City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656.4211 • Fax 503.656.4106 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT	PROJECT NO(S).	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP) *
- ☐ Conditional Use (CUP)
- ☐ Design Review (DR)
- ☐ Easement Vacation
- ☐ Extraterritorial Ext. of Utilities
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Hillside Protection & Erosion Control
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA) */**
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Non-Conforming Lots, Uses & Structures
- ☐ Planned Unit Development (PUD)
- ☐ Pre-Application Conference (PA) */**
- ☐ Street Vacation
- ☐ Subdivision (SUB)
- ☐ Temporary Uses *
- ☐ Time Extension *
- ☐ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
- ☒ Water Resource Area Protection/Wetland (WAP)
- ☐ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:	Assessor's Map No.: **21E23CD12301**
1025 ROSEMONT RD **WEST LINN OR 97068**	Tax Lot(s): **01414393**
	Total Land Area: **4.82 acres**

Brief Description of Proposal: **SANITARY SEWER LATERAL AND MANHOLE INSTALLATION**

Applicant Name: (please print)	**WLWSD - TIM WOODLEY**	Phone: **503-673-7195**
Address:	**2755 SW BORLAND RD**	Email: **woodleyt@wlwv.k12.or.us**
City State Zip:	**TUALATIN OR, 97062**	
Owner Name (required): (please print)	**WLWSD - TIM WOODLEY**	Phone: **503-673-7195**
Address:	**2755 SW BORLAND RD**	Email: **woodleyt@wlwv.k12.or.us**
City State Zip:	**TUALATIN OR, 97062**	
Consultant Name: (please print)	**GHD, INC. - SETH STEVENS**	Phone: **503-226-3921**
Address:	**15575 SW SEQUOIA PARKWAY**	Email: **seth.stevens@ghd.com**
City State Zip:	**PORTLAND, OR 97224**	

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application. One (1) complete set of digital application materials must also be submitted on CD in PDF format. If large sets of plans are required in application please submit only two sets.**

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature	Date	Owner's signature ***(required)***	Date
			6-17-13

WEST LINN - WILSONVILLE SCHOOL DISTRICT
Water Resource Area Permit
Revised: June 17, 2013

APPLICATION SUMMARY

Water Resource Area Permit approval to install a sanitary sewer lateral to service a residence currently utilizing a private septic system.

GENERAL INFORMATION

Location
1025 SW Rosemont Rd. (TLNO 21E23CD12301). Its location is shown in Figure 1.

Applicant and Owner

Tim Woodley, Director of Operations
West Linn-Wilsonville School District
2755 SW Borland Road
Tualatin, OR 97062
Phone: 503-673-7195
E-mail: woodleyt@wlwv.k12.or.us

Applicant's Representative

Seth Stevens
GHD, Inc.
15575 SW Sequioa Parkway
Portland, OR 97224
Phone: 503-226-3921
E-mail: seth.stevens@ghd.com

Exhibits and Plan Sheets

C1	Utility Plan
C2	Details & Specifications
C3	Details
Exhibit A	Wetland Delineation / Determination Report
Exhibit B	Oregon Department of State Lands Wetland Delineation Concurrance
Exhibit C	Wetland Mitigation and Enhancement Map
Exhibit D	Native Ecosystems Planting Proposal
Exhibit E	Resource Conservation Easement
Exhibit F	Waiver Request for Section 32.060(B) (2)
Exhibit G	Wetland Mitigation Calculations
Exhibit H	Wetland Mitigation Calculations Map
Exhibit I	Revegetation Plan

Figure 1: Vicinity Map

Source: Google Earth

BACKGROUND INFORMATION

Site Description

The site is developed with the Trillium Creek Primary School, which includes a 68,000 square foot building, driveway, parking and play areas. The entire site is approximately 21 acres. Primary access to the school is provided by Rosemont Road. The northern parcel containing the project site is a parcel of 4.82 acres.

SITE IMPROVEMENTS

The installation of a new sanitary sewer lateral to connect the neighboring residence to the existing sanitary sewer main on the Trillium Creek Primary School site, along with associated revegetation, monitoring and reporting as required.

WATER RESOURCE AREA PERMIT CRITERIA

32.050 APPROVAL CRITERIA

A) The attached delineation report (Exhibit A) was prepared by Winzler & Kelly (now GHD, Inc.) in 2009 as part of the joint permit application for the Trillium Creek Primary School Project. The attached letter from Department of State Lands (DSL) (Exhibit B) provides concurrence for the location of wetlands and waterways on the site as of July 2010. The attached highlighted map (Exhibit C) shows the wetland mitigation and enhancement plan for the site. The blue shaded areas mark the wetland corridor, extensive invasive plant removal has already occurred, and native replanting has begun. The orange shaded areas are the City's WRMA's for the site. Extensive invasive plant removal and native replanting has already occurred in these areas. The red shaded areas mark the DSL Compensatory Wetland Mitigation Areas (WMA) for the site. These include both created and enhanced wetlands. Finally the green shaded area shows the large area north of the wetlands, largely in the 100 foot buffer zone that is undergoing enhancement. Invasive plant removal has occurred, and two day-long events have brought the school and community together to place native plantings in the area. These mitigations and enhancements exceed requirements by wide margins and additional enhancements continue with the school and community to foster an enduring appreciation for wetlands.

B) Development is designed as to maintain the existing natural drainageways and utilize them as the primary method of stormwater conveyance through the project site.

C) There are several methods by which this project could be completed.

The first alternative is the installation of a significant pump and associated piping to reach the nearest sanitary sewer main located under Bay Meadows Drive. This method would require significant work in the right of way, substantially higher materials costs, and brings additional financial risk to the owners of the home in terms of pump maintenance. This method is cost prohibitive, adversely affects property owners and would be disruptive to the community during construction.

The second alternative is to run the new lateral under the homes to the east or west to connect to the sewer mains under their streets. This would be very unpopular and it is unlikely that an agreement could be made with the necessary property owners. It would also be very expensive to bore the substantial line so far. This method may also require the use of a pump, which again increases cost as well as posing a future financial risk to the owners of the home.

The final alternative is proposed: to route the sewer lateral to the sanitary main located on the Trillium Creek Primary site. Of the various routes available on site the selected route minimizes the environmental impact in every way. It is near the edge of the property and avoids wetland areas already improved where possible. It avoids the need to remove trees. The new lateral will travel directly to the existing main to minimize the impacted wetland area. The disturbed area will be revegetated as required, monitored as required, and wetland enhancement efforts beyond requirements will continue with the school and community to foster an enduring appreciation for wetlands.

D) The water resource area is already protected by easements as seen in exhibit E.

E) The setback and transition area are 100 feet as shown in Exhibit C.

F) The proposed development will minimize the impact to the water resource area. The mitigation and revegetation required are fulfilled as described in this application.

G) In the case of this minor project, it is proposed that the District provide orange snow fence to enclose the area of work. The disturbance to the plantings in the area resulting from the placing of anchored chain link fence would likely be as significant as the disturbance from the completion of the actual development. The District feels this approach recognizes the scale of the project, and best protects the site from unnecessary disturbance.

H) There are no trails, walkways or bike paths proposed as part of this development.

I) Storm drainage shall not be affected by this development.

J) This development does not include changing of grades and is intended for dry months of summer, so a full erosion control plan sheet has not been created. Notes have been added to drawing C1 to comply with applicable sections of CDC.

K) Disturbed areas shall be replanted with native plantings by Native Ecosystems. Significant vegetative improvements have already taken place well in excess of requirements as shown on Exhibit C. Additional improvements will continue as the school and community work together to foster an ongoing appreciation of wetlands.

L) Structural setbacks are not required for this development.

M) This development does not include stormwater treatment facilities.

N) This development does not impact the stormwater management system, 100' setback is being used.

O) This development does not include the creation of a building envelope.

P) This development does not impact the stormwater management system.

32.060 SITE PLAN

A) Plans conform to this requirement.

B) Drawing C1 and exhibit C comply with criteria one through seven. Exhibits A and B fulfill criteria eight. *The District has requested a waiver of criteria two as Exhibit F on the basis that the submitted plans include topographic contours that allow the City to review this facet of the improvements.*

32.070 MITIGATION PLAN

A) There are several methods by which this project could be completed.

The first alternative is the installation of a significant pump and associated piping to reach the nearest sanitary sewer main located under Bay Meadows Drive. This method would require significant work in the right of way, substantially higher materials costs, and brings additional financial risk to the owners of the home. This method is cost prohibitive and disruptive.

The second alternative is to run the new lateral under the homes to the east or west to connect to the sewer mains under their streets. This would be very unpopular and it is unlikely that an agreement could be made with the necessary property owners. It would also be very expensive to bore this substantial line so far. This method may also require the use of a pump, which again increases cost as well as posing a future financial risk to the owners of the home. This method is cost prohibitive, disruptive and likely impossible due to required agreements with other property owners.

The final alternative is proposed: to route the sewer lateral to the sanitary main located on the Trillium Creek Primary site. Of the various routes available on site the selected route minimizes the environmental impact in every way. It is near the edge of the property and avoids wetland areas where possible. It avoids the need to remove trees. The new lateral will travel directly to the existing main to minimize the impacted wetland area. The disturbed area will be revegetated after the development, monitored as required, and wetland enhancement efforts beyond requirements will continue with the school and community to foster an enduring appreciation for wetlands.

B)

1) The proposed route does enter the water resource area. The new sanitary sewer lateral will be placed along this route, and remain. The area disturbed shall be limited to the trench area, the area will be revegetated with native plantings as required.

2) The proposed route minimizes the impact by traveling in the most direct line to the existing sanitary sewer main. The proposed route also avoids trees. Wetland Mitigation is included as shown in exhibit C, and has already been completed. Additionally, significant wetland enhancements in this area have already occurred well in excess of requirements. Disturbed vegetation will be replaced with native plantings, monitored as required, and additional enhancement efforts will continue with the school and community to foster an ongoing appreciation of wetlands. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres.

3) Owner/Applicant - WLWSD

Engineer - GHD, Inc.

Contractor - TBD

4) The attached highlighted map (Exhibit C) shows the wetland mitigation and enhancement plan for the site. The blue shaded areas mark the wetland corridor, extensive invasive plant removal has already occurred, and native replanting has begun. The orange shaded areas are the City's WRMA's for the site. Extensive invasive plant removal and native replanting has already occurred in these areas. The red shaded areas mark the DSL Compensatory Wetland Mitigation Areas (WMA) for the site. These include both created and enhanced wetlands. Finally the green shaded area shows the large area north of the wetlands, largely in the 100 foot buffer zone that is undergoing enhancement. Invasive plant removal has occurred, and two day-long events have brought the school and community together to place native plantings in the area. These mitigations and enhancements exceed requirements by wide margins and additional enhancements continue with the school and community to foster an enduring appreciation for

wetlands. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres.

5) Construction: July 1 - August 15, 2013
Mitigation: Completed
Mitigation Maintenance: Contracted for five year maintenance plan through June 2017
Monitoring: Contracted for five year maintenance plan through June 2017
Reporting: Maintenance and monitoring firms contracted to report findings as their scope is completed.
The work will happen during ODFW water work period, at which point Trillium Creek should be dry.
Revegetation: February 2014

6) Mitigation efforts complete with monitoring and maintenance contracts already in place. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres.

7) This development does not affect more than 0.10 acres.

C) *The area of water resource area to be permanently disturbed by the new manhole in the wetland area is conservatively estimated at 25 square feet.* Mitigation is complete as originally designed by Winzler & Kelly (GHD, Inc) and completed as shown in Exhibit C. Revegetation and maintenance shall be provided by Native Ecosystems, who already holds the maintenance contract for the remainder of the wetlands on the site. As noted throughout this application wetland enhancements continue with the school and community to foster an enduring appreciation for wetlands. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres. *The mitigation described was completed as part of the Trillium Creek Primary School project. A map and a table describing the extent to which mitigation has exceeded the City's requirements before and after the proposed improvements have been included in this application as Exhibits G and H respectively.*

D) Mitigation is complete on site as shown in Exhibit C. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres.

E) Mitigation is complete on site as shown in Exhibit C. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres.

32.080 REVEGETATION PLAN REQUIREMENTS

Metro's Native Plant List is incorporated by reference as a part of this chapter, and all plants used in revegetation plans shall be plants found on the Metro Native Plant List. Performance standards for planting upland, riparian and wetland plants include the following:

A) Native trees and shrubs will be hand watered for the time periods required. In this location the installation of temporary irrigation would cause significant harm to the water resource area.

B) Invasive planting removal has already begun, and will be completed prior to revegetation.

C) New native plantings shall comply with this criteria.

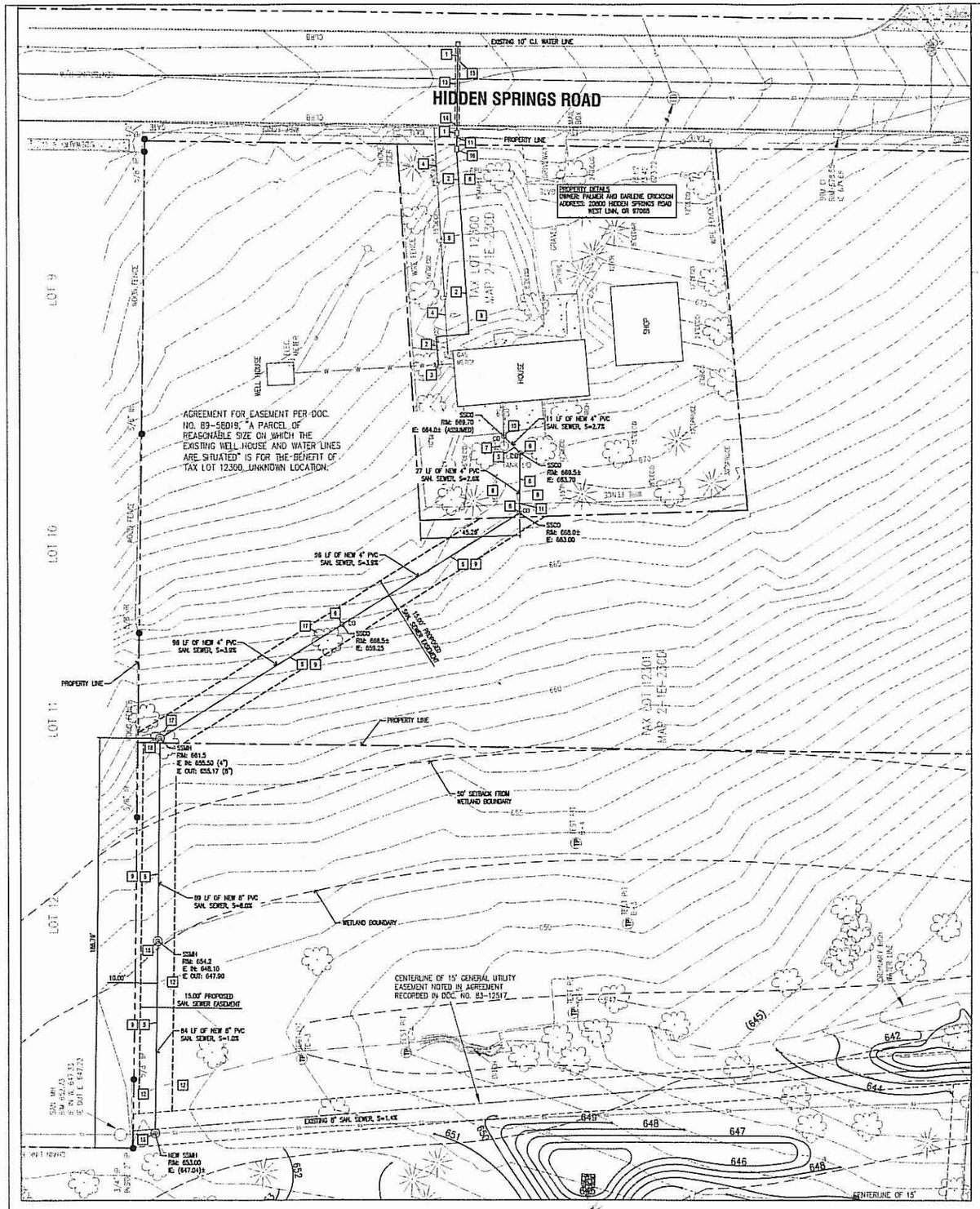
D) New native plantings shall comply with this criteria.

E) New native plantings shall comply with this criteria.

F) SWCA is already contracted to monitor the water resource area plantings, and will report to the District and Native Ecosystems to ensure plant survival and fulfill reporting requirements. The resource conservation easement is in place as shown in Exhibit E, covering over 8.5 acres.

The District has provided a planting plan showing the extent of the revegetation area as well as a table detailing the plantings within the area as Exhibit I. The planting is scheduled to take place in February. The goal is to use bare root plantings to minimize the effect on native soil. These plantings have significantly greater survivability when started that time of year. The District will ensure that appropriate erosion control measures are in place until all work is complete.

Permit Drawings



1 UTILITY PLAN
C1C1 SCALE: 1"=20'-0"

1" = 20'-0" 20' 0 20' 40' 60'

N

CONSTRUCTION NOTES

1. INSTALL 1" WATER SERVICE, METER AND BOX PER CITY OF WEST LINN STANDARD DRAWING WL-402. METER SIZE TO BE 5/8". INSTALL 1" COPPER WATER LINE FROM METER TO PROPERTY LINE, THEN TRANSITION TO PVC. PROVIDE GRADING AS NECESSARY FOR INSTALLATION OF METER BOX. TRENCH BACKFILL MATERIAL (AS DEFINED ON CITY OF WEST LINN STANDARD DRAWING WL-200) SHALL CONSIST OF CLASS B MATERIAL UNDER ALL PAVED SURFACES, AND CLASS A MATERIAL UNDER LANDSCAPED AREAS. → 1 C1C2, 3 C1C2
2. INSTALL 1-1/2" PVC POTABLE WATER LINE, MAINTAIN A MINIMUM OF 3' OF COVER. → 5 C1C2
3. CUT EXISTING WATER SUPPLY LINE AT PROPOSED POINT OF CONNECTION AND CAP THE "WELL" SIDE OF THE LINE. CONNECT NEW WATER SERVICE LINE TO "HOUSE" SIDE OF THE EXISTING WATER SUPPLY LINE. LOCATION OF EXISTING WATER SUPPLY LINE IS ASSUMED. CONTRACTOR TO VERIFY LOCATION PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD.
4. ASSUMED LOCATION OF EXISTING GAS SERVICE LINE. CONTRACTOR TO VERIFY LOCATION PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD.
5. INSTALL PVC SANITARY SEWER PIPE, SIZE PER PLAN. → 5 C1C2
6. INSTALL STANDARD CLEANOUT. → 6 C1C2
7. SEPTIC TANK TO BE DECOMMISSIONED PER THE REQUIREMENTS SPECIFIED ON THIS DRAWING. ASSUMED SEPTIC TANK SIZE IS 1500 GALLONS.
8. RESTORE VEGETATION IN KIND IN AREAS DISTURBED BY CONSTRUCTION.
9. PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO EVALUATE PROPOSED ROUTE FOR SANITARY LINE IN FIELD. NOTIFY ENGINEER IF THERE AREA ANY CONFLICTS WITH PROPOSED ROUTE AND EXISTING SITE FEATURES.
10. CONNECT TO EXISTING BUILDING SANITARY LINE AND INSTALL CLEANOUT. LOCATION AND DEPTH OF EXISTING SANITARY LINE IS ASSUMED. CONTRACTOR TO VERIFY LOCATION AND DEPTH PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD.
11. REMOVE PORTION OF FENCE AS NECESSARY FOR INSTALLATION OF NEW UTILITY. REPAIR FENCE IN KIND AFTER INSTALLATION OF UTILITY.
12. THIS IS A JURISDICTIONAL WETLAND AREA. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS FOR CONSTRUCTING PROPOSED IMPROVEMENTS WITHIN WETLAND. CONTRACTOR TO MINIMIZE DISTURBANCE WITHIN EXISTING WETLAND AREA TO THE MAXIMUM EXTENT POSSIBLE. RESTORE AREAS DISTURBED BY CONSTRUCTION TO PRE-DISTURBED CONDITION.
13. SAWCUT EXISTING PAVEMENT AS NECESSARY FOR INSTALLATION OF NEW WATER SERVICE LINE. REPAIR PAVEMENT AFTER INSTALLATION OF WATER LINE. → 2 C1C2, 7 C1C2
14. SAWCUT EXISTING CURB AND GUTTER AS NECESSARY FOR INSTALLATION OF NEW WATER SERVICE LINE. REPAIR CURB AND GUTTER AFTER INSTALLATION OF WATER LINE. → 4 C1C2
15. INSTALL NEW MANHOLE AND CONNECT TO EXISTING SANITARY SEWER LINE. LOCATION AND DEPTH OF EXISTING SANITARY LINE IS ASSUMED. CONTRACTOR TO VERIFY LOCATION AND DEPTH PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD. → 1 C1C3, 2 C1C3, 3 C1C3, 4 C1C3, 5 C1C3
16. INSTALL 1-1/2" DOUBLE CHECK ASSEMBLY. → 8 C1C2
17. APPROXIMATE LOCATION OF EXISTING TREE. CONTRACTOR TO REMOVE EXISTING TREE AND ROOT SYSTEM AND DISPOSE OF OFF-SITE.
18. INSTALL NEW MANHOLE. → 1 C1C3

GENERAL SITE NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING.
2. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
3. IN AREAS WHERE ASPHALT PAVING IS BEING REWORKED, PROVIDE NEW PAINT STRIPING FOR ALL REVISED PAVING WORK.
4. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH CITY INSPECTOR(S). CONTRACTOR SHALL NOTIFY CITY INSPECTOR(S) 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. DURING CONSTRUCTION, THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF PERMIT APPROVED PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
6. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
7. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO CITY OF WEST LINN STANDARDS AND SPECIFICATIONS.
8. SURVEY OF EXISTING CONDITIONS PREPARED BY COMPASS ENGINEERING. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL SURVEY DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT-OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFORMATION TO DESIGN PRIOR TO CONSTRUCTION.
10. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
12. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS. DISTURBED LANDSCAPED AREAS SHALL RECEIVE BARK DUST AND REPLACEMENT PLANTINGS. DISTURBED NATURAL AREAS SHALL BE HYDROSEEDED TO REPLACE NATIVE COVER. DISTURBED GRAVEL AREAS SHALL RECEIVE REPLACEMENT GRAVEL OR CRUSHED ROCK SURFACING.
13. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
14. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.
15. ALL EXISTING MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. IF ANY MONUMENTS ARE DISTURBED OR DESTROYED DURING CONSTRUCTION, CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED LAND SURVEYOR TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY STATE LAW.
16. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.
17. CONTRACTOR SHALL DEVELOP TEMPORARY TRAFFIC CONTROL PLAN AND PROVIDE IT TO THE CITY OF WEST LINN PRIOR TO THE START OF CONSTRUCTION.
18. CONTRACTOR TO PROVIDE ALL TEMPORARY SIGNAGE.

SEPTIC DECOMMISSIONING REQUIREMENTS

A. DECOMMISSION INDICATED SEPTIC FACILITIES PER OREGON DEQ REQUIREMENTS (OAR 340-071-0185) AND CITY OF WEST LINN REQUIREMENTS.

B. A DECOMMISSION PERMIT IS REQUIRED PRIOR TO ANY WORK BEING PERFORMED. CONTRACTOR TO PROVIDE ALL NECESSARY SERVICES AND FEES TO OBTAIN PERMIT.

C. FACILITIES TO BE PUMPED BY A LICENSED SEWAGE DISPOSAL SERVICE TO REMOVE ALL SEPTAGE.

D. FACILITIES TO BE FILLED WITH 3/4" MINUS GRAVEL.

E. CONTRACTOR TO ARRANGE FOR FACILITIES TO BE INSPECTED BY CITY REPRESENTATIVE PRIOR TO BEING COVERED.

GENERAL UTILITY NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM RECORD DRAWINGS AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
2. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
3. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM. ALL ADDITIONAL WORK OR PARTS TO CONFORM TO CITY OF WEST LINN STANDARDS AND APPROVAL.
4. CONTRACTOR SHALL COORDINATE A UTILITY LOCATE 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES BOTH IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY. CONTRACTOR SHALL COORDINATE THE UTILITY LOCAL WITH MUNICIPALITY HAVING JURISDICTION FOR ALL UTILITY WORK WITHIN A PUBLIC RIGHT-OF-WAY. INFORM ENGINEER IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS. PRE-SURVEY LOCATING REQUESTS SHALL BE 14 DAYS IN ADVANCE.
5. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.
6. ALL UTILITY CONSTRUCTION ON PRIVATE PROPERTY SHALL CONFORM TO THE LATEST EDITION OF THE OREGON PLUMBING SPECIALTY CODE. ALL UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD REQUIREMENTS OF THE MUNICIPALITY HAVING JURISDICTION.
7. ALL BURIED LINES TO HAVE 3 FEET MINIMUM COVER, UNLESS NOTED OTHERWISE.
8. THRUST RESTRAINTS REQUIRED ON ALL PRESSURE LINE BENDS AND FITTINGS.
9. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.
10. CONFIRM ALL UTILITY VALVE VAULTS, VALVES, METERS, BACKFLOW PREVENTION ASSEMBLIES, AND OTHER PUBLIC UTILITY APPURTENANCES IN THE RIGHT-OF-WAY WITH THE MUNICIPALITY HAVING JURISDICTION.

GENERAL NOTE
ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS.

ATTENTION EXCAVATORS

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BEFORE COMMENCING ANY EXCAVATION. CALL 503-246-6699.

No.	Revision	Drawn	Job Manager	Project Director	Date
-	Issued for Bid	-			6/14/13
-	Issued for Permit	-			5/9/13

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

REGISTERED PROFESSIONAL ENGINEER — OREGON — JULY 14, 1995 — SCOTT T. STEVENS — EXPIRES: 6/30/15 — 6/14/13

Reuse of Documents
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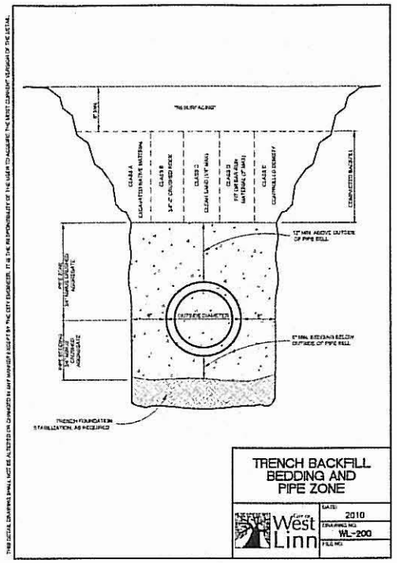
Client: WEST LINN-WILSONVILLE SCHOOL DISTRICT
Project: ERICKSON PROPERTY UTILITY IMPROVEMENTS
Title: UTILITY PLAN

Scale	AS SHOWN	Contract No.	8410015
Drawn	STS	Designer	STS
Drafting Check		Design Check	
Approved (Project Director)			
Date	6/14/2013		

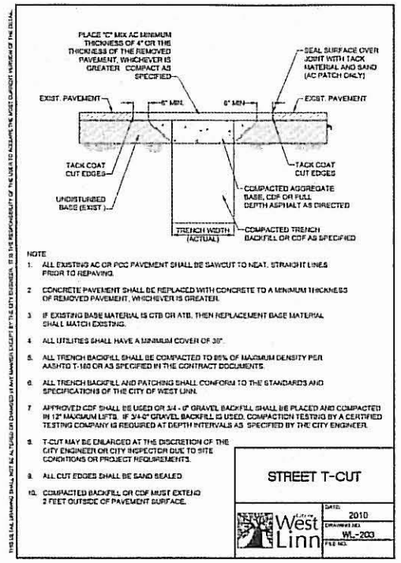
This Drawing must not be used for Construction unless Signed and Sealed as Approved

Drawing No. C1 — Original Size Arch E1 — Rev. — Sht 1 of 3

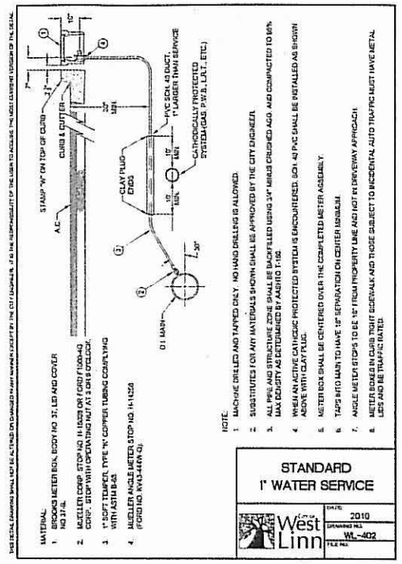
Plot Date: 14 June 2013 - 2:16 PM Plotted By: Seth Stevens Cad File No: G:\11\408 - WLWSD (West Linn-Wilsonville School Dist)\8410015 WLWSD Erickson Property Utilities\CAD\Sheets\8410015 CP Utilities.dwg



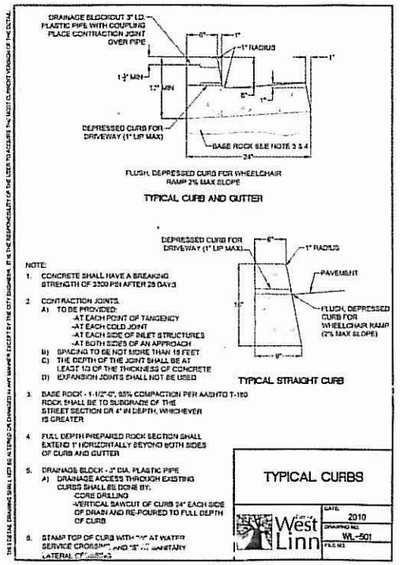
1 C1C2 CITY OF WEST LINN
TRENCH BACKFILL BEDDING AND PIPE ZONE
SCALE: NONE



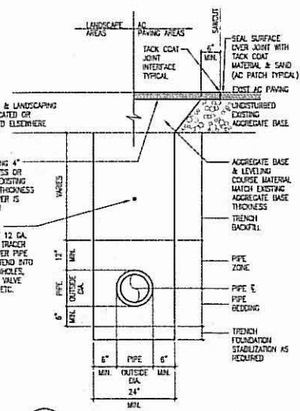
2 C1C2 CITY OF WEST LINN
STREET T-CUT
SCALE: NONE



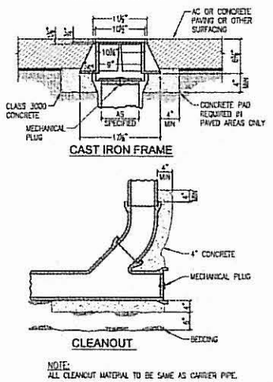
3 C1C2 CITY OF WEST LINN
STANDARD 1" WATER SERVICE
SCALE: NONE



4 C1C2 CITY OF WEST LINN
TYPICAL CURBS
SCALE: NONE

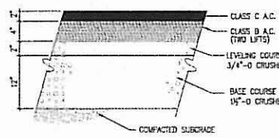


5 C1C2 UTILITY TRENCH SECTION
SCALE: NONE

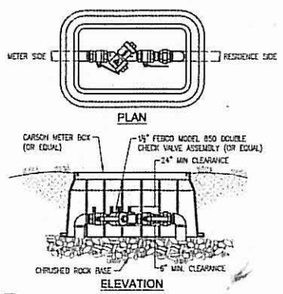


NOTE:
ALL CLEANOUT MATERIAL TO BE SAME AS CARRIER PIPE.

