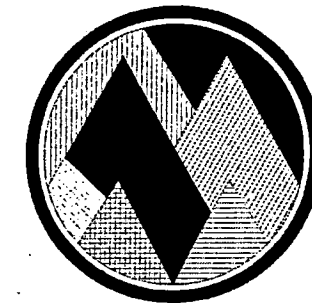




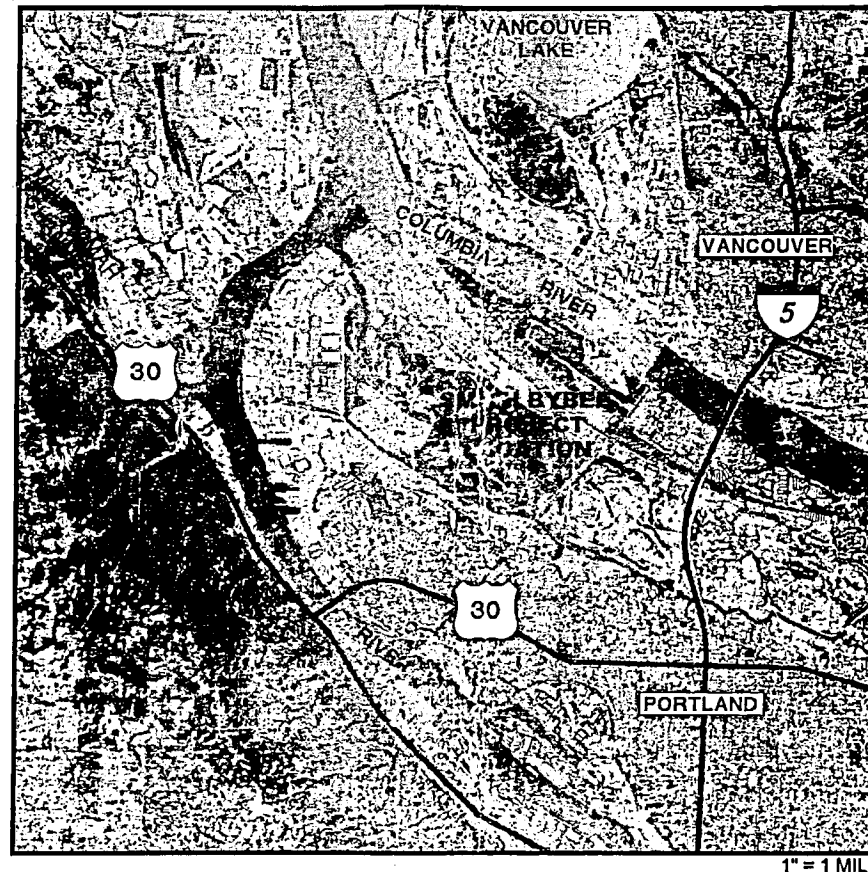
17700 S. E. MILL PLAIN BLVD. SUITE 100
VANCOUVER, WA. 98683
PH. (360) 885-2011

US-OR-32-8 METRO: SMITH BYBEE WETLAND WATER CONTROL STRUCTURE FACILITY IMPROVEMENTS



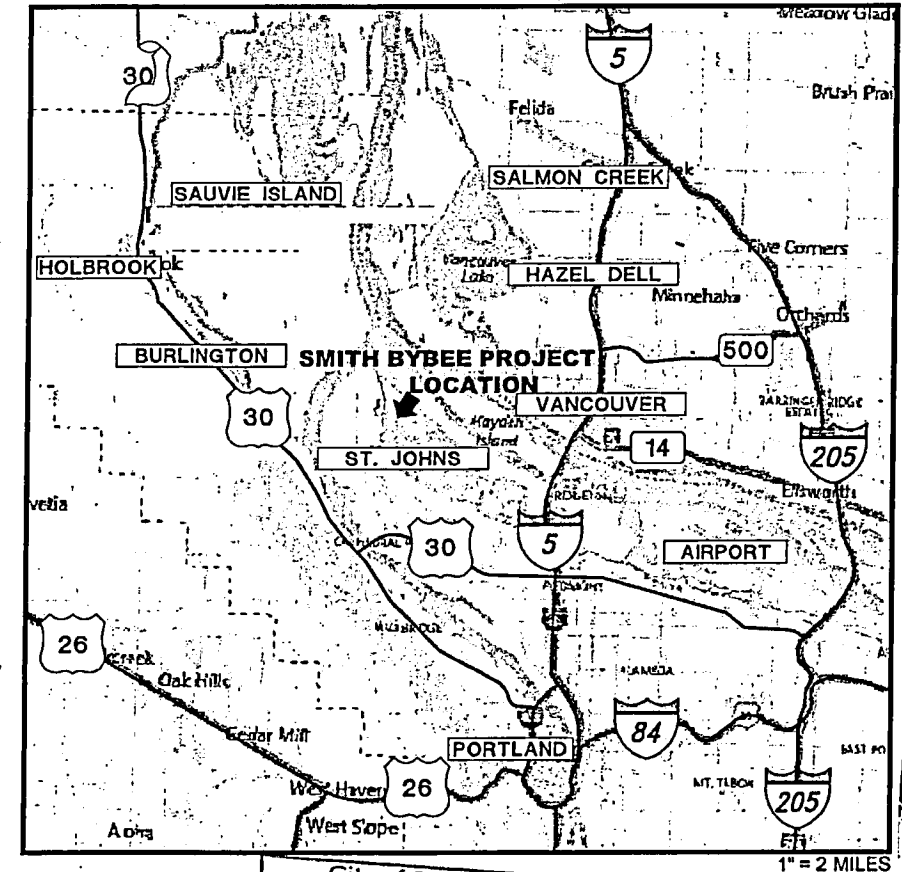
METRO

SMITH BYBEE SITE



1" = 1 MILE

VICINITY MAP



1" = 2 MILES

BES Pollution Prevention:
If any de-watering is proposed to be discharged into a City sanitary or storm sewer system, pre-authorization MUST be obtained from the BES Pretreatment or Stormwater Programs. Call 803-823-5600 for more information.
7122

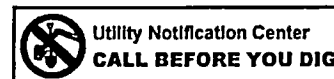
BES Pollution Prevention
Approved By: *[Signature]* Date: 4/6/17

WORK IN
PUBLIC RIGHT - OF - WAY IS
NOT APPROVED AS PART OF
THIS BUILDING PERMIT

City of Portland
REVIEWED FOR CODE
COMPLIANCE
MAY 03 2017
Permit Number

File
PERMIT SET

Unauthorized Changes & Uses
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REV. NO.	DESCRIPTION	DATE	APPROVED



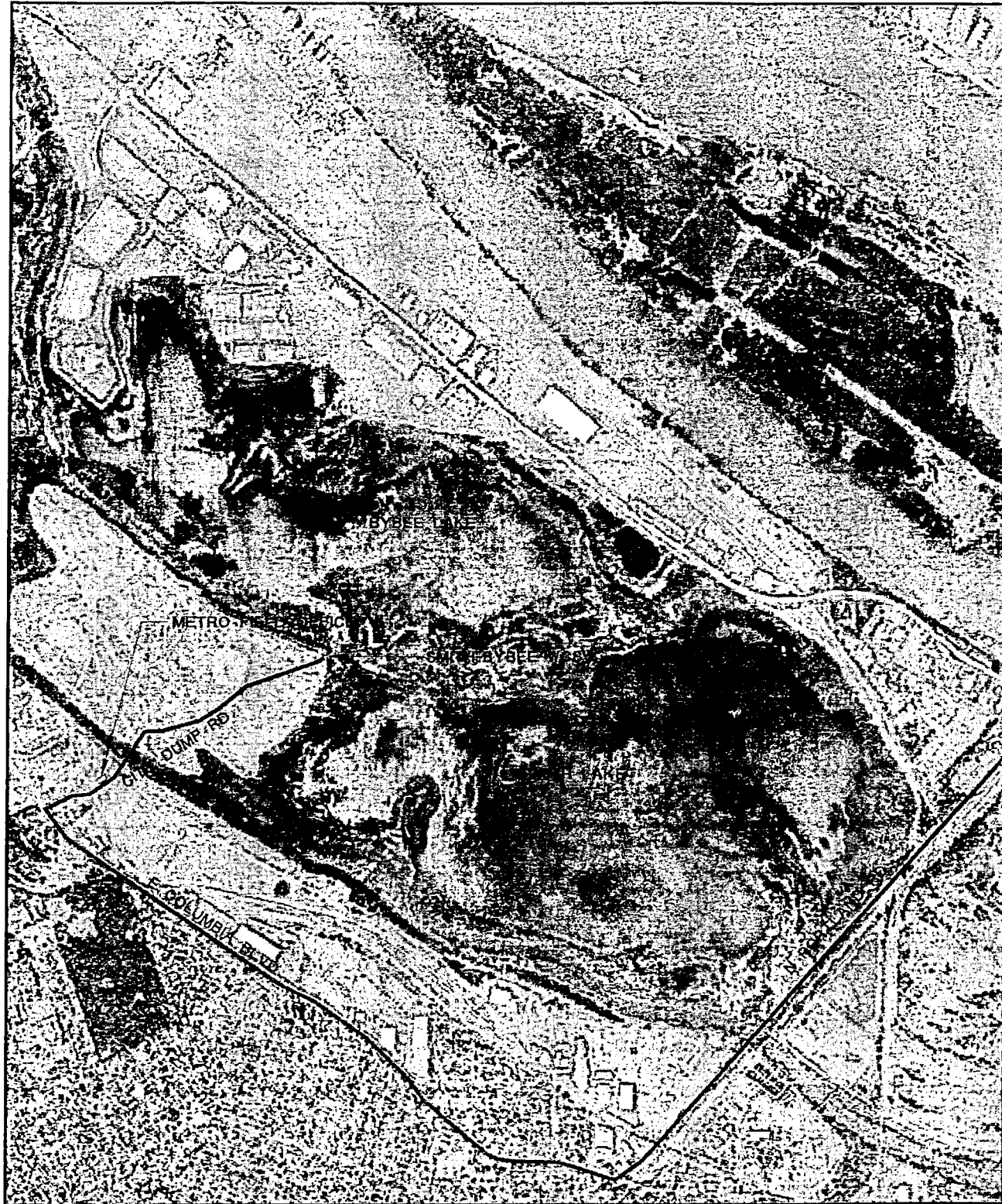
PROJECT NO. US-OR-32-8	DATE: 12/14/16	DESIGNED BY: GW
METRO: & SMITH BYBEE UNITS	DRAWN BY: DMC	SURVEYED BY: JPS
WATER CONTROL STRUCTURE IMPROVEMENTS	CHECKED BY:	SHEET NO. 1 OF 8
LOCATION MAP		

