

US Army Corps
of Engineers
Portland District

BONNEVILLE LOCK AND DAM SPILLWAY ROCK MITIGATION

THIS PROJECT WAS DESIGNED BY THE PORTLAND DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152.

RYAN D. SOUDERS
CHIEF, DESIGN BRANCH

PATRICK L. DUYCK, P.E.
CHIEF, ENGINEERING & CONSTRUCTION DIVISION

LARRY D. CASWELL, JR., PE, PM
COLONEL, CORPS OF ENGINEERS
DISTRICT COMMANDER

DATE: _____

SOLICITATION NUMBER: _____

D

C

B

A

GENERAL

G-001
G-002
G-003
G-101

COVER SHEET
DRAWING INDEX
GENERAL NOTES, LEGEND AND APROVIATIONS
PROJECT OVERVIEW SITE MAP AND LOCATION

STRUCTURAL

S- 001
S- 002
S- 003
S-100
S-101
S-102
S-103
S-104
S- 501
S- 502
S- 503
S- 504
S- 505

GENERAL NOTES
ISOMETRIC VIEW
BATHYMETRY
PLANS AND SECTIONS
PLAN SOUTH CONSTRUCTION CONTROL JOINT LOCATIONS
PLAN NORTH CONSTRUCTION CONTROL JOINT LOCATIONS
NORTH BARRIER SECTION
SOUTH BARRIER SECTION
SOUTH PERCAST PLAN AND SECTION VIEW
NORTH PERCAST PLAN AND SECTION VIEW
SOUTH PERCAST SECTION DETAILS
NORTH PERCAST SECTION DETAILS
REINFORCEMENT DETAILS

INFORMATIONAL DRAWINGS

[illegible]

TYPICAL SECTION THRU DAM
GENERAL PLAN
PAN OF DAM FROM PIER 13 TO ABUTMENT 2
PLAN OF DAM PIER 5 TO 10 AT ELEVATION +24.0
SECTION THRU DAM BASE AT ELEV -36 CREST AT ELEVATION +24
DOWNSTREAM APRON AND BAFFLES BETWEEN ABUT A-2 AND STA 7+90
DOWNSTREAM APRON AND BAFFLES STA. 7+90 TO 12+70
DOWNSTREAM APRON AND BAFFLES STA 13+90 TO STA 16+04
TYPICAL SECTION THRU DSM STA 10+16 TO STA 15+35
DEFLECTOR PLANS AND SECTIONS
CONCRETE OUTLINE BAYS 1-18
OVERALL SPILLWAY PLAN AND PARTIAL ELEVATION



P&S REVIEW 90%

1

11

— 11 —

1003

U.S. ARMY CORPS OF ENGINEERS PORTLAND DISTRICT PORTLAND, OREGON	DRAWN BY: M.SADQI	CHECKED BY: JADAM	SOLICITATION NO: 010702016
	SUBMITTED BY: MATHEW D. HANSON P.E.	CONTRACT NO:	
	PLOT SCALE:	PLOT DATE:	DRAWING NUMBER:
	1:1		
	FILE NAME: BDD1117_G-020XXX.dgn		
	ANSI D		

**BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION**

DRAWING INDEX

SHEET
IDENTIFICATION
G-002

D

C

2

2. SECTIONING CONVENTION SHALL BE INTERPRETED AS SHOWN BELOW:



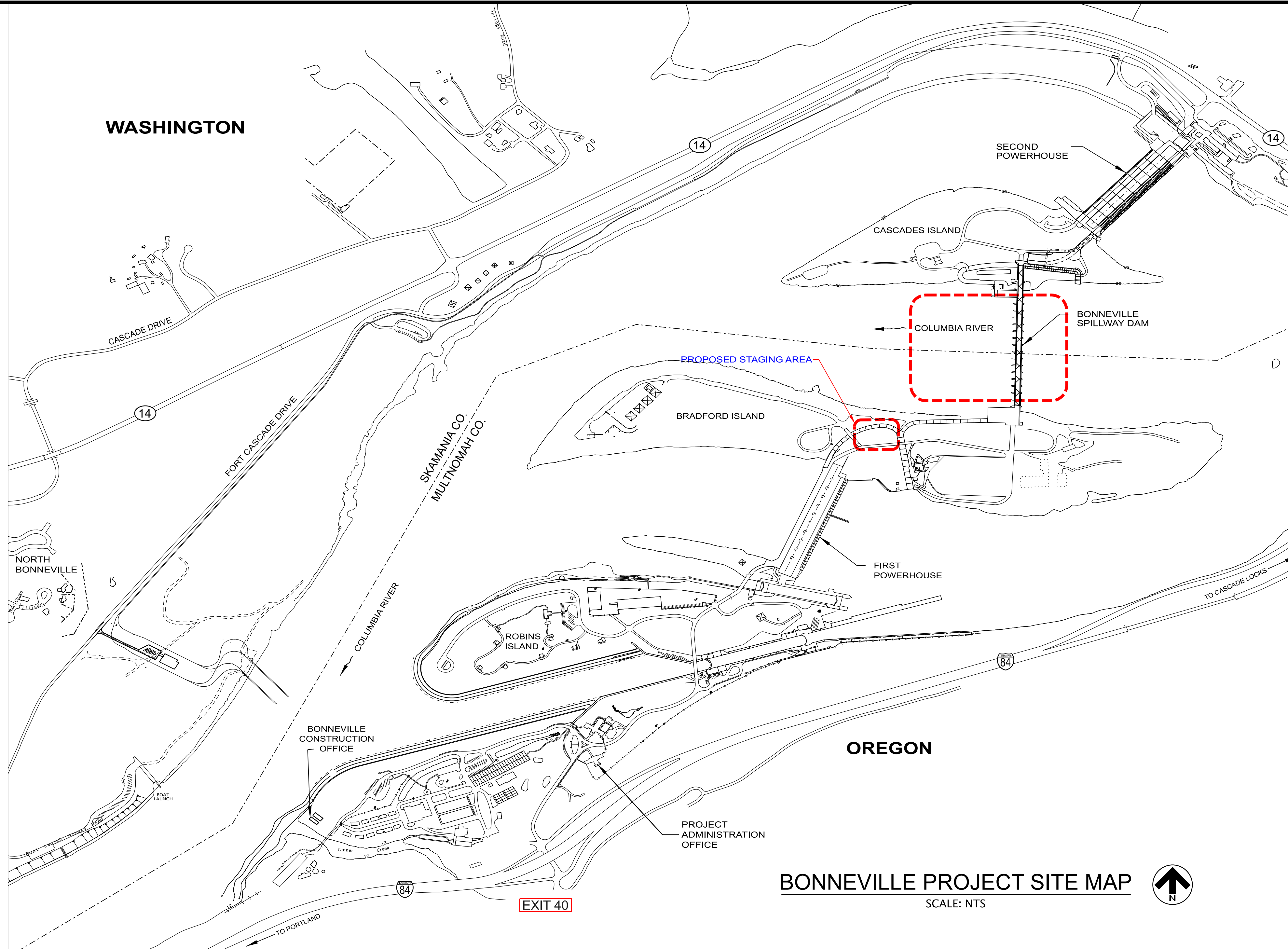
G	GENERAL
B	GEOTECHNICAL
C	CIVIL
S	STRUCTURAL
M	MECHANICAL
E	ELECTRICAL
F	FIRE PROTECTION

4

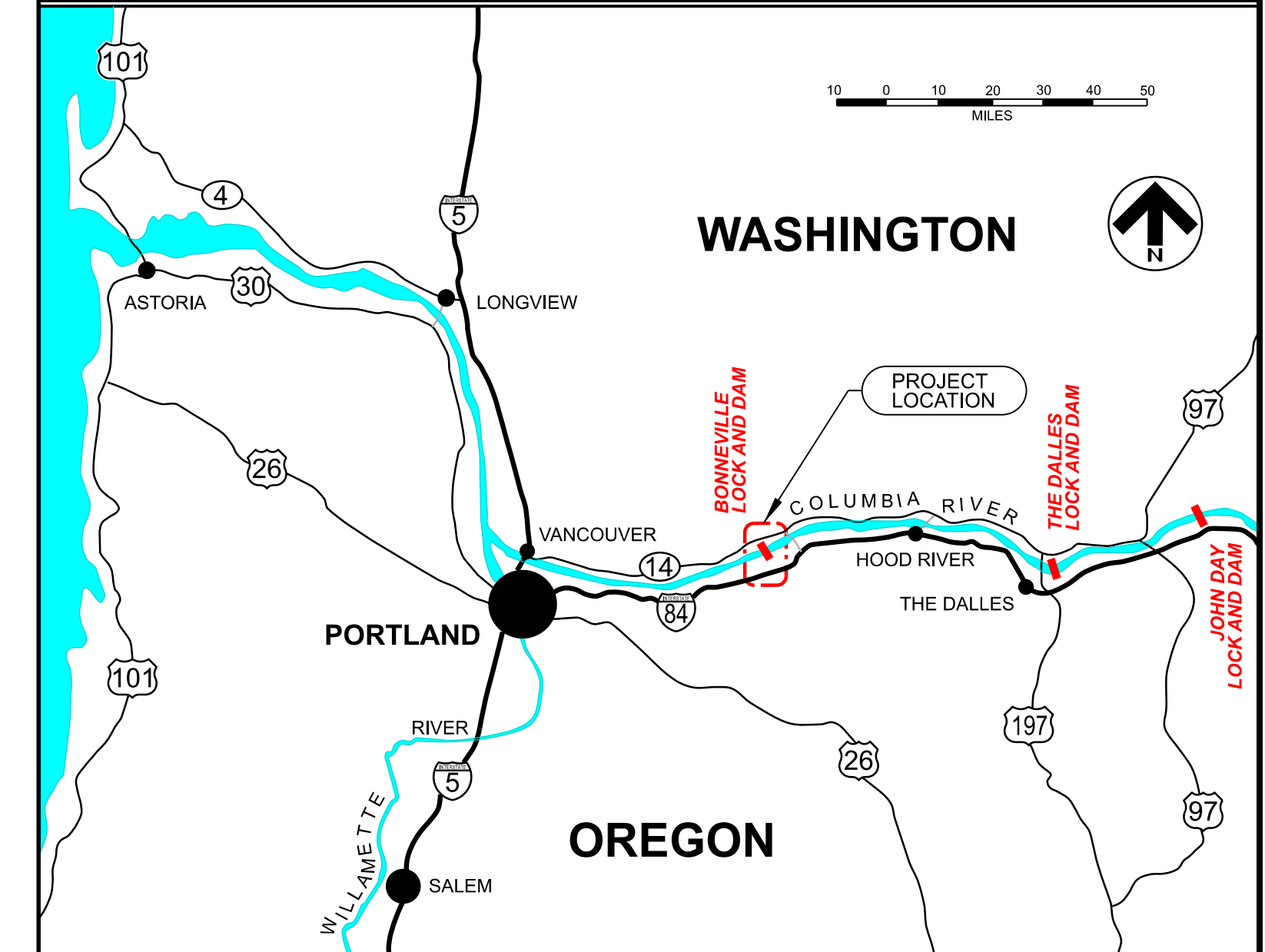
- SHEET
IDENTIFICATION
G-003

BONNEVILLE LOCK AND DAM SPILLWAY ROCK MITIGATION

01/01/2016



DISTRICT BOUNDARY MAP



LOCAL VICINITY MAP



	PROJECT PHOTO
--	---------------



**U.S. Army Corps
Engineers®**
PORTLAND DISTRICT

P&S REVIEW 90%

PORTLAND DISTRICT PORTLAND, OREGON	DRAWN BY: M. SADOWSKI	CHECKED BY: J. ADAMI	SOLICITATION NO.:
	SUBMITTED BY: MATHEW D. HANSON	P.E. 	CONTRACT NO.:
	PLOT SCALE: 1"=1'	PLOT DATE: 	DRAWING NUMBER:
	FILE NAME: BDD01.117_C-1010XXX.dgn	SIZE: ANSI/D	

**BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION**

**PROJECT OVERVIEW SITE
MAP AND LOCATION**

SHEET
IDENTIFICATION
G-101

STRUCTURAL GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP WILL COMPLY WITH THE PROJECT PLANS AND SPECIFICATIONS.
2. THE CONTRACTOR WILL COORDINATE THE STRUCTURAL PLANS WITH THE PLANS OF OTHER TRADES AND ANY DISCREPANCIES FOUND SHALL BE RESOLVED BY THE CONTRACTING OFFICER, PRIOR TO CONSTRUCTION.
3. ALL EXISTING INFORMATION CONTAINED WITHIN THESE DOCUMENTS IS UNVERIFIED AND PROVIDED FOR BIDDING PURPOSES ONLY.
4. AS-BUILT INFORMATIONAL DRAWINGS ARE PROVIDED FOR REFERENCE ONLY. THE GOVERNMENT DOES NOT GUARANTEE THE ACCURACY OF THE AS-BUILT DRAWINGS. WHERE DIFFERING SITE CONDITIONS OR CONFLICTS ARE FOUND, THE CONTRACTOR WILL IMMEDIATELY NOTIFY GOVERNMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK.
5. THE CONTRACTOR WILL NOTIFY THE CONTRACTING OFFICER OF ANY DISCREPANCIES OR UNDOCUMENTED CONDITIONS THAT IMPACT THE WORK TO BE DONE.
6. THE CONTRACTOR WILL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE STABILITY OF THE STRUCTURE AT ALL TIMES.
7. THE CONTRACTOR'S WORKMANSHIP WILL MEET THE RECOGNIZED INDUSTRY STANDARDS.
8. PRIOR TO PERFORMING ANY ELEMENTS OF WORK, THE CONTRACTOR WILL NOTIFY THE GOVERNMENT IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE PROJECT DOCUMENTS. WHERE NOT OTHERWISE SPECIFIED NOTIFY THE GOVERNMENT IN WRITING AT LEAST 5 WORKING DAYS IN ADVANCE OF THE ANTICIPATED START DATE.

CAST IN PLACE CONCRETE

1. ALL CONCRETE WORK SHALL BE IN CONFORMANCE WITH SPECIFICATION SECTION 03 30 00.

PRECAST CONCRETE

1. "ALL PRECAST CONCRETE WORK SHALL BE IN CONFORMANCE WITH SPECIFICATION SECTION 03 45 33.



P&S REVIEW 90%

U.S. ARMY CORPS OF ENGINEERS PORTLAND DISTRICT PORTLAND, OREGON	DESIGNED BY: K. CARABACAN	DATE: 07/07/2016
	DRAWN BY: M. SAICI	CHECKED BY: M. ROSHANI
	SUBMITTED BY: MATHEW D. HANSON P.E.	CONTRACT NO.:
	PLOT SCALE: 1-1	DRAWING NUMBER: SSD0ATESSSS\$
	SIZE: ANSI D	FILE NAME: BD01117_S-001XXX.dgn

BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION

GENERAL NOTES

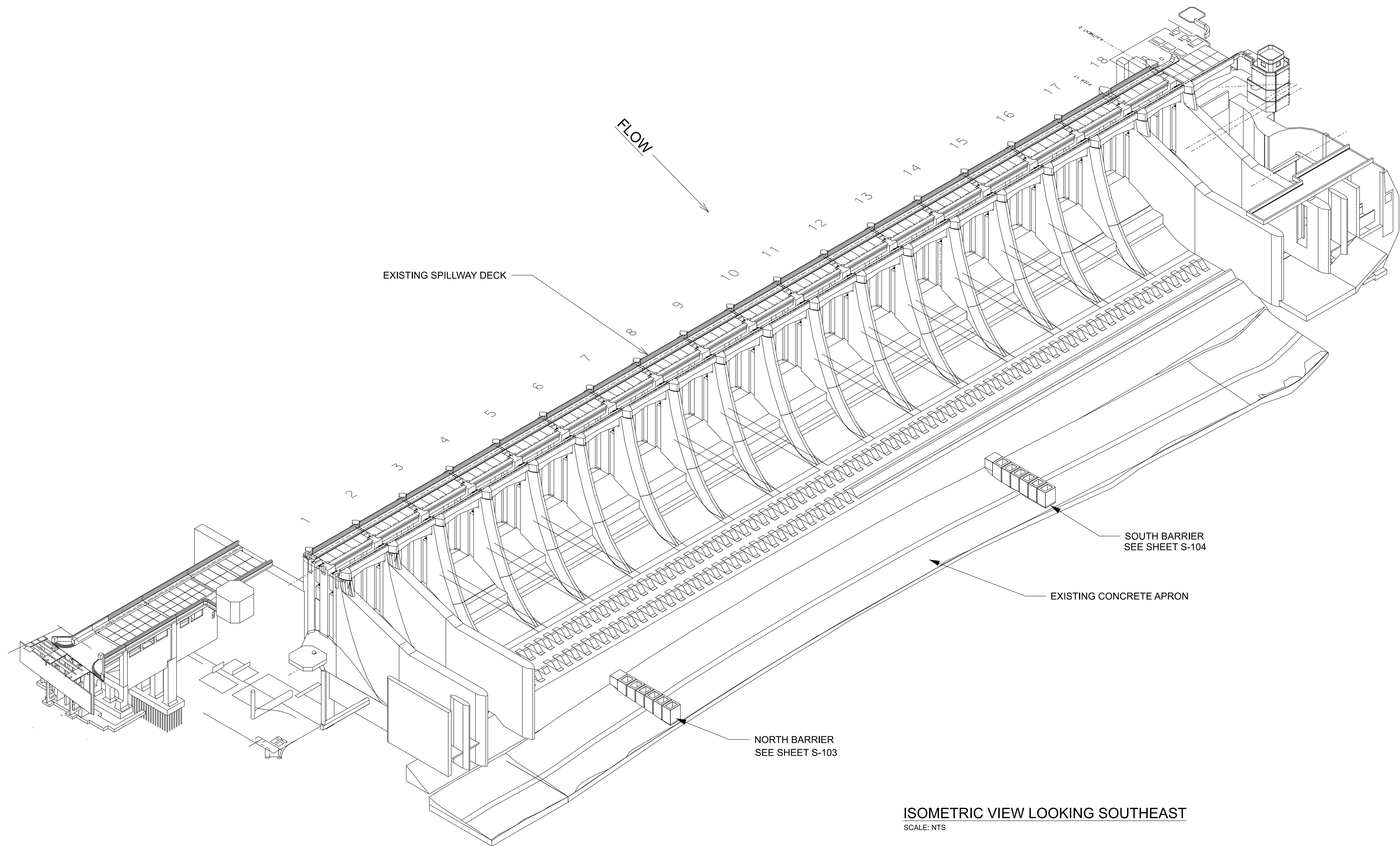
SHEET
IDENTIFICATION
S-001

P&S REVIEW 90%

U.S. ARMY CORPS OF ENGINEERS PORTLAND DISTRICT PORTLAND, OREGON	DRAWN BY:	CHECKED BY:	SOLICITATION NO.:
	SUBMITTED BY:		
	MATHEW D. HANSON P.E.	MR. KOSHANI	CONTRACT NO.:
			DRAWING NUMBER:
	PLOT SCALE:	PLOT DATE:	
	1:1	SSDDATESSSS	
		FILE NAME:	
		BDD1:117_S-002XXXX.dgn	

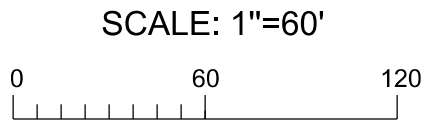
BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION
ISOMETRIC VIEW

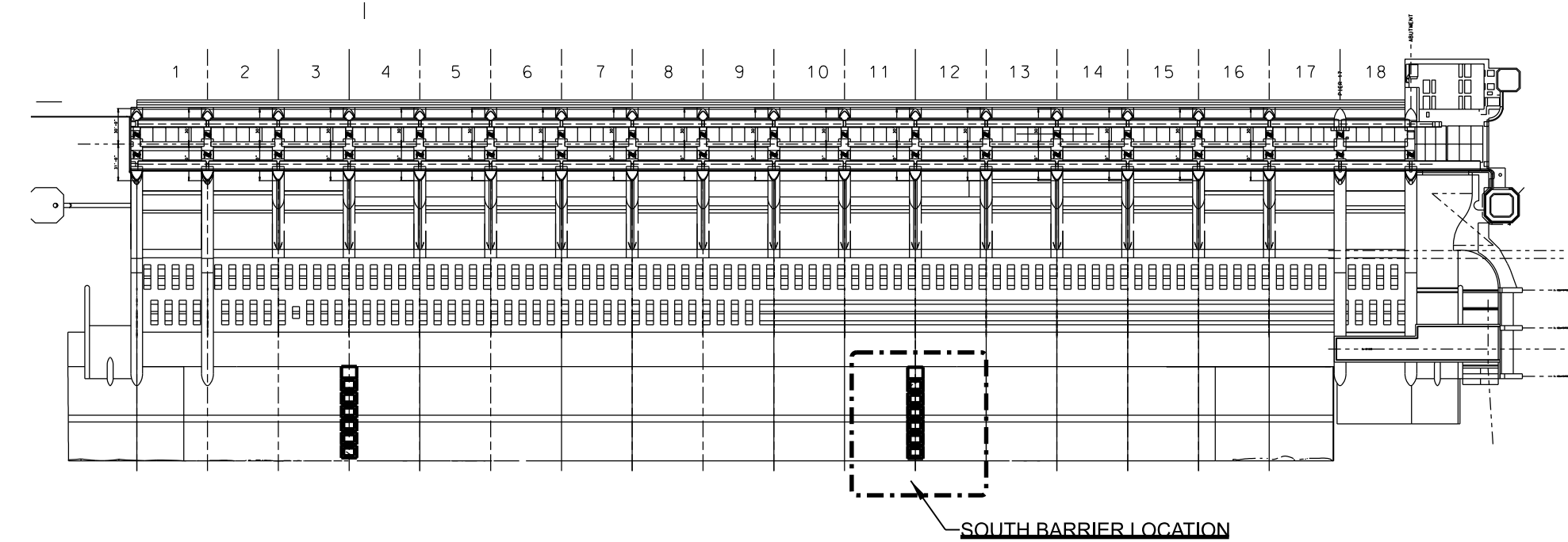
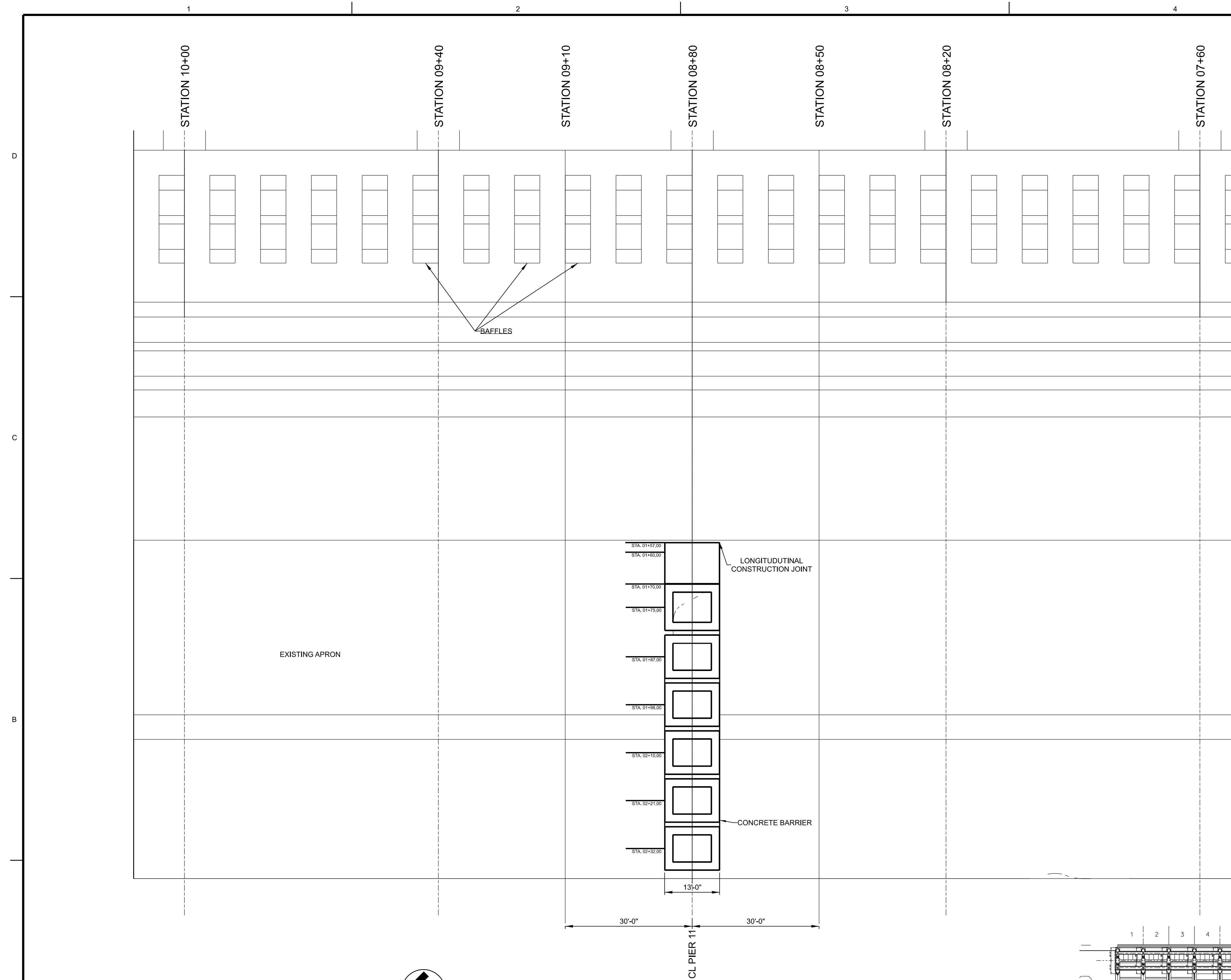
SHEET
IDENTIFICATION
S-002



