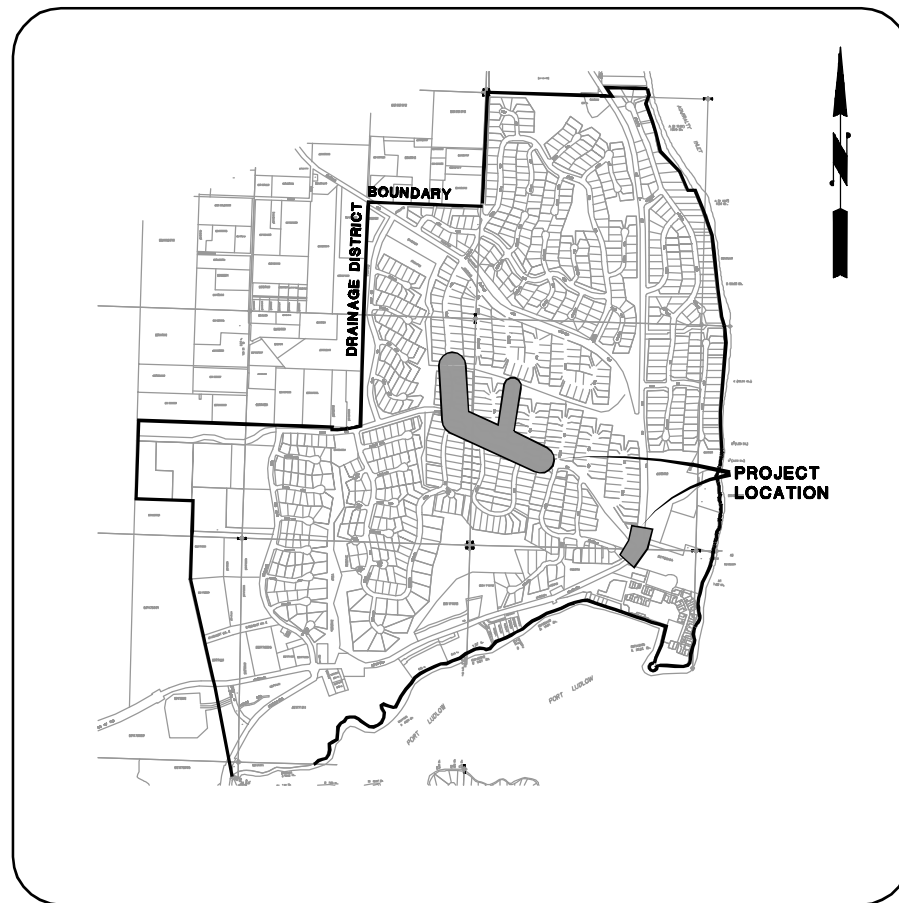


PORT LUDLOW DRAINAGE DISTRICT CASCADE FLOOD ABATEMENT

CONSTRUCTION PLANS



VICINITY MAP

NOT TO SCALE

PROJECT LOCATION: SECTIONS 8 & 9, TOWNSHIP 28
N, RANGE 1 E, JEFFERSON COUNTY, WASHINGTON
PORTION OF PLATS OF PORT LUDLOW NO.1 AREAS 1
& 4 AND PORT LUDLOW NO. 2, AREA 2.

LIST OF DRAWINGS

SHEET	DESCRIPTION
COVER	COVER SHEET, VICINITY MAP, LOCATION MAP AND SURVEY CONTROL
1-7	PLAN AND PROFILE SHEETS
8	TYPICAL STREAMBED CROSS SECTIONS AND TEMPLATES
9	TESC DETAILS AND NOTES
10	GENERAL DETAILS

