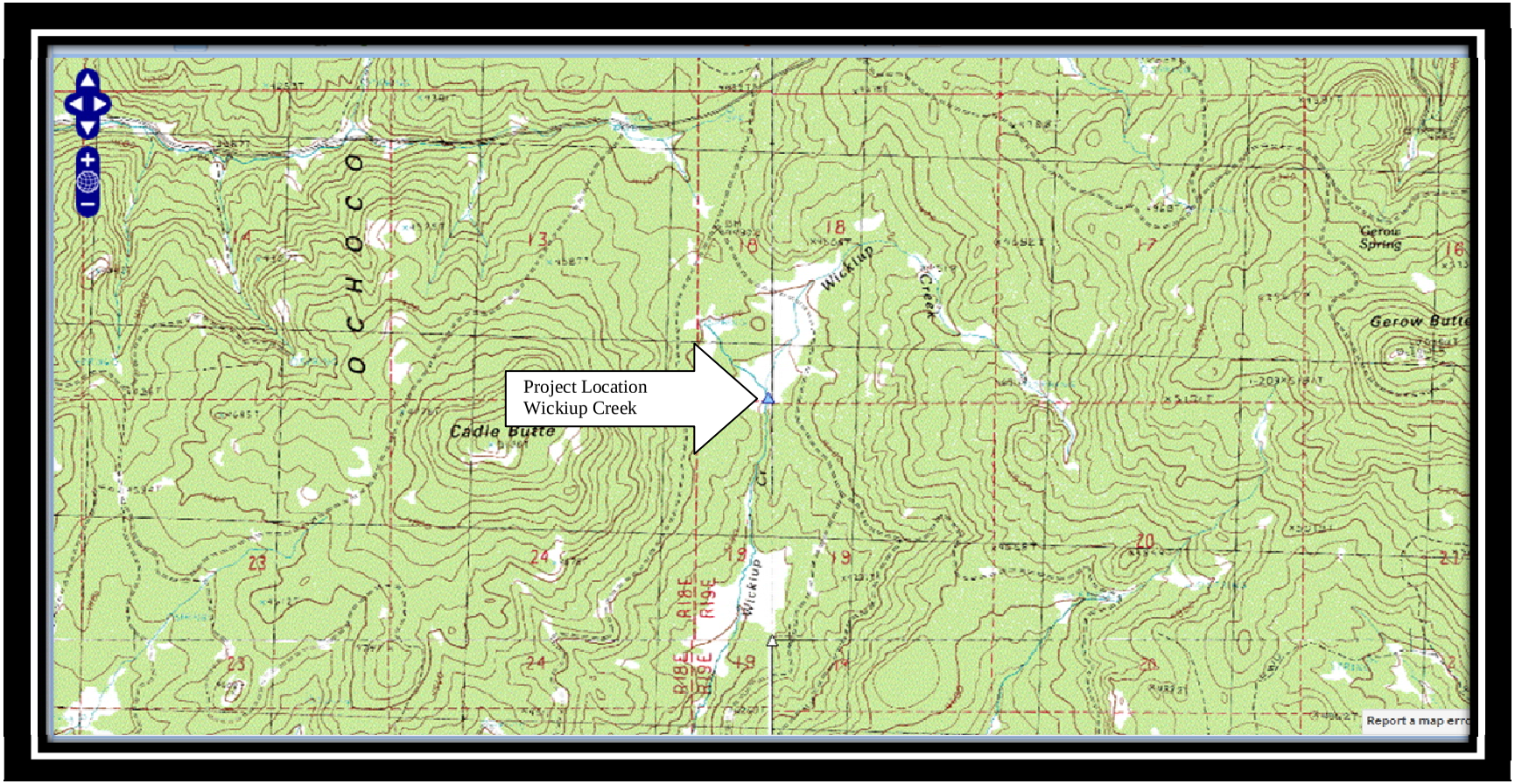
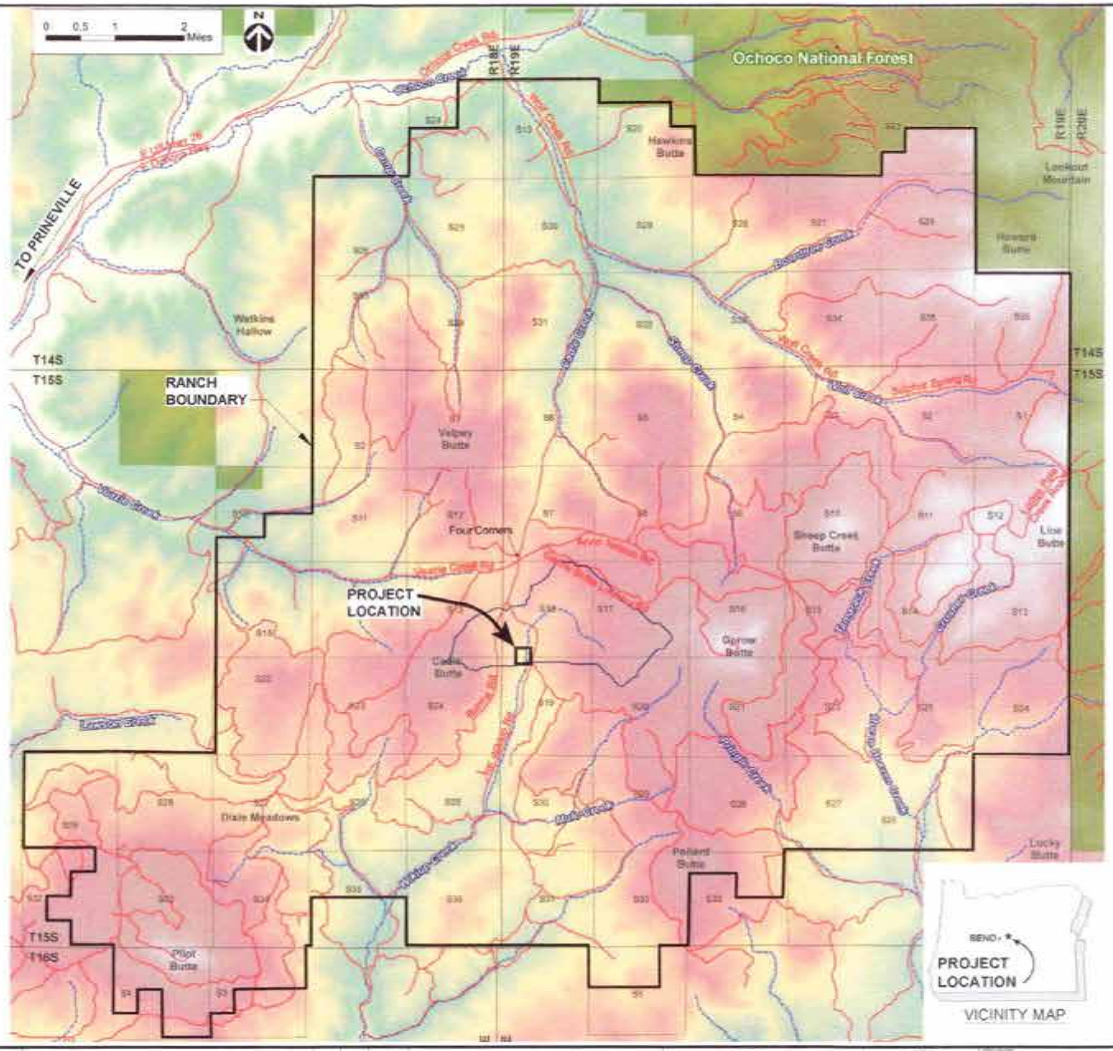


