



AGENDA - WATER COMMISSION BOARD MEETING

Wednesday – March 20, 2013 – 12:30 pm

Lausmann Annex - 200 S. Ivy St. - Room 151/157, Medford, Oregon 97501

PHONE: (541) 774-2440 ♦ FAX: (541) 774-2555 ♦ EMAIL: wtrcom@ci.medford.or.us ♦ WEB: www.medfordwater.org

The meeting location will be accessible to persons with disabilities. A request for an interpreter for the hearing impaired or other accommodations for persons with disabilities should be made at least 48 hours before the meeting by calling (541) 774-2000 or (541) 774-2569 (TTY).

11:30 a.m. LUNCH

11:45 a.m. STUDY SESSION – Update on the Flocculation/Sedimentation Basin Expansion Design Project at the Robert A. Duff Water Treatment Plant (Principal Engineer Eric Johnson, Plant Supervisor Jim Stockton, Black & Veatch Consultants Patrick Van Duser and Dave Carlson)

12:30 p.m. (+/-) BOARD MEETING – Shall Begin at the Conclusion of the Study Session

1. Pledge of Allegiance
2. Roll Call
3. Approval or Correction of the Minutes of the Last Regular Meeting of March 6, 2013
4. Comments from the Audience
5. Written Communications
 - 5.1 Letter Regarding Approval of the Greater Bear Creek Valley Regional Plan
6. Resolutions
 - 6.1 No. 1514, A RESOLUTION By the City of Medford By and Through its Board of Water Commissioners (Board), Declaring Surplus Property and Authorizing the Chair to Execute a Declaration of Covenants and Restrictions and Access Easement on that Certain Real Property Situated in Jackson County, Oregon, Known as the Duff II Mitigation Property, for Conservation Purposes, and Adopting the Long-Term Management and Maintenance Plan for Medford Water Commission's Vernal Pool Preserve
7. Authorization of Vouchers
8. Engineer's Report (E. Johnson)
9. Water Quality Report (Pindilli)
10. Finance Report (DeLine)
11. Operations Report (K. Johnson)
12. Manager/Other Staff Reports
 - 12.1 Staff Report on the Water Conservation Site Development Committee
13. Propositions and Remarks from the Commissioners
14. Adjourn

DATES TO REMEMBER						
DATE	DAY	TYPE OF MEETING	STUDY SESSION TIME & TOPIC	REGULAR MEETING	LOCATION	
4/3/13	Wed	Board Meeting	11:45am – Ashland Emergency Connection	12:30pm	Lausmann Annex, RM 151	
4/17/13	Wed	Board Meeting	11:45am – Capital Budget	12:30pm	Lausmann Annex, RM 151	
5/1/13	Wed	Board Meeting	11:45am – Expense Budget	12:30pm	Lausmann Annex, RM 151	
5/15/13	Wed	Board Meeting	11:45am – SDCs/CLAs/Fees	12:30pm	Lausmann Annex, RM 151	
<i>Wednesday, May 22, 2013 – Annual Cities & Districts Meeting – Service Center</i>						
<i>Monday, May 27, 2013 – Memorial Day Holiday – Offices closed</i>						
6/5/13	Wed	Board Meeting	11:45am – Customer Service	12:30pm	Lausmann Annex, RM 151	
6/19/13	Wed	Board Meeting	11:45am – Financial Update	12:30pm	Lausmann Annex, RM 151	
7/3/13	Wed	Board Meeting	11:45am – GIS	12:30pm	Lausmann Annex, RM 151	
<i>Thursday, July 4, 2013 – Independence Day Holiday – Offices closed</i>						
7/17/13	Wed	Board Meeting	11:45am – Utility Software Implementation	12:30pm	Lausmann Annex, RM 151	

5.1 Letter Regarding Approval of the Greater Bear Creek Valley Regional Plan

The Commission was copied on a letter from the Department of Land Conservation and Development to the Jackson County Board of Commissioners, confirming approval of the Plan, which was the culmination of years of work on the part of many local participants in the Regional Problem Solving process; a copy is attached.

6.1 Resolution No. 1514, A RESOLUTION By the City of Medford By and Through its Board of Water Commissioners (Board), Declaring Surplus Property and Authorizing the Chair to Execute a Declaration of Covenants and Restrictions and Access Easement on that Certain Real Property Situated in Jackson County, Oregon, Known as the Duff II Mitigation Property, for Conservation Purposes, and Adopting the Long-Term Management and Maintenance Plan for Medford Water Commission’s Vernal Pool Preserve

The Commission is close to finalizing agency (Department of State Lands and Army Corps of Engineers) requirements for approval of the wetlands mitigation property, which was purchased as part of the plan for the future Duff II expansion at the treatment plant. Requirements include declaring the property surplus, executing a Declaration of Covenants and Restrictions (deed restriction) and access easement in order to protect the property in perpetuity, and adopting the Long-Term Management and Maintenance Plan of the newly-named Vernal Pool Preserve. Staff recommends approval. If the Board agrees, the Chair will need to sign and the Deputy City Recorder will need to sign, notarize and seal the Deed Restriction. Copies of the resolution and exhibits are attached.

12.1 Staff Report on the Water Conservation Site Development Committee

Public Information Coordinator Laura Hodnett will update the Board on the Committee’s recent activities, including study session presentations for the Planning Commission and City Council regarding proposed changes to City Code.



Oregon

John A. Kitzhaber, MD, Governor

Department of Land Conservation and Development

635 Capitol Street NE, Suite 150

Salem, Oregon 97301-2540

Phone: (503) 373-0050

Fax: (503) 378-5518

www.oregon.gov/LCD

March 7, 2013

RECEIVED
MAR 11 2013
PLANNING DEPT.



Don Skundrick, Chair
Jackson County Board of Commissioners
Jackson County
10 S Oakdale Avenue
Medford, OR 97501

RE: Final Order to Acknowledge the Greater Bear Creek Valley Regional Problem Solving Plan
Order 13-RPS-001830

Dear Commissioner Skundrick:

The Department of Land Conservation and Development has completed the final order to approve the Greater Bear Creek Valley Regional Plan. The order, which implements the decision of the Land Conservation and Development Commission at its meeting on November 15, 2012 in McMinnville, is attached.

We congratulate the region on this achievement, which has required considerable time, effort, and resource commitments from a broad array of citizen, city, county and state participants. The perseverance of the regional participants is to be commended. While the plan took what seems like a long time to complete, it will help guide growth in your region for decades to come and therefore was worth the commitment. We also see the project as an example of why the Regional Problem Solving Statute was enacted—to provide flexibility in implementation of land use rules to satisfy the needs of the local region. While the details of the procedural requirements raised many questions and issues along the way, at its core the RPS process yielded a result that has increased coordination among the jurisdictions in the region and provided a common vision of urban livability.

Again, congratulations on reaching this important milestone for the region. If you have questions about the final order, please do not hesitate to contact Josh LeBombard, Southern Oregon Regional Representative, at (541) 499-1089 or by e-mail at josh.lebombard@state.or.us.

Yours truly,

Jim Rue
Director

LCDC Final Order -- Greater Bear Creek Valley Regional Plan
March 7, 2013

Page 2 of 2

cc: Michael Cavallaro, RVCOG Executive Director
Kelly Madding, Jackson County Development Services Director
Bill Molnar, Ashland Community Development Director
Tom Humphrey, Central Point Community Development Director
Mike Upston, Eagle Point Principal Planner
Mark Knox, Talent Planning Director
Dale Schultze, Phoenix Planning Director
Jim Huber, Medford Planning Director
Greg Holmes, 1,000 Friends of Oregon
Thomas A. Lowell
Katy Mallams
Josh LeBombard, DLCD Southern Oregon Regional Representative
Rob Hallyburton, DLCD Community Services Division Manager

**BEFORE THE
LAND CONSERVATION AND DEVELOPMENT COMMISSION OF THE
STATE OF OREGON**

IN THE MATTER OF THE)	
GREATER BEAR CREEK VALLEY)	PROJECT APPROVAL
REGIONAL PROBLEM SOLVING)	ORDER 13-RPS-001830
PLAN)	

This matter came before the Land Conservation and Development Commission (Commission) on November 15, 2012 on a director's referral in the manner of periodic review set forth in Oregon Revised Statutes (ORS) 197.628 through 197.650 and Oregon Administrative Rules (OAR) chapter 660, division 25, pursuant to *former* ORS 197.656(3) (2007). The Commission, having fully considered Jackson County's Regional Problem Solving (RPS) Plan pursuant to *former* ORS 197.652 to 197.658 (2007), comments and objections from interested parties, written reports of the director of the Department of Land Conservation and Development (department), and the oral presentations, enters its:

A. Findings of Fact

1. On March 15, 2012, the Commission received testimony on the Greater Bear Creek Valley Regional Plan (Regional Plan) from Jackson County and interested parties. The Regional Plan had been adopted by Jackson County but was not yet a final decision because the participating cities had not yet co-adopted the plan. The Commission provided responses to the county and parties for consideration during final local consideration.

2. On September 18, 2012, Jackson County submitted the final decisions of the Cities of Ashland, Central Point, Eagle Point, Medford, Phoenix, and Talent and Jackson County on the Greater Bear Creek Valley Regional Plan pursuant to *former* ORS 197.656(3). The submittal consisted of amendments to the comprehensive plans and implementing regulations for the seven jurisdictions to enact a regional plan consisting of (1) urban reserve areas for Central Point, Eagle Point, Medford, Phoenix, and Talent; (2) plan and code provisions to implement urban reserves policy; (3) comprehensive plan and code provisions to effect buffers between urban and adjacent agricultural uses; (4) establishment of an agricultural task force; (5) plan provisions to require conceptual land use and transportation planning prior to Urban

Growth Boundary (UGB) amendments; and (6) plan provisions to develop the region in mixed-use/pedestrian friendly form.

3. The department received two objections to the September 18, 2012 submittal. On November 15, 2012, the Commission conducted a hearing on the submittal and received testimony and argument from representatives of the participating jurisdictions, interested parties and one objector. The director's October 24, 2012 report to the Commission analyzed the objections and recommended that the Commission deny them. The Commission adopts the director's analysis, findings and conclusions regarding the objections with one amendment. The amendment included a condition that Jackson County, during its next Comprehensive Plan housekeeping amendment, correct the scrivener's errors identified by an objector in the description of Urban Reserve Area TA-2 in the Regional Plan. The Commission rejects the objections. The director's October 24, 2012 report is attached and made a part of this order.

4. After collaboration between Jackson County and the cities in the region, the participants who were committed to proceed with the requisite comprehensive plan and ordinance amendments necessary to effectuate the Regional Plan signed the Greater Bear Creek Regional Problem Solving Agreement ("Participant's Agreement"). Consistent with applicable version of ORS 197.656(2)(b), the Participant's Agreement must contain:
 - a. Regional goals for resolution of each identified regional problem;
 - b. Optional techniques to achieve the regional goals;
 - c. Measurable indicators of performance toward achievement of the regional goals;
 - d. A system of incentives and disincentives to encourage successful implementation of the techniques;
 - e. A system for monitoring progress toward achievement of the regional goals; and
 - f. A process for correction of the techniques if monitoring indicates that the techniques are not achieving the regional goals.

5. The three identified regional problems are: (1) lack of a mechanism for coordinated regional growth planning; (2) loss of valuable farm and forest land caused by urban expansion; and (3) loss of community identity and developed goals and policies to address those problems.

The subsequent identified regional goals to address the problems are: (1) manage future regional growth for the greater public good; (2) conserve resource and open space lands for their important economic, cultural, and livability benefits; and (3)

recognize and emphasize the individual identity, unique features, and relative competitive advantages and disadvantages of each community within the region.

The Commission determines that the submittal demonstrates agreement among the participants as to regional goals to resolve the identified regional problems as required by *former* ORS 197.656(2)(b)(A).

6. The Participant's Agreement served as the platform for the formal public hearing process in Jackson County. Through the public hearing process, the participants came to agreement on modifications of many of the Regional Plan components in order to better resolve identified regional problems and better address the regional goals.
7. The optional techniques to achieve the regional goals included in the Regional Plan are:
 - a. Coordinated periodic review every 10 years;
 - b. Progress report on jurisdiction compliance with the Regional Plan every five years;
 - c. Population allocation adjustments as needed;
 - d. Increased collaboration on transportation items with the Rogue Valley Metropolitan Planning Organization; and
 - e. Greater collaboration with the Rogue Valley Council of Governments to meet the commitments made in the Regional Plan.

The Commission determines that the submittal demonstrates agreement among the participants as to optional techniques to achieve the regional goals to resolve the identified regional problems as required by *former* ORS 197.656(2)(b)(B).

8. The measurable performance indicators identified as necessary for the achievement of the Regional Plan, and as appropriate for monitoring compliance with the Regional Plan include, but are not limited to, the following:
 - a. Urban Reserve Management Agreements;
 - b. Commitment to achieve minimum residential densities and to develop in a mixed-use/pedestrian friendly form;
 - c. Preparation of conceptual land use and transportation plans to accompany all future UGB amendments;
 - d. Restrictions on particular Urban Reserve Areas;
 - e. Agricultural buffering standards;
 - f. Establishment of an Agricultural Task Force to assess impacts of UGB amendments on the agricultural economy of Jackson County.

The Commission determines that the submittal demonstrates agreement among the participants as to measurable indicators of performance and for monitoring progress toward achievement of regional goals to resolve the identified regional problems as required by *former* ORS 197.656(2)(b)(C) and (E).

9. The factors, mechanisms, or outcomes identified in the Regional Plan that constitute the most compelling reasons for participants to comply with the Regional Plan over the identified planning horizon are as follows:
 - a. Continued regional cooperation may improve the region's ability to respond to challenges and opportunities more effectively;
 - b. Adherence to the adopted Regional Plan may provide the region with a competitive advantage, increase the attractiveness of the region to long-term investment, and improve southern Oregon's profile in the state.
 - c. Adherence to the adopted Regional Plan may produce significant reductions in transportation infrastructure costs;
 - d. Adherence to the adopted Regional Plan will provide participating jurisdictions with predictable population allocations;
 - e. Adherence to the Regional plan may be a rating factor for MPO Transportation Funding. Transportation projects of jurisdictions not adhering to the adopted Regional Plan may be assigned a lower priority by the MPO when considered for funding.
 - f. Participating jurisdictions not adhering to the adopted Regional Plan will need to provide corrective measures in order to have a UGB amendment approved by the county.

The Commission determines that the submittal demonstrates agreement among the participants as to incentives and disincentives to encourage successful implementation of techniques to achieve the regional goals as required by *former* ORS 197.656(2)(b)(D).

10. The Regional Plan contains a monitoring system to ensure compliance with the Regional Plan and future amendments. The monitoring system includes a Regional Plan Progress Report, to be submitted every five years, that addresses compliance with the performance indicators. The Regional Plan also includes an option for coordinated periodic review every 10 years to provide the opportunity for the region to determine whether amendments to the Regional Plan are necessary.

The Commission determines that the submittal demonstrates agreement among the participants as to a system for monitoring progress toward achievement of regional goals as required by *former* ORS 197.656(2)(b)(E).