6 C1C2 TYPICAL CLEANOUT
SCALE: NONE



7 C1C2 TYPICAL PAVEMENT SECTION
SCALE: NONE



8 C1C2 1-1/2" DOUBLE CHECK ASSEMBLY
SCALE: NONE

GENERAL SPECIFICATIONS

SECTION 02318 - EARTHWORK FOR UTILITIES

1. TRENCH FOUNDATION MATERIAL
   A. ON-SITE MATERIAL: NATIVE MATERIAL MAY BE USED AS TRENCH FOUNDATION IF IT IS FIRM, CLEAN, AND UNDISTURBED.
   B. IMPORTED MATERIAL: SELECTED NATURAL FILL MATERIAL FROM OFF-SITE BORROW SHALL CONSIST OF THE FOLLOWING OR A BLEND THEREOF WELL GRADED FREE DRAINING OR CRUSHED ROCK UP TO 1½" IN MAXIMUM SIZE WITH NOT MORE THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
2. PIPE BEDDING MATERIAL
   A. IMPORTED MATERIAL: ¾" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
   B. FINE AGGREGATE CLEAN WASHED SAND, 100% PASSING A #4 SIEVE WITH LESS THAN 5% PASSING THROUGH A #200 SIEVE.
3. PIPE ZONE MATERIAL
   A. IMPORTED MATERIAL: ¾" MINUS WELL GRADED CRUSHED ROCK WITH LESS THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
   B. IMPORTED MATERIAL: FINE AGGREGATE CLEAN WASHED SAND, 100% PASSING A #4 SIEVE WITH LESS THAN 5% PASSING THROUGH A #200 SIEVE.
4. TRENCH BACKFILL MATERIAL
   A. ON-SITE MATERIAL (NOT UNDER STRUCTURES OR PAVING): CLEAN, ON SITE NATIVE MATERIAL IS SUITABLE FOR USE AS TRENCH BACKFILL MATERIAL IN AREAS NOT UNDER STRUCTURES OR PAVING IF IT CAN BE PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS. EXCAVATED ONSITE NATIVE MATERIAL SHALL NOT BE USED AS TRENCH BACKFILL MATERIAL UNDER STRUCTURES OR PAVEMENTS. STOCK PILED ONSITE EXCAVATED NATIVE MATERIAL USED AS GENERAL BACKFILL SHALL BE FREE OF ALL ORGANIC MATERIAL AND SHALL BE WITHIN 3% OF OPTIMUM MOISTURE CONTENT.
   B. IMPORTED MATERIAL (UNDER STRUCTURES OR PAVING): SELECTED NATURAL FILL MATERIAL FROM OFF-SITE BORROW SHALL CONSIST OF THE FOLLOWING OR A BLEND THEREOF WELL GRADED FREE DRAINING OR CRUSHED ROCK UP TO 1½" IN MAXIMUM SIZE WITH NOT MORE THAN 5% OF FINES PASSING THROUGH A #200 SIEVE.
5. DRAINAGE AGGREGATE MATERIAL
   A. MEDIUM AGGREGATE ½ OR ⅜ TO ¾ INCH, CLEAN WASHED MEDIUM SIZED DRAIN GRAVEL WITH LESS THAN 5% PASSING THROUGH A #200 SIEVE.
6. WHEN IN THE JUDGMENT OF THE OWNER, THE EXISTING MATERIAL IN THE BOTTOM OF THE TRENCH IS UNSUITABLE FOR SUPPORTING THE PIPE, EXCAVATE BELOW THE PIPE AS DIRECTED. PLACE BACKFILL IN TRENCH TO SUBGRADE OF PIPE BEDDING WITH TRENCH FOUNDATION MATERIAL OVER FULL WIDTH OF THE TRENCH AND COMPACT LAYERS NOT EXCEEDING 6 INCHES DEEP TO THE REQUIRED GRADE.
7. PLACE SPECIFIED BEDDING MATERIAL IN AT LEAST TWO LIFTS. PLACE FIRST LIFT TO PROVIDE THE MINIMUM 6 INCH DEPTH OF BEDDING MATERIAL SHOWN ON THE PLAN BEFORE THE PIPE IS INSTALLED. SPREAD BEDDING SMOOTHLY TO PROPER GRADE SO THE PIPE IS UNIFORMLY SUPPORTED ALONG THE BARREL AND EXCAVATE BELL HOLES AT EACH JOINT TO PERMIT PROPER ASSEMBLY AND INSPECTION OF THE ENTIRE JOINT. PROVIDE FIRM UNYIELDING SUPPORT ALONG THE ENTIRE PIPE LENGTH.
8. PLACE SUBSEQUENT LIFTS OF NOT MORE THAN 6 INCHES IN THICKNESS UP TO THE HORIZONTAL CENTERLINE OF THE PIPE. BRING LIFTS UP TOGETHER ON BOTH SIDES OF THE PIPE AND CAREFULLY WORK UNDER THE PIPE BY SLICING WITH A SHOVEL OR OTHER APPROVED PROCEDURE. PAY PARTICULAR ATTENTION TO THE AREA FROM THE FLOW LINE TO THE HORIZONTAL CENTERLINE OF THE PIPE OR TOP OF BEDDING TO INSURE THAT FIRM SUPPORT IS OBTAINED TO PREVENT ANY LATERAL MOVEMENT OF THE PIPE DURING THE FINAL BACKFILLING OF THE PIPE ZONE. PLACE PIPE BEDDING FULL WIDTH OF TRENCH.
9. PLACE SPECIFIED PIPE ZONE MATERIAL CAREFULLY AROUND THE PIPE IN 6 INCH LAYERS AND THOROUGHLY HAND TAMP WITH APPROVED STICKS SUPPLEMENTED BY RAMMING IN AND SLASHING WITH A SHOVEL. PREVENT PIPE FROM MOVING EITHER HORIZONTALLY OR VERTICALLY DURING PLACEMENT AND COMPACTION OF THE PIPE ZONE MATERIAL. MECHANICAL COMPACTORS ARE PROHIBITED FOR PLACEMENT OF FILL IN THE PIPE ZONE.
10. BACKFILL TRENCH ABOVE THE PIPE ZONE TO WITHIN 6 INCHES OF THE FINAL SURFACE GRADE SHOWN ON THE PLANS IN LIFTS NOT TO EXCEED 8 INCHES OF LOOSE DEPTH. IN UNPAVED AREAS, COMPACT EACH LIFT TO MINIMUM 92% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D698 WITH MECHANICAL VIBRATORS OR IMPACT TAMPERS. COMPACT TRENCH AREAS AT PAVING AND INSIDE BUILDING AREAS TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
11. WHEN TEMPORARY STEEL PLATES ARE INSTALLED OVER A STREET CUT, THEY SHALL BE CAPABLE OF CARRYING AT LEAST AN MS-18 LOADING. PLACE STEEL PLATES WITH A MINIMUM OF 12 INCHES BEARING ON ALL SIDES OF A CUT. ANCHOR STEEL PLATES TO MINIMIZE SHIFTING. SHIM THE EDGES OF ALL STEEL PLATES WITH COLD MIX ASPHALT.

SECTION 02539 - EXTERIOR WATER DISTRIBUTION

1. WATER SERVICE PIPING (LESS THAN 4" DIAMETER)
   A. COPPER TUBING AND ASSOCIATED FITTINGS SHALL CONFORM TO ASTM B88, TYPE K. FITTINGS FOR SOLDER-TYPE JOINT SHALL CONFORM TO ANSI B16.18 OR ANSI B16.22; FITTINGS FOR COMPRESSION-TYPE JOINT SHALL CONFORM TO ANSI B16.26, FLARED TUBE TYPE.
   B. PVC WATER SERVICE PIPING SHALL BE ASTM D 1785 SCHEDULE 40 OR ASTM D 2241, CLASS 160. FITTINGS SHALL BE ASTM D 2468. SOLVENT CEMENT FOR JOINTING SHALL BE PER ASTM D 2564.
2. TAPPING SLEEVES SHALL BE DUCTILE IRON EPOXY COATED STEEL OR STAINLESS STEEL FITTINGS. BRANCH OUTLET FROM TAPPING SLEEVE SHALL BE SCHEDULE 10 MINIMUM. SLEEVE SHALL CONFORM TO LOCAL MUNICIPALITY REQUIREMENTS.
3. INSTALL PVC PIPING AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AWWA C 605.
4. INSTALL VALVES, FITTINGS, HYDRANTS, AND THRUST BLOCKING IN ACCORDANCE WITH AWWA C 600.
5. TEST WATER MAINS AND WATER SERVICE LINES IN ACCORDANCE WITH THE REQUIREMENTS OF AWWA C 600 FOR HYDROSTATIC TESTING. TEST DUCTILE-IRON PIPELINES WITH MECHANICAL JOINTS SHALL NOT EXCEED THE AMOUNTS GIVEN IN AWWA C 600. THE AMOUNT OF LEAKAGE ON DUCTILE-IRON PIPE WITH MECHANICAL JOINTS SHALL BE EXCEED THE AMOUNTS GIVEN IN AWWA C 600. NO LEAKAGE WILL BE ALLOWED AT JOINTS MADE BY ANY OTHER METHOD.
6. AFTER THOROUGHLY FLUSHING THE SYSTEM WITH WATER TO REMOVE SEDIMENT, THE SYSTEM SHALL BE DISINFECTED ACCORDING TO AWWA C 651.
7. SUBMITTALS: SUBMIT MANUFACTURERS STANDARD CATALOG DATA FOR THE FOLLOWING
   A. PIPE & FITTINGS

SECTION 02539 - SANITARY SEWER SYSTEM

1. GRAVITY SANITARY SEWER PIPING
   A. PVC PIPE SHALL CONFORM TO ASTM D3034, SDR 35, (4" TO 15") OR ASTM F679, PS 46, (18" TO 27").
2. INSTALL PVC PIPE AND FITTINGS IN ACCORDANCE WITH THE GENERAL REQUIREMENTS FOR INSTALLATION OF PIPELINES AND WITH THE REQUIREMENTS OF UNI-B-5 FOR LAYING AND JOINING PIPE AND FITTINGS. MAKE JOINTS WITH THE GASKETS PREVIOUSLY SPECIFIED JOINTS WITH THIS PIPING. ASSEMBLE THESE JOINTS IN ACCORDANCE WITH THE REQUIREMENTS OF UNI-B-5 FOR ASSEMBLY OF JOINTS. MAKE JOINTS TO OTHER PIPE MATERIALS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PLASTIC PIPE MANUFACTURER.
3. HYDROSTATIC TESTING (GRAVITY LINES)
   A. PIPE AND JOINTS SHALL SUSTAIN LOSSES NOT EXCEEDING 0.04 GALLONS PER HOUR PER INCH DIAMETER PER 100 FEET WHEN FIELD TESTED BY EXFILTRATION METHODS, EXCEPT 0.3 GALLONS PER HOUR MAY BE USED IN ARID CLIMATE ZONES IF APPROVED BY THE ENGINEER.
   B. THE HYDROSTATIC HEAD FOR TEST PURPOSES SHALL EXCEED THE MAXIMUM ESTIMATED GROUND WATER LEVEL IN THE SECTION BEING TESTED BY AT LEAST 72 INCHES AND IN NO CASE SHALL BE LESS THAN 72 INCHES ABOVE THE INSIDE TOP OF THE HIGHEST SECTION OF PIPE IN THE TEST SECTION, INCLUDING SERVICE CONNECTIONS. THE ENGINEER SHALL MAKE THE FINAL DECISIONS REGARDING TEST HEIGHT FOR THE WATER IN THE PIPE SECTION BEING TESTED. THE LENGTH OF PIPE TESTED BY EXFILTRATION SHALL BE LIMITED SO THAT THE PRESSURE ON THE INVERT OF THE LOWER END OF THE SECTION SHALL NOT EXCEED 28 FEET OF WATER COLUMN.
4. IN ADDITION TO HYDROSTATIC OR AIR TESTING, THE CONTRACTOR SHALL CONDUCT DEFLECTION TESTS OF SANITARY SEWERS CONSTRUCTED OF FLEXIBLE PIPE. THE TESTING SHALL BE CONDUCTED BY PULLING AN APPROVED MANDREL THROUGH THE COMPLETED PIPELINE. THE DIAMETER OF THE MANDREL SHALL BE 95% OF THE PIPE INITIAL INSIDE DIAMETER.
5. SUBMITTALS: SUBMIT MANUFACTURE'S CATALOG DATA FOR PIPING & MANHOLES.

No.	Revision	Drawn	Job Manager	Project Director	Date
-	Issued for Bid	-			6/14/13
-	Issued for Permit	-			5/3/13

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

REGISTERED PROFESSIONAL ENGINEER OREGON KEITH T. STEVENS 6/14/13 EXPIRES: 6/30/14

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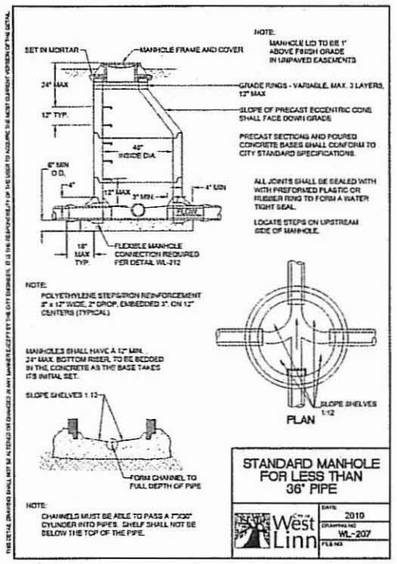
Client **WEST LINN-WILSONVILLE SCHOOL DISTRICT**
Project **ERICKSON PROPERTY UTILITY IMPROVEMENTS**
Title **DETAILS & SPECIFICATIONS**

Scale	AS SHOWN	Contract No.	8410015
Drawn	STS	Designer	STS
Drafting Check		Design Check	
Approved (Project Director)			
Date	6/14/2013		

This Drawing must not be used for Construction unless Signed and Sealed as Approved

Drawing No. **C2**
Original Size **Arch E1**
Sht 2 of 3
Rev.

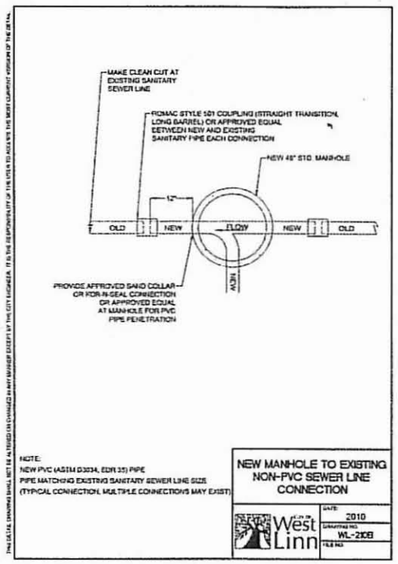
Plot Date: 14 June 2013 - 3:19 PM Plotted by: Seth Stevens Cad File No: G:\11\1474 - WLWSD (West Linn-Wilsonville School District)\04\11015 WLWSD Erickson Property Utilities\Civil\Sheets\11015 C2-Details & Specs.dwg



STANDARD MANHOLE FOR LESS THAN 36" PIPE

DATE: 2010
DRAWING NO: WL-207
FILE NO:

1 C1C3 CITY OF WEST LINN
STANDARD MANHOLE
SCALE: NONE

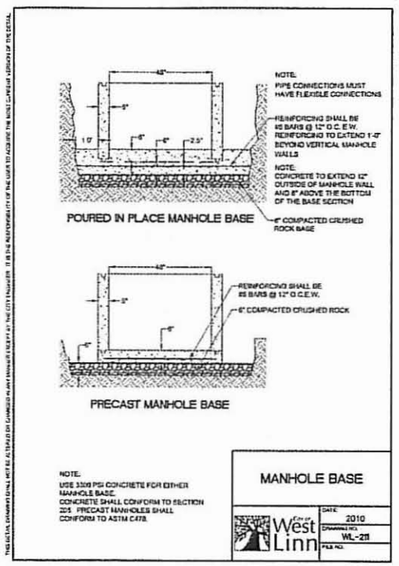


NOTE:
NEW PVC (ASTM D3034, EDR 35) PIPE MATCHING EXISTING SANITARY SEWER LINE SIZE. (TYPICAL CONNECTION, MULTIPLE CONNECTIONS MAY EXIST)

NEW MANHOLE TO EXISTING NON-PVC SEWER LINE CONNECTION

DATE: 2010
DRAWING NO: WL-208
FILE NO:

2 C1C3 CITY OF WEST LINN
MANHOLE CONNECTION TO EXISTING PIPE
SCALE: NONE

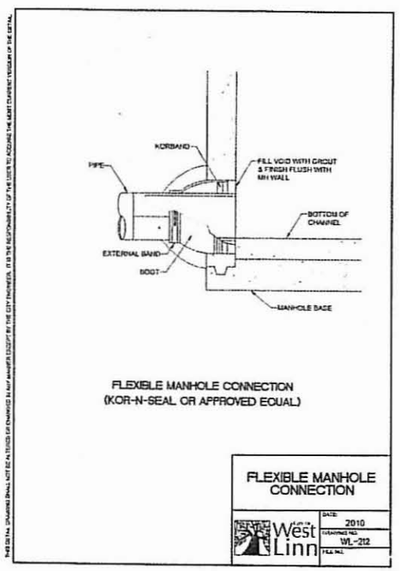


NOTE:
USE 3300 PSI CONCRETE FOR EITHER MANHOLE BASE.
CONCRETE SHALL CONFORM TO SECTION 205. PRECAST MANHOLES SHALL CONFORM TO ASTM C478.

MANHOLE BASE

DATE: 2010
DRAWING NO: WL-211
FILE NO:

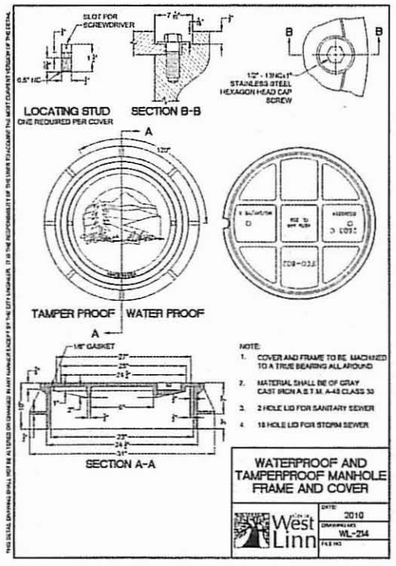
3 C1C3 CITY OF WEST LINN
MANHOLE BASE
SCALE: NONE



FLEXIBLE MANHOLE CONNECTION

DATE: 2010
DRAWING NO: WL-212
FILE NO:

4 C1C3 CITY OF WEST LINN
FLEXIBLE MANHOLE CONNECTION
SCALE: NONE



NOTE:
1. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND
2. MATERIAL SHALL BE OF GRAY CAST IRON A.S.T.M. A-48 CLASS 30
3. 2 HOLE LID FOR SANITARY SEWER
4. 18 HOLE LID FOR STORM SEWER

WATERPROOF AND TAMPERPROOF MANHOLE FRAME AND COVER

DATE: 2010
DRAWING NO: WL-234
FILE NO:

5 C1C3 CITY OF WEST LINN
MANHOLE FRAME & COVER
SCALE: NONE

No.	Revision	Drawn	Job Manager	Project Director	Date
-	Issued for Bid	-			6/14/13
-	Issued for Permit	-			5/9/13

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

REGISTERED PROFESSIONAL ENGINEER — OREGON — SCOTT T. STEVENS — 6/14/13

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Client: WEST LINN-WILSONVILLE SCHOOL DISTRICT
Project: ERICKSON PROPERTY UTILITY IMPROVEMENTS
Title: DETAILS

Scale	AS SHOWN	Contract No.	8410015
Drawn	STS	Designer	STS
Drafting Check		Design Check	

Approved (Project Director)
Date 6/14/2013
This Drawing must not be used for Construction unless Signed and Sealed as Approved

Drawing No. C3
Original Size Arch E1
SM 3 of 3
Rev.

File Date: 14 June 2013 - 2:18 PM Printed by: Seth Stevens Cad File No. G:\11408 - WLWSD (West Linn-Wilsonville School District)\8410015 WLWSD Erickson Property Utilities\08-CAD Drawing\8410015 C3 Details.dwg

Exhibit A

WETLAND DELINEATION / DETERMINATION REPORT COVER FORM

This form must be included with any wetland delineation report submitted to the Department of State Lands for review and approval. A wetland delineation report submittal is not "complete" unless the fully completed and signed report cover form and the required fee are submitted. Attach the form to the front of an unbound report and submit to: **Oregon Department of State Lands, 775 Summer Street NE, Suite 100, Salem, OR 97301-1279**
Mail a copy of the completed form with payment of the required report review fee to: **Oregon Department of State Lands, P.O. Box 4395, Unit 18, Portland, OR 97208-4395.**
For new credit card payment option, see DSL web site.

☐ Applicant ☒ Owner Name, Firm and Address: **West Linn-Wilsonville School District 3TJ** **PO Box 35** **West Linn, Oregon 97068** **Attn: Tim Woodley**	Business phone # **(503) 673-7976** Mobile phone # (optional) FAX # E-mail: **Woodleyt@wlwv.k12.or.us**
☐ Authorized Legal Agent, Name and Address:	Business phone # FAX # Mobile phone # E-mail:

I either own the property described below or I have legal authority to allow access to the property. I authorize the Department to access the property for the purpose of confirming the information in the report, after prior notification to the primary contact.
Typed/Printed Name: Tim K. Woodley Signature: Tim K Woodley
Date: 5.28.09 Special instructions regarding site access:

Project and Site Information (for latitude & longitude, use centroid of site or start & end points of linear project)

Project Name: **Erickson Primary School Site**	Latitude: **45°22'30.37"** Longitude: **122°39'04.96"**
Proposed Use: **Elementary School (K-12)**	Tax Map # **21 E 23 CD** **Supplemental 2**
Project Street Address (or other descriptive location): **1025 Rosemont Rd**	Township **T25** Range **R1E** Section **23, 26** QQ **SESW** Tax Lot (s) **12301, 12500, 12700, 12800**
City: **West Linn** County: **Clackamas**	Waterway: **Trillium Creek** River Mile: **N/A** NWI Quad(s): **Lake Oswego & Oregon City**

Wetland Delineation Information

Wetland Consultant Name, Firm and Address: **Nancy Olmsted, Winzler & Kelly** **15575 SW Sequoia Parkway #140** **Portland, OR 97224**	Phone # **503-226-3921** Mobile phone # **503-701-9987** FAX # **503-226-3926** E-mail: **nancyolmsted@w-and-k.com**

The information and conclusions on this form and in the attached report are true and correct to the best of my knowledge.
Consultant Signature: Nancy Olmsted Date: 5-28-09

Primary Contact for report review and site access is ☒ Consultant ☐ Applicant/Owner ☐ Authorized Agent

Wetland/Waters Present? ☒ Yes ☐ No | Study Area size: **19.5 ac** Total Wetland Acreage: **2.92 ac**

Check Box Below if Applicable:

- ☐ R-F permit application submitted
- ☐ Mitigation bank site
- ☐ Wetland restoration/enhancement project (not mitigation)
- ☐ Industrial Land Certification Program Site

Fees:

- ☒ Fee payment submitted **$ 364**
- ☐ Fee ($100) for resubmittal of rejected report

Name of Payor:

Other Information:	Y	N	
Has previous delineation/application been made on parcel?	☒	☐	If known, previous DSL # **WD # 93-0131**
Does LWI, if any, show wetland or waters on parcel?	☒	☐	

For Office Use Only

DSL Reviewer: _____ Fee Paid Date: ____/____/____ DSL WD # _____
Date Delineation Received: ____/____/____ DSL Project # _____ DSL Site # _____
Scanned: ☐ Final Scan: ☐ DSL WN # _____ DSL App. # _____

Form Effective January 1, 2008

Oregon Streamflow Duration Field Assessment Form (Interim Version – March 2009)

Project # / Name	Erickson Site PS	Evaluator Attended ☐ Orientation ☐ Field Training	
Address	1025 Rosemont Road	Date	2/27/09
Waterway Name	Trillium Creek	Coordinates at downstream end (ddd.mm.ss)	Lat. 45.22'35 N
Reach Boundaries	Headwaters in W. Hidden Springs Ct		Long. 122.38' W
Precipitation w/in 48 hours (cm)	0.2	Channel Gradient (%) 2%	Channel Width (m) 0.5

Observed Hydrology: "Dry Channel" ☐ Water Absent ☐ No surface flow but at least one pool present; "Wet Channel" ■ Surface flow present but not spatially continuous ☐ Continuous surface flow

☐ Disturbed Site / Difficult Situation (Describe in "Notes")

		Absent	Weak	Moderate	Strong
Geomorphology	1. Continuous Bed and Bank	☐ 0	■ 1	☐ 2	☐ 3
	2. In-channel Structure / Organized Sequences	☐ 0	■ 1	☐ 2	☐ 3
	3. Soil texture or stream substrate sorting	☐ 0	■ 1	☐ 2	☐ 3
	4. Erosional Features (☐ Check this box if >50% of the streambed consists of exposed bedrock)	☐ 0	☐ 0.5	■ 1	☐ 1.5
	5. Depositional Features	☐ 0	☐ 1	■ 2	☐ 3
	6. Sinuosity	☐ 0	☐ 1	■ 2	■ 3
	7. Headcuts And Grade Controls	■ 0	☐ 0.5	☐ 1	☐ 1.5
	GEOMORPHOLOGY SUBTOTAL:				9
Hydrology	8. Groundwater (Wet) / Hyporheic (Dry)	☐ 0	■ 1	☐ 2	☐ 3
	9. Springs And Seeps (Note Locations)	☐ 0	☐ 1	■ 2	☐ 3
	10. Evenly Disbursed Leaf Litter / Loose Debris ▼	☐ 1.5	☐ 1	☐ 0.5	■ 0
	11. Debris Piles And Wrack Lines	■ 0	☐ 0.5	☐ 1	☐ 1.5
	12. Redoximorphic Features In Toe Of Bank	■ Absent = 0		☐ Present = 1.5	
	HYDROLOGY SUBTOTAL:				3
Biology	13. Wetland Plants In / Near Streambed	☐ FAC 0.5	■ FACW 0.75	☐ OBL 1.5	☐ SAV 2 ☐ None
	14. Fibrous Roots / Rooted Plants In Thalweg ▼	■ 3	☐ 2	☐ 1	☐ 0
	15. Streamer Mosses And Algal Mats	☐ 0	■ 0.5	☐ 1	☐ 1.5
	16. Iron Oxidizing Bacteria, Fungus, Flocculent	☐ 0	■ 1	☐ 2	☐ 3
	17. Macroinvertebrates	☐ 0	■ 1	☐ 2	☐ 3
	18. Amphibians	☐ 0	■ 0.5	☐ 1	☐ 1.5
	19. Fish	■ 0	☐ 1	☐ 2	☐ 3
	20. Lichen Line (Arid Regions and Alpine Areas Only)	■ 0	☐ 0.5	☐ 1	☐ 1.5
	21. Riparian Corridor (Arid Regions Only)	■ 0	☐ 1	☐ 2	☐ 3
	BIOLOGY SUBTOTAL:				6.75

Single Indicators: ☐ Fish ☐ Amphibians ☐ Macroinvertebrates

Note: Scoring scale is reversed for indicators marked with ▼.

★ ***TOTAL SCORE:*** 18.75

Flow Duration (select only one)

Ephemeral ☐ Total Score < 13

Intermittent ■ Total Score ≥ 13 **or** Single Indicator

Perennial ☐ Total Score ≥ 25

Notes (explanation of any single indicator conclusions, description of disturbances or modifications that may interfere with indicators, etc.)

Difficult Situation:

Describe situation. For disturbed streams, note extent, type, and history of disturbance.

☐ Prolonged Abnormal Rainfall / Snowpack

☐ Below Average

☐ Above Average

☐ Natural or Anthropogenic Disturbance

☐ Other: _____

Describe and Explain any Indicators of Questionable Applicability:

In center portion of the study area. Creek channel is ill defined and contains feeder channels from underground seeps of springs.

Other Notes (sketch of site, description of photos, depth of observed groundwater, etc.)

Refer to wetland delineation report maps, figures and photographs.

Wetlands/Waters Delineation Report for

West Linn Wilsonville School District Erickson School Site

May 20, 2009

Prepared by
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This wetland report is being submitted for review conducted in accordance with Oregon Administrative Rules (OAR) 141-090 implemented by the Oregon Department of State Lands.

A. Site Description, Landscape Setting

OAR141-090-0035 (7)(a)

The project site and wetland study area is located in West Linn, roughly between Hidden Springs Road and Bay Meadows Drive, southwest quarter section of Section 23, Township 2 South, and Range 1 East, W. M. The study area boundary is dictated by the parcel boundaries to the south and east, and by Rosemont Rd. to the west, and Hidden Spring Rd. to the north. Rosemont Rd. is the west edge boundary, and the residential streets of Hidden Springs Court and Clubhouse Drive are the eastern limits, and Cheyenne Terrace and Bay Meadows Drive to the south. See Appendix A, Figure 1.