NOTES:

1. FEATURES ARE NOT TO SCALE AND ISOMETRIC ARE FOR ILLUSTRATIVE PURPOSES ONLY.





KEY PLAN



**US Army Corps
of Engineers®**
PORTLAND DISTRICT

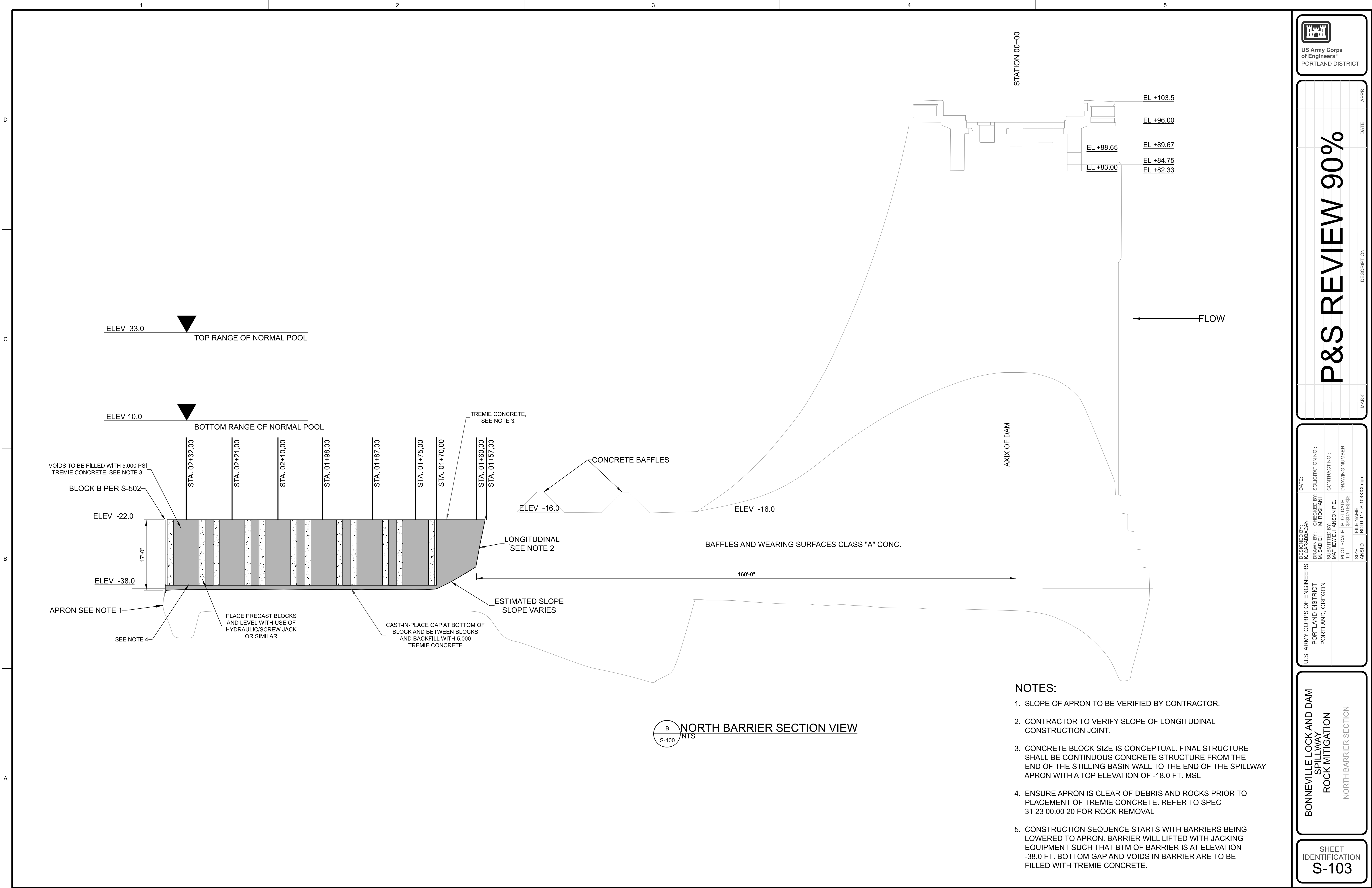
P&S REVIEW 90%

U.S. ARMY CORPS OF ENGINEERS PORTLAND DISTRICT PORTLAND, OREGON	DESIGNED BY:	K. CARABACCAN	DATE:	07/01/2016
	DRAWN BY:	M. SADIQI	CHECKED BY:	M. ROSHANI
	SUBMITTED BY:	MATHEW D. HANSON P.E.	CONTRACT NO.:	
	PLOT SCALE:	1"=1'	DRAWING NUMBER:	

BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION

PLAN SOUTH CONSTRUCTION
CONTROL JOINT LOCATIONS

SHEET
IDENTIFICATION
S-101





US Army Corps
of Engineers®
PORTLAND DISTRICT

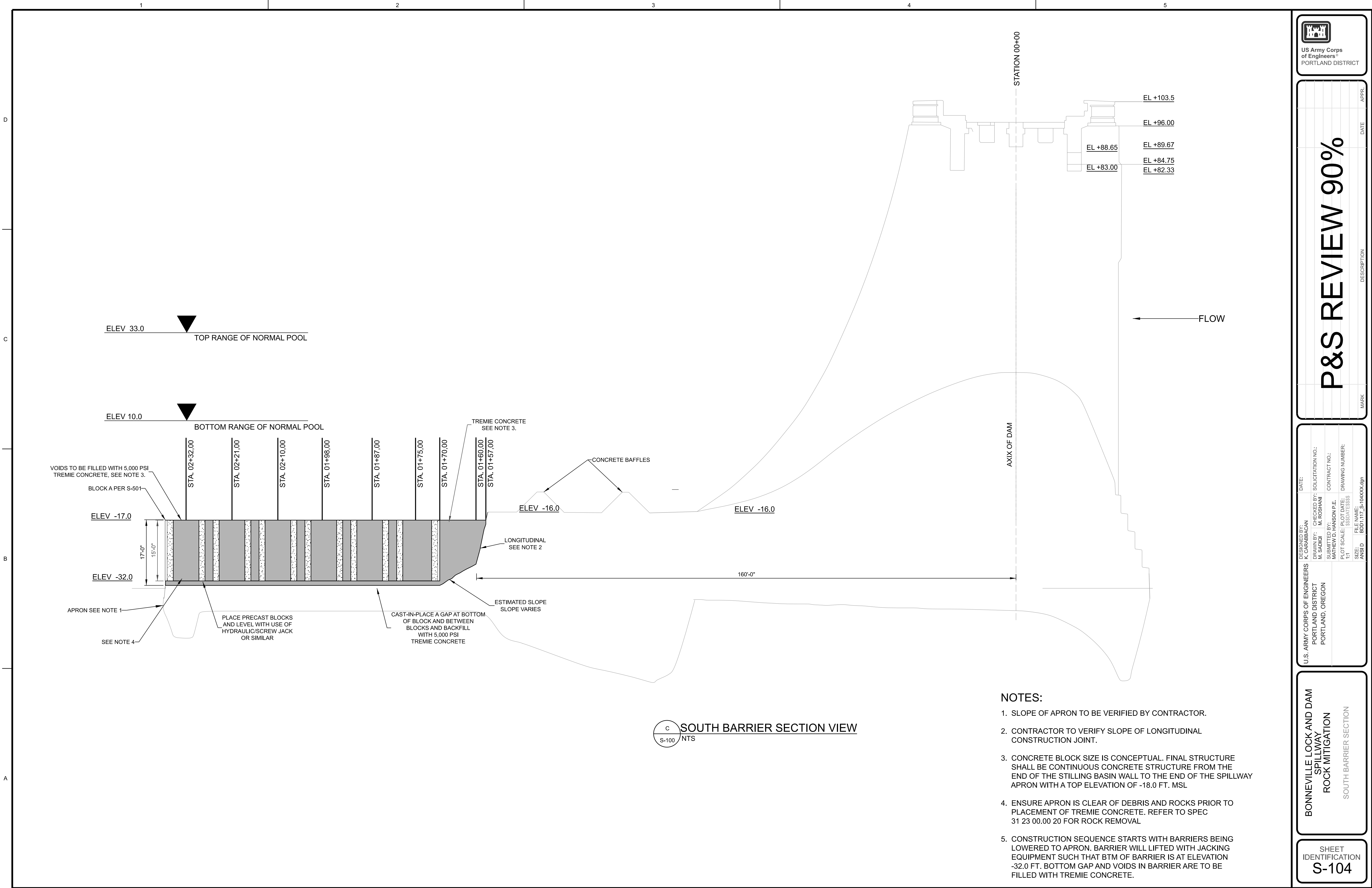
P&S REVIEW 90%

DESIGNED BY: K. CARABACAN	DATE:	DESIGNED BY: K. CARABACAN	DATE:
CHECKED BY: M. SAID	DATE:	CHECKED BY: M. ROSHAN	DATE:
SUBMITTED BY: MATHEW D. HANSON P.E.	DATE:	SUBMITTED BY: MATHEW D. HANSON P.E.	DATE:
FILE NAME: BDD1-117_S-103xxx.dgn	DATE:	FILE NAME: BDD1-117_S-103xxx.dgn	DATE:

**BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION**

NORTH BARRIER SECTION

SHEET
IDENTIFICATION
S-103



SOUTH BARRIER SECTION VIEW
S-100 NTS

- NOTES:**
- SLOPE OF APRON TO BE VERIFIED BY CONTRACTOR.
 - CONTRACTOR TO VERIFY SLOPE OF LONGITUDINAL CONSTRUCTION JOINT.
 - CONCRETE BLOCK SIZE IS CONCEPTUAL. FINAL STRUCTURE SHALL BE CONTINUOUS CONCRETE STRUCTURE FROM THE END OF THE STILLING BASIN WALL TO THE END OF THE SPILLWAY APRON WITH A TOP ELEVATION OF -18.0 FT. MSL
 - ENSURE APRON IS CLEAR OF DEBRIS AND ROCKS PRIOR TO PLACEMENT OF TREMIE CONCRETE. REFER TO SPEC 31 23 00.00 20 FOR ROCK REMOVAL
 - CONSTRUCTION SEQUENCE STARTS WITH BARRIERS BEING LOWERED TO APRON. BARRIER WILL LIFTED WITH JACKING EQUIPMENT SUCH THAT BTM OF BARRIER IS AT ELEVATION -32.0 FT. BOTTOM GAP AND VOIDS IN BARRIER ARE TO BE FILLED WITH TREMIE CONCRETE.

US Army Corps
of Engineers
PORTLAND DISTRICT

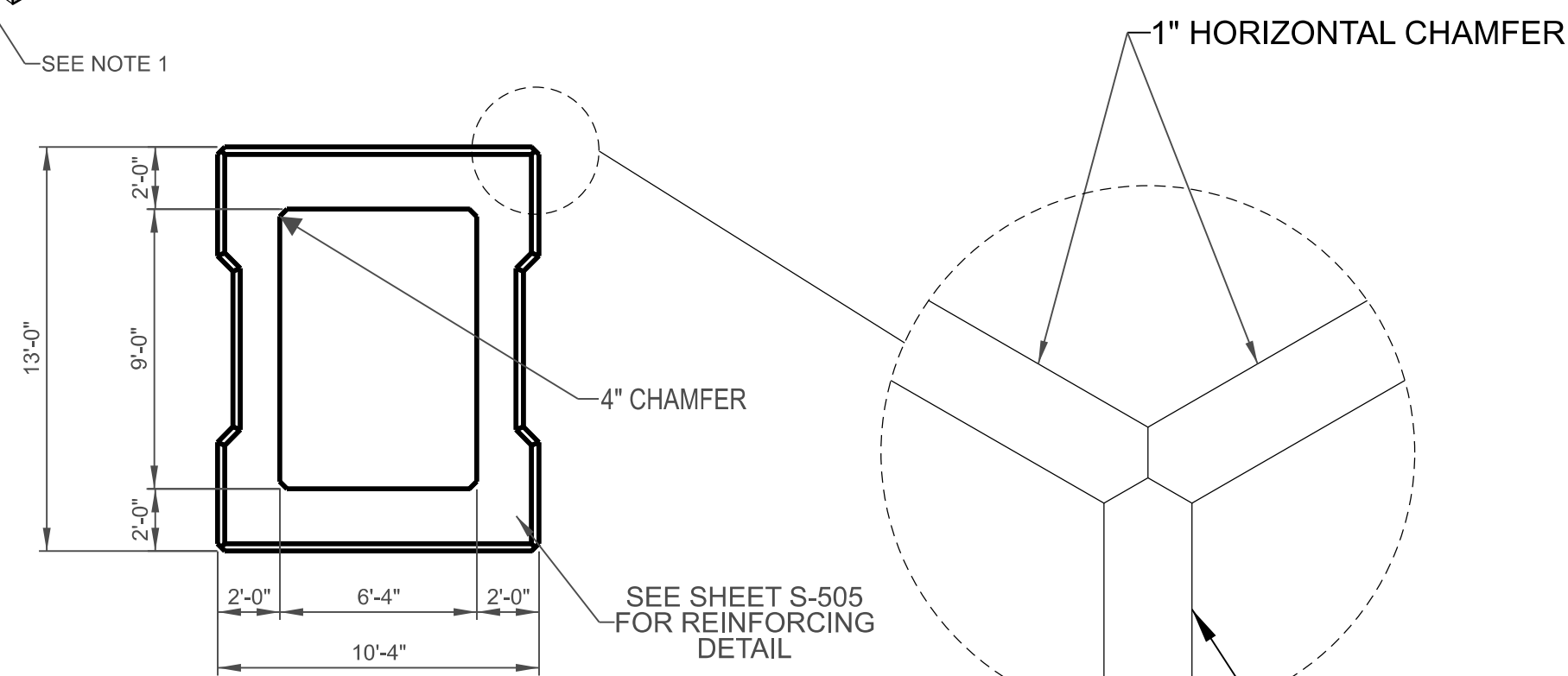
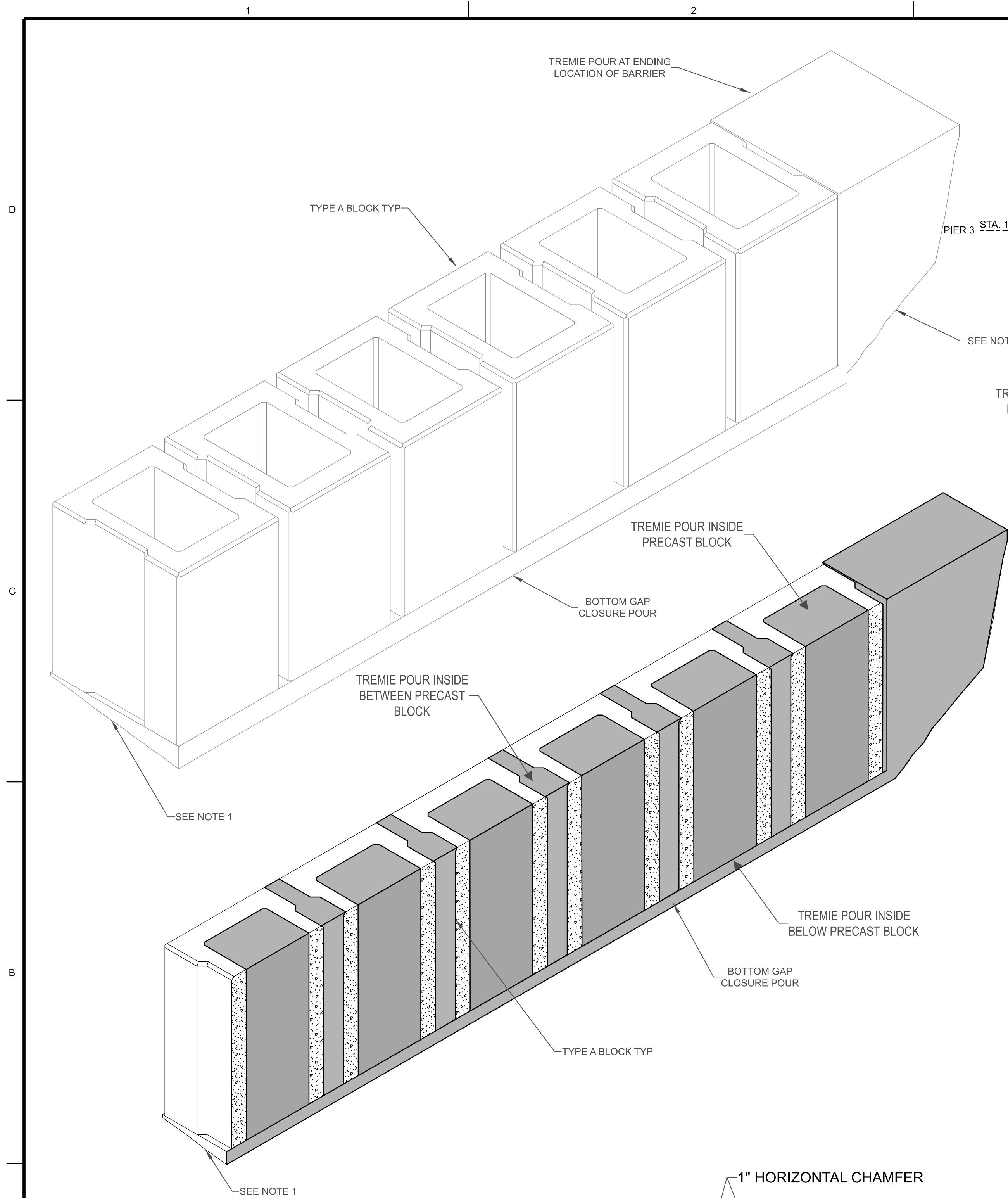
P&S REVIEW 90%

DESIGNED BY: K. CARABACAN	CHECKED BY: M. EDSHIAN	SOLICITATION NO.:
DRAWN BY: M. SAID	SUBMITTED BY: MATHEW D. HANSON P.E.	CONTRACT NO.:
PLOT SCALE: 1"=33'-0"		DRAWING NUMBER:
FILE NAME: BDD1-117_S-104XXX.dgn	SIZE: ANSI D	DATE:
MARK		DATE
DESCRIPTION		APPR.