11. Corrective measures and plan adjustments were also made part of the Regional Plan. The corrective measures indicate that if a particular city is not satisfying the performance measures of the Regional Plan, the city shall propose corrective measures either as part of a Regional Plan Progress Report or as part of an UGB amendment package. Additional corrective measures address UGB measures into non-urban reserve land and future changes to land designations.

The Commission determines that the submittal demonstrates agreement among the participants as to a process for correction if monitoring indicates that the techniques are not achieving the regional goals as required by *former* ORS 197.656(2)(b)(F).

12. The purposes of the rules pertaining to urban reserve area designation and planning include interpretation and implementation of Goal 14, Urbanization: “To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.” In review of the Regional Plan, the Commission considered whether the outcome of the plan, notwithstanding any deviations from specific requirements found in any administrative rules, will satisfy this goal as required by *former* ORS 197.656(2)(c).
13. The requirements regarding the amount of land that may be designated as urban reserves are found in ORS 195.145 and OAR 660-021-0030(1). Urban reserves shall include at least a 10-year supply and no more than a 30-year supply of developable land beyond the 20-year supply provided within the UGB. The Regional Plan designates land for a period of 30 years beyond the 20-year UGB timeframe.
14. Regarding which lands are to be included in an urban reserve, OAR 660-021-0030(2) provides for the analysis methods and approach to identify suitable lands for consideration as urban reserves, and OAR 660-021-0030(3) establishes priorities for inclusion of identified suitable lands as urban reserves. Jackson County used the flexibility in application of administrative rules provided in ORS 197.656(2) regarding the process by which the urban reserves were selected. Sections 4.3.6.4 and 4.4.4 of Jackson County’s adopting ordinance state that the RPS process for selecting urban reserves differed from the urban reserve selection process prescribed by administrative rule, but that the outcome of the process was consistent, on the whole, with the purposes of the statewide planning goals. Sections 4.5.1 through 4.5.15 of Jackson County’s adopting ordinance outline how the applicable statewide planning goals were met.

Chapter 3 of the Regional Plan explains in detail how this selection process took place and, in section 5, how the region's process compares with the administrative rule selection process. The selection of urban reserves by the participating cities and the county was an iterative process whereby the region, prior to determining the region's land needs, first chose to agree on a planning horizon and then to allocate population. Once population was allocated, the region utilized multiple committees to select the urban reserves rather than employing strict adherence to the criteria in OAR 660-021-0030. The region's land needs were calculated once the candidate urban reserve areas were selected.

The sequencing of these events differed from the sequencing outlined in administrative rule and may have resulted in an outcome that was not identical to those that would have been derived from strict adherence to applicable administrative rules. However, the final selection of urban reserves employed consideration of the Goal 14 location factors as required by OAR 660-021-0030(2).

15. The process employed by the participating jurisdictions in establishing urban reserves though not conforming in all respects with applicable administrative rules, resulted in designation of urban reserves that will provide for an orderly and efficient transition from rural to urban land use, accommodate urban population and urban employment inside urban growth boundaries, ensure efficient use of land, and provide for livable communities.
16. Planning and zoning of the lands within the established urban reserves must be consistent with OAR 660-021-0040. The Regional Plan and implementing codes do not rely on the flexibility provided by ORS 197.656(2), and instead comply with the requirements of the administrative rule. To ensure that development and land divisions will not hinder the efficient transition to urban land uses and the orderly and efficient provision of urban services, the Regional Plan contains land division restrictions requiring clustering of development, minimum parcel sizes, and consistency with any adopted conceptual land use and transportation plans.

B. Conclusion

Based on the director's report and oral presentation, the Commission concludes that the Greater Bear Creek Valley Regional Plan submittal satisfies the requirements of *former* ORS 197.652 to 197.658 and complies with statewide planning goals.

THEREFORE, IT IS ORDERED THAT:

The Commission approves the submittal by Jackson County and the Cities of Ashland, Central Point, Eagle Point, Medford, Phoenix, and Talent as being in compliance with the statewide planning goals.

DATED THIS 7 DAY OF MARCH 2013.

FOR THE COMMISSION:



Jim Rue, Director
Department of Land Conservation
and Development

NOTE: Judicial review of this order may be obtained by filing a petition for review within 21 days from the service of this final order. Judicial review is pursuant to the provisions of ORS 197.650 and ORS 197.651.

RESOLUTION NO. 1514

A RESOLUTION By the City of Medford By and Through its Board of Water Commissioners (Board), Declaring Surplus Property and Authorizing the Chair to Execute a Declaration of Covenants and Restrictions and Access Easement on that Certain Real Property Situated in Jackson County, Oregon, Known as the Duff II Mitigation Property, for Conservation Purposes, and Adopting the Long-Term Management and Maintenance Plan for Medford Water Commission's Vernal Pool Preserve

WHEREAS, the Medford Charter of 1998, Chapter V, Section 19, describes the Powers and Duties of Officers of the City of Medford; and

WHEREAS, Medford Charter Chapter V, Section 19, Subsection 2, Paragraph (a) declares:

"The board of water commissioners, in the name of the city of Medford, shall have full power and authority * * * to acquire by purchase, gift or eminent domain any and all real and personal property of every kind and character including real property, water rights, rights-of-way and all other property rights, which it may find to be necessary or convenient for the carrying out of its powers hereunder, and to possess and to use the said property and property rights for said purposes and to dispose of such as it may from time to time find to be surplus to the needs of the city water system."; and

WHEREAS, the Board has created a long-range plan for the provision of water to the City of Medford and such long-range plan, including the Declaration of Covenants and Restrictions and Access Easement, has been communicated to the City Council of the City of Medford with no objection; and

WHEREAS, the Board's long-range plan includes expansion of the City of Medford's Robert A. Duff Water Treatment Plant (Duff WTP), including but not limited to the Duff II expansion, and said expansion of Duff WTP required acquisition of property in the area of Jackson County identified as having vernal pools to the extent expansion of Duff WTP would require the Board to engage in vernal pool mitigation actions; and

WHEREAS, the Board has, by Resolution No. 1464, of November 16, 2011, authorized and executed the purchase of a parcel of land described more fully in Exhibit A (the Property) for vernal pool mitigation and Medford Water Commission (Commission) staff has applied for a fill and removal permit that requires mitigation; and

WHEREAS, the Board desires and intends to provide for the perpetual protection and conservation of the vernal pool functions and values of the Property, and for the management of the Property and improvements thereon, and to this end desires to subject the Property to the covenants, restriction, easements and other encumbrances hereafter set forth, each and all of which is and are for the benefit of the Property; and

WHEREAS, this Duff II mitigation property will be referred to as the Medford Water Commission's Vernal Pool Preserve; and

WHEREAS, the Board finds it necessary and convenient to place a Declaration of Covenants on the Property as part of a vernal pool mitigation plan that will allow the continued expansion of the Duff WTP per the long-range plan; and

WHEREAS, the Board declares the real property rights described in the Declaration of Covenants and Restrictions and Access Easement, as more particularly described in Exhibit B, on the Property to be a Charter-authorized use of the Property for carrying out its powers under said Charter; and

WHEREAS, in the alternative, without waiving the above, the Board declares the real property rights described in the Declaration of Covenants and Restrictions and Access Easement, to the extent they constitute a disposal of such property, to be surplus to the needs of the city water system; and

WHEREAS, the action contemplated by this Resolution have been communicated to the City Council of the City of Medford without objection; and

WHEREAS, the Board has designated the Property as a compensatory mitigation site in accordance with the Removal-Fill Permit Number 48143-RF, as approved by Oregon Department of State Lands (DSL), and the US Army Corps of Engineers' (ACOE's) Removal-Fill Permit Number NWP-2008-726/2; and

WHEREAS, DSL has accepted the mitigation plan for the property under ORS 196.800, et seq.; and

WHEREAS, Commission staff has completed a Long-Term Management and Maintenance Plan, under which the Vernal Pool Preserve will be managed in perpetuity, which has been preliminarily approved by DSL as attached as Exhibit C, and which may from time-to-time require amendment; and

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF WATER COMMISSIONERS OF THE CITY OF MEDFORD, OREGON, AS FOLLOWS:

SECTION 1: That the Chair, acting for the City of Medford, By and Through its Board of Water Commissioners, is hereby authorized to Execute a Declaration of Covenants and Restrictions and Access Easement on that Certain Real Property Situated in Jackson County, Oregon, Known as the Duff II Mitigation Property, Further Described as 362W24 Tax Lot 307 and 362W23 Tax Lot 106, for Conservation Purposes.

SECTION 2: That the City of Medford, by and through the Board of Water Commissioners, as owner of the Property, for itself, its heirs, executors, administrators, successors and assigns, hereby declares that the Property is held and hereafter shall be conveyed, subject to covenants, rights, reservations, limitations, and restrictions as described in the attached Exhibit B, Declaration of Covenants and Restrictions and Access Easement.

SECTION 3: That the City of Medford By and Through its Board of Water Commissioners hereby adopts the Long-Term Management and Maintenance Plan for the Vernal Pool Preserve, attached as Exhibit C, and authorizes the Manager or his designee to amend the Plan with the DSL and/or other agencies as may be required from time-to-time.

PASSED at a regular meeting of the Board of Water Commissioners of the City of Medford, Oregon, and signed by me in authentication of its passage thereof this 20th day of March 2013.

ATTEST: _____
Karen Spoons, Deputy City Recorder

Jason Anderson, Chair

EXHIBIT A to Resolution No. 1514 – Page 1 of 2

EXHIBIT A - Legal Description Page 1 of 1

Tax Lot 106 (T36S, R2W, Sec 23)

Tax Lot 307 (T36S, R2W, Sec 24)

Pariani Land Surveying-JRP
February 28, 2013

A parcel of land lying in the NE1/4 of Section 23 and the NW1/4 of Section 24, Township 36 South, Range 2 West, Willamette Meridian, Jackson County, Oregon and being a portion of that certain tract of land described in Instrument Number 2012-003513 of the Official Records of Jackson County, Oregon described as Tract 1 of that Map of Survey recorded as filed survey number 21023 on February 16, 2012 at the Jackson County Surveyor's office; the said parcel being that portion of said property described as follows (The graphic depiction is shown on Figure No. 3.32 attached hereto):

Commencing at a 2-1/2 inch diameter brass cap marking the one-quarter corner common to said Sections 23 and 24; thence North 00°05'53" West, along the line common to said Sections 23 and 24, 963.55 feet; thence leaving said section line, North 84°31'29" East, 109.68 feet to the **True Point of Beginning**; thence South 84°31'29" West, 1385.00 feet to a point on the easterly right of way line of Antelope Road, also being a point on the westerly boundary of said Tract 1; thence with said easterly right of way line, along a 1960.00 foot radius curve to the right (the long chord of which bears North 31°53'28" West, 556.59 feet) 558.48 feet; thence continuing along said right of way line, North 23°43'42" West, 215.38 feet to a point 20.00 feet southerly of the northerly line of said Tract 1, when measured at right angles, said point also coincident with the southerly line of water line easement per Instrument No. 1993-004095 of the Official Records of Jackson County; thence leaving said right of way line, North 79°47'09" East and with said southerly easement line 2163.15 feet to a point on the easterly line of said Tract 1; thence South 18°23'46" East, leaving said easement line and along easterly line of said Tract 1, 557.64 feet to the southeasterly corner thereof; thence South 81°22'59" West, continuing along the southerly line of said Tract 1, 581.56 feet; thence South 05°32'19" East 306.37 feet to the point of beginning.

This parcel of land contains 34.11 acres, more or less.

REGISTERED
PROFESSIONAL
LAND SURVEYOR



OREGON
JULY 13, 1999
JOHN R. PARIANI
#51382

Renews: December 31, 2014

EXHIBIT A to Resolution No. 1514 - Page 2 of 2

MAP OF SURVEY

A PRELIMINARY REPORT OF SURVEY... PREPARED FOR: NEPFORD WATER COMMISSION

NEPFORD WATER COMMISSION
C/O Eric Adams
300 Main Street
Medford, Oregon 97504

MATTERS OF RECORD:

PERMANENT TO A REPORT PREPARED BY A LOCAL TITLER... THE MATTER OF RECORD WITH THE BOUNDARIES OF THE... RECORDS IN INSTRUMENT NUMBER 92-10200 OF THE OFFICIAL RECORDS OF JACKSON COUNTY, OREGON.

LEGEND:

- ① Indicates a 5/8" x 3/4" diameter iron pin 7/8" high...
② Indicates a found 3/8" x 3/8" diameter iron pin with plastic cap...
③ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
④ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
⑤ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
⑥ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
⑦ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
⑧ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
⑨ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...
⑩ Indicates a found 5/8" x 3/4" diameter iron pin with plastic cap...

APPROVALS: JACKSON COUNTY DEVELOPMENT SERVICES FILE NUMBER 200-250-00011 2/16/12 Charles Banks II DATE SIGNED APPROVAL SIGNATURE

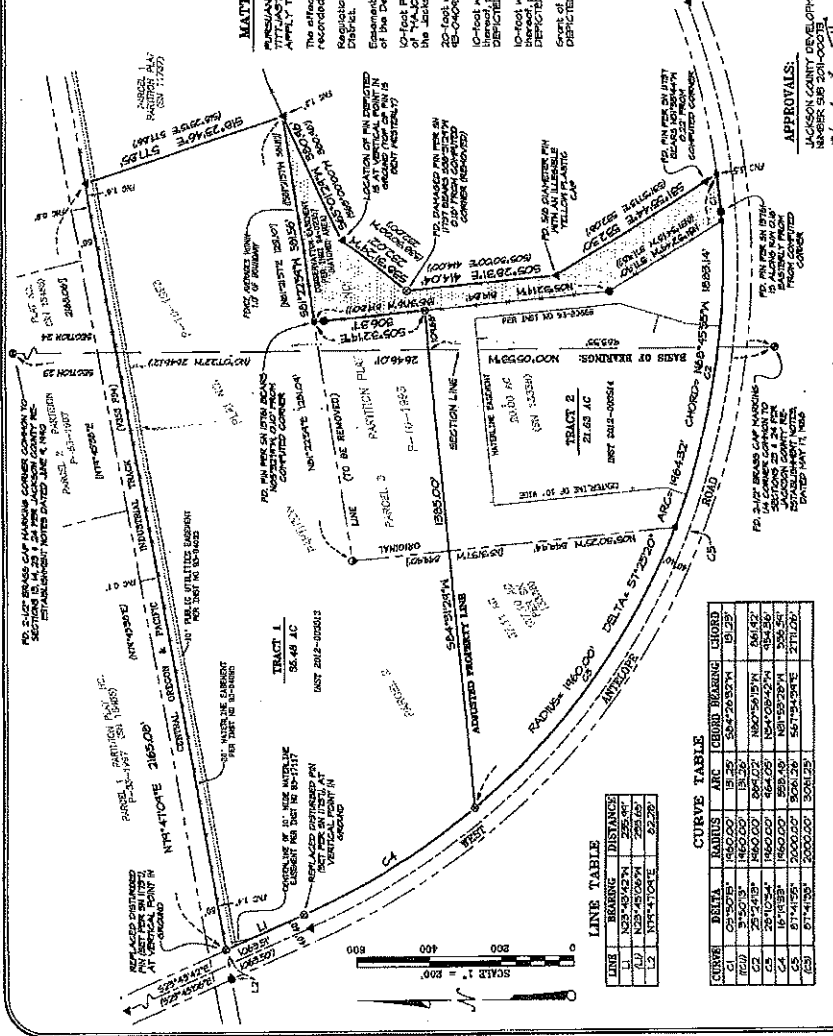
BASIS OF BEARINGS:

Beings North referenced to NAD83 (11) the North American Datum of 1983... Bearings taken from the official records of Jackson County, Oregon.