The Erickson School site lies in the upper reaches of the Trillium Creek, a tributary that flows east under Santa Anita Drive, to the middle Willamette River at about river mile 24, below the Willamette's confluence with the Clackamas River. The project site drains from southwest to northeast diagonally. There is an elevation change from south to north, in that the lands slope toward the creek channel. There are numerous swales throughout the wooded area that demonstrate overland flow, again along the diagonal gradient from southwest to northeast of the study parcel. Seeps are prevalent in the central portion of the site. The seeps create a dense swampy area that is much broader than the Trillium Creek channel. The entire vicinity is in Clackamas County, which historically has been used for agriculture and larger farms. Lands on the west of Rosemont Road have been used for agriculture and are cultivated for grass. The lands surrounding the site are used for the Hidden Springs Ranch No. 4 Tract F to the east, the Arena Park subdivision to the north, and the Hidden Springs Ranch No 8 – Phase III subdivision to the south. The homesteads for three residences occur within the study area. One of the structures has been razed; however, the flat slab foundation is still intact. In recent years, the grasses and blackberries have encroached to where the school district has had to maintain it with mowing to exclude the blackberry from future intrusion.

B. Site Alterations Current and Past Land Use

OAR141-090-0035 (7)(c)

Soils, hydrology, and vegetation in the study area have been altered by those using the land for their homestead, or residents that currently live outside of the study area boundary. The property owners have diverted surface water away from their properties and onto the study area. The exact timing and purpose for the alteration is not immediately apparent, but where it can be determined, it is noted below.

B.1 Soils

Soils were found to be fairly undisturbed and true to the soil survey. There may be some disturbance to soils in the vicinity of the existing buildings, or in the open grassy field, but no major soil disturbance has occurred as any recent development took place on the perimeter and beyond the study area.

B.2 Hydrology

The hydrology of the site has been altered in a number of locations, and for an indeterminate period of time. On-site alterations have occurred on the main channel by placing a log to dam up the middle of the creek (Photo 1). The wetland headwaters has been driven through by vehicles enough that there is no distinct appearance of a wetland; rather it looks like pockets of surface water that refuse to drain.

Photo 1 Hydrology alteration – open water pond formed by log across creek channel

Trillium Creek channel has been diverted into a pipe by the adjacent property owner north of the project site (Photo 2).

Photo 2 Hydrology alteration – Trillium Creek diversion by resident north of study area

This effectively drains the main channel and discharges the creek outside of the private resident's property line on the central portion of the Erickson School site.

At the southwestern side of the study area, impervious surfaces, streets, and rooftops directly discharge runoff through a series of pipes and culverts to the grassy area of the study area (Photo 3).

Photo 3 Hydrology alteration – Storm water drain pipe from Bay Meadows Drive subdivision

This creates an artificially ponded area that does not infiltrate quickly in the grassy swale, and it raises the water table in some of the upland areas surrounding the discharge point (Photo 4).

B.3 Vegetation

Plant communities that exist on the project site include: deciduous broadleaf woodland; grass dominated fallow field; and conifer forest upland. There were no observed factors that altered the community types on the site except the seasonal practice of mowing the edge of the forest to attempt to minimize the blackberry species proliferation.

Photo 4 Hydrology alteration – Wet area formed by storm drainage discharging directly to project study area

Deciduous broadleaf woodland

These communities are dominated by Western crabapple (*Malus fusca),* red alder (*Alnus rubra*), hazelnut (*Corylus cornuta)*, Oregon ash (*Fraxinus latifolia)*, and the invasive shrub, Himalayan blackberry (*Rubus discolor)*. The understory, while not dense, contains perennial woody shrubs and saplings that include an occasional Indian plum (*Oemeleria cerasiformis*), trailing blackberry (*Rubus ursinus)* and annual grasses (*Agrostis stolonifera)*, sedges (*Carex deweyana),* ferns (*Blechnum spicant*) and forbs (Photos 5 and 6). Most of the forbs were still in the bud or underground during the time of the field work (February 27 and March 3, 2009), and all of the grasses were recumbent and culms were senescent. The current condition of this community in the transition zone between the broadleaf plants and mature trees is a thicket of blackberry canes, which creates an "edge effect" around the perimeter of the deciduous woodland as it transitions to upland grassland. This effect is partially the result of the maintenance mowing that has been done each year by the property owner. Mowing will not permanently remove the blackberry and actually enhances sunlight which stimulates plant growth.

Photo 5 Vegetation – Deciduous broadleaf woodland community

Photo 6 Vegetation – Deciduous Riparian forest

Grassland

A variety of grasses dominate the upland community which is a fallow hay field, relatively flat on both the north and south sides of the parcel as shown on Figure 5 Aerial Map, Appendix A.. The grasses are associated with Black hawthorn (*Crataegus douglasii)* in a few clusters within the open field (Photo 7). Grasses were old dry culms thus not distinguishable from the field survey (February 27 and March 3, 2009) Based upon a previous delineation (DEA 1993), the grasses are most likely wild oat (*Avena sativa)*, common velvetgrass (*Holcus lanatus*), spreading bentgrass (*Agrostis stolonifera)* and common timothy (*Phleum pratense)* interspersed with trailing herbs such as bedstraw (*Galium triflorum).* The grass community along the southwest quadrant of the study area is dramatically altered by continual runoff from properties to the south of the parcel line (refer to section B.2 Hydrology above).

Photo 7 Vegetation – Grassland

Conifer Forest

Douglas fir (*Pseudostuga menzeisii)* dominates the coniferous forest in the center of the study area and the stand has an 80 percent canopy cover (Photo 8). The stand of conifers contains several mature Oregon white oak (*Quercus garryana).* The understory is Himalayan blackberry along the perimeter. The interior of the tree stand is typical of dense conifer with a limited shrub layer, and conifer duff groundcover, forbs and bryophytes. There are a few invasive species in the understory, blackberry, common thistle (*Cirsium vulgare)*, holly (*Ilex aquifolium),* and ivy (*Hedera helix).* The conifer forest is intact with second growth 15 – 24 inch dbh elements. The interface between conifer forest and grassland is generally a thicket of blackberry. Attempt to control the blackberry by cutting or mowing has not eliminated the plant, but may actually have caused it to become more vigorous.

Rosemont Road to the west and Arena Park Subdivision to the north have allowed man to use some of the study area for dumping lawn clippings and woody debris. The core of the study area contains a swampy area where the deciduous trees have either died as snags or have toppled and created moss covered logs that cross the creek.

Photo 8 Vegetation – Conifer forest community

C. Precipitation Data and Analysis

C.1 Climate and Growing Season

The study area climate is typical of the mid-Willamette River Valley region. Average annual temperature is 45 to 55°F (7 to 13 °C) and average annual rainfall is 45 in. (1,145 mm) across much of the lowlands of the Willamette Valley. The growing season had begun on the project site as there was bud burst on woody plants and emergence of herbaceous plants from the ground. The monitoring site indicates that 50 percent of the time the air temperature is 28 °F or higher between February 17 and December 4 each year. The field work was conducted February 27 and March 3 2009 which falls within this definition of growing season.

C.2 Precipitation and NRCS WETS table Summary

OAR 141-090-0035(7)(i)

Daily precipitation records were obtained from the Oregon Climate Center for the closest precipitation monitoring station to the study area, as shown in Table 1. The Normal Precipitation was evaluated using the WETS station at Oregon City, OR6334.

Table 1 Monthly Summary of Normal and Recorded Precipitation

Table 1. Summary of Normal and Recorded Precipitation between December 2008 and January 2009 and February 2009 Portland, Oregon				
Category	***December 2008***	***January 2009***	***February 2009***	***Total Water Year to Date***
Recorded Precipitation	(2.70 in.)	(4.50 in.)	(1.36 in.)	(8.56 in.)
Precipitation Average	(0.09 in.)	(0.16 in.)	(0.05 in.)	(0.30 in.)
Monthly Normal ***30% Chance More Than*** ***30% Chance Less Than***	 (8.72 in.) (5.01 in.)	 (7.99 in.) (4.36 in.)	 (6.54 in.) (3.86 in)	 (49.50 in.) (38.21 in.)

Note: Precipitation data obtained from the WETS station recorded at Oregon City, OR (OR6334) Oregon, Latitude: 4521 Longitude: 12236

Table 2 Daily Summary of Normal and Recorded Precipitation

Table 2. Summary of Normal and Recorded Precipitation between February 11 2009 and March 2, 2009 Portland, Oregon															
Days Before	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Total
Actual precip.	trace	0	0	0.02	0.01	0.01	0.32	0.34	0.1	0.1	0	trace	0.04	0.14	1.08

Note: Precipitation data obtained from the Oregon Climate Center and was recorded at Portland Airport, PDX Stn, Latitude: 4535 Longitude: 12236

C.3 Wetland Hydrology and Analysis

The actual measured precipitation at the Oregon City station appears to be lower in the three months prior to March 2009 than total average rainfall in previous years (Table 1). However, few large precipitation events occurred on the days prior and during the site visits, so the surface water observed reflects above average conditions for the time of the assessment.

At the time of the delineations, February 27, 2009 and March 3, 2009, weather conditions were clear and cool, and overcast, light rain, and cool, respectively. The second day of the fieldwork, there had been 0.14 to 0.27 inches precipitation within the previous 24 hours. This fact could actually result in a false positive indicator for hydrology in some of the test plots and soil pits. Rain totals for Portland at the nearest WETS station were relatively higher for the previous week and between 0.01 and 0.18 inches each day for the week prior to that as shown in Table 2. Total rainfall at the gauge for March 2009 (partial month) was measured at 2.15 inches, a departure of 0.10 inches (105%) an average rainfall year. In the months prior to the field investigation, precipitation was variable and generally lower than average. Forty three percent (43%) of average rainfall occurred in February, only eighty-nine percent (89%) fell in January, and December saw a total of forty-seven (47%) percent of normal precipitation compared to historical average rainfall totals in the area.

D. Field Methods (site specific methods for field investigation)

OAR141-090-0030, OAR141-090-0035 (7)(d-e), (g-h), (16)(a-b), (f), (d) or (g), (17), & (19-20)

This section describes the site specific methods that were employed to determine the wetland status of the study area.

- Site visit date(s): February 27, 2009 and March 3, 2009.
- Use of 1987 Corps Manual and 2008 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region.
- Off-site data collection and observations used include aerial photographs, Google Earth, Goals 5 Mapping from the County, the West Linn Local Wetland Inventory, National Wetland Inventory, and Clackamas County soils survey. These were all collected and reviewed prior to the field work
- First observation of the study area was there is a dense overstory across much of the study area and the trees are second growth approximately 70 – 150 feet in height which makes aerial photography interpretation of wetlands difficult. The creek was not continuous; therefore, it was not an indicator of potential wetlands. Also, the tree stands were encroached upon by invasive blackberry vines that have formed a dense ring around the vegetated areas of the study area. Since it is an old homestead, there are patches of the study area that have been mowed or controlled by pasturing or growing hay. The wetland areas were therefore examined more closely in the lower elevations which traverse from west to east across the entire study area. The adjacent properties were examined to determine the potential for the creek to be unencumbered and have a rather well developed riparian zone free of invasive plant species.
- Fifteen sample plots were selected based upon the functional areas within the project site: wetland headwaters to the creek, areas that were described in the Local Wetland Inventory, ordinary high water of the creek, edges of the vegetative cover conifer to deciduous transition, grassy areas that were hummocky to determine if hydric soils or high water table existing in the disturbed grass lands.

- Paired plots were located at several key areas around the study area to assist in locating the upland/ wetland boundary. For some vegetation communities, a single soil pit was dug to determine soil characteristics, and to confirm that there was no subsurface hydrology.
- A sample plot that best represents the characteristics of each of the wetlands and adjacent non-wetland areas was selected and photographed.
- There were several plots taken in the seep area in the center of the study area to determine the extent of saturation throughout the portion of the site that had no defined channel. The site alterations from recent subdivision development were noted. These factors were each noted in the field notes, on data sheets, and in photographs. For purposes of the delineation, the hydrological disturbances were considered "normal circumstances".
- The field characteristics that were observed on site to indicate the ordinary high water mark (OHWM) was the top of bank on either side of the narrow channel, flagged and surveyed in interpolated between flags.
- The wetland areas that appeared in the Local Wetland Inventory were not observed in the exact locations during the field investigation. Many of the dominant plant species were not forested wetlands species, but rather, were upland conifer forest plants typical of the Pacific Northwest Willamette Valley plant association. After careful examination of the entire study area, it became apparent that the springs and seeps arising from the geology of the specific site have formed a swampy area that may increase or decrease in size from year to year. Moreover, areas where the hydrology is being enhanced by the continuous flooding of the southern part of the study area from manmade nonpoint and point surface water runoff discharges from adjacent properties was documented.

D.1 Soils

Soils at each representative wetland sample point were typically inspected to a depth of 40 to 50 cm (16 to 20 in) to determine the presence or absence of hydric soils (wetland conditions). Soil hue, value, and chroma were determined using Munsell Soil Color Charts (Munsell Color Services 1998 with supplemental information about soil features from the Corps Supplemental Manual April 2008.

At each sample location for each soil horizon, the moist soil color, texture, and presence of redoximorphic features was noted. Most of the soil was saturated so it was taken from the field and allowed to oxidize if it was reduced. Changes in soil matrix color were noted and distinct or prominent iron redox concentrations were described.

The entire horizon of the study area was observed to determine if there appeared to be areas that were not native soil, but may have been used for fill or extraction of material. The study area was examined for problematic soils as described in Part 5 Difficult Wetland Situations, Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Corps of Engineers April 2008). No problematic soils were found.

D.2 Hydrology

Hydrology was evaluated in various ways throughout the study area. First the creek was located by examining the flow, channel shape and ordinary high water mark at the east end of the study area as the creek flows off the property and through a culvert under the road that demarks the eastern boundary of the study area. Surface hydrology was then noted and photographed in a range of sample points across the study area. Places where the surface ponding was obviously linked to a manmade feature, it was noted. Hydrology was also determined from test pits, noting saturation in the top 12 inches or a high water table. Where the pit did not fill up with water within 30 minutes, soil was returned to the pit and the surface level was returned to it's original state. Some test pits did not hold their shape as the entire soil was unsolidified muck. Secondary indicators were used where primary features were not evident (i.e., geomorphic factors, drainage patterns, water stained leaves).

D.3 Vegetation

The vegetation was identified and determined the various indicators using the USDA Natural Resources Conservation Service 2008 PLANTS Database, Wetland Plants of the Pacific Northwest (Cooke 1997), and Pacific Northwest Flora (Hitchcock & Cronquist 1973). The methods used were as described in the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Corps of Engineers April 2008). Dominance was typically the way the hydrophytic plant status was assessed, although some of the plants within the quadrants were upland plants. Notes were taken of the measures that may have altered the plant species mix, such as mowing, clearing, and/or agricultural field that is routinely plowed/seeded. Also, there were many plants still in the bud or seed, and/or died back from previous years (i.e. grasses).

At each sample point, the percent cover for each dominant species in the plot area was visually estimated and recorded. The average sample point has a 1.5-m (5-ft) radius for herbs, saplings, and shrubs, and a 9-m (30-ft) radius for trees and woody vines. In most case plant coverage was less than 100% as the trees and shrubs are open canopy and spaced fairly well apart. However in a few cases when percent coverage per strata was greater than 100 percent, the percentages were normalized prior to determining the dominant species.

E. Description of All Wetlands & Other Non-Wetland Waters

OAR141-090-0035 (2), (7)(b), & (17)

Based on the available references maps and results of the field delineation, the wetland area within the proposed study area (19.5 acres) is approximately 2.92 acres or 15 percent (%) of the project site. Of the 2.92 acres of wetlands, the following types are present: deciduous woodland wetlands (Wetland A - 1.86 acres) and forested seep wetland (Wetland B - 1.04 acres). Approximately 959 lineal feet of Water 1 Trillium Creek is also within the study area with Wetland C as 0.02 acres of riverine wetlands located below the ordinary high water mark (OHWM) on the eastern 475 feet of the creek channel, where the OHWM is apparent. Two other water features are ditches that occur in the study area: Water 2 is a 256 lineal foot stormwater conveyance (0.006 acres based upon a mean width of 1 foot) and Water 3 is a 326.8 lineal foot drainage ditch (0.008 acres based upon mean width of 1 foot)

which originates under the Rosemont Road and conveys surface water at precipitation events. This ditch was not flowing on the field observation days, i.e., February 27th, March 3rd and April 14th.

E.1 Wetlands

Wetland A (1.86 aces) is a deciduous forested wetland that serves as the headwaters where the surface waters begin to gather to form the first order stream that eventually has enough flow and velocity to form a distinct channel. The palustrine forested broadleaved deciduous wetland is irregular in size and approximately 1.86 acres (Cowardin 1976). It is a depressional open feature that has a high water table and saturation within the top 12 inches of the surface. The wetland reflects severe and recurrent disturbance by the presence of invasive blackberry thickets, holly, English ivy and other forbs typical of the urban areas within the Willamette Valley. In addition to the disturbance to the native flora, the wetland has been flooded by at least two, maybe three, manmade inflow from adjacent and surrounding slope, i.e Rosemont Road, Bay Meadows Drive and impervious surfaces of that subdivision, and residence on Tax Lot 12600. These regular additions to surface runoff create an artificially induced hydrological regime super saturated soils and higher water table. The boundaries of Wetland A were determined by a discrete vegetation line and soil test pits in north, south, east, west portions of the vegetated area. Observations of vegetation change and change in soil texture and color to a depth of 50 cm was key to establishing the edge of wetland since the hydrology was present at most of the observation points. Please refer to Appendix B: Data Forms and Appendix C: Ground Level Photographs for more detail about Wetland A.

Wetland B (1.04 acres) is a naturally occurring deciduous and shrub/scrub wetland with some emergent vegetation that is fed from underground springs, that can be observed under the groundcover and leaf litter. The springs form narrow ill-defined channels that flow toward the creek channel, creating a swamp in the center of the study area. The wetland is a depressional open system according to the hydrogeomorphic (HGM) classification of wetlands, and it is primarily a palustrine forested deciduous system (PFO1), with some dead snags or downed trees in the internal swampy areas near the creek channel (PFO5).

Field characteristics, vegetation demarcation, soil type, and hydrology were used in determining the wetland/upland boundary. Slope and topography were also an indication of edge of the wetland. The areas directly north and south of the Wetland B were noticeably higher elevation and did not qualify as wetland soils or vegetation.

A single anomaly was discovered in the portion of Wetland B that extends offsite where the creek channel and surrounding wetland were diverted into the study area effectively draining the residential property (Tax Lot 11000 on Martin Court) onto a the north central portion of Wetland B. This artificially alters the hydrology of the project site. The boundary of wetland B was determined by a change in vegetation and soil test pits in north, south, east, and west portions of the vegetated area. Observations of vegetation change and change in soil texture and color (matrix 7.5 YR with no redoximorphic features) to a depth of 50 cm was key to establishing the edge of upland since the hydrology was present at most of the

observation points. Please refer to Appendix B: Data Forms and Appendix C: Ground Level Photographs for more detail about Wetland B.

Wetland C (0.02 acres) is a 1 – 2.5 foot wide channel with a 1 foot depth on average, and the area between OHWM for approximately 479 feet of the channel that extends from the seep area of Wetland B to the east parcel boundary of the project site and study area. It is a riverine slope HGM classification, and a riverine intermittent unconsolidated bottom wetland with mud substrate (R4UB3), deciduous shrubs, annual forbs and grasses, or sedges throughout. The main features of this wetland are deciduous riparian vegetation with FACW or OBL indicators and thick saturated soils with hydric characteristics. The boundaries of Wetland C were determined by a topographic line and soil test pits in north and south portions of the vegetated corridor of the creek. Observations of a distinct change in vegetation and change in soil texture and color to a depth of 50 cm and the lack of hydrologic features water stained leaves or saturation was key to establishing the edge of upland conifer forest. Approximately 959 lineal feet of Water 1 Trillium Creek is also within the study area with Wetland C as 0.02 acres of riverine wetlands located below the ordinary high water mark (OHWM) on the eastern 475 feet of the creek channel, where the OHWM is apparent. Please refer to Section E. 2 below for more detail on waters of the study area. Also, refer to Appendix B: Data Forms and Appendix C: Ground Level Photographs for more detail about Wetland C.

Table 3 Wetlands Delineated within Project

Wetland	Dominant Cowardin Class	Acres Within Study Area	Sample Plot(s) (names)	Basis for Potential DSL Jurisdiction	HGM Classification
A	PFOE Palustrine Forested; Seasonally Flooded/Saturated	1.86	A1, A2, A3, A4	Vegetation indicators and soil texture	Depressional Open
B	PFOY Palustrine Forested; Saturated Seminpermanent Seasonal	1.04	B1, B2, B3, B4 B5	Hydrophytic vegetation, super saturated soil and redoxomorphic features in the soil	Depressional Open
C	R4UB3 Riverine, Intermittent Unconsolidated Bottom Mud	0.02	C1, C2, C3 and TC1, TC2, TC3, TC4, TC5	Open water flowing; surface has water and drift marks	Riverine Slope

E.1.1 Wetland A Deciduous Forested Wetlands

Wetland A was determined to qualify as a wetland because of dominance of facultative wet species (e.g. crabapple, red alder, Oregon ash, small-fruited bulrush) and one prevalent obligate species (False hellebore). These plants were common in the center of the wetland area.. The entire perimeter of the wetland, however, was a dense thicket of Himalayan

blackberry which is considered a prohibited plant species within the City of Portland's Plant List (Bureau of Planning 1998). This dense homogeneous coverage made it difficult to determine the true plant dominance other than blackberry at several of the sample points. Soil sampled from 8 inches in the pit had a low chroma (10YR 4/1). It was determined that this was a reduced matrix when this sample was exposed to air and the color changed to 10YR 2/1, and common distinct redox concentrations (7.5YR 5/6) were evident. After 5 minutes, free water level was observed to raise to within 4 inches of the surface of the pit. A distinct sulfur odor was associated with the soil pit A4. Boundaries of Wetland A were also compared with the size and shape of the plot mapped within the Local Wetland Inventory. They generally conformed to the LWI line; based primarily on the mature deciduous tree vegetation signature. Soils at the sample plots conformed to the characteristics of the mapped soil series phase.

E.1.2 Wetland B Forested Seep/Springs Wetland

Wetland B was determined to qualify as a wetland because of dominance of one prevalent obligate species (False hellebore), soft rush (*Juncus effuses),* creeping buttercup *(Ranunculus repens)*. Snags and downed mature trees demonstrate that the site may have been drier in previous years. The extreme saturation that occurs in Wetland B is from groundwater seeps and springs. Soil sampled from top 5 inches in the pit had a low chroma (10YR 4/1) and distinct redox concentrations abundance 15% (7.5YR 5/6). The hydrology was the most obvious feature as there were numerous small channels that flowed toward the rather ill formed Trillium Creek. Other places springs erupted from subsurface and others there was no surface expression but the soil was mucky and saturated to depth of 50 cm. . Boundaries of Wetland B were also compared with the size and shape of the plot mapped within the Local Wetland Inventory. They generally conformed to the LWI line; based primarily on the mature deciduous tree vegetation signature. Soils at the sample plots conformed to the characteristics of the mapped soil series phase.

E.1.3 Wetland C Riverine Intermittent System

Wetland C was determined to qualify as a wetland because of dominance of facultative wet species typical of the Willamette Valley bottomland riparian vegetation communities (e.g. Oregon ash, blue Elderberry, red alder, Western Crabapple), and forbs such as creeping buttercup (*Ranunculus repens*) prevalent obligate species (False hellebore). Soil sampled from 8 inches in the pit had a low chroma (10YR 4/1). Boundaries of Wetland C were also compared with the size and shape of the plot mapped within the Local Wetland Inventory. The actual wetland boundary is along the creek and does not extend south into the conifer forest area nor does it extend up the slope to the north of the creek channel. Therefore, the mapped area of Wetland C is narrower and farther south than the plot shown on the LWI. Please refer to the LWI figure that also includes the delineated boundary.The vegetation change is less distinct than in Wetlan B or A; therefore, soil color, moisture, texture, was used as the distinguishing factor for wetland/upland boundary. Several soil samples were taken in the conifer forest that were distinctly lighter in color and had no redox features (soil pit UP-2). Soils at the sample plots conformed to the characteristics of the mapped soil series phase.

E.2 Waters of the State/U.S.

Water 1, Trillium Creek, a Water of the State, extends off-site. At the Tax Lot 11000 parcel line just north of the study area boundary, it flows under a fence onto an adjacent parcel not within the study area. A portion of the channel extends off site in the northwest portion of the study area as it flows into a private residence below the fence line, then is diverted to a pipe and discharged off the property back into the Erickson School site property. At the eastern edge of the study area, the creek (Water 1) flows through a culvert under the Hiddens Springs Court toward Santa Anita, where it daylights into a free flowing channel that has been well maintained as a creek and riparian zone within a deciduous broadleaf woodland. This was confirmed by field evidence from walking the stream, and documented in photographs as shown in Appendix C. The Oregon Sreamflow Duration Field Assessment Method Interim Version March 2009 was used to determine the status of Trillium Creek. Please refer to the form at the front of this report. Trillium Creek is not a fish bearing stream. The National Marine Fisheries Service and the Oregon Natural Heritage Information Center were consulted on the presence of threatened or endangered fish, wildlife and plant species. No fish were listed in the project study area; the species lists are included in Appendix D.

Two other water features area ditches that occur in the study area: Water 2 is a 256 lineal foot stormwater conveyance (0.006 acres based upon a mean width of 1 foot) and Water 3 is a 326.8 lineal foot drainage ditch (0.008 acres based upon mean width of 1 foot) which originates under the Rosemont Road and conveys surface water at precipitation events. This ditch was not flowing on the field observation days, i.e., February 27th, March 3rd and April 14th.

Table 4 Water-Resources Identified Within the Project

Water No.	Type	Width of stream at OHW	OHW field features	Receiving water body	Basis for Potential DSL Jurisdiction
1	Trillium Creek, Intermittent	1 – 3 feet wide 959 feet long, channel ill-defined in seep areas	Change in vegetation to mud substrate	Flows into Willamette River	Intermittent stream (no fish observed in waterway; located one stream order above fish bearing stream)
2	Stormwater Conveyance to Trillium Creek	Approx.1.0 foot wide, 256 feet long 0.006 acres	Grass vegetation line	Flows into Trillium Creek, an intermittent waterway	Intermittent (seasonal and controlled by local precipitation)
3	Ditch under Rosemont Road from box culvert	Approx. 0.5 feet wide, 326.8 feet long; 0.008 acres	Understory vegetation line	Flows into Trillium Creek, an intermittent waterway	Intermittent (seasonal and controlled by local precipitation)

F. Deviation from LWI or NWI

OAR141-090-0035 (16)(e)

The wetlands which occur in the study area appear on the West Linn Local Wetland Inventory (LWI) map, but do not appear on the National Wetland Inventory (NWI). The nearest wetlands shown on the NWI are the Willamette River, riverine and mapped as (R1UVB). Although the LWI is more accurate to showing the forested wetland and the creek running through the site, there are a few discrepancies between the delineated boundary and the LWI boundary.

The discrepancies occur because the method for preparing the LWI is coarse grained and does not take into account terrain and type of vegetation. The discrepancies found are not significantly different from the LWI. In general, the floodplain wetlands near the creek are narrower and farther north than shown on the LWI map because the channel is well formed, approximately 24 inches wide and up to 20 inches deep between Wetland B and the east parcel boundary. The channel is distinct and was flowing at 3–7 cfs for most of the corridor. Because of this defined flow, there were no off channel wetlands along this portion of the creek and the vegetation and soils suggested that the community around the channel was riparian habitat and not wetland. Another location that was determined to be different from the LWI is in a highly disturbed portion of the study area, the southern quadrant of the study area near the Rosemont Road. The hydrology is artificially increased in this area because of the drainage from developed properties to the south of the parcel line between Rosemont Road and Bay Meadows Drive.

G. Mapping Method

(Including mapping precision estimate) OAR141-090-0035 (7)(f), (11), (12), (13), (18), & (22)

Sample plots and soil test pits were identified on the ground with stakes, wetland boundaries by flagging, and key features for the wetland map were professionally surveyed one day after field sampling and flagging was completed. On a field visit with the design team approximately two weeks after the land survey was conducted, it was discovered that the the stakes were individually pulled up and stock piled by outside parties.

H. Additional Information

The Oregon Sreamflow Duration Field Assessment Method was used to determine the status of Trillium Creek. The test for streamflow duration was conducted part of this study and Trillium Creek was determined to be intermittent as demonstrated in the Oregon Streamflow Duration Assessment shown at the front of this report. Trillium Creek is not a fish bearing stream. The National Marine Fisheries Service and the Oregon Natural Heritage Information Center were consulted on the presence of threatened or endangered fish, wildlife and plant species. No fish were listed in the project study area; the species lists are included in Appendix D. The stormwater conveyance and other small waterway are definitely artificially created waters but may meet the definition of wetlands as defined in OAR141-090-0015(9-12)

Table 13. Characteristics of Water Resources Identified within Study Area

Water	Type	Receiving water body	More than 10 foot channel width?	Fish Presence	Contiguous with wetlands? (Wetland Name)	Jurisdictional by DSL?
Trillium Creek	Tributary stream	Willamette River	No	No[1]	Yes (Wetlands A and B)	Yes
Unnamed Ditch 1	Stormwater Conveyance	Trillium Creek	No	No[2]	Yes (Wetland A)	Yes
Unnamed Ditch 2	Ditch under Rosemont Road	Trillium Creek	No	No[2]	Yes	Yes

I. Results and Conclusions

OAR141-090-0035 (7)(j) *The results and conclusions of the investigation.*

Site investigations revealed 2.88 acres of wetland and 0.03 acres of water features within the study area. The main water is Trillium Creek, a first order tributary to the Willamette River, and a single channel that is fed by a variety of sources from offsite and underground springs. Two artificially fed channels occur to the west and the south of the headwaters of Trillium Creek, which have been called out as separate water features since they may not qualify as jurisdictional – Water 2 Stormwater Conveyance and Water 3 Ditch under the Rosemont Road. There are three wetlands or special aquatic sites that are potentially jurisdictional, totaling 2.88 acres. These wetlands are contiguous, but were labeled and measured separately for ease of discussion and because they are different in terms of values and functions for the ecosystem.