NWP-2013-210 – The O'Ryan Ranches LLC
Wickiup Creek, near Prineville, Crook County, Oregon
Sections 18 & 19 of Township 15 South, Range 19 East
(44.26137° N/120.50022° W)



VICINITY MAP

WIKIUP MEADOW WETLAND MITIGATION RESTORATION O'RYAN RANCH LLC

CROOK COUNTY, OREGON

DIRECTIONS FROM PRINEVILLE OR.:

- TAKE US HWY 26 (OCHOCO HIGHWAY) EAST
- TAKE RIGHT AT OCHOCO CREEK ROAD
- TAKE RIGHT AT WOLF CREEK ROAD
- STAY RIGHT AT "Y" WITH CADDLE CREEK AND WOLF CREEK
- STAY STRAIGHT AT FOUR CORNERS
- LEFT ON S.E. WIKIUP CREEK ROAD

SHEET INDEX

SHEET NO.	DWG NO.	SHEET DESCRIPTION
1	G-1	VICINITY MAP AND SHEET INDEX
2	C-1	EXISTING CONDITIONS
3	C-2	PROPOSED CONDITIONS
4	C-3	SECTIONS
5	L-1	PLANTING PLAN
6	L-2	PLANTING DETAILS
7	L-3	PLANTING DETAILS
8	EC-1	TESC PLAN
9	EC-2	TESC DETAILS

1 / C-3 — DETAIL REFERENCE NUMBER / DRAWING ON WHICH DETAIL IS SHOWN

DETAIL — SCALE: NTS — 1 / C-1 — DETAIL REFERENCE NUMBER / DRAWING FROM WHICH DETAIL WAS TAKEN

A / C-4 — SECTION REFERENCE LETTER / DRAWING ON WHICH SECTION IS SHOWN

SECTION — SCALE: NTS — A / C-2 — SECTION REFERENCE LETTER / DRAWING FROM WHICH SECTION WAS TAKEN

"V" INDICATES THAT THE DETAIL/SECTION IS SHOWN ON THE SAME SHEET

"TYP" INDICATES THAT THE DETAIL/SECTION IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED

"VAR" SPECIFIES THAT DETAIL/SECTION WAS TAKEN FROM VARIOUS DRAWINGS

NOTE AND DETAIL/SECTION REFERENCING

NO.	REVISION	BY	APPRO	DATE

HERRERA

O'RYAN RANCH

REGISTERED PROFESSIONAL ENGINEER — 5/13/2013

DESIGNED: D. KAYE
DRAWN: L. TORRIDGE
REVIEWED: M. SPILLANE
SCALE: AS NOTED

WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO. OREGON

VICINITY MAP AND SHEET INDEX

DATE: MAY 2013
PROJECT NO: 10-04508-001
DRAWING NO: G-1
SHEET NO. 1 OF 9

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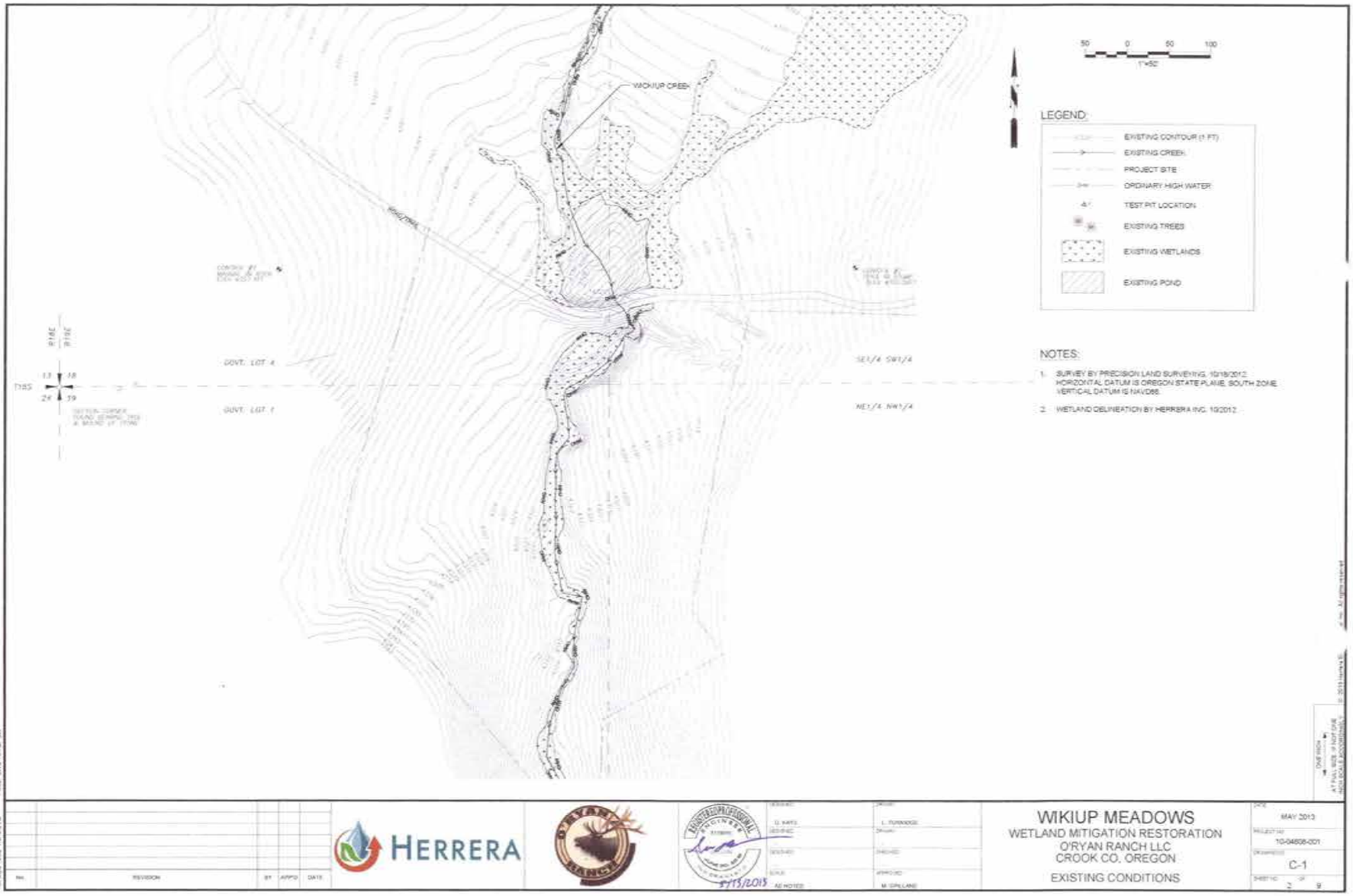
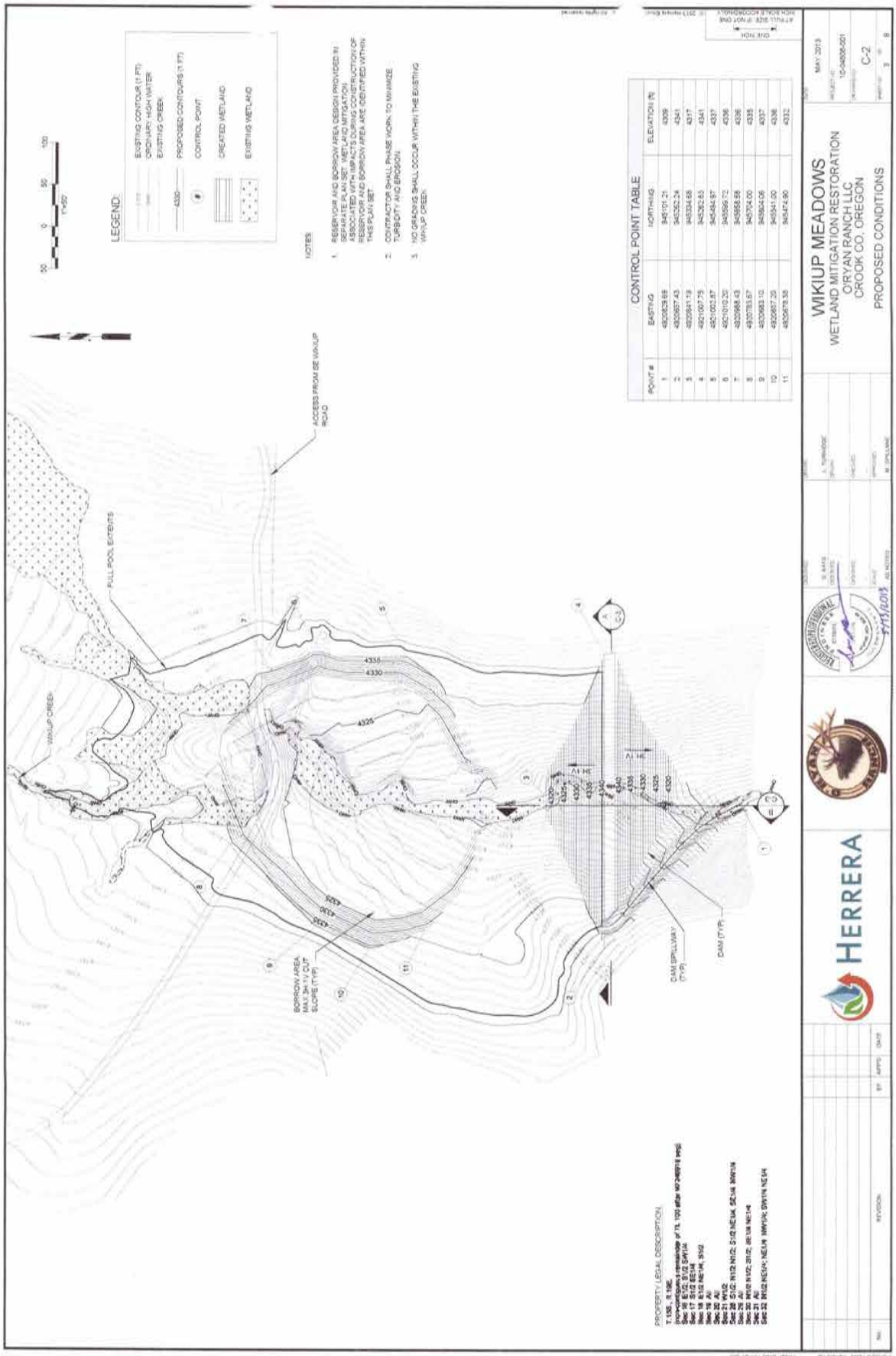
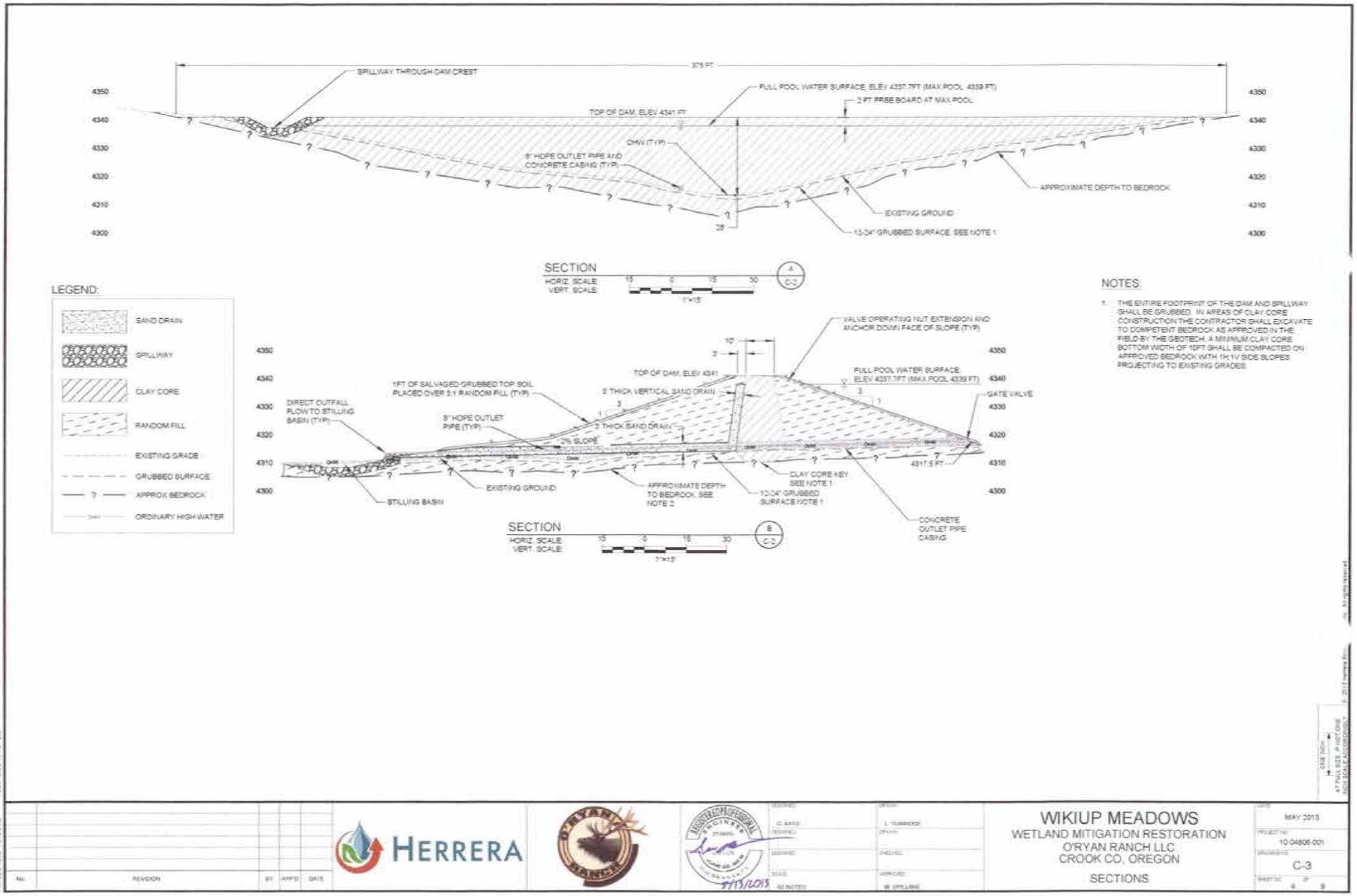
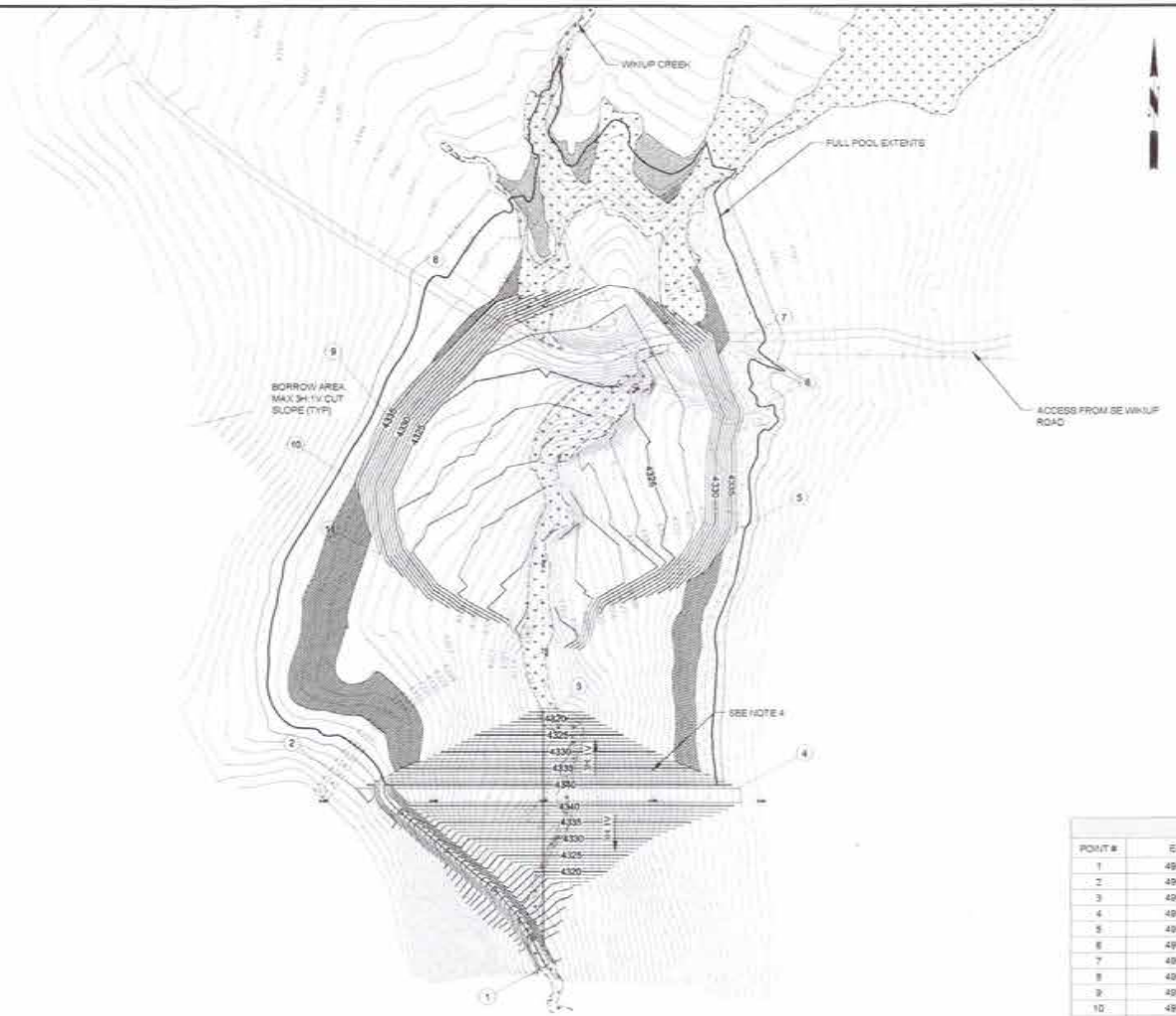