REGISTERED MAP OF LAND SURVEYOR JUL 8, 2001 DANIEL E. KEATUMER

APPROVED: DANIEL E. KEATUMER JACSON COUNTY SURVEYOR

PREPARED BY: Neathamer Surveying, Inc. 3126 State St, Suite 203 P.O. Box 1584 Medford, Oregon 97501 Phone (541) 782-8889 FAX (541) 735-1382 PLOT DATE: February 14, 2012 PROJECT NUMBER: 10003-J Sheet: 1 of 1



LINE TABLE

Table with columns: LINE, BEARING, DISTANCE. Rows: L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21, L22, L23, L24, L25, L26, L27, L28, L29, L30, L31, L32, L33, L34, L35, L36, L37, L38, L39, L40, L41, L42, L43, L44, L45, L46, L47, L48, L49, L50, L51, L52, L53, L54, L55, L56, L57, L58, L59, L60, L61, L62, L63, L64, L65, L66, L67, L68, L69, L70, L71, L72, L73, L74, L75, L76, L77, L78, L79, L80, L81, L82, L83, L84, L85, L86, L87, L88, L89, L90, L91, L92, L93, L94, L95, L96, L97, L98, L99, L100.

CURVE TABLE

Table with columns: CURVE, BEARING, RADIUS, ARC, CHORD BEARING, CHORD. Rows: C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100.

SURVEY NARRATIVE TO COMPLY WITH PARAGRAPH 200.250, OREGON REVISED STATUTES

BEFORE, Present to Office... and the Matter of 6647... The Jackson County Development Services... The Matter of 6647... The Jackson County Development Services... The Matter of 6647... The Jackson County Development Services...

EXHIBIT B to Resolution No. 1514

After recording, return to:

Recorder's Stamp:

Medford Water Commission

Attn: Bob Jones

200 South Ivy St.

Medford, OR 97501

**DECLARATION OF COVENANTS AND RESTRICTIONS and
ACCESS EASEMENT
FOR THE
MEDFORD WATER COMMISSION'S VERNAL POOL PRESERVE,
CORPS PERMIT #NWP-2008-726/2, DSL PERMIT # 48143-RF**

THIS DECLARATION is made by The City of Medford, by and through its Board of Water Commissioners, ("Declarant").

RECITALS

1. Declarant is the owner of the real property described in Exhibit "A," attached hereto and by this reference incorporated herein (the "Property"), and has designated the Property as a compensatory mitigation site in accordance with Removal-Fill Permit # 48143-RF(the "DSL Permit") approved by the Oregon Department of State Lands ("Department"), and the Department of the Army permit #NWP-2008-726/2 ("Corps permit") approved by the US Army Corps of Engineers ("Corps").
2. Declarant desires and intends to provide for the perpetual protection and conservation of the vernal pool functions and values of the Property and for the management of the Property and improvements thereon, and to this end desires to subject the Property to the covenants, restrictions, easements and other encumbrances hereinafter set forth, each and all of which is and are for the benefit of the Property;
3. The Department has accepted the mitigation plan for the Property under ORS 196.800 et seq, and the Corps has likewise accepted the mitigation plan under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act.

ARTICLE 1 DEFINITIONS

1.1 “Declaration” shall mean the covenants, restrictions, easement, and all other provisions set forth in the Declaration of Covenants and Restrictions.

1.2 “Declarant” shall mean and refer to The City of Medford, by and through its Board of Water Commissioners, the owner of the Property, and the owner’s heirs, successors, and assigns.

1.3 “DSL permit” shall mean the final document approved by the Department that includes the mitigation plan and which formally establishes the mitigation site and stipulates the terms and conditions of its construction, operation and long-term management. A copy of the DSL permit may be obtained at the Department of State Lands, 775 Summer St. NE, Salem, OR 97301; phone 503-986-5200.

1.4 “Corps permit” shall mean the final document approved and issued by the Corps which includes the mitigation plan describing where and how the compensatory mitigation will be completed, monitored, managed, and maintained. A copy of the Corps permit associated with this Declaration may be obtained at the office of the US Army Corps of Engineers, Regulatory Branch, 333 SW First Ave., Portland, OR 97208; Phone 503-808-4373.

1.5 “Property” shall mean and refer to all real property subject to this Declaration, as more particularly set forth in Exhibit “A.”

ARTICLE 2 PROPERTY SUBJECT TO THIS DECLARATION

The Property described in Exhibit A is and shall be held, transferred, sold, conveyed and occupied subject to this Declaration. *Exhibit “A” is a surveyed legal description, and map illustrating the specific area subject to this Declaration. The map legend indicates the approximate locations of wetlands, streams, any existing structures such as roads, utility lines, or stormwater treatment features, and any easements located within or across the Property.*

ARTICLE 3 DECLARANT REPRESENTATIONS

Declarant represents and warrants that after reasonable investigation, and to the best of its knowledge, that no hazardous materials or contaminants are present that conflict with the conservation purposes intended; that the Property is in compliance with all federal state, and local laws, regulations, and permits; that there is no pending litigation affecting, involving, or relating to the Property that would conflict with the intended conservation use; and that the Property is free and clear of any and all liens, claims, restrictions, easements and encumbrances that would interfere with the ability to protect and conserve the Property.

ARTICLE 4 GENERAL DECLARATION

Declarant, in order to discharge in part its obligations under the DSL permit and the Corps permit, declares that the Property shall be held, transferred, sold, conveyed and occupied subject to the covenants, restrictions, easements and other encumbrances in this Declaration, in order that it shall remain substantially in its restored, enhanced, preserved, open and natural condition, in perpetuity. The terms and conditions of this Declaration shall be both implicitly and explicitly included in any subsequent transfer, conveyance, or encumbrance affecting all or any part of the Property. **No modification or release of this Declaration will be effective unless authorized in writing by the Department and by the Corps. Any amendments must be signed by the Department and must be recorded in the official records of the county in which the Property is located.**

ARTICLE 5 USE RESTRICTIONS, MANAGEMENT RESPONSIBILITIES, AND RESERVED RIGHTS

Declarant is subject to any and all easements, covenants and restrictions of record affecting the Property.

A. USE RESTRICTIONS. Except as necessary to conduct, remediate or maintain the Property consistent with the DSL permit and the Corps permit, the actions prohibited by this covenant include:

1. There shall be no removal, destruction, cutting, trimming, mowing, alteration or spraying with biocides of any native vegetation in the Property, nor any disturbance or change in the natural habitat of the Property unless it promotes the mitigation goals and objectives established for the Property. Hazard trees that pose a specific threat to existing structures including fences or pedestrian trails may be felled and left on site. Dry grass only may be mowed after May 15 to abate fire hazard.
2. There shall be no agricultural, commercial, or industrial activity undertaken or allowed in the Property; nor shall any right of passage across or upon the Property be allowed or granted if that right of passage is used in conjunction with agricultural, commercial or industrial activity.
3. No domestic animals shall be allowed to dwell on the Property. Grazing is allowed when consistent with the long term management plan approved by the Department of State Lands and the US Army Corps of Engineers.
4. There shall be no filling, excavating, dredging, mining or drilling; no removal of topsoil, sand, gravel, rock minerals or other materials, nor any storage nor dumping of ashes, trash, garbage, or of any other material, and no changing of the topography of the land of the Property in any manner once the wetlands are constructed unless approved in writing by the Department and by the Corps.
5. There shall be no construction or placing of buildings, mobile homes, advertising signs, billboards or other advertising material, vehicles or other structures on the Property.
6. There shall be no legal or de facto division, subdivision or partitioning of the protected Property.
7. Use of motorized off-road vehicles is prohibited except on existing roadways or for use in the management activities of the Long-Term Management and Maintenance Plan.

B. MANAGEMENT RESPONSIBILITIES. Declarant shall take all reasonable action to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the mitigation purposes of the Property or that are otherwise inconsistent with this Declaration.

C. RESERVED RIGHTS. Declarant reserves all other rights accruing from Declarant's ownership of the Property including but not limited to the exclusive possession of the Property,

the right to transfer or assign Declarant's interest in the same; the right to take action necessary to prevent erosion on the Property, to protect the Property from losing its vernal pool functions and values, or to protect public health or safety; and the right to use the Property in any manner not prohibited by this Declaration and which would not defeat or diminish the conservation purpose of this Declaration.

The Declarant specifically reserves the right to use the Property for the purposes of education and research, which reserved rights are deemed to be consistent with the purposes enumerated in the permit.

ARTICLE 6

EASEMENT (RIGHT OF ENTRY)

Declarant hereby grants to the Department an easement and right of entry on the Property for the purpose of physically accessing the Property at all reasonable times to inspect the Property in order to monitor and to ascertain whether there has been compliance with this Declaration and the DSL permit. In the event that the Property lacks access via a public road or other common area, Declarant grants to the Department an easement over and across any other property of Declarant, the use of which is necessary to access the Property. The Declarant hereby grants to the Corps a right of entry to ascertain compliance with the Corps permit and this Declaration.

ARTICLE 7

GENERAL PROVISIONS

A. NOTICE. The Department and the Corps shall be provided with a 60-day advance written notice of any legal action concerning this Declaration, or of any action to extinguish, void or modify this Declaration, in whole or in part. This Declaration, and the covenants, restrictions, easements and other encumbrances contained herein, are intended to survive foreclosure, tax sales, bankruptcy proceedings, zoning changes, adverse possession, abandonment, condemnation and similar doctrines or judgments affecting the Property. A copy of this recorded Declaration shall accompany said notice.

B. VALIDITY. If any provision of this Declaration, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Declaration, or the application of such provisions to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.

IN WITNESS WHEREOF, the undersigned being Declarant herein, has executed this instrument this _____ day of _____, 20_____.

City of Medford, by and through its Board of Water Commissioners
Jackson County, Oregon

By: _____
Title: _____

STATE OF OREGON)
)
County of Jackson)

ss:

This instrument was acknowledged before me on _____ (date) by _____ (name of person) as _____ (title) of Applicant firm's name of Jackson County, Oregon.

Signature of Notarial Officer
My Commission Expires: _____

GRANTEE: The State of Oregon, Department of State Lands, approves Declarant's conveyance of an easement in favor of the Department.

By: _____
Title: _____
Date: _____

Attachment:
Exhibit A, legal description and labeled map of the Property

EXHIBIT A - Legal Description Page 1 of 1

Tax Lot 106 (T36S, R2W, Sec 23)

Tax Lot 307 (T36S, R2W, Sec 24)

Pariani Land Surveying-JRP

February 28, 2013

A parcel of land lying in the NE1/4 of Section 23 and the NW1/4 of Section 24, Township 36 South, Range 2 West, Willamette Meridian, Jackson County, Oregon and being a portion of that certain tract of land described in Instrument Number 2012-003513 of the Official Records of Jackson County, Oregon described as Tract 1 of that Map of Survey recorded as filed survey number 21023 on February 16, 2012 at the Jackson County Surveyor's office; the said parcel being that portion of said property described as follows (The graphic depiction is shown on Figure No. 3.32 attached hereto):

Commencing at a 2-1/2 inch diameter brass cap marking the one-quarter corner common to said Sections 23 and 24; thence North 00°05'53" West, along the line common to said Sections 23 and 24, 963.55 feet; thence leaving said section line, North 84°31'29" East, 109.68 feet to the **True Point of Beginning**; thence South 84°31'29" West, 1385.00 feet to a point on the easterly right of way line of Antelope Road, also being a point on the westerly boundary of said Tract 1; thence with said easterly right of way line, along a 1960.00 foot radius curve to the right (the long chord of which bears North 31°53'28" West, 556.59 feet) 558.48 feet; thence continuing along said right of way line, North 23°43'42" West, 215.38 feet to a point 20.00 feet southerly of the northerly line of said Tract 1, when measured at right angles, said point also coincident with the southerly line of water line easement per Instrument No. 1993-004095 of the Official Records of Jackson County; thence leaving said right of way line, North 79°47'09" East and with said southerly easement line 2163.15 feet to a point on the easterly line of said Tract 1; thence South 18°23'46" East, leaving said easement line and along easterly line of said Tract 1, 557.64 feet to the southeasterly corner thereof; thence South 81°22'59" West, continuing along the southerly line of said Tract 1, 581.56 feet; thence South 05°32'19" East 306.37 feet to the point of beginning.