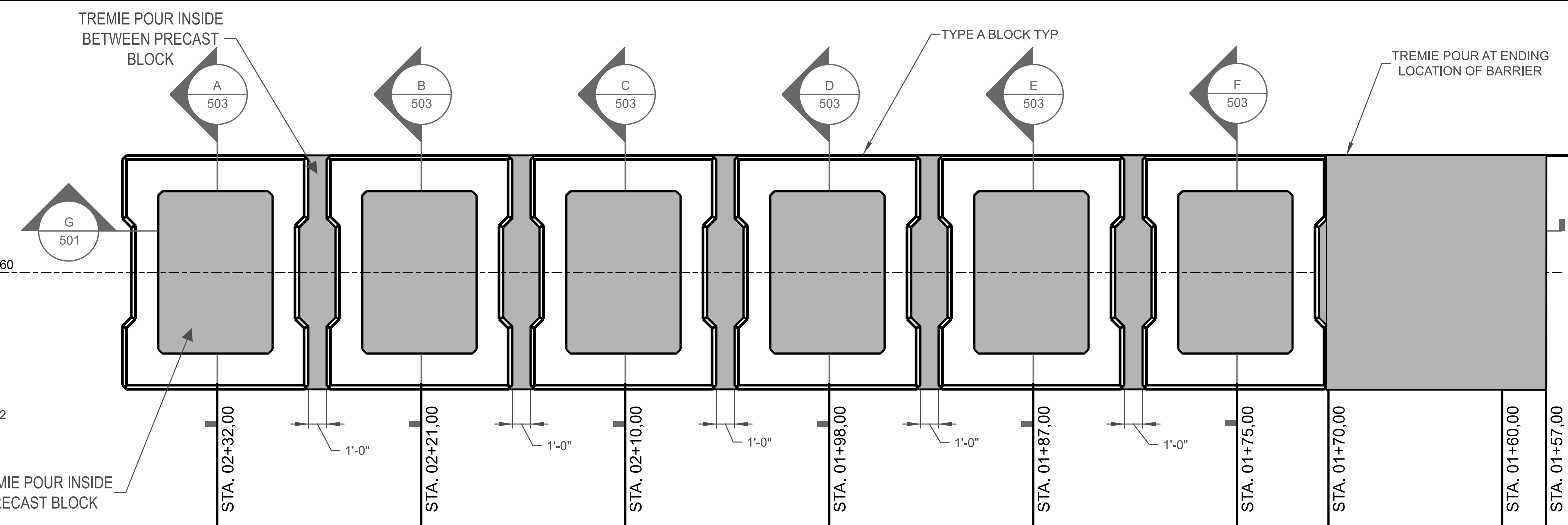
**BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION**

SOUTH BARRIER SECTION

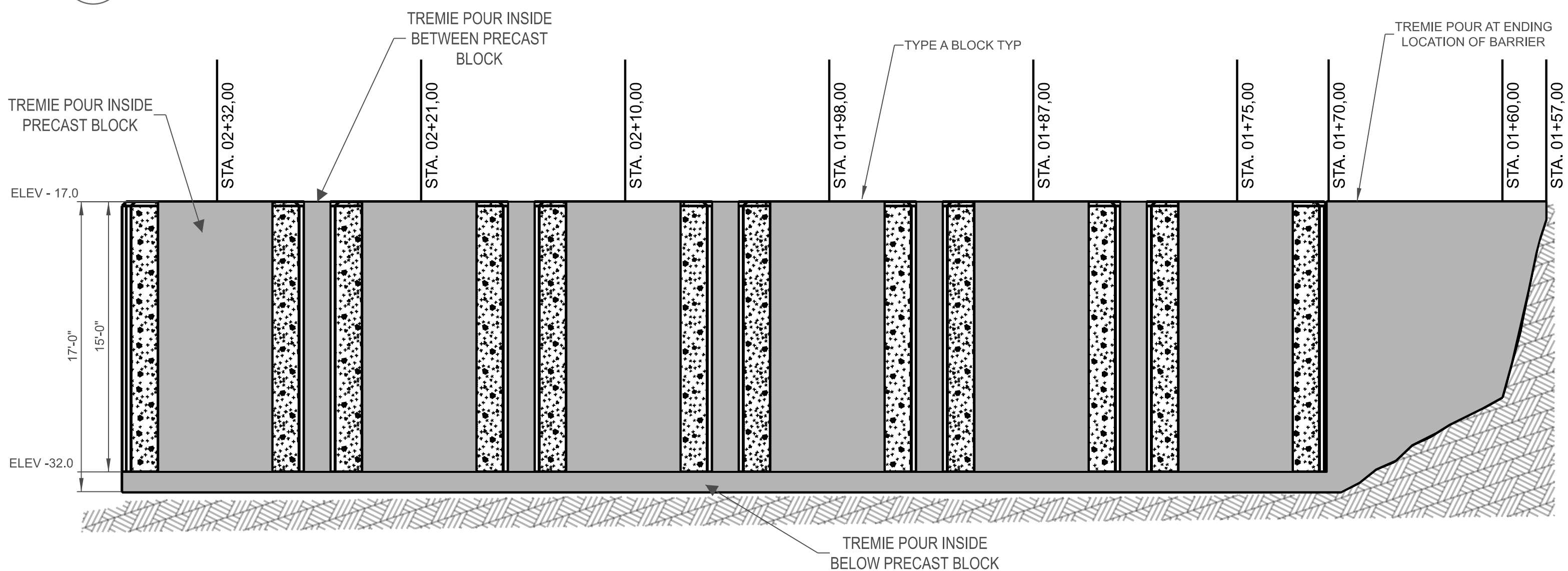
SHEET
IDENTIFICATION
S-104



2 TYPE 'A' BLOCK
SCALE: 3/16"=1'-0"

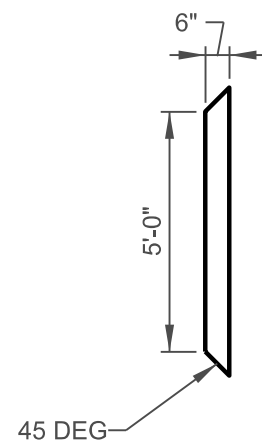


1 SOUTH PRECAST WALL PLAN VIEW
SCALE: 3/16"=1'-0"



G SOUTH SECTION VIEW
SCALE: 3/16"=1'-0"

CONCRETE WEIGHT AND VOLUME SUMMARY FOR SOUTH BARRIER			
BLOCK TYPE	VOLUME/UNIT (Cu.Yd)	WEIGHT (TON)	QUANTITY
TYPE A	45.78	92.7	6
SLAB VOLUME	50.20	107.7	1
BLOCK INTERIOR VOLUME	35.30	71.48	6
BETWEEN BLOCK SPACING VOLUME	7.70	15.6	5



3 DETAIL-SHEAR KEY
SCALE: 1/4"=1'-0"

NOTES:

1. SLOPE OF APRON TO BE VERIFIED BY CONTRACTOR.
2. CONTRACTOR TO VERIFY SLOPE OF LONGITUDINAL CONSTRUCTION JOINT.

DESIGNED BY: K. CARABACAN
CHECKED BY: M. ROSHANI
SUBMITTED BY: M. SADIQ
DATE: 01/01/2016

CONTRACT NO.:
DRAWING NUMBER:
FILE NAME:
SIZE: 11x17
ANSI D

BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION

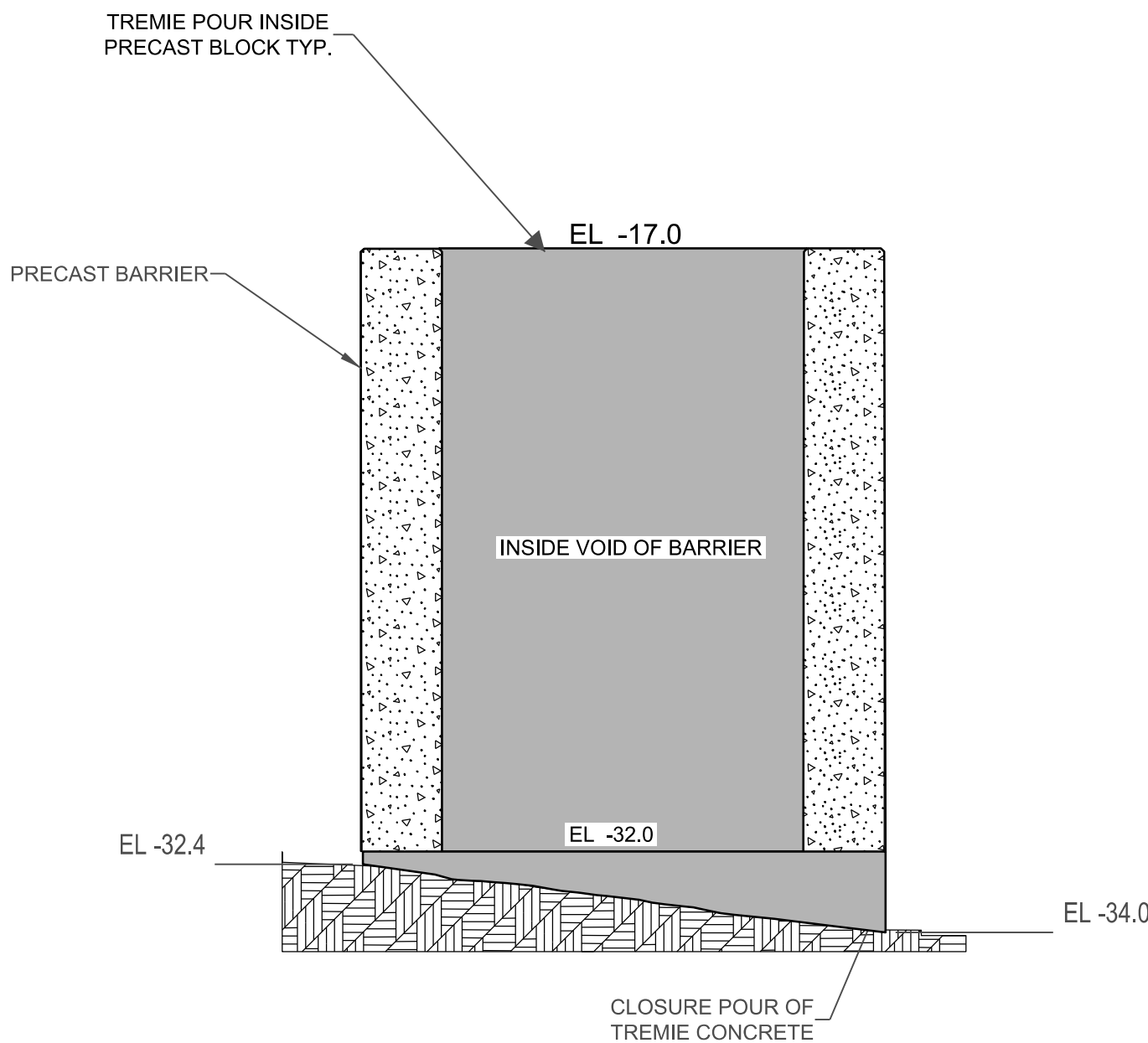
SOUTH PRECAST PLAN AND SECTION VIEW

SHEET IDENTIFICATION
S-501

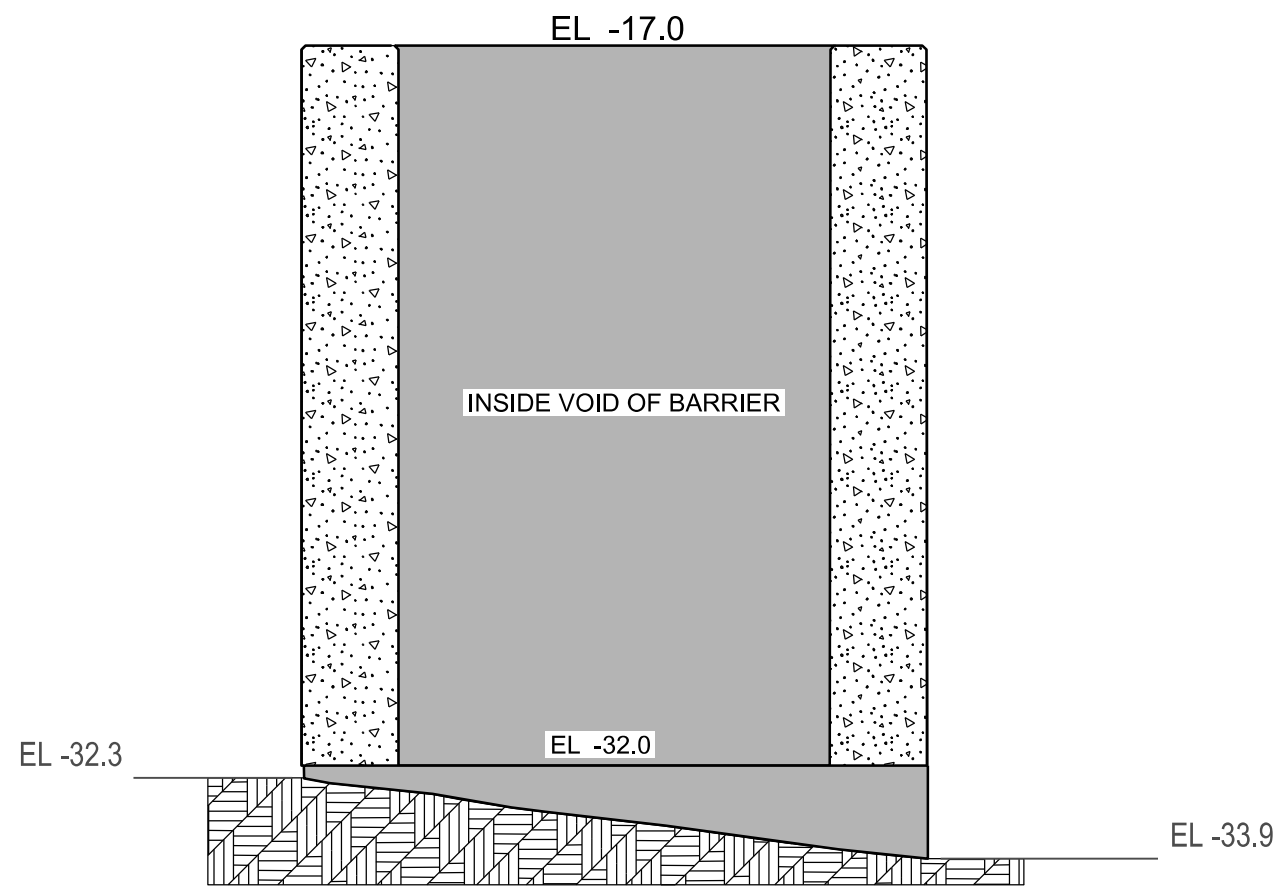
P&S REVIEW 90%

US Army Corps of Engineers
PORTLAND DISTRICT

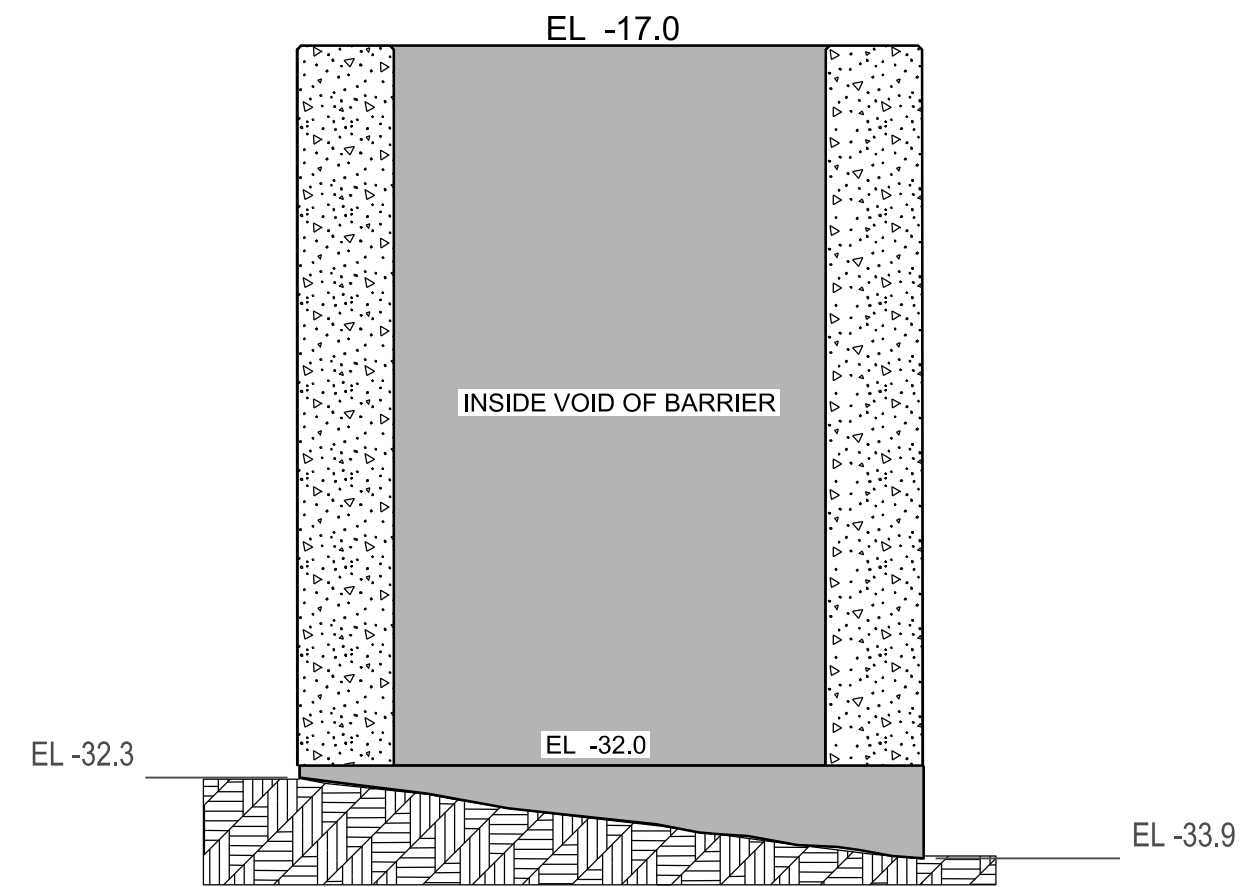
DATE: _____
APPR. _____
DESCRIPTION _____
MARK _____



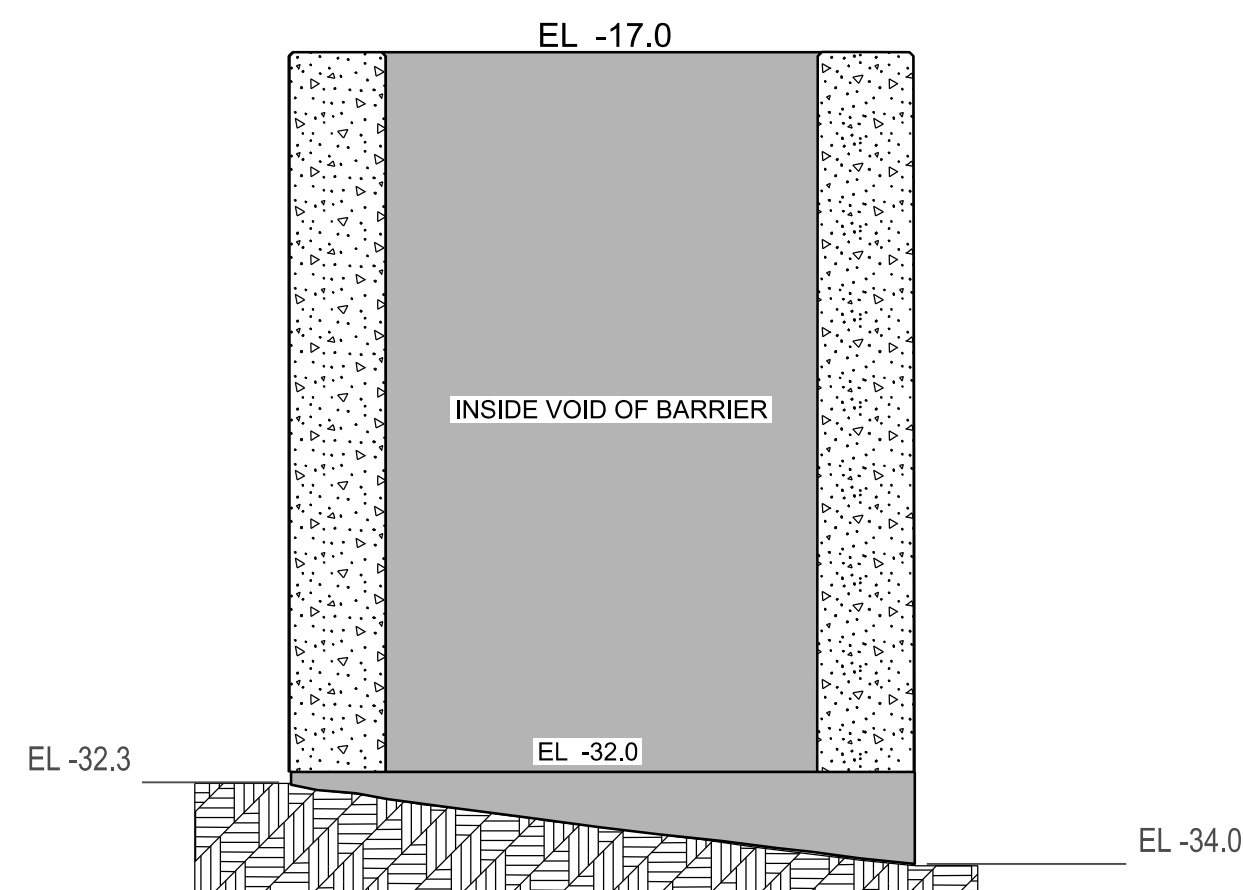
A SECTION @ STA, 02+32,00
SCALE: 1/4"=1'-0"



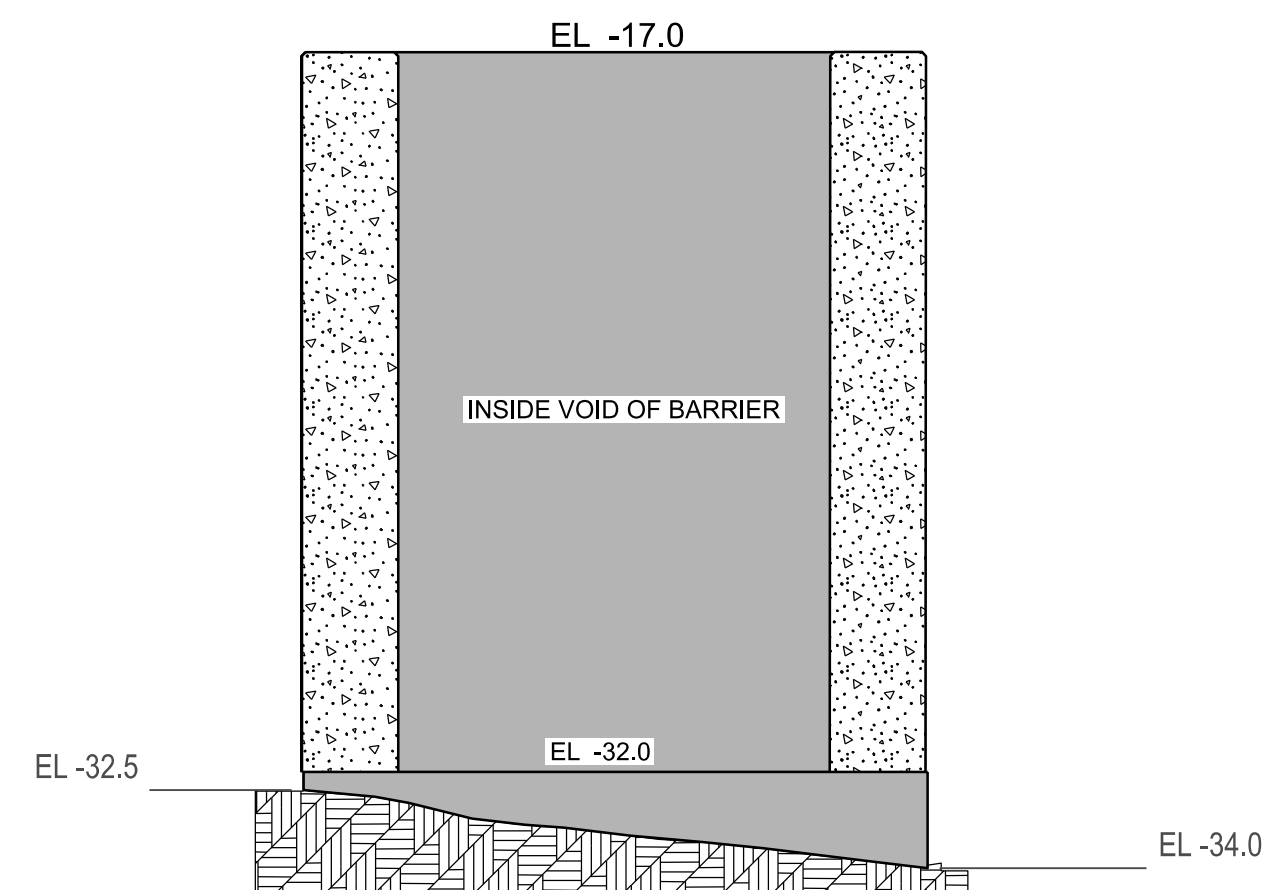
B SECTION @ STA, 02+21,00
SCALE: 1/4"=1'-0"



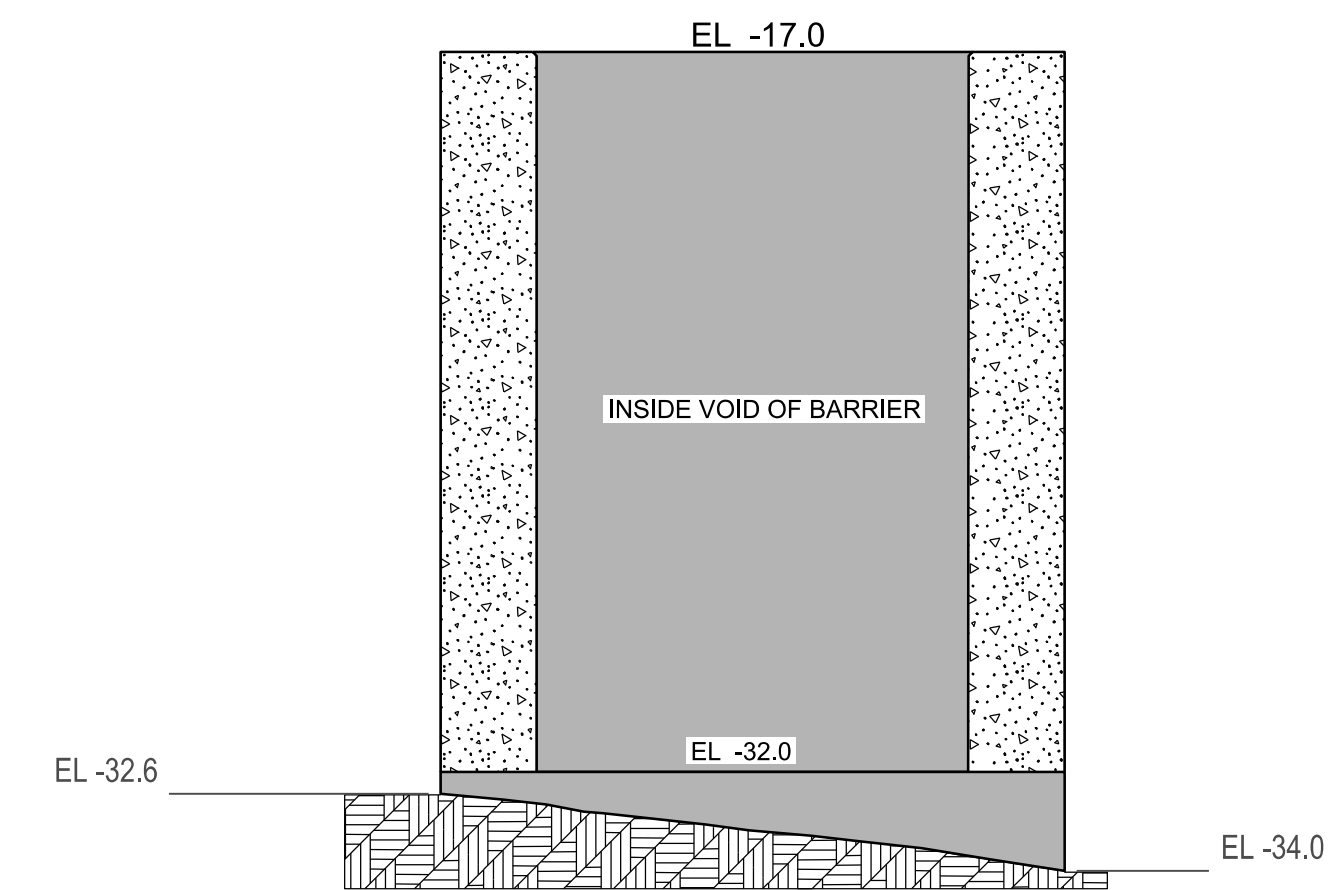
C SECTION @ STA, 02+10,00
SCALE: 1/4"=1'-0"



D SECTION @ STA, 01+98,00
SCALE: 1/4"=1'-0"



E SECTION @ STA, 01+87,00
SCALE: 1/4"=1'-0"



F SECTION @ STA, 01+75,00
SCALE: 1/4"=1'-0"

NOTE:
INSIDE VOID OF BARRIER TO BE FILLED
WITH TREMIE CONCRETE. CONCRETE
INSIDE BARRIER NOT SHOWN FOR CLARITY.