APPROVED

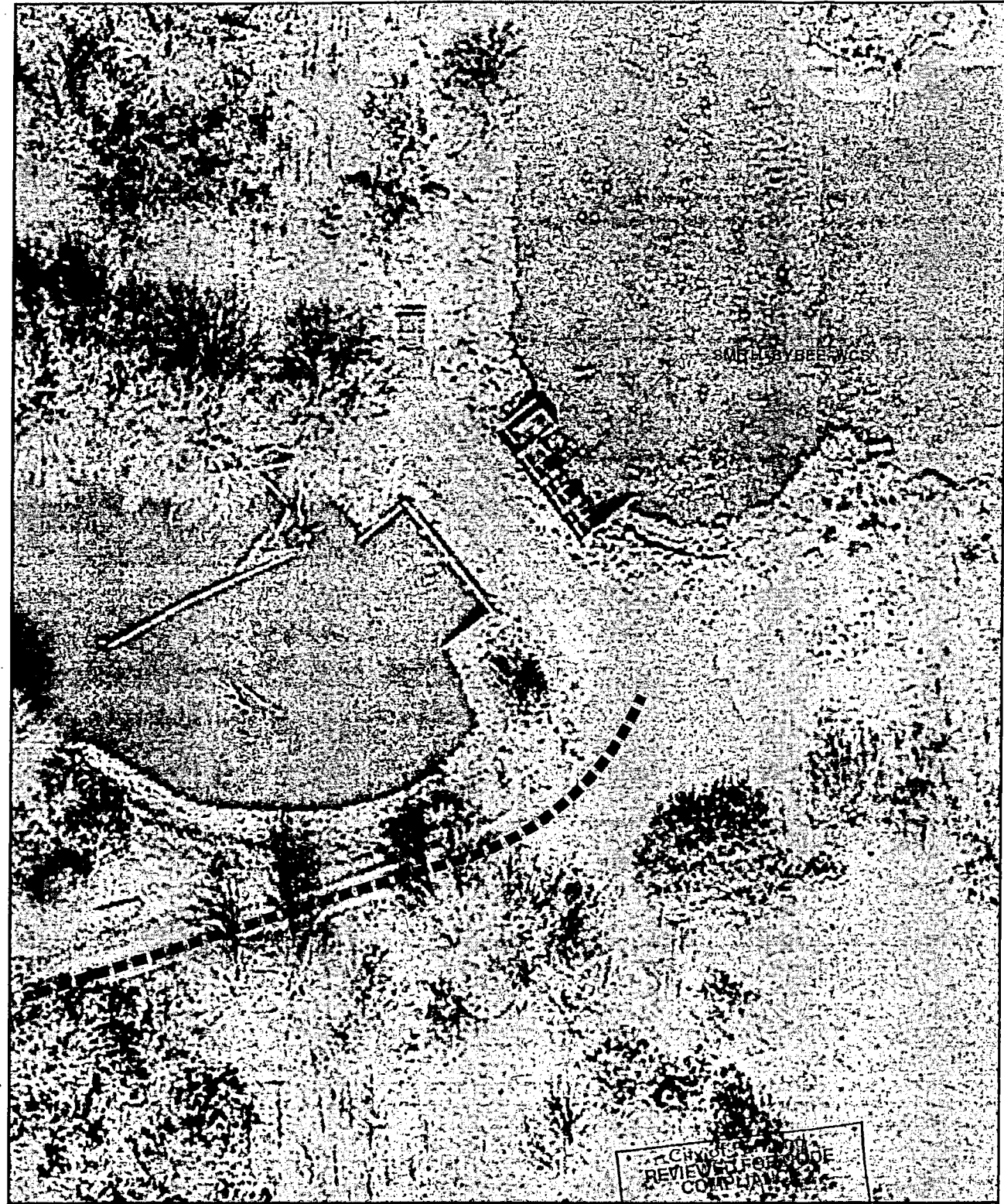
17-147309-00

0 600 1,200
SCALE
FEET

0 20 40
SCALE
FEET



1 SMITH BYBEE
2 VICINITY MAP

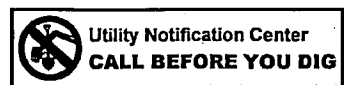


2 SMITH BYBEE
2 SITE ACCESS

CHANGES FOR
REVIEW PERMITS
COMPLIANCE
MAY 03 2017

Permit Number PERMIT SET

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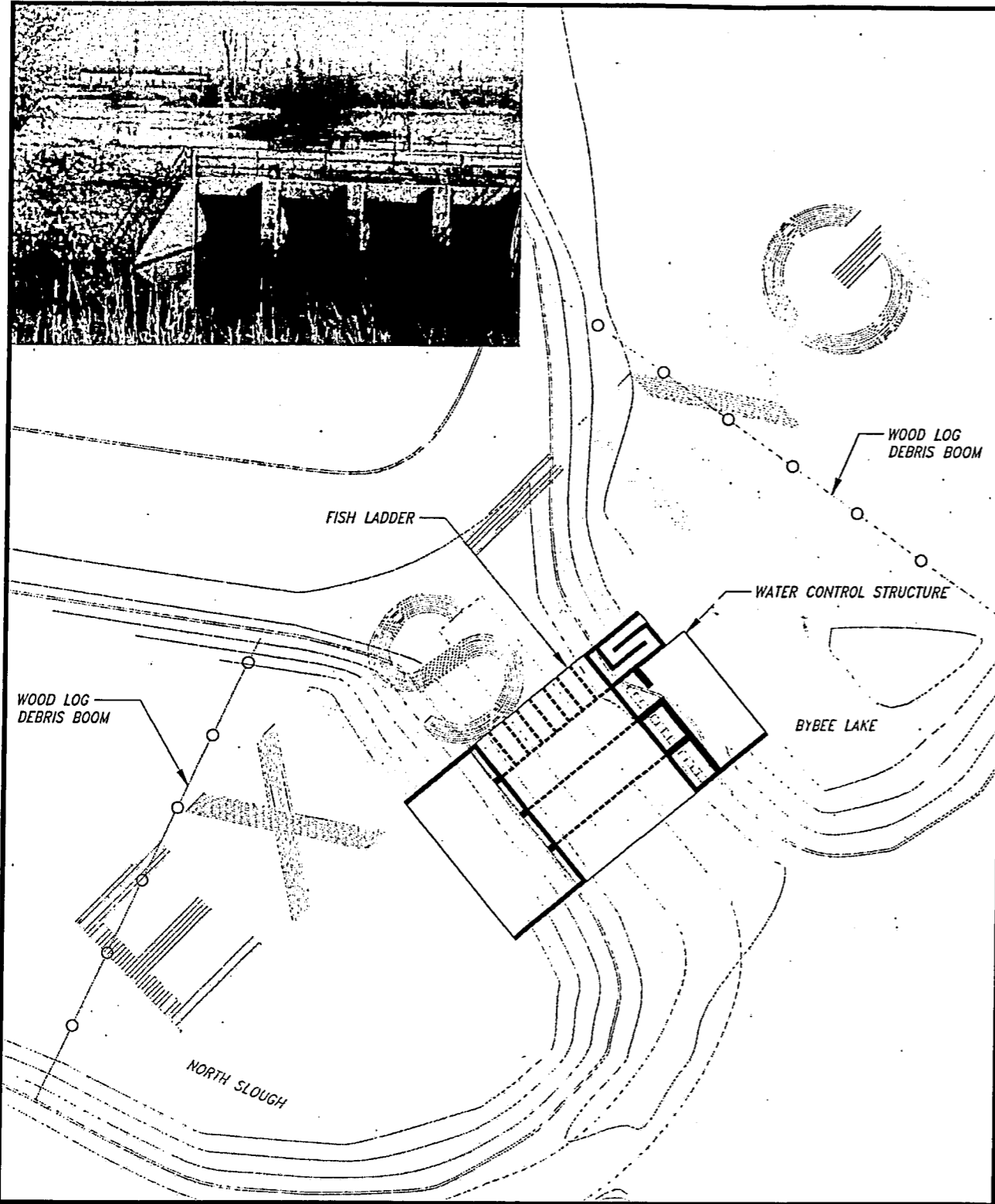