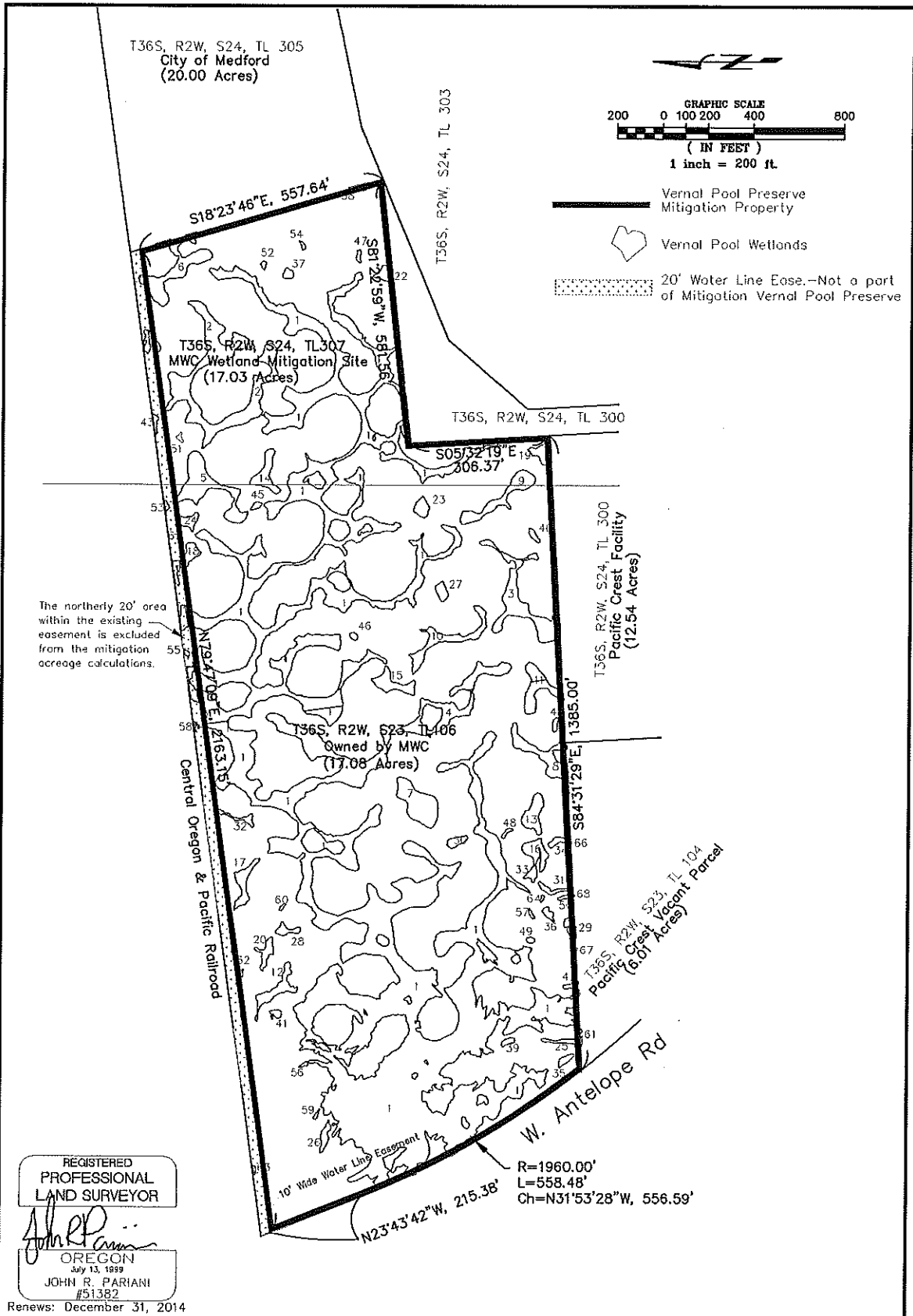
This parcel of land contains 34.11 acres, more or less.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

John R. Pariani

OREGON
JULY 13, 1999
JOHN R. PARIANI
#51382

Renews: December 31, 2014



REGISTERED
PROFESSIONAL
LAND SURVEYOR

John R. Pariani

OREGON
July 13, 1899

JOHN R. PARIANI
#51382

Renews: December 31, 2014

March 6, 2013 Figure No. 3.33	Vernal Pool Preserve Mitigation Site	Northwest Biological Consulting Habitat Restoration, Environmental Planning CA Engineering Contractor OR General Contractor 324 Terrace St. P.O. Box 671 nwbiolog.com Ashland, OR 97520 Ph/Fax (541) 488-1061	Pariani Land Surveying 541-890-1131
	Medford Water Commission		Revision: Revision: File: PACIFICCRESTTOPO.DWG Job: 2010-054
	541.774.2430		

APPENDIX J
MEDFORD WATER COMMISSION

Mitigation Vernal Pool Preserve
Long-Term Management and Maintenance Plan

DSL No. 48143- RF and Corps No. NWP-2008-726/2



March, 2013

Prepared by:
Northwest Biological Consulting
324 Terrace Street
Ashland, OR 97520

On behalf of:
Medford Water Commission
200 South Ivy Street
Room 177
Medford, OR 97501

Reviewed by:
Preserve Manager
Medford Water Commission
200 South Ivy Street
Room 177
Medford, OR 97501

Bob Jones, Preserve Manager

Date

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Section 1. Introduction

The Long-Term Management Plan (LTMP) provides the outline for the long-term management of the Medford Water Commission's (MWC) vernal pool preserve (Preserve) in Jackson County, Oregon. This document is intended to partially satisfy permit conditions of the U.S. Army Corps of Engineers (ACE) and the Oregon Department of State Lands (DSL). The LTMP relies primarily upon the guidance provided in the January 2011 Vernal Pool Biological Opinion document, and outlines the establishment of the Preserve and prescribes measures for the protection, preservation, and maintenance of the sensitive biological resources it contains, including vernal pool habitat and associated T&E species. The primary goals of the LTMP are to:

- protect existing native flora and fauna populations,
- promote natural processes,
- protect wetland function,
- buffer land uses, and
- protect vernal pool habitat for the federally listed species known to occur on the project site: vernal pool fairy shrimp (*Branchinecta lynchi*) and large-flowered wooly meadowfoam (*Limnanthes floccose* ssp. *grandiflora*).

1.1 Legal Description and Location of the Medford Water Commission Vernal Pool Preserve

The Preserve is currently composed of two tax lots. Jackson County Tax Assessor legal description is as follows:

Map 362W23 Tax Lot 106 (27.43 acres) Owner: City of Medford; and

Map 362W24 Tax Lot 307 (8.05 acres) Owner: City of Medford

The Preserve is found on the Sam's Valley, Oregon U.S. Geological Survey quadrangle map, in Township 36S, Range 2W, Sections 23 & 24, Willamette Base Meridian [Latitude 42° 25' 45" North by Longitude 122° 53' 46" West (Datum NAD 83)]. The elevation is approximately 1,260 feet above mean sea level. The Medford Water Commission Vernal Pool Preserve is located north of the Pacific Crest Transformers building at 300 West Antelope Road, White City. The site is bounded by railroad tracks to the north, undeveloped parcel Map 362W24 Taxlot 305 owned by the City of Medford to the west, the 53-acre Nature Conservancy (TNC) vernal pool preserve to the southwest, and the Pacific Crest Transformer building to the south. The Medford Water Commission Preserve (34.11 acres), combined with the adjacent TNC 53.00 acre preserve totals 87.11 acres of preserved vernal pool habitat. The TNC preserve includes their ownership of 49.42 acres and conservation easement on Pacific Crest Ransformer property of 3.58 acres.

1.2 Environmental Setting of the Medford Water Commission Vernal Pool Preserve

The Preserve is undeveloped grassland that is zoned general industrial (GI), and has been un-grazed since 1986. The grassland contains vernal pools, swales, and upland forming a complex that is unique to the Rogue Valley. The current project under DSL File number 48143-RF will require 17.03 acres of the Preserve 's total 34.11 acres. Preserve is fenced and available to the MWC for future vernal pool mitigation as the need arises (Figure 1).

1.2.1 Topography and Soils

The undulating mound-swale topography of the Preserve is underlain by a hardpan layer (duripan) which is a component of the Agate-Winlo soil complex. The elevation within the Preserve varies from approximately 1,250 feet in the southeastern corner to 1,240 feet above mean sea level (MSL) on the western edge of the site.

1.2.2 Vegetation Communities

The upland portions the Preserve are dominated by non-native grassland species including red-stemmed filaree (*Erodium cicutarium*), hare barley (*Hordeum murinum*), smooth cat's-ear (*Hypochaeris glabra*), wild lettuce (*Lactuca* sp.), bulbous bluegrass (*Poa bulbosa*), chickweed (*Stellaria media*), and medusahead (*Taeniatherum caput-medusae*). Native upland plants that are abundant include blow wives (*Achyrrachaena mollis*), bicolored linanthus (*Linanthus bicolor*), hog fennel (*Lomatium utriculatum*), miniature lupine (*Lupinus bicolor*), rusty popcorn flower (*Plagiobothrys nothofulvus*), and plectritis (*Plectritis* sp.).

Vernal pools and swales occur throughout the Preserve and are dominated by native grassland species including Pacific foxtail (*Alopecurus saccatus*), water-starwort (*Callitriche marginata*), Cascade downingia (*Downingia yina*), common spikerush (*Eleocharis macrostachya*), goldfields (*Lasthenia californica*), woolly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*), water chickweed (*Montia fontana*), white-headed navarretia (*Navarretia leucocephala*), stalked popcorn flower (*Plagiobothrys stipitatus*), and vernal pool buttercup (*Ranunculus bonariensis* var. *trisepalus*). Several non-natives abundant in the vernal pools are Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Italian ryegrass (*Lolium multiflorum*), annual blue grass (*Poa annua*), and purslane speedwell (*Veronica peregrin*ssp. *xalapensis*).

1.2.3 Federally Listed Species

The botanical survey of the Preserve conducted on April 11 and May 5, 2011 detected multiple occurrences of approximately 175 individual large-flowered woolly meadowfoam (*Limnanthes floccose* ssp. *grandiflora*), a state and federally endangered plant. A separate biological survey conducted on February 10, 2011 detected the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) in 4 vernal pool features.

Section 2. Objective and Goals of the LTMP

The objective of the LTMP is to ensure that the vernal pool wetlands and upland habitats within the Preserve are maintained in perpetuity at their present condition or better. This includes, but is not limited to, ensuring that the Preserve continues to support the vernal pool habitat and federally listed species it is intended to protect.

In order to obtain this objective, it is necessary to establish the parties responsible for LTMP implementation, operation and management guidelines, performance thresholds, remedial/management procedures, adaptive management options, and financial assurances. To meet the LTMP objective, the following goals are established:

Goal 1

Identify the parties responsible for implementation of the LTMP and long-term management of the Preserve. Outline the responsibilities of personnel charged with LTMP implementation.

Goal 2

Identify adaptive management procedures and guidelines.

Goal 3

Identify measures to protect the integrity of the Preserve during activities associated with habitat restoration/enhancement. Identify the parties responsible for implementation of these measures. Identify monitoring and reporting requirements to ensure that these measures are successfully implemented.

Goal 4

Identify the technical aspects of long-term operation and maintenance of the Preserve, the allowed uses, prohibitions and restrictions, and management activities required for the Preserve. Maintain the Preserve in its present condition and limit human access and disturbance within this area. Protect the Preserve from the effects of adjacent land uses that may adversely impact the Preserve.

Goal 5

Identify the funding mechanism of the LTMP, supported by cost estimates for proposed management activities, and identify financial assurances.

2.1 Parties Responsible for LTMP Implementation

The Preserve Manager and Monitoring Biologist(s) are the primary personnel that will oversee, monitor, and coordinate the management of the Preserve. The responsibilities of these personnel are outlined below.

2.1.1 Preserve Manager

The Preserve Manager is a staff member of the Medford Water Commission (MWC). The Preserve Manager will oversee, monitor, and coordinate the management of the Preserve pursuant to the LTMP.

The responsibilities of the Preserve Manager include, but are not limited to:

- Implementation of the LTMP and meeting the LTMP objectives;
- Monitoring and seeking correction for adverse impacts on the Preserve from adjacent land uses;
- Coordinating monitoring and reporting of conditions within the Preserve as required by the LTMP;
- Assuring that all structures within the Preserve (e.g. gates, fencing, signage) are adequate and maintained;
- Coordinating trash removal within the Preserve;
- Coordinating thatch or non-native (exotic) plant management within the Preserve;
- Ensuring implementation of remedial actions required to maintain the integrity of the Preserve;
- Maintaining a file for the Preserve. This file shall contain a record of management, inspection, maintenance, financial, and regulatory items associated with management of the Preserve.

2.1.2 Monitoring Biologist(s)

The Preserve Manager shall retain professional biologists, botanists, wetland scientists, or other qualified specialists to conduct technical tasks required to implement the LTMP. At a minimum there shall be at least one Monitoring Biologist. All Monitoring Biologist(s) shall be knowledgeable of Vernal Pool flora and fauna, seasonal wetland habitats, and the ecology of the federally listed and other sensitive species present within the Preserve.

The responsibilities of the Monitoring Biologist(s) include, but are not limited to:

- Conducting biological inspections and studies to evaluate and monitor the conditions within the Preserve;
- Prepare reports or other documentation of the biological evaluations and provide recommendations to the Preserve Manager.

2.1.3 Changes in Personnel

If the Preserve Manager or the Monitoring Biologist(s) are changed, the outgoing and incoming personnel will tour the Preserve together, and the former will advise the latter of trends, problem areas, and any administrative difficulties. The DSL, FWS and COE will be notified of any changes in responsible parties.

Section 3. Adaptive Management

In preparing a management plan for habitat to be preserved in perpetuity, it must be acknowledged that there will undoubtedly be advances in habitat and species management that may affect how the plan goals are met. This LTMP can only provide guidance for adopting new technologies or practices as they are developed. Ultimately, the Preserve Manager, in coordination with the Monitoring Biologist and the Responsible Agencies, must determine the appropriate management decision for a given situation. The following management strategies, approved uses, and restrictions are intended to provide a framework for the long-term management and operation of the vernal pool preserve. Before considering any management action not described herein, the Preserve Manager must receive written approval from the FWS, DSL, and COE before adopting the new techniques not described herein.

Section 4. Protective Measures during Ground Disturbing Activities

Any ground-disturbing activities that may occur within the Preserve would be for habitat restoration, enhancement and / or maintenance . Documents prepared for such activities shall include measures to protect the sensitive vernal pool features within and outside of the ground-disturbing footprint. The protective measures shall include but may not be limited to:

- Limit disturbance to the minimum area practicable and restrict encroachment on any vernal pool habitat occupied by federally listed species (e.g., large flowered woolly meadowfoam or vernal pool fairy shrimp).
- The limits of the ground disturbance area must be delineated using high visibility construction fencing.

- An assessment of effects on federally listed species shall be conducted prior to any ground-disturbing activities within 300 feet of areas occupied by federally listed species. If any adverse effects on federally listed species are anticipated, authorization from the Responsible Agencies must be obtained prior to the disturbance.
- The Preserve Manager and/or Monitoring Biologist must attend pre-construction meetings with the Agencies and monitor activities. Contractors conducting the activities must be knowledgeable on the location of sensitive habitats and prevent inadvertent impacts to such areas from occurring.
- The Preserve Manager and/or Monitoring Biologist shall incorporate post-construction inspections and provide written notification to the agencies, when unanticipated post-construction remediation is needed.

Section 5. Operation and Management Guidelines

The following management guidelines, approved uses, and restrictions are intended to provide a framework for the long-term operation and management of the Preserve. Before considering any management action, the Preserve Manager must first consider the LTMP objective. The LTMP objective is to ensure that the wetland and upland habitats within the Preserve are maintained in perpetuity at their present condition or better; and the Preserve continues to support vernal pool fairy shrimp and large-flowered wooly meadowfoam. It is acknowledged that the LTMP cannot anticipate all possible future conditions. Therefore, if a condition arises which is not specifically addressed by the LTMP, the Preserve Manager may upon review and approval by qualified biologist(s), adopt techniques not described here. Please note that some techniques may require regulatory approvals prior to implementation.

The operations or activities of this long-term management plan will be conducted at various time intervals and will change according time-interval of long –term plan. Some activities will be conducted annually in perpetuity, some will be conducted every five years through year 20 and then every 10 year in perpetuity.

5.1 Limit Access to the Preserve

The objective of the LTMP is to maintain the habitats within the Preserve in perpetuity. Limiting access to the Preserve will further this goal. The Preserve will not be open to the public. Supervised access to the Preserve for educational or habitat restoration activities are allowed.

Permanent access to the Preserve shall be through a gate located at the northwest corner of the MWC property, along West Antelope road (Figure 1). There is no parking available on the Preserve.

Vehicular access within the Preserve shall be prohibited, with the exception of vehicles needed for restoration/maintenance activities (ATVs with water tanks used in prescribe burns) and emergency or law enforcement situations. Vehicles access will be restricted to the upland mounds to the greatest

extent possible. Vehicular access to the Preserve shall be controlled by a fence with a locked gate (or other suitable method). A small sign will be placed at the gate and along the fence to inform the public of the sensitive biological resources within the Preserve. No trails will be created within the Preserve.

