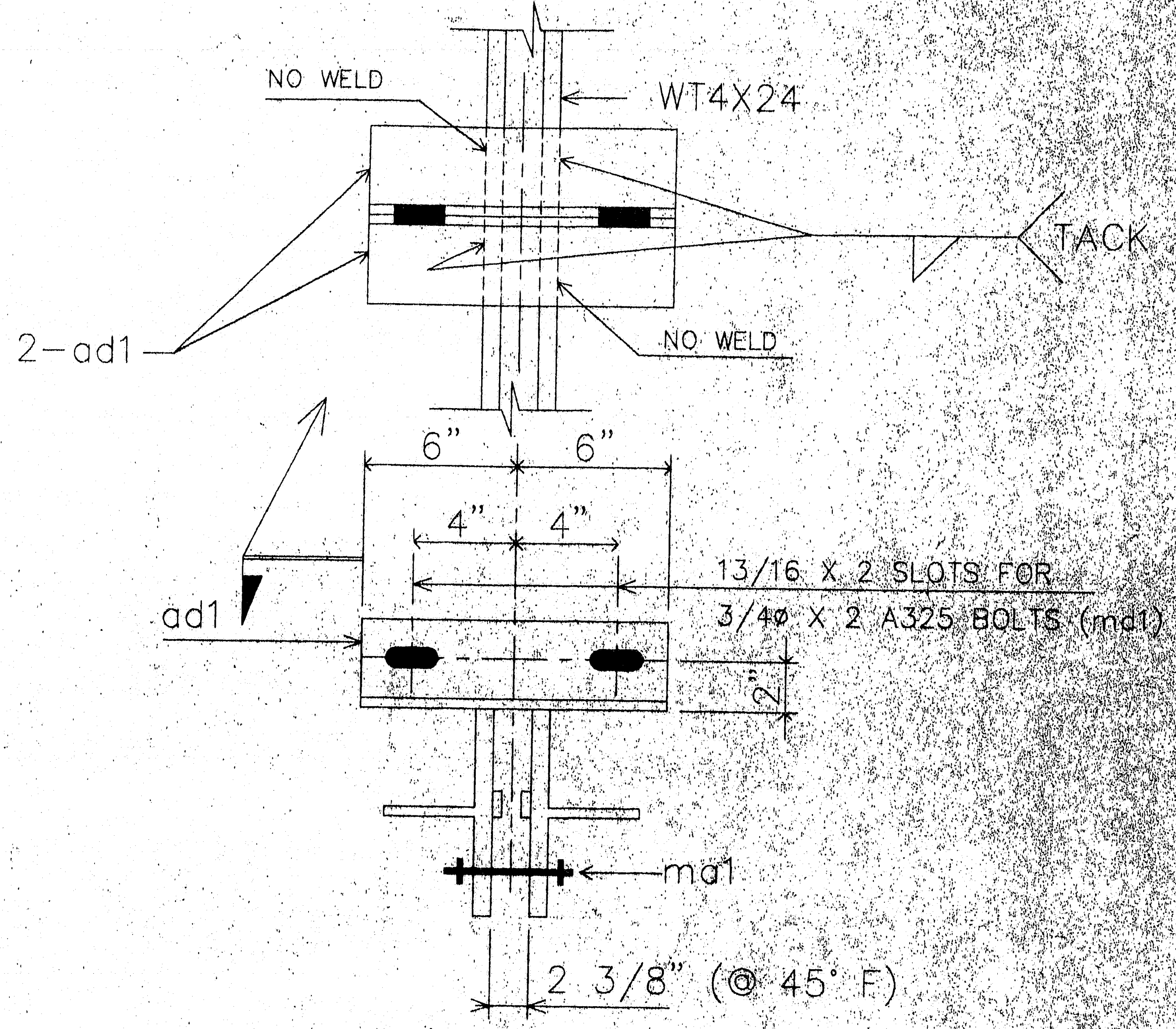
WORK THIS DWG. WITH DWG. 5

[redacted]



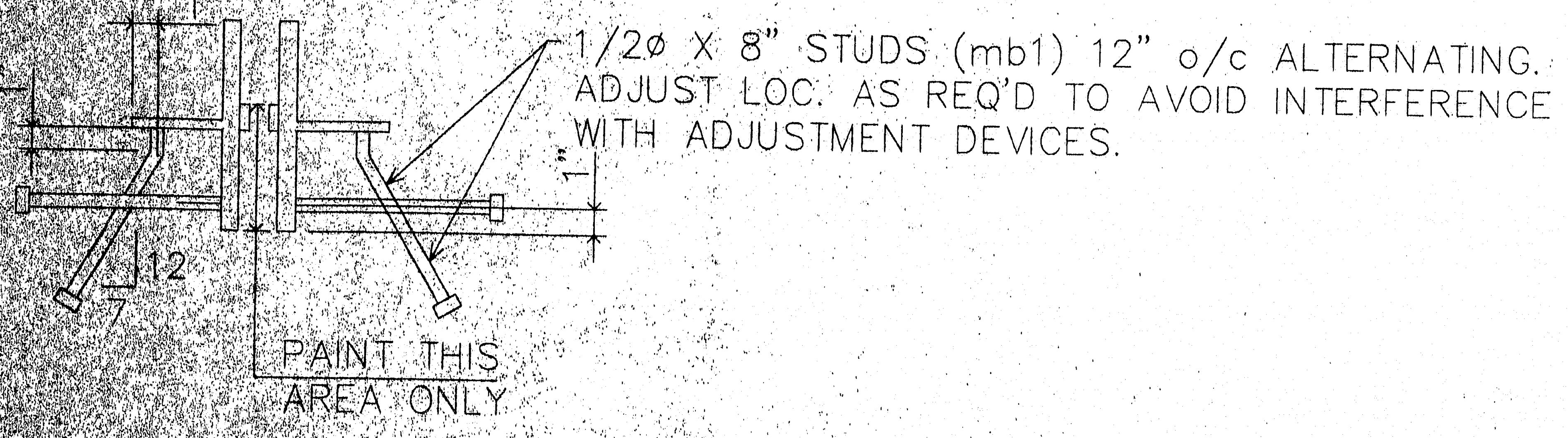
In field. Contractor

SECT. C-C

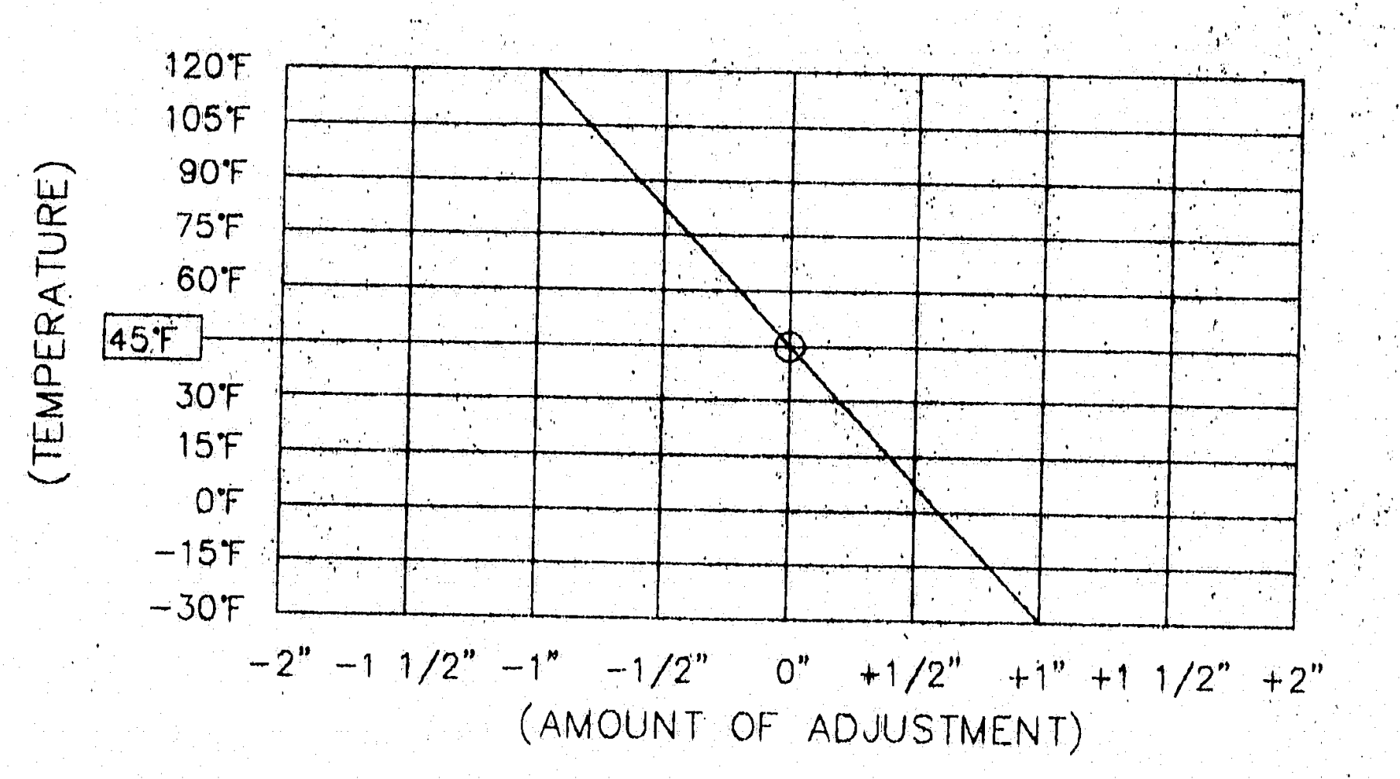


TEMPERATURE ADJUSTING DEVICE

NOTE:
SHOP PLACE ADJUSTING DEVICES AT APPROX. 5'-0" O/C.
SHOP TO PRESET THE JOINT OPENING TO THE 45° F SETTING.
CONTRACTOR TO REFER TO THE DESIGN DWG'S & SPEC'S FOR INSTALLATION INSTRUCTIONS.


1"
1"
1"
12
7
1/2⌀ X 8" STUDS (mb1) 12" o/c ALTERNATING. ADJUST LOC. AS REQ'D TO AVOID INTERFERENCE WITH ADJUSTMENT DEVICES.
PAINT THIS AREA ONLY

SECT. D-D



COMP. SEAL ADJUSTMENT CHART

FIELD NOTE:
ADJUST JOINT OPENING FOR TEMPERATURE AT TIME OF INSTALLATION. ADJUSTMENT IS TO BE MEASURED PARALLEL TO THE WORKING LINE.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 2 8 1997
☑ Approved as noted ☐ Rejected

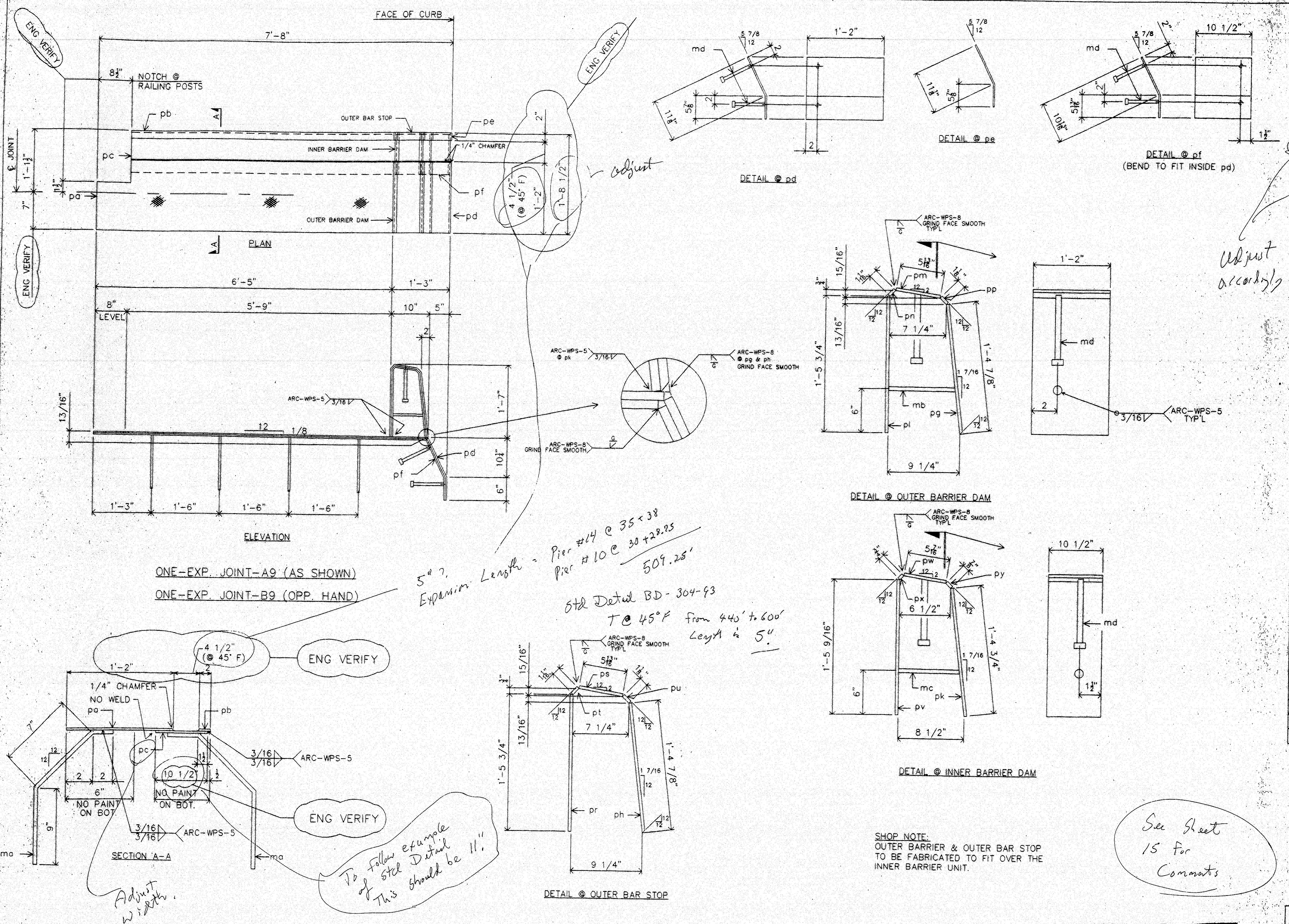
FOR APPROVAL ONLY

PROJ. NO. : BH-043-1(34)
ITEM NO. : 520.22

120-348

A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME		
SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 6/97		CHKD. BY:
EXPANSION JOINT DETAIL @ PIER 4		
REED & REED	JOB NO. 97-49	DWG. NO. 11



ONE-EXP. JOINT-A9 (AS SHOWN)

ONE-EXP. JOINT-B9 (OPP. HAND)

SHOP NOTE:
OUTER BARRIER & OUTER BAR STOP TO BE FABRICATED TO FIT OVER THE INNER BARRIER UNIT.

Adjust

5" ?
Expansion Length = Pier #14 @ 35+38
Pier #10 @ 30+28.75
509.25'

Std Detail BD-304-93
T @ 45°F from 440' to 600'
Length is 5"

Adjust width.

To follow example of std Detail This should be 11".

Adjust accordingly

See Sheet 15 for Comments

MATERIALS LIST		
MK	QTY	DESCRIPTION
A22	1	EXPANSION DEVICE ASSEMBLY
B22	1	EXPANSION DEVICE ASSEMBLY
pa22	2	CHK'D PL 3/8 x 14 x 7'-2 3/4 BEND/SHP'D 1L-1R
pb22	2	PL 3/8 X 2 X 7'-2 3/4 BEND/SHP'D 1L-1R
pc22	2	PL 3/8 X 10 1/2 X 7'-2 1/2 BEND
pd22	2	PL 3/8 X 14 X 1'-5 BEND 1L-1R
pe22	2	PL 3/8 X 2 X 1'-5 BEND
pf22	2	PL 3/8 X 10 1/2 X 1'-4 5/8 BEND
pg22	2	PL 3/8 X 14 X 1'-4 7/8 B1E 1L-1R
ph22	2	PL 3/8 X 2 X 1'-4 7/8 B1E
pk22	2	PL 3/8 X 10 1/2 X 1'-4 3/4
pl22	2	PL 3/8 X 14 X 1'-5 3/4 1L-1R
pm22	2	PL 3/8 X 5 13/16 X 1'-2 1L-1R
pn22	2	PL 3/8 X 1 1/16 X 1'-2 1L-1R
pp22	2	PL 3/8 X 1 1/8 X 1'-2 1L-1R
pr22	2	FB 3/8 X 2 X 1'-5 3/4
ps22	2	FB 3/8 X 2 X 0'-5 13/16
pt22	2	FB 3/8 X 2 X 0'-1 1/16
pu22	2	PL 3/8 X 2 X 0'-1 1/8
pv22	2	PL 3/8 X 10 1/2 X 1'-5 9/16
pw22	2	PL 3/8 X 5 7/16 X 0'-10 1/2
px22	2	PL 3/8 X 3/4 X 0'-10 1/2
py22	2	PL 3/8 X 7/8 X 0'-10 1/2
ma22	16	#6 REBAR X 1'-6 BEND A615,GR 60
mb22	2	#6 REBAR X 0'-8 1/2 A615,GR 60
mc22	2	#6 REBAR X 0'-7 3/4 A615,GR 60
md22	12	1/2 ø x 0'-8 CONC STUDS
		PROJ. NO. : BH-043-1(34)
		ITEM NO. 520.22

MATL: A36 UN HOLES: AS NOTED

WELD: PER PROCEDURES NOTED

PREP: SP6

FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

120-349

FOR APPROVAL ONLY

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 2 1 1997
☑ Approved as noted ☐ Rejected

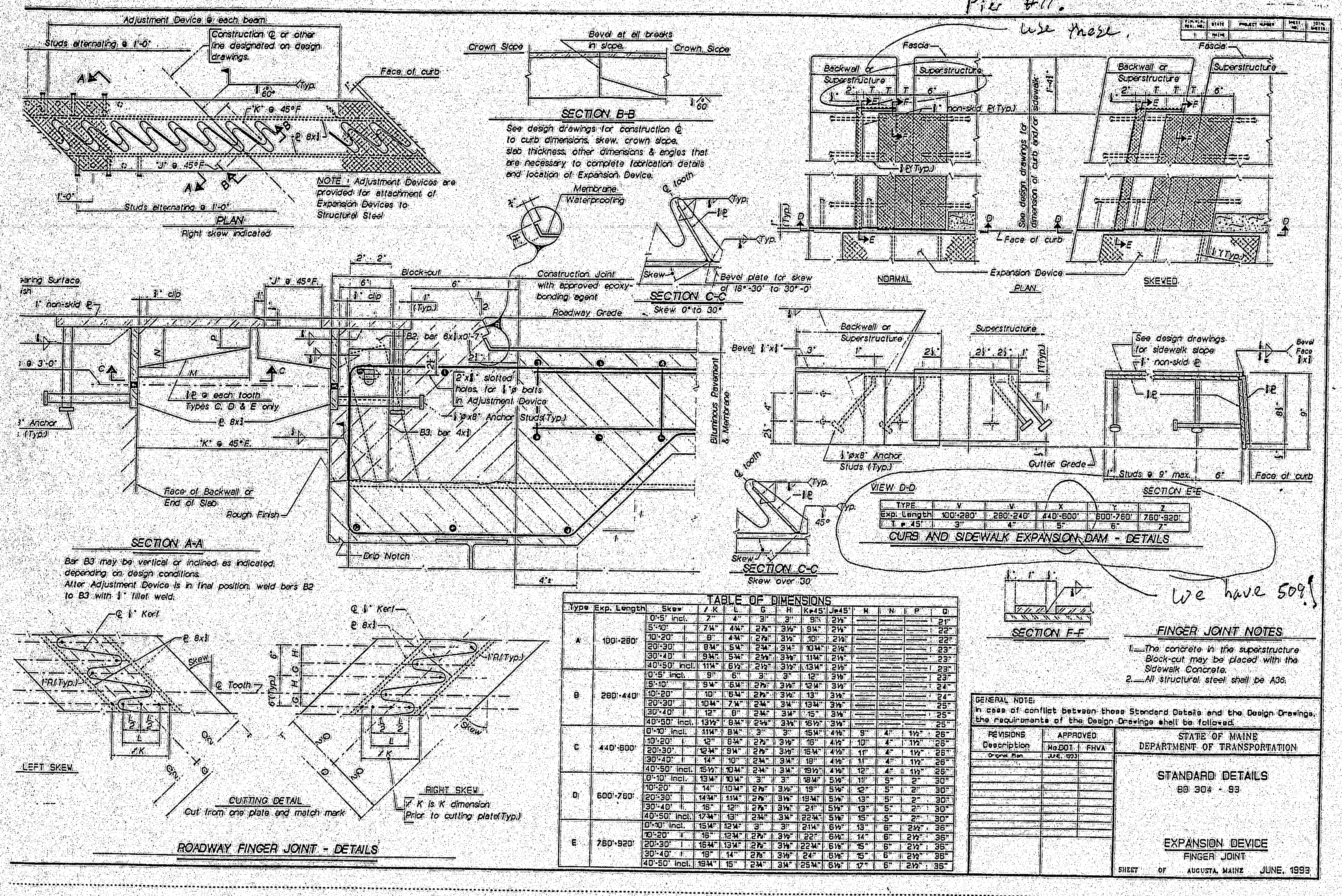
A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME
SCALE: ~
DATE: 7/97
APPROVED BY:
DRAWN BY: BB
CHKD. BY:
SIDEWALK DAM DETAIL @ PIER 11
REED & REED
JOB NO. 97-49
DWG. NO. 22

[redacted]

Pier #11.

use these.