REVISIONS				
REV. NO.	DESCRIPTION	DATE	APPROVED	



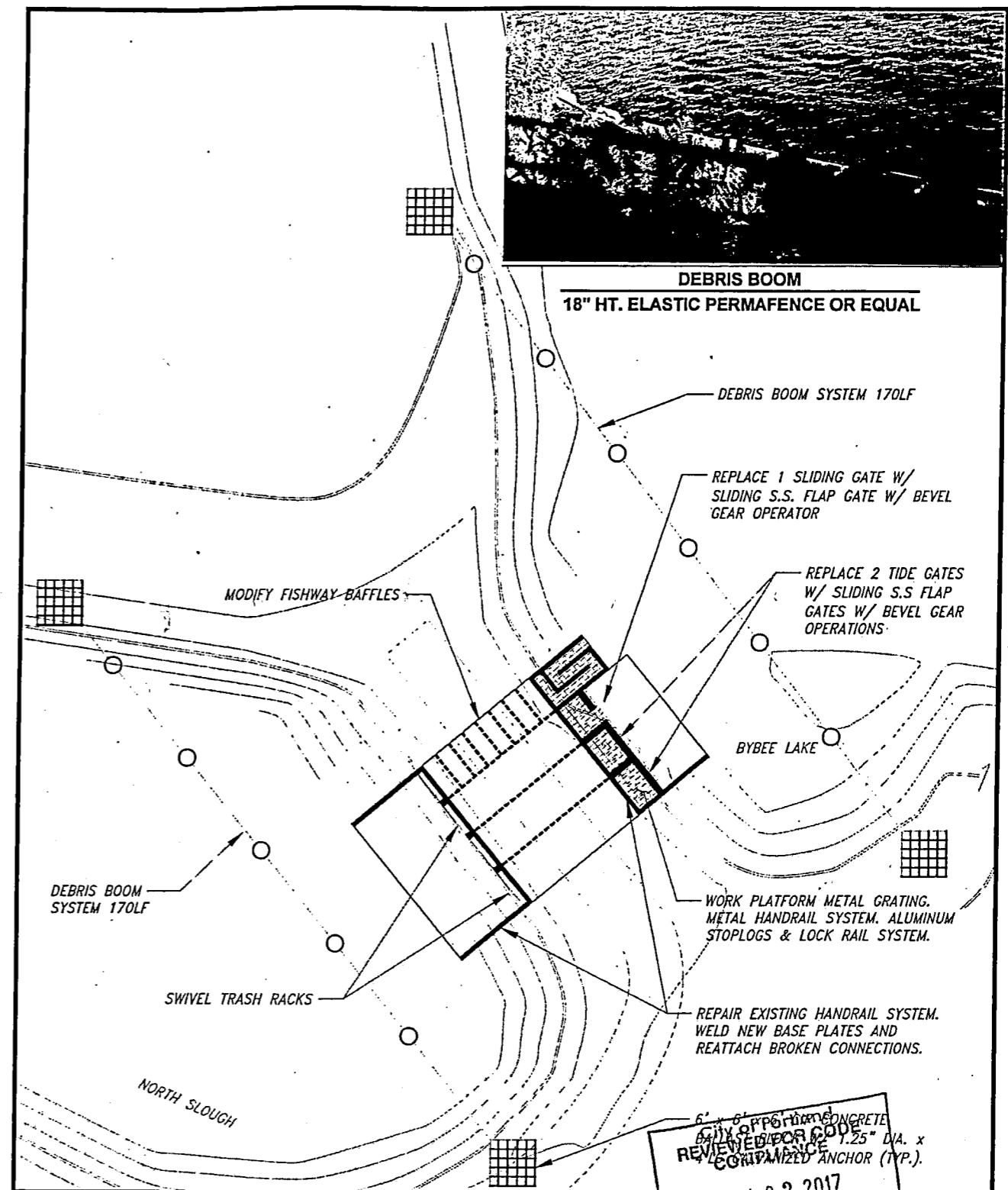
PROJECT NO. US-OR-32-8	DATE 12/14/16.	DESIGNED BY: GW
METRO: SMITH BYBEE		DRAWN BY: DMC
SITE ACCESS		SURVEYED BY:
		CHECKED BY:
		SHEET NO. 2 OF 8

0 15 30
SCALE FEET



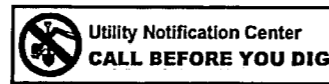
1 EXISTING SITE PLAN
3

0 15 30
SCALE FEET



2 WCS IMPROVEMENTS
3

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REV. NO.	DESCRIPTION	DATE	APPROVED
1			
2			
3			
4			
5			
6			

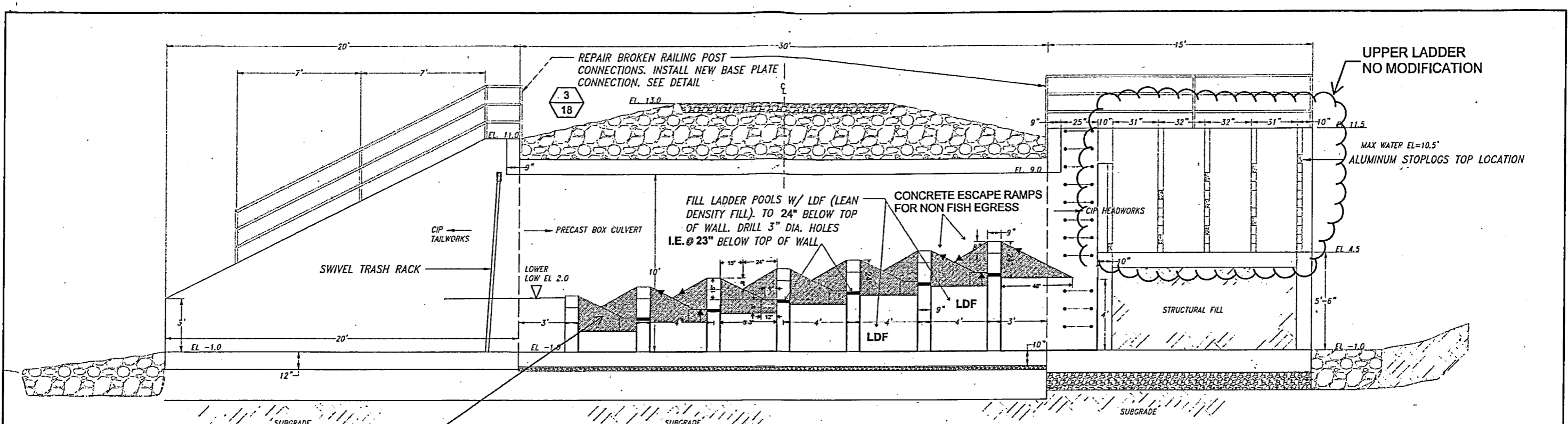


PERMIT SET

Permit Number
PROJECT NO. US-OR-32-8 DATE: 12/14/16

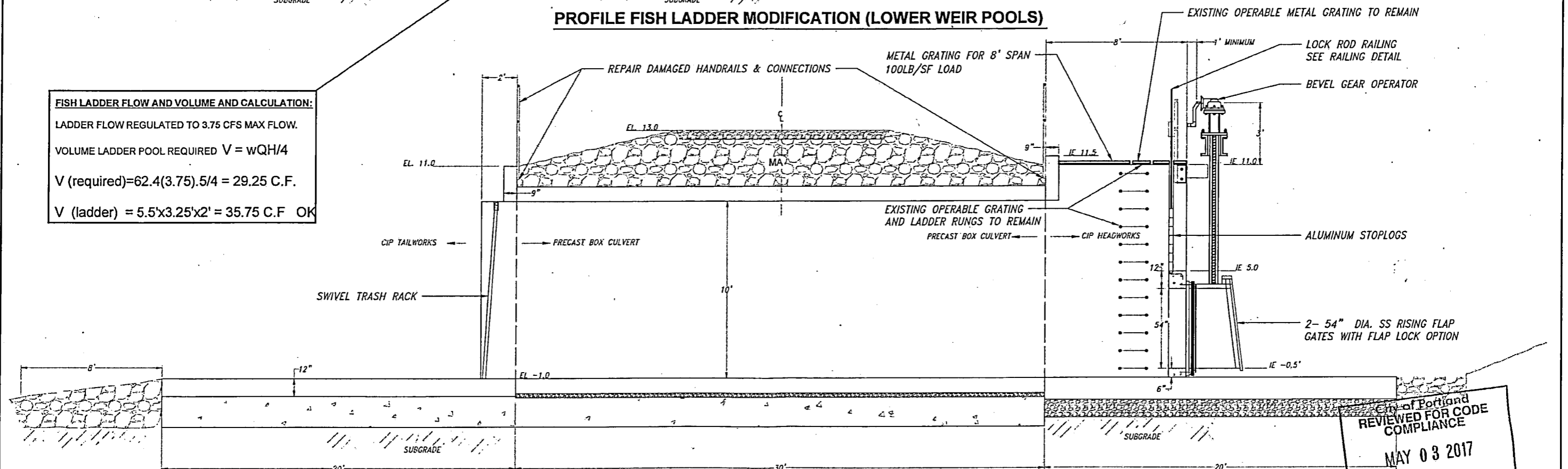
DESIGNED BY: GW
DRAWN BY: DMC
SURVEYED BY:
CHECKED BY:
SHEET NO. 3 OF 8

WATER CONTROL STRUCTURE (WCS)
EXISTING AND IMPROVEMENTS



PROFILE FISH LADDER MODIFICATION (LOWER WEIR POOLS)

