



**Wilsonville City Hall
Development Review Board Panel A**

Monday, January 8, 2018 - 6:30 P.M.

I. **Call To Order:**

II. **Chairman's Remarks:**

III. **Roll Call:**

Fred Ruby Joann Linville
James Frinell Jennifer Willard
Ronald Heberlein

IV. **Citizen's Input:**

V. **Election Of 2018 Chair And Vice-Chair**
Chair Vice-Chair

VI. **Consent Agenda:**

VII. **Public Hearing:**

A. Resolution No. 346

**Memorial Park Community Garden & Dog Run Parking Area: AKS
Engineering and Forestry - Representative for City of Wilsonville -**

Applicant/Owner. The applicant is requesting approval of a Site Design Review for the addition of a parking area for approximately 33 passenger vehicle spaces and associated improvements. The site is located on a portion of Tax Lot 691 of Section 24, T3S-R1W, Willamette Meridian, City of Wilsonville, Clackamas County; Oregon.
Staff: Daniel Pauly

Case File: DB17-0028 Class III Site Design Review

Documents:

[DB17-0028 Staff Report.Exhibits.pdf](#)
[Exhibit A3 Memorial Park Master Plan.pdf](#)
[Exhibit A4 Appendix B Design Development Guidelines from 2007 Parks and](#)

[Rec Master Plan.pdf](#)
[Exhibit B1 Applicants Notebook.pdf](#)
[Exhibit B1 A Draft Geotech Report.pdf](#)
[Exhibit B2 Applicants Plan Set.pdf](#)

VIII. Board Member Communications:

A. Recent City Council Action Minutes

Documents:

[Recent City Council Action Minutes.pdf](#)

IX. Staff Communications

X. Adjournment

Assistive Listening Devices (ALD) are available for persons with impaired hearing and can be scheduled for this meeting. The City will also endeavor to provide the following services, without cost, if requested at least 48 hours prior to the meeting.

- Qualified sign language interpreters for persons with speech or hearing impairments.
- Qualified bilingual interpreters.
- To obtain such services, please call the Planning Assistant at 503 682-4960

DEVELOPMENT REVIEW BOARD MEETING

MONDAY, JANUARY 8, 2018

6:30 PM

VII. Public Hearing:

- A. Resolution No. 346. Memorial Park
Community Garden & Dog Run Parking Area:
AKS Engineering and Forestry –
Representative for City of Wilsonville –
Applicant/Owner.** The applicant is requesting approval of a Site Design Review for the addition of a parking area for approximately 33 passenger vehicle spaces and associated improvements. The site is located on a portion of Tax Lot 691 of Section 24, T3S-R1W, Willamette Meridian, City of Wilsonville, Clackamas County; Oregon. Staff: Daniel Pauly

Case File: DB17-0028 Class III Site Design Review

**DEVELOPMENT REVIEW BOARD
RESOLUTION NO. 346**

A RESOLUTION ADOPTING FINDINGS AND CONDITIONS APPROVING SITE DESIGN REVIEW FOR THE ADDITION OF A PARKING AREA FOR APPROXIMATELY 33 PASSENGER VEHICLE SPACES AND ASSOCIATED IMPROVEMENTS. THE SITE IS LOCATED ON A PORTION OF TAX LOT 691 OF SECTION 24, TOWNSHIP 3 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON. AKS ENGINEERING AND FORESTRY REPRESENTATIVE FOR CITY OF WILSONVILLE – APPLICANT/OWNER.

WHEREAS, an application, together with planning exhibits for the above-captioned development, has been submitted in accordance with the procedures set forth in Section 4.008 of the Wilsonville Code, and

WHEREAS, the Planning Staff has prepared staff report on the above-captioned subject dated December 28, 2017, and

WHEREAS, said planning exhibits and staff report were duly considered by the Development Review Board Panel A at a scheduled meeting conducted on January 8, 2018, at which time exhibits, together with findings and public testimony were entered into the public record, and

WHEREAS, the Development Review Board considered the subject and the recommendations contained in the staff report, and

WHEREAS, interested parties, if any, have had an opportunity to be heard on the subject.

NOW, THEREFORE, BE IT RESOLVED that the Development Review Board of the City of Wilsonville does hereby adopt the staff report dated December 28, 2018, attached hereto as Exhibit A1, with findings and recommendations contained therein, and authorizes the Planning Director to issue permits consistent with said recommendations for:

DB17-0028 Class III Site Design Review request for parking area and associated improvements.

ADOPTED by the Development Review Board of the City of Wilsonville at a regular meeting thereof this 8th day of January, 2018 and filed with the Planning Administrative Assistant on _____. This resolution is final on the 15th calendar day after the postmarked date of the written notice of decision per *WC Sec 4.022(.09)* unless appealed per *WC Sec 4.022(.02)* or called up for review by the council in accordance with *WC Sec 4.022(.03)*.

Ronald Heberlein, Acting Chair - Panel A
Wilsonville Development Review Board

Attest:

Shelley White, Planning Administrative Assistant



Exhibit A1
Staff Report
Wilsonville Planning Division
Memorial Park Community Garden & Off-Leash Dog Area Parking Improvements

Development Review Board Panel 'A'
Quasi-Judicial Public Hearing

Hearing Date:	January 8, 2018
Date of Report:	December 28, 2017
Application Nos.:	DB17-0028 Site Design Review
Request/Summary:	Class 3 Site Design Review of a new 33-space parking area and associated improvements
Location:	Eastern Memorial Park, south of Schroeder Way and east of Boeckman Creek The property is specifically known as Portion of Tax Lot 691, Section 24, Township 3 South, Range 1 West, Willamette Meridian, City of Wilsonville, Clackamas County, Oregon
Owner/Applicant:	Kerry Rappold City of Wilsonville
Applicant's Representative:	John Christiansen AKS Engineering and Forestry
Comprehensive Plan Designation:	Public Lands
Zone Map Classification:	PF (Public Facility)
Staff Reviewers:	Daniel Pauly AICP, Senior Planner Steve Adams PE, Development Engineering Manager Kerry Rappold, Natural Resources Program Manager
Staff Recommendation:	<u>Approve with conditions</u> the requested Site Design Review request.

Applicable Review Criteria:

<u>Development Code:</u>	
Section 4.008	Application Procedures-In General
Section 4.009	Who May Initiate Application
Section 4.010	How to Apply
Section 4.011	How Applications are Processed
Section 4.014	Burden of Proof
Section 4.031	Authority of the Development Review Board
Subsection 4.035 (.04)	Site Development Permit Application
Subsection 4.035 (.05)	Complete Submittal Requirement
Section 4.110	Zones
Section 4.136, 4.131 (.03)	Public Facility (PF) Zone
Sections 4.133.00 through 4.133.05	Wilsonville Road Interchange Area Management Plan (IAMP) Overlay Zone
Sections 4.139.00 through 4.139.11	Significant Resource Overlay Zone (SROZ)
Section 4.154	On-site Pedestrian Access and Circulation
Section 4.155	Parking, Loading, and Bicycle Parking
Section 4.167	Access, Ingress, and Egress
Section 4.171	Protection of Natural Features and Other Resources
Section 4.175	Public Safety and Crime Prevention
Section 4.176	Landscaping, Screening, and Buffering
Section 4.177	Street Improvement Standards
Sections 4.400 through 4.440 as applicable	Site Design Review
Sections 4.600-4.640.20	Tree Preservation and Protection
<u>Other Planning Documents:</u>	
Memorial Park Master Plan (City of Wilsonville Resolution No. 2536)	
Wilsonville Parks and Recreation Master Plan (2007)	

Vicinity Map



Background/Summary:

As part of the effort to implement Phase One of the Memorial Park Master Plan area the City proposes adding a 33-lot paved parking area adjacent to the existing community garden. The parking area will serve the community garden as well as a planned off-leash dog area.



Proposed Parking Area

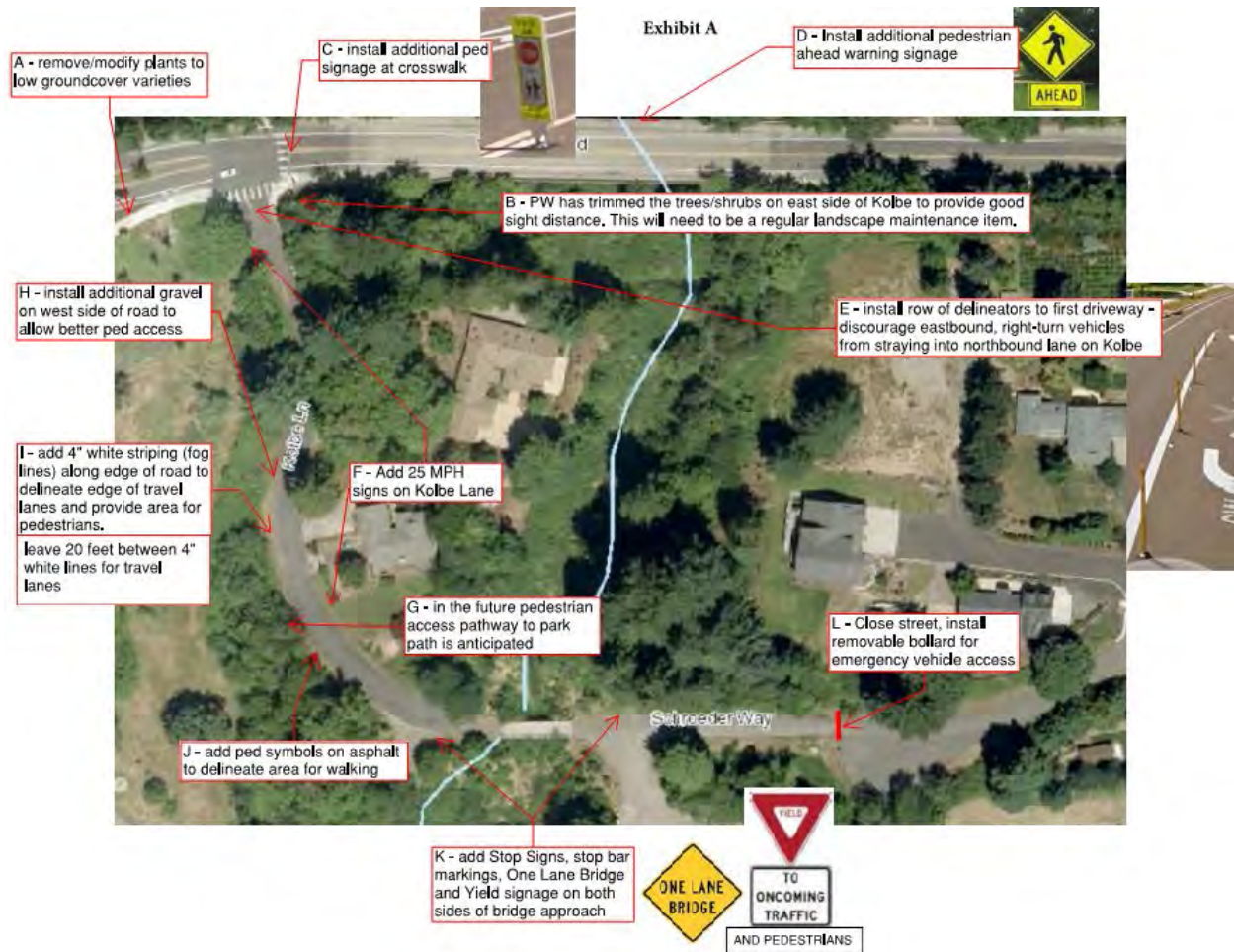
Discussion Points:

Vehicle Access and Traffic

The City has invested a substantial effort in determining the best access to the proposed parking area and the associated community garden and off-leash dog area. Current access is via Schroeder Way and Rose Lane to Wilsonville Road. The City examined the current access, access directly from Rose Lane via an extended entry drive, as well as access on Kolbe Lane via the existing pedestrian bridge over Boeckman Creek. The final access selection is via Kolbe Lane and the bridge. Non-emergency access from Schroeder Way will be closed at the end of the existing cul-de-sac with bollards. As shown in the graphic below, which is also included in the Traffic Study in Exhibit B1, the City plans a number of improvements to Kolbe Lane to maximize safety and function.

Two homes take access off Kolbe Lane and will see increased traffic past their homes. The City has reached out to these property owners about the proposed changes. As detailed in the Traffic Study the street is able to more than handle the traffic from the parks uses it will provide access for. The City especially plans additional signs and marking to enhance pedestrian safety. The ODOT bridge section inspected the bridge, at the request of the City, and determined it to be structurally capable of carrying the expected vehicles.

The current action does not grant approval of the Kolbe Lane access improvements. The access improvements can occur regardless of Development Review Board action on the current application. The question regarding the access improvements before the Development Review Board is whether the proposed parking area has adequate pedestrian, bicycle, and vehicle access via the planned access improvements. Based on the examination in the Traffic Study adequate access will exist.



Proposed Access Improvements
(Larger, Fully Readable Version of this Graphic in Exhibit B1)

Planned Restroom Building and Off-Leash Dog Area

The proposed parking area is a component of the broader Phase One of improvements for the eastern portion of Memorial Park as part of the Memorial Park Master Plan. Other adjacent and related improvements, including the relocated off-leash dog area and restroom building, will go through any required land use review separately. The primary trigger for Development Review Board review of the proposed parking area improvements is a requirement the Development Review Board review any parking changes involving more than 10 spaces.

Comments Received and Responses:

The following responses are general in nature and intended to cover most of the comments received. More detailed responses may be sent directly to the commenting parties and/or prepared for the Development Review Board prior to the hearing.

Noticing, Time to Comment

The City has reached out to area residents over an extended period including during the public process for the Memorial Park Master Plan and the discussion on access points. The Planning Division did delay the hearing from late December due to the holidays, but needs to proceed with received applications in a timely manner. The Planning Division handled the noticing and hearing schedule the same as any application received during the same timeframe. The Planning Division met all legal noticing requirements and requirements to make information available laid out in the development code.

Pedestrian Conflicts with Additional Traffic

Kolbe Lane and Schroeder Way serve as a popular route for runners and walkers. The City plans pavement markings, additional shoulder gravel, and signs to support pedestrian safety on Kolbe Lane. Schroeder Way will have less traffic with planned access changes. In addition, the Memorial Park Master Plan and other planning documents call for a more extensive Memorial Park and regional trail system to provide additional non-street paths that will likely become preferred over Kolbe Lane/Schroeder Way in the future.

Impacts on Natural Resources

The proposed improvements are near the protected Boeckman Creek riparian area as well as the 100-year flood plain, however are not within either and are not expected to have a negative impact on either. The City does not propose removing any trees or other significant vegetation for the parking lot improvements. The development area is currently primarily gravel and open grass field.

Impacts on Ground Water Quality

Stormwater will be treated and managed in the parking lot to meet current City standards. Due to the likely low infiltration rate of the site, the stormwater features will have underdrains which will convey it to Boeckman Creek and not the subsurface. The project will thus not negatively impact nearby ground water.

Traffic Impacts

See discussion of access and traffic under "Discussion Points" above.

Rural Feel, Keep "As Is"

The subject area has existing park uses and the expansion of additional park uses is allowed in the Public Facility Zone. Setbacks from adjacent development is substantial limiting any change of character impacts on neighboring properties.

Keep Off-Leash Area in Current Location, Put Bike Pump Track at Subject Location

The City proposes a parking area in the location shown in the Memorial Park Master Plan. The current proposal before the Development Review Board does not address the location of other amenities, including the off-leash area and the bike pump track, shown in the preferred option in the Memorial Park Master Plan.

Interconnecting Parking Areas, Use Existing Parking and Provide Ped and Bike Access

Subsection 4.155 (.03) D. requires, where possible, parking areas connect to adjacent sites. The nearest existing or planned parking area is 700 plus feet away across a riparian area. It is not possible to connect. Comments suggested providing pedestrian and bicycle access, no vehicle access, from existing parking areas. Due to the distance and topography this would not provide sufficient access to the amenities planned in the subject area of the park, particularly for individuals with limited mobility.

Efficient On-site Parking and Circulation

This staff report makes findings regarding on-site parking and circulation. In short, the proposed parking area provides a design of standard sized parking stalls and two-way drive aisles considered to provide efficient on-site circulation and parking.

Access does Not Meet Parks and Recreation Master Plan Access Requirements

Appendix B of the 2007 Parks and Recreation Master Plan states access to Regional Parks should be via a collector or arterial. However, the overview for Appendix B specifically states existing parks "may not fit within these guidelines." Access via a collector or arterial is thus not a requirement for the existing park property under review.

Kolbe Lane Bridge Should Be Considered On-Site

One comment suggests the Kolbe Lane bridge is on park property and should be considered on-site for the purpose of applying the standards such as Section 4.154, On-Site Pedestrian Access and Circulation. The current action does not grant approval of the Kolbe Lane access improvements, including changes to the bridge. The access improvements can occur regardless of Development Review Board action on the current application. In addition, the bridge, while owned by the City, is not on the same parcel as the proposed improvements. Thus, this staff report does not examine the bridge and other Kolbe Lane improvements for compliance with the development code.

Conclusion and Conditions of Approval:

Staff has reviewed the Applicant's analysis of compliance with the applicable criteria. The Staff report adopts the applicant's responses as Findings of Fact except as noted in the Findings. Based on the Findings of Fact and information included in this Staff Report, and information received from a duly advertised public hearing, Staff recommends that the Development Review Board approve the proposed application (DB17-0028) with the following conditions:

Planning Division Conditions:

Request: DB17-0028 Site Design Review

<p>PD 1. Construction, site development, and landscaping shall be carried out in substantial accord with the Development Review Board approved plans, drawings, sketches, and other documents. Minor revisions may be approved by the Planning Director through administrative review pursuant to Section 4.030. See Finding 21.</p>
<p>PD 2. All landscaping required and approved by the Board shall be installed prior to use of the parking area, unless security equal to one hundred and ten percent (110%) of the cost of the landscaping as determined by the Planning Director is filed with the City assuring such installation within six (6) months of occupancy. "Security" is cash, certified check, time certificates of deposit, assignment of a savings account or such other assurance of completion as shall meet with the approval of the City Attorney. In such cases the developer shall also provide written authorization, to the satisfaction of the City Attorney, for the City or its designees to enter the property and complete the landscaping as approved. If the installation of the landscaping is not completed within the six-month period, or within an extension of time authorized by the Board, the security may be used by the City to complete the installation. Upon completion of the installation, any portion of the remaining security deposited with the City will be returned to the applicant. See Finding 40.</p>
<p>PD 3. The approved landscape plan is binding upon the applicant/owner. Substitution of plant materials, irrigation systems, or other aspects of an approved landscape plan shall not be made without official action of the Planning Director or Development Review Board, pursuant to the applicable sections of Wilsonville's Development Code. See Finding 41.</p>

<p>PD 4. All landscaping shall be continually maintained, including necessary watering, weeding, pruning, and replacing, in a substantially similar manner as originally approved by the Board, unless altered as allowed by Wilsonville’s Development Code. See Findings 42 and 43.</p>
<p>PD 5. The following requirements for planting of shrubs and ground cover shall be met:</p> <ul style="list-style-type: none"> • Non-horticultural plastic sheeting or other impermeable surface shall not be placed under landscaping mulch. • Native topsoil shall be preserved and reused to the extent feasible. • Surface mulch or bark dust shall be fully raked into soil of appropriate depth, sufficient to control erosion, and shall be confined to areas around plantings. • All shrubs shall be well branched and typical of their type as described in current AAN Standards and shall be equal to or better than 2-gallon containers and 10” to 12” spread. • Shrubs shall reach their designed size for screening within three (3) years of planting. • Ground cover shall be equal to or better than the following depending on the type of plant materials used: gallon containers spaced at 4 feet on center minimum, 4” pot spaced 2 feet on center minimum, 2-1/4” pots spaced at 18 inch on center minimum. • No bare root planting shall be permitted. • Ground cover shall be sufficient to cover at least 80% of the bare soil in required landscape areas within three (3) years of planting. • Appropriate plant materials shall be installed beneath the canopies of trees and large shrubs to avoid the appearance of bare ground in those locations. • Compost-amended topsoil shall be integrated in all areas to be landscaped, including lawns. See Finding 50.
<p>PD 6. Plant materials shall be installed to current industry standards and be properly staked to ensure survival. Plants that die shall be replaced in kind, within one growing season, unless appropriate substitute species are approved by the City. See Finding 53.</p>
<p>PD 7. All parking lot lighting fixtures shall be fully shielded. See Finding 59.</p>
<p>PD 8. Lighting for the parking area shall be reduced to 50% of the requirement set forth in the Oregon Energy Efficiency Specialty Code from 11 p.m. to dawn. See Finding 63.</p>
<p>PD 9. Sturdy bumper guards of at least 6 inches in height shall be provided as necessary to prevent vehicles from interfering with sidewalks and paths adjacent to parking area. See Finding 72.</p>
<p>PD 10. All travel lanes within the parking area shall have a carrying capacity of 23-tons. See Finding 84.</p>

The following Conditions of Approval are provided by the Engineering, Natural Resources, or Building Divisions of the City’s Community Development Department or Tualatin Valley Fire and Rescue, all of which have authority over development approval. A number of these Conditions of Approval are not related to land use regulations under the authority of the Development Review Board or Planning Director. Only

those Conditions of Approval related to criteria in Chapter 4 of Wilsonville Code and the Comprehensive Plan, including but not limited to those related to traffic level of service, site vision clearance, recording of plats, and concurrency, are subject to the Land Use review and appeal process defined in Wilsonville Code and Oregon Revised Statutes and Administrative Rules. Other Conditions of Approval are based on City Code chapters other than Chapter 4, state law, federal law, or other agency rules and regulations. Questions or requests about the applicability, appeal, exemption or non-compliance related to these other Conditions of Approval should be directed to the City Department, Division, or non-City agency with authority over the relevant portion of the development approval.

Engineering Division Conditions:

None received

Master Exhibit List:

The following exhibits are hereby entered into the public record by the Development Review Board as confirmation of its consideration of the application as submitted. This is the exhibit list that includes exhibits for Planning Case File DB17-0028.

Planning Staff Materials

- A1. Staff report and findings (this document)
- A2. Staff’s Presentation Slides for Public Hearing (to be presented at Public Hearing)
- A3. Memorial Park Master Plan (electronic copy only or available to review at City Hall)
- A4. Appendix B of 2007 Parks and Recreation Master Plan (electronic copy only or available to review at City Hall)

Materials from Applicant

- B1. Applicant’s Narrative and Submitted Materials
 - Narrative
 - Exhibit A Development Permit Application Form
 - Exhibit B Preliminary Land Use Plans
 - Exhibit C Assessor’s Map
 - Exhibit D Transportation Study
 - Exhibit E Access Improvement Exhibit
 - Exhibit F Preliminary Stormwater Report
- B2. Drawings and Plans
 - P1-00 Cover Sheet with Site and Vicinity Maps
 - P1-01 Existing Conditions
 - P1-02 Preliminary Demolition, Grading, and Erosion & Sediment Control Plan
 - P1-04 Preliminary Site and Composite Utility Plan
 - P1-05 Parking Lot Profile and Pavement Sections
 - P1-06 Preliminary Aerial Photo Plan

- P1-07 Preliminary Landscape Plan
- P1-08 Preliminary Park Circulation and Future Trail Plan
- P1-09 Preliminary Site Lighting Plan

Development Review Team Correspondence

None received

Other Correspondence

- D1. Comments from Sudeep Taksali
- D2. Comments from Nathan Osborn
- D3. Comments from Steve and Linda Gregg
- D4. Comments from Molly and John Herrmann
- D5. Comments from Linda Ingalls

Procedural Statements and Background Information:

1. The statutory 120-day time limit applies to this application. The City received the application on November 14, 2017. On December 12, 2017 staff concluded a completeness review within the statutorily allowed 30-day review period and found the application to be complete. The City must render a final decision for the request, including any appeals, by April 11, 2018.
2. Surrounding land uses are as follows:

Compass Direction	Zone:	Existing Use:
North:	RA-H	Single-family Residential
East:	PF	Park
South:	PF	Park
West:	PF	Park

3. Previous Planning Approvals:
 - 83DR06 Memorial Park Master Development Plan
 - 83PCA10A Memorial Park Conditional Use
 - 87PC26 Memorial Park Conditional Use
 - 91DR21 Architecture and Landscaping, Phase 1
 - 91PC17 Memorial Park Comprehensive Plan Map Amendment
 - 91PC25 Memorial Park Master Plan Plan Review, Zone Change, and Willamette River Greenway CUP.
4. The applicant has complied with Sections 4.013-4.031 of the Wilsonville Code, said sections pertaining to review procedures and submittal requirements. The required public notices have been sent and all proper notification procedures have been satisfied.

Findings:

NOTE: Pursuant to Section 4.014 the burden of proving that the necessary findings of fact can be made for approval of any land use or development application rests with the applicant in the case.

General Information

Application Procedures-In General Section 4.008

The City is processing the application in accordance with the applicable general procedures of this Section.

Initiating Application Section 4.009

The application submittal was on behalf of the property owner, City of Wilsonville, and an authorized representative signed the application.

Pre-Application Conference Subsection 4.010 (.02)

The City held a Pre-application conference on December 22, 2016 (PA16-0016) in accordance with this subsection.

Lien Payment before Approval Subsection 4.011 (.02) B.

No applicable liens exist for the subject property. The application can thus move forward.

General Submission Requirements Subsection 4.035 (.04) A.

The applicant has provided all of the applicable general submission requirements contained in this subsection.

Zoning-Generally Section 4.110

This proposed development is in conformity with the applicable zoning district and general development regulations listed in Sections 4.150 through 4.199 have been applied in accordance with this Section.

Request: DB17-0028 Site Design Review

As described in the Findings below, the applicable criteria for this request are met or will be met by Conditions of Approval.

Review Authority for Parking Areas

Planning Director's Authority to Review Parking Limited to 10 or Less Spaces
Subsection 4.030 (.01) B. 1.

1. The proposed parking area involves the addition of more than 10 parking spaces, and thus is not eligible for administrative review by the Planning Director. The proposal is thus subject to review by the Development Review Board.

Public Facility Zone Standards

Permitted Uses
Subsection 4.136 (.02)

2. Parking facilities and the associated park uses are outright permitted uses in the Public Facility Zone.

Dimensional Standards
Subsection 4.136 (.04)

3. The lot size is much in excess of the minimum 1-acre and the front and rear setbacks of 30 feet and sideyard setback of 10 feet are greatly exceeded. The street frontage exceeds the required 75 feet and the applicant does not propose any buildings or structures greater than 35 feet tall.

Site Design Review Required
Subsection 4.136 (.08) A.

4. The City is applying the Site Design Review standards of Sections 4.400 through 4.450 to the proposal. See Findings for Sections 4.400 through 4.450 below.

Master Plans in the Public Facility Zone
Subsection 4.136 (.08) B.

5. The current proposal, while consistent with the Memorial Park Master Plan, does not seek to review or approve a Master Plan for an entire development, but rather seeks Site Design Review of the proposed parking improvements. This section does not require review under Section 4.140 for the proposed development, as it does not involve the review or approval of a Master Plan.

Block and Access Standards- Adequate Connectivity for Peds, Bikes, and Vehicles
Subsections 4.136 (.09) and 4.131 (.03)

6. As detailed in the Traffic Study, included as part of Exhibit B1, the proposed parking area has adequate pedestrian, bicycle, and vehicle access via Kolbe Lane to Wilsonville Road. The City plans improvements including pavement markings, signs, delineators, and extra shoulder gravel to maximize the safety and access of existing improvements.

Objectives of Site Design Review

Proper Functioning of the Site

Subsection 4.400 (.02) A. and Subsection 4.421 (.03)

7. The professionally designed site demonstrates significant thought to make the site functional and safe. A drive aisle wide enough for two-way traffic, standard size parking stalls, and access meeting City standards are among the site design features contributing to functionality and safety.

High Quality Visual Environment

Subsection 4.400 (.02) A. and Subsection 4.421 (.03)

8. Professional landscaping and a professional, site specific, parking area layout supports a quality visual environment, appropriate for the aesthetic of a developed park area.

Encourage Originality, Flexibility, and Innovation

Subsection 4.400 (.02) B. and Subsection 4.421 (.03)

9. The applicant proposes landscaping professionally design specifically for the site. Sufficient flexibility exists to fit the planned parking area between current and planned park uses it will serve.

Discourage Inharmonious Development

Subsection 4.400 (.02) C. and Subsection 4.421 (.03)

10. As indicated in Finding 8 above the professional unique design of the landscaping and site support a high quality visual environment and thus prevent monotonous, drab, unsightly, dreary development. Use of long lasting materials as well as new landscaping will make the site more harmonious with adjacent and nearby development.

Proper Site Relationships

Subsection 4.400 (.02) D. and Subsection 4.421 (.03)

11. The applicant has prepared a professional site-specific design that carefully considers the relationship of the parking area with other improvements to the site, existing and planned. The parking area fits between the existing community garden and a planned dog run and flows with proposed trails.

Proper Relationships with Surroundings

Subsection 4.400 (.02) D. and Subsection 4.421 (.03)

12. Consistent with the adopted Memorial Park Master Plan the proposed parking area relates to and serves the community garden and planned off-leash dog area. It fits between the two features in a manner than provides convenient parking for both uses.

Regard to Natural Aesthetics

Subsection 4.400 (.02) D. and Subsection 4.421 (.03)

13. The applicant does not proposed to remove natural features of significant aesthetic value, such as trees or well-established ground cover, or significant contours. The proposed additional landscaping will enhance the natural aesthetic of the site.

Attention to Exterior Appearances

Subsection 4.400 (.02) D. and Subsection 4.421 (.03)

14. The applicant does not propose any new buildings or structures with exterior finishes.

Protect and Enhance City's Appeal

Subsection 4.400 (.02) E. and Subsection 4.421 (.03)

15. Memorial Park serves as a marquee park in the City's system and as such provides great appeal as an amenity to residents, employees, and visitors. Adding amenities and supporting the build out of the park consistent with the adopted Memorial Park Master Plan while not impacting significant natural areas or decreasing existing amenities enhances the park while protecting the existing park.

Stabilize Property Values/Prevent Blight

Subsection 4.400 (.02) F. and Subsection 4.421 (.03)

16. Adding planned amenities to an underdeveloped, but not natural significant part of the park consistent with the Memorial Park Master Plan enhances the portion of the park and stabilizes its value. The proposed improvements help this portion of the park stay in good repair and not become blighted.

Adequate Public Facilities

Subsection 4.400 (.02) G. and Subsection 4.421 (.03)

17. As shown in the Transportation Study Memorandum in Exhibit B1, a proposed new street configuration in the area will provide adequate street access to the parking area. Water service is available for irrigation of the new landscaping.

Pleasing Environments and Behavior

Subsection 4.400 (.02) H. and Subsection 4.421 (.03)

18. Memorial Park serves as a marquee park in the City's system and as such provides great appeal as an amenity to residents, employees, and visitors. Adding amenities and

supporting the build out of the park consistent with the adopted Memorial Park Master Plan enhances the pleasing environment of the park.

Civic Pride and Community Spirit

Subsection 4.400 (.02) I. and Subsection 4.421 (.03)

19. Memorial Park serves as a marquee park in the City's system and as such contributes significantly to civic pride and community spirit tied to an identify of a park-rich city. Adding amenities and supporting the build out of the park consistent with the adopted Memorial Park Master Plan enhances the park's contribution.

Favorable Environment for Residents

Subsection 4.400 (.02) J. and Subsection 4.421 (.03)

20. Memorial Park serves as a marquee park in the City's system and as such contributes significantly to a favorable, park-rich environment for residents. Adding amenities and supporting the build out of the park consistent with the adopted Memorial Park Master Plan enhances the park's contribution.

Jurisdiction and Power of the DRB for Site Design Review

Development Must Follow DRB Approved Plans

Section 4.420

21. These criteria will be satisfied by Condition of Approval PD 1 ensures construction, site development, and landscaping are carried out in substantial accord with the Development Review Board approved plans, drawings, sketches, and other documents. The City will not issue any building permits prior to DRB approval. The applicant has not requested any variances from site development requirements.

Design Standards

Preservation of Landscaping

Subsection 4.421 (.01) A.

22. The proposal will not affect significant existing landscaping, including trees or mature groundcover. The area is currently primarily gravel and grass.

Harmony of Proposed Buildings to Environment

Subsection 4.421 (.01) B.

23. The proposal does not include any buildings.

Special Attention to Drives, Parking, and Circulation- Access Points

Subsection 4.421 (.01) C.

24. The applicant has worked with a professional design team to ensure the access point from the parking lot to the public street meets City standards. The design aligns the access at the ideal right angle to the public street. The width is 24 feet, typical for two-way travel.

Special Attention to Drives, Parking, and Circulation- Interior Circulation
Subsection 4.421 (.01) C.

25. The applicant has worked with a professional design team to ensure interior circulation received special attention. The circulation curves to provide access to the entire parking area placed between the community garden and future dog park. The interior circulation is 24 feet wide allowing for adequate space for pulling out of the individual spaces and for two-way traffic to pass.

Special Attention to Drives, Parking, and Circulation- Pedestrian and Vehicle Separation
Subsection 4.421 (.01) C.

26. The design separates pedestrian and vehicle circulation except at necessary cross walks.

Special Attention to Drives, Parking, and Circulation- Safe and Convenient Parking Areas
Subsection 4.421 (.01) C.

27. The applicant has worked with a professional design team to ensure the new parking area is safe and convenient. The parking area is conveniently located for access to both the community garden and the planned dog park. The parking space size and drive aisle with is a typical design allowing adequate area for safe maneuvering.

Special Attention to Drives, Parking, and Circulation- Parking Detracting from Design
Subsection 4.421 (.01) C.

28. By fitting between the existing community garden and planned dog park the parking fits well into the plan for the park and does not distract from the design of the features the parking area serves.

Special Attention to Surface Water Drainage
Subsection 4.421 (.01) D.

29. The applicant proposes a professionally design stormwater system consistent with existing City standards.

Harmonious Above Ground Utility Installations
Subsection 4.421 (.01) E.

30. No above ground utility installations are proposed.

Indication of Sewage Disposal
Subsection 4.421 (.01) E.

31. The applicant does not propose any sewer disposal.

Advertising Features Do Not Detract
Subsection 4.421 (.01) F.

32. The applicant does not propose any advertising features.

Screening and Buffering of Special Features
Subsection 4.421 (.01) G.

33. The applicant does not propose any special features requiring additional screening or buffering.

Design Standards Apply to All Buildings, Structures, Signs, and Features
Subsection 4.421 (.02)

34. The applicant's design considers the design standards for all features.

Conditions of Approval to Ensure Proper and Efficient Function
Subsection 4.421 (.05)

35. Staff does not recommend any additional conditions of approval to ensure the proper and efficient functioning of the development.

Color or Materials Requirements
Subsection 4.421 (.06)

36. No specific paints or colors are being required.

Standards for Mixed Solid Waste and Recycling Areas

Mixed Solid Waste and Recycling Areas
Subsections 4.430 (.02)-(.04)

37. The applicant does not propose any new mixed solid waste and recycling areas.

Site Design Review Submission Requirements

Submission Requirements
Section 4.440

38. The applicant has provided a site plan drawn to scale and a detailed landscape plan.

Time Limit on Site Design Review Approvals

Void after 2 Years
Section 4.442

39. The Applicant plans to develop the proposed project within two years and understands that the approval will expire after two years if a building permit has not been issued unless the City grants an extension.

Installation of Landscaping

Landscape Installation or Bonding Subsection 4.450 (.01)

40. Condition of Approval PD 2 will assure installation or appropriate security.

Approved Landscape Plan Binding Subsection 4.450 (.02)

41. Condition of Approval PD 3 provides ongoing assurance approved landscaping is installed and maintained.

Landscape Maintenance and Watering Subsection 4.450 (.03)

42. Condition of Approval PD 4 will ensure continual maintenance of landscaping in a substantially similar manner as originally approved by the Board.

Limitation to Modifications of Landscaping Subsection 4.450 (.04)

43. Condition of Approval PD 4 provides ongoing assurance of conformance with this criterion by preventing modification or removal without the appropriate City review.

Landscaping Standards

Intent and Required Materials Subsections 4.176 (.02) C. through I.

44. The general landscape standard applies as substantial distance exists between the parking and any neighboring development and the parking is not adjacent to the street. The only areas with new landscaping proposed are internal to the parking area. The adjacent areas remain in their current state. As applicable, the trees are within 30 feet of each other, as required, and the remaining area has sufficient shrubs and groundcover as to not leave bare soil.

Landscape Area Min 15% of Lot Subsections 4.176 (.03)

45. The subject lot, which is primarily vegetated park area, will continue to exceed the landscape minimum.

Landscaping in a Variety of Areas Subsections 4.176 (.03)

46. The design for the proposed parking lot places the landscaping in a variety of different planters.

Landscaping Encouraged Adjacent to Structures

Subsections 4.176 (.03)

47. No structures exist within the proposed parking area.

Landscaping to Define, Soften, Screen Building and Off-Street Parking

Subsections 4.176 (.03)

48. The landscape design softens the overall look of the parking area by adding a natural element, defines sub-areas of the parking area. Screening is not necessary due to distance from other non-park development, as discussed in Finding A38.

Landscape Materials Achieve Balance Between Plant Forms, Textures, Heights

Subsections 4.176 (.03)

49. With only three required trees, a single variety is appropriate. The use of five different shrubs provide a variety of form, textures, and heights to provide interest and balance each other with their variety.

Shrubs and Groundcover Materials Requirements

Subsection 4.176 (.06) A.

50. Condition of Approval PD 5 requires meeting the detailed requirements of this subsection. Of particular note, Sheet P1-07 of the applicant's plan set, shows 1-gallon containers. The Condition of Approval requires 2-gallon containers.

Plant Materials Requirements-Trees

Subsection 4.176 (.06) B.

51. As stated on Sheet P1-07 of the applicant's plan set, Exhibit B2, the plant material requirements for trees will be met as follows:
- Trees are B&B (Balled and Burlapped)
 - Tree are 2" caliper.

Plant Species Requirements

Subsection 4.176 (.06) E.

52. The applicant's landscape plan (Sheet P1-07) provides sufficient information showing the proposed landscape design meets the standards of this subsection related to use of native vegetation and prohibited plant materials.

Landscape Installation and Maintenance Standards

Subsection 4.176 (.07)

53. The installation and maintenance standards are met or will be met by Condition of Approval PD 6 as follows:
- Plant materials are required to be installed to current industry standards and be properly staked to ensure survival
 - Within one growing season, the applicant must replace in kind plants that die,

- unless the City approves appropriate substitute species.
- Notes on the applicant's Sheet P1-07 provides for an irrigation system.

Landscape Plan Requirements

Subsection 4.176 (.09)

54. Applicant's Sheet P1-07 in Exhibit B2 show all existing and proposed landscape areas. The to-scale plans show the type, installation size, number and placement of materials. Plans include a plant material list. Plants identification is by both their scientific and common names.

Completion of Landscaping

Subsection 4.176 (.10)

55. The applicant has not requested to defer installation and thus must install landscaping prior to occupancy.

Outdoor Lighting

Applicability of Outdoor Lighting Standards

Sections 4.199.20 and 4.199.60

56. Proposed is a new exterior lighting system for a public facility project. The outdoor lighting standards thus apply.

Outdoor Lighting Zones

Section 4.199.30

57. The subject property is within LZ1.

Optional Lighting Compliance Methods

Subsection 4.199.40 (.01) A.

58. The applicant has the option of the performance or prescriptive method. The applicant has selected to comply with the prescriptive method.

Maximum Lamp Wattage and Shielding

Subsection 4.199.40 (.01) B. 1. and Table 7

59. The applicant proposes 70 watt lamp wattage and Condition of Approval PD 7 ensures the fixtures are fully shielded. The maximum allowed wattage for fully shielded luminaires in LZ 1 is 70 watts.

Oregon Energy Efficiency Code Compliance

Subsection 4.199.40 (.01) B. 2.

60. The applicant will demonstrate compliance with the Oregon Energy Efficiency Code, Exterior Lighting prior to construction.

Maximum Mounting Height

Subsection 4.199.40 (.01) B. 3.

61. The applicant proposes a mounting height of 25 feet, which is the maximum allowed.

Setback from Property Line

Subsection 4.199.40 (.01) B. 4.

62. With a mounting height of 25 feet, the required setback for the luminaires is 75 feet. The only light within 75 feet of a property line is the first one from the street. However, when applying Exception 2 to measure the setback from the setback line of the property across Schroeder Way, the setback is well in excess of 75-feet.

Lighting Curfew

Subsection 4.199.40 (.01) D.

63. The park is open 5 a.m. to 10 p.m. The standards permit full intensity lighting from dusk to one hour after closing, which is 11 p.m. Condition of Approval PD 8 requires the lighting to be reduced to 50% of the requirements set forth in the Oregon Energy Efficiency Specialty Code from 11 p.m. to dawn.

Wilsonville Road Interchange Area Management Plan (IAMP) Overlay Zone

Where IAMP Regulations Apply

Section 4.133.02

64. The subject property is wholly within the IAMP Overlay Zone, the applicable IAMP standards thus apply.

IAMP Permitted Land Uses

Section 4.133.03

65. The proposed park supporting use is consistent with the underlying PF zone.

Access Management Applicability

Subsections 4.133.04 (.01) – (.03)

66. Section 4.004 requires a development permit for the proposed parking area, thus the IAMP requirements apply. The applicant does propose a new accesses, but the IAMP would not restrict it.

Access Management Plan Consistency

Subsection 4.133.04 (.04) A.

67. The IAMP does not address access to Schroeder Way or Kolbe Lane.

Joint ODOT Review

Subsection 4.133.04 (.04) A.

68. The proposal does not impact any accesses or access areas addressed by the IAMP.

Cross Access Easements
 Subsection 4.133.04 (.05)

69. No tax lots identified in the Access Management Plan are involved in the proposed development.

Traffic Impact Analysis
 Subsection 4.133.01 (.01)

70. The City did prepare a Traffic Impact Analysis consistent with Section 4.140 included as part of Exhibit B1.

On-site Pedestrian Access and Circulation

On-site Pedestrian Access and Circulation
 Section 4.154

71. The proposed design provides continuous and direct connections to the public right-of-way, the existing community garden, and the planned off-leash dog area. The surfaces are smooth concrete. Except for the crosswalk near the entry of the parking area, the submitted plans show all internal pedestrian pathways vertically separated from vehicle circulation and parking areas. The crosswalk will be marked. The plans show all pathways at least 5 feet wide.

Parking and Loading

Parking Design Standards
 Section 4.155 (.02) and (.03)

72. The applicable parking designs standards are met as follows:

Standard	Met	Explanation
Subsection 4.155 (.02) General Standards		
B. All spaces accessible and usable for Parking	<input checked="" type="checkbox"/>	Standard parking lot design, 9' by 18' spaces, 24' drive aisle
I. Sturdy bumper guards of at least 6 inches to prevent parked vehicles crossing property line or interfering with screening or sidewalks.	<input checked="" type="checkbox"/>	Condition of Approval PD 9 requires sturdy bumper guards along sidewalks.
J. Surfaced with asphalt, concrete or other approved material.	<input checked="" type="checkbox"/>	Surfaced with asphalt.
Drainage meeting City standards	<input checked="" type="checkbox"/>	Drainage is professionally designed and being reviewed to meet City standards
K. Lighting won't shine into adjoining structures or into the eyes of passers-bys.	<input checked="" type="checkbox"/>	Lighting is proposed to be fully shielded and meet the City's Outdoor Lighting Standard

N. No more than 40% of parking compact spaces.	<input checked="" type="checkbox"/>	All parking spaces are proposed to be standard spaces.
O. Where vehicles overhand curb, planting areas at least 7 feet in depth.	<input checked="" type="checkbox"/>	No parking spaces will overhang planting areas.
Subsection 4.155 (.03) General Standards		
A. Access and maneuvering areas adequate.	<input checked="" type="checkbox"/>	Access drive and drive aisle are 24 feet, providing an adequate 12 foot travel lane each direction.
A.1. Loading and delivery areas and circulation separate from customer/employee parking and pedestrian areas.	<input checked="" type="checkbox"/>	No loading and delivery areas exist and the City does not plan any.
Circulation patterns clearly marked.	<input checked="" type="checkbox"/>	Design is typical commercial parking lot design and intuitive to a driver familiar with typical commercial parking lots.
A.2. To the greatest extent possible, vehicle and pedestrian traffic separated.	<input checked="" type="checkbox"/>	The plans clearly delineate separate vehicle and pedestrian traffic areas and separate them except for crosswalks.
C. Safe and Convenient Access, meet ADA and ODOT Standards.	<input checked="" type="checkbox"/>	The proposed parking and access enable the meeting of ADA and ODOT standards.
For parking areas with more than 10 spaces, 1 ADA space for every 50 spaces.	<input checked="" type="checkbox"/>	The proposal provides 2 ADA parking spaces for 33 parking spaces, one nearest the restroom and one nearest a community garden entrance.
D. Where possible, parking areas connect to adjacent sites.	<input checked="" type="checkbox"/>	No existing or future adjacent development allow for parking connections.
Efficient on-site parking and circulation	<input checked="" type="checkbox"/>	The careful and professional design of The parking provides for safety and efficiency and is a typical design with standard parking space and drive aisle size and orientation.

Minimum and Maximum Number of Parking Spaces
Subsections 4.155 (.03) G., Table 5, and 4.136 (.05)

73. No parking minimums or maximums are provided for the outdoor uses which the proposed parking will serve or sufficiently similar uses. The Traffic Study, included in Exhibit B1, includes an analysis of parking demand based on the ITE Parking Generation manual. The parking needs of a dog park and community garden are not specifically stated in this manual either, but a similar suburban site with picnic area and playground has a guideline of 2.6 spaces per acre. The Traffic Study thus finds the proposed 33 parking stalls meet the estimated parking demand.

Parking Area Landscaping

Minimizing Visual Dominance of Parking

Subsection 4.155 (.03) B.

74. The applicant proposes landscaping throughout the parking area helping to minimize the visual dominance of the paved parking area.

10% Parking Area Landscape Requirement

Subsection 4.155 (.03) B. 1.

75. The new parking area, including adjacent sidewalks is approximately 22,400 square feet. The internal planting areas total approximately 2,325 square feet, approximately 10.4% of the total parking area.

Landscape Screening of Parking

Subsection 4.155 (.03) B. 1.

76. The proposed design screens the parking area from adjacent properties and adjacent rights-of-way by physical distance, existing vegetation, and topography. The design does not warrant additional screening meeting a specific City screening standard.

Tree Planting Area Dimensions

Subsection 4.155 (.03) B. 2.

77. The landscape plan, sheet P1-07, shows all tree planting areas at least 8 feet wide and 8 feet deep.

Parking Area Tree Requirement

Subsection 4.155 (.03) B. 2. and 2. a.

78. With 33 spaces, the stated ratio of 1 tree for every 8 spaces or fraction thereof requires 5 additional trees. The landscape plan, sheet P1-07, shows 4 trees in planting areas spread throughout the parking area and 3 trees in the larger storm planter, exceeding the requirement of 5 trees.

Parking Area Landscape Plan

Subsection 4.155 (.03) B. 2. a.

79. Sheet P1-07 is a landscape plan of the proposed parking area.

Parking Area Tree Clearance

Subsection 4.155 (.03) B. 2. b.

80. The City could typically maintain all trees listed for planting in the parking area and expected to overhand the parking areas to provide a 7-foot clearance.

Other Development Standards

Access, Ingress, and Egress

Section 4.167

81. The access to the public street will remain at the same point as the existing gravel parking area on the site.

Double-Frontage Lots

Section 4.169

82. The proposed restroom building will greatly exceed setback requirements from both Schroeder Way/Kolbe Lane and Rose Lane on the double frontage lot.

Natural Features and Other Resources

Section 4.171

83. The While the Memorial Park property is rich with natural and other resources the area of the planned improvements is generally an open field and the proposal does not negatively affect any significant natural or other resources.

Access Drives and Travel Lanes

Subsection 4.177 (.01) E.

84. The design of the access drives provides clear travel lanes, free from obstructions. The design shows all travel lanes as asphalt. Condition of Approval PDA 2 requires a 23-ton carrying capacity for the pavement. Access lane width of 24-foot 2-way provides sufficient emergency access.

Public Safety and Crime Prevention

Design for Public Safety

Subsection 4.175 (.01)

85. Staff finds no evidence, nor has not received any testimony, indicating the design of the site would lead to crime or negatively affect public safety.

Surveillance and Access

Subsection 4.175 (.03)

86. No changes to parking and loading are proposed. No areas of particular vulnerability to crime have been identified warranting additional surveillance. Parking and loading areas are accessible by police during routine patrol.

Lighting to Discourage Crime

Subsection 4.175 (.04)

87. The applicant designed the lighting in accordance with the City's outdoor lighting standards, which will provide sufficient lighting to discourage crime.

Parks and Recreation Master Plans

Access to Regional Parks

Appendix B of 2007 Parks and Recreation Master Plan, Design and Development Guidelines

88. Under the design and development guidelines for regional parks the document states access should be via a collector or arterial. However, the overview for Appendix B specifically states existing parks "may not fit within these guidelines." Access via a collector or arterial is not a requirement for this existing park property under review.

Memorial Park Master Plan Consistency

Memorial Park Master Plan Preferred Option

89. As shown on page 35 of Exhibit A3, a 33 space parking area between the Community Garden and the Off Leash Dog Area, is part of the preferred option adopted by City Council with Resolution 2536 following public outreach and involvement, review by the Parks and Recreation Advisory Board, and Planning Commission. Figure 29 on page 58 of Exhibit A3 shows the parking area as part of the Phase One of the implementation of the Memorial Park Master Plan.

From: Sudeep Taksali
Sent: Tuesday, December 26, 2017 2:40 PM
To: Pauly, Daniel; Rappold, Kerry
Subject: DB17-0028

Dear Mr. Pauly,

We are the homeowners at 7535 SW Schroeder WAY. I received in the mail the request for written comment on the case file referenced. Please forgive me if my comments are out of turn, but I do not understand the process/procedures of the city and my perspective is that of a local citizen:

- the timing of the request for comment seems off to me as it is around the holidays when many homeowners are not around. While I doubt it was intended that way, it feels as though it is trying to be snuck in under the radar.
- the deadline for written comment is 12/27 but the complete file is not available to review till 7 days before the hearing. This limits what we can actually comment on.
- the information provided is rather sparse and difficult to understand. Basically all that is provided is a picture of a parking lot
- nothing in the communication reflects that the concerns that have been brought up by the community over the past year or so have been addressed
- to properly comment about the parking lot, we need the context of how the parking lot will be accessed by the community and the details of the dog park itself
- the key issue for the community is not being addressed in the communication and that is the **access** to the parking lot. A parking lot in isolation feels like a piecemeal approach to this issue.
- I maintain that this dog park relocation and associated parking lot are not in line with my limited understanding of city codes for access to public spaces
- the dog park and parking lot will add more traffic flow to a residential neighborhood and damage its character
- there are significant safety concerns if the parking lot/dog park are accessed from Schroeder Way due to the intersection at Wilsonville RD/Rose LN and the street width
 - Access from Kolbe places an undue burden of traffic flow on the residents of this street and adds traffic flow to a wooden bridge that does not seem to have been designed for vehicle traffic
- the option to access the new dogpark from existing parking via a pedestrian route should be considered. This would be a cost savings to the taxpayers and address a number of the concerns detailed above
- the rationale for relocation of the dog park has not been clearly communicated to community aside from saying that it is the Master Plan

Sincerely,

Sudeep Taksali



Development Review Board

As parks are held to the same code as commercial development, this project would trigger fulfilling codes for “new commercial developments.”

The following are codes that need to be addressed before approval:

4.136.08 B

B. As part of either a permitted or conditional use, the Planning Commission may review and approve a Master Plan for an entire development or area subject to Section 4.140 (Planned Development Regulations) of the Wilsonville Code. Approval of a Master Plan would allow all uses provided in the Master Plan without further review. Minor changes which do not have off-site impact or increase visitor capacity may be reviewed by the Planning Director. [Amended by Ordinance No. 538, 2/21/02.]

From Master Plan Appendix B.4

ACCESS: Should be provided via a collector or arterial street with sidewalks and bicycle lanes. Transit stop should be nearby.

4.136(.09) Block and access standards: The PF zone shall be subject to the same block and access standards as the PDC zone, Section 4.131(.03).

4.131.03 1. The Development Review Board shall determine appropriate conditions of approval to assure that adequate connectivity results for pedestrians, bicyclists, and motor vehicle drivers. Consideration shall be given to the use of public transit as a means of meeting access needs.

The Document provided in the public hearing notice does not mention access. Furthermore, there have been major issues in determining access and a solution has not been found to my knowledge

4.139.00 Resource Overlay Zone Ordinance

The parking lot is adjacent to Boeckman creek and may be within the Willamette River floodplain. The adjacent land is underwater every winter.

The 100-year floodplain and Boeckman Creek are shown below. At the very least it is right by wildlife habitat and the floodplain.





4.154: On-site pedestrian access:

Kolbe Lane dead ends before the single lane, emergency bridge. The bridge is part of the parks land and therefore should be considered “on-site.” Most language in this ordinance needs to be addressed. For instance,

(.01) B.2. Safe, Direct, and Convenient. Pathways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent parking areas, recreational areas/playgrounds, and public rights-of-way and crosswalks based on all of the following criteria:....

5. Pathway Width and Surface. Primary pathways shall be constructed of concrete, asphalt, brick/masonry pavers, or other durable surface, and not less than five (5) feet wide. Secondary pathways and pedestrian trails may have an alternative surface except as otherwise required by the ADA

4.171: "protect and enhance natural features such as riparian corridors, streams, wetlands, swales, etc."

4.172: Has the lot been proven to be outside the floodplain? It is very close.

4.177: If the parks master plan is to be followed, this community park should have Arterial Streets, which should be 24 foot paved with sub-base. Sidewalks should be provided.

4.400(.02) G. Insure that adequate public facilities are available to serve development as it occurs and that proper attention is given to site planning and development so as to not adversely impact the orderly, efficient and economic provision of public facilities and services. **This site makes the dog park less useful than its current location and adversely affects public facilities. Access can only be on single lane rural roads without sidewalks and with poor sight lines. Engineer's reports stated access via Schroeder was in violation of multiple codes and unsafe. Access via Kolbe would be over a single lane emergency bridge.**

C. Drives, Parking and Circulation. With respect to vehicular and pedestrian circulation, including walkways, interior drives and parking, special attention shall be given to location and number of access points, general interior circulation, separation of pedestrian and vehicular traffic, and arrangement of parking areas that are safe and convenient and, insofar as practicable, do not detract from the design of proposed buildings and structures and the neighboring properties. **This would certainly detract from neighboring properties. Special attention has not been given to separation of pedestrian and vehicular traffic, general circulation, or practical and safe access. In fact, the access is notably unsafe, which has been pointed out to the city on multiple occasions.**

Summary: My understanding is The Development Review Board is a quasi-legal committee that is supposed to assure city codes are followed. Hence, I have tried to keep my arguments to individual codes. As you can see, there are a number of codes that are in question. **The biggest issue is safety.** The city has yet to provide an access plan that an engineering firm has signed off on as being safe and up to code. The city's own master plan states that access to community parks should be from main roads, which Schroeder and Kolbe are certainly not. Further, with this public hearing notice, nothing has been provided about access. It is as if they are trying to get the parking lot built and then worry about the access later, and the access has always been the hurdle to clear. My final argument isn't a legal one. **The dog park will have a large number of pedestrians. They will have dogs on leashes and occasionally not on leashes. Either way, the dogs can't be expected to know to stay to the side of the road. Sending the city's largest amount of park pedestrians down a single lane, rural road without sidewalks is just plain dumb. It also has a high probability of legal issues if and when a pedestrian vehicular accident occurs. Until a proper access plan is proposed and agreed to by city council and the DRB, I can't see how your board can even rule on this parking lot.**

Sincerely,

Nathan Osborn

Steven D. Gregg and Linda L. Gregg
6650 SW Montgomery Way
Wilsonville, Oregon 97070

December 27th 2017

Development Review Board A
c/o City Planning Division
City of Wilsonville
Administrative Office
29600 SW Park Place
Wilsonville, OR 97070

Dear Development Review Board,

Thank you for the opportunity to provide comment regarding DB17-0028 (Memorial Park Community Garden & Dog Run Parking Area) – our expectation is that the Development Review Board (DRB) will hold the City of Wilsonville to the same high standard of development code compliance as it would any other applicant – and if any exceptions to code/planning guidance are necessary, those exceptions be brought to the attention of the City Council to be debated and resolved by vote

The following are excerpts from the City of Wilsonville’s Memorial Park Community Garden & Dog Run Site Design Review submission for DB17-0028:

“The 2015 MPMP was approved through a legislative process rather than as a quasi-judicial Planned Development. Therefore, (B) and (C) do not apply”¹

“Where possible, parking areas shall be designed to connect with parking areas on adjacent sites so as to eliminate the necessity for any mode of travel of utilizing the public street for multiple accesses or cross movements. In addition, on-site parking shall be designed for efficient on-site circulation and parking”²

“The Wilsonville Parks and Recreation Master Plan indicates that regional park access should be provided via a collector or arterial street. Although SW Kolbe Lane is neither a collector or arterial, SW Wilsonville Road, an arterial, sufficiently serves as the park access road”³

“The proposed dog park and community gardens are expected to generate 40 p.m. peak hour trips (20 in, 20 out)”⁴

The proposed location for the new Community Garden & Dog Run parking area was approved as part the May 2015 Memorial Park Master Plan Update (MPMP). Apparently, the capacity of nearby roads to serve as code-compliant access routes for the new parking area was not examined during the planning and approval process. While the MPMP states "Specific attention has been given to clarifying vehicular

¹ Memorial Park Community Garden & Dog Run Site Design Review – Page 4

² Memorial Park Community Garden & Dog Run Site Design Review – Page 7

³ Memorial Park Community Garden & Dog Run Site Design Review – Exhibit D, Page 8

⁴ Memorial Park Community Garden & Dog Run Site Design Review – Exhibit D, Page 8

and pedestrian access into the park⁵ there are no improvements listed or budgeted in the MPMP for Rose Lane/Schroeder Way and only pedestrian needs are addressed for Kolbe Lane⁶. No mention is made as to which roads might be used, what variances might be needed to deviate from Wilsonville's Parks and Recreation Master Plan guidance, or what improvements might be necessary to provide code-compliant vehicle access. The new parking area is simply depicted on a map showing it intersect with Kolbe and budgeted at \$40K without further discussion⁷

The City Staff has been working to find an economically viable way to provide code-compliant access to the new lot for over a year. I hope you will find time to review the Parks and Recreation Advisory Board's Feb 2nd Meeting Minutes⁸, public comments provided at the 31:30 mark of the Aug 7th City Council Meeting⁹, the City's presentation beginning at the 51:30 mark of the Oct 2nd 2017 City Council Work Session¹⁰ and Council President Starr's comments beginning at the 1:07:30 mark of the Oct 2nd Work Session. What you will find is that while the site of the proposed lot was depicted in the MPMP, how to access the lot was simply not addressed. After the MPMP was approved, the City began looking at access options - first Schroeder Way was studied (18-20' wide), then Rose Lane (20-22' wide), then back to Schroeder¹¹ until eventually both were determined to be "not desirable because of significant impacts"¹². The plan before you now involves using Kolbe Lane – **a 25' wide residential street** with two homes that the city is proposing to handle a peak-hour park traffic average trip count of 40 (one vehicle every 90 seconds) – despite the fact that the use of Kolbe was never addressed (or "approved") in the MPMP and runs counter to planning guidance in the Parks and Recreation Master Plan. Please put yourselves in the shoes of the residents of Kolbe Lane trying to deal with year-round dog park traffic (or the traffic generated by a summer evening park concert) - it is hard not to feel like they are being picked as the least expensive/most expedient option to solve the City's planning shortfalls

Section 101.2.03 of Wilsonville's Public Works Standards provides specific guidance as to the order of precedence to be followed when applying the City's development codes. According to the Public Works Standards, the "City of Wilsonville master plans (latest editions): Parks and Recreation Master Plan, Transportation Master Plan..." etc have precedence over the city's Public Works Standards¹³

Appendix B of Wilsonville's Parks & Recreation Master Plan provides Design and Development Guidelines for all of Wilsonville's parks and should have used to fully inform the MPMP Update. According to the Parks and Recreation Master Plan, access for a Regional and Community Park "Should be provided via a collector or arterial street."¹⁴ There is no mention in the MPMP that any of the Design and Development Guidelines would need to be "waived" to connect the new parking area to a road system (or that the Guidelines were even considered). The City's application states:

⁵ Memorial Park Master Plan Update, Page 34

⁶ Memorial Park Master Plan Update, Page 30

⁷ Memorial Park Master Plan Update, Page 59

⁸ http://www.ci.wilsonville.or.us/AgendaCenter/ViewFile/Agenda/_03092017-611

⁹ <https://wilsonville.viebit.com/player.php?hash=b0RCLYcc6l4b>

¹⁰ <https://wilsonville.viebit.com/player.php?hash=Wufmq5SurzB5>

¹¹ Wilsonville Parks and Recreation Advisory Board, Feb 2nd 2017 Meeting Minutes

¹² Wilsonville City Council, Aug 7th Meeting Minutes Page 8-35

¹³ City of Wilsonville Public Works Standards, Section 1, Page 19

¹⁴ City of Wilsonville Parks and Recreation Master Plan, Appendix B, Page B-7

“Vehicle connections to other Memorial Park parking areas is not possible due to topography, existing vegetation, and existing park uses. Therefore, this standard does not apply”¹⁵

Hypothetically speaking, how would the Development Review Board/City Staff handle an application whereby the applicant overlooks the City’s planning guidance, sites a new parking lot away from a code-compliant road system, proposes access via a non-compliant residential street, and expects relief from the Development Guidelines based on a sitting decision entirely within the applicant’s control? It is not as if the City had no other sitting options – they could have easily chosen (and could still choose) to site the new parking lot at the current Dog Park location and provide access via the existing, signaled, code-compliant, and soon to be upgraded Memorial Park road system (as both the Parks and Recreation Master Plan and Section 4.155.03(D) of the Development Code call for)

I would think that the City would wish to be viewed as the standard bearer of code-compliant development planning and would be going out of their way to be viewed as such. To say that the Council’s approval of the MPMP constitutes some type of blanket “legislative approval” of items not addressed in the MPMP and obviates the need for the City to comply with their own planning guidance is disappointing. If there is a record that an access plan for the new lot was studied, addressed, and approved in the MPMP, I would ask that the City provide that information to you. Quite frankly, the following statement makes us wonder why, if all planning guidance can be waived “legislatively”, the City is even bothering to seek DRB approval:

“The 2015 MPMP was approved through a legislative process rather than as a quasi-judicial Planned Development. Therefore, (B) and (C) do not apply”

Should the City feel that pushing a traffic count of 40 down a narrow residential street - despite planning guidance which would indicate otherwise - is an appropriate use of their authorities, there is a provision within the Parks and Recreation Master Plan which provides a process to by which to seek relief. Appendix B specifically states:

“For city owned parks these standards may be waived for major alternatives by the City Council...”¹⁶

It is our desire that should the Development Review Board approve DB17-0028 (we hope you won’t), any such approval be conditioned on a requirement for a vote of the City Council to deviate from the access guidelines defined in the Wilsonville Parks and Recreation Master Plan and Section 4.155.03(D)

Lastly, it is deeply disappointing the City chose Jan 8th as the date for the DRB to hear this case. As of Dec 27th the City has yet to make the final plan publically available and several residents are gone for the holidays – the public notification process for this hearing has not been what we would have expected. We have been provided a draft copy of the City’s application but suspect it might very well change between today (27 Dec) and Jan 2nd. It is impossible for the public to provide informed comment without a final version to comment on

Sincerely,
//Signed//
Steve and Linda Gregg

¹⁵ Memorial Park Community Garden & Dog Run Site Design Review – Page 7

¹⁶ City of Wilsonville Parks and Recreation Master Plan, Appendix B, Page B-2

From: Molly & John Herrmann
Sent: Wednesday, December 27, 2017 4:45 PM
To: Pauly, Daniel
Cc: JOHN BAIN HERRMANN Mr.
Subject: Comment on DB17-0028

To Whom It May Concern:

I am asking for consideration and grant of additional time to enable residents to comment on the plan which is not currently available for review, prior to the City meeting in early January. When a proposal and 'report' was circulated last fall proposing parking and additional use of the park adjacent to Rose Lane, the 'report' at that time was based on flawed and grossly insufficient data; e.g. they measured the number of people utilizing the dog park during the winter over the course of just a few wet days. There was no consideration or even extrapolation for summer weather and users (including all those that utilize the community garden). Further there was no consideration for the significant risk and safety issues related to current and future pedestrian use of Schroeder, Rose Lane and Kolbe by so many residents of Wilsonville, including but not limited to Wilsonville High School track and field and cross-country teams during spring and fall; local Senior groups and walking clubs; other community resources that use Rose Lane and Schroeder Way for runs, walks, exploration activities, etc. The 'report' at that time contained no information or even reference to adverse and possibly irreversible environmental impact to watershed (many local residents depend upon wells), local species of animal and vegetation, and air quality. The City should have to perform an environmental impact assessment before converting so much nature into concrete.

I testified on these issues last fall and the response at that time and thereafter, via email, was that these issues would be taken into account. If that is so, I do not know how a sufficiently researched, thoroughly documented report could be completed without further time and data collected over more than one season in which the park is used at the lowest level. As such I am assuming the report will continue to be insufficient and objectionable. To meet your duties to provide access and voice to your citizenry, I request additional time between the publication of the report and consideration by the city.

Respectfully

Molly & John Herrmann



From: Linda Ingalls
Sent: Thursday, December 28, 2017 6:54 AM
To: Pauly, Daniel
Subject: Development Review Board Members

This is in regards to the 33 space paved parking area on Schroeder Way.

We live on Schroeder Way.

We now have a bigger community garden in this space. The traffic in the summer is increased a lot! This will increase the traffic on our little road year-round.

Schroeder Way is mostly a one-way road. It cannot take much more traffic and this will increase the traffic quite a bit. Have speed bumps been considered? We would need at least three, placed where most of the homes here would be impacted.

When you leave Schroeder Way, to go onto Rose Lane, to go onto Wilsonville Road, that is a very difficult intersection. The cars coming from the high school area are easy to see, but if cars are coming from the town and turn onto Rose Lane, you cannot see them until they are right on top of you. This is a very dangerous intersection, which we know. We have adult children and they have been warned. But, what about people who don't know about this challenge? Is something being done about the intersection?

We already have a dog park! Why are we building another one? What is wrong with the two we have (one for small dogs, one for big dogs)? It has a gazebo, picnic area, water, expensive fencing ---- what becomes of that? Why are we spending tax dollars on another one, when the one we have is perfectly fine?