This activity will be enforced year-round in perpetuity.

5.2 Manage Thatch Accumulation

Historically, annual grassland and seasonal wetland habitats burned periodically due to natural recurring fires. These fires would burn dead plant material or thatch, keeping it from building up. The grazing and trampling action of native ungulates, and later cattle, would also reduce the buildup of dead plant material.

In the Preserve, thatch has a potential to build up because of the general absence of recurring fires and periodic grazing. This buildup of thatch can be detrimental to the Preserve, especially the vernal pool habitat. During inspections of the Preserve, the Preserve Manager and/or Monitoring Biologist will make a determination as to the extent of thatch accumulation and if it is adversely affecting the Preserve habitats. Four methods for managing excessive thatch accumulation are outlined below:

This activity will be conducted as needed, annually.

Hand Brushing and Raking

Hand tools are the most selective method of exotic species and thatch removal. Although the Preserve is relatively large, having “work parties” supervised by the Preserve Manager and/or Monitoring Biologist could effectively manage small sections of the preserve with hand tools.

Controlled Burns

Controlled burning is an excellent way to eliminate accumulated plant matter, provide a pulse of nutrients to the system and also serves to reduce cover of non-native annual grasses and other weeds. While prescribed burning is an effective tool in the long-term management of dead plant material, prescribed burns are a potential public safety hazard and must be conducted by highly trained professional “burn crews.” Prescribed burns are perhaps the most efficient and effective management tool for the vernal pool prairie system and are encouraged as part of this LTMP. The burns should be carefully planned to avoid impact to native seed production and wildlife breeding seasons, to include the time of year that will most effectively reduce unwanted weeds (e.g., spring or early summer for medusahead), and to comply with local air quality regulations.

This activity would be conducted every five years or as needed.

Mowing, Mechanical Raking, and Brushing

Another method to remove thatch where weedy grasses (e.g., medusahead) dominate in the upland mounds is mechanical mowing and mechanical raking. Brushing can be used if shrubs (e.g., Himalayan blackberry – *Rubus discolor*) encroach into the grassland and become a problem. To be most effective for thatch removal, the cut or mechanically raked thatch material must be removed

from the site. Mowing and mechanical raking would be effective and safe methods for thatch management, although the nutrients from the cut material would need to be removed from the site so the pulse of nutrients (such as is generated by a prescribed burn) would not occur. These methods are relatively safe (i.e., no risk of escaping fire), and would have no significant effect on air quality. It is anticipated that such mowing or raking practices would be needed, at the most, once every five years. The frequency of these practices required to obtain optimal benefit should be determined by the Preserve Manager in coordination with the Agencies and supported by observations made during monitoring efforts.

Grazing

The following protocol for the use of grazing as a vegetative control method prescribed in the 2011 Vernal Pool Biological Opinion will be employed:

Livestock grazing within vernal pool habitat areas may be used as a vegetation management technique to maintain or improve habitat conditions for plants and wildlife. Grazing can provide beneficial effects for vernal pool species and habitat. These include:

- Grazing vernal pool complexes during the wet season leads to increased inundation periods for the pools, which provides better growing conditions for the native vernal pool plants and a better environment for vernal pool invertebrates (Marty 2005).
- Creation of microdepressions that increase habitat diversity for vernal pool plants and animals (Barry 1998).
- Reduction of thatch build up leading to better completion of native plants (Borgias 2004).

To achieve these possible beneficial effects of grazing, the objectives of implementing a vernal pool grazing management strategy will include:

- a) Maintain or improve habitat conditions in and around vernal pools and associated mounds;
- b) Maintain or increase diversity of native plant species; and
- c) Reduce or control the presence of invasive, non-native plant species.

The following best management practices will be included in a vernal pool grazing strategy:

- a) Livestock grazing may include different age classes of cattle, sheep and/or goats. Making changes in livestock type could be effective. Sheep tend to select and crop vegetation differently than cattle. Changes in species and age class of livestock with different effects on soil and vegetation could be used to introduce variation that may offer relief from grazing related stresses or change the competitive dynamics between plant species.
- b) Livestock grazing should be late fall/winter/early spring (November 1 through April 30).
- c) Livestock stocking rates should be calibrated to rainfall and temperature patterns each year in order to control thatch buildup but not adversely affect target native species. In general, this may be possible at 1-2 cow/calf pair per acre. Spread over the normal six month grazing period this translates to 6 to 12 animal units. The total annual forage production on Agate Desert soils amounts to approximately 800 pounds per acre (NRCS 1994). This amount of forage is just over the estimated requirements for a cow and calf pair for a month (i.e. 780 lbs [26lbs./day] I "animal unit month" (AUM)). However the specific stocking rate for any site should be developed and adjusted based on results from monitoring vegetation response.
- d) Livestock grazing areas will not be used as livestock holding areas or feedlots.
- e) Salt or nutrient blocks will be placed in containers to minimize soil contamination.
- f) Supplemental livestock feeding will not be allowed.
- g) Livestock access to watering facilities away from vernal pools.
- h) Rest/rotation of grazing areas.

5.3 Manage Problematic Non-native Plant Species

The suggested methods for control of non-native invasive plants listed in the vernal pool biological opinion (shown below) will be employed.

Species	Method of Control
1. Yellow star thistle (<i>Centaurea solstitialis</i>)	Multiple hand removal, mowing or burning efforts (between June 1 and August 1); managed grazing; herbicide use ² ; and/or native plant re-seeding.
2. Medusahead (<i>Taeniantherum caput-medusae</i>)	Mowing or burning in spring (In May); managed grazing; and/or native plant re-seeding.
3. Curly dock (<i>Rumex crispus</i>)	Hand removal, mowing or burning (between May 15 and July 15); managed grazing; herbicide use ¹⁷ ; and/or native plant re-seeding.
4. Seaside barley (<i>Hordeum marinum</i> ssp. <i>gussonianum</i>)	Frequent hand removal, mowing or burning (between May 15 and June 15); herbicide use ² ; managed grazing; and/or native plant re-seeding.
5. Stork's bill, fillary (<i>Erodium cicutarium</i> / <i>Erodium botrys</i>)	Frequent hand removal, mowing or burning (between May 1 and June 15); managed grazing; herbicide use ² ; and/or native plant re-seeding.
6. Italian rye grass (<i>Lolium multiflorum</i>)	Frequent mowing or burning (between June 1 and August 1); managed grazing; herbicide use ² ; and/or native plant re-seeding. Do not till.
7. Russian thistle, tumbleweed (<i>Salsola kali</i>) ¹⁸	Hand removal, mowing or burning (between June 1 and September 1); managed grazing; herbicide use ² ; and/or native plant re-seeding.
8. Milk thistle (<i>Silybum marianum</i>)	Hand removal, mowing or burning (between May 1 and June 15); managed grazing; herbicide use; and/or native plant re-seeding.

The Preserve currently supports several non-native plant species, many of which have become naturalized. They are predominantly annual species that commonly occur in grasslands throughout the surrounding region. The LTMP does not expect or require the eradication of established non-native plant species within the Preserve. The Plan focuses on managing introduced exotic pest plant populations and controlling the spread of existing exotic pest plant populations that are a threat to the objective of the LTMP. If left unchecked, problematic non-native plant species (weeds) can colonize huge tracks of land and out-compete native plant species. This reduces the botanical diversity and reduces a site's ability to support more diverse wildlife species.

The required weed management is focused on managing newly introduced weeds and controlling the spread of the weed populations that are a threat to the objective of the LTMP. The Preserve Manager and/or Monitoring Biologist can refer to the Oregon Department of Agriculture (ODA) website at <http://www.oregon.gov/ODA/PLANT/WEEDS/> for assistance in determining if a plant is an exotic species of concern, the best timing for removal, the latest removal methods found to be effective, and potential sources of grant funding for eradication efforts.

The Preserve Manager and Monitoring Biologist must map populations of exotic species during initial site inspections. These baseline data would then provide the basis to determine if populations are spreading or new weed species are becoming established. The Preserve Manager and/or Monitoring Biologist would remove problematic weed species as needed to meet performance standards. While some weed species may be controlled through the implementation of the thatch removal methods discussed above, implementing several methods may be required to effectively control problematic weed species. Three methods of removing or controlling problematic weed species are outlined below (more resources can be found on the ODA website):

This activity would be conducted annually, as needed.

Hand/Mechanical Removal

Hand removal or use of small handheld equipment (e.g. shovel) is the preferred method of removing problematic weed species from the Preserve. If hand removal methods are tried and found to be ineffective, or the problem is too widespread for hand removal to be practical, then mechanical methods (e.g., mower, rototiller), burning, or biological controls and herbicides as described below can be implemented.

Biological Controls

Biological controls are natural parasites, predators or pathogens that are released to combat non-native species. For example, there are several natural enemies of yellow star-thistle (*Centaurea solstitialis*) that have been introduced from Europe to act as biological controls against this invasive species. Some of the insects begin life within the seed head of the flower and develop there, feeding on the seeds. Biological controls should be used with caution and only after contacting the ODA. Additional information on biological controls can be found on the ODA website

If biological control methods are tried and found to be ineffective or if biological control methods are not available for the target species, then herbicides can be used, but only as outlined below.

Herbicides

Herbicides should only be considered if the weed management techniques described above are found to be ineffective and the weed problems are threatening the objective of the LTMP. Current information and research regarding appropriate herbicides and application techniques shall be reviewed prior to use of herbicides within the Preserve. Herbicides must be applied according to the directions on the label, and shall not be applied within 25 feet of any wetland habitat. The Preserve Manager and/or Monitoring Biologist shall obtain any applicable approvals prior to the use of herbicides within the Preserve.

As noted above, use of pesticides, herbicides or other toxic chemicals is an action with substantial potential to adversely affect habitat that is intended or required to be protected and, for this reason, treatment for control of noxious and invasive weeds is expected to occur through hand pulling, or other approved, hand-operated, mechanical means. However, in some situations such methods may not be effective and limited herbicide use may be appropriate. This will occur only following concurrence from the U.S. Fish and Wildlife Service (FWS) and subject to practices that minimize adverse impacts, including distance thresholds from pools or certain native or listed species, spot spray application, consideration of weather conditions, etc.

5.4 Neighborhood Liaison

During the scheduled inspection visits, the Preserve Manager and/or Monitoring Biologist must identify and remedy any inappropriate activities (e.g., vandalism, dumping trash, OHV disturbance). While it may be difficult to identify the responsible party, maintaining good relations with the neighbors may help to locate the responsible party. If needed, placing new signs (e.g., “no dumping”), adjusting the timing of monitoring visits, or calling the authorities may help to bring the problem under control. Restoration of the impacts from any inappropriate activity will be a priority.

5.5 Trash Removal

All trash and other unwanted debris from the Preserve will be removed and not allowed to accumulate. This activity will take place at least annually.

5.6 Maintain Structures Associated with the Preserve

The improvements located within the Preserve are limited to cable fencing, and signage. If any of these features are vandalized, deteriorate, or need maintenance, the Preserve Manager is responsible for the repair or replacement necessary to maintain the improvement.

5.7 Educational Activities in the Preserve

The Preserve represents an opportunity to encourage a sense of ownership and respect for open space and sensitive species in local students and interested members of the public. Use of the Preserve for education will be limited to students, parents, and faculty of the local school district or other persons with the consent of the Preserve Manager. Individuals or groups wishing to use the Preserve for educational purposes must coordinate their use with the Preserve Manager. Use of the Preserve without the consent of the Preserve Manager is prohibited.

Section 6. Prohibit Activities and Situations Detrimental to the Preserve

This section outlines the restrictions on activities that can take place in the Preserve. It is understood that the following activities are prohibited, except as needed to accomplish the conservation goals of the Preserve or as described below.

6.1 Access

The intent of the Preserve is to maintain the habitats of the preserved habitats in perpetuity. Limiting access to the Preserve will further this goal. Pedestrian access to the Preserve should be discouraged through fencing and signage.

Access to the Preserve is not open to the public without making prior arrangements with the Preserve Manager. The Preserve Manager may make arrangements with a person(s) who might walk the preserve occasionally and assist with the detection of problems (i.e., OHV use). Visits by Responsible Agency staff, educational outings, or work parties are allowed, but only with the consent of the Preserve Manager

6.2 Vegetation Removal

No killing, removal, or alteration of any existing native vegetation will be allowed in the Preserve except as described in the LTMP.

6.3 Burning and Dumping

No burning or dumping of rubbish, garbage or any other wastes or fill materials shall be allowed in the Preserve. The foregoing prohibition shall not be interpreted to prohibit controlled burning as a method of thatch management.

6.4 Disking

No disking shall occur in the Preserve.

6.5 Equipment or Fuel Storage

There shall be no equipment or fuel storage within the Preserve.

6.6 Alteration of Existing Topography

No alteration shall be made to the existing topography of the Preserve, unless it can be demonstrated to benefit the Preserve. No exploration, development, or extraction of oil, gas or minerals shall be made from the Preserve.

6.7 Pesticides and Chemical Agents

Unless fully warranted, there shall be no use of any pesticides, fungicides, insecticides, or any other chemical agents used to kill or suppress plants, animals, or fungi in the Preserve.

6.8 Motor Vehicle Use

No motorized vehicles shall be ridden, brought, used, or permitted on any portion of the Preserve. The only exception to this vehicles need for Preserve maintenance and for emergency or law enforcement situations requiring access by medical, fire or law enforcement vehicles.

6.9 Construction

Construction is not allowed in the preserve with the exception of the activities mentioned in this LTMP or for the future development of the preserve as required to enhance the biological functions and values of the preserve.

6.10 Non-Native Plants

No non-native plants shall be planted in the Preserve.

Section 7. Inspections, Performance Standards, and Reporting

7.1 General Inspections

The monitoring/inspections described below are long-term activities to be carried out in perpetuity. The schedule of inspections for the preserve are as follows:

- The Preserve Manager shall conduct one General Inspection each year.
- The Monitoring Biologist, in coordination with the Preserve Manager and Responsible Agencies (as appropriate) should conduct periodic reconnaissance-level surveys for vernal pool fairy shrimp and large-flowered woolly meadowfoam. Over time, if other plant or animal species become listed, the Monitoring Biologist may conduct surveys for them as well. The intent of these surveys is to track trends in abundance of the rare plants and animals the preserve was (in part) established to protect.
- The Preserve Manager is encouraged to establish a liaison with local landowners who could visit the site regularly and report any major problems within the preserve. These local liaison inspections can occur throughout the year.