FISH LADDER FLOW AND VOLUME AND CALCULATION:
 LADDER FLOW REGULATED TO 3.75 CFS MAX FLOW.
 VOLUME LADDER POOL REQUIRED $V = wQH/4$
 V (required) = $62.4(3.75)/4 = 29.25$ C.F.
 V (ladder) = $5.5 \times 3.25 \times 2' = 35.75$ C.F. OK

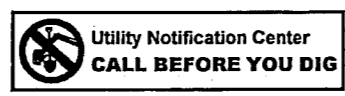


OPEN CULVERT PROFILE

1 PROFILE OPEN CULVERT MODIFICATIONS

City of Portland
 REVIEWED FOR CODE COMPLIANCE
 MAY 03 2017
 Permit Number
PERMIT SET

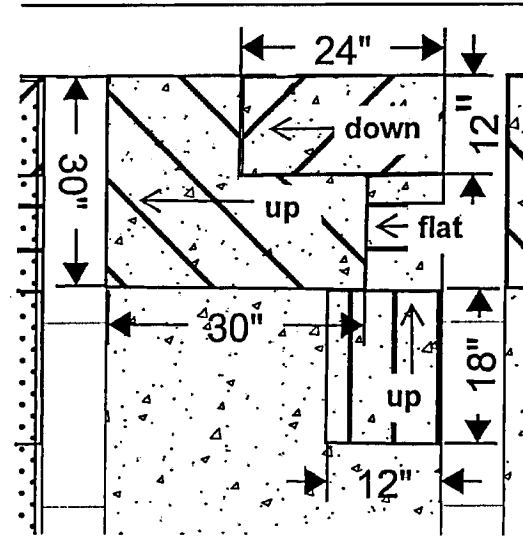
Unauthorized Changes & Uses
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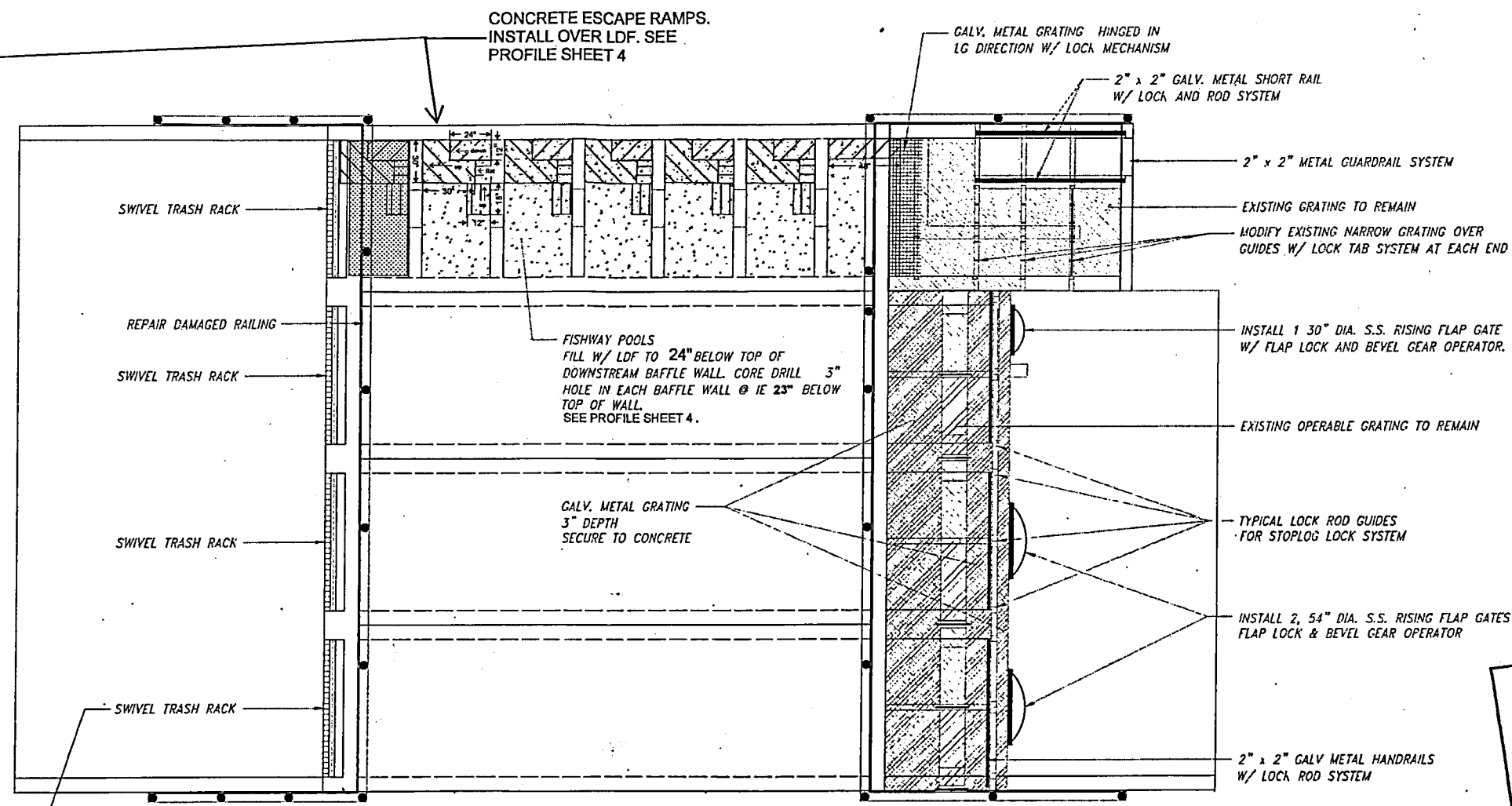
REV. NO.	DESCRIPTION	REVISIONS	DATE	APPROVED
1				
2				
3				
4				



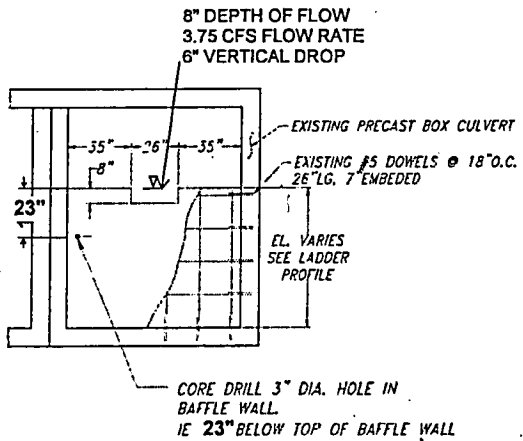
PROJECT NO. US-OR-32-8	DATE 12/14/16	DESIGNED BY: GW
METRO: SMITH BYBEE		DRAWN BY: DMC
		SURVEYED BY:
		CHECKED BY:
		SHEET NO. 4 OF 8