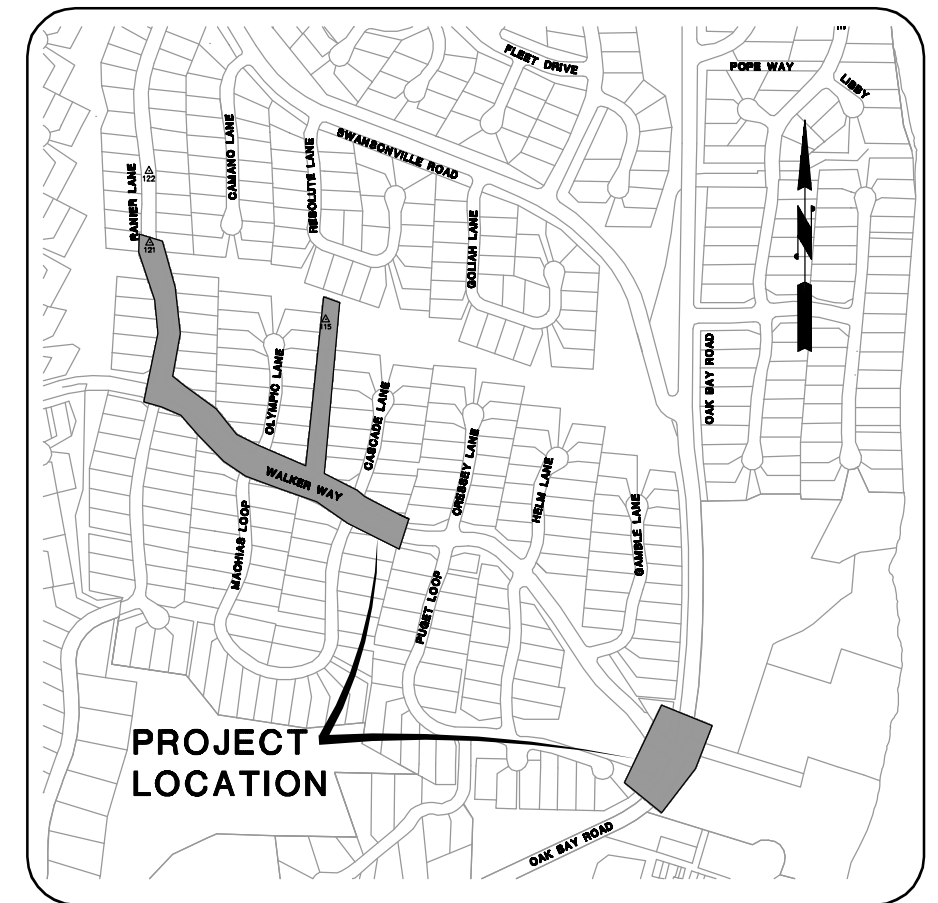
PROJECT PROPONENT/APPLICANT

PORT LUDLOW DRAINAGE DISTRICT
CONTACT: Dwayne Wilcox
PHONE: (360) 437-5056

ENGINEERING CONSULTANT

GRAY & OSBORNE, INC.
701 DEXTER AVENUE NORTH, SUITE 200
SEATTLE, WASHINGTON 98109

CONTACT: NANCY LOCKETT, P.E.
PHONE: (206) 284-0860



LOCATION MAP

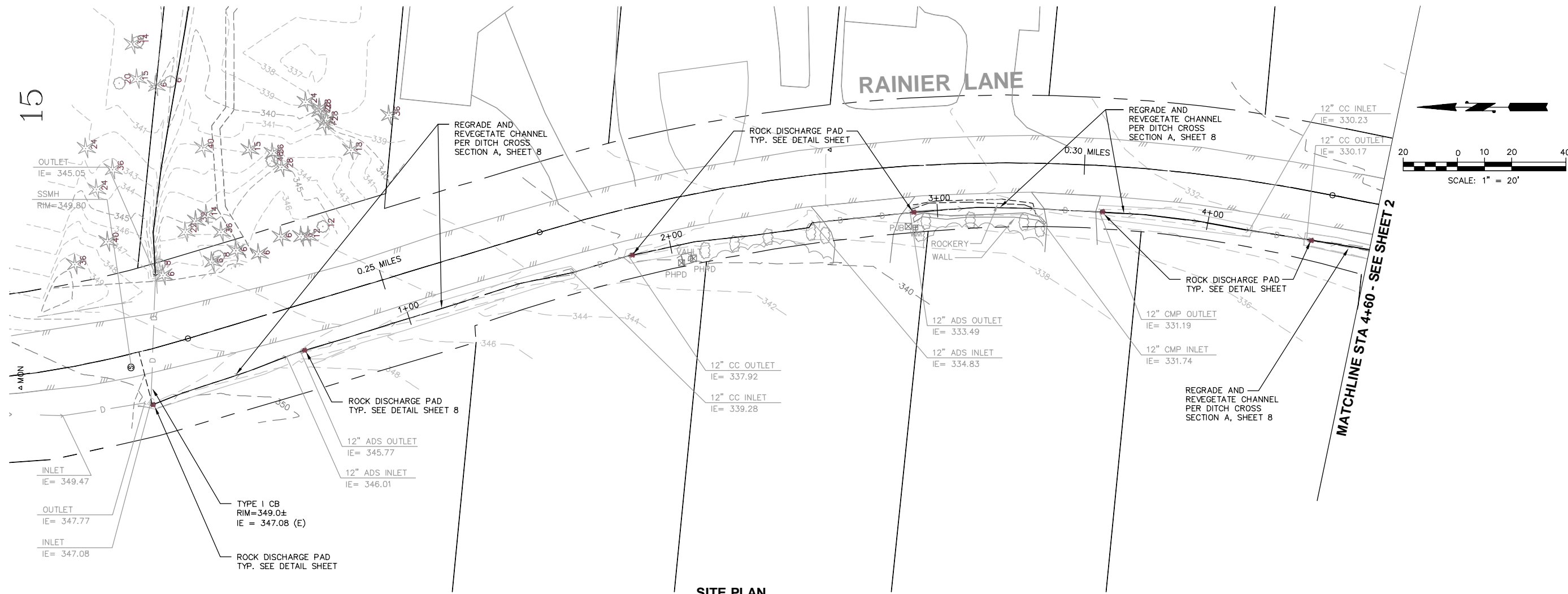
NOT TO SCALE

RIGHT-OF-WAY DISCLAIMER

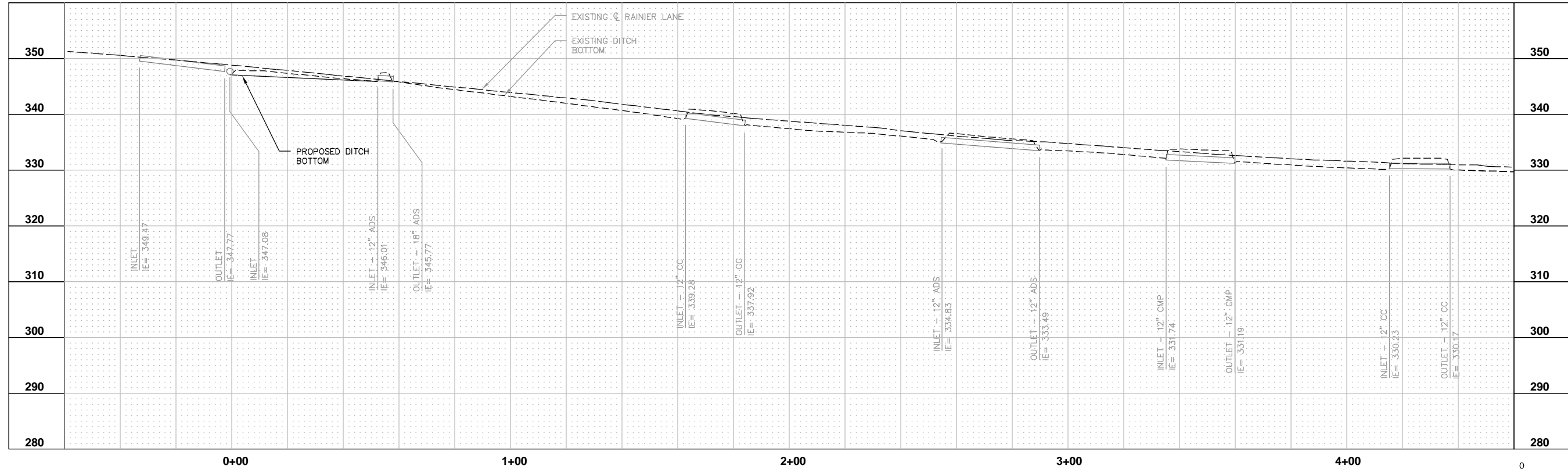
The right-of-way and/or property lines shown hereon are based on available information, not on a surveyed location and are only approximate.

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15

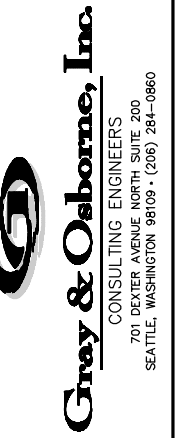


SITE PLAN
SCALE: 1"=20'



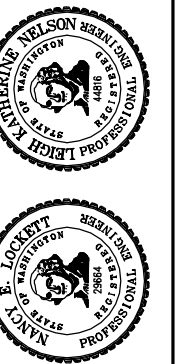
PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=10'

0 1" 2"
TWO INCHES AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY



DATE: FEB 2013
SCALE: H: 1"=20'
SCALE: V: 1"=10'
DRAWN: P.G.M.
CHECKED: L.K.N.
APPROVED: N.E.L.

No.	REVISION	DATE	APPD



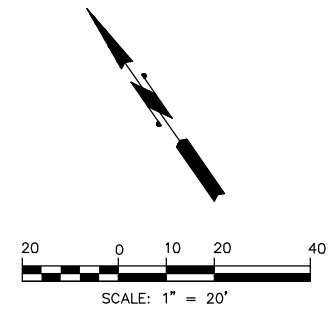
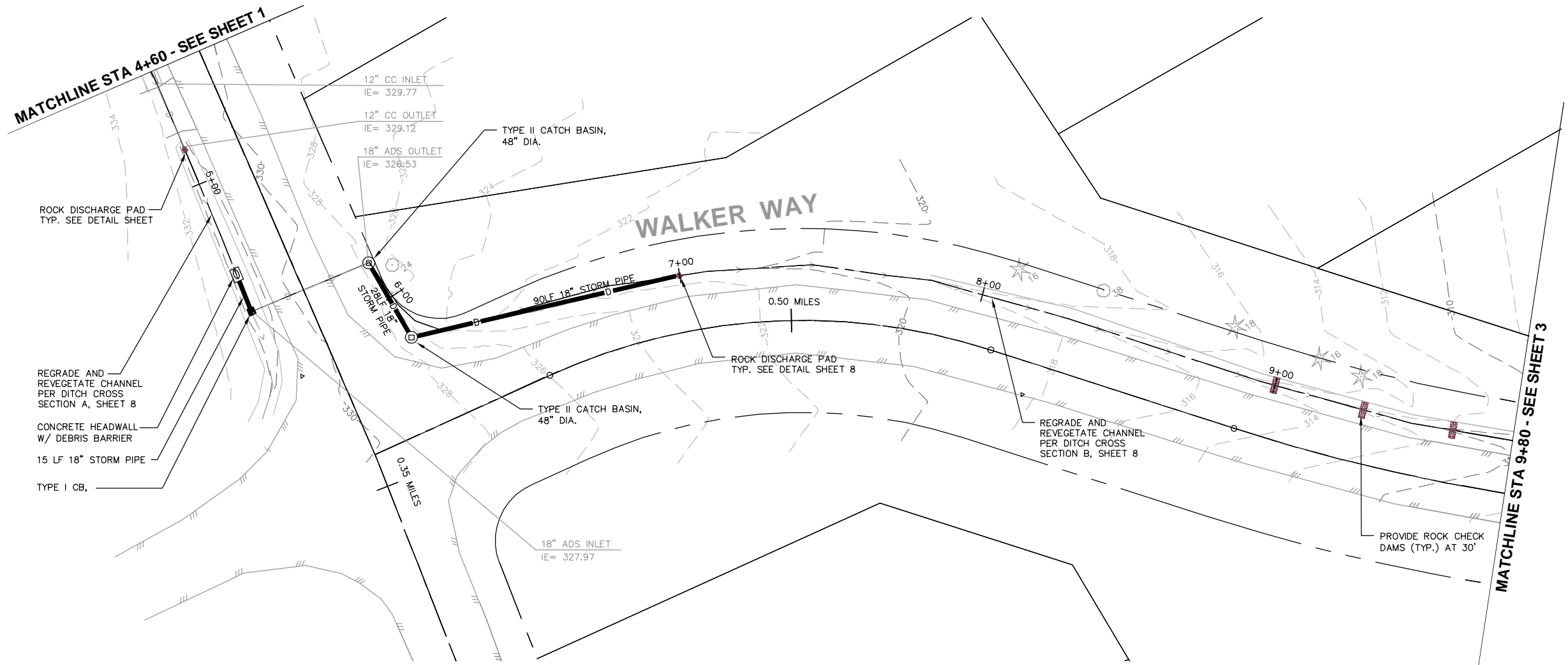
PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

CASCADE FLOOD ABATEMENT

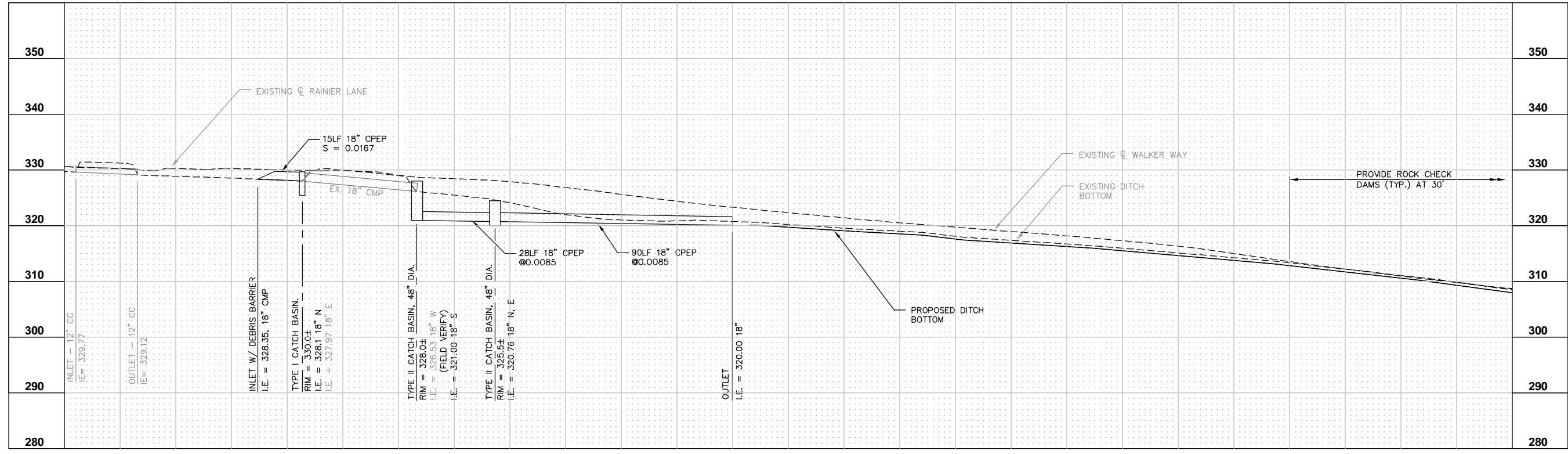
PLAN AND PROFILE
STATION 0+00 TO STATION 4+60

SHEET: 1
OF: -
JOB NO.: 12577.00
DWG: SITE PLAN SHEETS

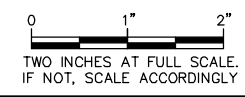
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SITE PLAN
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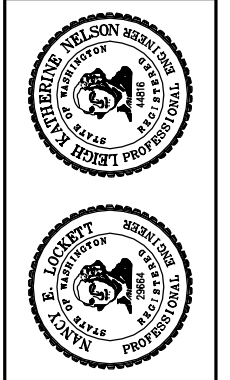
PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=10'



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DATE: FEB 2013
SCALE: H: 1"=20'
SCALE: V: 1"=10'
DRAWN: P.G.M.
CHECKED: L.K.N.
APPROVED: N.E.L.