Thirty three paved parking spaces? Why 33? Why do the parking spaces go up and around and all over the place? Why paved? Why spend tax dollars on pavement? Is a huge restroom next? This area has nice homes with nice families, who live here for the peace and quiet with the advantage of being close to town and to our wonderful Wilsonville Memorial Park. Why are we having all this traffic going past our homes, making driving more dangerous for us? We have a dog park already!

This is an unneeded waste of our tax dollars. This is being put on a road that already has increased traffic with the community garden space. This will be a dangerous increase of traffic with what infrastructure being improved?

Sincerely,
Linda Ingalls

Sent via the Samsung Galaxy Tab 2 10.1, an AT&T 4G LTE tablet



Memorial Park Master Plan Update

Wilsonville Parks and Recreation Department
MAY 2015



ACKNOWLEDGMENTS

Wilsonville Parks and Recreation Department

Stan Sherer, Director
Tod Blankenship, Parks Supervisor
Brian Stevenson, Recreation Coordinator

City of Wilsonville

Kerry Rappold, Natural Resources Program Manager
Kurt Budlong, Analyst

Walker Macy

Mike Zilis, Principal in Charge
Ian Holzworth, Project Manager
Thomas Fischer, Landscape Designer

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Pacific Habitat Services

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Architectural Cost Consultants, LLC

Stan Pszczolkowski, Estimator



Wilsonville
Parks and Rec

29600 SW Park Place
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www.WilsonvilleParksandRec.com

WALKER | MACY

TABLE OF CONTENTS

I. Executive Summary

II. Introduction

- Park History
- Master Plan Approach
- Sustainable Development and Care

III. Public Involvement

- Community Involvement
- Stakeholders
- Public Open Houses
- Online Survey

IV. Site Analysis

- Context
- Regulations
- Circulation
- Vegetation
- Considerations
- Amenities
- Field Use

V. Initial Concepts

VI. Preferred Option

- Environment
- Park Areas:
 - Murase Plaza
 - West
 - Riverfront
 - East
- Circulation and Access
- Trails
- Priorities
 - Revenue and Operations
 - Costs
 - Phasing

VII. Appendix

- Meeting Summary Notes
- Stakeholder Summary Notes
- Survey Summary
- Revenue / Operations Proforma
- Estimate of Probable Cost

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I. EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Located in the heart of Wilsonville, Oregon Memorial Park has been a significant community resource for its citizens for decades. Often referred to as Wilsonville’s jewel, the 126 acre Regional Park is bordered by Wilsonville Road, Memorial Drive and the Willamette River. Generations of residents have enjoyed the wide variety of active, passive, programed and non-programed recreational experiences the park has to offer. The park also provides distinctive natural resources including its riparian forest along the Willamette River and Boeckman Creek, open meadows and forested hillsides. These resources play an important role in shaping the park’s character and providing important wildlife corridors.

Community involvement was integral to the planning process. This included a City wide survey, stakeholder meetings, website communications and a three part series of public open houses that provided neighbors and citizens an active role in planning for the parks future. Critical to the community was balancing passive and active uses with protection and enhancement of the parks natural areas. This integral public involvement process produced a plan that was derived directly from community input and enhances the quality of the park to be enjoyed for generations to come.

The Master Plan for Memorial Park consists of a mixture of improvements to existing facilities and development of new park elements that reflect current demand while anticipating future community recreational needs. Elements of the Master Plan identified by the community include; improvements to Murase Plaza, upgraded sports fields, additional and improved picnic facilities, improvements to vehicular, pedestrian and bicycle access, new parking areas, seating, disc golf, relocation of the off leash area, restoration of natural areas and improved connections to the Willamette River. These modifications have been strategically located to preserve and enhance the natural features of the park and to minimize impacts to adjoining neighborhoods.

The proposed Master Plan strategically balances improvements to help guide future development of the popular park, ensuring Memorial Park will continue being a landmark destination within the community of Wilsonville.



Murase Plaza Water Feature



Existing Dock



Forest Trail



Existing Community Garden



Figure 1 - MEMORIAL PARK AERIAL IMAGE

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II. INTRODUCTION

PARK HISTORY

Memorial Park is the City of Wilsonville's oldest and largest park. The property was acquired by the City in 1968 at a size of 61 acres. Additional land was acquired by the City in 1987, 1993, and 2007 resulting in the park's current 126 acre size.

The park has a rich cultural history. Forester Ernest Kolbe planted a significant amount of tree species throughout his summer home property during the 1950's, which would later become a portion of the park. German metalsmith Gustave Stein built the Stein Homestead Barn in 1901. The Stein Barn was later purchased by Charles and Lucile Boozier whom later sold 61 acres of land to the City of Wilsonville in 1968 and remaining acreage to the City in 1993.

The park has become a cherished resource for the community and offers a diversity of active and passive recreational opportunities. Murase Plaza, at the intersection of SW Wilsonville Road and Memorial Drive has become the community's front porch. Opening in 2006, the interactive water feature at the plaza attracts hundreds of visitors every year.. Today, the park is home to Wilsonville's only public athletic fields, skateboard area, off-leash dog park and tennis courts. Other amenities include rentable shelters, basketball, sand volleyball, picnic facilities, a community garden and a variety of walking trails.



Ernest Kolbe informational signage

MASTER PLAN APPROACH

The community has utilized Memorial Park for generations and knows it as a place to recreate, to hold civic events, to cherish natural areas and to honor its history. The Master Plan reflects these traditions and seeks to support and expand the unique qualities of the park and community.

The Master Plan seeks to balance the community's current needs and identify areas and activities for the future. Based on in-depth dialogue with the community, the Master Plan establishes a balance of passive and active recreation, seeks low cost- high return improvements, identifies revenue generating activities and provides a high quality recreational experience for the community..

Wilsonville is a growing community outpacing many communities in the Metro area. The city's demographics are also evolving, bringing increased need to provide new types of activities in the park. The plan's improvements were derived through collaboration and the best thinking of citizens and stakeholders to truly reflect community interests and enhance the character of the park for generations to come.

Key components of the plan include: increasing trails, embracing the river, balancing passive and active recreational opportunities, balancing natural preservation with recreation, providing field sports for the growing population, and providing alternative recreational opportunities..



Existing Off-leash Area



Existing Walnut Grove



Existing Off leash Area

SUSTAINABLE DEVELOPMENT AND CARE

The City seeks to be sustainable in its development practices and effective in its use of funding . The Master Plan reflects this approach in retaining significant components of the park and making improvements rather than wholesale change. Over the life of the park, a primary resource-consuming element is the maintenance. The replacement, repair and general upkeep of facilities, equipment, lighting, lawn, planting, paving, and other elements are a long-term cost. The Master Plan establishes a framework for Memorial Park that can be constructed efficiently and sustainably, improves the environment health of its natural resources, and can be effectively maintained over the long term.



Existing dock



Existing play area and ballfield access path

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III. PUBLIC INVOLVEMENT

COMMUNITY INVOLVEMENT

The combination of stakeholder interviews, public meetings, discussions with the city and interaction through the City's website have guided the development of the Master Plan. A series of Open Houses employed a variety of engagement methods to reach people of all ages, backgrounds and walks of life. To identify the appropriate mix of uses, revenue generating resources, and sequence of future improvements, the community engaged in a dialogue that examined the current park and determined aspirations for the future. Key groups included: The City's parks and recreation, engineering and natural resources departments, neighbors and concerned citizens, and user groups such as sports leagues, dog owners, and other citizen groups.

STAKEHOLDERS

The design team conducted a series of stakeholder interviews with community members identified by the City. Stakeholders include a range of groups and leagues who actively use sports fields as well as groups that passively use the park. These conversations enabled the project team to learn directly from people most connected with the Park. Meeting notes were produced and are provided in the appendix. Key components identified by stakeholders that the master plan should consider were:



Public open house

- *Updating ball fields for extended use and programming flexibility
- *Increasing parking quantity and quality
- *Improving rest room facilities
- *Exploring the potential for concessions
- *Addressing security concerns
- *Exploring covered court sports
- *Providing accessible trails.

PUBLIC OPEN HOUSES

The open houses began with a presentation of the findings to date followed by facilitated conversations with the public about their aspirations for the park and challenges and opportunities the park provides.

PUBLIC OPEN HOUSE ONE

The first public open house took place on November 5th, 2014 where the design team presented current conditions of the park, site analysis, and key considerations. Various diagrams of the park were presented describing contextual relationships, regulatory and environmental overlays, circulation, access, time of year field use, and existing environmental areas. A list of potential program elements was also presented to gauge interest in various recreational activities. This analysis generated a discussion with citizens about potential new activities and improvements to the park that would serve both current and future needs of the community. Key points identified during the first public open house included:

- Desire to Increase flexibility of ball fields
- Enhancing connections to the river
- Maintaining privacy to adjacent neighborhoods
- Safety
- Increasing trail types and accessibility
- Increasing pickleball and skateboard opportunities
- Clarifying vehicular and pedestrian circulation
- Improving parking
- Increasing seating opportunities
- Improving accessibility throughout the park
- Enhancing passive recreation
- Embracing the park's history

PUBLIC OPEN HOUSE TWO



Public open house

The information gathered through stakeholder meetings, input from the parks department and other city officials, and synthesized from group discussions in the first open house directed the development of three concepts presented at the second public open house on December 14th, 2014.

The three concepts provided a variety of configurations of new recreational elements and improvements to existing facilities that considered present and future needs. The concepts were presented to the group, including the pros and cons of each configuration. Community members and the design team then discussed the merits of the three different concepts. Robust conversations from community members regarding each concept provided the design team with invaluable insight. Balancing passive and active recreation and natural area preservation were identified as important elements when considering new recreational opportunities. Additional key points identified during the second public open house included:

- Provide Visual access to the river, not physical access
- Minimizing the removal of trees
- Improving Memorial Drive crossing
- Balancing passive and active uses
- Maintaining the park's current vegetated buffers at it

edges

- Providing light watercraft access
- Providing a variety of trails
- Exploring the use of synthetic turf fields

PUBLIC OPEN HOUSE THREE

The final open house took place on February 18th, 2015. Community input from the previous two open houses, interaction through the city's website, and an online survey that generated over 600 responses from the citizens directed the design of the preferred Draft Master plan, where desired components of the three concepts were synthesized into a single plan. Similar to previous open houses, the preferred draft master plan was discussed in an open public format with community members. Valuable community input was received for further refinement of the draft plan. Key points identified during the third open house include:

- The Dock is busy during summer, light watercraft will add to busyness
- The Regional trail alignment along the west side of the park was preferred
- Retaining existing trails adjacent to the river is desired
- Maintain field #5 for girl's softball and young users
- The Disc golf course size is family friendly, not sized for advanced players
- Synthetic fields as shown is preferred
- Providing storage for ball field equipment

ONLINE SURVEY

Over 600 community members participated in an online survey developed by the Wilsonville Parks and Recreation Department. Those who responded represented a broad cross section of the Wilsonville community, providing valuable perspective as to how the community uses the park currently and their vision for Memorial Park’s future. The survey consisted of 10 questions illuminating the demographics of users, popular current park uses and desired future park uses. Key demographics uncovered by the survey include: park users are a mix of ages, majority arrive by car, 40% use the park weekly, with the highest use on weekend afternoons and weekday evenings. The highest existing uses of the park are sports fields, trails, playgrounds, and Murase plaza. The most desired uses are river access and river views, watercraft launch, and sports fields.

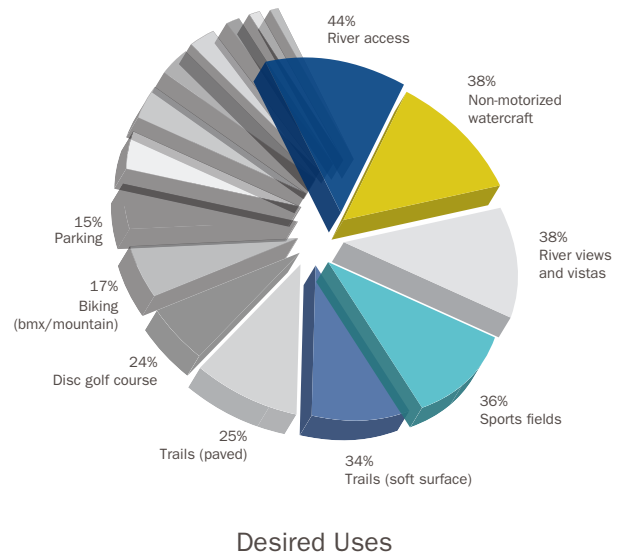
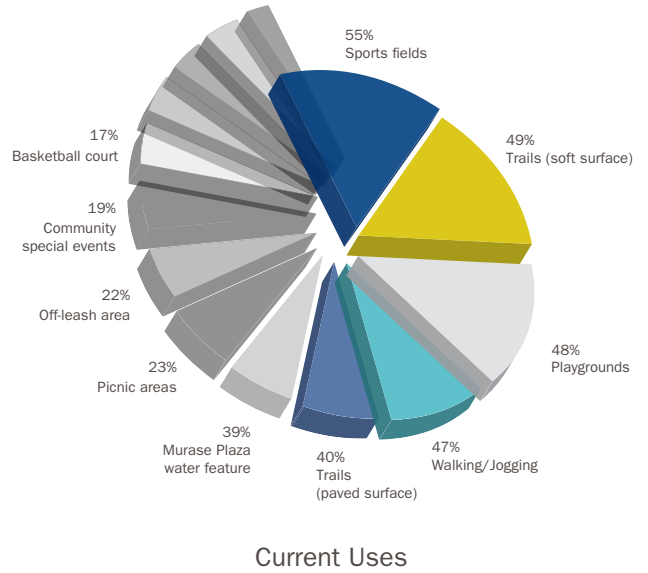


Figure 2 - SURVEY RESULTS: CURRENT AND DESIRED USES

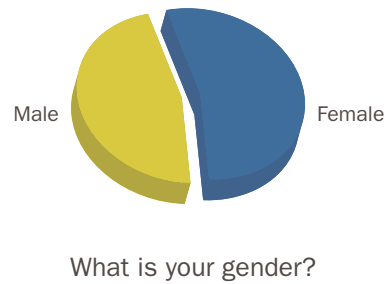
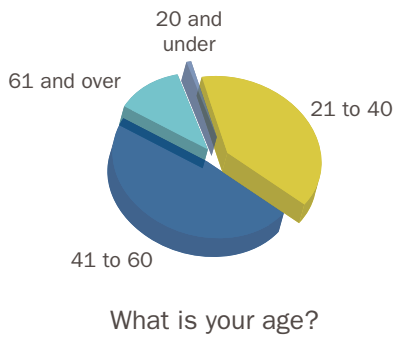
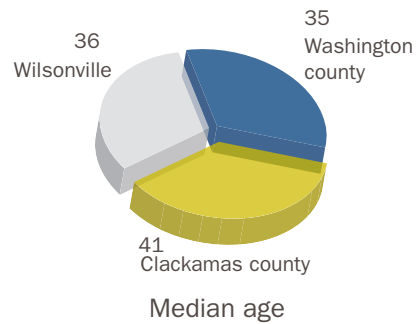
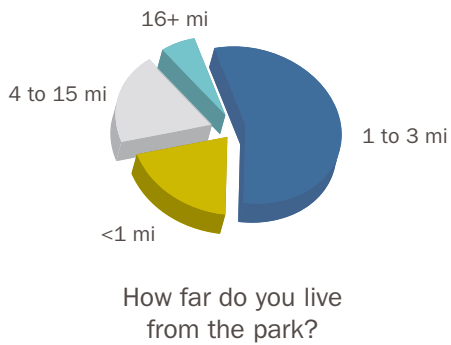
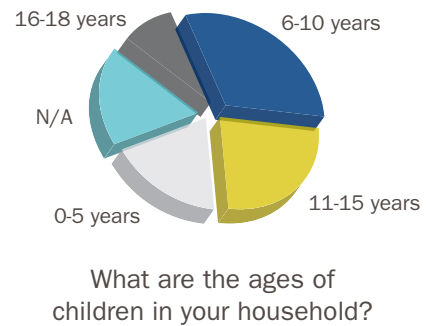
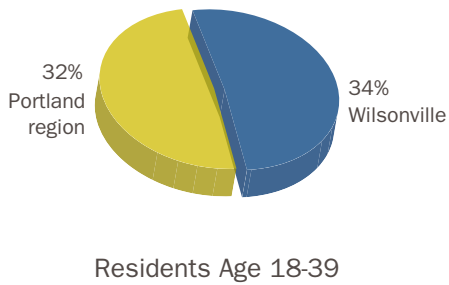
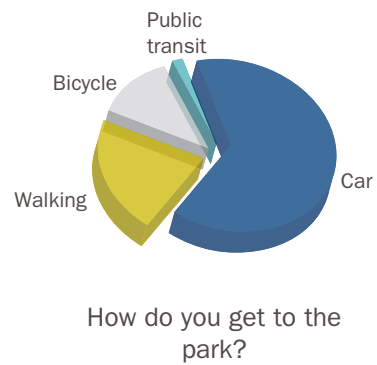
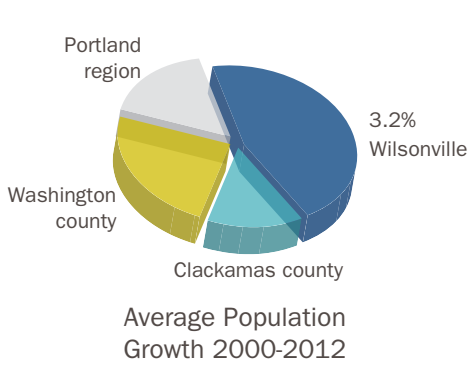


Figure 3 - SURVEY RESULTS

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IV. SITE ANALYSIS

SITE ANALYSIS

Prior to the first public open house, the design team conducted an extensive site analysis process that examined the existing conditions of Memorial Park. This included researching documentation and previous planning efforts, site visits to review park conditions, data gathering using geographical information systems (GIS), and mapping existing physical attributes. The site analysis phase included reviewing and documenting existing elements, uses, circulation, vegetation classifications, topographical, and architectural elements present in the park. Additionally, the design team worked with the Wilsonville Parks and Recreation Department to understand the existing uses of the park to understand how the events, rentals, sports fields, and other facilities currently function.

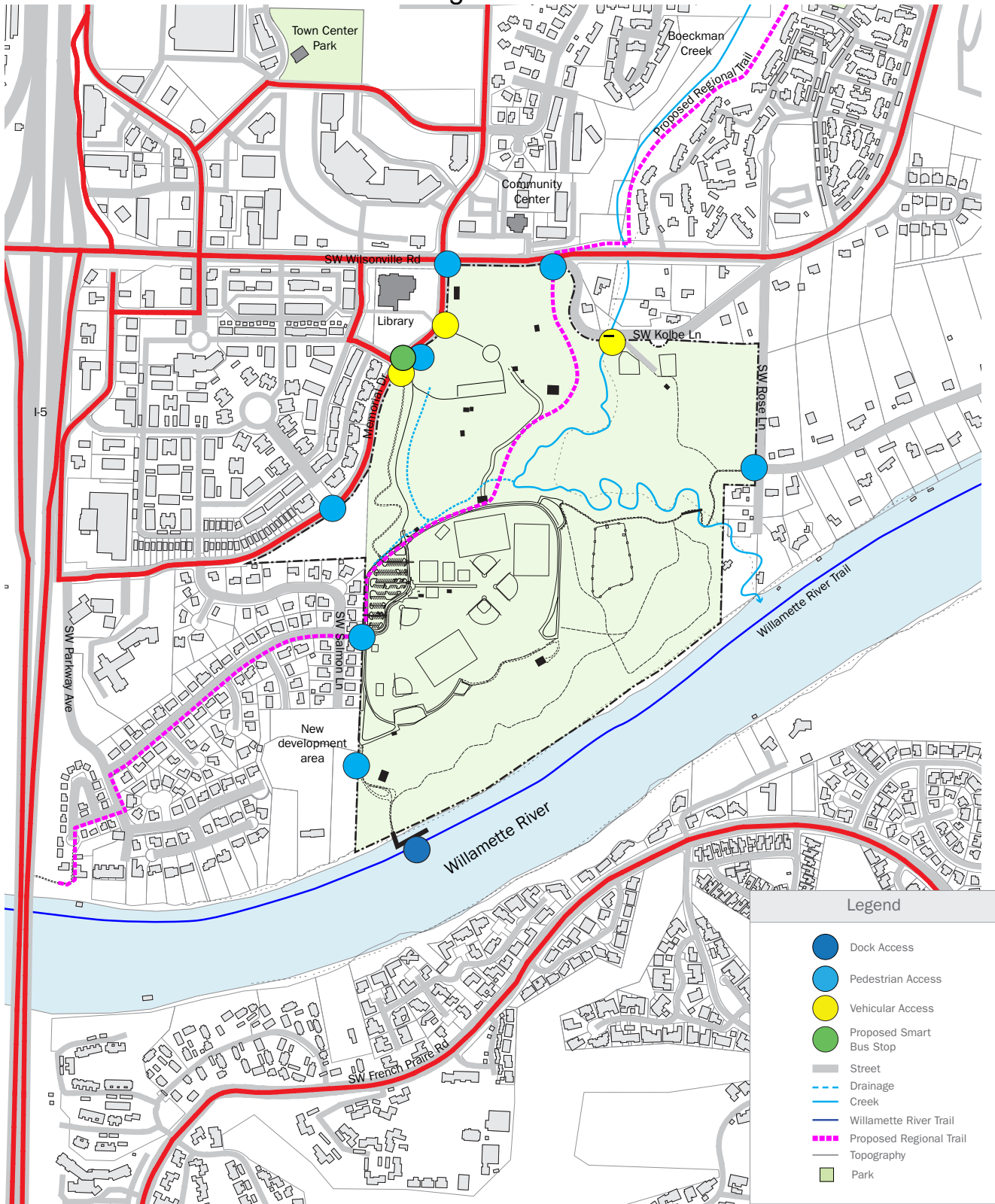


Figure 4 - **CONTEXT ANALYSIS**

The interface between Memorial Park and adjoining communities is important for providing safe and efficient access by different modes of transportation. The context analysis diagram highlights the existing types of access points and prominent circulation routes to and through the park.

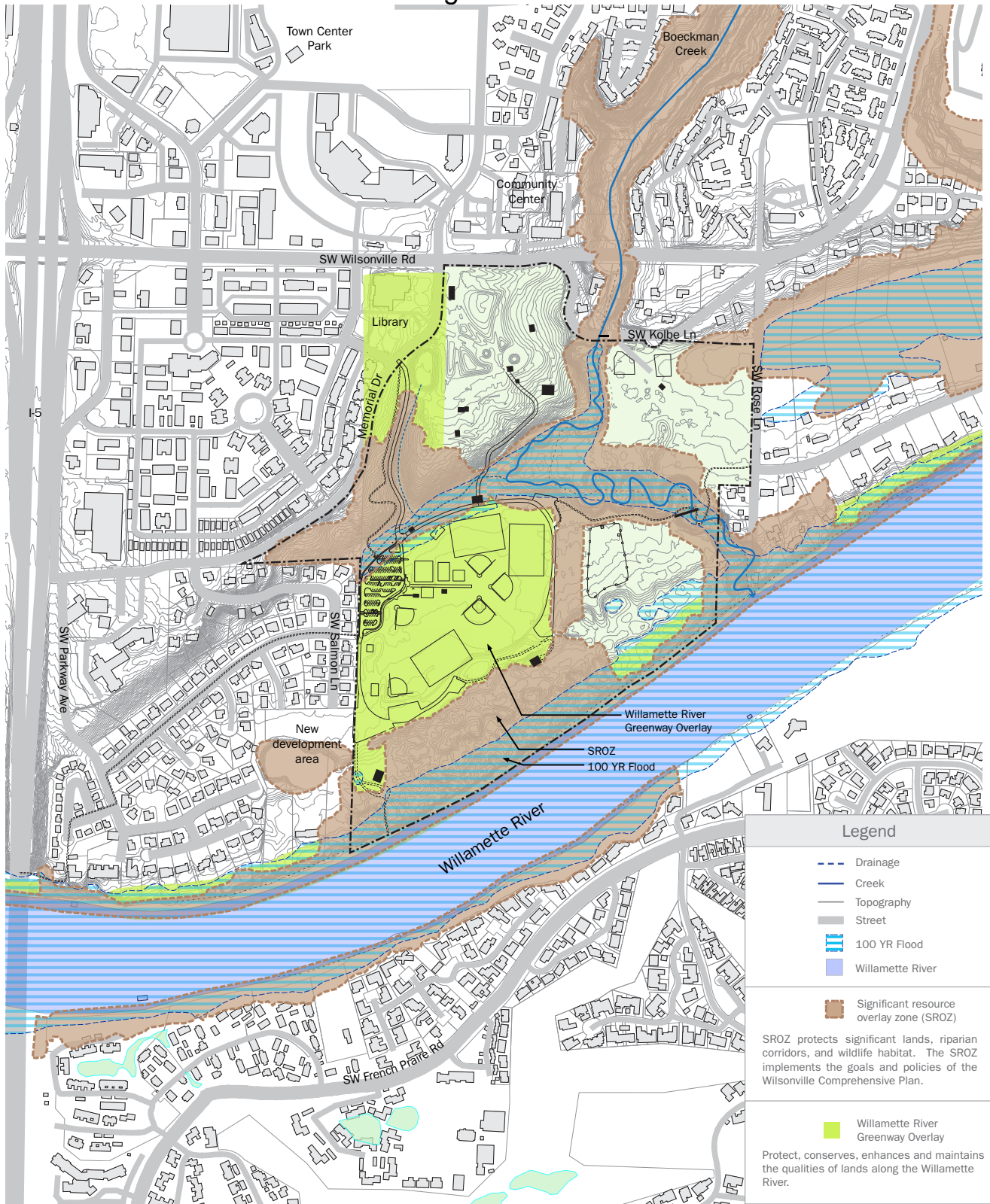


Figure 5 - REGULATIONS

Regulatory overlays provide development guidelines to protect and enhance natural areas and those adjacent to the Willamette River. The diagram maps the overlay zones that effect development within the park. These include the 100 year flood plain, Significant Resource Overlay Zone (SROZ), and Willamette River Greenway Overlay.

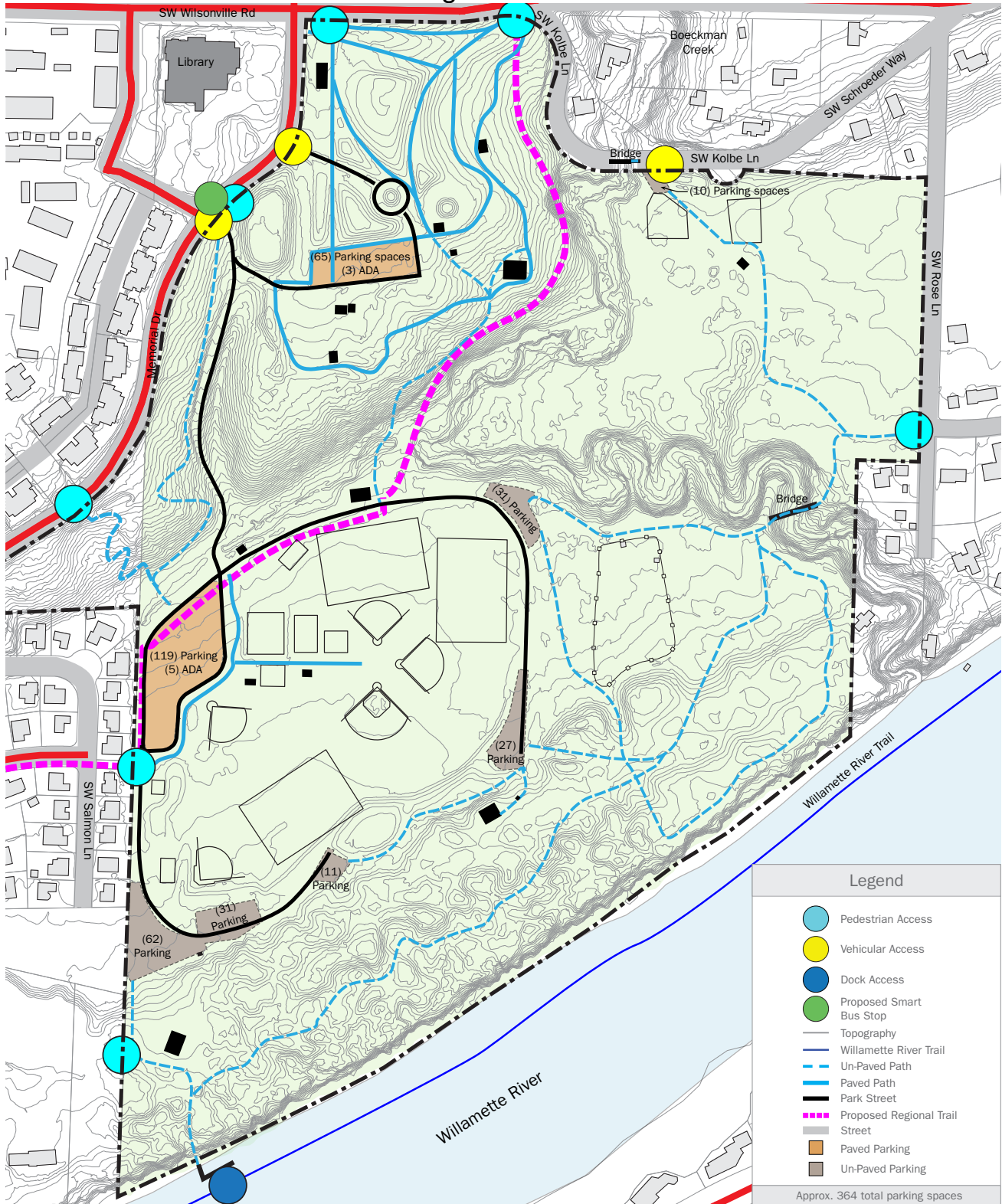


Figure 6 - CIRCULATION

Cohesive circulation throughout the park is important for safety, emergency access, user access, and way finding. The diagram maps existing locations and types of access, streets, paths, and trails. Parking lot locations and quantity of spaces are shown.

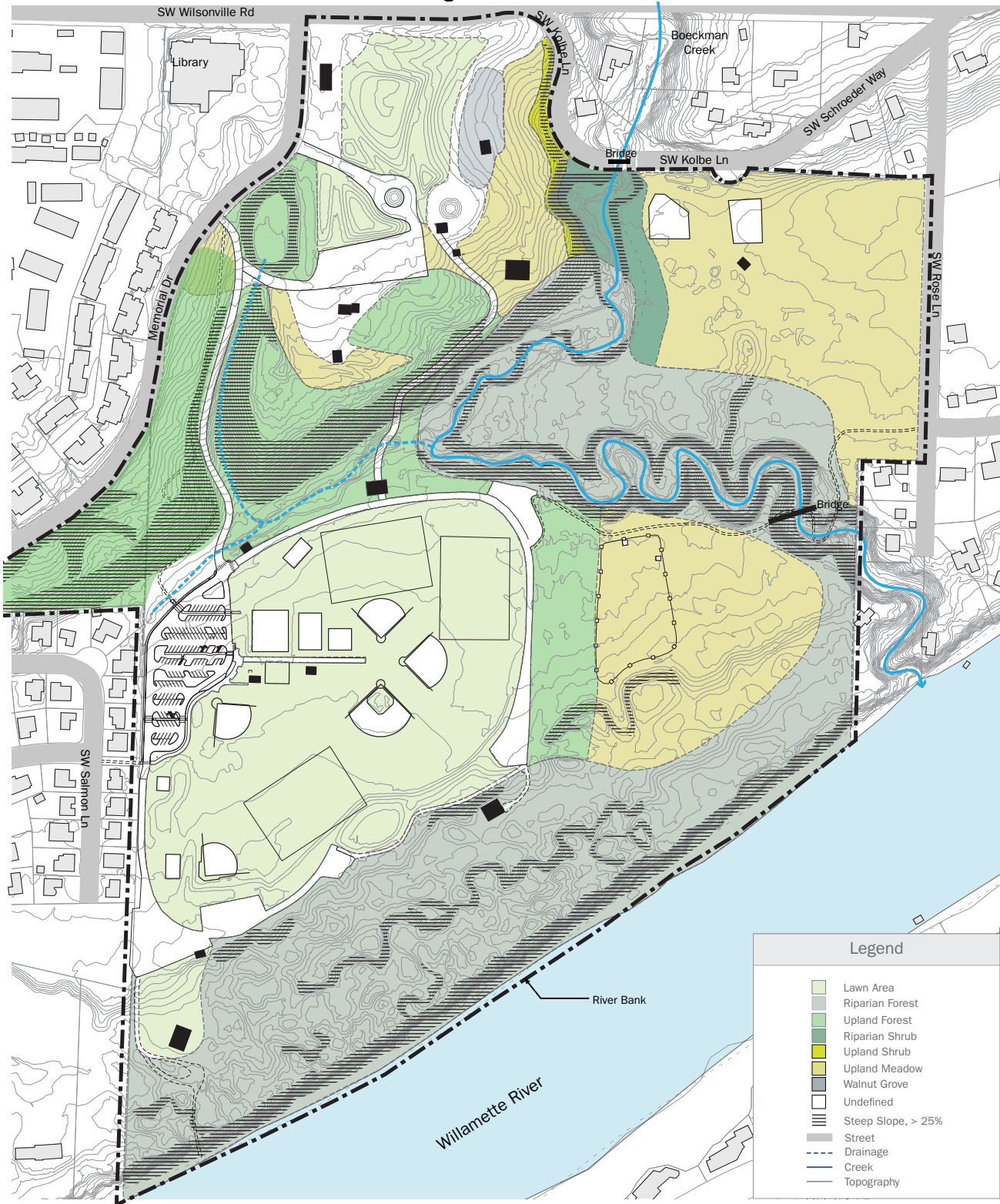
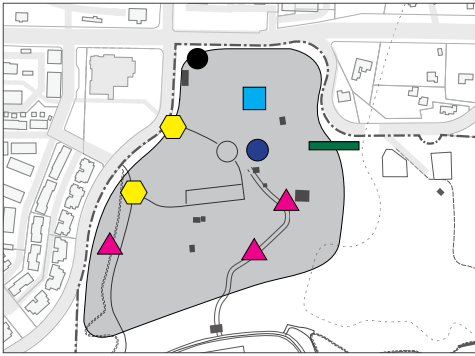


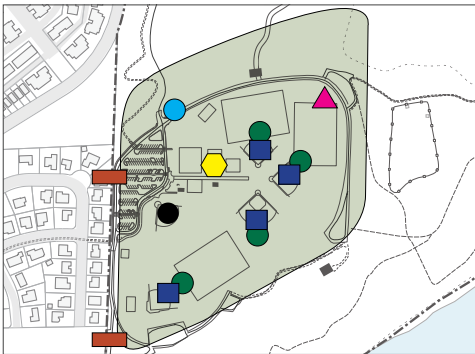
Figure 7 - VEGETATION

Natural areas are valuable resources within Memorial Park. The diagram indicates different vegetation zones, ranging from lawn areas to significant riparian forests. Steep slopes and drainages including Boeckman Creek and the Willamette River are also shown.



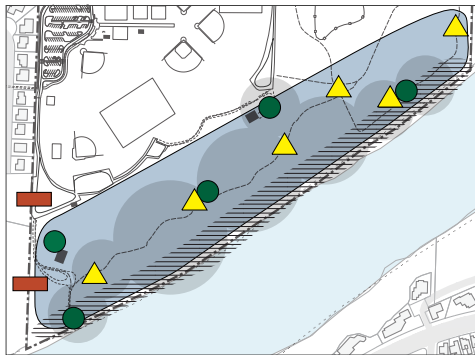
MURASE PLAZA

- High Use Area
- Under-Utilized Amphitheater
- ▲ ADA Accessibility Challenges
- ⬡ Confusing Vehicular Access
- Possible Connection to East Side
- Safety and Play Value Improvements



WEST

- Lighting Improvements at Field #4
- Pump Station Re-Location- Planned
- ▲ Drainage and Irrigation Equipment Conflict
- ⬡ Desire for Expanded Recreational Opportunities
- Sports Field/Portable Fencing Improvements
- Desire for Infield Expansion
- Neighborhood Proximity Concerns



RIVERFRONT

- ▨ Possible River Access
- Security and Safety Concerns
- ▲ Trail Improvements
- ADA Accessibility Challenges
- Neighborhood Proximity Concerns



EAST

- ▨ Available Area for Possible Use
- Community Garden Expanding to 120 Plots
- Off-leash Area Maintenance
- Parking Quality and Location
- ▲ Limited Pedestrian Access From West Side
- Natural Areas Benefits

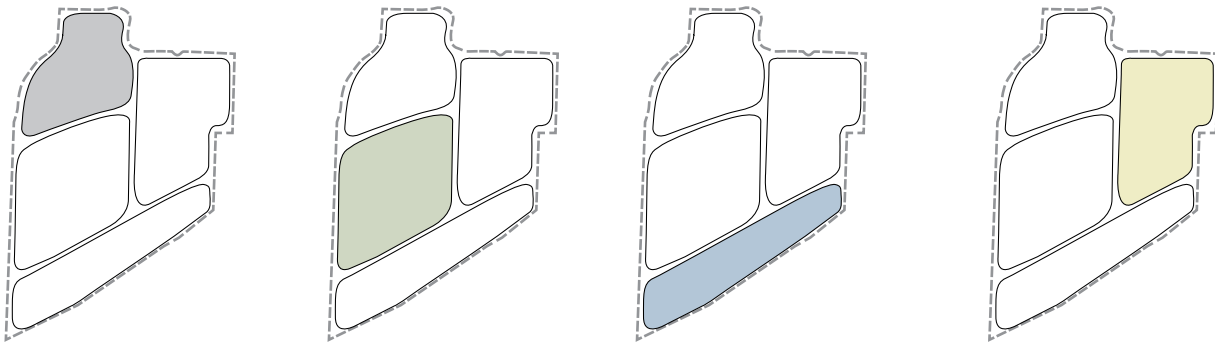
Figure 8 - CONSIDERATIONS

These diagrams indicate elements requiring consideration during the master planning process. The considerations are highlighted per area (Murase Plaza, West, Riverfront and East). Issues such as access, security and safety, connections, and opportunities and constraints are included.

Park Amenities	
Boones Ferry Park	Soccer Fields
Canyon Creek Park	Baseball/Softball Fields
Courtside Park	Basketball Court
Edelweiss Park	Sand Volleyball
Engelmann Park	Tennis/Pickleball
Graham Oaks (METRO)	Skate Park
Hathaway Park	Childrens Play Area
Memorial Park	Interactive Water Feature
Murase Plaza	Off Leash Dog Area
Park at Merryfield	Walking Trails
Picadilly Park	Barbeque Grill
River Fox Park	Picnic Tables
Sofia Park	Public Restroom
Town Center Park	Rentable Shelter
Tranquil Park	On Site Parking
Water Treatment Plant Park	
Willow Creek - Landover Park	

Figure 9 - WILSONVILLE PARK SYSTEM AMENITIES

The diagram of Wilsonville’s park system indicates park amenities present in each park. The diagram highlights the importance of Memorial Park and Murase Plaza in providing recreation for the community.



MURASE PLAZA

8.5 acres lawn
13.5 acres forest

- Water Play
- Walking / Running
- Picnic
- Playground
- Biking
- Stein-Boozier Barn

WEST

19.8 acres lawn
6.8 acres forest

- Baseball / Softball
- Soccer
- Flag Football
- Ultimate Frisbee
- Sand Volleyball
- Tennis
- Pickleball
- Basketball
- Skateboarding
- Walking / Running
- Horseshoes
- Biking

EAST

16.9 acres forest
15.1 acres meadow

- Walking / Running
- Biking
- Community Garden
- Wildlife Viewing
- Dog Park

RIVERFRONT

0.8 acres lawn
23.5 acres forest
2.6 acres meadow

- Events at Shelters
- Walking / Running
- Biking
- Movie nights (4) at River Shelter
- Boating
- Fishing

Figure 10 - MEMORIAL PARK AMENITIES

The diagrams show approximate acreage of lawn, forest, or meadow in each region of the park. Existing amenities, passive and active uses of each region are listed.

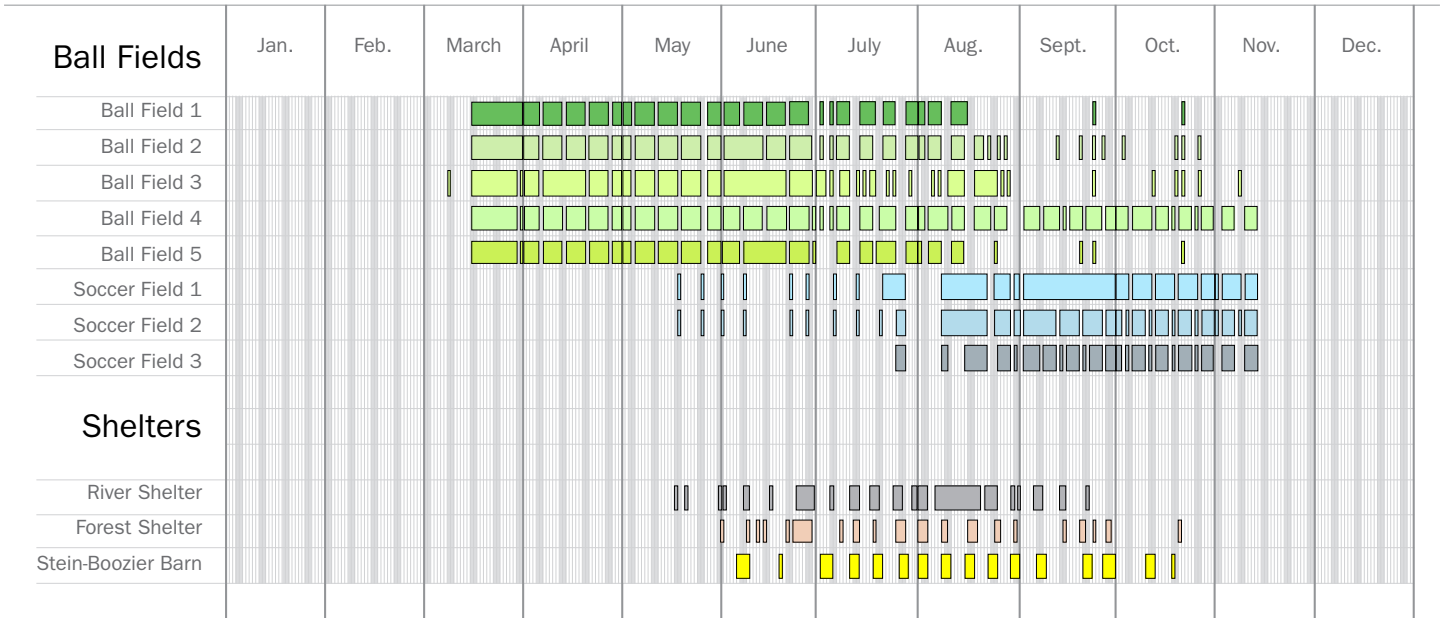


Figure 11 - BALL FIELD AND SHELTER TIME OF USE

Two primary programmatic components of Memorial Park are ball fields and rentable shelters. The diagram displays their time of use during 2014 and indicates the intensity of use in the summer months.

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V. INITIAL CONCEPTS

CONCEPT OPTIONS

With the site analysis, community comments and input from city's Parks and Recreation department, the team prepared three alternative concepts to illustrate potential options for Memorial Park. The concept plans proposed a range of recreational opportunities in a variety of locations with a diversity of ways to treat active and passive uses in the park. The options also varied regarding the impact of development to existing park features. Several improvements were common in all three concepts.

IMPROVEMENTS CONSISTENT TO ALL CONCEPTS

- *Improved safety of the intersection at Memorial Drive and Public Library access road.
- *Terraced seating at Murase Plaza fountain
- *Improved amphitheater area with terraced seating at Murase Plaza
- *Provide accessibility to Stein-Boozier Barn and upgrade the barn's exterior spaces.
- *New path from Murase Plaza east across the existing pedestrian bridge off Kolbe Lane.
- *Maintain River Shelter and Forest Shelter locations.
- *Improve clarity of trail system.
- *New parking lots to south and east of ball fields with restroom facilities
- *Relocated skate spot northeast of ball fields
- *Improve ball field traditionally wet areas and various infield and outfield maintenance issues. Fields lighted.
- *Enlarged Community Gardens
- *Relocated off-leash dog area
- *New Vegetated buffers at West and East neighborhoods.
- *Preserve and enhance natural areas.



Figure 12 - Concept Option 1

- *Regional trail eastern alignment
- *Infields enlarged at Ball fields 1,2,3
- *Ball field 5 removed
- *Maintenance Barn converted to rentable Picnic Shelter, new maintenance building at upper maintenance facility yard
- *Additional pickle ball courts and basketball courts
- *Four overlooks at riverbank with views to the river
- *Arboretum with walking trails at southeast area of the park
- *New parking lot off of Kolbe Lane with Community Gardens, off-leash dog area and Restroom
- *9 hole disc golf course in the northeast area of the park

CONCEPT OPTION 2



Figure 13 - Concept Option 2

- *Regional trail western alignment
- *Infields enlarged at Ball fields 1,2,3
- *Ball field 5 shifted east
- *Bike pump track and skills course at northeast corner
- *Small meadow openings along river trail
- *Three overlooks at riverbank with views to the river
- *Light watercraft drop off and launch at existing dock
- *Additional pickle ball courts with covered structure
- *Off-leash dog area near east parking lot
- *9 hole disc golf course in the southeast area of the park
- *New parking lot off of Rose Lane with Restroom

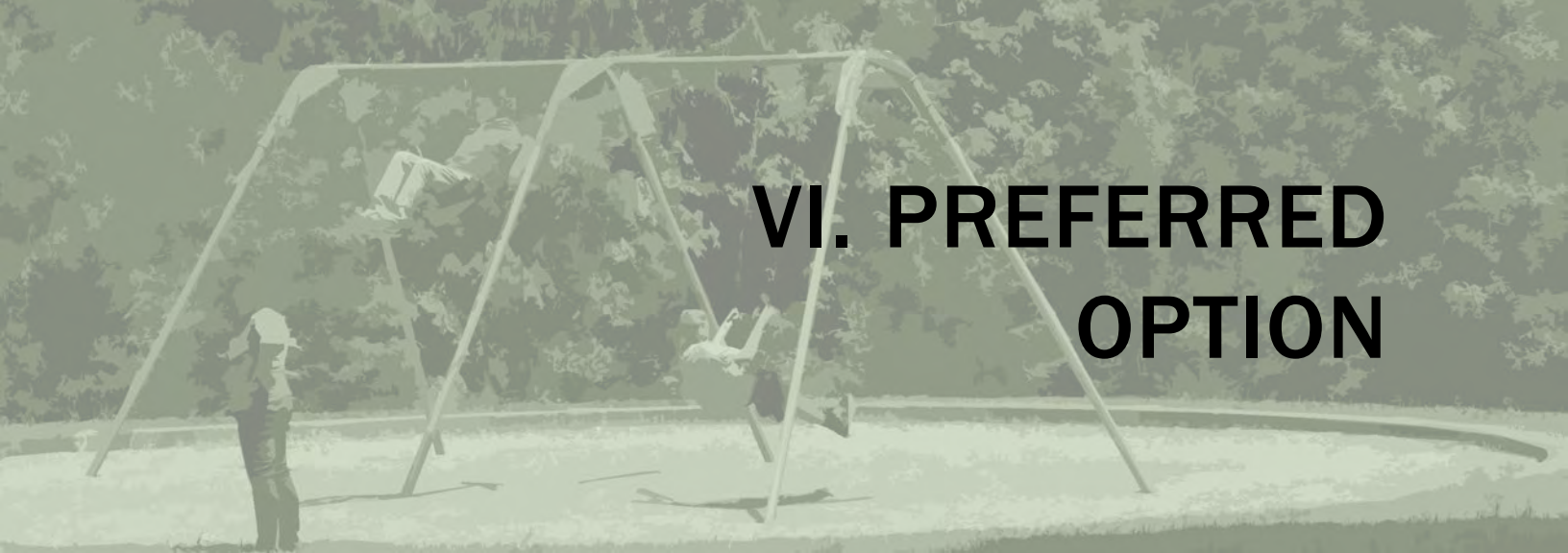
CONCEPT OPTION 3



Figure 14 - Concept Option 3

- *Regional trail western alignment
- *4 new enlarge ball fields with soccer field overlay
- *Re-aligned park road at ball fields
- *Enlarged existing parking lot at ballfields
- *Court sports, ball field restroom and play area moved southwest
- *Maintenance Barn converted to rentable Picnic Shelter, new maintenance building at upper maintenance facility yard
- *Additional pickle ball courts
- *Large beach area with meadows, a shelter with restrooms, large lawn area, beach volleyball and large views to the river
- *Three overlooks at riverbank with view shed to Willamette River
- *Two soccer fields east of existing ball fields
- *Bike pump track and skills course south of new soccer fields
- *Wetland and Meadow Gardens and trails
- *New parking lot off of Rose Lane with off-leash dog area and Restroom

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**VI. PREFERRED
OPTION**

MASTER PLAN

The Master Plan (Figure 15) is a result of desired elements of the three concepts, guided by community input from open houses and other citizen input, interaction with stakeholders, the online survey and direction from the Wilsonville Parks and Recreation Department. The Master Plan depicts the proposed layout and location of new amenities, existing facilities to remain and existing facilities to be improved.

Specific attention has been given to clarifying the vehicular and pedestrian access into the park. The parks circulation system has also been enhanced by defining a clear trail hierarchy consisting of major, minor and secondary trails creating a variety of loop walk options guiding users through a series of habitat types.

Active recreation remains the focus of the western portion of the park. The sports fields are updated to provide for programming flexibility, year around use and safer field conditions. Additional court sports are included in response to growing popularity of pickle ball and the communities need for additional tennis courts. Memorial Parks mission as a regional park is to serve a broad range of traditional and alternative recreational needs. New uses such as a bike pump track and disc golf course continue the mission by introducing activities the city does not currently have in the park system.

Passive recreation is also a large part of the current and future of Memorial Park. Interconnected walking trails move visitors through a variety of environments. A future regional trail is planned to connect through the park. A new light watercraft launch provides the public with a means of interacting with the Willamette River and river trail. Community gardens, off-leash dog area, picnic areas and disc golf provide additional passive opportunities

Emphasis was given to the preservation and enhancement of the natural environment. Dense mature stands of upland and riparian forests are maintained with low impact walking trails guiding visitors through. Park amenities have been kept away from Boeckman Creek and its riparian corridor. Open meadows with historically significant specimen trees have been protected. Views to the Willamette River have been provided at key overlook areas to visually connect to the river.



Figure 15 - MASTERPLAN



Figure 16 - ENVIRONMENTAL PLAN

The plan calls for protection and enhancement of significant natural resource areas. The Boeckmen Creek riparian corridor, forest, and meadow areas are maintained beyond the large active gathering areas such as sport fields and playgrounds.

PARK AREAS

For clarity, the master plan is discussed in four areas: Murase Plaza, West, Riverfront, and East to provide detail of the park spaces, character, composition and relation to adjacent elements and the neighboring community.

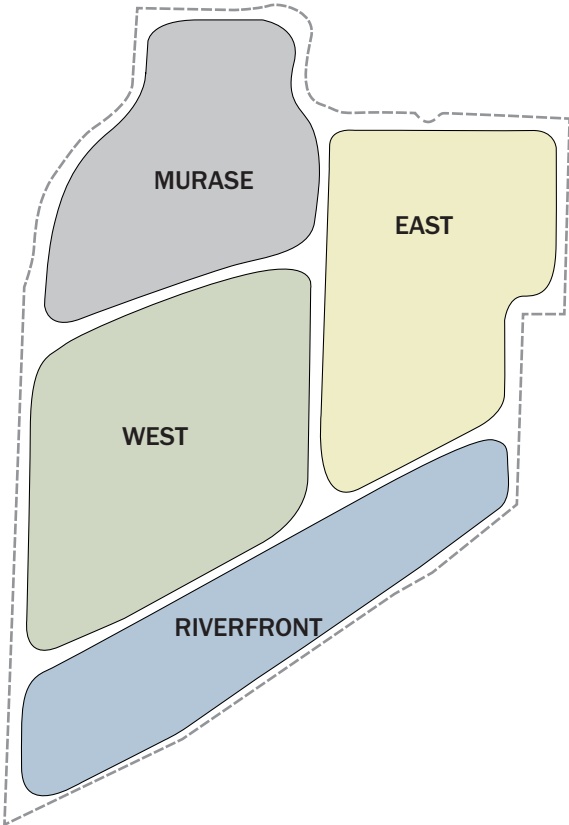
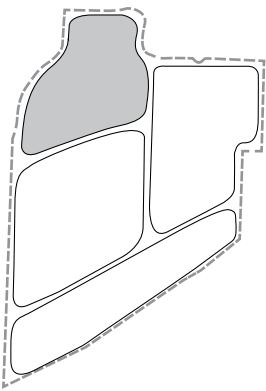




Figure 17 - MURASE PLAZA AREA ENLARGEMENT



Murase Plaza Area

- ① New Terraced Seating
- ② Updated Amphitheater with Stage
- ③ New Regional Trail
- ④ New Playground
- ⑤ Maintenance area with New Maintenance Building
- ⑥ Stein-Boozier Barn
- ⑦ New Accessible Route to Stein-Boozier Barn
- ⑧ New Gathering Space
- ⑨ New Trail from Parking Lot
- ⑩ New Trail to East with Stairs
- ⑪ Boeckmen Creek
- ⑫ Existing Parking Lot
- ⑬ Existing Walnut Grove
- ⑭ Existing Covered Picnic Area
- ⑮ Existing Pedestrian Bridge
- ⑯ Improved Pedestrian Crossing



Existing Amphitheater- Opportunity for Improvement



Grass Berm - Opportunity for Terraced Seating



Existing Walnut Grove to be Preserved



Stein-Boozier Barn - Access Improvements

MURASE PLAZA

Operating as the ‘front porch’ of Memorial Park, Murase Plaza is cherished and highly used. Improvements are proposed for the Murase Plaza area to enhance its functionality, character, and preserve historical and natural elements.

SEATING AND AMPHITHEATER

Increased seating has been requested by the community adjacent to the existing water feature at Murase Plaza (1, figure 17). The grass knoll southeast of the water feature provides an opportunity for terraced seating that will serve demand during peak use. Improvements to the existing amphitheater are provided including re-grading of the land to create terraced seating that accommodates 200 people for small performances and events (2, figure 17). The stage area is improved to support small performances such as musical groups or children’s theater while the existing walnut grove beyond is maintained as a beautiful natural backdrop.

EXISTING FACILITIES AND CIRCULATION

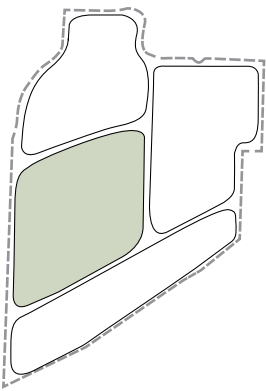
The existing parking lot, entry drive, bathrooms, playground, picnic shelters, and Stein-Boozier barn will remain in place. Access and circulation are improved. (16, figure 17) Improvements to the intersection at Memorial Drive and Library entrance provides for a safer access point to the park. A trail and stairs connecting Murase Plaza to the East side of the park is proposed (10, figure 17). The connection to the East side will utilize the existing pedestrian bridge, increasing access to the eastern parks amenities. A new regional trail alignment is planned, weaving from northeast to southwest and connecting Murase Plaza to the lower park areas (3, figure 17).

STEIN-BOOZIER BARN

A small accessible parking area off the existing parking lot connects to a new path providing universal access the Stein-Boozier barn. The barn also receives improvements to the gathering spaces on the north and south sides, accommodating revenue generating events such as weddings and corporate events. These improvements include upgraded surfacing, additional seating and planting.



Figure 18 - WEST AREA ENLARGEMENT



West Area

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 New Regional Trail 2 New Picnic Shelter with Restroom 3 New Pump Station 4 New Skate Spot 5 New Parking 6 Restroom Improvements 7 New Nature Based Play 8 (2) New Tennis Courts 9 (2) Existing Tennis Courts 10 (2) New Covered Pickle Ball Court 11 (2) New Uncovered Pickle Ball Courts 12 Update shelter with new Concessions 13 New Synthetic Turf Soccer 14 New Synthetic Turf Ballfield 15 Natural Turf Soccer and Ballfields | <ul style="list-style-type: none"> 16 Open Lawn 17 Basketball Court, (1) full court and (2) 1/4 courts 18 Sand Volleyball Court 19 Boeckmen Creek 20 Existing Parking 21 New Vegetated Buffer 22 New Synthetic Turf Area 23 Existing Play Area with new perimeter fence 24 Multi-use path with emergency / service access 25 Forest Shelter Improvements |
|---|--|



Existing Ballfield



Pickleball Example



Sand Volleyball Example



Nature Play Example

WEST AREA

The West area of Memorial Park contains major programmatic elements including ball fields, open lawn, parking, play areas, court sports and shelters.

SPORTS FIELDS

Ballfields 1,2,3,4 remain in their current locations. Ballfield 5 shifts to the east, sharing space with the open unprogrammed lawn space. The fields are significantly updated with lighting, dugouts, backstops, foul ball protection and seating improvements. Portable outfield and foul territory fencing provides flexibility at all fields to efficiently switch sports of field sizes. Ballfields 1 and 2 are upgraded to synthetic turf with drainage below, increasing the usability of the fields in terms of scheduling efficiency and seasonal extension (shown as dark colored turf, Figure 18). The synthetic turf area is extended beyond the fields to the northeast providing a flexible use/warm up space. The remaining fields and open lawn space, likely renovated, will remain natural turf.

SPORTS COURTS

Two existing tennis courts remain in place with two new courts to the north. The courts are striped for pickleball use as well. A total of 4 pickleball courts are provided. A covered spectator seating area with bleachers allows spectators to watch tennis or pickleball, with two pickleball courts sheltered from the elements. A concession building is proposed near the court sports and ball fields (12, Figure 18). The concession building has covered seating areas and can be used as registration and ceremony space for events. On the south side of the open lawn area an improved basketball court and sand volleyball court are proposed.

PLAY

The existing play area adjacent to the primary pedestrian corridor will remain and be upgraded with child security fencing (23, figure 18). A nature based play loop is incorporated offering children an alternative play experience integrated into the parks mature forest (7, figure 18). A new skate spot is located the east of the access road for safety and surveillance 4, figure 18). The skate spot is designed specifically to preserve mature trees, integrating them into the skate area.



Future Picnic Shelter with Restroom



Paved Path Example



Existing Parking Lot

STRUCTURES

Several new structures are proposed: (1) new restroom (6, figure 18) at the eastern parking lot, (1) shelter with concession at sports fields, and a new lift station to be installed . Existing facilities that will remain in place and receive upgrades to accommodate new use/capacity include: Rest room at sports fields (6, Figure 18), and existing maintenance barn to be converted to rentable picnic shelter (2, Figure 18). The Forest shelter will receive improvements to it's structure as well as site improvements including removing the berm to visually and physically to provide greater connectivity to the ballfields

TRAILS

Several trail types are proposed. The paved regional trail connects to the west into the adjoining neighborhood. A 12' major paved path runs along the southern edge of ballfields. The major path connects the two new parking lots together, providing emergency and service vehicle access as well as access to the lift station during a 100yr flood event. Soft surface trails connect to the major 12' trail. Bench seating is proposed intermittently along the regional trail and major trails.

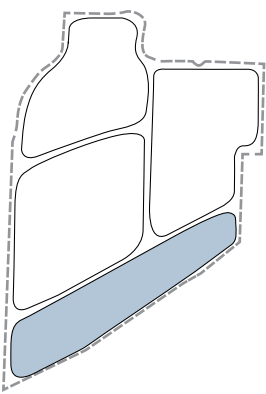
PARKING

Parking is upgraded to include two new parking areas, accommodating 214 additional spaces. The existing paved lot is renovated at the north intersection to clarify park circulation. The new lots are strategically located to provide easy access to all park uses, to be safe, protect significant vegetation, and distribute parking.

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Figure 19 - RIVERFRONT AREA ENLARGEMENT



Riverfront Area

- ① River Shelter
- ② Improved Forest Shelter with Open Lawn
- ③ New Overlook with View Corridor
- ④ New Access Turnaround
- ⑤ New River Trail
- ⑥ New Secondary Trail
- ⑦ Updated Restroom with New Concession Building
- ⑧ Improved Gravel Access Road
- ⑨ New Light Watercraft Launch at Existing Dock
- ⑩ New Vegetated Buffer
- ⑪ New Parking Lot
- ⑫ Top of Bank
- ⑬ Existing Dock



Light Watercraft Launch Example



Existing River Shelter



Existing River Trail to be Improved



Overlook Example

RIVERFRONT AREA

Proposed enhancement to Memorial Park's riverfront were influenced by the communities desire to better connect to the Willamette River. Proposed improvements enhance the natural areas and increase recreational opportunities along the river.

WATERCRAFT ACCESS

A gated gravel access road (8, figure 19) south of the new parking lot provides vehicle access to a light water craft drop-off area and existing dock. The access road can be closed off as necessary to allow for program flexibility at the River shelter.

SHELTERS

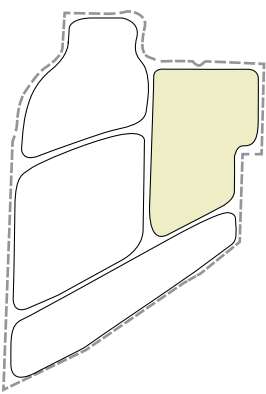
The River Shelter (1, figure 19) remains in place with the desirable open lawn and riparian forest surrounding it preserved. The forest shelter (2, figure 19) will also remain in its current location. Re-grading the near by mounds and steep slopes will provide increased visual access and security, increasing the physical and visual connection to the open lawn and ball field area. A new rest room and concession building (7, figure 19) is provided. The concession building serves dual purposes; a river-oriented concessions for revenue generation, possibly operated by a third party vendor, or a concession area serving various park events at the River shelter such as movie in the park.

TRAILS AND OVERLOOKS

Trail circulation is clarified throughout the riverfront area for ease of way finding and trail identification. The primary river trail will be improved with gravel surfacing to reduce erosion and improve the walking surface. Minor trails and connector trails will remain soft-surfaced. The trail alignment and other trail improvements minimize disturbance to existing vegetation. Where possible trails are graded to meet accessibility requirements. Overlooks are provided adjacent to the river trail, located at the top of bank to maximize views to the Willamette River, while minimizing disturbance of the riparian forest (3, figure 19). Overlooks are planned to be stone walls with benches and sized for small groups.



Figure 20 - EAST AREA ENLARGEMENT



East Area

- ① New Parking
- ② New Restroom
- ③ New Bicycle Pumptrack with Skills Course
- ④ New 9 Hole Disc Golf Course
- ⑤ Boeckmen Creek
- ⑥ Vegetated Buffer
- ⑦ Relocated Community Garden Area
- ⑧ New Access Road
- ⑨ Relocated Off Leash Dog Area with Shade Shelter
- ⑩ Relocated Small Dog Area
- ⑪ Existing Well
- ⑫ New Pedestrian Access Point
- ⑬ Meadow
- ⑭ Wet Meadow
- ⑮ 12' Major Trail
- ⑯ Pedestrian Bridge



Bicycle Pump Track Example



Disc Golf Example



Existing Community Gardens



Existing Dog Park and Shelters

EAST AREA

Within the East area the Master Plan seeks to balance passive and active recreation, maintain vegetated buffers to the adjoining neighborhood and protect and enhance the forests, meadows and significant vegetation.

PUMP TRACK

The 14,000 square foot bicycle pump track and skills course (3, figure 20) is provided as an alternative sport with an ever growing popularity encompassing a large age range. Wilsonville does not currently have a pump track. The proposed track is sized for community use, positioned near parking and for surveillance and adjacent to the skate spot to share similar active park uses. Programmatically the track can be used for public events, potentially generating revenue.

DISC GOLF

The 9 hole 5.6 acre disc golf area (4, figure 20) is located in a meadow area with large existing individual specimen and new trees. The course is sized for family play. Additional trees are proposed to be planted to enlarge the adjacent riparian forest and increase habitat value. Times of use are established to allow trails crossing the course to be enjoyed by all users at certain times of the day.

COMMUNITY GARDENS AND OFF-LEASH DOG AREA

The 0.6 acre community garden (7, Figure 20), and 1.5 acre off leash area (9, Figure 18) and located off the new access road and parking lot (1, Figure 20) for ease of access and connection to the community. The community garden shift east out to take advantage of full sunlight and is minimally larger than existing to take into account increased users over time. The off leash area is similar size as existing, and includes fencing, re-using the current shade shelters and a small dog area.



Wet Meadow Example



Natural Area to be Preserved



Specimen Tree to be Preserved

TRAILS

Trails are located throughout the east side ushering visitors through a variety of habitats types, including forest, meadow and wet meadow. a main 12' paved trail anchors the trail system providing for clear, understandable way finding. Several pedestrian access points are locating on the east side connecting the park to the neighboring community (12, Figure 20) and providing clear and direct access into the park.

ENVIRONMENTAL

The master plan emphasizes the importance of preserving and enhancing existing natural areas and improving them via additional vegetation to increase biodiversity. Boeckmen Creek is preserved as a significant riparian corridor in addition to the strategic preservation of significant trees throughout the disc golf and pump track areas. A wet meadow is established in the north east corner of the park where seasonal inundation has been documented. Trails weave through various habitats to provide the public with the opportunity to partake in passive wildlife viewing and interpretive environmental education.

Memorial park currently has several locations where the city's Natural Resources Department along with community members have vegetated portions of the park. The master plan seeks to protect these areas where possible while transplanting disturbed vegetation to other locations within the park.

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CIRCULATION AND ACCESS

The master plan clarifies the circulatory systems of the park for safety, ease of access, way finding, and recreational opportunities. The diagram illustrated the Master Plans vehicular access, circulation and parking. The dashed red multi-use path is for emergency and police access only.

