As- Built Report

Coyote Prairie North Mitigation Bank

Hydrologic Enhancements
and
Streaked Horned Lark Nesting Area Construction

November 25, 2015

Oregon Department of State Lands Permit No: 56418-RF
Army Corps of Engineers Permit No: NWP-1995-1157

Submitted to:

U.S. Army Corps of Engineers
2600 S.E. 98th Avenue. Suite 100
Portland, OR 97266

Oregon Department of State Lands
775 Summer Street, NE, Suite 100
Salem, OR 97301-1279

Prepared by:

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Coyote Prairie North Mitigation Bank

Hydrologic Enhancements and Streaked Horned Lark Nesting Area Construction

PURPOSE

This report with attached plan sheets provides As-Built documentation for the site-wide hydrologic enhancements and construction of nesting areas for streaked horned larks at the Coyote Prairie North Mitigation Bank (CPNMB) implemented in 2015. Oregon Department of State Lands (DSL) Permit No: 56418-RF requires this post-construction report within 90 days of the completion of site grading and specifies that the report shall include:

a. A scaled drawing, accurate to 1-foot elevation, showing the finished contours of the site.
b. A narrative that describes any deviation from the approved plan.

Additionally, the Mitigation Bank Instrument (MBI) for the CPNMB approved in 2011 requires submission of an as-built report within 60 days following completion of site grading. All contractual work was completed on September 29, 2015 for the construction of the West Phase and Coyote Swale in the East Phase of the site. For a complete description of the project proposal refer to the Joint Permit Application for DSL Permit No: 56418-RF and Army Corps of Engineers Permit No: NWP-1995-1157.

BACKGROUND

The CPNMB site is a 165 acre portion of the Coyote Prairie site located on Cantrell Road south west of Eugene, OR. The site had been in grass seed production since the early 1970s, with both Italian rye grass (*Lolium multiflorum*) and tall fescue (*Schedonorus phoenix*) crops grown on the site. The West Eugene Wetland Mitigation Bank was approved to implement wetland restoration and enhancement prescriptions at Coyote Prairie in 2006. Based on this approval, the City of Eugene completed Phases 1 and 2 in 2006 and 2007. Under the third phase of enhancement, implemented in 2009; we constructed a series of shallow vegetated pools and swales and completed some initial hydrologic enhancement work under DSL Permit No.: 42724-RF. Since that time, the MBI was approved for the CPNMB which is now includes the northeast portion of the site as the East Phase (formerly Phase 3 of the Coyote Prairie site operated by the West Eugene Wetlands Mitigation Bank). The City of Eugene has now completed earth-work for hydrologic enhancement actions in the West Phase (formerly Phase 4 of the Coyote Prairie site

operated by the West Eugene Wetlands Mitigation Bank) of the CPNMB and constructed features in the East Phase to enhance site-wide hydrologic functions.

Project goals and Objectives

The purpose of the 2015 project implemented at the CPNMB is to re-establish a mosaic of Willamette Valley wet prairie, emergent wetland, and vernal pool wetland habitats that likely existed at the site prior to agricultural conversion. This project implemented the hydrologic enhancements described in the MBI and clarified where and how pools, swales and emergent habitat will be interspersed across the site. Specifically, the project involved earthwork activities to enhance emergent habitat by constructing an embankment berm with an adjustable outlet situated at the northwest region of the site, filling, grading, and stabilizing the eroding agricultural ditch (Coyote Ditch) to improve cross-site hydrologic flow; excavating vernal pools, and constructing gravel-based nesting areas for Federally Threatened streaked horned larks.

Modifications to the Approved Project Plan

Original plans submitted with permit documents were refined as methods were identified to minimize future site maintenance, maximize the stabilization of newly constructed hydrologic features, and minimize disturbance to other regions of the site during the implementation of the project. The final modifications to volume measurements for removal and fill were submitted in the permit application as Summary Table Attachment 2, Revised March 11, 2015 and were subsequently approved. The project was built with only minor calculated discrepancies in fill volume from the approved plan (Table 1).

Table 1. Proposed and actual fill and removal dimensions.

ACOE/DSL Joint Permit Application **Summary Table Attachment 2** Orig. 5/14/2014
Coyote Prairie North (Project #4894) **Revised 11/16/2015**

Wetland / Waterbody	Length (ft.)	Width (ft.)	Depth (ft.)	Area (sq. ft.)	Volume (c.y.)	Actual Volume (c.y.)	Duration of Impact	Material
		Fill Dimensions			**3/11/2015 Proposed**	**Actual**		
Embankment Berm	2475	20	2	109485	4055	3692	Permanent	Native Soil
Fill Coyote Ditch	2200	5	2	29266	740	740	Permanent	Native Soil
Nesting Area 1	175	25	0.25	4355	40	40	Permanent	3/4"- Aggregate
Nesting Area 2	175	25	0.25	4355	40	40	Permanent	3/4"- Aggregate
Nesting Area 3	125	35	0.25	4355	40	40	Permanent	3/4"- Aggregate
Nesting Area 4	165	65	0.25	10890	100	100	Permanent	3/4"- Aggregate
Perm. Stabilization Area 1	15	15	0.5	225	4	4	Permanent	3"-6" River Rock
Perm. Stabilization Area 2	20	30	0.5	600	11	28	Permanent	3"-6" River Rock
Perm. Stabilization Area 3	70	25	0.5	1750	33	28	Permanent	3"-6" River Rock
Perm. Stabilization Area 4	25	25	0.5	600	11	11	Permanent	3"-6" River Rock
Perm. Stabilization Area 5	50	25	0.5	1200	22	22	Permanent	3"-6" River Rock
Perm. Stabilization Area 6	55	40	0.5	2250	42	23	Permanent	3"-6" River Rock
Side Cast Embankments (9*)	165*	20*	1	29592	1096	1096	Permanent	Native Soil
VP spillway stabilization (all)	Embedded in Side Cast Embankment area					33	Permanent	3"-6" River Rock
Boulders						20	Permanent	1'-3' Boulders
Construction Entrances	200	12	0.5	2400	89	48	Temporary	3" Open Aggregate
Total Fill				201323	6323	5965		

Wetland / Waterbody	Length (ft.)	Width (ft.)	Depth (ft.)	Area (sq. ft.)	Volume (c.y.)	Duration of Impact	Material
		Removal Dimensions					
Coyote Swale	1650	50	3	29265	2530	Permanent	Native Soil
Spillway Swale	35	15	0.5	485	9	Permanent	Native Soil
North Fork Swale	300	20	1.5	5580	310	Permanent	Native Soil
Coyote Side Channel N	300	20	0.5	6692	105	Permanent	Native Soil
Coyote Side Channel S	300	20	0.5	6428	101	Permanent	Native Soil
Vernal Pool 1	108	190	0.9	20550	685	Permanent	Native Soil
Vernal Pool 2	155	150	0.75	23330	648	Permanent	Native Soil
Vernal Pool 3	130	135	1	17495	648	Permanent	Native Soil
Vernal Pool 4	58	75	0.65	4360	105	Permanent	Native Soil
Vernal Pool 5	104	30	0.65	3115	75	Permanent	Native Soil
Vernal Pool 6	60	75	1	4620	171	Permanent	Native Soil
Vernal Pool 7	90	92	0.65	8265	199	Permanent	Native Soil
Vernal Pool 8	40	150	1	6129	227	Permanent	Native Soil
Vernal Pool 9	25	125	0.85	2830	89	Permanent	Native Soil
Total Removal				139144	5902		

Table 1 continued

NOTE: Areas and Volumes are calculated and shown on the plans. The lengths and widths of work on this project are variable based on shape and listing in the above summary as typical maximums.
*Proposed Side Cast Embankment Fill will be excess native soil removed in creating vernal pools placed adjacent to the vernal pools. Width and length given in the table are typical average.

Post construction note: Removal quantities are based on pre-construction survey and design. Fill quantities that changed during construction were field measured. Embankment berm material was compacted and field measured with topographic survey equipment. Discrepancy between native fill and removal quantities is due to compaction on the berm material and no post construction survey of the removal areas.

SUMMARY

In summary, the main elements of project construction involving removal or fill and other enhancements can be described as follows:

1. A total of 2,530 cubic yards of material was removed to grade slopes to 10:1 and stabilize the upper third of the eroding agricultural ditch (Coyote Ditch) and create Coyote Swale.
2. 740 cubic yards of this removal material (which included 40 cubic yards of material with salvaged Great Camas bulbs) was used to fill in the lower two-thirds of Coyote Ditch.
3. An additional 516 cubic yards of material was removed from the swale area to enhance cross-site hydrology by creating the North Fork Swale and two side channels.
4. 2,847 cubic yards of material was removed to excavate a total of nine vernal pools areas totaling 2.08 acres. Some of this material was used to create low berms ("Side Cast Embankments" in Table 1) graded at slopes of 15:1 at the edges of the vernal pools to increase the inundation areas around the pools. We expect that the placement of the sidecast embankments will create approximately 4.6 total functional acres of vernal pool habitat, and we expect the sidecast embankments will function as wet prairie
5. The rest of the material removed from the vernal pools was combined with material removed for the construction of Coyote Swale to create the embankment berm. The volume of 3,692 cubic yards of fill for the construction of the embankment berm was calculated with a topographic survey.
6. 20 cubic yards of boulders were used to construct four low weirs to function as grade and velocity checks to help stabilize the upper end of Coyote Swale.

7. The grade of the swale and vernal pool outlets was permanently stabilized with installation of 116 cubic yards of river rock (3”-6” cobble) plus 750 square yards of woven coir fabric. We expect that these areas will become vegetated with native species.
8. Additionally, 220 cubic yards of crushed aggregated (3/4”-0”) were placed in four different areas totaling .55 acres in size to establish nesting areas for streaked horned larks. These areas will be maintained to remain largely free of vegetation to meet habitat requirements of the larks.
9. Additional habitat features include the placement of 147 salvage logs in or near vernal pools for amphibian refugia.
10. All areas of disturbance and the entire wetland prairie have been seeded for revegetation with 24 different seed mixes with a total of 55 native emergent, vernal pool, and wetland prairie species.

Benefits expected through the implementation of this project include a reduction of erosion and sediment transport, an increase in surface flows and improvement in wet prairie community functioning; and increases in topographic complexity, as well as increased surface water retention (storage and delay) and enhanced habitat diversity across the site.

ATTACHMENTS

The following attachments are included with this report as required documentation:

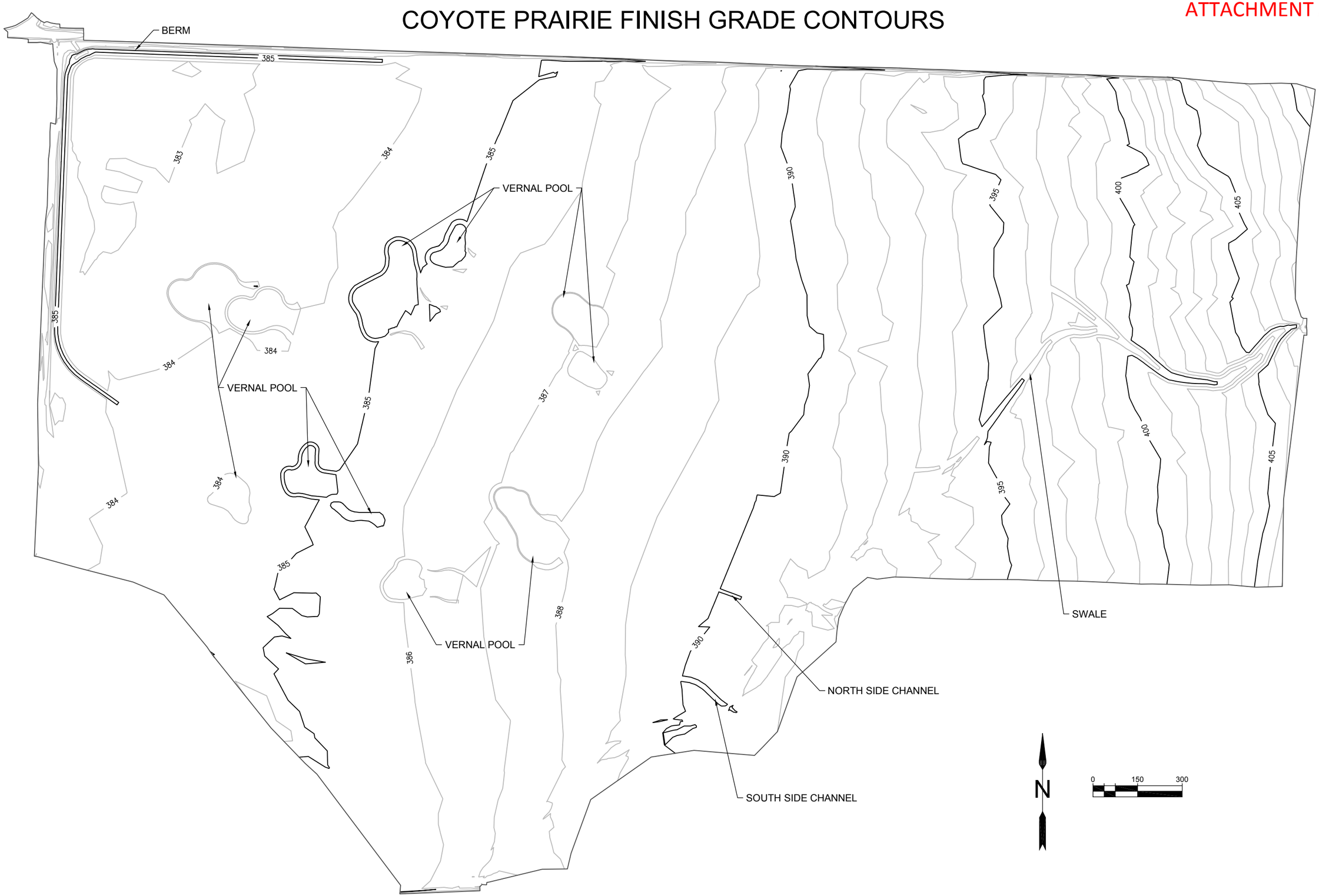
- Attachment A - Coyote Prairie Finish Grade Contours
- Attachment B – Wetland Mitigation Bank Coyote Prairie North Restoration As-Built (As-Constructed) Plan

Aerial image of the filled portion of Coyote Ditch (foreground) two Side Channels (center), and the newly constructed Coyote Swale in the East Phase (background) taken October 16, 2015. The West Phase is on the left.