No.	REVISION	DATE	APPD



PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

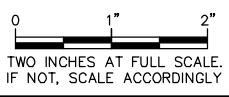
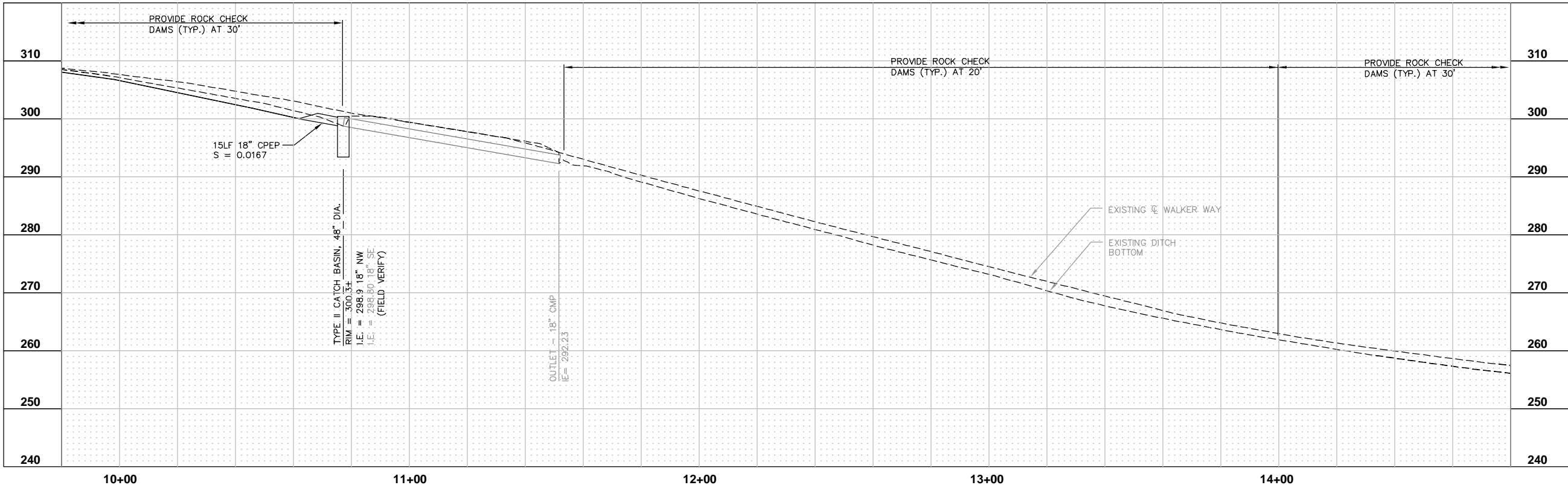
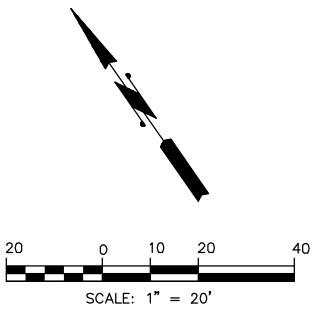
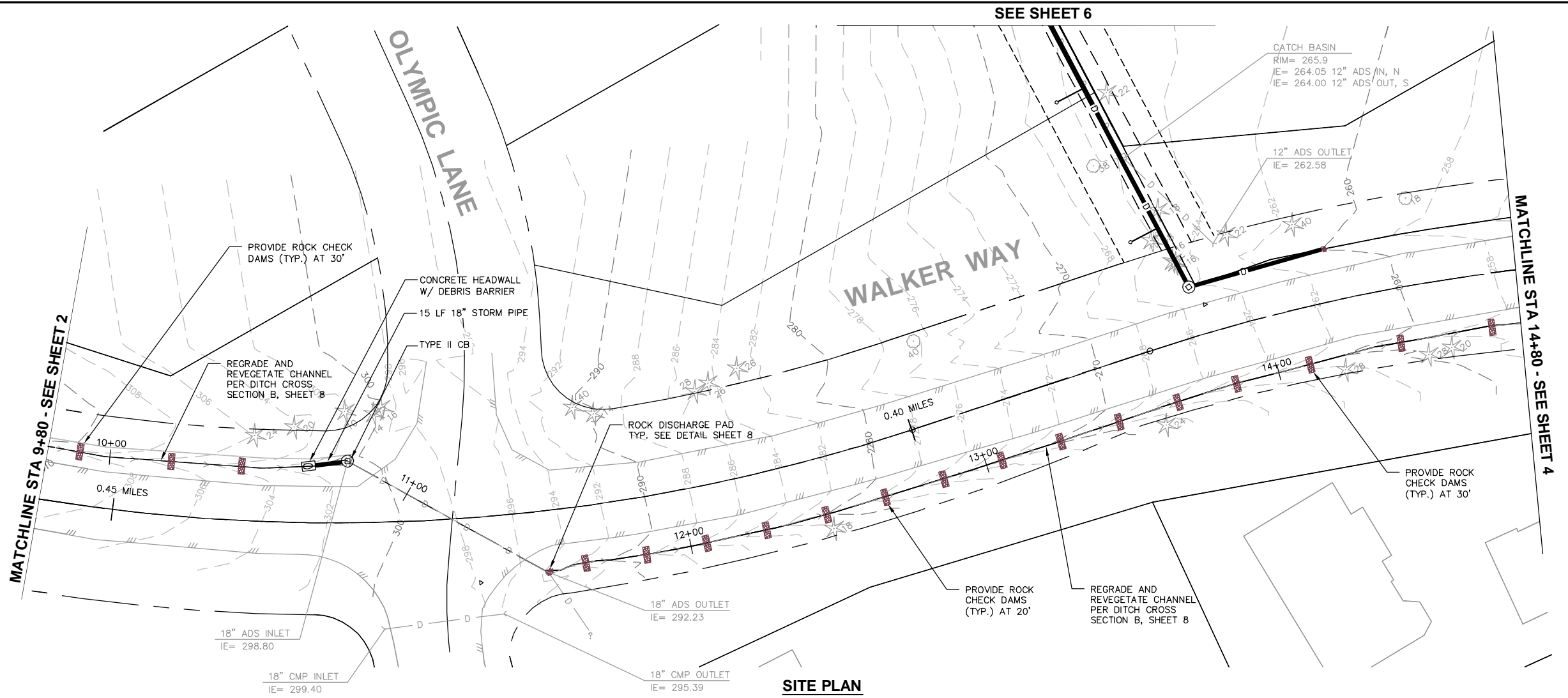
CASCADE FLOOD ABATEMENT

PLAN AND PROFILE
STATION 4+60 TO STATION 9+80

SHEET: **2**
OF: **-**

JOB NO.: 12577.00
DWG: SITE PLAN SHEETS

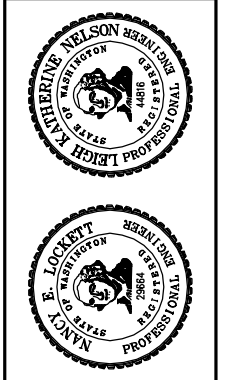
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DATE:	FEB 2013
SCALE:	H: 1"=20' V: 1"=10'
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CHECKED:	L.K.N.
APPROVED:	N.E.L.

No.	REVISION	DATE	APPD

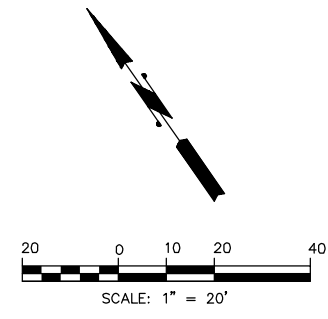
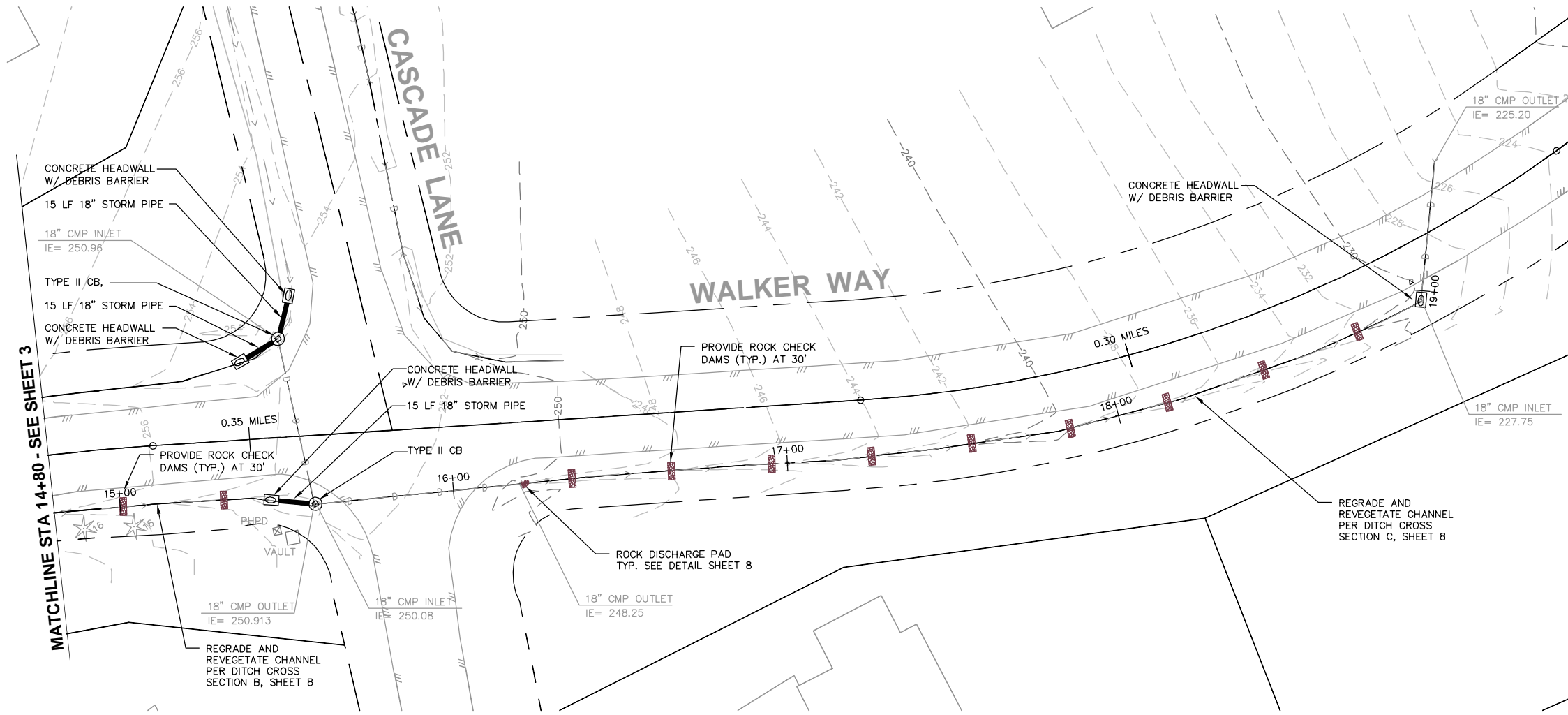


PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

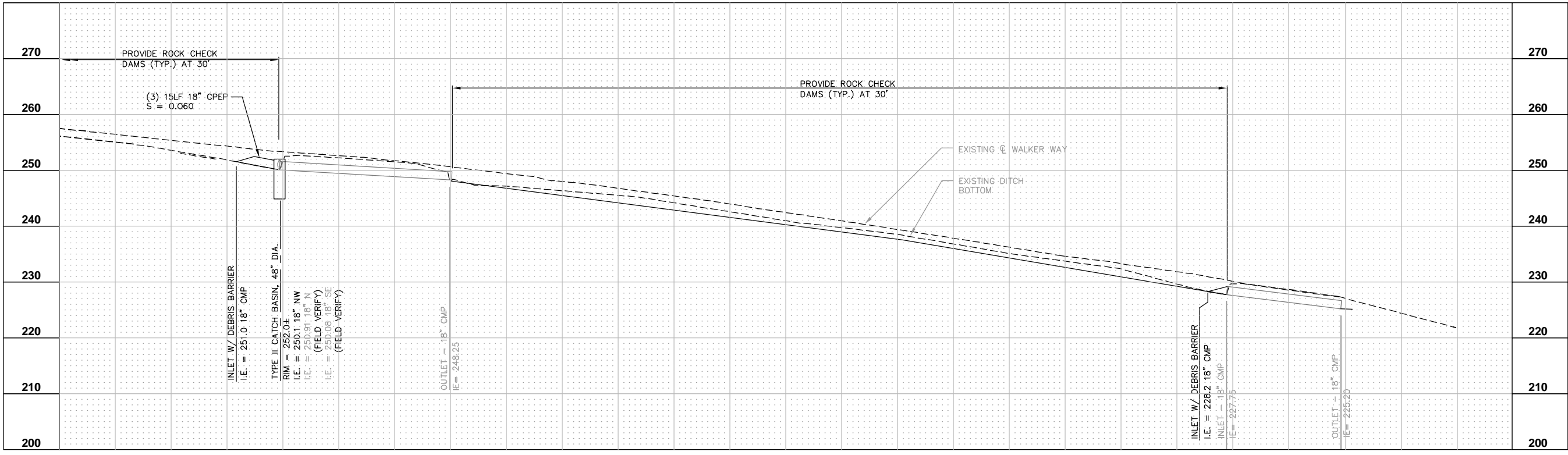
CASCADE FLOOD ABATEMENT
PLAN AND PROFILE
STATION 9+80 TO STATION 14+80

SHEET:	3
OF:	-
JOB NO.:	12577.00
DWG:	SITE PLAN SHEETS

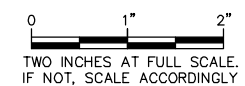
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SITE PLAN
SCALE: 1"=20'



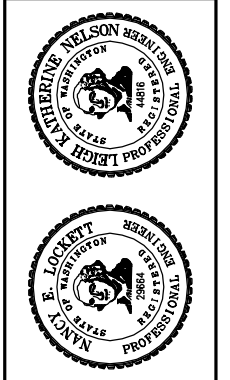
PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=10'



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DATE: FEB 2013
SCALE: H: 1"=20'
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CHECKED: L.K.N.
APPROVED: N.E.L.

No.	REVISION	DATE	APPD

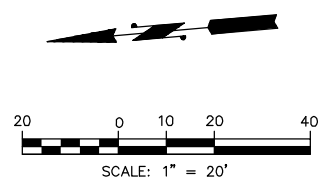
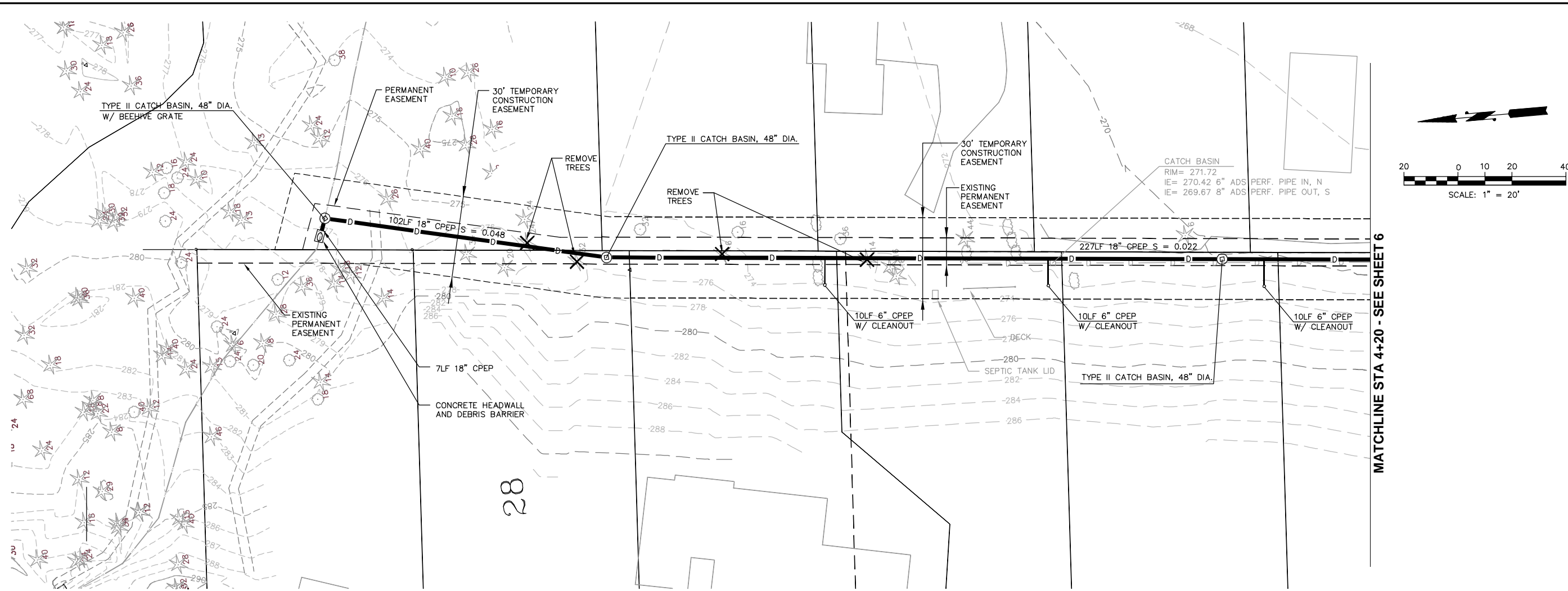


PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

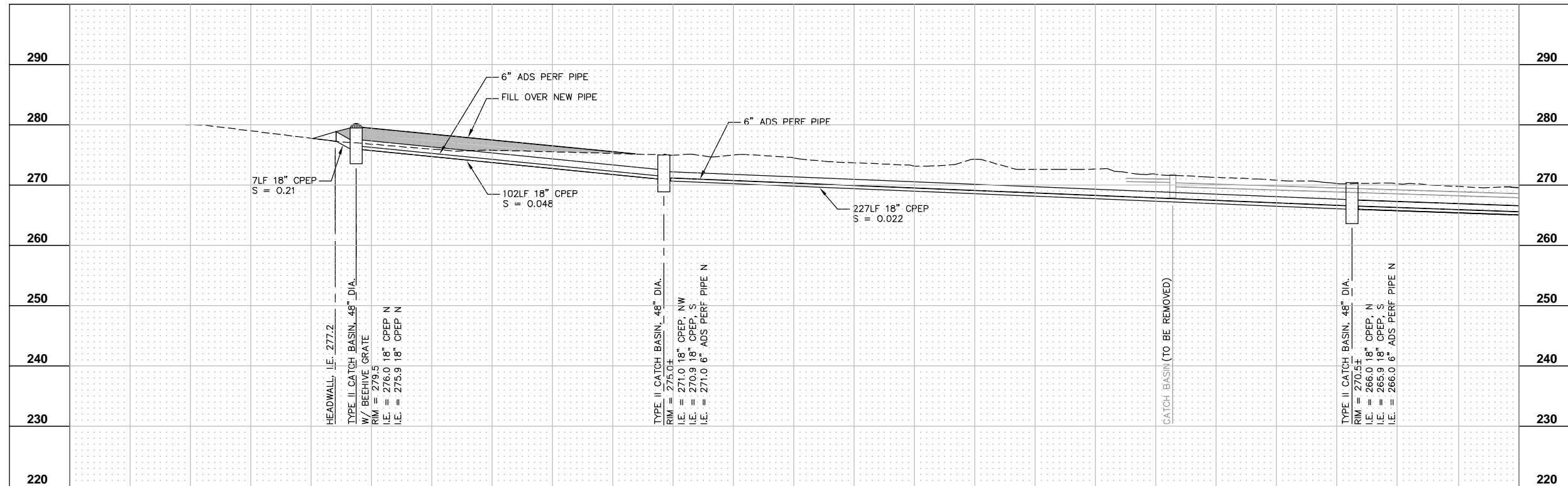
CASCADE FLOOD ABATEMENT
PLAN AND PROFILE
STATION 14+80 TO STATION 19+80

SHEET: **4**
OF: -

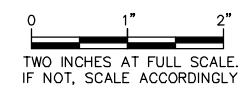
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DWG: SITE PLAN SHEETS



SITE PLAN
SCALE: 1"=20'



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=10'



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DATE:	FEB 2013
H:	1"=20'
V:	1"=10'
DRAWN:	P.G.M.
CHECKED:	L.K.N.
APPROVED:	N.E.L.