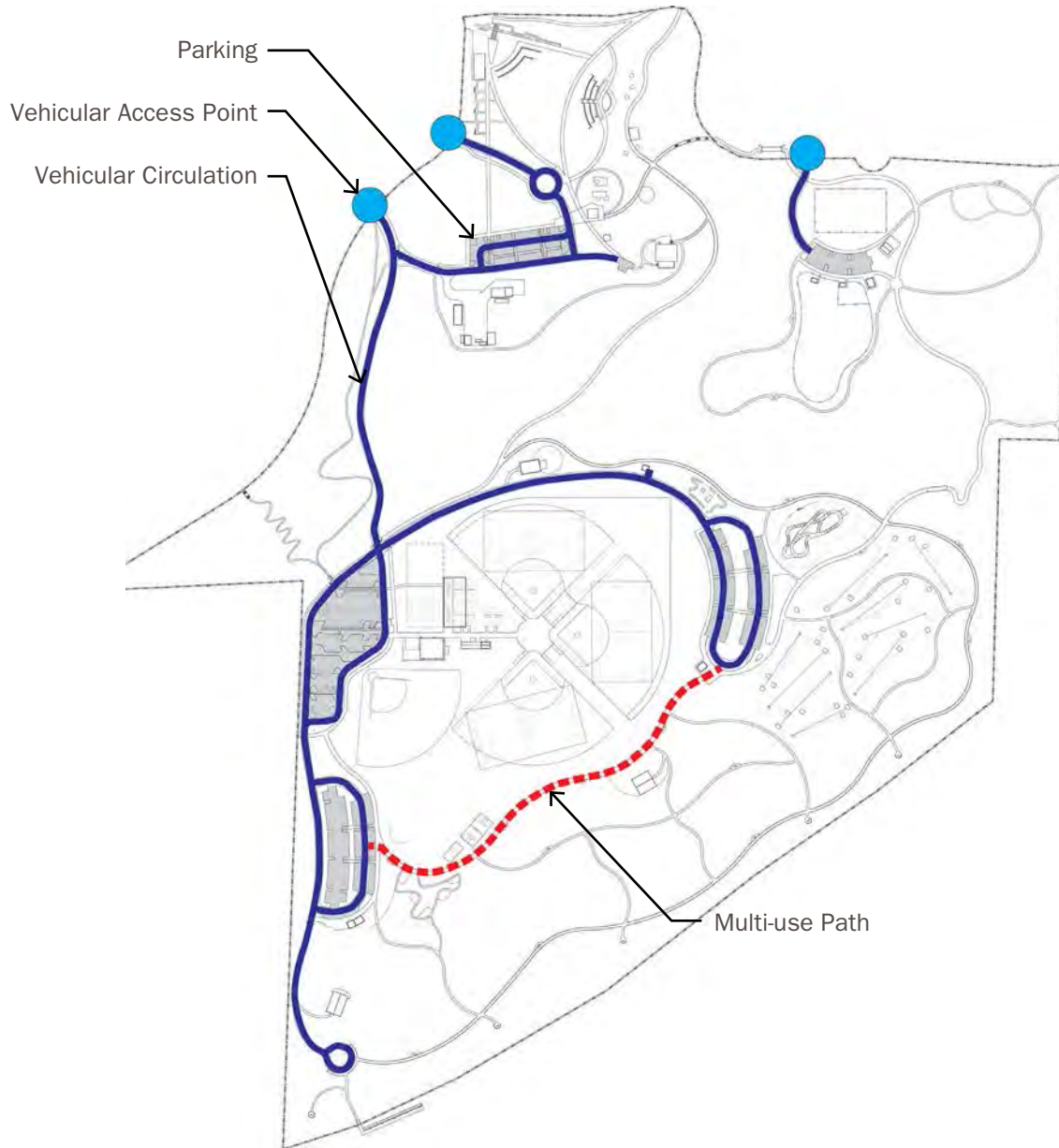


Figure 21 - VEHICULAR CIRCULATION AND PARKING

TRAILS

The master plan includes three distinct trail types. The diagram illustrates the regional trail and major trails. The city currently plans to extend the regional trail North and West beyond Memorial Park. The regional trail is a 12' paved multi use path for bikes, pedestrians and emergency vehicle use. The regional trail is designed to take user to a variety of public spaces within Wilsonville. Major trails are paved 10' wide multi-use paths for bikes, pedestrians and emergency vehicle use. Utilizing the regional trail and major trails, park users can access all park amenities. Major trails are signed and may be color coded for ease of wayfinding. Major trails may also be named to reflect the environmental habitat they run through, such as a River Trail or historical figures significant to the park, such as a Homestead Trail.

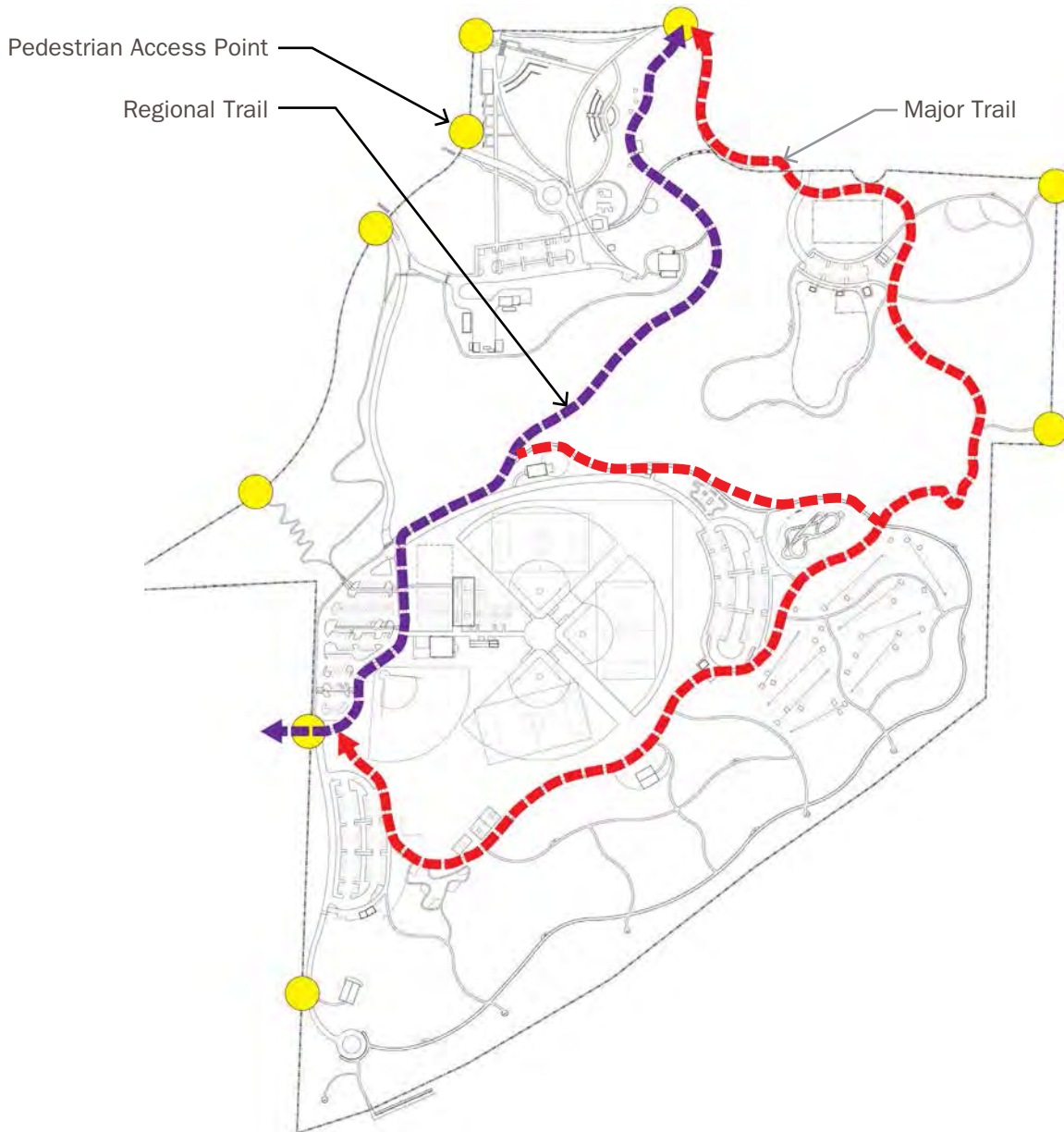


Figure 22 - REGIONAL TRAIL AND MAJOR TRAIL

TRAILS

The diagram shows loops utilizing only major trail, with the exception of the trail adjacent to the Willamette River. Loops may be color coded and signed to provide for casual walking loops or for events, such as cross country meets.

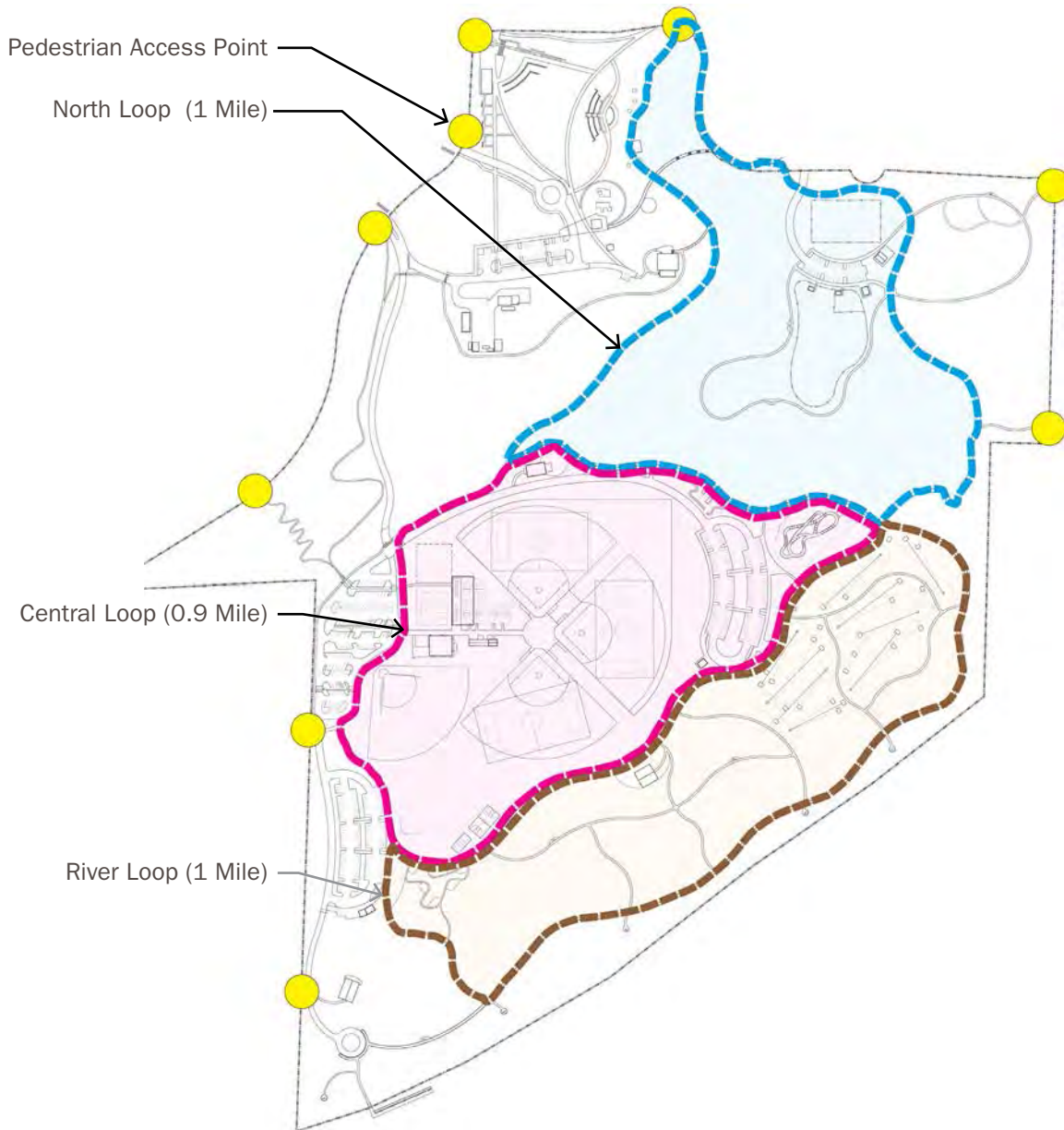


Figure 23 - MAJOR TRAIL LOOPS

TRAILS

The diagram shows locations of secondary trails in addition to major trails, depicting the entirety of Master Plan's trail system. Secondary trails are 4-6' wide and serve as linkages to major trails and connections to adjacent neighborhoods. Secondary trails are paved or soft surfaced depending upon location within the park, accessibility desires, grading conditions and adjacent uses.

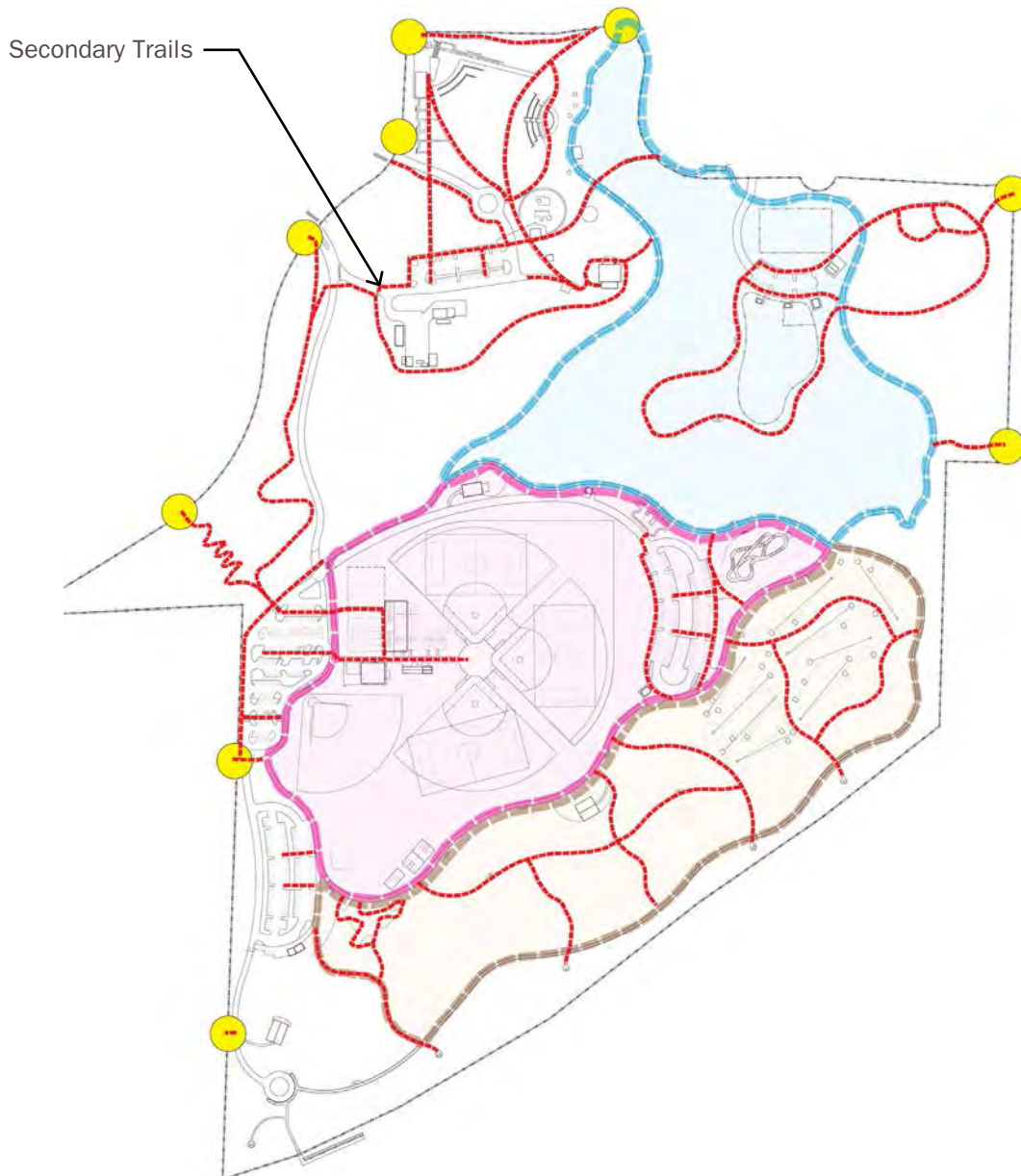


Figure 24 - **SECONDARY TRAILS**

PRIORITIES

The following revenue, operations, maintenance and costing were explored during the Master Plan process to aid the Parks Department and City in determining priorities for future facility upgrades and park development outlined in the Master Plan. As the communities needs for recreational growth are considered, the financial information presented will assist city officials in determining budget allocation of park amenities to meet the recreational demands as well as provide baseline information to increase current revenue potential.

REVENUE AND OPERATIONS

As part of the Master Plan update, the team reviewed revenue and operation expenses of the current park and for the proposed Master Plan of the park. The full study of park revenue scenarios and potential operation expenses is included in the appendix.

PARK REVENUES

The study addresses the existing revenues and potential revenue scenarios for the preferred master plan. Existing revenue focused on the three existing rentable shelters, while new revenue sources included: Community gardens, Amphitheater/stage, pickleball, bike pump track, disc golf course and a water based concessionaire. Additional community garden plots and the amphitheater at Murase plaza will generate additional revenue based upon rentable fees. Amenities such as pickleball, bike pump track, and disc golf have potential to host small

tournaments, however the event size may fall below the 250 person minimum for current special use permits; therefore assigning potential revenue to those amenities is not currently feasible. A seasonal water-based vendor near the existing dock provides additional revenue while providing the public with accessible watercraft and water related materials to access the river. In assessing the revenue potential for the parks sports fields, the presumed scenario is that this mix of fields will be utilized for local and metro area tournaments. However, the complex may not be large enough to generate increased utilization of local hotels.

Revenue scenarios (Figure 25) were generated to illustrate potential future revenue. Three scenarios were calculated to include the following:

- *High-growth option, which includes an 80% peak period utilization for shelters and barn, the installation of a water-based concessionaire, and increased usage of sport and event facilities.

- *Moderate-growth option, which is primarily driven by a 50% peak period utilization for shelters and barn, along with modest increases in the usage of sport and event facilities.

- *No-growth option, which maintains the utilization of facilities from the 2014 season, in addition to the third picnic shelter and community gardens.

It must be noted that a number of factors may influence the City’s potential to generate these revenues. These factors include the City’s capacity to promote availability and capture reservations, competition from other venues, seasonality, and the state of the overall local economy and people’s willingness to spend.

Source	2014 (Actuals)	High Growth	% Incr	Moderate Growth	% Incr	No Growth	% Incr
River Shelter	\$ 8,870.82	\$ 26,112.50	194%	\$ 16,465.00	86%	\$ 11,225.00	27%
Forest Shelter	\$ 7,678.50	\$ 21,886.25	185%	\$ 13,800.00	80%	\$ 4,843.75	-37%
Splash Shelter	\$ 848.00	\$ 1,450.00	71%	\$ 1,080.00	27%	\$ 875.00	3%
Maintenance Barn Shelter	NA	\$ 26,112.50		\$ 16,465.00		\$ 11,225.00	
Stein-Boozier Barn	\$ 10,815.00	\$ 95,933.25	787%	\$ 60,789.00	462%	\$ 40,221.00	272%
Murase Plaza	\$ -						
Fields: Reduced Fee Youth	\$ 8,001.50	\$ 10,000.00	25%	\$ 9,000.00	12%	\$ 8,000.00	0%
Fields: Other	\$ 2,664.75	\$ 3,200.00	20%	\$ 3,000.00	13%	\$ 2,700.00	1%
Special Events	\$ 8,812.50	\$ 4,400.00	-50%	\$ 4,000.00	-55%	\$ 3,400.00	-61%
Community Gardens - raised bed	\$ 375.00	\$ 750.00	100%	\$ 750.00	100%	\$ 375.00	0%
Community Gardens - in-ground	\$ 2,178.00	\$ 2,640.00	21%	\$ 2,640.00	21%	\$ 2,178.00	0%
Watercraft Concessionaire	NA	\$ 4,500.00		\$ -		\$ -	
	\$ 50,244.07	\$ 196,984.50		\$ 127,989.00		\$ 85,042.75	

Figure 25 - REVENUE SCENARIOS BY FACILITY

Park Feature	Unit	Labor Hours per Year per Unit	No. Units	Labor Hours per Year	Labor-related Cost per Year	Materials & Services per Yr	Total Cost per Year
Labor-related costs							
Large turf areas	per acre	52.0	15.0	780.0	\$ 19,500	\$ 3,000	\$ 22,500
Small/medium turf areas	per acre	52.0	3.0	156.0	\$ 3,900	\$ 600	\$ 4,500
Shrub beds	per 1000sf	52.0	12.0	624.0	\$ 15,600	\$ 500	\$ 16,100
Flower beds	per 1000sf	26.0	2.0	52.0	\$ 1,300	\$ 250	\$ 1,550
Planted trees	per tree	13.0	12.0	156.0	\$ 3,900	\$ 1,000	\$ 4,900
Hard surfaces	per 1000sf	3.0	200.0	600.0	\$ 15,000	\$ 250	\$ 15,250
Soft-surface paths/areas	per 1000sf	2.0	50.0	100.0	\$ 2,500	\$ 500	\$ 3,000
Turf multi-use fields	per field	52.0	3.0	156.0	\$ 3,900	\$ 3,000	\$ 6,900
Turf softball fields	per field	85.0	5.0	425.0	\$ 10,625	\$ 1,000	\$ 11,625
Irrigation system	per acre (irrigated)	10.0	28.0	280.0	\$ 7,000	\$ 8,000	\$ 15,000
Structures - clean/inspect/repair	per structure	35.0	5.0	175.0	\$ 4,375	\$ 250	\$ 4,625
Restrooms - clean & re-supply	per restroom	80.0	4.0	320.0	\$ 8,000	\$ 5,000	\$ 13,000
Play equipment - inspect & repair	per structure	48.0	2.0	96.0	\$ 2,400	\$ 1,000	\$ 3,400
Leaf removal	per acre (dev)	7.0	30.0	210.0	\$ 5,250	\$ 1,500	\$ 6,750
Storm debris	per acre (dev)	3.0	30.0	90.0	\$ 2,250	\$ 1,000	\$ 3,250
Security check & litter removal	per total acre	26.0	1.0	26.0	\$ 650	\$ 100	\$ 750
Empty trash cans	per can	30.0	30.0	900.0	\$ 22,500	\$ 1,000	\$ 23,500
Non-routine projects	per total acre	120.0	1.0	120.0	\$ 3,000	\$ 500	\$ 3,500
Contracted costs							
		Cost/Unit					
Water service	per acre (irrigated)	\$ 3,080	25.0			\$ 77,000	\$ 77,000
Solid waste service	per bin	\$ 1,800	1.0			\$ 1,800	\$ 1,800
Electricity service	per acre (dev)	\$ 1,400	25.0			\$ 35,000	\$ 35,000
Porta-potty service	per each	\$ 900	5.0			\$ 4,500	\$ 4,500
Contract repairs	per acre (dev)	\$ 250	1.0			\$ 250	\$ 250
Landscape maintenance service	per acre (dev)	\$ 500	1.0			\$ 500	\$ 500
Equipment rental	per acre (dev)	\$ 750	3.0			\$ 2,250	\$ 2,250
Equipment repair & maintenance	per acre (dev)	\$ 1,000	5.0			\$ 5,000	\$ 5,000
Totals				5266	\$ 131,700	\$ 154,800	\$ 286,400

Figure 26 - OPERATIONS AND MAINTENANCE EXPENSES BY FEATURE (2014)

Park Feature	Unit	Labor Hours per Year per Unit	No. Units	Labor Hours per Year	Labor-related Cost per Year	Materials & Services per Yr	Total Cost per Year
Labor-related costs							
Large turf areas	per acre	52.0	14.1	733.2	\$ 18,330	\$ 3,000	\$ 21,330
Small/medium turf areas	per acre	52.0	3.4	176.8	\$ 4,420	\$ 700	\$ 5,120
Shrub beds	per 1000sf	52.0	47.0	2444.0	\$ 61,100	\$ 1,500	\$ 62,600
Flower beds	per 1000sf	26.0	3.0	78.0	\$ 1,950	\$ 400	\$ 2,350
Planted trees	per tree	13.0	40.0	520.0	\$ 13,000	\$ 1,000	\$ 14,000
Hard surfaces	per 1000sf	3.0	382.7	1148.1	\$ 28,703	\$ 1,500	\$ 30,203
Soft-surface paths/areas	per 1000sf	2.0	50.0	100.0	\$ 2,500	\$ 500	\$ 3,000
Turf multi-use fields	per field	52.0	1.0	52.0	\$ 1,300	\$ 2,500	\$ 3,800
Turf softball fields	per field	85.0	3.0	255.0	\$ 6,375	\$ 800	\$ 7,175
Synthetic turf fields	per field	42.0	3.0	126.0	\$ 3,150	\$ 500	\$ 3,650
Irrigation system	per acre (irrigated)	10.0	22.0	220.0	\$ 5,500	\$ 8,000	\$ 13,500
Structures - clean/inspect/repair	per structure	35.0	7.0	245.0	\$ 6,125	\$ 400	\$ 6,525
Restrooms - clean & re-supply	per restroom	80.0	6.0	480.0	\$ 12,000	\$ 7,500	\$ 19,500
Play equipment - inspect & repair	per structure	48.0	4.0	192.0	\$ 4,800	\$ 2,000	\$ 6,800
Leaf removal	per acre (dev)	7.0	35.0	245.0	\$ 6,125	\$ 1,500	\$ 7,625
Storm debris	per acre (dev)	3.0	35.0	105.0	\$ 2,625	\$ 1,000	\$ 3,625
Security check & litter removal	per total acre	36.0	1.0	36.0	\$ 900	\$ 100	\$ 1,000
Empty trash cans	per can	30.0	36.0	1080.0	\$ 27,000	\$ 1,000	\$ 28,000
Non-routine projects	per total acre	200.0	1.0	200.0	\$ 5,000	\$ 500	\$ 5,500
Contracted costs							
		Cost/Unit					
Water service	per acre (irrigated)	\$ 3,080	22.0			\$ 67,760	\$ 67,760
Solid waste service	per bin	\$ 1,800	2.0			\$ 3,600	\$ 3,600
Electricity service	per acre (dev)	\$ 1,400	35.0			\$ 49,000	\$ 49,000
Porta-potty service	per each	\$ 900	5.0			\$ 4,500	\$ 4,500
Contract repairs	per acre (dev)	\$ 250	1.0			\$ 250	\$ 250
Landscape maintenance service	per acre (dev)	\$ 500	1.0			\$ 500	\$ 500
Equipment rental	per acre (dev)	\$ 750	6.0			\$ 4,500	\$ 4,500
Equipment repair & maintenance	per acre (dev)	\$ 1,000	8.0			\$ 8,000	\$ 8,000
Totals				8436	\$ 210,900	\$ 172,500	\$ 383,400

Figure 27 - OPERATIONS AND MAINTENANCE EXPENSES FOR MASTER PLAN

OPERATING EXPENSES

The annual operations and maintenance of Memorial Park are a significant on-going expense. The pace of future park improvements will be informed, in part, by the likely operations impacts to the City budget. Figure 26 illustrates the current maintenance expenses for Memorial Park by major work area. The development of the preferred master plan will result in additional maintenance obligations for the City. The annual operating costs for the preferred master plan are estimated to be approximately \$383,000 (2015), approximately \$100,000 higher than the current maintenance costs. The largest impacts to the costs for the preferred master plan are due to increased quantities for hard surfaces. Figure 27 shows operation and maintenance expenses for the full build out of the Master Plan. As the City considers incremental or phased improvements to Memorial Park, the projected maintenance costs should be re-evaluated.

ADDITIONAL CONSIDERATIONS

Policy and marketing considerations may result in enhanced future revenue from construction of the preferred master plan. There is potential for the city to seek out and leveraged partnerships to either help offset maintenance costs or conditionally expand facilities

In advance of implementing the preferred master plan, the City should consider reaching out specifically to user groups for three facilities: off-leash area, pump track and disc golf.

- *Seek out advocates for off-leash areas to organized into non-profit (501C3) entities to create a vehicle for fundraising for off-leash area maintenance and acting as a source of volunteers to clean-up days or special fundraising events.

- * For the pump track, seek to develop a volunteer base of cyclists for seasonal work parties, clean-ups and (re)construction activities.

- * Similarly, the City can seek the support of local disc golf enthusiasts and clubs for assistance in laying out, installing and maintaining the disc golf course.

COSTS

Utilizing the proposed Master Plan, an estimate of Probable Costs was generated (figure 28). The estimate will be used by the parks department to aid in assessment of priority projects. Costs are broken down into categories and specific improvements, utilizing April 2015 industry standard costs.

Earthwork	
Site Demolition	\$121,500
Site Grading	\$655,500
Total	\$777,000
Parking and Trails	
NE Parking Lot	\$40,000
E Parking Lot	\$163,500
SW Parking Lot	\$144,500
Gravel Road at Watercraft Launch	\$22,500
Asphalt Trails	\$323,500
Soft Surface Trails	\$144,000
Boardwalk	\$100,000
Total	\$938,000
Sports Fields and Courts	
Synthetic Turf Ballfields #1, 2, incl. Movable Fences, Backstops, Dugouts, Goals	\$2,571,500
Natural Turf Ballfields #3,4,5, incl. Movable Fences, Backstops, Dugouts, Goals	\$517,000
Pickleball Courts, incl. Structure and Bleachers	\$553,000
Basketball Courts	\$67,500
Tennis Courts	\$250,000
Sand Volleyball Court	\$9,500
Total	\$3,968,500
Site Improvements	
Off-Leash Dog area	\$55,500
Skate Spot	\$192,000
Bike Pump Track	\$31,000
Community Garden	\$85,000
9 Hole Disc Golf Course	\$22,000
Playground at Court Sports Area	\$8,500
Nature Play Area	\$25,000
Amphitheater and Terraced seating	\$177,500
Total	\$596,500
Buildings	
New Upper Maintenance Facility Building	\$285,000
Restroom at Tennis Court	\$172,000
Restroom at E Parking lot	\$82,000
Restroom and Concessions at SW Parking lot	\$152,000
Concessions near Ballfields	\$100,000
Restroom at NE Parking lot	\$82,000
New Shelter at Lower Maintenance Barn	\$334,000
Total	\$1,207,000
Site Amenities	
Dock Launch	\$42,000
Site Furnishings	\$70,000
Planting and Irrigation	\$393,500
Utilities- Water, Sanitary, Storm	\$113,500
Utilities- Electrical incl. Ballfield Lighting	\$1,114,000
Total	\$1,733,000
Total	\$9,220,000
Estimated Contingency - 10%	\$922,000
General Conditions / Insurance / Bond - 10%	\$1,014,200
General Contractor OH & Profit - 4%	\$446,248
Total	\$11,602,448
The above estimates are for direct construction cost only. They do not include furnishings & equipment, architect and engineer design fees, consultant fees, inspection and testing fees, plan check fees, state sales tax, hazardous	

Figure 28 - ESTIMATE OF PROBABLE COST

PHASING

The following is a proposed phasing approach that assumes the proposed facility upgrades and new amenities will be developed in three separate phases. Figure 29 outlines the proposed phases and amenities included in each phase.

The phasing is proposed and should be re-evaluated as-needed based on Wilsonville’s evolving recreational needs, community desires and the city’s available funding.

Phase One	
Northeast Parking Lot	\$ 40,000
East Parking Lot	\$ 163,500
Relocation of Off-Leash Dog Park	\$ 55,500
Bicycle Pump Track	\$ 31,000
Restroom Facilities (Dog Park Area/Community Garden; East Parking Lot)	\$ 164,000
Community Garden Expansion & Improvements	\$ 85,000
9 Hole Disc Golf Course	\$ 22,000
Sub-total for Phase One	\$ 561,000

Phase Two	
Southwest Parking Lot	\$ 144,500
Synthetic Turf Ballfields #1 & #2 (Incl. Movable Fences, Backstops, Dugouts, Goals)	\$ 2,571,500
Natural Turf Ballfields #3, #4, & #5 (Incl. Movable Fences, Backstops, Dugouts, Goals)	\$ 517,000
Skate Park	\$ 192,000
Unmotorized Watercraft Concession Area	\$ 70,000
Food Concession Area	\$ 100,000
Fencing for Playground at Court Sports Area	\$ 8,500
Miscellaneous Site Furnishings	\$ 70,000
Landscape Irrigation & Planting Materials	\$ 393,500
Restroom Facilities (South Parking Lot; Tennis Courts)	\$ 254,000
Sub-total of Existing Conditions (Site Demo)	\$ 121,500
Sub-total of Earthwork (Site Grading)	\$ 655,500
Sub-total of Utilities	\$ 1,227,500
Sub-total for Phase Two	\$ 6,325,500

Phase Three	
Paths (Gravel Road at Watercraft Launch, Asphalt Trails, Soft Surface Trails, Boardwalk)	\$ 590,000
Courts (Basketball, Pickleball (Incl. Structure & Bleachers), Tennis, Sand Volleyball)	\$ 880,000
New Shelter & Restrooms at Lower Maintenance Barn	\$ 334,000
Amphitheater and Terraced Seating	\$ 177,500
New Upper Maintenance Facility	\$ 285,000
Nature Play Area	\$ 25,000
Dock Launch	\$ 42,000
Sub-total for Phase Three	\$ 2,333,500

Estimating Contingency	\$ 922,000
General Conditions/Insurance/Bond	\$ 1,014,200
General Contractor OH & Profit	\$ 446,248
Sub-total	\$ 2,382,448

Total Direct Construction Cost	\$ 11,602,448
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The above estimates are for direct construction cost only. They do not include furnishings & equipment, architect and engineer design fees, consultant fees, inspection and testing fees, plan check fees, state sales tax, hazardous material testing and removal, financing costs, owners contingency, nor any other normally associated development costs.

Figure 29 - PROPOSED PHASING



Figure 30 - MASTERPLAN

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A faded, grayscale background image of a park. In the foreground, several people and dogs are visible. On the left, two people stand near a dog. In the center, a person is walking. On the right, another person is walking. The background is filled with trees and foliage.

VII. APPENDIX

PUBLIC OPEN HOUSE 1 MEETING NOTES

Wilsonville City Hall, November 5th, 2014

- | | |
|---|---|
| <p>1 No synthetic” turf upgrades requested at sports fields</p> <p>2 Infield distance increase to 60’ mound / 90’ base to support adult softball leagues</p> <p>3 No adult specific ball fields available in Wilsonville? People go elsewhere</p> <p>4 Lighting is a safety issue throughout park</p> <p>5 Flat NE meadows area becomes inundated in winter/spring, undevelopable?</p> <p>6 Some concerns expressed about quantity of parking available if community garden is expanded</p> <p>7 Community garden could be moved elsewhere to accommodate additional use, or used as a buffer itself around parking on East side</p> <p>8 Skate park is well used despite its small size and lack of features. Should be enlarged.</p> <p>9 A large skate park project is planned elsewhere in Wilsonville</p> <p>10 A trail system/trailhead layout was suggested, consisting of 3 trail lengths which would be color coded for easy recognition, i.e.: green 3/4mi, blue 1.5mi, red 3mi loops</p> <p>11 A trailhead/kiosk providing trail information route length etc is needed</p> <p>12 Waterfountains are needed throughout, nowhere to fill up your water bottle, difficult to fill bottles at existing fountains</p> <p>13 Re-vegetating informal trails in Riverfront area may not be beneficial since kids still ride their bikes there regardless, moving tree limbs or riding over them</p> <p>14 Residents do not want increased development on the East side</p> <p>15 Not much concern was expressed for a pedestrian connection from Murase plaza to the East side</p> <p>16 Pickle ball tournaments can attract 75-100 people, along with concessions etc, (USAPA.com)</p> | <p>17 Residents enjoy walking in the dog park and East side because of natural areas</p> <p>18 Walking through the river front area at night can be “sketchy”</p> <p>19 Benches are needed throughout the entire park, additional seating needed at water feature area during high use</p> <p>20 Bus access needed into site. Park is large for only 1 planned stop</p> <p>21 Basketball is used a lot</p> <p>22 Trail lighting is needed</p> <p>23 Loop road concerns originated from kids racing around it, thus its original removal</p> <p>24 The trail from Murase plaza to lower park is steep and not ADA compliant</p> <p>25 Guided history trips could be a use for the water trail. Park could be a stop along the way</p> <p>26 At the West parking area the vehicular gate blocks pedestrian walkway</p> <p>27 The amount of bicycle use on un-paved paths is not currently and issue</p> <p>28 The playground located at west area near fields could be doubled in size, heavily used to ease of access and adjacency to parking</p> <p>29 Pickle ball in barn - ?</p> <p>30 A rhododendron or wetland garden were suggested</p> <p>31 Passive uses suggested for the East side</p> <p>32 More trails in the East side suggested</p> <p>33 A route to the dock would be beneficial</p> <p>34 It was suggested that there is no need to reconnect the loop road</p> <p>35 Loop trail in the wood suggested</p> <p>36 All fields need new lighting</p> <p>37 All fields need better drainage</p> <p>38 There could be a small concert stage on the East side</p> <p>39 Interest in having concessions for tournaments</p> <p>40 Could the pump station go in the old Nike wellhouse?</p> <p>41 Turf fields (infields?) suggested</p> |
|---|---|

- 42 Possible restroom by forest shelter suggested
- 43 Users would like to see more pickle ball courts

PUBLIC OPEN HOUSE 2 MEETING NOTES

Wilsonville City Hall, December 16th, 2014

- 1 An overview of the Wilsonville park system would help the public understand and validate proposed program and enhancements
- 2 Covered pickleball courts would enhance play and increase seasonal usability
- 3 Easier kayak launching would be beneficial
- 4 The river is not an attractive swimming destination
- 5 Trees should not be cleared in order to create a waterfront
- 6 The existing maintenance barn could serve well as a shelter supporting events such as dances and arts and crafts events for kids
- 7 Tournament field configuration (option 3) is too large and does not cater to the primary users who live in Wilsonville
- 8 Road adjacent to the river shelter could be improved to provide waterfront access
- 9 There are safety concerns crossing Wilsonville Rd and Memorial Dr to access Murase Plaza
- 10 There is a need for more buffer at existing parking areas (West?)
- 11 There should only be passive uses on the East side
- 12 25% min. more community gardens are needed
- 13 Option 2 West side could be blended with Option 1 East side
- 14 Pickle Ball additions on Option 1 work well
- 15 Bus and RV turning space is potentially needed
- 16 Positive responses received for Option 3 amphitheater
- 17 Zip lines could be considered
- 18 There is a drainage issue at the River Shelter

- 19 Positive response to overlooks – tree removal could be minimized
- 20 Option combinations – OPT 3 North / OPT 2 West / OPT 2 East / OPT 1 River
- 21 More benches should be provided
- 22 Existing dock needs modification for easier access
- 23 Storage could be provided for light watercraft near existing dock
- 24 Basketball can be kept in place
- 25 Concerns that the skate park is too remote
- 26 Concerns about concessions and revenue
- 27 The intertwining trails in the forest are good
- 28 ‘Movies in Parks’ need open space for viewing – currently use sloping lawn
- 29 A backboard for tennis would enhance the court for individual practice
- 30 Normal high water is above the boat ramp and makes current access to existing dock difficult during portions of winter time
- 31 East buffer is important
- 32 Available space is not enough to create regional draws
- 33 Park should be geared towards existing resident’s preferred uses
- 34 There should not be any parking off Rose Ln
- 35 Large Girl Scout groups prefer parking options 1 and 2 for forest access
- 36 Schools, boy and girl scout groups would use a developed amphitheater
- 37 Girl Scouts use variety of trails, would prefer a trail connection between River and Forest Shelters
- 38 Privacy of River Shelter space before trees to west were removed is preferred
- 39 Some form of buffer between Forest Shelter and fields is preferred for noise mitigation
- 40 One main paved path through the Forest and the rest un-paved would be preferred
- 41 River overlooks could be historically thematic or otherwise to provide diverse experiences
- 42 More buffer needed on West edge

- 43 Turf infields would be very beneficial
- 44 Current dog park size is sufficient
- 45 The “waterfall” and water wheel have not been mentioned, could be destinations
- 46 Bicycle skills course and skate park could be adjacent
- 47 Overlooks work well but waterfront beach is not necessary

- 14 Pickle Ball additions on Option 1 work well
- 15 Bus and RV turning space is potentially needed
- 16 Positive responses received for Option 3 amphitheater
- 17 Zip lines could be considered
- 18 There is a drainage issue at the River Shelter
- 19 Positive response to overlooks – tree removal could be minimized
- 20 Option combinations – OPT 3 North / OPT 2 West / OPT 2 East / OPT 1 River
- 21 More benches should be provided
- 22 Existing dock needs modification for easier access
- 23 Storage could be provided for light watercraft near existing dock
- 24 Basketball can be kept in place
- 25 Concerns that the skate park is too remote
- 26 Concerns about concessions and revenue
- 27 The intertwining trails in the forest are good
- 28 ‘Movies in Parks’ need open space for viewing – currently use sloping lawn
- 29 A backboard for tennis would enhance the court for individual practice
- 30 Normal high water is above the boat ramp and makes current access to existing dock difficult during portions of winter time
- 31 East buffer is important
- 32 Available space is not enough to create regional draws
- 33 Park should be geared towards existing resident’s preferred uses
- 34 There should not be any parking off Rose Ln
- 35 Large Girl Scout groups prefer parking options 1 and 2 for forest access
- 36 Schools, boy and girl scout groups would use a developed amphitheater
- 37 Girl Scouts use variety or trails, would prefer a trail connection between River and Forest Shelters
- 38 Privacy of River Shelter space before trees to west were removed is preferred

PUBLIC OPEN HOUSE 3 MEETING NOTES

Wilsonville City Hall, December 16th, 2014

- 1 An overview of the Wilsonville park system would help the public understand and validate proposed program and enhancements
- 2 Covered pickleball courts would enhance play and increase seasonal usability
- 3 Easier kayak launching would be beneficial
- 4 The river is not an attractive swimming destination
- 5 Trees should not be cleared in order to create a waterfront
- 6 The existing maintenance barn could serve well as a shelter supporting events such as dances and arts and crafts events for kids
- 7 Tournament field configuration (option 3) is too large and does not cater to the primary users who live in Wilsonville
- 8 Road adjacent to the river shelter could be improved to provide waterfront access
- 9 There are safety concerns crossing Wilsonville Rd and Memorial Dr to access Murase Plaza
- 10 There is a need for more buffer at existing parking areas (West?)
- 11 There should only be passive uses on the East side
- 12 25% min. more community gardens are needed
- 13 Option 2 West side could be blended with Option 1 East side

- 39 Some form of buffer between Forest Shelter and fields is preferred for noise mitigation
- 40 One main paved path through the Forest and the rest un-paved would be preferred
- 41 River overlooks could be historically thematic or otherwise to provide diverse experiences
- 42 More buffer needed on West edge
- 43 Turf infields would be very beneficial
- 44 Current dog park size is sufficient
- 45 The “waterfall” and water wheel have not been mentioned, could be destinations
- 46 Bicycle skills course and skate park could be adjacent
- 47 Overlooks work well but waterfront beach is not necessary

**STAKEHOLDER MEETING NOTES:
WILSONVILLE HIGH SCHOOL**

Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 What events does WHS use Memorial Park for?
Cross country meet- 1 per year- 1 shelter as hospitality area, like to take over park, but work with leagues. 5000 meter course. Prefer non-paved areas. Fall.
Tennis- recent past, lower level softball games.
Baseball- no 90' diamond (would increase partnership with youth program)- springtime march-June
- 2 What times? Time of year, time of day/night, duration of use?
- 3 Are there conflicts with other park uses? coordination between leagues (overlapping calendars, multi-use fields, seasonality, etc)
Buses park off-site, turnaround at gravel lots
Work with Willamette united / proper communication limits conflicts.
- 4 Are the facilities sufficient, field sizes/quantity, parking/access, restrooms, concessions?
No real issues with facilities
- 5 Are there issues with the park that restrict your uses, ie would you do other uses if the facility allowed (field size, etc)?
- 6 Buses?
- 7 Are there other parks you use for events / uses?
- 8 Are there opportunities for more collaborative projects between school and city?
Tournaments and coaches involved- could be collaborative
Lacrosse tournaments, soccer tournaments- host different age groups, but could expand with memorial park
- 9 Do you have any concerns about scheduling, maintenance, or working with Parks Dept. on the fields they manage?
- 10 What roles do concessions play or could play in financial support of the league?

- Would be encouraged, help pay for reduced cost of admissions for teams, etc.
Existing ones at high school- booster club ran.
- 11 What is the potential for tournaments? What are the needs to make one successful (# and location of fields)
2-3 day tournaments
Soccer 55-75yards wide- look up high school field sizes.
Trends- soccer, lacrosse up. Basketball up, girls numbers have dropped, baseball dropped a bit.

**STAKEHOLDER MEETING NOTES:
WILLAMETTE UNITED SOCCER CLUB**

Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 What events does WUSC use Memorial Park for?
Soccer
\$1 million / year budget. Break even with 3 employees
Use all fields every day.
- 2 How many leagues, teams?
1800 kids K-12 recreational
500 competitive year around
All from WWLSD
220 kids co-ed high school teams
- 3 What times? Time of year, time of day/night, duration of use?
Beginning of August – Mid November.
August tournaments
Would like to use in the spring, but fields too wet.
- 4 Are there conflicts with other park uses? Coordination between leagues (overlapping calendars, multi-use fields, seasonality, etc.)
Seem to work out scheduling conflicts. Would like to have separate soccer fields.
- 5 Are the facilities sufficient, field sizes/quantity, parking/access, restrooms, and concessions?
Parking can be difficult at times. Lots of people park at dog park area and conflicts happen. Hard to manage.
Restrooms are adequate w/ porta potties.
- 6 Are there issues with the park that restrict your uses, ie would you do other uses if the facility allowed (field size, etc)?
Can't use in Springtime as fields are too wet. Would like to see Turf on several fields.
- 7 Are there other parks you use for events / uses?
Year around use Artificial Turf fields, Horizon Christian,etc.

- 8 What has been the trend in participation by league / sport?
Participation numbers have held steady. Slight drop with other sports becoming more popular, i.e. lacrosse, etc.
- 9 Do you have any concerns about scheduling, maintenance, or working with Parks Dept. on the fields they manage?
Some irrigation boxes at SW corner of fields is in field of play sometimes.
A few wet spots on West side of fields.
- 10 What roles do concessions play or could play in financial support of the league?
Would help. They have concessions at other locations and while it is not a huge moneymaker, it does help.
- 11 What is the potential for tournaments? What are the needs to make one successful (# and location of fields)

**STAKEHOLDER MEETING NOTES:
NW DIAMOND SPORTS**

Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 What events does NWDS use Memorial Park for?
Baseball/softball
11-18 year olds
- 2 What times? Time of year, time of day/night, duration of use?
May-Oct.
Would go year around if fields were not so wet, or if Turf fields.
- 3 Are there conflicts with other park uses? coordination between leagues (overlapping calendars, multi-use fields, seasonality, etc.)
Worried about security near Forest Shelter
- 4 Are the facilities sufficient, field sizes/quantity, parking/access, restrooms, concessions?
Field sizes are adequate.
Infields could be enlarged a bit to provide more flexibility of age groups and would allow for more efficient use of fields. Currently uses 70',80',90' bases. Infields 1 and 2 are not large enough for all base options.
Larger infields and outfields would allow for more efficient use of fields potentially creating additional time slots for other leagues.
Outfields , 10-12 year olds min 200' max 220', 13-18 min. 300' max 400', Softball 300' fences.
Does not use field 5, does not see it used.
Would like to see a registration area for camps / clinics / large events.
Would like covered dugouts
- 5 Are there other parks you use for events / uses?
Surrounding schools for Turf during wet weather. Horizon Christian, etc.
- 6 Do you have any concerns about scheduling, maintenance, or working with Parks Dept. on the fields they manage?

- 7 Would like to be able to water down in-fields when needed- if they could push a button or something like that.
Some of the outfields could use leveling at times.
What roles do concessions play or could play in financial support of the league?
Would love to have gas hookup for bbq's, but not a major deal.
Would help for tournaments.
- 8 What is the potential for tournaments? What are the needs to make one successful (# and location of fields)
If fields were turf, they would use them for tournaments.
3 fields for small tournament, 5 for large tournament.

**STAKEHOLDER MEETING NOTES:
WILSONVILLE PICKLEBALL CLUB**

Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 How many leagues, teams?
Not a club yet, no funding currently.
Socializing event, big with adults over 50.
- 2 What times? Time of year, time of day/night, duration of use?
Year around, rain or shine
Event every two weeks currently. Bring in portable nets and use tennis courts.
6 things going on per week currently. Player development and teaching.
- 3 Are there conflicts with other park uses? Coordination between leagues (overlapping calendars, multi-use fields, seasonality, etc.)
- 4 Are the facilities sufficient, field sizes/quantity, parking/access, restrooms, and concessions?
Would like to have covered courts to provide shade and rain protection.
4 courts would be great, with ability to incrementally add 4 additional at a time.
Lighting on courts to allow night time play would quadruple usage.
- 5 Are there other parks you use for events / uses?
Tualatin Community park has Sunday tennis and pickleball
- 6 What has been the trend in participation by league / sport?
Usage is becoming very popular
More courts would draw more users.
- 7 Are there opportunities for more collaborative projects between league and city?
- 8 What is the potential for tournaments? What are the needs to make one successful (# and location of courts)
Ideally 15 courts for tournaments
Potential for 2 large annual tournaments.
Thursday-Saturday

**STAKEHOLDER MEETING NOTES:
WILSONVILLE WALKERS**

Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 How does WW use the park?
30-40 members walk the park Tuesday and Thursday.
2 mile walking loops typically.
- 2 What times? Time of year, time of day/night, duration of use?
All year long, rain or shine.
Usually during the morning.
- 3 Are the facilities sufficient, field sizes/quantity, parking/access, restrooms, and concessions?
Like new parking lot.
Would like to have different waling loops with different difficulties.
Trails are maintained good.
Were very interested in interp. panels providing entertainment for walks.
- 4 Is the wayfinding sufficient?
Lots of trails can be confusing. Tend to stay on road and open trails due to safety, familiarity access. Lots of older members who can't do hills.

**STAKEHOLDER MEETING NOTES:
ADULT SOCCER CLUB**

Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 What events does the ASC use Memorial Park for?
Soccer
Sundays, 8am-3pm. May – October.
- 2 How many leagues, teams?
4-5 teams, 2 fields.
15 per team and family members. Mainly Hispanic league, but seeing a lot of white spectators
- 3 What times? Time of year, time of day/night, duration of use?
Sundays
Don't do rainy days
- 4 Are the facilities sufficient, field sizes/quantity, parking/access, restrooms, and concessions?
Restroom facilities are lacking, especially for women.
Ok with designated parking near maintenance. Try to not park at dog park area.
Some irrigation boxes at SW corner of fields is in field of play sometimes.
- 5 Do you have any concerns about scheduling, maintenance, or working with Parks Dept. on the fields they manage?
Don't play in wet conditions because they don't want to destroy the fields.
Paint their own field.
- 6 What roles do concessions play or could play in financial support of the league?
No role. Bring own food.

**STAKEHOLDER MEETINGS NOTES:
GIRLS SCOUTS OF OREGON AND SW
WASHINGTON**

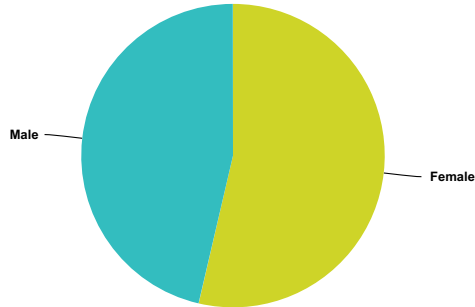
Wilsonville Parks and Rec. Dept., October 17th 2014

- 1 How do GS use the park?
23 years. One week / year day camp in last week of June.
400 girls, 5-18 years old. # is sufficient.
Use both shelters, and like that they are "easy access"
Hiking trails, archery area
"Most people don't know they are there. Like the isolation of the shelters.
- 2 Are the facilities sufficient, quantity, parking/access, restrooms?
Have to have someone manage parking.
Could be marked better
Have 2 large busses and turning around is hard.
Concerns about development to the west, access from the new homes, and removal of trees changed the character of the River Shelter.
Cannot go to the water as river bank is too steep.
Bring their own camp, food, restrooms. Set up at 7:30am, out by 4:30pm every day.
- 3 Are very concerned about safety, police access, fire access.
- 4 "Keep nooks" along paths. They need space to gather
Desire a climbing wall
An areas sized for a picnic shelter "can be anywhere"
- 5 Boy Scouts use the Park. Chris Troha- HS teacher at WVHS and John Budais and scout masters.
- 6 Girl Scouts have 1 volunteer day at Memorial Park per year. Available to do more.

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Q1 What is your gender?

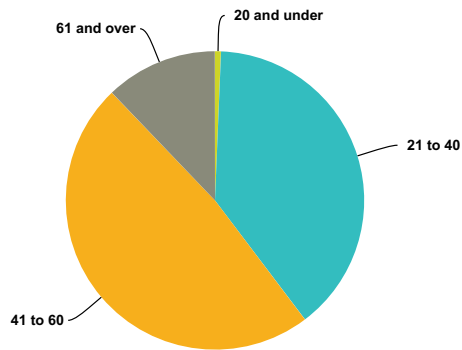
Answered: 617 Skipped: 0



Answer Choices	Responses	
Female	53.65%	331
Male	46.35%	286
Total		617

Q2 What is your age?

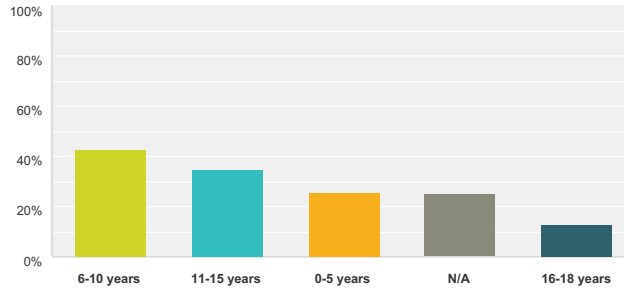
Answered: 617 Skipped: 0



Answer Choices	Responses	
20 and under	0.65%	4
21 to 40	39.06%	241
41 to 60	48.14%	297
61 and over	12.16%	75
Total		617

Q3 If any, what are the ages of the children in your household?

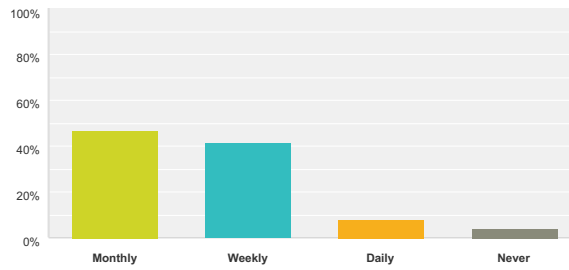
Answered: 617 Skipped: 0



Answer Choices	Responses	Count
6-10 years	42.63%	263
11-15 years	34.68%	214
0-5 years	25.45%	157
N/A	25.12%	155
16-18 years	12.80%	79
Total Respondents: 617		

Q4 How often do you use Memorial Park?

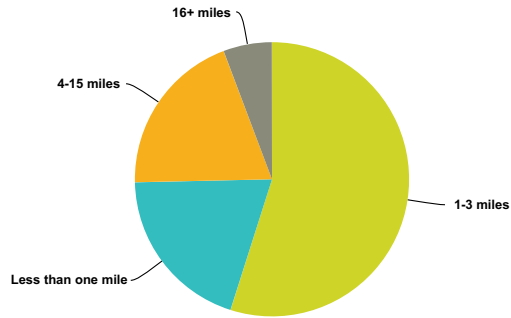
Answered: 592 Skipped: 25



Answer Choices	Responses	Count
Monthly	46.79%	277
Weekly	41.22%	244
Daily	7.77%	46
Never	4.22%	25
Total		592

Q6 Where do you live in relation to Memorial Park?

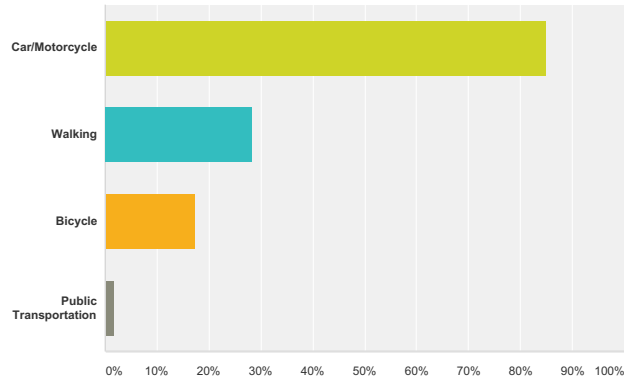
Answered: 592 Skipped: 25



Answer Choices	Responses	Count
1-3 miles	54.90%	325
Less than one mile	19.76%	117
4-15 miles	19.59%	116
16+ miles	5.74%	34
Total		592

Q7 When you visit the park, how do you arrive?

Answered: 585 Skipped: 32

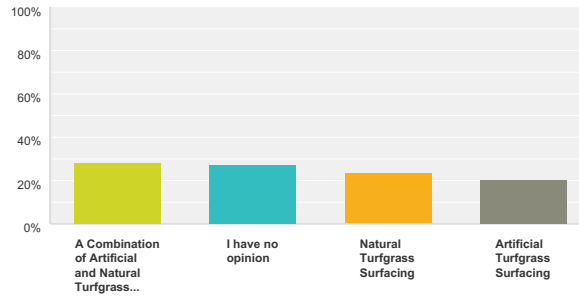


Answer Choices	Responses	Count
Car/Motorcycle	84.96%	497
Walking	28.38%	166
Bicycle	17.26%	101
Public Transportation	1.71%	10
Total Respondents: 585		

#	Other (please specify)	Date
1	Running	1/8/2015 8:29 AM
2	Space ship	1/8/2015 4:14 AM
3	stroller	12/26/2014 3:44 PM
4	Jogging	12/25/2014 3:56 PM
5	running	12/22/2014 3:48 PM
6	skateboard	12/19/2014 12:43 PM
7	Youth Sports	12/19/2014 12:41 PM
8	Do not use the park to many parks in Wilsonville already	12/19/2014 9:02 AM
9	Dont use	12/19/2014 8:13 AM
10	Don't	12/17/2014 5:02 PM
11	Hiking and jogging	12/16/2014 4:14 PM

Q10 If investments were made to existing athletic fields and/or new fields were incorporated, would you prefer:

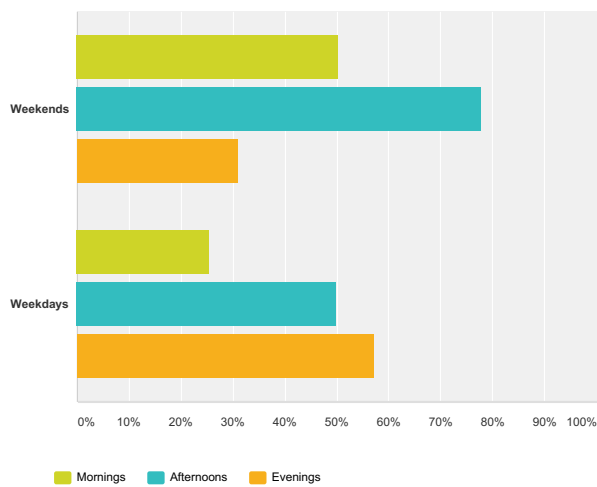
Answered: 574 Skipped: 43



Answer Choices	Responses	
A Combination of Artificial and Natural Turfgrass Surfacing	28.40%	163
I have no opinion	27.70%	159
Natural Turfgrass Surfacing	23.34%	134
Artificial Turfgrass Surfacing	20.56%	118
Total		574

Q5 What days and times do you most use the park?

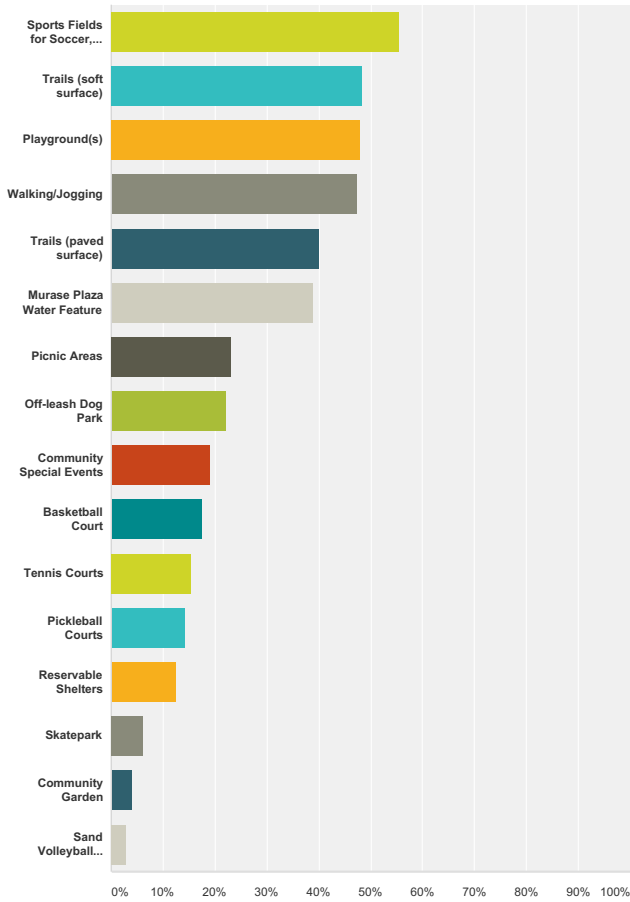
Answered: 592 Skipped: 25



	Mornings	Afternoons	Evenings	Total Respondents
Weekends	50.30% 254	77.82% 393	30.89% 156	505
Weekdays	25.56% 125	49.90% 244	57.26% 280	489

Q8 Which (5) activities/resources do you most utilize when at Memorial Park?

Answered: 579 Skipped: 38



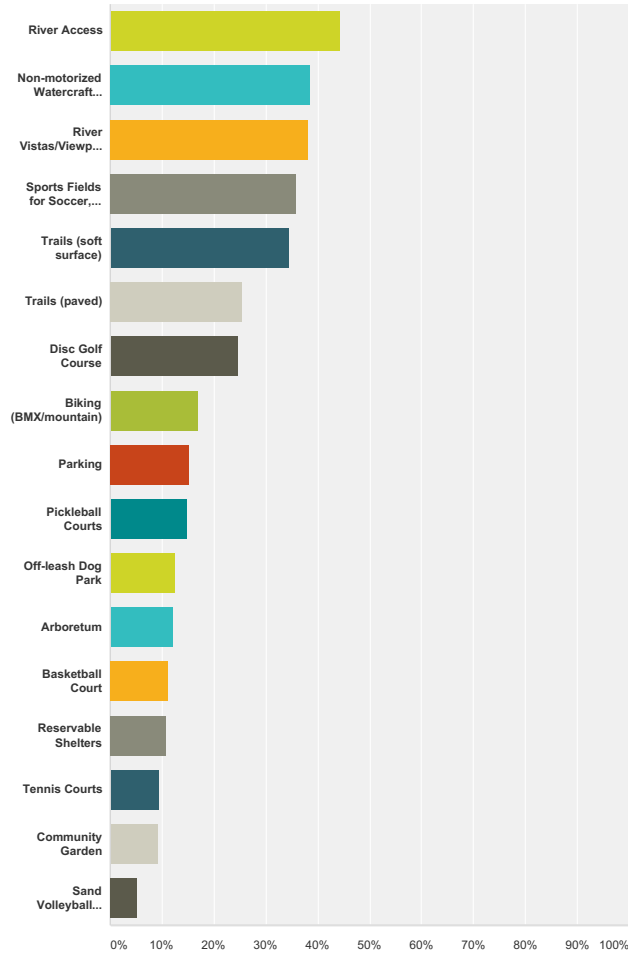
Answer Choices	Responses
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Sports Fields for Soccer, Baseball, or Softball	55.44%	321
Trails (soft surface)	48.53%	281
Playground(s)	48.01%	278
Walking/Jogging	47.32%	274
Trails (paved surface)	40.07%	232
Murase Plaza Water Feature	38.86%	225
Picnic Areas	23.14%	134
Off-leash Dog Park	22.11%	128
Community Special Events	19.00%	110
Basketball Court	17.44%	101
Tennis Courts	15.54%	90
Pickleball Courts	14.16%	82
Reservable Shelters	12.44%	72
Skatepark	6.22%	36
Community Garden	3.97%	23
Sand Volleyball Court	2.94%	17
Total Respondents: 579		

#	Other (please specify)	Date
1	Sports Fields to throw discs (disc golf driving practice)	1/16/2015 2:28 PM
2	RC cars, airplanes	1/4/2015 12:43 PM
3	disc golf	1/2/2015 9:46 AM
4	the dock	12/30/2014 8:54 PM
5	river view, wildlife viewing	12/26/2014 10:52 PM
6	Birding	12/19/2014 2:40 PM
7	dock	12/19/2014 12:44 PM
8	Natural areas	12/19/2014 10:48 AM
9	Do not use any of these services never go to Memorial Park	12/19/2014 9:03 AM
10	None	12/19/2014 8:13 AM
11	River Access	12/17/2014 8:15 PM
12	none	12/17/2014 5:02 PM
13	open space	12/16/2014 7:43 PM
14	walking dog on leash	12/15/2014 4:31 PM
15	how about Disc Golf ???	12/15/2014 10:57 AM
16	natural areas since you planted the meadow in trees not a lot of that left	12/15/2014 10:49 AM

Wilsonville Memorial Park Master Plan Survey

SurveyMonkey



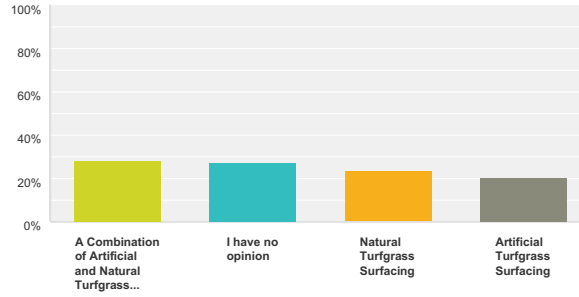
Answer Choices	Responses
River Access	44.18% 243
Non-motorized Watercraft (kayaks, canoes, paddleboards, etc.)	38.55% 212

River Vistas/Viewpoints	38.18%	210
Sports Fields for Soccer, Baseball, or Softball	36.00%	198
Trails (soft surface)	34.55%	190
Trails (paved)	25.45%	140
Disc Golf Course	24.73%	136
Biking (BMX/mountain)	16.91%	93
Parking	15.27%	84
Pickleball Courts	14.91%	82
Off-leash Dog Park	12.55%	69
Arboretum	12.18%	67
Basketball Court	11.27%	62
Reservable Shelters	10.91%	60
Tennis Courts	9.45%	52
Community Garden	9.09%	50
Sand Volleyball Court	5.27%	29
Total Respondents: 550		

#	Other (please specify)	Date
1	more running/walking paths	1/16/2015 4:40 PM
2	like movies in the park and would like to see other art events here. Gets crowded trying to get out however	1/14/2015 9:51 PM
3	dont need much more - leave the open space unimproved as they currently are	1/14/2015 2:11 PM
4	more protection of natural areas, less tree cutting	1/11/2015 3:01 PM
5	Concession stands for events to be run by non-profits, turf fields	1/9/2015 10:12 PM
6	Concession stand for baseball	1/9/2015 8:38 PM
7	Work on the improving the Wood fields or adding to Lowrie and leave Memorial as is	1/9/2015 6:12 PM
8	Closer bathrooms and water facilities to all sports fields.	1/9/2015 5:59 PM
9	Creation of a batting facility with concessions for Wilsonville youth softball and baseball programs	1/9/2015 4:23 PM
10	Playground	1/9/2015 9:19 AM
11	bigger skate/bike park	1/8/2015 5:47 PM
12	Skatepark	1/8/2015 4:51 PM
13	Covered pickleball	1/8/2015 7:40 AM
14	P	1/8/2015 4:24 AM
15	Turf baseball fields, mountain bike trail system	1/7/2015 10:54 PM
16	Lights for baseball field that is not lighted currently.	1/7/2015 10:35 PM
17	Snack Stand for Kids sports	1/7/2015 7:00 PM
18	Skateboarding	1/7/2015 5:56 PM

Q10 If investments were made to existing athletic fields and/or new fields were incorporated, would you prefer:

Answered: 574 Skipped: 43



Answer Choices	Responses
A Combination of Artificial and Natural Turfgrass Surfacing	28.40% 163
I have no opinion	27.70% 159
Natural Turfgrass Surfacing	23.34% 134
Artificial Turfgrass Surfacing	20.56% 118
Total	574

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PROJECT NUMBER: # 14-061PLN ISSUE DATE: May 3, 2015
 PROJECT NAME: City of Wilsonville Memorial Park Master Plan

TO: Steve Duh
 FROM: Ian Holzworth, Walker Macy

SUBJECT: Park Revenue Scenarios & Potential Operations Expenses

This memorandum addresses the existing revenues and potential revenue scenarios for the preferred master plan for Memorial Park. It also addresses existing and potential operating expenses for the park. It concludes with policy and marketing considerations that may result in enhanced future revenue from construction of the preferred master plan.