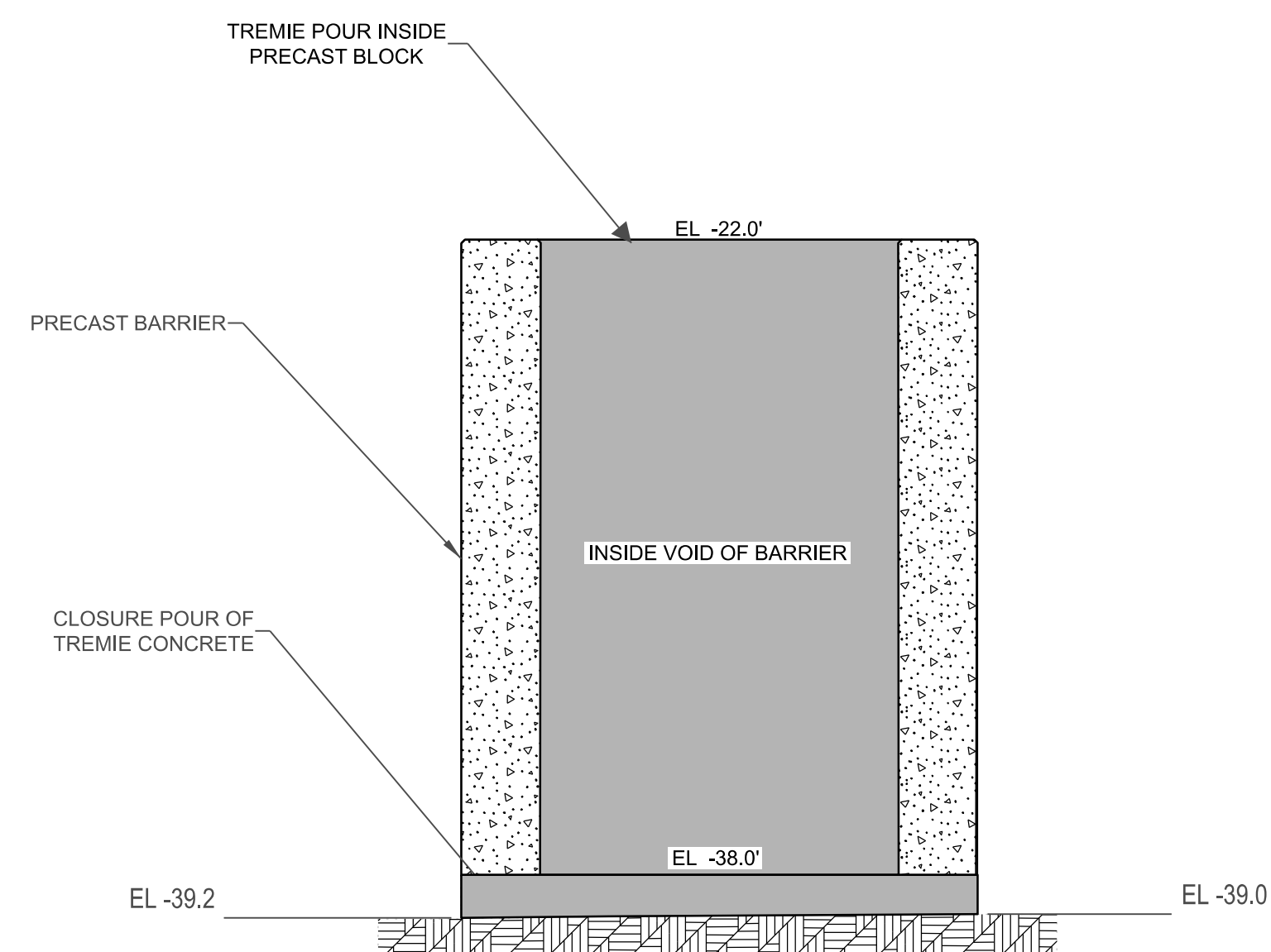


P&S REVIEW 90%

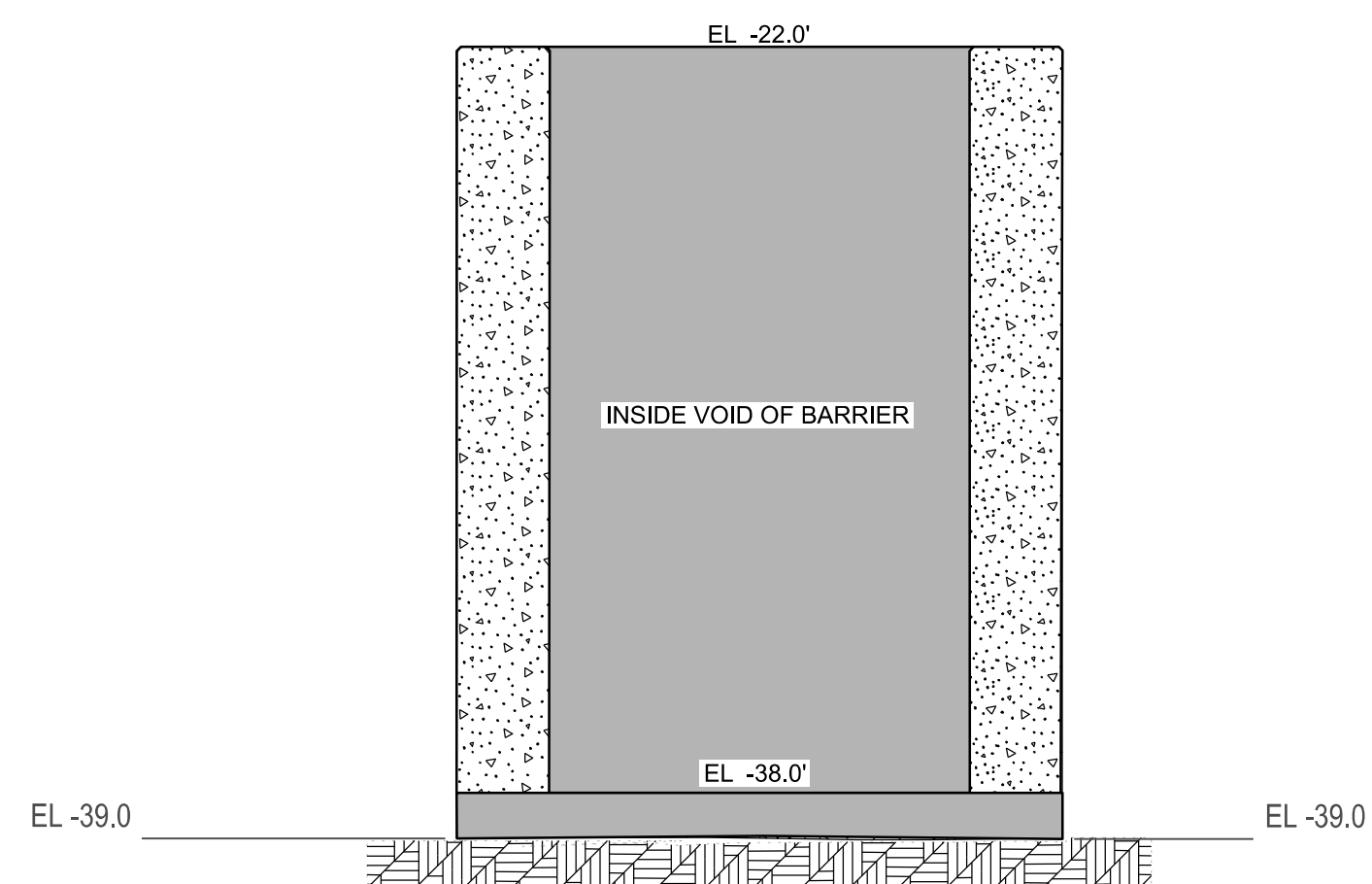
DESIGNED BY: K. CARABACAN
CHECKED BY: M. ROSHANI
SUBMITTED BY: M. SADIO
DATE: 01/01/2016
SOLICITATION NO.:
CONTRACT NO.:
SUBMITTED BY: MATHEW D. HANSON P.E.
PLOT SCALE: 1/4"=1'-0"
DRAWING NUMBER:
FILE NAME: BDDT:117 S-601 - S-503.dgn
SIZE: 131
ANSI D

BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION
SOUTH PRECAST SECTION DETAILS

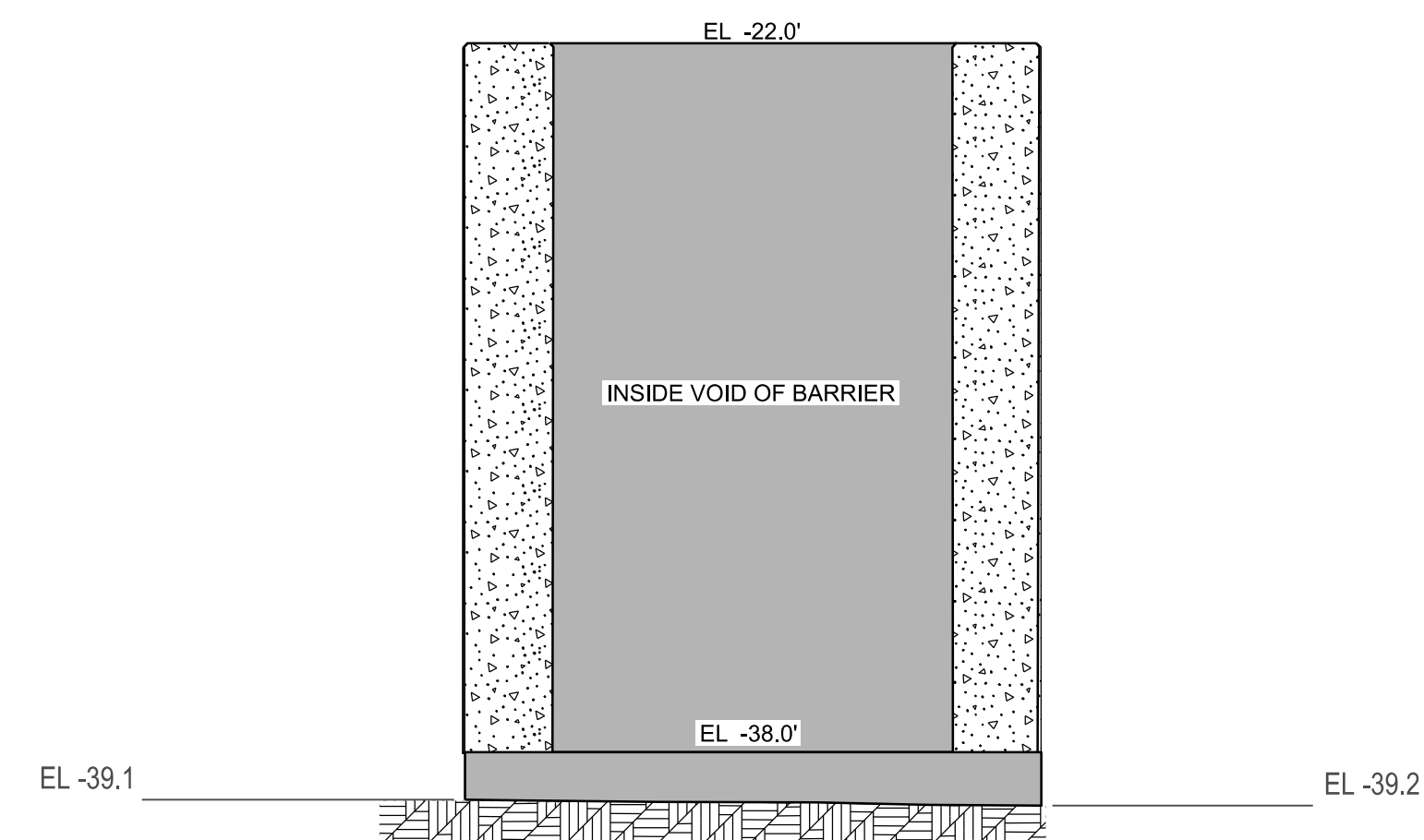
SHEET
IDENTIFICATION
S-503



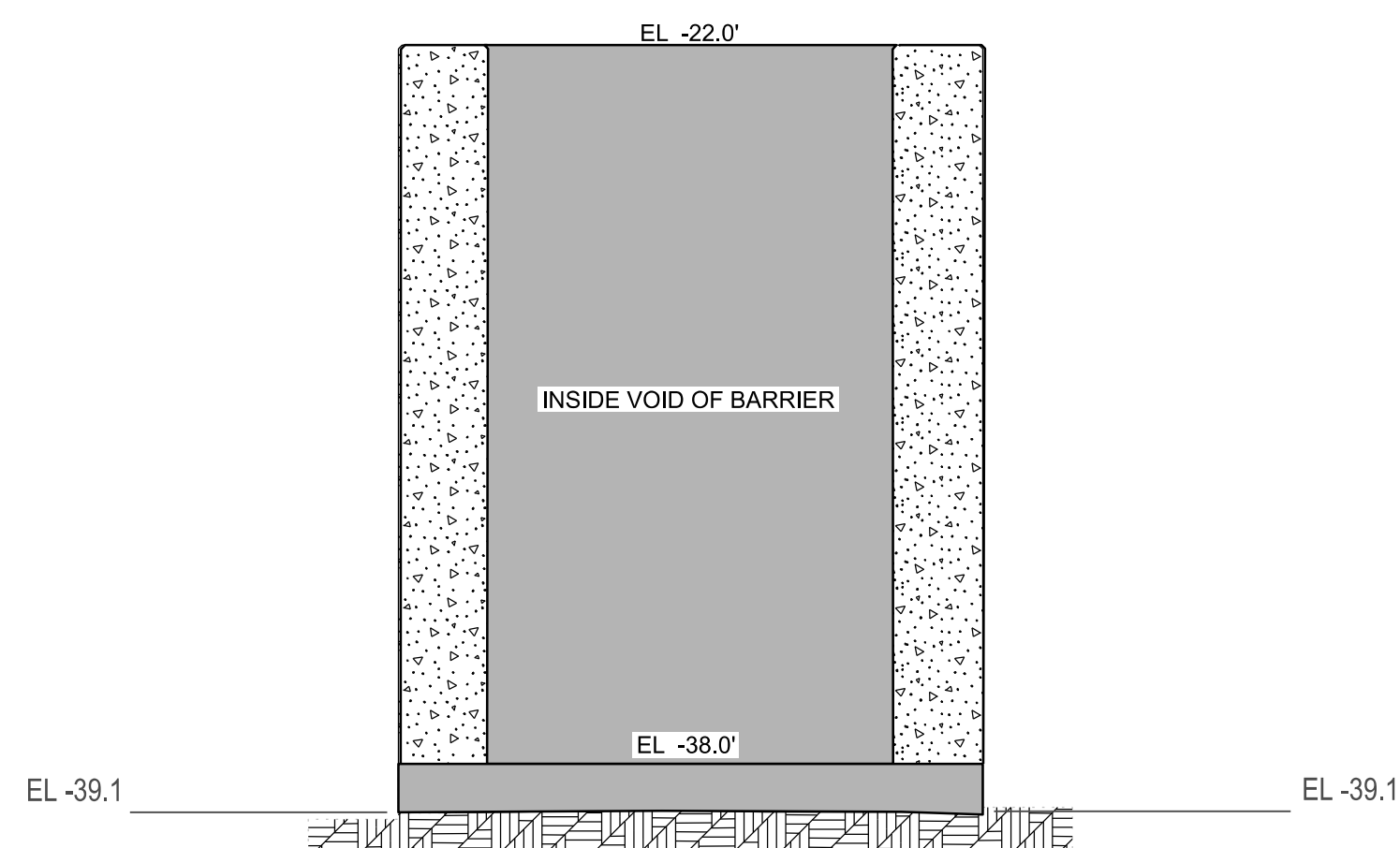
A SECTION @ STA, 02+32,00
SCALE: 1/4"=1'-0"



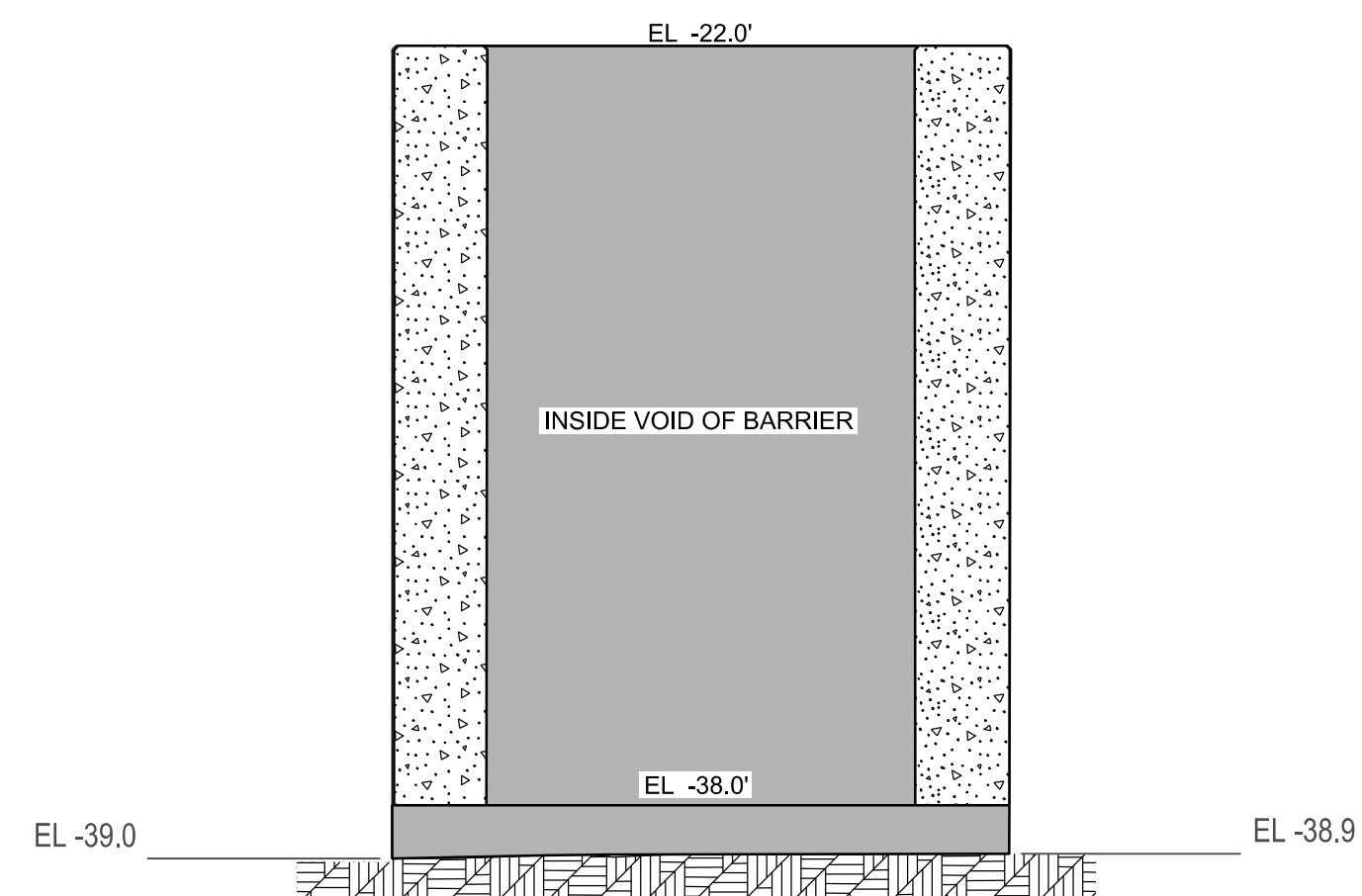
B SECTION @ STA, 02+21,00
SCALE: 1/4"=1'-0"



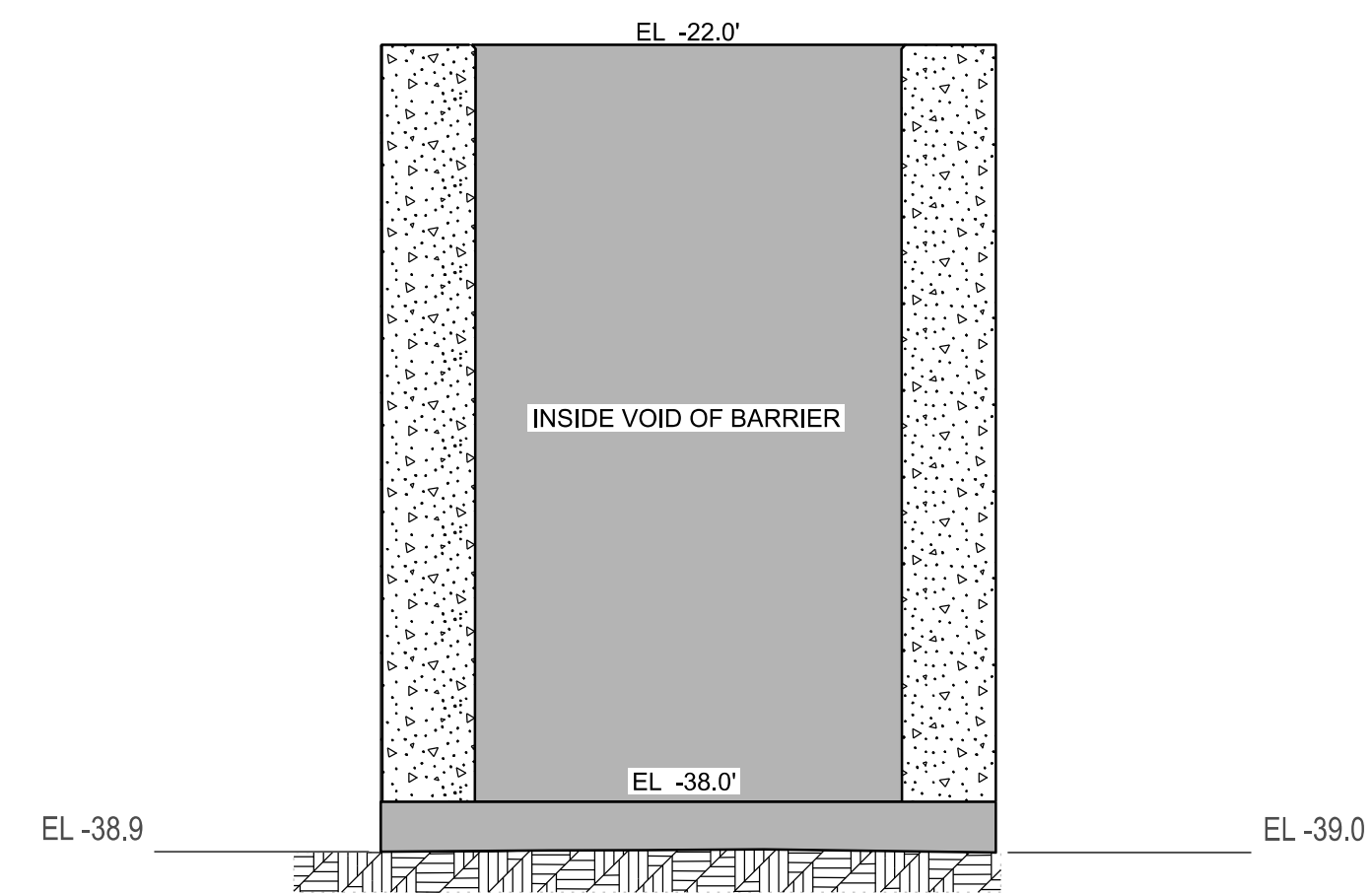
C SECTION @ STA, 02+10,00
SCALE: 1/4"=1'-0"



D SECTION @ STA, 01+98,00
SCALE: 1/4"=1'-0"



E SECTION @ STA, 01+87,00
SCALE: 1/4"=1'-0"



F SECTION @ STA, 01+75,00
SCALE: 1/4"=1'-0"

NOTE:
INSIDE VOID OF BARRIER TO BE FILLED
WITH TREMIE CONCRETE. CONCRETE
INSIDE BARRIER NOT SHOWN FOR CLARITY.