After careful examination of the entire study area, it became apparent that the springs and seeps arising from the geology of the specific site have formed a swampy area that may increase or decrease in size from year to year. Moreover, areas where the hydrology is being enhanced by the continuous flooding of the southern part of the study area from manmade nonpoint and point surface water runoff discharges from adjacent properties was documented.

Table 5 Project Summary of Wetland Types &Acres

Table 5. Project Summary Wetland and Water Types & Acres	
Resource Type	***Area (acres)***
Water 1 Trillium Creek channel	0.02
Water 2 Stormwater Conveyance	0.006
Water 3 Ditch under Rosemont Rd	0.008
Wetland A Deciduous Woodland Headwaters	1.86
Wetland B Deciduous Seep Woodland	1.04
Wetland C Riverine slope overflow	0.02
Total	**2.95**

J. Disclaimer Statement

OAR141-090-0035 (7)(k)

This report documents the investigation, best professional judgment, and conclusions of the investigators. It should be considered a Preliminary Jurisdictional Determination and used at your own risk until it has been approved in writing by the Oregon Department of State Lands in accordance with OAR 141-090-0005 through 141-090-0055.

Appendix A. Maps

Figure 1 Location Map

Figure 2 Tax Lot Map

Figure 3 West Linn Local Wetland Inventory (LWI) Map

Figure 4 Clackamas County Soil Survey Map

Figure 5 Aerial Photograph

Figure 6 Wetland/Waters Delineation Map

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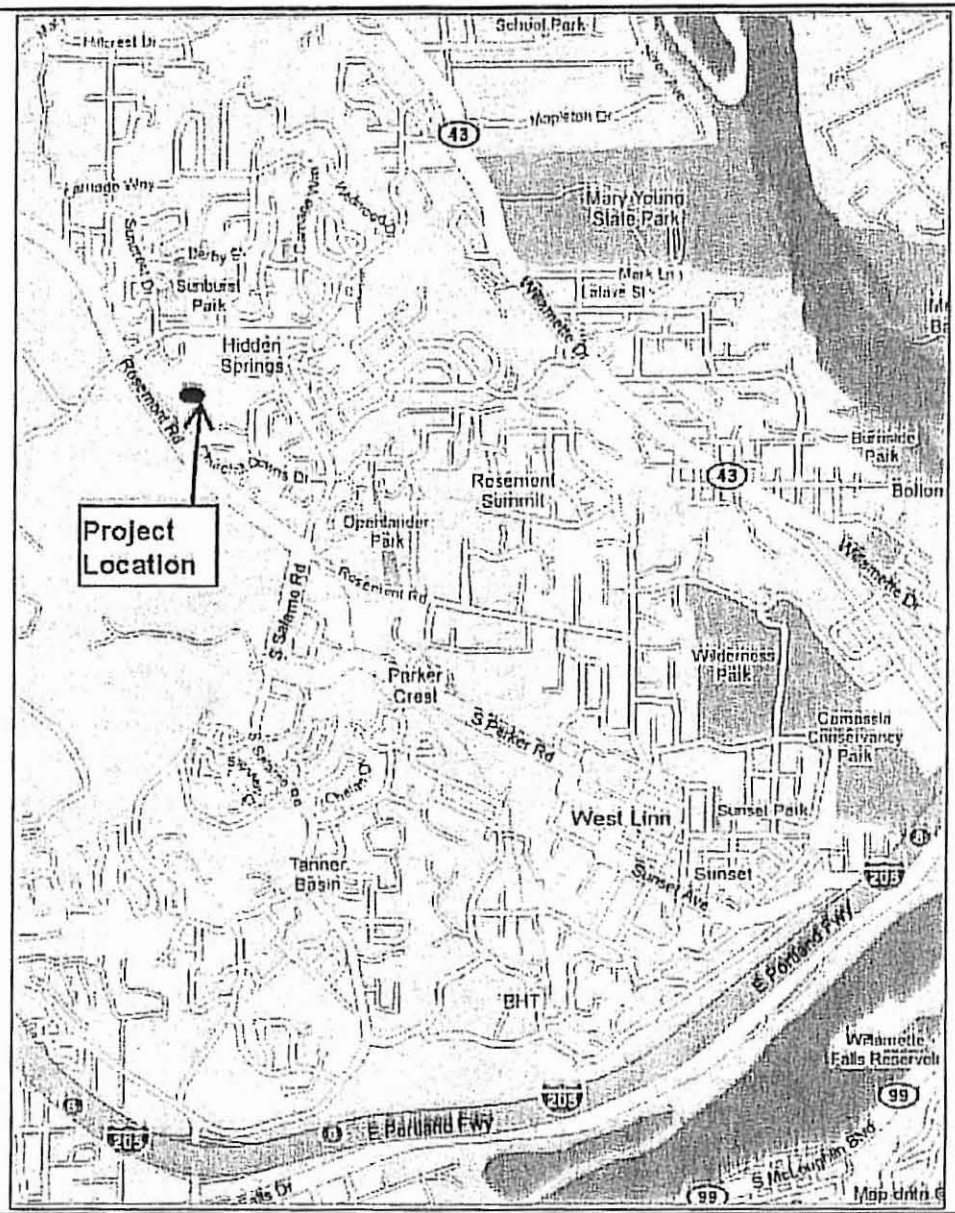

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PORTLAND, OR 97224
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PROJECT
WEST LINN-WILSONVILLE SCHOOL DISTRICT 3JT
ERICKSON SCHOOL SITE

DESIGNED	DRAWN	APPROVED	DATE	PROJECT NO.	DWG NO.
	KPT	NO	04/09/09	1145609001	

TITLE
FIGURE 1
LOCATION MAP

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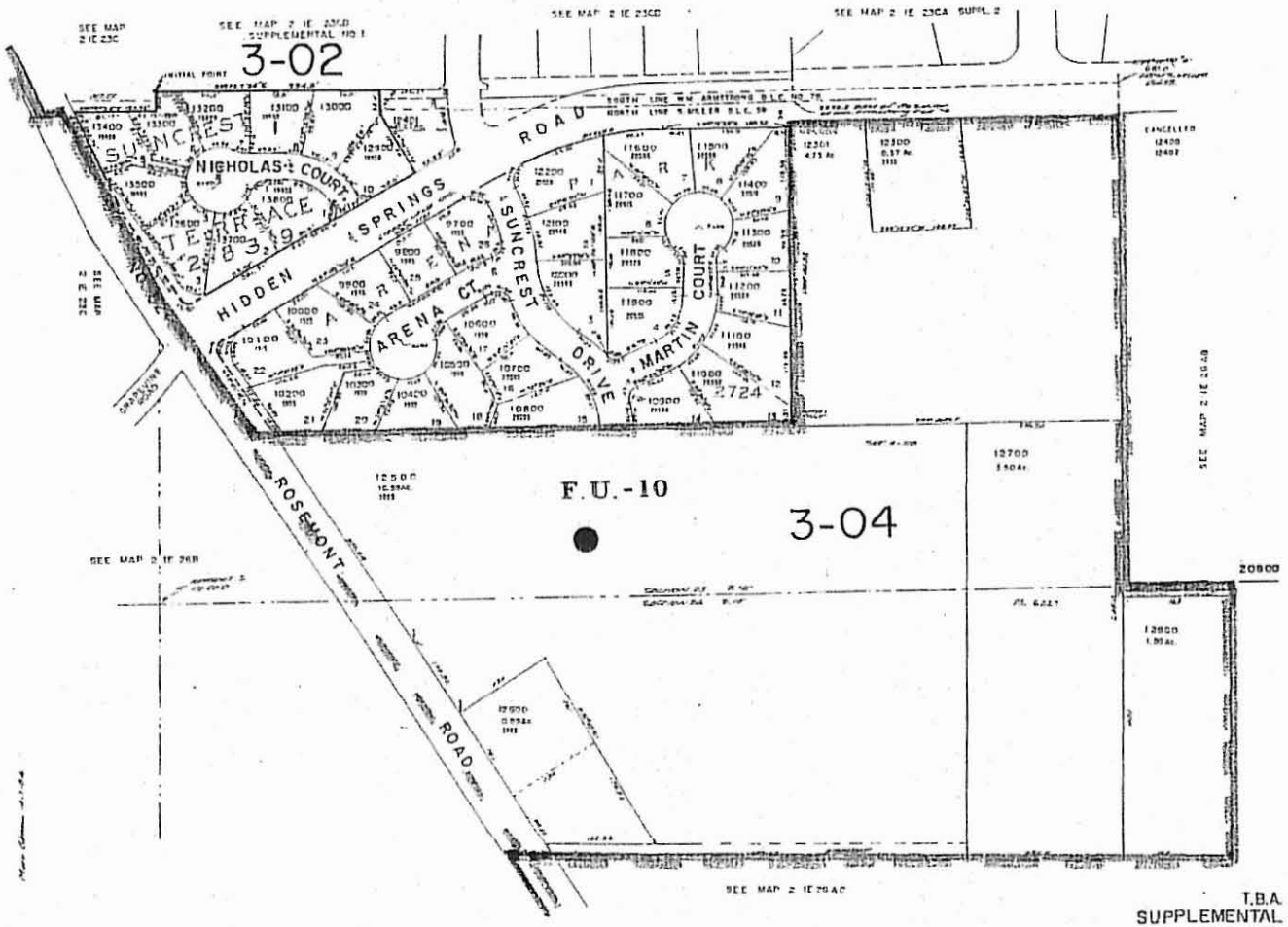
SE1/4 SW1/4 SEC. 23 T2S. R1E. W.M.
CLACKAMAS COUNTY

2 1E 23CD
SUPPLEMENTAL 2

This map was prepared for assessment purpose only.



T.B.A.
SUPPLEMENTAL 2
2 1E.23CD

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TITLE
FIGURE 2
TAX MAP

O:\11456 - WLWSD (WEST LINN-WILSONVILLE SCHOOL DISTRICT)\11456-09-001 WLWSD ERICKSON WETLANDS\CAD\FIG 2 TAX MAP.DWG Keith Tolle 5/19/2009 1:52 PM

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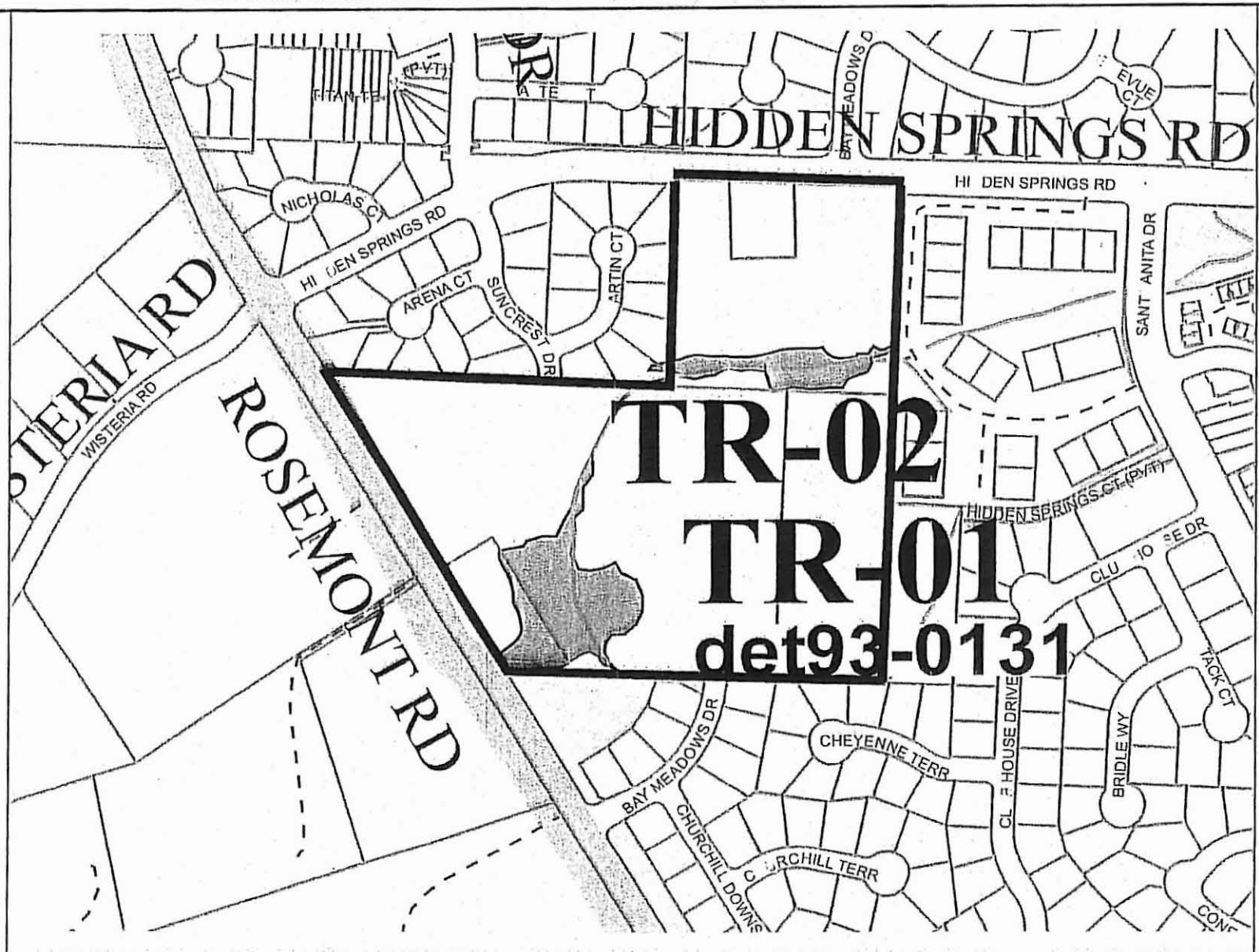

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TITLE
FIGURE 3
LWI MAP

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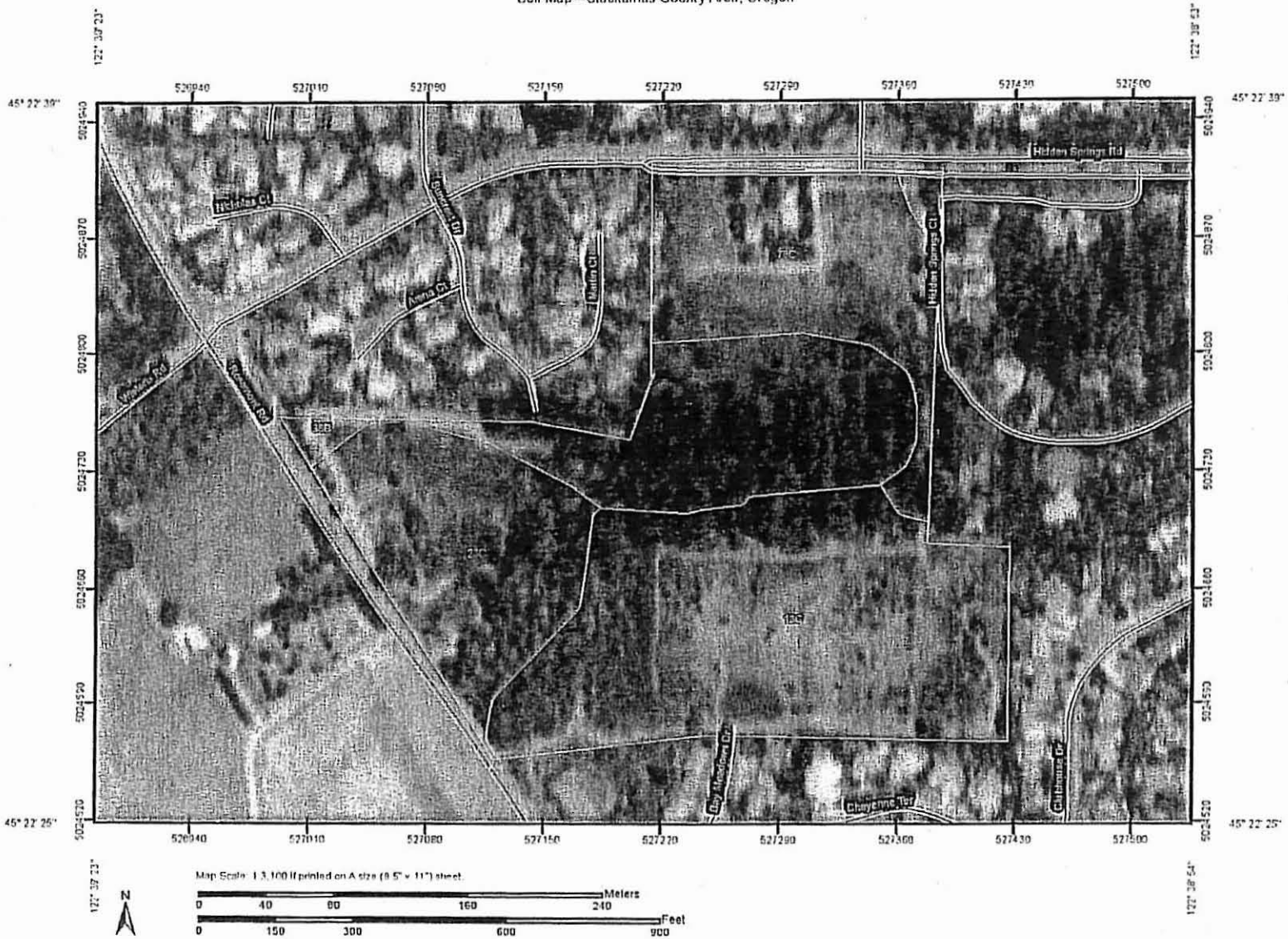
Soil Map—Clackamas County Area, Oregon



USDA Natural Resources Conservation Service

Web Soil Survey 2.1
National Cooperative Soil Survey

3/17/2009
Page 1 of 3

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TITLE
FIGURE 4
SOILS MAP PAGE 1

O:\11456 – WLWSD (WEST LINN-WILSONVILLE SCHOOL DISTRICT)\11456-09-001 WLWSD ERICKSON WETLANDS\CAD\FIG 4 SOILS MAP PAGE 1.DWG Keith Tolle 5/19/2009 1:55 PM

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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:3,100 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 10N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 4, Dec 22, 2006

Date(s) aerial images were photographed: 8/3/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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TITLE
FIGURE 4
SOILS MAP PAGE 2

O:\11456 – WLWSD (WEST LINN-WILSONVILLE SCHOOL DISTRICT)\11456-09-001 WLWSD ERICKSON WETLANDS\CAD\FIG 4 SOILS MAP PAGE 2.DWG Keith Tolle 5/19/2009 1:52 PM

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Map Unit Legend

Clackamas County Area, Oregon (OR610)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13C	Cascade silt loam, 8 to 15 percent slopes	9.5	40.9%
23C	Cornelius silt loam, 8 to 15 percent slopes	4.5	19.6%
36B	Hardscrabble silt loam, 2 to 7 percent slopes	4.6	19.9%
78C	Saum silt loam, 8 to 15 percent slopes	4.6	19.7%
Totals for Area of Interest		23.2	100.0%

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TITLE
FIGURE 4
SOILS MAP PAGE 3

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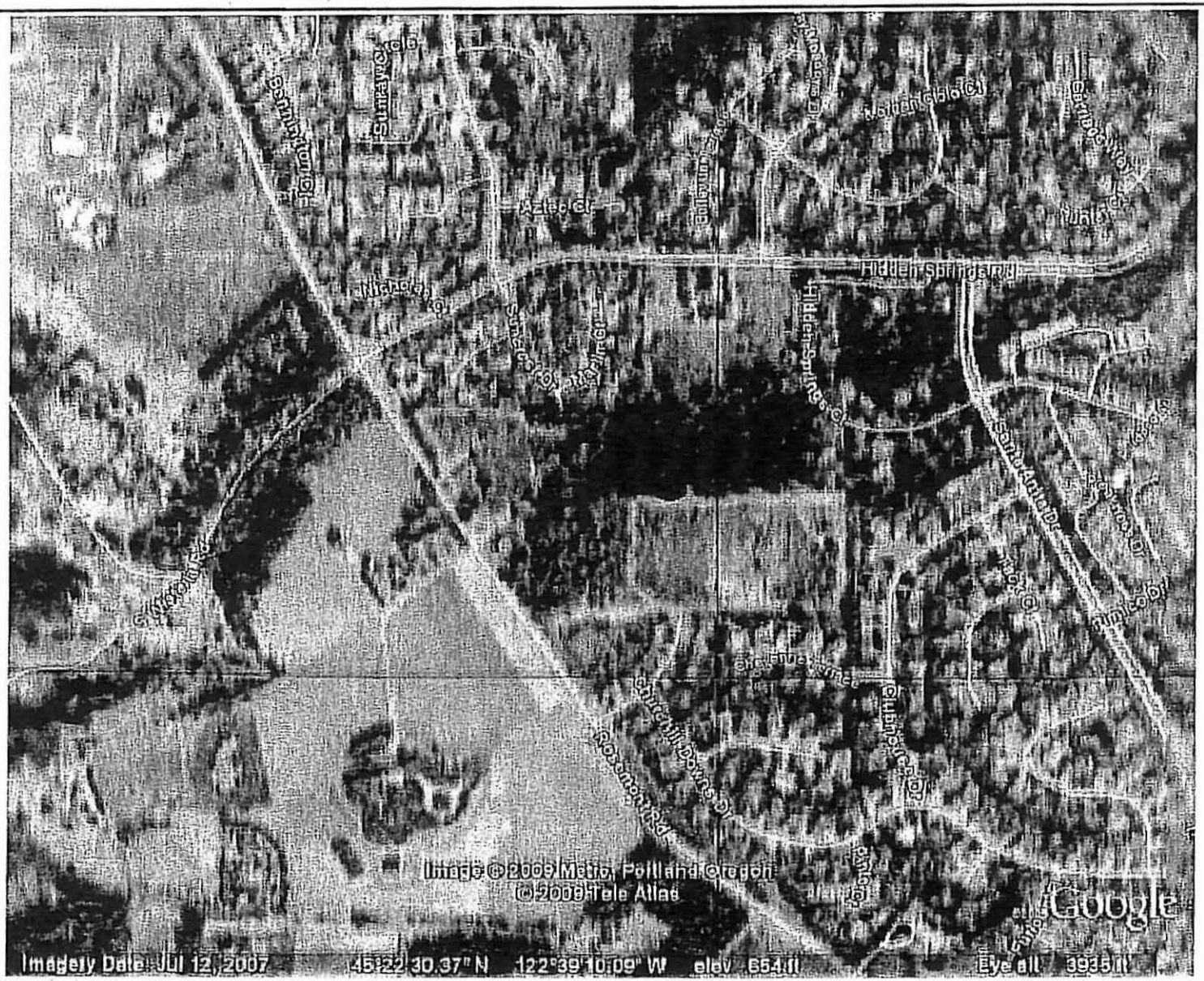

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TITLE
FIGURE 5
ARIAL PHOTO

O:\11456 - WLWSD (WEST LINN-WILSONVILLE SCHOOL DISTRICT)\11456-09-001 WLWSD ERICKSON WETLANDS\CAD\FIG 5 ARIAL PHOTO.DWG Keith Tolle 5/19/2009 2:26 PM

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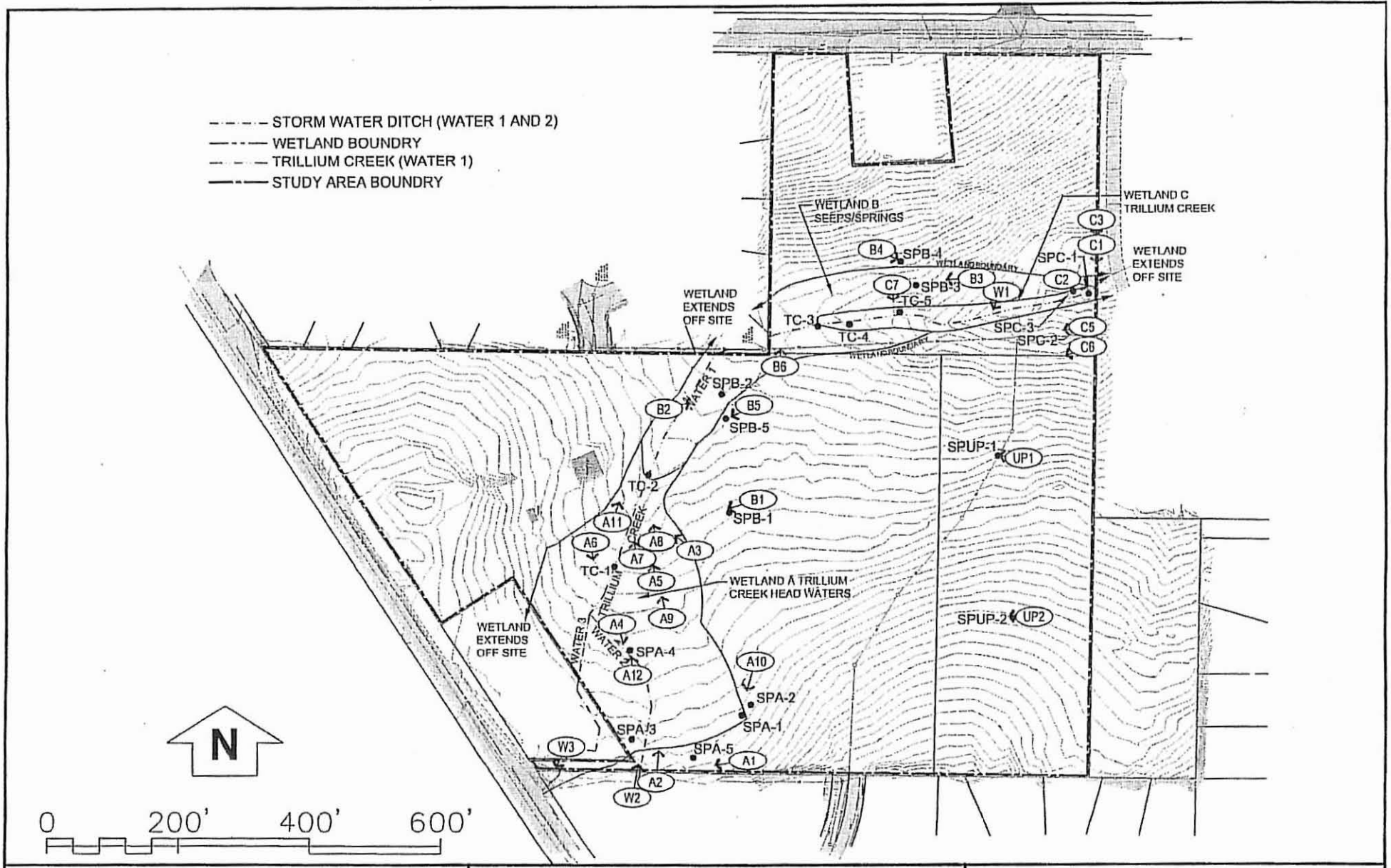

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TITLE
FIGURE 6
WETLAND DELINEATION MAP

Appendix B. Wetland Field Data Forms

Erickson Wetlands

Photo A1 Southern Edge of Wetland A

Photo A2 Wetland A Sample Plot A-1 Wetland Perimeter Lined by Himalayan Blackberry

Erickson Wetlands

Photo A3 Wetland A and B Transition Area

Photo A4 Sample Plot SPA-4

Erickson Wetlands

Photo A5 Looking North from SP TC-1

Photo A6 Headwaters Wetland of Trillium Creek Near TC-1 Looking Toward SPA-4

Erickson Wetlands

Photo A7 Looking West From Sample Plot TC-1 Behind Private Occupied Property

Photo A8 Moss and Algae in Standing Water

Erickson Wetlands

Photo A9 Wetland A Trillium Creek Headwaters

Photo A11 Obligate Wetland Plant False Hellebore (Veratrum californica)