Master Plan Amenities Affecting Revenues

The preferred master plan for Memorial Park adds new infrastructure and amenities that balance the community's interest in expanded recreation opportunities within the context of the physical constraints of the park. While numerous amenities are proposed in the master plan, this memo focuses on those that will facilitate revenue generation for the City and include the following:

- Shelter rental - facility rental fees
- Community gardens - plot fees
- Amphitheater/stage - opportunity for events
- Pickleball - opportunity for small tournaments
- Pump track - opportunity for events or competitions
- Disc golf course - opportunity for small tournaments
- Water-based concessionaire (i.e., kayak, canoe) - seasonal concession fees

Park Revenues

City staff provided 2014 revenue data for the revenue-generating amenities of Memorial Park. The various amenities at the park generated approximately \$50,000, and the details by facility are itemized in Table 1.

Table 1: Revenue by Amenity (2014)

Amenity	2014 (Actuals)
River Shelter	\$ 8,871
Forest Shelter	\$ 7,679
Splash Shelter	\$ 848
Stein-Boozier Barn	\$ 10,815
Murase Plaza	\$ -
Fields: Reduced Fee Youth	\$ 8,002
Fields: Other	\$ 2,665
Special Events	\$ 8,813
Community Gardens - raised bed	\$ 375
Community Gardens - in-ground	\$ 2,178
	\$ 50,244

In estimating the future potential revenue scenarios for the park, assumptions were established based on historic rental information, utilization and capacity.

Assumptions regarding Utilization

The City of Wilsonville's facility reservation and event fee schedules split charges by resident and non-resident status and include pricing for midweek and weekend periods. Upon review of the 2014 revenue data, estimates for the resident and non-resident percentage splits by facility were established for use in estimating future revenue potential.

Additionally, a more detailed review of available capacity was completed to compare reservation histories of the two shelters and the barn for 2013 and 2014 with the annual calendar. Although the City only charges fees for the shelters between the 2nd weekend in April and the 2nd weekend in October, a review of the full-year calendar offers a more complete picture of the latent capacity for these facilities. Tables 2 and 3 illustrate the number of usage (reservation) days by period for each facility. Peak season is defined as May through October, and off-peak is November through April, and the total number of available days by use period were calculated separately for each year.

Memorial Park Master Plan
Park Revenue Scenarios & Potential Operations Expenses

Table 2: Shelter and Barn Facility Rentals & Latent Capacity by Use Period (2013)

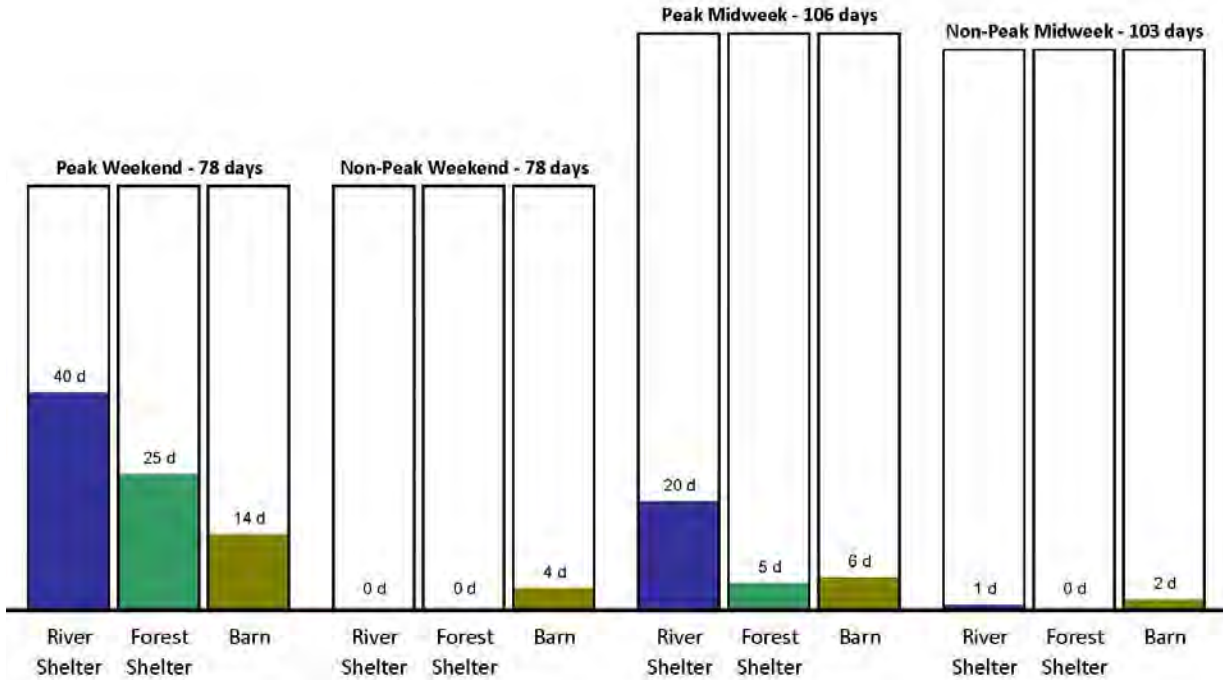
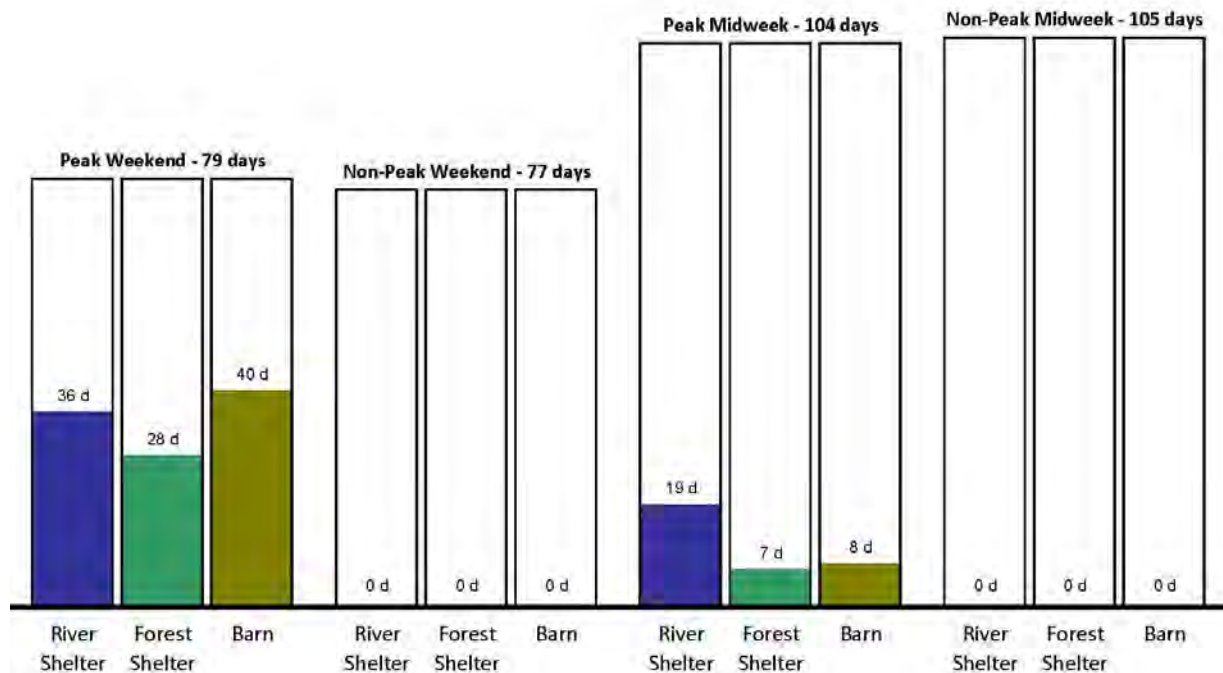


Table 3: Shelter and Barn Facility Rentals & Latent Capacity by Use Period (2014)



Significant unutilized capacity existed with these three facilities during the past two years; however, barn rentals were greatly improved in 2014 over the previous year. To estimate rental revenues for these facilities, utilization benchmarks were assumed for the different revenue scenarios. A high-growth scenario assumed rental reservations for 80% of the available peak period days, with a 75%/25% resident to non-resident split for shelters and 65%/35% split for the Stein-Boozier Barn. The resident percentage splits were based on recent annual averages.

Assumptions by Amenity

Usage and revenue potential was also considered based on the new amenities illustrated in the preferred master plan for the park and are discussed below.

- Community gardens: The reconfigured layout for the community gardens is approximately 0.6 acres. Using that estimate and the City's current sizing for in-ground and raised beds, the new garden configuration could accommodate approximately 15 new raised beds and 20 new in-ground (net additional). This would generate a net increase in garden fees (at current fees) of approximately \$800-\$1,000 per year.
- Picnic shelter: The proposed conversion of the maintenance barn into a third reservable picnic shelter will enhance the revenue potential for the park. It is assumed that the fee structure for this new shelter would be aligned with that of the River Shelter.
- Amphitheater with stage: Additional fees from special event permits are assumed; however, new revenue from additional events may be limited due to the existing number of programmed events on the City calendar. For the purpose of the revenue modeling, it was assumed that an additional 4-5 new events could be scheduled that trigger the requirements of the City's Special Use Permit. These events could generate upwards of \$1,000 annually in new revenues. The scheduling and usage of the amphitheater would need to be balanced with general park use and the existing suite of events.
- Pump track: As a small and growing activity, cycling on a pump track can create an opportunity for demonstration events and/or competitions. In the initial years, it may be reasonable to host 1 to 2 such events per year; however, the number of participants will likely fall below the 250 person minimum to trigger the Special Use Permit. Therefore, assigning a revenue potential for this amenity is not feasible at this time.
- Disc golf course: The nine-hole, multi-pitch course could provide an opportunity for small tournaments or demonstration events. However, the size and complexity of the course likely would not create a regional draw for large events or tournaments. It is unlikely that any event planned for this amenity would trigger the 250 person minimum for a Special Use Permit; therefore, assigning potential revenue to this amenity is not feasible at this time.
- Pickleball: The planned addition of pickleball courts may create an opportunity for small tournaments. Such tournaments can be sanctioned through the USAPA, but they do not need to be. Depending on the local enthusiasm for pickleball, a small tournament may fall below the 250 person event threshold to trigger the Special Use Permit. For revenue modeling, it was assumed that dedicated pickleball court time could be charged on a per hour basis, much like the reservation system for sport fields.

- Water-based concessionaire: A seasonal vendor could be accommodated at the proposed, extended southern parking lot. A specialized user agreement or concessionaire/vendor agreement would need to be crafted to accommodate this new activity/use, especially given the need for the City to manage potential risk and liability concerns. For revenue modeling, it was assumed that concession fees would be established as a flat annual fee to the concessionaire, plus a percentage of sales.
- Sport Fields: In comparing the preferred master plan layout to other regionally significant sport complexes (Delta Park, Sunset Park Sports Complex, Terpenning Recreation Complex and Salem's Wallace Marine), the new layout will provide added potential for non-local tournament play, and the installation of synthetic turf fields will maximize usage and improve revenue recovery. However, the number of fields, lighting and parking may continue to be limiting factors. In assessing the revenue potential for the park, the presumed scenario is that this mix of fields will be utilized for local and metro area tournaments. The complex may not be large enough to generate increased utilization of local hotels (in other words, there may be no net increase in "heads in beds" as a local economic driver). To assess the potential for regional or statewide tournament play, a more in-depth market study should be completed, and this is outside the scope of the current project.

Revenue Scenarios

Expanding upon the assumptions noted above and using the 2014 actual park revenues as a baseline, a series of revenue alternatives were generated. Three scenarios were calculated to include the following:

- High-growth option, which includes an 80% peak period utilization for shelters and barn, the installation of a water-based concessionaire, and increased usage of sport and event facilities.
- Moderate-growth option, which is primarily driven by a 50% peak period utilization for shelters and barn, along with modest increases in the usage of sport and event facilities.
- No-growth option, which maintains the utilization of facilities from the 2014 season, in addition to the third picnic shelter and community gardens.

Table 4 outlines the estimated revenues by scenario and park amenity. Percentage increases in revenue by line item are also noted for each scenario.

Table 4: Revenue Scenarios by Facility

Source	2014 (Actuals)	Revenue Potential					
		High Growth	% Incr	Moderate Growth	% Incr	No Growth	% Incr
River Shelter	\$ 8,870.82	\$ 26,112.50	194%	\$ 16,465.00	86%	\$ 11,225.00	27%
Forest Shelter	\$ 7,678.50	\$ 21,886.25	185%	\$ 13,800.00	80%	\$ 4,843.75	-37%
Splash Shelter	\$ 848.00	\$ 1,450.00	71%	\$ 1,080.00	27%	\$ 875.00	3%
Maintenance Barn Shelter	NA	\$ 26,112.50		\$ 16,465.00		\$ 11,225.00	
Stein-Boozier Barn	\$ 10,815.00	\$ 95,933.25	787%	\$ 60,789.00	462%	\$ 40,221.00	272%
Murase Plaza	\$ -						
Fields: Reduced Fee Youth	\$ 8,001.50	\$ 10,000.00	25%	\$ 9,000.00	12%	\$ 8,000.00	0%
Fields: Other	\$ 2,664.75	\$ 3,200.00	20%	\$ 3,000.00	13%	\$ 2,700.00	1%
Special Events	\$ 8,812.50	\$ 4,400.00	-50%	\$ 4,000.00	-55%	\$ 3,400.00	-61%
Community Gardens - raised bed	\$ 375.00	\$ 750.00	100%	\$ 750.00	100%	\$ 375.00	0%
Community Gardens - in-ground	\$ 2,178.00	\$ 2,640.00	21%	\$ 2,640.00	21%	\$ 2,178.00	0%
Watercraft Concessionaire	NA	\$ 4,500.00		\$ -		\$ -	
	\$ 50,244.07	\$ 196,984.50		\$ 127,989.00		\$ 85,042.75	

The primary intent of these scenarios is to illustrate the revenue potential for the park, given its wealth of reservable and rentable facilities. It must be noted that a number of factors may influence the City's potential to generate these revenues, and these factors include the City's capacity to promote availability and capture reservations, competition from other venues, seasonality, and the state of the overall local economy and people's willingness to spend.

As noted above, the shelters and the barn are expected to remain as the park's highest revenue generators. During the 2014 season, these facilities contributed over 56% of the total revenue from the park. As shown in Table 4, these facilities are assumed to generate approximately 80% of potential revenues, which is partly driven by the addition of the third shelter and by higher utilization rates. Regarding sport fields, the projected revenues are restrained by the assumption about local usage and the City's existing policy to offer discounted field fees for youth athletics.

Operating Expenses

The annual operations and maintenance of Memorial Park are a significant on-going expense, and the pace of future park improvements will be informed, in part, by the likely operations impacts to the City budget. Table 6 illustrates the current maintenance expenses for Memorial Park by major work area and shows an annual outlay of approximately \$286,000 for the park.

Table 5: Operations and Maintenance Expenses by Major Work Area/Feature (2014)

Park Feature	Unit	Labor Hours per Year per Unit	No. Units	Labor Hours per Year	Labor-related Cost per Year	Materials & Services per Yr	Total Cost per Year
Labor-related costs							
Large turf areas	per acre	52.0	15.0	780.0	\$ 18,500	\$ 3,000	\$ 22,500
Small/medium turf areas	per acre	52.0	3.0	156.0	\$ 3,900	\$ 600	\$ 4,500
Shrub beds	per 1000sf	52.0	12.0	624.0	\$ 15,600	\$ 500	\$ 16,100
Flower beds	per 1000sf	26.0	2.0	52.0	\$ 1,300	\$ 250	\$ 1,550
Planted trees	per tree	13.0	12.0	156.0	\$ 3,900	\$ 1,000	\$ 4,900
Hard surfaces	per 1000sf	3.0	200.0	600.0	\$ 15,000	\$ 250	\$ 15,250
Soft-surface paths/areas	per 1000sf	2.0	50.0	100.0	\$ 2,500	\$ 500	\$ 3,000
Turf multi-use fields	per field	52.0	3.0	156.0	\$ 3,900	\$ 3,000	\$ 6,900
Turf softball fields	per field	85.0	5.0	425.0	\$ 10,625	\$ 1,000	\$ 11,625
Irrigation system	per acre (irrigated)	10.0	28.0	280.0	\$ 7,000	\$ 8,000	\$ 15,000
Structures - clean/inspect/repair	per structure	35.0	5.0	175.0	\$ 4,375	\$ 250	\$ 4,625
Restrooms - clean & re-supply	per restroom	80.0	4.0	320.0	\$ 8,000	\$ 5,000	\$ 13,000
Play equipment - inspect & repair	per structure	48.0	2.0	96.0	\$ 2,400	\$ 1,000	\$ 3,400
Leaf removal	per acre (dev)	7.0	30.0	210.0	\$ 5,250	\$ 1,500	\$ 6,750
Storm debris	per acre (dev)	3.0	30.0	90.0	\$ 2,250	\$ 1,000	\$ 3,250
Security check & litter removal	per total acre	26.0	1.0	26.0	\$ 650	\$ 100	\$ 750
Empty trash cans	per can	30.0	30.0	900.0	\$ 22,500	\$ 1,000	\$ 23,500
Non-routine projects	per total acre	120.0	1.0	120.0	\$ 3,000	\$ 500	\$ 3,500
Contracted costs							
		Cost/Unit					
Water service	per acre (irrigated)	\$ 3,080	25.0		\$ 77,000		\$ 77,000
Solid waste service	per bin	\$ 1,800	1.0		\$ 1,800		\$ 1,800
Electricity service	per acre (dev)	\$ 1,400	25.0		\$ 35,000		\$ 35,000
Porta-potty service	per each	\$ 900	5.0		\$ 4,500		\$ 4,500
Contract repairs	per acre (dev)	\$ 250	1.0		\$ 250		\$ 250
Landscape maintenance service	per acre (dev)	\$ 500	1.0		\$ 500		\$ 500
Equipment rental	per acre (dev)	\$ 750	3.0		\$ 2,250		\$ 2,250
Equipment repair & maintenance	per acre (dev)	\$ 1,000	5.0		\$ 5,000		\$ 5,000
Totals				5286	\$ 131,700	\$ 154,800	\$ 286,400

The development of the preferred master plan will result in additional maintenance obligations for the City, and the following list itemizes the major quantity changes for park amenities.

- 35,000 sq.ft. new parking lot landscape
- 240,000 sq.ft. of disc golf
- 31,000 sq.ft. of pump track
- 2,400 sq.ft. skate spot
- 1 new picnic shelter with 5,400 sq.ft. lawn area
- 2 new restroom facilities
- 2 new tennis courts
- 2 new pickleball courts
- 270,500 sq.ft. synthetic turf (replaces natural turf)
- 650 lf of new terraced seating at amphitheater and fountain

Memorial Park Master Plan
Park Revenue Scenarios & Potential Operations Expenses

- 4,000 sq.ft. additional community gardens
- 5,400 lf additional paved trails
- 12,000 sq.ft. additional concrete/asphalt hardscape
- 105,000 sq.ft. additional parking lot asphalt

Recognizing that the full master plan may not be implemented all at one time and that options exist for incremental enhancements to the park, the following operations cost estimate assumes full build-out of the park as shown in the master plan.

Table 6: Operations and Maintenance Expenses for Preferred Master Plan

Park Feature	Unit	Labor Hours per Year per Unit	No. Units	Labor Hours per Year	Labor-related Cost per Year	Materials & Services per Yr	Total Cost per Year
Labor-related costs							
Large turf areas	per acre	52.0	14.1	733.2	\$ 18,330	\$ 3,000	\$ 21,330
Small/medium turf areas	per acre	52.0	3.4	176.8	\$ 4,420	\$ 700	\$ 5,120
Shrub beds	per 1000sf	52.0	47.0	2444.0	\$ 61,100	\$ 1,500	\$ 62,600
Flower beds	per 1000sf	26.0	3.0	78.0	\$ 1,950	\$ 400	\$ 2,350
Planted trees	per tree	13.0	40.0	520.0	\$ 13,000	\$ 1,000	\$ 14,000
Hard surfaces	per 1000sf	3.0	382.7	1148.1	\$ 28,703	\$ 1,500	\$ 30,203
Soft-surface paths/areas	per 1000sf	2.0	50.0	100.0	\$ 2,500	\$ 500	\$ 3,000
Turf multi-use fields	per field	52.0	1.0	52.0	\$ 1,300	\$ 2,500	\$ 3,800
Turf softball fields	per field	85.0	3.0	255.0	\$ 6,375	\$ 800	\$ 7,175
Synthetic turf fields	per field	42.0	3.0	126.0	\$ 3,150	\$ 500	\$ 3,650
Irrigation system	per acre (irrigated)	10.0	22.0	220.0	\$ 5,500	\$ 8,000	\$ 13,500
Structures - clean/inspect/repair	per structure	35.0	7.0	245.0	\$ 6,125	\$ 400	\$ 6,525
Restrooms - clean & re-supply	per restroom	80.0	6.0	480.0	\$ 12,000	\$ 7,500	\$ 19,500
Play equipment - inspect & repair	per structure	48.0	4.0	192.0	\$ 4,800	\$ 2,000	\$ 6,800
Leaf removal	per acre (dev)	7.0	35.0	245.0	\$ 6,125	\$ 1,500	\$ 7,625
Storm debris	per acre (dev)	3.0	35.0	105.0	\$ 2,625	\$ 1,000	\$ 3,625
Security check & litter removal	per total acre	36.0	1.0	36.0	\$ 900	\$ 100	\$ 1,000
Empty trash cans	per can	30.0	36.0	1080.0	\$ 27,000	\$ 1,000	\$ 28,000
Non-routine projects	per total acre	200.0	1.0	200.0	\$ 5,000	\$ 500	\$ 5,500
Contracted costs							
		Cost/Unit					
Water service	per acre (irrigated)	\$ 3,080	22.0			\$ 67,760	\$ 67,760
Solid waste service	per bin	\$ 1,800	2.0			\$ 3,600	\$ 3,600
Electricity service	per acre (dev)	\$ 1,400	35.0			\$ 49,000	\$ 49,000
Porta-potty service	per each	\$ 900	5.0			\$ 4,500	\$ 4,500
Contract repairs	per acre (dev)	\$ 250	1.0			\$ 250	\$ 250
Landscape maintenance service	per acre (dev)	\$ 500	1.0			\$ 500	\$ 500
Equipment rental	per acre (dev)	\$ 750	6.0			\$ 4,500	\$ 4,500
Equipment repair & maintenance	per acre (dev)	\$ 1,000	8.0			\$ 8,000	\$ 8,000
Totals				8436	\$ 210,900	\$ 172,500	\$ 383,400

The annual operating costs for the preferred master plan are estimated to be approximately \$383,000 and approximately \$100,000 higher than the current maintenance costs. The largest impacts to the costs for the preferred master plan are due to increased quantities for hard surfaces

(parking, sport courts, trails), play equipment and landscape maintenance (shrubs and trees). With the installation of synthetic field turf, decreases in annual costs are anticipated for large turf areas, irrigation, and field sport maintenance.

As the City considers incremental or phased improvements to Memorial Park, the projected maintenance costs should be re-evaluated.

Additional Considerations

Other municipalities have sought and leveraged partnerships to either help offset maintenance costs or conditionally expand facilities. Such arrangements are best suited toward single-use or special purpose facilities. In advance of implementing the preferred master plan, the City should consider reaching out specifically to user groups for three facilities: off-leash area, pump track and disc golf.

- Advocates for off-leash areas in other cities have successfully organized into non-profit (501C3) entities to create a vehicle for fundraising for off-leash area maintenance and acting as a source of volunteers to clean-up days or special fundraising events.
- One option to help offset maintenance costs for the pump track is to develop a volunteer base of cyclists for seasonal work parties, clean-ups and (re)construction activities.
- Similarly, the City can seek the support of local disc golf enthusiasts and clubs for assistance in laying out, installing and maintaining the disc golf course.

These alternatives should be considered in addition to and in coordination with the City's on-going maintenance standards, protocols and staffing - with the recognition that volunteer support for maintenance activities will not diminish the need for and role of park maintenance staff.

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Memorial Park Master Plan Wilsonville, Oregon Walker Macy Portland, Oregon Master Plan Probable Cost Estimate 1.3	Architectural Cost Consultants, LLC Stanley J. Pszczolkowski, AIA 8060 SW Pfaffle Street, Suite 110 Tigard, Oregon 97223-8489 Phone: (503) 718-0075 Fax: (503) 718-0077 www.ArchCost.com	Estimate Date: 06-May-15 Document Date: 18-Feb-15 Print Date: 06-May-15 Print Time: 11:28 AM Constr. Start: Todays Cost
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DIRECT CONSTRUCTION COST SUMMARY

Component	Area		\$ / SF	Total
Masterplan Estimate	5,494,582	sf	\$2.10 /sf	\$11,560,950
TOTAL DIRECT CONSTRUCTION COST	5,494,582	sf	\$2.10 /sf	\$11,560,950
Budget				0
Indicated Surplus / (Deficit)				(11,560,950)
<u>ALTERNATES</u> - None Indicated for Pricing				

The above estimates are for direct construction cost only. They do not include furnishings & equipment, architect and engineer design fees, consultant fees, inspection and testing fees, plan check fees, state sales tax, hazardous material testing and removal, financing costs, owners contingency, nor any other normally associated development costs.

The above estimates assume a competitively bid project, with at least three qualified bidders in each of the major sub-trades as well as the general contractors.

The above estimates assume a construction start date of: Todays Cost. If the start of construction is delayed beyond the date above, the estimates must be indexed at a rate of 4% to 5% per year compounded.

This is a probable cost estimate based on in-progress documentation provided by the architect. The actual bid documents will vary from this estimate due to document completion, detailing, specification, addendum, etc. The estimator has no control over the cost or availability of labor, equipment, materials, over market conditions or contractor's method of pricing, contractor's construction logistics and scheduling. This estimate is formulated on the estimator's professional judgment and experience. The estimate makes no warranty, expressed or implied, that the quantities, bids or the negotiated cost of the work will not vary from the estimator's opinion of probable construction cost.

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
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02 EXISTING CONDITIONS						
Site Demolition						
misc demo - allowance	1	sum	\$15,000.00	\$15,000		
removal of invasive species - allowance		acre	1,500.00	0		acreage TBD
remove trails	1	sum	500.00	500		
remove basketball court	1	sum	6,278.44	6,278		
remove skate park	1	sum	3,000.00	3,000		
remove restroom	1	sum	500.00	500		
remove ac paving	20,000	sf	0.55	11,000		
remove gravel parking areas	60,000	sf	0.50	30,000		
remove fencing at community garden	700	lf	3.50	2,450		
remove utilities	1	sum	5,000.00	5,000		
remove lighting	1	sum	35,000.00	35,000		
haul & disposal	1	sum	16,310.00	16,310		
Sub-total	5,494,582	sf	0.02 /sf		\$125,038	
SUB-TOTAL 02 EXISTING CONDITIONS			0.02 /sf		\$125,038	

31 EARTHWORK						
Clearing & Grubbing						
clear & grub	715,000	sf	0.05	35,750		
haul & disposal	1	sum	5,360.00	5,360		
Sub-total	5,494,582	sf	0.01 /sf		41,110	
Stripping & Stockpiling						
strip & stockpile, assume 4"	5,250	cy	6.00	31,500		
Sub-total	5,494,582	sf	0.01 /sf		31,500	
Grading / Site Excavation & Fill						
mobilization / demobilization	1	sum	30,000.00	30,000		
construction staking	1	sum	7,500.00	7,500		
cut (assume dry weather conditions)	6,100	cy	8.00	48,800		from forest shelter
cut (assume dry weather conditions)	7,524	cy	8.00	60,189		from ballfields # 1 & 2
fill (assume dry weather conditions)	1,355	cy	10.00	13,550		
haul excess material off-site	12,269	cy	12.00	147,223		
level / grade / proof roll	715,000	sf	0.30	214,500		
flagging / temp barricade / cleanup	1	sum	20,000.00	20,000		
Sub-total	5,494,582	sf	0.10 /sf		541,762	
Erosion & Sedimentation Controls						
allowance for work not shown	1	sum	75,000.00	75,000		
Sub-total	5,494,582	sf	0.01 /sf		75,000	
SUB-TOTAL 31 EARTHWORK			0.13 /sf		\$689,372	

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
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32 EXTERIOR IMPROVEMENTS						
Northeast Parking Lot						
4" ac pavement, drive aisles	116	ton	95.00	11,020		4,640 sf
6" base course	167	ton	20.00	3,335		
2" leveling course	56	ton	23.50	1,306		
2" ac pavement, parking stalls	82	ton	95.00	7,760		6,535 sf
4" base course	157	ton	20.00	3,131		
2" leveling course	78	ton	23.50	1,840		
geotextile fabric	1,242	sy	1.65	2,049		
concrete curb, vertical	600	lf	12.50	7,500		
4" base course	29	ton	20.00	575		
pavement markings						
ada logo	2	ea	85.00	170		
diagonal striping	90	sf	2.25	203		
parking stall striping	25	ea	18.00	450		
ada sign, post & footing	2	ea	200.00	400		
Sub-total	5,494,582	sf	0.01 /sf		39,739	\$3.56 /sf
East Parking Lot						
4" ac pavement, drive aisles	627	ton	95.00	59,527		25,064 sf
6" base course	901	ton	20.00	18,015		
2" leveling course	300	ton	23.50	7,056		
2" ac pavement, parking stalls	288	ton	95.00	27,313		23,000 sf
4" base course	551	ton	20.00	11,021		
2" leveling course	276	ton	23.50	6,475		
geotextile fabric	5,340	sy	1.65	8,812		
concrete curb, vertical	1,185	lf	12.50	14,813		
4" base course	57	ton	20.00	1,136		
pavement markings						
ada logo	4	ea	85.00	340		
diagonal striping	180	sf	2.25	405		
parking stall striping	105	ea	18.00	1,890		
ada sign, post & footing	4	ea	200.00	800		
bike racks	18	ea	325.00	5,850		
Sub-total	5,494,582	sf	0.03 /sf		163,453	\$3.40 /sf
Southwest Parking Lot						
4" ac pavement, drive aisles	603	ton	95.00	57,309		24,130 sf
6" base course	867	ton	20.00	17,343		
2" leveling course	289	ton	23.50	6,793		
2" ac pavement, parking stalls	271	ton	95.00	25,709		21,650 sf
4" base course	519	ton	20.00	10,374		
2" leveling course	259	ton	23.50	6,095		
geotextile fabric	5,087	sy	1.65	8,393		
concrete curb, vertical	620	lf	12.50	7,750		
4" base course	30	ton	20.00	594		
pavement markings						
ada logo	5	ea	85.00	425		
diagonal striping	270	sf	2.25	608		
parking stall striping	96	ea	18.00	1,728		
crosswalk striping	100	lf	5.50	550		
ada sign, post & footing	5	ea	200.00	1,000		
Sub-total	5,494,582	sf	0.03 /sf		144,671	\$3.16 /sf

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
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32 EXTERIOR IMPROVEMENTS - Continued						
Gravel Road	11,150	sf				
8" base course	534	ton	20.00	10,685		
2" leveling course	134	ton	23.50	3,139		
geotextile fabric	1,239	sy	1.65	2,044		
barrier arm gate at south prkg	1	ea	2,500.00	2,500		@ gravel road access
bollard type barriers	17	ea	250.00	4,250		allowance, verify
Sub-total	5,494,582	sf	0.00 /sf		22,618	\$2.03 /sf
Asphalt Trails						
2" ac pavement	1,767	ton	95.00	167,883		141,375 sf
4" base course	3,387	ton	20.00	67,742		
2" leveling course	1,694	ton	23.50	39,799		
geotextile fabric	15,708	sy	1.65	25,919		
stairs on grade, 8' wide	352	lf	45.00	15,840		allowance, verify type
railings	104	lf	65.00	6,760		
benches	9	ea	1,200.00	10,800		allowance, verify type
Sub-total	5,494,582	sf	0.06 /sf		334,743	\$2.37 /sf
Rock Trails	91,482	sf				
4" base course	2,192	ton	20.00	43,835		
2" leveling rock course	1,096	ton	28.25	30,959		
geotextile fabric	10,165	sy	1.65	16,772		
nature based playground areas	5	areas	5,000.00	25,000		allowance
benches	16	ea	1,200.00	19,200		allowance, verify type
boardwalk	2,224	sf	45.00	100,080		
lookout stone walls, assume 2' ht.	181	lf	150.00	27,150		
Sub-total	5,494,582	sf	0.05 /sf		262,996	\$2.87 /sf
Synthetic Turf Ballfields #1 & 2						
cement amended subgrade, 12" depth	30,094	sy	2.35	70,722		allowance, verify
synthetic turf: ball fields	270,850	sf	4.20	1,137,570		
shock pad underlayment	270,850	sf	1.00	270,850		
4" base course	6,489	ton	30.00	194,673		
2" leveling course	3,245	ton	35.00	113,560		
geotextile fabric	36,113	sy	1.65	59,587		
concrete curb at synthetic turf perimeter	2,440	lf	16.00	39,040		
2x nailer board	2,440	lf	7.80	19,032		
1.5"x12" ads flat drain pipe @ 20' oc	12,900	lf	15.00	193,500		
8" perf pipe, collector	1,375	lf	55.00	75,625		
10" perf pipe, collector	475	lf	60.00	28,500		
cleanouts, 8"	13	ea	600.00	7,800		
dugouts (4 each), 10'x30'	1,200	sf	79.00	94,800		
baseball backstops	2	ea	75,000.00	150,000		allowance, verify size/type
black vinyl chainlink fence, 6' ht.	200	lf	40.00	8,000		@ baseball base lines
baseball / softball diamond equipment	2	set	800.00	1,600		
bull pen equipment, pitcher+home plates		sets	250.00	0		NIC, verify
20' baseball foul pole with wing	4	ea	2,700.00	10,800		
portable outfield fencing, 6' ht. x 10'	1,100	lf	78.00	85,800		Sportafence or similar
soccer goals	4	ea	2,500.00	10,000		
Sub-total	5,494,582	sf	0.47 /sf		2,571,459	\$9.49 /sf

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
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32 EXTERIOR IMPROVEMENTS - Continued						
Natural Turf Ballfields #3, 4 & 5						
renovate natural turf	215,000	sf	0.75	161,250		allowance
dugouts (4 each), 10'x30'	1,200	sf	79.00	94,800		
baseball backstops	2	ea	75,000.00	150,000		allowance, verify size/type
black vinyl chainlink fence, 6' ht.	200	lf	40.00	8,000		@ baseball base lines
baseball / softball diamond equipment	2	set	800.00	1,600		
bull pen equipment, pitcher+home plates		sets	250.00	0		NIC, verify
20' baseball foul pole with wing	4	ea	2,700.00	10,800		
portable outfield fencing, 6' ht. x 10'	1,100	lf	78.00	85,800		Sportafence or similar
soccer goals	2	ea	2,500.00	5,000		
Sub-total	5,494,582	sf	0.09 /sf	517,250		\$2.41 /sf
Pickleball Courts						
2" ac pavement, at bleachers	57	ton	95.00	5,415		4,560 sf
2" ac pavement, ball courts	73	ton	95.00	6,891		5,803 sf
4" base course	248	ton	20.00	4,965		
2" leveling course	124	ton	23.50	2,917		
geotextile fabric	645	sy	1.65	1,064		
1/2" court surfacing + striping	5,803	sf	5.00	29,013		
pickleball court nets	4	ea	750.00	3,000		
alum. bleachers, 5 rows	96	lf	320.00	30,720		
covered structure, 20' ht.	6,100	sf	77.46	472,500		allowance, verify construction
Sub-total	5,494,582	sf	0.10 /sf	556,485		
Tennis Courts						
complete construction - allowance	1	sum	250,000.00	250,000		
Sub-total	5,494,582	sf	0.05 /sf	250,000		
Basketball Court						
2" ac pavement, ball courts	105	ton	95.00	9,941		8,371 sf
4" base course	201	ton	20.00	4,011		
2" leveling course	100	ton	23.50	2,357		
geotextile fabric	930	sy	1.65	1,535		
1/2" court surfacing + striping	8,371	sf	5.00	41,856		
basketball backstops, pole mounted	4	ea	1,950.00	7,800		
Sub-total	5,494,582	sf	0.01 /sf	67,500		\$8.06 /sf
Sand Volleyball Court 1,800 sf						
volleyball sand court	50	cy	80.00	4,000		
perimeter containment - allowance	180	lf	20.00	3,600		
volleyball court net	1	ea	1,800.00	1,800		
Sub-total	5,494,582	sf	0.00 /sf	9,400		\$5.22 /sf
Dog Park 67,850 sf						
black vinyl chainlink fence, 6' ht.	1,211	lf	40.00	48,420		@ dog park
man gate, 42"-48"	3	ea	450.00	1,350		
relocate shelters	2	ea	1,500.00	3,000		
dog park signs	2	ea	250.00	500		
dog bag dispenser on post	2	ea	350.00	700		
deep well dog waste receptacle	1	ea	1,500.00	1,500		allowance, verify
Sub-total	5,494,582	sf	0.01 /sf	55,470		\$0.82 /sf
Skate Park						
complete construction - allowance	6,400	sf	30.00	192,000		
Sub-total	5,494,582	sf	0.03 /sf	192,000		

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
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32 EXTERIOR IMPROVEMENTS - Continued						
Bike Park						
pump track construction- allowance	1,030	cy	30.00	30,900		fill from forest shelter
Sub-total	5,494,582	sf	0.01 /sf		30,900	
Amphitheater						
fill from forest shelter	325	cy	12.00	3,900		
stone retaining walls	765	lf	125.00	95,625		assume 3' ht.
steps on grade	88	lf	45.00	3,949		
2' stone wall at stage back	340	sf	145.00	49,300		assume 4' ht.
stage platform area	990	sf	25.00	24,750		assume raised concrete
Sub-total	5,494,582	sf	0.03 /sf		177,524	
Maintenance Facility						
building, complete - allowance	1,500	sf	190.00	285,000		
Sub-total	5,494,582	sf	0.05 /sf		285,000	
Restroom Facilities						
CXT building, 2 stalls	520	sf	158.00	82,160		@ dog park area
CXT building, 2 stalls	520	sf	158.00	82,160		@ new east parking lot
CXT building, 2 stalls	520	sf	158.00	82,160		@ new south parking lot
CXT building, 4 stalls	1,400	sf	123.00	172,200		@ tennis courts
renovate building + add 2 stalls	2,088	sf	160.00	334,080		north of ballfield #1
Sub-total	5,494,582	sf	0.14 /sf		752,760	
Concession Area						
building, complete	400	sf	175.00	70,000		@ new south parking lot
Sub-total	5,494,582	sf	0.01 /sf		70,000	
Community Garden 27,950 sf						
black vinyl chainlink fence, 8' ht.	690	lf	52.00	35,880		
double gate, 12'	1	pair	1,800.00	1,800		
man gate, 42"-48"	1	ea	450.00	450		
topsoil-18" at plots (imported)	1,452	cy	28.00	40,656		for .6 acres
crushed granite pathways	1,814	sf	0.50	907		
water spigots & piping	1	sum	3,000.00	3,000		
kiosk - allowance	1	sum	2,500.00	2,500		
Sub-total	5,494,582	sf	0.02 /sf		85,193	
Frisbee Golf Course						
course layout & development	1	sum	4,500.00	4,500		allowance
concrete pads, 4'x8'	27	ea	320.00	8,640		
disc catchers, (9 set)	1	set	7,150.00	7,150		
rules sign	1	ea	166.25	166		
tee signs	9	ea	166.25	1,496		
Sub-total	5,494,582	sf	0.00 /sf		21,952	
Playground Area (south of tennis courts)						
black vinyl chainlink fence, 4' ht.	270	lf	30.00	8,100		
man gate, 36"	1	ea	350.00	350		
Sub-total	5,494,582	sf	0.00 /sf		8,450	
Miscellaneous Site Furnishings						
allowance for other site signage	1	sum	10,000.00	10,000		
allowance for trash receptacles	30	ea	1,000.00	30,000		allowance
Sub-total	5,494,582	sf	0.01 /sf		40,000	

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
32 EXTERIOR IMPROVEMENTS - Continued						
Dock Launch Versi launch, Gatordock Sub-total	3 5,494,582	slips sf	14,000.00 0.01 /sf	42,000 42,000		@ existing dock system
Landscape Irrigation new planting beds new lawn areas only pumps, controllers, etc - allowance Sub-total	36,200 35,000 1 5,494,582	sf sf sum sf	1.25 0.75 15,000.00 0.02 /sf	45,250 26,250 15,000 86,500		@ parking lots
Planting trees, 1.5" cal. repair lawn area new lawn area, seeding new planting beds, minimal establishment maintenance Sub-total	455 90,000 35,000 36,200 1 5,494,582	ea sf sf sf sum sf	250.00 0.50 1.25 2.75 5,000.00 0.06 /sf	113,750 45,000 43,750 99,550 5,000 307,050		allowance @ parking lots
SUB-TOTAL 32 EXTERIOR IMPROVEMENTS			1.29 /sf	\$7,095,113		

33 UTILITIES						
Water Utilities allowance for piping to new restrooms Sub-total	1 5,494,582	sum sf	35,000.00 0.01 /sf	35,000 35,000		
Sanitary Sewerage Utilities allowance for piping to new restrooms Sub-total	1 5,494,582	sum sf	28,500.00 0.01 /sf	28,500 28,500		
Storm Drainage Utilities site drainage systems see athletic surfacing above allowance for site & parking lot Sub-total	1 5,494,582	sum sf	0.00 50,000.00 0.01 /sf	0 50,000 50,000		for sub-base drainage

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Masterplan Estimate	Quantity	Unit	Cost / Unit	Cost	Sub-totals	Comments
33 UTILITIES - Continued						
Electrical Utilities						
service/controls/distribution	1	sum	50,000.00	50,000		
site lighting						
ballfields #1,2,3 & 4	15	ea	48,000.00	720,000		
existing walkway, 12' poles @ 40'oc	12	ea	5,000.00	60,000		exist. prkg lot to ballfields
pickleball, at structure	1	sum	24,000.00	24,000		
parking lots	10	ea	15,000.00	150,000		
main walkway, 12' poles @ 40'oc	32	ea	5,000.00	160,000		between south & east prkg lots
Sub-total	5,494,582	sf	0.21 /sf		1,164,000	
SUB-TOTAL 33 UTILITIES			0.23 /sf		\$1,277,500	
SUB-TOTAL			1.67	9,187,023	\$9,187,023	
Estimating Contingency			10.00%	918,702		
Index To Construction Start	Today's Cost		0.00%	0		@ ± 4% per year
General Conditions / Insurance / Bond			10.00%	1,010,573		
General Contractor OH & Profit			4.00%	444,652	2,373,927	25.84%
TOTAL DIRECT CONSTRUCTION COST						
Masterplan Estimate	5,494,582	sf	\$2.10 /sf		\$11,560,950	126.14 acres

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Appendix B:

Design and Development Guidelines

- B.1 Overview
- B.2 Park Design and Development Guidelines by Classification
- B.3 Neighborhood Parks
- B.4 Community Parks
- B.5 Regional Parks
- B.6 Urban Parks
- B.7 Special Use Areas
- B.8 Natural Areas
- B.9 Greenways/Greenbelts
- B.10 Wayside/Pocket Park/Beautification Area

Table 1: Park and Facility Classifications and Definitions

Figure 5: Potential Wayside Locations

Figure 6: Natural Areas Opportunities Map



DESIGN AND DEVELOPMENT GUIDELINES

B.1 OVERVIEW

The strength of a successful park system is that it provides a variety of park types and recreation opportunities throughout the community to encourage recreation participation from as many residents as possible. The ideal park system will provide an array of park sites with amenities and facilities appropriate to the unique culture of their surroundings. Site selection, park design, and development should support the function and purpose of each park type to ensure that diverse recreation opportunities are provided and community recreation needs are met. These planning decisions also should be based on the results of input from the most likely users. While national standards and the level of service within comparable communities should be taken into account, these comparisons serve as points of reference from which to view a local application of frequency, design, and amenities. Local demand and values provide the most significant guidelines for park site acquisition and development.



Beyond the general policies that guide all parks planning, this plan establishes guidelines specific to the design and development of new parks in Wilsonville, according to the following park types:

- Neighborhood parks;
- Community parks;
- Regional parks;
- Urban parks;
- Special use areas;
- Natural areas;
- Waysides
- Greenways/greenbelts.

For each park type, these guidelines note a recommended park size, layout, amenities, and long-range development issues for new parks, as these facilities meet the growing needs of the Wilsonville community. Existing parks may not fit within these guidelines.

B.2 PARK DESIGN AND DEVELOPMENT GUIDELINES BY CLASSIFICATION

Design and development guidelines are provided for each park type in Wilsonville. These guidelines for new parks include:



- **Description:** A definition is presented to describe the park type. This section also describes the typical length of use and means of travel to these types of parks.
- **Benefits:** The key benefits offered by this park type are noted.
- **Site selection considerations:** Criteria to consider in the acquisition and development of new parks include location, site size, and site access guidelines. Existing parks may be smaller or larger than the recommended maximum and minimum park size.
- **Amenities to provide:** These amenities should be provided in every new park in this category.
- **Amenities to consider:** These elements are appropriate to include in new parks of this classification and should be considered during the master planning and design process. These amenities may also be considered in the redevelopment of existing parks.
- **Amenities to avoid:** These elements are not compatible with the park classification.
- Under certain circumstances when it is in the best interest of the public, the design of a park or the amenities included in its design may be different from the definition of a park of its size. The Plan promotes the value of accessing an opportunity to offer park space despite its variation on the definition when it benefits the community in a unique way. For city owned parks these standards may be waived for major alternatives by the City Council and for minor alternatives by the Parks and Recreation Director. A major alternative is one that involves a significant change from the standards that impact capacity or functionality. A minor change is one that does not impact capacity or functionality.

- The design of a park or facility should be done in conjunction with input from public works for maintenance as well as law enforcement officials for safety issues.

B.3 NEIGHBORHOOD PARKS

Description

- Neighborhood parks are a combination of PLAYGROUND and PARK designed primarily for non-supervised, non-organized recreation activities. These parks provide both active and passive recreation opportunities. Active recreation tends to be self-directed and spontaneous, rather than organized activities.
- The typical neighborhood park user:
 - Comes from within ½ mile of the park.
 - Arrives on foot or bicycle.
 - Visits the park for one hour or less.



Benefits

- Provides ACCESS to basic recreation opportunities for nearby residents of all ages.
- Contributes to NEIGHBORHOOD IDENTITY.



Site Selection Considerations

- MINIMUM SIZE: 1 acre, with 2 acres preferred.
- MAXIMUM SIZE: 3 acres of developed park area.
- FRONTAGE: Site should front a public street with at least 200 feet of frontage.
- ACCESS: Where possible, access to the site should be provided via a local street with sidewalks, not an arterial.
- If residential uses abut the park site, additional access points from the adjoining neighborhood should be provided. These should be at least 25 feet wide.
- The site should be reasonably central to the neighborhood it is intended to serve.
- Walking or bicycling distance should not exceed one-half mile for the area the park is intended to serve. Access routes should minimize physical barriers, such as steep slopes, and the crossing of major arterials.
- At least 50% of site should be relatively level and usable.



Appendix B



Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the park
- Open turf area for unstructured play
- General landscape improvements (including tree planting)
- Playground equipment or comparable creative play environment
- Accessible pathway connecting park elements

Additional Amenities to Consider

- Small picnic shelter and barbecues
- Basketball court (full or half court)
- Interpretive signage
- Natural area protection and restoration opportunities (if present)
- Portable restrooms if requested by users
- Community gardens
- Skate features
- Multi-purpose sports fields
- Other neighborhood compatible sports facilities
- Public art

Amenities to Avoid

- Off-street parking, except in unique circumstances
- Permanent restrooms

Park Examples

- Courtside Park (1.91 ac)
- Hathaway Park (1.15 ac)
- Park at Merryfield (9.00 ac)
- River Fox Park (2.51 ac)
- Willow Creek/Landover Park (1.45 ac)

B.4 COMMUNITY PARKS

Description

- Community parks are larger parks that **SERVE ALL CITY RESIDENTS** and provide more **ACTIVE AND PASSIVE RECREATION** opportunities than neighborhood parks. These parks typically are designed for organized recreation activities. Community parks often include sport fields or other specialized facilities, which require more support facilities, such as parking and restrooms.
- Typical community park users:
 - Come from within 1 to 2 miles of the park.
 - Arrive by auto, bus, bicycle or foot.
 - Visit the park for one hour to three hours.



Benefits

- Provides a variety of **ACCESSIBLE RECREATION OPPORTUNITIES** for all age groups
- Provides **ENVIRONMENTAL EDUCATION** opportunities
- Serves **RECREATION NEEDS OF FAMILIES**
- Provides opportunities for **COMMUNITY SOCIAL AND CULTURAL ACTIVITIES** and positive **COMMUNITY IDENTITY**



Site Selection Considerations

- **MINIMUM SIZE:** 7 acres, with at least 10 to 15 acres preferable.
- **FRONTAGE:** Site should front a public street.
- **ACCESS:** Should be provided via a collector or arterial street with sidewalks and bicycle lanes. Transit stop should be nearby.
- Walking or bicycling distance should not exceed 1 to 1.5 miles for the area the park is intended to serve.



Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the park
- Tot and youth playground equipment or unique, innovative play environment selected to enhance the particular park and, if possible, highlight a piece of Wilsonville's environment and history
- Open turf area for unstructured play



Appendix B

- Active recreation facilities appropriate for the size, scale, and topography of the park. Options are listed below, under “Additional Amenities to Consider”
- General landscape improvements (including tree planting)
- Looped pathway system connecting park elements
- Picnic shelters, including one for groups of 25 to 30 people
- Permanent restrooms
- On or off-street parking, at about 5 spaces per developed park acre

Additional Amenities to Consider

- Sports fields for scheduled organized sports play or practice. Fields may be in complexes within the park, if space permits
- Volleyball courts
- Tennis courts
- Basketball courts
- Horseshoe pits
- Other sports facilities (disc golf, bocce, etc.)
- Field lighting
- Skate park
- Water playground
- Off-leash dog area
- Community gardens
- Interpretive signage
- Natural area protection and restoration opportunities (if present)
- Indoor recreation center or facility
- Public art
- Storage or maintenance buildings: If visible, these should be architecturally compatible with other park elements. Any exterior work areas should be screened from view
- Off-street parking: If scheduled fields are included, provide 50 spaces per field as a guideline

Amenities to Avoid

- Regional-scale facilities

Park Examples

- Boones Ferry Park (9.88 ac)
- Canyon Creek Park (8.28 ac)



B.5 REGIONAL PARKS

Description

- Regional parks, sometimes called metropolitan parks, are parks that are designed to **SERVE THE ENTIRE COMMUNITY AND BEYOND**. These parks accommodate large numbers of people and provide both active and passive recreation opportunities, along with facilities and features that attract users from Wilsonville and surrounding communities. Generally, regional parks provide a wide variety of specialized facilities, such as sports fields, indoor recreation facilities, or large picnic areas. Natural areas are often a major component.
- Typical regional park users:
 - Come from throughout the City and surrounding area.
 - Arrive by auto, bus, bicycle or foot.
 - Visit the park for one hour to more than four hours.



Benefits

- Provides a variety of **ACCESSIBLE RECREATION OPPORTUNITIES** for all age groups
- Provides **ENVIRONMENTAL EDUCATION** opportunities
- Serves **RECREATION NEEDS OF FAMILIES**
- Provides opportunities for **COMMUNITY SOCIAL AND CULTURAL ACTIVITIES** and positive **COMMUNITY IDENTITY**



Site Selection Considerations

- **SITE SIZE:** Depends on intended use, but should be sufficient to accommodate the site's unique features or amenities.
- **ACCESS:** Should be provided via a collector or arterial street.



Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the park
- General landscape improvements (including tree planting)
- Permanent restrooms
- On-street or off-street parking to accommodate the planned site use



Appendix B



Amenities to Consider

- Tot and youth playground equipment or unique, innovative play environment selected to enhance the particular park and, if possible, to highlight a piece of Wilsonville's environment and history
- Open turf area for unstructured play
- Basketball (full or half court)
- Volleyball courts
- Tennis courts
- Horseshoe pits
- Other sports facilities (disc golf, bocce, etc.)
- Designated sports fields for baseball, softball, soccer, and lacrosse. Fields may be located in complexes and may include lighting
- Regional specialty sports facilities (e.g., regional skate park or tennis center); may include lighting
- Looped pathway system
- Picnic shelters
- Large group picnic area to accommodate 75 to 100+ people
- Community gathering and event space
- Expanded utility and electric service to support community events
- Water playground or water features
- Public art
- Performance space, such as a stage area or band shell
- Interpretive signage or facilities
- Natural area protection and restoration opportunities (if present)
- Storage or maintenance buildings. If visible, these should be architecturally compatible with other park elements and any exterior work areas should be screened from view
- Off-street parking. If scheduled fields are provided, consider providing 50 spaces per field

Amenities to Avoid

- Depends on site

Park Examples

- Memorial Park (103.84 ac)

B.6 URBAN PARKS

Description

- Urban parks provide SOCIAL GATHERING SPACE within HIGH-DENSITY COMMERCIAL OR MIXED-USE CENTERS. Examples include public squares, promenades, and plazas. Park size varies depending on the proposed uses, but these parks are designed to accommodate a high volume of use due to their urban locations. Urban parks are generally more passive in nature, although active uses can be incorporated. Urban parks may incorporate more traditional park elements, such as turf areas or playground equipment and, as such, may function as neighborhood or community parks.
- Typical urban park users:
 - Are visitors, employees, or residents coming from the surrounding residential or business district, although special events can bring visitors from throughout the community.
 - Arrive by foot (except for special events).
 - Visit the park for one hour or less.



Benefits

- Provides opportunities for PUBLIC GATHERING
- Contributes to COMMUNITY IDENTITY

Site Selection Considerations

- SITE SIZE: Depends on location and intended use.
- FRONTAGE: Site should front a public street and be within or adjacent to a business district or neighborhood commercial area.

Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the park
- Expanded utility and electric service to support events



Appendix B



Amenities to Consider

- Playground equipment or innovative, creative play environment
- Other small-scale sports facilities (skate feature, bocce, etc.) compatible with an urban site
- Shelter structures
- Water playground or water features
- Concessions or vendor space
- Commercial lease space (restaurant, coffee kiosk)
- Trees and general landscaping improvements
- Shrub beds
- Turf areas
- Public art
- Performance space such as a stage area or band shell
- Paved areas
- Special facilities or features, such as historic or interpretive structures
- Interpretive signage
- Permanent restrooms
- On-street parking
- Off-street parking in special circumstances (such as for a large site with limited on-street parking available)

Amenities to Avoid

- Uses that conflict with purpose of site

Park Examples

- Murase Plaza/Memorial Park (22.16 ac)
- Town Center Park (5 ac)

B.7 SPECIAL USE AREAS

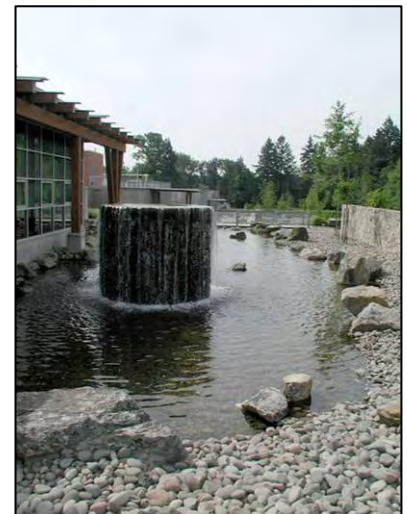
Description

- Special use areas are SINGLE PURPOSE SITES or areas occupied by SPECIALIZED FACILITIES. These sites may include stand-alone recreation facilities not located within larger parks (e.g., skate parks, swimming pools, boat ramps) or single-purpose sites occupied by buildings (e.g., a community center). Specialized facilities contained within other park types are not classified as special use areas.
- Typical special use area park users:
 - Come from throughout the City and surrounding area.
 - Arrive by auto, bus, bicycle or foot.
 - Visit the site for one hour to more than four hours.



Benefits

- Provides a variety of ACCESSIBLE RECREATION OPPORTUNITIES for all age groups
- Provides ENVIRONMENTAL/HISTORICAL EDUCATION opportunities
- Serves RECREATION NEEDS OF FAMILIES
- Provides opportunities for COMMUNITY SOCIAL ACTIVITIES



Site Selection Considerations

- SITE SIZE: Depends on intended use, but should be sufficient to accommodate the special use and necessary support facilities.
- ACCESS: Should be provided via a collector or arterial street.
- A feasibility study for the special use will determine locational criteria.

Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the park
- General landscape improvements (including tree planting)
- Special use facility
- Permanent restrooms



Appendix B



- On-street or off-street parking to accommodate the planned use of the site

Amenities to Consider

- Amenities compatible with or that support the primary special use, such as the following:
 - Playground equipment or comparable creative play environment
 - Open turf area for unstructured play
 - Courts for basketball, volleyball, or tennis if compatible with special use and space permits
 - Sports facilities (disc golf, bocce, horseshoe pits, etc.)
 - Looped pathway system
 - Picnic shelters
 - Performance space
 - Water playground or water features
 - Concessions, vendor space, or commercial lease space
 - Public art
 - Natural area (if present on site)
 - Storage or maintenance buildings. If visible, these should be architecturally compatible with other park elements and any exterior work areas should be screened from view

Amenities to Avoid

- Uses that conflict with the special use on the site

Park Examples

- Wilsonville Community Center (1.15 ac)
- Water Treatment Plant Park (9.9 ac)

B.8 NATURAL AREAS

Description

- Natural areas are UNDEVELOPED LANDS PRIMARILY LEFT IN A NATURAL STATE with passive recreation use as a secondary objective. Recreation use is generally trail-related, but interpretive facilities can be incorporated. This type of park land can include river and stream corridors, wetlands, steep hillsides, environmentally sensitive areas, wildlife habitat areas, or areas containing unique geology and/or endangered plant or animal species.
- Typical natural area users:
 - Come from throughout the City.
 - Arrive by auto, bus, bicycle or foot.
 - Visit the park for one or more hours.



Benefits

- Provides opportunities for EXPERIENCING NATURE close-to-home
- Protects valuable NATURAL RESOURCES and WILDLIFE
- Contributes to the ENVIRONMENTAL HEALTH of the community



Site Selection Considerations

- SITE SIZE: Based on natural resource needs, with site size being the amount needed to preserve or protect the resource.
- ACCESS: Where feasible, public access and use of natural areas should be encouraged through appropriate trails and other features, but environmentally sensitive areas should be protected from overuse.

Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the park
- Interpretive signage
- On-street or off-street parking; amount is dependent on facilities provided in the natural area



Appendix B



Amenities to Consider

- Shelters
- Picnic areas
- Trail and pathway system
- Trailhead or entry kiosk
- Viewpoints or viewing blinds
- Seasonal or permanent restrooms
- Interpretive or educational facilities or classrooms (indoor or outdoor)
- Amenities provided should be limited to the numbers and types of visitors the area can accommodate, while retaining its resource value, natural character, and the intended level of solitude
- Restoration of natural resources

Amenities to Avoid

- Turf areas
- Ornamental plantings
- Active use facilities (sports fields, paved courts, etc.)

Park Examples

- Graham Oaks Natural Area (Metro-owned)
- Coffee Lake Natural Area (Metro-owned)
- Boeckman Creek Crossing (8.79 ac)

B.9 GREENWAYS/GREENBELTS

Description

- Greenways or greenbelts are generally used to LINK TOGETHER LARGER FEATURES WITHIN A COMMUNITY or to PROVIDE GREEN BUFFERS between communities or neighborhoods. Recreation use is generally passive and trail-related. Although often smaller in size and more linear in form than natural areas, these parks may have high natural resource value, especially if located along streams or rivers or if the site contains wetlands. Greenways generally contain a variety of vegetation and usually are not intended for active use development.
- Typical greenway/greenbelt users:
 - Come from throughout the City.
 - Arrive by bicycle or foot.
 - Use the greenway/greenbelt as a trail corridor.



Benefits

- Provides opportunities for TRAIL-ORIENTED ACTIVITIES
- Reduces AUTO-DEPENDENCY
- Protects valuable NATURAL RESOURCES
- Serves as WILDLIFE CORRIDOR



Site Selection Considerations

- SITE SIZE: Based on the size of the corridor needed to provide the connection desired, whether for trails or for habitat.
- Carefully consider the location of trailheads, lighting, and any associated facilities to ensure that conflicts are minimized with neighboring properties.

Amenities to Provide

- Site identification signage
- Appropriate site furnishings (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.) for the intended scale and use of the greenway
- Trail and pathway system





Amenities to Consider

- Shelters
- Picnic areas
- Playground equipment where appropriate in proximity to picnic areas, if neighborhood park amenities are needed in the area
- Interpretive signage
- Trailhead or entry kiosk
- If a trailhead is provided, include on-street or off-street parking; amount is dependent on projected use of the trailhead
- If a trailhead with off-street parking is provided, consider including seasonal or permanent restrooms
- Viewpoints or viewing blinds
- Intermittent seating and/or exercise station
- Amenities provided should support the corridor use and be sufficient to support the intended level of use, while retaining the desired character of the greenway/greenbelt
- Restoration of the natural resource values of the site
- Turf areas

Amenities to Avoid

- Active use facilities (sports fields, paved courts, etc.), except in special circumstances such as a power line right-of-way or other wide corridor with no or limited resource value

Park Examples

- Tranquil Park (4.57 ac)
- Villebois Greenway (developing)
- Willamette River Greenway

B.10 WAYSIDE/POCKET PARK/BEAUTIFICATION AREA

Description

- Additional features that add to the attractiveness, user accessibility and/or passive activity opportunities throughout the City are reflected in the use of these ADDITIONAL CLASSIFICATIONS.
- Waysides/Pocket Parks and Beautification Areas are TURNOUTS LOCATED ALONG A TRAIL OR PATHWAY and generally provide a space for a momentary rest, a work break, an exercise station, or a brief activity.

Benefits

- Provide numerous, LOW IMPACT SPACES for brief activity.
- Encourage walking by providing REST BREAKS.
- Add to the use of trail or pathway.
- Distribute minor activity areas THROUGHOUT THE COMMUNITY.

Site Selection Considerations

- SITE SIZE: These 'turnout' areas are minimal in size, as small as a concrete pad for a picnic table or park bench.
- Carefully consider the location of these sites, to be complimentary to the surrounding environment: industrial area employee break; skate spot between school and home; rest stop frequency for walkers (serves both elder and toddler walkers).

Amenities to Provide

- Appropriate site furnishings (picnic table, bench, skate feature, exercise station)

Amenities to Consider

- Site identification of wayside sponsorship or other commemorative plaque (potential for funding).

Amenities to Avoid

- Any features that will require regular maintenance. Monitoring of the wayside could be part of a volunteer program of surrounding development or adjacent business.

Park Examples

- This is a new concept for Wilsonville. Examples of these features exist in nearby municipalities.