Aerial image of the West Phase and newly constructed vernal pools, taken October 16, 2015

ATTACHMENT A

COYOTE PRAIRIE FINISH GRADE CONTOURS



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DESIGNED BY	D. SINGER				
DRAWN BY	L. COPENHAGEN				
CHECKED BY	P. KLOPE	REV.	DATE	DESCRIPTION	BY
PROJECT NO.	4894				

WMB: COYOTE PRAIRIE
NORTH RESTORATION
FINISH GRADE CONTOURS

CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

SHEET
1 OF 1

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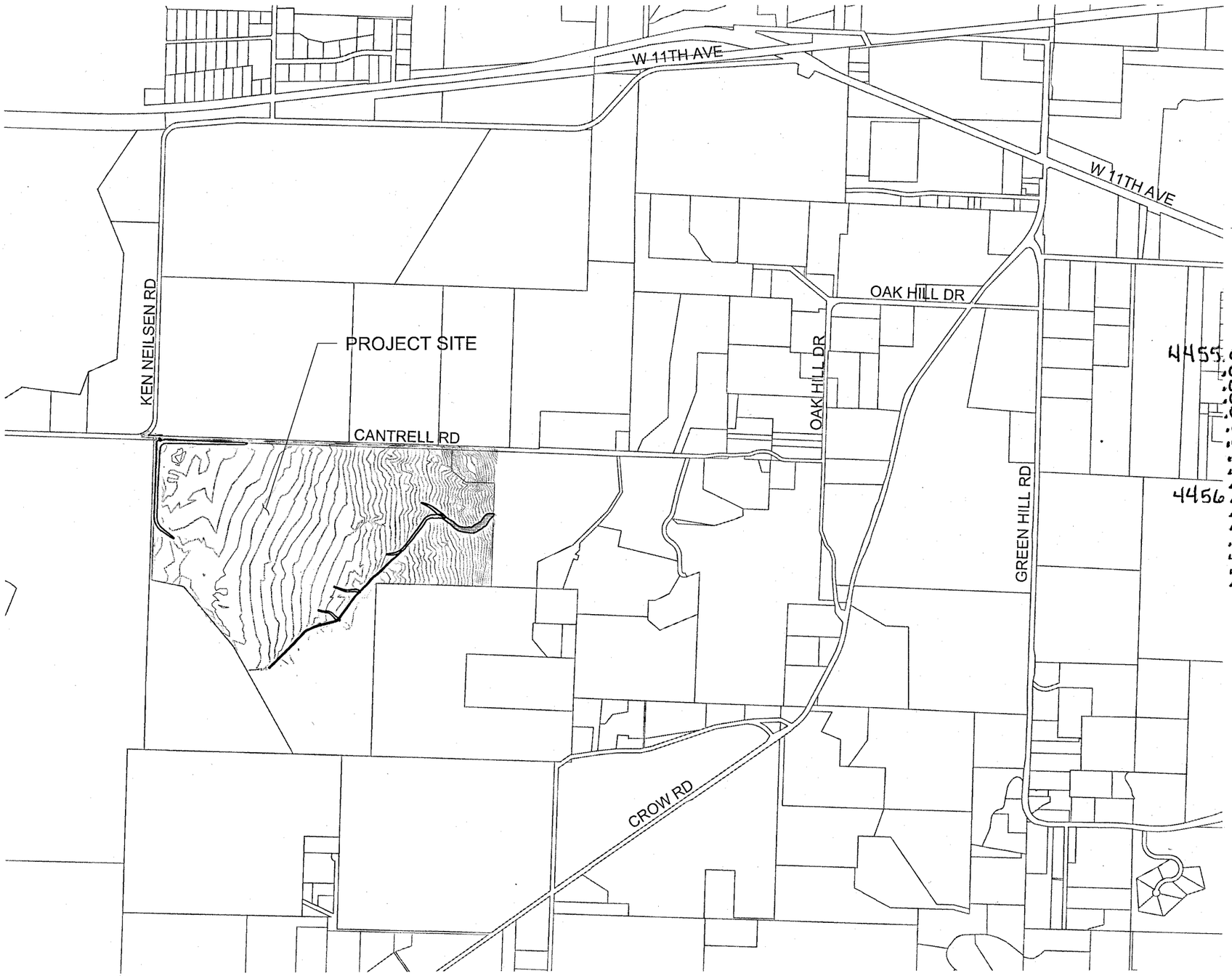
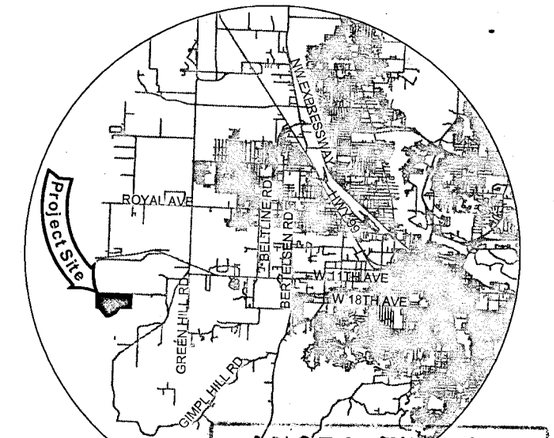
ATTACHMENT B

WETLAND MITIGATION BANK
COYOTE PRAIRIE NORTH RESTORATION





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SHEET INDEX	
Sheet No.	Sheet Title
1	COVER SHEET
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C-1	PLAN SHEET
C-2	COYOTE SWALE PLAN & PROFILE
C-3	EMBANKMENT BERM PLAN & PROFILE
C-4	SPILLWAY SWALE PLAN & PROFILE
XS-1	COYOTE SWALE SECTIONS STA 0+50 TO 6+00
XS-2	COYOTE SWALE SECTIONS STA 6+50 TO 11+50
XS-3	COYOTE SWALE SECTIONS STA 12+00 TO 14+50
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XS-5	COYOTE SWALE NORTH FORK-SECTIONS
XS-6	COYOTE SWALE NORTH SIDE CHANNEL-SECTIONS
XS-7	COYOTE SWALE SOUTH SIDE CHANNEL-SECTIONS
XS-8	EMBANKMENT BERM SECTIONS STA 3+00 TO 13+85
XS-9	EMBANKMENT BERM SECTIONS STA 14+10 TO 23+75
XS-10	SPILLWAY SWALE-SECTIONS
CS-1	CSMP PLAN
TC-1	TRAFFIC CONTROL

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

N
NTS

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

APPROVED: CITY ENGINEER

EXPIRES: 06/30/2016

DATE	5/13/2015			
SCALE	NTS			
DESIGNED BY	D. SINGER			
DRAWN BY	L. COPENHAGEN			
CHECKED BY	P. KLOPE			
PROJECT NO.	4894	REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE
NORTH RESTORATION
COVER SHEET

CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

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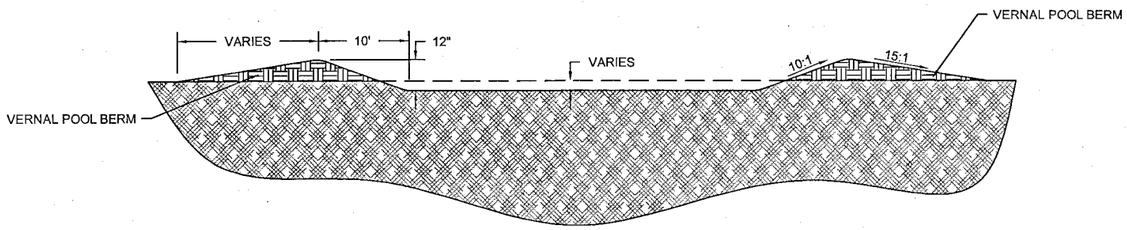
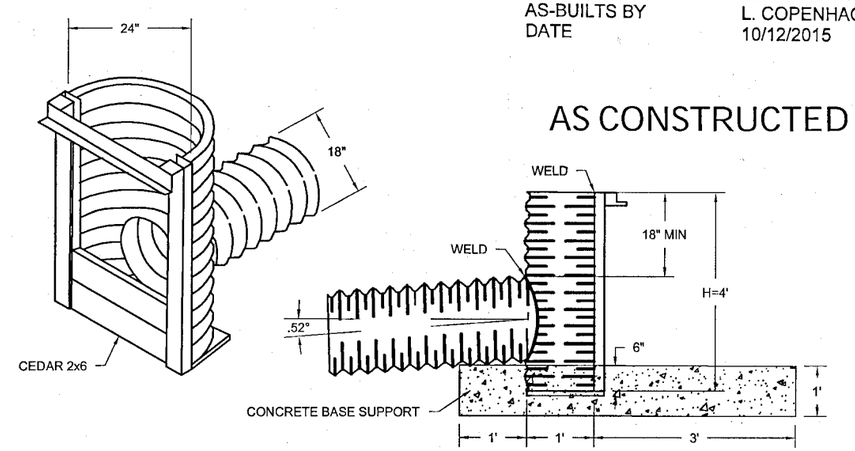
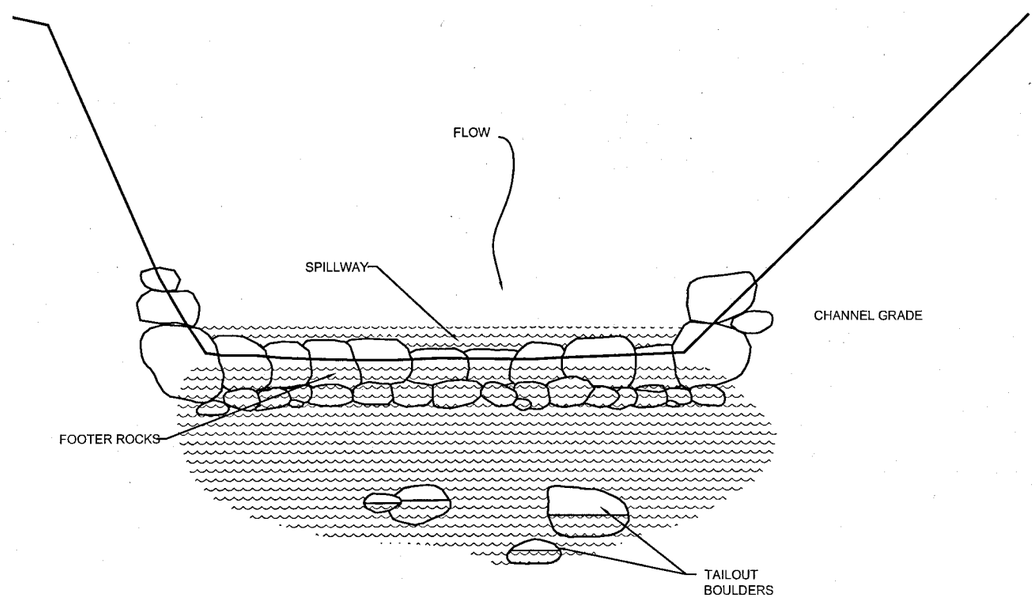
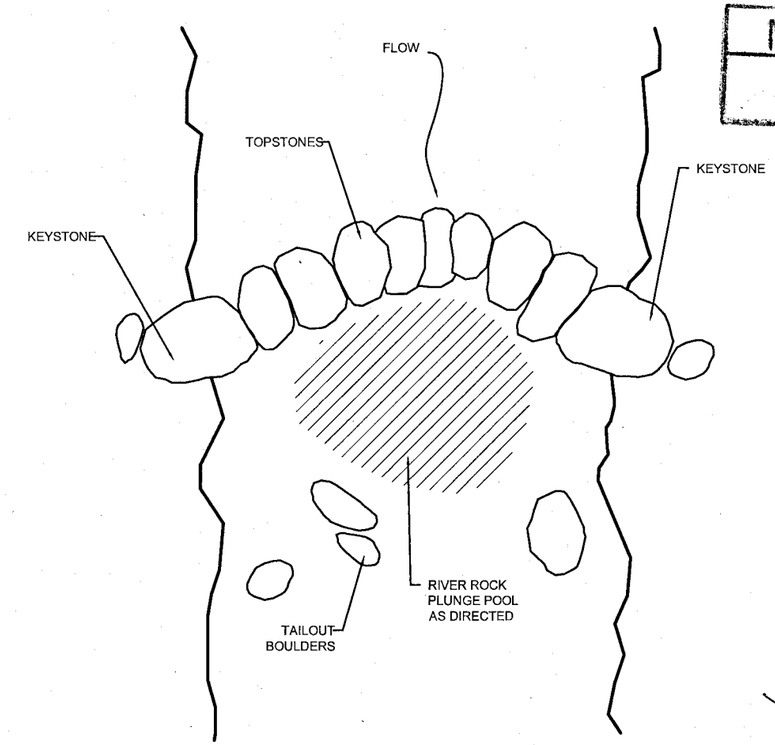
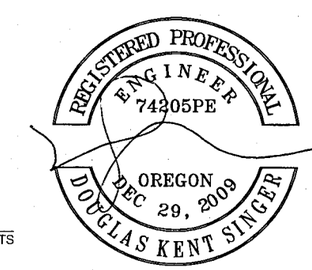










CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

Ⓐ TYPICAL SECTION VERNAL POOL

(LOOKING DOWNSTREAM)

NTS

Ⓑ FLASHBOARD RISER DETAIL

USE U.S. FISH & WILDLIFE SERICE TYPE 2 RISER OR APPROVED EQUAL.
CONCRETE BASE SUPPORT SHOULD BE A MINIMUM OF 2.5' WIDE x 5' LONG x 1' DEEP

NTS

MICRO FILE NO.
4455.020

Ⓒ BOULDER STRUCTURE SECTION

(LOOKING UPSTREAM)

NTS

Ⓓ BOULDER STRUCTURE PLAN

NTS

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

REV.	DATE	DESCRIPTION	BY

DATE	5/13/2015
SCALE	NTS
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

WMB: COYOTE PRAIRIE
NORTH RESTORATION

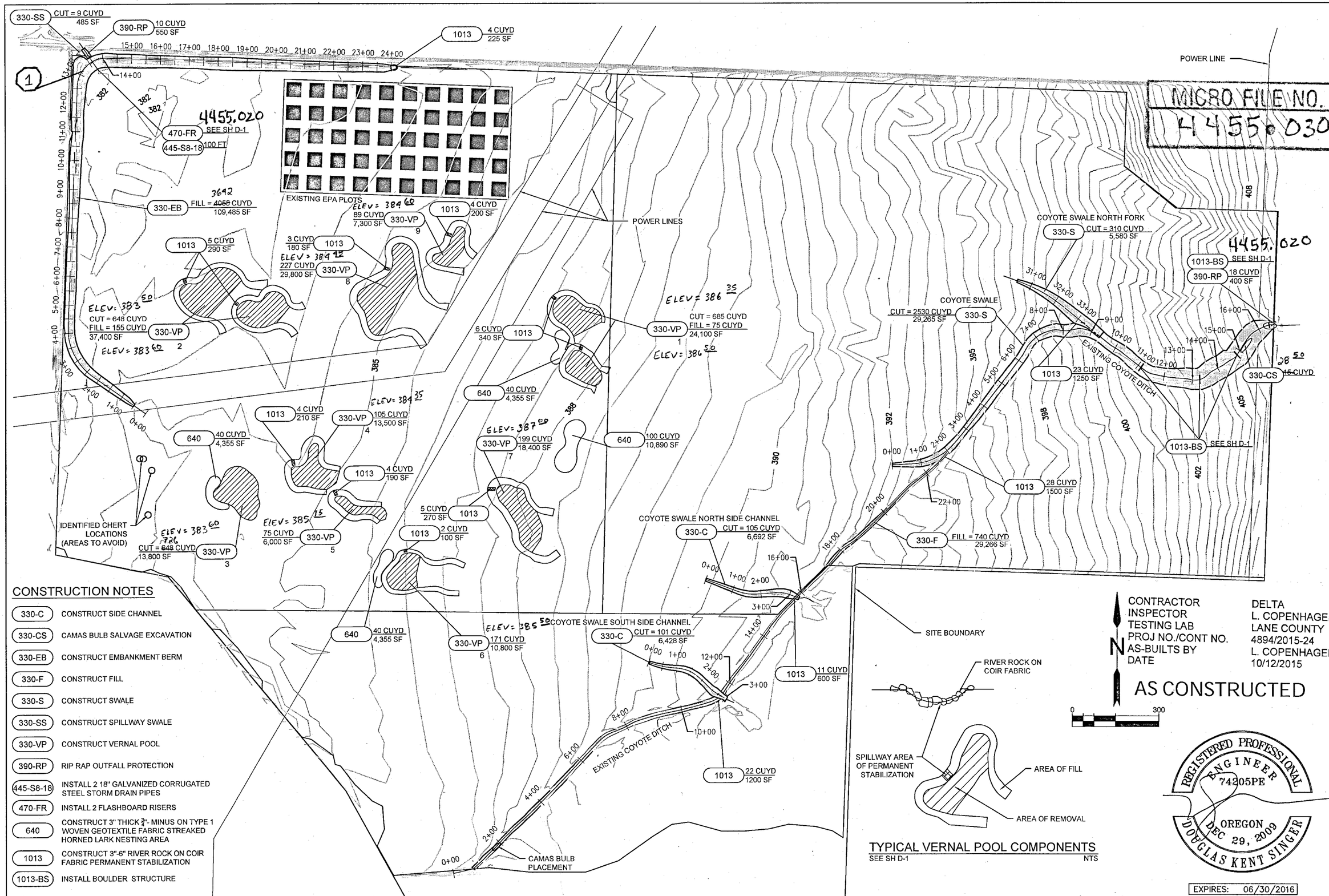
DETAILS

CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Eugene

NAD83/NGVD88

D-1



CONSTRUCTION NOTES

330-C	CONSTRUCT SIDE CHANNEL
330-CS	CAMAS BULB SALVAGE EXCAVATION
330-EB	CONSTRUCT EMBANKMENT BERM
330-F	CONSTRUCT FILL
330-S	CONSTRUCT SWALE
330-SS	CONSTRUCT SPILLWAY SWALE
330-VP	CONSTRUCT VERNAL POOL
390-RP	RIP RAP OUTFALL PROTECTION
445-S8-18	INSTALL 2 18" GALVANIZED CORRUGATED STEEL STORM DRAIN PIPES
470-FR	INSTALL 2 FLASHBOARD RISERS
640	CONSTRUCT 3" THICK ¾"- MINUS ON TYPE 1 WOVEN GEOTEXTILE FABRIC STREAKED HORNED LARK NESTING AREA
1013	CONSTRUCT 3"-6" RIVER ROCK ON COIR FABRIC PERMANENT STABILIZATION
1013-BS	INSTALL BOULDER STRUCTURE

REV.	DATE	DESCRIPTION	BY
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DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

WMB: COYOTE PRAIRIE NORTH RESTORATION PLAN SHEET

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

C-1

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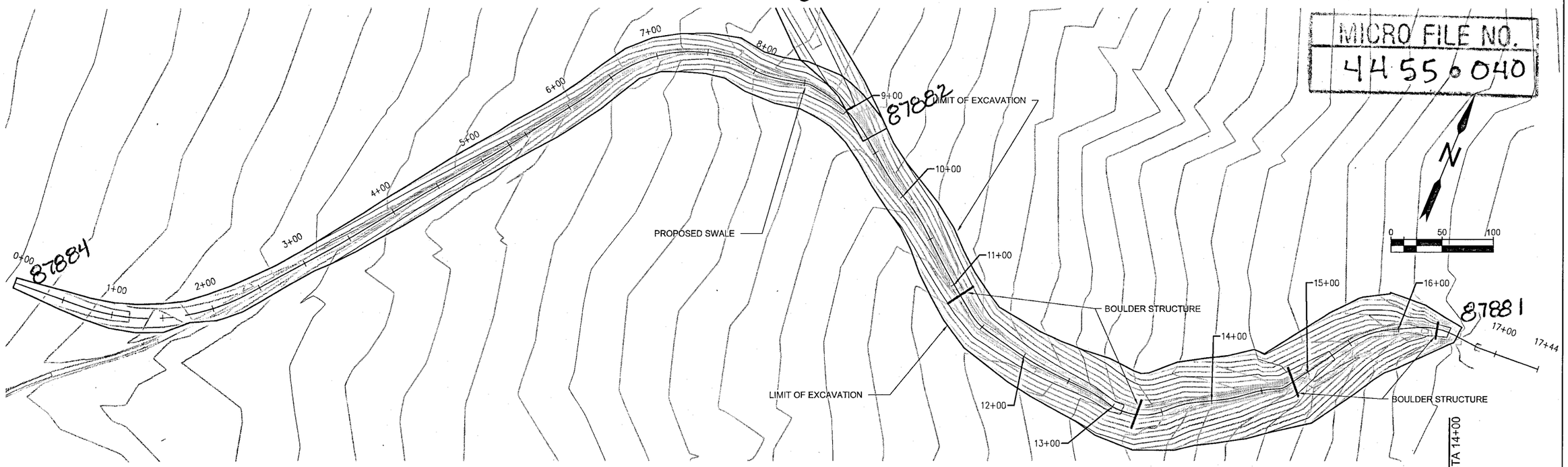
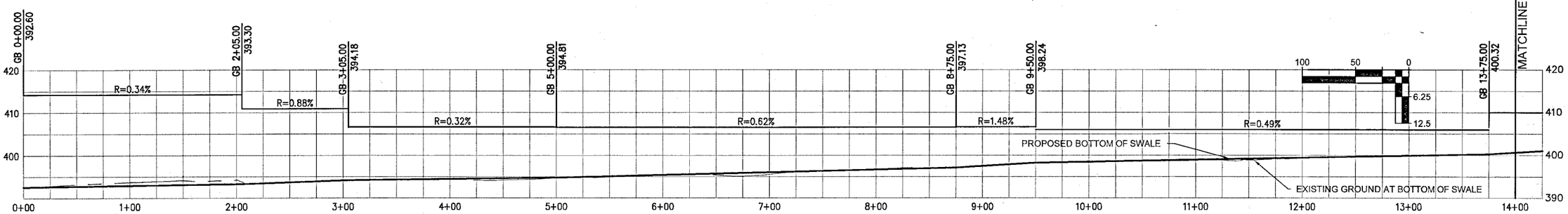
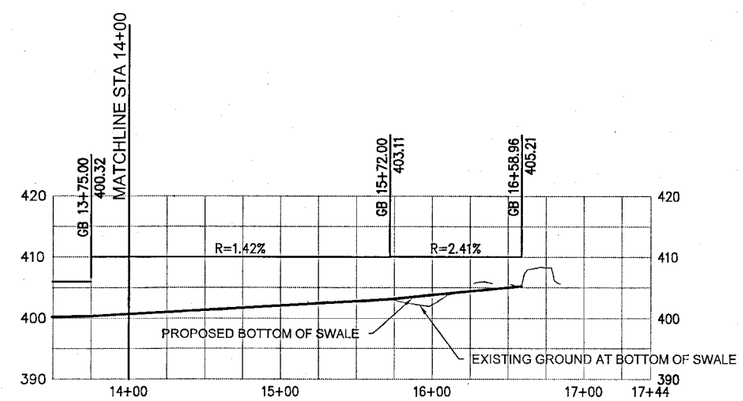
COYOTE SWALE PLAN & PROFILE







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INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015
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DESIGNED BY	D. SINGER
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CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE
NORTH RESTORATION
COYOTE SWALE PLAN & PROFILE

CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
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NAD83/NGVD88

C-2

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EMBANKMENT BERM PLAN & PROFILE

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

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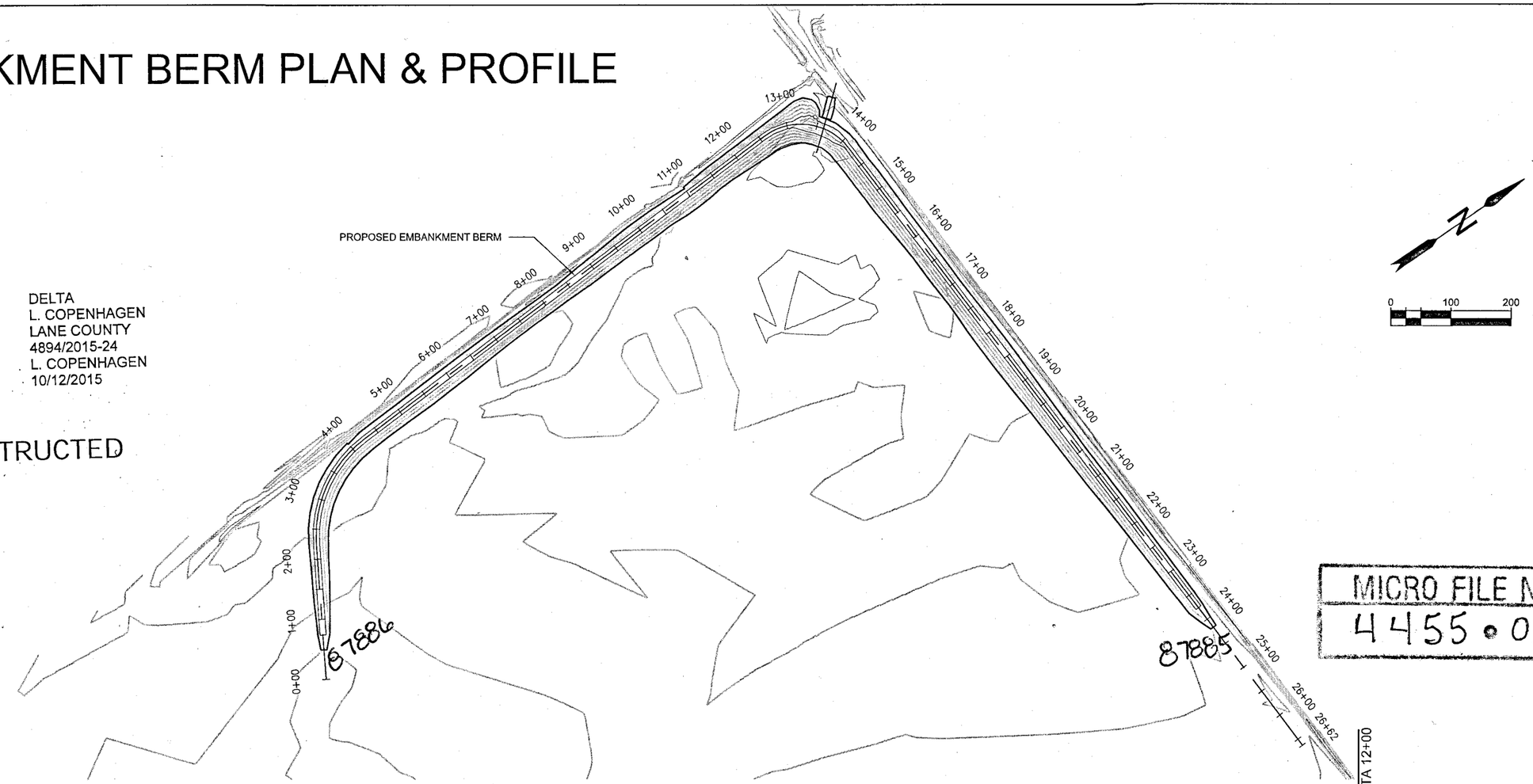