No.	REVISION	DATE	APPD

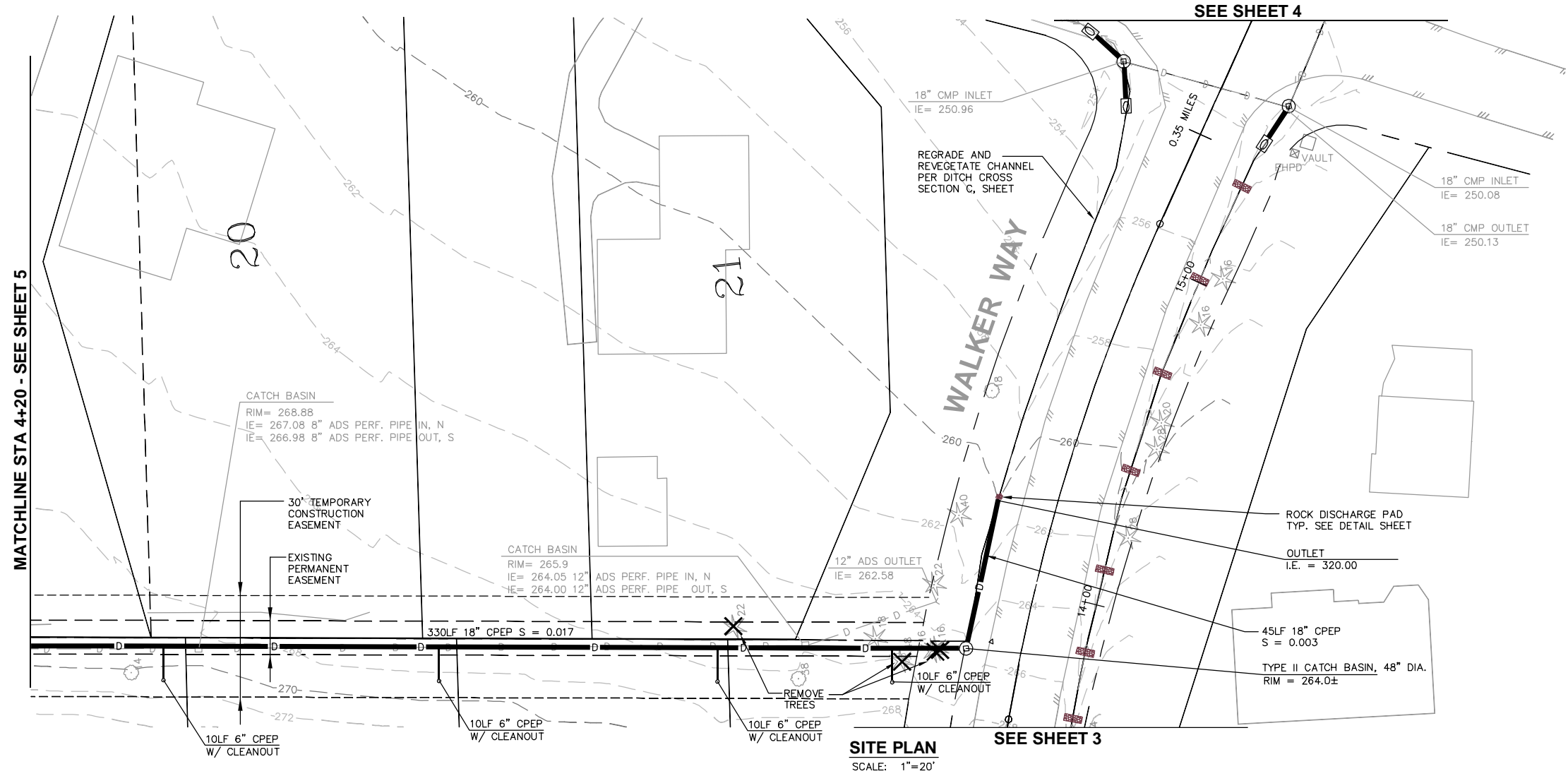


PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

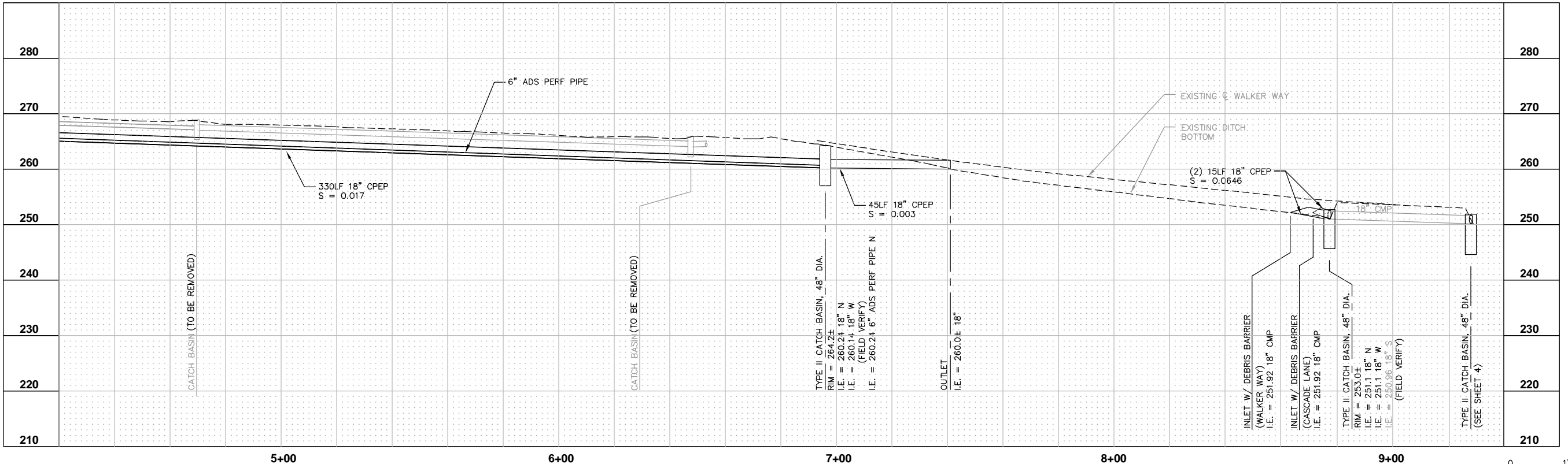
CASCADE FLOOD ABATEMENT

PLAN AND PROFILE
STATION 0+00 TO STATION 4+20

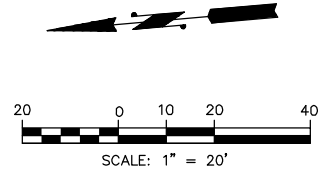
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OF:	-
JOB NO.:	12577.00
DWG:	SITE PLAN SHEETS



SITE PLAN
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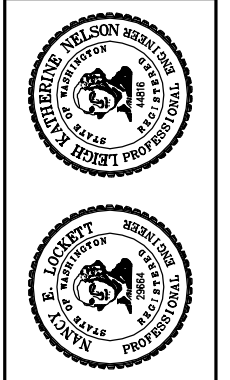


PROFILE
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VERT. SCALE: 1"=10'



DATE:	FEB 2013
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CHECKED:	L.K.N.
APPROVED:	N.E.L.

NO.	REVISION	DATE	APPD



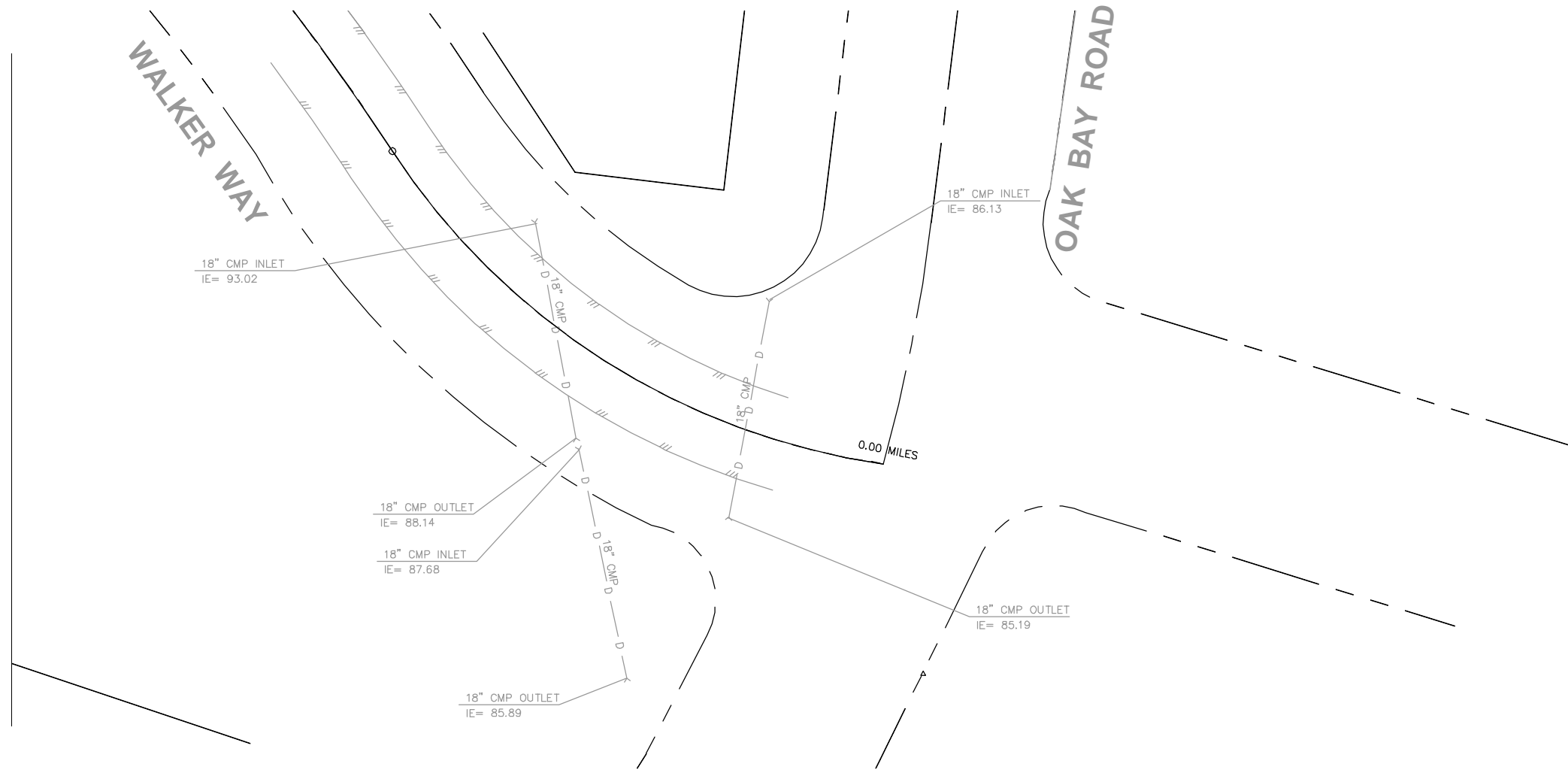
PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