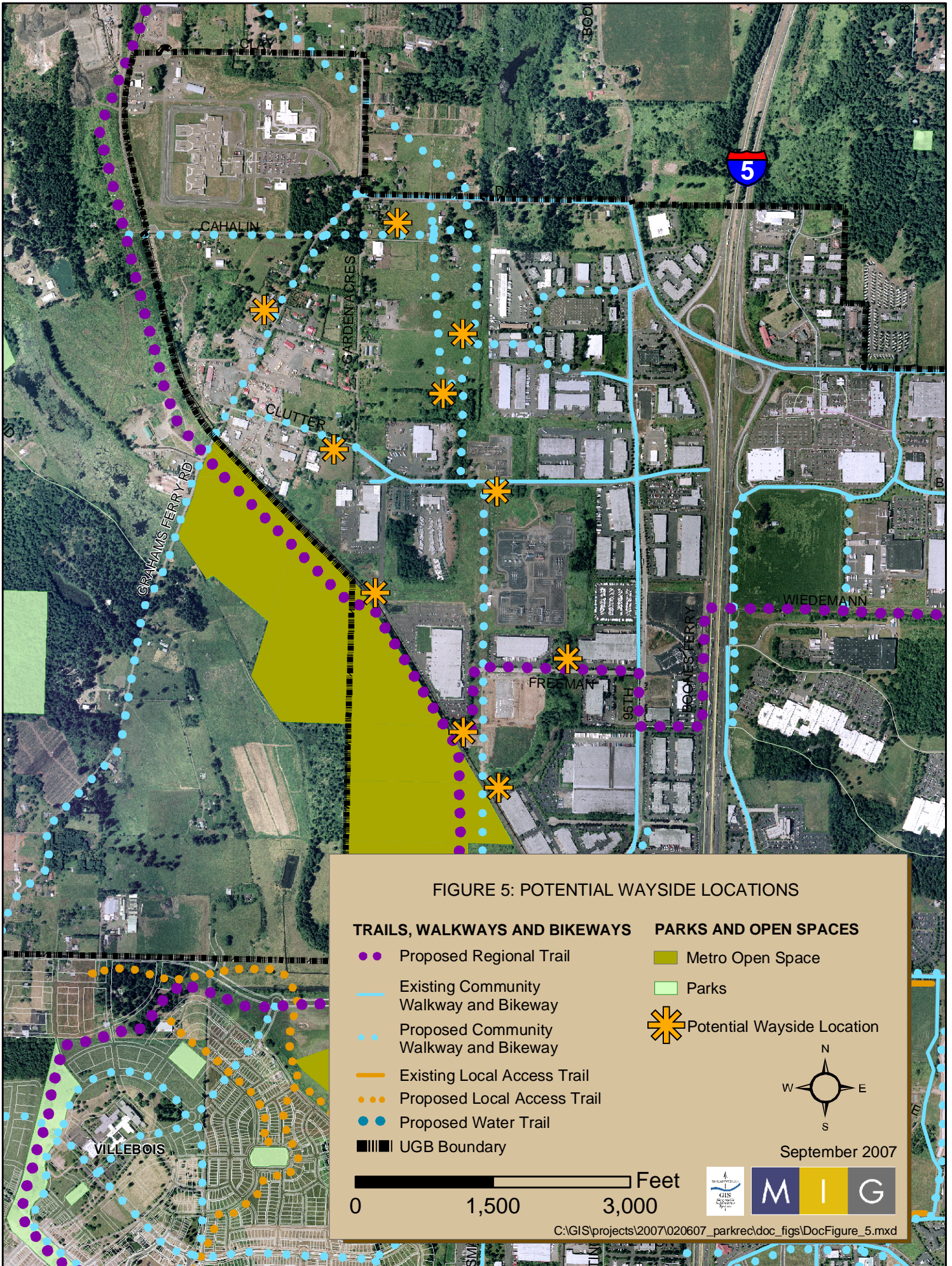
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Table 1: Park and Facility Classifications and Definitions

Park Classification	Definition	Benefits	Size	Existing Public Parks
<p>Neighborhood Park</p>	<p>Neighborhood parks are a combination of playground and park designed primarily for non-supervised, non-organized recreation activities. These parks provide both active and passive recreation opportunities. However, active recreation is self-directed and spontaneous, rather than the organized active recreation that occurs in some other park types.</p> <p>Neighborhood parks are generally small in size (5 acres or less) and serve an area of approximately one-half mile radius. Typically, amenities provided in a neighborhood park include playground equipment, picnic areas, trails or pathways, open grass areas for passive use, outdoor basketball courts, and multi-use open grass areas not intended for scheduled play. Since most neighborhood parks are in close proximity to residents, off-street parking is not included.</p>	<p>Provides ACCESS to basic recreation opportunities for nearby residents of all ages</p> <p>Contributes to NEIGHBORHOOD IDENTITY</p>	<p>Current range: 1.15 to 9.0 acres</p> <p>Proposed MINIMUM size for new parks: 1 acre, with 2 acres preferred</p> <p>Proposed MAXIMUM size for new parks: 3 acres of developed park area</p>	<p>Courtside Park Hathaway Park Park at Merryfield River Fox Park Willow Creek/Landover Park</p>
<p>Community Park</p>	<p>While both active and passive recreation opportunities are provided, community parks are generally designed around organized active recreation. As a result, community parks often have sport fields or other special facilities as the central focus of the park. Community parks serve a 1 to 2 mile radius, are designed to accommodate large numbers of people, and offer more facilities than neighborhood parks. Therefore, community parks may require more support facilities, such as off-street parking, restrooms or group picnic facilities. Optimum size is between 20 to 50 acres.</p>	<p>Provides a variety of ACCESSIBLE RECREATION OPPORTUNITIES for all age groups</p> <p>Provides ENVIRONMENTAL EDUCATION opportunities</p> <p>Serves RECREATION NEEDS OF FAMILIES</p> <p>Provides opportunities for COMMUNITY SOCIAL ACTIVITIES and positive COMMUNITY IDENTITY</p>	<p>Current range: 8.28 to 9.88 acres</p> <p>Proposed MINIMUM size for new parks: 7 acres, with 10-15 acres preferable as a minimum size</p>	<p>Boones Ferry Park Canyon Creek Park</p>
<p>Regional Park</p>	<p>Regional parks, sometimes called metropolitan parks, are parks that are designed to serve the entire community and populations beyond. These parks provide both active and passive recreation opportunities. Generally, regional parks provide a wide variety of specialized facilities such as sports fields, indoor recreation facilities or large picnic areas. Natural areas are often a major component. Because of their size and facilities offered, these parks require more in terms of support facilities such as off-street parking, restrooms and play areas. Regional parks usually exceed 50 acres in size and should be designed to accommodate large numbers of people</p>	<p>Provides a variety of ACCESSIBLE RECREATION OPPORTUNITIES for all age groups</p> <p>Provides ENVIRONMENTAL EDUCATION opportunities</p> <p>Serves RECREATION NEEDS OF FAMILIES</p> <p>Provides opportunities for COMMUNITY SOCIAL ACTIVITIES and positive COMMUNITY IDENTITY</p>	<p>Current size: 126 acres</p> <p>Proposed size for new parks: Depends on intended use, but should be sufficient to accommodate the site's unique features or amenities.</p>	<p>Memorial Park</p>

Table 1: Park and Facility Classifications and Definitions

Park Classification	Definition	Benefits	Size	Existing Public Parks
Urban Parks	Urban parks are designed to accommodate a high volume of use due to their location in higher density commercial or mixed-use centers. Their size varies depending on the proposed uses. Urban parks are generally more passive in nature, although active uses can be incorporated. Examples of urban parks include public squares, promenades, and urban plazas. Urban parks may also incorporate more traditional park elements, such as turf areas or playground equipment and may or may not include off-street parking.	Provides opportunities for PUBLIC GATHERING Contributes to COMMUNITY IDENTITY	Current range: 5 to 22.16 acres Proposed size for new parks: Depends on location and intended use	Civic Park Town Center Park
Special Use Area	Special use areas are single purpose sites or areas occupied by specialized facilities. Specialized facilities within parks of other types are not classified as special use areas. Some of the uses that fall into this classification include stand-alone recreation facilities, such as skate parks, swimming pools, community gardens, or single purpose sites occupied by buildings, such as a community center or designated performing arts facility. Special use areas tend to be oriented to active recreation, although some special uses (such as a botanical garden) are more passive in nature. Size varies depending on the proposed use.	Provides a variety of ACCESSIBLE RECREATION OPPORTUNITIES for all age groups Provides ENVIRONMENTAL/ HISTORICAL EDUCATION opportunities Serves RECREATION NEEDS OF FAMILIES Provides opportunities for COMMUNITY SOCIAL ACTIVITIES	Current range: 1.15 to 9.9 acres Proposed size for new parks: Should be sufficient to accommodate intended use and support facilities	Wilsonville Community Center Water Treatment Plant Park
Natural Area Park	Natural areas are undeveloped lands primarily left in a natural state with passive recreation use as a secondary objective. Recreation use is generally trail-related, but interpretive facilities can be incorporated. This type of park land can include river and stream corridors, wetlands, steep hillsides, environmentally sensitive areas, wildlife habitat areas, or areas containing unique geology and/or endangered plant or animal species. Off-street parking and a restroom may be provided at trail heads.	Provides opportunities for EXPERIENCING NATURE close-to-home Protects valuable NATURAL RESOURCES and WILDLIFE Contributes to the ENVIRONMENTAL HEALTH of the community	Current size: 8.79 acres Proposed size for new parks: Based on natural resource needs; size should be sufficient to protect natural resource	Boeckman Creek Crossing Graham Oaks Natural Area Coffee Lake Natural Area
Greenways/Greenbelts	Greenways or greenbelts are generally used to link together larger features within a community or to provide green buffers between communities or neighborhoods. Recreation use is generally passive and trail-related. Although often smaller in size and more linear in form than natural areas, these parks may have high natural resource value, especially if located along streams or rivers, or if the site contains wetland. Greenways generally contain a variety of vegetation and are not intended for active use development. Off-street parking is not typically provided.	Provides opportunities for TRAIL-ORIENTED ACTIVITIES Reduces AUTO-DEPENDENCY Protects valuable NATURAL RESOURCES Connects COMMUNITY FACILITIES	Current size: 4.57 acres Proposed size for new parks: Based on the size of the corridor needed to provide the connection desired, whether for trails or for habitat	Tranquil Park Villebois Greenway (developing)



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Memorial Park Community Garden & Dog Run Site Design Review

Date: November 14, 2017

Submitted to: City of Wilsonville
29799 SW Town Center Loop E
Wilsonville, OR 97070

Applicant: City of Wilsonville
29799 SW Town Center Loop E
Wilsonville, OR 97070



City of Wilsonville
EXHIBIT B1 DB17-0028



AKS
ENGINEERING & FORESTRY

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Table of Contents

I. Executive Summary	2
II. Site Description/Setting	2
III. Applicable Review Criteria	3
<u>WILSONVILLE PLANNING & LAND DEVELOPMENT ORDINANCE</u>	<u>3</u>
CHAPTER 4 SECTIONS 4.100 – 4.141 ZONING	3
Section 4.136. PF - Public Facility Zone.	3
CHAPTER 4 - SECTIONS 4.154 – 4.199 GENERAL DEVELOPMENT REGULATIONS	4
Section 4.154. On-site Pedestrian Access and Circulation.	4
Section 4.155. General Regulations - Parking, Loading and Bicycle Parking.	6
Section 4.167. General Regulations - Access, Ingress and Egress.	8
Section 4.176. Landscaping, Screening, and Buffering.	9
Section 4.177. Street Improvement Standards.	10
Section 4.199 OUTDOOR LIGHTING	11
Section 4.199.30. Lighting Overlay Zones.	11
Section 4.199.40. Lighting Systems Standards for Approval.	12
CHAPTER 4 – SECTIONS 4.400 – 4.450 SITE DESIGN REVIEW	13
Section 4.421. Criteria and Application of Design Standards.	13
IV. Conclusion.....	15

Exhibits

- Exhibit A:** Development Permit Application Form
 - Exhibit B:** Preliminary Land Use Plans
 - Exhibit C:** Clackamas County Assessor’s Map
 - Exhibit D:** Transportation Study
 - Exhibit E:** Access Improvement Exhibit
 - Exhibit F:** Preliminary Stormwater Report
-

Memorial Park Community Garden & Dog Run Site Design Review

Submitted to:	City of Wilsonville Planning Division 29799 SW Town Center Loop E Wilsonville, OR 97070
Applicant & Owner:	City of Wilsonville 29799 SW Town Center Loop E Wilsonville, OR 97070
Applicant's Consultant:	AKS Engineering & Forestry, LLC 12965 SW Herman Road, Suite 100 Tualatin, OR 97062 Contact: John Christiansen, PE (johnc@aks-eng.com) Phone: (503) 563-6151 Fax: (503) 563-6152
Site Location:	8200 SW Wilsonville Road/7524 SW Schroeder Way
County Assessor's Map:	T3S R1W Section 24 Tax Lot 691
Site Size:	± 3.25-acre area within ± 91.9-acre tax lot
Land Use Districts:	PF-Public Facilities Zone



I. Executive Summary

The City of Wilsonville (Applicant) is submitting this application for Site Design Review to implement Phase 1 of the 2015 Memorial Park Master Plan (MPMP).

Memorial Park is the City's oldest and largest park. The park property was acquired by the City in 1968 and fronts the Willamette River for a half mile. Including Murase Plaza, the park comprises 126 acres of active and passive recreation areas and natural habitat. Memorial Park contains many amenities including: sports fields, tennis and basketball courts, a skatepark, playgrounds, a boat dock, picnic areas and shelters, restroom facilities, paths, and hiking trails. Memorial Park is also home to the City's only off-leash dog run and its community garden.

The MPMP addresses, among other improvements, additional and improved parking areas that are needed throughout the park. Within the immediate area of the existing Community Garden, Phase 1 of the MPMP includes:

1. The Addition of the Northeast Parking Lot (Dog Run and Community Garden Parking Lot)
2. The Relocation of the Off-Leash Dog Run
3. An Additional Restroom Facility (Dog Run/Community Garden)
4. Community Garden Expansion and Improvements (Completed)

The new parking lot will be located at the current site of the Memorial Park Community Garden (and future site of the relocated dog run) located at 7524 SW Schroeder Way. The current parking area is a compacted gravel site used solely for the Community Garden. Proposed improvements include parking lot pavement, stormwater management facilities, utilities, landscaping, a trail connection across the parking lot, access roadway, and a restroom facility.

This application includes the City application form, written materials, and preliminary plans necessary for City staff to review and determine compliance with the applicable approval criteria. The evidence is substantial and supports the City's approval of the application.

II. Site Description/Setting

The subject site is located at the northern edge of tax lot 691. At 91.9-acres, it's the largest of the multiple tax lots that comprise Memorial Park. The site is relatively flat and contains the current community garden and compacted gravel parking area. A fenced well building is located in the southeast quadrant of the site. The site is bounded on the north by SW Schroeder Way, and SW Rose Lane is ± 300 feet to the east.

III. Applicable Review Criteria

WILSONVILLE PLANNING & LAND DEVELOPMENT ORDINANCE

CHAPTER 4 SECTIONS 4.100 – 4.141 ZONING

Section 4.136. PF - Public Facility Zone.

(.02) Uses Permitted Outright:

(***)

F. Parking facilities

(***)

I. Trails and pathways

J. Parks

(***)

M. Accessory Uses

RESPONSE: Consistent with the 2015 MPMP, the proposed improvements include parking lot pavement, stormwater management facilities, utilities, landscaping, a trail connection across the parking lot, access roadway, and a restroom facility. These facility upgrades and new amenities are associated with the park use, and therefore are permitted outright.

(.04) Dimensional Standards:

A. Minimum Lot Size: One (1) Acre The minimum lot area may be reduced upon a finding that the resulting parcel is compatible with the adjoining property in that it does not impair the development of any adjoining property, does not adversely affect the value of adjoining property, and does not adversely affect the public health, safety, or welfare.

B. Minimum front and rear yard setbacks: Thirty (30) feet. Minimum sideyard setback: ten (10) feet.

C. Minimum street frontage: Seventy-five (75) feet.

D. Maximum height: thirty five (35) feet.

RESPONSE: The subject site is located at the northern edge of tax lot 691. At 91.9-acres, it's the largest of the multiple tax lots that comprise Memorial Park. The planned parking areas, community garden site, off-leash area, and restroom are all located more than 30 feet from property lines. The subject tax lot has more than 75 feet of frontage on both SW Schroeder Way and SW Rose Lane. The planned restroom building will be less than 35 feet in height. Therefore, the dimensional standards are met.

(.05) Off-Street Parking Requirements: As provided in Section 4.155.

RESPONSE: Off-street parking is addressed in the responses to Section 4.155, below.

(.06) Signs: As provided in Sections 4.156.01 through 4.156.11.

RESPONSE: No new signs are planned. Therefore, these standards do not apply.

(.07) Corner Vision: As provided in Section 4.176

RESPONSE: The applicable provisions of Section 4.176 are addressed below.

(.08) Special Regulations:

- A. All principal and conditional uses shall be subject to Section 4.400 through 4.450 (Site Design Review) of the Wilsonville Code.
- B. As part of either a permitted or conditional use, the Planning Commission may review and approve a Master Plan for an entire development or area subject to Section 4.140 (Planned Development Regulations) of the Wilsonville Code. Approval of a Master Plan would allow all uses provided in the Master Plan without further review. Minor changes which do not have off-site impact or increase visitor capacity may be reviewed by the Planning Director.
- C. Prisons, other than minimum-security mental institutions, are hereby prohibited.

RESPONSE: Applicable Site Design Review criteria are addressed in the responses to Section 4.421, below. The 2015 MPMP was approved through a legislative process rather than as a quasi-judicial Planned Development. Therefore, (B) and (C) do not apply.

(.09) Block and access standards:

The PF zone shall be subject to the same block and access standards as the PDC zone, Section 4.131(.03).

RESPONSE: Access, connectivity, and circulation are addressed in the responses to Section 4.154, Section 4.155, Section 4.167, and Section 4.177, below. Otherwise, Section 4.131(.03) does not apply to the planned park uses.

CHAPTER 4 - SECTIONS 4.154 – 4.199 GENERAL DEVELOPMENT REGULATIONS

Section 4.154. On-site Pedestrian Access and Circulation.

(.01) On-site Pedestrian Access and Circulation

(**)

- B. Standards. Development shall conform to all of the following standards:
 - 1. Continuous Pathway System. A pedestrian pathway system shall extend throughout the development site and connect to adjacent sidewalks, and to all future phases of the development, as applicable.

RESPONSE: The 2015 MPMP envisions a continuous pathway system connecting through the site to other sections of Memorial Park. Pathway improvements associated with the parking lot and community garden will be limited to the immediate development area but will integrate with future Memorial Park trail development. Therefore, the standard is met.

- 2. Safe, Direct, and Convenient. Pathways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent parking areas, recreational areas/playgrounds, and public rights-of-way and crosswalks based on all of the following criteria:

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- a. Pedestrian pathways are designed primarily for pedestrian safety and convenience, meaning they are free from hazards and provide a reasonably smooth and consistent surface.
 - b. The pathway is reasonably direct. A pathway is reasonably direct when it follows a route between destinations that does not involve a significant amount of unnecessary out-of-direction travel.
 - c. The pathway connects to all primary building entrances and is consistent with the Americans with Disabilities Act (ADA) requirements.
 - d. All parking lots larger than three acres in size shall provide an internal bicycle and pedestrian pathway pursuant to Section 4.155(.03)(B.)(3.)(d.).

RESPONSE: As shown on the preliminary plans, trail and sidewalk improvements abutting the parking lot will be separated from vehicle use areas by curbs or wheel stops, and will provide safe, direct, and convenient connection to the community garden, dog run, and restroom building. Future phases of the 2015 MPMP will expand and extend trails to other recreational areas. Pathways will be consistent with ADA requirements. The parking lot is less than 3 acres in size. Therefore, (d) does not apply and the applicable standards are met.

- 3. Vehicle/Pathway Separation. Except as required for crosswalks, per subsection 4, below, where a pathway abuts a driveway or street it shall be vertically or horizontally separated from the vehicular lane. For example, a pathway may be vertically raised six inches above the abutting travel lane, or horizontally separated by a row of bollards.
- 4. Crosswalks. Where a pathway crosses a parking area or driveway, it shall be clearly marked with contrasting paint or paving materials (e.g., pavers, lightcolor concrete inlay between asphalt, or similar contrast).

RESPONSE: Pathways are planned to be separated from vehicle use areas by curbs or wheel stops, and all parking area or driveway crossings marked as required. Therefore, the standards are met.

- 5. Pathway Width and Surface. Primary pathways shall be constructed of concrete, asphalt, brick/masonry pavers, or other durable surface, and not less than five (5) feet wide. Secondary pathways and pedestrian trails may have an alternative surface except as otherwise required by the ADA.
- 6. All pathways shall be clearly marked with appropriate standard signs.

RESPONSE: Primary pathways will be at least 5-foot-wide and constructed of durable surface. Wider pathways will be provided as required by the 2015 MPMP. Pathways will be clearly marked, as required by City standards or the 2015 MPMP. Therefore, the standards are met.

Section 4.155. General Regulations - Parking, Loading and Bicycle Parking.

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(.03) Minimum and Maximum Off-Street Parking Requirements:

- A. Parking and loading or delivery areas shall be designed with access and maneuvering area adequate to serve the functional needs of the site and shall:
1. Separate loading and delivery areas and circulation from customer and/or employee parking and pedestrian areas. Circulation patterns shall be clearly marked.
 2. To the greatest extent possible, separate vehicle and pedestrian traffic.

RESPONSE: As shown on the preliminary plans, the improved parking area meets the applicable functional and dimensional standards. No loading or delivery area is required. Pedestrian pathways connect to the parking area but are separated from vehicle use areas. Therefore, the applicable standards are met.

- B. Parking and loading or delivery areas shall be landscaped to minimize the visual dominance of the parking or loading area, as follows:
1. Landscaping of at least ten percent (10%) of the parking area designed to be screened from view from the public right-of-way and adjacent properties. This landscaping shall be considered to be part of the fifteen percent (15%) total landscaping required in Section 4.176.03 for the site development.

RESPONSE: As shown on the preliminary plans, applicable parking area landscaping requirements are met. The parking area is visually buffered from adjacent properties and rights-of-way by physical distance, existing vegetation, and topography. At the December 22, 2016 pre-application conference, City staff indicated no additional screening or buffering would be necessary. Therefore, the applicable standards are met.

2. Landscape tree planting areas shall be a minimum of eight (8) feet in width and length and spaced every eight (8) parking spaces or an equivalent aggregated amount.
 - a. Trees shall be planted in a ratio of one (1) tree per eight (8) parking spaces or fraction thereof, except in parking areas of more than two hundred (200) spaces where a ratio of one (1) tree per six (six) spaces shall be applied as noted in subsection (.03)(B.)(3.). A landscape design that includes trees planted in areas based on an aggregated number of parking spaces must provide all area calculations.
 - b. Except for trees planted for screening, all deciduous interior parking lot trees must be suitably sized, located, and maintained to provide a branching minimum of seven (7) feet clearance at maturity.

RESPONSE: As shown on the preliminary plans, landscape tree planting areas are provided and meet the applicable standards.

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- C. Off Street Parking shall be designed for safe and convenient access that meets ADA and ODOT standards. All parking areas which contain ten (10) or more parking spaces, shall for every fifty (50) standard spaces., provide one ADA accessible parking space that is constructed to building code standards, Wilsonville Code 9.000.

RESPONSE: As shown on the preliminary plans, the community garden parking area will expand to 33 vehicle parking spaces, including two ADA accessible spaces that will meet the applicable building code standards. Therefore, the standard is met.

- D. Where possible, parking areas shall be designed to connect with parking areas on adjacent sites so as to eliminate the necessity for any mode of travel of utilizing the public street for multiple accesses or cross movements. In addition, on-site parking shall be designed for efficient on-site circulation and parking.

RESPONSE: Vehicle connections to other Memorial Park parking areas is not possible due to topography, existing vegetation, and existing park uses. Therefore, this standard does not apply.

- E. In all multi-family dwelling developments, there shall be sufficient areas established to provide for parking and storage of motorcycles, mopeds and bicycles. Such areas shall be clearly defined and reserved for the exclusive use of these vehicles.

RESPONSE: The project is not a multi-family dwelling development. Therefore, the standards do not apply.

- F. On-street parking spaces, directly adjoining the frontage of and on the same side of the street as the subject property, may be counted towards meeting the minimum off-street parking standards.

RESPONSE: The improved parking area is separate from any available on-street parking. Therefore, the standard does not apply.

- G. Tables 5 shall be used to determine the minimum and maximum parking standards for various land uses. The minimum number of required parking spaces shown on Tables 5 shall be determined by rounding to the nearest whole parking space. For example, a use containing 500 square feet, in an area where the standard is one space for each 400 square feet of floor area, is required to provide one off-street parking space. If the same use contained more than 600 square feet, a second parking space would be required. Structured parking and on-street parking are exempted from the parking maximums in Table 5.

RESPONSE: Table 5 does not address minimum and maximum vehicle parking for park uses. Figure 6 in the 2015 MPMP shows 364 vehicle parking spaces across Memorial Park, 10 of which are currently located in the unpaved area abutting the community garden. The preferred option includes new parking areas accommodating 214 additional vehicle spaces. Consistent with the MPMP, the improved community garden parking area includes 33 total vehicle spaces. Therefore, the applicable standards are met.

(.04) Bicycle Parking:

A. Required Bicycle Parking - General Provisions.

1. The required minimum number of bicycle parking spaces for each use category is shown in Table 5, Parking Standards.
2. Bicycle parking spaces are not required for accessory buildings. If a primary use is listed in Table 5, bicycle parking is not required for the accessory use.
3. When there are two or more primary uses on a site, the required bicycle parking for the site is the sum of the required bicycle parking for the individual primary uses.
4. Bicycle parking space requirements may be waived by the Development Review Board per Section 4.118(.03)(A.)(9.) and (10.).

RESPONSE: The Transportation Study (Exhibit D) evaluates bicycle connections and parking, and acknowledges that Table 5 does not address minimum and maximum bicycle parking for park uses. Nonetheless, the Study recommends providing bicycle parking and the preliminary plans show bicycle parking for eight bicycles at the southwest corner of the parking area. The applicable standards are met.

B. Standards for Required Bicycle Parking

1. Each space must be at least 2 feet by 6 feet in area and be accessible without moving another bicycle.
2. An aisle at least 5 feet wide shall be maintained behind all required bicycle parking to allow room for bicycle maneuvering. Where the bicycle parking is adjacent to a sidewalk, the maneuvering area may extend into the right-of-way.
3. When bicycle parking is provided in racks, there must be enough space between the rack and any obstructions to use the space properly.
4. Bicycle lockers or racks, when provided, shall be securely anchored.
5. Bicycle parking shall be located within 30 feet of the main entrance to the building or inside a building, in a location that is easily accessible for bicycles. For multi-tenant developments, with multiple business entrances, bicycle parking may be distributed on-site among more than one main entrance.

RESPONSE: The preliminary plans show a bicycle parking area that can accommodate eight bicycle parking spaces with the required aisle. Because the bicycle parking is serving an outdoor park use, standard B(5) does not apply. The applicable standards are met.

Section 4.167. General Regulations - Access, Ingress and Egress.

- (.01) Each access onto streets or private drives shall be at defined points as approved by the City and shall be consistent with the public's health, safety and general welfare. Such defined points of access shall be approved at the

time of issuance of a building permit if not previously determined in the development permit.

RESPONSE: Access to the subject site is currently provided through defined connections with SW Schroeder Way and SW Kolbe Lane. The City has developed plans to improve access to the park, as shown in Exhibit E. The planned improvements will enhance the safety of this connection for vehicles, pedestrians, and bicyclists. Therefore, the criteria are met.

Section 4.176. Landscaping, Screening, and Buffering.

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(.03) Landscape Area. Not less than fifteen percent (15%) of the total lot area, shall be landscaped with vegetative plant materials. The ten percent (10%) parking area landscaping required by section 4.155.03(B)(1) is included in the fifteen percent (15%) total lot landscaping requirement. Landscaping shall be located in at least three separate and distinct areas of the lot, one of which must be in the contiguous frontage area. Planting areas shall be encouraged adjacent to structures. Landscaping shall be used to define, soften or screen the appearance of buildings and off-street parking areas. Materials to be installed shall achieve a balance between various plant forms, textures, and heights. The installation of native plant materials shall be used whenever practicable. (For recommendations refer to the Native Plant List maintained by the City of Wilsonville).

RESPONSE: Section 4.001 defines landscaping, in relevant part, to include “trees, grass, shrubs, flowers, water features, and garden areas, and the arrangement of paths, walkways, fountains, patios, decks, fencing, street furniture and ornamental concrete or stonework areas, earth forms such as grading, mounding and contours.” As such, the existing park and community garden landscaping meets the 15% total area standard.

As shown on the preliminary plans, parking area landscaping includes rain gardens and landscaped islands, and constitutes more than 10% of the parking area. The parking area is visually buffered from adjacent properties and rights-of-way by physical distance, existing vegetation, and topography. Therefore, the applicable landscape criteria are met.

(.04) Buffering and Screening. Additional to the standards of this subsection, the requirements of the Section 4.137.5 (Screening and Buffering Overlay Zone) shall also be applied, where applicable.

- A. All intensive or higher density developments shall be screened and buffered from less intense or lower density developments.
- B. Activity areas on commercial and industrial sites shall be buffered and screened from adjacent residential areas. Multi-family developments shall be screened and buffered from single-family areas.
- C. All exterior, roof and ground mounted, mechanical and utility equipment shall be screened from ground level off-site view from adjacent streets or properties.
- D. All outdoor storage areas shall be screened from public view, unless visible storage has been approved for the site by the Development Review Board or Planning Director acting on a development permit.

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- E. In all cases other than for industrial uses in industrial zones, landscaping shall be designed to screen loading areas and docks, and truck parking.
 - F. In any zone any fence over six (6) feet high measured from soil surface at the outside of fenceline shall require Development Review Board approval.

RESPONSE: The planned improvements to the existing park use will not establish a more intensive use or development than the residential uses located north of SW Schroeder Way. As stated above, the parking area is visually buffered from adjacent properties and rights-of-way by physical distance, existing vegetation, and topography. At the December 22, 2016 pre-application conference, City staff indicated no additional screening or buffering would be necessary. No additional screening or buffering is planned. Therefore, the applicable standards are met.

Section 4.177. Street Improvement Standards.

This section contains the City's requirements and standards for pedestrian, bicycle, and transit facility improvements to public streets, or within public easements. The purpose of this section is to ensure that development, including redevelopment, provides transportation facilities that are safe, convenient, and adequate in rough proportion to their impacts.

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(.08). Access Drive and Driveway Approach Development Standards.

- A. An access drive to any proposed development shall be designed to provide a clear travel lane free from any obstructions.
- B. Access drive travel lanes shall be constructed with a hard surface capable of carrying a 23-ton load.
- C. Where emergency vehicle access is required, approaches and driveways shall be designed and constructed to accommodate emergency vehicle apparatus and shall conform to applicable fire protection requirements. The City may restrict parking, require signage, or require other public safety improvements pursuant to the recommendations of an emergency service provider.
- D. Secondary or emergency access lanes may be improved to a minimum 12 feet with an all-weather surface as approved by the Fire District. All fire lanes shall be dedicated easements.
- E. Minimum access requirements shall be adjusted commensurate with the intended function of the site based on vehicle types and traffic generation.

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- I. Driveways shall accommodate all projected vehicular traffic on-site without vehicles stacking or backing up onto a street.
- J. Driveways shall be designed so that vehicle areas, including but not limited to drive-up and drive-through facilities and vehicle storage and service areas, do not obstruct any public right-of-way.
- K. Approaches and driveways shall not be wider than necessary to safely accommodate projected peak hour trips and turning movements, and shall be designed to minimize crossing distances for pedestrians.

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- M. Approaches and driveways shall be located and designed to allow for safe maneuvering in and around loading areas, while avoiding conflicts with pedestrians, parking, landscaping, and buildings.

RESPONSE: The subject site abuts SW Schroeder Way, a local street. Access to the subject site is currently provided through a defined connection with SW Schroeder Way and SW Kolbe Lane. Exhibit E shows plans developed by the City to improve off-site pedestrian and vehicle access to the park. The preliminary plans in Exhibit B show planned on-site improvements will extend the access drive into the site, with a planned emergency vehicle turnaround at the terminus. The improved access drive will provide unobstructed travel lanes that will accommodate all projected vehicular traffic on-site. Approaches and the access drive are planned to meet applicable design and construction standards. These improvements will create a safer circulation pattern for vehicles, pedestrians, and bicyclists. Therefore, the criteria are met.

Section 4.199 OUTDOOR LIGHTING

Section 4.199.30. Lighting Overlay Zones.

(.01) The designated Lighting Zone as indicated on the Lighting Overlay Zone Map for a commercial, industrial, multi-family or public facility parcel or project shall determine the limitations for lighting systems and fixtures as specified in this Ordinance.

- A. Property may contain more than one lighting zone depending on site conditions and natural resource characteristics.

(.02) The Lighting Zones shall be:

- A. LZ 1. Developed areas in City and State parks, recreation areas, SROZ wetland and wildlife habitat areas; developed areas in natural settings; sensitive night environments; and rural areas. This zone is intended to be the default condition for rural areas within the City.
- B. LZ 2. Low-density suburban neighborhoods and suburban commercial districts, industrial parks and districts. This zone is intended to be the default condition for the majority of the City.
- C. LZ 3. Medium to high-density suburban neighborhoods and districts, major shopping and commercial districts as depicted on the Lighting Overlay Zone Map.
- D. LZ 4. Reserved for limited applications with special lighting requirements. This zone is appropriate for users who have unique site or operating circumstances that warrant additional light. This zone shall not be applied to residential or agricultural areas.

RESPONSE: The subject site is located within Lighting Overlay Zone 1 (LZ 1). The Preliminary Site Lighting Plan in Exhibit B shows parking area lighting can comply with the applicable lighting standards.

Section 4.199.40. Lighting Systems Standards for Approval.

(.01) Non-Residential Uses and Common Residential Areas.

- A. All outdoor lighting shall comply with either the Prescriptive Option or the Performance Option below.

RESPONSE: The Preliminary Site Lighting Plan shows that the Prescriptive Option standards, as discussed below, are met.

- B. Prescriptive Option. If the lighting is to comply with this Prescriptive Option, the installed lighting shall meet all of the following requirements according to the designated Lighting Zone.

1. The maximum luminaire lamp wattage and shielding shall comply with Table 7.

RESPONSE: The Luminaire and Light Pole Schedule table on the Preliminary Site Lighting Plan shows wattage and shielding consistent with Table 7. The standard is met.

2. Except for those exemptions listed in Section 4.199.20(.02), the exterior lighting for the site shall comply with the Oregon Energy Efficiency Specialty Code, Exterior Lighting.

RESPONSE: The planned parking area lighting can comply with the applicable provisions of the Oregon Energy Efficiency Specialty Code, Exterior Lighting. The standard can be met.

3. The maximum pole or mounting height shall be consistent with Table 8.

RESPONSE: The Luminaire and Light Pole Schedule table on the Preliminary Site Lighting Plan shows a planned mounting height of 25 feet, consistent with Table 8. The standard is met.

4. Each luminaire shall be set back from all property lines at least 3 times the mounting height of the luminaire:

a. Exception 1: If the subject property abuts a property with the same base and lighting zone, no setback from the common lot lines is required.

b. Exception 2: If the subject property abuts a property which is zoned (base and lighting) other than the subject parcel, the luminaire shall be setback three times the mounting height of the luminaire, measured from the abutting parcel's setback line. (Any variance or waiver to the abutting property's setback shall not be considered in the distance calculation).

c. Exception 3: If the luminaire is used for the purpose of street, parking lot or public utility easement illumination and is located less than 3 mounting heights from the property line, the luminaire shall include a house side shield to protect adjoining property.

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- d. Exception 4: If the subject property includes an exterior column, wall or abutment within 25 feet of the property line, a luminaire partly shielded or better and not exceeding 60 lamp watts may be mounted onto the exterior column, wall or abutment or under or within an overhang or canopy attached thereto. e. Exception

RESPONSE: The Preliminary Site Lighting Plan shows that light poles are located ± 75 feet – three times the 25-foot luminaire height – from all property lines. Exception 3 allows luminaires closer than 75 feet from property lines with house-side shielding to protect adjoining property. The standard is met.

CHAPTER 4 – SECTIONS 4.400 – 4.450 SITE DESIGN REVIEW

Section 4.421. Criteria and Application of Design Standards.

(.01) The following standards shall be utilized by the Board in reviewing the plans, drawings, sketches and other documents required for Site Design Review. These standards are intended to provide a frame of reference for the applicant in the development of site and building plans as well as a method of review for the Board. These standards shall not be regarded as inflexible requirements. They are not intended to discourage creativity, invention and innovation. The specifications of one or more particular architectural styles is not included in these standards. (Even in the Boones Ferry Overlay Zone, a range of architectural styles will be encouraged.)

A. Preservation of Landscape. The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soils removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

RESPONSE: As shown on the Preliminary Tree Preservation Plan, 67 trees have been inventoried (65 onsite, 2 offsite), all of which are planned to be preserved. The preliminary plans minimize grading and excavation, and any necessary grade changes will maintain the general appearance of the site and surrounding park area. Therefore, the criteria are met.

B. Relation of Proposed Buildings to Environment. Proposed structures shall be located and designed to assure harmony with the natural environment, including protection of steep slopes, vegetation and other naturally sensitive areas for wildlife habitat and shall provide proper buffering from less intensive uses in accordance with Sections 4.171 and 4.139 and 4.139.5. The achievement of such relationship may include the enclosure of space in conjunction with other existing buildings or other proposed buildings and the creation of focal points with respect to avenues of approach, street access or relationships to natural features such as vegetation or topography.

RESPONSE: As shown on the preliminary plans, the new restroom building will be located on the south side of the parking lot, adjacent to the dog run. The building itself needs to be clearly visible to park users, but will be screened from adjacent properties by topography and existing vegetation. The proposed location avoids steep slopes, existing vegetation, and sensitive natural areas. Therefore, the criteria are met.

C. Drives, Parking and Circulation. With respect to vehicular and pedestrian circulation, including walkways, interior drives and parking, special attention shall be given to location and number of

access points, general interior circulation, separation of pedestrian and vehicular traffic, and arrangement of parking areas that are safe and convenient and, insofar as practicable, do not detract from the design of proposed buildings and structures and the neighboring properties.

RESPONSE: A central purpose of the project is to enhance vehicular and pedestrian access and circulation, in terms of convenience and safety, to the subject portion of Memorial Park. Access drives, parking, and circulation are addressed in detail above, in the responses to Section 4.154, Section 4.155, Section 4.167, and Section 4.177. Therefore, the criteria are met.

D. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties of the public storm drainage system.

RESPONSE: As shown on the preliminary plans, surface water generated by the increase in impervious surface will be contained on site, primarily in the rain gardens. The proposed stormwater system will connect to an existing stormwater main at the north end of the site. The preliminary plans also provide for erosion and sediment control during construction. Therefore, the criteria are met.

E. **Utility Service.** Any utility installations above ground shall be located so as to have a harmonious relation to neighboring properties and site. The proposed method of sanitary and storm sewage disposal from all buildings shall be indicated.

RESPONSE: No above ground utility installations are planned. As shown on the preliminary plans, the new restroom building will connect to water from the north, and a new sanitary sewer line will connect to the existing main southwest of the building. The proposed stormwater system will connect to an existing stormwater main at the north end of the site. Therefore, the criteria are met.

F. **Advertising Features.** In addition to the requirements of the City's sign regulations, the following criteria should be included: the size, location, design, color, texture, lighting and materials of all exterior signs and outdoor advertising structures or features shall not detract from the design of proposed buildings and structures and the surrounding properties.

RESPONSE: No new signs or outdoor advertising are planned. Therefore, the criteria do not apply.

G. **Special Features.** Exposed storage areas, exposed machinery installations, surface areas, truck loading areas, utility buildings and structures and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall be required to prevent their being incongruous with the existing or contemplated environment and its surrounding properties. Standards for screening and buffering are contained in Section 4.176. (.02) The standards of review outlined in Sections (a) through (g) above shall also apply to all accessory buildings, structures, exterior signs and other site features, however related to the major buildings or structures.

RESPONSE: No new special features, as described in this section, are planned. Therefore, the criteria do not apply.

IV. Conclusion

The required findings have been made and this written narrative and accompanying documentation demonstrate that the application is consistent with the applicable provisions of the Wilsonville Planning & Land Development Ordinance. The evidence in the record is substantial and supports approval of the application. Therefore, the Applicant respectfully requests that the City approve the application for Site Design Review.



Exhibit A: Development Permit Application Form



29799 SW Town Center Loop E, Wilsonville, OR 97070
Phone: 503.682.4960 Fax: 503.682.7025
Web: www.ci.wilsonville.or.us

Planning Division
Development Permit Application

Final action on development application or zone change is required within 120 days in accordance with provisions of ORS 227.175

A pre application conference is normally required prior to submittal of an application. Please visit the City's website for submittal requirements

Pre-Application Meeting Date: 12/22/16

Incomplete applications will not be scheduled for public hearing until all of the required materials are submitted.

Applicant:

Name: City of Wilsonville
Company:
Mailing Address: 29799 SW Town Center Loop E
City, State, Zip: Wilsonville, OR 97070
Phone: 503-682-1011 Fax: 503-682-1015
E-mail:

Authorized Representative:

Name: John Christiansen
Company: AKS Engineering & Forestry, LLC
Mailing Address: 12965 SW Herman Rd, Suite 100
City, State, Zip: Tualatin, OR 97062
Phone: 503-563-6151 Fax: 503-563-6152
E-mail: johnc@aks-eng.com

Property Owner:

Name: City of Wilsonville
Company:
Mailing Address: 29799 SW Town Center Loop E
City, State, Zip: Wilsonville, OR 97070
Phone: 503-682-1011 Fax: 503-682-1015
E-mail:

Property Owner's Signature:

Printed Name: Date:

Applicant's Signature: (if different from Property Owner)

Printed Name: Date:

Site Location and Description:

Project Address if Available: 7524 SW Schroeder Way, Wilsonville, OR 97070 Suite/Unit

Project Location: South of SW Schroeder Way in Memorial Park.

Tax Map #(s): T3S R1W 24 Tax Lot #(s): 691 County: Washington Clackamas

Request:

New paved parking facility serving the Memorial Park Dog Run and Community Garden. Improvements to include stormwater management facilities, utilities, landscaping, trail connections, access roadway, and restroom.

Project Type: Class I Class II Class III

Residential Commercial Industrial Other: Park/Public

Application Type(s):

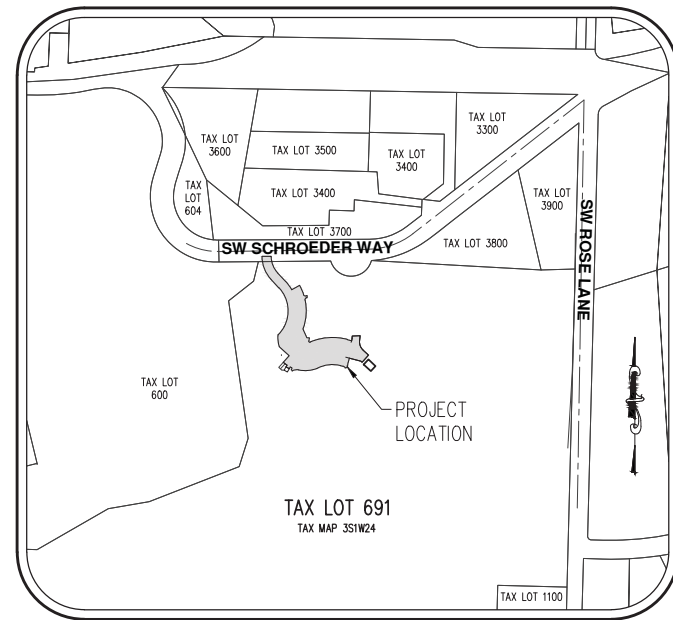
- Annexation Appeal Comp Plan Map Amend Parks Plan Review
Final Plat Major Partition Minor Partition Request to Modify
Plan Amendment Planned Development Preliminary Plat Conditions
Request for Special Meeting Request for Time Extension Signs Site Design Review
SROZ/SRIR Review Staff Interpretation Stage I Master Plan Stage II Final Plan
Type C Tree Removal Plan Tree Permit (B or C) Temporary Use Variance
Villebois SAP Villebois PDP Villebois FDP Other (describe)
Zone Map Amendment Waiver(s) Conditional Use



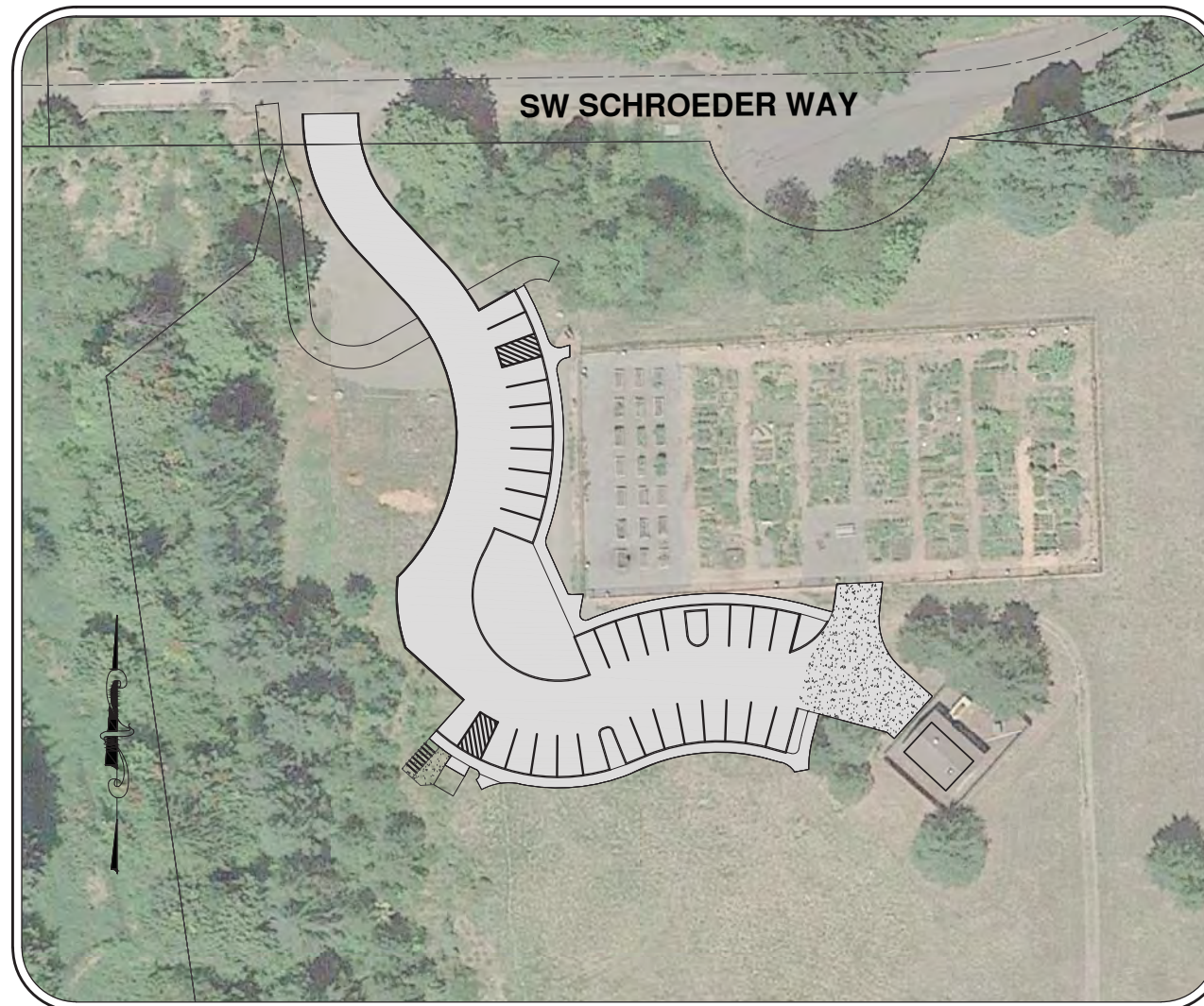
Exhibit B: Preliminary Land Use Plans

WILSONVILLE COMMUNITY GARDEN PARKING AREA

PRELIMINARY LAND USE PLANS



VICINITY MAP
1"=250'



SITE MAP
1"=40'

APPLICANT:

CITY OF WILSONVILLE
29600 SW PARK PLACE
WILSONVILLE, OR 97070
CONTACT: TOD BLANKENSHIP

**CONSULTING
PLANNING/
ENGINEERING/
SURVEYING FIRM:**

AKS ENGINEERING & FORESTRY, LLC
CONTACT: JOHN CHRISIANSEN, P.E.
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

**PROPERTY
LOCATION:**

7524 SW SCHROEDER WAY
WILSONVILLE, OR 97070

**PROPERTY
DESCRIPTION:**

TAX LOT 691 CLACKAMAS COUNTY ASSESSOR'S MAP
3-1W-24 LOCATED IN SECTION 24, TOWNSHIP 3
SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN,
CLACKAMAS COUNTY, OREGON.

**EXISTING
LAND USE:**

EXISTING COMMUNITY GARDEN AND PARK INCLUDING
OPEN SPACE, A WELL BUILDING, AND MULTI-USE
TRAILS.

TOTAL SITE AREA:

94.52 ACRES

PROJECT PURPOSE:

PAVED PARKING LOT TO BE UTILIZED FOR ACCESS TO
THE GARDEN AND PARK.

ZONING:

PUBLIC FACILITIES (PF)

VERTICAL DATUM:

HORIZONTAL COORDINATES WERE ESTABLISHED BY
HOLDING A LOCAL DATUM PLANE CONVERTED FROM
OREGON STATE PLANE COORDINATES, NORTH ZONE 3601
NAD83(1991), BY HOLDING WASHINGTON COUNTY CORS
STATION 'JIME' WITH A LOCAL DATUM PLANE AND
OREGON STATE PLANE COORDINATES (NORTHING
686,650.893 EASTING 7,563,874.862 ELEVATION 250.09);
CITY OF NEWBERG CORS STATION 'NWGB' WITH A LOCAL
DATUM PLANE AND OREGON STATE PLANE COORDINATES
(NORTHING 605,241.489 EASTING 7,565,225.226
ELEVATION 215.21); PORTLAND AIRPORT CORS STATION
'PDXA' WITH A LOCAL DATUM PLANE AND OREGON STATE
PLANE COORDINATES (NORTHING 710761.809 EASTING
7662283.107 ELEVATION 59.50); CORS STATION 'P412'
WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE
COORDINATES (NORTHING 573,655.356 EASTING
7,663,892.335 ELEVATION 250.88); AND CITY OF
WOODBURN CORS STATION 'WDBN' WITH A LOCAL DATUM
PLANE AND OREGON STATE PLANE COORDINATES
(NORTHING 557,349.700 EASTING 7,590,986.446
ELEVATION 207.36). GROUND DISTANCES WERE
ESTABLISHED BY MULTIPLYING BY A SCALE FACTOR OF
1.0001059888. ELEVATIONS ARE BASED ON NAVD 88.

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM SEWER CLEAN OUT		
CONIFEROUS TREE			STORM SEWER CATCH BASIN		
FIRE HYDRANT			STORM SEWER AREA DRAIN		
WATER BLOWOFF			STORM SEWER MANHOLE		
WATER METER			GAS METER		
WATER VALVE			GAS VALVE		
DOUBLE CHECK VALVE			GUY WIRE ANCHOR		
AIR RELEASE VALVE			POWER POLE		
SANITARY SEWER CLEAN OUT			POWER VAULT		
SANITARY SEWER MANHOLE			POWER JUNCTION BOX		
SIGN			POWER PEDESTAL		
STREET LIGHT			COMMUNICATIONS VAULT		
MAILBOX			COMMUNICATIONS JUNCTION BOX		
			COMMUNICATIONS RISER		

EXISTING

PROPOSED

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE		
OVERHEAD WIRE		
COMMUNICATIONS LINE		
FIBER OPTIC LINE		
GAS LINE		
STORM SEWER LINE		
SANITARY SEWER LINE		
WATER LINE		

SHEET INDEX

- P1-00 COVER SHEET WITH SITE AND VICINITY MAPS
- P1-01 EXISTING CONDITIONS
- P1-02 PRELIMINARY DEMOLITION, GRADING, AND EROSION & SEDIMENT CONTROL PLAN
- P1-03 PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
- P1-04 PRELIMINARY SITE AND COMPOSITE UTILITY PLAN
- P1-05 PARKING LOT PROFILE AND PAVEMENT SECTIONS
- P1-06 PRELIMINARY AERIAL PHOTO PLAN
- P1-07 PRELIMINARY LANDSCAPE PLAN
- P1-08 PRELIMINARY PARK CIRCULATION AND FUTURE TRAIL PLAN PRELIMINARY PARK CIRCULATION AND FUTURE TRAIL PLAN
- P1-09 PRELIMINARY SITE LIGHTING PLAN

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**COMMUNITY GARDEN
PARKING AREA**
WILSONVILLE
CLACKAMAS COUNTY TAX MAP 3S 1W 24
OREGON

**COVER SHEET WITH SITE
AND VICINITY MAPS**

DESIGNED BY: JPC
DRAWN BY: NAD
CHECKED BY: JPC
SCALE: AS NOTED
DATE: 11/06/2017

RENEWAL DATE: 12/31/17

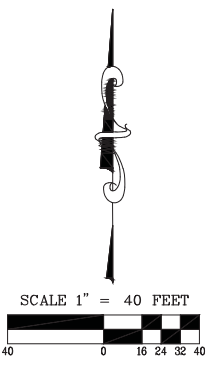
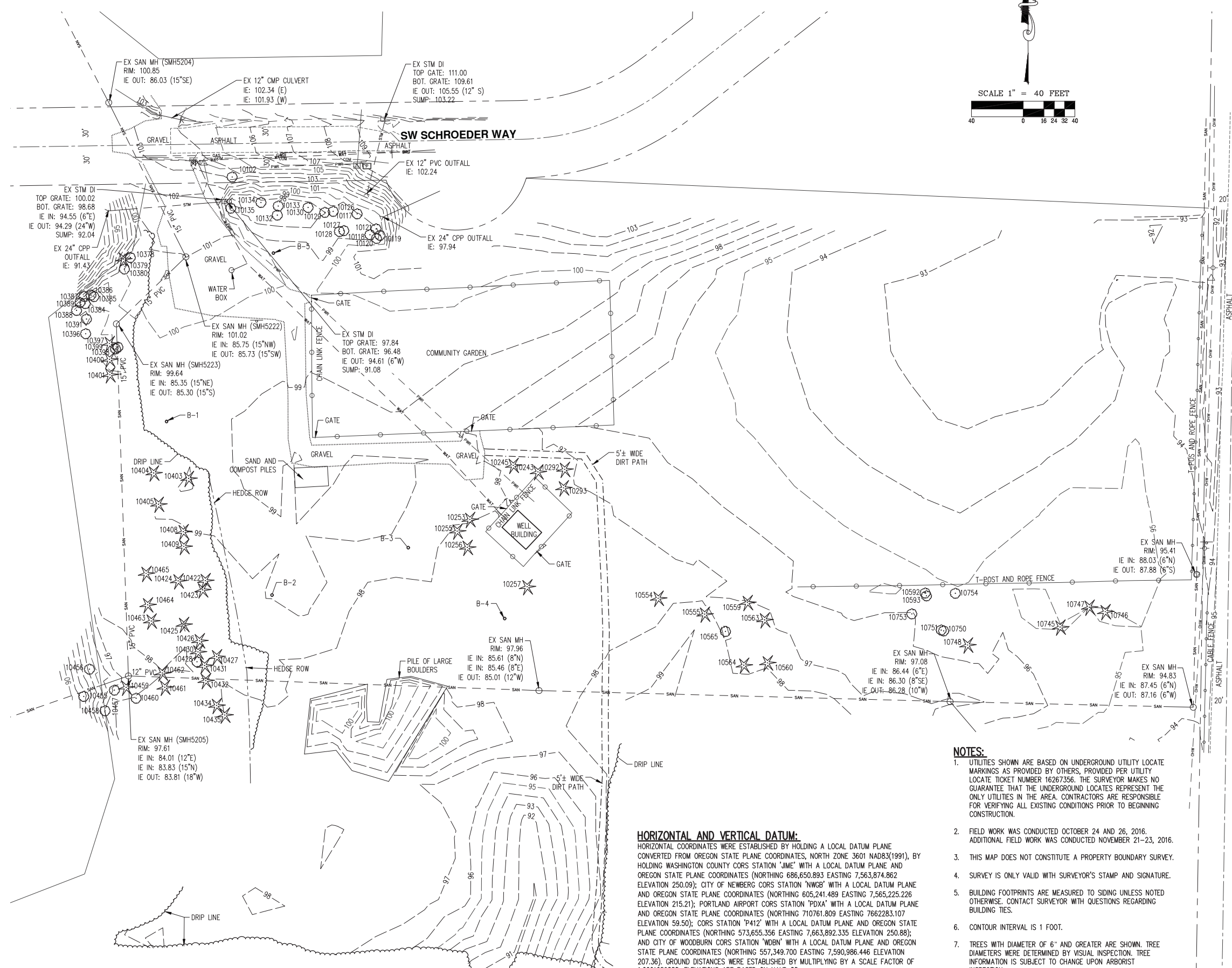
JOB NUMBER
5603

SHEET
P1-00



TREE TABLE

TREE NUMBER	SPECIES	DBH (IN.)
10107	DECIDUOUS	20
10117	DECIDUOUS	19
10118	DECIDUOUS	6,6,9
10119	DECIDUOUS	9
10120	DECIDUOUS	8
10121	DECIDUOUS	7,7
10126	DECIDUOUS	12
10177	DECIDUOUS	9,17
10128	DECIDUOUS	7
10129	DECIDUOUS	7,12
10130	DECIDUOUS	5,6
10132	DECIDUOUS	7,12
10133	DECIDUOUS	6,6,8
10134	DECIDUOUS	6,6,6
10135	DECIDUOUS	6,6
10243	CONIFEROUS	12
10244	CONIFEROUS	14
10245	CONIFEROUS	14
10253	CONIFEROUS	12
10255	CONIFEROUS	8,8
10256	CONIFEROUS	8
10257	CONIFEROUS	14
10292	CONIFEROUS	14
10293	CONIFEROUS	14
10378	CONIFEROUS	10,13
10379	CONIFEROUS	44
10380	CONIFEROUS	20
10384	DECIDUOUS	18
10385	DECIDUOUS	6
10386	DECIDUOUS	8
10387	DECIDUOUS	11
10388	DECIDUOUS	17
10389	DECIDUOUS	12
10391	DECIDUOUS	8
10396	DECIDUOUS	7
10397	CONIFEROUS	18
10398	DECIDUOUS	6
10399	DECIDUOUS	5
10400	DECIDUOUS	15
10401	DECIDUOUS	15
10403	CONIFEROUS	5
10404	CONIFEROUS	17
10405	CONIFEROUS	20
10408	CONIFEROUS	5
10409	CONIFEROUS	7
10427	CONIFEROUS	7
10423	CONIFEROUS	7
10424	CONIFEROUS	7
10425	DECIDUOUS	7
10426	CONIFEROUS	8
10427	CONIFEROUS	6
10428	DECIDUOUS	7,12
10430	CONIFEROUS	7
10431	CONIFEROUS	5
10437	CONIFEROUS	9
10434	CONIFEROUS	6
10435	CONIFEROUS	8
10455	DECIDUOUS	13
10456	DECIDUOUS	17
10457	DECIDUOUS	12,13
10458	DECIDUOUS	18
10459	DECIDUOUS	5
10460	DECIDUOUS	7
10461	DECIDUOUS	17
10462	DECIDUOUS	18
10463	DECIDUOUS	15
10464	DECIDUOUS	15
10465	CONIFEROUS	15
10554	CONIFEROUS	13
10555	CONIFEROUS	12
10559	CONIFEROUS	6
10560	CONIFEROUS	20
10563	CONIFEROUS	5
10564	CONIFEROUS	5
10565	CONIFEROUS	5
10592	DECIDUOUS	9
10593	DECIDUOUS	5
10745	CONIFEROUS	5
10746	CONIFEROUS	14
10747	CONIFEROUS	14
10748	CONIFEROUS	5
10750	DECIDUOUS	20
10751	DECIDUOUS	6
10753	DECIDUOUS	5
10754	DECIDUOUS	5



NOTES:

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 16267356. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- FIELD WORK WAS CONDUCTED OCTOBER 24 AND 26, 2016. ADDITIONAL FIELD WORK WAS CONDUCTED NOVEMBER 21-23, 2016.
- THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
- SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
- BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE DETERMINED BY VISUAL INSPECTION. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.

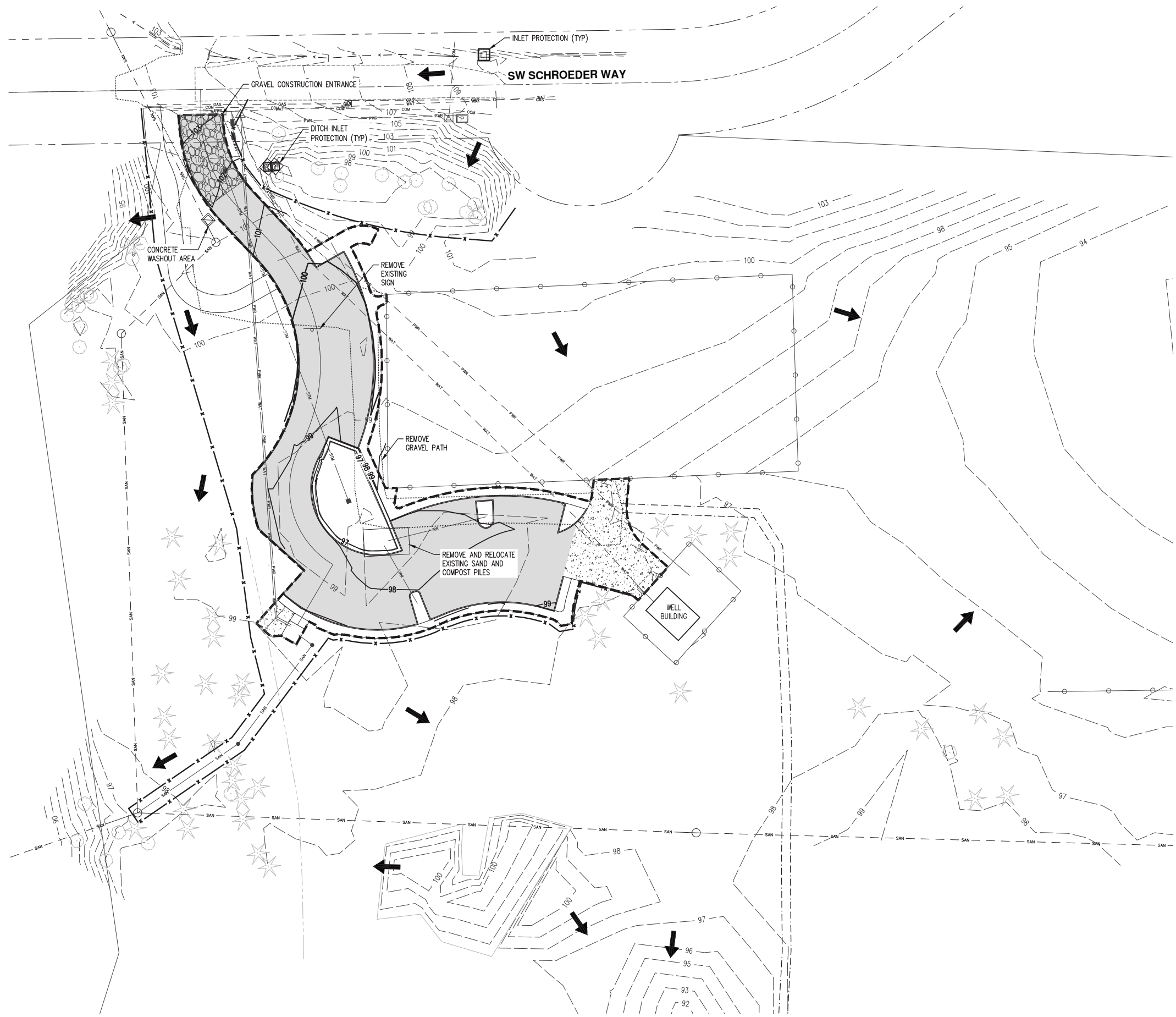
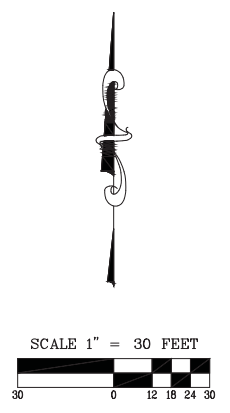
HORIZONTAL AND VERTICAL DATUM:

HORIZONTAL COORDINATES WERE ESTABLISHED BY HOLDING A LOCAL DATUM PLANE CONVERTED FROM OREGON STATE PLANE COORDINATES, NORTH ZONE 3601 NAD83(1991), BY HOLDING WASHINGTON COUNTY CORS STATION 'JMC' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 686,650.893 EASTING 7,563,874.862 ELEVATION 250.09); CITY OF NEWBERG CORS STATION 'NWGB' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 605,241.489 EASTING 7,565,225.226 ELEVATION 215.21); PORTLAND AIRPORT CORS STATION 'PDXA' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 710,761.809 EASTING 7,662,283.107 ELEVATION 59.50); CORS STATION 'P412' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 573,655.356 EASTING 7,663,892.335 ELEVATION 250.88); AND CITY OF WOODBURN CORS STATION 'WDBN' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 557,349.700 EASTING 7,590,986.446 ELEVATION 207.36). GROUND DISTANCES WERE ESTABLISHED BY MULTIPLYING BY A SCALE FACTOR OF 1.0001059888. ELEVATIONS ARE BASED ON NAVD 88.