Erickson Wetlands

Photo A12 Wetland A Groundwater Recharge in Headwaters Area at SP A-4

Photo B1 Sample Plot SP B-1

Erickson Wetlands

Photo B3a Sample Plot SP B-3 Inundation Within 5 Inches of Surface

Photo B3b Sample Plot SP B-3 Looking West

Erickson Wetlands

Photo B4 Sample Plot SP B-4 Looking East Soil Pit B-4 Looking North

Photo B5 Sample Plot SP B-5 Conifer Forest

Erickson Wetlands

Photo B6 Wetland B Vegetation

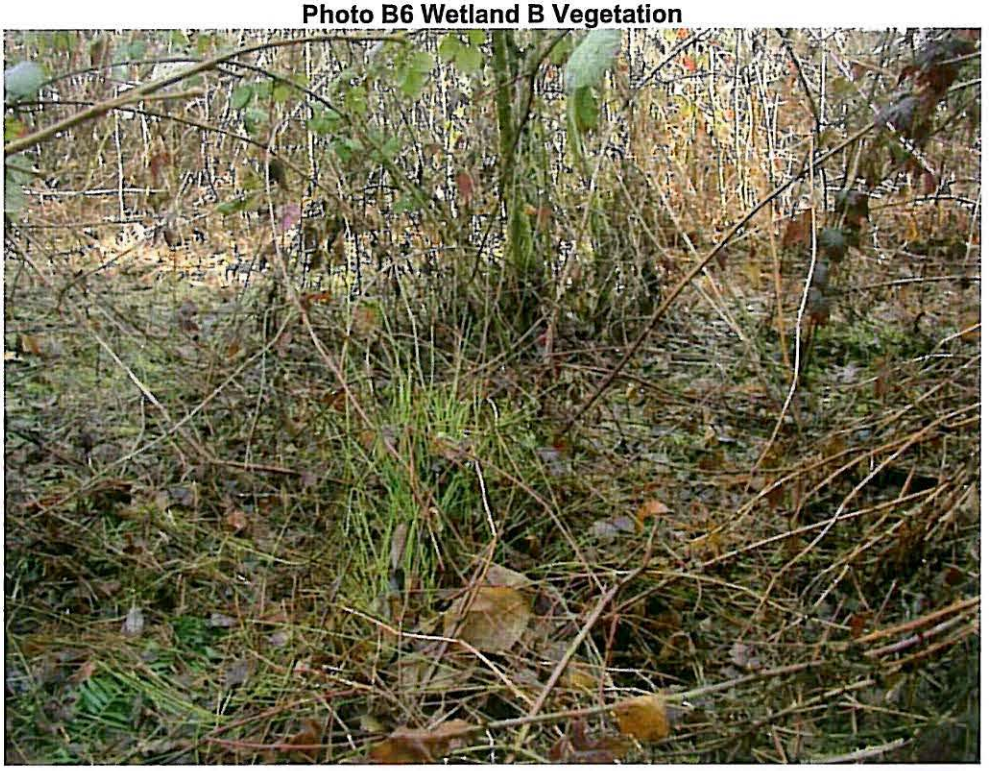


Photo C1 Staking for Sample Plots SP C-1 Foreground and SPC-2 Midground

Erickson Wetlands

Photo C2 Sample Plot SP C-2 Vegetation

Photo C3 Gleyed Soils at SP C-1

Erickson Wetlands

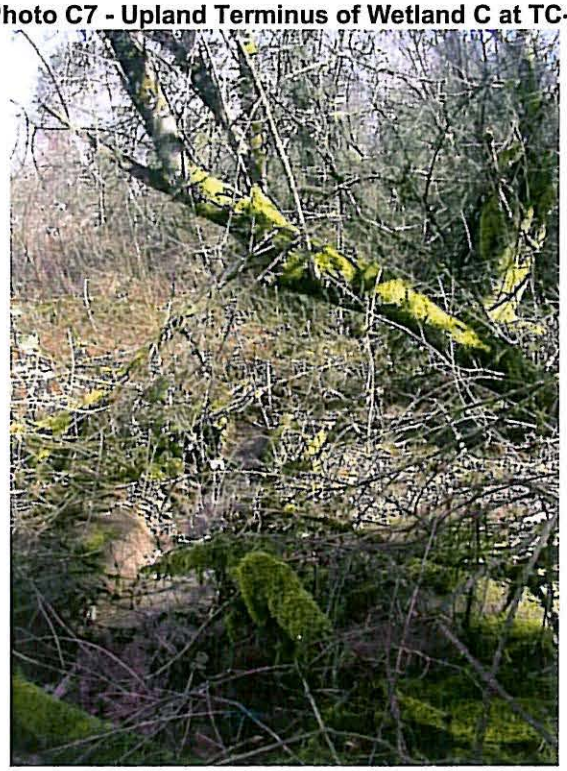
Photo C4 Catkins on Deciduous Tree

Photo C5 Sample Plot SPC-2 Upland Soil Pit

Erickson Wetlands

Photo C6 Sample plot SP C-2 Non-Hydric Soils

Photo C7 - Upland Terminus of Wetland C at TC-5



Erickson Wetlands

Photo UP1 Sample Plot SP UP-2 Lower Strata

Photo UP2 Sample Plot SP UP-2 in Grassy Field

Erickson Wetlands

Photo W1 Water 1 -Ordinary High Water Elevation Trilium Creek Februrary 2009

Photo W2 - Hidden Springs Stormwater Conveyance

Erickson Wetlands

Photo W3 Culvert Under Rosemont Rd Feeds Stormwater Ditch Water 3

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: - -2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: A1

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): flat field Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum: _____

Soil Map Unit Name: Cascade silt loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

hydric characteristics are present but weak – blackberry has been "managed" by mowing new allows it to dominate the edges of the forested wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5x5)			
1. RUDI	100	✓	FACU
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1. none			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. none			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

disturbance in vegetation may have eliminated competition to blackberry

SOIL

Sampling Point: A-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/3	90	7.5YR 2/3	10	C	PL	SL	low chroma 5
5-10	10YR 4/3	90	7.5YR 3/2	20	C	PL		low chroma 5
10-15	10YR 4/4	80					CL	mucky

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes X No ___ Depth (inches): 8 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6 in

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

plot is a wetland due to hydric soil characteristics, presence of water table within 8 inches of surface while vegetation has been altered by mowing

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: - -2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: A-2

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: Cascade silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10x10)	Absolute % Cover	Dominant Species?	Indicator Status
1. CRDO	15	✓	FACU
2.			
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. none			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. grasses	100	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. none			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: A-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4		—				SL	no mottles
5-10	10YR 3/4		—				SL	
10-18	10YR 4/4		—				SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): >12in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >12in

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

plot is not a wetland

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 3-3-2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: A-3

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: Cascade silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 X 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. ALRU	35	✓	FACW
2.			
3.			
4.			
	35 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5X5)			
1. none			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5X5)			
1. RUUR		✓	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. HEHE	75	✓	NI
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: A-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/4	100	–				SL	
5-10	10YR 3/4	100	–				SL	
10-18	10YR 2/2	80	7.5YR 3/4	20	C	M	SL	extremely wet soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Plot has strong hydrologic and hydric soil characteristics and 50% dominance of FACW plants

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: - -2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: A-4

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum: _____

Soil Map Unit Name: Cornelius silt loam 8-15% slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No _____	Is the Sampled Area within a Wetland? Yes X No _____
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 x 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. ALRU	75	✓	FACW
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. mono			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. mosi			
2. VEDA	15	✓	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum 25%			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: A-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/3	100					SL	sulfidic odor
5-10	10YR 4/3						SL	
10-18	10YR 4/4	80	10YR 5/6	20	C	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Strong odor of H_2S

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 0.5

Water Table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Algae covered area with surface moisture water stained leaves

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 4-14-2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: A-5

Investigator(s): NO, MS Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): low gradient slope Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. none			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5X5)			
1. Grass	100	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: A-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					SL	uniform color structure
6-12	10YR 3/3	100	None				SL	to depth
12-18	7.5YR 4/3	100	NONE				SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NONE

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

no apparent surface hydrology no redox concentrations or depletions

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 6 inches

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SAMPLE POINT HAS SOME RESIDUAL HYDROLOGY IN THAT IT IS POORLY DRAINED HOWEVER SOILS HAVE NO HYDRIC CHARACTERISTICS AND VEGETATION IS UPLAND GRASS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 5-3 4-14-2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: ~~A-5~~ B-1

Investigator(s): NO, MS Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): low gradient slope Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: CORNELIUS SILT. LOAM NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 X 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. PSME	50	✓	FACU
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5 X 5)			
1. RUDI	50	✓	FACU
2. ILAQ	2		UPL
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✗

Remarks:

SOIL

Sampling Point: B-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 3-3 2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: B-2

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: Hard scrabble silt loam 2-7% slopes NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 x 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5 x 5)			
1. none			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. RARE	30	-	FACW
2. VECA	50	X	OBL
3. RUCR	10		FACW
4. PO Licorice fern	10		
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum 10			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

Limited vegetation except for annual hydrophytic herbs

SOIL

Sampling Point: B-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/2	80	7.5YR 3/4	20	C	M	L	Consistent matrix w/ RF's throughout

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes X No ___ Depth (inches): 4 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): <4 in

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

plot is in a seep area with minimal vegetation but strong hydric soil features and hydrologic characteristics high water table

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 3-3-2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: B-3

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): slope Slope (%): 8

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: Hardscrabble silt loam 2-7% slope NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 X 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. none			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5X5)			
1. none			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 X 5)			
1. FEFF	90	✓	FACW
2. Moss			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum Moss 50%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

Limited plant cover dominated by leaf litter and dry grass culms. Moss covers pavement in wet moist surface.

SOIL

Sampling Point: B-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	100	—				muck	consistent muck

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes X No ___ Depth (inches): 4 in

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 3 in

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

plot is within a site that has hydric soil, hydrology high water table within 4 inches of surface and the vegetation is not growing on the plot,

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 3-3-2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: B-4

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____ Slope (%): 12

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum: _____

Soil Map Unit Name: SAUM SILT LOAM 8-15% slope NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 X 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. ERDO	1	✓	FAC
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5X5)			
1. RUDI	10	✓	FACU
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5X5)			
1. grass	95	✓	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

grassy plot

SOIL

Sampling Point: B-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR	100	—				SL	dry crumbly
5-10	10YR	100	—				L	
10-14	10YR	100	—				L	dry crumbly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

Soil is bright colored with no redox features and dry crumbly

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): 7 1/2 in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): 7 1/2 in

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

PLOT IS DRY EVEN AT DEPTH

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: - -2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: B-5

Investigator(s): NO, JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): slope Slope (%): 8

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: Cascade silt loam 8-15% slope NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 X 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. PSME	25	✓	FACU
2. ALRU	10	✓	FACW
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 5X5)			
1. RUDI	30	✓	FACU
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: ____)			
1. bare			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
Woody Vine Stratum (Plot size: ____)			
1. none			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: B-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4							ORG	deep duff layer
4-15	10YR 4/5	100					L	dry crumbly
15-20	10YR 4/5	100					L	mineral soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NA

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

soil is light colored matrix

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): 720 in

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): 720 in

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

plot is central to and reference for upland conifer forest
On gentle slope no redox in soils no hydrology facultative up plts.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Erickson Site PS City/County: West Linn/Clackamas Sampling Date: 2-27-2009

Applicant/Owner: West Linn Wilsonville School District State: OR Sampling Point: C-1

Investigator(s): NO. JT Section, Township, Range: T12N R5E Sec

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): 4 Lat: 45°22.8 Long: 122°39.4 Datum:

Soil Map Unit Name: Hazel scrabble silt loam 2-7% slope NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area within a Wetland? Yes X No
Hydric Soil Present?	Yes A No	
Wetland Hydrology Present?	Yes X No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 X 10)	Absolute % Cover	Dominant Species?	Indicator Status
1. QUGA	10	✓	UPL
2. Snags			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 X 5)			
1. RUDI	30	✓	FACU
2.			
3.			
4.			
5.			
	31 = Total Cover		
Herb Stratum (Plot size: 5 X 5)			
1. GRASS	5		UPL
2. MOSS	35	✓	FACW
3. GEMO	5		UPL
4. URDI	50	✓	FAC
5. POA form 1	1		
6.			
7.			
8.			
9.			
10.			
11.			
	91 = Total Cover		
Woody Vine Stratum (Plot size: 5 X 5)			
1. HEHE	20		NI
2.			
	20 = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Wetland Non-Vascular Plants[1]
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

Moss indicates hydrophytic vegetation supported at this plot

Appendix D. Additional Tables and Information

(if any, e.g. hydrology monitoring data, or information for Corps jurisdiction)
OAR141-090-0035(4)

D.1 Soil Survey

Soils Survey

Clackamas County soils survey shows the following soils in the study area (Figure 5, Appendix A):

Table 2: Soil Series in the Study Area

Symbol/Number	Soil Series	Location	Hydric
78C	Saum silt loam, 8 to 15 percent slopes	Covers upland sloped area near Erickson home (adjacent to Hidden Springs Road).	No-? (Well drained)
36B	Hardscrabble silt loam, 2 to 7 percent slopes	Lowland area in central portion of site.	Yes
23C	Cornelius silt loam, 8 to 15 percent slopes	Sloping area east of N. Rosemont Rd.	No (well drained)
13C	Cascade silt loam, 8 to 15 percent slopes	Covers southern portion of site.	Yes

Source: NRCS Soil Survey of Clackamas County, Oregon

D.2 Vegetation

There are three major plant associations/communities or habitats on site. Predominantly the study area is a grassy field with flat to rolling terrain. Trillium Creek runs diagonally from southwest to northeast across the entire study area and it is in a lower elevation channel to which all the surrounding lands drain. The conifer forest is mature second or third growth that is on the south side of the creek channel and how they relate to other site conditions such as topography, streams/creeks/water features, or other site features.

Grass Community

A variety of grasses dominate the upland community, which is relatively flat on both the north and south sides of the parcel as shown on Figure 5 Aerial Map. The grasses are associated with Black hawthorn (*Crataegus davidsonii*) in a few clusters within the open field. Grasses were old dry culms, thus not distinguishable from the field survey (February 27 and March 3, 2009) Based upon a previous delineation (DEA 1993), the grasses are most likely wild oat (*Avena sativa*), common velvetgrass (*Holcus lanatus*), spreading bentgrass (*Agrostis stolonifera*) and common timothy

(*Phleum pratense*) interspersed with trailing herbs such as bedstraw (*Galium triflorum*).

Deciduous broadleaf woodland
These communities are dominated by red alder (*Alnus rubra*), hazelnut (*Corylus cornuta*), Oregon ash (*Fraxinus latifolia*), and Himalayan blackberry (*Rubus discolor*). The understory, while not dense, contains perennial woody shrubs and saplings, which include an occasional Indian plum (*Oemeleria cerasiformis*), trailing blackberry (*Rubus ursinus*) and annual grasses (*Elymus glauca*), ferns (*Blechnum spicant*) and forbs.

Conifer Forest
Douglas fir (*Pseudostuga menzeisii)* dominates the coniferous forest in the center of the study area and the stand has an 80 percent canopy cover. The stand of conifers contains several mature Oregon white oak (*Quercus garryana).* The understory is Himalayan blackberry along the perimeter. The interior of the tree stand is typical of dense conifer, with a limited shrub layer and conifer duff groundcover, forbs and bryophytes. There are a few invasive species in the understory with the blackberry Canadian thistle (*Cirsium vulgare)*, devil's club (*Oplopanax horridus)* holly (*Ilex aquifolium)* and ivy (*Hedera helix).*

The conifer forest is intact with second growth 15 – 24 inch dbh elements.

Tables 7,8,9,10 Dominant Vegetation within Plant Communities Tables

Table _7_. Dominant Vegetation within the Grass Community

Common name	*Scientific name*	*Indicator status*
Hawthorn	*Crataegus douglasii*	FAC
Timothy	*Phleum pratense*	FAC
Dock	*Rumex crispus*	FACW
Wild oats	*Avena sativa*	UPL
Creeping Bentgrass	*Agrostis stolonifera*	FAC
Crane's bill	*Geranium dissectum*	UPL
holly	*Ilex aquifolium*	UPL
Velvetgrass	*Holcus lanatus*	FAC

Table 8_. Dominant Vegetation within the Emergent Seep Wetland Community

Common name	*Scientific name*	*Indicator status*
Stinging Nettle	*Urtica dioica*	FAC+
Dewey's sedge	*Carex deweyana*	FAC+
Soft rush	*Juncus effusus*	FACW
False Hellebore	*Veratrum californica*	OBL

Table _9_. Dominant Vegetation within the Deciduous Forested Wetland Community		
Common name	*Scientific name*	*Indicator status*
Oregon ash	*Fraxinus latifolia*	FACW
Red alder	*Alnus rubra*	FACW
Himalayan blackberry	*Rubus discolor*	FACU-
Trailing blackberry	*Rubus urticus*	FACU
Western Crabapple	*Malus fusca*	FACW
Buttercup	*Ranunculus repens*	FACW

Table _10_. Dominant Vegetation within the Conifer Forest Upland Community		
Common name	*Scientific name*	*Indicator status*
Douglas fir	*Pseudostuga menziesii*	FACU
Oregon white oak	*Quercus garryanna*	UPL
English ivy	*Hedera helix*	NI
Sword Fern	*Polystichum munitum*	FACU

D.3 Hydrology

A NRCS WETS tables is attached for the monitoring site near Oregon City, Oregon. Long-time resident of the project area indicated that his property is flooded at least on half of each year. There is no need to irrigate on the pasture the west side of Rosemont Road.

Appendix E. Agency Correspondence Regarding Sensitive Species

WINZLER & KELLY

April 27, 2009

Barry Thom
NOAA's National Maritime Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-0070

Re: **Sensitive Species List for Project Area**

Dear Barry,

Winzler & Kelly has been contracted by West Linn Wilsonville School District (WLWSD) to conduct the wetland inventory study for the Erikson School project located in West Linn.

The project site and wetland study area is located in West Linn, roughly between Hidden Springs Road and Bay Meadows Drive, southwest quarter section of Section 23, Township 2 South, and Range 1 East, W. M. The study area boundary is dictated by the parcel boundaries to the south and east, and by Rosemont Rd. to the west, and Hidden Spring Rd. to the north. Rosemont Rd. is the west edge boundary, and the residential streets of Hidden Springs Court and Clubhouse Drive are the eastern limits, and Cheyenne Terrace and Bay Meadows Drive to the south.

I am requesting a list of special status species for this area and extending 1.0 mile from this area.

Thank you for your assistance.

Sincerely,
WINZLER & KELLY

Nancy Olmsted
Senior Scientist

encl: **Site Maps**

15575 SW Sequoia Pkwy, Ste 140, Portland, OR 97224
P(503) 226-3921, F(503) 226-3926
pdo@w-and-k.com

Jodi Cullen

From: Ben Meyer [Ben.Meyer@noaa.gov]
Sent: Monday, May 04, 2009 3:25 PM
To: Jodi Cullen
Subject: Species List Request for the Erikson School Project in West Linn, Oregon

Ms. Cullen

The National Marine Fisheries Service (NMFS) has received your April 27, 2009 request for a list of endangered species under NMFS jurisdiction that may be within a 1 mile radius of the proposed Erikson School project in West Linn, Oregon. Based on our review, NMFS has determined that there are no species under NMFS jurisdiction that would occur within the 1 mile area around the project site. If you have any further questions, feel free to contact me at 503.230.5425.

Ben Meyer
Chief, Willamette Habitat Branch
Oregon State Habitat Office

WINZLER & KELLY

April 27, 2009

Oregon Fish & Wildlife Office
2600 SE 98th Ave, Suite 100
Portland, OR 97266

Re: **Sensitive Species List for Project Area**

Hello,

Winzler & Kelly has been contracted by West Linn Wilsonville School District (WLWSD) to conduct the wetland inventory study for the Erikson School project located in West Linn.

The project site and wetland study area is located in West Linn, roughly between Hidden Springs Road and Bay Meadows Drive, southwest quarter section of Section 23, Township 2 South, and Range 1 East, W. M. The study area boundary is dictated by the parcel boundaries to the south and east, and by Rosemont Rd. to the west, and Hidden Spring Rd. to the north. Rosemont Rd. is the west edge boundary, and the residential streets of Hidden Springs Court and Clubhouse Drive are the eastern limits, and Cheyenne Terrace and Bay Meadows Drive to the south.

I am requesting a list of special status species for this area and extending 1.0 mile from this area.

Thank you for your assistance.

Sincerely,
WINZLER & KELLY

Nancy Olmsted
Senior Scientist

encl: **Site Maps**

15575 SW Sequoia Pkwy, Ste 140, Portland, OR 97224
P(503) 226-3921, F(503) 226-3926
pdo@w-and-k.com

WINZLER & KELLY

April 27, 2009

Cliff Alton
Oregon National Heritage Interpretive Center
1322 SE Morrison Street
Portland, OR 97214

Re: **Sensitive Species List for Project Area**

Dear Cliff,

Winzler & Kelly has been contracted by West Linn Wilsonville School District (WLWSD) to conduct the wetland inventory study for the Erikson School project located in West Linn.

The project site and wetland study area is located in West Linn, roughly between Hidden Springs Road and Bay Meadows Drive, southwest quarter section of Section 23, Township 2 South, and Range 1 East, W. M. The study area boundary is dictated by the parcel boundaries to the south and east, and by Rosemont Rd. to the west, and Hidden Spring Rd. to the north. Rosemont Rd. is the west edge boundary, and the residential streets of Hidden Springs Court and Clubhouse Drive are the eastern limits, and Cheyenne Terrace and Bay Meadows Drive to the south.

I am requesting a list of special status species for this area and extending 1.0 mile from this area.

Thank you for your assistance.

Sincerely,
WINZLER & KELLY

Nancy Olmsted
Senior Scientist

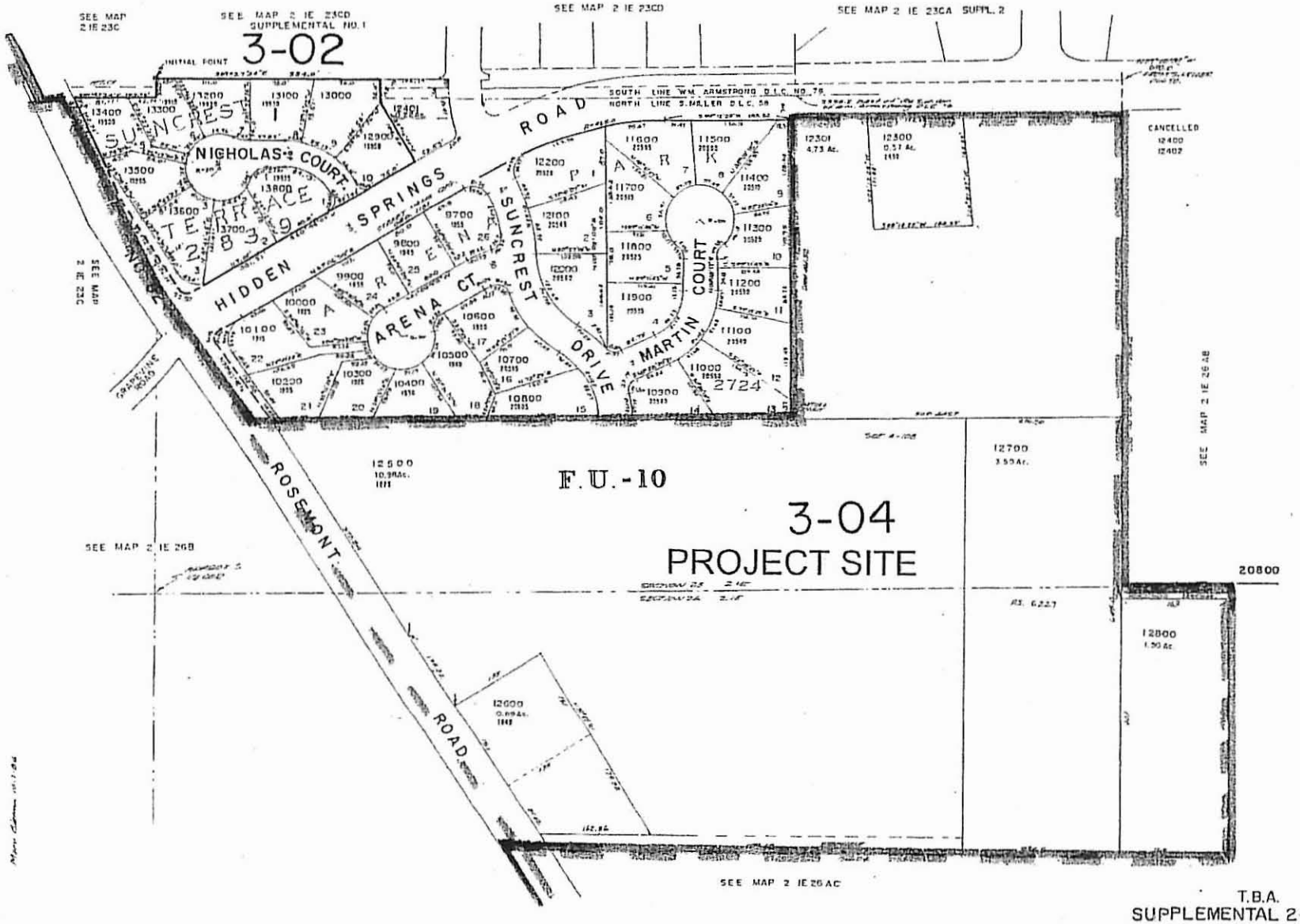
encl: **Site Maps**

15575 SW Sequoia Pkwy, Ste 140, Portland, OR 97224
P(503) 226-3921, F(503) 226-3926
pdo@w-and-k.com

SE1/4 SW1/4 SEC. 23 T.2S. R.1E. W.M.
CLACKAMAS COUNTY

2 1E 23CD
SUPPLEMENTAL 2

This map was prepared for assessment purpose only.



T.B.A.
SUPPLEMENTAL 2
2 1E 23CD


1025 Rosemont Rd, West Linn, OR 97068
Image © 2009 Metro, Portland Oregon
© 2009 Tele Atlas
©2009 Google
Imagery Date: Jul 12, 2007
45°22'30.37" N
122°39'10.09" W
elev 654 ft
Eye alt 4006 ft

WINZLER & KELLY

April 27, 2009

Cliff Alton
Oregon National Heritage Interpretive Center
1322 SE Morrison Street
Portland, OR 97214

Re: **Sensitive Species List for Project Area**

Dear Cliff,

Winzler & Kelly has been contracted by West Linn Wilsonville School District (WLWSD) to conduct the wetland inventory study for the Erikson School project located in West Linn.

The project site and wetland study area is located in West Linn, roughly between Hidden Springs Road and Bay Meadows Drive, southwest quarter section of Section 23, Township 2 South, and Range 1 East, W. M. The study area boundary is dictated by the parcel boundaries to the south and east, and by Rosemont Rd. to the west, and Hidden Spring Rd. to the north. Rosemont Rd. is the west edge boundary, and the residential streets of Hidden Springs Court and Clubhouse Drive are the eastern limits, and Cheyenne Terrace and Bay Meadows Drive to the south.

I am requesting a list of proposed, threatened, and endangered species for this area and extending 1.0 mile from this area.

Thank you for your assistance.

Winzler & Kelly

Nancy Olmsted
Senior Scientist

Sincerely,
WINZLER & KELLY

_____Name
_____Title

encl: **Site Map**

15575 SW Sequoia Pkwy, Ste 140, Portland, OR 97224
P(503) 226-3921, F(503) 226-3926
pdo@w-and-k.com

OREGON NATURAL HERITAGE INFORMATION CENTER

OSU Oregon State

Institute for Natural Resources
1322 SE Morrison Street
Portland, Oregon 97214-2423
503.731.3070
http://oregonstate.edu/ornhic

Friday, May 01, 2009

Nancy Olmsted
Winzler & Kelly
15575 SW Sequoia Pkwy, Ste 140
Portland, OR 97224

Dear Ms. Olmsted:

Thank you for requesting information from the Oregon Natural Heritage Information Center (ORNHIC). We have conducted a data system search for rare, threatened and endangered plant and animal records for your Erikson School Wetland Study Project at West Linn, T 02S R 01E Sec 23, wm

Eight (8) records total were noted within a one-mile radius of your project site and are included on the enclosed computer printouts.

Please remember that the lack of rare element information from a given area does not mean that there are no significant elements there, only that there is no information known to us from the site. To assure that there are no important elements present, you should inventory the site, at the appropriate season.

This data is confidential and for the specific purposes of your project and is **not to be distributed**. Please also note that as our database is continually updated, the data in this report should be considered current for one year from the date it was generated and should not be cited after **May 2010**.

Please forward the included invoice to the appropriate party in your organization.

If you need additional information or have any questions, please do not hesitate to contact me.

Sincerely,

Lindsey Koepke
Assistant Information Manager
lindsey.koepke@oregonstate.edu
503.731.3070 x104

encl.: **invoice (H-050109-LAK1)**
computer printouts and data key

Scientific Name: ***Acipenser medirostris*** EO NUM: 1
Common Name: **Green sturgeon** EO ID: 19198

Federal Status: SOC GRANK: G3 NHP List: 4 Category: Vertebrate Animal
State Status: SRANK: S3 HP Track: N ELCODE: AFCAA01030

Confirmed: First Obs: Last Obs: EO Rank:

Directions: COLUMBIA RIVER AND ESTUARY, UPSTREAM TO BONNEVILLE DAM. WILLAMETTE RIVER BELOW WILLAMETTE FALLS.

County Name	Ecoregion	Owner Name/Type
Clatsop	CR	STATE
Columbia	WC	
Multnomah	WV	

Watershed
- 1708000105 - COLUMBIA GORGE TRIBUTARIES W.
- 1708000106 - GORDON CREEK/LOWER SANDY RIVER
- 1708000302 - BEAVER CREEK
- 1708000303 - PLYMPTON CREEK
- 1708000601 - YOUNGS BAY TRIBUTARIES
- 1708000602 - BIG CREEK / GNAT CREEK
- 1709000704 - ABERNATHEY CREEK
- 1709001201 - JOHNSON CREEK
- 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName
008N010W			45121-E8	Tanner Butte
008N009W			45121-F8	Bonneville Dam
008N008W			45122-C5	Oregon City
009N008W			45122-D5	Gladstone
009N007W			45122-D6	Lake Oswego
008N006W			45122-E1	Multnomah Falls
009N006W			45122-E2	Bridal Veil
			45122-E3	Washougal
			45122-E4	Camas
			45122-E5	Mount Tabor
			45122-E6	Portland
			45122-E7	Linnton
			45122-F6	Vancouver
			45122-F7	Sauvie Island
			45122-G7	Saint Helens
			45122-H7	Deer Island
			46122-A7	Kalama
			46122-A8	Rainier
			46122-B8	Kelso
			46123-B1	Coal Creek
			46123-B2	Oak Point
			46123-B3	Nassa Point
			46123-B4	Cathlamet
			46123-B6	Cathlamet Bay
			46123-B7	Astoria
			46123-B8	Warrenton
			46123-C4	Skamokawa
			46123-C5	Grays River
			46123-C6	Rosburg
			46124-B1	Clatsop Spit

Managed Area Name

Source Feature [Uncertainty Type (Distance)] Use Class
- 19198 Line [Linear (8 m)]
- 38085 Line [Linear (8 m)]

Annual Observations

Feature ID Date Source Observation data

Occurence Data

EO Type: YEAR-ROUND - fish Minimum Elev.(m):

EO Data: NO COLLECTION INFORMATION AVAILABLE. GREEN STURGEON ADULTS ARE ABUNDANT AND THE NUMBERS ARE STABLE IN THE LOWER COLUMBIA RIVER. THEY ARE RARELY FOUND IN THE COLUMBIA RIVER FROM PUGET ISLAND (RM40) UPSTREAM TO BONNEVILLE DAM AND TO WILLAMETTE FALLS IN THE WILLAMETTE RIVER. (1995 ODFW BIENNIAL REPORT ON THE STATUS OF WILD FISH IN OREGON)

EO Comments:
Protection:
Management:
General: GREEN STURGEON NOT ABUNDANT IN ANY PACIFIC COAST ESTUARY. LITTLE IS KNOWN ABOUT ITS LIFE HISTORY. THIS SPECIES MORE MARINE ORIENTED.THAN WHITE STURGEON AND SPENDS LIMITED AMOUNT OF TIME IN FRESHWATER (EXCEPT PERHAPS EARLY JUVENILES AND SPAWNING ADULTS). B91NOA01ORUS.