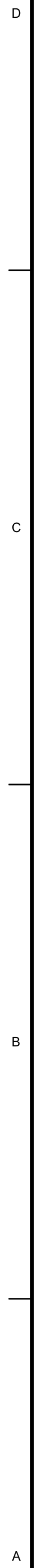
**US Army Corps
of Engineers®**
PORTLAND DISTRICT

P&S REVIEW 90%

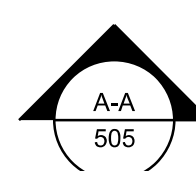
U.S. ARMY CORPS OF ENGINEERS		DESIGNED BY:	DATE:
PORTLAND DISTRICT		DRAWN BY:	01/01/2016
PORTLAND, OREGON		CHECKED BY:	
		M. SAOUDI	
		M. ROUSHANI	
		SUBMITTED BY:	
		CONTRACTOR:	
		CONTRACT NO.:	
		DRAWINGS NUMBER:	
		PILOT SCALE:	
		PILOT DATE:	
		SSD ADDRESS:	
		FILE NAME:	
		SIZE:	
		ANSI	
		BDDI:117	S-601 - S-605XXX.dgn

BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION

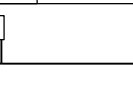
SHEET
IDENTIFICATION
S-504



ISOMETRIC INTERIOR CUT
SCALE: 3/4"=1'-0"



REBAR DETAIL OF PLAN VIEW



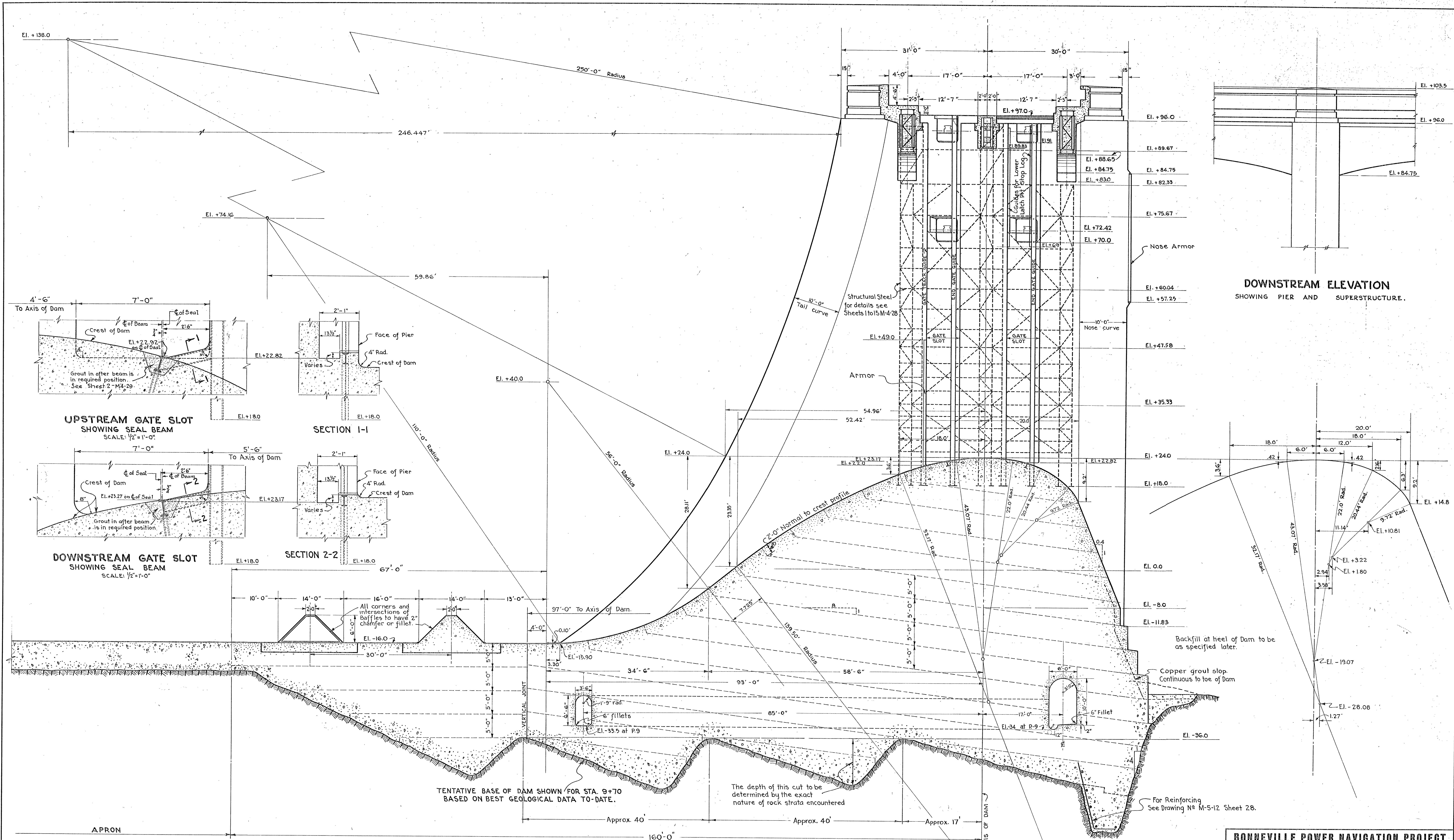
SECTION A-A
SCALE: 3/4"=1'-0"

[illegible]

U.S. ARMY CORPS OF ENGINEERS PORTLAND DISTRICT PORTLAND, OREGON	DRAWN BY: M. SADIQI	CHECKED BY: M. ROSHANI	SOLICITATION NO.:	DATE:
	SUBMITTED BY: MATHEW D. HANSON P.E.	DESIGNED BY: M. SADIQI	CONTRACT NO.:	
	NOT SCALE: 1:1	DESIGNED BY: M. SADIQI	DRAWING NUMBER:	
	SIZE: ANSI D	FILE NAME:		

BONNEVILLE LOCK AND DAM
SPILLWAY
ROCK MITIGATION
REINFORCEMENT DETAILS

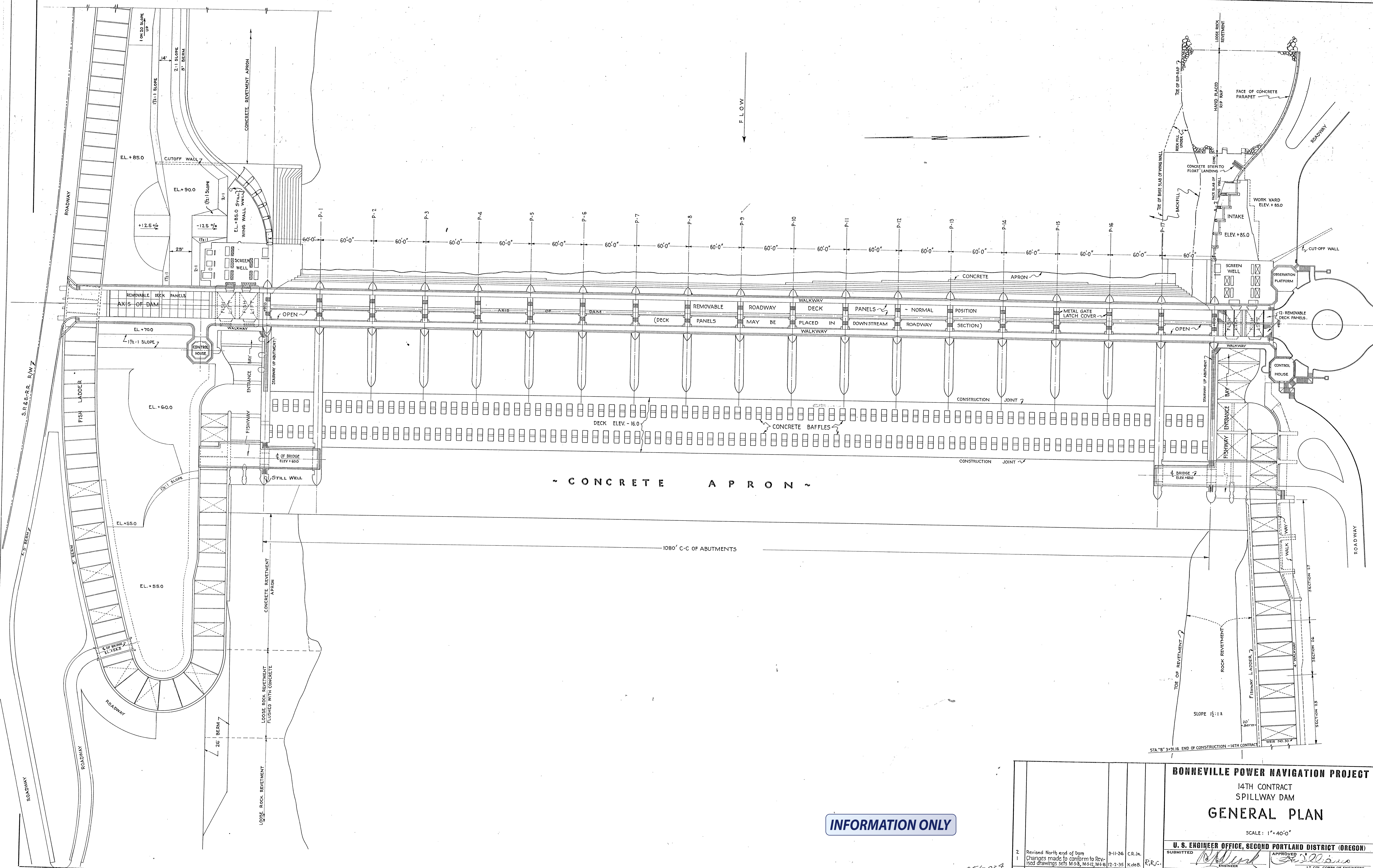
SHEET
IDENTIFICATION
S-505



6	Added Note - Classification of concrete	3-7-36	C.R.Jr.	R.C.
5	Added Dimensions to Seal Beams	10-3-35	F.X.D.	K.L.C.
4	Added guide for lower latch	7-31-35	R.D.P.	K.L.C.
3	Added chamfer for Gate latch openings. Added Baffle 1 in French	7-23-35	R.D.P.	K.L.C.
2	Nose curve dim. added.	6-7-35	A.R.S.	K.L.C.
1	Corrected dim. 97'-0" to Axis.	6-4-35	R.D.P.	K.L.C.

BONNEVILLE POWER NAVIGATION PROJECT
14TH CONTRACT
SPILLWAY - DAM
SECTION THRU DAM
BASE AT ELEV. -36 CREST AT ELEV. +24
SCALE
1/8" = 1'-0"

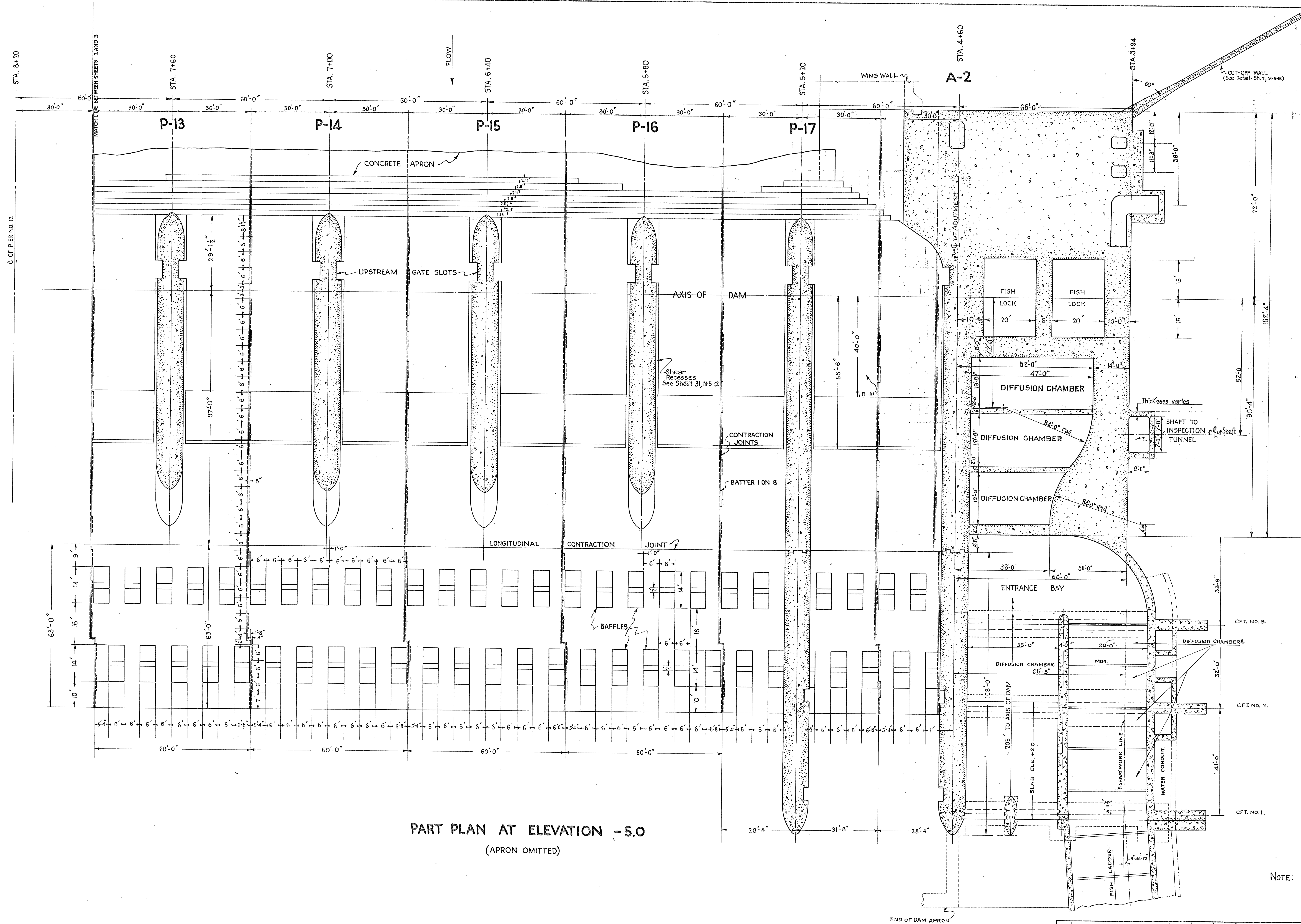
U.S. ENGINEER OFFICE, SECOND PORTLAND DISTRICT (OREGON)
SUBMITTED BY: *R.D. Phillips*
APPROVED BY: *R.D. Phillips*
DESIGNED BY: *R.D. Phillips*
CHECKED BY: *R.D. Phillips*
DATE: MAY 18, 1935



INFORMATION ONLY

THIS DRAWING SUPERSEDES DRAWING BEARING SAME NUMBER DATED APRIL 25, 1935.

BONNEVILLE POWER NAVIGATION PROJECT 14TH CONTRACT SPILLWAY DAM GENERAL PLAN SCALE: 1" = 40'-0"			
U. S. ENGINEER OFFICE, SECOND PORTLAND DISTRICT (OREGON)			
2 1	Revised North end of Dam Changes made to conform to Rev- ised drawings sets M-5-B, M-5-12, M-5-16	9-11-36 12-2-35	C.R.Jr. K.deB.
NO	REVISION	DATE	BY
RECOMMENDED K.deB. PRINCIPAL ENGINEER		APVD	APPROVED K.deB. LT. COL. CORPS OF ENGINEERS
DESIGNED BY K.deB. TR. BY K.deB. CHECKED BY D.F.T.		DATE NOV. 5, 1935	OR BY K.deB. TR. BY K.deB. CHECKED BY D.F.T.



PART PLAN AT ELEVATION -5.0
(APRON OMITTED)

INFORMATION ONLY

6

Eliminated 2' shoulders below Elz² on pier N^o 15.

10-14-35

K.deB.

K.L.C.

7

Corrected Pier Base Lines, Piers 13-17. (Added Fishway Entrance Bay. Added & Changed Dimensions.

10-30-35

K.deB.

K.L.C.

8

General Revisions To Abutment A-2 & Fishlocks. Added Fish lock and cut-off wall. Changed and added contraction joints. Changed shear recesses around piers.

9-9-35

K.deB.

K.L.C.

9

Changed Tie of Piers to Baffle 16" to 10"

6-5-35

K.deB.

R.R.C.

NO.

REVISION

DATE

BY

AP'VD

10-14-35

K.deB.

K.L.C.

10-30-35

K.deB.

K.L.C.

9-9-35

K.deB.

K.L.C.

6-5-35

K.deB.

R.R.C.

U.S. ENGINEER OFFICE, SECOND PORTLAND DISTRICT (OREGON)

SUBMITTED

RECOMMENDED

APPROVED

MAJOR, CORPS OF ENGINEERS

HEAD ENGINEER

DESIGNED BY

DATE MAY 29, 1935.

BONNEVILLE POWER NAVIGATION PROJECT

14TH CONTRACT

SPILLWAY DAM

PLAN OF DAM

FROM PIER 13 TO ABUTMENT 2

SHOWN AT ELEV -5.0

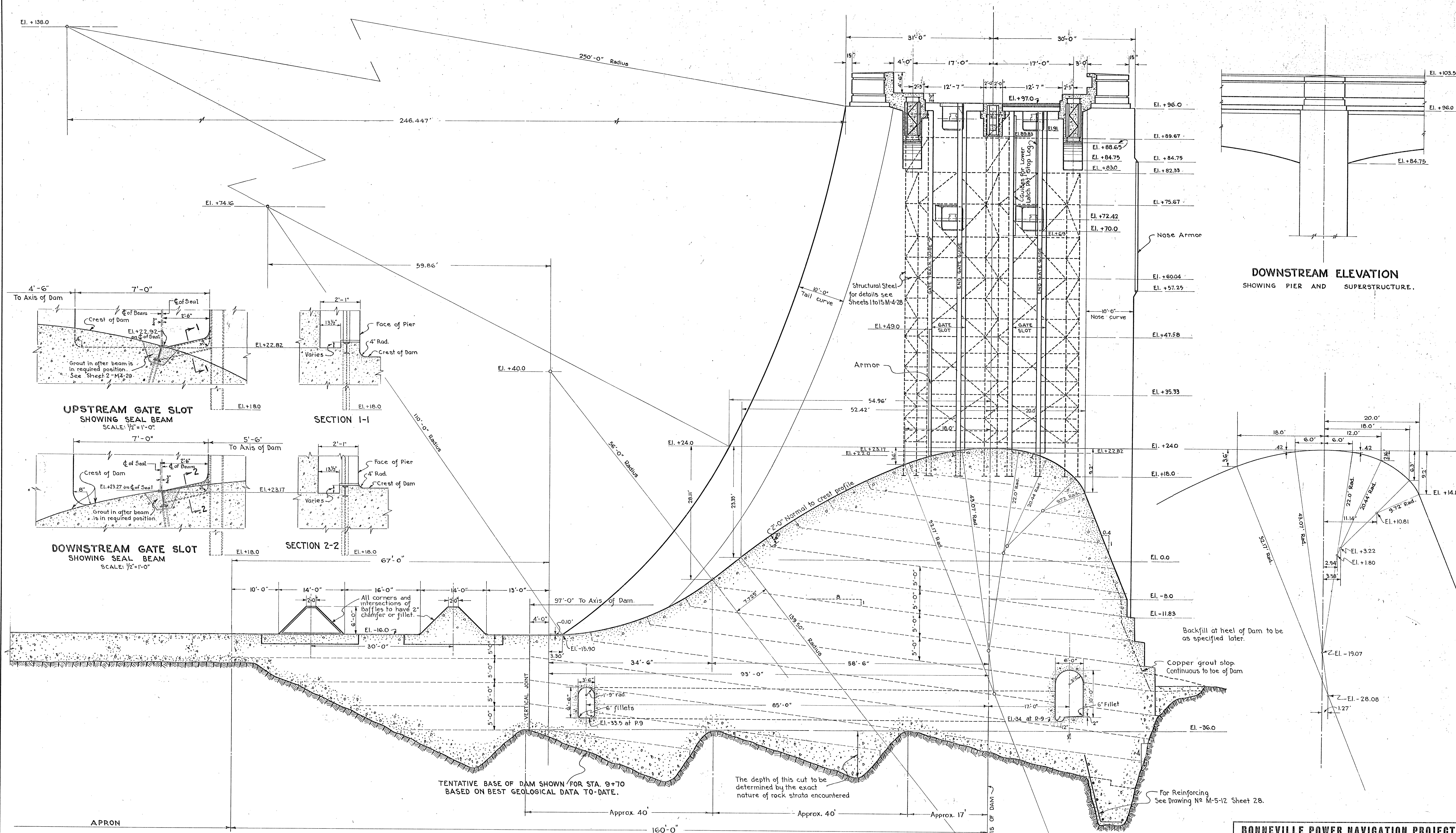
SCALE: 1" = 16'-0"

Note: Direction of indentation of Shear keys to be Contractors option.