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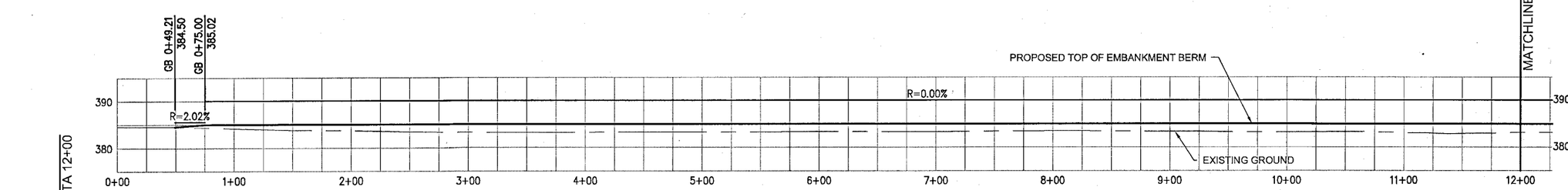

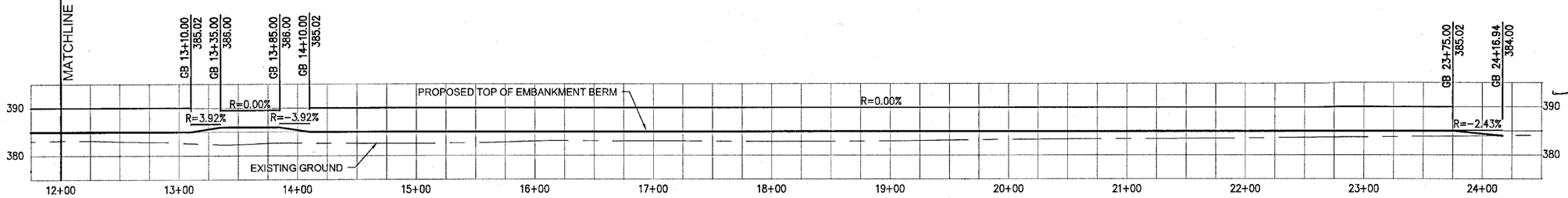

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

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DRAWN BY	L. COPENHAGEN		
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WMB: COYOTE PRAIRIE
NORTH RESTORATION
EMBANKMENT BERM PLAN & PROFILE

CITY OF
EUGENE, OREGON
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ENGINEERING DIVISION

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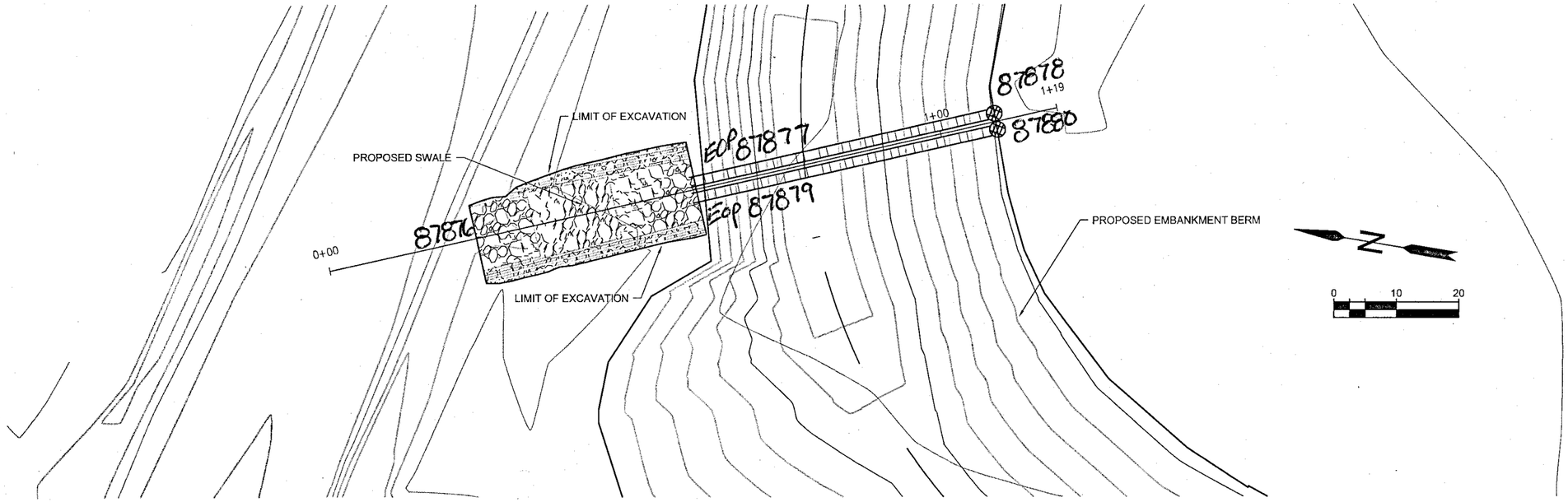
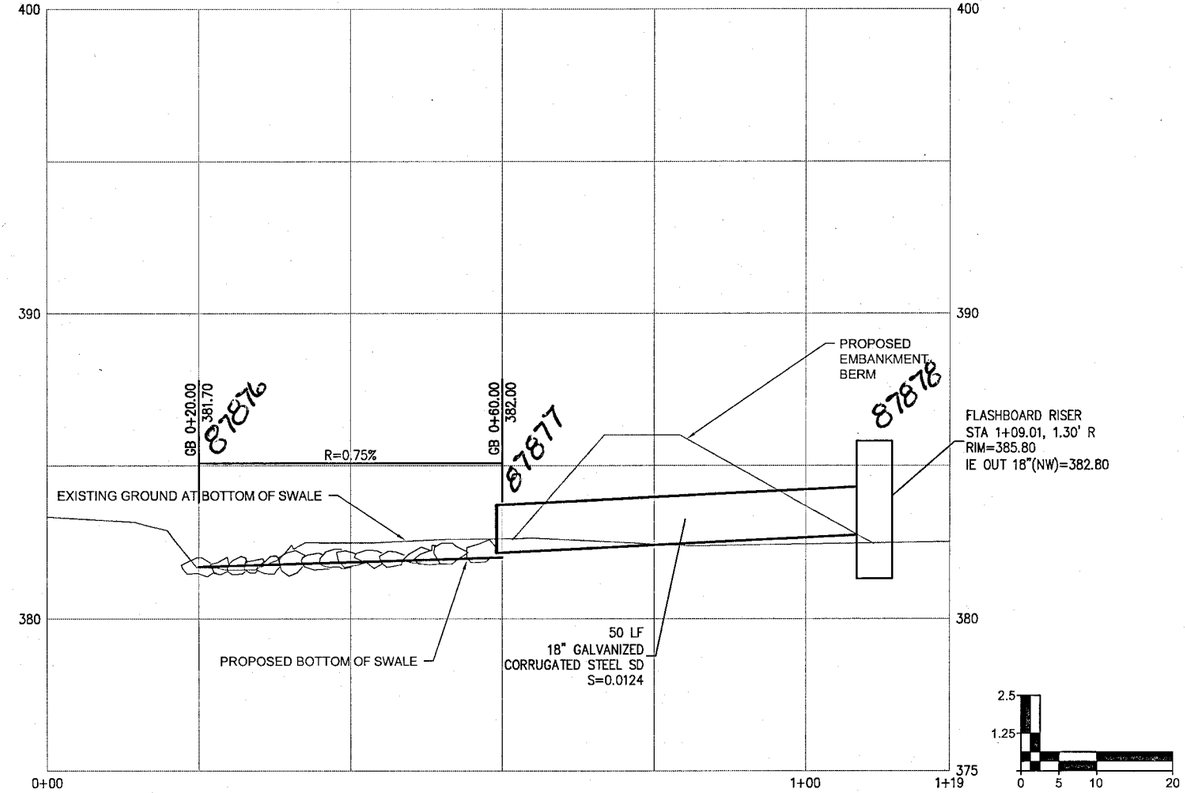
SPILLWAY SWALE PLAN & PROFILE





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CONTRACTOR	DELTA
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TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION

SPILLWAY SWALE PLAN & PROFILE

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

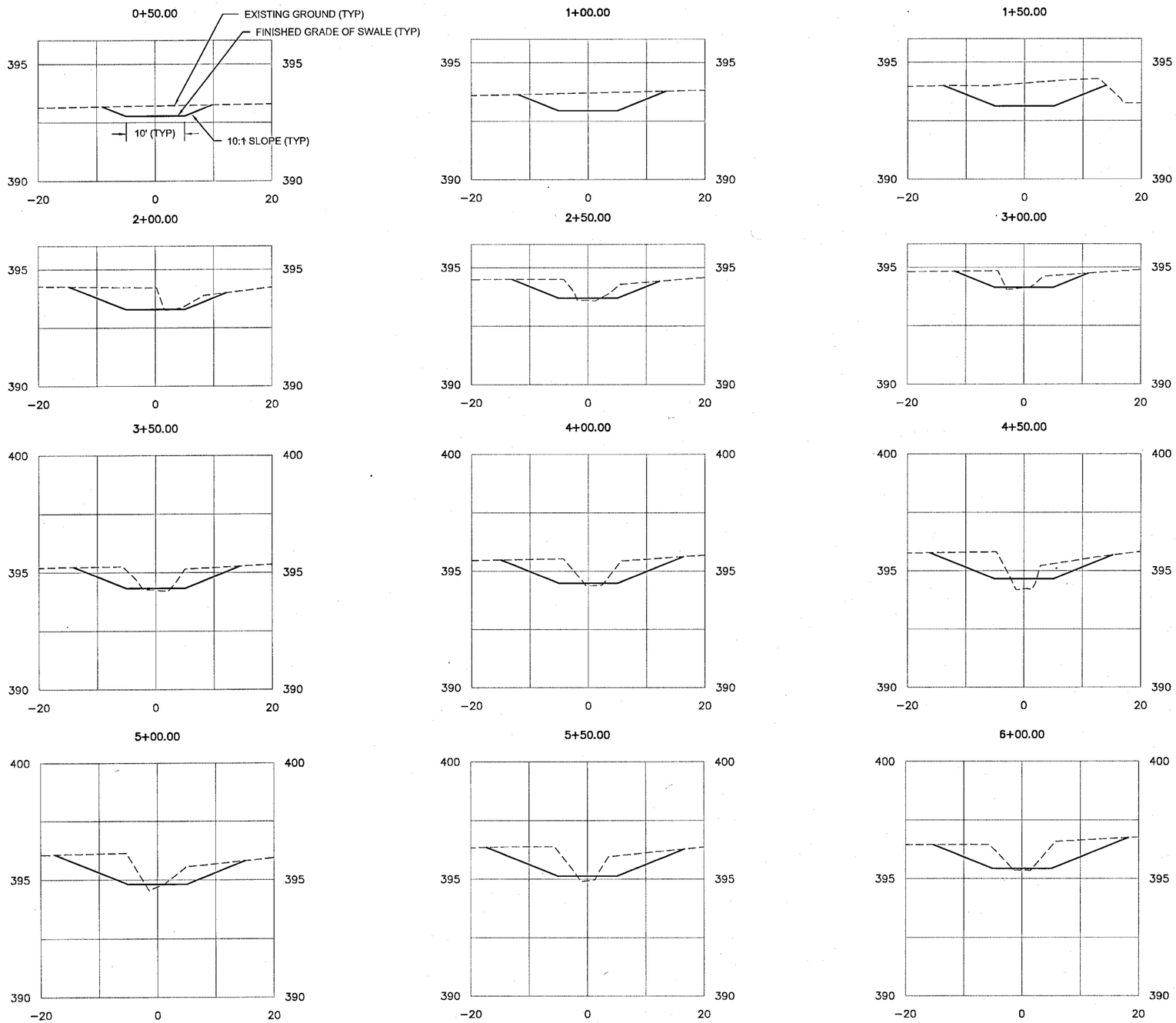
REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

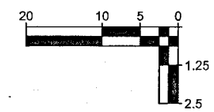
EXPIRES: 06/30/2016

C-4

S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH C-4 OUTFALL PLAN & PROFILE.dwg COPENHAGEN Lauren E 5/13/2015 3:26 PM

COYOTE SWALE SECTIONS STA 0+50 TO 6+00





MICRO FILE NO.
4455 • 070

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE
NORTH RESTORATION
COYOTE SWALE SECTIONS
STA 0+50 TO 6+00

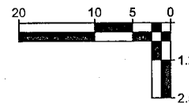
CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