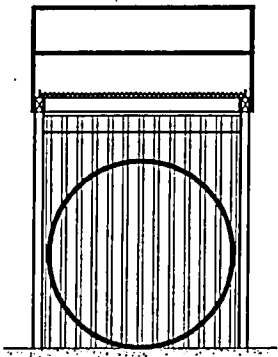
6 PLAN VIEW DETAIL ESCAPE RAMPS
5 SEE SHEET 4 FOR ADDITIONAL DETAILS



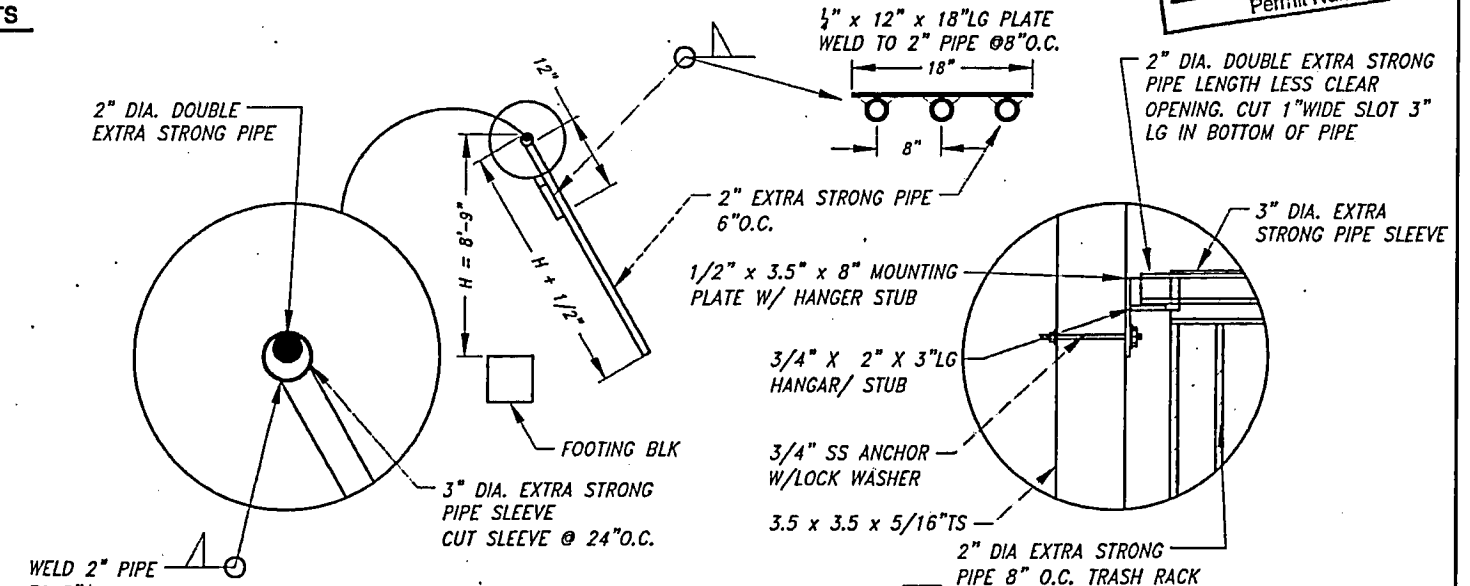
1 WCS IMPROVEMENTS
5 WCS PLAN VIEW



2 FISH LADDER BAFFLES IMPROVEMENTS
5



3 TRASH RACK
5



4 HANGING BAR DETAIL TRASH RACK
5

5 TRASH RACK SUPPORT DETAIL
5 TRASH RACK PERMIT SET

City of Portland
 REVIEWED FOR CODE COMPLIANCE
 MAY 03 2017
 Permit Number

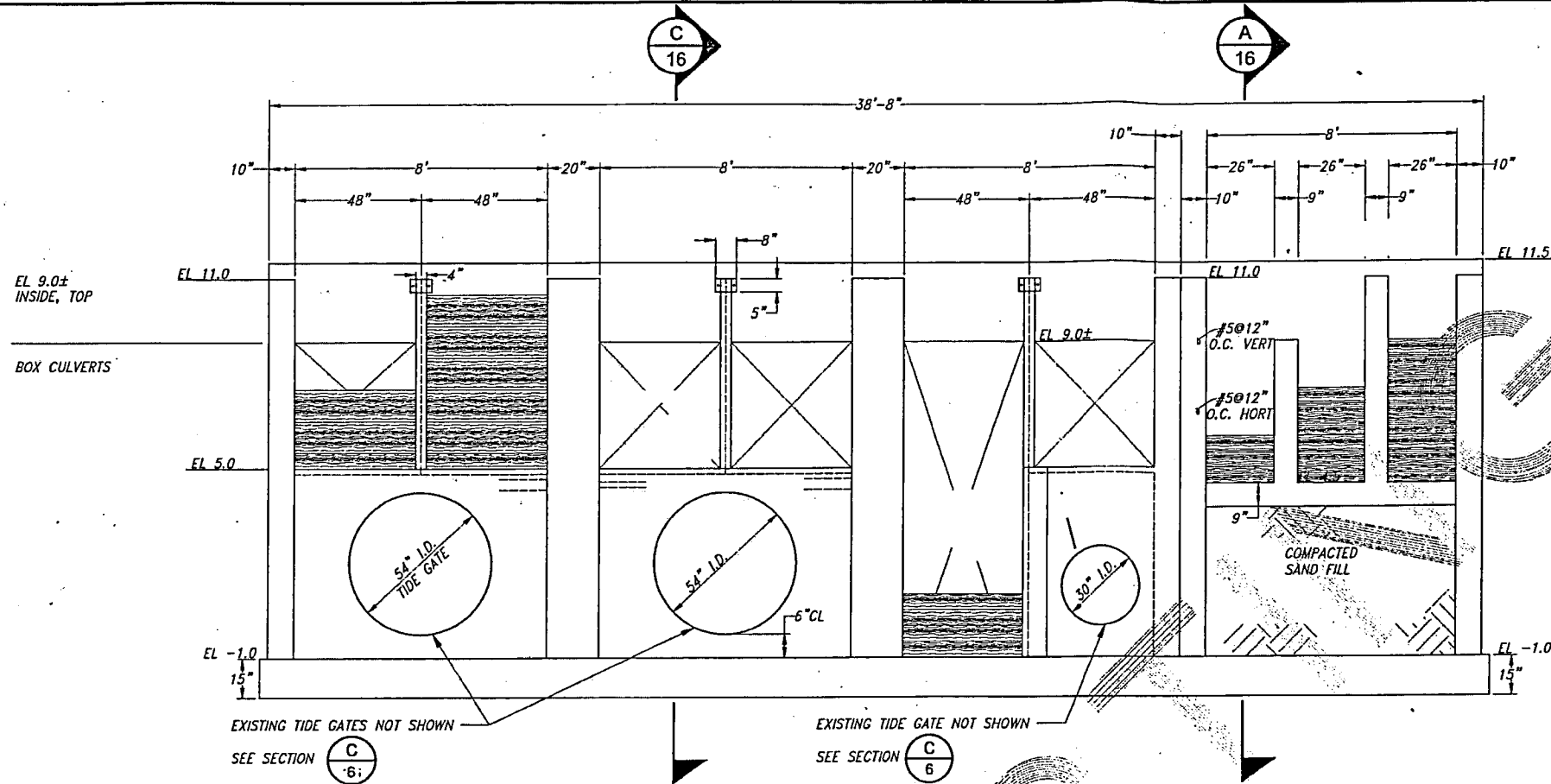
Unauthorized Changes & Uses
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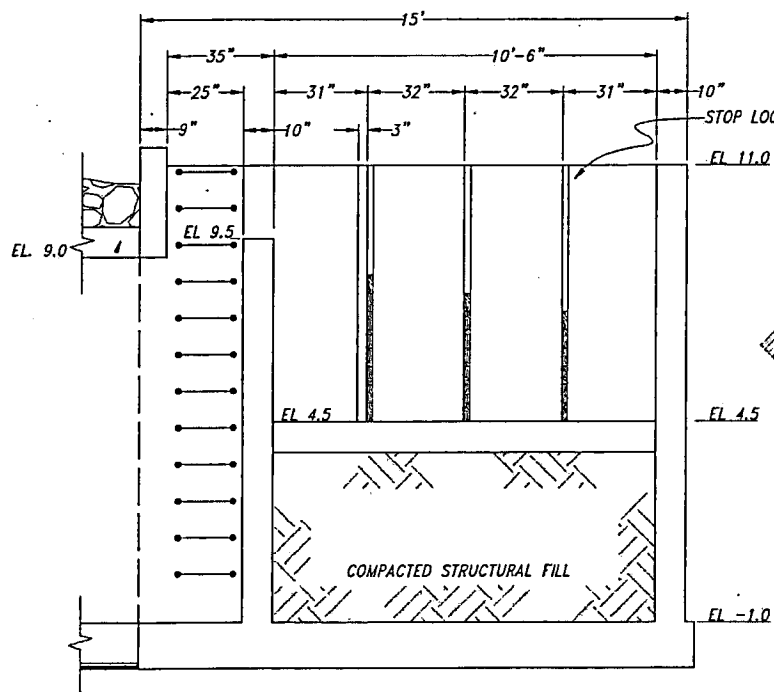
REV. NO.	DESCRIPTION	DATE	APPROVED



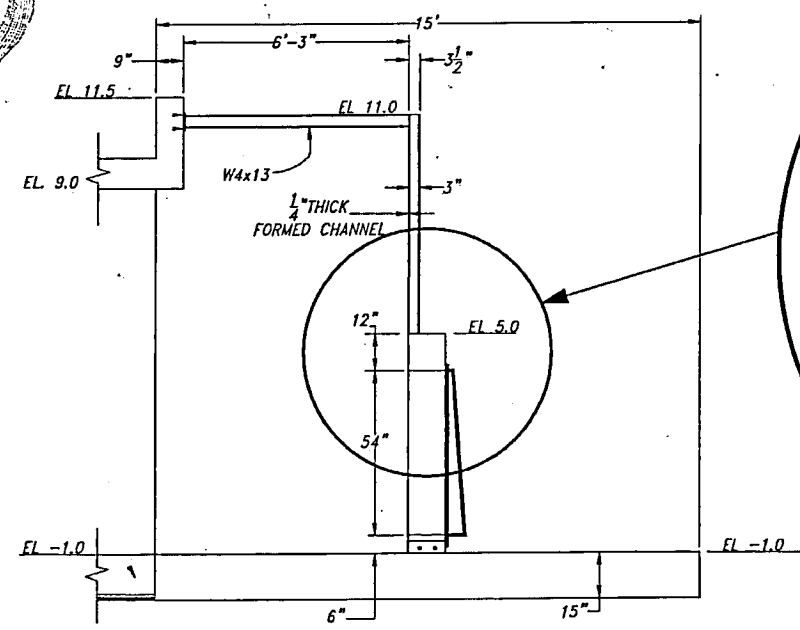
PROJECT NO. US-OR-32-8 DATE 12/14/18 DESIGNED BY: GW
 METRO: SMITH BYBEE DRAWN BY: DMC
 SURVEYED BY:
 CHECKED BY:
 SHEET NO. 5 OF 8
 WCS IMPROVEMENTS