Scientific Name: ***Anodonta oregonensis*** EO NUM: 14
Common Name: **Oregon floater (mussel)** EO ID: 30363

Federal Status: GRANK: G5Q NHP List: 4 Category: Invertebrate Animal
State Status: SRANK: S3 HP Track: N ELCODE: IMBIV04110
Confirmed: First Obs: 1997-07-01 Last Obs: 1997-07-01 EO Rank: E - Verified extant (viability not assessed)
Directions: Mary S. Young State Park

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV	OPRD	1709001201 - JOHNSON CREEK

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002S001E	24		45122-D5	Gladstone	MARY S. YOUNG STATE RECREATION AREA

Source Feature [Uncertainty Type (Distance)] Use Class
51188 Point [Areal - Estimated (50 m)]

Annual Observations

Feature ID Date Source Observation data

Occurence Data
EO Type:
EO Data:
EO Comments:
Protection:
Management:
General: 2008 freshwater mollusk shapefile from ODFW, collector: Smith, Al

Minimum Elev.(m):

Scientific Name: ***Delphinium leucophaeum*** EO NUM: 15
Common Name: **White rock larkspur** EO ID: 21995

Federal Status: SOC GRANK: G2 NHP List: 1 Category: Vascular Plant
State Status: LE SRANK: S2 HP Track: Y ELCODE: PDRAN0B182
Confirmed: Y First Obs: 1977 Last Obs: 1977- EO Rank: Not ranked
Directions: OREGON CITY, BETWEEN ROAD AND WILLAMETTE RIVER AT POINT OVERLOOKING JOHN MCGLOUGHLIN'S BUST

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		1709000704 - ABERNATHEY CREEK 1709001005 - LOWER TUALATIN RIVER 1709001106 - ROARING RIVER 1709001201 - JOHNSON CREEK

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002S002E	29		45122-C5	Oregon City	WILLAMETTE RIVER GREENWAY
002S001E	35		45122-C6	Canby	
002S002E	34		45122-D5	Gladstone	
003S001E	01		45122-D6	Lake Oswego	
003S002E	05				
003S001E	11				
003S002E	07				
003S002E	08				
002S001E	25				
003S001E	13				
003S002E	17				
002S001E	23				
002S002E	19				
002S002E	31				
002S002E	20				
002S001E	24				

003S002E	18
003S002E	09
003S001E	12
003S002E	04
003S002E	06
003S001E	02
002S002E	33
002S002E	32
002S001E	36
002S002E	28
002S002E	30
002S001E	26
002S002E	21

Source Feature [Uncertainty Type (Distance)] Use Class
21995 Point [Areal - Estimated (4000 m)]

Annual Observations
* 1977 - PRESENT

Feature ID Date Source Observation data

Occurence Data

EO Type:
EO Data: SIGHTED BY LEO SIMM 1977
EO Comments: CLIFF
Protection:
Management:
General: FROM 1980 USFWS ENDANGERED SPECIES STATUS REPORT BY DARR, DEBBIE

Minimum Elev.(m): 91

Scientific Name: ***Oncorhynchus kisutch pop. 1***
Common Name: **Coho salmon (Lower Columbia River ESU)**

EO NUM: 37
EO ID: 3164

Federal Status: LT GRANK: G4T2Q NHP List: 1 Category: Vertebrate Animal
State Status: LE SRANK: S2 HP Track: Y ELCODE: AFCHA02031
Confirmed: First Obs: 2001-pre Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)
Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name	Ecoregion	Owner Name/Type
Clackamas	WV	
Columbia		
Multnomah		

Watershed
1708000302 - BEAVER CREEK
1709001201 - JOHNSON CREEK
1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName
002S001E	14		45122-C5	Oregon City
002S001E	10		45122-D5	Gladstone
002S001E	03		45122-D6	Lake Oswego
001S001E	35		45122-E6	Portland
001S001E	27		45122-E7	Linnton
004N001W	10		45122-F6	Vancouver
001S001E	10		45122-F7	Sauvie Island
001N001E	34		45122-F8	Dixie Mountain
001N001E	28		45122-G7	Saint Helens
001N001E	20		45122-G8	Chapman
001N001E	17		45122-H7	Deer Island
001N001E	18			
001N001W	12			
001N001E	06			
001N001W	02			
002N001E	31			
004N001W	08			
002N001W	34			
002N001W	25			
002N001W	28			
002N001W	23			
002N001W	21			
002N001W	20			

Managed Area Name

002N001W	14
002N001W	18
002N002W	12
002N001W	04
005N001W	34
003N001W	35
003N001W	33
003N002W	36
003N001W	28
003N001W	30
003N002W	25
003N001W	22
003N001W	20
003N001W	15
003N001W	17
003N001W	10
003N002W	12
003N001W	04
003N002W	02
004N001W	33
004N001W	31
004N001W	27
004N001W	29
004N001W	21
004N001W	16
002S002E	19
002S001E	13
004N001W	17
002S001E	24
002S002E	30
004N001W	20
004N001W	30
004N001W	28
004N002W	36
004N001W	34
003N002W	01
003N001W	03
003N001W	09
003N002W	14
003N002W	13
003N001W	16
003N001W	19
003N001W	21
003N001W	23
003N001W	29
003N001W	27
003N001W	31
003N001W	34
002N002W	01
002N001W	06
002N001W	03
002N001W	07
002N001W	17
002N001W	13
004N001W	03
002N001W	22
002N001W	24
002N001W	27
002N001E	30
002N001W	35
002N001W	36
002N001E	32
001N001E	05
001N001W	11

001N001W	13
004N001W	09
001N001E	19
001N001E	21
001N001E	27
001S001E	03
001S001E	15
001S001E	22
001S001E	26
001S001E	36
002S001E	02
002S001E	11

Source Feature [Uncertainty Type (Distance)] Use Class — Annual Observations

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish — Minimum Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observations. 2001: ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE.

EO Comments: Rearing & migration use.

Protection:

Management:

General: Distribution information used in this EOR was derived from ODFW geographic resources data produced and distributed in 1999. Unless specific data exists in the data field, the information presented in this EOR represents the "best professional judgement" by ODFW's district fisheries biologist; the presence of coho in described areas should be considered undocumented but as having a potential of being present. EOR was updated using ODFW geographic resources data produced and distributed in 2004. Updated with 2009 ODFW data.

Scientific Name: ***Oncorhynchus mykiss pop. 27*** EO NUM: 1

Common Name: **Steelhead (Lower Columbia River ESU, winter run)** EO ID: 851

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA02132

Confirmed: First Obs: 1999-PRE Last Obs: 1999-PRE EO Rank:

Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas			17090012 - Lower Willamette
Columbia			
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
			45122-C5	Oregon City	
			45122-D5	Gladstone	
			45122-D6	Lake Oswego	
			45122-E6	Portland	
			45122-E7	Linnton	
			45122-F7	Sauvie Island	
			45122-G7	Saint Helens	

Source Feature [Uncertainty Type (Distance)] Use Class — Annual Observations

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish — Minimum Elev.(m):

EO Data: WINTER RUN: ODFW DISTRIBUTIION MAPS USED TO CREATE THE 1:24,000 COVERAGE

EO Comments:

Protection:

Management:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFWS DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF STEELHEAD IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

Scientific Name: ***Oncorhynchus tshawytscha pop. 21*** EO NUM: 6
Common Name: **Chinook salmon (Lower Columbia River ESU, spring run)** EO ID: 3132

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal
State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA0205W
Confirmed: First Obs: 1999-PRE Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)
Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas			17090012 - Lower Willamette
Columbia			
Multnomah			

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
			45122-C5	Oregon City	
			45122-D5	Gladstone	
			45122-D6	Lake Oswego	
			45122-E6	Portland	
			45122-E7	Linnton	
			45122-F7	Sauvie Island	
			45122-G7	Saint Helens	

Source Feature [Uncertainty Type (Distance)] Use Class Annual Observations
Data currently not available.

Feature ID Date Source Observation data

Occurence Data
EO Type: REARING & MIGRATION - fish Minimum Elev.(m):
EO Data: SPRING RUN; ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE
EO Comments:
Protection:
Management:
General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFWS DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF CHINOOK IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

Scientific Name: ***Oncorhynchus tshawytscha pop. 22*** EO NUM: 6
Common Name: **Chinook salmon (Lower Columbia River ESU, fall run)** EO ID: 778

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal
State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA0205Y
Confirmed: First Obs: 1999-PRE Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)
Directions: SCAPPOOSE BAY & TRIBUTARIES, WILLAMETTE RIVER & TRIBUTARIES

County Name	Ecoregion	Owner Name/Type	Watershed
Clackamas	WV		1709000704 - ABERNATHEY CREEK
Columbia			1709001201 - JOHNSON CREEK
Multnomah			1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
001S001E	10		45122-C5	Oregon City	
004N001W	16		45122-D5	Gladstone	
001S001E	27		45122-D6	Lake Oswego	
001S001E	35		45122-E6	Portland	
002S001E	02		45122-E7	Linnton	
002S001E	14		45122-F7	Sauvie Island	
002S001E	24		45122-G7	Saint Helens	

002S002E	19
002S002E	31
004N001W	15
002S001E	13
002S002E	30
002S001E	11
001S001E	36
001S001E	26
001S001E	22
001S001E	15
001S001E	03
001N001E	27
001N001E	21
001N001E	19
004N001W	17
001N001W	12
001N001E	06
001N001W	02
002N001W	36
002N001W	34
002N001W	25
002N001W	28
002N001W	23
002N001W	21
002N001W	14
004N001W	09
002N001W	07
002N001W	03
002N001W	06
003N001W	35
003N001W	33
003N001W	31
003N001W	27
003N001W	29
003N002W	25
003N001W	22
003N001W	19
003N001W	16
003N001W	10
003N001W	03
003N002W	01
004N001W	34
004N001W	31
004N001W	27
004N001W	29
004N001W	21
004N001W	20
004N001W	30
004N001W	28
004N002W	36
004N001W	33
003N001W	04
003N001W	09
003N001W	17
003N001W	15
003N001W	20
003N001W	21
003N001W	23
003N001W	30
003N001W	28
003N002W	36
003N001W	34
002N002W	01
002N001W	04

002N002W	12
002N001W	18
002N001W	17
002N001W	20
002N001W	22
002N001W	24
002N001W	27
004N001W	10
002N001W	35
002N001E	31
001N001E	05
001N001W	11
001N001W	13
001N001E	18
001N001E	20
001N001E	28
001N001E	34

Source Feature [Uncertainty Type (Distance)] Use Class — Annual Observations

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish Minimum Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observation. FALL RUN; ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE

EO Comments:

Protection:

Management:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFWS DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF CHINOOK IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT. Updated with 2009 ODFW 1:24,000 coverage.

Scientific Name: ***Oncorhynchus tshawytscha pop. 23*** EO NUM: 91

Common Name: **Chinook salmon (Upper Willamette River ESU, spring run)** EO ID: 31243

Federal Status: LT GRANK: G5T2Q NHP List: 1 Category: Vertebrate Animal

State Status: SC SRANK: S2 HP Track: Y ELCODE: AFCHA02052

Confirmed: First Obs: 2009-pre Last Obs: 2009 EO Rank: E - Verified extant (viability not assessed)

Directions: From the mouth of the Willamette River to confluence with the Clackamas River.

County Name: Clackamas, Multnomah

Ecoregion: WV

Owner Name/Type:

Watershed: 1709001201 - JOHNSON CREEK; 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range	Sec	Note	QuadCode	QuadName
002N001W	22		45122-C5	Oregon City
001N001E	28		45122-D5	Gladstone
002N001W	13		45122-D6	Lake Oswego
002N001W	14		45122-E6	Portland
001N001E	19		45122-E7	Linnton
001N001E	18		45122-F7	Sauvie Island
001N001W	13			
002S002E	30			
001N001W	12			
001N001E	20			
001N001E	21			
001N001W	11			
001N001E	27			
001N001E	34			
001S001E	03			
002S001E	13			

Managed Area Name

002S001E	14
001N001W	02
002S001E	02
002N001W	35
001S001E	35
001S001E	26
002S001E	11
002N001W	34
001S001E	27
002S001E	24
002S002E	19
001S001E	22
002N001W	27
001S001E	15
001S001E	10
002N001W	23

Source Feature [Uncertainty Type (Distance)] Use Class Annual Observations

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type: Minimum Elev.(m):

EO Data: 2009: Classified as rearing by ODFW.

EO Comments:

Protection:

Management:

General: Distribution information used in this EOR was derived from ODFW 1:24,000 scale geographic resources data produced and distributed in 2009. Use type was determined by ODFW and other natural resources agency field staff based on survey data, supporting documentation, and the best professional judgement of the field biologists. Unless otherwise noted, the presence of chinook in described areas should be considered undocumented but as having a potential of being present.

8 records total

Key to Oregon Natural Heritage Information Center Data

Field Name	Description
Scientific Name	The scientific name of the species.
Common Name	The common name of the species.
Category	Value that indicates the broad biological category for each species.
ELCODE	Unique NatureServe code for identifying this element. 1st and 2nd byte (PD=Plant dict, PM=Plant monocot, PG=Plant gymnosperm, PP=Plant pteridophyte, AA=amphibian, AB=bird, AF=fish, AM=mammal, AR=reptile, I=invertebrate. 3rd-5th byte (family abbreviation). 6th-7th (genus code). 8th-9th (species). 10th (tie breaker).
Federal Status	US Fish and Wildlife Service or NOAA Fisheries status. **LE**=listed endangered, **LT**=listed threatened, **PE** or **PT**=proposed endangered or threatened, **C**=candidate for listing with enough information available for listing, **SOC** or **SC**=species of concern, **PS:***xx*=partial status for species.
State Status	For animals, Oregon Department of Fish and Wildlife status; **LE**=listed endangered, **PE**=proposed endangered, **PT**=proposed threatened, **SC** or **C**=sensitive-critical, **SV** or **V**=sensitive-vulnerable, **SP** or **P**=sensitive-peripheral, **SU** or **U**=sensitive-undetermined status. For plants, Oregon Department of Agriculture status; **LE**=listed endangered, **LT**=listed threatened, **C**=candidate.
GRANK/SRANK	ORNHIC participates in an international system for ranking rare, threatened and endangered species throughout the world. The system was developed by The Nature Conservancy and is now maintained by NatureServe in cooperation with Heritage Programs or Conservation Data Centers (CDCs) in all 50 states, in 4 Canadian provinces, and in 13 Latin American countries. The ranking is a 1-5 scale, primarily based on the number of known occurrences, but also including threats, sensitivity, area occupied, and other biological factors. In this book, the ranks occupy two lines. The top line is the Global Rank and begins with a "G". If the taxon has a trinomial (a subspecies, variety or recognized race), this is followed by a "T" rank indicator. A "Q" at the end of this line indicates the taxon has taxonomic questions. The second line is the State Rank and begins with the letter "S". The ranks are summarized as follows: **1** = Critically imperiled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences; **2** = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences; **3** = Rare, uncommon or threatened, but not immediately imperiled, typically with 21-100 occurrences; **4** = Not rare and apparently secure, but with cause for long-term concern, usually with more than 100 occurrences; **5** = Demonstrably widespread, abundant, and secure; **H** = Historical Occurrence, formerly part of the native biota with the implied expectation that it may be rediscovered; **X** = Presumed extirpated or extinct; **U** = Unknown rank; **?** = Not yet ranked, or assigned rank is uncertain.
NHP list	All rare species in Oregon are assigned a list number of 1, 2, 3 or 4, where **1**=threatened or endangered throughout range, **2**=threatened or endangered in Oregon but more common elsewhere, **3**=Review List (more information is needed), **4**=Watch List (currently stable). A null value indicates the species is not currently on our rare species list.
HP Track	We currently obtain and computerize locational information for only those elements marked with **Y**(es). Those species marked with **N**(o) or **W**(atch) have incomplete data as we do not actively track them at this time.
EO NUM	The number of the Element Occurrence (EO) for this species. An element occurrence is an area of land or water where the species is or was known to occur and has conservation value. EOs are the main tracking unit for Heritage Programs.
EO ID	Unique identifier for the Element Occurrence (EO). Unique for each occurrence in the database.
First_obs	First reported sighting date for this occurrence in the form YYYY-MM-DD.
Last_obs	Last reported sighting date, usually in the form YYYY-MM-DD.

Key to Oregon Natural Heritage Information Center Data

Field Name	Description
Confirmed	Indication of whether taxonomic identification of the Element represented by this occurrence has been confirmed by a reliable individual. Blank=unknown, assumed to be correctly identified. Y=Yes, confident identification. ?=identification questions.
EO Rank	ORNHIC's determination of the viability of the occurrence.
Directions	Site name and/or directions to site.
County	County name(s) in which EO is mapped.
Ecoregion	Physiographic Province in which EO is mapped: **CR**=Coast Range, **WV**=Willamette Valley, **KM**=Klamath Mountains, **WC**=West slope and crest of the Cascades, **EC**=East slope of the Cascades, **BM**=Ochoco, Blue and Wallowa Mts., **BR**=Basin and Range, **CB**=Columbia Basin, **SP**=Snake River Plains.
Town-Range, Sec, and Note	United States rectangular land survey (also known as the Public Land Survey System) legal township, range, and section descriptions in which the EO is mapped. Township first (4 bytes), range second (4 bytes). For example: 004S029E = Township 4S, Range 29E. All locations are with reference to the Willamette Meridian. Fractional ranges or townships are indicated in the Note field.
Quadcode	USGS code for the USGS topographic quadrangle map(s) where the record is mapped.
Quadname	Name of the USGS topographic quadrangle map(s) where the record is mapped.
Watershed	Watershed(s), identified according to the U.S. Geological Survey (USGS) Hydrologic Unit Map 10-digit code, within which the Element Occurrence is located.
Owner Name/Type	Federal, State, Private, etc.
Managed Area Name	BLM District, USFS Forest, Private Preserve
Annual Observation	Summary of yearly observation.
Source Feature	A Source Feature is the initial translation of a discrete unit of observation data as a spatial feature. Creation of a Source Feature requires an interpretive process. The likely location and extent of an observation is determined through consideration of the amount and direction of any variability between the recorded and actual locations of the observation data. In most cases, the Source Feature is delineated to encompass locational uncertainty. A Source Feature can be a point, line, or polygon. The type of Source Feature developed depends on both the preceding conceptual feature type and the locational uncertainty associated with the feature.
Feature ID	Unique identifier for source feature.
Obs Date	Date of source feature observation.
Source Observation Data	Observations specific to the source feature.

Key to Oregon Natural Heritage Information Center Data

Field Name	Description
Uncertainty Type (Distance)	The recorded location of an observation of an Element may vary from its true location due to many factors, including the level of expertise of the data collector, differences in survey techniques and equipment used, and the amount and type of information obtained. This inaccuracy is characterized as locational uncertainty, and is assessed for Source Feature(s) based on the uncertainty associated with the underlying information on the location of the observation. Four categories of locational uncertainty have been identified, as follows: Negligible uncertainty is less than or equal to 6.25 meters in any dimension. Source Features with negligible uncertainty are based on a comprehensive field survey with high quality mapping and a high degree of certainty. Linear uncertainty is greater than 6.25 meters, and varies along an axis (e.g., a path, stream, ridgeline). The true location of an observation with linear uncertainty may be visualized as effectively sliding along a line that delineates the uncertainty. Areal delimited uncertainty is greater than 6.25 meters, and varies in more than one dimension. The true location of an observation can be visualized as floating within an area with a boundary that can be specifically delimited. Boundaries can be defined using roads, bodies of water, etc. Areal estimated uncertainty is greater than 6.25 meters, and varies in more than one dimension. A boundary cannot be specifically delimited based on the observation information, i.e., the actual extent is unknown. The true location of the observation can be visualized as floating within an area for which boundaries cannot be specifically delimited. Source Features with areal estimated uncertainty require that the user specify an estimated uncertainty distance to be used for buffering the feature to incorporate the locational uncertainty.
Use Class	How the source feature is used by migratory species (e.g. breeding, maternity colony, hibernaculum).
EO Type	For animals, type of occurrence, e.g. roost, nest, spawning.
EO Data	Summary of species and population biology for the EO – may include number observed, number of sites, reproduction data, assessment of viability, etc.
EO Comments	Habitat information, e.g. aspect, slope, soils, associated species, community type.
Minimum Elevation	Minimum elevation of the area covered by the range of the taxon, in meters. Negative numbers or blank=not determined.
Protection	Comments on protectibility and threats.
Management	Comments on how the site is managed.
General	Miscellaneous comments.

Appendix F. Literature Citations and References

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Appendix G. Report Checklist

Oregon Department of State Lands
Wetland Determination/Delineation Report Requirements Checklist
(This form summarizes requirements and is not meant to replace the rules, OAR 141-090-0005 to 0055).

Report Name: WLWSD Erickson School Site City/County: West Linn / Clackamas
Consultant firm/Contact: Wetzel & Kelly | NANCY OMSTED Firm's Project No.: 11456-09001
Department WD #: _____ Department Reviewer: _____
Other Department File #: _____ Phone: (503) 986-5_____ Date: _____
Date ☐ Mailed ☐ Faxed ☐ E-mailed to: Consultant _____ Applicant/Agent _____

☐ Report does not conform to many requirements (OAR 141-090-0005 to 0055) and cannot be approved. . Please note the WD file number above if/when the report is revised and resubmitted. A complete new report and $100 fee is required for resubmittal of a rejected report.

*Items marked with an ☒ indicate that information provided within the report **does not** meet requirements, is not clear, or appears to be incorrect.*

Technical Requirements:

☐ Work conducted according to 1987 *Corps of Engineers Wetland Delineation Manual* including regional supplements and applicable guidance, and any supporting technical or guidance documents issued by the Department.

Comments:

Cover Form ☑ **Correct form and fully completed**
Report Format ☑ **Report conforms to the report format provided by the Department**
Comments:

Text Order and Required Sections:

A) Landscape Setting and Land Use

☑ Detailed description of the study area, its landscape setting, and previous and current land uses

Comments:

B) Site Alterations

☑ Description, approx. year, and analysis of any site alterations that likely affected the presence, location or boundaries of any waters of the state in the study area

Comments:

C) Precipitation Data and Analysis

☑ Precipitation on the day of AND approximately 1- 2 weeks before the date(s) of the field investigation(s)
☑ Percent of normal precipitation for the water year to date AND monthly percent of normal precipitation using appropriate NRCS WETS table for each of the 3 months preceding the field investigation

Comments:

D) Methods

☑ Date(s) of the field investigation
☑ Site-specific methods for conducting the field investigation, selection of sample plot locations, determination of boundaries
☑ Data include a sample plot that best represents each wetland and best represents adjacent non-wetland(s)
☑ Paired sample plots located close enough to either side of the wetland boundary to substantiate boundary location
☑ Data are provided for all mapped hydric soil units
☐ If the study area does not contain wetlands, at least one sample plot was placed in each of the lowest topographic areas or other locations most likely to contain wetlands to document site conditions.
☐ Field investigation of farmed site conducted in early growing season. If field work done at other time, appropriate method and requirements applied.
☐ If other waters are present, methodology described for determination of OHWL or HMT.

Comments:

E) Description of All Wetlands and Other Non-Wetland Waters

☐ Wetland and other water characteristics and boundaries including whether they extend offsite

Comments:

F) Deviation from LWI or NWI

☑ If any deviation, wetland determination data and explanation provided

Comments:

G) Mapping Method

☑ Methodology described including mapping precision estimate

Comments:

H) Additional Information

☑ Documentation of fish presence or absence in a stream or ditch, using published maps or reports or information from an authoritative source (e.g., ODFW)

☑ Data sufficient to determine whether or not an identified water area is artificially created entirely from upland and/or the purpose for which it was created

☐ Hydrology monitoring data, including spring hydrology data for farmed sites

☐ Additional aerial photographs (e.g. historical aerials used as basis of jurisdictional determination)

☐ Data or other information on pre-disturbance conditions

Comments:

I) ☑ **Results and Conclusions**

Comments:

J) ☐ **Required Disclaimer**

Appendices Requirements:

A) Figures:

☑ Location map showing the precise study area location

☑ Tax lot map showing the entire parcel(s)

☑ LWI map, if available, or NWI map(s), including map name(s) showing the study area

☑ County soil survey map showing the study area location/boundaries and a legend with all soil series mapped in the study area and hydric status

☑ Aerial photograph(s)-at least 1 recent photo labeled with month/year or at least 3 early growing season aerials for farmed sites

☐ Wetland map(s) comprising the wetland determination and/or delineation including:

- ☑ The boundaries of the entire parcel(s) subject to investigation; or if only a portion of the parcel(s) investigated, the study area boundary in relation to the parcel boundaries
- ☑ Existing structures, areas of fill, water diversions, or other major alterations
- ☑ All water features and their boundaries
- ☑ Numbered sample plots corresponding to data forms
- ☑ North arrow, scale bar,& legend
- ☑ Ground level photograph location and direction of view
- ☑ Wetland map(s) scale suitable for the study area size and for legibility
- ☐ Mapping method and precision statement

Comments:

B) Data Forms:

☑ Data forms from the appropriate regional Manual supplement, or provided by the Department

☑ Data form fully and correctly completed for each sample plot

☑ Data collected supports indicator selected and determination made

☑ Name(s) of field investigator(s)

☑ Standard NRCS soils terminology

☑ Soil profile description matches hydric soil indicator(s) selected, if any

☑ Latin botanical name for all plant species listed

☑ Wetland indicator status for all plant species listed and correct

☑ Correct method applied to determine dominant plant species

Comments:

C) ☑ **Ground Level Color Photographs submitted and with captions**

Comments:

Exhibit B

Oregon
Theodore R. Kulongoski, Governor

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
(503) 986-5200
FAX (503) 378-4844
www.oregonstatelands.us.

OPS DEPT
JUL 16 2010
WLWSD

State Land Board

Theodore R. Kulongoski
Governor

Kate Brown
Secretary of State

Ted Wheeler
State Treasurer

July 14, 2010

Tim Woodley
West Linn-Wilsonville School District 3TJ
P.O. Box 35
West Linn, OR 97068

Re: Wetland Delineation Report for a Portion of the Erickson School Site, Clackamas County, T2S R1E Sec. 23CD, Tax Lots 12800 and Portion of 12500, and Sec. 26AC, Portion of Tax Lots 3100 and 5500; WD #10-0025, City of West Linn Local Wetlands Inventory, Wetland TR-01

Dear Mr. Woodley:

The Department of State Lands has reviewed the wetland delineation report prepared by Winzler & Kelly for the site referenced above that revised wetlands and expanded the study area previously delineated in WD #09-0240. Based upon the information presented in the report, 3 site visits during June, 2010, and additional information submitted upon request, we concur with the wetland boundaries as mapped in revised Figure 6 of the report. Please replace all copies of the preliminary wetland map with this final Department-approved map. Within the expanded study area, 2 wetlands were identified, totaling approximately 0.23 acres. These wetlands are subject to the permit requirements of the state Removal-Fill Law. Under current regulations, a state permit is required for cumulative fill or annual excavation of 50 cubic yards or more in wetlands.

This concurrence is for purposes of the state Removal-Fill Law only. Federal or local permit requirements may apply as well. The Army Corps of Engineers will review the report and make a determination of jurisdiction for purposes of the Clean Water Act at the time that a permit application is submitted. We recommend that you attach a copy of this concurrence letter to both copies of any subsequent joint permit application to speed application review.

Please be advised that state law establishes a preference for avoidance of wetland impacts. Because measures to avoid and minimize wetland impacts may include reconfiguring parcel layout and size or development design, we recommend that you work with Department staff on appropriate site design before completing the city or county land use approval process.

This concurrence is based on information provided to the agency. The jurisdictional determination is valid for five years from the date of this letter, unless new information necessitates a revision. Circumstances under which the Department may change a

10036 5.2

determination are found in OAR 141-090-0045 (available on our web site or upon request). In addition, laws enacted by the legislature and/or rules adopted by the Department may result in a change in jurisdiction; individuals and applicants are subject to the regulations that are in effect at the time of the removal-fill activity or complete permit application. The applicant, landowner, or agent may submit a request for reconsideration of this determination in writing within six months of the date of this letter.

Thank you for having the site evaluated. Please phone me at (503) 986-5232 if you have any questions.