CASCADE FLOOD ABATEMENT

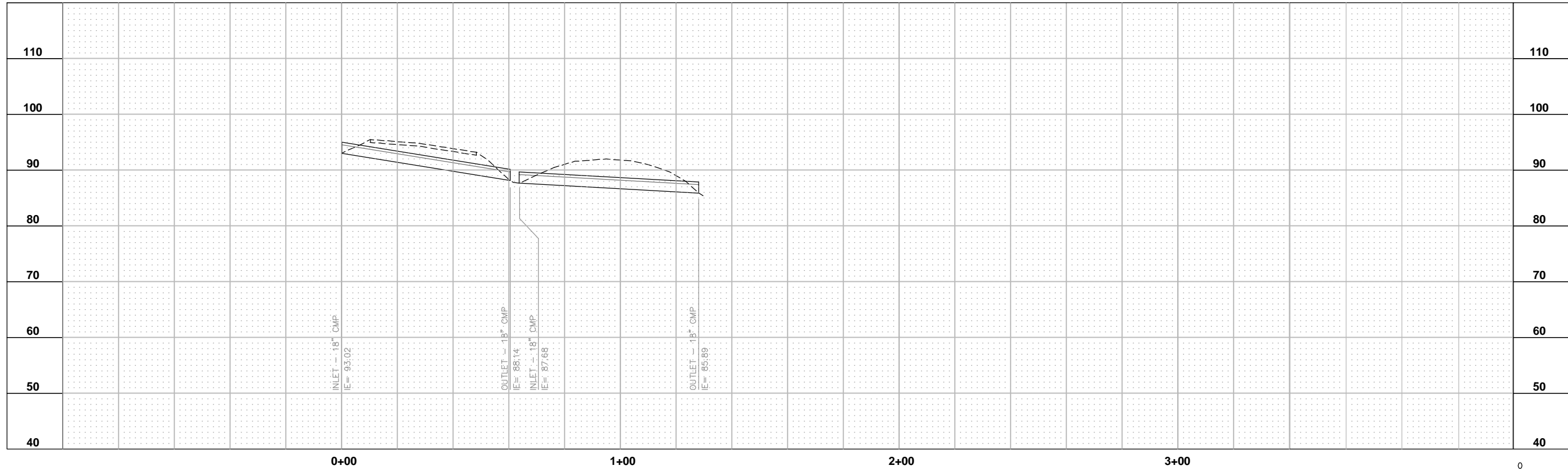
PLAN AND PROFILE
STATION 4+20 TO STATION 9+00

SHEET:	6
OF:	-
JOB NO.:	12577.00
DWG.:	SITE PLAN SHEETS

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SITE PLAN
SCALE: 1"=20'



PROFILE
HORIZ. SCALE: 1"=20'
VERT. SCALE: 1"=10'

0 1 2
TWO INCHES AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

DATE: FEB 2013
SCALE: H: 1"=20'
SCALE: V: 1"=10'
DRAWN: P.G.M.
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APPROVED: N.E.L.

No.	REVISION	DATE	APPD

PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

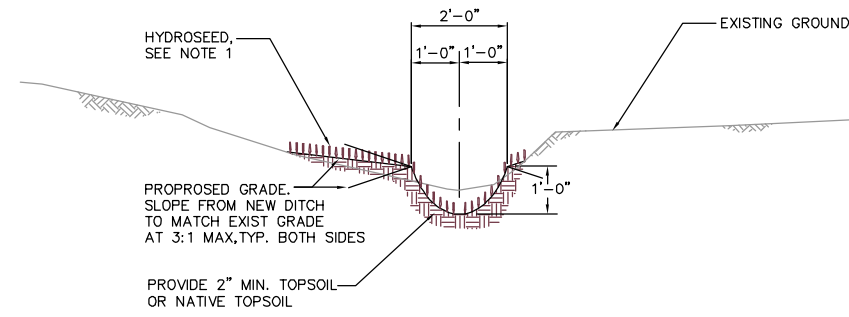
CASCADE FLOOD ABATEMENT

PLAN AND PROFILE
STATION 4+60 TO STATION 9+00

SHEET: **7**
OF: -

JOB NO.: 12577.00
DWG: SITE PLAN SHEETS

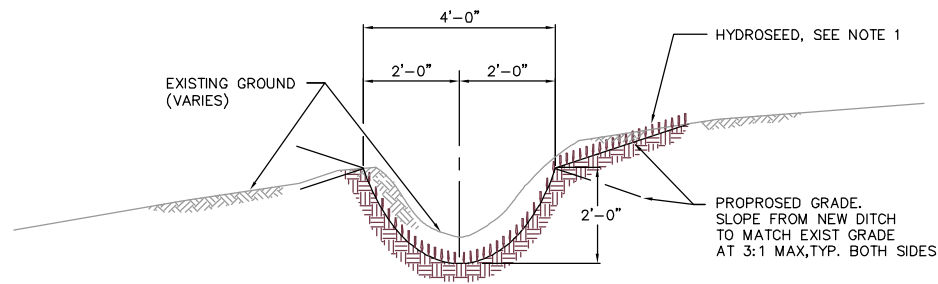
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TYPICAL DITCH SECTION "A" VEGETATED

SECTION TAKEN AT STATION 1+60
SCALE 1/2"=1'-0"

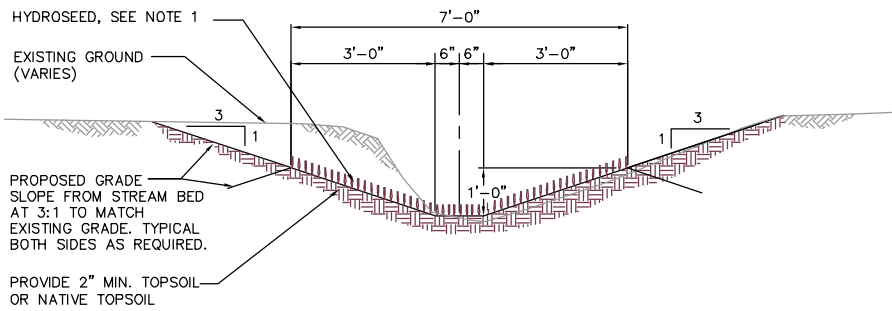
1
-



TYPICAL DITCH SECTION "B" VEGETATED

SECTION TAKEN AT STATION 5+40
SCALE 1/2"=1'-0"

2
-



TYPICAL DITCH SECTION "C" VEGETATED

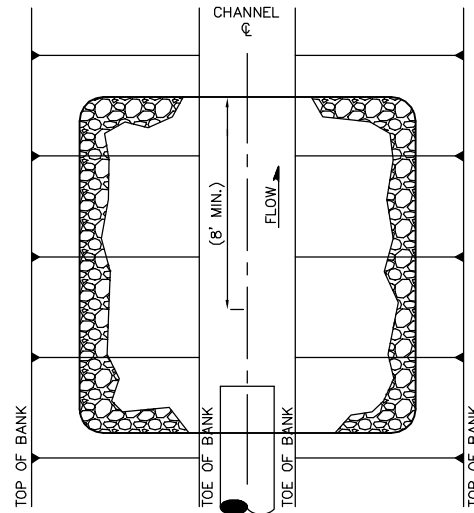
SECTION TAKEN AT STATION 13+20
SCALE 1/2"=1'-0"

3
-

NOTES:

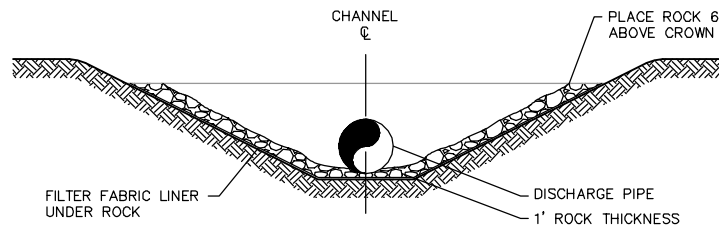
- HYDROSEED SHALL BE APPLIED TO VEGETATED DITCH SECTIONS AND TEMPORARY ACCESS ROADS AS SHOWN ON THE PLANS. SEED OF THE FOLLOWING MIX SHALL BE APPLIED AT 120 LB/ACRE:

COMMON NAME	% WEIGHT	% PURITY	% GERMINATION
TALL OR MEADOW FESCUE	75-80	98	90
SEASIDE/CREEPING BENTGRASS	10-15	92	85
REDTOP BENTGRASS	5-10	90	80