The Preserve Manager shall arrange for General Inspections to be made to ensure the integrity of the preserve is maintained. General Inspections would concentrate on an evaluation of the following: erosion, condition of signage, trash accumulation, and evidence of unauthorized use by motor vehicles. The entire perimeter of the Preserve should be walked, as well as meandering transects through its interior. Notes or data generated during the visit should include the date, inspector, notes on each issue area (erosion, signage, trash accumulation, unauthorized construction or fill, and populations of exotic plant species) and a map of the Preserve showing the location of problem areas. Additional notes including plant or wildlife observations, comments from preserve users (e.g., local liaison), weather data etc. are also encouraged. The Preserve Manager should develop a suitable Preserve Inspection Data Sheet to insure consistency of inspection visits. Previous inspection sheets should be reviewed before each visit to review previous issues or insure that a reoccurring problem area is not missed. If any problems are identified, more frequent inspections may be warranted to track the problems or the effectiveness of remedial actions. Depending on the severity of the problem, the additional visits may be made by a Preserve liaison. Evaluation and corrective actions for each factor are described below:

Erosion

If it is determined during the inspection that adjacent sheet-flow drainage is causing any erosion or other adverse effects upon the Preserve, immediate standard erosion control measures (such as the installation of waddles) will be implemented. If any significant erosion problems occur, a qualified erosion control specialist will be consulted.

Fire Hazard

If at any time conditions at the Preserve become a fire hazard, the Preserve Manager will work with the local fire authorities to decide on the best method to reduce the fire risk at the Preserve.

Fencing and Signage

The condition of the fencing and signage at the Preserve should be checked during the General Inspection. The Preserve Manager will be responsible for maintaining the fencing and signage at the Preserve, as well as perimeter fencing as appropriate.

Trash Accumulation

The Preserve Manager will arrange for the removal of trash from the Preserve.

Unauthorized Motor Vehicle Use

The Preserve will be inspected for evidence of unauthorized motor vehicle use/access. If necessary, corrective actions such as repairing fencing and gates and/or reporting the situation to the authorities will be taken.

Agency Monitoring/Inspection

Responsible Agency staff may inspect and monitor the condition of the Preserve at any time. Responsible Agency staff should coordinate their visit with the Preserve Manager.

7.2 Performance Standards

Performance standards are necessary to support the goal of sustaining and/or improving high quality function of vernal pool wetland complex. The standards help target actions to improve and sustain highly functional vernal pools and mounded prairie habitat to sustain populations of appropriate native species, especially the listed species and the habitat characteristics needed for their continued survival (i.e., topography, hydrology and vegetative conditions).

During the long-term, post-regulatory life of the mitigation project, these performance standards will serve as the default performance standards unless alternate standards that achieve equivalent or better conservation are approved by the regulatory agencies. In general, the agencies expect that long-term performance standards will be designed to improve conditions for listed species and habitats over time as practicable and appropriate.

(Note: These standards were copied verbatim from DSL, Vernal Pool General Permit Mitigation Performance Standards and Monitoring Methods. April 1, 2012. However Performance standards (a), (b), (c), (f) (A), and (g) (B) were deleted as per DSL).

- (d) Vegetation: Vernal pool vegetation standards are as follows:
- (A) The absolute extent of exposed substrate must be no more than 75 percent.
 - (B) Native vernal pool species relative percent cover (excluding substrate) must be at least 70 percent.
 - (C) Non-native invasive species relative percent plant cover must be no more than 15 percent.
 - (D) At least 15 native species must be present in existing vernal pools designated for protection and management and at least 10 native species must be present in restored and managed vernal pools. The species count must be evaluated in the same set of sample of plots needed to meet the statistical confidence described in monitoring methods (b)B.
- (e) Upland (mound) vegetation standards are as follows:
- (A) Native species relative percent plant cover must be at least 25 percent.
 - (B) Medusahead (*Taeniatherum caput-medusae*) relative percent cover must be no more than 25 percent.
 - (C) Non-native invasive species (other than Medusahead) total relative percent plant cover must be no more than 25 percent.
 - (D) At least 20 native upland herbaceous species must be present. The species count must be evaluated in the same set of sample of plots needed to meet the statistical confidence described in monitoring methods (b)B.
 - (E) Less than five percent relative plant cover must be comprised of woody species other than oak and/or chaparral.
 - (F) For areas dominated by chaparral or oak at the beginning of the mitigation project, the relative cover of chaparral and/or stem count of oak must be within 20 percent of the baseline amount at the end of the monitoring period, unless the reduction is due to wildfire outside the control of the permittee, or due to prescribed fire or thinning approved by the Department to restore historic or natural stand structure.
- (g) Rare Plants: (*Limnanthes floccosa* ssp. *grandiflora*) standards are as follows:
- (A) Meadowfoam populations must be maintained within the natural range of variability or increased. For sites already supporting this species at startup, populations must not fall below 1.5 standard deviations from the established baseline level. The baseline level is the average number of individual plants observed in the first five non-drought years of surveys.

7.2.1 Monitoring Methods

(Note: Monitoring Methods (a) (A-D) were deleted as per DSL Input)

- (b) Vegetation and Substrate:
- (A) Vegetation monitoring of vernal pools and uplands must be conducted each spring during peak flowering periods (typically early May). Timing of surveys may be adjusted according to yearly climatic conditions; repeat visits may be needed to confirm identification of all plant species.
 - (B) Point intercept or quadrat sampling methods on a grid or transect lines may be used to collect cover data but once one or the other method is selected and employed, it must be consistently used throughout the monitoring period. For sites containing trees, sample plots of at least 30 feet radius or equivalent area must be permanently marked (center point) and all trees greater than 1 inch diameter counted. All vegetation and substrate

sampling must be unbiased, representative of the study area, and be sufficient to estimate cover with 80 percent confidence intervals. Sampling locations must be marked in the field or re-locatable by GPS so that data and results will be repeatable by a third party verifier.

(C) Vegetation and substrate must be sampled to acquire the following data at sample plots or points.

- (i) Percent cover of vegetation (data must include identification to species of all vascular plant species that have one percent or greater cover within the sample).
- (ii) Percent cover of exposed substrate and the nature of disturbance causing it to be bare (inundation, livestock, rodent activity, etc).
- (iii) Percent cover of native, non-native, and non-native invasive plant species.
- (iv) Percent cover of thatch (dead vegetation), and cover of cryptobiotic soil crust.

(c) Fairy shrimp (*Branchinecta lynchii*) Sampling:

(A) Vernal pools must be sampled using a statistically representative number of samples at least once each winter, when shrimp have matured enough to be identifiable. Except as otherwise approved by the Department, the sampling layout for the percent of pools occupied by shrimp (occupancy) should be a grid system with 30 random x-y coordinates marked in the field. Each sample is the nearest pool that has a minimum of three inches water depth on the date of sampling. On small sites or low water years, some pools may be counted multiple times. The percent of sample pools occupied on the one date with the maximum occupancy will be reported each year.

(B) The baseline occupancy is the highest percent occupancy recorded during the initial 5 years, excepting drought years. The range of variability is the range established in the initial five non-drought years.

(C) To avoid harm to listed species, sampling methods must follow the Guidance to Assist in the Assessment of, and Conservation Efforts for, Vernal Pool Systems on the Agate Desert, Jackson County, Oregon, dated June 2008, which is described in the following section 8.2.2.

(d) Rare Plant Sampling:

(A) The baseline population counts for Meadowfoam must be determined based on surveys during non-drought years and reported annually. If there is failure to employ an applicable best management practice, or other obvious mismanagement which results in a depressed rare plant population, the data collected that year must not be included in the average for the baseline population, and an additional year added to the monitoring period. When necessary to determine the effects of grazing on rare plant populations, the Department may require comparative data from areas that exclude livestock.

(B) Rare plant population counts may be assessed by complete census for small sites or by statistical sampling as described above for other vegetation metrics. Data must be collected in spring when target plants are optimally identified.

7.2.2 USFWS Monitoring Methods

The following monitoring methods are taken verbatim from the USFWS 2008 Guidance to Assist in the Assessment of and the Conservation Efforts for Vernal Pool System on the Agate Desert Jackson County Oregon.

Vernal pool fairy shrimp presence has already been established in this Vernal Pool Preserve, therefore, the procedures below should not be necessary, the Preserve manager has requested from USFWS to change sampling protocol and sampling interval, see Technical Memorandum dated _____ in Appendix A. In general, it is proposed to conduct wet season survey twice yearly, every year for the first five years, then every five years through year 20 and then every ten years in perpetuity. No dry year sampling would be employed. USFWS will require a request to use this alternative method each time..

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) Survey and Sampling Procedure

This section contains information regarding wet season and dry season survey methods for fairy shrimp. It should be noted *Eubranchipus oregonensis*, another fairy shrimp (not listed) also co-occurs in this area. This procedure is intended to be used by holders of current section 10(a)(1)(A) recovery permits specific to actions regarding the listed fairy shrimp.

Fairy Shrimp Survey Approval

Unless otherwise authorized by the Service in writing, this guidance will be utilized for all surveys conducted to determine presence of the listed fairy shrimp in the Agate Desert area. The Service must approve any deviations from the methods prescribed by this guidance before surveys are conducted. The entity conducting the surveys will provide the appropriate Service Office with all of the following information in writing for each project site at least 10 working days prior to the anticipated start date of survey work:

- The precise location of the project site, preferably transmitted as an electronic file in a GIS format (preferably reported in UTM Zone 10 NAD 83 (Meters) coordinates), or clearly delineated on either an original or high quality copy of a U.S. Geological Survey topographic map (exact scale, 7.5 minute, 1"=24,000 ft.) with the quad name clearly indicated. Other information needed includes: (1) project name; (2) name of county in which the project site is located; (3) type of project (e.g., urban, agricultural, and or commercial development); (4) the USFWS 2008 21 estimated total acreage of the project site, an estimate of the number and acreage of vernal pools/swales on the site and the ratio of pool to upland mounds.
- Names and qualifications of all vernal pool biologists and associated personnel conducting field work and their section 10(a)(1)(A) permit number(s); and,
- A written request to commence wet season and/or dry season sampling for each project area that will be surveyed for fairy shrimp.

Fairy Shrimp Sampling

A complete fairy shrimp survey consists of sampling for either:

1. Two full wet seasons within a 5-year period; or
2. One dry season survey; or,
3. A combination of a wet and a dry season survey.

NOTE: during periods of drought, an increase in sampling duration for wet season sampling or mandatory dry sampling may be required. For example, if during two wet season sampling periods pools were not inundated long enough to allow for the hatch and maturation of the fairy shrimp, then negative sampling results may be determined to be inconclusive and further surveys may be needed when conditions allow the fairy shrimp to complete their life cycles (e.g., amount and duration of inundation and/or hatching temperatures are sufficient to allow detection and identification of the species). Once initiated, surveys conducted pursuant to these Guidelines may be suspended prior to completion if:

1. The presence of the listed fairy shrimp on the subject site is determined through identification at any point within the wet season survey cycle; or
2. It is agreed the listed fairy shrimp are present on the subject site.

Each vernal pool/swale in a vernal pool complex will be surveyed as per this Guidance. However, in cases involving large areas of vernal pools/swales (i.e., large is generally defined as many hundreds of pools/swales on a single site), a plan to subsample a representative portion of the site may be submitted by the surveyor. The Service will evaluate each case individually, and if acceptable, give written authorization to proceed with the sub-sampling plan. Accurately tracking survey efforts is a critical part of the sampling protocol. As part of the Service's ongoing efforts to track vernal pool surveys, recovery implementation, and habitat loss using a GIS, we are asking surveyors to submit information about their survey areas in electronic format whenever possible, in addition to submitting forms to ONHIC to track species occurrence information through the ONHIC. USFWS 2008 22.

Notification Requirements

The surveyor will notify the Service of the first date that the vernal pools fill and the date that wet season sampling is begun. Notification should be by letter or fax to the appropriate Service Office (see Service Contacts section). If the surveyor determines the listed fairy shrimp are present at a site, the surveyor will notify the Service within 10 working days by letter or fax. A copy of the completed survey form for the occurrence will be included. The surveyor will notify the Service by letter or fax if sampling is cancelled. Notification should occur within 10 working days of the decision to cancel and should include the reason for cancellation. If sampling is stopped because the listed fairy shrimp are found, notification and a copy of the survey form should be mailed or faxed to the appropriate Service Office (see Service Contacts section).

Fairy Shrimp Wet Season Surveys

Wet season survey sampling will not be conducted at any project site unless the surveyor receives prior permission from the Service. Because early surveys are critical to the detection of fairy shrimp, Service permission to sample may not be granted for surveys initiated beyond the first 8-10 days after inundation. A pool/swale is considered inundated when it holds greater than 3 cm of standing water 24 hours after a rain event.

Fairy Shrimp Survey Initiation, Frequency, and Termination

1. Surveyors should visit sites immediately after initial storm events to determine if pools/swales have been inundated. Surveyors desiring to survey distant areas will need a local monitor onsite when the wet season approaches, and throughout the sampling season, to alert the surveyor when sampling needs to be initiated or reinitiated.
2. Fairy shrimp sampling will be conducted at the following frequency: a) one survey conducted 7 - 10 days after inundation; b) a second survey conducted seven days after the first; c) a third survey conducted seven days after the second; and d) follow-up surveys conducted every 14 days for the remainder of the survey period. Surveys will continue until the pools are no longer inundated, or until they have experienced 120 days of continuous inundation.
3. In cases where the pools/swales dry and then refill (i.e., hold 3 cm or more of standing water) in the same wet season or if the pools are in a dry down phase (even if not dry) and then increase significantly in size due to a rain event, even if the pool/swale has already experienced 120 days of continuous inundation, sampling will be re-initiated

between six and eight days of re-inundation or additional fill and the sampling schedule described above will be followed until the pools have experienced 120 days of continuous inundation, or until they are no longer inundated. This return to the initial sampling schedule is necessary because refill of pools or significant increased water can trigger osmotic shock and may result in hatching or hydration of cysts in parts of the pool not previously hydrated. USFWS 2008 23

4. Wet season surveys conducted pursuant to these Guidelines may be suspended prior to completion. Suspension of surveys during the wet season will occur immediately if fairy shrimp are determined to be present on the subject site, unless the Service determines that continued sampling for other listed vernal pool crustacean species that may be present on the site is warranted. NOTE: Surveyors should make every attempt to minimize walking and wading in inundated pools. Surveyors should be deliberate whenever entering an inundated pool, (i.e., plan activities and scout out a path before entering pool, minimize splashing, use a "shuffling" technique when walking or wading through inundated pools, etc.,).

Fairy Shrimp Sampling

At each wet season visit, representative portions of the pool/swale bottom, edges and vertical water column will be adequately sampled using a seine, dip net or aquarium net appropriate for the size of the pool or swale. Net mesh size will not be larger than 3 mm (i.e., 1/8 inch). Seines will be examined and emptied of material at least once every five linear meters of habitat that is sampled. It is recommended that surveyors also net with a smaller mesh size net than required above to detect larvae and small juveniles. Although these immature forms are unlikely to be identified to species, knowledge of the presence of these individuals and their stage of development will assist surveyors in determining the appropriate time to return to a particular pool/swale or site to collect adult specimens. All immature forms captured should be immediately returned to the pool from which they were captured. Sampling results should be reported to the Service using the Vernal Pool Data Sheets for wet season sampling or dry season sampling.

Sanitizing Protocol

Hands, footwear and field equipment can transport cysts, pathogens and parasites from one study site to another. It is vitally important for those involved in wetland studies, including those studying amphibians, fish, invertebrates and plants, to take steps to minimize the spread of disease and parasites between study sites, and to prevent artificial dispersal of propagules between sites. The following protocol is necessary to ensure the integrity of the surveys, and to reduce the likelihood of the unnatural transfer of populations and the spread of disease.