Adjustment Device ℄ each beam
Construction ℄ or other line designated on design drawings
Studs alternating @ 1'-0"
Face of curb
PLAN
Right skew indicated
NOTE: Adjustment Devices are provided for attachment of Expansion Devices to Structural Steel
Crown Slope
Bevel at all breaks in slope
SECTION B-B
See design drawings for construction ℄ to curb dimensions, skew, crown slope, slab thickness, other dimensions & angles that are necessary to complete fabrication details and location of Expansion Device.
Membrane Waterproofing
Blockout
Construction joint with approved epoxy bonding agent
Roadway Grade
SECTION C-C
Skew 0° to 30°
Face of Backwall or End of Slab
Rough Finish
SECTION A-A
Bar B3 may be vertical or inclined as indicated, depending on design conditions.
After Adjustment Device is in final position, weld bars B2 to B3 with ¼" fillet weld.
Drip Notch
SECTION C-C
Skew over 30
LEFT SKEW
CUTTING DETAIL
Cut from one plate and match mark
RIGHT SKEW
ROADWAY FINGER JOINT - DETAILS
Fascia
Backwall or Superstructure
Superstructure
non-skid ℞(Typ.)
See design drawings for dimension of curb and/or sidewalk
Face of curb
Expansion Device
NORMAL
PLAN
SKEWED
⅝"øx8" Anchor Studs (Typ.)
Gutter Grade
VIEW D-D
See design drawings for sidewalk slope
Studs @ 9" max.
Face of curb
SECTION E-E
SECTION F-F

TYPE	V	V	X	Y	Z
Exp. Length	100'-280'	280'-240'	440'-600'	600'-760'	760'-920'
T @ 45°	3"	4"	5"	6"	7"

CURB AND SIDEWALK EXPANSION DAM - DETAILS

We have 509!

TABLE OF DIMENSIONS

Type	Exp. Length	Skew	K	L	G	H	K@45°	J@45°	M	N	P	Q
A	100'-280'	0°-5° incl.	7"	4"	3"	3"	9¼"	2⅛"	—	—	—	21"
		5°-10°	7¼"	4¼"	2⅞"	3⅛"	9¾"	2⅛"	—	—	—	22"
		10°-20°	8"	4¾"	2⅞"	3⅛"	10"	2⅛"	—	—	—	22"
		20°-30°	8¾"	5¼"	2¾"	3¼"	10¾"	2⅛"	—	—	—	23"
		30°-40°	9¾"	5¾"	2⅝"	3⅜"	11¾"	2⅛"	—	—	—	23"
		40°-50° incl.	11¼"	6½"	2½"	3½"	13¼"	2⅛"	—	—	—	23"
B	280'-440'	0°-5° incl.	9"	6"	3"	3"	12"	3⅛"	—	—	—	23"
		5°-10°	9¼"	6¼"	2⅞"	3⅛"	12¼"	3⅛"	—	—	—	24"
		10°-20°	10"	6¾"	2⅞"	3⅛"	13"	3⅛"	—	—	—	24"
		20°-30°	10¾"	7¼"	2¾"	3¼"	13¾"	3⅛"	—	—	—	25"
		30°-40°	12"	8"	2¾"	3¼"	15"	3⅛"	—	—	—	25"
		40°-50° incl.	13½"	8¾"	2⅝"	3⅜"	16½"	3⅛"	—	—	—	25"
C	440'-600'	0°-10° incl.	11¼"	8¼"	3"	3"	15¼"	4⅛"	9"	4"	1½"	26"
		10°-20°	12"	8¾"	2⅞"	3⅛"	16"	4⅛"	10"	4"	1½"	26"
		20°-30°	12¾"	9¼"	2⅞"	3⅛"	16¾"	4⅛"	11"	4"	1½"	26"
		30°-40°	14"	10"	2¾"	3¼"	18"	4⅛"	11"	4"	1½"	26"
		40°-50° incl.	15½"	10¾"	2¾"	3¼"	19½"	4⅛"	12"	4"	1½"	26"
D	600'-760'	0°-10° incl.	13¼"	10¼"	3"	3"	18¼"	5⅛"	11"	5"	2"	30"
		10°-20°	14"	10¾"	2⅞"	3⅛"	19"	5⅛"	12"	5"	2"	30"
		20°-30°	14¾"	11¼"	2⅞"	3⅛"	19¾"	5⅛"	13"	5"	2"	30"
		30°-40°	16"	12"	2⅞"	3⅛"	21"	5⅛"	13"	5"	2"	30"
		40°-50° incl.	17¾"	13"	2¾"	3¼"	22¾"	5⅛"	15"	5"	2"	30"
E	760'-920'	0°-10° incl.	15¼"	12¼"	3"	3"	21¼"	6⅛"	13"	6"	2½"	36"
		10°-20°	16"	12¾"	2⅞"	3⅛"	22"	6⅛"	14"	6"	2½"	36"
		20°-30°	16¾"	13¼"	2⅞"	3⅛"	22¾"	6⅛"	15"	6"	2½"	36"
		30°-40°	18"	14"	2⅞"	3⅛"	24"	6⅛"	15"	6"	2½"	36"
		40°-50° incl.	19¾"	15"	2¾"	3¼"	25¾"	6⅛"	17"	6"	2½"	35"

FINGER JOINT NOTES

1.—The concrete in the superstructure Block-cut may be placed with the Sidewalk Concrete.
2.—All structural steel shall be A36.

GENERAL NOTE:
In case of conflict between these Standard Details and the Design Drawings, the requirements of the Design Drawings shall be followed.

REVISIONS Description	APPROVED MeDOT	APPROVED FHWA
Original Plan	JUNE, 1993	

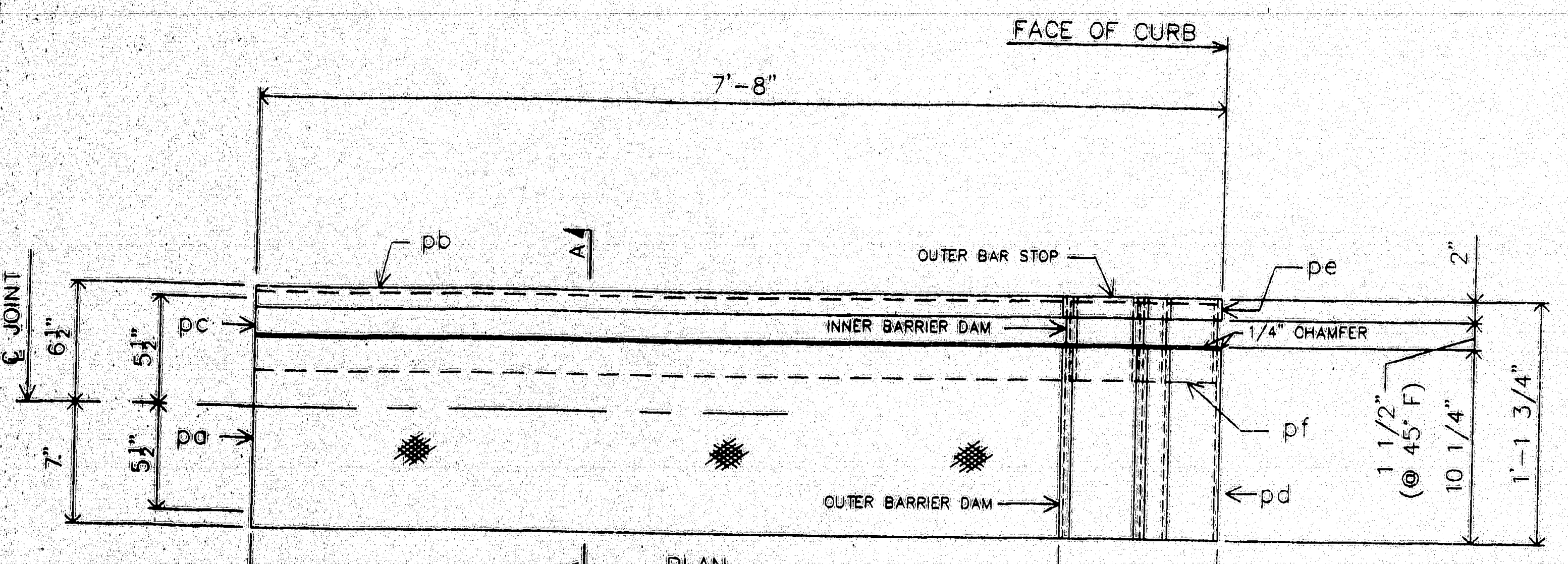
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS
BD 304 - 93

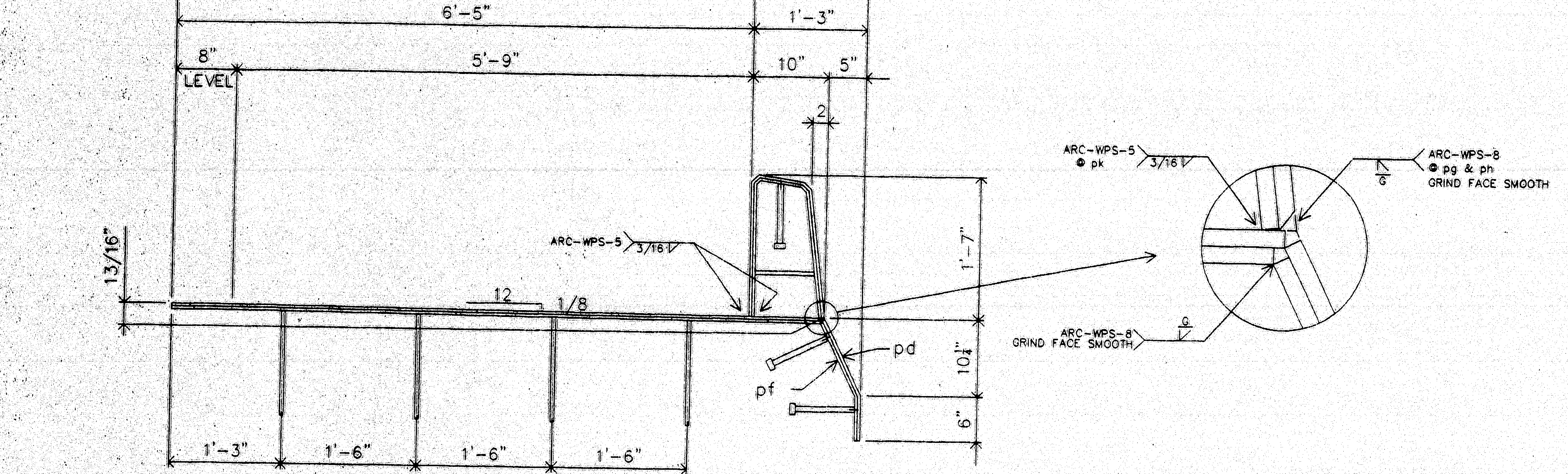
EXPANSION DEVICE
FINGER JOINT

SHEET OF AUGUSTA, MAINE JUNE, 1993

[redacted]



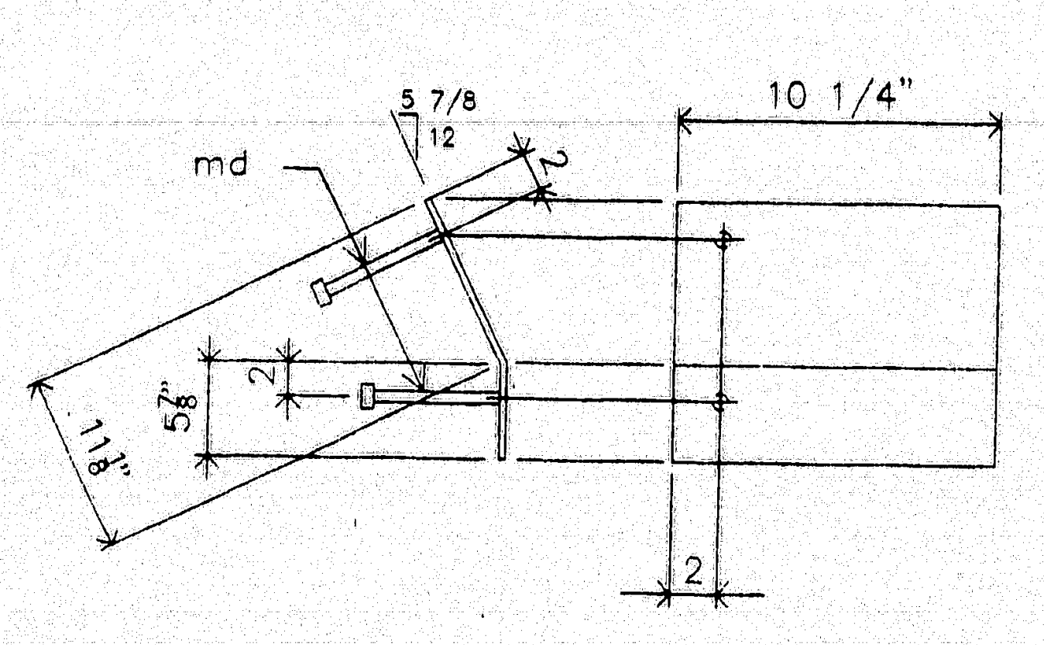
PLAN



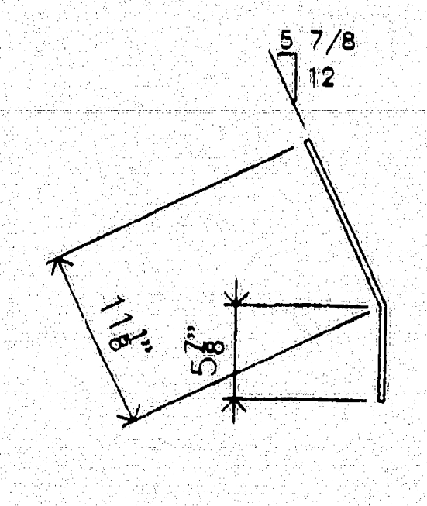
ELEVATION

ONE-EXP. JOINT-A21 (AS SHOWN)

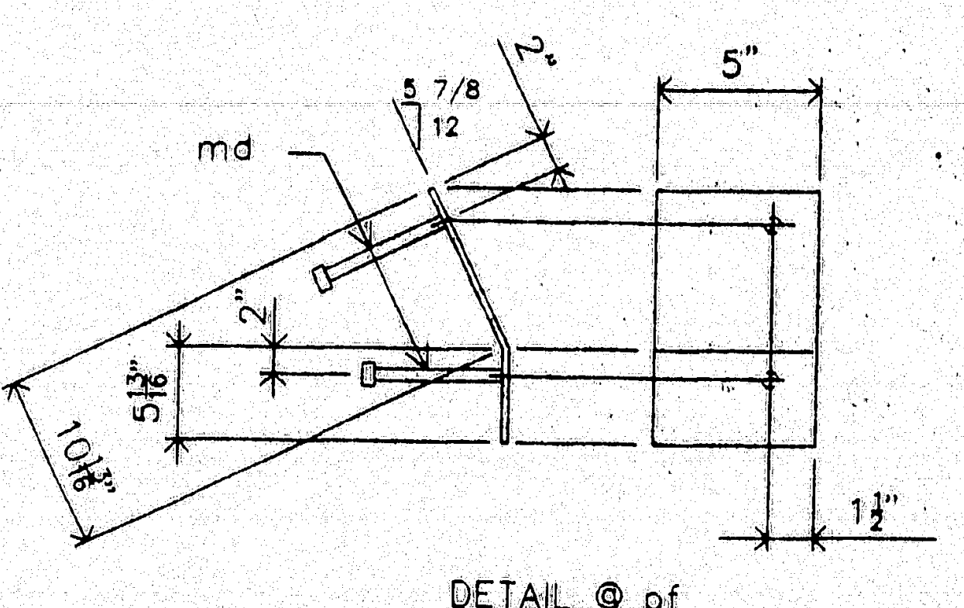
ONE-EXP. JOINT-B21 (OPP. HAND)