WIKIUP CREEK
GOVT. LOT 4
GOVT. LOT 1
SE1/4 SW1/4
NE1/4 NW1/4
T18S
R16E
R15E
13
18
24
19
50 0 50 100
1"=50'
LEGEND:
EXISTING CONTOUR (1 FT)
EXISTING CREEK
PROJECT SITE
ORDINARY HIGH WATER
TEST PIT LOCATION
EXISTING TREES
EXISTING WETLANDS
EXISTING POND
NOTES:
1. SURVEY BY PRECISION LAND SURVEYING, 10/18/2012. HORIZONTAL DATUM IS OREGON STATE PLANE, SOUTH ZONE. VERTICAL DATUM IS NAVD88.
2. WETLAND DELINEATION BY HERRERA INC. 10/2012.
HERRERA
O'RYAN RANCH
REGISTERED PROFESSIONAL ENGINEER
5/13/2015
AS NOTED
L. TURNIDGE
M. SPILLANE
WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO, OREGON
EXISTING CONDITIONS
MAY 2013
10-04608-001
C-1
2 9


LEGEND
EXISTING CONTOUR (1 FT)
ORDINARY HIGH WATER
EXISTING CREEK
PROPOSED CONTOURS (1 FT)
CONTROL POINT
CREATED WETLAND
EXISTING WETLAND
NOTES
1. RESERVOIR AND BORROW AREA DESIGN PROVIDED IN SEPARATE PLAN SET. WETLAND MITIGATION ASSOCIATED WITH IMPACTS DURING CONSTRUCTION OF RESERVOIR AND BORROW AREA ARE DEPICTED WITHIN THIS PLAN SET.
2. CONTRACTOR SHALL PHASE WORK TO MINIMIZE TURBIDITY AND EROSION.
3. NO GRADING SHALL OCCUR WITHIN THE EXISTING WIKIUP CREEK.
CONTROL POINT TABLE
POINT # | EASTING | NORTHING | ELEVATION (ft)
1 | 4920828.68 | 945101.21 | 4309
2 | 4920867.43 | 945352.24 | 4341
3 | 4920941.19 | 945334.68 | 4317
4 | 4921007.75 | 945362.83 | 4341
5 | 4921003.87 | 945484.97 | 4337
6 | 4921019.20 | 945566.72 | 4336
7 | 4920988.43 | 945658.58 | 4336
8 | 4920783.67 | 945704.00 | 4335
9 | 4920663.10 | 945604.06 | 4337
10 | 4920687.25 | 945541.00 | 4338
11 | 4920678.38 | 945474.90 | 4332
ACCESS FROM SE WIKIUP ROAD
FULL POOL EXTENTS
WIKIUP CREEK
BORROW AREA MATCH CUT SLOPE (TYP)
DAM SPILLWAY (TYP)
DAM (TYP)
PROPERTY LEGAL DESCRIPTION
WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
ORYAN RANCH LLC
CROOK CO. OREGON
PROPOSED CONDITIONS
MAY 2013
C-2
HERRERA