PLAN

NTS



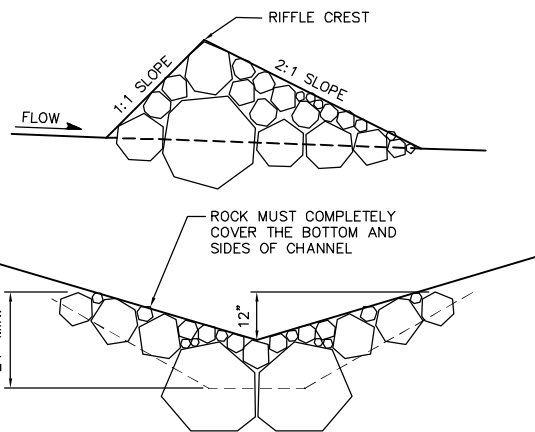
SECTION

NTS

DISCHARGE ROCK EROSION PROTECTION

NTS

4
-



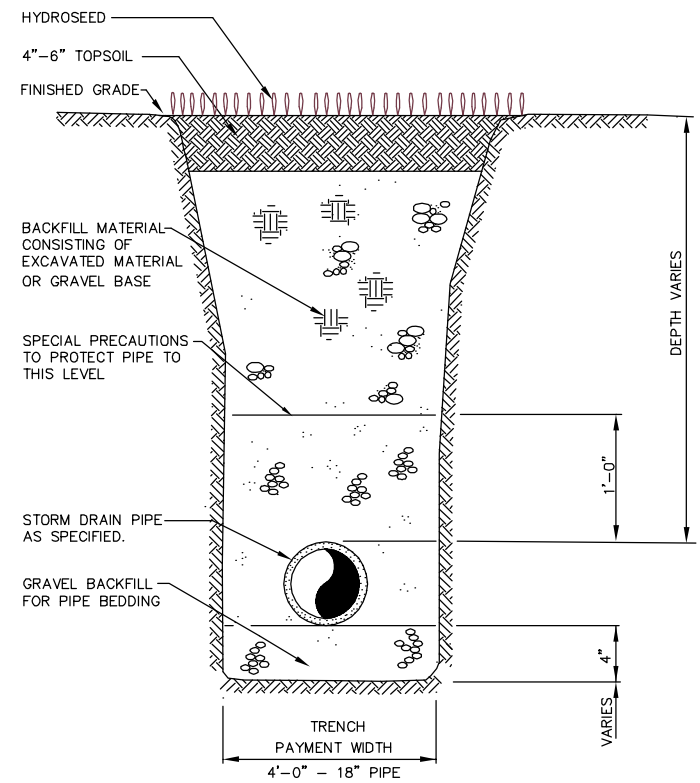
CONSTRUCTION NOTES:

- BUILD RIFFLE CRESTS ACROSS CHANNEL WITH 2' DIA. MIN. BOULDERS KEYS 1' MIN. INTO SLOPE AND CHANNEL BOTTOM. BACKUP W/ 1' DIA. MIN. STONE DOWNSTREAM. FILL VOIDS W/ QUARRY SPALLS AS NECESSARY TO COMPLETE CHECK DAM. SEE SPECIFICATIONS.
- V-SHAPE CREST 1' DOWN TOWARDS CENTER OF CHANNEL.

CHECK DAM DETAIL

NOT TO SCALE

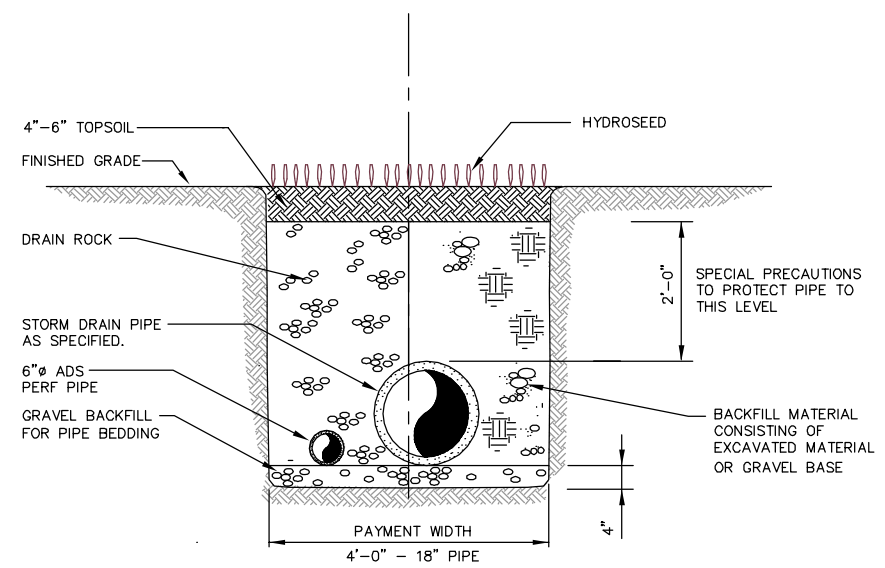
5
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STORM DRAIN PIPE TYPICAL TRENCH SECTIONS

NOT TO SCALE

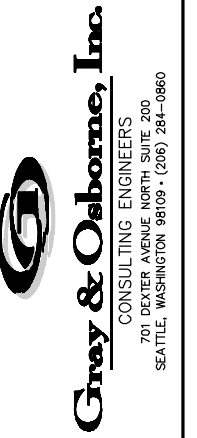
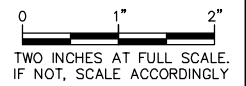
6
-



STORM DRAIN PIPE WITH ADS PER PIPE TRENCH SECTION

NOT TO SCALE

6
1



DATE: FEB 2013	SCALE: AS NOTED	DRAWN: P.G.M.	CHECKED: L.K.N.	APPROVED: N.E.L.
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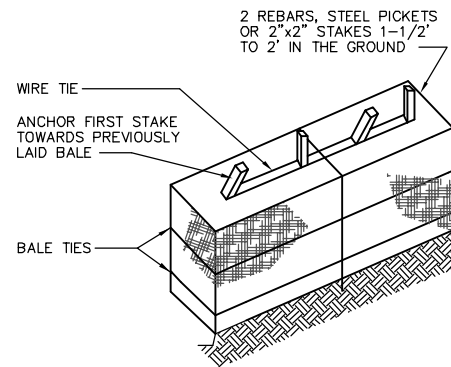
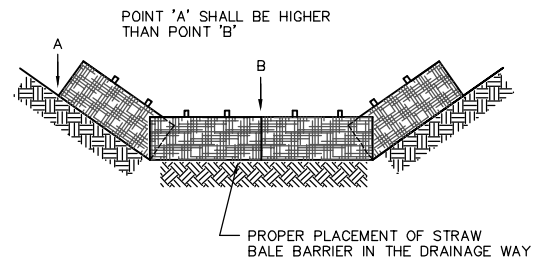
NO.	REVISION	DATE	APPD



PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON
CASCADE FLOOD ABATEMENT
TYPICAL STREAMBED CROSS SECTIONS AND TEMPLATES

SHEET: 8
OF: -
JOB NO.: 12577.00
DWG: DETAIL SHEETS

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**STRAW AND HAY BALE -
BARRIER ANCHOR DETAIL**

NOT TO SCALE



EROSION/SEDIMENTATION CONTROL NOTES

1. CONTRACTOR SHALL SUBMIT TEMPORARY WATER POLLUTION/EROSION CONTROL PLAN PER THE CONTRACT SPECIFICATIONS.
2. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION SHALL BE OBSERVED DURING CONSTRUCTION.
3. ALL REQUIRED SEDIMENTATION/EROSION CONTROL FACILITIES MUST BE IN OPERATION PRIOR TO LAND CLEARING AND/OR OTHER CONSTRUCTION TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE NATURAL DRAINAGE SYSTEM. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND /OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT AND ADDITIONS TO EROSION/SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE EROSION AND SEDIMENTATION CONTROL SYSTEMS DEPICTED ON THIS DRAWING ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND AS UNEXPECTED OR SEASONAL CONDITIONS DICTATE, THE CONTRACTOR SHOULD ANTICIPATE THAT MORE EROSION AND SEDIMENTATION CONTROL FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE PROPOSED SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES AND THE WATER QUALITY OF THE RECEIVING DRAINAGE SYSTEM.
5. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF THE SEDIMENT. ALL CATCH BASINS, CONVEYANCE LINES AND DITCHES SHALL BE CLEANED PRIOR TO PAVING.
6. THE CONTRACTOR SHALL REMOVE MATERIAL DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO THE CITY RIGHT-OF-WAY OR INTO THE EXISTING STORM DRAINAGE SYSTEM. DEBRIS SHALL NOT BE WASHED INTO THE STORM DRAINAGE SYSTEM.
7. TEMPORARY EROSION CONTROL FACILITIES SHALL BE INSPECTED WEEKLY AND MAINTAINED WITHIN 24 HOURS FOLLOWING A STORM EVENT. SEDIMENT SHALL BE REMOVED TO INSURE THE FACILITIES WILL FUNCTION PROPERLY. THE FACILITIES SHALL BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
8. ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
9. NO DISTURBED SOIL SHALL REMAIN UNSTABILIZED FOR MORE THAN TWO DAYS.
10. ALL EROSION/SEDIMENT CONTROL BMPs, INCLUDING ALL STRAW, SHALL BE REMOVED FOLLOWING FINAL GRADING AND HYDROSEEDING.