XS-1

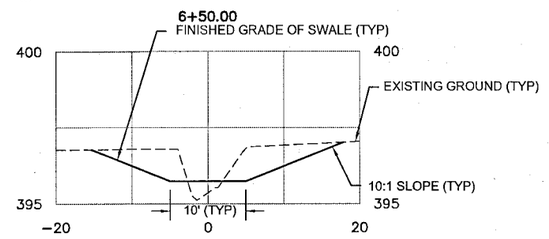
S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH XS-1 SWALE X-SECTIONS STA 0+50 -6+00.dwg COPENHAGEN Lauren E 5/13/2015 3:26 PM

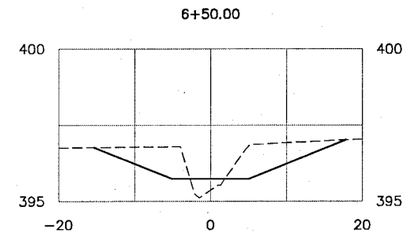
COYOTE SWALE SECTIONS STA 6+50 TO 11+50

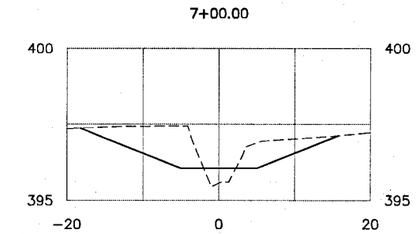


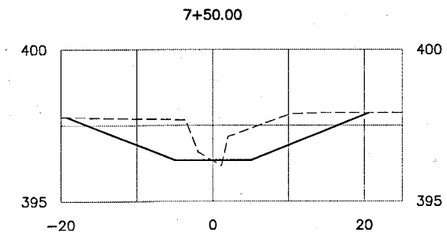
CONTRACTOR DELTA
INSPECTOR L. COPENHAGEN
TESTING LAB LANE COUNTY
PROJ NO./CONT NO. 4894/2015-24
AS-BUILTS BY L. COPENHAGEN
DATE 10/12/2015

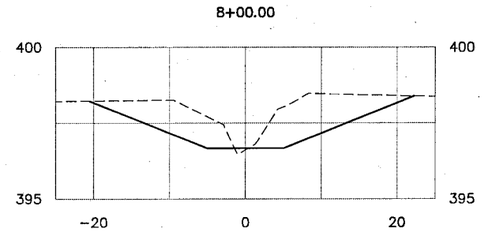
AS CONSTRUCTED

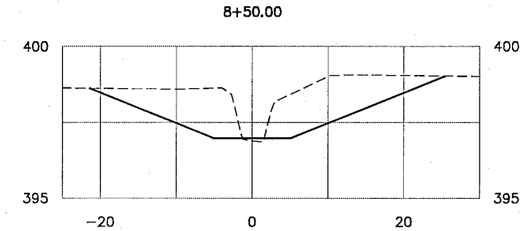


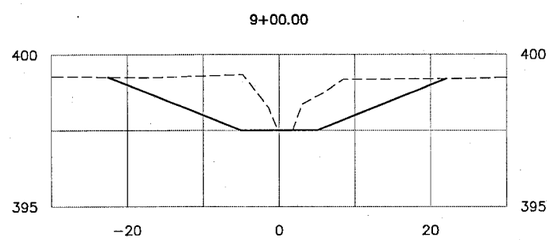


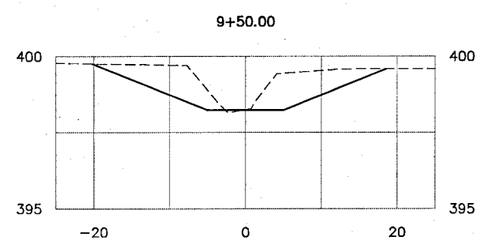


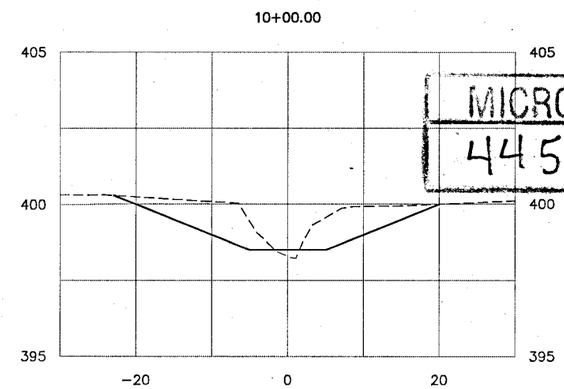


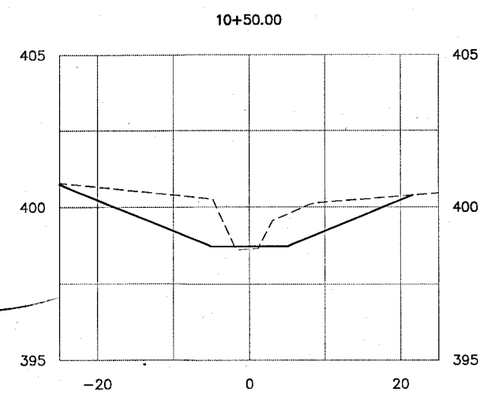


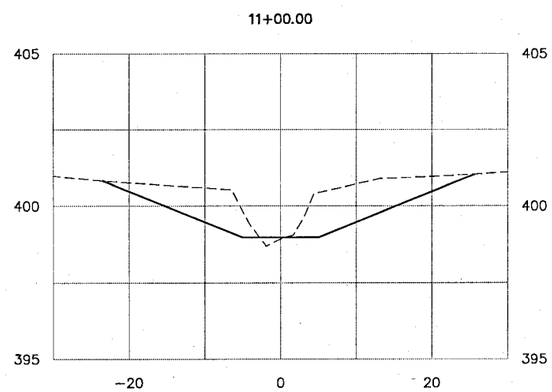


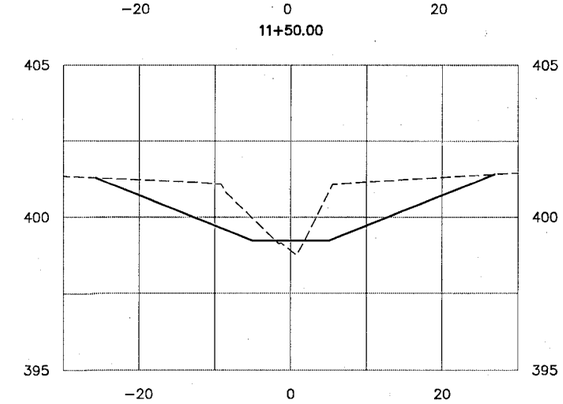












MICRO FILE NO.
4455 .080

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015		
SCALE	GRAPHIC		
DESIGNED BY	D. SINGER		
DRAWN BY	L. COPENHAGEN		
CHECKED BY	P. KLOPE		
PROJECT NO.	4894	REV.	DATE	DESCRIPTION	BY

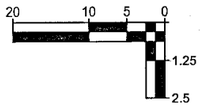
WMB: COYOTE PRAIRIE
NORTH RESTORATION
COYOTE SWALE SECTIONS
STA 6+50 TO 11+50

CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

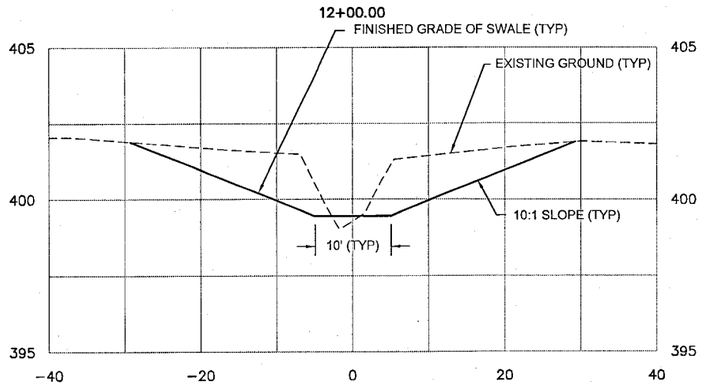
NAD83/NGVD88

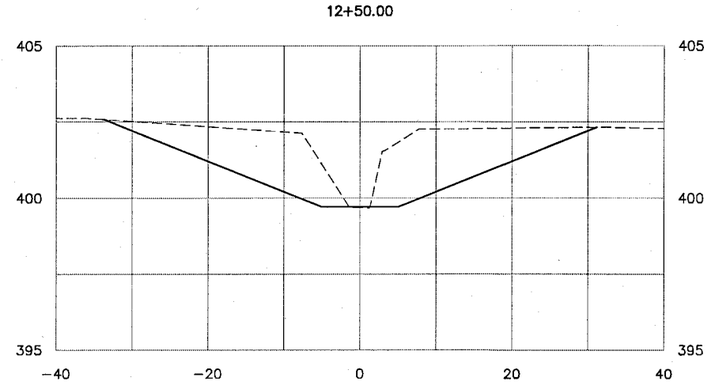
XS-2

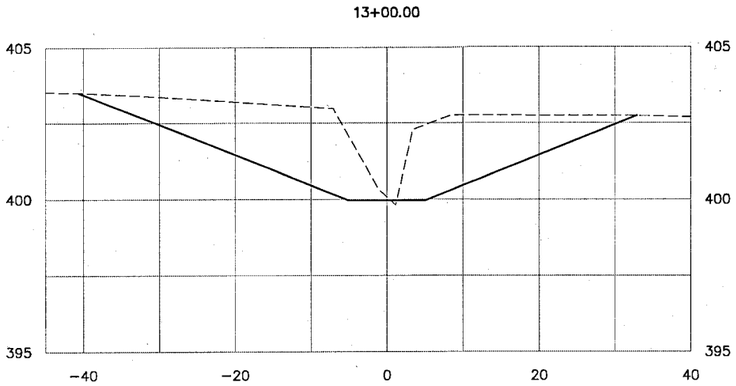
S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH XS-2 SWALE X-SECTIONS STA 6+50 -11+50.dwg COPENHAGEN Lauren E 5/13/2015 3:26 PM

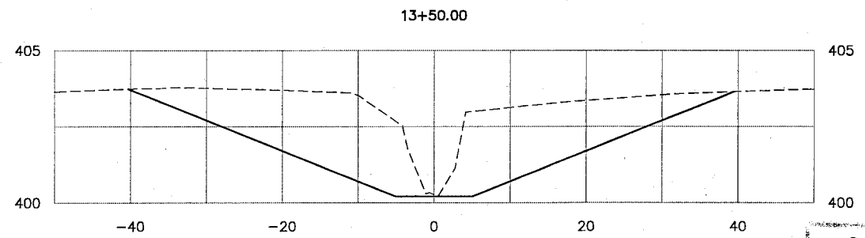


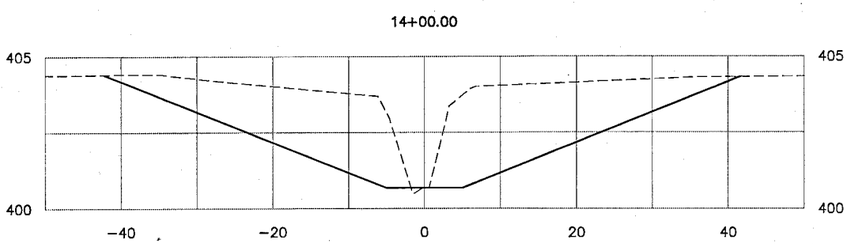
COYOTE SWALE SECTIONS STA 12+00 TO 14+50

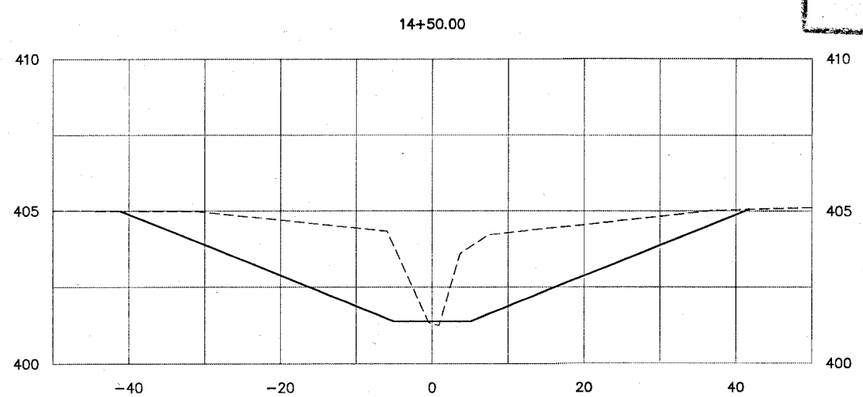












MICRO FILE NO.
4455.090

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015			
SCALE	GRAPHIC			
DESIGNED BY	D. SINGER			
DRAWN BY	L. COPENHAGEN			
CHECKED BY	P. KLOPE			
PROJECT NO.	4894	REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION

COYOTE SWALE SECTIONS STA 12+00 TO 14+50

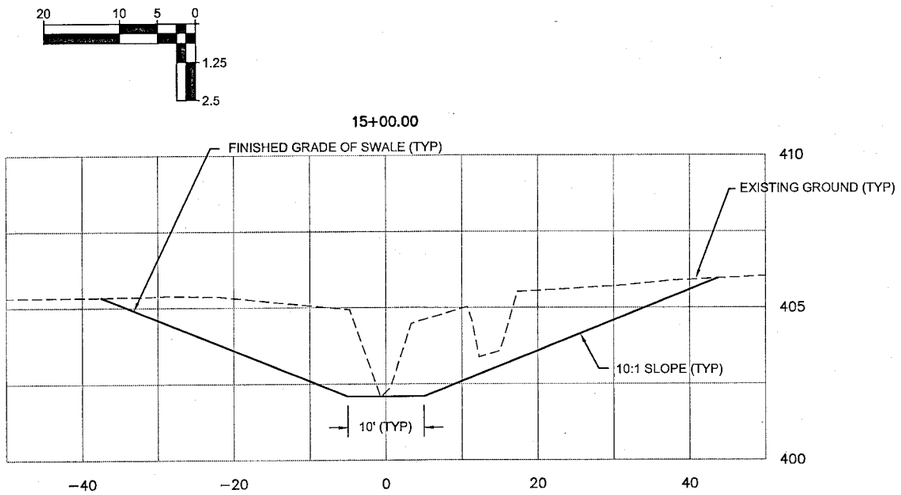
CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