SPILLWAY THROUGH DAM CREST
FULL POOL WATER SURFACE, ELEV 4337.7FT (MAX POOL 4339 FT)
3 FT FREE BOARD AT MAX POOL
TOP OF DAM, ELEV 4341 FT
OHW (TYP)
8" HDPE OUTLET PIPE AND CONCRETE CASING (TYP)
APPROXIMATE DEPTH TO BEDROCK
EXISTING GROUND
10-24" GRUBBED SURFACE, SEE NOTE 1
SECTION
HORIZ. SCALE
VERT. SCALE
LEGEND:
SAND DRAIN
SPILLWAY
CLAY CORE
RANDOM FILL
EXISTING GRADE
GRUBBED SURFACE
APPROX BEDROCK
ORDINARY HIGH WATER
VALVE OPERATING NUT EXTENSION AND ANCHOR DOWN FACE OF SLOPE (TYP)
TOP OF DAM, ELEV 4341
FULL POOL WATER SURFACE, ELEV 4337.7FT (MAX POOL 4339 FT)
GATE VALVE
1FT OF SALVAGED GRUBBED TOP SOIL PLACED OVER 3:1 RANDOM FILL (TYP)
2' THICK VERTICAL SAND DRAIN
DIRECT OUTFALL FLOW TO STILLING BASIN (TYP)
8" HDPE OUTLET PIPE (TYP)
3' THICK SAND DRAIN
2% SLOPE
4317.5 FT
STILLING BASIN
EXISTING GROUND
APPROXIMATE DEPTH TO BEDROCK, SEE NOTE 2
10-24" GRUBBED SURFACE NOTE 1
CLAY CORE KEY SEE NOTE 1
CONCRETE OUTLET PIPE CASING
SECTION
HORIZ. SCALE
VERT. SCALE
NOTES:
1. THE ENTIRE FOOTPRINT OF THE DAM AND SPILLWAY SHALL BE GRUBBED. IN AREAS OF CLAY CORE CONSTRUCTION THE CONTRACTOR SHALL EXCAVATE TO COMPETENT BEDROCK AS APPROVED IN THE FIELD BY THE GEOTECH. A MINIMUM CLAY CORE BOTTOM WIDTH OF 10FT SHALL BE COMPACTED ON APPROVED BEDROCK WITH 1H:1V SIDE SLOPES PROJECTING TO EXISTING GRADES.
HERRERA
O'RYAN RANCH
WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO, OREGON
SECTIONS
MAY 2013
10-04806-001
C-3



50 0 50 100
1"=50'

LEGEND

- EXISTING CONTOUR (1 FT)
- EXISTING CREEK
- PROPOSED CONTOURS (1 FT)
- CONTROL POINT
- WETLAND MEADOW
- SCRUB/SHRUB WETLAND
- EMERGENT WETLAND
- EXISTING WETLAND

NOTES

1. RESERVOIR AND BORROW AREA DESIGN PROVIDED IN SEPARATE PLAN SET. WETLAND MITIGATION ASSOCIATED WITH IMPACTS DURING CONSTRUCTION OF RESERVOIR AND BORROW AREA ARE IDENTIFIED WITHIN THIS PLAN SET.
2. CONTRACTOR SHALL PHASE WORK TO MINIMIZE TURBIDITY AND EROSION.
3. NO GRADING SHALL OCCUR WITHIN THE EXISTING WIKIUP CREEK.
4. ASSUMES NO WETLAND CREATION ON UPSTREAM DAM FACE (CONSERVATIVE).

CONTROL POINT TABLE

POINT #	EASTING	NORTHING	ELEVATION (ft)
1	4920829.69	945101.21	4309
2	4920857.43	945280.24	4341
3	4920841.19	945334.68	4317
4	4921007.75	945282.63	4341
5	4921002.87	945494.97	4337
6	4921010.20	945599.72	4336
7	4920966.43	945658.58	4336
8	4920785.67	945704.00	4335
9	4920683.10	945604.06	4337
10	4920657.20	945541.00	4336
11	4920678.36	945474.90	4332

ONE INCH
AT FULL SIZE IF NOT ONE
(INCH) SCALE ACCORDINGLY

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No.	REVISION	BY	APP'D	DATE

HERRERA

O'RYAN RANCH

REGISTERED PROFESSIONAL ENGINEER
STEVEN L. TERMOTE
OREGON
JUNE 30, 2013
4/15/2013

DESIGNED G. KAYUS
DRAWN L. TERMOTE
CHECKED
CHECKED
SCALE AS NOTED
APPROVED M. GRELLAND

WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO, OREGON

PLANTING PLAN

DATE MAY 2013
PROJECT NO. 10-04808-001
DRAWING NO. L-1
SHEET NO. 5 OF 8

PLANT SCHEDULE

PLANTING AREA/TYPE NAME	PROPOSED SPECIES - SCIENTIFIC NAME	PROPOSED SPECIES - COMMON NAME	MATERIAL TYPE AND SIZE	PLANT SPACING
WETLAND MEADOW	SEDGE PLUGS: CAREX NEBRASCENSIS, AND /OR C. AQUATILIS	NEBRASKA AND/OR WATER SEDGE	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
	HERITAGE WETLAND SEED COLLECTION MIX FROM PLANTS OF THE WILD	25% SLENDER RUSH (JUNCUS TENUOUS), 15% TUFTED HAIRGRASS (DESCHAMPSIA CESPITOSA), 20% MEADOW BARLEY (HORDEUM BRANCHEANTHYRUM), 25% NORTHWEST MANNAGRASS (GLYCERIA OCCIDENTALIS), 15% AMERICAN SLOUGHGRASS (BECKMANNIA SYZIGACHNE)	SEED AT RATE SPECIFIED BY SUPPLIER AND ENGINEER	HAND SEED
	BULRUSH PLUGS: SCIRPUS MICROCARPUS, AND/OR SCHOENOPLECTUS AMERICANUS, AND/OR SCHOENOPLECUS PUNGENS, VAR LONGISPICATUS, AND/OR SCH. VALIDUS, AND/OR SCH ACUTUS	SMALL-FRIUTED BULRUSH, AMERICAN THREE-SQUARE, HARD-STEMMED BULRUSH, SOFT-STEMMED BULRUSH	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
	RUSH PLUGS: JUNCUS BALTICUS	BALTIC RUSH	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
PROPOSED EMERGENT WETLAND	SEDGE PLUGS:CAREX AQUATILIS	WATER SEDGE	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
	BULRUSH PLUGS: SCIRPUS MICROCARPUS, AND/OR SCHOENOPLECTUS AMERICANUS, AND/OR SCHOENOPLECUS PUNGENS, VAR LONGISPICATUS, AND/OR SCH. VALIDUS, AND/OR SCH ACUTUS	SMALL-FRIUTED BULRUSH, AMERICAN THREE-SQUARE, HARD-STEMMED BULRUSH, SOFT-STEMMED BULRUSH	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
	BUR-REED PLUGS: SPARGANIUM EMERSUM, AND/OR S. EURYCARPUM	NARROW-LEAF AND/OR BROAD-FUITED BUR-REED	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
	HERITAGE WETLAND SEED COLLECTION MIX FROM PLANTS OF THE WILD	25% SLENDER RUSH (JUNCUS TENUOUS), 15% TUFTED HAIRGRASS (DESCHAMPSIA CESPITOSA), 20% MEADOW BARLEY (HORDEUM BRANCHEANTHYRUM), 25% NORTHWEST MANNAGRASS (GLYCERIA OCCIDENTALIS), 15% AMERICAN SLOUGHGRASS (BECKMANNIA SYZIGACHNE)	SEED AT RATE SPECIFIED BY SUPPLIER AND ENGINEER	HAND SEED
PROPOSED SCRUB/SHRUB WETLAND	WILLOW STAKES: SALIX BOOTHII, AND/OR S. GEYERIANA, AND/OR S. LEMONII	BOOTH'S, GEYER'S AND/OR LEMMON'S WILLOW	STAKE, 3-4 FEET LONG, AT LEAST 1 INCH DIAMETER	3 FEET ON CENTER (ENTIRE AREA)
	SEDGE PLUGS: CAREX NEBRASCENSIS, AND /OR C. AQUATILIS	NEBRASKA AND/OR WATER SEDGE	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
	RUSH PLUGS: JUNCUS BALTICUS	BALTIC RUSH	PLUG, 6 INCHES OR LONGER	2 FEET ON CENTER (COMBINED, FOR ALL PLUGS)
UPLAND GRASSLAND	INLAND NORTHWEST NATIVE SEED MIX FROM PLANTS OF THE WILD	35% GARNET MOUNTAIN BROME (BROMUS MARGENATIS), 20% IDAHO FESCUE (FESTUCA IDAHOENSIS), 20% BLUEBUNCH WHEATGRASS (PSEUDOROEGNERIA SPICATA), 15% SLENDER WHEATGRASS (ELYMIUS TRACHYCAULUS), 10% SHERMAN BIG BLUEGRASS (POA SECUNDA)	APPLY AT A RATE OF 1 POUND PER 1000 SQ. FT OR PER SUPPLIER	HAND OR MACHINE SEED