Gray & Osborne, Inc.
CONSULTING ENGINEERS
701 DEXTER AVENUE NORTH, SUITE 200
SEATTLE, WASHINGTON 98109 • (206) 264-0860

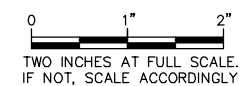
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No.	REVISION	DATE	APPD

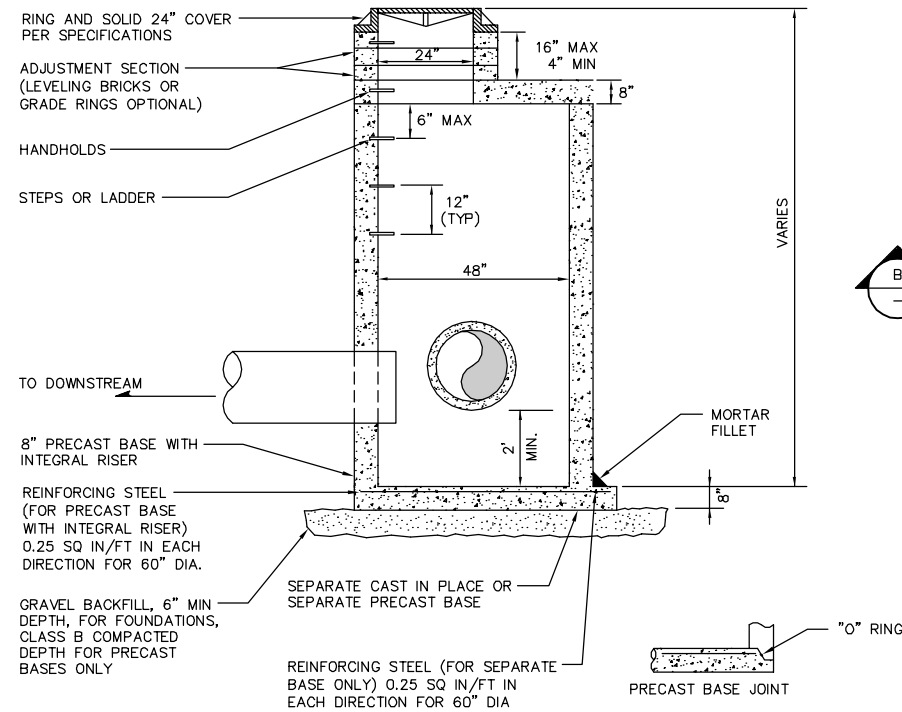


PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON
CASCADE FLOOD ABATEMENT
GENERAL DETAILS

SHEET: 6
OF: 1
JOB NO.: 12577.00
DWG: DETAIL SHEETS

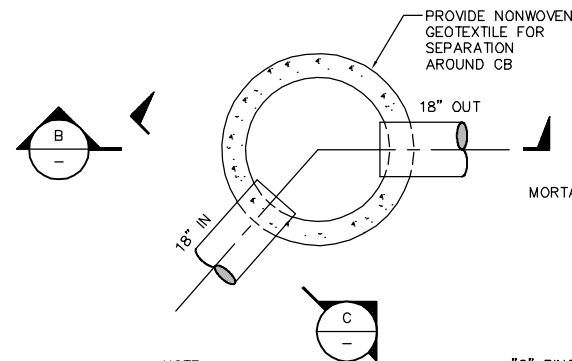


M:\PORTLUDLOW\12577 CASCADE FLOOD ABATEMENT\PLANS\G-SHEETS\DETAIL SHEETS.DWG, 6/27/2013 12:17:45 PM, PGM ACROLOT PRO.PC3, BY: P MARSHALL



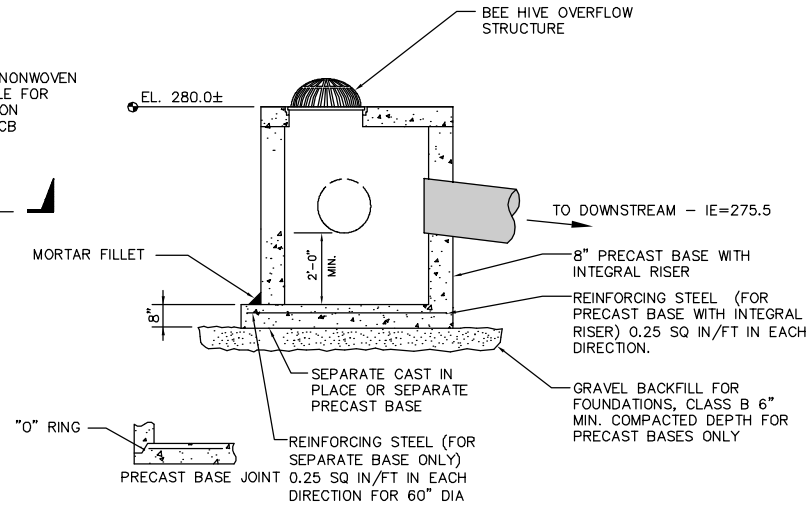
CATCH BASIN TYPE 2 (48" DIA.)
NOT TO SCALE

1
-



NOTE:
CONTRACTOR SHALL CORE DRILL NINE
2-INCH HOLES IN FACE OF CATCH
BASIN. SEE ELEVATION C

PLAN VIEW

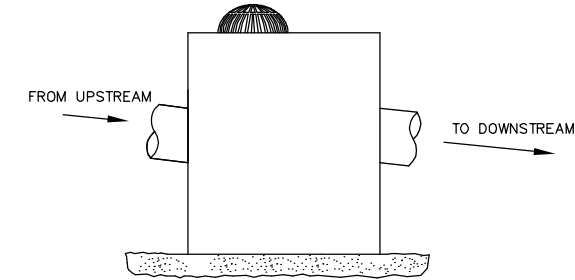


SECTION B

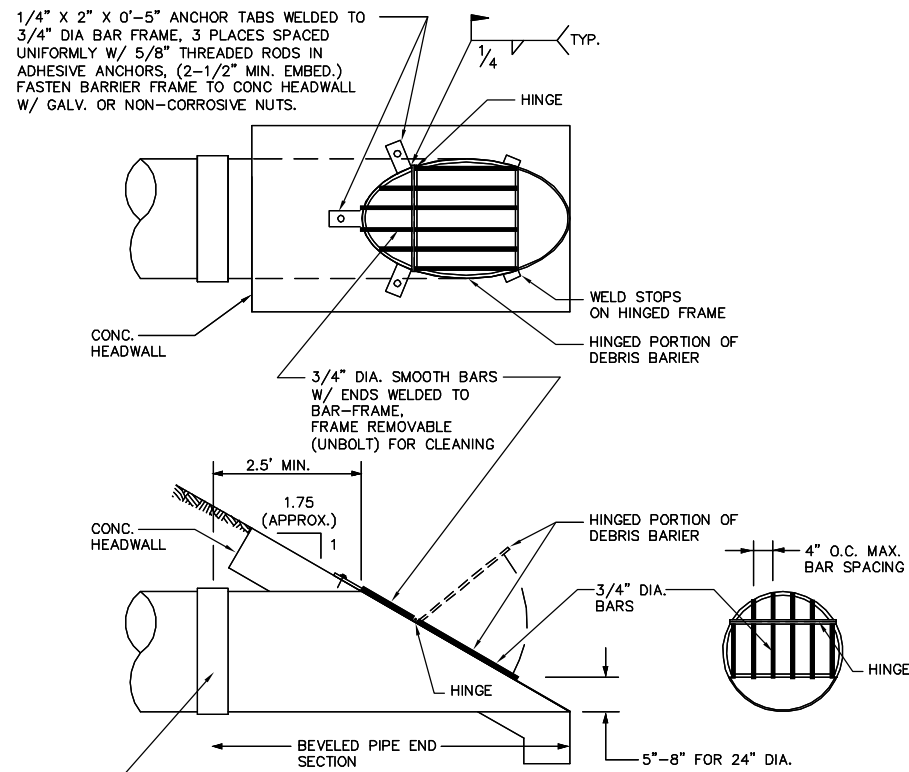
**CATCH BASIN TYPE 2 (48" DIA.)
WITH BEEHIVE STRUCTURE**

NOT TO SCALE

2
-



ELEVATION C

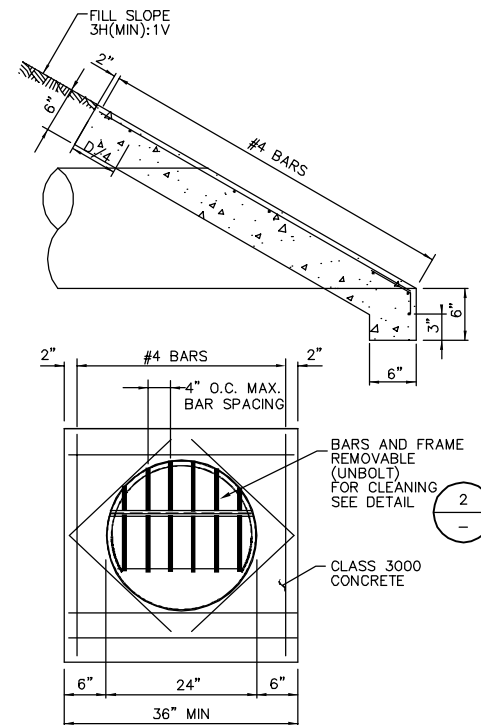


- NOTES:
1. HDPE PIPE END SECTION SHOWN.
 2. ALL STEEL PARTS MUST BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).
 3. ACTUAL DIMENSIONS FOR DEBRIS BARRIER WILL DEPEND ON THE FINAL INSTALLED ANGLE OF THE HEADWALL STRUCTURE AND WILL NEED TO BE VERIFIED IN THE FIELD PRIOR TO BARRIER CONSTRUCTION.

DEBRIS BARRIER DETAIL

NOT TO SCALE

2
4



**CONCRETE HEADWALL
WITH DEBRIS BARRIER**

NOT TO SCALE

4
-

Gray & Osborne, Inc.
CONSULTING ENGINEERS
701 DEXTER AVENUE, SUITE 200
SEATTLE, WASHINGTON 98109 • (206) 264-0860

DATE: FEB 2013	SCALE: AS NOTED	DRAWN: P.G.M.	CHECKED: L.K.N.	APPROVED: N.E.L.
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NO.	REVISION	DATE	APPD

PORT LUDLOW DRAINAGE DISTRICT
JEFFERSON COUNTY WASHINGTON

CASCADE FLOOD ABATEMENT

GENERAL DETAILS

SHEET: 10
OF: -
JOB NO.: 12577.00
DWG: DETAIL SHEETS