LEGEND

EXISTING GROUND CONTOUR (1 FT)	---	144
EXISTING GROUND CONTOUR (5 FT)	---	145
FINISHED GRADE CONTOUR (1 FT)	---	144
FINISHED GRADE CONTOUR (5 FT)	---	145
DISTURBED AREA LIMITS	---	
SEDIMENT FENCE/TREE PROTECTION FENCE (TO BE INSTALLED PRIOR TO GRADING)	x-x	
INLET PROTECTION (TYP)	□	
DITCH INLET PROTECTION (TYP)	◇	
CONCRETE WASHOUT AREA	▣	
DRAINAGE FLOW DIRECTION	→	
GRAVEL CONSTRUCTION ENTRANCE	▨	



Detailed Tree Inventory for Memorial Park Community Garden

AKS Job No. 5603

Tree #	DBH (in.)	Height (ft.)	Tree Species	Comments	Health Rating*	Structure Rating**	Remove / Preserve
10102	20	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Undermined 8' from ground, included bark. Some bulges at base. Large broken scaffold	2	2	Preserve
10117	19	60	Pacific Willow (<i>Salix lasiolepis</i>)	Undermined. Lean (S). Crooked. Twisted. 6" stem - Broken. Lean (E). Lean (S)	2	2	Preserve
10118	0.6x9	60	Pacific Willow (<i>Salix lasiolepis</i>)	Bare holes	1	2	Preserve
10119	9	20	Pacific Willow (<i>Salix lasiolepis</i>)	Significantly pruned (Over 75% of canopy). Scars. Cracks	2	3	Preserve
10120	8	20	Pacific Willow (<i>Salix lasiolepis</i>)	Significantly pruned (Over 75% of canopy). Scars. Cracks	2	3	Preserve
10121	7.7	60	Pacific Willow (<i>Salix lasiolepis</i>)	Scars. Bare holes	1	2	Preserve
10126	12	60	Pacific Willow (<i>Salix lasiolepis</i>)	Broken branches	1	1	Preserve
10127	9.12	50	Pacific Willow (<i>Salix lasiolepis</i>)	2 long scars at base. Cavity. Decay. Bulges	2	2	Preserve
10128	7	20	Pacific Willow (<i>Salix lasiolepis</i>)	Significant lean (S)	1	2	Preserve
10129	7.17	65	Pacific Willow (<i>Salix lasiolepis</i>)	Undermined. Lean (NW)	1	2	Preserve
10130	5.6	65	Pacific Willow (<i>Salix lasiolepis</i>)	Crooked	1	1	Preserve
10132	7.12	30	Pacific Willow (<i>Salix lasiolepis</i>)	Significant lean (SW). Large 5" scar on 7" stem. Decay. Pruned. Cavity at base with decay. Broken branches	2	3	Preserve
10133	0.6x8	30	Pacific Willow (<i>Salix lasiolepis</i>)	Undermined. Bulges at base. Crooked. Small cavity at base	1	2	Preserve
10134	0.6x6	35	Pacific Willow (<i>Salix lasiolepis</i>)	Undermined. Lean (S)	1	1	Preserve
10135	6.6	35	Pacific Willow (<i>Salix lasiolepis</i>)	Undermined. Pruned	1	1	Preserve
10213	11	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10215	11	35	Ponderosa Pine (<i>Pinus ponderosa</i>)		1	1	Preserve
10257	12	40	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10255	8.8	35	Ponderosa Pine (<i>Pinus ponderosa</i>)	Undermined	1	1	Preserve
10256	8	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10257	14	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10292	11	35	Ponderosa Pine (<i>Pinus ponderosa</i>)	Bare holes	1	1	Preserve
10297	14	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10378	10.13	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Undermined. Lean (NE). Crooked. 10" stem - Twisted. Cracked bark	1	2	Preserve
10379	41	85	Western Redcedar (<i>Thuja plicata</i>)		1	1	Preserve
10380	20	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Large 20' scaffold branch broken. Crooked. Cracks. Decay. Sweep. Lean (S)	2	3	Preserve
10381	18	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Large scaffold branch dead. Cracks. Decay	2	3	Preserve
10385	6	30	Bigleaf Maple (<i>Acer macrophyllum</i>)	Lean (S)	2	2	Preserve
10386	8	30	Bigleaf Maple (<i>Acer macrophyllum</i>)	Dead top. 20% of hole covered with lvs	2	2	Preserve
10387	11	40	Bigleaf Maple (<i>Acer macrophyllum</i>)	Dead top. 95% of hole covered with lvs	1	2	Preserve
10388	17	65	Bigleaf Maple (<i>Acer macrophyllum</i>)	Crooked. Some dead branches. Undermined. 10' from ground	2	2	Preserve
10389	12	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Lean (S)	1	2	Preserve
10391	8	30	Cherry (<i>Prunus sp.</i>)		1	1	Preserve
10396	7	40	Cherry (<i>Prunus sp.</i>)		1	2	Preserve
10397	18	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10398	6	30	Cherry (<i>Prunus sp.</i>)	Very crooked	1	2	Preserve
10399	5	30	Cherry (<i>Prunus sp.</i>)	Very crooked. Sweep. Lean (S)	1	2	Preserve
10400	15	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10401	15	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10403	5	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10404	17	65	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10405	20	65	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10408	5	40	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10409	7	40	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10422	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10423	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10424	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10425	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10426	8	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10427	6	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10428	7.12	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Undermined	1	1	Preserve
10430	7	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10431	5	25	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10432	9	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10434	6	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10435	8	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10435	13	40	Bigleaf Maple (<i>Acer macrophyllum</i>)	OFFSITE: Lean (W)	1	2	Preserve
10436	17	40	Pacific Willow (<i>Salix lasiolepis</i>)	OFFSITE	1	1	Preserve
10437	12.13	30	Bigleaf Maple (<i>Acer macrophyllum</i>)	Undermined. Crooked base. Sweep. Crooked stem	1	2	Preserve
10438	18	40	Pacific Willow (<i>Salix lasiolepis</i>)		1	1	Preserve
10439	5	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10460	7	40	Red Alder (<i>Alnus rubra</i>)		1	1	Preserve
10461	17	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10462	18	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10462	15	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10464	15	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10465	15	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve

Total # of Existing Trees Inventoried = 67

Total # of Existing Onsite Trees = 65

Total # of Existing Offsite Trees = 2

Total # of Existing Onsite Trees to be Preserved = 65
Total # of Existing Onsite Trees to be Removed = 0

Total # of Existing Offsite Trees to be Preserved = 2
Total # of Existing Offsite Trees to be Removed = 0

Health Ratings

1. Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation and has a high level of vigor and vitality.
2. Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
3. Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

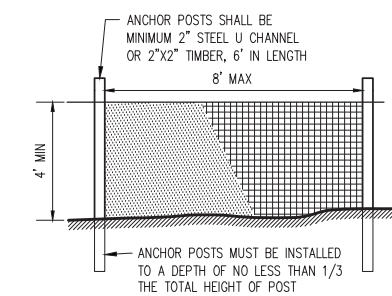
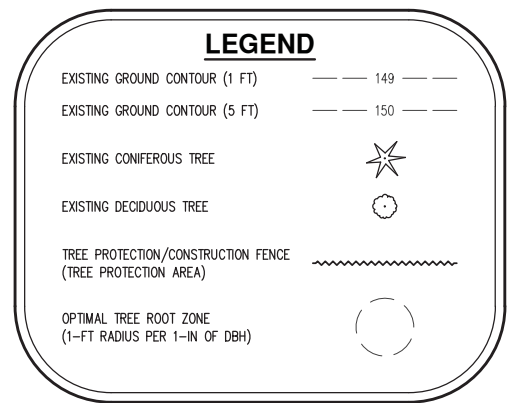
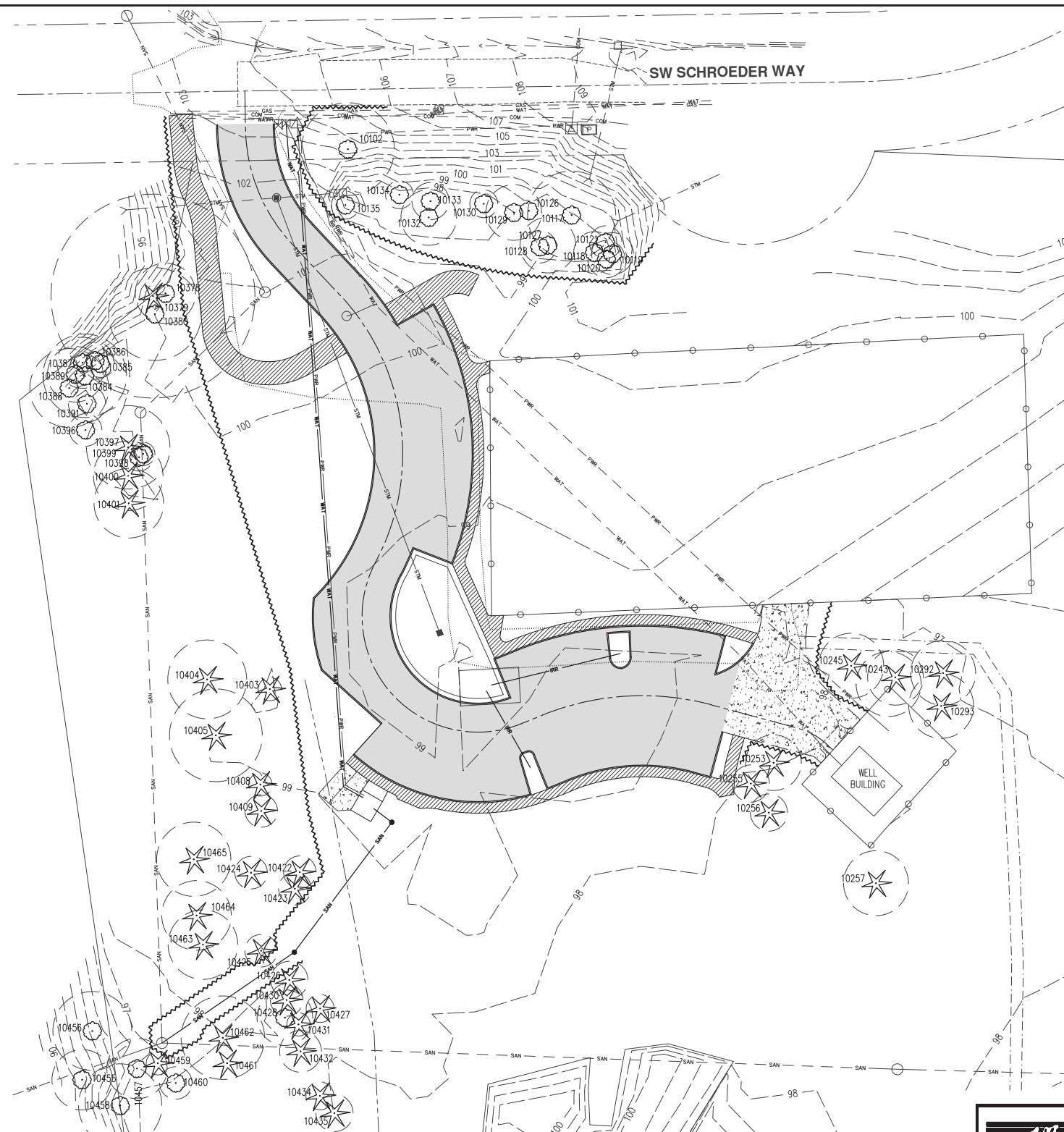
Structure Rating:

1. Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
2. Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
3. Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural stability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

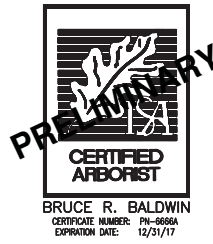
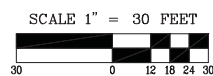
Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to evaluate trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of harm to people, property, and the environment. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fall in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed, but they cannot be controlled. To the extent possible, trees should be managed to accept some degree of risk. The only way to eliminate all risks associated with trees is to eliminate all trees. Neither the author nor AKS Engineering & Forestry, LLC has assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.



- NOTES:
1. BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
 2. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 3. DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.



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ENGINEERING • SURVEYING • NATURAL RESOURCES
FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

COMMUNITY GARDEN
PARKING AREA
PRELIMINARY TREE
PRESERVATION AND
REMOVAL PLAN

WILSONVILLE
OREGON
CLATSOP COUNTY TAX MAP 35 1W 24
TAX LOT 691

DESIGNED BY: JPC
DRAWN BY: NAD
CHECKED BY: JPC
SCALE: AS NOTED
DATE: 11/06/2017

REGISTERED PROFESSIONAL
ARBORETRIST
BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/17

RENEWAL DATE: 12/31/17
REVISIONS:

JOB NUMBER
5603
SHEET
P1-03

**PRELIMINARY SITE AND
 COMPOSITE UTILITY PLAN**

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED

DATE: 11/06/2017



RENEWAL DATE: 12/31/17

REVISIONS

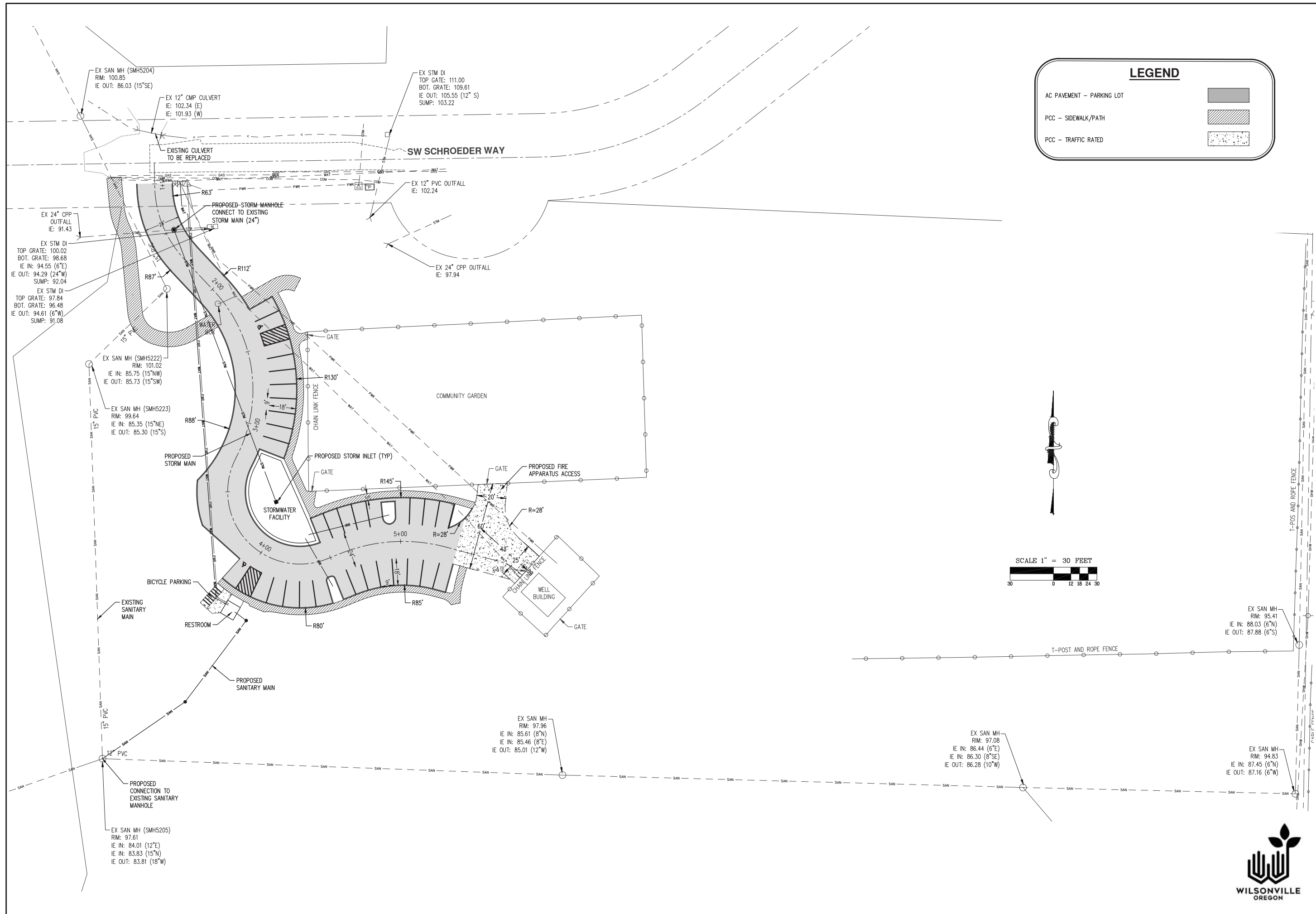
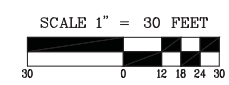
JOB NUMBER
 5603
 SHEET

P1-04

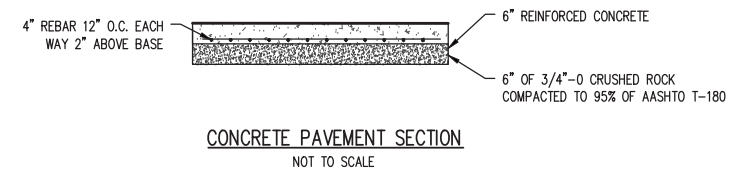
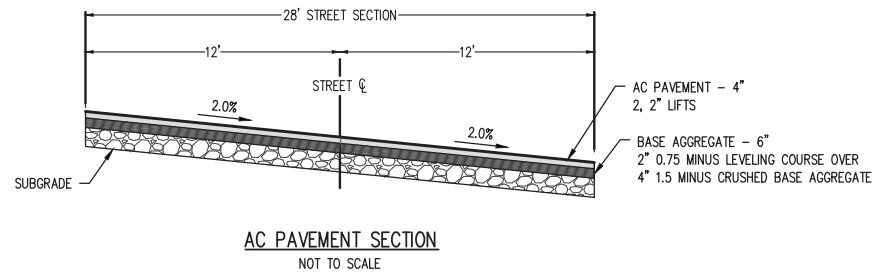
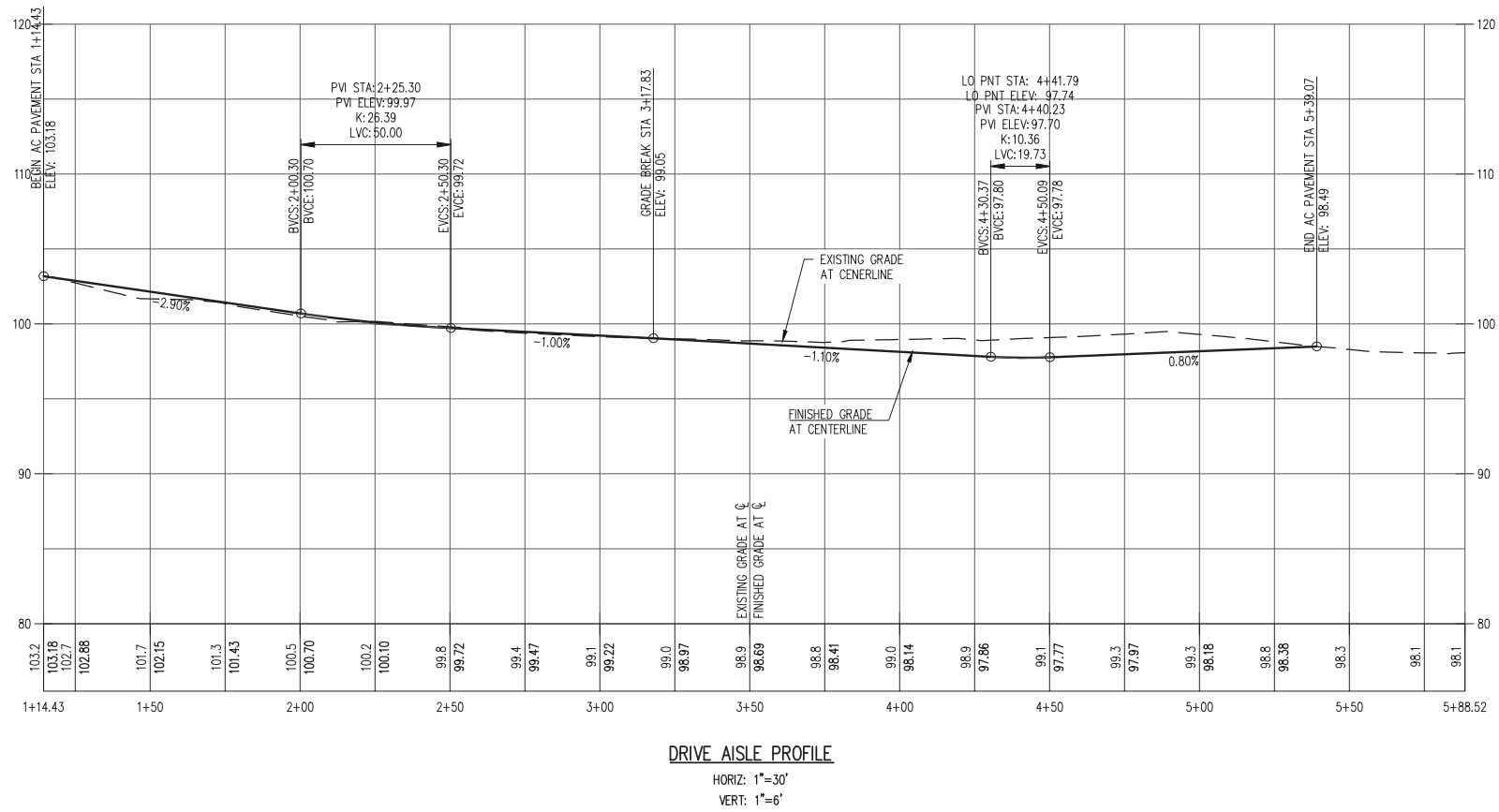


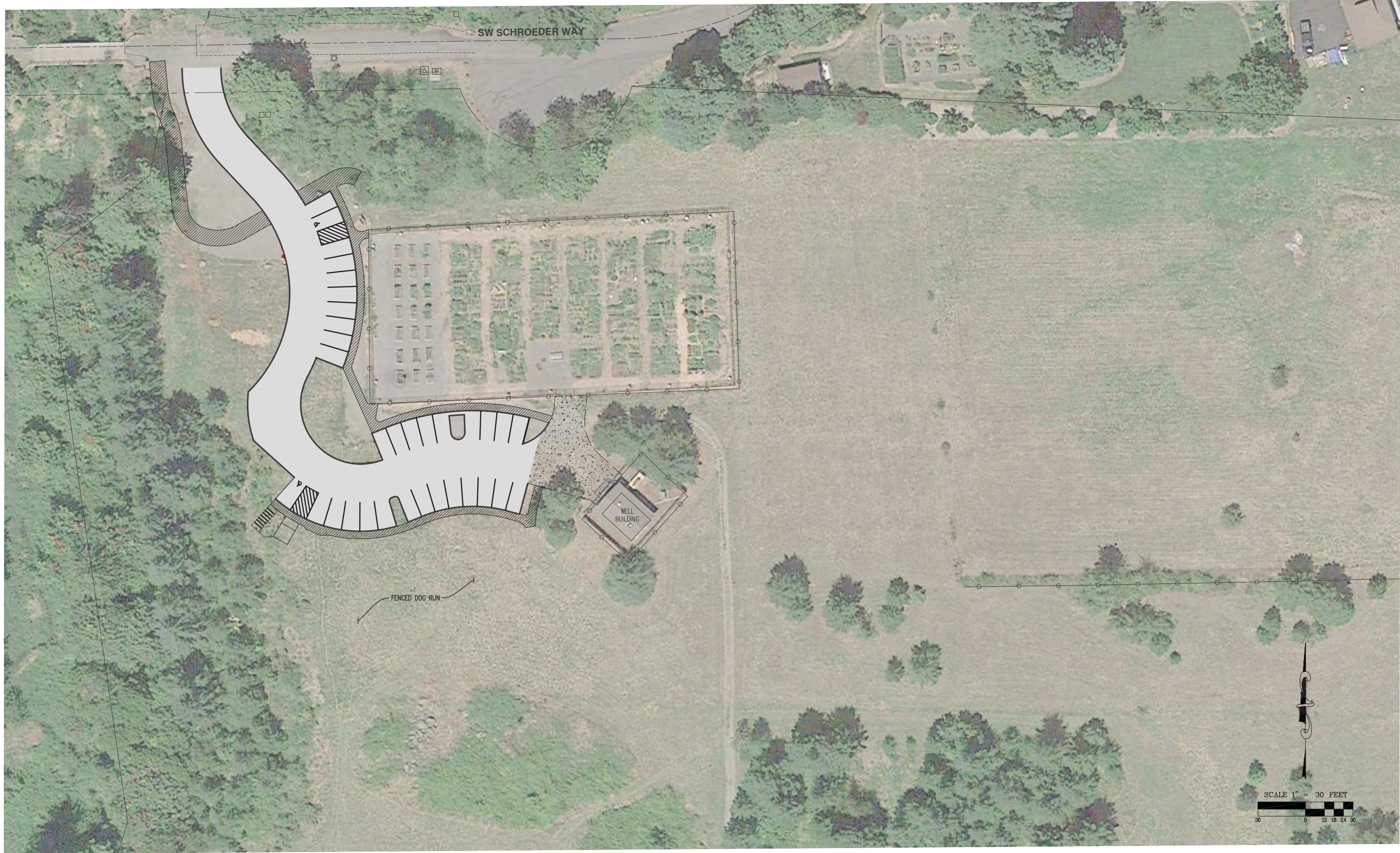
LEGEND

- AC PAVEMENT - PARKING LOT
- PCC - SIDEWALK/PATH
- PCC - TRAFFIC RATED



AKS DRAWING FILE: 5603_P04_SITE AND UTILITY.DWG | LAYOUT: P1-04





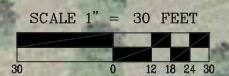
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**COMMUNITY GARDEN
 PARKING AREA**
 WILSONVILLE OREGON
 CLACKAMAS COUNTY TAX MAP 35 1W 24
 TAX LOT 691

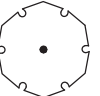




**PRELIMINARY AERIAL
 PHOTO PLAN**

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 11/06/2017









RENEWAL DATE: 12/31/17
 REVISIONS:
 JOB NUMBER
 5603
 SHEET
P1-06

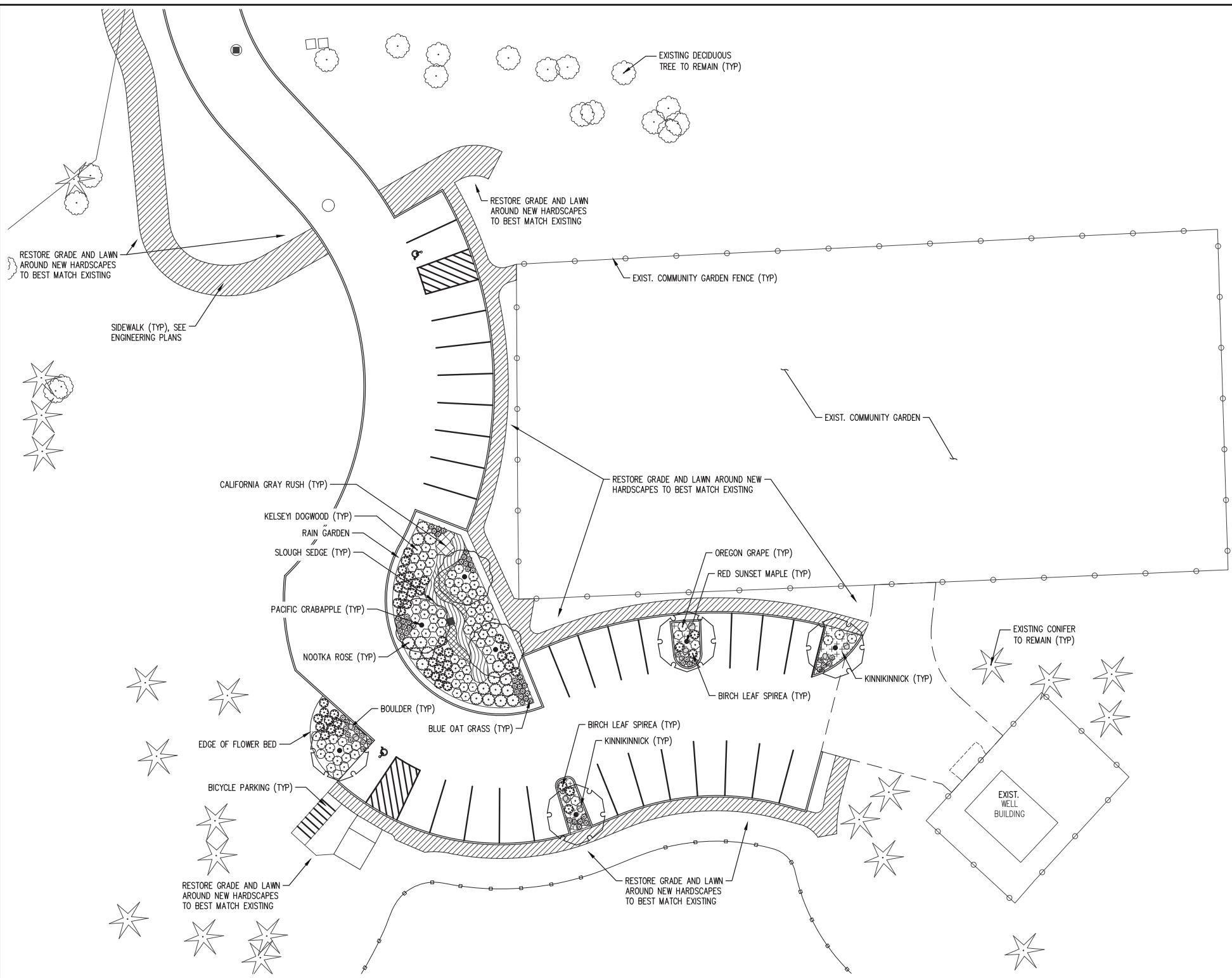


PARKING LOT PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	4	ACER RUBRUM 'FRANKSRED'™	RED SUNSET MAPLE	2" CAL. B&B	AS SHOWN
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	11	CORNUS SERICEA 'KELSEY'	KELSEY DOGWOOD	1 GAL. CONT.	36" o.c.
	26	HELIOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL. CONT.	24" o.c.
	11	MAHONIA AQUIFOLIUM	OREGON GRAPE	1 GAL. CONT.	36" o.c.
	16	SPIRAEA BETULIFOLIA	BIRCH LEAF SPIREA	1 GAL. CONT.	36" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	95	ARCTOSTAPHYLOS UVA-URSI	KINNIKINICK	1 GAL. CONT.	24" o.c.

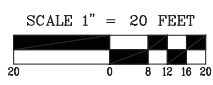
FILTRATION RAIN GARDEN PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	3	MALUS FUSCA	PACIFIC CRABAPPLE	2" CAL. B&B	AS SHOWN
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	51	CORNUS SERICEA 'KELSEY'	KELSEY DOGWOOD	1 GAL. CONT.	36" o.c.
	37	HELIOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL. CONT.	24" o.c.
	15	MAHONIA AQUIFOLIUM	OREGON GRAPE	1 GAL. CONT.	36" o.c.
	18	ROSA NUTKANA	NOOTKA ROSE	30" HT. CONT.	48" o.c.
	34	SPIRAEA BETULIFOLIA	BIRCH LEAF SPIREA	1 GAL. CONT.	36" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	215	CAREX OBNUPTA	SLOUGH SEDGE	4" SP. CONT.	12" o.c.
	148	JUNCUS PATENS	CALIFORNIA GRAY RUSH	4" SP. CONT.	12" o.c.



GENERAL NOTES:

1. PLANTING PLAN IS PRELIMINARY AND INTENDED TO SHOW DESIGN INTENT. CHANGES OR SUBSTITUTIONS MAY BE MADE PRIOR TO FINAL SUBMITTAL BASED ON PLANT AVAILABILITY, FINAL LAYOUT, UTILITY CONFLICTS, ETC.
2. STORMWATER FACILITY AND PARKING LOT PLANTINGS SHALL FOLLOW ALL APPLICABLE CITY OF WILSONVILLE STANDARDS.
3. MULCH: ALL PLANTINGS SHALL BE MULCHED A MINIMUM OF 3" IN DEPTH. MULCH SHALL BE COMPOSTED BARK OR LEAVES THAT HAVE NOT BEEN CHEMICALLY TREATED OR OTHER MULCH TYPE APPROVED BY CITY OF WILSONVILLE. MULCH SHALL NOT BE USED IN FREQUENTLY INUNDATED AREAS TO AVOID WATER QUALITY IMPACTS (LEACHING OF TANNINS AND NUTRIENTS, MIGRATION OF MULCH INTO WATERWAYS, ETC.)
4. IRRIGATION: UNLESS OTHERWISE APPROVED BY CITY OF WILSONVILLE, A TEMPORARY OR PERMANENT IRRIGATION SYSTEM SHALL BE PROVIDED FOR PLANT SURVIVAL AND ESTABLISHMENT. IRRIGATION SYSTEM SHALL BE "DESIGN-BUILD" BY THE LANDSCAPE CONTRACTOR AND PROVIDED TO CITY OF WILSONVILLE FOR APPROVAL PRIOR TO INSTALLATION.
5. TREES AND DEEP ROOTING SHRUBS SHALL NOT BE PLACED DIRECTLY OVER UTILITY LINES OR PIPES.





LEGEND

- CIRCULATION: Dashed line
- CURRENT LAND USE: Solid line
- FUTURE TRAILS: Hatched area

SCALE 1" = 30 FEET



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**COMMUNITY GARDEN
 PARKING AREA**
 WILSONVILLE OREGON
 CLACKAMAS COUNTY TAX MAP 35 1W 24
 TAX LOT 691

**PRELIMINARY PARK
 CIRCULATION AND
 FUTURE TRAIL PLAN**

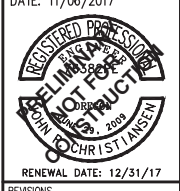
DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 11/06/2017

RENEWAL DATE: 12/31/17

REVISIONS

JOB NUMBER
5603

SHEET
P1-08





LIGHT LEVEL SUMMARY					
CALCULATION AREA	LIGHT LEVEL	UNIFORMITY	MAX	MIN	MAX/MIN
PARKING LOT	0.50	5:1	1.80	0.10	18:1

LUMINAIRE AND LIGHT POLE SCHEDULE									
SYMBOL	QUANTITY	LABEL	CONDITION	LUMINAIRE					LIGHT POLE
				TYPE	INITIAL DELIVERED LUMENS	WATTS	LLF	DISTRIBUTION	POLE STYLE
*	4	LP-1	PROPOSED	HPS	6400	70	0.80	TYPE 2	25' MOUNTING HEIGHT, WITH 6' MAST ARM

Consistent with LEED® green & Green Globes® ratings for light pollution reduction

LuxMaster® Series 53
 Area Lighting
 70-150W HPS

PRODUCT OVERVIEW

Applications:
 Parking lots
 Roadways
 Residential communities
 Commercial environments
 Office communities

Features:
 Durable die-cast aluminum housing for long-life performance
 Optical assembly designed for maximum performance
 Removable ballast tray electrical system for installation and maintenance ease
 "Breathing Seal" developed by American Electric Lighting prevents contaminants from entering optical assembly for maximum efficiency
 Optics available in flat tempered glass, drop acrylic and drop polycarbonate
 Available in a variety of IES light distributions patterns and cutoff classifications
 Standard product is designed to mount to pipe mast arm. Direct pole mount arms are available
 All electrical components warranted by American Electric Lighting's 6-year guarantee
 UL Listed
 Mogul base, E39, socket standard
 Suitable for -30°C MH / -40°C HPS
 Complies with ANSI: C136.2, C136.10, C136.14, C136.15

DIMENSIONS

Effective Projected Area (EPA)
 The EPA for the LuxMaster® Series 53 with refractor is 1.4 sq. ft. Approx Wt = 20 lbs.

PREFERRED SELECTION CATALOG NUMBERS

53 10S CA MT1 R2 DA
 53 15S CA MT1 R2 FG
 53 10S RH 120 R3 FG

Effective Projected Area (EPA)
 The EPA for the LuxMaster® Series 53 with flat lens is 1.1 sq. ft.

NOTE:
 PRODUCT SPECIFICATIONS ARE PRELIMINARY AND SHOW DESIGN INTENT.
 CHANGES OR SUBSTITUTIONS MAY BE MADE PRIOR TO FINAL SUBMITTAL.

The diagram shows a site plan for a community garden parking area. A road labeled 'SW SCHROEDER WAY' runs horizontally across the top. The parking area is an irregular shape to the south of the road. Four light poles, labeled 'LP-1', are positioned around the perimeter of the parking area. Concentric circles around each pole represent the light distribution pattern. Numerical values (footcandle readings) are placed at various points within the parking area to indicate light levels. A north arrow and a scale bar (1" = 30 FEET) are located at the bottom center of the plan.

AKS DRAWING FILE: 5603_P09_LIGHTING_PLAN.DWG | LAYOUT: P1-09



Exhibit C: Clackamas County Assessor's Map

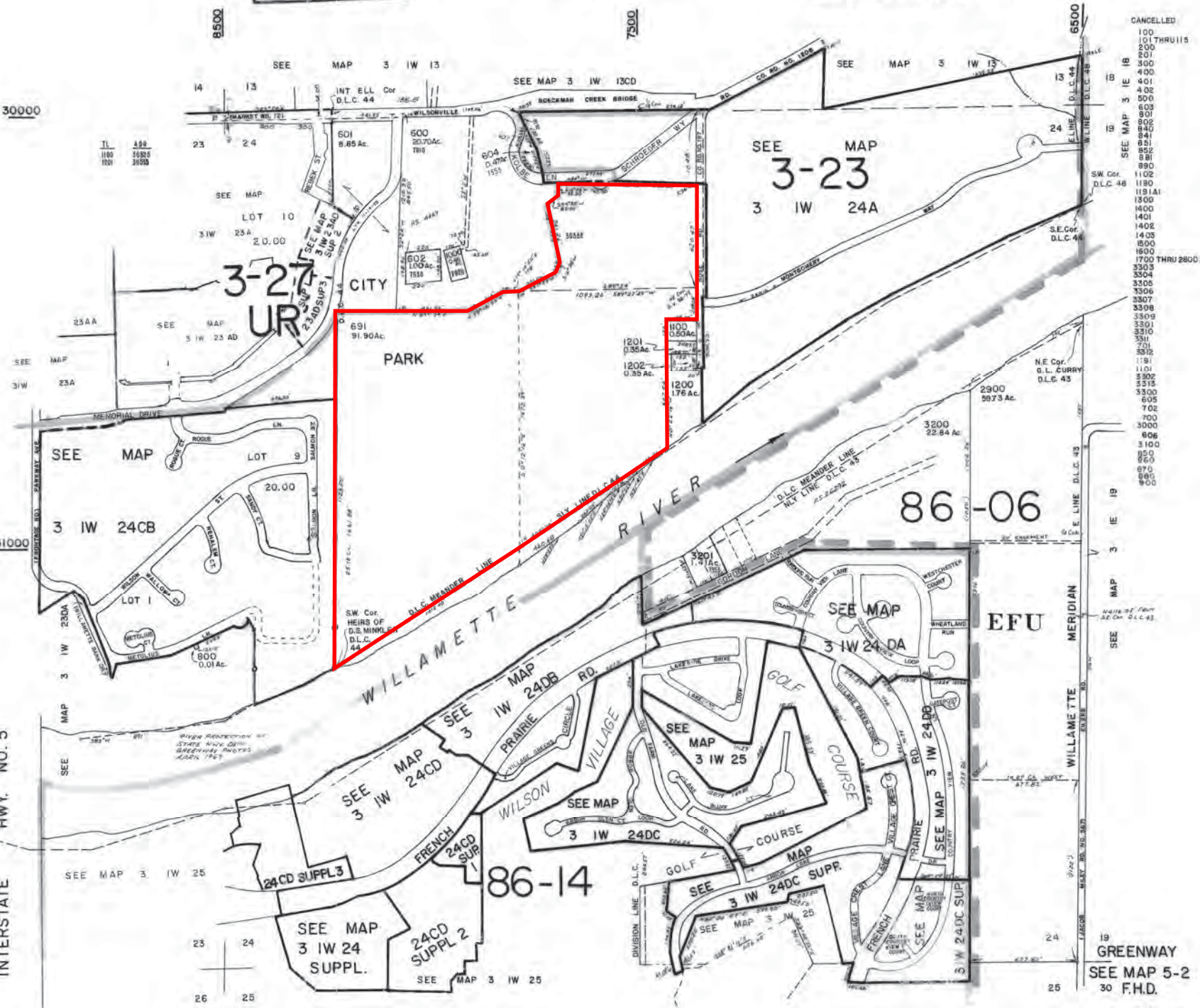
This map was prepared for assessment purpose only.

30000

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INTERSTATE HWY. NO. 5



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GREENWAY
SEE MAP 5-2
30 F.H.D.

3 IW 24
WILSONVILLE



Exhibit D: Transportation Study



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 Salem, OR 97301
 503.391.8773
 www.dksassociates.com

MEMORANDUM

DATE: November 1, 2017
 TO: Kerry Rappold and Steve Adams, City of Wilsonville
 FROM: Scott Mansur, P.E. Jordin Kelly, EIT
 SUBJECT: Memorial Park Transportation Study



This memorandum documents trip generation estimates for the proposed Memorial Park modifications. These modifications include relocating the existing dog park and construction of a 33-stall parking lot adjacent to the existing community garden (presently exists with approximately 134 in-ground plots and 21 raised beds), which will be accessed off of SW Kolbe Lane in Wilsonville, Oregon.

This memorandum analyzes the impact this relocation of the dog park and the new parking lot would have on the study intersection shown in Figure 1. It will also evaluate the site plan's internal circulation for vehicle, bicycle, and pedestrian safety.

The following sections include the existing intersection operations, surrounding traffic network impacts, site plan review, an alternative site plan review and summary of findings.





Project Trip Generation and Distribution

Since the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition*¹ does not provide trip generation data for the specific park modifications desired, two weeks of traffic volumes were collected to provide a reasonable worst-case trip generation estimate for the p.m. peak period.

From the traffic data, it was determined that an average of approximately 28 vehicles (14 in, 14 out) travel to the dog park and approximately 12 (6 in, 6 out) travel to the community gardens during a typical weekday p.m. peak hour.² A summary of the trip generation assumptions for the Memorial Park modifications are shown in Table 1 below.

Table 1: P.M. Peak Hour Project Trip Generation Assumptions

Land Use	P.M. Peak Hour Trips		
	<i>In</i>	<i>Out</i>	<i>Total</i>
Dog Park	14	14	28
Community Gardens	6	6	12
Total Project Trips	20	20	40

The distribution of the project trips was calculated based on existing traffic patterns identified in the p.m. peak intersection counts³ and are shown in Figure 2 at the top of the next page. Existing traffic patterns at the study intersection indicated that 60% of the traffic traveling to and from the relocated dog park would travel west on SW Wilsonville Road and 40% would travel east on SW Wilsonville Road.

¹ *Trip Generation, 9th Edition*, Institute of Transportation Engineers, 2012.

² Bi-directional tube count data collected on July 10th- 14th, 2017 and August 14th – 18th, 2017.

³ Traffic counts conducted on November 3, 2016.

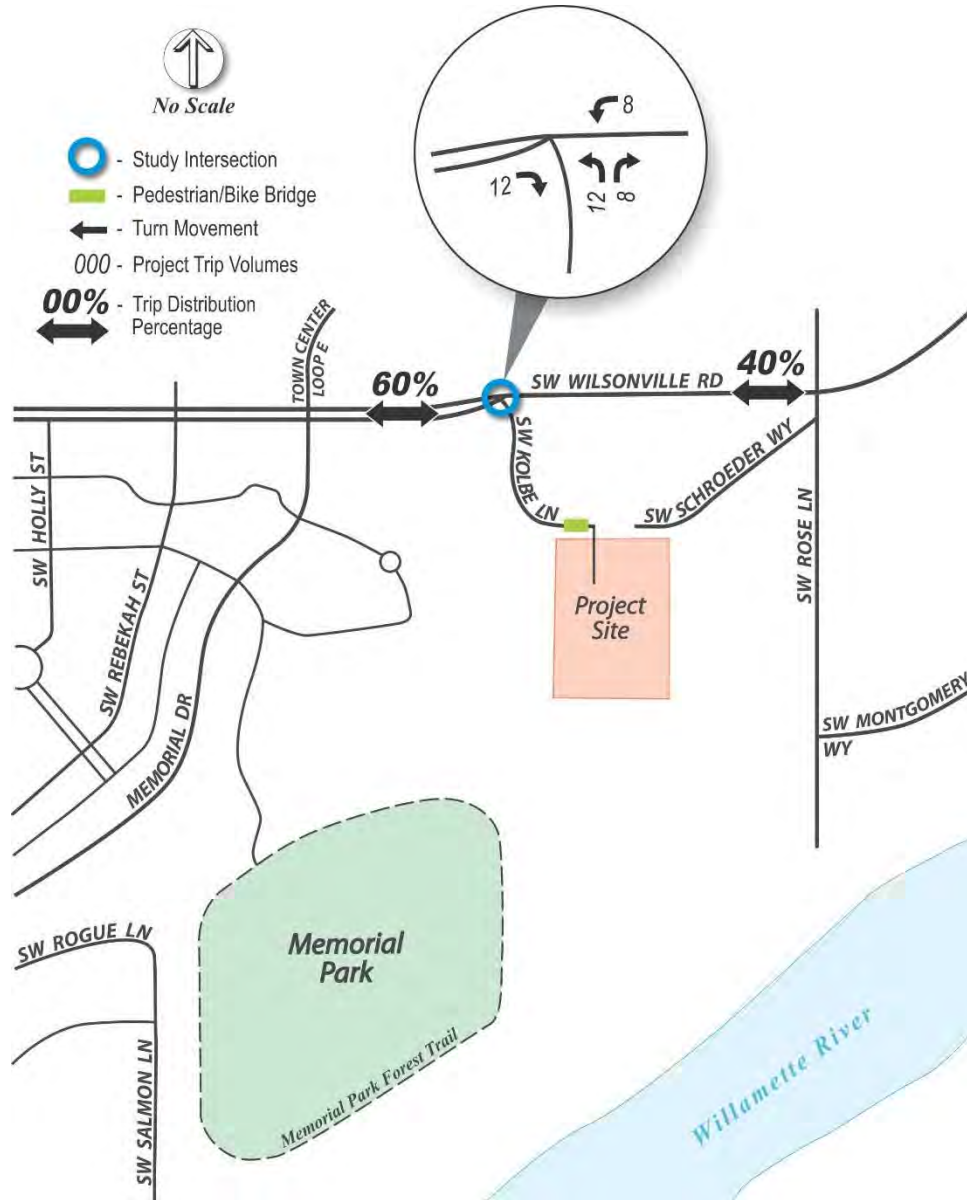


Figure 2: Project Trips Distribution

Project Trips through City of Wilsonville Interchange Areas

The project trips through the two City of Wilsonville I-5 interchange areas are not anticipated to change since the size of both the relocated dog park and the reconfigured community gardens are expected to remain the same.

Even though these trips aren't considered new to the roadway network outside of the study intersection, they do have an impact on the study intersection in the immediate vicinity. For instance, vehicles heading from the west will still take the same route until they reach Memorial Drive, where they will continue straight (instead of turning right) and instead turn right at the SW Wilsonville Road/SW Kolbe Lane intersection.

Intersection Operations

Intersection operations were analyzed for the weekday p.m. peak hour (highest hour between 4:00-6:00 p.m.) at the following study intersection:

- SW Wilsonville Road/SW Kolbe Lane

The existing intersection operations were analyzed based on the 2010 HCM methodology for unsignalized intersection⁴ for the following scenarios:

- Existing Weekday p.m. Peak Hour
- Existing + Project
- Existing + Stage II (traffic from developments that have Stage II approval or are under construction)
- Existing + Project + Stage II

Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a good picture of intersection operations. In addition, they are often incorporated into agency mobility standards.

- Level of service (LOS): A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. LOS D and E are progressively worse operating conditions. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity.
- Volume-to-capacity (v/c) ratio: A decimal representation (typically between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

The City of Wilsonville requires all intersection of public streets to meet its minimum acceptable level of service (LOS) standard of LOS D for peak periods. For each of these analysis scenarios, the unmitigated impacts for the study area will be completed for the study intersection. Where the City’s level of service D standard cannot be maintained, improvements will be identified to mitigate operating conditions. Additional analysis will then be performed with any recommended improvements in place to determine the resulting levels of service.

⁴ *Highway Capacity Manual 2010*, Transportation Research Board, Washington DC, 2010

Existing Intersection Operations

Existing traffic operations at the study intersection were determined for the p.m. peak hour based on the 2010 Highway Capacity Manual methodology. The estimated delay, LOS, and v/c ratio of each study intersection is shown in Table 2. As shown, the study intersection currently meets the City's operating standards. Existing intersection volumes can be seen in Figure 3.

Table 2: Existing 2016 Intersection Operations

Intersection	Operating Standard	Existing		
		Delay	LOS	v/c
Wilsonville Rd/Kolbe Ln	LOS D	21.9	A/C	0.01

Unsignalized Intersections:

LOS = Level of Service of Major Street/Minor Street
v/c = Volume-to-Capacity Ratio of Worst Movement



Figure 3: 2016 Existing Intersection Volumes

Future Traffic Operations

The impacts of the increased traffic of the Memorial Park modifications were evaluated at the study intersection for the weekday p.m. peak hour. The impact analysis includes trip generation, trip distribution, and p.m. peak hour project trips through the study intersection. Volumes for each scenario are included in Figure 4.



Figure 4: Future Scenario Traffic Volumes

The analysis also includes scenarios that account for Stage II approved developments in the area, including those under construction or built but not yet occupied. As shown in Table 3 at the top of the next page, the study intersection meets the City’s operating standards for each scenario. It is important to note that in the Existing + Project and Existing + Stage II + Project scenarios, the



added project trip volumes are added to noncritical movements and therefore, minimally decrease the overall delay at the intersection.

Table 3: Future Project and Stage II Intersection Operations

Unsignalized Intersection	Operating Standard	Existing + Project			Existing + Stage II			Existing + Stage II + Project		
		Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS	v/c
Wilsonville Rd/Kolbe Ln	LOS D	20.1	A/C	0.09	23.4	A/C	0.01	21.3	A/C	0.09

Unsignalized Intersections:
LOS = Level of Service of Major Street/Minor Street
v/c = Volume-to-Capacity Ratio of Worst Movement

Queuing Analysis

Queuing analysis was performed at the SW Wilsonville Road/SW Kolbe Lane intersection to see how the proposed project affected the driveways located on SW Kolbe Lane. The 95th percentile queue northbound on SW Kolbe Lane is expected to be approximately 40 feet. There are two driveways located on SW Kolbe Lane. One is located just 25 feet south of SW Wilsonville Road, and the other is located approximately 200 feet south of SW Wilsonville Road. The queue on SW Kolbe Lane will impact the first driveway but is not anticipated to impact the other. On SW Wilsonville Road, the westbound queue is expected to be approximately 60 feet and 25 feet in the eastbound direction. Neither of these queues are expected to block driveways or impact other intersections.

Site Plan Review

The applicant’s site plan was reviewed to evaluate site access and internal circulation for vehicles, as well as pedestrian and bicycle connections. The site plan is provided in the appendix.

Motor Vehicle Connections

The new access to the parking lot for the Community Garden and relocated Dog Park will be Kolbe Lane via the existing bridge. Schroeder Way will be closed at the west end of the cul-de-sac, making Kolbe Lane the only motor vehicle access to the site. Based on the site plan, the proposed facility’s internal roadway network provides adequate circulation into and out of the development. According to a site plan markup provided by City of Wilsonville, the speed limit on SW Kolbe Lane will be signed at 25 mph, and 4-inch fog lines will be added along the edge of the road to delineate the roadway as well as provide an area for pedestrians to travel along. The existing pedestrian foot bridge on SW Kolbe Lane will be upgraded to a two-way, one-lane bridge for vehicles to access the parking lot at the project site. Stop signs, stop bar markings, and yield signs will be added to both sides of the bridge to manage the traffic across the bridge. The site plan markup can be found in the Appendix.

The Wilsonville Parks and Recreation Master Plan⁵ indicates that regional park access should be provided via a collector or arterial street. Although SW Kolbe Lane is neither a collector or arterial, SW Wilsonville Road, an arterial, sufficiently serves as the park access road.

Pedestrian and Bicycle Connections

The site features sidewalks along the proposed site that connects to the reconfigured community garden and the relocated dog park. Added sidewalks are recommended to connect the site to the bicycle and pedestrian bridge that provides an access to SW Wilsonville Road via SW Kolbe Lane.

It is recommended to provide pedestrian and bicycle wayfinding signage at the entrance of SW Kolbe Lane that identifies this connection as providing the main bicycle and pedestrian access to the community gardens and the relocated dog park.

Additional pedestrian warning signage will be placed along SW Wilsonville Road. On SW Kolbe Lane, pedestrian markings and signage will be added at the two-way, one lane bridge leading to the relocated dog park and community garden.

Parking

The City of Wilsonville Development Code⁶ does not include minimum parking stall requirements for dog parks or community gardens, however, parking demand information for this development can be acquired from the *ITE Parking Generation* manual.⁷ In the manual, recommended parking stalls for City Parks (ITE Land Use Code 411) vary and the parking needs of a dog park or community garden are not specifically stated. However, the manual does recommend that for a similar suburban site with picnic area and playground, the parking supply ratio should be 2.6 spaces per acre.

Since the relocated dog park and community garden is approximately 3 acres in size, the 33 parking stalls shown in the preliminary site plan meets the estimated parking demand for the relocated dog park and reconfigured community gardens.

Minimum bicycle parking requirements specifically for dog parks is also not included in the City of Wilsonville Development Code. However, bicycle parking should be provided to meet the demand of the site.

Summary

Key findings for the proposed Memorial Park reconfiguration are as follows:

- The proposed dog park and community gardens are expected to generate 40 p.m. peak hour trips (20 in, 20 out).

⁵ City of Wilsonville, Adopted September 17, 2007

⁶ *City of Wilsonville General Development Regulations*, Chapter 4 – Planning and Land Development, July 2013.

⁷ *Parking Generation*, 4th Edition, 2010, Institute of Transportation Engineers



- Existing, future project, and Stage II developments traffic operations for the study intersection meet the City's operating standards.
- It is recommended that the City provide wayfinding signage at the entrance of SW Kolbe Lane that identifies this connection as providing the main bicycle and pedestrian access to the community gardens and the dog park.
- The 33 parking stalls shown in the preliminary site plan meets the parking demand for the relocated dog park and reconfigured community gardens.
- Bicycle parking should be provided to meet demand of the site.
- Sight distance at any existing access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon prior to occupancy.

Please let us know if you have any questions.

LOCATION: Southwest Schroeder Way SPECIFIC LOCATION: Southwest Schroeder Way CITY/STATE: Wilsonville, OR						QC JOB #: 14466001 DIRECTION: EB DATE: Jul 10 2017 - Jul 16 2017				
Start Time	Mon 10-Jul-17	Tue 11-Jul-17	Wed 12-Jul-17	Thu 13-Jul-17	Fri 14-Jul-17	Average Weekday Hourly Traffic	Sat 15-Jul-17	Sun 16-Jul-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	2	0	0	0	0	0	0	0	
1:00 AM	0	0	0	2	1	1	0	0	0	
2:00 AM	0	0	1	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	1	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	
5:00 AM	0	1	1	0	0	0	0	0	0	
6:00 AM	3	1	3	1	2	2	0	0	1	
7:00 AM	1	1	1	1	0	1	1	0	1	
8:00 AM	4	2	16	2	3	5	8	4	6	
9:00 AM	3	10	4	10	1	6	0	4	5	
10:00 AM	5	2	3	5	5	4	5	6	4	
11:00 AM	1	6	6	5	5	5	7	6	5	
12:00 PM	18	3	0	8	3	6	5	8	6	
1:00 PM	2	4	1	6	5	4	5	3	4	
2:00 PM	2	8	2	5	6	5	2	2	4	
3:00 PM	1	5	4	6	2	4	6	2	4	
4:00 PM	9	0	4	4	1	4	0	1	3	
5:00 PM	14	6	3	3	3	6	4	6	6	
6:00 PM	5	5	9	4	9	6	5	6	6	
7:00 PM	7	9	10	12	12	10	7	8	9	
8:00 PM	11	8	11	7	8	9	2	8	8	
9:00 PM	1	6	2	5	9	5	5	5	5	
10:00 PM	1	1	0	2	0	1	0	0	1	
11:00 PM	0	0	0	1	0	0	1	0	0	
Day Total	88	80	81	89	75	84	64	69	78	
% Weekday Average	104.8%	95.2%	96.4%	106.0%	89.3%					
% Week Average	112.8%	102.6%	103.8%	114.1%	96.2%	107.7%	82.1%	88.5%		
AM Peak	10:00 AM	9:00 AM	8:00 AM	9:00 AM	10:00 AM	9:00 AM	8:00 AM	10:00 AM	8:00 AM	
Volume	5	10	16	10	5	6	8	6	6	
PM Peak	12:00 PM	7:00 PM	8:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM	12:00 PM	7:00 PM	
Volume	18	9	11	12	12	10	7	8	9	
<i>Comments:</i>										

LOCATION: Southwest Schroeder Way
SPECIFIC LOCATION: Southwest Schroeder Way
CITY/STATE: Wilsonville, OR

QC JOB #: 14466001
DIRECTION: EB
DATE: Jul 10 2017 - Jul 14 2017

Start Time	Mon 10-Jul-17	Tue 11-Jul-17	Wed 12-Jul-17	Thu 13-Jul-17	Fri 14-Jul-17	Average Weekday Hourly Traffic		Average Weekday Profile
12:00 AM	0	2	0	0	0	0		
1:00 AM	0	0	0	2	1	1		
2:00 AM	0	0	1	0	0	0		
3:00 AM	0	0	0	0	0	0		
4:00 AM	0	0	0	0	0	0		
5:00 AM	0	1	1	0	0	0		
6:00 AM	3	1	3	1	2	2		
7:00 AM	1	1	1	1	0	1		
8:00 AM	4	2	16	2	3	5		
9:00 AM	3	10	4	10	1	6		
10:00 AM	5	2	3	5	5	4		
11:00 AM	1	6	6	5	5	5		
12:00 PM	18	3	0	8	3	6		
1:00 PM	2	4	1	6	5	4		
2:00 PM	2	8	2	5	6	5		
3:00 PM	1	5	4	6	2	4		
4:00 PM	9	0	4	4	1	4		
5:00 PM	14	6	3	3	3	6		
6:00 PM	5	5	9	4	9	6		
7:00 PM	7	9	10	12	12	10		
8:00 PM	11	8	11	7	8	9		
9:00 PM	1	6	2	5	9	5		
10:00 PM	1	1	0	2	0	1		
11:00 PM	0	0	0	1	0	0		
Day Total	88	80	81	89	75	84		
% Weekday Average	104.8%	95.2%	96.4%	106.0%	89.3%			
% Week Average								
AM Peak Volume	10:00 AM 5	9:00 AM 10	8:00 AM 16	9:00 AM 10	10:00 AM 5	9:00 AM 6		
PM Peak Volume	12:00 PM 18	7:00 PM 9	8:00 PM 11	7:00 PM 12	7:00 PM 12	7:00 PM 10		

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Southwest Schroeder Way SPECIFIC LOCATION: Southwest Schroeder Way CITY/STATE: Wilsonville, OR				QC JOB #: 14466001 DIRECTION: EB DATE: Jul 15 2017 - Jul 16 2017		
Start Time			Sat 15-Jul-17	Sun 16-Jul-17	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			0	0	0	
1:00 AM			0	0	0	
2:00 AM			0	0	0	
3:00 AM			1	0	1	
4:00 AM			0	0	0	
5:00 AM			0	0	0	
6:00 AM			0	0	0	
7:00 AM			1	0	1	
8:00 AM			8	4	6	
9:00 AM			0	4	2	
10:00 AM			5	6	6	
11:00 AM			7	6	7	
12:00 PM			5	8	7	
1:00 PM			5	3	4	
2:00 PM			2	2	2	
3:00 PM			6	2	4	
4:00 PM			0	1	1	
5:00 PM			4	6	5	
6:00 PM			5	6	6	
7:00 PM			7	8	8	
8:00 PM			2	8	5	
9:00 PM			5	5	5	
10:00 PM			0	0	0	
11:00 PM			1	0	1	
Day Total			64	69	71	
% Weekday Average						
% Week Average			90.1%	97.2%		
AM Peak Volume			8:00 AM 8	10:00 AM 6	11:00 AM 7	
PM Peak Volume			7:00 PM 7	12:00 PM 8	7:00 PM 8	
<i>Comments:</i>						

LOCATION: Southwest Schroeder Way **QC JOB #:** 14466001
SPECIFIC LOCATION: Southwest Schroeder Way **DIRECTION:** EB
CITY/STATE: Wilsonville, OR **DATE:** Jul 10 2017 - Jul 16 2017

Start Time	Mon 10-Jul-17	Tue 11-Jul-17	Wed 12-Jul-17	Thu 13-Jul-17	Fri 14-Jul-17	Average Weekday Hourly Traffic	Sat 15-Jul-17	Sun 16-Jul-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	2	0	0	0	0	0	0	0	
1:00 AM	0	0	0	2	1	1	0	0	0	
2:00 AM	0	0	1	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	1	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	
5:00 AM	0	1	1	0	0	0	0	0	0	
6:00 AM	3	1	3	1	2	2	0	0	1	
7:00 AM	1	1	1	1	0	1	1	0	1	
8:00 AM	4	2	16	2	3	5	8	4	6	
9:00 AM	3	10	4	10	1	6	0	4	5	
10:00 AM	5	2	3	5	5	4	5	6	4	
11:00 AM	1	6	6	5	5	5	7	6	5	
12:00 PM	18	3	0	8	3	6	5	8	6	
1:00 PM	2	4	1	6	5	4	5	3	4	
2:00 PM	2	8	2	5	6	5	2	2	4	
3:00 PM	1	5	4	6	2	4	6	2	4	
4:00 PM	9	0	4	4	1	4	0	1	3	
5:00 PM	14	6	3	3	3	6	4	6	6	
6:00 PM	5	5	9	4	9	6	5	6	6	
7:00 PM	7	9	10	12	12	10	7	8	9	
8:00 PM	11	8	11	7	8	9	2	8	8	
9:00 PM	1	6	2	5	9	5	5	5	5	
10:00 PM	1	1	0	2	0	1	0	0	1	
11:00 PM	0	0	0	1	0	0	1	0	0	
Day Total	88	80	81	89	75	84	64	69	78	
% Weekday Average	104.8%	95.2%	96.4%	106.0%	89.3%					
% Week Average	112.8%	102.6%	103.8%	114.1%	96.2%	107.7%	82.1%	88.5%		
AM Peak Volume	10:00 AM 5	9:00 AM 10	8:00 AM 16	9:00 AM 10	10:00 AM 5	9:00 AM 6	8:00 AM 8	10:00 AM 6	8:00 AM 6	
PM Peak Volume	12:00 PM 18	7:00 PM 9	8:00 PM 11	7:00 PM 12	7:00 PM 12	7:00 PM 10	7:00 PM 7	12:00 PM 8	7:00 PM 9	

Comments:

LOCATION: Southwest Schroeder Way SPECIFIC LOCATION: Southwest Schroeder Way CITY/STATE: Wilsonville, OR						QC JOB #: 14466001 DIRECTION: WB DATE: Jul 10 2017 - Jul 16 2017				
Start Time	Mon 10-Jul-17	Tue 11-Jul-17	Wed 12-Jul-17	Thu 13-Jul-17	Fri 14-Jul-17	Average Weekday Hourly Traffic	Sat 15-Jul-17	Sun 16-Jul-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	2	0	0	0	0	0	0	0	
1:00 AM	0	0	0	2	2	1	0	0	1	
2:00 AM	0	0	1	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	1	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	
5:00 AM	0	2	2	0	0	1	0	0	1	
6:00 AM	3	4	7	1	2	3	0	0	2	
7:00 AM	3	0	1	2	2	2	4	2	2	
8:00 AM	6	4	23	6	4	9	12	5	9	
9:00 AM	7	14	6	13	0	8	4	6	7	
10:00 AM	3	5	6	7	7	6	8	13	7	
11:00 AM	6	9	6	5	8	7	10	5	7	
12:00 PM	21	8	0	14	7	10	6	13	10	
1:00 PM	4	10	2	4	11	6	6	5	6	
2:00 PM	2	10	4	6	9	6	6	3	6	
3:00 PM	4	4	8	9	1	5	7	4	5	
4:00 PM	17	0	3	4	5	6	2	3	5	
5:00 PM	13	11	7	2	3	7	4	13	8	
6:00 PM	14	12	11	10	21	14	8	8	12	
7:00 PM	9	11	15	15	11	12	10	15	12	
8:00 PM	13	9	10	6	10	10	6	10	9	
9:00 PM	0	6	3	4	8	4	4	8	5	
10:00 PM	1	2	1	2	0	1	0	0	1	
11:00 PM	0	1	0	1	0	0	1	0	0	
Day Total	126	124	116	113	111	118	99	113	115	
% Weekday Average	106.8%	105.1%	98.3%	95.8%	94.1%					
% Week Average	109.6%	107.8%	100.9%	98.3%	96.5%	102.6%	86.1%	98.3%		
AM Peak	9:00 AM	9:00 AM	8:00 AM	9:00 AM	11:00 AM	8:00 AM	8:00 AM	10:00 AM	8:00 AM	
Volume	7	14	23	13	8	9	12	13	9	
PM Peak	12:00 PM	6:00 PM	7:00 PM	7:00 PM	6:00 PM	6:00 PM	7:00 PM	7:00 PM	6:00 PM	
Volume	21	12	15	15	21	14	10	15	12	
<i>Comments:</i>										

LOCATION: Southwest Schroeder Way **QC JOB #:** 14466001
SPECIFIC LOCATION: Southwest Schroeder Way **DIRECTION:** WB
CITY/STATE: Wilsonville, OR **DATE:** Jul 10 2017 - Jul 14 2017

Start Time	Mon 10-Jul-17	Tue 11-Jul-17	Wed 12-Jul-17	Thu 13-Jul-17	Fri 14-Jul-17	Average Weekday Hourly Traffic		Average Weekday Profile
12:00 AM	0	2	0	0	0	0		
1:00 AM	0	0	0	2	2	1		
2:00 AM	0	0	1	0	0	0		
3:00 AM	0	0	0	0	0	0		
4:00 AM	0	0	0	0	0	0		
5:00 AM	0	2	2	0	0	1		
6:00 AM	3	4	7	1	2	3		
7:00 AM	3	0	1	2	2	2		
8:00 AM	6	4	23	6	4	9		
9:00 AM	7	14	6	13	0	8		
10:00 AM	3	5	6	7	7	6		
11:00 AM	6	9	6	5	8	7		
12:00 PM	21	8	0	14	7	10		
1:00 PM	4	10	2	4	11	6		
2:00 PM	2	10	4	6	9	6		
3:00 PM	4	4	8	9	1	5		
4:00 PM	17	0	3	4	5	6		
5:00 PM	13	11	7	2	3	7		
6:00 PM	14	12	11	10	21	14		
7:00 PM	9	11	15	15	11	12		
8:00 PM	13	9	10	6	10	10		
9:00 PM	0	6	3	4	8	4		
10:00 PM	1	2	1	2	0	1		
11:00 PM	0	1	0	1	0	0		
Day Total	126	124	116	113	111	118		
% Weekday Average	106.8%	105.1%	98.3%	95.8%	94.1%			
% Week Average								
AM Peak Volume	9:00 AM 7	9:00 AM 14	8:00 AM 23	9:00 AM 13	11:00 AM 8	8:00 AM 9		
PM Peak Volume	12:00 PM 21	6:00 PM 12	7:00 PM 15	7:00 PM 15	6:00 PM 21	6:00 PM 14		