1. Remove mud, snails, algae, and other debris from nets, traps, boots, vehicle tires and all other surfaces. Rinse cleaned items with water before leaving each study site.
2. Boots, nets, traps, etc., must be scrubbed with 70 percent ethanol or 3 to 6 percent sodium hypochlorite and thoroughly rinsed with clean tap water between study sites. Do not clean equipment in the immediate vicinity of a pond, stream, or wetland.
3. In remote locations, clean all equipment as described above upon return to the lab, office, or "base camp". Elsewhere, when washing machine facilities are available, remove nets from poles and wash with bleach on a "delicates" cycle, contained in a protective mesh laundry bag. USFWS 2008 24
4. When working at sites with known or suspected disease problems, or when sampling populations of rare or isolated species, wear disposable gloves and change them between

handling each animal. Dedicate sets of nets, boots, traps, and other equipment to each site being visited. Clean and store them separately at the end of each field day.

5. When fairy shrimp are collected, ensure the separation of individuals from different sites and take great care to avoid indirect contact between them (e.g. via handling, reuse of containers) or with other captive animals. Isolation from unsterilized plants or soils, which have been taken from other sites, is also essential. Always use disinfected/disposable husbandry equipment.

6. Used cleaning materials (liquids, etc.) should be disposed of safely and if necessary taken back to the lab for proper disposal. Used disposable gloves should be retained for safe disposal in sealed bags.

Fairy Shrimp Voucher Specimens

1. Voucher specimens of fairy shrimp will be collected only once from each individual vernal pool/swale each year that wet sampling is conducted. If pools and swales are highly interconnected, fewer vouchers are needed.

2. If voucher specimens are warranted, no more than 20 fairy shrimp from each pool/swale, or less than 10 percent of the subpopulation present in the pool/swale, whichever is the lesser amount, may be retained and preserved as voucher specimens. Museums, universities, and/or researchers may want voucher specimens of unlisted species. Surveyors are encouraged to check with such entities to see if specimens of unlisted species are needed and accommodate them if possible.

3. All other specimens will be immediately returned in good condition to the vernal pool/swale where they were collected as quickly as possible.

4. Only sexually mature, adult fairy shrimp will be used for purposes of voucher specimens for species identification. The Service will not accept species identifications made using immature specimens. Voucher specimens collected from each pool/swale or interconnected group of pools/swales will include at least three sexually mature males.

5. Voucher specimens will be accessioned to a museum accepted as a repository by the Service (e.g., California Academy of Sciences, Natural History Museum of Los Angeles County, or Southern Oregon University). (See approved institutions)

Fairy Shrimp Dry Season Surveys

Dry season soil sampling will not be conducted at any project site unless the surveyor receives prior written permission from the Service. The following soil collection protocol is specifically for for dry season cysts sampling. USFWS 2008 25 This soil collection protocol should not be used for collection of soil inoculum samples for restoration activities (see soil inoculum collection protocol)

Dry Season Soil Collection

Soil will be collected when it is dry to avoid damaging or destroying fairy shrimp cysts, which are more fragile when wet. A hand trowel or similar instrument will be used to collect 10 approximately 100 ml subsamples of substrate from each pool/swale; total volume of material collected will be approximately 1 liter (Figure 5). Soil will be collected from the top 1-3 cm of pool sediment. Whenever possible, each subsample of soil will be collected as a single intact sample. A trowel or other appropriate tool will be used to pry up intact pieces of sediment, rather than raking or scraping the surface, which can damage cysts. In the case of a very large vernal pool the Service may require a sample greater than 1.0 liter of soil. Check with the appropriate Service office (see Service Contacts section) if the proposed sampling site has large pools.

If a pool has a diameter of less than three meters, the total soil sample taken should not exceed 0.5 liter in volume per pool, and the 10 subsamples should be approximately 50 ml each in volume.

There are federally listed plant species (e.g., *Lomatium cookii*, and *Limnanthes floccosa grandiflora*) that often co-occur with the fairy shrimp. Removal of soil could damage populations of these listed plants by inadvertently removing seed. Dry sampling should be minimized or avoided within those vernal pools/swales that are known to, or may, contain these species. The surveyor will contact the appropriate Service office (see Service Contacts section) regarding the distribution of these listed plants species prior to conducting dry sampling.

Dry Season Soil Sample Locations

A total of 10 soil subsamples, of which each subsample will be approximately 100 ml in volume, will be collected from the following locations within each pool/swale sampled (Figure 5 below):

1. Establish a transect along the length (i.e., longest part) of the pool/swale. Collect a subsample from each end of the transect at the margin of the pool and one subsample midway along the transect for a total of three subsamples.
2. Establish a transect along the width (i.e., widest part) of the pool/swale. Collect a subsample from each end of the transect at the margin of the pool and one subsample midway along the transect for a total of three subsamples. If the midline of the transect intersects the midline of first transect then you will only have 2 additional subsamples for this step.
3. Collect one additional subsample from each of the above described transects approximately one meter from the point of the midway sample for a total of two additional subsamples.
4. Collect the remaining two to three subsamples from the deepest parts of the pool/swale. This should yield a total of 10 subsamples.
5. As described above, additional samples may be required in very large pools or very long swales.

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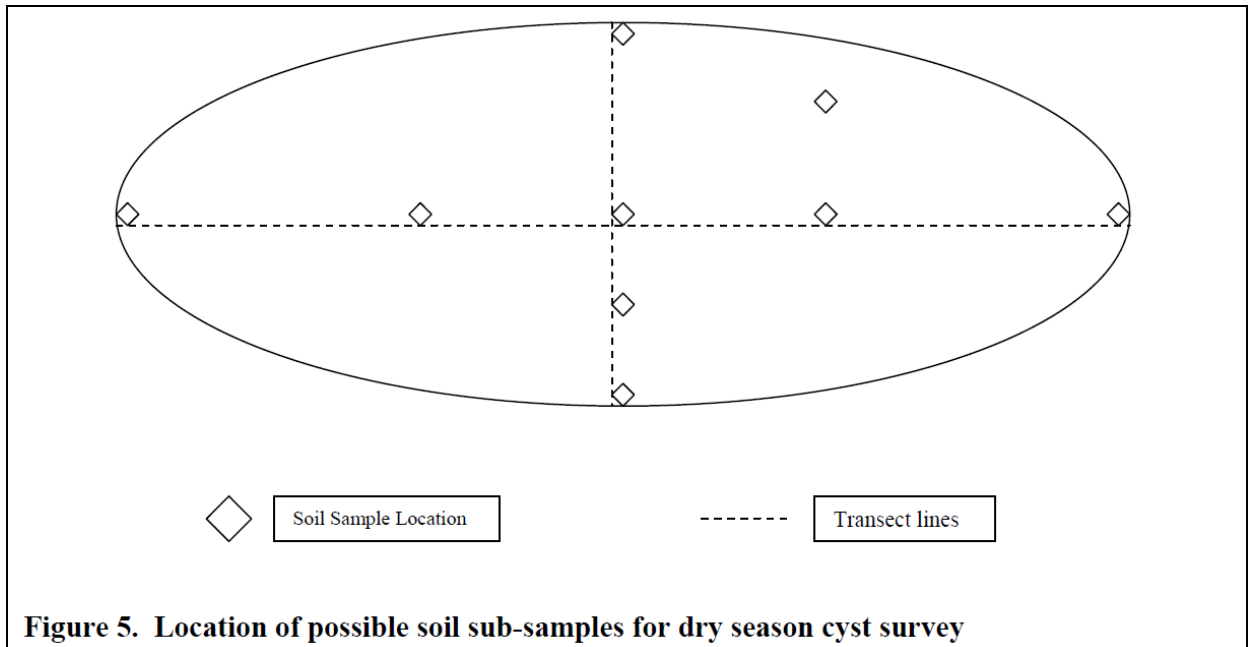


Figure 5. Location of possible soil sub-samples for dry season cyst survey

Dry Season Soil Storage

Each soil sample from the 10 soil subsample locations will be labeled, stored, and analyzed individually.

1. The soil samples from each soil sample location will be stored in separate paper bags or boxes, labeled with the specific location within the pool/swale from where each soil sample was taken. A sketch of the pool/swale showing the specific location of each soil sample will be included in the 90-day report.
2. Soil samples containing any residual moisture initially will be adequately ventilated and allowed to air dry thoroughly before they are subject to long-term storage (i.e., 2 or more days). The paper bags or boxes containing the soil samples will not be left out in direct sunlight or stored under conditions of excessive heat (e.g., in a non-moving vehicle for extended periods of time).
3. All soil samples will be retained and stored as directed above until identified as described below.

Dry Season Soil Examination and Processing

Surveyors may or may not be qualified to isolate cysts from the soil samples. Surveyors must check the conditions of their permit before proceeding to sieve soil samples for cysts. USFWS 2008 27. If qualified and permitted to perform this procedure, surveyors should have received a copy of the procedure with their permit. Copies of this procedure can be obtained from a Service Office (see Service Contacts section). This procedure may be updated from time to time. Surveyors will be notified by the Service of any changes in the procedure.

Cyst Identification

Surveyors may or may not be qualified to perform the various procedures required to identify cysts to the species level. Surveyor must check the conditions of their permit before proceeding. If you are qualified and permitted to perform any of the cyst identification procedures you should

have received a copy of the procedure(s) for which you are qualified with your permit. Copies of these procedures can be obtained from a Service Office (see Service Contacts section). These procedures may be updated from time to time. The Service will notify Permittees of any changes in the procedures. At this time very few of the listed vernal pool crustaceans can be identified or differentiated to species based solely on cyst morphology. While molecular markers have been developed for some species and identification based on DNA is likely to be available in the future, most of the listed species do not have known molecular markers that would allow for species-level identification. Therefore, this level of identification is usually accomplished through hatching and rearing of the cysts. Very few surveyors have the laboratory facilities and necessary equipment, and are qualified to perform these procedures. Surveyors are encouraged to seek training in the collection and identification of cysts. The Service will notify surveyors of any instructional sessions offered, or sponsored, by the Service.

Fairy Shrimp Cyst Density

Cyst density information for each soil sample location will be calculated by dividing the total number of cysts recovered by the total amount of soil from the individual aliquots from that soil sample location. Total cyst density information for each soil sample location will be reported for each species in terms of: none; 1-10 cysts/100 ml soil; 11-20 cysts/100 ml soil; 21-30 cysts/100 ml soil; 31-40 cysts/100 ml soil; or more than 40 cysts/100 ml soil (Dry Season Survey).

Fairy Shrimp Cyst Voucher Specimens

A representative sample of each cyst type from each pool/swale will be accessioned to an institution accepted as a repository by the Service. (See approved institutions) At least one, and preferably several, cysts of each type should be packaged as directed by the collections manager at the institution where the specimens will be housed.

Accessioning Voucher Specimens

All fairy shrimp voucher specimens (i.e., adults or cysts) collected will be accessioned to a museum or other institution approved by the Service. All specimens will be preserved according to the accession standards of the repository, which will accession and maintain the specimens. Standards for the institutions listed below are available from Service Offices (see Service Contacts section). While 10(a)(1)(A) permits only require listed fairy shrimp to be accessioned, many of the institutions listed in this section would like donations of non-listed species. Please contact the institutions to determine which species they need and will accept. If the list of institutions below does not include the institution to which you would like to accession the voucher specimens, contact the Service. USFWS 2008 28 Individuals conducting research may also need specimens. Written authorization from the Service must be obtained prior to release of any voucher specimens of listed vernal pool crustacean to any individual or institution not listed below. All fairy shrimp voucher specimens (i.e., adults or cysts), along with a copy of the Vernal Pool Data Sheet, will be permanently deposited within a Service-approved institution within 90 calendar days of the completion of the field survey and the Service will be supplied with the exact location and catalog numbers given to the specimens. The surveyor will supply the institution with a photocopy of their section 10(a)(1)(A) permit to validate that the specimens supplied to them were taken pursuant to a permit. The Service will likely consider refusal by an institution to accession any listed vernal pool crustacean specimens due to improper preservation/storage to be a violation by the surveyor of their section 10(a)(1)(A) permit.

Approved Institutions:

California Academy of Sciences (CAS)
 Department of Invertebrate Zoology and Geology, Golden Gate Park, San Francisco, CA
 94118; telephone (415) 750-7082
 Natural History Museum of Los Angeles County (LACM)
 Crustacea Section, Invertebrate Zoology, 900 Exposition Boulevard, Los Angeles, CA
 90007; telephone (213) 744-3450
 Southern Oregon University 1250 Siskiyou Boulevard
 Ashland, OR 97520 Attn: Biology Department; telephone (541) 552 6341.

Reporting of Fairy Shrimp Survey and Sampling Activities

The surveyor will provide the appropriate Service Office (see Service Contacts section) with a 90-day report and a summary annual report. The surveyor will submit data sheets to the ONHIC for each site sampled where state or federally listed species or other sensitive species were collected or observed. 90-Day Reports Surveyors must submit a report no more than 90 calendar days after completing the last field visit of the season at each project site. The 90-day report should be typewritten and will contain a qualitative description of the project site and habitats present, the vernal pool/swale animal and plant communities, and features or required activities undertaken by the surveyors that may negatively affect listed species. The Service is interested in procedures or techniques adopted by surveyors to minimize disturbance to vernal pool/swale sites when using the required survey protocols. USFWS 2008 29. The following information will also be included. Surveyors may use the Vernal Pool Data sheet(s), which is/are attached and available electronically on the Service's internet sites, to report the information or similar form which includes all the same information.

1. The location of the project site, preferably reported in UTM's and contained within a GIS data file, (see the GPS/GIS Vernal Pool Survey Location Report in the Vernal Pool Data Sheet Section for instructions on reporting survey locations), or clearly delineated on an original or high quality copy of a U.S. Geological Survey topographic map (exact scale, 7.5 minute, 1"=2000 ft.). The location of the fairy shrimp is to be included on the 7.5-minute maps in as precise a manner as possible.
2. Five color photographic 35mm slides and/or 3" x 5" or larger photographs or digital images of each project site taken during sampling in the wet season; this is to include two photographs taken from a standing position that portray the general landscape of the site [i.e., taken from an opposing axis of the site (e.g., north and south compass headings)]; and three images of representative vernal pools, swales, and other areas within the site sampled for fairy shrimp. The following information will be legibly written on each slide/photograph with permanent ink or labeled on each digital image: precise location of the project site, direction from which photograph was taken, date of photograph, initials of photographer, and initials of the scientific names of the fairy shrimp found at the depicted site. Slides, photographs, and/or digital images only need to be submitted once per project site.
3. The estimated number of fairy shrimp individuals observed in each pool/swale will be reported in terms of an order of magnitude (e.g., 10's, 100's, 1000's).(Refer to the Vernal Pool Data Sheet)
4. The number of fairy shrimp individuals or cysts collected from each pool/swale and the name of the institution in which they are accessioned. (Refer to the Vernal Pool Data Sheet)

5. A qualitative description of the vernal pool/swale community. A general list of amphibian species and non-listed vernal pool crustacean species (by common and/or scientific name) encountered at the project site is desirable. For purposes of this permit a full survey for these species is not required. However, if more detailed information is collected, it will be included in the Vernal Pool DataSheet. (Refer to the Vernal Pool Data Sheet)
6. Data collected during each field visit, including: date, air temperature, water temperature, weather conditions (e.g., sunny, overcast), maximum depth of each pool/swale, and size (area in square meters) of each pool/swale. (Refer to the Vernal Pool Data Sheet).
7. (Optional) water chemistry data collected during each field visit, including: alkalinity (total: ppm or mg/l), conductivity (uMHO), dissolved oxygen (ppm or mg/l), dissolved NH₄ (ppm or mg/l), pH, salinity (ppt), total dissolved solids (TDS, ppm), and turbidity. (Refer to the Vernal Pool Data Sheet) USFWS 2008 30

Activities in Oregon

1. Surveyors conducting activities in Oregon should consult with the Oregon Department of Fish and Wildlife (503-826-4474), or the Oregon Department of Agriculture (541-737-4135, Rebecca Currin) to determine their responsibilities under the Oregon Endangered Species Act.
2. The surveyor will supply the Oregon Natural Heritage Information Center database, (1807 13th Street, Suite 202, Portland, Oregon 97233; telephone 503-731-3070) with completed Field Survey Forms, no more than 90 calendar days after completing the last field visit of the season at each project site.