Sincerely,

Peter Ryan, PWS
Wetland Specialist

Approved by Janet C. Morlan
Janet C. Morlan, PWS
Wetlands Program Manager

Enclosures

ec: Nancy Olmsted, Winzler & Kelly
City of West Linn Planning Department (Map enclosed for updating LWI)
Charlie Hanner, Corps of Engineers
Anita Huffman, DSL

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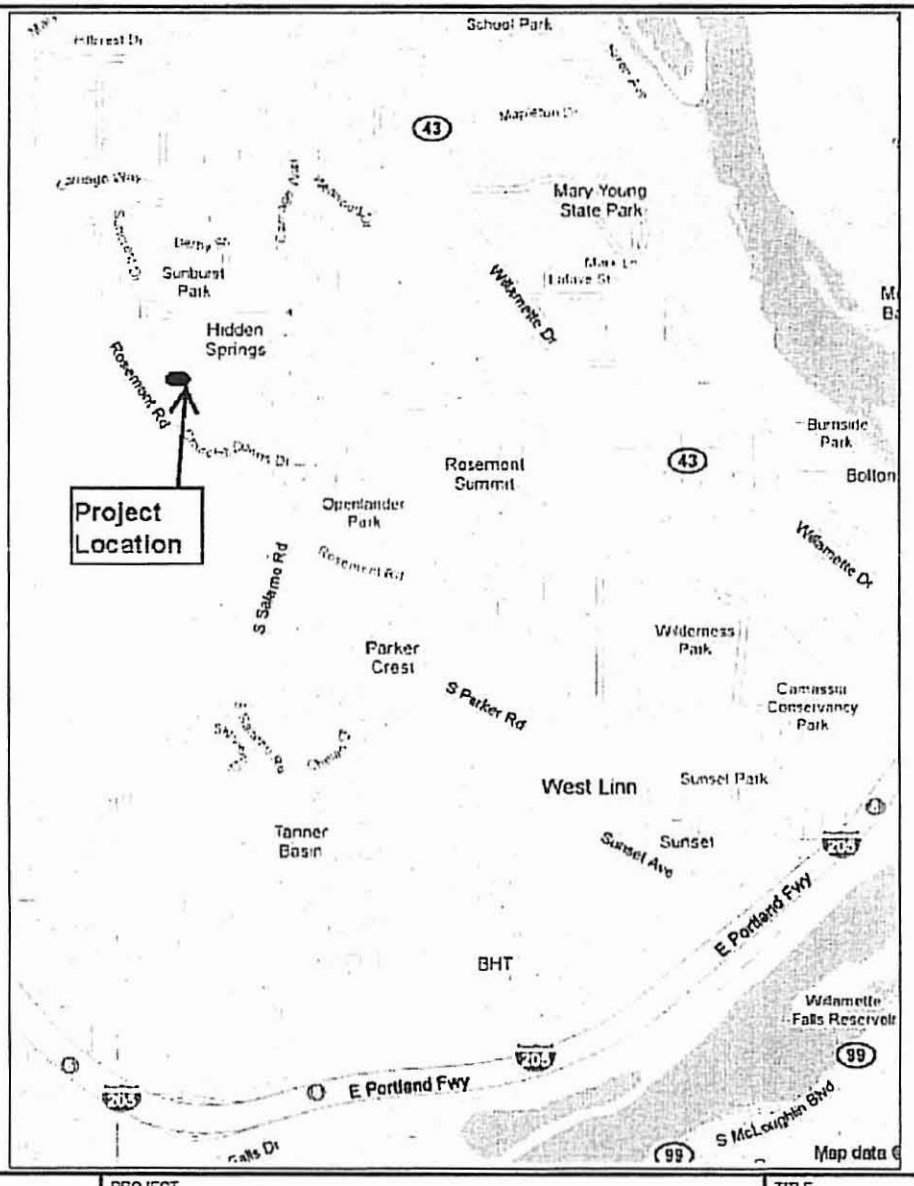


WP#10-0025

15575 SW SEQUOIA PKWY, SUITE 140
PORTLAND, OR 97224
PH: 503-226-3921 FAX: 503-226-3926

PROJECT
WEST LINN-WILSONVILLE SCHOOL DISTRICT 3JT
ERICKSON SCHOOL SITE

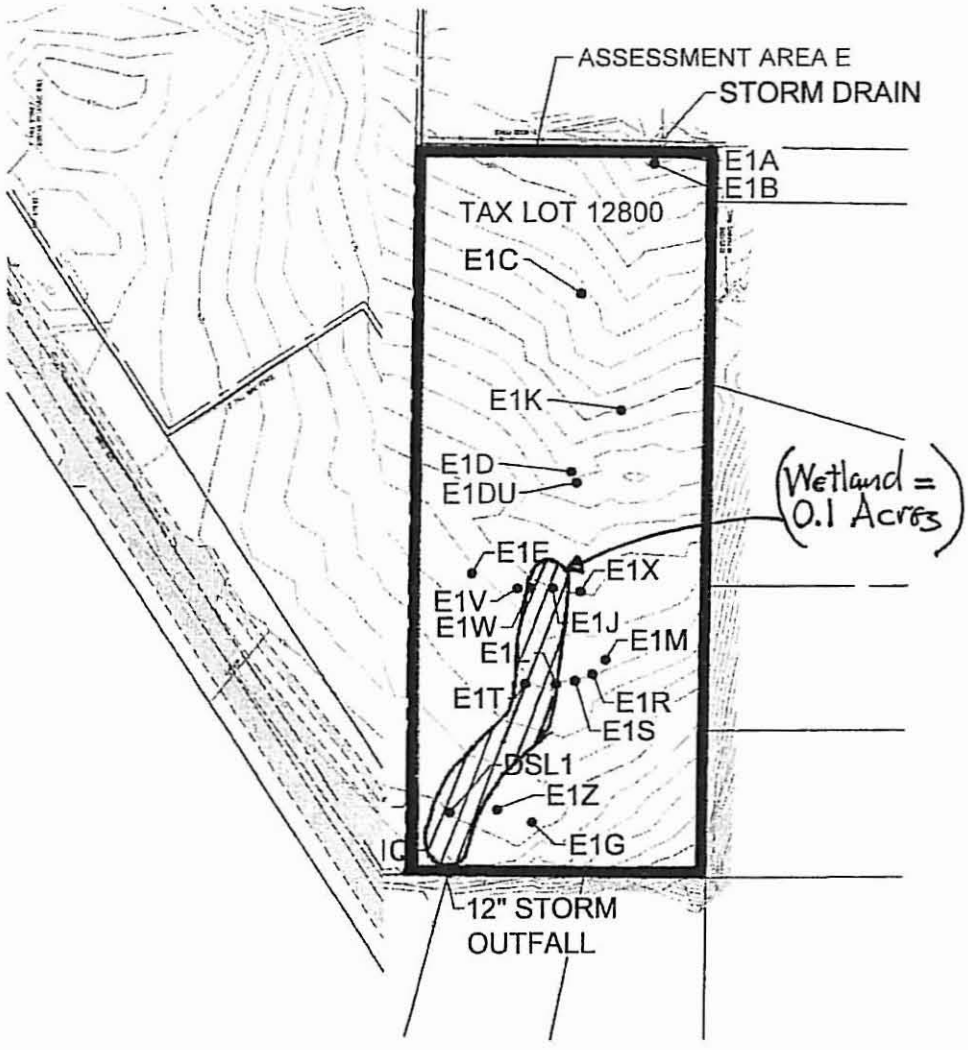
DESIGNED	DRAWN	APPROVED	DATE	PROJECT NO.	DWG NO.
	KPT	NO	04/09/09	1145609001	

TITLE
FIGURE 1 *
LOCATION MAP

O:\11456 - WLWSD (WEST LINN-WILSONVILLE SCHOOL DISTRICT)\11456-09001 WLWSD ERICKSON WETLANDS\CAD\FIG 1 LOCATION MAPS.DWG Keith Tolle 1/19/2010 11:32 AM

LEGEND

—— – —— STUDY AREA BOUNDARY
---------- WETLAND BOUNDARY
— · — · — WATERS
● SAMPLE POINT



N

0 100' 200' 300

DSL WD # 10-0025

Approval Issued 7/14/2010

Approval Expires 7/14/2015

RICT 3JT

TITLE

FIG. 6 ADDITIONAL SAMPLING FOR WETLAND DELINEATION STUDY

DWG NO.

CT)\11456-09001 WLWSD ERICKSON WETLANDS\CAD\FIG 6A WETLAND.DWG Keith Tolle 7/13/2010 4:04 PM

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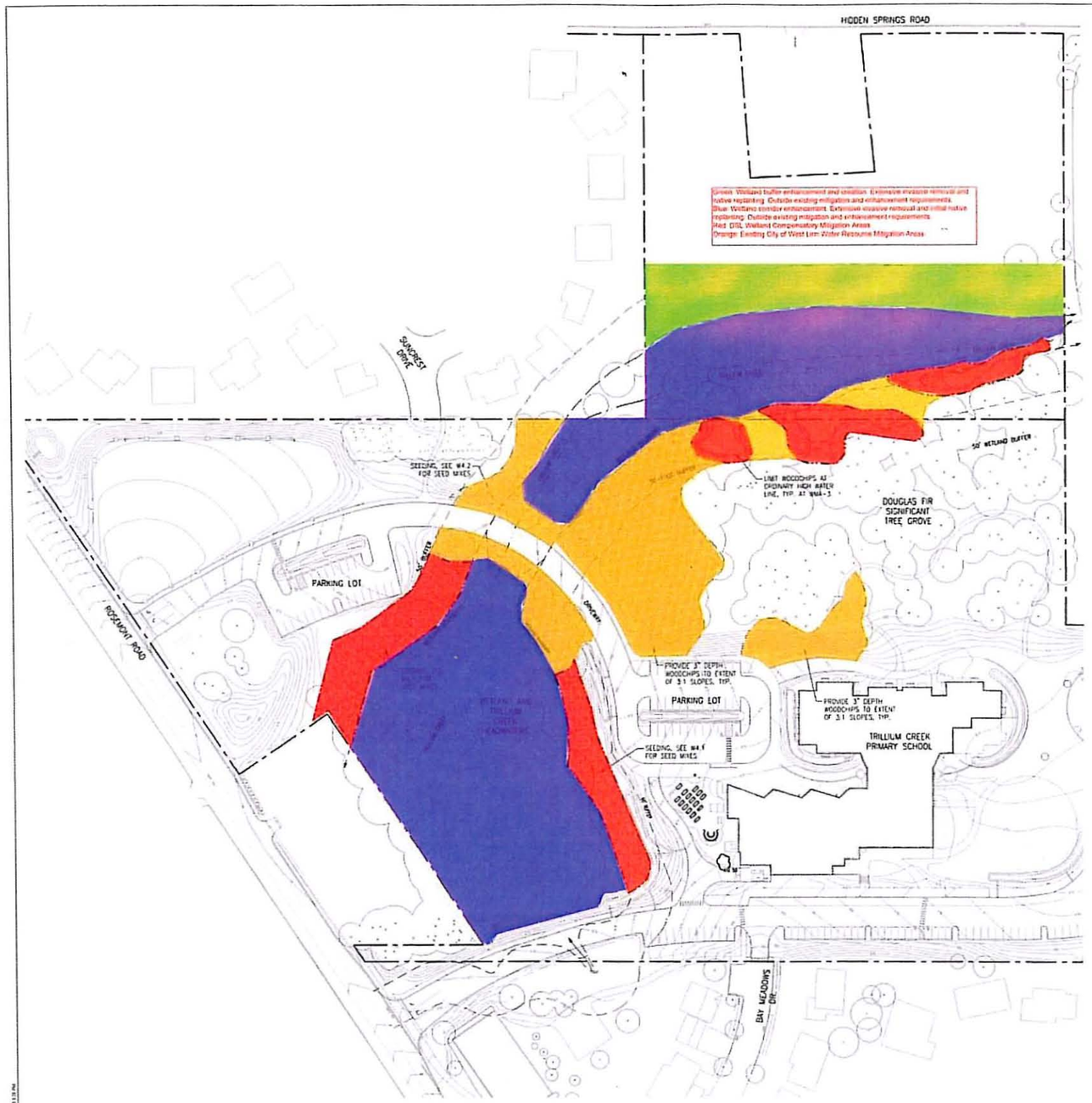
Exhibit C



Green: Wetland buffer enhancement and creation. Extensive invasive removal and native replanting. Outside existing mitigation and enhancement requirements.
Blue: Wetland corridor enhancement. Extensive invasive removal and initial native replanting. Outside existing mitigation and enhancement requirements.
Red: DSL Wetland Compensatory Mitigation Areas
Orange: Existing City of West Linn Water Resource Mitigation Areas

RECORD DRAWINGS PREPARED ARE BASED UPON INFORMATION REPORTED AND PROVIDED BY THE CONTRACTOR AS THE AS-BUILT CONDITIONS OF THE PROJECT. WALKER MACY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR CONTENT OF THE MATERIAL REPRESENTED IN THIS DRAWING.

Dull Olson Weekes - IBI Group Architects, Inc.

Trillium Creek Primary School

West Linn Wilsonville School District

22210 SW STAFFORD ROAD - WEST LINN OR 97068
t: (503) 673 7976
f: (503) 673 7044

WALKER·MACY

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key plan

phase	RECORD DRAWINGS
date	01/11/13
revisions	
project #	09014

mitigation mulching plan

W4.3

Exhibit D

Native Ecosystems Northwest, LLC
Matt Stine, Forester/Owner
3962 SE Oak Street
Portland, Oregon 97214
971-404-4745
nativeecosystemsnw@gmail.com

RE: Habitat Restoration: Trillium Creek School - Sewer Pipe
19-Mar-13

Treatment	Date	Unit	Unit Cost	Amount	Total	
Planting- install native bare-root trees & shrubs	Winter 2014	Each	$1.00	300	$300.00	
Planting- purchase native bare-root trees & shrubs	Winter 2014	Each	$1.00	300	$300.00	
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Spring 2014	LS	$75.00	1	$75.00	
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Summer 2014	LS	$75.00	1	$75.00	
Site Maint.- hand-water each plant	Summer 2014	Each	$0.80	300	$240.00	
Site Maint.- hand-water each plant	Summer 2014	Each	$0.80	300	$240.00	
Site Maint.- hand-water each plant	Summer 2014	Each	$0.80	300	$240.00	If necessary
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Fall 2014	LS	$75.00	1	$75.00	
			Total 2014		**$1,545.00**	

Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Spring 2015	LS	$75.00	1	$75.00	
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Summer 2015	LS	$75.00	1	$75.00	
Site Maint.- hand-water each plant	Summer 2015	Each	$0.80	300	$240.00	
Site Maint.- hand-water each plant	Summer 2015	Each	$0.80	300	$240.00	
Site Maint.- hand-water each plant	Summer 2015	Each	$0.80	300	$240.00	If necessary
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Fall 2015	LS	$75.00	1	$75.00	
			Total 2015		**$945.00**	

Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Spring 2016	LS	$75.00	1	$75.00	
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Summer 2016	LS	$75.00	1	$75.00	
Site Maint.- hand-water each plant	Summer 2016	Each	$0.80	300	$240.00	
Site Maint.- hand-water each plant	Summer 2016	Each	$0.80	300	$240.00	
Site Maint.- hand-water each plant	Summer 2016	Each	$0.80	300	$240.00	If necessary
Site Maint.- Spot-spray all invasive weeds (inc. herbicide)	Fall 2016	LS	$75.00	1	$75.00	
			Total 2016		**$945.00**	

Total	**$3,435.00**

Exhibit E

TP
2015.
$98.

Pat Rich

After recording, return to:
City of West Linn Eng. Div
22500 Salamo Road, #800
West Linn, OR 97068

NO CHANGE IN TAX STATEMENTS

Clackamas County Official Records
Sherry Hall, County Clerk

2013-012165

$98.00

01658403201300121650070070

02/21/2013 11:23:13 AM

D-E Cnt=1 Stn=25 LESLIE
$35.00 $16.00 $17.00 $10.00 $20.00

RESOURCE CONSERVATION EASEMENT

KNOW ALL PERSONS BY THESE PRESENTS, that West Linn-Wilsonville School District 3JT, owner, and hereinafter referred to as Grantor, does hereby convey unto the City of West Linn, hereinafter referred to as Grantee, a perpetual, non-exclusive resource conservation easement to protect all the significant trees, Trillium Creek and the wetland areas located with the area shown on attached Exhibit "A" and "B".

Grantor covenants that within the resource conservation easement no trees will be removed and no development shall be permitted in the easement, to the exclusion of removal of non-native or invasive plants, without approval by the City of West Linn through the appropriate permitting process.

"Development" shall be per the City development code, but with no exemption of projects involving areas of less than 10 cubic yards. Maintenance and replacement of driveways, associated fill and retaining walls, utilities, sidewalks, trails, interpretive facilities are allowed without permit.

The Resource Conservation Easement includes the right of the City and its agents to access and inspect the easement area. The City shall give reasonable notice to the school district before accessing said easement. The City has the right of reasonable ingress and egress to the easement area over the Grantor's property for the exercise of any of the rights of the easement.

The Grantor agrees to undertake no activity or otherwise harm or impair the resource conservation easement area to prevent or impede the proper functioning of the easement.

The Grantor retains the right to remove diseased or dying trees.

The easement and restrictions on use obtained shall constitute a servitude upon the Property so encumbered; shall run with the land in perpetuity; and shall bind the Grantor(s) and his or her heirs, successors, assigns, lessees, and any other person claiming under them.

This instrument gives immediate possession of the foregoing premises.

The true and actual consideration paid for this transfer is non-monetary and voluntary. The **Grantors** acknowledge and hereby waive their right to compensation.

IN WITNESS WHEREOF, the undersigned have set their hands and seals.

GRANTOR

Representing: West Linn-Wilsonville School District 3JT

By: Tim K. Woodley

Name: Tim K. Woodley, Director of Operations

STATE OF OREGON)
) SS.
County of Clackamas)

This instrument was acknowledged before me this 24th day of October 20 12 to be the free act and deed of said corporation/individual.
by Tim K Woodley, Director of Ops

OFFICIAL SEAL
AMY E BERGER
NOTARY PUBLIC-OREGON
COMMISSION NO. 446387
MY COMMISSION EXPIRES FEBRUARY 04, 2014

Amy E Berger
Notary Public for Oregon

My Commission Expires: Feb, 4, 2014

GRANTEE

CITY OF WEST LINN

By:

Name: Christopher A. Jordan, City Manager

STATE OF OREGON)
) SS.
County of Clackamas)

This instrument was acknowledged before me this 13th day of February 20 13 to be the free act and deed of said corporation/individual.
by Christopher A. Jordan, City Manager

OFFICIAL SEAL
KATHLEEN JANICE MOLLUSKY
NOTARY PUBLIC-OREGON
COMMISSION NO. 453390
MY COMMISSION EXPIRES OCTOBER 26, 2014

Kathleen Mollusky
Notary Public for Oregon

My Commission Expires: 10-26-14

LEGAL DESCRIPTION
RESOURCE CONSERVATION EASEMENT
TRILLUM SCHOOL
WEST LINN-WILSONVILLE SCHOOL DISTRICT

11/2/12
#6667 MAR

EXHIBIT "A"

TWO TRACTS OF LAND, LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE SOUTHEAST ONE-QUARTER OF SECTION 23 AND THE NORTHWEST ONE-QUARTER AND THE NORTHEAST ONE-QUARTER OF SECTION 26, TOWNSHIP 2 SOUTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

TRACT 1
BEGINNING AT A 1/2" DIAMETER IRON ROD AT THE MOST NORTHERLY CORNER OF THAT TRACT OF LAND DESCRIBED IN DEED TO PRISCILLA KELLER, RECORDED FEBRUARY 17, 2009, IN DOCUMENT NO. 2009-009393, CLACKAMAS COUNTY DEED RECORDS; THENCE ALONG THE NORTHWESTERLY LINE OF SAID KELLER TRACT, S.56°42'31"W., 20.85 FEET; THENCE N.16°07'19"E., 103.08 FEET; THENCE N.67°52'07"E., 34.27 FEET; THENCE N.54°12'55"E., 74.57 FEET; THENCE N.33°31'31"E., 25.81 FEET; THENCE N.23°34'21"E., 51.50 FEET; THENCE 118.50 FEET ALONG THE ARC OF 198.00 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 34°17'25" (THE LONG CHORD BEARS S.68°00'04"E., 116.74 FEET); THENCE 95.12 FEET ALONG THE ARC OF A 253.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 21°32'25" (THE LONG CHORD BEARS S.40°05'09"E., 94.56 FEET); THENCE S.11°47'53"W., 27.41 FEET; THENCE S.14°27'32"E., 180.32 FEET; THENCE 78.40 FEET ALONG THE ARC OF A 472.84 FOOT RADIUS, NON-TANGENT CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 09°30'01" (THE LONG CHORD BEARS S.21°59'43"E., 78.31 FEET); THENCE 28.89 FEET ALONG THE RADIUS OF A 26.36 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 62°47'32" (THE LONG CHORD BEARS S.12°40'06"W., 27.46 FEET); THENCE 43.74 FEET ALONG THE ARC OF A 87.96 FOOT RADIUS, NON-TANGENT CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 28°29'38" (THE LONG CHORD BEARS S.67°14'14"W., 43.29 FEET); THENCE S.69°08'03"W., 159.12 FEET TO THE SOUTHEAST CORNER OF THAT TRACT OF LAND DESCRIBED IN DEED TO PRISCILLA KELLER, RECORDED FEBRUARY 17, 2009, IN DOCUMENT NO. 2009-009393, CLACKAMAS COUNTY DEED RECORDS; THENCE ALONG THE EASTERLY LINE OF SAID KELLER TRACT, N.33°11'15"W., 331.63 FEET TO THE POINT-OF-BEGINNING, CONTAINING 113,959 SQUARE FEET, (2.62 ACRES) MORE OR LESS.

TOGETHER WITH THE FOLLOWING DESCRIBED TRACT:

TRACT 2
A TRACT OF LAND LOCATED IN THE SOUTHWEST ONE-QUARTER AND THE SOUTHEAST ONE-QUARTER OF SECTION 23, AND THE NORTHWEST ONE-QUARTER AND THE NORTHEAST ONE-QUARTER OF SECTION 26, TOWNSHIP 2 SOUTH, RANGE 1 EAST, WILLAMETTE MERIDIAN, CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

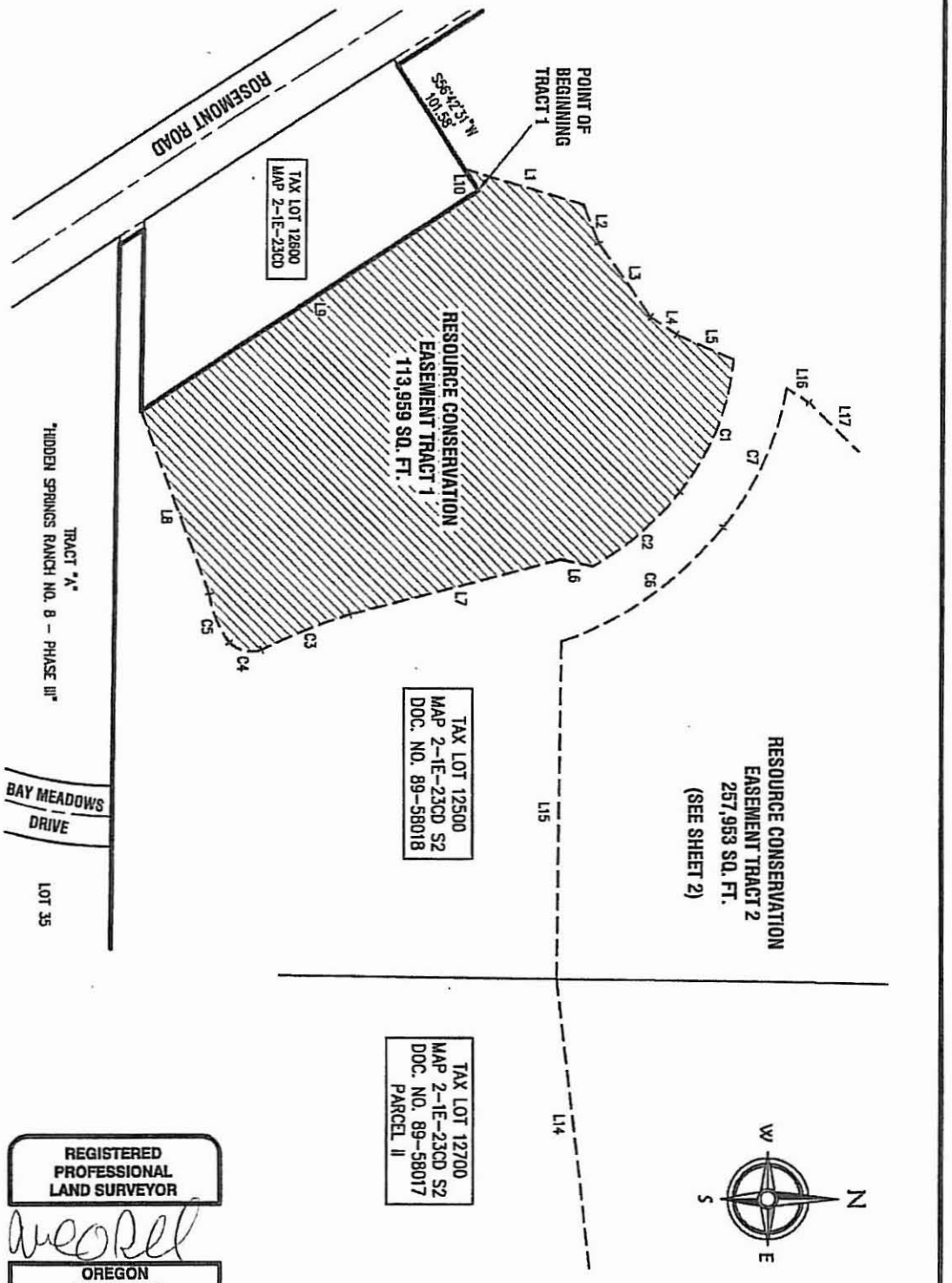
BEGINNING AT THE SOUTHEAST CORNER OF LOT 13, "ARENA PARK", A SUBDIVISION PLAT OF RECORD (NO. 2724) IN SAID CLACKAMAS COUNTY; THENCE ALONG THE EAST LINE THEREOF, N.00°48'17"E., 184.79 FEET; THENCE S.89°12'29"E., 499.44 FEET TO THE WEST LINE OF "HIDDEN SPRINGS RANCH NO. 4" A SUBDIVISION PLAT OF RECORD (NO. 2270) IN SAID CLACKAMAS COUNTY; THENCE ALONG SAID WEST LINE, S.00°48'45"W., 429.35 FEET TO THE SOUTHWEST CORNER OF SAID "HIDDEN SPRINGS RANCH NO. 4"; THENCE S.83°28'47"W., 238.45 FEET; THENCE N.89°12'58"W., 276.53 FEET; THENCE 165.87 FEET ALONG THE ARC OF A 299.00 FOOT RADIUS, NON-TANGENT CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 31°47'06" (THE LONG CHORD BEARS N.34°57'48"W., 163.75 FEET); THENCE 126.28 FEET ALONG THE ARC OF A 244.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 29°39'07" (THE LONG CHORD BEARS N.65°40'55"W., 124.87 FEET); THENCE N.31°51'43"E., 21.72 FEET; THENCE N.43°42'34"E., 57.32 FEET; THENCE N.28°43'15"E., 36.04 FEET TO THE SOUTH LINE OF "ARENA PARK"; THENCE ALONG SAID SOUTH LINE, S.89°07'58"E., 156.77 FEET TO THE POINT-OF-BEGINNING, CONTAINING 257953 SQUARE FEET (5.92 ACRES) MORE OR LESS.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 16, 1987
MICHAEL A. RADEMACHER
2303

DATE OF SIGNATURE: 11-2-12

EXPIRES: 12/31/2012



Scale: 1" = 100'

(SEE SHEET 3 FOR LINE/CURVE TABLE)

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 16, 1987
MICHAEL A. RADEMACHER
2303

DATE OF SIGNATURE: 11-2-12

EXPIRES: 12/31/2012

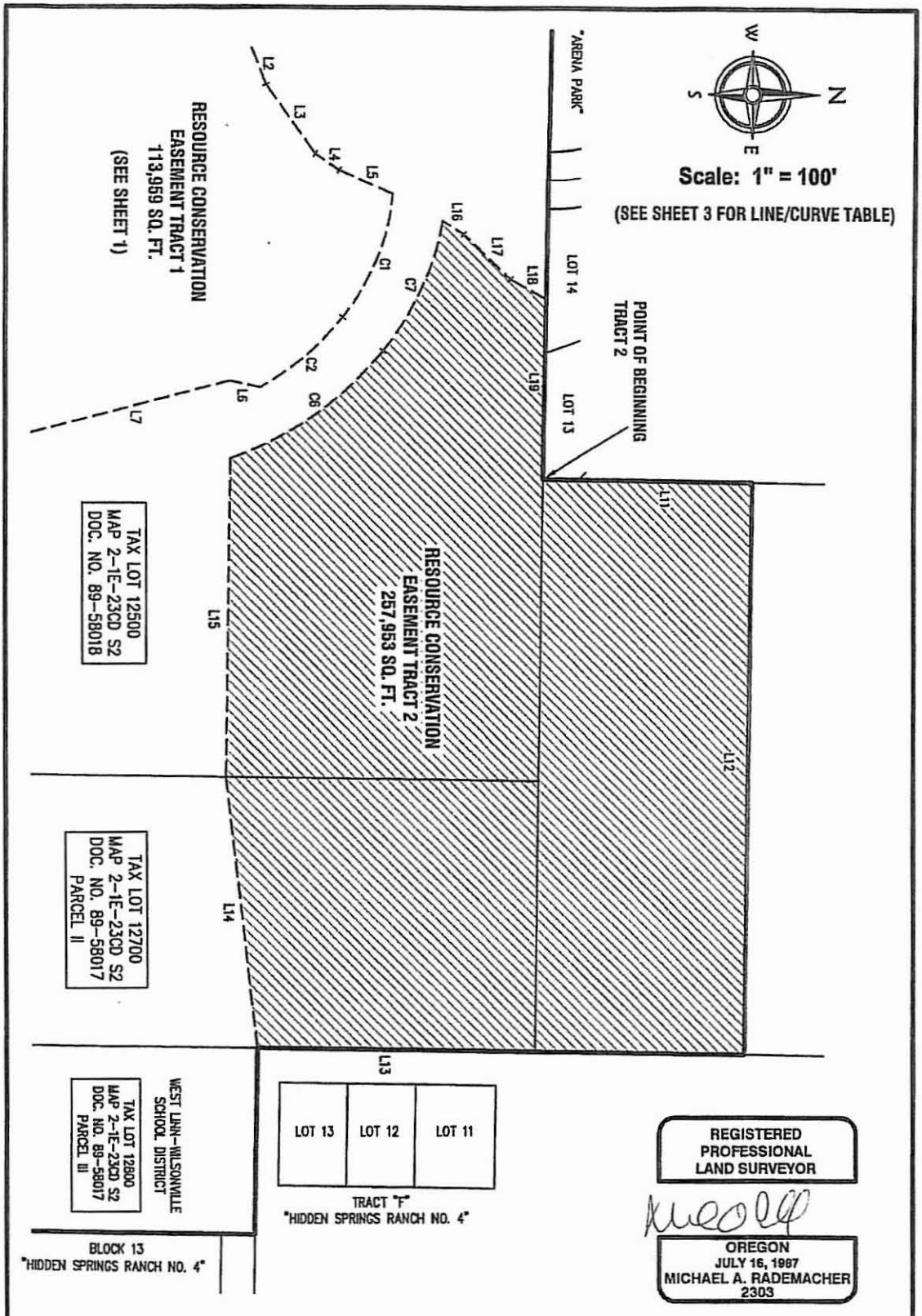
5

EXHIBIT "B"

6667 ExhB.dwg

engineering surveying planning
COMPASS ENGINEERING
4107 SE International Way, Suite 705
Milwaukie, Oregon 97222
503.653.9093
www.compass-engineering.com

TAX LOTS 12500 & 12700, IN NE 1/4 & NW 1/4 OF SEC. 26, AND SW 1/4 & SE 1/4 OF SEC. 23, T.2S., R.1E., W.M., CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 16, 1987
MICHAEL A. RADEMACHER
2303

DATE OF SIGNATURE: 11-2-12

EXPIRES: 12/31/2012

6

EXHIBIT "B"

6667 Exh8b.dwg

engineering surveying planning
COMPASS ENGINEERING
4107 SE International Way, Suite 705
Milwaukie, Oregon 97222
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TAX LOTS 12500 & 12700, IN NE 1/4 & NW 1/4 OF SEC. 26, AND SW 1/4 & SE 1/4 OF SEC. 23, T.2S., R.1E., W.M., CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON

Line #/Curve #	Length	Direction/Delta	Radius
L1	103.08'	N16°07'19"E	
L2	34.27'	N67°52'07"E	
L3	74.57'	N54°12'55"E	
L4	25.81'	N33°31'31"E	
L5	51.50'	N23°34'21"E	
C1	118.50'	34°17'25"	198.00'
C2	95.12'	21°32'25"	253.00'
L6	27.41'	S11°47'53"W	
L7	180.32'	S14°27'32"E	
C3	78.40'	09°30'01"	472.84'
C4	28.89'	62°47'32"	26.36'
C5	43.74'	28°29'38"	87.96'
L8	159.12'	S69°08'03"W	
L9	331.63'	N33°11'15"W	
L10	20.85'	S56°42'31"W	
L11	184.79'	N00°48'17"E	
L12	499.44'	S89°12'29"E	
L13	429.35'	S00°48'45"W	
L14	238.45'	S83°28'47"W	
L15	276.53'	N89°12'58"W	
C6	165.87'	31°47'06"	299.00'
C7	126.28'	29°39'07"	244.00'
L16	21.72'	N31°51'43"E	
L17	57.32'	N43°42'34"E	
L18	36.04'	N28°43'15"E	
L19	156.77'	S89°07'58"E	

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 16, 1987
MICHAEL A. RADEMACHER
2303

DATE OF SIGNATURE: 11-2-12

EXPIRES: 12/31/2012

(7)

EXHIBIT "B"

6667 ExhBb.dwg

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Exhibit F

West Linn – Wilsonville Schools

June 11, 2013

Peter Spir
Associate Planner
22500 SW Salamo Rd.
West Linn, OR 97068

Re: *WAP-13-04 Section 32.060(B) (2) Waiver*

Dear Mr. Spir:

The West Linn - Wilsonville School District (District) requests a waiver of the requirement under Section 32.060(B) (2) to include a slope map with the permit application for WAP-13-04. The District has provided a site plan with topographic contours which allows the City to adequately review that facet of the proposed improvements.