HERRERA

O'RYAN RANCH

REGISTERED PROFESSIONAL ENGINEER

5/13/2013

WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO, OREGON

PLANTING DETAILS

MAY 2013

10-04808-001

L-2

MONITORING/PERFORMANCE PLAN

THE GOAL OF THE RESTORATION PLAN FOR WICKIUP MEADOWS RESERVOIR IS TO CREATE 1.45 ACRES OF WETLAND MEADOWS, EMERGENT WETLANDS AND SCRUB/SHRUB WETLANDS, TO REPLACE THE 0.65 ACRES OF IMPACTED WETLANDS, WHICH IS DOMINATED BY NON-NATIVE SPECIES AND MEETS THE CORPS OF ENGINEERS (1987) CRITERIA OF WETLAND. THIS WILL BE A GREATER THAN 1.5:1 RATION OF CREATED TO IMPACTED WETLANDS AREAS. THE WETLAND MITIGATION PROJECT WILL BE CONSTRUCTED COMMENSURATE WITH THE CONSTRUCTION OF THE DAM DURING THE ASSOCIATED PLANTING WINDOW, AS REQUIRED BY ODSL. THE RESTORATION PROJECT WILL BE MONITORED FOR 5 YEARS AFTER CONSTRUCTION TO ENSURE THAT THE RESTORATION MET ITS GOALS AND TO ENSURE COMPLIANCE WITH THE AGREEMENT.

MONITORING SETUP AND IMPLEMENTATION

MONITORING WILL START IN THE SUMMER OF THE YEAR FOLLOWING CONSTRUCTION AND CONTINUE FOR 5 YEARS AFTER CONSTRUCTION. MONITORING WILL BE CONDUCTED DURING THE SUMMER LOW WATER FLOW SEASON WHEN PLANTS ARE LEAFED OUT (AUGUST). REPRESENTATIVE SAMPLE PLOTS WITHIN THE CREATED WETLAND AREA WILL BE PERMANENTLY ESTABLISHED IN THE FIRST YEAR AND WILL BE SAMPLED IN YEAR 1 AND EACH SUBSEQUENT YEAR UNTIL YEAR 5 AFTER THE CONSTRUCTION. A MINIMUM OF THREE PERMANENT PHOTOGRAPHIC POINTS FOR THE CREATED WETLAND WILL BE ESTABLISHED AND MAPPED FOR INCLUSION IN THE MONITORING REPORTS. PHOTOGRAPHS WILL BE TAKEN EACH MONITORING YEAR AND INCLUDED IN EACH MONITORING REPORT. A REPORT PRESENTING THE RESULTS OF THE MONITORING WILL BE PROVIDED TO ODSL BY DECEMBER 31 OF EACH MONITORING YEAR AS REQUIRED BY ODSL. ON-SITE OBSERVATIONS OF WHETHER THE MITIGATION IS MEETING THE BELOW MENTIONED SUCCESS CRITERIA WILL BE RECORDED AND INCORPORATED INTO THE MONITORING REPORT. IF ANY AREAS ARE NOT MEETING THE SUCCESS CRITERIA, O'RYAN RANCH WILL BE NOTIFIED BY EMAIL WITHIN 1 WEEK AFTER THE MONITORING SITE VISIT. IF ODSL FINDS THAT THE PROPOSED PERFORMANCE STANDARDS ARE NOT MET OVER THE COURSE OF THE MONITORING AND BY THE END OF THE FIFTH YEAR OF MONITORING, O'RYAN RANCHES LLC WILL DEVELOP A CONTINGENCY PLAN IN COORDINATION WITH ODSL. AS DIRECTED BY ODSL, O'RYAN RANCHES LLC WILL MAKE THE NECESSARY MODIFICATIONS TO THE MITIGATION AREA AND WILL CONTINUE TO MONITOR THE SITE UNTIL THESE FINAL SUCCESS STANDARDS ARE MET AND ODSL APPROVES THE MITIGATION.

PERFORMANCE STANDARDS

THE PERFORMANCE STANDARDS FOR THE PROPOSED RESTORATION PROJECT ARE PROVIDED ON THIS PAGE. THE PERFORMANCE STANDARDS WILL BE USED TO MEASURE THE SUCCESS OF THE MITIGATION PROJECT WITH THE OVERALL GOAL OF DETERMINING IF THE AREAS HAVE DEVELOPED INTO NATIVE EMERGENT WETLAND AND IF THEY ARE PERFORMING A MODERATE TO HIGH LEVEL OF HYDROLOGIC, WATER QUALITY, AND HABITAT FUNCTIONS. THE OREGON RAPID WETLAND ASSESSMENT PROTOCOL (ADAMUS ET. AL., 2010) WILL BE USED TO ASSESS THE LEVEL OF FUNCTIONS PROVIDED BY THE WETLAND RESTORATION IN THE FINAL YEAR OF MONITORING.

YEAR 1 SUCCESS CRITERIA (2014)

- PERFORMANCE STANDARD 1.1
  BY THE END OF THE FIRST GROWING SEASON, 80 PERCENT OF THE PLANTED SPECIES WILL HAVE SURVIVED OR WILL BE REPLACED.
- PERFORMANCE STANDARD 1.2
  THE PERCENTAGE OF THE ABSOLUTE AREA COVERED BY INVASIVE SPECIES (E.G., REED CANARYGRASS AND HIMALAYAN BLACKBERRY) WILL NOT EXCEED 15 PERCENT WITHIN THE WETLAND CREATION AREAS.
- PERFORMANCE STANDARD 1.3
  AS A BASELINE MEASUREMENT, SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL COLUMN OR INUNDATION (WETLAND HYDROLOGY AS DEFINED IN THE CORPS OF ENGINEERS [2008] WETLAND DELINEATION MANUAL FOR THE ARID WEST) WILL BE OBSERVED THROUGH EXCAVATION OF AN 18-INCH DEEP HOLE AT THREE SAMPLE PLOTS WITHIN THE WETLAND DURING THE SUMMER GROWING SEASON.
- PERFORMANCE STANDARD 1.4
  A FUNCTIONAL ASSESSMENT OF THE CREATED WETLAND WILL BE COMPLETED IN THE 1ST YEAR AS A BASELINE TO MEASURE FUNCTIONAL LIFT OF THE WETLAND OVER THE MONITORING PERIOD. WETLAND HYDROLOGIC, WATER QUALITY, AND HABITAT FUNCTIONS WILL BE BASED ON THE OREGON RAPID WETLAND ASSESSMENT PROTOCOL (ADAMUS ET. AL., 2010) AND BEST PROFESSIONAL JUDGMENT AND RECORDED IN THE MONITORING REPORT.