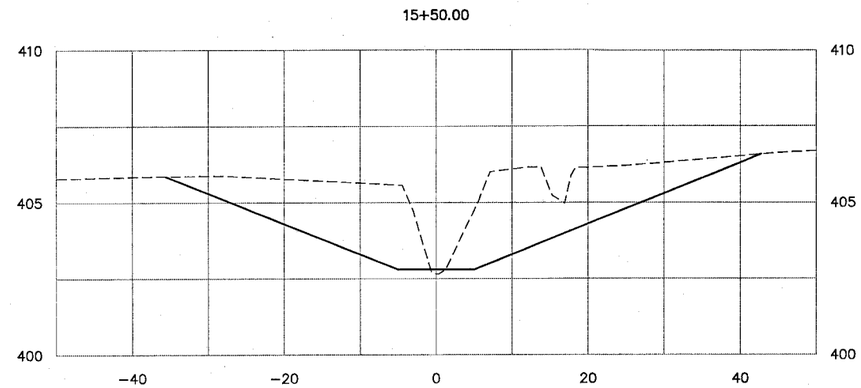
NAD83/NGVD88

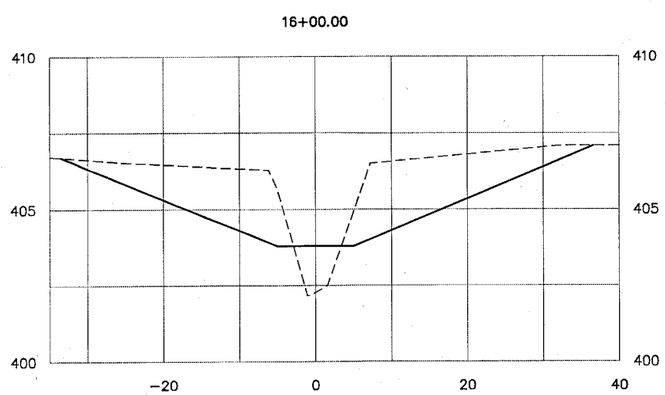
XS-3

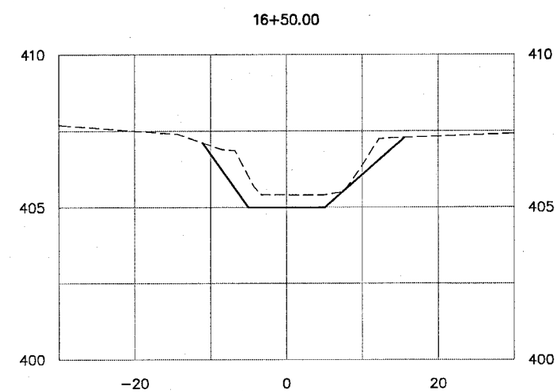
S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH XS-3 SWALE X-SECTIONS STA 32+00-35+00.dwg COPENHAGEN Lauren E 5/13/2015 3:26 PM

COYOTE SWALE SECTIONS STA 15+00 TO 16+50









MICRO FILE NO.
4455 0100

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION

COYOTE SWALE SECTIONS STA 15+00 TO 16+50

CITY OF EUGENE, OREGON

DEPARTMENT OF PUBLIC WORKS

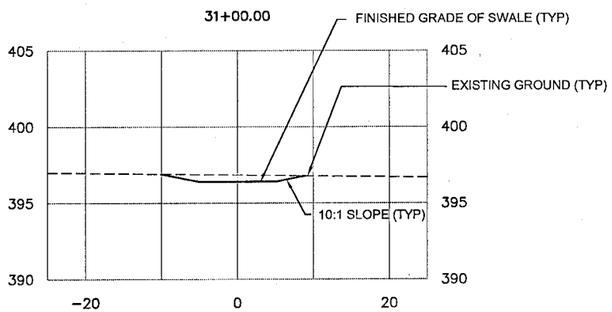
ENGINEERING DIVISION

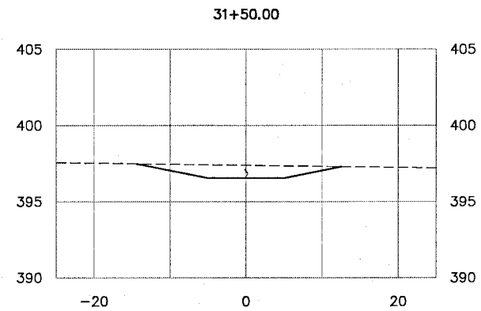
NAD83/NGVD88

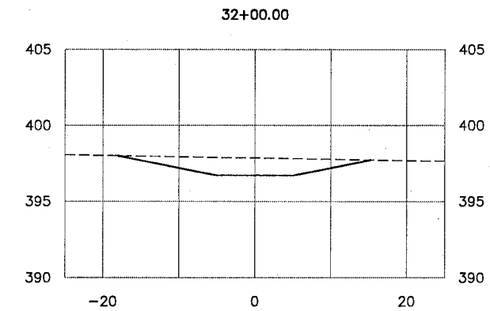
XS-4

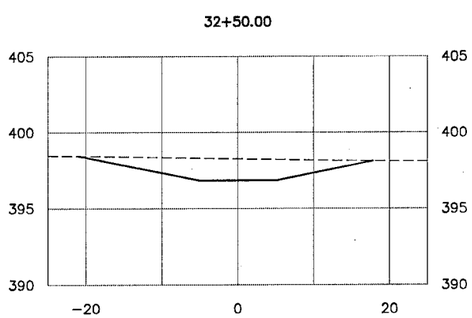
S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH XS-4 SWALE X-SECTIONS STA 15+00-16+50.dwg COPENHAGEN Lauren E 5/13/2015 3:27 PM

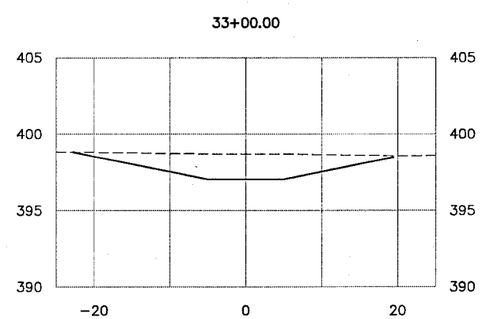
COYOTE SWALE NORTH FORK-SECTIONS

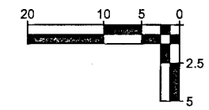












MICRO FILE NO.
4456.010

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

			BY
			DESCRIPTION
			DATE
			REV.
DATE	5/13/2015		
SCALE	GRAPHIC		
DESIGNED BY	D. SINGER		
DRAWN BY	L. COPENHAGEN		
CHECKED BY	P. KLOPE		
PROJECT NO.	4894		

WMB: COYOTE PRAIRIE NORTH RESTORATION
COYOTE SWALE NORTH FORK-SECTIONS

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

XS-5

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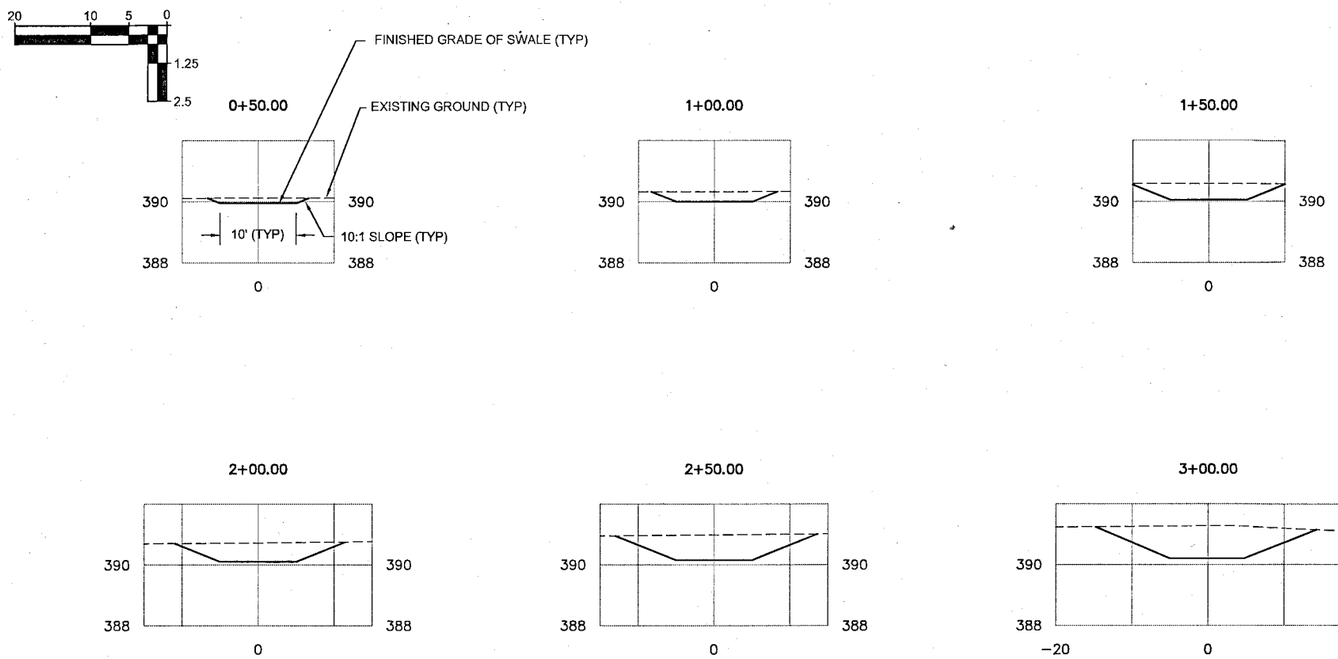
COYOTE SWALE NORTH SIDE CHANNEL-SECTIONS



MICRO FILE NO.
4456 020

CONTRACTOR DELTA
INSPECTOR L. COPENHAGEN
TESTING LAB LANE COUNTY
PROJ NO./CONT NO. 4894/2015-24
AS-BUILTS BY L. COPENHAGEN
DATE 10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION
COYOTE SWALE NORTH SIDE CHANNEL-SECTIONS

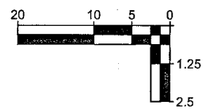
CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

XS-6

S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH XS-5 NORTH SIDE CHANNEL SECTIONS.dwg COPENHAGEN Lauren E 5/13/2015 3:27 PM

COYOTE SWALE SOUTH SIDE CHANNEL-SECTIONS



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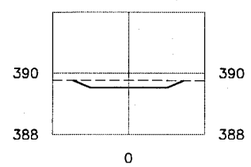

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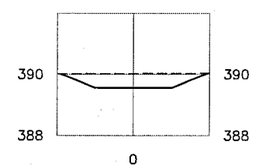

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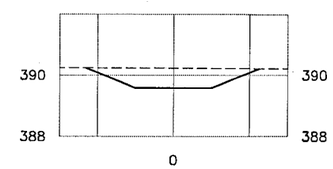

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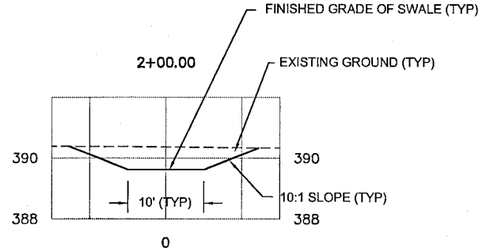

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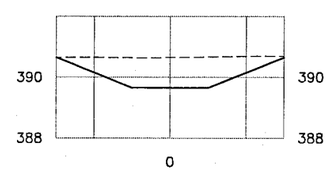


MICRO FILE NO.
4456.030

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION

COYOTE SWALE SOUTH SIDE CHANNEL-SECTIONS

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NADR3/NGVD88

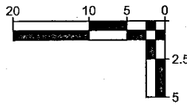
XS-7

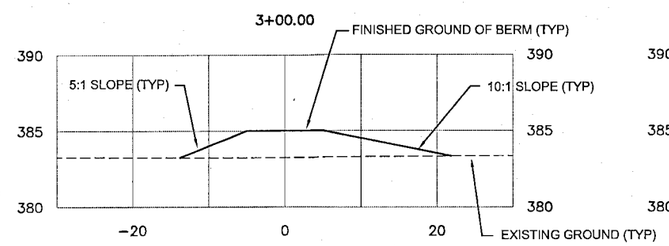
S:\Projects\Proj-4\4894 WMB Coyote Prairie\Sheets\4894 SH XS-6 SOUTH SIDE CHANNEL-SECTIONS.dwg COPENHAGEN Lauren E 5/13/2015 3:27 PM

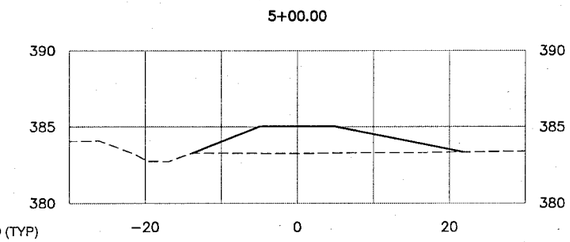
EMBANKMENT BERM SECTIONS STA 3+00 TO 13+85