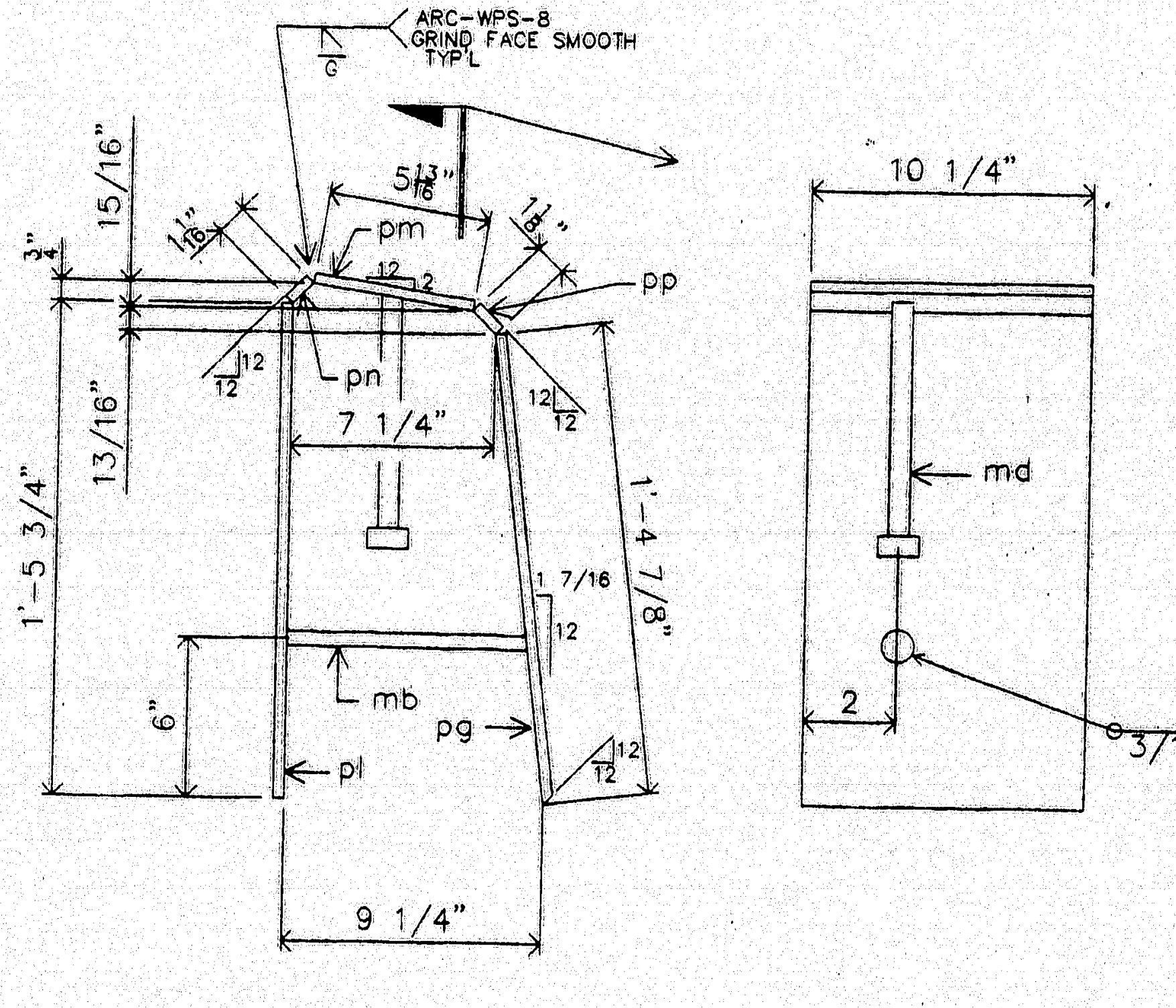
DETAIL @ pd



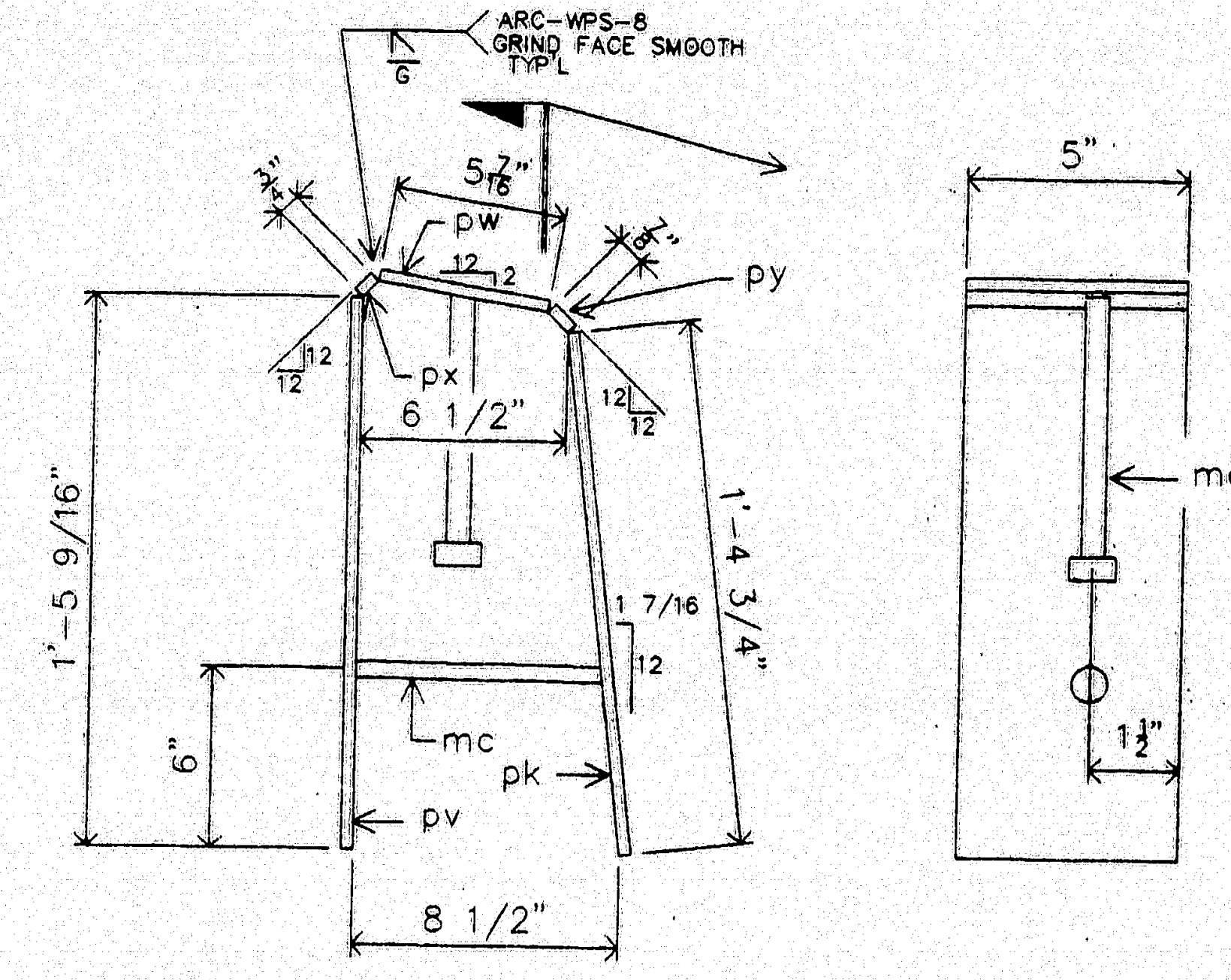
DETAIL @ pe



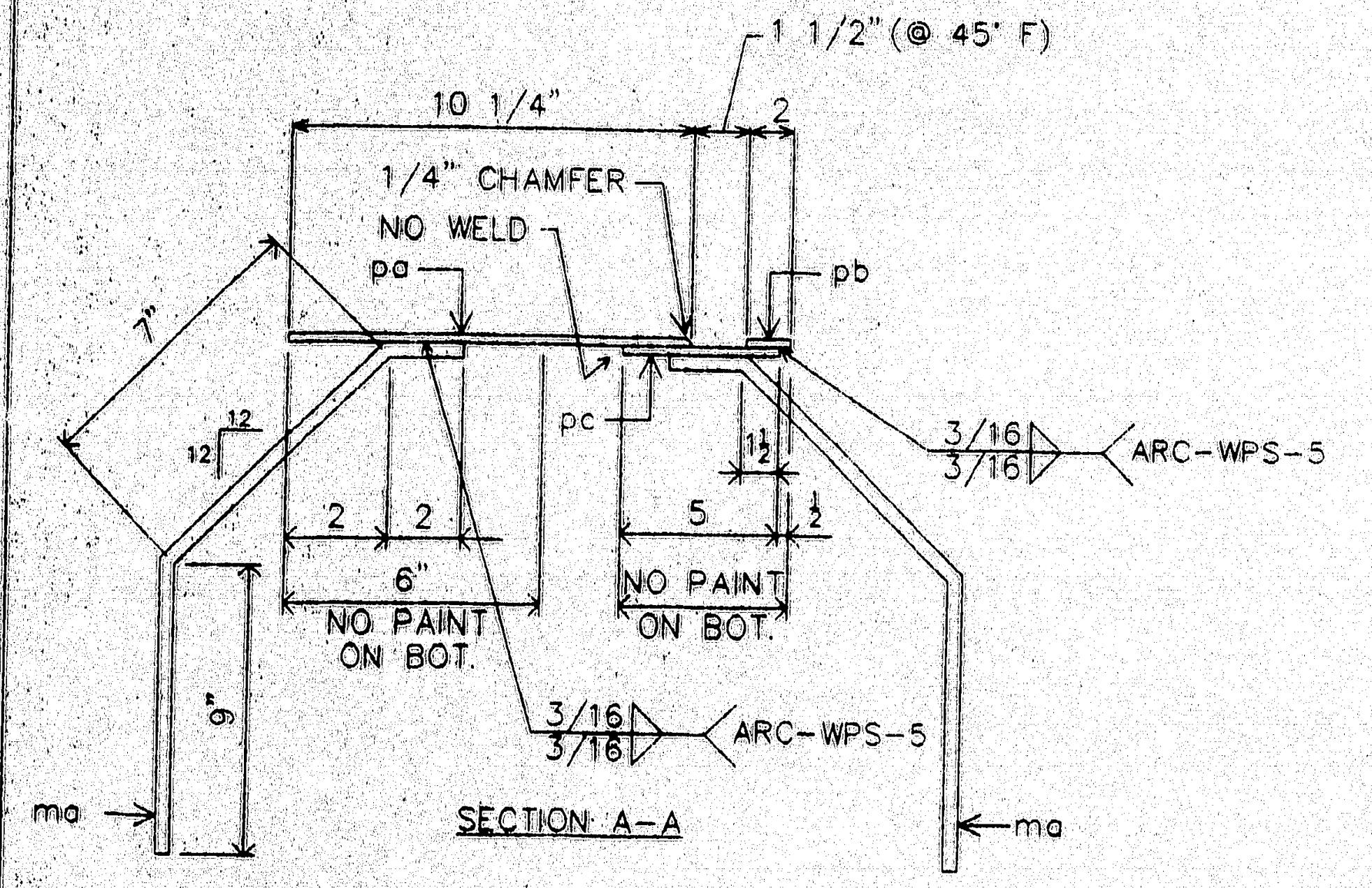
DETAIL @ pf
(BEND TO FIT INSIDE pd)



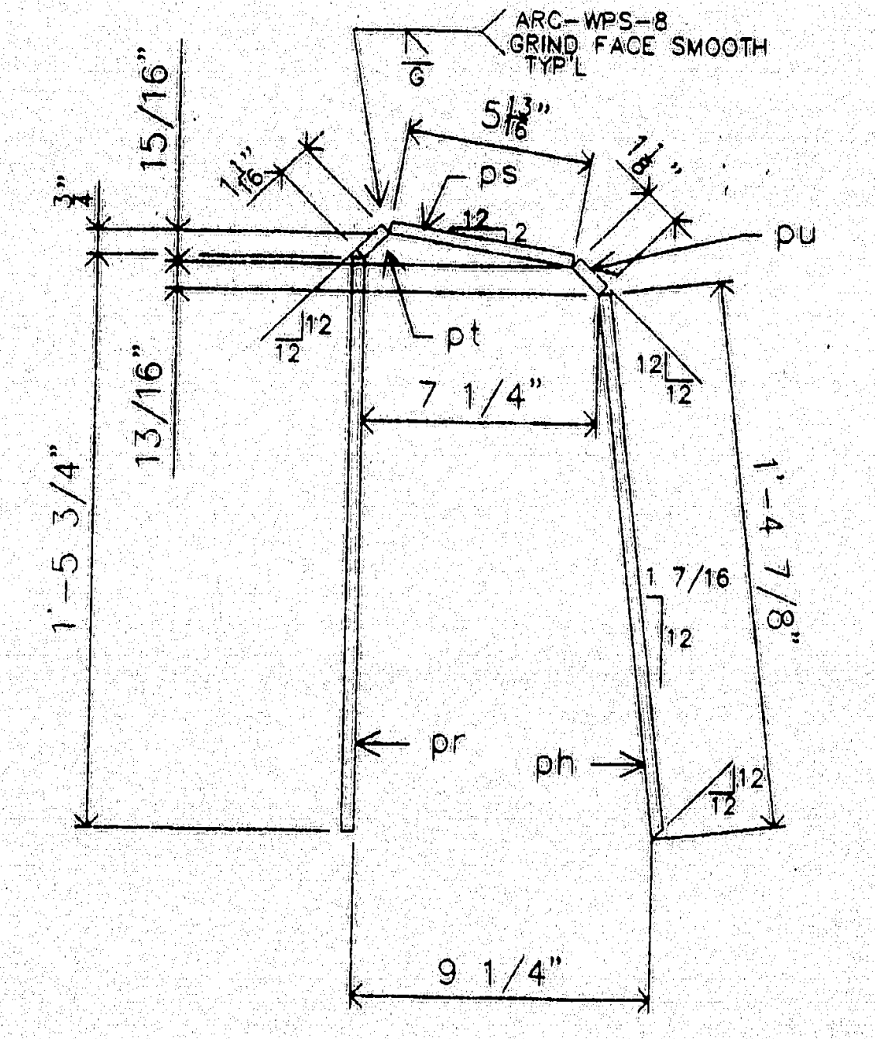
DETAIL @ OUTER BARRIER DAM



DETAIL @ INNER BARRIER DAM



SECTION A-A



DETAIL @ OUTER BAR STOP

SHOP NOTE:
OUTER BARRIER & OUTER BAR STOP
TO BE FABRICATED TO FIT OVER THE
INNER BARRIER UNIT.

See Sht 15
for Comments.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 21 1997
☑ Approved as noted ☐ Rejected

MATERIALS LIST

MK	QTY	DESCRIPTION
A21	1	EXPANSION DEVICE ASSEMBLY
B21	1	EXPANSION DEVICE ASSEMBLY
pa21	2	CHK'D PL 3/8 x 10 1/4 x 7'-2 3/4 BEND/SHP'D 1L-1R
pb21	2	PL 3/8 X 2 X 7'-2 3/4 BEND/SHP'D 1L-1R
pc21	2	PL 3/8 X 5 X 7'-2 1/2 BEND
pd21	2	PL 3/8 X 10 1/4 X 1'-5 BEND 1L-1R
pe21	2	PL 3/8 X 2 X 1'-5 BEND
pf21	2	PL 3/8 X 5 X 1'-4 5/8 BEND
pg21	2	PL 3/8 X 10 1/4 X 1'-4 7/8 B1E 1L-1R
ph21	2	PL 3/8 X 2 X 1'-4 7/8 B1E
pk21	2	PL 3/8 X 5 X 1'-4 3/4
pl21	2	PL 3/8 X 10 1/4 X 1'-5 3/4 1L-1R
pm21	2	PL 3/8 X 5 13/16 X 0'-10 1/4 1L-1R
pn21	2	PL 3/8 X 1 1/16 X 0'-10 1/4 1L-1R
pp21	2	PL 3/8 X 1 1/8 X 0'-10 1/4 1L-1R
pr21	2	FB 3/8 X 2 X 1'-5 3/4
ps21	2	FB 3/8 X 2 X 0'-5 13/16
pt21	2	FB 3/8 X 2 X 0'-1 1/16
pu21	2	PL 3/8 X 2 X 0'-1 1/8
pv21	2	PL 3/8 X 5 X 1'-5 9/16
pw21	2	PL 3/8 X 5 X 0'-5 7/16
px21	2	PL 3/8 X 3/4 X 0'-5
py21	2	PL 3/8 X 7/8 X 0'-5
ma21	16	#6 REBAR X 1'-6 BEND A615,GR 60
mb21	2	#6 REBAR X 0'-8 1/2 A615,GR 60
mc21	2	#6 REBAR X 0'-7 3/4 A615,GR 60
md21	12	1/2 ø x 0'-8 CONC STUDS
		PROJ. NO. : BH-043-1(34)
		ITEM NO. 520.22

MATL: A36 UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

120-350

FOR APPROVAL
ONLY

A.R.C. ENTERPRISES
KINGFIELD, MAINE

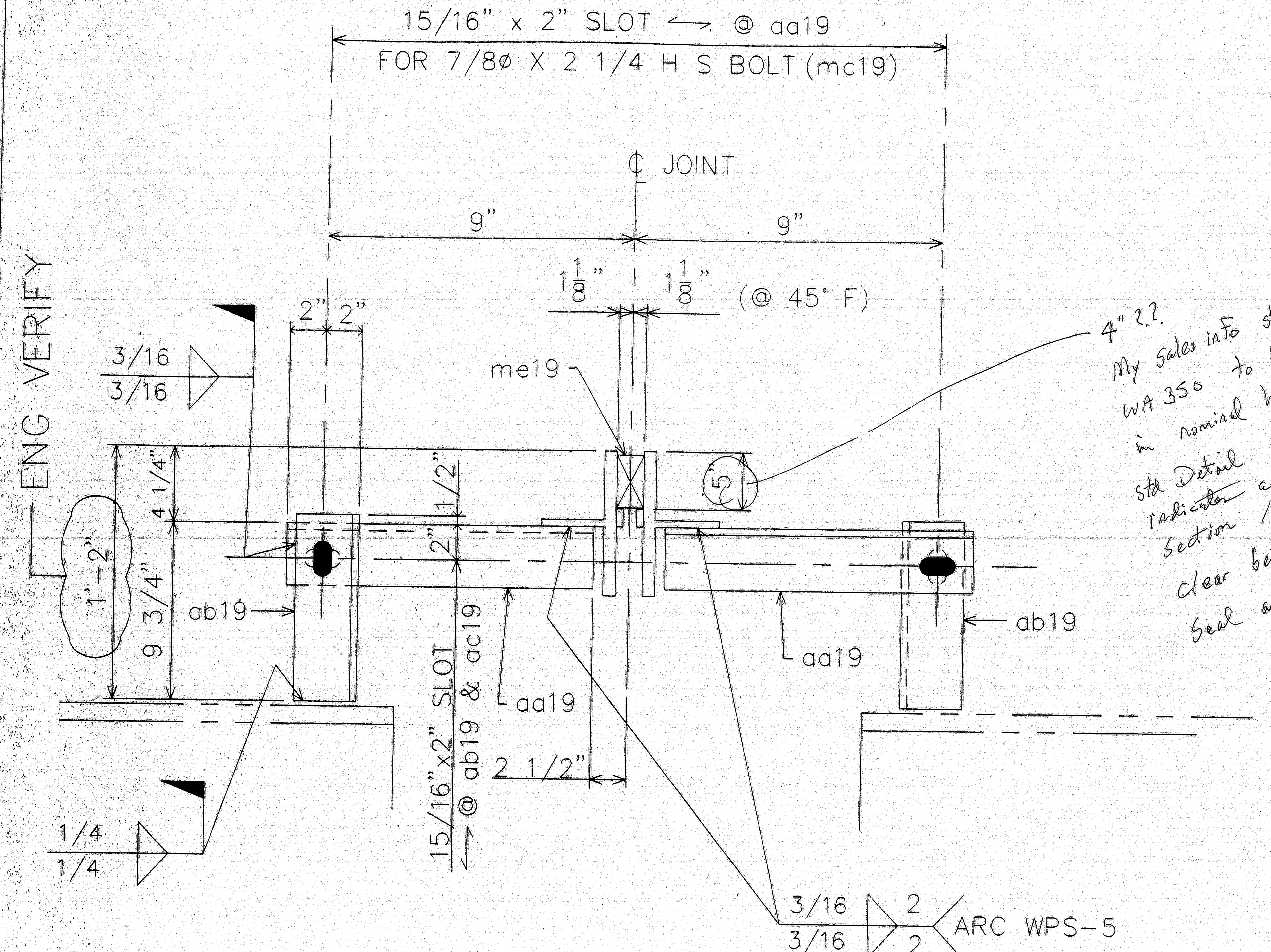
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE
PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~
DATE: 7/97
APPROVED BY:
DRAWN BY: BB
CHKD. BY:

SIDEWALK DAM DETAIL @ HINGE SPAN 9

REED & REED
JOB NO. 97-49
DWG. NO. 21

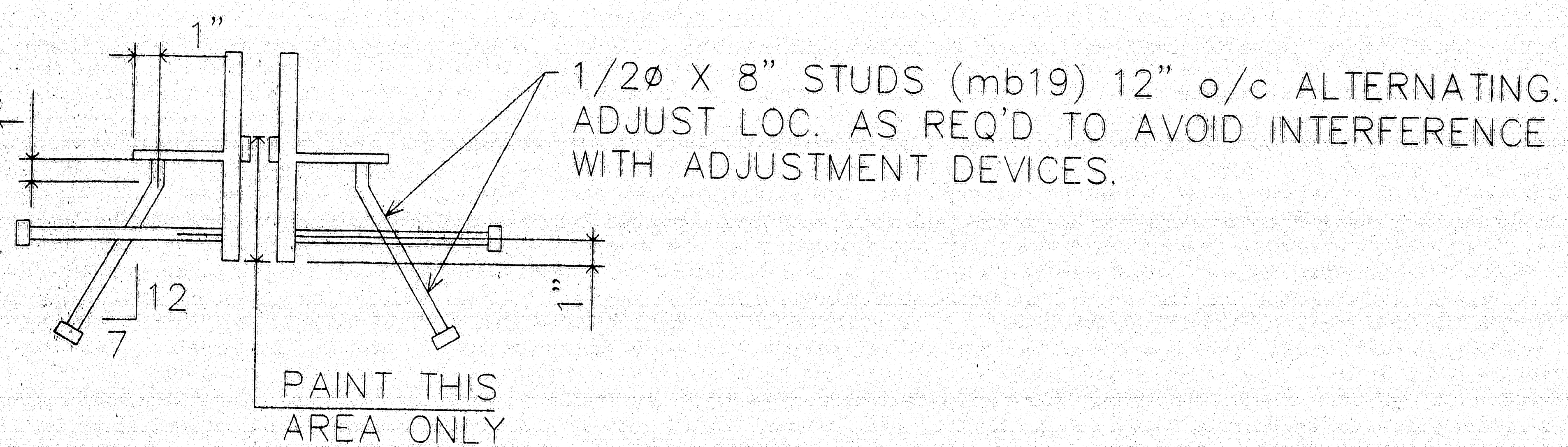
[redacted]



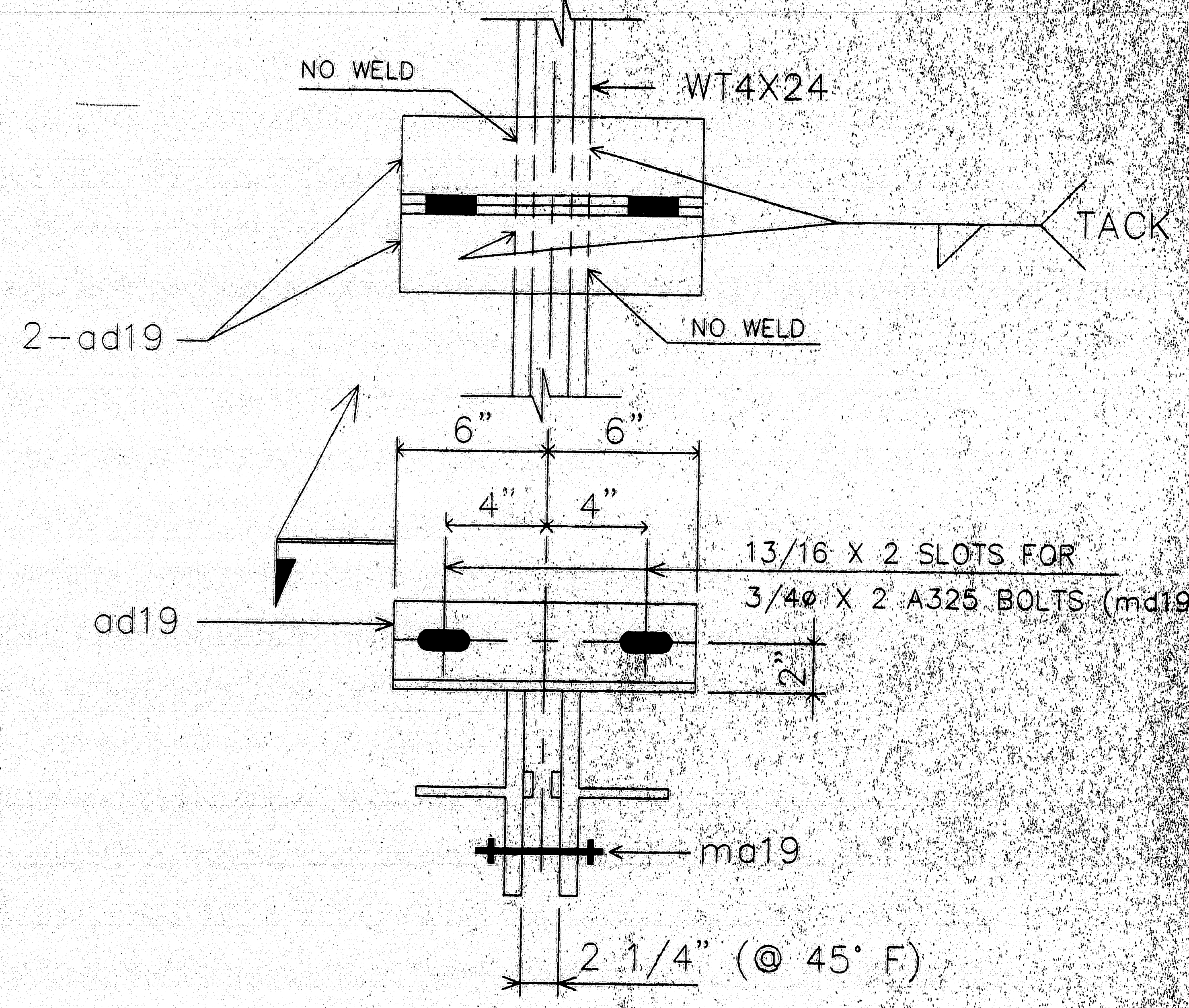
4" ?? My sales info shows a WA 350 to be 3½" in nominal height. std Detail BD-301-93 ~~indicates~~ a typical Section leaves a ½" clear between top of seal and top of ~~T~~ flange.

3½" + ½" = 4" ??

SECT. C-C

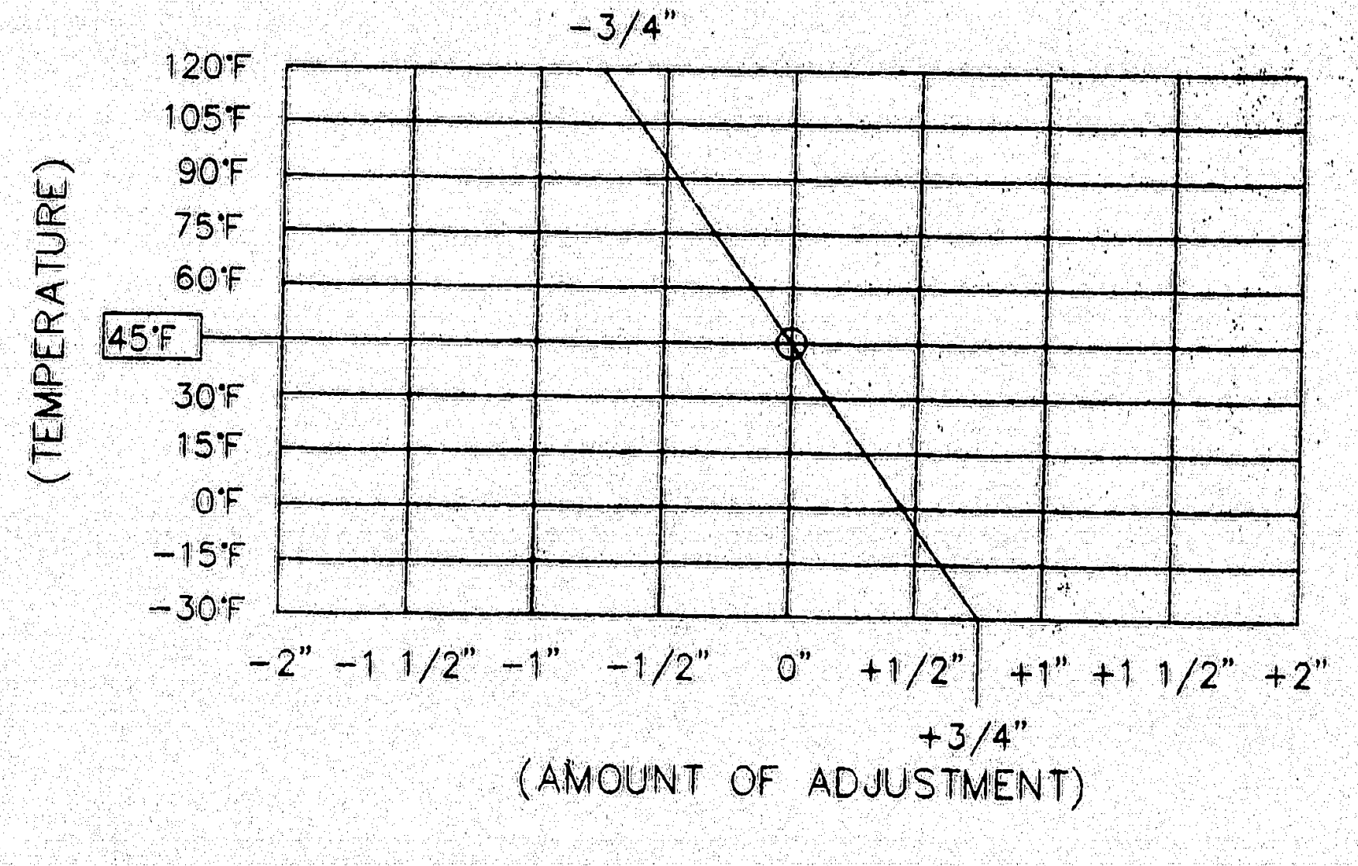

1"
1"
1"
12
7
1/2⌀ X 8" STUDS (mb19) 12" o/c ALTERNATING. ADJUST LOC. AS REQ'D TO AVOID INTERFERENCE WITH ADJUSTMENT DEVICES.
PAINT THIS AREA ONLY

SECT. D-D



TEMPERATURE ADJUSTING DEVICE

NOTE:
SHOP PLACE ADJUSTING DEVICES AT APPROX. 5'-0" O/C.
SHOP TO PRESET THE JOINT OPENING TO THE 45° F SETTING.
CONTRACTOR TO REFER TO THE DESIGN DWG'S & SPEC'S FOR INSTALLATION INSTRUCTIONS.



COMP. SEAL ADJUSTMENT CHART

FIELD NOTE:
ADJUST JOINT OPENING FOR TEMPERATURE AT TIME OF INSTALLATION. ADJUSTMENT IS TO BE MEASURED PARALLEL TO THE WORKING LINE.

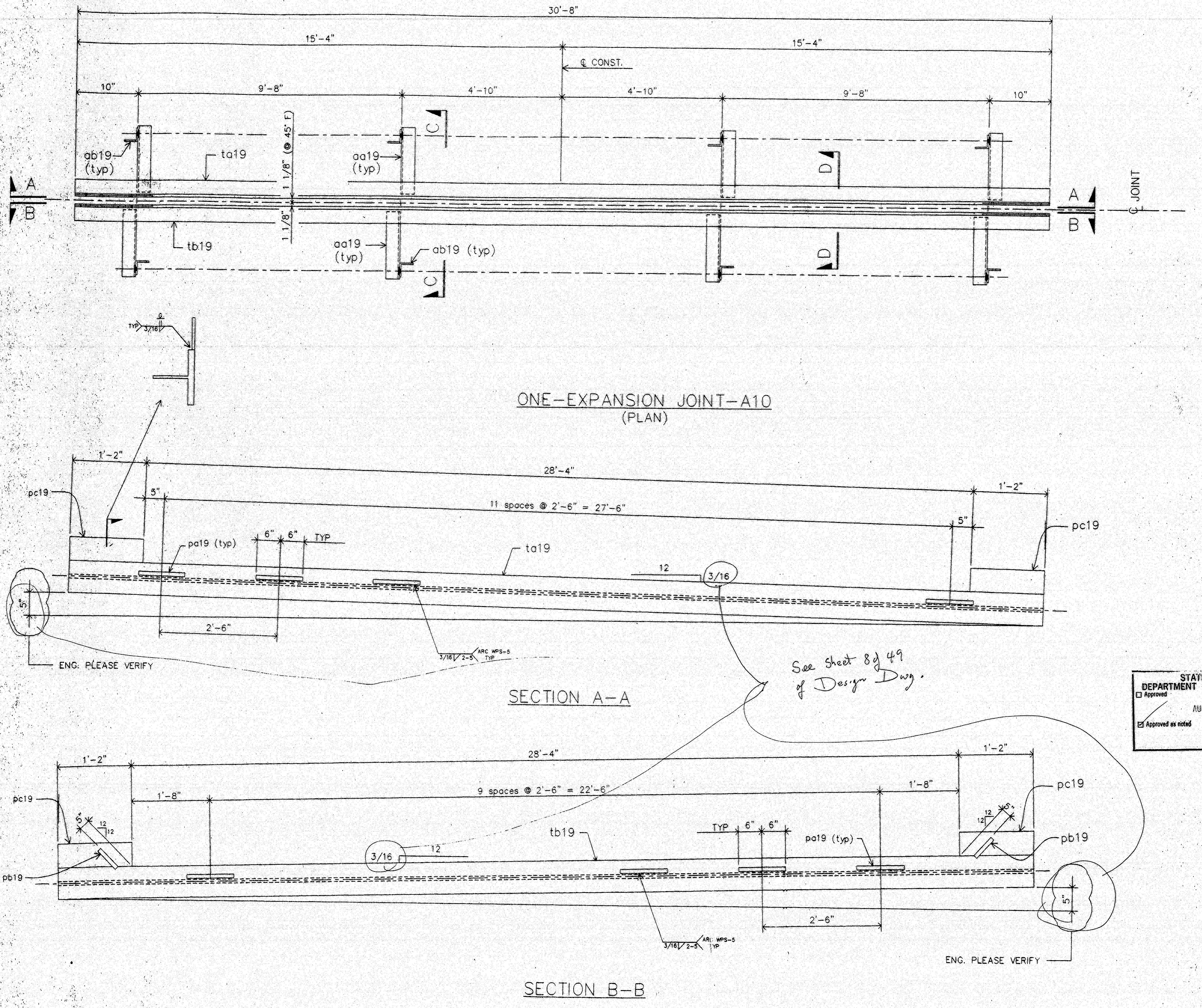
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 21 1997
☑ Approved as noted ☐ Rejected

FOR APPROVAL ONLY

PROJ. NO. : BH-043-1(34)
ITEM NO. : 520.22
120-351

A.R.C. ENTERPRISES KINGFIELD, MAINE			
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME			
SCALE: ~	APPROVED BY:	DRAWN BY: BB	
DATE: 7/97		CHKD. BY:	
EXPANSION JOINT DETAIL @ HINGE SPAN 9			
REED & REED		JOB NO. 97-49	DWG. NO. 20

[redacted]



ONE-EXPANSION JOINT-A10
(PLAN)

SECTION A-A

SECTION B-B

See sheet 8 of 49 of Design Dwg.

MATERIALS LIST

MK	QTY	DESCRIPTION
A19	ONE	EXPANSION JOINT ASSEMBLY
ta19	1	WT 4 X 24 X 30'-8
tb19	1	WT 4 X 24 X 30'-8
aa19	8	L 3 1/2 X 3 1/2 X 3/8 X 0'-8 1/2
ab19	8	L 3 1/2 X 3 1/2 X 3/8 X 0'-10 1/4
ad19	12	L 3 1/2 X 3 1/2 X 3/8 X 1'-0
pa19	22	BAR 1 X 3/8 X 1'-0"
pb19	2	BAR 1 X 3/8 X 0'-6"
pc19	4	PL 1/4 X 6 X 1'-2
ma19	6	THR'D ROD 1/2ø X 0'-9" w/ 2N&2W
mb19	68	1/2ø X 0'-8" CONC. STUDS
mc19	8	7/8ø X 0'-2 1/4" H S BOLTS A325 w/N&2W
md19	12	3/4ø X 0'-2" H S BOLTS A325 w/N&2W
me19	1	WATSON-BOWMAN WA 350 COMPRESSION SEAL X 32'-0 WITH ADHESIVE
		PROJ. NO. : BH-043-1(34)
		ITEM NO. : 520.22

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 21 1997
☑ Approved as noted ☐ Rejected

MATL: A36, UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
PAINT: 3 COATS – ZINC RICH PRIMER
3 MDFT PER COAT

FOR APPROVAL
ONLY
120-352

A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE
PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 7/97		CHKD. BY:

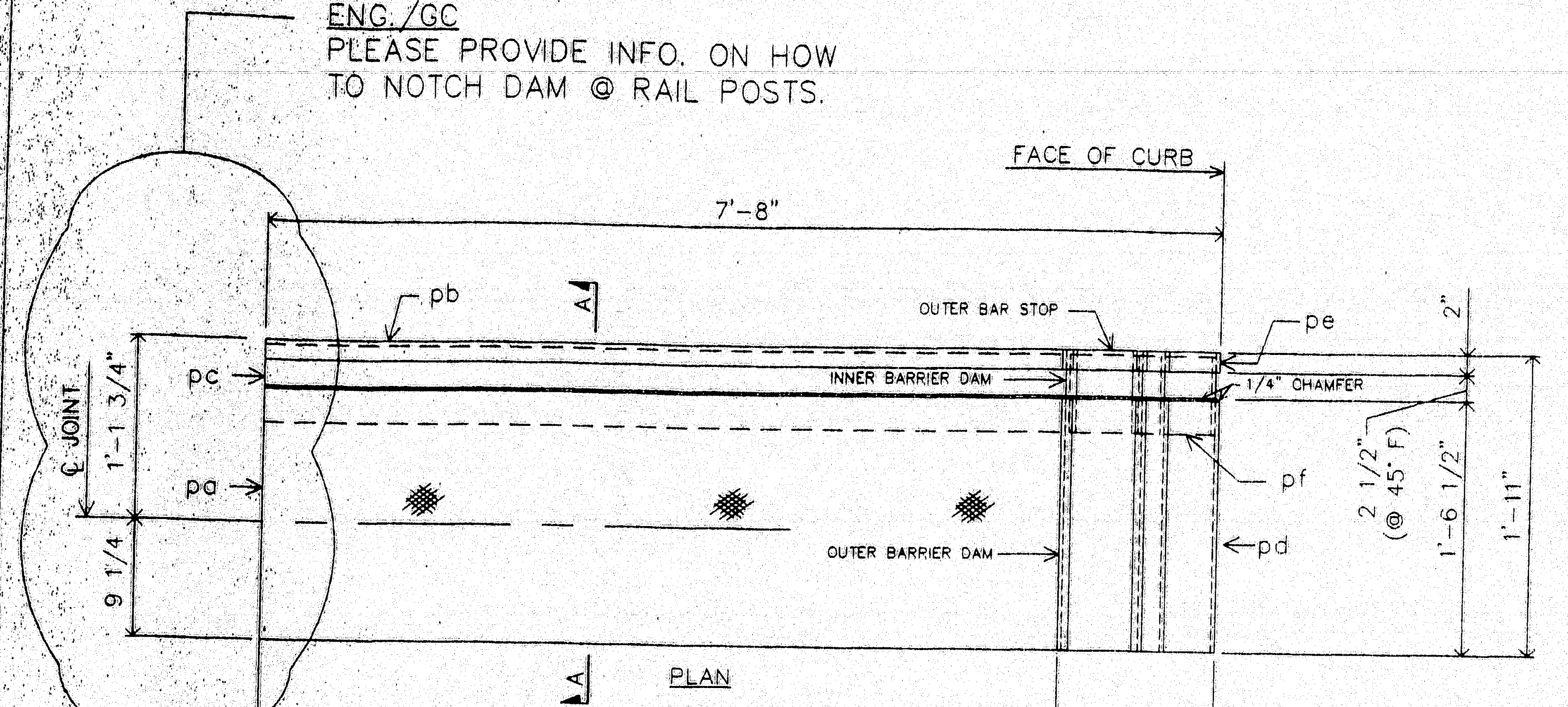
EXPANSION JOINT DETAIL @ HINGE SPAN 9

REED & REED JOB NO. 97-49 DWG. NO. 19

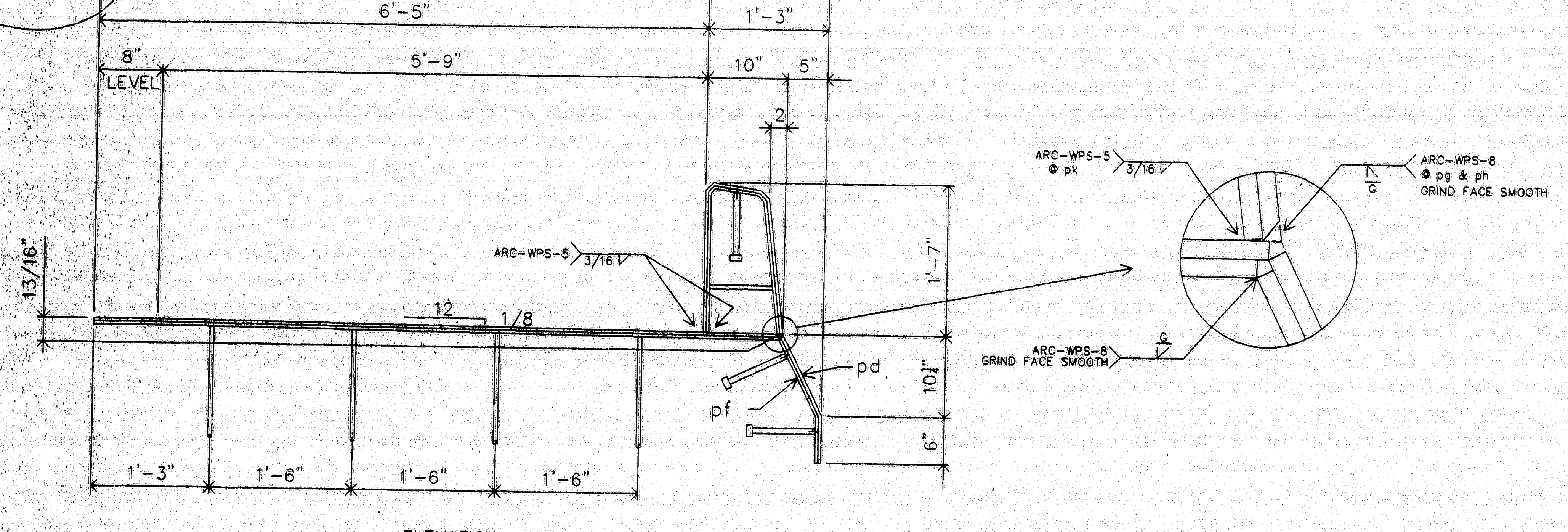
WORK THIS DWG. WITH DWG. 20

[redacted]

ENG./GC
PLEASE PROVIDE INFO. ON HOW
TO NOTCH DAM @ RAIL POSTS.



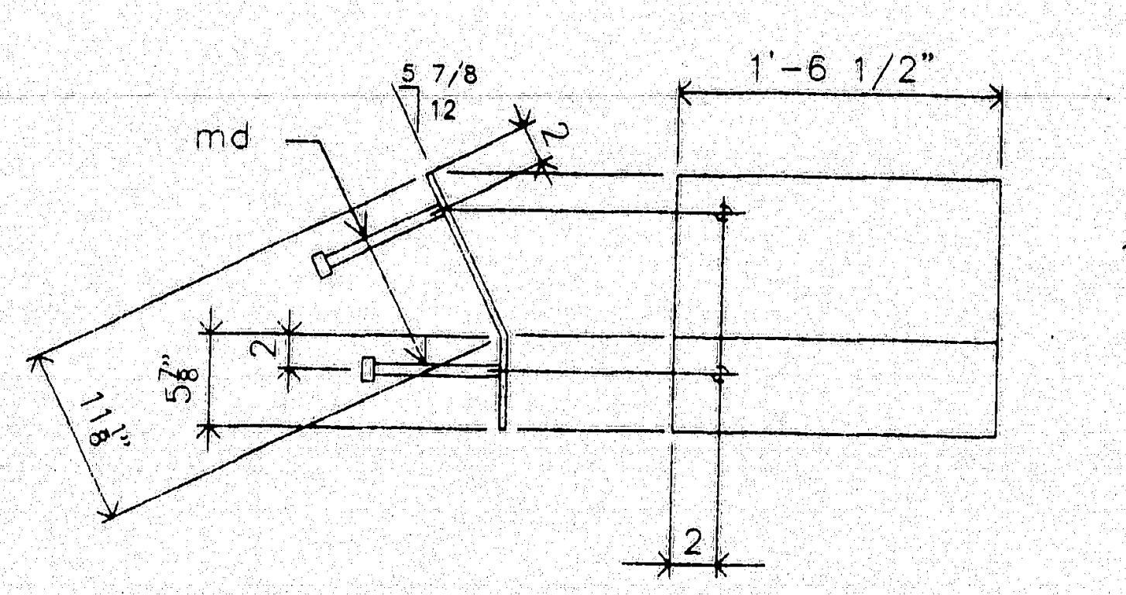
PLAN



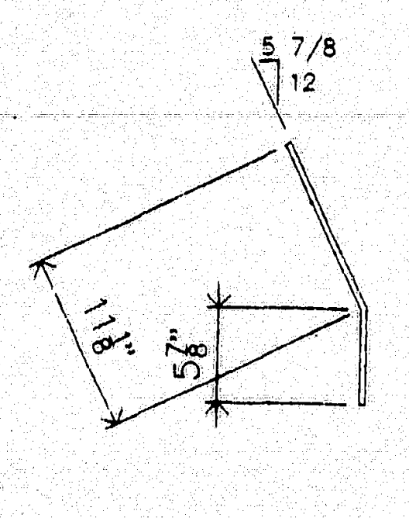
ELEVATION

ONE-EXP. JOINT-A18 (AS SHOWN)

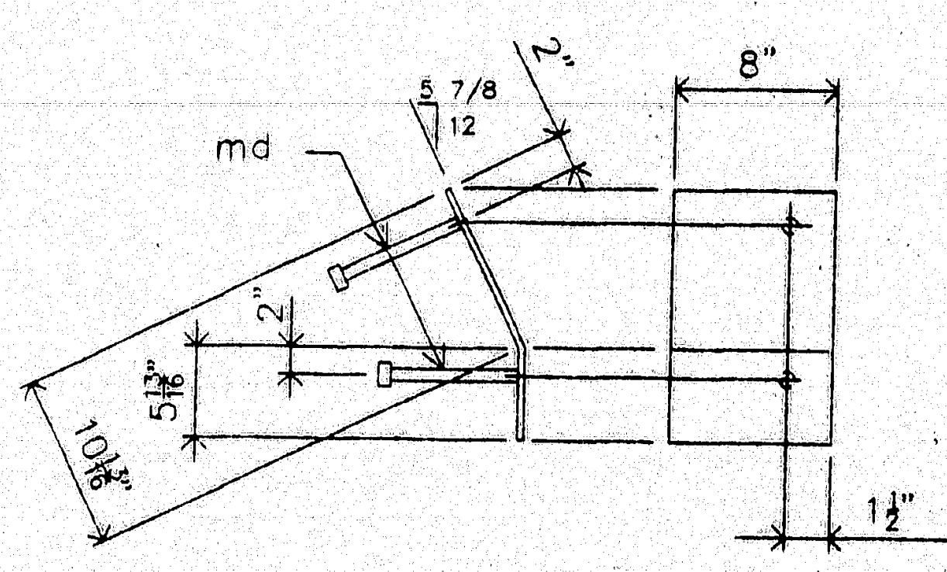
ONE-EXP. JOINT-B18 (OPP. HAND)



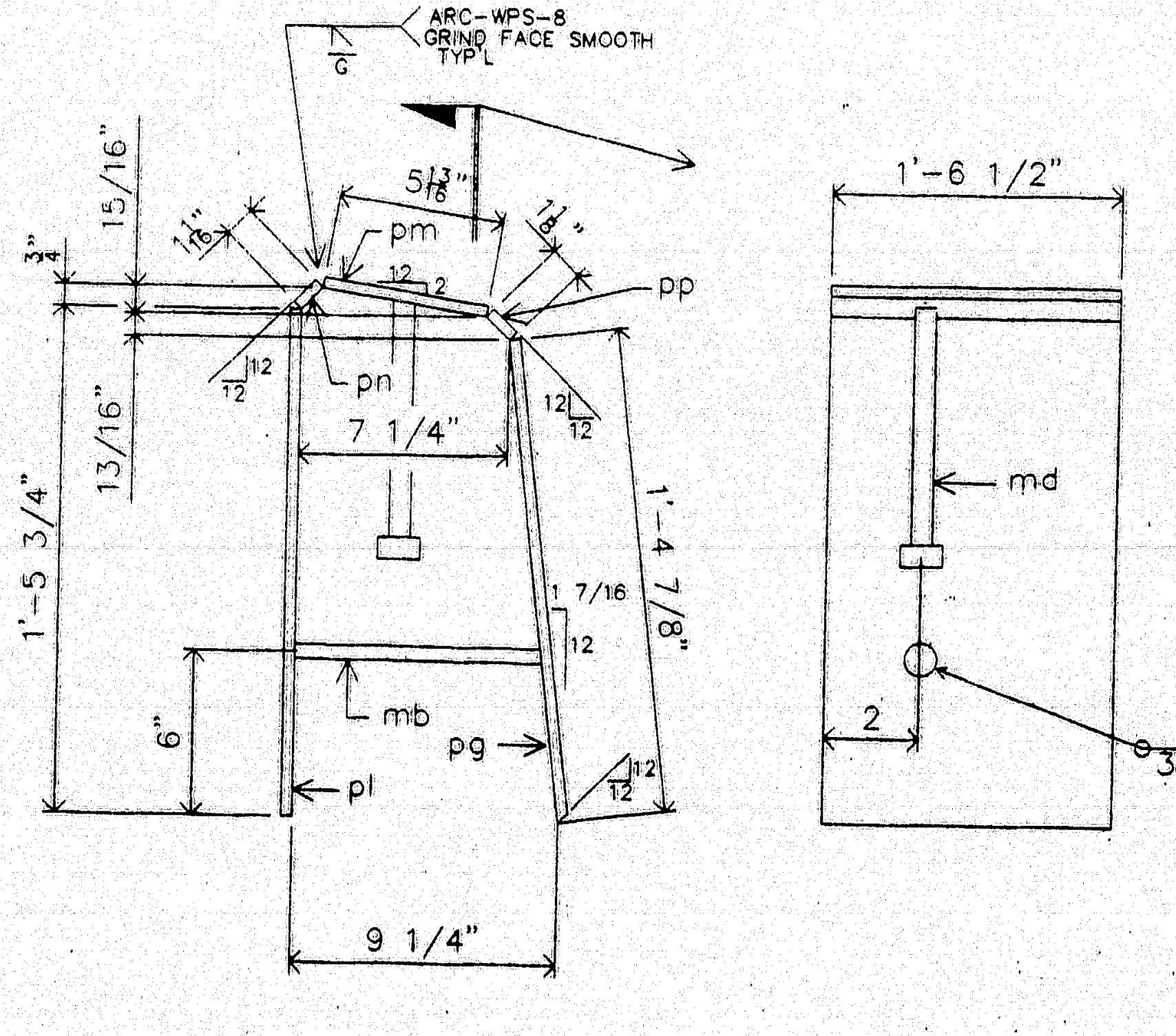
DETAIL @ pd



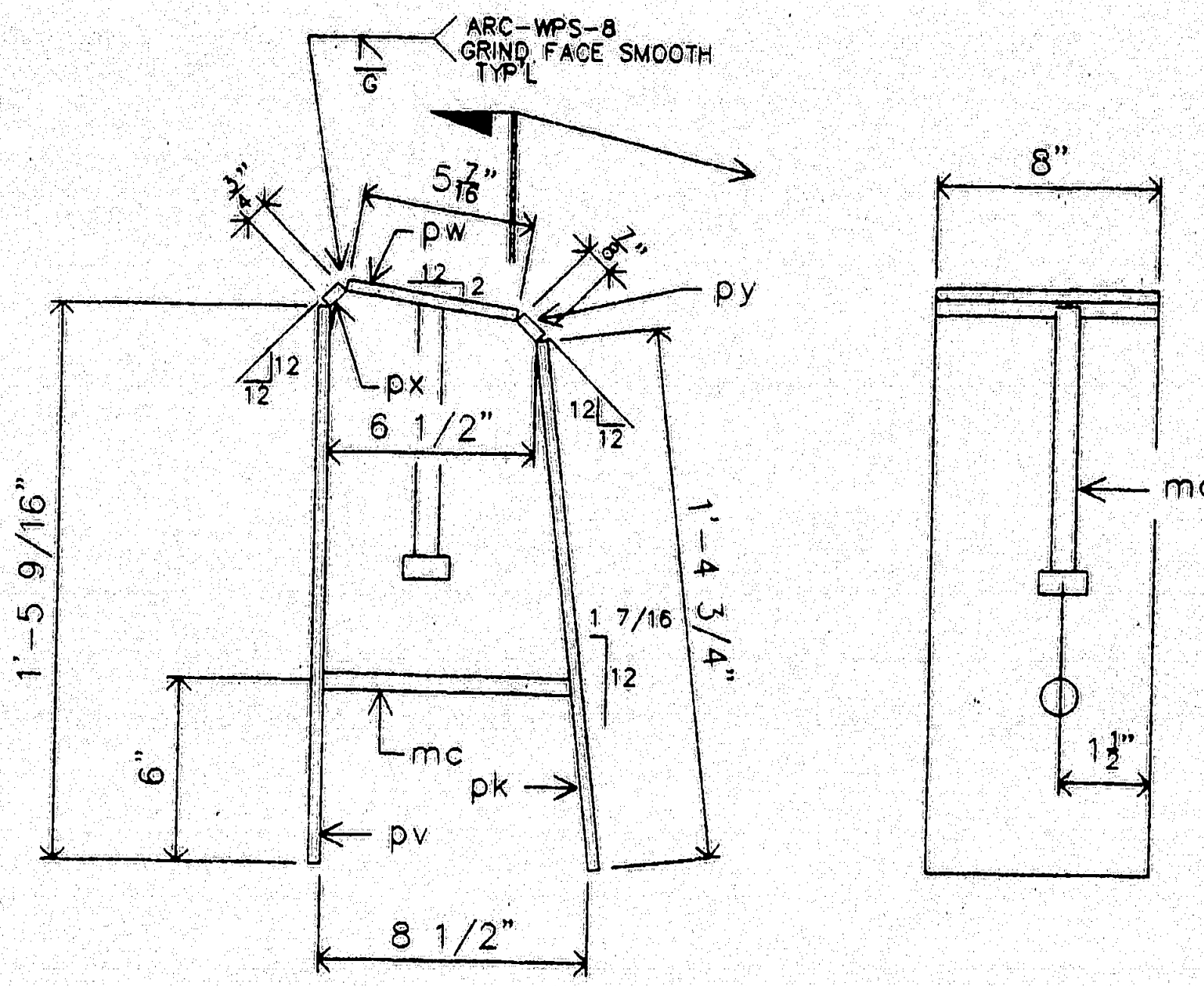
DETAIL @ pe



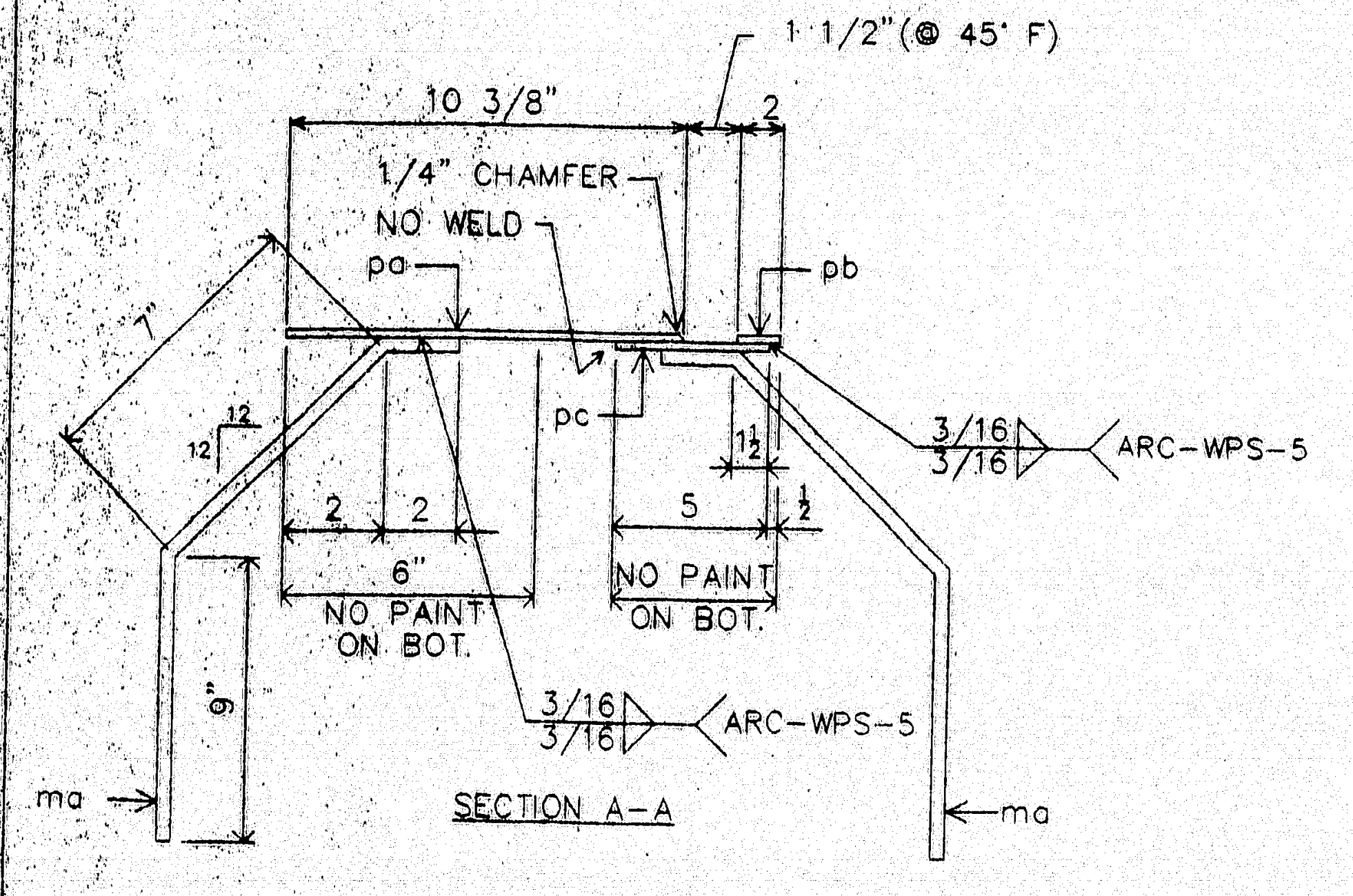
DETAIL @ pf
(BEND TO FIT INSIDE pd)