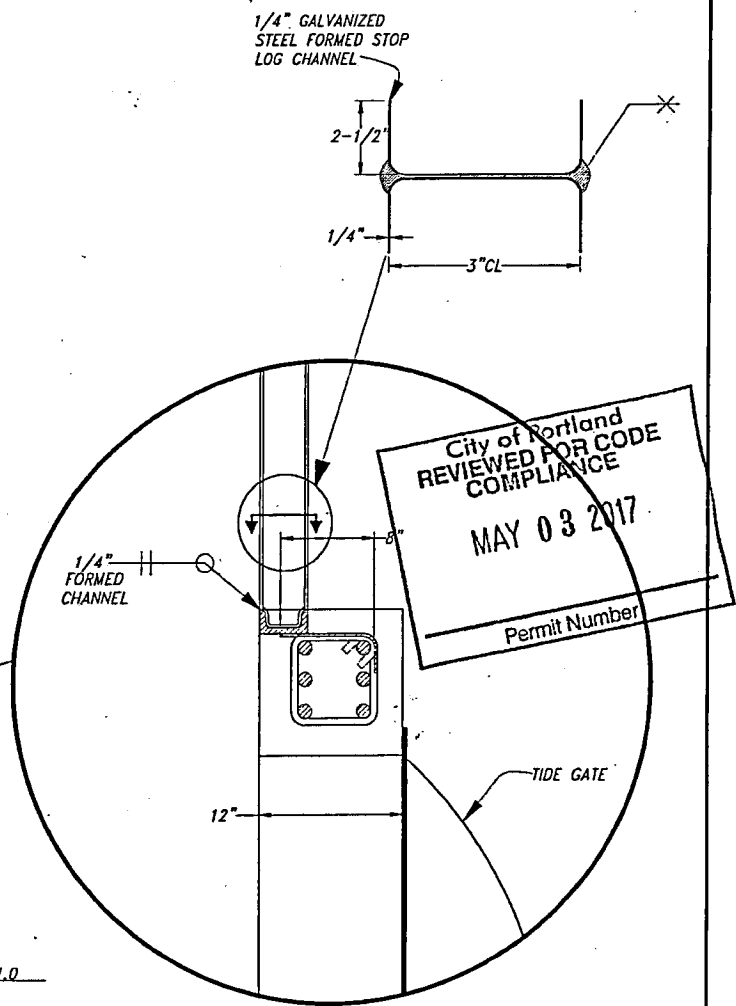
B HEADWORKS ELEVATION
NOT TO SCALE



A ADJUSTABLE LADDER SECTION
NOT TO SCALE



C TIDE GATE SECTION
NOT TO SCALE



City of Portland
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COMPLIANCE
MAY 03 2017
Permit Number

1 EXISTING WATER CONTROL STRUCTURE

PERMIT SET

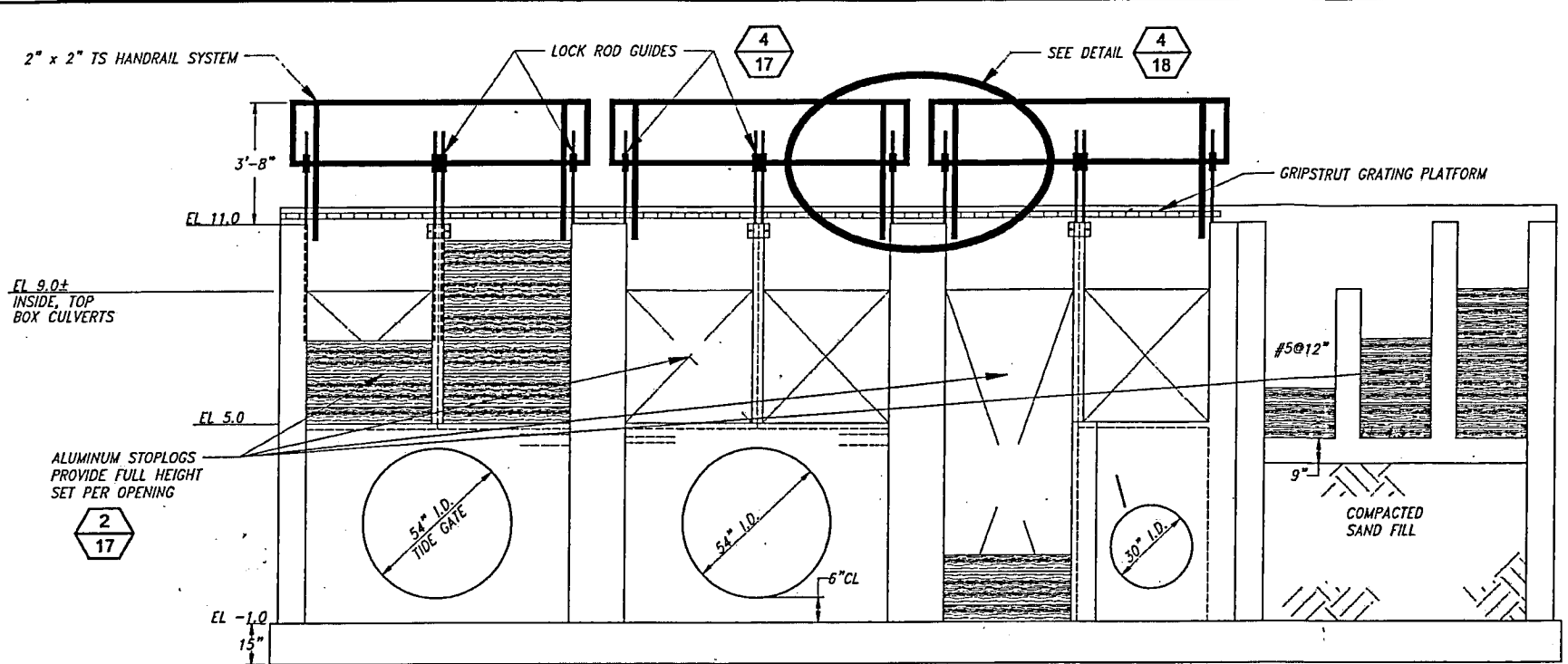
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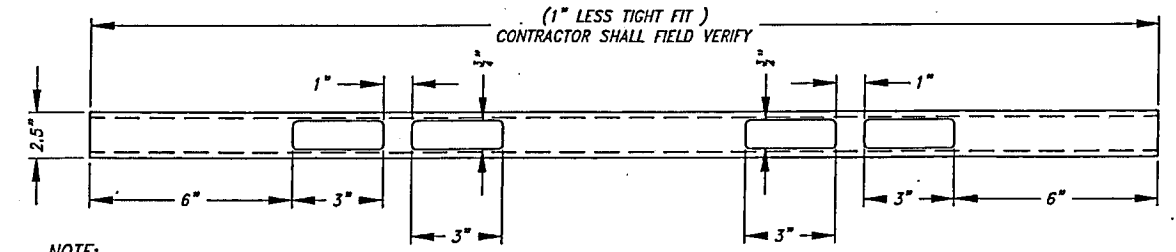
REVISIONS				
REV. NO.	DESCRIPTION	DATE	APPROVED	



PROJECT NO. US-OR-32-8	DATE: 12/14/16	DESIGNED BY: GW
METRO: SMITH BYBEE		DRAWN BY: DMC
		SURVEYED BY:
		CHECKED BY:
EXISTING WCS DETAILS		SHEET NO. 6 OF 8



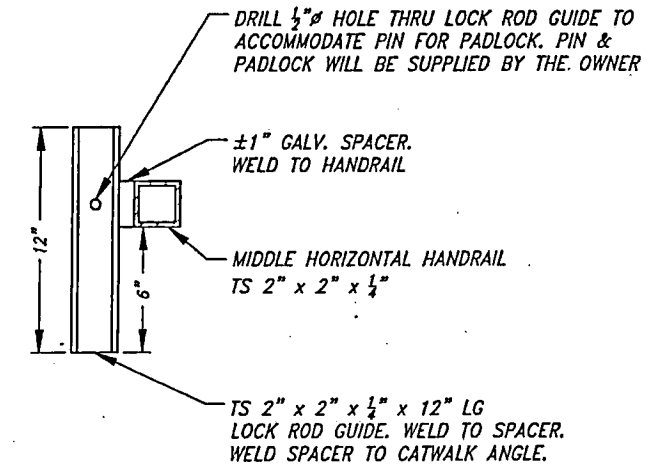
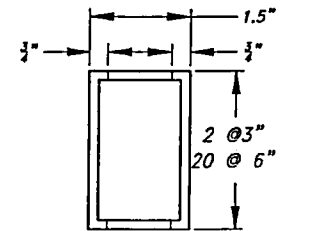
1 STOPLOGS & LOCK ROD RAIL SYSTEM IMPROVEMENTS
17 ELEVATION



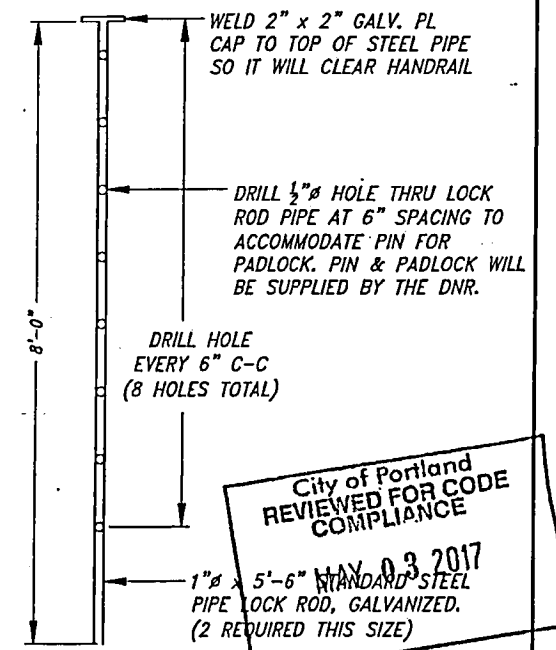
NOTE:
ALL ALUMINUM STOPLOGS SHALL BE SUPPLIED BY THE CONTRACTOR
CONTRACTOR IS RESPONSIBLE FOR CUTTING STOPLOGS TO PROPER LENGTH AND FABRICATING THE HOLES IN ALL STOPLOGS AS SHOWN. THE $\frac{3}{8}$ " DIMENSION IS CRITICAL AND NEEDS TO BE CENTERED IN THE STOPLOG TO AVOID LEAKAGE. THE FINISHED SURFACE SHALL BE SMOOTH TO PROVIDE A FLAT SURFACE FOR THE STOPLOG.