051-025



				BONNEVILLE POWER NAVIGATION PROJECT			
				14TH CONTRACT			
				SPILLWAY DAM			
				PLAN OF DAM			
				PIERS 5 TO 10 AT ELEVATION +24.0			
				PIERS 10 TO 12 INCL. AT ELEVATION - 5.0			
				SCALE: 1" = 16'0"			
				U.S. ENGINEER OFFICE, SECOND PORTLAND DISTRICT (OREGON)			
NO.		REVISION		DATE		BY	
APVD							
8	Change loc. of const. joint bet P&P 8 Eliminate zft shoulders below Elev +2.0 on pier No 12.	6-11-36	C.R.Je	S.D.M	K.L.C	F.B.D.	
6	Corrected Plan, Base Lines, Pier #17 Changed plan dim. from 36'-4" to 40'- Added dimensions	1-14-35 10-30-35 9-10-35	K.Deb	K.L.C	R.R.C	K.Deb	
2	Changed shear stresses around piers	8-30-35	K.Deb	R.R.C	K.Deb		
2	Change loc. of conf. J. bet. P-8 & P-9	8-6-35	K.Deb	R.R.C	K.Deb		
1	Changed Tie & Piers to Baffle 1'-6" to 1'-0"	5-6-35	K.Deb	L.V.U			



INFORMATION ONLY

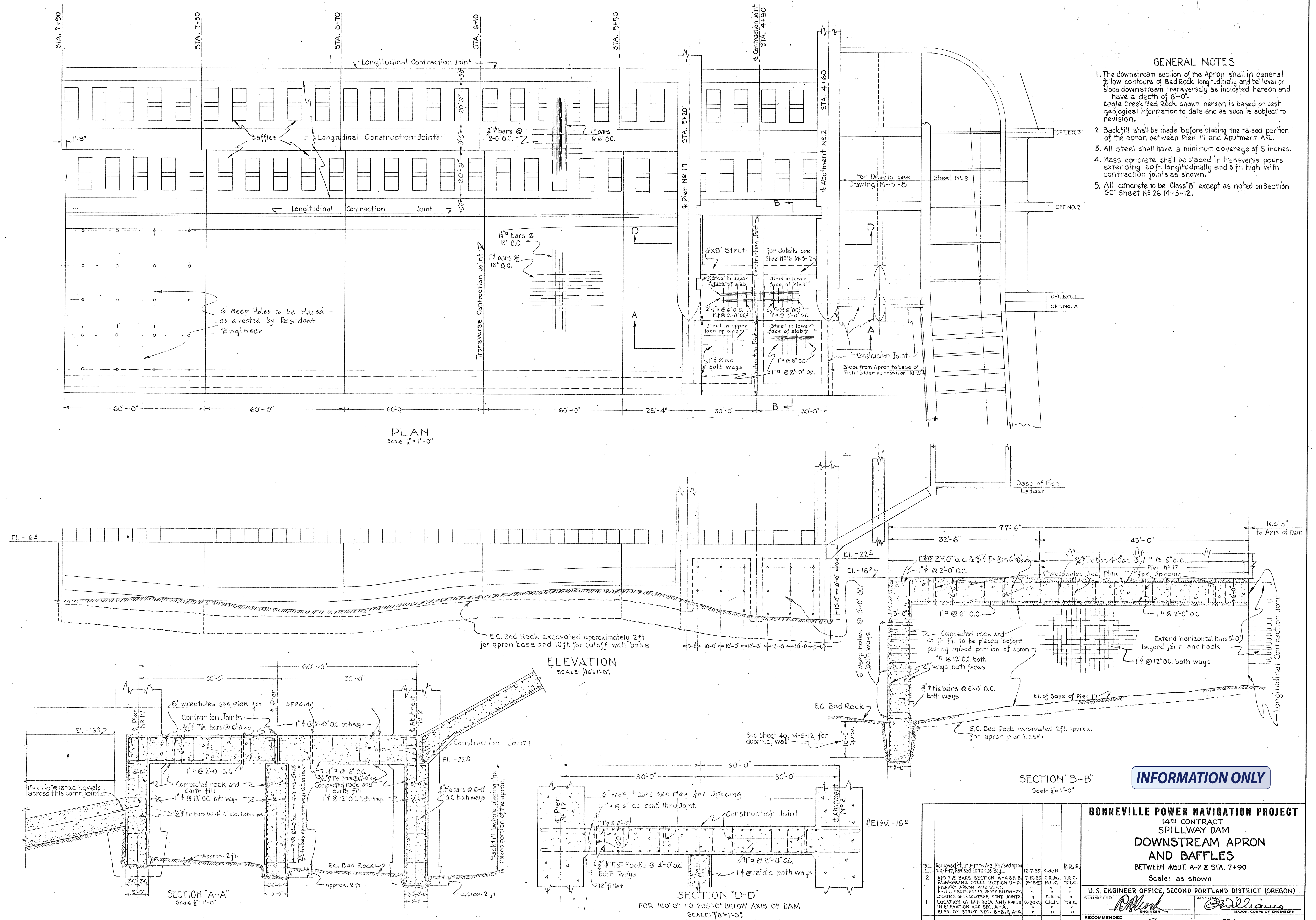
6	Added Note - Classification of concrete	3-7-36	C.R.Jr.	R.C.
5	Added Dimensions to Seal Beams	10-3-35	F.X.D.	K.L.C.
4	Added guide for lower latch	7-31-35	R.D.P.	K.L.C.
3	Added chamfer for Gate latch openings. Added Baffle 1 French	7-23-35	R.D.P.	K.L.C.
2	Nose curve dim. added.	6-7-35	A.R.S.	K.L.C.
1	Corrected dim. 97'-0" to Axis.	6-4-35	R.D.P.	K.L.C.

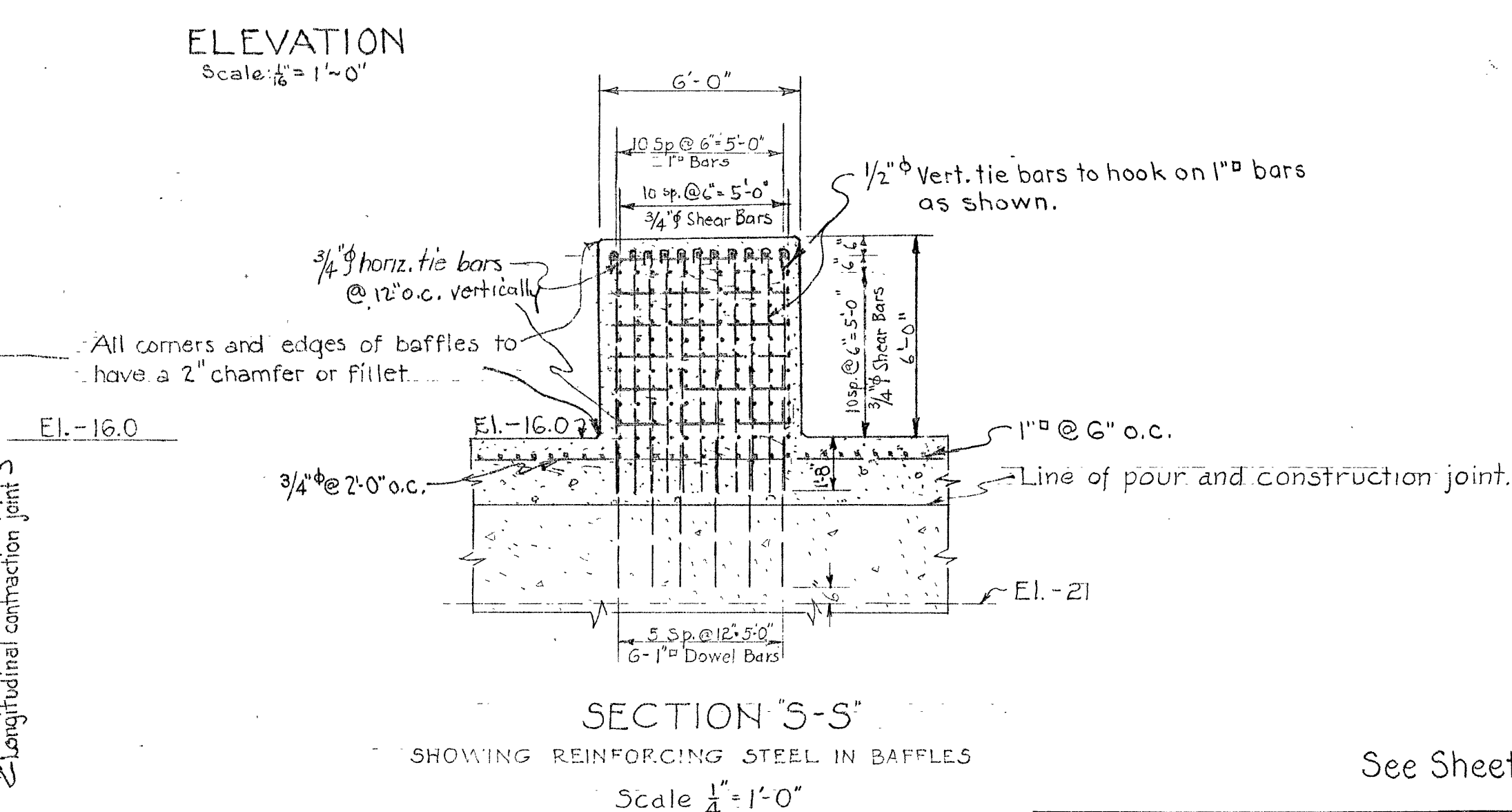
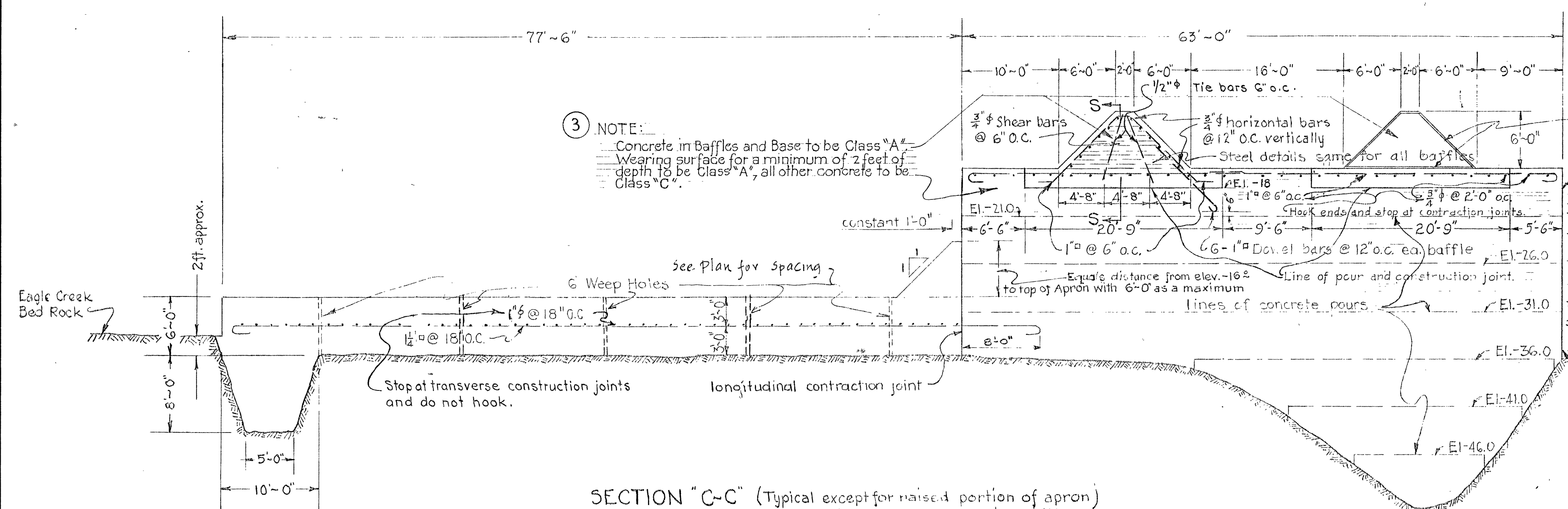
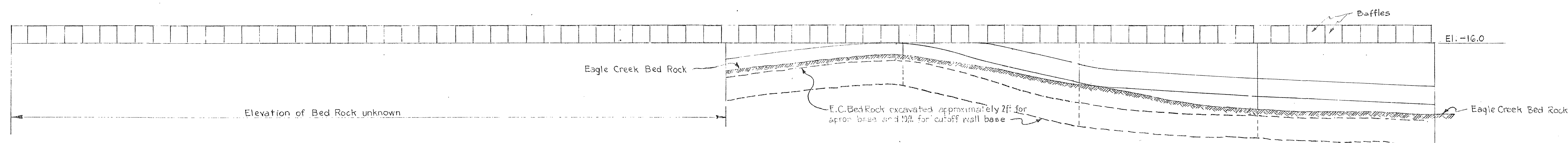
BONNEVILLE POWER NAVIGATION PROJECT
14TH CONTRACT
SPILLWAY - DAM
SECTION THRU DAM
BASE AT ELEV. -36 CREST AT ELEV. +24
SCALE
1/8" = 1'-0"

U.S. ENGINEER OFFICE, SECOND PORTLAND DISTRICT (OREGON)
SUBMITTED BY: *R.D. Phillips* ENGINEER
APPROVED BY: *W. H. Williams* MAJOR, CORPS OF ENGINEERS
DESIGNED BY: *R.D. Phillips* HEAD ENGINEER
CHECKED BY: *W. H. Williams*

SHEET NO 10 OF

M-5-12

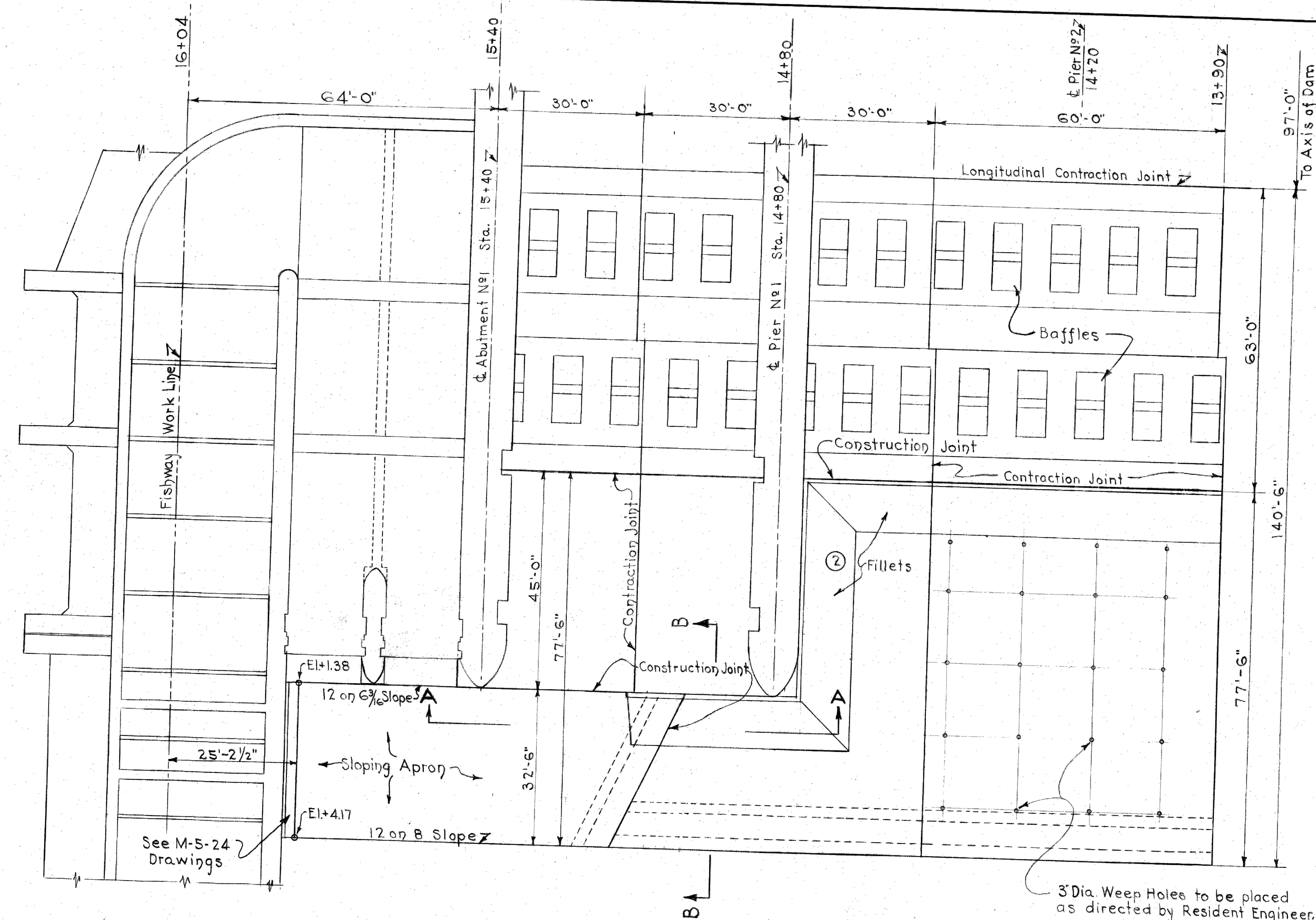




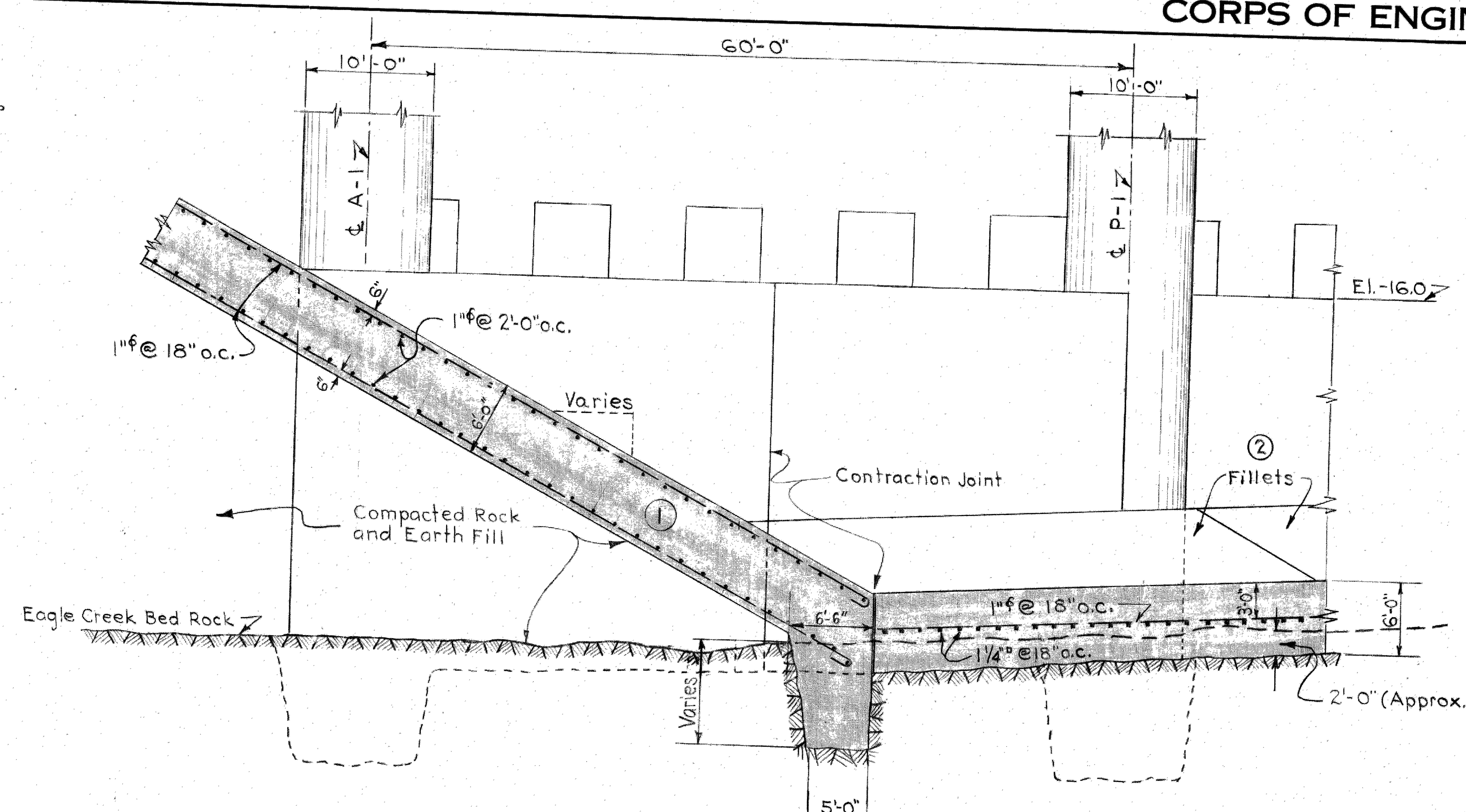
See Sheet No 25 M-5-12 for General Notes

INFORMATION ONLY

BONNEVILLE POWER NAVIGATION PROJECT						
14TH CONTRACT SPILLWAY DAM						
DOWNSTREAM APRON & BAFFLES STA. 7+90 TO 12+70, INCL. SCALES AS SHOWN						
3	Changed note on concrete in Baffles.	3-7-36	K.deB.	R.R.C.		
2	METHOD OF FOUR C STEEL FOR BAFFLES, LOC. OF TRANSVERSE CONTRACTION JOINT NOTE ON REINFORCING STEEL AT CONSTRUCTION AND CONSTRUCTION JOINTS LOCATION OF SEC. C-C AND BED ROCK ON ELEVATION. SHOW 10% BARS SEC. C-C & S-S.	7-15-35 C.R.B. 6-20-35 C.R.Jr.	M.L.C. C.R.B. T.R.C.			
U.S. ENGINEER OFFICE SECOND PORTLAND DISTRICT (OREGON)						
SUBMITTED				APPROVED		
<i>W. L. Clark</i> ENGINEER				<i>St. Williams</i> MAJOR, CORPS OF ENGINEERS		
RECOMMENDED					DESIGNED BY T.R.C. DATE 5-29-35	
<i>E. J. Linn</i>					FOR T.R.C. BY <i>D.W. Brown</i> & <i>E. K.</i>	
NO.	REVISION	DATE	BY	AP'VD		