YEAR 2 SUCCESS CRITERIA (2015)

- PERFORMANCE STANDARD 2.1
  NATIVE COVER WILL REACH 40 PERCENT ABSOLUTE COVER WITHIN THE PLANTING AREAS BY THE END OF YEAR 2.
- PERFORMANCE STANDARD 2.2
  THE PERCENTAGE OF THE ABSOLUTE AREA COVERED BY INVASIVE SPECIES (E.G., REED CANARYGRASS AND HIMALAYAN BLACKBERRY) WILL NOT EXCEED 15 PERCENT WITHIN THE CREATED WETLAND.
- PERFORMANCE STANDARD 2.3
  SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL COLUMN OR INUNDATION (WETLAND HYDROLOGY AS DEFINED IN THE CORPS OF ENGINEERS [2008] WETLAND DELINEATION MANUAL) WILL BE OBSERVED THROUGH EXCAVATION OF AN 18-INCH DEEP HOLE AT THREE SAMPLE PLOTS.

YEAR 3 SUCCESS CRITERIA (2016)

- PERFORMANCE STANDARD 3.1
  NATIVE COVER WILL REACH 80 PERCENT ABSOLUTE COVER WITHIN THE PLANTING AREAS BY THE END OF YEAR 3.
- PERFORMANCE STANDARD 3.2
  THE PERCENTAGE OF THE ABSOLUTE AREA COVERED BY INVASIVE SPECIES (E.G., REED CANARYGRASS AND HIMALAYAN BLACKBERRY) WILL NOT EXCEED 15 PERCENT IN 10 PERCENT OR MORE OF THE SAMPLE PLOTS WITHIN THE EMERGENT WETLAND.
- PERFORMANCE STANDARD 3.3
  SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL COLUMN OR INUNDATION (WETLAND HYDROLOGY AS DEFINED IN THE CORPS OF ENGINEERS [2008] WETLAND DELINEATION MANUAL) WILL BE OBSERVED THROUGH EXCAVATION OF AN 18-INCH DEEP HOLE AT EACH SAMPLE PLOT DURING THE SPRING GROWING SEASON.

YEAR 4 SUCCESS CRITERIA (2017)

- PERFORMANCE STANDARD 4.1
  NATIVE COVER WILL REACH 90 PERCENT ABSOLUTE COVER WITHIN THE PLANTING AREAS BY THE END OF YEAR 4.
- PERFORMANCE STANDARD 4.2
  THE PERCENTAGE OF THE ABSOLUTE AREA COVERED BY INVASIVE SPECIES (E.G., REED CANARYGRASS AND HIMALAYAN BLACKBERRY) WILL NOT EXCEED 15 PERCENT IN 10 PERCENT OR MORE OF THE SAMPLE PLOTS WITHIN THE EMERGENT WETLAND.
- PERFORMANCE STANDARD 4.3
  SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL COLUMN OR INUNDATION (WETLAND HYDROLOGY AS DEFINED IN THE CORPS OF ENGINEERS [2008] WETLAND DELINEATION MANUAL) WILL BE OBSERVED THROUGH EXCAVATION OF AN 18-INCH DEEP HOLE AT EACH SAMPLE PLOT DURING THE SPRING GROWING SEASON.

YEAR 5 SUCCESS CRITERIA (2018)

- PERFORMANCE STANDARD 5.1
  NATIVE COVER WILL REACH 95 PERCENT ABSOLUTE COVER WITHIN THE PLANTING AREAS BY THE END OF YEAR 4.
- PERFORMANCE STANDARD 5.2
  THE PERCENTAGE OF THE ABSOLUTE AREA COVERED BY INVASIVE SPECIES (E.G., REED CANARYGRASS AND HIMALAYAN BLACKBERRY) WILL NOT EXCEED 15 PERCENT IN 10 PERCENT OR MORE OF THE SAMPLE PLOTS WITHIN THE EMERGENT WETLAND.
- PERFORMANCE STANDARD 5.3
  SATURATION WITHIN THE UPPER 12 INCHES OF THE SOIL COLUMN OR INUNDATION (WETLAND HYDROLOGY AS DEFINED IN THE CORPS OF ENGINEERS [2008] WETLAND DELINEATION MANUAL) WILL BE OBSERVED THROUGH EXCAVATION OF AN 18-INCH DEEP HOLE AT EACH SAMPLE PLOT DURING THE SPRING GROWING SEASON.
- PERFORMANCE STANDARD 5.4
  WETLAND HYDROLOGIC, WATER QUALITY, AND HABITAT FUNCTIONS WILL BE MODERATE TO HIGH BASED ON THE OREGON RAPID WETLAND ASSESSMENT PROTOCOL (ADAMUS ET. AL., 2010) AND BEST PROFESSIONAL JUDGMENT.

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No.	REVISION	BY	APPD	DATE

HERRERA

O'RYAN RANCH

REGISTERED PROFESSIONAL ENGINEER — 5/13/2015

S. APIS — DESIGNED; L. TORRIDGE — DRAWN; M. ZRLLINE — APPROVED; AS NOTED — SCALE

WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO, OREGON

PLANTING DETAILS

MAY 2013 — DATE; 10-04808-001 — PROJECT NO.; L-3 — DRAWING NO.; SHEET 7 OF 9

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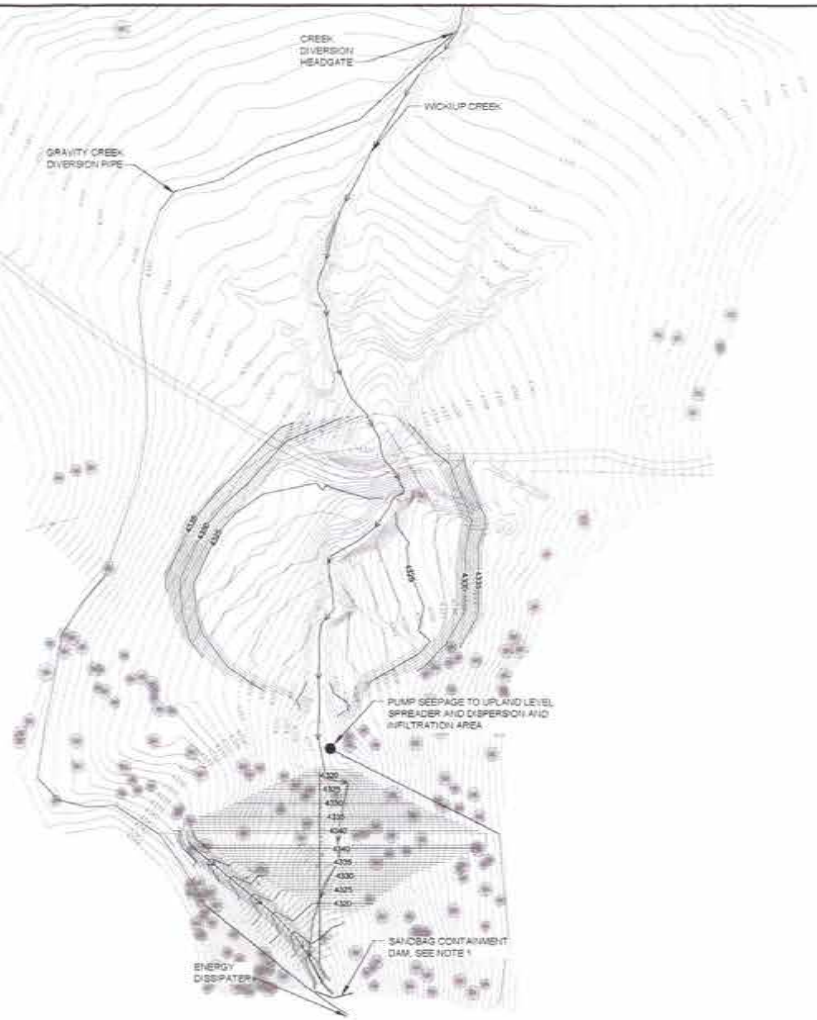