ALUMINUM STOPLOGS: 2 STOPLOGS, 1.5" x 3" x $\frac{1}{4}$ "
CONTRACTOR SUPPLIES: 20 STOPLOGS, 1.5" x 6" x $\frac{1}{4}$ " WITH LIFTING HOLES

3 ALUMINUM STOPLOG
17 TYPICAL

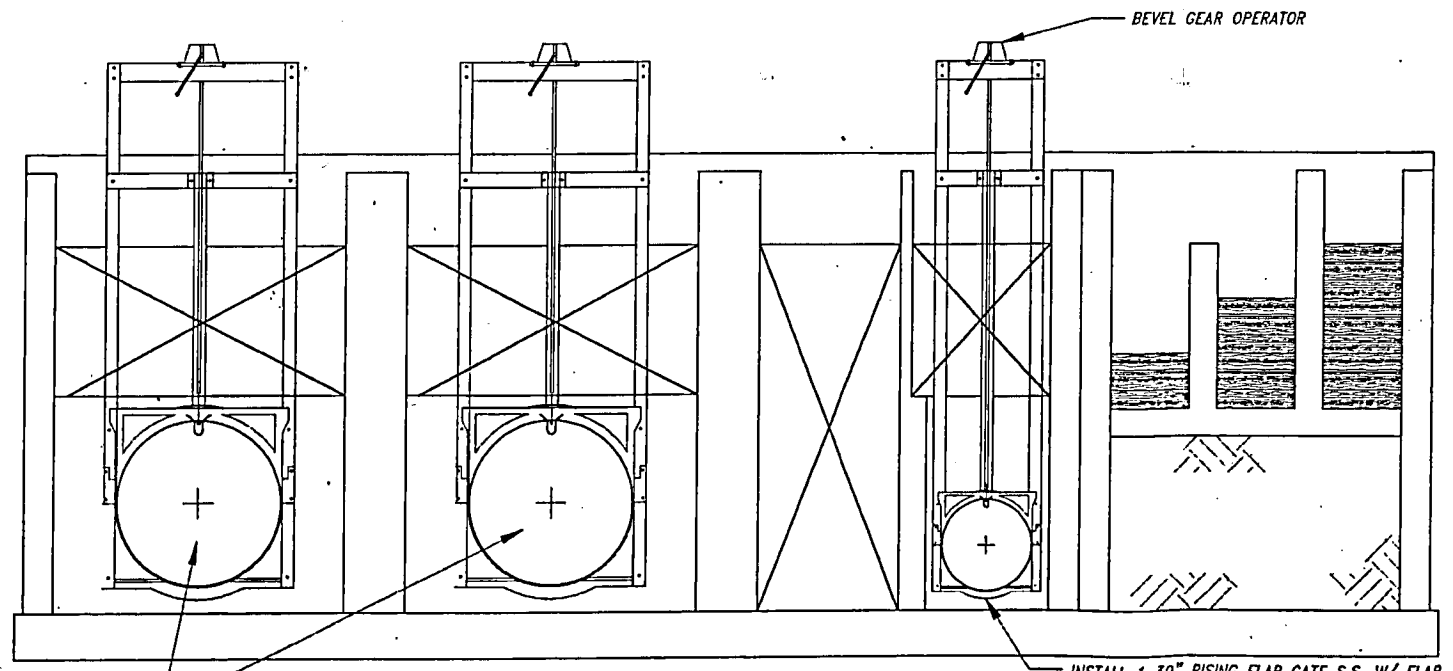


4 LOCK ROD GUIDE
17 TYPICAL



5 LOCK ROD GUIDE
17 TYPICAL

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REVIEWED FOR CODE
COMPLIANCE
MAY 03 2017
Permit Number