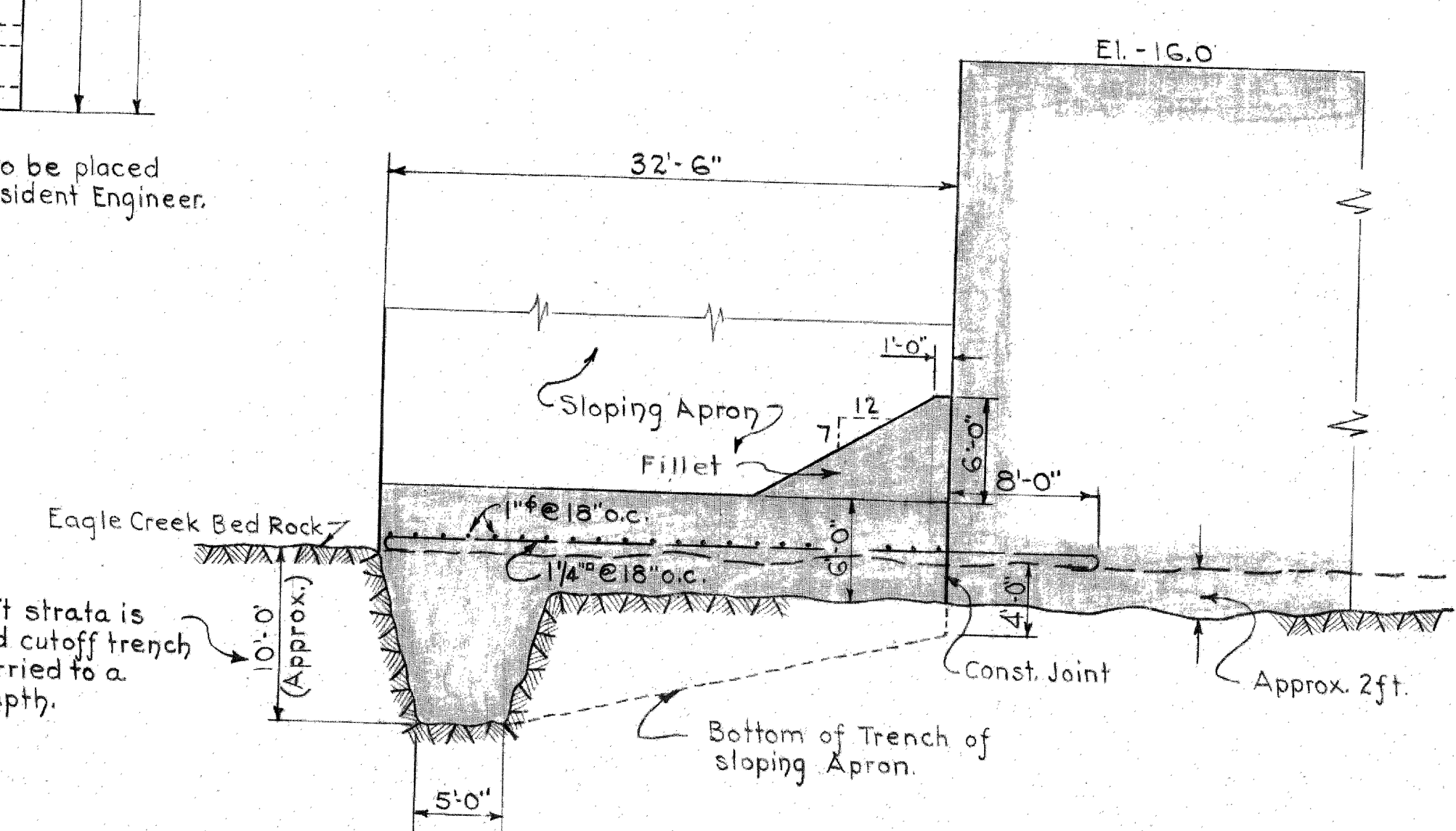


PLAN
SCALE: 1/8" = 1'-0"

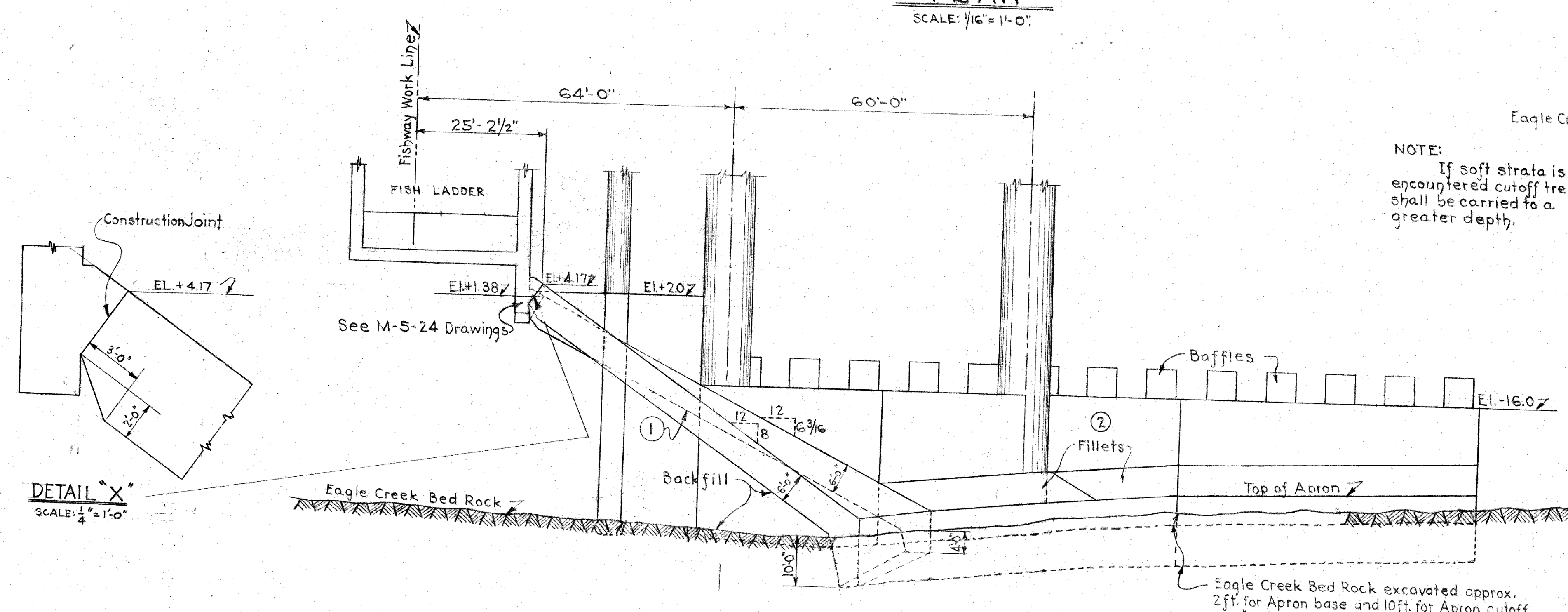


SECTION A-A
SCALE: 1/8" = 1'-0"

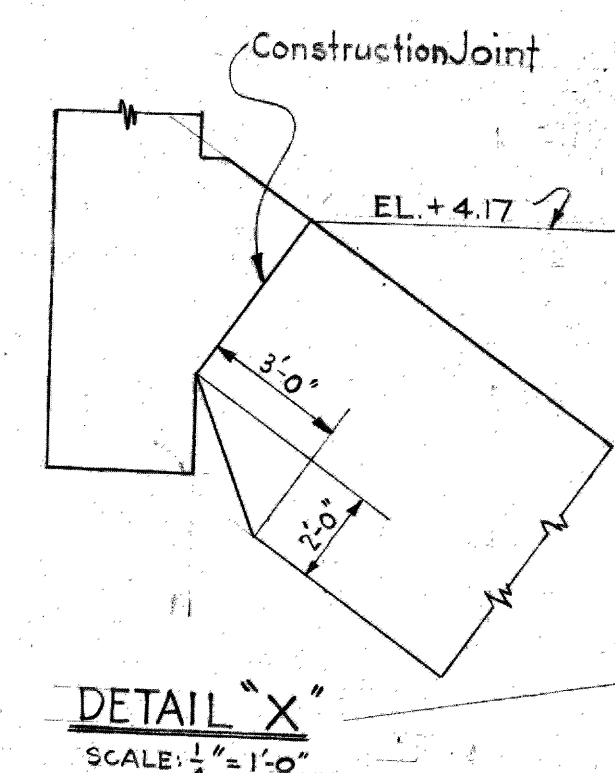
NOTES:
The downstream section of the Apron shall in general follow contours of Bed Rock longitudinally and be level or slope downstream as indicated hereon and have a minimum depth of 6'-0".
Eagle Creek Bed Rock shown hereon is based on the best geological information to date and as such is subject to revision.
Backfill shall be made before placing inclined Apron between Fish Ladder and Abutment No. 1.



SECTION B-B
SCALE: 1/8" = 1'-0"



ELEVATION
SCALE: 1/8" = 1'-0"



DETAIL X
SCALE: 1/4" = 1'-0"

INFORMATION ONLY

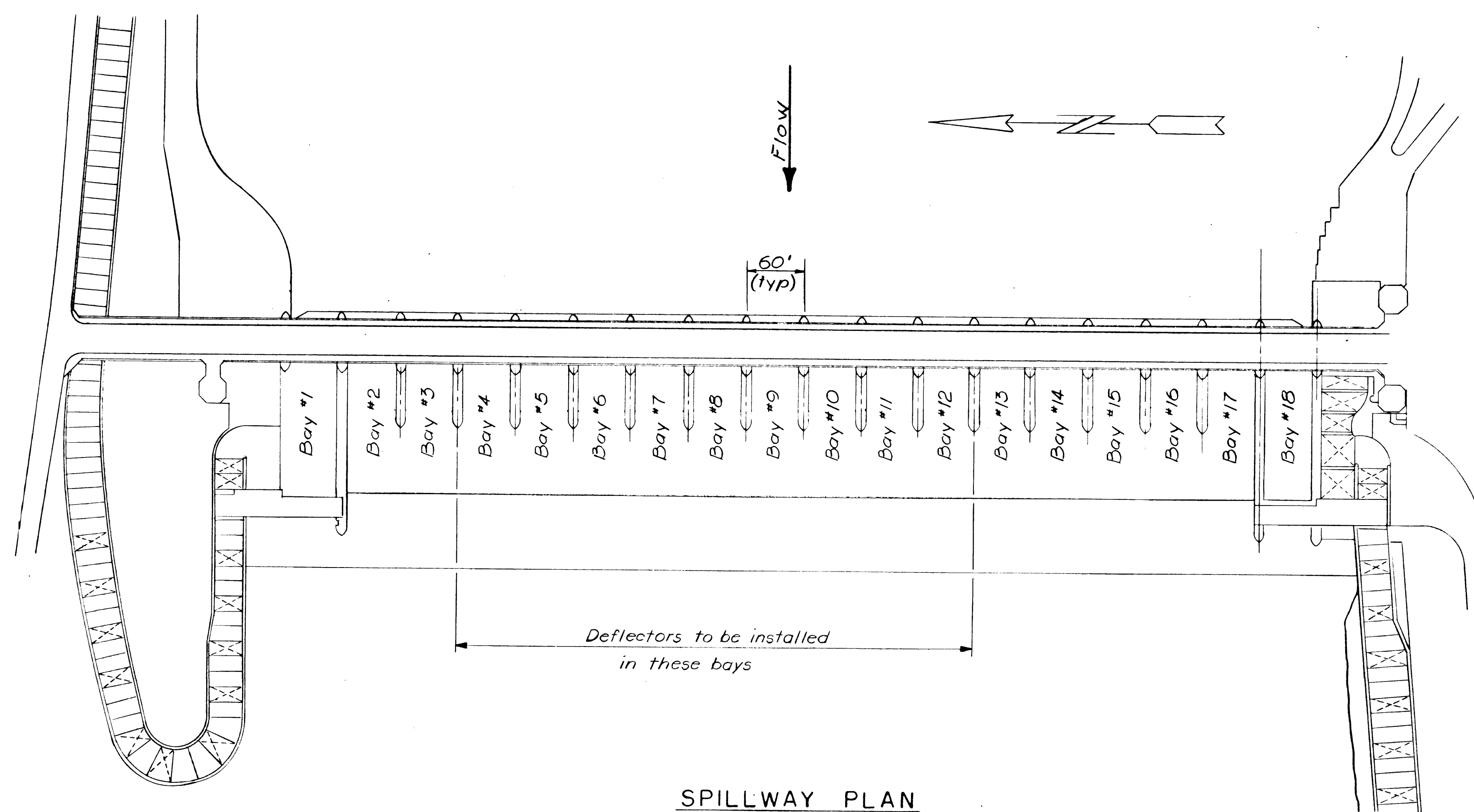
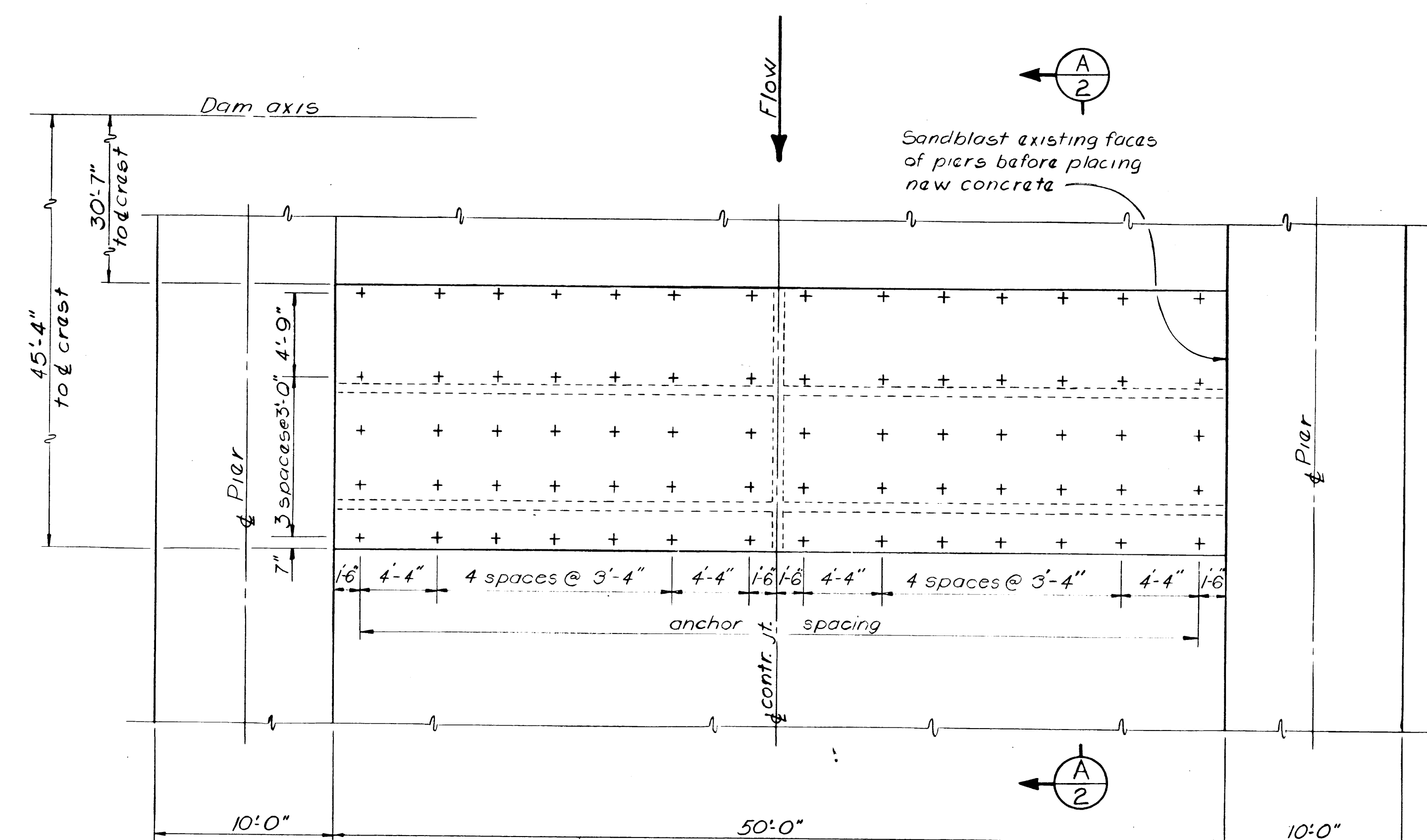
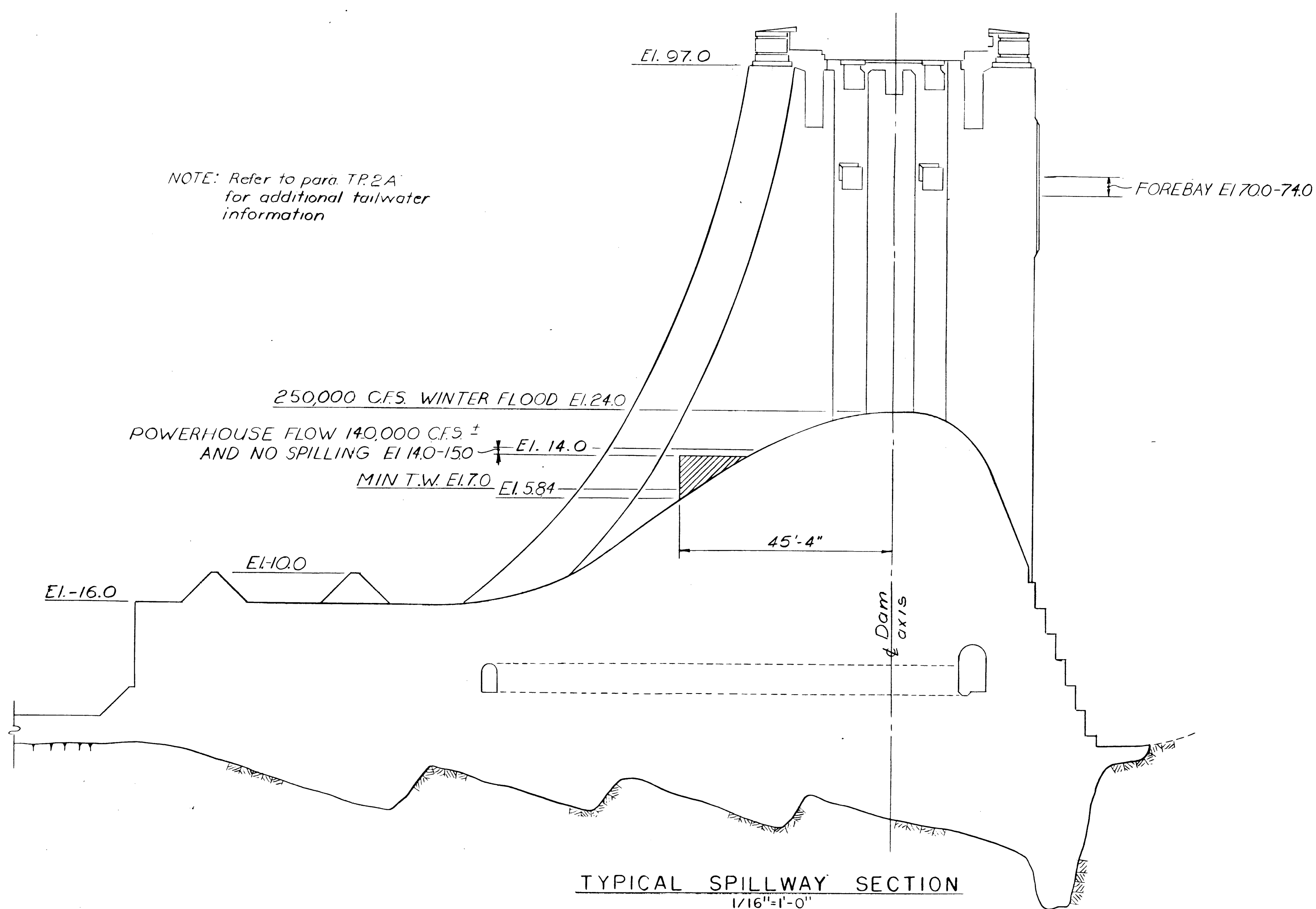
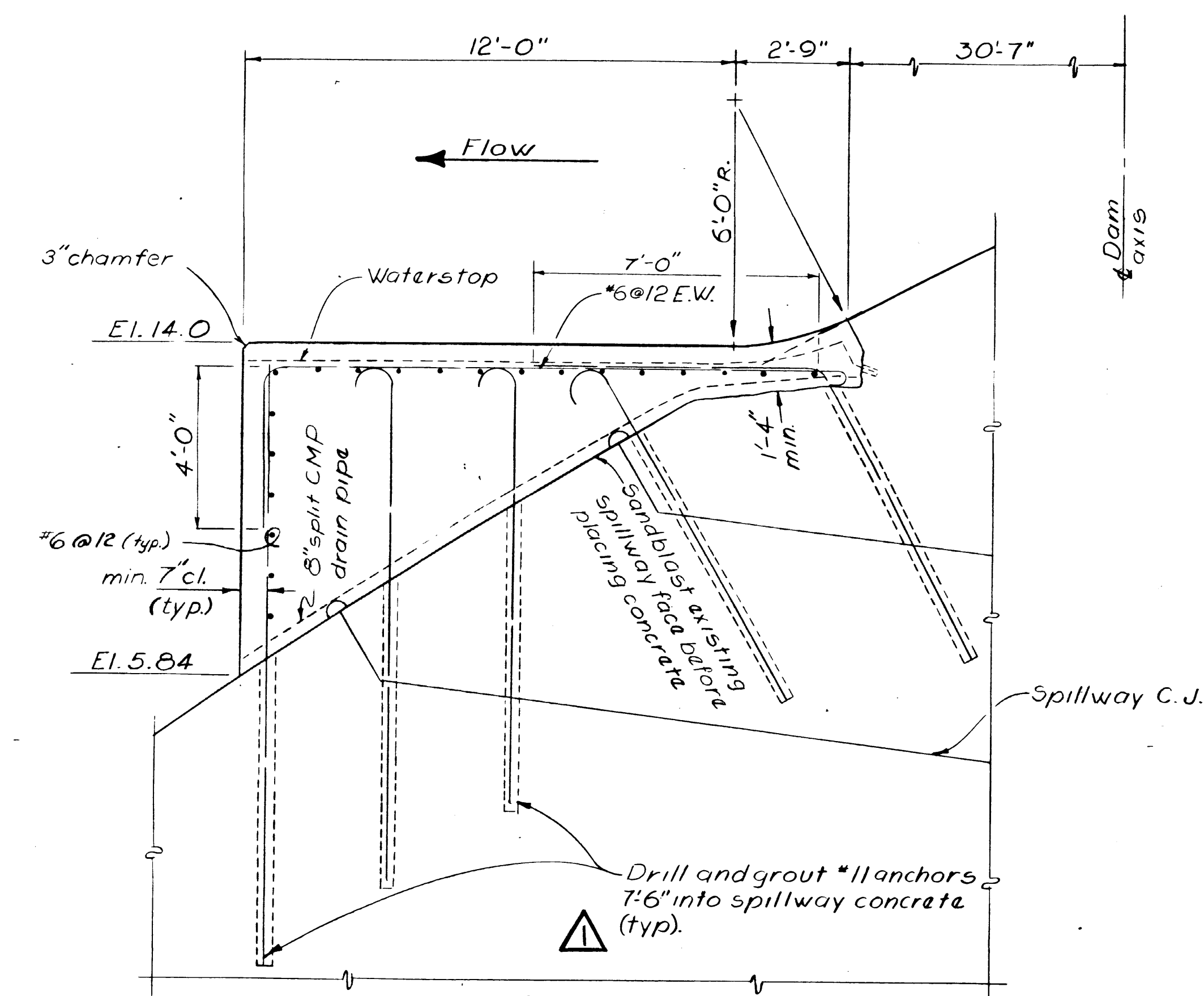
BONNEVILLE PROJECT CONTRACT W-38 eng.-575 SPILLWAY DAM DOWNSTREAM APRON & BAFFLES STA. 13+90 TO STA. 16+04					
SCALE: AS SHOWN					
U. S. ENGINEER OFFICE, SECOND PORTLAND DISTRICT (OREGON)					
SUBMITTED		APPROVED		DESIGNED BY: SDeM	
RECOMMENDED		DATE: JULY 15, 1936		CHECKED BY: SDeM	
NO.	REVISION	DATE	BY	APVD	
2	Revised for Apron Fillets	6-18-37	C.R.J.		
1	Increased thickness of fillets from 4'-0" to 6'-0"	9-18-36	K.deB.		