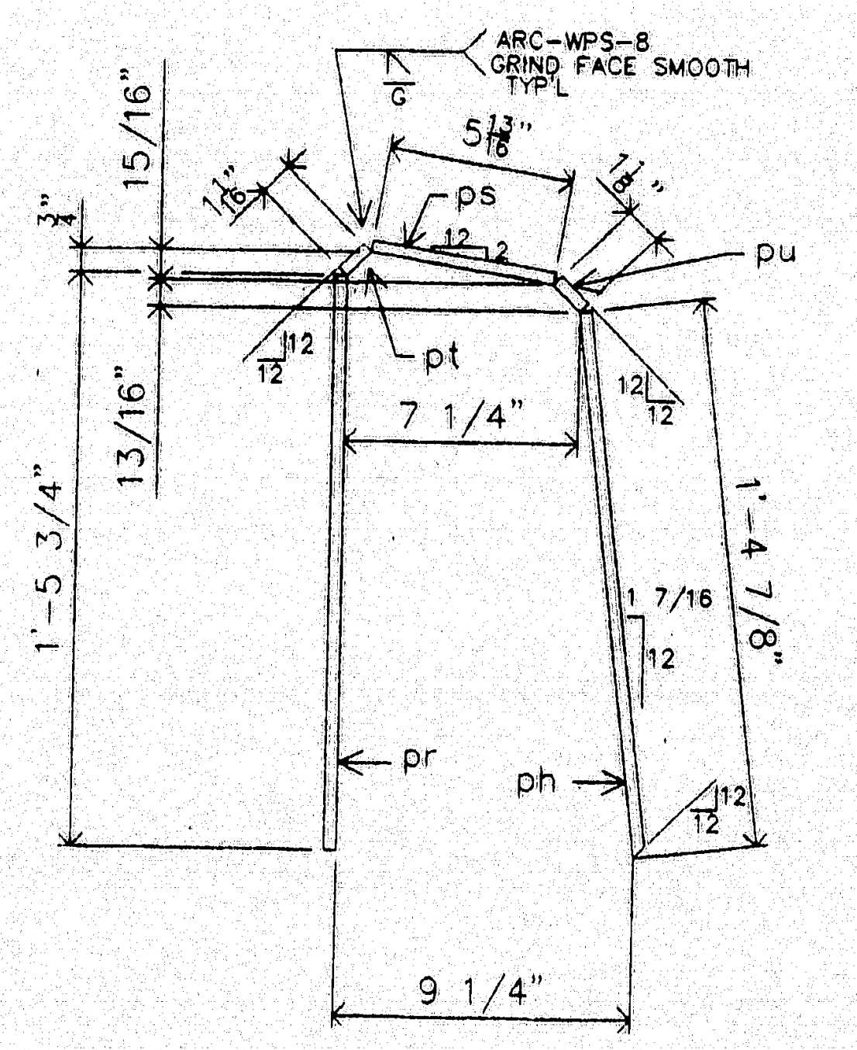
DETAIL @ OUTER BARRIER DAM



DETAIL @ INNER BARRIER DAM



SECTION A-A



DETAIL @ OUTER BAR STOP

SHOP NOTE:
OUTER BARRIER & OUTER BAR STOP TO BE FABRICATED TO FIT OVER THE INNER BARRIER UNIT.

See Comments on Sht 15

MATERIALS LIST

MK	QTY	DESCRIPTION
A18	1	EXPANSION DEVICE ASSEMBLY
B18	1	EXPANSION DEVICE ASSEMBLY
pa18	2	CHK'D PL 3/8 x 18 1/2 x 7'-2 3/4 BEND/SHP'D 1L-1R
pb18	2	PL 3/8 X 2 X 7'-2 3/4 BEND/SHP'D 1L-1R
pc18	2	PL 3/8 X 8 X 7'-2 1/2 BEND
pd18	2	PL 3/8 X 17 X 1'-6 1/2 BEND 1L-1R
pe18	2	PL 3/8 X 2 X 1'-5 BEND
pf18	2	PL 3/8 X 8 X 1'-4 5/8 BEND
pg18	2	PL 3/8 X 16 7/8 X 1'-6 1/2 B1E 1L-1R
ph18	2	PL 3/8 X 2 X 1'-4 7/8 B1E
pk18	2	PL 3/8 X 8 X 1'-4 3/4
pl18	2	PL 3/8 X 17 3/4 X 1'-6 1/2 1L-1R
pm18	2	PL 3/8 X 5 13/16 X 1'-6 1/2 1L-1R
pn18	2	PL 3/8 X 1 1/16 X 1'-6 1/2 1L-1R
pp18	2	PL 3/8 X 1 1/8 X 1'-6 1/2 1L-1R
pr18	2	FB 3/8 X 2 X 1'-5 3/4
ps18	2	FB 3/8 X 2 X 0'-5 13/16
pt18	2	FB 3/8 X 2 X 0'-1 1/16
pu18	2	PL 3/8 X 2 X 0'-1 1/8
pv18	2	PL 3/8 X 8 X 1'-5 9/16
pw18	2	PL 3/8 X 5 7/16 X 0'-8
px18	2	PL 3/8 X 3/4 X 0'-8
py18	2	PL 3/8 X 7/8 X 0'-8
ma18	16	#6 REBAR X 1'-6 BEND A615,GR 60
mb18	2	#6 REBAR X 0'-8 1/2 A615,GR 60
mc18	2	#6 REBAR X 0'-7 3/4 A615,GR 60
md18	12	1/2 ø x 0'-8 CONC STUDS
		PROJ. NO. : BH-043-1(34)
		ITEM NO. 520.21

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved
☐ Returned for Corrections
AUG 2 1 1997
☑ Approved as noted
☐ Rejected

MATL: A36 UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

120-353

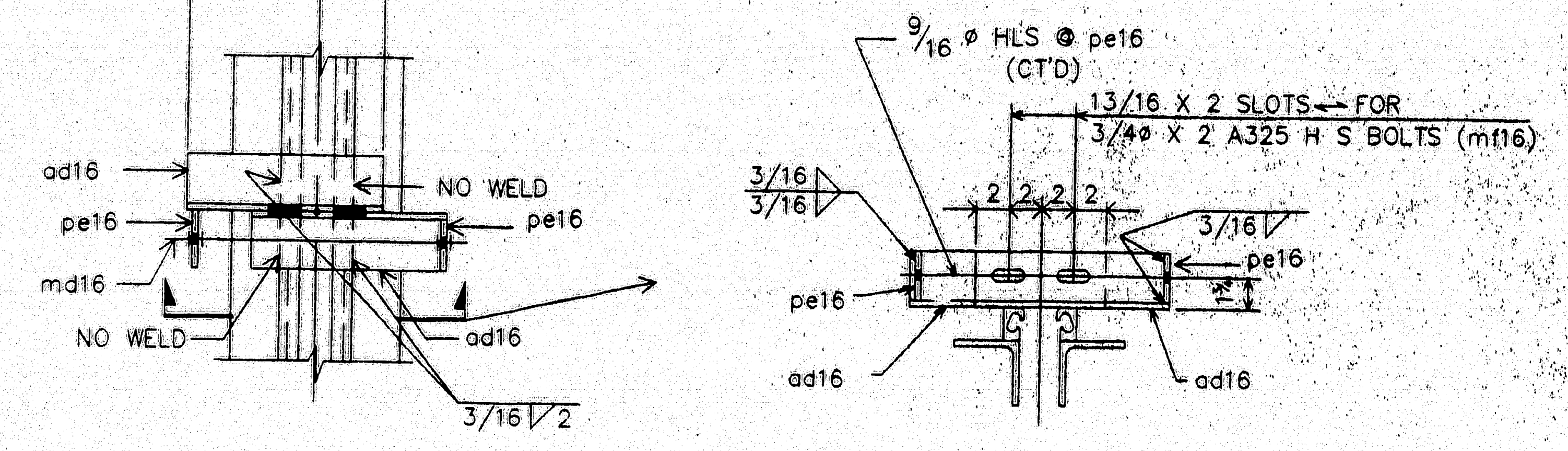
FOR APPROVAL ONLY

A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~	APPROVED BY:	DRAWN BY: BB	
DATE: 7/97		CHKD. BY:	
SIDEWALK DAM DETAIL @ ABUT. # 2			
REED & REED		JOB NO. 97-49	DWG. NO. 18

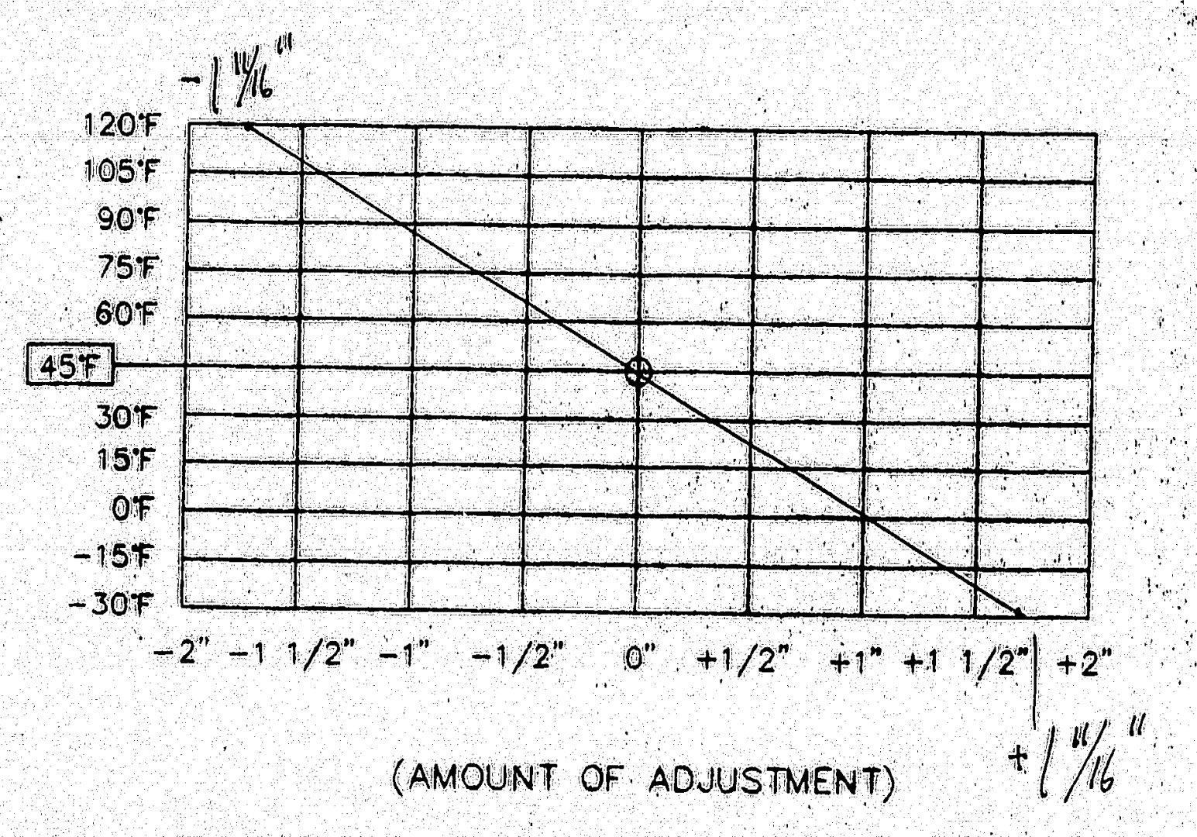
[redacted]



PLAN

TEMP. ADJUSTING & SHIPPING DEVICE

ENG. PLEASE PROVIDE THE AMOUNT OF MOVEMENT FOR THIS JOINT. NOT SHOWN ON DESIGN DWGS.



TEMPERATURE ADJUSTMENT CHART

FIELD NOTE:
ADJUST JOINT OPENING FOR TEMPERATURE AT TIME OF INSTALLATION.

NOTES:

SHOP TO PLACE ADJUSTING & SHIPPING DEVICES ON EXP. JOINT AFTER PAINTING & SEAL INSTALLATON AT APPROX. 5'-0 O/C.

PRESET THE OPENING TO THE 45°F SETTING SHOWN ON PLANS.

CONTRACTOR TO REFER TO DESIGN DWG'S & SPECS FOR INSTALLTION INSTRUCTIONS.

CONTRACTOR TO TOUCH-UP PAINT AFTER REMOVAL OF SHIPPING DEVICES.

Sheet 23 of 49 Design Dwg:
Note 2 says use BD 302-93.
BD 302-93, Note 4 depicts formula:

$$\text{Correction per } 10°F = \frac{0.0125" \times L(\text{exp})}{15}$$

Sheet 8 of 49 Design Dwg:
Distance is appx. Pier 14 to Brewer Abut.

Sta 38+08
Sta 35+38
270 feet

$$\frac{\text{Correction}}{10°F} = \frac{0.0125 \times (270)}{15} = 0.225$$

45° to -30° is 75°... so, 7.5 × 0.225 = 1.6875 each side of 45°F.

$\therefore = 1\frac{11}{16}"$

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 21 1997
☑ Approved as noted ☐ Rejected

PROJ. NO. : BH-043-1(34)
ITEM NO. 520.21

MATL: A36 UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

2 coats ok.

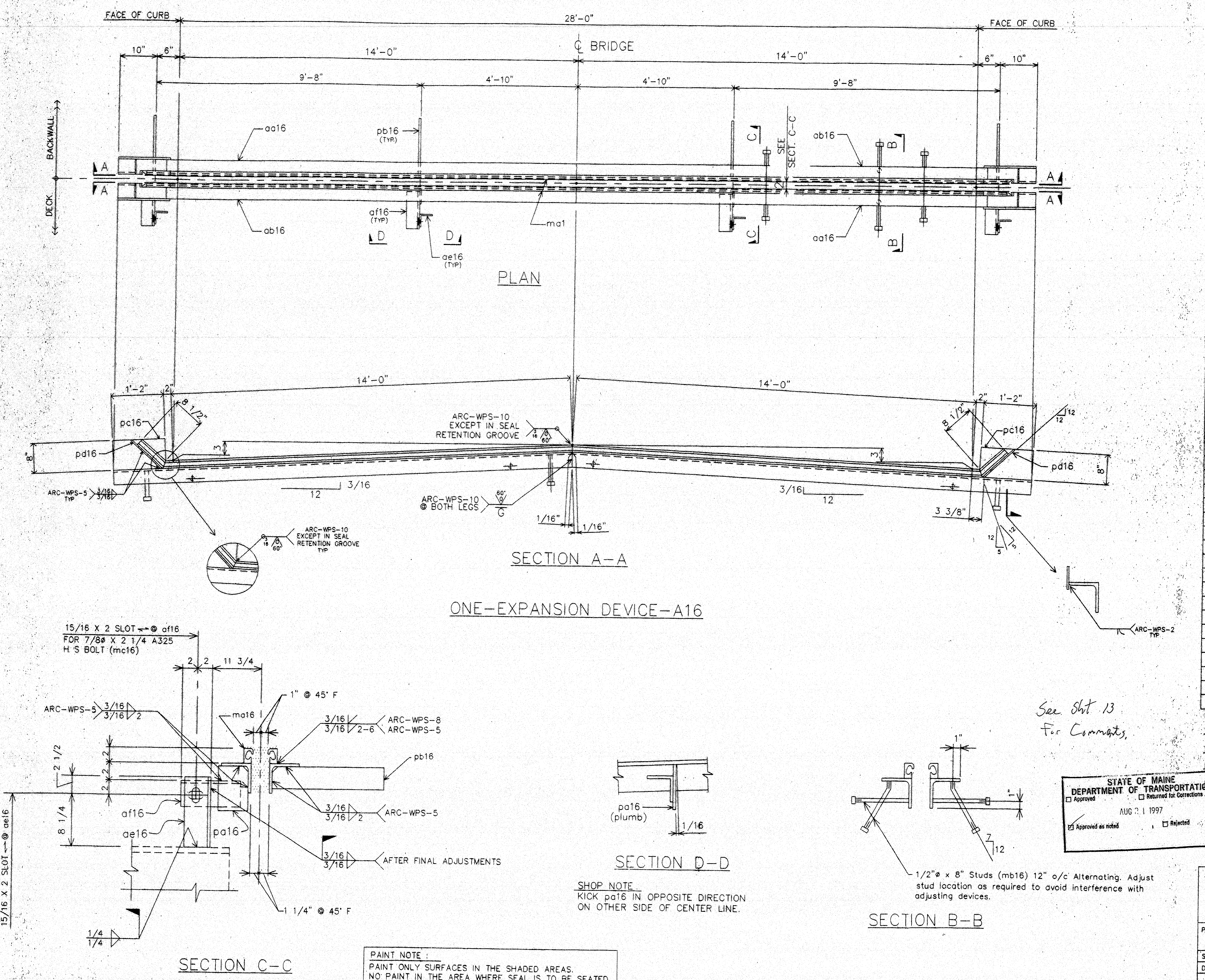
120-354
FOR APPROVAL
ONLY

A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME	
SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 7/97		CHKD. BY:
EXPANSION JOINT DETAIL @ ABUT. # 2		
REED & REED	JOB NO. 97-49	DWG. NO. 17

WORK THIS DWG. W/ DWG. 16

[redacted]



PLAN

SECTION A-A

ONE-EXPANSION DEVICE-A16

SECTION C-C

PAINT NOTE :
PAINT ONLY SURFACES IN THE SHADED AREAS.
NO PAINT IN THE AREA WHERE SEAL IS TO BE SEATED.

SECTION D-D

SHOP NOTE
KICK pa16 IN OPPOSITE DIRECTION
ON OTHER SIDE OF CENTER LINE.

1/2"⌀ x 8" Studs (mb16) 12" o/c Alternating. Adjust stud location as required to avoid interference with adjusting devices.