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: Southwest Schroeder Way SPECIFIC LOCATION: Southwest Schroeder Way CITY/STATE: Wilsonville, OR				QC JOB #: 14466001 DIRECTION: WB DATE: Jul 15 2017 - Jul 16 2017		
Start Time			Sat 15-Jul-17	Sun 16-Jul-17	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			0	0	0	
1:00 AM			0	0	0	
2:00 AM			0	0	0	
3:00 AM			1	0	1	
4:00 AM			0	0	0	
5:00 AM			0	0	0	
6:00 AM			0	0	0	
7:00 AM			4	2	3	
8:00 AM			12	5	9	
9:00 AM			4	6	5	
10:00 AM			8	13	11	
11:00 AM			10	5	8	
12:00 PM			6	13	10	
1:00 PM			6	5	6	
2:00 PM			6	3	5	
3:00 PM			7	4	6	
4:00 PM			2	3	3	
5:00 PM			4	13	9	
6:00 PM			8	8	8	
7:00 PM			10	15	13	
8:00 PM			6	10	8	
9:00 PM			4	8	6	
10:00 PM			0	0	0	
11:00 PM			1	0	1	
Day Total			99	113	112	
% Weekday Average						
% Week Average			88.4%	100.9%		
AM Peak			8:00 AM	10:00 AM	10:00 AM	
Volume			12	13	11	
PM Peak			7:00 PM	7:00 PM	7:00 PM	
Volume			10	15	13	
<i>Comments:</i>						

LOCATION: Southwest Schroeder Way **QC JOB #:** 14466001
SPECIFIC LOCATION: Southwest Schroeder Way **DIRECTION:** WB
CITY/STATE: Wilsonville, OR **DATE:** Jul 10 2017 - Jul 16 2017

Start Time	Mon 10-Jul-17	Tue 11-Jul-17	Wed 12-Jul-17	Thu 13-Jul-17	Fri 14-Jul-17	Average Weekday Hourly Traffic	Sat 15-Jul-17	Sun 16-Jul-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	2	0	0	0	0	0	0	0	
1:00 AM	0	0	0	2	2	1	0	0	1	
2:00 AM	0	0	1	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	1	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	
5:00 AM	0	2	2	0	0	1	0	0	1	
6:00 AM	3	4	7	1	2	3	0	0	2	
7:00 AM	3	0	1	2	2	2	4	2	2	
8:00 AM	6	4	23	6	4	9	12	5	9	
9:00 AM	7	14	6	13	0	8	4	6	7	
10:00 AM	3	5	6	7	7	6	8	13	7	
11:00 AM	6	9	6	5	8	7	10	5	7	
12:00 PM	21	8	0	14	7	10	6	13	10	
1:00 PM	4	10	2	4	11	6	6	5	6	
2:00 PM	2	10	4	6	9	6	6	3	6	
3:00 PM	4	4	8	9	1	5	7	4	5	
4:00 PM	17	0	3	4	5	6	2	3	5	
5:00 PM	13	11	7	2	3	7	4	13	8	
6:00 PM	14	12	11	10	21	14	8	8	12	
7:00 PM	9	11	15	15	11	12	10	15	12	
8:00 PM	13	9	10	6	10	10	6	10	9	
9:00 PM	0	6	3	4	8	4	4	8	5	
10:00 PM	1	2	1	2	0	1	0	0	1	
11:00 PM	0	1	0	1	0	0	1	0	0	
Day Total	126	124	116	113	111	118	99	113	115	
% Weekday Average	106.8%	105.1%	98.3%	95.8%	94.1%					
% Week Average	109.6%	107.8%	100.9%	98.3%	96.5%	102.6%	86.1%	98.3%		
AM Peak Volume	9:00 AM 7	9:00 AM 14	8:00 AM 23	9:00 AM 13	11:00 AM 8	8:00 AM 9	8:00 AM 12	10:00 AM 13	8:00 AM 9	
PM Peak Volume	12:00 PM 21	6:00 PM 12	7:00 PM 15	7:00 PM 15	6:00 PM 21	6:00 PM 14	7:00 PM 10	7:00 PM 15	6:00 PM 12	

Comments:

LOCATION: SW Schroeder Way Week 2 **QC JOB #:** 14466017
SPECIFIC LOCATION: SW Schroeder Way Week 2 **DIRECTION:** EB
CITY/STATE: Wilsonville, OR **DATE:** Aug 14 2017 - Aug 20 2017

Start Time	Mon 14-Aug-17	Tue 15-Aug-17	Wed 16-Aug-17	Thu 17-Aug-17	Fri 18-Aug-17	Average Weekday Hourly Traffic	Sat 19-Aug-17	Sun 20-Aug-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	0	0	0	0	0	0	1	0	
1:00 AM	0	0	0	0	0	0	0	0	0	
2:00 AM	0	0	0	1	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	1	0	0	0	0	
5:00 AM	0	0	1	1	0	0	0	0	0	
6:00 AM	0	1	1	1	1	1	0	1	1	█
7:00 AM	3	2	1	1	1	2	2	0	1	█
8:00 AM	3	1	2	4	1	2	4	2	2	█
9:00 AM	2	3	0	3	3	2	0	8	3	█
10:00 AM	1	2	2	4	5	3	4	4	3	█
11:00 AM	3	2	4	7	4	4	2	6	4	█
12:00 PM	2	4	1	6	5	4	6	3	4	█
1:00 PM	5	0	6	1	3	3	6	3	3	█
2:00 PM	1	5	2	7	1	3	4	3	3	█
3:00 PM	6	1	2	0	4	3	2	10	4	█
4:00 PM	3	3	2	4	3	3	0	3	3	█
5:00 PM	5	6	9	0	4	5	7	8	6	█
6:00 PM	6	6	1	1	3	3	3	4	3	█
7:00 PM	9	5	5	6	2	5	4	1	5	█
8:00 PM	2	8	3	9	4	5	2	2	4	█
9:00 PM	2	0	0	1	0	1	0	0	0	
10:00 PM	1	0	1	0	2	1	1	0	1	█
11:00 PM	0	0	0	0	1	0	0	0	0	
Day Total	54	49	43	57	48	50	47	59	50	
% Weekday Average	108.0%	98.0%	86.0%	114.0%	96.0%					
% Week Average	108.0%	98.0%	86.0%	114.0%	96.0%	100.0%	94.0%	118.0%		
AM Peak	7:00 AM	9:00 AM	11:00 AM	11:00 AM	10:00 AM	11:00 AM	8:00 AM	9:00 AM	11:00 AM	
Volume	3	3	4	7	5	4	4	8	4	
PM Peak	7:00 PM	8:00 PM	5:00 PM	8:00 PM	12:00 PM	5:00 PM	5:00 PM	3:00 PM	5:00 PM	
Volume	9	8	9	9	5	5	7	10	6	

Comments:

LOCATION: SW Schroeder Way Week 2 **QC JOB #:** 14466017
SPECIFIC LOCATION: SW Schroeder Way Week 2 **DIRECTION:** EB
CITY/STATE: Wilsonville, OR **DATE:** Aug 14 2017 - Aug 18 2017

Start Time	Mon 14-Aug-17	Tue 15-Aug-17	Wed 16-Aug-17	Thu 17-Aug-17	Fri 18-Aug-17	Average Weekday Hourly Traffic		Average Weekday Profile
12:00 AM	0	0	0	0	0	0		
1:00 AM	0	0	0	0	0	0		
2:00 AM	0	0	0	1	0	0		
3:00 AM	0	0	0	0	0	0		
4:00 AM	0	0	0	0	1	0		
5:00 AM	0	0	1	1	0	0		
6:00 AM	0	1	1	1	1	1		
7:00 AM	3	2	1	1	1	2		
8:00 AM	3	1	2	4	1	2		
9:00 AM	2	3	0	3	3	2		
10:00 AM	1	2	2	4	5	3		
11:00 AM	3	2	4	7	4	4		
12:00 PM	2	4	1	6	5	4		
1:00 PM	5	0	6	1	3	3		
2:00 PM	1	5	2	7	1	3		
3:00 PM	6	1	2	0	4	3		
4:00 PM	3	3	2	4	3	3		
5:00 PM	5	6	9	0	4	5		
6:00 PM	6	6	1	1	3	3		
7:00 PM	9	5	5	6	2	5		
8:00 PM	2	8	3	9	4	5		
9:00 PM	2	0	0	1	0	1		
10:00 PM	1	0	1	0	2	1		
11:00 PM	0	0	0	0	1	0		
Day Total	54	49	43	57	48	50		
% Weekday Average	108.0%	98.0%	86.0%	114.0%	96.0%			
% Week Average								
AM Peak	7:00 AM	9:00 AM	11:00 AM	11:00 AM	10:00 AM	11:00 AM		
Volume	3	3	4	7	5	4		
PM Peak	7:00 PM	8:00 PM	5:00 PM	8:00 PM	12:00 PM	5:00 PM		
Volume	9	8	9	9	5	5		

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SW Schroeder Way Week 2 SPECIFIC LOCATION: SW Schroeder Way Week 2 CITY/STATE: Wilsonville, OR				QC JOB #: 14466017 DIRECTION: EB DATE: Aug 19 2017 - Aug 20 2017		
Start Time			Sat 19-Aug-17	Sun 20-Aug-17	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			0	1	1	
1:00 AM			0	0	0	
2:00 AM			0	0	0	
3:00 AM			0	0	0	
4:00 AM			0	0	0	
5:00 AM			0	0	0	
6:00 AM			0	1	1	
7:00 AM			2	0	1	
8:00 AM			4	2	3	
9:00 AM			0	8	4	
10:00 AM			4	4	4	
11:00 AM			2	6	4	
12:00 PM			6	3	5	
1:00 PM			6	3	5	
2:00 PM			4	3	4	
3:00 PM			2	10	6	
4:00 PM			0	3	2	
5:00 PM			7	8	8	
6:00 PM			3	4	4	
7:00 PM			4	1	3	
8:00 PM			2	2	2	
9:00 PM			0	0	0	
10:00 PM			1	0	1	
11:00 PM			0	0	0	
Day Total			47	59	58	
% Weekday Average						
% Week Average			81.0%	101.7%		
AM Peak			8:00 AM	9:00 AM	9:00 AM	
Volume			4	8	4	
PM Peak			5:00 PM	3:00 PM	5:00 PM	
Volume			7	10	8	
<i>Comments:</i>						

LOCATION: SW Schroeder Way Week 2 **QC JOB #:** 14466017
SPECIFIC LOCATION: SW Schroeder Way Week 2 **DIRECTION:** EB
CITY/STATE: Wilsonville, OR **DATE:** Aug 14 2017 - Aug 20 2017

Start Time	Mon 14-Aug-17	Tue 15-Aug-17	Wed 16-Aug-17	Thu 17-Aug-17	Fri 18-Aug-17	Average Weekday Hourly Traffic	Sat 19-Aug-17	Sun 20-Aug-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	0	0	0	0	0	0	1	0	
1:00 AM	0	0	0	0	0	0	0	0	0	
2:00 AM	0	0	0	1	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	1	0	0	0	0	
5:00 AM	0	0	1	1	0	0	0	0	0	
6:00 AM	0	1	1	1	1	1	0	1	1	
7:00 AM	3	2	1	1	1	2	2	0	1	
8:00 AM	3	1	2	4	1	2	4	2	2	
9:00 AM	2	3	0	3	3	2	0	8	3	
10:00 AM	1	2	2	4	5	3	4	4	3	
11:00 AM	3	2	4	7	4	4	2	6	4	
12:00 PM	2	4	1	6	5	4	6	3	4	
1:00 PM	5	0	6	1	3	3	6	3	3	
2:00 PM	1	5	2	7	1	3	4	3	3	
3:00 PM	6	1	2	0	4	3	2	10	4	
4:00 PM	3	3	2	4	3	3	0	3	3	
5:00 PM	5	6	9	0	4	5	7	8	6	
6:00 PM	6	6	1	1	3	3	3	4	3	
7:00 PM	9	5	5	6	2	5	4	1	5	
8:00 PM	2	8	3	9	4	5	2	2	4	
9:00 PM	2	0	0	1	0	1	0	0	0	
10:00 PM	1	0	1	0	2	1	1	0	1	
11:00 PM	0	0	0	0	1	0	0	0	0	
Day Total	54	49	43	57	48	50	47	59	50	
% Weekday Average	108.0%	98.0%	86.0%	114.0%	96.0%					
% Week Average	108.0%	98.0%	86.0%	114.0%	96.0%	100.0%	94.0%	118.0%		
AM Peak	7:00 AM	9:00 AM	11:00 AM	11:00 AM	10:00 AM	11:00 AM	8:00 AM	9:00 AM	11:00 AM	
Volume	3	3	4	7	5	4	4	8	4	
PM Peak	7:00 PM	8:00 PM	5:00 PM	8:00 PM	12:00 PM	5:00 PM	5:00 PM	3:00 PM	5:00 PM	
Volume	9	8	9	9	5	5	7	10	6	

Comments:

LOCATION: SW Schroeder Way Week 2 SPECIFIC LOCATION: SW Schroeder Way Week 2 CITY/STATE: Wilsonville, OR										QC JOB #: 14466017 DIRECTION: WB DATE: Aug 14 2017 - Aug 20 2017	
Start Time	Mon 14-Aug-17	Tue 15-Aug-17	Wed 16-Aug-17	Thu 17-Aug-17	Fri 18-Aug-17	Average Weekday Hourly Traffic	Sat 19-Aug-17	Sun 20-Aug-17	Average Week Hourly Traffic	Average Week Profile	
12:00 AM	0	0	1	0	0	0	0	0	0		
1:00 AM	0	0	0	0	0	0	0	0	0		
2:00 AM	1	0	0	1	0	0	0	0	0		
3:00 AM	0	0	0	0	0	0	0	0	0		
4:00 AM	0	0	0	0	1	0	0	0	0		
5:00 AM	0	0	1	1	1	1	0	1	1		
6:00 AM	0	3	1	2	3	2	1	0	1		
7:00 AM	5	0	3	1	0	2	1	2	2		
8:00 AM	0	1	0	4	2	1	4	4	2		
9:00 AM	2	6	1	4	3	3	2	7	4		
10:00 AM	1	1	3	4	5	3	6	4	3		
11:00 AM	3	5	4	7	4	5	2	5	4		
12:00 PM	2	1	2	3	5	3	6	3	3		
1:00 PM	5	1	4	3	3	3	3	3	3		
2:00 PM	2	4	2	4	2	3	5	4	3		
3:00 PM	6	1	1	1	2	2	2	9	3		
4:00 PM	3	3	5	3	4	4	0	5	3		
5:00 PM	8	8	6	2	4	6	8	6	6		
6:00 PM	5	8	3	2	3	4	5	3	4		
7:00 PM	7	6	5	8	3	6	1	2	5		
8:00 PM	4	3	2	5	1	3	1	0	2		
9:00 PM	0	0	0	1	0	0	1	0	0		
10:00 PM	1	0	1	0	2	1	0	0	1		
11:00 PM	0	0	0	0	1	0	1	0	0		
Day Total	55	51	45	56	49	52	49	58	50		
% Weekday Average	105.8%	98.1%	86.5%	107.7%	94.2%						
% Week Average	110.0%	102.0%	90.0%	112.0%	98.0%	104.0%	98.0%	116.0%			
AM Peak	7:00 AM	9:00 AM	11:00 AM	11:00 AM	10:00 AM	11:00 AM	10:00 AM	9:00 AM	9:00 AM		
Volume	5	6	4	7	5	5	6	7	4		
PM Peak	5:00 PM	5:00 PM	5:00 PM	7:00 PM	12:00 PM	5:00 PM	5:00 PM	3:00 PM	5:00 PM		
Volume	8	8	6	8	5	6	8	9	6		
<i>Comments:</i>											

LOCATION: SW Schroeder Way Week 2
SPECIFIC LOCATION: SW Schroeder Way Week 2
CITY/STATE: Wilsonville, OR

QC JOB #: 14466017
DIRECTION: WB
DATE: Aug 14 2017 - Aug 18 2017

Start Time	Mon 14-Aug-17	Tue 15-Aug-17	Wed 16-Aug-17	Thu 17-Aug-17	Fri 18-Aug-17	Average Weekday Hourly Traffic		Average Weekday Profile
12:00 AM	0	0	1	0	0	0		
1:00 AM	0	0	0	0	0	0		
2:00 AM	1	0	0	1	0	0		
3:00 AM	0	0	0	0	0	0		
4:00 AM	0	0	0	0	1	0		
5:00 AM	0	0	1	1	1	1		
6:00 AM	0	3	1	2	3	2		
7:00 AM	5	0	3	1	0	2		
8:00 AM	0	1	0	4	2	1		
9:00 AM	2	6	1	4	3	3		
10:00 AM	1	1	3	4	5	3		
11:00 AM	3	5	4	7	4	5		
12:00 PM	2	1	2	3	5	3		
1:00 PM	5	1	4	3	3	3		
2:00 PM	2	4	2	4	2	3		
3:00 PM	6	1	1	1	2	2		
4:00 PM	3	3	5	3	4	4		
5:00 PM	8	8	6	2	4	6		
6:00 PM	5	8	3	2	3	4		
7:00 PM	7	6	5	8	3	6		
8:00 PM	4	3	2	5	1	3		
9:00 PM	0	0	0	1	0	0		
10:00 PM	1	0	1	0	2	1		
11:00 PM	0	0	0	0	1	0		
Day Total	55	51	45	56	49	52		
% Weekday Average	105.8%	98.1%	86.5%	107.7%	94.2%			
% Week Average								
AM Peak Volume	7:00 AM 5	9:00 AM 6	11:00 AM 4	11:00 AM 7	10:00 AM 5	11:00 AM 5		
PM Peak Volume	5:00 PM 8	5:00 PM 8	5:00 PM 6	7:00 PM 8	12:00 PM 5	5:00 PM 6		

Comments:

SUMMARY - Tube Count - Volume Data (Weekend)

LOCATION: SW Schroeder Way Week 2 SPECIFIC LOCATION: SW Schroeder Way Week 2 CITY/STATE: Wilsonville, OR				QC JOB #: 14466017 DIRECTION: WB DATE: Aug 19 2017 - Aug 20 2017		
Start Time			Sat 19-Aug-17	Sun 20-Aug-17	Average Weekend Hourly Traffic	Average Weekend Profile
12:00 AM			0	0	0	
1:00 AM			0	0	0	
2:00 AM			0	0	0	
3:00 AM			0	0	0	
4:00 AM			0	0	0	
5:00 AM			0	1	1	
6:00 AM			1	0	1	
7:00 AM			1	2	2	
8:00 AM			4	4	4	
9:00 AM			2	7	5	
10:00 AM			6	4	5	
11:00 AM			2	5	4	
12:00 PM			6	3	5	
1:00 PM			3	3	3	
2:00 PM			5	4	5	
3:00 PM			2	9	6	
4:00 PM			0	5	3	
5:00 PM			8	6	7	
6:00 PM			5	3	4	
7:00 PM			1	2	2	
8:00 PM			1	0	1	
9:00 PM			1	0	1	
10:00 PM			0	0	0	
11:00 PM			1	0	1	
Day Total			49	58	60	
% Weekday Average						
% Week Average			81.7%	96.7%		
AM Peak			10:00 AM	9:00 AM	9:00 AM	
Volume			6	7	5	
PM Peak			5:00 PM	3:00 PM	5:00 PM	
Volume			8	9	7	
<i>Comments:</i>						

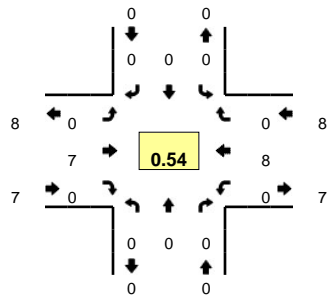
LOCATION: SW Schroeder Way Week 2 **QC JOB #:** 14466017
SPECIFIC LOCATION: SW Schroeder Way Week 2 **DIRECTION:** WB
CITY/STATE: Wilsonville, OR **DATE:** Aug 14 2017 - Aug 20 2017

Start Time	Mon 14-Aug-17	Tue 15-Aug-17	Wed 16-Aug-17	Thu 17-Aug-17	Fri 18-Aug-17	Average Weekday Hourly Traffic	Sat 19-Aug-17	Sun 20-Aug-17	Average Week Hourly Traffic	Average Week Profile
12:00 AM	0	0	1	0	0	0	0	0	0	
1:00 AM	0	0	0	0	0	0	0	0	0	
2:00 AM	1	0	0	1	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	1	0	0	0	0	
5:00 AM	0	0	1	1	1	1	0	1	1	
6:00 AM	0	3	1	2	3	2	1	0	1	
7:00 AM	5	0	3	1	0	2	1	2	2	
8:00 AM	0	1	0	4	2	1	4	4	2	
9:00 AM	2	6	1	4	3	3	2	7	4	
10:00 AM	1	1	3	4	5	3	6	4	3	
11:00 AM	3	5	4	7	4	5	2	5	4	
12:00 PM	2	1	2	3	5	3	6	3	3	
1:00 PM	5	1	4	3	3	3	3	3	3	
2:00 PM	2	4	2	4	2	3	5	4	3	
3:00 PM	6	1	1	1	2	2	2	9	3	
4:00 PM	3	3	5	3	4	4	0	5	3	
5:00 PM	8	8	6	2	4	6	8	6	6	
6:00 PM	5	8	3	2	3	4	5	3	4	
7:00 PM	7	6	5	8	3	6	1	2	5	
8:00 PM	4	3	2	5	1	3	1	0	2	
9:00 PM	0	0	0	1	0	0	1	0	0	
10:00 PM	1	0	1	0	2	1	0	0	1	
11:00 PM	0	0	0	0	1	0	1	0	0	
Day Total	55	51	45	56	49	52	49	58	50	
% Weekday Average	105.8%	98.1%	86.5%	107.7%	94.2%					
% Week Average	110.0%	102.0%	90.0%	112.0%	98.0%	104.0%	98.0%	116.0%		
AM Peak Volume	7:00 AM 5	9:00 AM 6	11:00 AM 4	11:00 AM 7	10:00 AM 5	11:00 AM 5	10:00 AM 6	9:00 AM 7	9:00 AM 4	
PM Peak Volume	5:00 PM 8	5:00 PM 8	5:00 PM 6	7:00 PM 8	12:00 PM 5	5:00 PM 6	5:00 PM 8	3:00 PM 9	5:00 PM 6	

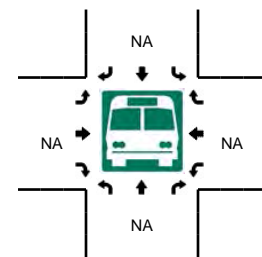
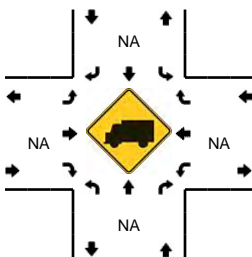
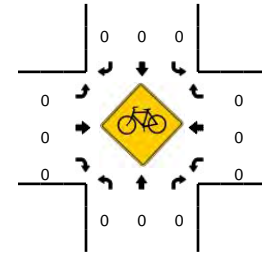
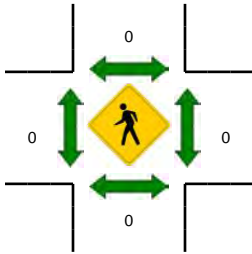
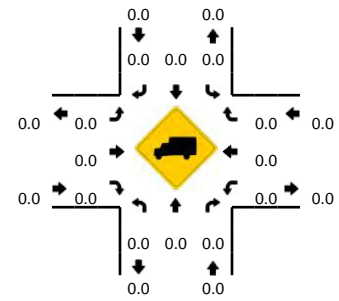
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466003
DATE: Fri, Jul 14 2017



Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

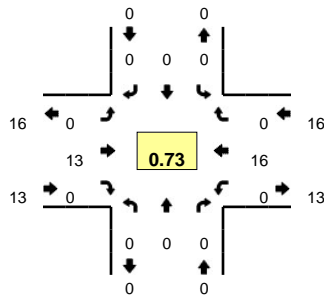


5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7
4:20 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
4:50 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	6
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	8
5:05 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	10
5:10 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	13
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	9
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	10
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	13
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	15
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	0	20	0	0	0	8	0	0	28
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad																		
Stopped Buses																		

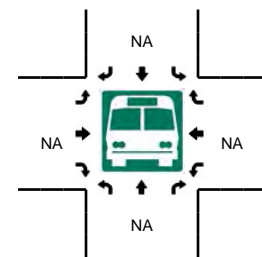
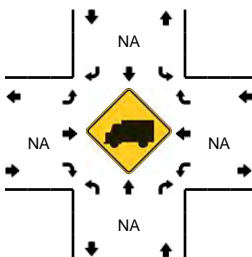
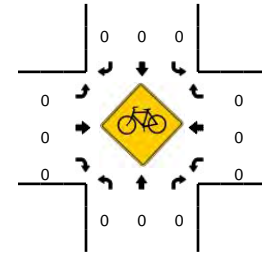
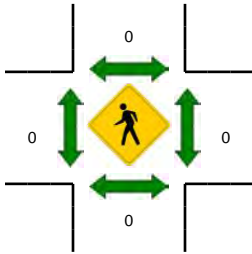
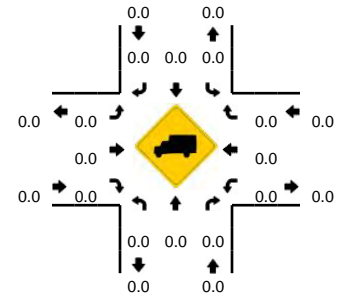
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466004
DATE: Mon, Jul 10 2017



Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

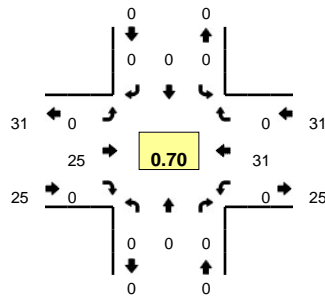


5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
4:05 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	8
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4:25 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	11
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
4:35 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	12
4:40 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	15
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
4:55 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	14
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	16
5:05 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	16
5:10 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	17
5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	22
5:20 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	25
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	24
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	25
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	23
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	25
5:55 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	0	0	6	29
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	0	0	0	0	0	0	0	0	0	16	0	0	0	24	0	0	40	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																			
Stopped Buses																			

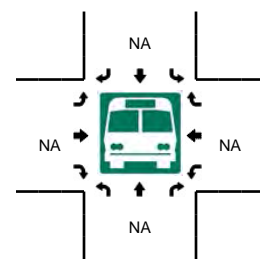
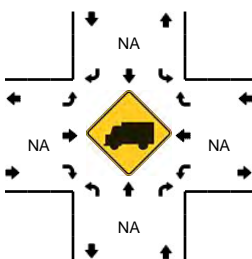
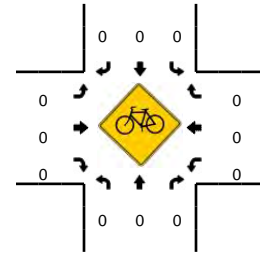
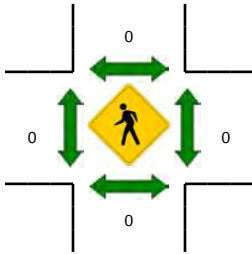
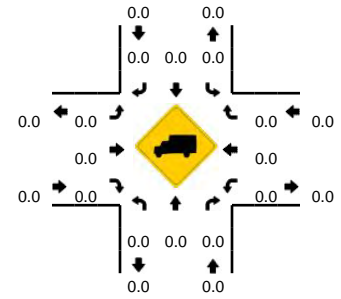
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466005
DATE: Sat, Jul 15 2017



Peak-Hour: 12:25 PM -- 1:25 PM
Peak 15-Min: 12:55 PM -- 1:10 PM

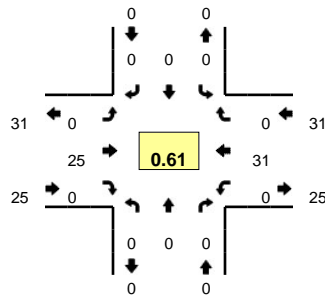


5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
12:05 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	5	
12:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:20 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	2	0	5	
12:25 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	6	
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	
12:35 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
12:40 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
12:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	7	
12:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
12:55 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	5	38
1:00 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	0	5	0	11	47
1:05 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	4	46
1:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	48
1:15 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	0	6	54
1:20 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	7	56
1:25 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	3	53
1:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	51
1:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	54
1:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	54
1:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	8	55
1:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
1:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	36	0	0	0	0	44	0	80	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

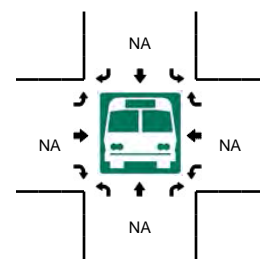
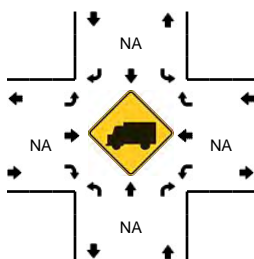
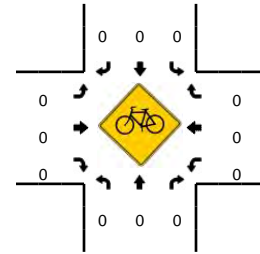
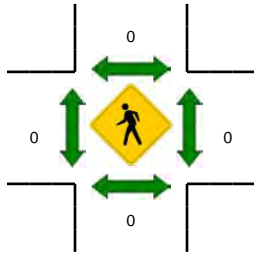
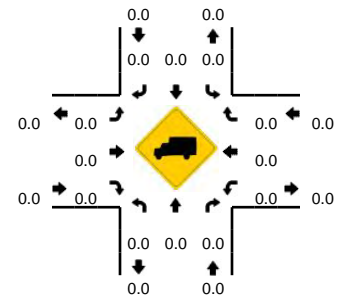
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466006
DATE: Sun, Jul 16 2017



Peak-Hour: 2:05 PM -- 3:05 PM
Peak 15-Min: 2:15 PM -- 2:30 PM

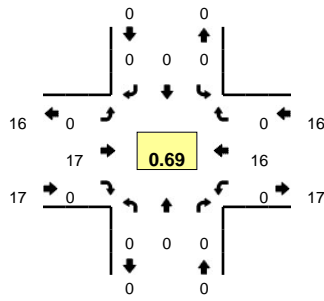


5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
1:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34
1:40 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	31
1:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	25
1:50 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	28
1:55 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3	31
2:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	30
2:05 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3	31
2:10 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	7	36
2:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	5	35
2:20 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	7	0	0	9	44
2:25 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	6	0	0	9	51
2:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	52
2:35 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	54
2:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	55
2:45 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	54
2:50 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	55
2:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
3:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	7	56
3:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
3:10 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	50
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	50
3:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	42
3:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
3:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	30
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	24	0	0	0	68	0	0	92	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

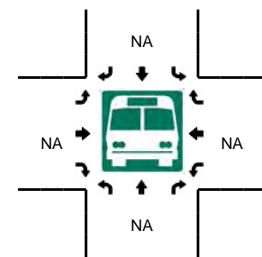
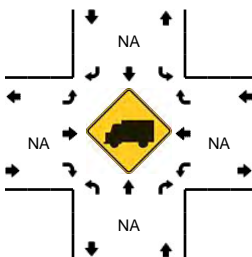
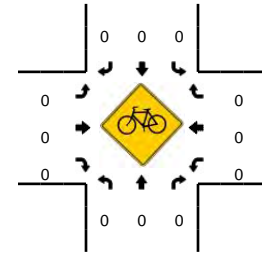
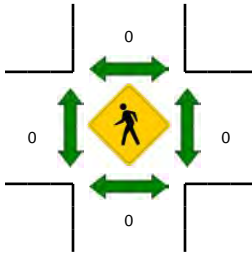
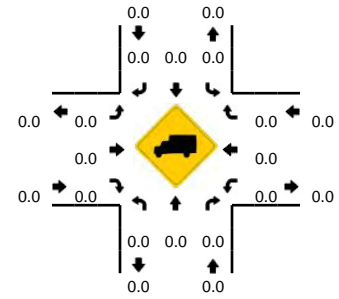
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466007
DATE: Thu, Jul 13 2017



Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 4:25 PM -- 4:40 PM

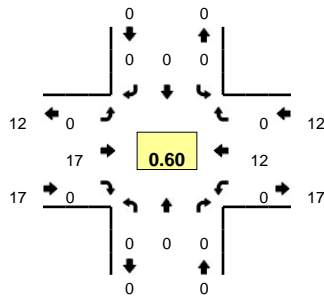


5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
3:55 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	22
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	22
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	21
4:20 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	20
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	19
4:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	21
4:35 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	25
4:40 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	22
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5	27
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
4:55 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	25
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
5:05 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	25
5:10 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	27
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	33
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	30
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	25
5:35 PM	0	0	0	0	0	0	0	0	0	5	0	0	0	2	0	0	7	27
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	28	0	0	0	20	0	0	48	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

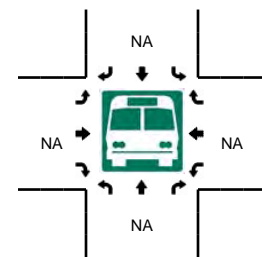
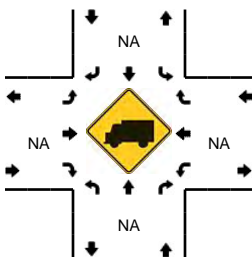
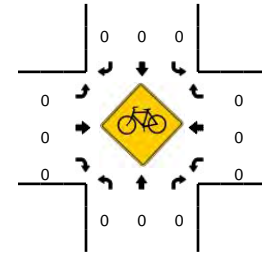
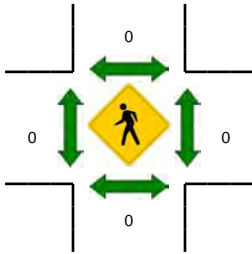
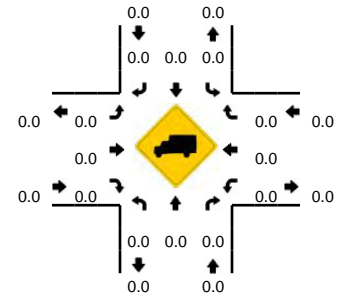
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466008
DATE: Tue, Jul 11 2017



Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 5:35 PM -- 5:50 PM

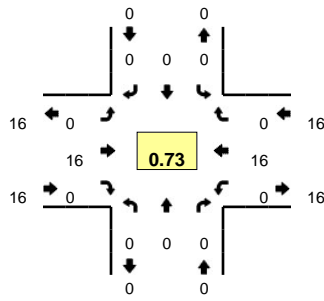


5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	12
4:05 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	14
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
4:20 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	11
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	11
4:35 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	12
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	13
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	14
4:55 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	17
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
5:05 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	15
5:10 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	17
5:15 PM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	22
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	23
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	22
5:35 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	23
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	24
5:45 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	5	0	9	29
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	29
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	0	0	0	0	0	0	20	0	0	0	28	0	0	48
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Railroad																		
Stopped Buses																		

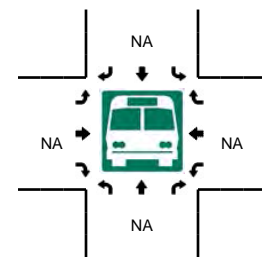
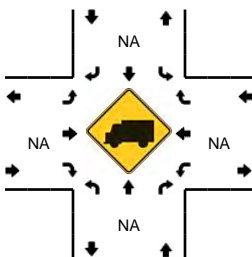
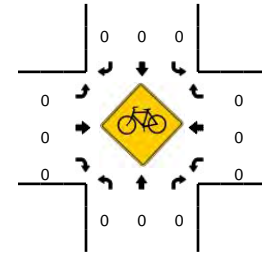
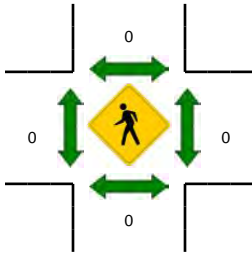
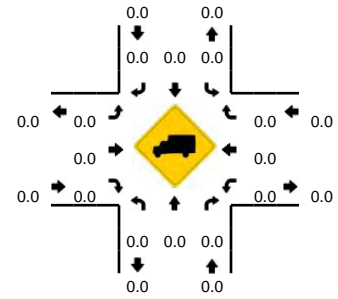
Comments:

LOCATION: Memorial Dog Park -- Entrance
CITY/STATE: Wilsonville, OR

QC JOB #: 14466009
DATE: Wed, Jul 12 2017



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:25 PM -- 5:40 PM



5-Min Count Period Beginning At	Memorial Dog Park (Northbound)				Memorial Dog Park (Southbound)				Entrance (Eastbound)				Entrance (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2	17
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	15
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
4:25 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4	19
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	17
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	14
4:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	5	19
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	18
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	17
5:05 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	19
5:10 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	5	24
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3	25
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	23
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0	7	29
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	31
5:40 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	32
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27
5:50 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	26
5:55 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	5	31
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	0	0	0	0	0	0	0	0	0	4	0	0	0	40	0	0	0	44	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																			
Stopped Buses																			

Comments:



Site Code: 14466011

Location: Memorial Dog Park - Entrance

Date: 8/14/17

Time	Vehicles		Hourly Total IN	Hourly Total OUT	HOURLY TOTAL IN+OUT
	In	Out			
3:00 PM	2	6			
3:05 PM	1	1			
3:10 PM	1	3			
3:15 PM	0	0			
3:20 PM	0	0			
3:25 PM	1	0			
3:30 PM	2	1			
3:35 PM	0	1			
3:40 PM	0	0			
3:45 PM	1	0			
3:50 PM	0	2			
3:55 PM	0	0			
4:00 PM	1	0			
4:05 PM	0	0			
4:10 PM	0	2			
4:15 PM	0	0			
4:20 PM	3	0			
4:25 PM	0	1			
4:30 PM	0	0			
4:35 PM	2	0			
4:40 PM	1	1			
4:45 PM	0	1			
4:50 PM	1	0			
4:55 PM	1	0	9	5	14
5:00 PM	1	0	9	5	14
5:05 PM	0	2	9	7	16
5:10 PM	1	1	10	6	16
5:15 PM	1	1	11	7	18
5:20 PM	0	1	8	8	16
5:25 PM	0	0	8	7	15
5:30 PM	1	0	9	7	16
5:35 PM	2	1	9	8	17
5:40 PM	0	0	8	7	15
5:45 PM	2	0	10	6	16
5:50 PM	0	1	9	7	16
5:55 PM	1	1	9	8	17
Total	26	27			



Site Code: 14466015

Location: Memorial Dog Park - Entrance

Date: 8/15/17

Time	Vehicles		Hourly Total IN	Hourly Total OUT	Hourly Total IN+OUT
	In	Out			
3:00 PM	1	4			
3:05 PM	0	0			
3:10 PM	0	1			
3:15 PM	0	1			
3:20 PM	0	0			
3:25 PM	0	1			
3:30 PM	0	0			
3:35 PM	0	0			
3:40 PM	0	0			
3:45 PM	0	1			
3:50 PM	1	0			
3:55 PM	2	0			
4:00 PM	2	0			
4:05 PM	1	1			
4:10 PM	1	0			
4:15 PM	0	2			
4:20 PM	0	1			
4:25 PM	0	0			
4:30 PM	1	0			
4:35 PM	1	0			
4:40 PM	0	0			
4:45 PM	2	0			
4:50 PM	1	1			
4:55 PM	3	1			
5:00 PM	1	0	11	6	17
5:05 PM	3	0	13	5	18
5:10 PM	2	1	14	6	20
5:15 PM	0	0	14	4	18
5:20 PM	1	0	15	3	18
5:25 PM	2	0	17	3	20
5:30 PM	0	1	16	4	20
5:35 PM	1	2	16	6	22
5:40 PM	1	2	17	8	25
5:45 PM	1	3	16	11	27
5:50 PM	0	0	15	10	25
5:55 PM	2	3	14	12	26
Total	30	26			



Site Code: 14466016

Location: Memorial Dog Park - Entrance

Date: 8/16/17

Time	Vehicles		Hourly Total IN	Hourly Total OUT	Hourly Total IN+OUT
	In	Out			
3:00 PM	1	5			
3:05 PM	4	0			
3:10 PM	1	0			
3:15 PM	0	2			
3:20 PM	1	1			
3:25 PM	0	0			
3:30 PM	0	0			
3:35 PM	1	1			
3:40 PM	0	0			
3:45 PM	0	0			
3:50 PM	0	0			
3:55 PM	1	0			
4:00 PM	0	0			
4:05 PM	1	0			
4:10 PM	1	0			
4:15 PM	0	3			
4:20 PM	1	1			
4:25 PM	0	1			
4:30 PM	0	1			
4:35 PM	0	0			
4:40 PM	0	0			
4:45 PM	0	1			
4:50 PM	1	1			
4:55 PM	0	0	4	8	12
5:00 PM	0	0	4	8	12
5:05 PM	4	0	7	8	15
5:10 PM	2	0	8	8	16
5:15 PM	0	0	8	5	13
5:20 PM	2	1	9	5	14
5:25 PM	2	1	11	5	16
5:30 PM	0	0	11	4	15
5:35 PM	1	0	12	4	16
5:40 PM	3	0	15	4	19
5:45 PM	0	0	15	3	18
5:50 PM	1	0	15	2	17
5:55 PM	2	1	17	3	20
Total	30	20			



Site Code: 14466014

Location: Memorial Dog Park - Entrance

Date: 8/17/17

Time	Vehicles		Hourly Total IN	Hourly Total OUT	Hourly Total IN+OUT
	In	Out			
3:00 PM	0	1			
3:05 PM	0	0			
3:10 PM	1	1			
3:15 PM	1	1			
3:20 PM	0	0			
3:25 PM	1	0			
3:30 PM	2	0			
3:35 PM	0	0			
3:40 PM	0	0			
3:45 PM	2	1			
3:50 PM	0	1			
3:55 PM	1	1			
4:00 PM	0	0			
4:05 PM	1	2			
4:10 PM	0	1			
4:15 PM	1	1			
4:20 PM	0	1			
4:25 PM	0	0			
4:30 PM	0	0			
4:35 PM	0	0			
4:40 PM	4	0			
4:45 PM	2	2			
4:50 PM	2	0			
4:55 PM	0	2	10	9	19
5:00 PM	5	3	15	12	27
5:05 PM	2	2	16	12	28
5:10 PM	2	0	18	11	29
5:15 PM	1	0	18	10	28
5:20 PM	1	1	19	10	29
5:25 PM	2	2	21	12	33
5:30 PM	0	0	21	12	33
5:35 PM	0	0	21	12	33
5:40 PM	2	1	19	13	32
5:45 PM	2	0	19	11	30
5:50 PM	0	1	17	12	29
5:55 PM	1	3	18	13	31
Total	36	28			



Site Code: 144660

Location: Memorial Dog Park - Entrance

Date: 8/18/17

Time	Vehicles		Hourly Total IN	Hourly Total OUT	HOURLY TOTAL IN+OUT
	In	Out			
3:00 PM	0	1			
3:05 PM	0	0			
3:10 PM	0	0			
3:15 PM	1	0			
3:20 PM	1	0			
3:25 PM	0	1			
3:30 PM	1	1			
3:35 PM	1	0			
3:40 PM	0	0			
3:45 PM	0	0			
3:50 PM	0	0			
3:55 PM	0	1			
4:00 PM	1	1			
4:05 PM	1	0			
4:10 PM	1	1			
4:15 PM	0	2			
4:20 PM	3	2			
4:25 PM	0	0			
4:30 PM	1	0			
4:35 PM	0	0			
4:40 PM	0	0			
4:45 PM	0	0			
4:50 PM	1	0			
4:55 PM	2	1			
5:00 PM	0	0	9	6	15
5:05 PM	1	1	9	7	16
5:10 PM	0	0	8	6	14
5:15 PM	0	0	8	4	12
5:20 PM	0	1	5	3	8
5:25 PM	0	0	5	3	8
5:30 PM	1	1	5	4	9
5:35 PM	1	0	6	4	10
5:40 PM	1	0	7	4	11
5:45 PM	1	0	8	4	12
5:50 PM	0	0	7	4	11
5:55 PM	0	0	5	3	8
Total	19	14			

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	566	0	0	561	2	0
Conflicting Peds, #/hr	0	0	0	0	6	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	584	0	0	578	2	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	590
Stage 1	-	-	590
Stage 2	-	-	578
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	995
Stage 1	-	-	558
Stage 2	-	-	565
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	995
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	555
Stage 2	-	-	565

Approach	EB	WB	NB
HCM Control Delay, s	0	0	21.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	215	-	-	995	-
HCM Lane V/C Ratio	0.01	-	-	-	-
HCM Control Delay (s)	21.9	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	566	12	8	561	14	8
Conflicting Peds, #/hr	0	0	0	0	6	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	584	12	8	578	14	8

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	602
Stage 1	-	-	596
Stage 2	-	-	595
Critical Hdwy	-	4.1	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	2.2	3.5
Pot Cap-1 Maneuver	-	985	209
Stage 1	-	-	554
Stage 2	-	-	555
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	985	205
Mov Cap-2 Maneuver	-	-	205
Stage 1	-	-	551
Stage 2	-	-	548

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	261	-	-	985	-
HCM Lane V/C Ratio	0.087	-	-	0.008	-
HCM Control Delay (s)	20.1	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	597	0	0	589	2	0
Conflicting Peds, #/hr	0	0	0	0	6	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	615	0	0	607	2	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	621
Stage 1	-	-	621
Stage 2	-	-	607
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	969
Stage 1	-	-	540
Stage 2	-	-	548
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	969
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	537
Stage 2	-	-	548

Approach	EB	WB	NB
HCM Control Delay, s	0	0	23.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	198	-	-	969	-
HCM Lane V/C Ratio	0.01	-	-	-	-
HCM Control Delay (s)	23.4	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	597	12	8	589	14	8
Conflicting Peds, #/hr	0	0	0	0	6	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	615	12	8	607	14	8

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	634
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	959
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	959
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21.3
HCM LOS			C

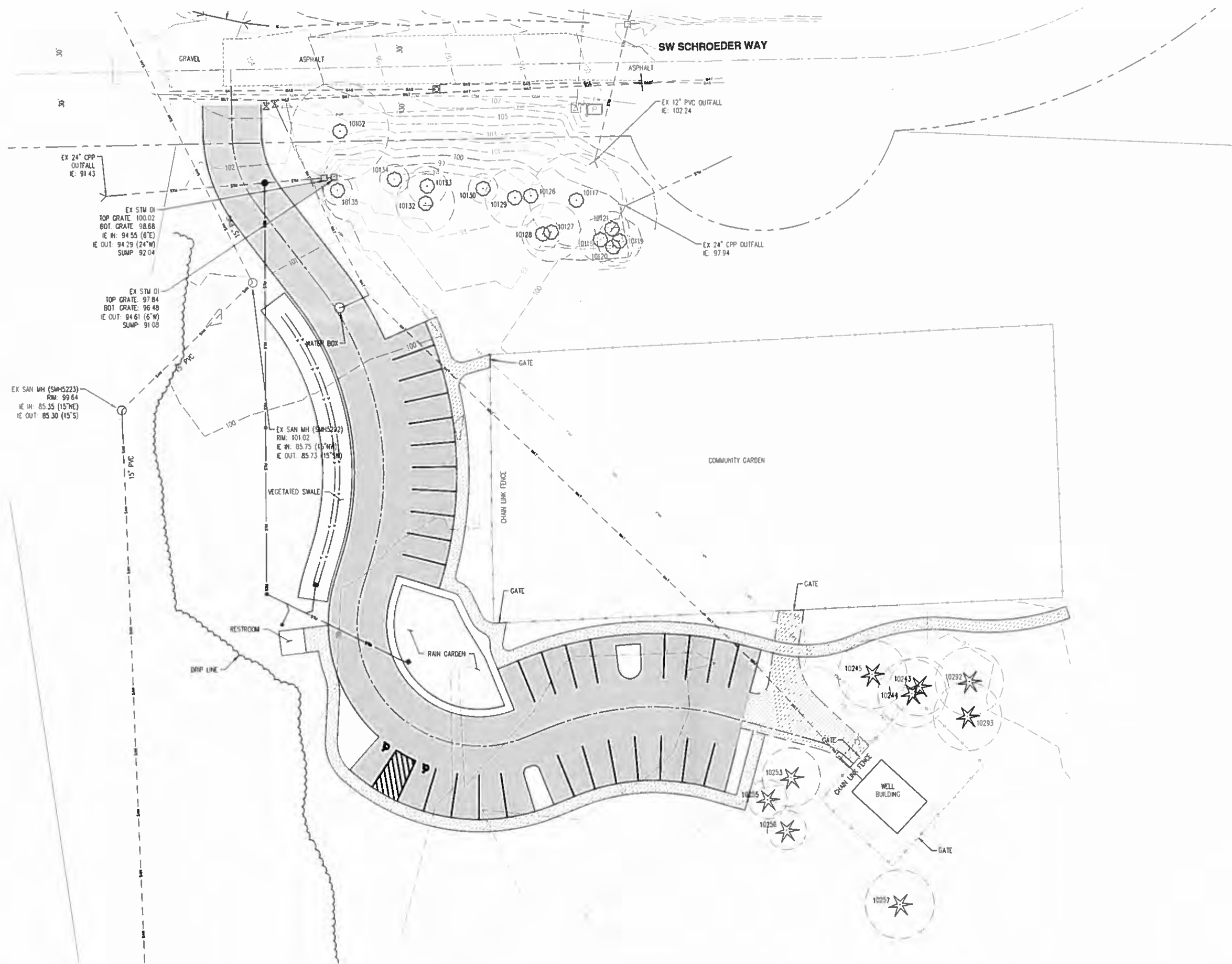
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	243	-	-	959	-
HCM Lane V/C Ratio	0.093	-	-	0.009	-
HCM Control Delay (s)	21.3	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Queuing and Blocking Report
Existing + Project

10/31/2017

Intersection: 1: Kolbe Ln & Wilsonville Rd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	41	113	45
Average Queue (ft)	2	11	15
95th Queue (ft)	23	57	38
Link Distance (ft)	327	1040	183
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			



DESIGNED BY:	JPC
DRAWN BY:	JPC
CHECKED BY:	JPC
SCALE:	AS NOTED
DATE:	

REVISIONS	

Exhibit A



D - Install additional pedestrian ahead warning signage



C - install additional ped signage at crosswalk

B - PW has trimmed the trees/shrubs on east side of Kolbe to provide good sight distance. This will need to be a regular landscape maintenance item.

E - install row of delineators to first driveway - discourage eastbound, right-turn vehicles from straying into northbound lane on Kolbe



F - Add 25 MPH signs on Kolbe Lane

L - Close street, install removable bollard for emergency vehicle access

G - in the future pedestrian access pathway to park path is anticipated

Schroeder Way

J - add ped symbols on asphalt to delineate area for walking

K - add Stop Signs, stop bar markings, One Lane Bridge and Yield signage on both sides of bridge approach



A - remove/modify plants to low groundcover varieties

H - install additional gravel on west side of road to allow better ped access

I - add 4" white striping (fog lines) along edge of road to delineate edge of travel lanes and provide area for pedestrians.

leave 20 feet between 4" white lines for travel lanes



Kolbe Ln



Exhibit E: Access Improvement Exhibit

ACCESS IMPROVEMENT EXHIBIT



D - Install additional pedestrian ahead warning signage



C - install additional ped signage at crosswalk

A - remove/modify plants to low groundcover varieties

B - PW has trimmed the trees/shrubs on east side of Kolbe to provide good sight distance. This will need to be a regular landscape maintenance item.

E - install row of delineators to first driveway - discourage eastbound, right-turn vehicles from straying into northbound lane on Kolbe



H - install additional gravel on west side of road to allow better ped access

F - Add 25 MPH signs on Kolbe Lane

I - add 4" white striping (fog lines) along edge of road to delineate edge of travel lanes and provide area for pedestrians.

leave 20 feet between 4" white lines for travel lanes

G - in the future pedestrian access pathway to park path is anticipated

L - Close street, install removable bollard for emergency vehicle access

J - add ped symbols on asphalt to delineate area for walking

K - add Stop Signs, stop bar markings, One Lane Bridge and Yield signage on both sides of bridge approach





Exhibit F: Preliminary Stormwater Report

City of Wilsonville – Community Garden Parking Area

Preliminary Stormwater Report

Date: November 6, 2017

Client: City of Wilsonville
29600 SW Park Place
Wilsonville, OR 97070

Engineering Contact: John Christiansen, PE
johnc@aks-eng.com

Engineering Firm: AKS Engineering & Forestry, LLC

AKS Job No.: 5603



12965 SW Herman Road, Suite 100
Tualatin, OR 97062
P: (503) 563-6151
www.aks-eng.com

Table of Contents

1.0	Purpose of Report	1
2.0	Project Description	1
2.1	Size and Location of Project Site	1
2.2	Property Zoning	1
2.3	Type of Development/Proposed Improvements	1
3.0	Design Criteria	1
3.1	Stormwater Quality	1
3.2	Stormwater Quantity	1
4.0	Existing Conditions	2
4.1	Site Topography	2
4.2	Land Use	2
4.3	Off-Site Drainage	2
4.4	Soil Type	2
4.5	Point of Discharge	2
4.6	Infiltration Test Result	2
4.7	Hydrologic Analysis	2
5.0	Developed Conditions	2
5.1	Developed Site Drainage Conditions	2
5.2	Off-Site Basin	3
5.3	Downstream Analysis	3
5.4	Hydraulic Design	3
5.5	BMP Sizing Tool	3
5.6	Overflow Design	3

Appendices

APPENDIX 1-1 VICINITY MAP

APPENDIX 2-1 PRE-DEVELOPED BASIN MAP

APPENDIX 3-1 OFF-SITE CONTRIBUTORY DRAINAGE BASIN MAP

APPENDIX 4-1 POST-DEVELOPED BASIN MAP

APPENDIX 5-1 BMP SIZING TOOL REPORT

APPENDIX 6-1 STORMWATER FACILITY DESIGN DETAILS

APPENDIX 7-1 USDA – NRCS SOIL RESOURCE REPORT

APPENDIX 8-1 TR-55 RUNOFF CURVE NUMBERS

APPENDIX 9-1 DRAINAGE BASINS AND STUDY AREA MAP FROM CITY OF WILSONVILLE STORMWATER MASTER PLAN, 2012

APPENDIX 10-1 POST-DEVELOPED PEAK FLOW CALCULATIONS – HYDROCAD ANALYSIS

APPENDIX 11-1 DRAFT GEOTECHNICAL REPORT

Preliminary Stormwater Report

Community Garden Parking Area

City of Wilsonville, Oregon

1.0 Purpose of Report

The purpose of this report is to analyze the effect that development of this site will have on the downstream stormwater conveyance system, document the criteria that the proposed stormwater system was designed to meet, identify the sources of information on which the analysis was based, detail the design methodology, and document the results of the analysis.

2.0 Project Description

2.1 Size and Location of Project Site

The project site is located on Tax Lot 691 of Clackamas County Tax Map 3S 1W 24, on the south side of SW Schroeder Lane within the Wilsonville Community Garden in the City of Wilsonville. The total site area is approximately 94.52 acres, the project area is approximately 0.57-acres.

2.2 Property Zoning

The project site is zoned Public Facilities (PF).

2.3 Type of Development/Proposed Improvements

The project consists of a paved parking lot, sidewalk, and restroom that will allow for improved access to the existing community garden within the Wilsonville Memorial Park.

3.0 Design Criteria

3.1 Stormwater Quality

Per the City of Wilsonville's *Stormwater & Surface Water Design & Construction Standards, Section 3 – Public Works Standards (2015)*, Section 301.4.04 states that,

Water quality facilities shall be designed to capture and treat 80% of the average annual runoff volume to the MEP with the goal of 70% total suspended solids (TSS) removal. In this context, MEP means less effective treatment may not be substituted when it is practicable to provide more effective treatment. The treatment volume equates to a design storm of 1.0 inch over 24 hours. The BMP Sizing Tool addresses these water quality requirements to size stormwater management facilities.

3.2 Stormwater Quantity

Per the City of Wilsonville's *Stormwater & Surface Water Design & Construction Standards, Section 3 – Public Works Standards (2015)*, in reference to onsite retention, Section 301.4.04 states,

Retain and fully infiltrate the 10-year design storm on site using LID facilities. This is equivalent to retaining and infiltrating runoff from new impervious surface for the 3.4-inch storm over 24 hours. The facility shall fully infiltrate within 72 hours following the beginning of the storm event. Infiltration of the full 10-year design storm is assumed to satisfy both water quality and flow control requirements.

4.0 Existing Conditions

4.1 Site Topography

The pre-developed site topography consists of four subbasins as shown in Appendix 2-1. The vegetative cover of the site consists of grass and trees.

4.2 Land Use

Currently, the land is utilized as a community garden, open meadow, and a well maintenance building.

4.3 Off-Site Drainage

The existing on-site stormwater facility collects runoff from approximately 18 acres of land within the Boeckman Creek drainage basin. The entire Boeckman Creek basin collects stormwater from 1,944 acres of land. See Appendix 9-1 for the City of Wilsonville drainage basin map.

4.4 Soil Type

The soils present on the site are classified as Woodburn silt loam, 0 to 3 percent slopes (hydrologic group "C") and Woodburn silt loam, 8 to 15 percent slopes (hydrologic group "C") by the USDA Soil Survey for Clackamas County. Information on these soil types is provided in Appendix 7-1.

4.5 Point of Discharge

Boeckman Creek runs from north to south along the western boundary of the site before it meanders and runs west to east along the southern border of the site. Stormwater runoff from the western and southern subbasins terminate to Boeckman Creek. Runoff from the eastern subbasin drains southeast to an un-named drainage and ultimately to the Willamette River. Runoff from the northern subbasin drains into the existing stormwater facility where a double ditch inlet and 24" pipe from the facility conveys stormwater west, and outfalls into Boeckman Creek. The Boeckman Creek drainage basin ultimately discharges into the Willamette River approximately 0.25 miles south of the project area.

4.6 Infiltration Test Result

Per the Draft Geotechnical Engineering Report prepared by Shannon & Wilson, Inc. dated December 22, 2016 (see Appendix 11-1), encased falling-head infiltration testing conducted on the project site demonstrated an infiltration rate of 0.0 inches per hour from four test locations. Therefore, it cannot be expected that proposed stormwater facilities will adequately recharge groundwater through infiltration.

4.7 Hydrologic Analysis

Per City of Wilsonville 2015 Stormwater and Surface Water Design and Construction Standards, stormwater management facilities for the site will be sized to accommodate 100% of the impervious area created by the development.

5.0 Developed Conditions

5.1 Developed Site Drainage Conditions

The post-developed site topography will be altered from the pre-developed site topography to allow for the construction of a paved parking lot, sidewalks, open space, landscaping, and a stormwater facility. Within the development, stormwater runoff will be collected through a filtration rain garden to satisfy treatment, detention, and flow control requirements for new impervious area. The following table provides the pre and post development impervious areas on the site:

Table 4-1: On-Site* Impervious Area		
	Impervious Area (sqft)	Pervious Area (sqft)
Pre Development	0	24,970
Post Development	22,920	2,050

**On-Site refers to the area within the proposed project work limits and not the within the tax lot boundary.*

Stormwater collected by the proposed facility will be piped north and connect to the existing 24” storm main through a new manhole over the existing line. Based on a HydroCAD analysis of the system, only overflow stormwater runoff from large storm events (greater than 10-year) will release into downstream open channel conveyance systems and discharge into the Willamette River via Boeckman Creek. Refer to Appendix 10-1 for HydroCAD model results.

5.2 Off-Site Basin

An off-site basin to the northeast of the site currently contributes stormwater runoff from approximately 18 acres of developed area. Stormwater from the offsite basin drains to an existing on-site stormwater facility and will continue to do so post development. The existing 24” pipe is adequately sized to transport additional runoff created by the proposed development as well as the existing drainage on the site.

5.3 Downstream Analysis

The filtration rain garden will retain and filtrate stormwater runoff from the development up to the 10-year storm to the maximum extent practicable. The Boeckman Creek drainage basin collects runoff from 1,994 acres. The developed site will add 22,920 square feet (+/- 0.53 acres) of impervious area. This development will not increase the peak stormwater runoff to the downstream stormwater conveyance systems in any meaningful way. Refer to Appendix 10-1 for HydroCAD model results.

5.4 Hydraulic Design

A stormwater inlet for the rain garden will be designed within the facility and will adequately control overflow stormwater runoff. The stormwater pipes will be sized using Manning’s equation, based on peak flows for the 25-year, 24-hour storm event.

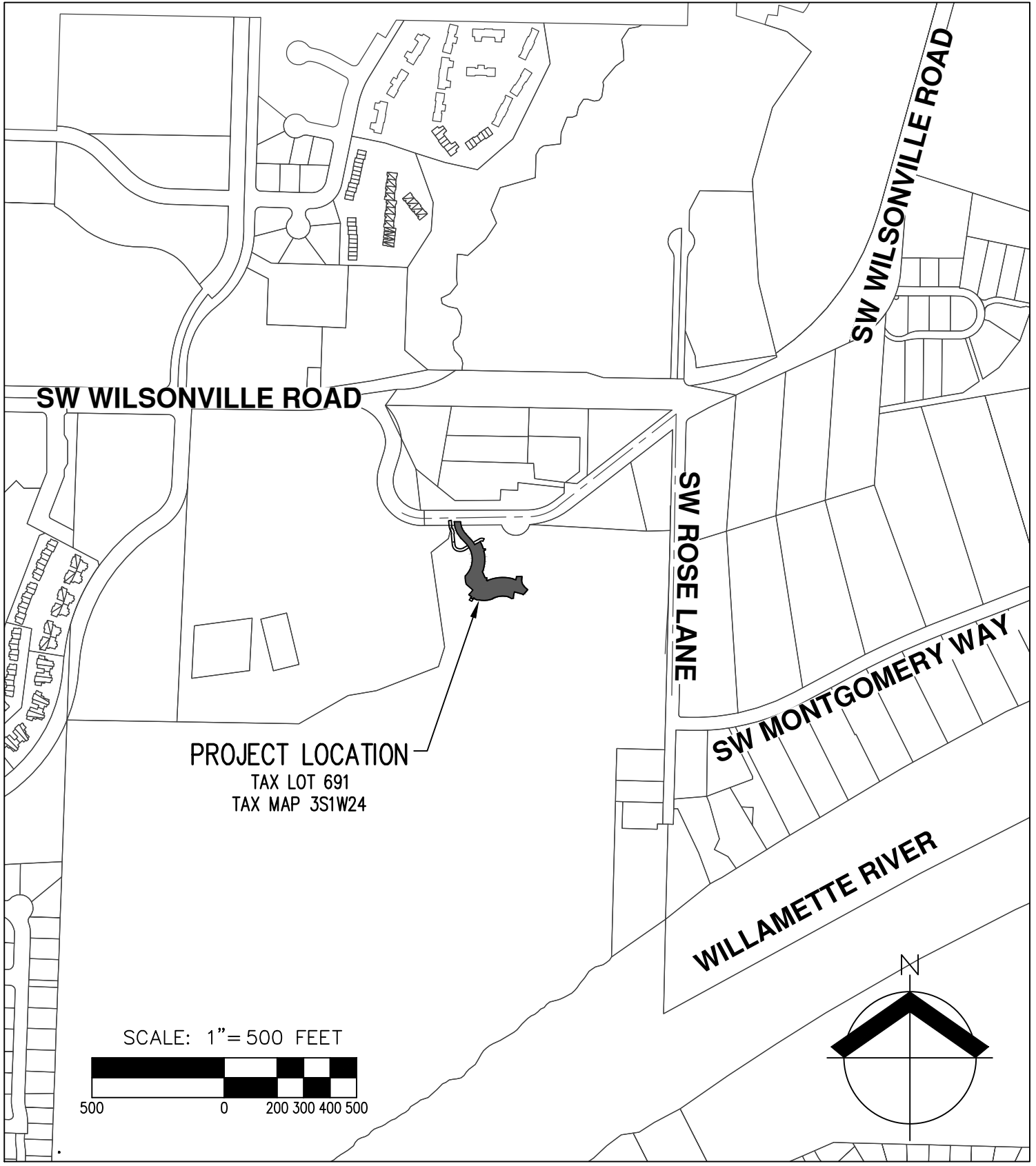
5.5 BMP Sizing Tool

The filtration rain garden will address the water quality treatment and flow control requirements for all designed impervious area on site. The BMP Sizing Tool was utilized to size the LID facility. Per the BMP Sizing Tool report (Appendix 5-1), 1,069 square feet of filtration rain garden is required for this development. The planned total area of filtration rain garden on site is 1,704 square feet, exceeding the minimum requirement. The location of the filtration rain garden is provided in the Post-Developed Basin Map (Appendix 4-1).

5.6 Overflow Design

The stormwater facility is designed per City of Wilsonville, Rain Garden – Filtration design standards (detail drawing number ST-6020). Overflow from the facility will result in drainage that will follow the existing site topography and points of discharge as shown in the Pre-Developed basin map (Appendix 2-1).