60 0 60 120
1"=60'

NOTES:

1. DURING CONSTRUCTION A SAND BAG DAM SHALL BE CONSTRUCTED 10FT BEYOND THE DOWNSTREAM MOST POINT DISTURBANCE TO COLLECT TURBID WATER GENERATED WITHIN THE PROJECT SITE. TURBID WATER SHALL BE PUMPED UPLAND TO DISPERSION AND INFILTRATION LEVEL SPREADERS FOR TREATMENT. ONCE THE LOWER LIFTS OF THE DAM HAVE BEEN CONSTRUCTED, THE RESERVOIR SHALL BE USED TO CONTAIN RUNOFF FROM DISTURBANCES UPSTREAM OF THE DAM FACE. PRIORITY OF PHASING SHALL BE TO MINIMIZE THE DISTURBANCE TO ONLY WHAT IS NESCISARY TO COMPLETE THE DAM LIFTS SUFFICIENTLY TO CONTAIN WATER.

2. CONTRACTOR SHALL PLACE GRUBBED TOP SOIL 1-2 FT THICK OVER ENTIRE DISTURBED AREA INCLUDING BORROW AREA AT BOTH DAM FACES PRIOR TO HYDROSEEDING. CONTRACTOR SHALL TRACK WALK PLACED TOP SOIL TO CREATE A SMOOTH UNIFORM SLOPE FOR HYDROSEEDING.

3. CONTRACTOR SHALL HYDROSEED EXPOSED FACES OF DAM, BORROW AREA, AND ADJACENT HILL SLOPES WITH PERMANENT EROSION CONTROL SEED MIX WITH TACKIFIER AND HYDROMULCH
   - A. SCARIFY TRACK WALKED SALVAGED TOP SOIL SURFACES TO 4 INCHES DEPTH. RACK SMOOTH AND REMOVE CLUMPS OR CLODS.
   - B. APPLY HYDRO SEED. SEED SHALL BE
     - INLAND NATIVE SEED MIX FROM PLANTS OF THE WILD AND REGREEN
     - APPLIED AT 70 LBS PER ACRE (INLAND NATIVE SEED MIX) AND 30 LBS PER ACRE (REGREEN)
   - C. FERTILIZER SHALL BE BIOSOIL OR APPROVED EQUAL AND APPLIED AT 1800 LBS PER ACRE
   - D. HYDROMULCH SHALL BE MAT-FIBER PLUS OR APPROVED EQUAL AND APPLIED AT 500 LBS PER ACRE AT 10% MOISTURE CONTENT. APPLY HYDROMULCH WITHIN 24 HOURS OF SEED/FERTILIZER APPLICATION.

4. WIKIUP CREEK SHALL BE BYPASSED AROUND CONSTRUCTION AREA FOR THE DURATION OF CONSTRUCTION.

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ONE INCH
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

No	REVISION	BY	APP'D	DATE

HERRERA

O'RYAN RANCH

REGISTERED PROFESSIONAL ENGINEER
OREGON
JAMES D. KAYS
5/13/2015

D. KAYS
L. TURNBOW
AS NOTED
M. SPILLANE

WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO, OREGON

TESC PLAN

DATE: MAY 2015
PROJECT NO: 10-04808-001
DRAWING NO: EC-1
SHEET NO: 8 OF 9

TECS NOTES

1. HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))

2. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A.8.A)

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. (SCHEDULE B.2.A)

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. (SCHEDULE A.8.C.II.(1)(C))

5. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. (SCHEDULE A.12.C.III)

6. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.8.C.II.(1)(D))

7. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION, INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) & (2))

8. PRESERVE EXISTING VEGETATION AND RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. (SCHEDULE A.7.B.III.(1))

9. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS. (SCHEDULE A.7.D.I AND A.8.C)

10. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS. (SCHEDULE A.8.C.II.(2))

11. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))

12. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: GRAVELED (OR PAVED) EXITS AND PARKING AREAS; GRAVEL ALL UNPAVED ROADS LOCATED ON SITE; OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A.7.D.II.(1) AND A.8.C.I.(4))

13. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(3))

14. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS, VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY; ASPHALT; AS DEBRIS; LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))

15. WATER OR USE A SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A.7.B.III)

16. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)

17. IF A STORMWATER TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)

18. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A.7.B)

19. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER. (SCHEDULE A.7.A.I)

20. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)

21. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT, AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.II)

22. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.III & IV)

23. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)

24. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEAN UP RELEASED SEDIMENTS. (SCHEDULE A.9.B.II)

25. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)

26. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)

27. THE DESIGNATED EROSION AND SEDIMENT CONTROL INSPECTOR MUST PERFORM DAILY INSPECTIONS OF THE BMPS AND DISCHARGE OUTFALLS WHEN RAINFALL AND RUNOFF OCCUR. RECORD THE INSPECTIONS AND OBSERVATIONS IN A LOG THAT IS ON SITE. (SCHEDULE B.1.B(1))

28. ALL ESCP CONTROLS AND PRACTICES MUST BE INSPECTED VISUALLY ONCE TO ENSURE THAT BMPS ARE IN WORKING ORDER PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY AND MUST BE INSPECTED VISUALLY ONCE EVERY TWO (2) WEEKS DURING INACTIVE PERIODS GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS. (SCHEDULE B.1.B.(2) & (3))

29. IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION DURING PERIODS IN WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER. (SCHEDULE B.1.B.(4))

30. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.B.III)

31. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPS. (SCHEDULE A.8.C.III)

No.	REVISION	BY	APPD	DATE

HERRERA

O'RYAN RANCH

REGISTERED PROFESSIONAL ENGINEER — OREGON — JUNE 30, 2013 — 5/13/2013

DESIGNED: D. KING | DRAWN: J. TURNIDGE | CHECKED: | APPROVED: M. DRILLING | SCALE: AS NOTED

WIKIUP MEADOWS
WETLAND MITIGATION RESTORATION
O'RYAN RANCH LLC
CROOK CO. OREGON

TESC DETAILS

DATE: MAY 2013
PROJECT NO.: 10-04808-001
DRAWING NO.: EC-2
SHEET NO.: 9 OF 9