SECTION B-B

WORK THIS DWG W/ DWG 17

See Sht 13
For Comments,

MATERIALS LIST

MK	QTY	DESCRIPTION
A16	1	EXPANSION DEVICE ASSEMBLY
aa16	2	L 4 x 4 x 3/8 x 15'-4" B1E
ab16	2	L 4 x 4 x 3/8 x 15'-4" B1E
ad16	12	L 3 1/2 x 3 1/2 x 3/8 x 1'- 0
ae16	4	L 3 1/2 x 3 1/2 x 3/8 x 0'-10 3/4
af16	4	L 3 1/2 x 3 1/2 x 3/8 x 1'- 1
pa16	4	PL 3/8 x 4 x 0'-6
pb16	4	PL 1/2 x 3 x 1'-3
pc16	4	PL 1/4 X 8 X 1'-2
pd16	4	FB 4 X 1/4 x 0'-11
pe16	12	PL 3/8 X 3 1/2 X 0'-3 1/2
ma16	LF	Watson Bowman Acme type A extrusion x 60'-0
mb16	68	1/2 ⌀ x 0'-8 CONC STUDS
mc16	4	7/8 ⌀ x 0'-2 1/4 H S BOLTS w/N&2W A325
md16	6	THREADED ROD 1/2 ⌀ X 1'-8 w/ 4-NUTS/EA
mf16	12	3/4 ⌀ x 0'-2 H S BOLTS w/N&2W A325
shop	1	Watson Bowman Acme SE400 Gland Seal x 32'-0 with Adhesive
		PROJ. NO. : BH-043-1(34)
		ITEM NO. 520.21

MATL: A36 UN
HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 21 1997
☑ Approved as noted ☐ Rejected

120-355
FOR APPROVAL
ONLY

A.R.C. ENTERPRISES
KINGFIELD, MAINE

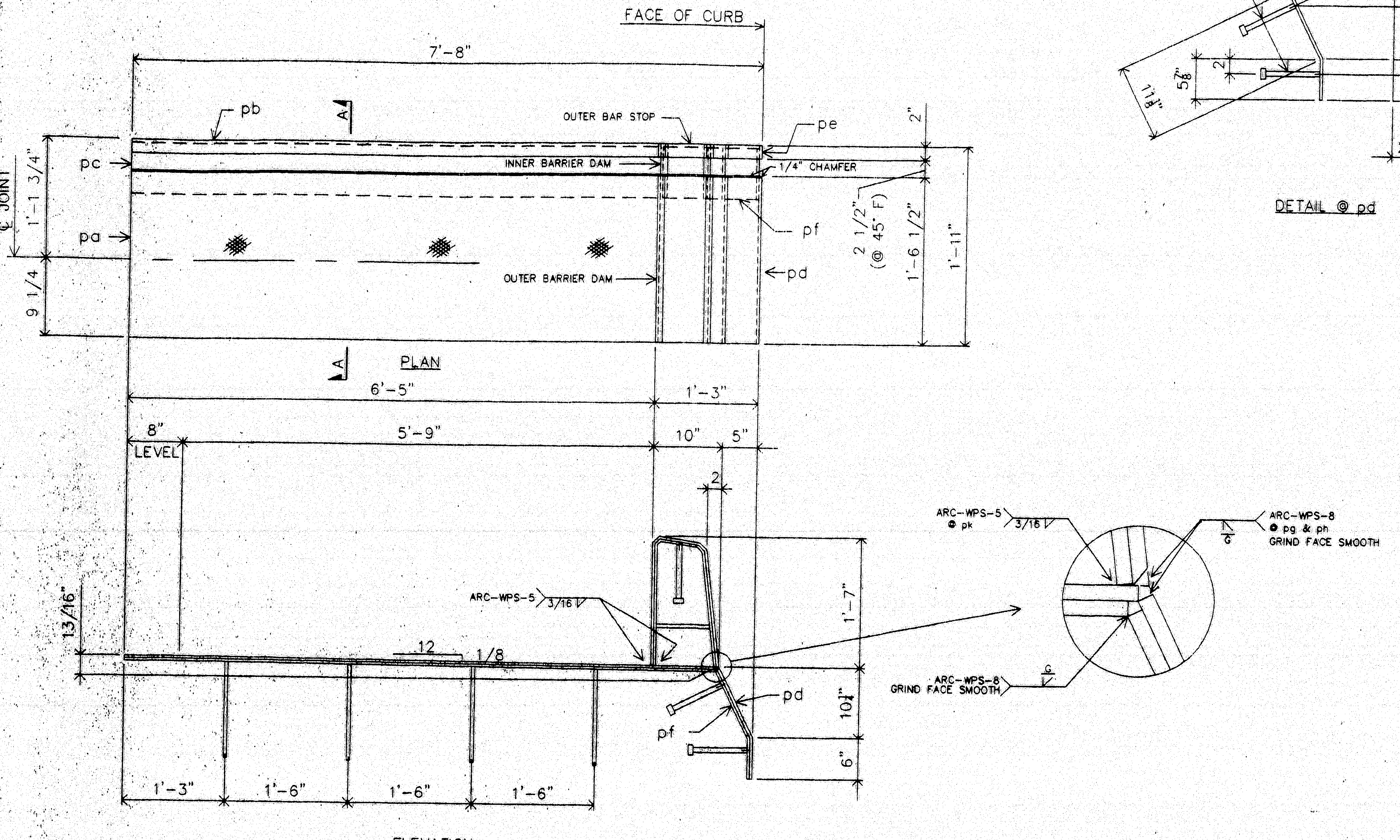
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE
PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~
DATE: 7/97
APPROVED BY:
DRAWN BY: BB
CHKD. BY:

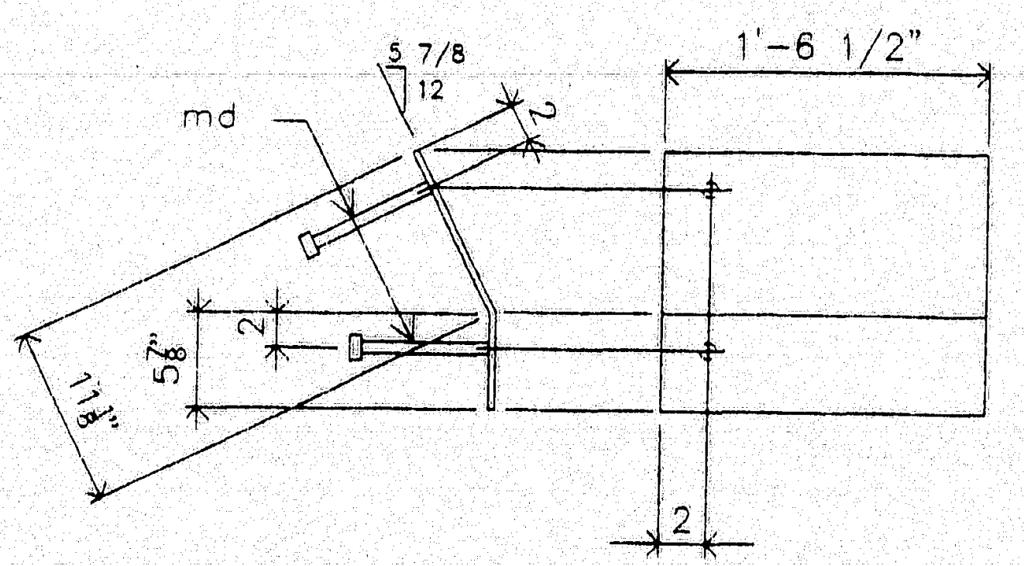
EXPANSION JOINT @ ABUT. # 2

REED & REED
JOB NO. 97-49
DWG. NO. 16

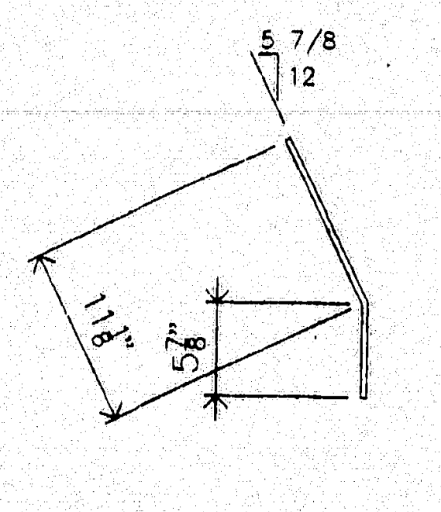
[redacted]



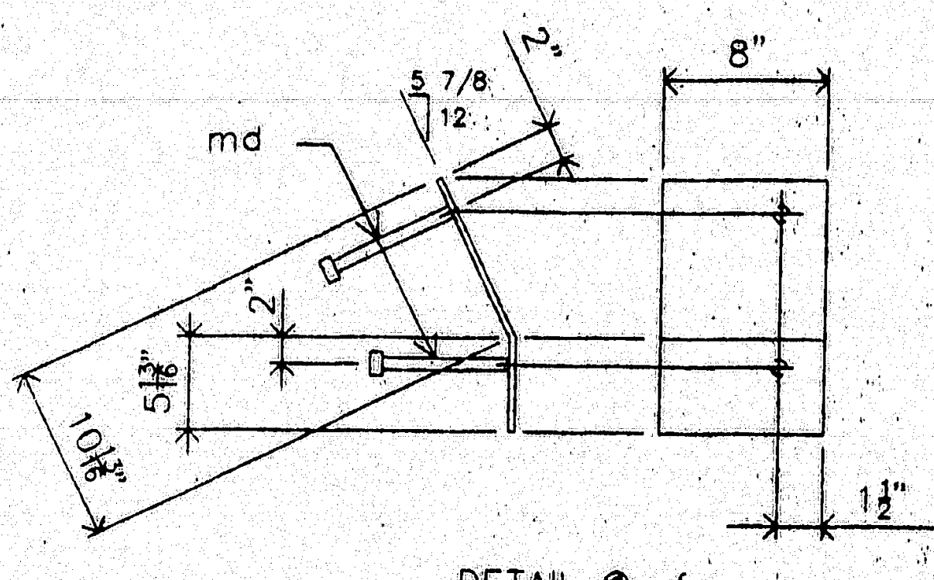
ELEVATION



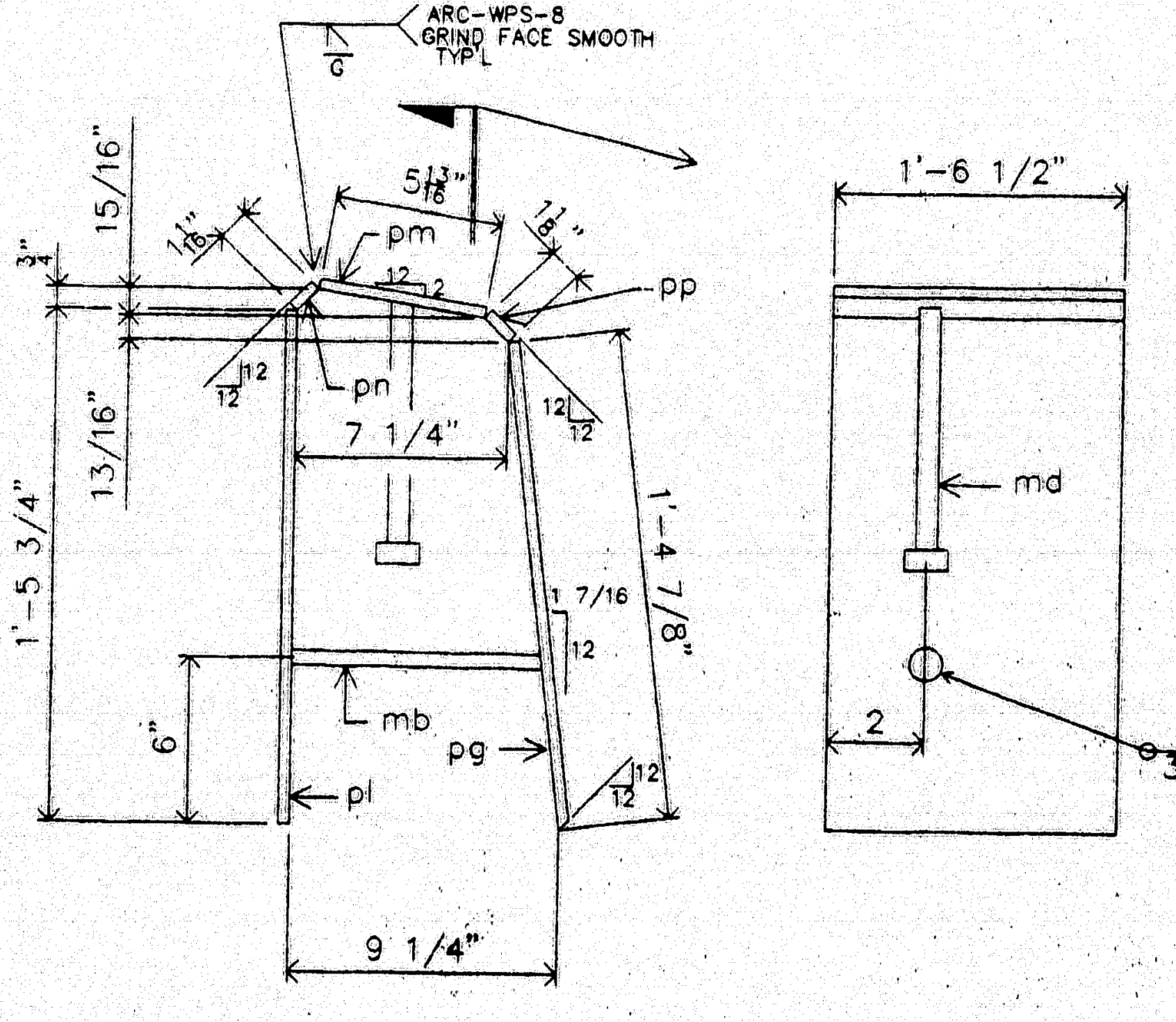
DETAIL @ pd



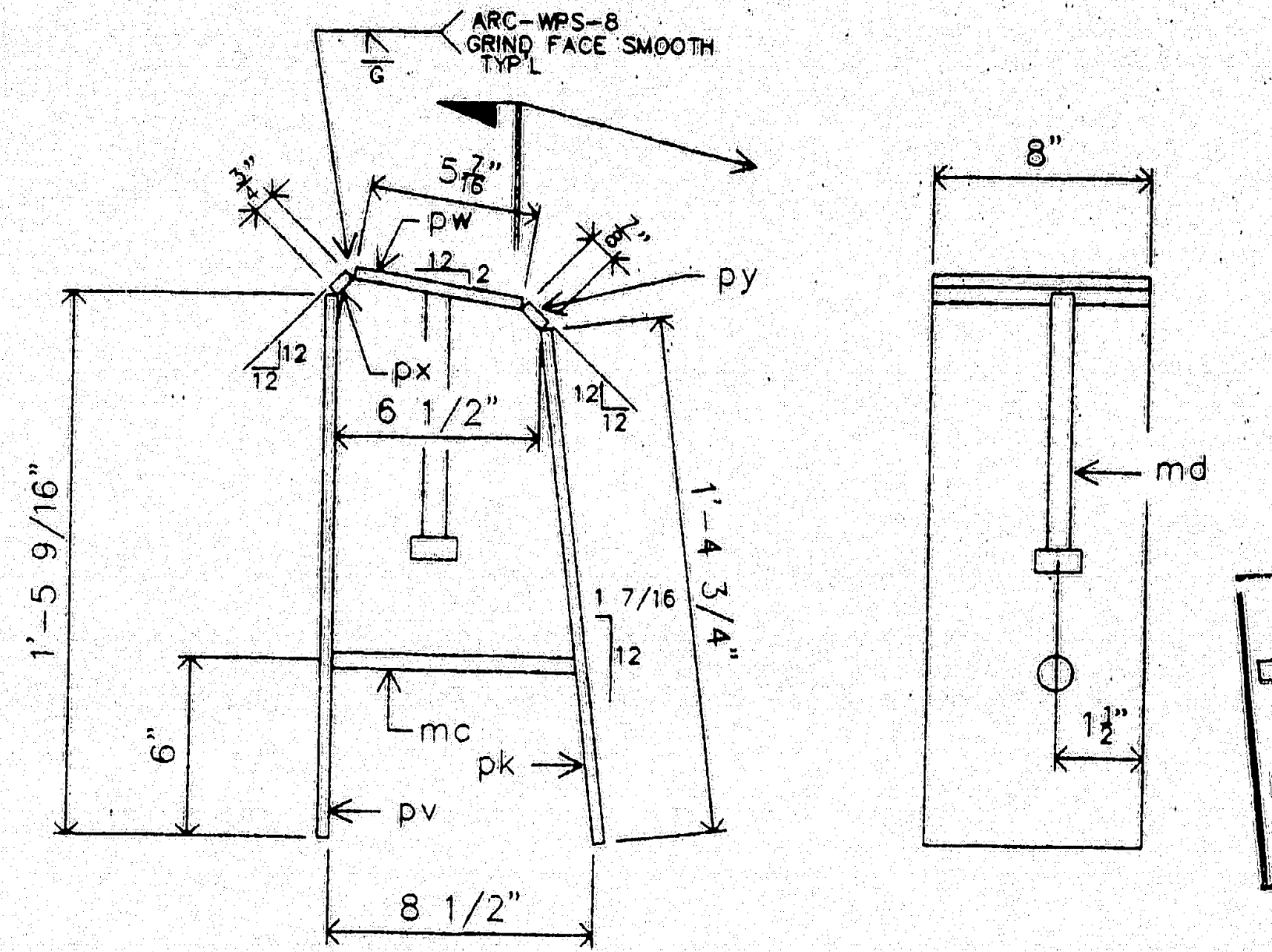
DETAIL @ pe



DETAIL @ pf
(BEND TO FIT INSIDE pd)

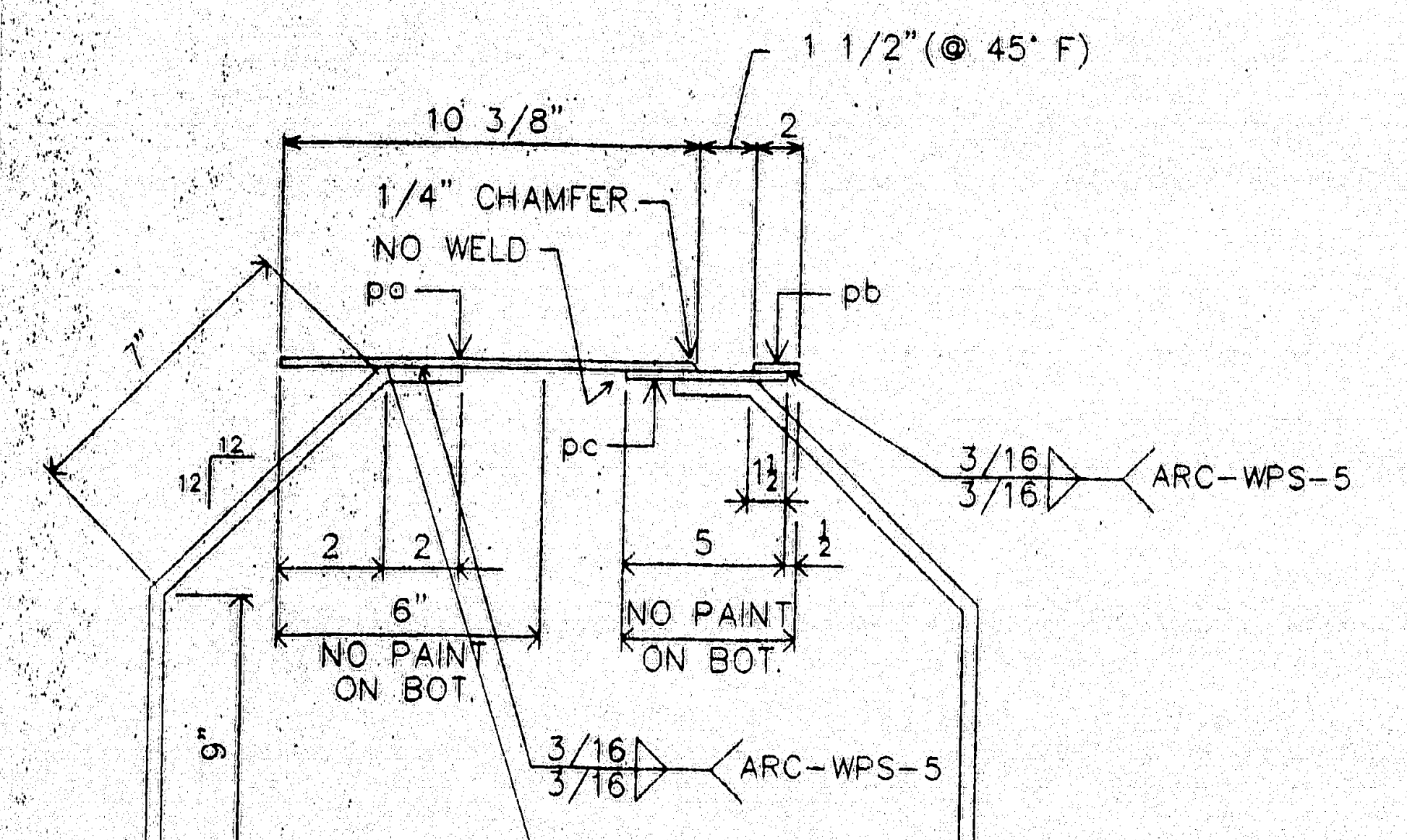


DETAIL @ OUTER BARRIER DAM

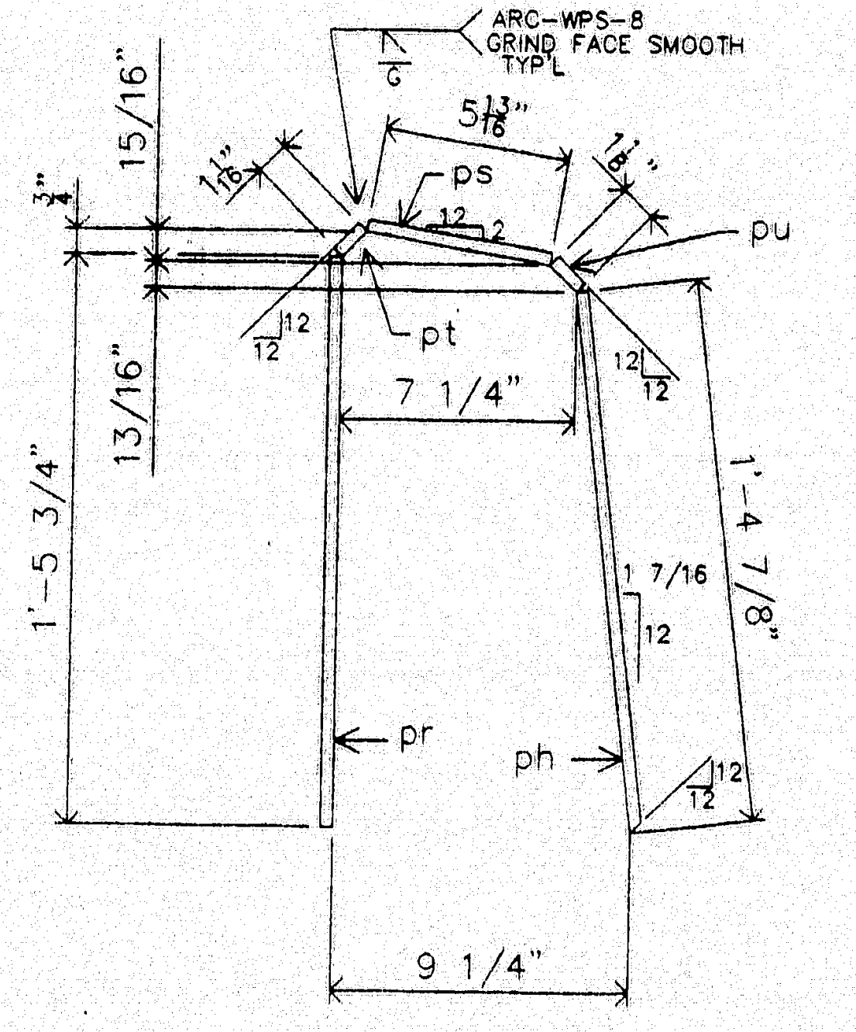


DETAIL @ INNER BARRIER DAM

ONE-EXP. JOINT-A15 (AS SHOWN)
ONE-EXP. JOINT-B15 (OPP. HAND)