Service Contacts:

Roseburg Field Office: telephone number 541 957-3470, fax number 541 957-3475 Oregon Fish and Wildlife Office: telephone number 503 231-6179, fax number: 503 231-6195

Listed Plant survey methodology

Unless otherwise authorized by the Service in writing, this guidance will be utilized for all surveys conducted to determine presence of Cook's lomatium and large-flowered woolly meadowfoam in the Agate Desert area (Figure X and B). The Service must approve any deviations from the methods prescribed by this guidance before surveys are conducted. The entity conducting the surveys will provide the appropriate Service office (see Service Contacts section) with all of the following information in writing for each project site at least 10 working days prior to the anticipated start date of survey work:

- The precise location of the project site, preferably transmitted as an electronic file in a GIS format (preferably reported in UTM Zone 10 NAD 83 (Meters) coordinates), or clearly delineated on either an original or high quality copy of a U.S. Geological Survey topographic map (exact scale, 7.5 minute, 1"=24,000 ft.) with the quad name clearly indicated. Other information needed includes: (1) project name; (2) name of county in which the project site is located; (3) type of project (e.g., urban development, agricultural development; (4) the estimated acreage of the project site and an estimate of the number and acreage of vernal pools/swales on the site.
- Names of all vernal pool biologists and associated personnel conducting field work.
- A Cook's lomatium and/or large-flowered woolly meadowfoam survey report

- Condition of vernal pool complex habitat at time of survey USFWS 2008 31. To perform listed plant surveys, a qualified botanist, scientist, or consultant familiar with the local flora should take part in survey efforts. Surveyors should contact Service staff if uncertain about identification of potentially listed plants (see Service Contact Information). Adverse conditions may prevent surveyors from determining presence of target species. Surveyors should ensure listed plants are left undisturbed when monitoring. To avoid harm to plants, walk slowly out to vernal pool while checking ground and keeping on dry ground as much as possible. If surveyor cannot distinguish individual plants without crushing plants on ground, surveyor may utilize best professional judgment to estimate plant numbers using sample reference plots or grids. A survey report that documents results of the plant survey will be provided to the Service within 90 days following survey. A Cook's desert-parsley (Cook's lomatium) and large-flowered woolly meadowfoam survey procedure will include:
 1. A field survey performed between April 1 and May 15.
 2. A visit to a reference site to determine if lomatium or meadowfoam is flowering.
 3. A complete flowering plant census for lomatium and a total plant census for meadowfoam. A qualitative assessment can be used to determine plant count if count is in excess of 2,000 plants.
 4. Mapping location of the lomatium and/or meadowfoam patches, preferably using GPS equipment (preferably in UTM Zone 10 NAD 83 (Meters) coordinates), or clearly marking on either an original or high quality copy of a U.S. Geological Survey topographic map (exact scale, 7.5 minute, 1"=24,000 ft.).

A survey report will include:

1. Notes on evidence of plant disease or herbivory.
2. Methods used to survey for target plant species.
3. Survey dates.
4. Name and location of reference plant population, if used.
5. If target species are found report should include:
 - a. The estimated plant population size of lomatium (flowering plant census) and/or meadowfoam (total plant census).
 - b. Mapped location of the lomatium and/or meadowfoam patches, preferably preferably transmitted as an electronic file in a GIS format (UTM Zone 10 NAD 83 (Meters) coordinates), or clearly marking on either an original or high quality copy of a U.S. Geological Survey topographic map (exact scale, 7.5 minute, 1"=24,000 ft.).
6. A complete plant list of plants encountered during plant survey.
7. Estimation of non-native invasive plant abundance at survey site.

NOTE: during periods of drought, a delay in surveys may be required. For example, if vernal pool habitat did not receive adequate rainfall, long enough to allow for plant emergence, then negative sampling results may be determined to be inconclusive and further surveys may be needed when conditions allow plants to germinate or re-sprout.

An additional botanical survey in a subsequent year may be required if adverse survey conditions occur in potential habitat. It is best to plan plant surveys when target plants at a reference site are in bloom. USFWS 2008 32

Precautions

Clean foot-wear prior to entering vernal pool habitat to avoid transporting or distributing noxious weed plant parts to vernal pool areas (See Sanitizing Protocol).

7.3 Contingency Planning

Every effort will be made to honor the performance standards listed in the 2011 Vernal Pool Biologic Opinion. However, in the event that a particular standard cannot be met, the following contingency plan will be implemented:

- State the issue in not meeting the standard,
- Provide a rationale of why the standard cannot be met,
- Provide data to support the issue,
- Initiate communications with the lead agency in charge of monitoring, and
- Develop an alternative plan acceptable to the lead agency.

For example, the performance standards state that 85% percent of the vernal pools will have a mean high water depth of 4 to 11 inches in January. Yet it is possible that the month of January at some point in the future is an unusually dry month, making the standard impossible to meet. In this case, local precipitation data supporting the anomalously dry month would be collected, photographs might be taken, and comparisons would be made with prior years. The issue would be discussed with the lead agency, and one outcome might be to re-check the pool hydrology after an ensuing wetter month.

7.4 Reporting Requirements

Management activity notes will be developed and available for lead agency review. Post-construction review of completed work will be conducted to verify that the project plan was properly implemented. The results of this review will be described in a report provided to the lead agency for review. This report will also include:

- a) Any deficiencies to the original plan will be noted; and recommendations provided as to how these deficiencies might be addressed; and
- b) As-built drawings and other relevant information documenting that authorized impacts were not exceeded.

Results of the annual surveys during the five year surveys should be reported to the lead agency within 90 days of completion. If the lead agency determines that the reporting is no longer needed, then the Preserve Manager shall keep copies of the reports in the file to be provided to the lead agencies upon request. The reports will provide data for long-term trend analysis and will be kept in at least 2 locations for redundancy.

Section 8. Preserve Ownership, Estimated Costs, and Funding

8.1 Preserve Owner

The Preserve is owned by the Medford Water Commission, 200 South Ivy Street-Room 177, Medford, Oregon 97501. The Preserve Manager, Bob Jones of the MWC can be contacted at (541) 774-2439.

8.2

8.3 Funding for the LTMP

Funding of the activities at the MWC Preserve will be provided in perpetuity through a dedicated fund that has been set up by the MWC called the Vernal Pool Management Fund (VPMF). The VPMF will be used to fund activities listed in this LTMP that are necessary to support the goal of sustaining and/or improving high quality function of vernal pool wetland complex. The activities will be undertaken to improve and sustain highly functional vernal pools and mounded prairie habitat to sustain populations of appropriate native species, especially the listed species and the habitat characteristics needed for their continued survival (i.e., topography, hydrology and vegetative conditions). The fund will cover all the monitoring and maintenance costs, which will begin after the required 5 year mitigation monitoring period ends. A summary of specific tasks, estimated hours, frequency of each task and associated costs for each task, is shown in Table J-1 for the first 20 years and in Table J-2 for the next 80 years. There are some of the costs required for annual maintenance and reporting that will be handled In-House by MWC staff and /or volunteers. Those costs are already part of the Annual MWC budget.

The Vernal Pool Mitigation Fund (VPMF) was established and funded with \$125,000 in the 2012-2013 MWC Budget. It will be used to fund the LTMP starting after five years. It will earn interest until then and in to the future. The interest rate will vary, but is currently less than 1%. The Medford Water Commission will replenish the VPMF, as necessary, but at least every ten years.

8.4 Costs

Annual Maintenance Costs

The annual costs related to maintaining the Preserve are not fixed. An allowance is set aside for maintenance activities for control of invasive species and improvements such as fencing and signage with a minor accruing amount for incidents of vandalism requiring repair. The annual cost to implement this portion of the LTMP is estimated at **\$1505 as shown in Tables J-1 and J-2. Of these costs, all but \$100 annually will be covered by MWC staff and/or volunteers.**

Monitoring

LTMP Monitoring of performance standards and reporting to the Agencies will occur in Years 5, 10, 15 and 20 and at every ten year interval after Year 20 beginning in Year 30. The estimated cost for each of these monitoring and reporting activities are show in Tables J-1 and J-2. The table shows annualized and total costs. The estimated annualized costs through year 20 is \$2228 and for the next 80 years is \$1214. These costs will be covered by the established Vernal Pool Mitigation Fund.

The total annualized cost to implement the LTMP maintenance, monitoring and reporting for the first 20 years is \$3733, and for the next 80 years is \$2619.

The total estimated costs for maintenance, monitoring and reporting for next 100 years is \$143,680.

Table J-1. Projected Long-Term Management/Maintenance Costs for 1- 20 years

Task	Quantity Units	Cost/Unit \$\$	Total Task Cost	Scheduled Frequency	Annualized Cost	Total 20 year Cost	Funding by VPMF		
							Annualized Cost	Total 20 Year Cost	
A MONITORING									
A1	Periodic Patrol	10 hrs	\$25/hr	\$250	Annual	\$250	\$5,000	\$0	\$0
A2	Inspection Report	4 hrs	\$25/hr	\$100	Annual	\$100	\$2,000	\$0	\$0
A3	Vegetation Sampling (DSL & RGP method used in Vernal Pools)	32 hrs	\$90/hr	\$2,880	Every 5th Year	\$576	\$11,520	\$576	\$11,520
A4	ESA Monitoring, Fairy Shrimp	24 hrs	\$90/hr	\$2,160	Every 5th Year	\$432	\$8,640	\$432	\$8,640
A5	Analysis, Documentation and Plan Updates	40 hrs	\$90/hr	\$3,600	Every 5th Year	\$720	\$14,400	\$720	\$14,400
B VEGETATION MANAGEMENT									
B1	Non-Native Invasive Species Control	16 hrs	\$25/hr	\$400	Annual	\$400	\$8,000	\$0	\$0
B2	Prescribed Burn	1 job	\$2,500	\$2,500	Every 5th Year	\$500	\$10,000	\$500	\$10,000
B3	Grazing Option	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0
B4	Other: seeding, mowing, hand removal, etc.	16 hrs	\$25/hr	\$400	Annual	\$400	\$8,000	\$0	\$0
C MAINTENANCE									
C1	Fence/Gate installation - completed in 2012	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0
C2	Fence/Gate maintenance/materials	5 hrs	\$25/hr	\$125	Annual	\$125	\$2,500	\$0	\$0
C3	Trash Removal	5 hrs	\$25/hr	\$125	Annual	\$125	\$2,500	\$0	\$0
C4	Sign Replacement	4 ea	\$25/sign	\$100	Every 20 years	\$5	\$100	\$0	\$0
D OTHER MISCELLANEOUS COSTS									
		4 hrs	\$25/hr	\$100	Annual	\$100	\$2,000	\$100	\$2,000
TOTALS						\$3,733	\$74,660	\$2,328	\$46,560

SPECIAL NOTE: Several Tasks above will be handled "In-House" by the Medford Water Commission Staff and/or volunteers. They are; A1, A2, B1, B4, C2, C3 and C4. Therefore, those costs will be covered in the Annual Budget. A Special Fund of \$125,000 has been established to fund LTMP annual costs in perpetuity. The fund will earn interest and will be refunded as necessary during budget process.

Table J-2. Projected Long-Term Management/Maintenance Costs for 20-100 years

Task	Quantity Units	Cost/Unit \$\$	Total Task Cost	Scheduled Frequency	Annualized Cost	Total 80 year Cost	Funding by VPMF		
							Annualized Cost	Total 80 Year Cost	
A MONITORING									
A1	Periodic Patrol	10 hrs	\$25/hr	\$250	Annual	\$250	\$20,000	\$0	\$0
A2	Inspection Report	4 hrs	\$25/hr	\$100	Annual	\$100	\$8,000	\$0	\$0
A3	Vegetation Sampling (DSL & RGP method used in Vernal Pools)	32 hrs	\$90/hr	\$2,880	Every 10th Year	\$288	\$23,040	\$288	\$23,040
A4	ESA Monitoring, Fairy Shrimp	24 hrs	\$90/hr	\$2,160	Every 10th Year	\$216	\$17,280	\$216	\$17,280
A5	Analysis, Documentation and Plan Updates	40 hrs	\$90/hr	\$3,600	Every 10th Year	\$360	\$28,800	\$360	\$28,800
B VEGETATION MANAGEMENT									
B1	Non-Native Invasive Species Control	16 hrs	\$25/hr	\$400	Annual	\$400	\$32,000	\$0	\$0
B2	Prescribed Burn	1 job	\$2,500	\$2,500	Every 10th Year	\$250	\$20,000	\$250	\$20,000
B3	Grazing Option	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0
B4	Other: seeding, mowing, hand removal, etc.	16 hrs	\$25/hr	\$400	Annual	\$400	\$32,000	\$0	\$0
C MAINTENANCE									
C1	Fence/Gate installation - completed in 2012	N/A	N/A	N/A	N/A	\$0	\$0	\$0	\$0
C2	Fence/Gate maintenance/materials	5 hrs	\$25/hr	\$125	Annual	\$125	\$10,000	\$0	\$0
C3	Trash Removal	5 hrs	\$25/hr	\$125	Annual	\$125	\$10,000	\$0	\$0
C4	Sign Replacement	4 ea	\$25/sign	\$100	Every 20 years	\$5	\$400	\$0	\$0
D OTHER MISCELLANEOUS COSTS									
		4 hrs	\$25/hr	\$100	Annual	\$100	\$8,000	\$100	\$8,000
TOTALS						\$2,619	\$209,520	\$1,214	\$97,120

SPECIAL NOTE: Several Tasks above will be handled "In-House" by the Medford Water Commission Staff and/or volunteers. They are; A1, A2, B1, B4, C2, C3 and C4. Therefore, those costs will be covered in the Annual Budget. A Special Fund of \$125,000 has been established to fund LTMP annual costs in perpetuity. The fund will earn interest and will be refunded as necessary during budget process.