Signed,

Remo Douglas, Project Manager - WLWSD

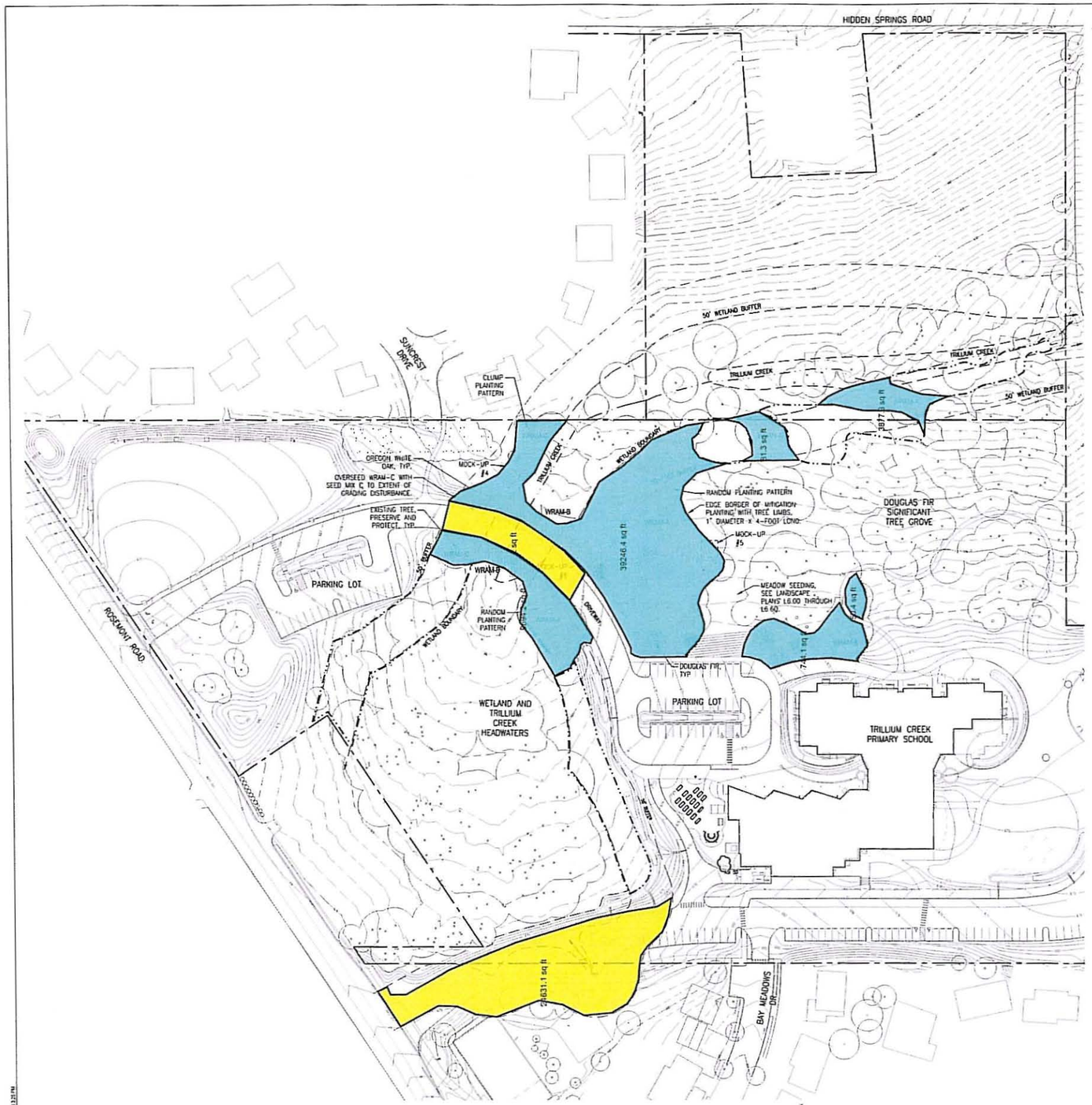
CC: Tim Woodley, Director of Operations - WLWSD
12081.018[5.1][8.11.5]

Exhibit G

West Linn - Wilsonville School District
2008 Capital Improvement Bond
Trillium Creek Primary
Wetland Mitigation Assessment

Mitigation Areas (SF)	
	3,877
	2,781
	1,050
	6,744
	39,246
	9,693
Total	**63,391**
Permanently Affected Area (SF)	
	6,782
	24,631
Total	**31,413**
Excess Capacity	**31,978**
Current Project Affected Area (SF)	
	25
Remainder	**31,953**

Exhibit H



WATER RESOURCE AREA MITIGATION PLANT SCHEDULE

WRAM-A

WATER RESOURCE AREA MITIGATION (WRAM-A)

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION / MIN. SIZE	SPACING	GROUPING	QUANTITY
TREES					
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	B&B / 6-foot Ht.	As Shown	As Shown	5
CORNUS NUTTALII	PACIFIC DOGWOOD	BARE-ROOT 1-1 / 36"-48"	12'-15' O.C.	3-5 PLANTS	12
SHRUBS					
ACER CIRCINATUM	VINE MAPLE	BARE-ROOT 2-1 / 36"-48"	12'-15' O.C.	3-5 PLANTS CLUSTERS	25
AMELANCHIER ALNIFOLIA	SERVICEBERRY	BARE-ROOT 2-1 / 36"-48"	12'-15' O.C.	3-5 PLANTS	25
RIBES SANGUINEUM	RED FLOWERING CURRENT	BARE-ROOT 1-1 / 18"-24"	12'-15' O.C.	3-5 PLANTS	50
ROSA WOODSII	WOODS ROSE	BARE-ROOT 1-0 / 18"-24"	5'-7' O.C.	3-5 PLANTS	50
VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	BARE-ROOT 1-0 / 18"-24"	5'-7' O.C.	3-9 PLANTS WITH SALAL	100
GAULTHERIA SHALLON	SALAL	SAND POTS / 3" - 6"	5'-7' O.C.	20-30 PLANTS WITH VACCIN	200
POLYSTICHUM MUNITUM	SWORD FERN	1 GALLON / 12"	5'-7' O.C.	20-30 PLANTS	200
POLYSTICHUM MUNITUM	SWORD FERN	BARE-ROOT 1-0 / 2"-4"	5'-7' O.C.	20-30 PLANTS	200
MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	BARE-ROOT 1-0 / 18"-24"	5'-7' O.C.	5-9 PLANTS WITH FERNS	200
RUBUS SPECTABILIS	SALMONBERRY	BARE-ROOT 1-0 / 18"-24"	5'-7' O.C.	5-15 PLANTS	250
GROUNDCOVER				5-15 PLANTS	
TRILLIUM OVATUM	PACIFIC TRILLIUM	4" POT	3' O.C.	5-15 PLANTS	250
PTERIDIUM AQUILINUM	BRACKEN FERN	4" POT	4' O.C.	20-30 PLANTS	220
ACHLYS TRIPHYLLA	VANILLA LEAF	4" POT	18" O.C.	20-30 PLANTS	75
DICENTRA FORMOSA	PACIFIC BLEEDING HEART	4" POT	18" O.C.	5-15 PLANTS	75
HYDROPHYLLUM TENUIPES	PACIFIC WATER LEAF	4" POT	3' O.C.	5-15 PLANTS	75
MAHONIA NERVOSA	CASCADE OREGON GRAPE	BARE-ROOT 1-1 / 12"-18"	3' O.C.	15-20 PLANTS	400
TIARELLA MERIDA	FOAM-FLOWER	4" POT	18" O.C.	5-15 PLANTS	200
SMILACINA RACEMOSA	FALSE SOLOMON SEAL	4" POT	3' O.C.	5-15 PLANTS	175
TELLIMA GRANDIFLORA	FRINGECUPS	4" POT	18" O.C.	5-15 PLANTS	75
				TOTAL	3543

WRAM-B

WATER RESOURCE AREA MITIGATION (WRAM-B)

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION / MIN. SIZE	SPACING	GROUPING	QUANTITY
SHRUBS					
CORNUS SERICEA	RED OSIER DOGWOOD	POST CUTTINGS-1 / 18"	5'-7' O.C.	3-9 PLANTS	24
ROSA NUTKANA	NOOTKA ROSE	BARE-ROOT 1-0 / 18"-24"	5'-7' O.C.	3-9 PLANTS	40
SPIRAEA DOUGLASII	WESTERN SPIREA	BARE-ROOT 1-0 / 18"-24"	5'-7' O.C.	3-9 PLANTS	20
PACIFIC NINEBARK		BARE-ROOT 1-1 / 18"-24"	5'-7' O.C.	3-9 PLANTS	20
GROUND COVER					
CAREX OBNUPTA	SLOUGH SEDGE	PLUG / MIN 1"X6"	8'O.C.	30-15 PLANTS	50
SCIRPUS MICROCARPUS	SMALL-FRUITED BULRUSH	PLUG / MIN 1"X6"	8'O.C.	30-15 PLANTS	50
JUNCUS EFFUSUS	SOFT RUSH	PLUG / MIN 1"X6"	18"O.C.	10-15 PLANTS	50
				TOTAL	254

WRAM-C

WATER RESOURCE AREA MITIGATION (WRAM-C)

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION / MIN. SIZE	SPACING	GROUPING	QUANTITY
TREES					
QUERCUS GARRYANA	OREGON WHITE OAK	B GALLON / 24-30"	AS SHOWN	AS SHOWN	5
SHRUBS					
ROSA NUTKANA	NOOTKA ROSE	BARE-ROOT 1-0 / 18"-24"	5' O.C.	3-5 PLANTS	20
GROUNDCOVER					
PTERIDIUM AQUILINUM	BRACKEN FERN	4" POT	4' O.C.	20-30 PLANTS	200
ASTER MODESTUS	GREAT NORTHERN ASTER	4" POT	4' O.C.	20-30 PLANTS	20
CAMAS QUAMASH	COMMON CAMAS	4" POT	18"O.C.	20-30 PLANTS DRIFTS	220
				TOTAL	305

MITIGATION PLANTING NOTES

1. CONTRACTOR TO VERIFY LOCATION OF EXISTING TREES INDICATED TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL TREES AND SHRUBS INDICATED TO REMAIN.
2. THE PROJECT BIOLOGIST WILL OBSERVE AND APPROVE INDIVIDUAL PLANT MATERIAL AND LOCATION OF PLANT MATERIAL PRIOR TO INSTALLATION. SEE PLANS FOR PROPOSED MOCK-UP LOCATIONS AND SPECIFICATIONS FOR APPROVAL PROCESS.
3. REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
4. PROVIDE JUTE NETTING ON ALL SLOPES WITH GRADIENT OF 3:1 OR GREATER AS DIRECTED IN THE FIELD BY THE OWNER'S REPRESENTATIVE. STAPLE FABRIC TO GROUND WITH 6" GALVANIZED METAL STAKES AT 4' O.C.
5. PRESERVE AND PROTECT ALL EXISTING NATIVE PLANTS WITHIN ALL MITIGATION AREAS TO REMAIN. FLAG EXISTING PLANTS TO REMAIN.
6. SEE SHEET W4.1 FOR WETLAND MITIGATION PLANTING AND W4.3 FOR MULCHING.
7. SEE SHEET L6.00 THROUGH L6.60 FOR SITE PLANTING PLANS.
8. PROVIDE DENSER PLANTINGS AT EDGE OF WATER RESOURCE MITIGATION AREA A, TO DEFINE EDGES.
9. PROVIDE BROWSE PROTECTION AS NECESSARY TO PROTECT PLANTS FROM DAMAGE FROM WILDLIFE. REVIEW WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

RECORD DRAWINGS PREPARED ARE BASED UPON INFORMATION REPORTED AND PROVIDED BY THE CONTRACTOR AS THE AS-BUILT CONDITIONS OF THE PROJECT. WALKER MACY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR CONTENT OF THE MATERIAL REPRESENTED IN THIS DRAWING.

Dull Olson Weekes - IBI Group Architects, Inc.
907 SW Stark Street Portland OR 97205 USA
tel 503 226 6950 fax 503 273 9182
www.dowa-ibigroup.com www.ibigroup.com

Trillium Creek Primary School

West Linn Wilsonville School District

22210 SW STAFFORD ROAD - WEST LINN OR 97068

t: (503) 673 7976

f: (503) 673 7044

WALKER·MACY

LANDSCAPE ARCHITECTURE | URBAN DESIGN | PLANNING

111 SW OAK STREET, SUITE 200 | PORTLAND, OREGON 97204

P: 503.228.3123 | F: 503.278.8978 | WALKERMACY.COM

THIS DRAWING IS BASED UPON INFORMATION PROVIDED SOLELY BY THE CONTRACTOR DULL OLSON WEEKES - IBI GROUP ARCHITECTS INC HAS NOT REVIEWED THE INFORMATION SUPPLIED BY THE CONTRACTOR FOR ACCURACY OR FOR ANY OTHER REASON AS A RESULT, DULL OLSON WEEKES - IBI GROUP ARCHITECTS INC HAS NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION IN THE DRAWINGS.

key plan

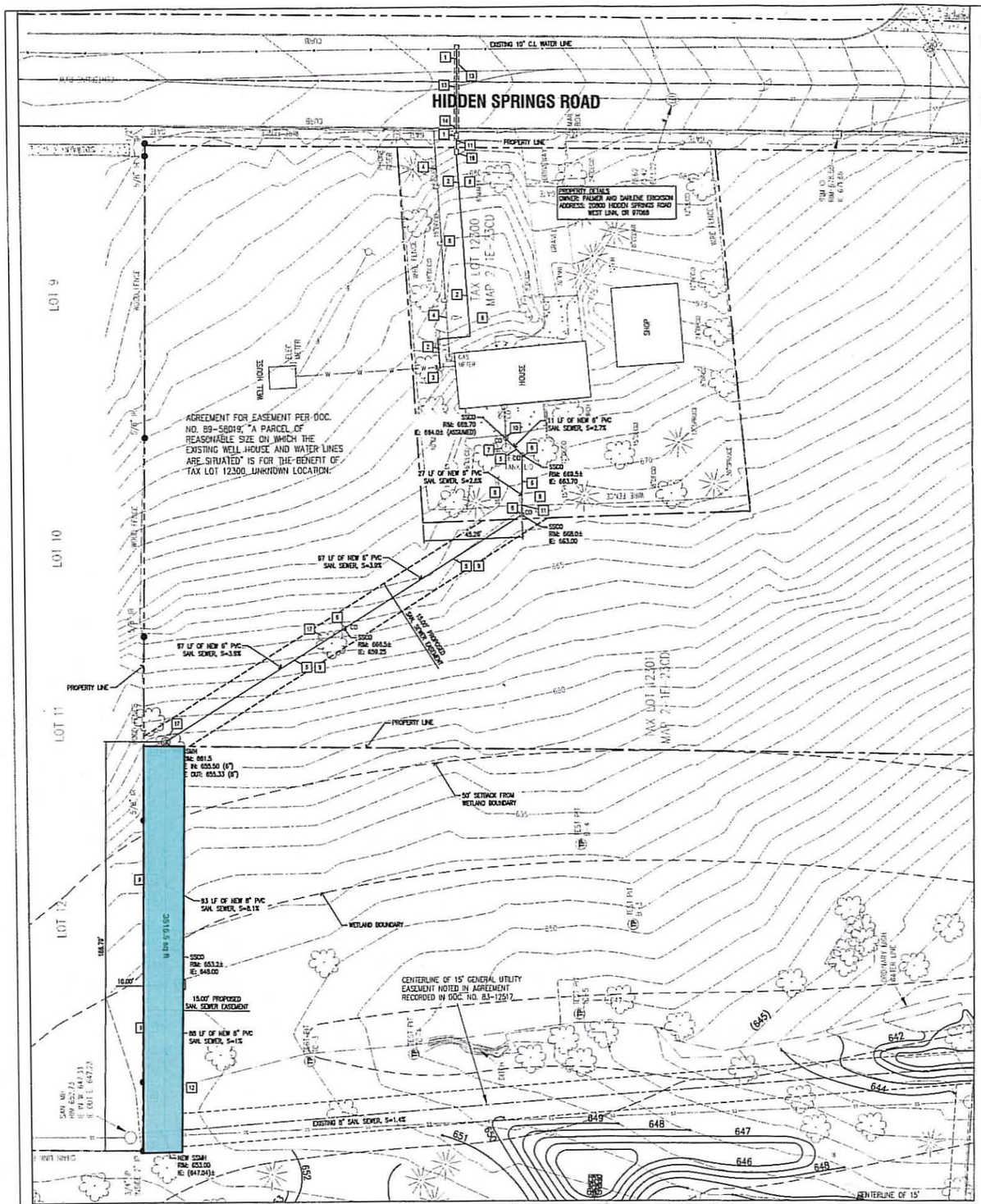
phase	RECORD
	DRAWINGS
date	01/11/13
revisions	

project # 09014

mitigation planting plan

W4.2

Exhibit I



1 C1C1 UTILITY PLAN
SCALE: 1"=20'-0"

1" = 20'-0" 20' 0 20' 40' 60'

N

CONSTRUCTION NOTES

1. INSTALL 1" WATER SERVICE, METER AND BOX PER CITY OF WEST LINN STANDARD DRAWING WL-402. METER SIZE TO BE 5/8". INSTALL 1" COPPER WATER LINE FROM METER TO PROPERTY LINE, THEN TRANSITION TO PVC. PROVIDE GRADING AS NECESSARY FOR INSTALLATION OF METER BOX. TRENCH BACKFILL MATERIAL (AS DEFINED ON CITY OF WEST LINN STANDARD DRAWING WL-200) SHALL CONSIST OF CLASS B MATERIAL UNDER ALL PAVED SURFACES, AND CLASS A MATERIAL UNDER LANDSCAPED AREAS. — 1 C1C2, 3 C1C2
2. INSTALL 1-1/2" PVC POTABLE WATER LINE, MAINTAIN A MINIMUM OF 3' OF COVER. — 5 C1C2
3. CUT EXISTING WATER SUPPLY LINE AT PROPOSED POINT OF CONNECTION AND CAP THE "WELL" SIDE OF THE LINE. CONNECT NEW WATER SERVICE LINE TO "HOUSE" SIDE OF THE EXISTING WATER SUPPLY LINE. LOCATION OF EXISTING WATER SUPPLY LINE IS ASSUMED. CONTRACTOR TO VERIFY LOCATION PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD.
4. ASSUMED LOCATION OF EXISTING GAS SERVICE LINE. CONTRACTOR TO VERIFY LOCATION PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD.
5. INSTALL PVC SANITARY SEWER PIPE, SIZE PER PLAN. — 5 C1C2
6. INSTALL STANDARD CLEANOUT. — 6 C1C2
7. SEPTIC TANK TO BE DECOMMISSIONED PER THE REQUIREMENTS SPECIFIED ON THIS DRAWING. ASSUMED SEPTIC TANK SIZE IS 1500 GALLONS.
8. RESTORE VEGETATION IN KIND IN AREAS DISTURBED BY CONSTRUCTION.
9. PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO EVALUATE PROPOSED ROUTE FOR SANITARY LINE IN FIELD. NOTIFY ENGINEER IF THERE AREA ANY CONFLICTS WITH PROPOSED ROUTE AND EXISTING SITE FEATURES.
10. CONNECT TO EXISTING BUILDING SANITARY LINE AND INSTALL CLEANOUT. LOCATION AND DEPTH OF EXISTING SANITARY LINE IS ASSUMED. CONTRACTOR TO VERIFY LOCATION AND DEPTH PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD.
11. REMOVE PORTION OF FENCE AS NECESSARY FOR INSTALLATION OF NEW UTILITY. REPAIR FENCE IN KIND AFTER INSTALLATION OF UTILITY.
12. THIS IS A JURISDICTIONAL WETLAND AREA. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS FOR CONSTRUCTING PROPOSED IMPROVEMENTS WITHIN WETLAND. CONTRACTOR TO MINIMIZE DISTURBANCE WITHIN EXISTING WETLAND AREA TO THE MAXIMUM EXTENT POSSIBLE. RESTORE AREAS DISTURBED BY CONSTRUCTION TO PRE-DISTURBED CONDITION.
13. SAWCUT EXISTING PAVEMENT AS NECESSARY FOR INSTALLATION OF NEW WATER SERVICE LINE. REPAIR PAVEMENT AFTER INSTALLATION OF WATER LINE. — 2 C1C2, 7 C1C2
14. SAWCUT EXISTING CURB AND GUTTER AS NECESSARY FOR INSTALLATION OF NEW WATER SERVICE LINE. REPAIR CURB AND GUTTER AFTER INSTALLATION OF WATER LINE. — 4 C1C2
15. INSTALL NEW MANHOLE AND CONNECT TO EXISTING SANITARY SEWER LINE. LOCATION AND DEPTH OF EXISTING SANITARY LINE IS ASSUMED. CONTRACTOR TO VERIFY LOCATION AND DEPTH PRIOR TO START OF CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN WHAT IS SHOWN ON THIS DRAWING AND WHAT IS OBSERVED IN FIELD. — 1 C1C1, 2 C1C1, 3 C1C1, 4 C1C1, 5 C1C1
16. INSTALL 1-1/2" DOUBLE CHECK ASSEMBLY. — 8 C1C2
17. APPROXIMATE LOCATION OF EXISTING TREE. CONTRACTOR TO REMOVE EXISTING TREE AND ROOT SYSTEM AND DISPOSE OF OFF-SITE.
18. INSTALL NEW MANHOLE. — 1 C1C1

GENERAL SITE NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING.
2. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
3. IN AREAS WHERE ASPHALT PAVING IS BEING REWORKED, PROVIDE NEW PAINT STRIPING FOR ALL REVISED PAVING WORK.
4. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH CITY INSPECTOR(S). CONTRACTOR SHALL NOTIFY CITY INSPECTOR(S) 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. DURING CONSTRUCTION, THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF PERMIT APPROVED PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
6. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
7. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO CITY OF WEST LINN STANDARDS AND SPECIFICATIONS.
8. SURVEY OF EXISTING CONDITIONS PREPARED BY COMPASS ENGINEERING. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL SURVEY DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT-OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.
9. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFORMATION TO DESIGN PRIOR TO CONSTRUCTION.
10. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
12. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS. DISTURBED LANDSCAPED AREAS SHALL RECEIVE BARK DUST AND REPLACEMENT PLANTINGS. DISTURBED NATURAL AREAS SHALL BE HYDROSEEDED TO REPLACE NATIVE COVER. DISTURBED GRAVEL AREAS SHALL RECEIVE REPLACEMENT GRAVEL OR CRUSHED ROCK SURFACING.
13. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
14. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.
15. ALL EXISTING MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. IF ANY MONUMENTS ARE DISTURBED OR DESTROYED DURING CONSTRUCTION, CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED LAND SURVEYOR TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY STATE LAW.
16. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.
17. CONTRACTOR SHALL DEVELOP TEMPORARY TRAFFIC CONTROL PLAN AND PROVIDE IT TO THE CITY OF WEST LINN PRIOR TO THE START OF CONSTRUCTION.
18. CONTRACTOR TO PROVIDE ALL TEMPORARY SIGNAGE.

SEPTIC DECOMMISSIONING REQUIREMENTS

A. DECOMMISSION INDICATED SEPTIC FACILITIES PER OREGON DEQ REQUIREMENTS (OAR 340-071-0185) AND CITY OF WEST LINN REQUIREMENTS.

B. A DECOMMISSION PERMIT IS REQUIRED PRIOR TO ANY WORK BEING PERFORMED. CONTRACTOR TO PROVIDE ALL NECESSARY SERVICES AND FEES TO OBTAIN PERMIT.

C. FACILITIES TO BE PUMPED BY A LICENSED SEWAGE DISPOSAL SERVICE TO REMOVE ALL SEPTAGE.

D. FACILITIES TO BE FILLED WITH 3/4" MINUS GRAVEL.

E. CONTRACTOR TO ARRANGE FOR FACILITIES TO BE INSPECTED BY CITY REPRESENTATIVE PRIOR TO BEING COVERED.

GENERAL UTILITY NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM RECORD DRAWINGS AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
2. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
3. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM. ALL ADDITIONAL WORK OR PARTS TO CONFORM TO CITY OF WEST LINN STANDARDS AND APPROVAL.
4. CONTRACTOR SHALL COORDINATE A UTILITY LOCATE 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES BOTH IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY. CONTRACTOR SHALL COORDINATE THE UTILITY LOCAL WITH MUNICIPALITY HAVING JURISDICTION FOR ALL UTILITY WORK WITHIN A PUBLIC RIGHT-OF-WAY. INFORM ENGINEER IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS. PRE-SURVEY LOCATING REQUESTS SHALL BE 14 DAYS IN ADVANCE.
5. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.
6. ALL UTILITY CONSTRUCTION ON PRIVATE PROPERTY SHALL CONFORM TO THE LATEST EDITION OF THE OREGON PLUMBING SPECIALTY CODE. ALL UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD REQUIREMENTS OF THE MUNICIPALITY HAVING JURISDICTION.
7. ALL BURIED LINES TO HAVE 3 FEET MINIMUM COVER, UNLESS NOTED OTHERWISE.
8. THRUST RESTRAINTS REQUIRED ON ALL PRESSURE LINE BENDS AND FITTINGS.
9. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.
10. CONFIRM ALL UTILITY VALVE VAULTS, VALVES, METERS, BACKFLOW PREVENTION ASSEMBLIES, AND OTHER PUBLIC UTILITY APPURTENANCES IN THE RIGHT-OF-WAY WITH THE MUNICIPALITY HAVING JURISDICTION.

GENERAL NOTE
ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS.

ATTENTION EXCAVATORS

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BEFORE COMMENCING ANY EXCAVATION. CALL 503-246-6699.

No.	Revision	Drawn	Job Manager	Project Director	Date
-	Issued for Permit	-			5/9/13

Drawing Revisions
Note: * indicates signatures on original issue of drawing or last revision of drawing

REGISTERED PROFESSIONAL ENGINEER — OREGON — SCOTT T. STEVENS — EXPIRES: 6/30/14 — 5/9/13

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Client: WEST LINN-WILSONVILLE SCHOOL DISTRICT
Project: ERICKSON PROPERTY UTILITY IMPROVEMENTS
Title: UTILITY PLAN

Scale	AS SHOWN	Contract No.	8410015
Drawn	STS	Designer	STS
Drafting Check		Design Check	
Approved (Project Director)			
Date	5/9/13		

This Drawing must not be used for Construction unless Signed and Sealed as Approved

Drawing No. C1 — Sht 1 of 3 — Original Size Arch E1 — Rev.

Erickson Sewer Replanting Project

Species	Common Name	Wetland Status	Spacing	Size/ Condition	Quantity
Alnus rubra	Red Alder	FAC	8-10 feet o.c.	B-R Seed 1-0	20
Cornus stolonifera	Red-osier Dogwood	FACW	3-4' o.c.	B-R Seed 1-0	40
Crataegus douglasii	Black Hawthorn	FAC	8-10 feet o.c.	B-R Seed 1-0	20
Fraxinus latifolia	Oregon Ash	FACW	8-10 feet o.c.	B-R Seed 1-0	50
Lonicera involucrata	Black Twinberry	FAC+	3-4' o.c.	B-R Seed 1-0	50
Philadelphus lewisii	Mock Orange	NL	3-4' o.c.	B-R Seed 1-0	20
Quercus garryana	Oregon White Oak	UPL	8-10 feet o.c.	B-R Seed 1-0	10
Rhamnus purshiana	Cascara	FAC-	8-10 feet o.c.	B-R Seed 1-0	10
Spiraea douglasii	Douglas Spirea	FACW	3-4' o.c.	B-R small caliper	50
Thuja plicata	Western Red Cedar	FAC	8-10 feet o.c.	B-R Seed p-1	30
				Total Number of Plants	300