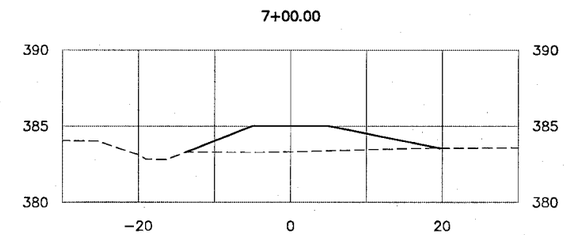
CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED









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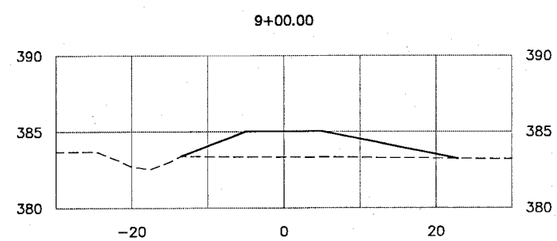
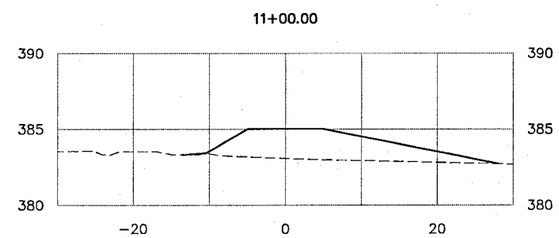
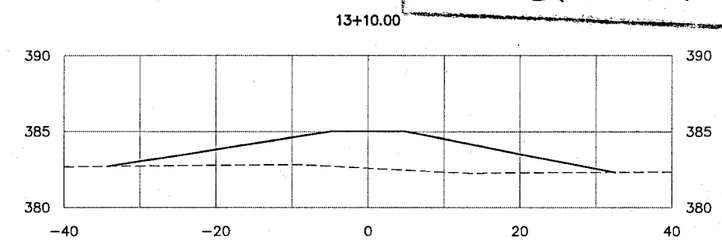
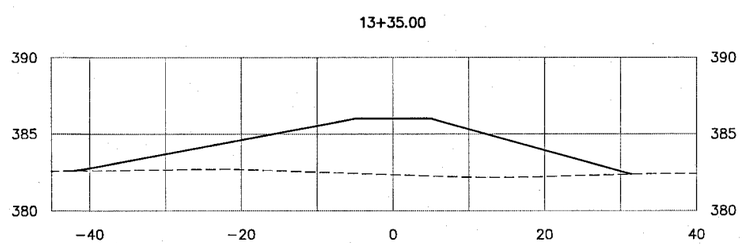
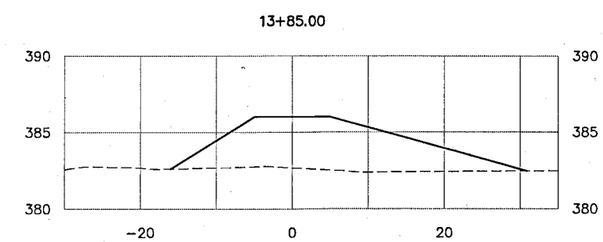
4456 • 040











REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION
EMBANKMENT BERM SECTIONS STA 3+00 TO 13+85

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

XS-8

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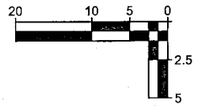
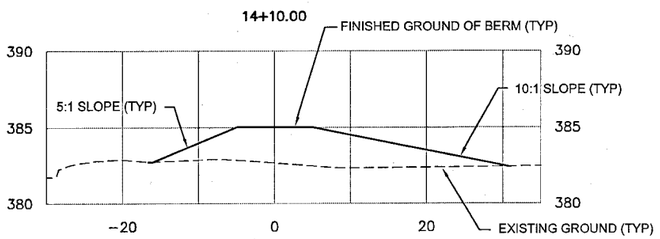
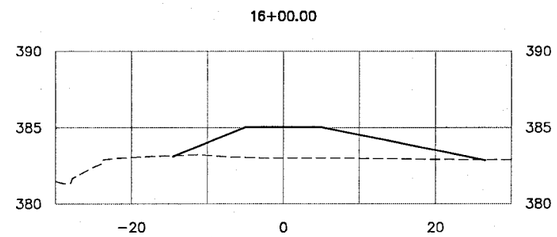
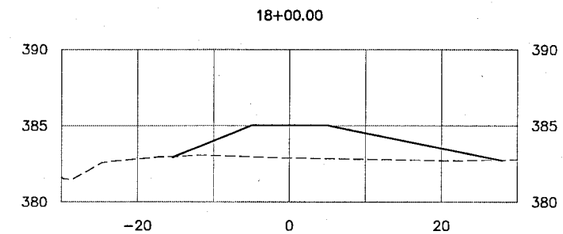
EMBANKMENT BERM SECTIONS STA 14+10 TO 23+75









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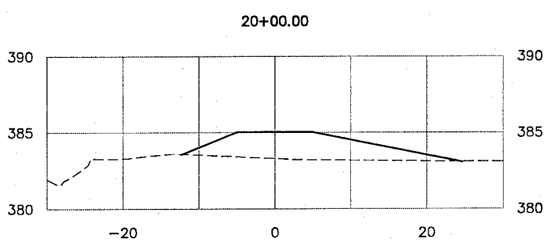

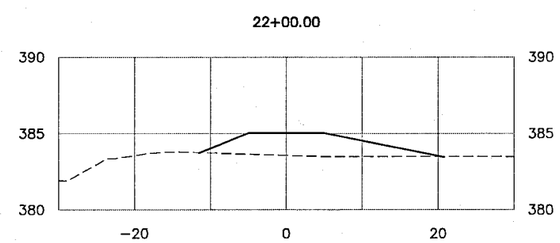

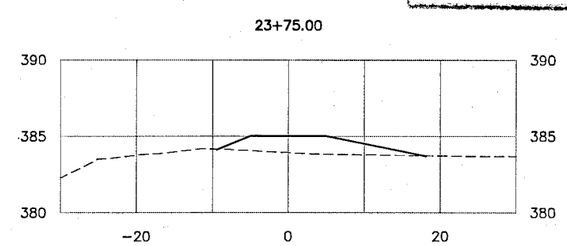

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON DEC 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	5/13/2015		
SCALE	GRAPHIC		
DESIGNED BY	D. SINGER		
DRAWN BY	L. COPENHAGEN		
CHECKED BY	P. KLOPE		
PROJECT NO.	4894	REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION
EMBANKMENT BERM SECTIONS STA 14+10 TO 23+75

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

Eugene

NAD83/NGVD88

XS-9

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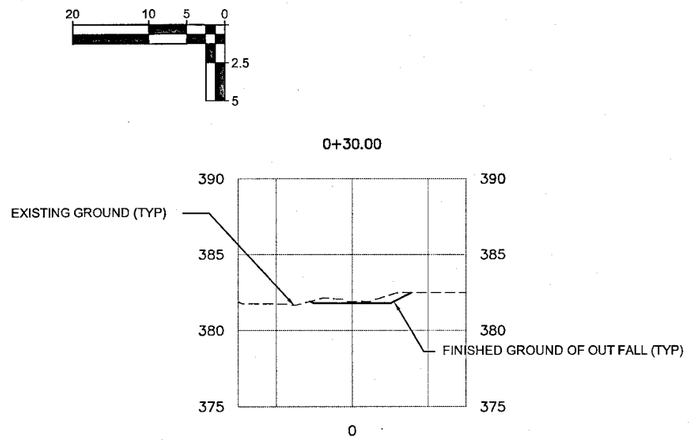
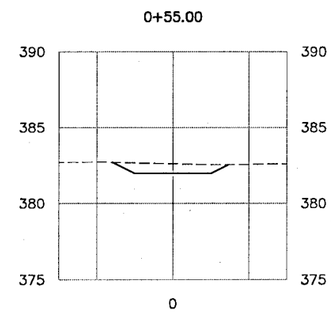
SPILLWAY SWALE-SECTIONS





MICRO FILE NO.
4456.060

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER
EXPIRES: 06/30/2016

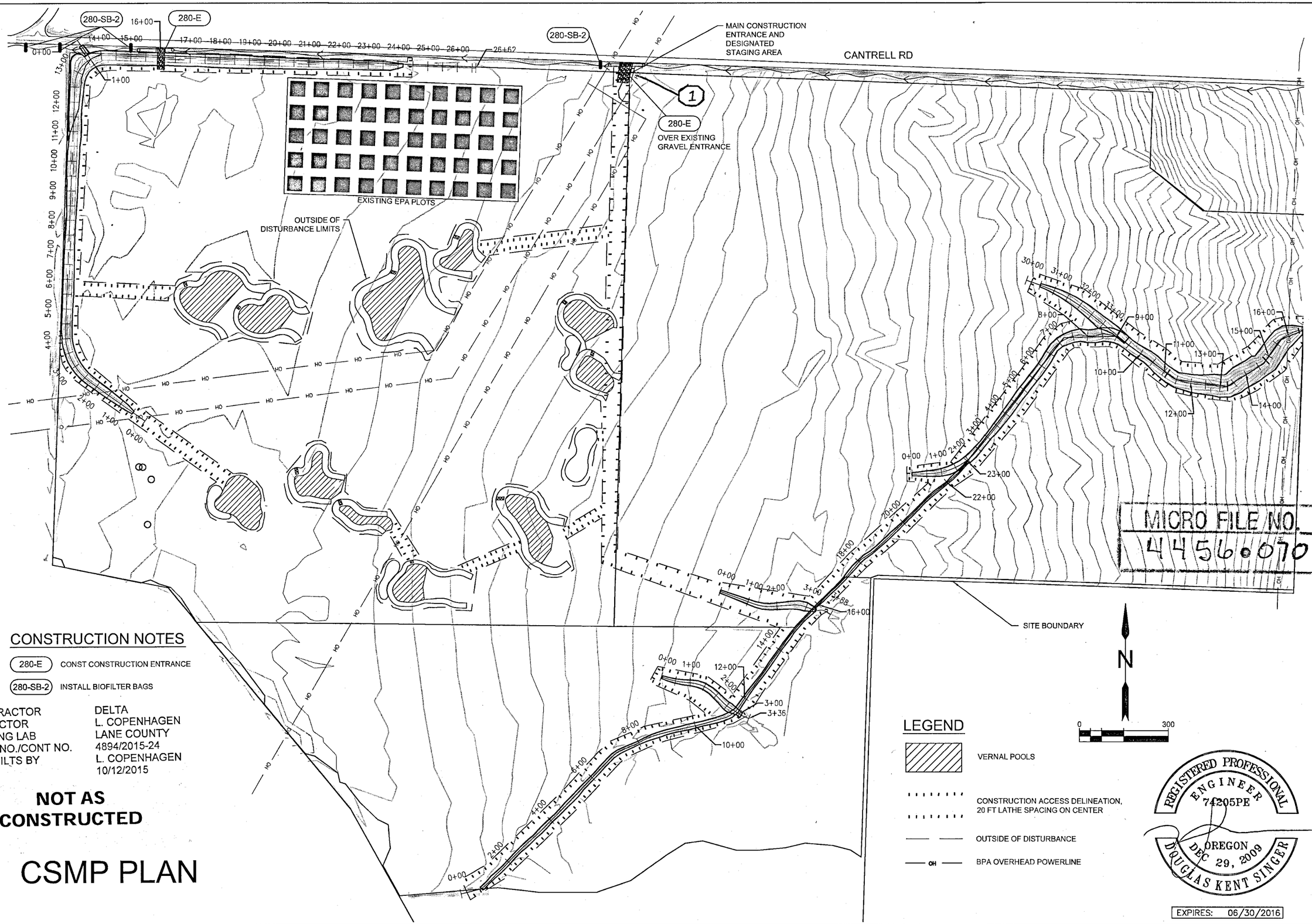
DATE	5/13/2015			
SCALE	GRAPHIC			
DESIGNED BY	D. SINGER			
DRAWN BY	L. COPENHAGEN			
CHECKED BY	P. KLOPE			
PROJECT NO.	4894	REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE NORTH RESTORATION
SPILLWAY SWALE-SECTIONS