SHEET NO. 64

M-5-12

C.R.J.R. 2-20-36
Sheet No. 5860



SPILLWAY PLAN
NOT TO SCALEDEFLECTOR PLAN (TYP EXCEPT BAYS NOS 9, 11 & 12)
3/16"=1'-0"TYPICAL SPILLWAY SECTION
1/16"=1'-0"SECTION A-A
3/8"=1'-0"

NOTES

1. Exposed surface of the spillway deflector shall have a wood float finish.
2. When existing reinforcing steel is encountered during drilling, the drill hole must be relocated. If existing reinforcing steel is encountered during concrete removal, the reinforcing steel must be left in place.

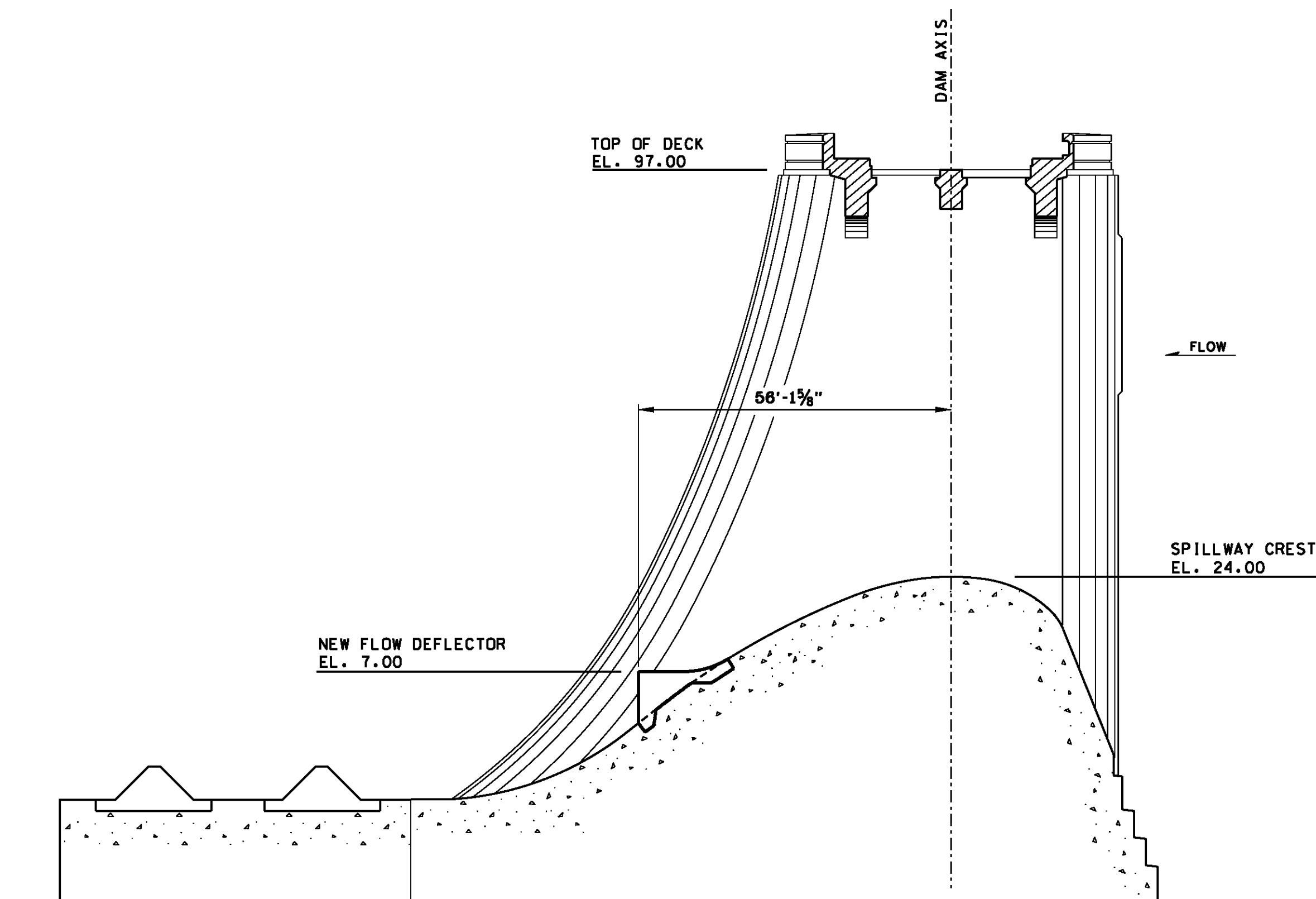
INFORMATION ONLY

AS CONSTRUCTED

CONTRACT No. DACW 57-75-C-0050
CONTRACTOR Peter Kiewit Sons' Co.
DATE OF RECEIPT OF NOTICE TO PROCEED
DATE OF COMPLETION OF CONTRACT
DATE OF ACCEPTANCE

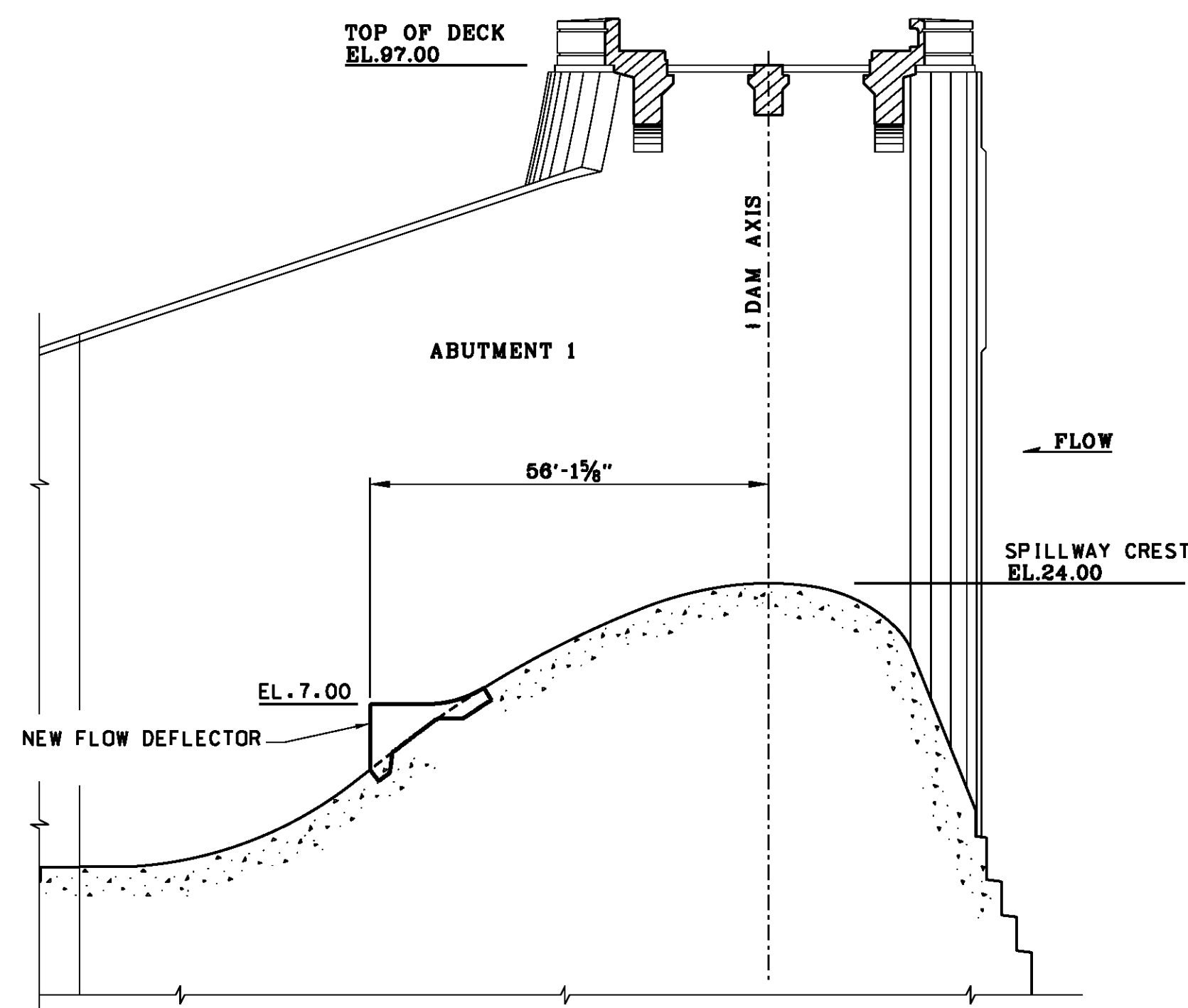
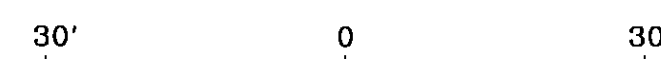
76/6/2 Revised as Constructed		BY
74/10/10 Delete reference to non-shrink grout		BY
U. S. ARMY ENGINEER DISTRICT, PORTLAND		
DESIGNED: D. ILLIAS	BONNEVILLE LOCK AND DAM COLUMBIA RIVER WASHINGTON-OREGON MODIFICATION FOR PEAKING DEFLECTORS CONCRETE	
DRAWN: Z. Fokete	DEFLECTOR PLAN AND SECTIONS	
CHECKED: I. Pauvola	DATE: 74 MAY 23	
PREPARED: E. R. Proulx	SUBMITTED: H. R. Proulx	
SUPERVISED: E. R. Proulx	CHIEF, DESIGN BRANCH	
CHIEF, STRUCTURES SECTION		SHEET 2 of 17

BDD-2-7/1



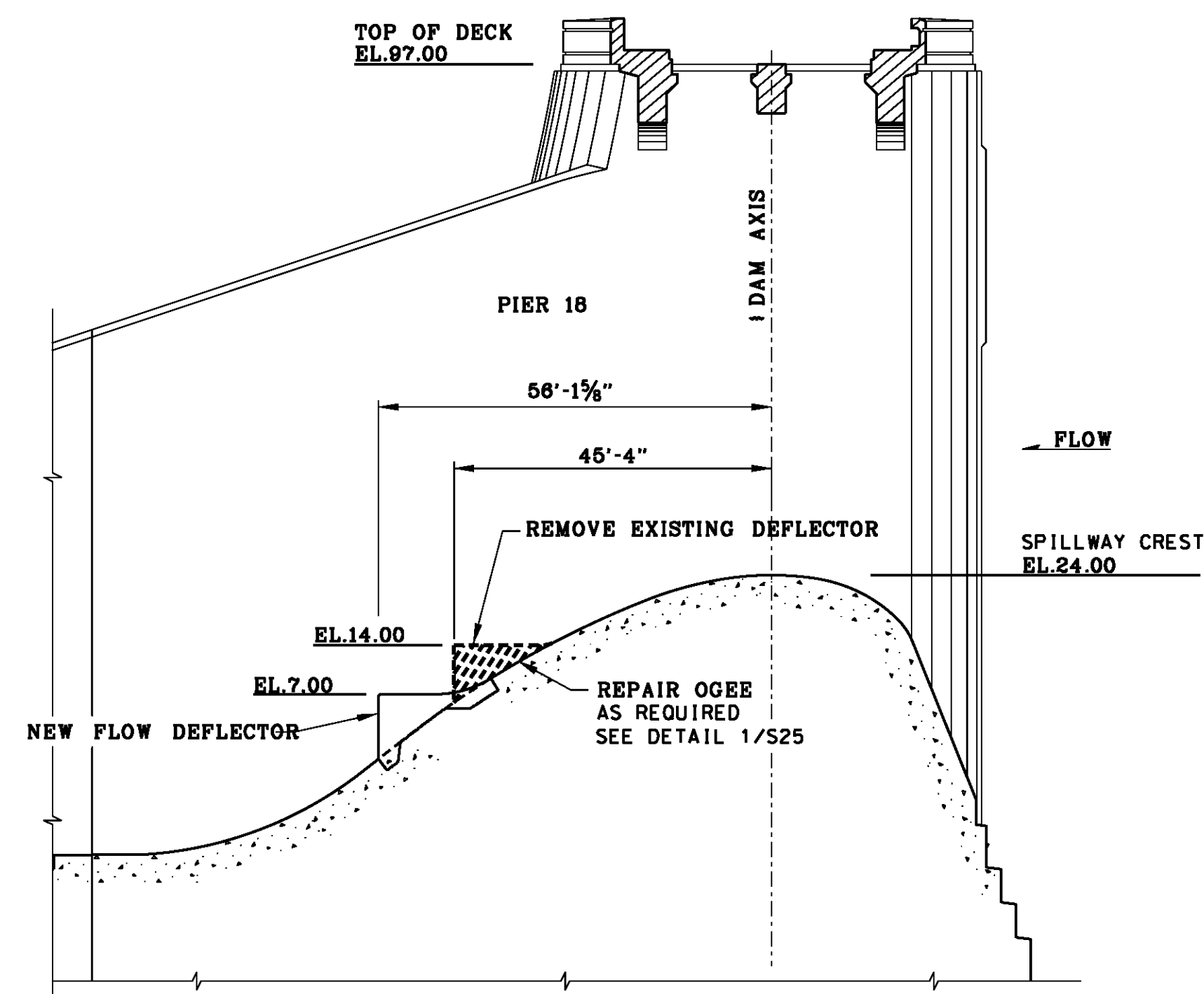
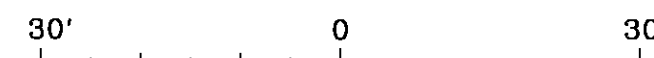
BAYS 2,3 AND 16,17
TYPICAL SECTION A

SCALE: 1" = 30'



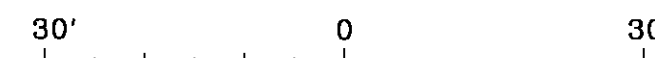
BAY 1 SECTION B

SCALE: 1" = 30'

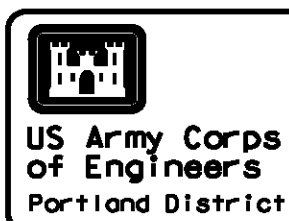


BAY 18 SECTION C

SCALE: 1" = 30'



INFORMATION ONLY



US Army Corps
of Engineers
Portland District

Revision	Date	Description
1	5/9/03	AS-CONSTRUCTED

Designed by:	Date:
R. CAI	03 APRIL 2001
Drawn by:	CADD File Name:
J. VANDEGRIFT	BDS001F49C01.DGN
Checked by:	Technical Manager:
L. HELWIG	J. EL-KHAL
Submitted by:	
DONALD R. CHAMBERS, P.E.	
Chief, Structural & Arch.	Design

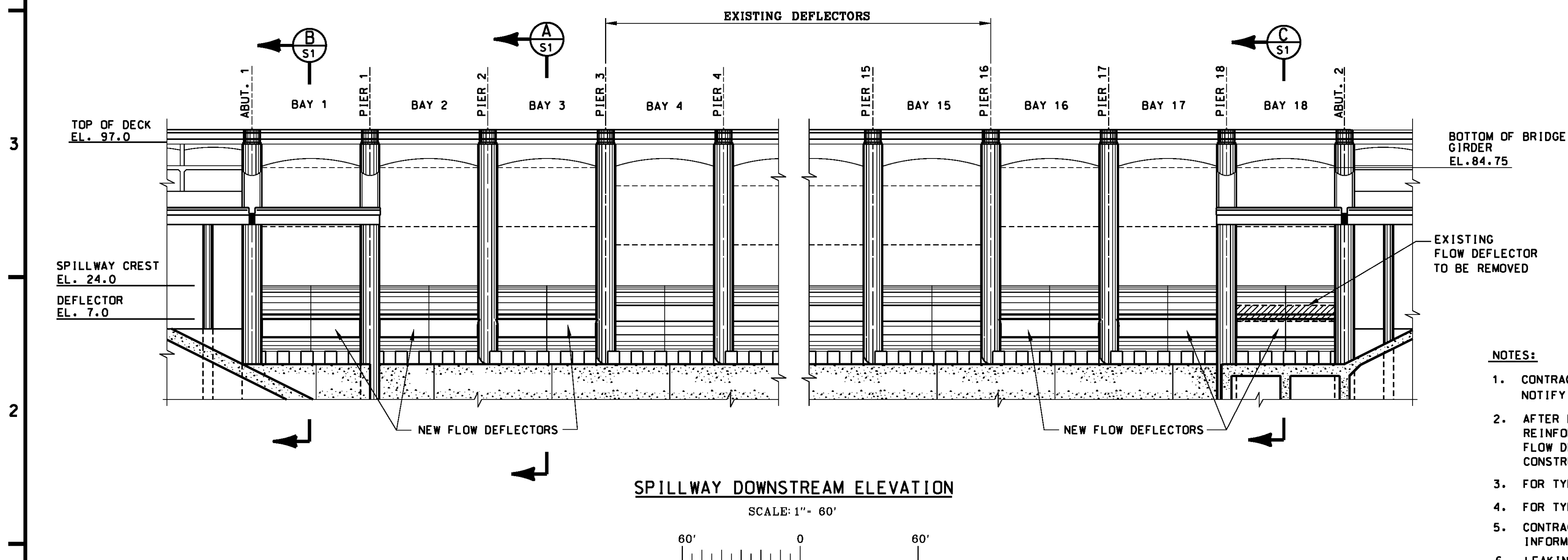
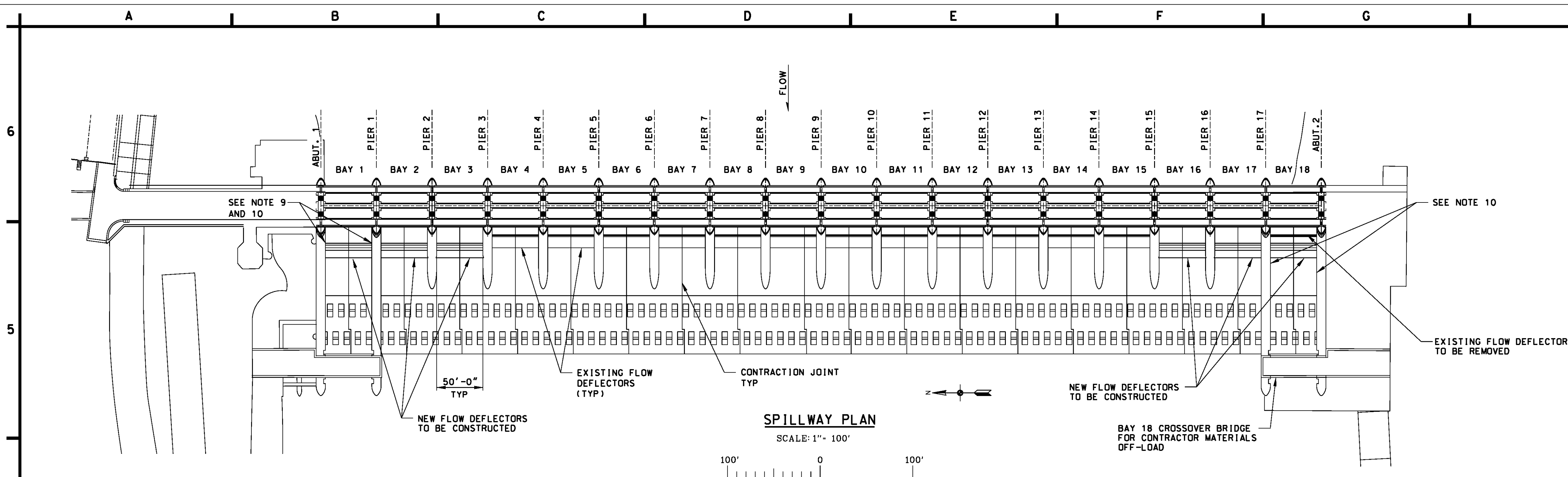
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
PORTLAND, OREGON

COLUMBIA RIVER OREGON - WASHINGTON
BONNEVILLE LOCK AND DAM
SPILLWAY
FLOW DEFLECTORS
CONCRETE
STRUCTURAL
**CONCRETE OUTLINE
BAYS 1-18**

DRAWING STATUS:
AS-CONSTRUCTED.
CONTRACT NO.
DACW57-01-C-0016
AS-BUILT AS OF:
11 JUNE 03

DRAWING NO.
BDF-2-49/1

SHEET
S1



NOTES:

- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. NOTIFY CORPS OF ENGINEERS FOR ANY DISCREPANCY OR DEVIATION.
- AFTER DEWATERING IS COMPLETED, CONTRACTOR MAY BEGIN TO BUILD NEW REINFORCED CONCRETE FLOW DEFLECTORS. IN BAY 18, WHERE THERE IS AN EXISTING FLOW DEFLECTOR, THE EXISTING FLOW DEFLECTOR SHALL BE DEMOLISHED PRIOR TO CONSTRUCTION OF THE NEW FLOW DEFLECTOR.
- FOR TYP NEW FLOW DEFLECTOR GEOMETRY, CONCRETE AND CONSTRUCTION JOINTS, SEE DWG S3.
- FOR TYP NEW FLOW DEFLECTOR STEEL REINFORCEMENT, SEE DWG S4.
- CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATIONS FOR MORE INFORMATION AND REQUIREMENTS.
- LEAKING FROM SPILLWAY GATES AND EXISTING CONTRACTION JOINTS ON OGEEs SHOULD BE EXPECTED DURING THE CONSTRUCTION. CONTRACTOR SHALL TAKE MEASURES TO PROTECT CONSTRUCTION AGAINST ANY DAMAGE DUE TO THE LEAKING DURING THE CONSTRUCTION.
- SEE INFORMATIONAL DRAWINGS FOR EXISTING CONCRETE OUTLINES AND REINFORCEMENT.
- SEE S24 FOR RECOMMENDED CONSTRUCTION SEQUENCE.
- CONTRACTOR SHALL REMOVE TWO EXISTING STEEL PIECES THAT ARE APPROXIMATELY 42"x16"x6.5" @ APPROXIMATE EL. 6. CUT OFF AND GRIND ANCHOR BOLTS FLUSH WITH EXISTING CONCRETE SURFACE. PAINT WITH RUST INHIBITING COATING PRIOR TO PLACING DOWELS AND CONCRETE.
- IN ADDITION, THERE ARE SOME LARGER EXISTING STEEL PIECES BOLTED TO THE PIER AND ABUTMENT WALLS IN BAYS 1 & 18, AT HIGHER ELEVATIONS. IF THESE PIECES INTERFERE WITH THE PLACEMENT OF THE BULKHEAD DEWATERING SYSTEM OR NEW FLOW DEFLECTORS, THEY SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL THEN REPAIR AREA AS PER NOTE 9 ABOVE.

INFORMATION ONLY

 US Army Corps of Engineers Portland District		RTG By
Designed by: R. CAI Drawn by: J. VANDEGRIFT Checked by: L. HELWIG Submitted by: DONALD R. CHAMBERS, P.E. Chief, Structural & Arch. Design		Date: 09 APRIL 2001 CADD File Name: BDW003F32C01.DGN Technical Manager: J. EL-KHAL
U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS PORTLAND, OREGON		AS-CONSTRUCTED Date: 5/9/03 Revision: 1
COLUMBIA RIVER OREGON - WASHINGTON BONNEVILLE LOCK AND DAM SPILLWAY FLOW DEFLECTORS STRUCTURAL OVERALL SPILLWAY PLAN AND PARTIAL ELEVATION		DRAWING STATUS: AS-CONSTRUCTED. CONTRACT NO. DACW57-01-C-0016 AS-BUILT AS OF: 11 JUNE 03 DRAWING NO. BDF-0-32/3 SHEET W3