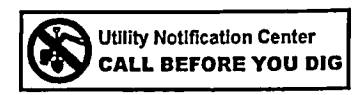


2-54" DIA. RISING FLAP GATE S.S WITH FLAP LOCK SYSTEM AND BEVEL GEAR OPERATORS

2 GATES IMPROVEMENTS
17 ELEVATION

PERMIT SET

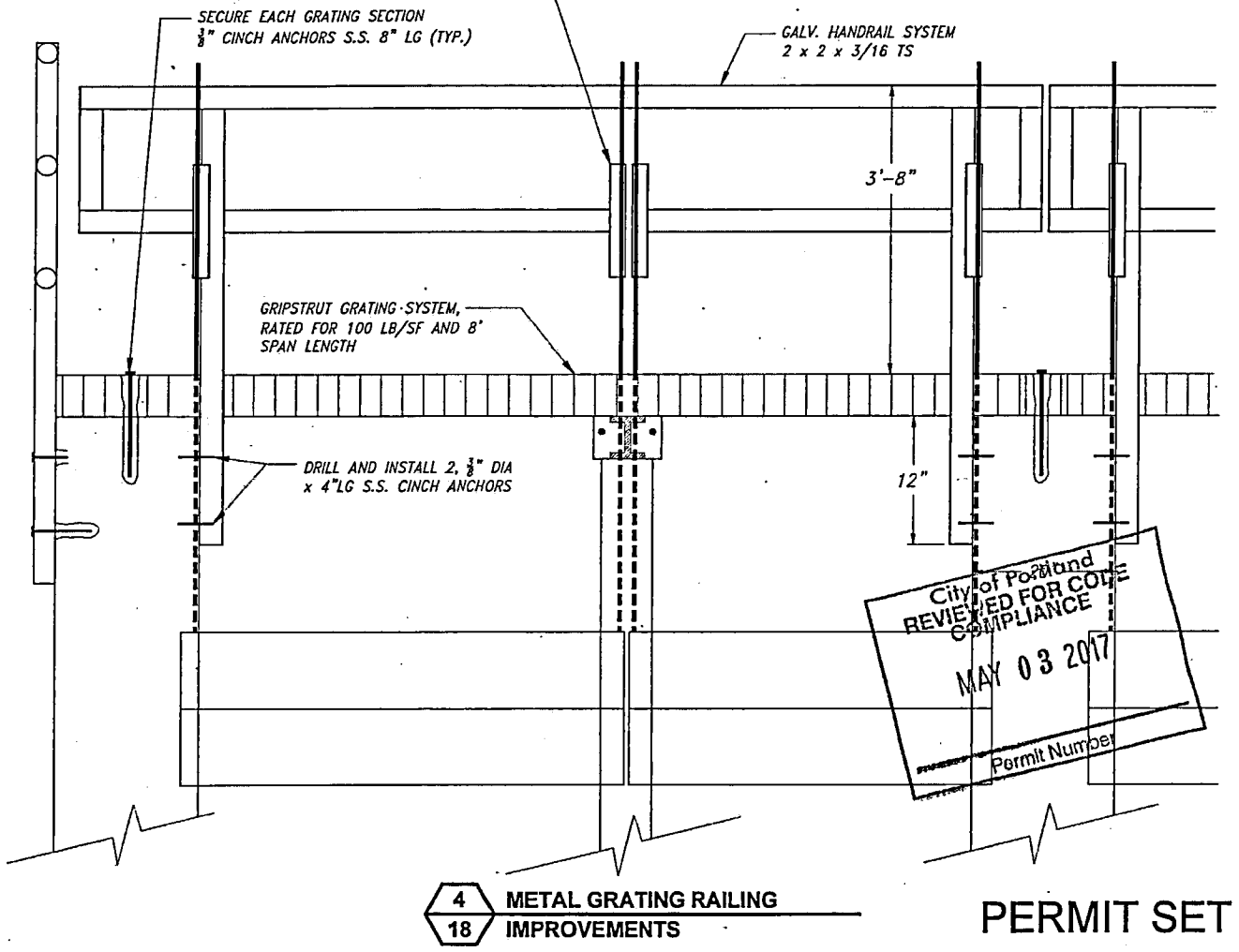
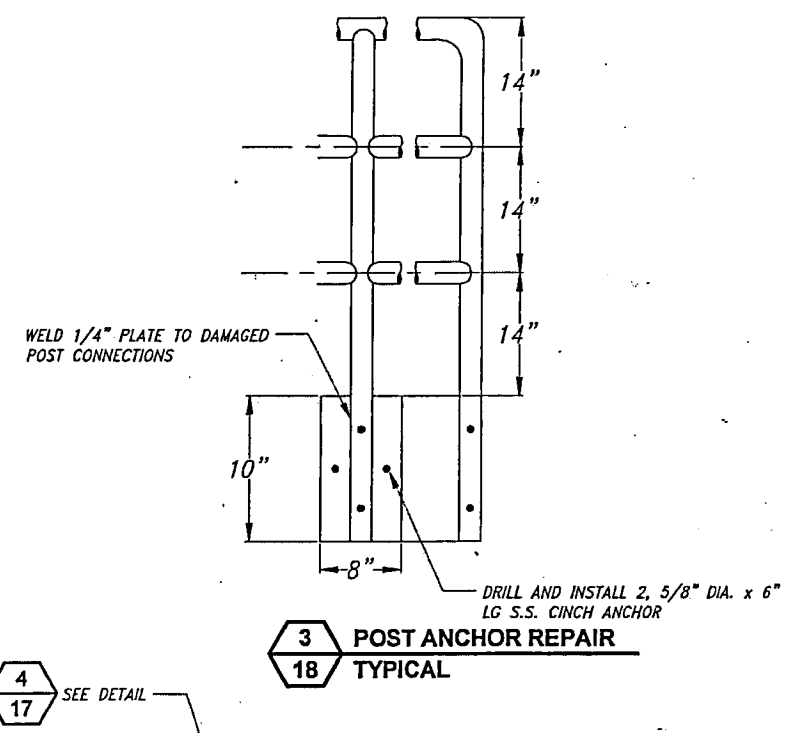
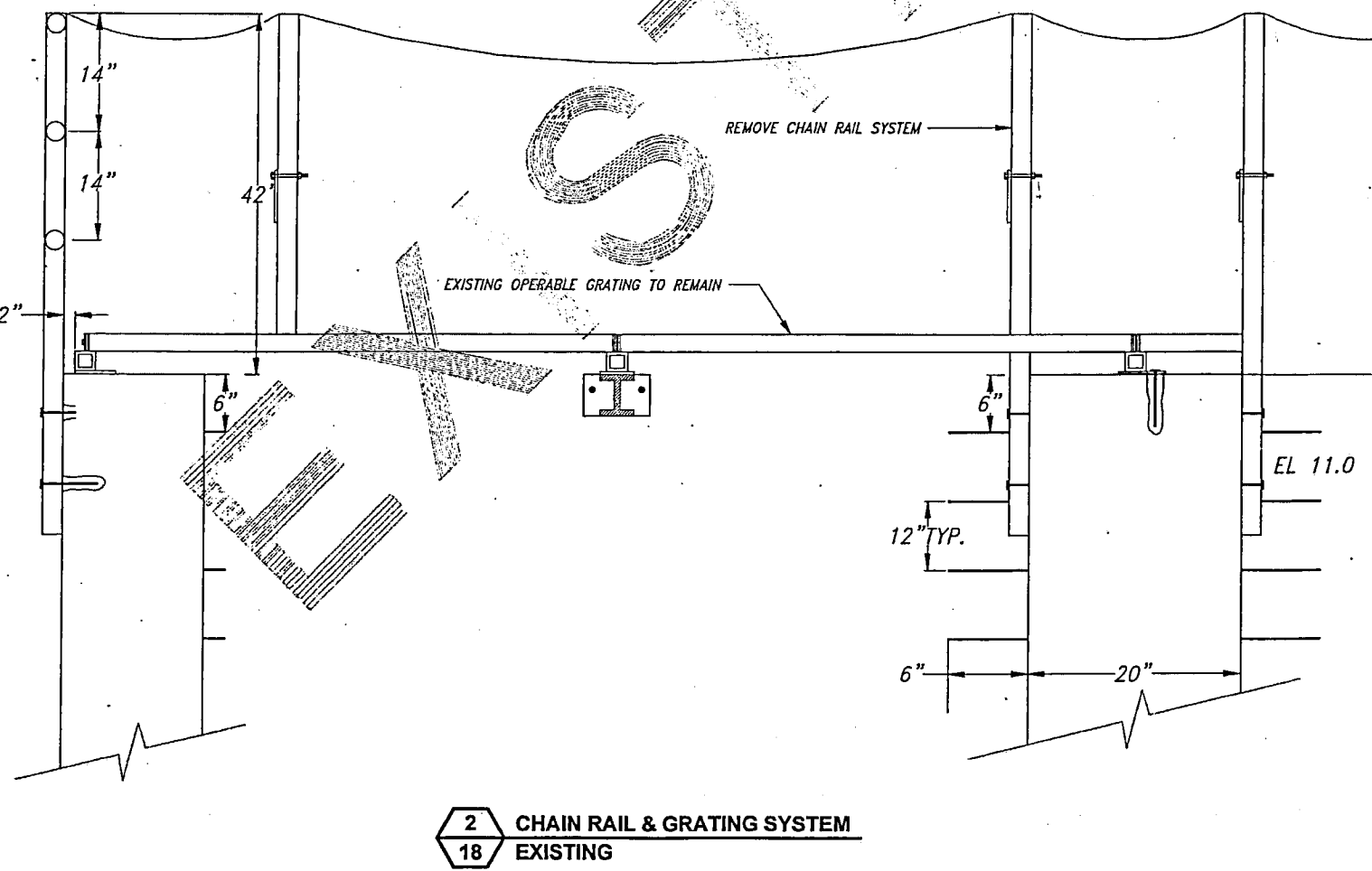
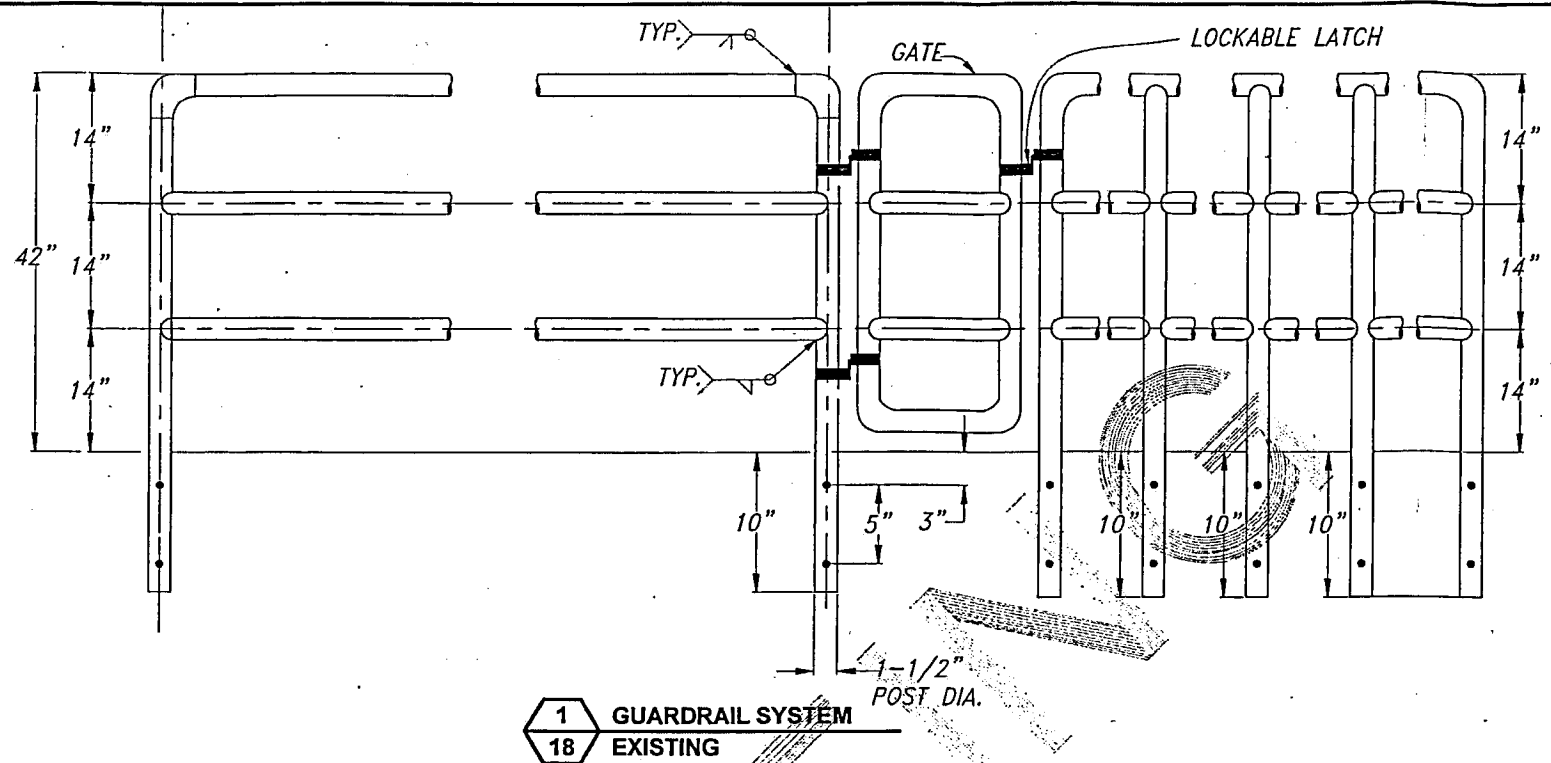
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REV NO.	DESCRIPTION	DATE	APPROVED



PROJECT NO. US-OR-32-8	DATE: 12/14/16	DESIGNED BY: CW
METRO: SMITH BYBEE		DRAWN BY: DMG
GATES, HANDRAIL, GRATING, & STOPLOGS		SURVEYED BY:
WCS IMPROVEMENTS		CHECKED BY:
SHEET NO. 7 OF 8		



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MAY 03 2017
Permit Number

PERMIT SET

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REVISIONS				
REV. NO.	DESCRIPTION	DATE	APPROVED	



PROJECT NO. US-OR-32-8	DATE: 12/14/16	DESIGNED BY: GW
SMITH BYBEE		DRAWN BY: DMC
		SURVEYED BY:
		CHECKED BY:
DETAILS EXISTING & IMPROVEMENTS		SHEET NO. 8 OF 8