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

XS-10



CONSTRUCTION NOTES

(280-E) CONST CONSTRUCTION ENTRANCE

(280-SB-2) INSTALL BIOFILTER BAGS

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

NOT AS CONSTRUCTED

CSMP PLAN

DATE	5/13/2015
SCALE	GRAPHIC
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY
2	9/9/15	FIRE DANGER MOBILIZATION	

WMB: COYOTE PRAIRIE NORTH RESTORATION
CSMP PLAN

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

CS-1

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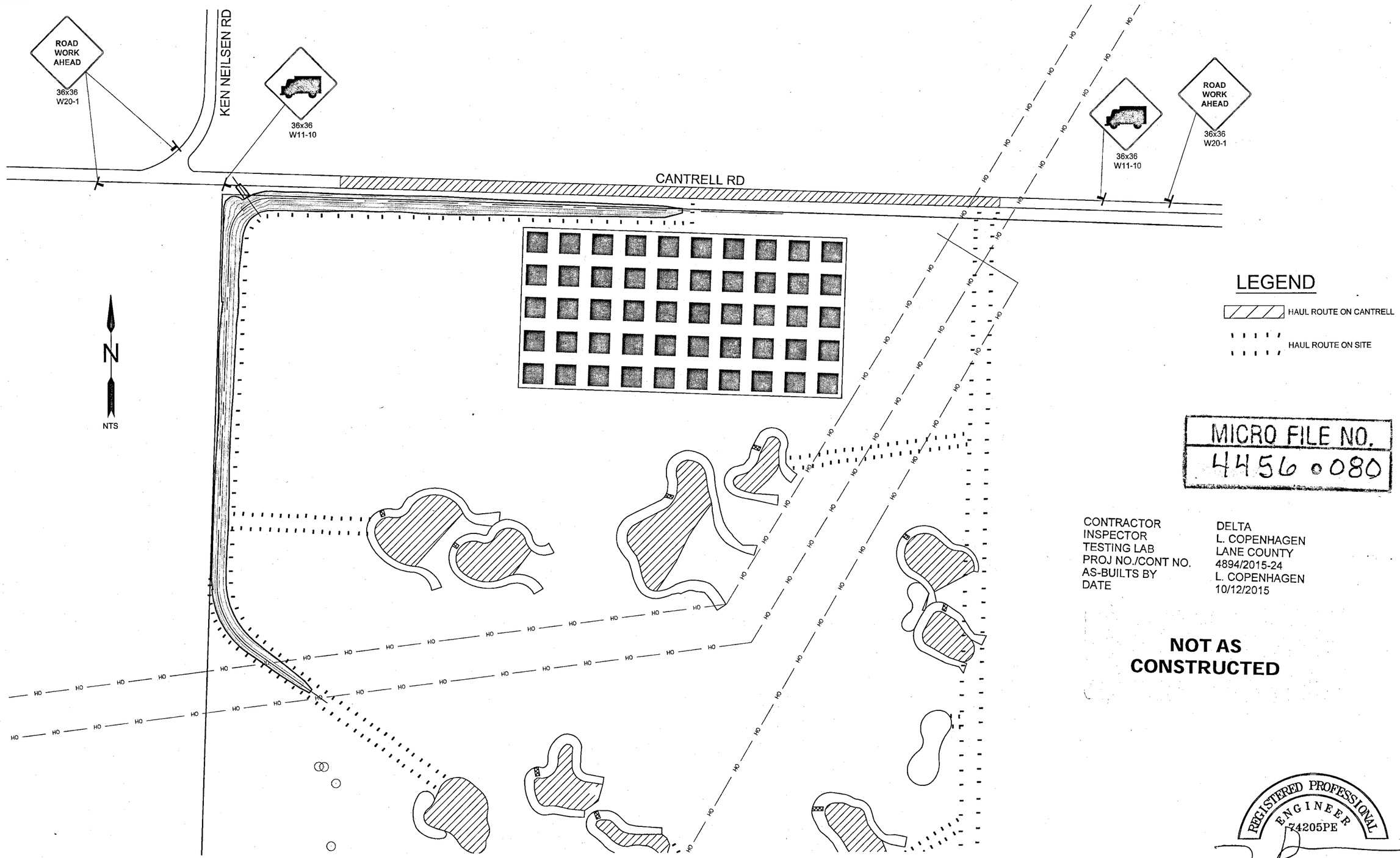

LEGEND

HAUL ROUTE ON CANTRELL

HAUL ROUTE ON SITE

MICRO FILE NO.
4456 0080

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

NOT AS CONSTRUCTED

REGISTERED PROFESSIONAL ENGINEER
74205PE
OREGON
DEC 29, 2009
DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

TEMPORARY TRAFFIC CONTROL

FOR ALL PHASES OF CONSTRUCTION

DATE	5/13/2015
SCALE	NTS
DESIGNED BY	D. SINGER
DRAWN BY	L. COPENHAGEN
CHECKED BY	P. KLOPE
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

WMB: COYOTE PRAIRIE
NORTH RESTORATION
TRAFFIC CONTROL

CITY OF
EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NGVD88

TC-1

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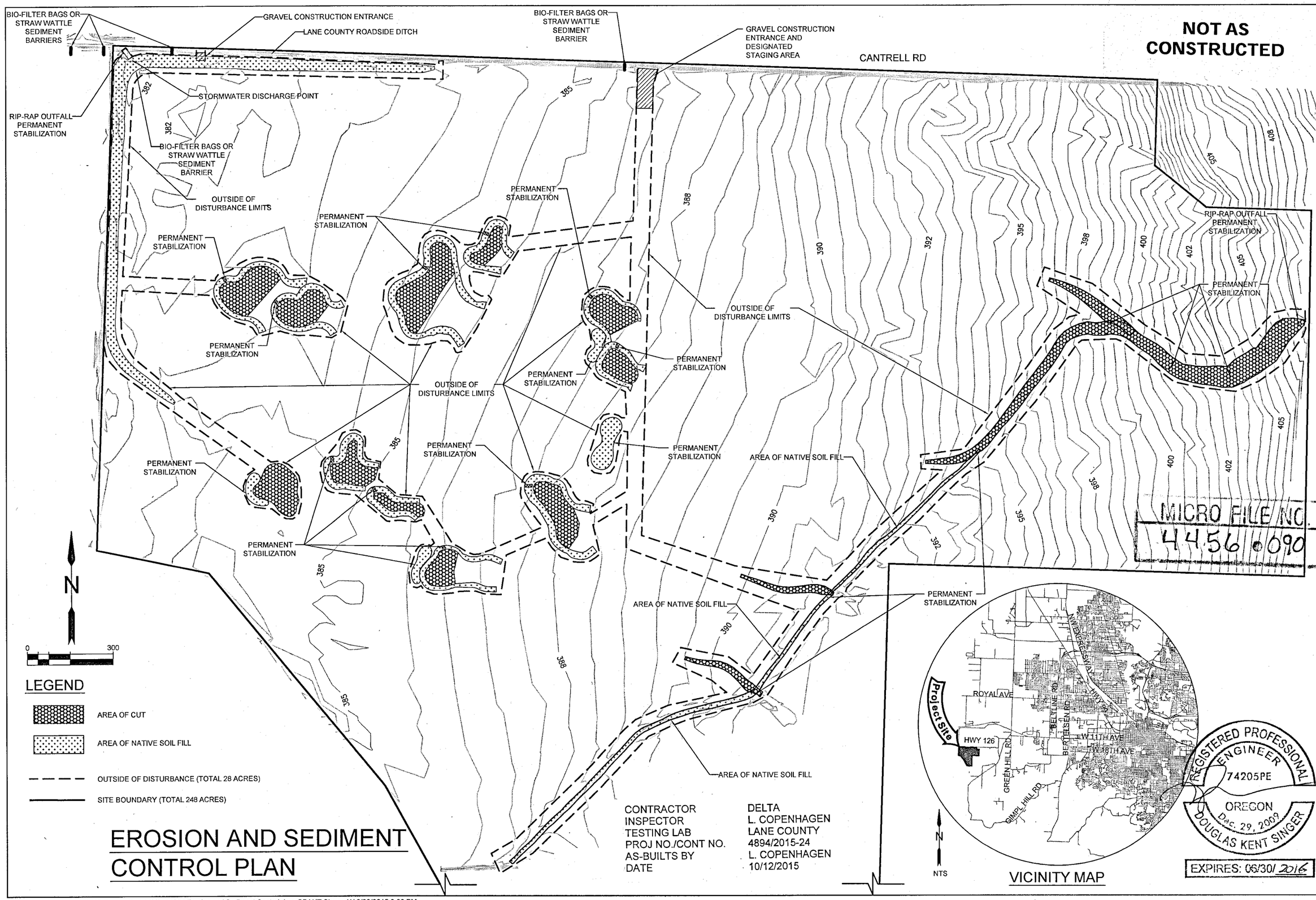

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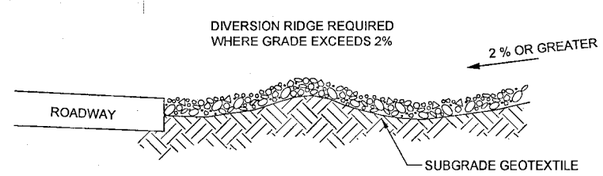
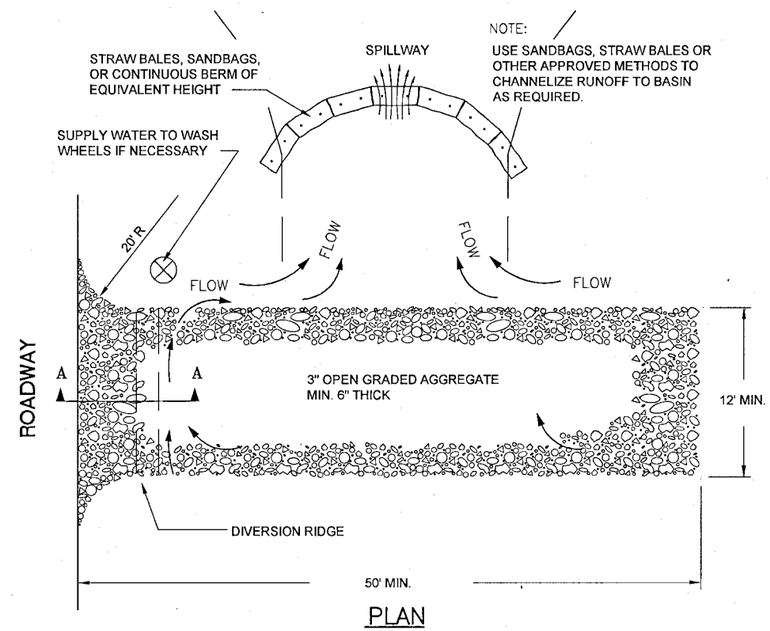
ESCP NOTES:

1. Construction is scheduled for August and September 2015.
2. A on-site pre-construction meeting of project construction personnel that includes the inspector will be held to discuss erosion and sediment control measures and construction limits prior to starting construction.
3. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, retain the ESCP at the construction site or at another location approved by the engineer.
4. The ESCP measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations including but not limited to the Oregon DEQ 1200-C permit.
5. Erosion control symbol locations are approximate. Construct as required or directed by the Engineer.
6. Install Gravel Construction Entrances at the beginning of construction and maintain for the duration of the project. Additional measures may be required to insure that all roads are kept clean.
7. Install all filter bags or straw wattle sediment barriers as shown on the ESCP prior to construction.
8. For all sediment barriers (such as bio-filter bags and straw wattles): remove sediment before it reaches two inches depth above ground height and before BMP removal.
9. Contractor to develop a revised plan of the erosion control measures shown as required by section 00280, Oregon Standard Specifications For Construction as amended by the city of Eugene. Implement this plan for all clearing and grading activities and in segments applicable to each staging phase. Construct in such a manner so as to ensure that sediment-laden water does not leave the site.
10. Use water, soil-binding agent or other dust control technique as needed to avoid wind-blown soil.
11. Conduct all fueling and equipment maintenance activities in the staging area.Store all equipment in the staging area each night. Maintain a spill kit in the staging area at all times.



SECTION A – A

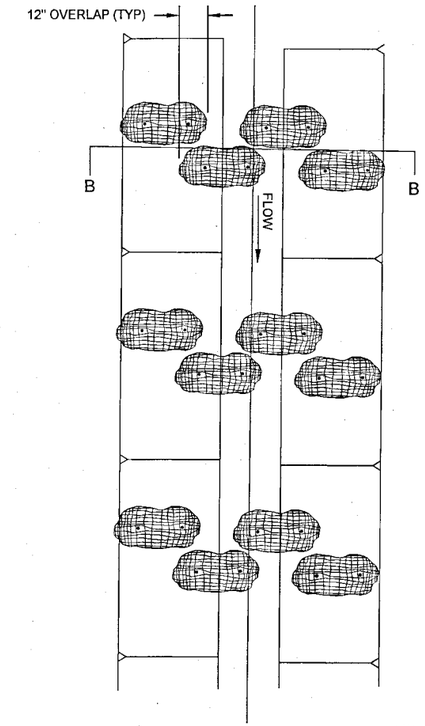


PLAN

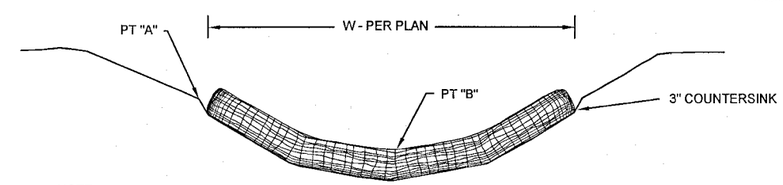
NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. SITES LARGER THAN 1 ACRE REQUIRE THE CONSTRUCTION ENTRANCE BE A MINIMUM OF 100' IN LENGTH.

CONSTRUCTION ENTRANCE



PLAN



NOTE:
PT "A" MUST BE HIGHER THAN PT "B"

SECTION B - B

BIOFILTER BAG/STRAW WATTLE BARRIER PLACEMENT NTS

MICRO FILE NO.

CONTRACTOR	DELTA
INSPECTOR	L. COPENHAGEN
TESTING LAB	LANE COUNTY
PROJ NO./CONT NO.	4894/2015-24
AS-BUILTS BY	L. COPENHAGEN
DATE	10/12/2015

NOT AS CONSTRUCTED

EROSION AND SEDIMENT CONTROL DETAILS

REGISTERED PROFESSIONAL ENGINEER 74205PE OREGON Dec. 29, 2009 DOUGLAS KENT SINGER

EXPIRES: 06/30/2016

DATE	6/17/2015
SCALE	NTS
DESIGNED BY	D. SINGER
DRAWN BY	S. SPAHT
CHECKED BY	D. SINGER
PROJECT NO.	4894

REV.	DATE	DESCRIPTION	BY

COYOTE PRAIRIE WETLAND MITIGATION
ESC DETAILS

CITY OF EUGENE, OREGON
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NAD83/NAVD88

ESC-2

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