SECTION A-A



DETAIL @ OUTER BAR STOP

Submit WPS for this weld including elevated temperatures requirements for welding Reinforcing Steel AWS D1.4.

(or)

Substitue a flatbar of appropriate size and strength and use an existing fillet WPS.

SHOP NOTE:
OUTER BARRIER & OUTER BAR STOP TO BE FABRICATED TO FIT OVER THE INNER BARRIER UNIT.

X-tra Work

Prefered Option: Get Price for Galvanizing Assembly.

(or)

Select Paint System from Nepcoat List.

Typical Systems

1. Inorganic Zinc Primer.
2. 2 Part Epoxy.
3. Urethane Topcoat.

Carboline
Wasser
Keeler & Long
Valspar

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved ☐ Returned for Corrections
AUG 2 1 1997
☒ Approved as noted ☐ Rejected

MATERIALS LIST

MK	QTY	DESCRIPTION
A15	1	EXPANSION DEVICE ASSEMBLY
B15	1	EXPANSION DEVICE ASSEMBLY
pa15	2	CHK'D PL 3/8 x 18 1/2 x 7'-2 3/4 BEND/SHP'D 1L-1R
pb15	2	PL 3/8 X 2 X 7'-2 3/4 BEND/SHP'D 1L-1R
pc15	2	PL 3/8 X 8 X 7'-2 1/2 BEND
pd15	2	PL 3/8 X 17 X 1'-6 1/2 BEND 1L-1R
pe15	2	PL 3/8 X 2 X 1'-5 BEND
pf15	2	PL 3/8 X 8 X 1'-4 5/8 BEND
pg15	2	PL 3/8 X 16 7/8 X 1'-6 1/2 B1E 1L-1R
ph15	2	PL 3/8 X 2 X 1'-4 7/8 B1E
pk15	2	PL 3/8 X 8 X 1'-4 3/4
pl15	2	PL 3/8 X 17 3/4 X 1'-6 1/2 1L-1R
pm15	2	PL 3/8 X 5 13/16 X 1'-6 1/2 1L-1R
pn15	2	PL 3/8 X 1 1/16 X 1'-6 1/2 1L-1R
pp15	2	PL 3/8 X 1 1/8 X 1'-6 1/2 1L-1R
pr15	2	FB 3/8 X 2 X 1'-5 3/4
ps15	2	FB 3/8 X 2 X 0'-5 13/16
pt15	2	FB 3/8 X 2 X 0'-1 1/16
pu15	2	PL 3/8 X 2 X 0'-1 1/8
pv15	2	PL 3/8 X 8 X 1'-5 9/16
pw15	2	PL 3/8 X 5 7/16 X 0'-8
px15	2	PL 3/8 X 3/4 X 0'-8
py15	2	PL 3/8 X 7/8 X 0'-8
ma15	16	#6 REBAR X 1'-6 BEND A615,GR 60
mb15	2	#6 REBAR X 0'-8 1/2 A615,GR 60
mc15	2	#6 REBAR X 0'-7 3/4 A615,GR 60
md15	12	1/2 ø x 0'-8 CONC STUDS

PROJ. NO. : BH-043-1(34)
ITEM NO. 520.21

MATL: A36 UN HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: ~~3 COATS ZINC RICH PRIMER~~
~~3 MDFT PER COAT~~

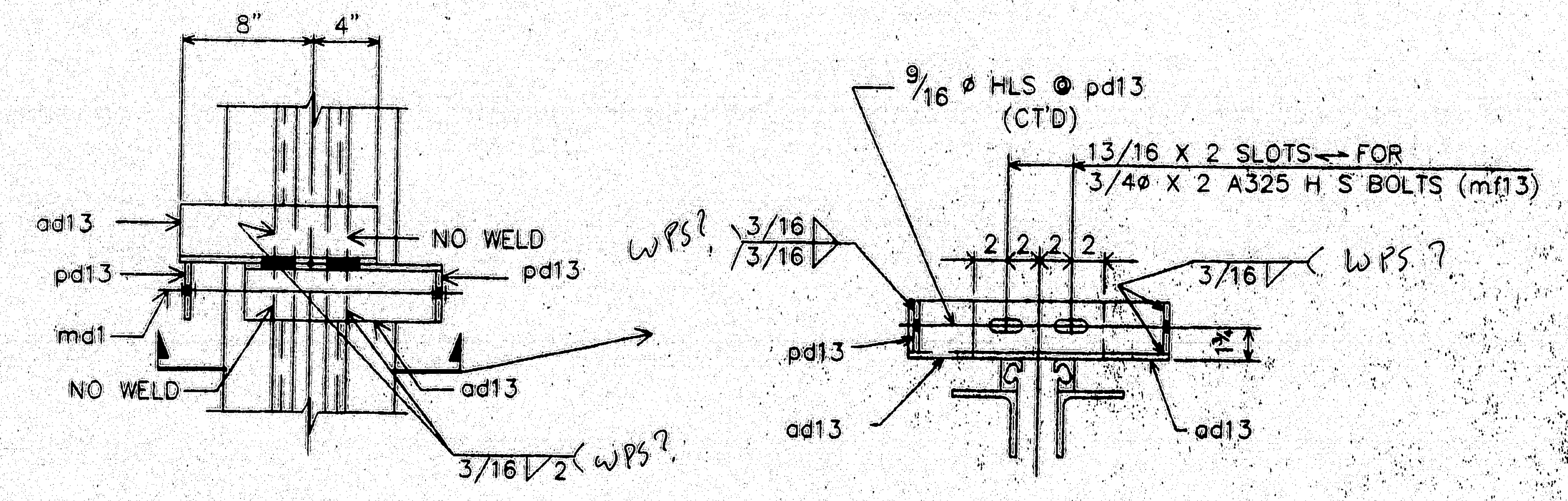
120-356

FOR APPROVAL ONLY

A.R.C. ENTERPRISES
KINGFIELD, MAINE

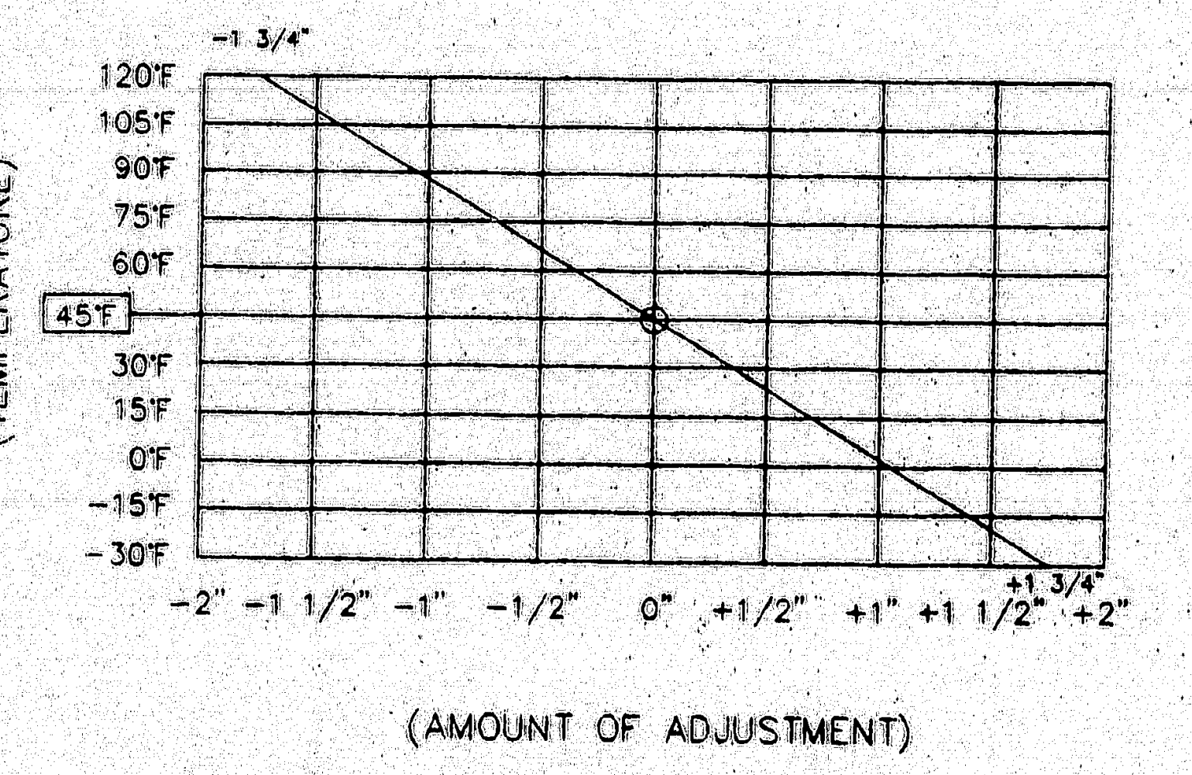
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME		
SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 7/97		CHKD. BY:
SIDEWALK DAM DETAIL @ HINGE SPAN 7		
REED & REED	JOB NO. 97-49	DWG. NO. 15

[redacted]



PLAN

TEMP. ADJUSTING & SHIPPING DEVICE



TEMPERATURE ADJUSTMENT CHART

FIELD NOTE:
ADJUST JOINT OPENING FOR TEMPERATURE AT TIME OF INSTALLATION.

NOTES:

SHOP TO PLACE ADJUSTING & SHIPPING DEVICES ON EXP. JOINT AFTER PAINTING & SEAL INSTALLATON AT APPROX. 5'-0 O/C.

PRESET THE OPENING TO THE 45°F SETTING SHOWN ON PLANS.

CONTRACTOR TO REFER TO DESIGN DWG'S & SPECS FOR INSTALLTION INSTRUCTIONS.

CONTRACTOR TO TOUCH-UP PAINT AFTER REMOVAL OF SHIPPING DEVICES.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved
☐ Returned for Corrections
AUG 2 1 1997
☑ Approved as noted
☐ Rejected

PROJ. NO. : BH-043-1(34)
ITEM NO. 520.21

MAT'L: A36 UN
HOLES: AS NOTED
WELD: PER PROCEDURES NOTED None Noted
PREP: SP6
FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

2 coats OK.

FOR APPROVAL ONLY

120-357

A.R.C. ENTERPRISES
KINGFIELD, MAINE

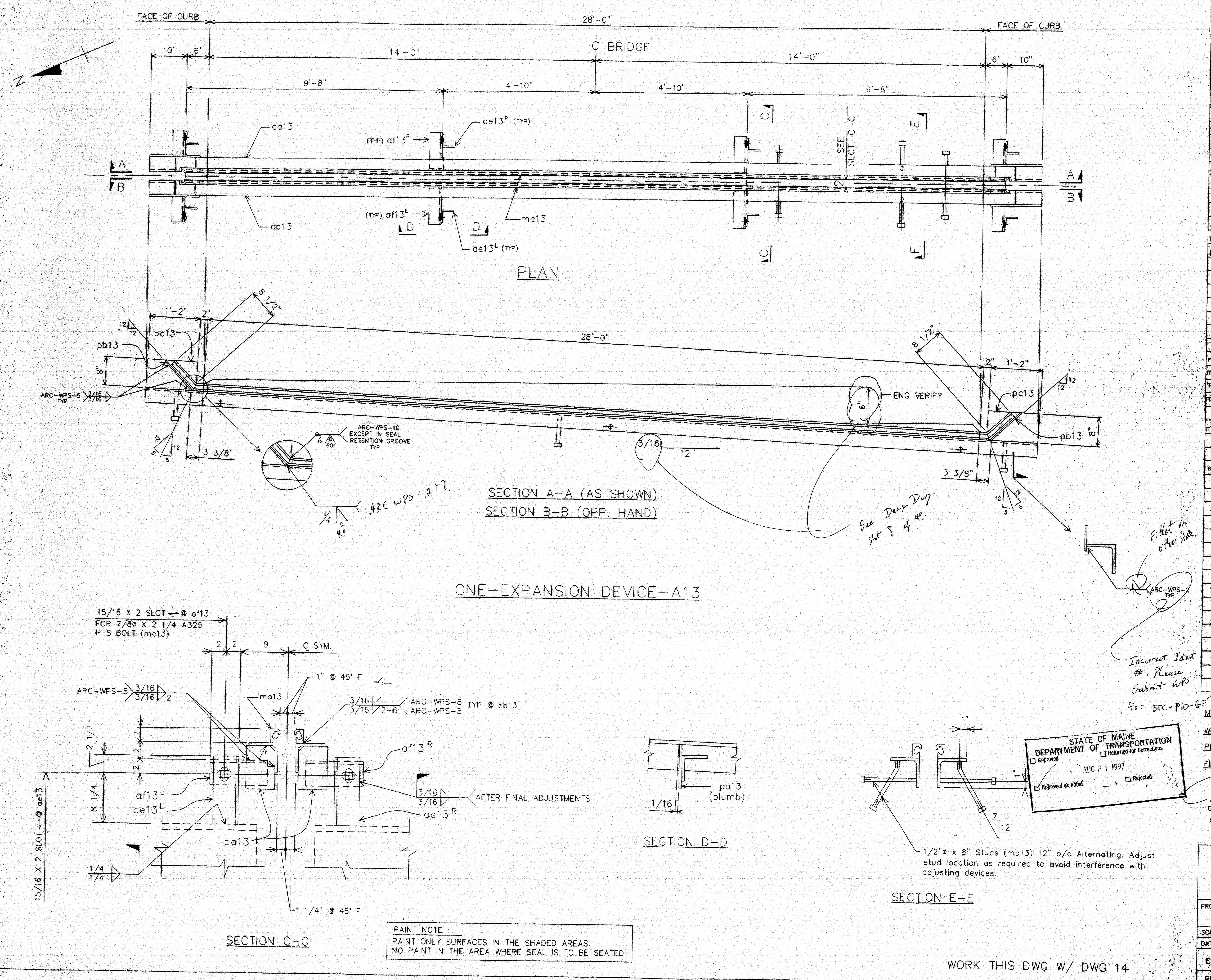
PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~	APPROVED BY:	DRAWN BY: BB
DATE: 6/97		CHKD. BY:

EXPANSION JOINT DETAIL @ HINGE SPAN 7

REED & REED	JOB NO. 97-49	DWG. NO. 14

WORK THIS DWG. W/ DWG. 13



PAINT NOTE :
PAINT ONLY SURFACES IN THE SHADED AREAS.
NO PAINT IN THE AREA WHERE SEAL IS TO BE SEATED.

WORK THIS DWG W/ DWG 14

MATERIALS LIST

MK	QTY	DESCRIPTION
A13	2	EXPANSION DEVICE ASSEMBLY
aa13	4	L 4 x 4 x 3/8 x 30'-8
ab13	4	L 4 x 4 x 3/8 x 30'-8
ad13	12	L 3 1/2 x 3 1/2 x 3/8 x 1'- 0
ae13 L/R	8	L 3 1/2 x 3 1/2 x 3/8 x 0'-10 3/4 4L-4R
af13 L/R	8	L 3 1/2 x 3 1/2 x 3/8 x 0'- 11 4L-4R
pa13	8	PL 3/8 x 4 x 0'-6
pb13	4	FB 4 X 1/4 X 0'-11
pc13	4	PL 1/4 X 8 X 1'-2
pd13	12	PL 3/8 X 3 1/2 X 0'-3 1/2
ma13	LF	Watson Bowman Acme type A extrusion x 60'-0
mb13	68	1/2 ⌀ x 0'-8 CONC STUDS
mc13	8	7/8 ⌀ x 0'-2 1/4 H S BOLTS w/N&2W A325
md13	6	THREADED ROD 1/2 ⌀ X 1'-8 w/ 4-NUTS/EA
mf13	12	3/4 ⌀ x 0'-2 H S BOLTS w/N&2W A325
shop	1	Watson Bowman Acme SE400 Gland Seal x 32'-0 with Adhesive

PROJ. NO. : BH-043-1(34)
ITEM NO. 520.21

Incorrect Ident #. Please Submit WPS for BTC-P10-GF2.

MATL: A36 UN
HOLES: AS NOTED
WELD: PER PROCEDURES NOTED
PREP: SP6
FINISH: 3 COATS ZINC RICH PRIMER
3 MDFT PER COAT

2 Coats is sufficient.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
☐ Approved
☐ Returned for Corrections
AUG 21 1997
☑ Approved as noted
☐ Rejected

FOR APPROVAL ONLY

120-358

A.R.C. ENTERPRISES
KINGFIELD, MAINE

PROJECT: JOSHUA CHAMBERLAIN BRIDGE OVER THE PENOBSCOT RIVER, BANGOR-BREWER, ME

SCALE: ~	APPROVED BY:	DRAWN BY: BB	
DATE: 7/97		CHKD. BY:	
EXPANSION JOINT @ HINGE SPAN 7			
REED & REED		JOB NO. 97-49	DWG. NO. 13

[redacted]