Appendix 1-1: Vicinity Map



SW WILSONVILLE ROAD

SW WILSONVILLE ROAD

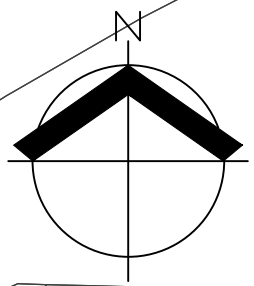
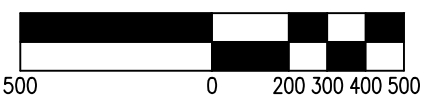
SW ROSE LANE

SW MONTGOMERY WAY

WILLAMETTE RIVER

PROJECT LOCATION
 TAX LOT 691
 TAX MAP 3S1W24

SCALE: 1" = 500 FEET

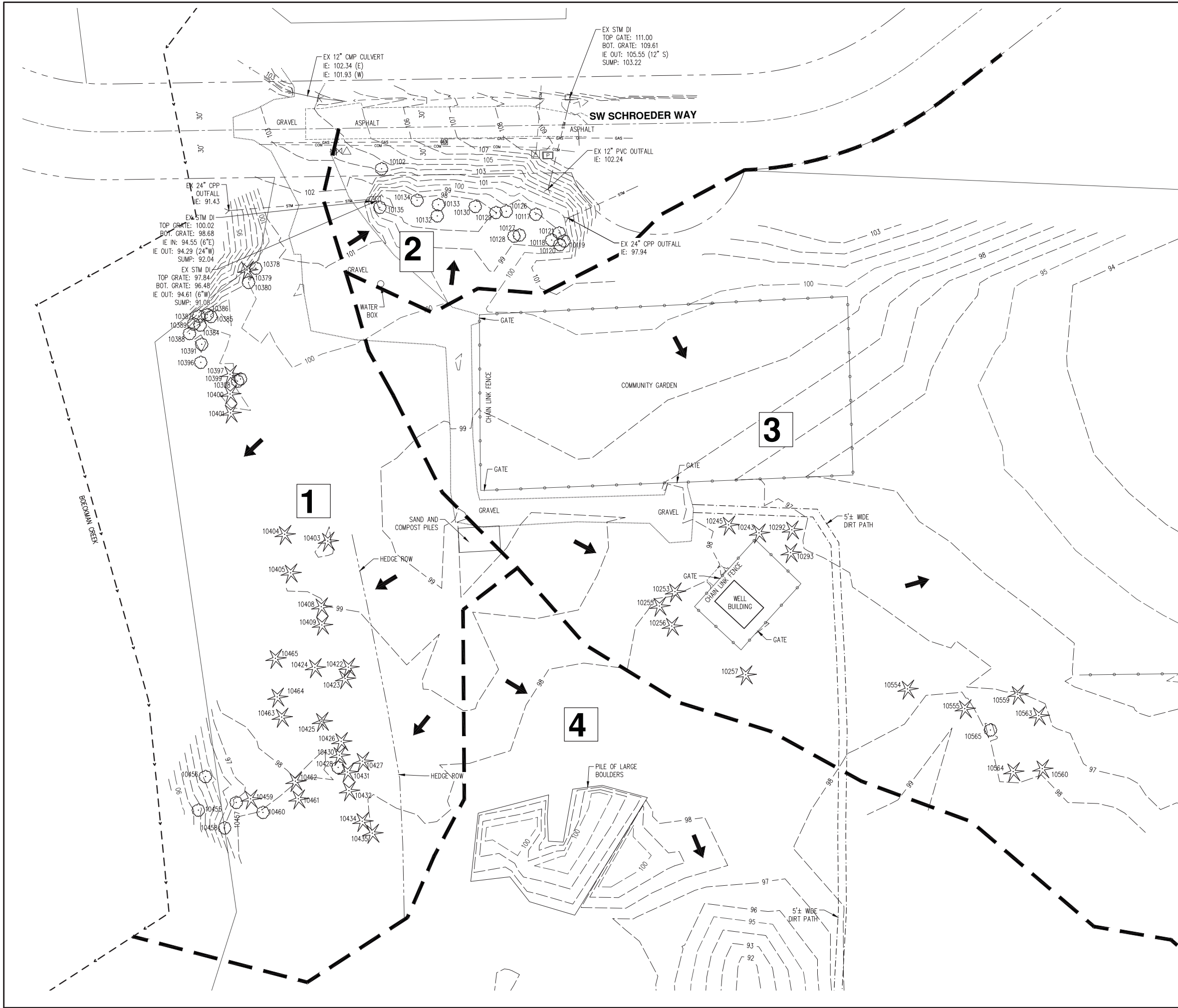


DATE: 11/6/2017

VICINITY MAP		EXHIBIT A
AKS ENGINEERING & FORESTRY, LLC 12965 SW HERMAN RD, STE 100 TUALATIN, OR 97062 P: 503.563.6151 F: 503.563.6152 aks-eng.com		DRWN: NAD CHKD: JPC AKS JOB: 5603



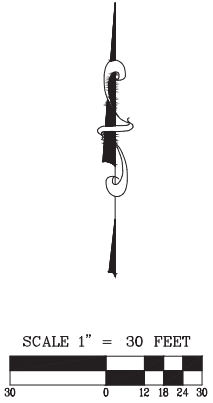
Appendix 2-1: Pre-developed Basin Map



LEGEND

- EXISTING CONTOUR (1 FT)
- EXISTING CONTOUR (5 FT)
- BASIN DELINEATION
- TAX LOT
- BOECKMAN CREEK
- FLOW ARROW

- SUBBASIN DRAINAGE**
- 1** WEST TO BOECKMAN CREEK
 - 2** NORTHEAST TO ONSITE STORMWATER FACILITY, THEN TO BOECKMAN CREEK.
 - 3** EAST TO WILLAMETTE RIVER
 - 4** SOUTH TO BOECKMAN CREEK



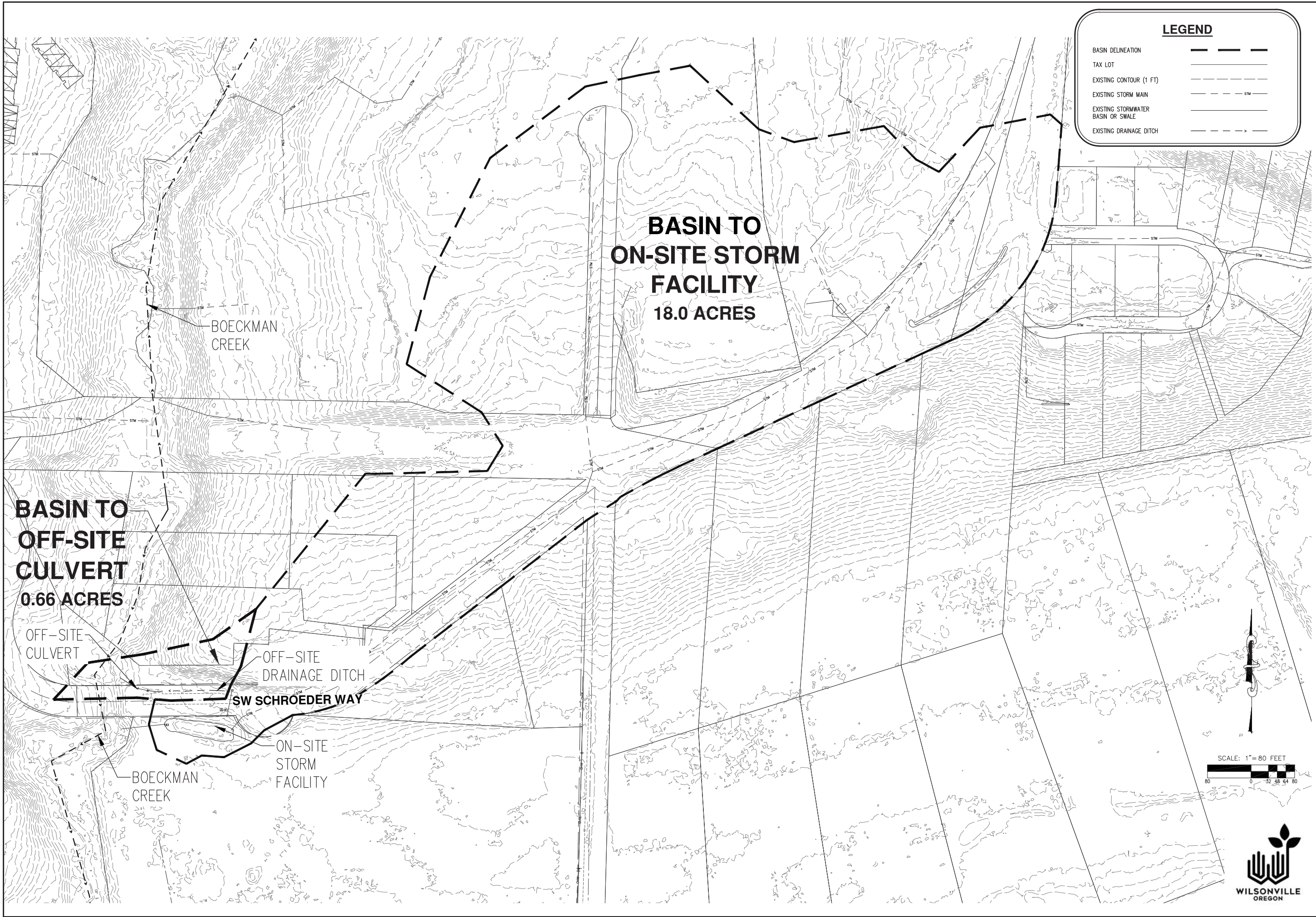
DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 11/06/2017

RENEWAL DATE: 12/31/17
 REVISIONS:



AKS DRAWING FILE: 5603 PRE MAP.DWG | LAYOUT: PRE

Appendix 3-1: Off-Site Contributory Drainage Basin Map



LEGEND

- BASIN DELINEATION
- TAX LOT
- EXISTING CONTOUR (1 FT)
- EXISTING STORM MAIN
- EXISTING STORMWATER BASIN OR SWALE
- EXISTING DRAINAGE DITCH

**BASIN TO
ON-SITE STORM
FACILITY
18.0 ACRES**

**BASIN TO
OFF-SITE
CULVERT
0.66 ACRES**

BOECKMAN
CREEK

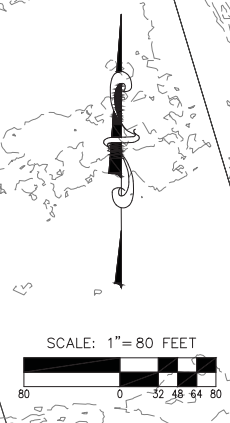
OFF-SITE
CULVERT

OFF-SITE
DRAINAGE DITCH

SW SCHROEDER WAY

ON-SITE
STORM
FACILITY

BOECKMAN
CREEK



AKS
AKS ENGINEERING & FORESTRY, LLC
12065 SW HERMAN RD. STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

**COMMUNITY GARDEN
PARKING AREA**
WILSONVILLE
OREGON
CLACKAMAS COUNTY TAX MAP 35 1W 24
TAX LOT 691

**OFF-SITE CONTRIBUTORY
DRAINAGE BASIN MAP**

DESIGNED BY: JPC
DRAWN BY: NAD
CHECKED BY: JPC
SCALE: AS NOTED
DATE: 11/06/2017



RENEWAL DATE: 12/31/17
REVISIONS:



JOB NUMBER
5603

SHEET
1 OF 1

AKS DRAWING FILE: 5603 PRE CONTRIBUTORY BASINS.DWG | LAYOUT: OFF-SITE

Appendix 4-1: Post-developed Basin Map

**POST-DEVELOPED
 BASIN MAP**

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 11/06/2017



RENEWAL DATE: 12/31/17
 REVISIONS:

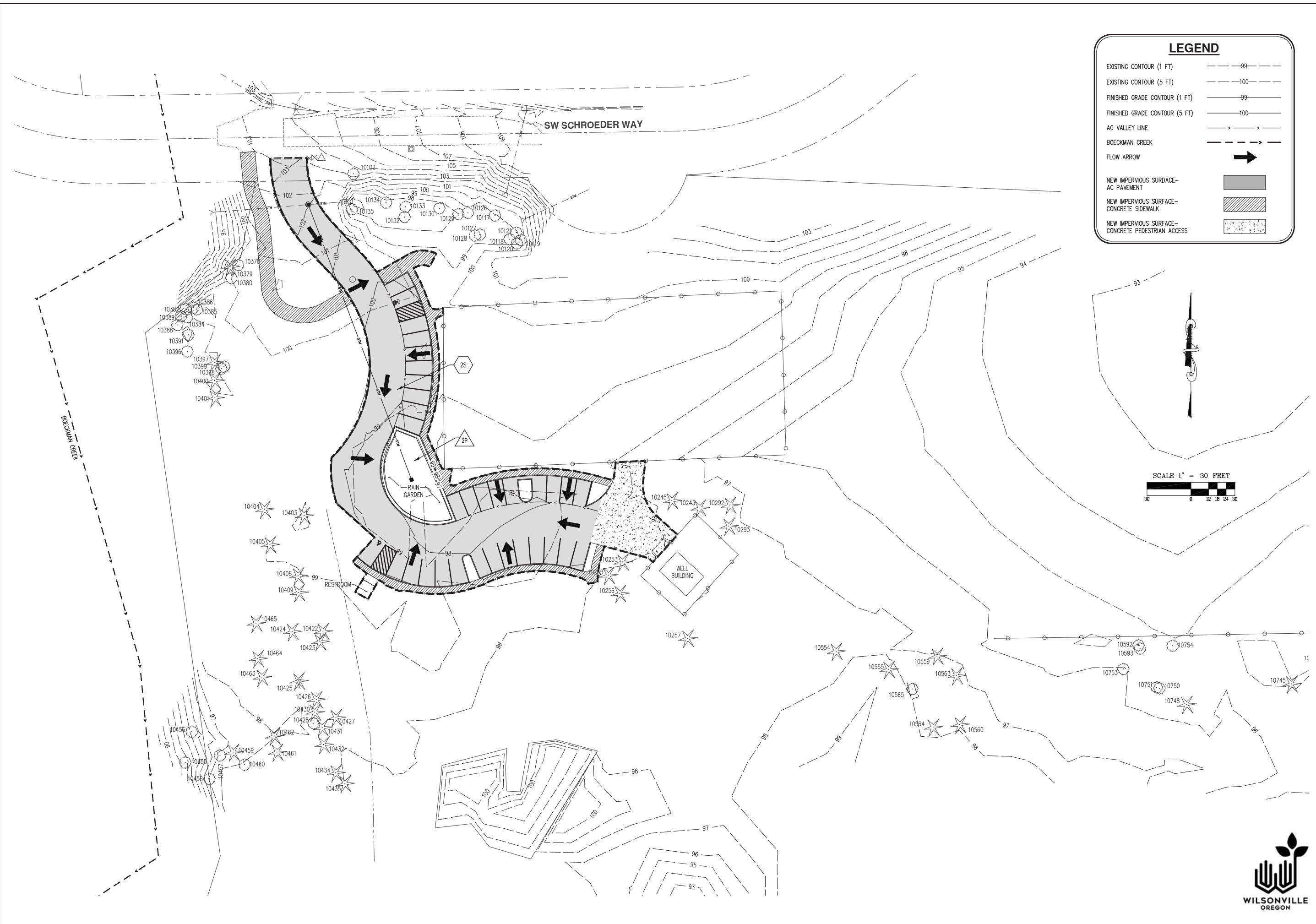
JOB NUMBER
5603
 SHEET
1 OF 1



LEGEND

EXISTING CONTOUR (1 FT)	--- 99 ---
EXISTING CONTOUR (5 FT)	--- 100 ---
FINISHED GRADE CONTOUR (1 FT)	--- 99 ---
FINISHED GRADE CONTOUR (5 FT)	--- 100 ---
AC VALLEY LINE	→ → →
BOECKMAN CREEK	--->--->--->
FLOW ARROW	→
NEW IMPERVIOUS SURFACE- AC PAVEMENT	[Solid Grey Box]
NEW IMPERVIOUS SURFACE- CONCRETE SIDEWALK	[Hatched Box]
NEW IMPERVIOUS SURFACE- CONCRETE PEDESTRIAN ACCESS	[Dotted Box]

SCALE 1" = 30 FEET
 0 12 18 24 30



Appendix 5-1: BMP Sizing Tool Report

WES BMP Sizing Report

Project Information

Project Name	City of Wilsonville - Memorial Park Community Garden Parking Lot
Project Type	PublicFacilities
Location	Tax Lot 691, Clackamas County Tax Maps 3S 1W 24
Stormwater Management Area	24970
Project Applicant	City of Wilsonville
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
New Impervious Area	22,920	Grass	ConventionalCo ncrete	C	Rain Garden

LID Facility Sizing Details

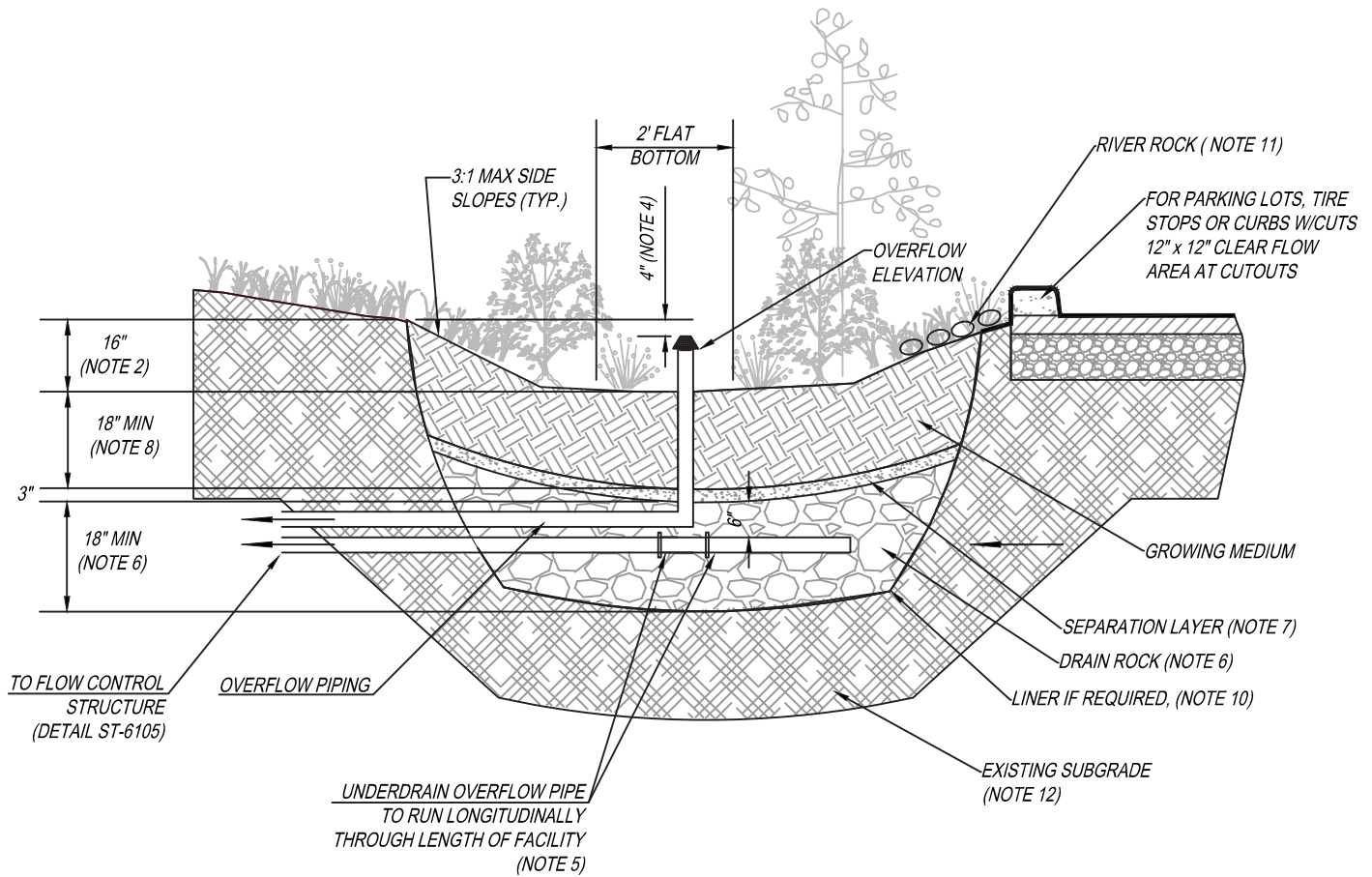
LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
Rain Garden	FlowControlA ndTreatment	Rain Garden - Filtration	D1	1,146.0	2,050.0	1.3

Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only
2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).
3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.
4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.

Appendix 6-1: Stormwater Facility Design Details

This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.



GENERAL NOTES:

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED RAIN GARDENS ARE PREFERRED TO MAXIMIZE ONSITE INFILTRATION.
2. **DIMENSIONS:**
 - DEPTH OF BASIN (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION); 12"
 - FLAT BOTTOM WIDTH: 2' MINIMUM
 - SIDE SLOPES OF RAIN GARDEN: 3:1 MAXIMUM
 - CENTERLINE SLOPE OF RAIN GARDEN: 0.5% OR LESS
3. **SETBACKS:**
 - FILTRATION RAIN GARDEN SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES UNLESS APPROVED BY BUILDING OFFICIAL
4. **OVERFLOW:**
 - OVERFLOW REQUIRED. INLET ELEVATION SHALL ALLOW FOR 4" OF FREEBOARD, MINIMUM.
 - PROTECT FROM DEBRIS AND SEDIMENT WITH STRAINER OR GRATE.
5. **PIPING:**
 - PERFORATED UNDER-DRAIN PIPING: SHALL RUN LONGITUDINALLY THROUGH LENGTH OF FACILITY, SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH.40. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND. WRAP UNDER-DRAIN IN FILTER FABRIC TO REDUCE TRANSPORT OF FINES. OVERFLOW PIPING: SHALL BE ABS SCH. 40, CAST IRON, OR PVC SCH. 40 AND SHALL NOT BE PERFORATED. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND.
6. **DRAIN ROCK:**
 - SIZE: 1 1/2" to 3/4"-0 WASHED
 - DEPTH: 18" MINIMUM
7. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
8. **GROWING MEDIUM:**
 - DEPTH: 18" MINIMUM
 - SEE APPENDIX A FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
 - FACILITY SURFACE AREA MAY BE REDUCED BY 25% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
9. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
10. **WATERPROOF LINER (IF REQUIRED):** SHALL BE 30 MIL PVC OR EQUIVALENT.
11. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1" - 3", 4 SQUARE FEET, 6" DEEP.
12. **SEASONAL HIGH GROUNDWATER SEPARATION:**
 - SEPARATION DISTANCE AS REQUIRED BY CITY.

Rain Garden - Filtration

DRAWING NUMBER: ST-6020

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6020.DWG

APPROVED BY: NK

DATE: 6/3/16

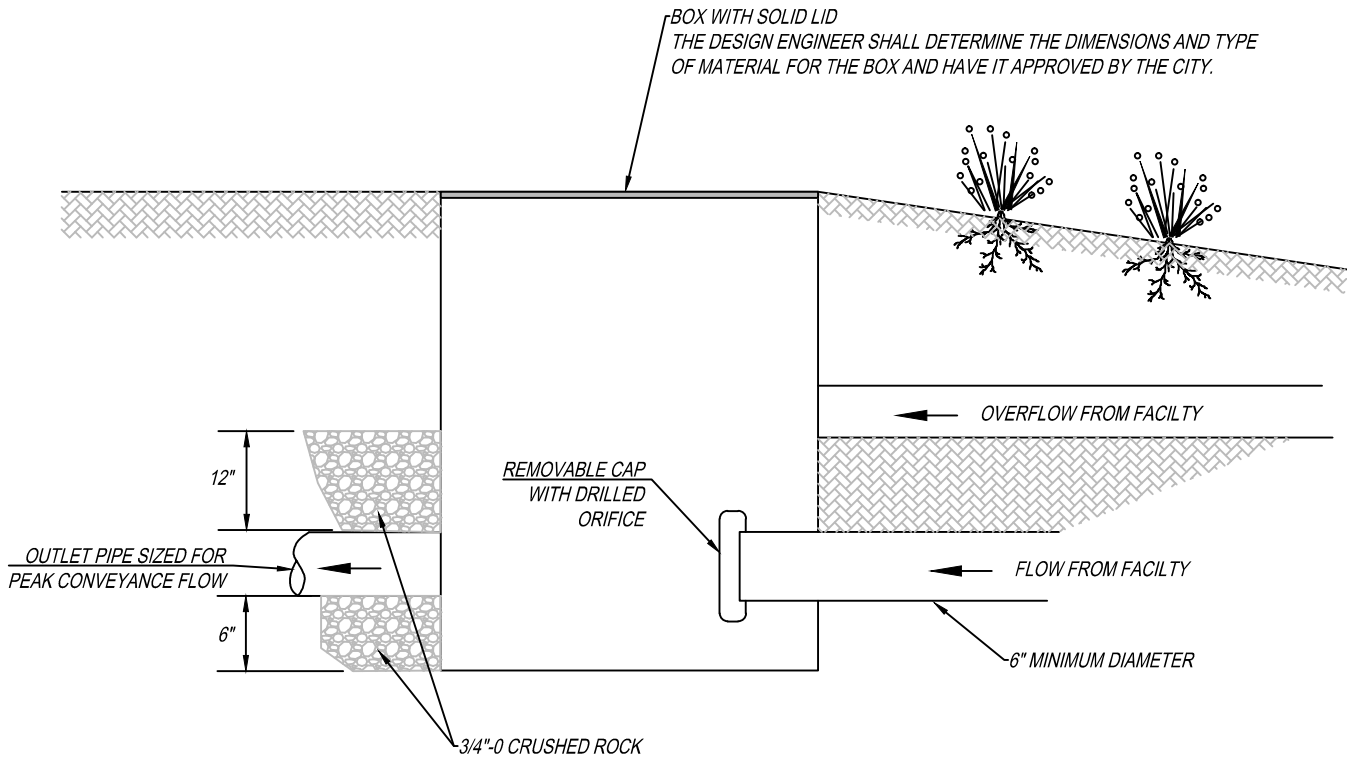
CITY OF
WILSONVILLE



PUBLIC WORKS STANDARDS

This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.

PLANTER, RAIN GARDEN, SWALE
FLOW CONTROL STRUCTURE



Planter, Rain Garden, Swale Flow Control Structure

DRAWING NUMBER: ST-6105

DRAWN BY: SR

SCALE: N.T.S.

FILE NAME: ST-6105.DWG

APPROVED BY: NK

DATE: 11/4/14

CITY OF
WILSONVILLE



PUBLIC WORKS STANDARDS

Appendix 7-1: USDA – NRCS Soil Resource Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Clackamas County Area, Oregon**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	7
Soil Map.....	8
Legend.....	9
Map Unit Legend.....	10
Map Unit Descriptions.....	10
Clackamas County Area, Oregon.....	12
91A—Woodburn silt loam, 0 to 3 percent slopes.....	12
91C—Woodburn silt loam, 8 to 15 percent slopes.....	13
References	15

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

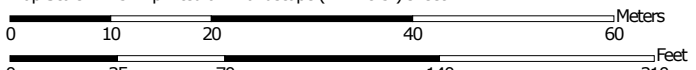
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:751 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84




Custom Soil Resource Report


MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

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

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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 11, Sep 16, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 8, 2010—Sep 4, 2011

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.

Map Unit Legend

Clackamas County Area, Oregon (OR610)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
91A	Woodburn silt loam, 0 to 3 percent slopes	0.4	35.7%
91C	Woodburn silt loam, 8 to 15 percent slopes	0.6	64.3%
Totals for Area of Interest		1.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

Custom Soil Resource Report

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Clackamas County Area, Oregon

91A—Woodburn silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 227y
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodburn and similar soils: 85 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodburn

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 16 inches: silt loam
H2 - 16 to 38 inches: silty clay loam
H3 - 38 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 25 to 32 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Huberly

Percent of map unit: 3 percent
Landform: Swales on terraces
Landform position (three-dimensional): Tread

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Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Dayton

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Aquolls

Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

91C—Woodburn silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2280
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodburn and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodburn

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 16 inches: silt loam
H2 - 16 to 38 inches: silty clay loam
H3 - 38 to 60 inches: silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches

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Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 25 to 32 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Dayton

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Aquolls

Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

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Appendix 8-1: TR-55 Runoff Curve Numbers

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description	Average percent impervious area ^{2/}	Curve numbers for hydrologic soil group			
		A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) ^{5/}					
		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

¹ Average runoff condition, and $I_a = 0.2S$.

² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

**Appendix 9-1: Drainage Basins and Study
Area Map (City of Wilsonville – 2012
Stormwater Master Plan)**

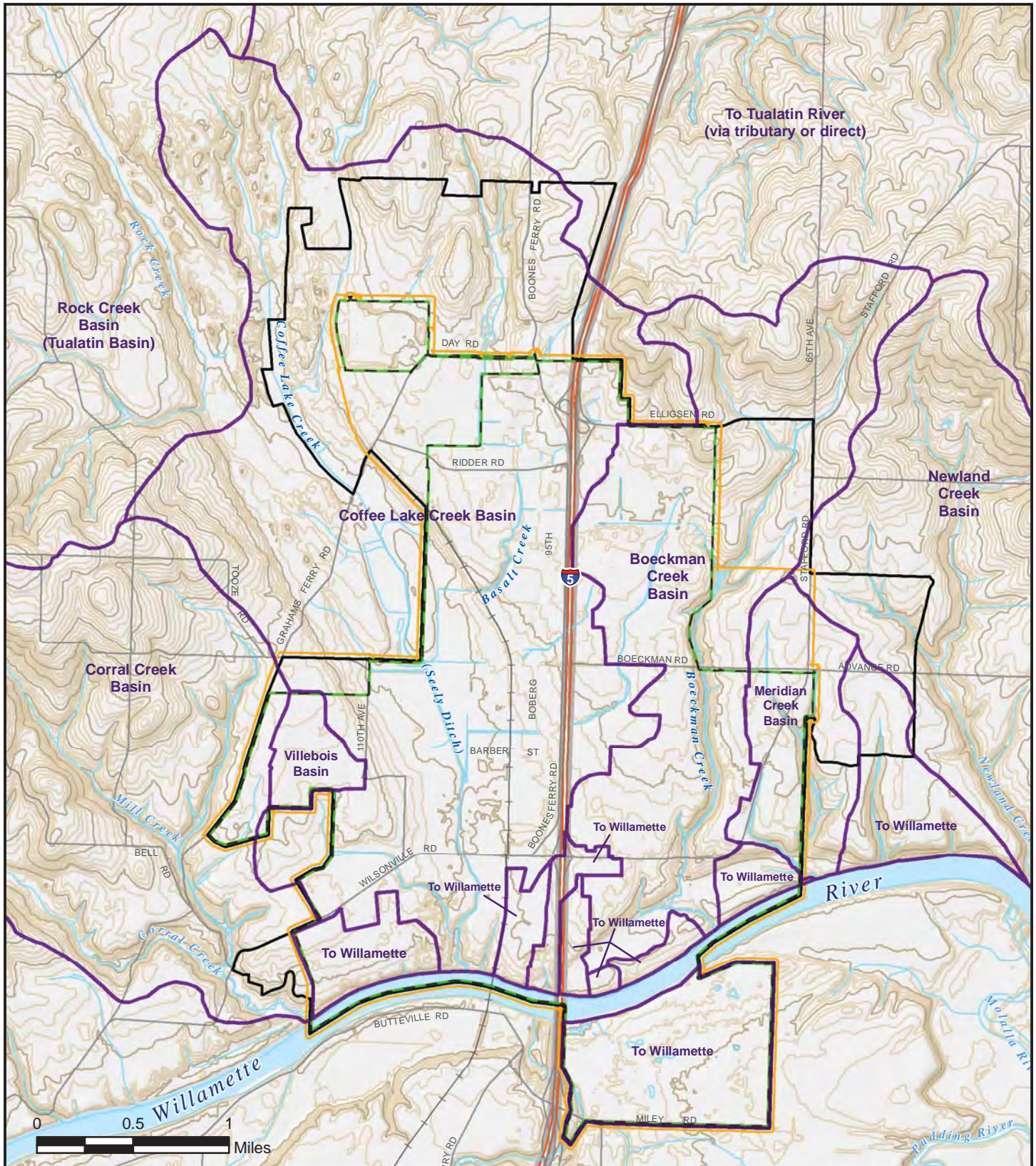


Figure 3-2
Drainage Basins and Study Area

City of Wilsonville
 Stormwater Master Plan

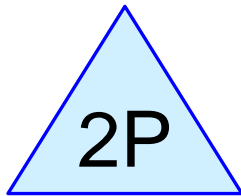


March 2012

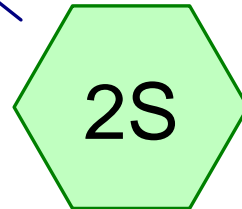


- Contour Line: 50'
- Contour Line: 10'
- Study Area
- ~ Streams
- UGB Boundary
- City Limits

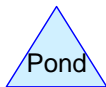
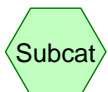
Appendix 10-1: Post-developed Peak Flow Calculations – HydroCAD Analysis



Rain Garden



Parking Lot



5603 Rain Garden

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.570	98	(2S)
0.040	100	(2S)

5603 Rain Garden

Type IA 24-hr 10-YEAR Rainfall=3.45"

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Page 3

Time span=0.00-48.00 hrs, dt=0.10 hrs, 481 points

Runoff by SBUH method, Split Pervious/Imperv.

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 2S: Parking Lot

Runoff Area=0.610 ac 100.00% Impervious Runoff Depth=3.22"

Tc=5.0 min CN=0/98 Runoff=0.49 cfs 0.164 af

Pond 2P: Rain Garden

Peak Elev=96.42' Storage=2,805 cf Inflow=0.49 cfs 0.164 af

Discarded=0.00 cfs 0.001 af Primary=0.07 cfs 0.157 af Secondary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.159 af

5603 Rain Garden

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Type IA 24-hr 10-YEAR Rainfall=3.45"

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Page 4

Summary for Subcatchment 2S: Parking Lot

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.49 cfs @ 7.92 hrs, Volume= 0.164 af, Depth= 3.22"

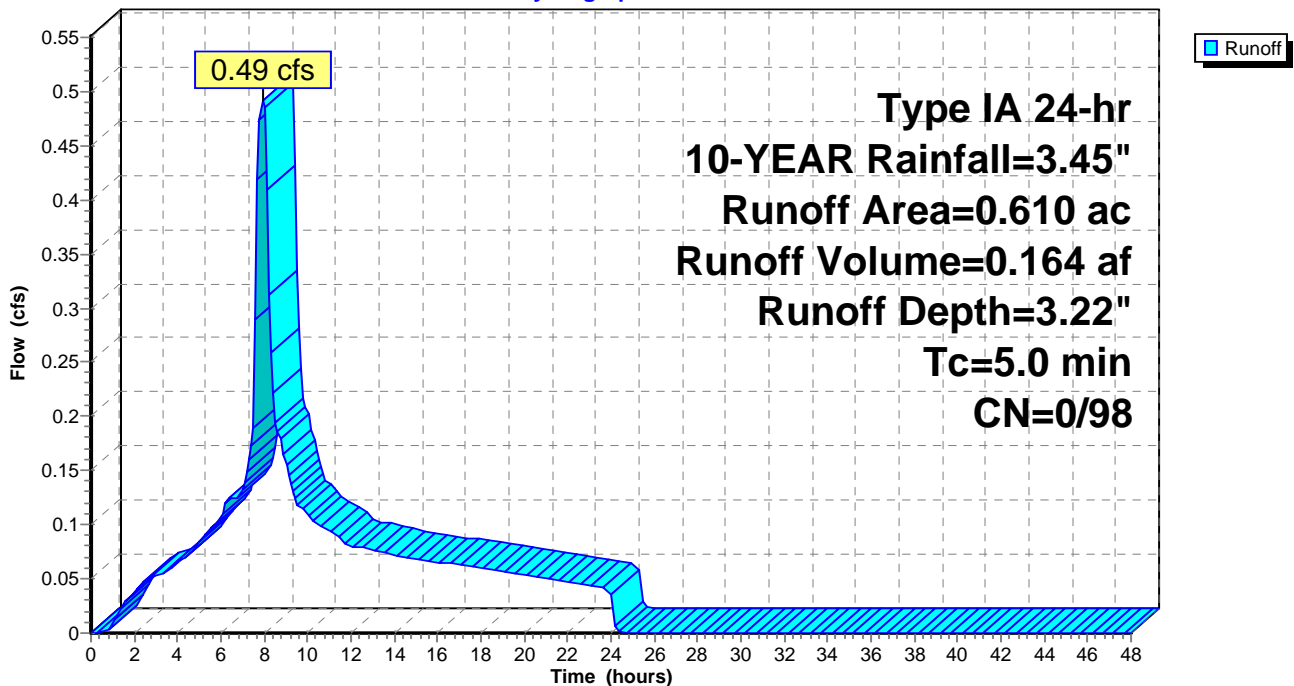
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-48.00 hrs, $dt= 0.10$ hrs
Type IA 24-hr 10-YEAR Rainfall=3.45"

Area (ac)	CN	Description
* 0.570	98	
* 0.040	100	
0.610	98	Weighted Average
0.610	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2S: Parking Lot

Hydrograph



5603 Rain Garden

Type IA 24-hr 10-YEAR Rainfall=3.45"

Prepared by AKS Engineering & Forestry

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Page 5

Summary for Pond 2P: Rain Garden

Inflow Area = 0.610 ac, 100.00% Impervious, Inflow Depth = 3.22" for 10-YEAR event
 Inflow = 0.49 cfs @ 7.92 hrs, Volume= 0.164 af
 Outflow = 0.07 cfs @ 13.79 hrs, Volume= 0.159 af, Atten= 85%, Lag= 352.1 min
 Discarded = 0.00 cfs @ 13.79 hrs, Volume= 0.001 af
 Primary = 0.07 cfs @ 13.79 hrs, Volume= 0.157 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.10 hrs
 Peak Elev= 96.42' @ 13.79 hrs Surf.Area= 1,504 sf Storage= 2,805 cf

Plug-Flow detention time= 489.5 min calculated for 0.159 af (97% of inflow)
 Center-of-Mass det. time= 466.8 min (1,132.7 - 665.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	92.92'	4,718 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.92	1,375	0.0	0	0
93.00	1,375	30.0	33	33
94.67	1,375	15.0	344	377
96.17	1,375	100.0	2,063	2,440
97.50	2,050	100.0	2,278	4,718

Device	Routing	Invert	Outlet Devices
#1	Discarded	92.92'	0.010 in/hr Exfiltration over Surface area
#2	Secondary	97.17'	12.0" Horiz. Orifice/Grate C= 0.620 Limited to weir flow at low heads
#3	Primary	93.92'	1.3" Vert. Orifice/Grate C= 0.620

Discarded OutFlow Max=0.00 cfs @ 13.79 hrs HW=96.42' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.00 cfs)

Primary OutFlow Max=0.07 cfs @ 13.79 hrs HW=96.42' (Free Discharge)
 ↑**3=Orifice/Grate** (Orifice Controls 0.07 cfs @ 7.79 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=92.92' (Free Discharge)
 ↑**2=Orifice/Grate** (Controls 0.00 cfs)

5603 Rain Garden

Prepared by AKS Engineering & Forestry

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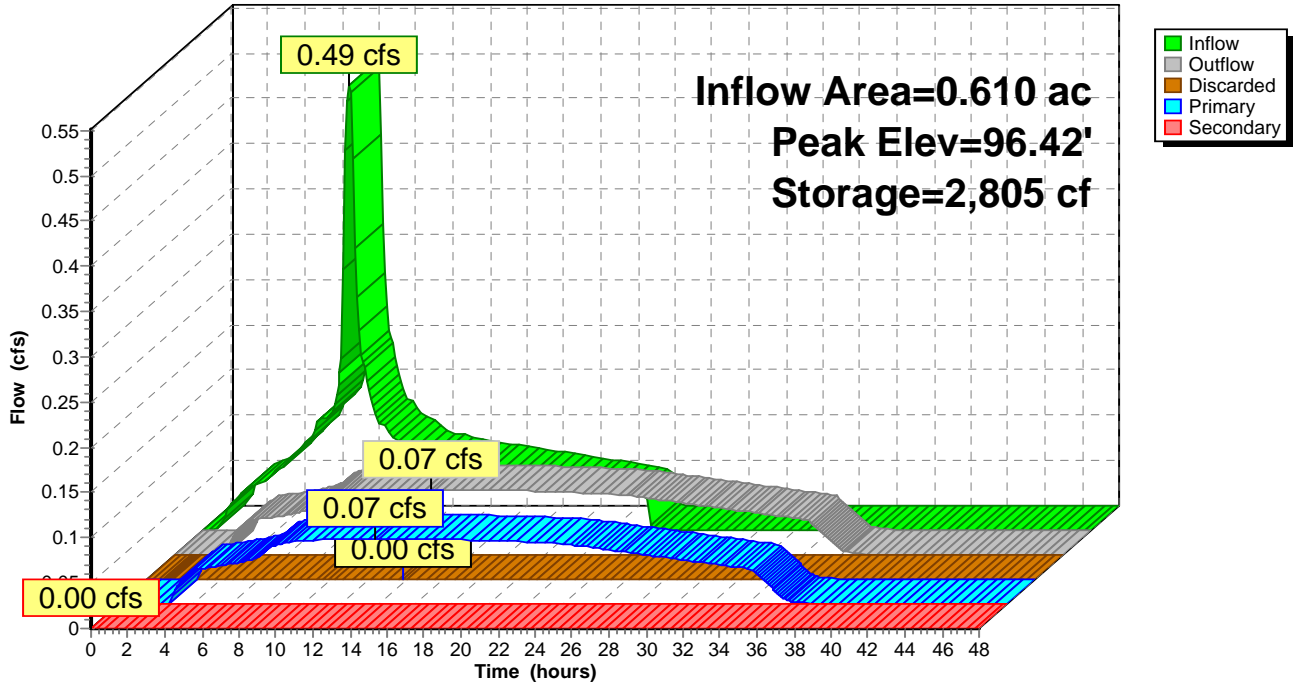
Type IA 24-hr 10-YEAR Rainfall=3.45"

Printed 11/7/2017

Page 6

Pond 2P: Rain Garden

Hydrograph



Appendix 11-1: Draft Geotechnical Report

December 22, 2016

Mr. John P. Christiansen, PE
AKS Engineering & Forestry, LLC
12965 SW Herman Road, #100
Tualatin, Oregon 97062

**RE: DRAFT GEOTECHNICAL ENGINEERING REPORT,
CITY OF WILSONVILLE MEMORIAL PARK – COMMUNITY GARDEN AND
DOG PARK PARKING AREA (CITY REF#9132)
WILSONVILLE, OREGON**

Dear Mr. Christiansen:

The City of Wilsonville is developing a parking area to service the existing Community Garden and planned off-leash dog park in Memorial Park in Wilsonville, Oregon, shown in the Vicinity Map, Figure 1. Shannon & Wilson, Inc., as a subconsultant to AKS Engineering & Forestry (AKS), is providing geotechnical engineering services including geologic reconnaissance, subsurface explorations, infiltration testing, laboratory testing, discussion of subsurface conditions, and pavement design; providing geotechnical recommendations; and preparing this report.

PROJECT UNDERSTANDING

Our understanding of the proposed project is primarily based on discussions with AKS regarding final design modifications of a new parking area consisting of 35 parking stalls. We understand that the Memorial Park Community Garden and Dog Park Parking Area will be owned and operated by the City of Wilsonville (City), which has requested that AKS design the parking lot, including parking lot's stormwater drainage, collection, and containment facilities. We understand that the area of the proposed parking lot currently consists of a relatively flat, grass-covered field south and west of the existing community garden. We also understand that the City has chosen to use dense graded asphalt concrete (AC) pavement for the main parking area and Portland Cement Concrete (PCC) pavement for the access to the existing well building. We understand that the stormwater drainage system will include two rain gardens.

Scope of Services

Shannon & Wilson's services were conducted in accordance with our defined Scope of Services. The completed services summarized in this report included the following tasks:

- Conducting a geotechnical literature review;
- Conducting a geologic reconnaissance;
- Reviewing historical aerial photographs;
- Performing five solid-stem auger borings, four infiltration tests, and four Dynamic Cone Penetrometer tests;
- Performing laboratory testing;
- Performing pavement design for the parking area; and
- Preparing this Geotechnical Engineering Report.

REGIONAL GEOLOGY

The project site is located near the north bank of the Willamette River and lies within the Willamette Valley physiographic province, which formed through uplift and tilting of the Coast Range and Western Cascades. The Miocene-age Columbia River Basalt Group (CRBG) forms the basement of the valley (Orr and Orr, 2000). In the Willamette Valley, the CRBG is overlain by Upper Miocene (approximately 10.8 to 5.3 million years old) deposits consisting of fine-grained, micaceous fluvial sediments derived from the Columbia River. These poorly indurated sediments are collectively termed the Sandy River Mudstone (Orr and Orr, 2000).

Overlying the Sandy River Mudstone is the Pliocene (approximately 5.3 to 1.8 million years old) Troutdale Formation (Gannett and Caldwell, 1998). In most places, the Troutdale Formation is concealed beneath Missoula Flood Deposits and is exposed only in the bottom of steep ravines and river channels. The Missoula Flood Deposits were deposited rapidly during late Pleistocene time (approximately 18 to 15 thousand years ago) when large floods inundated the area (Allen and others, 2009). It forms the lowland surface in the project area and un-conformably overlies the Troutdale Formation. O'Connor and others (2001) mapped the project area as fine-grained Missoula Flood Deposits consisting of silt, clay, and sand. In local geologic literature, the Missoula Flood Deposits are also commonly referred to as "Catastrophic Flood Deposits" or "Willamette Silt," the latter being applied only to areas of fine-grained deposition. In this report, we refer to the Missoula Flood Deposits as Catastrophic Flood Deposits (CFD). In addition to the CFD, other more recent near-surface deposits consist of alluvium and artificial fill. The

Willamette River has deposited variable thicknesses of alluvial sediments along the channel and floodplain, and artificial fill has been placed during the course of development.

ARIAL PHOTOGRAPH REVIEW

We reviewed historical aerial photographs from Google Earth®. The earliest available photograph of the project site from 1994 shows a grassy field with a gravel access road running from the northwest to the southeast to connect SW Kolbe Lane to the existing well building. The next available image, from 2001, shows fill material stockpiled along the southwest side of the access road near the well building. Between 2001 and 2002, a community garden was initially developed to the west of the well building access road with an approximate area of 4,000 square feet. The initial garden was expanded approximately 60 feet to the east in 2004, increasing the area to approximately 9,000 square feet. In 2006, an unknown volume of fill was placed approximately 150 feet south-southeast of the well building, covering an area of approximately 5,000 square feet. In 2009, an additional community garden with an approximate area of 11,000 square feet was developed to the east of the access road and north of the well building. Stockpiles of different color fill materials continue to be appear near the well building along the southwest side of the access road. A photograph from 2013 shows large boulders stockpiled west of, and adjacent to, the fill placed in 2006. Between 2014 and the present, the initial garden area west of the access road was abandoned, and the garden area east of the access road was expanded west, increasing the area of the east garden to approximately 25,000 square feet. In order to accommodate the expanded west garden area, the well building access road was re-routed along the western and southern edges of the garden.

FIELD EXPLORATIONS

Borings and Dynamic Cone Penetrometer Tests

Subsurface conditions at the project sites were explored with five geotechnical borings, designated B-1 through B-5. The explorations were performed on November 16 and 17, 2016. Borings ranged in depth from 11.5 to 16.5 feet. Four Dynamic Cone Penetrometer (DCP) tests were performed adjacent to Borings B-1 through B-4 from the ground surface to depths ranging between 6.6 and 7.4 feet.

Infiltration Tests

A total of four Infiltration tests were performed within 5 feet of Borings B-2 and B-3. Two infiltration tests adjacent to Boring B-2 were at depths of 2 and 4 feet, and the two infiltration tests adjacent to Boring B-3 were at depths of 2 and 2.5 feet. The second infiltration test at Boring B-3 was performed at 2.5 feet, where perched ground water was encountered. The four infiltration tests were performed and completed on November 16 and 17, 2016. The tests were performed in general accordance with the Encased Falling Head Test Procedure described in the City of Wilsonville's 2015 Stormwater & Surface Water Design & Construction Standards. Detailed infiltration test procedures and results are presented in Attachment A. The infiltration test results presented in Attachment A are from field collected data and do not include interpretation and factor of safety.

The locations of the explorations were surveyed by AKS and are shown on the Site and Exploration Plan, Figure 2. A Shannon & Wilson geology staff member logged the materials encountered during drilling, collected soil samples, and performed DCP and infiltration testing. Details of the subsurface exploration program, including techniques used to advance and sample the borings and logs of the materials encountered are presented in Attachment A.

LABORATORY TESTING

Laboratory tests were performed on selected samples from the explorations to determine basic index and engineering properties of the soils encountered. The laboratory testing program included moisture content analyses, Atterberg limits tests, and particle-size analyses. All laboratory tests were performed by Northwest Testing, Inc., of Wilsonville, Oregon, in accordance with applicable ASTM International (ASTM) standard test procedures. Results of the laboratory tests are presented in Attachment Bas well as on the logs of borings in Attachment A.

SUBSURFACE UNITS AND GROUNDWATER

Subsurface Units

We grouped all materials encountered in the five geotechnical borings into one geotechnical unit:

- Catastrophic Flood Deposits - Fine Grain Facies

CFD were encountered in all borings below the top soil. All borings were terminated in the CFD. In general, the CFD consists of soft to stiff, brown, Lean Clay with Sand (CL). In all borings, except B-3, soft to stiff, gray, Sandy Silt (ML) was encountered below the lean clay. The soil is typically moist to wet and micaceous with fine to medium sand and low to medium-plasticity fines. Standard Penetration Test (SPT) N-values in the unit ranged from 3 to 11 blows per foot (bpf), and averaged 8 bpf. Natural moisture content analyses ranged from 28 to 45 percent, and averaged 36 percent. An Atterberg limits test at a depth of 5 feet indicated that the plasticity indices are medium plasticity with USCS designations of CL. Sieve analyses indicated fines contents that ranged from 66 to 87 percent, and averaged 76 percent by dry weight. Detailed descriptions of the units, as encountered in the borings, are presented on the logs in Attachment A. Contacts between the units may be more gradational than shown on the logs. The SPT N-values presented on the boring logs are in blows per foot, as counted in the field (uncorrected).

Groundwater

Groundwater levels were measured in the geotechnical borings. The geotechnical borings were made with solid stem augers, as discussed in Attachment A. No drill fluids or water were introduced into the borings. Groundwater levels were measured and recorded as encountered, and then again before each boring was backfilled. Groundwater levels were measured using an electronic handheld water level indicator. Groundwater level data are presented on the boring logs. Actual groundwater levels could be higher than those presented on the logs.

Groundwater levels will vary with changes in precipitation. Generally, groundwater highs occur in late spring or early summer, and groundwater lows occur in the early to mid-fall season.

PAVEMENT DESIGN RECOMMENDATIONS

General

Pavement evaluation for the Memorial Park Community Garden and Dog Park Parking Area project was performed in accordance with the recommended procedures and guidelines in the 2011 ODOT PDG and the 1993 AASHTO Guide for Design of Pavement Structures. We understand the parking area pavement section will consist of AC pavement, and the approach slab for the well building will be constructed of PCC pavement.

The results, conclusions, and design alternative recommendations in this report are based on our understanding and synthesis of design team requirements, field data, structural pavement analysis, and our engineering judgment.

The recommended pavement sections meet the minimum structural requirements; however, there may be additional project considerations, such as cost effectiveness, that may influence final selection of pavement sections. All pavement construction should be performed in accordance with the 2015 City of Wilsonville Public Works Standards (2015 PWS) and 2015 OSSC.

Traffic Data

Estimated traffic volumes were provided by AKS. We understand heavy truck traffic will be limited to one truck per week. We assumed approximately 100 cars would access the parking lot per day. Based on these traffic volumes and an assumed growth rate of 0.5 percent, the estimate 20-year traffic loading was calculated at approximately 5,500 18-kip equivalent single axle loads (ESALs).

Pavement Design Parameters

The City of Wilsonville requires a minimum design life of 20 years for new AC pavement. The design life periods are chosen so that the design period traffic will result in a pavement structure able to survive the analysis period. It should be recognized that intermittent treatments will be needed to preserve the surface quality and ensure that the structure lasts through the analysis period.

A design subgrade resilient modulus (M_r) was selected based on ODOT DCP correlations.

The following additional assumptions should be reviewed by the design team and the City of Wilsonville to evaluate their suitability for this project. Changes in the assumptions may affect the corresponding pavement section recommendations.

- Subgrade Resilient Modulus (M_r) = 5,000 psi
- Standard Deviation = 0.49
- Initial Serviceability = 4.2
- Terminal Serviceability = 2.5
- Reliability = 75 percent
- Drainage Coefficient = 1.0 (good)

Recommended AC Pavement Section

Due to low vehicle loading, the minimum AC thickness calculated using the AASHTO method is less than the minimum AC thickness required by the City of Wilsonville (2015 PWS, Section 201.2.05 Subsection f). Therefore, Our recommended section for the new parking is to use the City of Wilsonville minimum AC thickness for local roads of 4 inches (4.5 inches for winter construction) over 6 inches of base aggregate.

AC Pavement and Base Aggregate Materials

The required AC mix design level, gradation, and binder grade is a Level 2, .05-inch dense ACP with a PG 64-22 binder. The AC mix materials should meet the standards of the 2015 PWS, Section 201.2.05. A minimum of 2 inches thick 0.75-inch minus crushed base aggregate materials should be used for leveling over a minimum of 4 inches of 1.5-inch minus crushed base aggregate in accordance with the 2015 PWS, Section 201.2.04.

Recommended PCC Pavement Section

We understand AKS plans to use the City of Wilsonville's Standard Type 1 PCC Commercial Driveway for the approach to the Well Building (City of Wilsonville Drawing No. RD-1095). The proposed PCC section of 6 inches of reinforced concrete over 6 inches of base aggregate meets the structural demands of the estimated traffic loading.

CONSTRUCTION CONSIDERATIONS

Site Preparation

Site preparation will include the following tasks:

1. Clearing, grubbing, and roadside cleanup;
2. Removal of existing structures and underground utilities; and
3. Subgrade preparation and excavation.

All areas that will receive structural fill, pavement, or structures should be stripped to a depth that is sufficient to remove vegetation and significant roots larger than 0.5 inches in diameter as well as any other deleterious materials encountered. We anticipate that the required stripping depths will be at least 6 inches in vegetated areas. However, greater stripping depths may be

required in localized areas. Old pavement and concrete structures should be removed. However, base rock may remain if it is clean, dense, and suitable subgrade as stated below.

Stripped organic soils should not be suitable for re-use as structural fill. Stripped topsoil can be stockpiled for later use in landscaped areas or berms, if desired. Unwanted soil and materials should be exported from the site.

We expect that site excavation could be accomplished using conventional excavating equipment.

After site stripping and preparation activities are completed, the exposed subgrade to receive fill or pavement should be proof-rolled with a fully-loaded dump truck or similar heavy, rubber-tired construction equipment to identify soft, loose, or unsuitable areas. The proof-roll should be observed by a qualified geotechnical engineer or representative, who should evaluate the suitability of the subgrade and identify areas of yielding. If loose and/or wet, spongy soil zones are identified by the proof-roll, the soils should be removed and replaced with compacted structural fill.

Disturbance of subgrade soil due to construction equipment and activities could affect support of the proposed pavements. The contractor should take necessary steps to protect the subgrade from becoming disturbed.

AC Pavement Construction Considerations

The assumed subgrade soil type for the pavement will be on-site clay. The subgrade inspection should, at a minimum, consist of proof-rolling the subgrade with a fully loaded dump truck. Soft or weak spots should be over-excavated and replaced with a compacted base aggregate in accordance with ODOT OSSC, Section 00331, Subgrade Stabilization.

Provisions should be made under this contract for a quantity of subgrade stabilization equivalent to 20 percent of the total area of new pavement construction at a depth of 12 inches. A non-woven separation geotextile fabric should be placed on the approved soil subgrade prior to construction of the pavement section. The non-woven separation geotextile should meet the requirements in 2015 OSSC, Section 02320.

Wet Weather Construction

Wet weather generally begins in late fall and continues through late spring, although rainy periods may occur at any time of year. It would be advisable to schedule earthwork during the dry weather period. During wet weather, perched groundwater levels could rise, resulting in seepage into site excavations. Performing earthwork during dry weather would reduce these problems and costs associated with rainwater, trafficability, erosion control, and handling of wet soil. Should wet weather/wet condition earthwork be unavoidable, the following recommendations are provided:

- The ground surface in and surrounding the construction area should be sloped to promote runoff of precipitation away from work areas as well as to prevent ponding of water.
- Work areas should be covered with plastic. The use of sloping, ditching, sumps, dewatering, and other measures should be employed as necessary to permit proper completion of the work.
- Subgrade excavation should be accomplished in small sections to minimize exposure to wet conditions. That is, each section should be small enough so that the removal of unsuitable soil and placement and compaction of clean structural fill or import granular fill can be accomplished on the same day. The size of construction equipment may have to be limited to prevent soil disturbance. It may be necessary to excavate soils with an excavator located in a way that the equipment does not create traffic over the excavated area.
- Subgrade should be probed by the geotechnical engineer of record before placement of base aggregates, soft or weak spots should be over-excavated and replaced with imported granular fill.
- A minimum 12-inch granular working pad may be sufficient for light construction traffic. For heavy construction traffic roads, the granular working pad thickness should be increased to 24 inches.
- A subgrade stabilization geogrid is recommended for where heavy equipment will traverse areas of the site that do not already contain gravel-based access roads.
- No soil should be left uncompacted and exposed to moisture. A smooth-drum vibratory roller, or equivalent, should roll the surface to seal out as much water as possible.
- In-place soil or fill soil that becomes wet and unstable and/or too wet to suitably compact should be removed and replaced with clean, granular soil.
- Grading and earthwork should not be accomplished during periods of heavy, continuous rainfall.

We suggest that these recommendations for wet weather earthwork be included in the contract specifications.

LIMITATIONS

The analyses, conclusions, and recommendations contained in this report are based on site conditions as they presently exist, and further assume that the explorations are representative of the subsurface conditions throughout the site; that is, the subsurface conditions everywhere are not significantly different from those disclosed by the explorations. If subsurface conditions different from those encountered in the explorations are encountered or appear to be present during construction, we should be advised at once so that we can review these conditions and reconsider our recommendations, where necessary. If there is a substantial lapse of time between the submission of this report and the start of construction at the site, or if conditions have changed because of natural forces or construction operations at or adjacent to the site, we recommend that we review our report to determine the applicability of the conclusions and recommendations.

Within the limitations of scope, schedule, and budget, the analyses, conclusions, and recommendations presented in this report were prepared in accordance with generally accepted professional geotechnical engineering principles and practice in this area at the time this report was prepared. We make no other warranty, either express or implied. These conclusions and recommendations were based on our understanding of the project as described in this report and the site conditions as observed at the time of our explorations.

Unanticipated soil conditions are commonly encountered and cannot be fully determined by merely taking soil samples from test borings. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

This report was prepared for the exclusive use of AKS in the design of the parking area. The data and report should be provided to the contractors for their information, but our report, conclusions, and interpretations should not be construed as a warranty of subsurface conditions included in this report.

The scope of our present work did not include environmental assessments or evaluations regarding the presence or absence of wetlands, or hazardous or toxic substances in the soil,

John P. Christiansen, PE
AKS Engineering & Forestry
December 22, 2016
Page 11 of 12

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surface water, groundwater, or air, on or below or around this site, or for the evaluation or disposal of contaminated soils or groundwater should any be encountered.

Shannon & Wilson, Inc. has prepared and included in Attachment C, “Important Information About Your Geotechnical/Environmental Report,” to assist you and others in understanding the use and limitations of our reports.

SHANNON & WILSON, INC.

David J. Higgins, CEG
Associate | Engineering Geologist

JJW/TTN/DJH/aeb:hrj

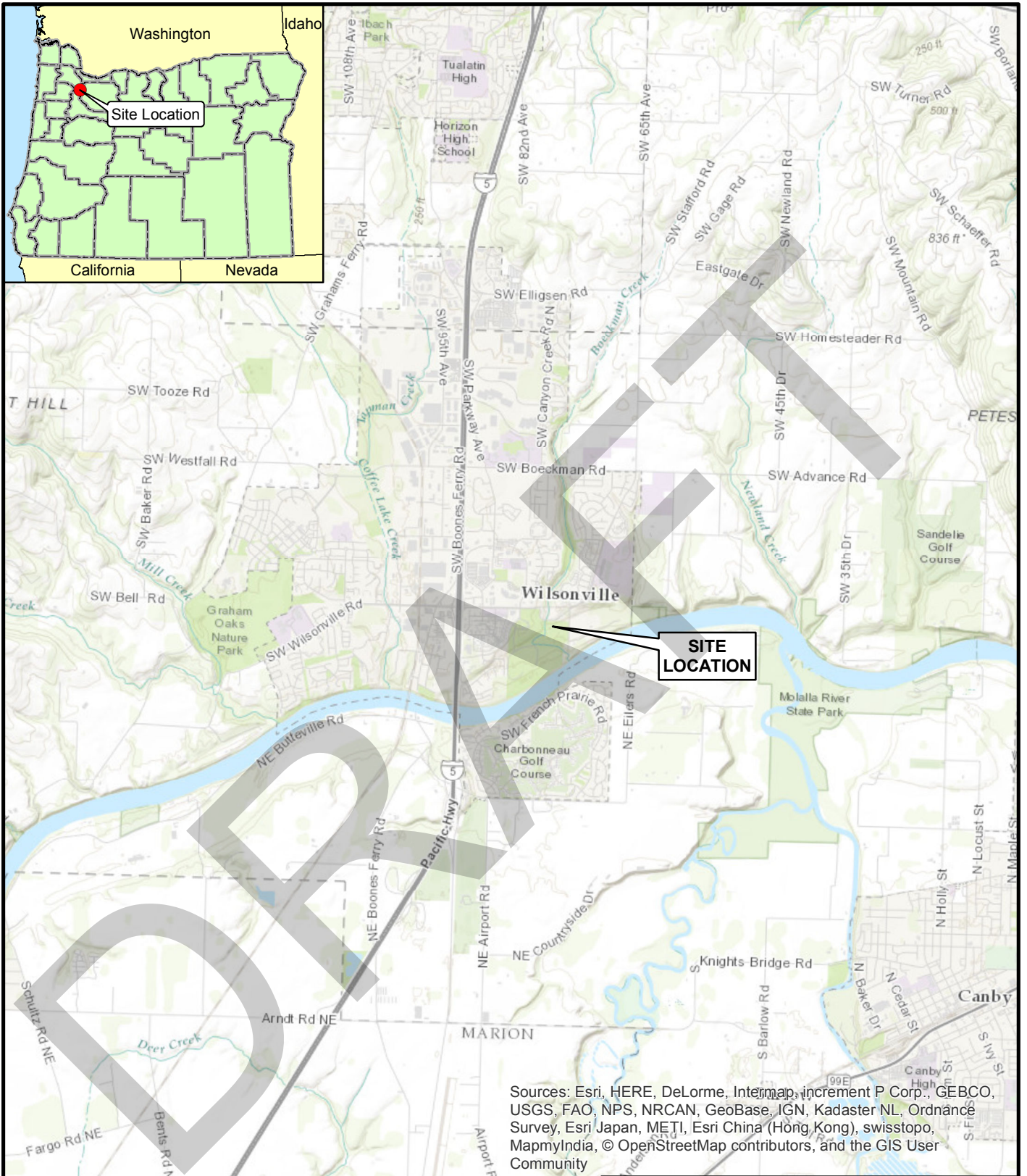
Travis Nguyen, PE, GE
Associate | Geotechnical Engineer

Enclosures:

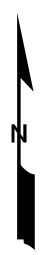
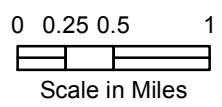
- Figure 1 – Vicinity Map
- Figure 2 – Site and Exploration Plan
- Attachment A, Subsurface Explorations
- Attachment B, Laboratory Testing
- Attachment C, Important Information About Your Geotechnical/Environmental Report

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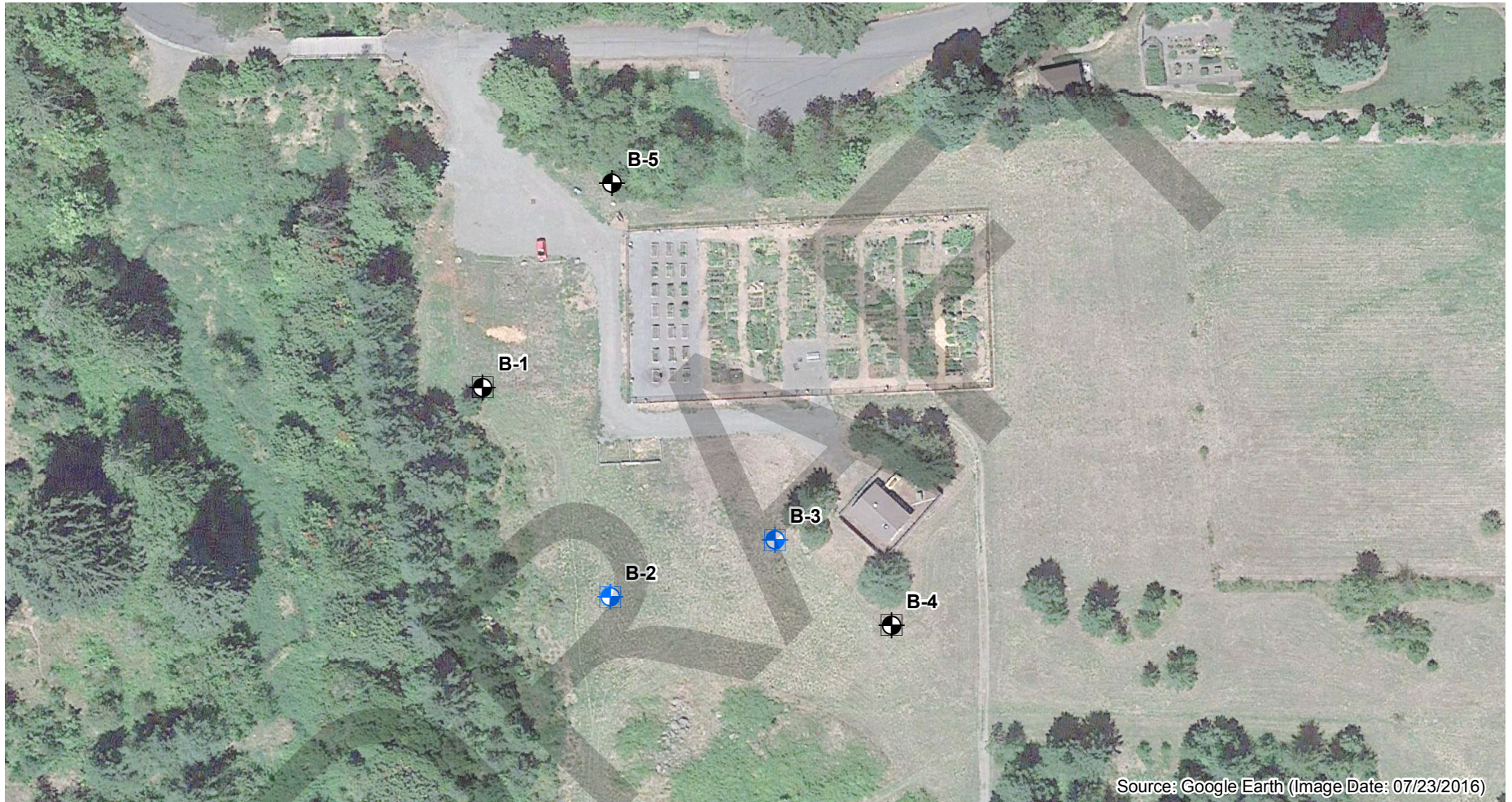
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Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

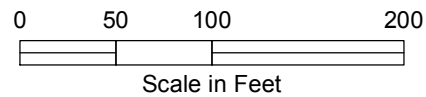


Memorial Park Community Garden and Dog Park Parking Area Wilsonville, Oregon	
VICINITY MAP	
December 2016	24-1-04088-003
SHANNON & WILSON, INC. <small>GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS</small>	FIG. 1



LEGEND

-  Location of Boring
-  Location of Boring and DCP
-  Location of Boring, DCP, and Infiltration Test



Memorial Park
Community Garden and Dog Park Parking Area
Wilsonville, Oregon

SITE AND EXPLORATION PLAN

December 2016

24-1-04088-003

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 2

FIG. 2

ATTACHMENT A
SUBSURFACE EXPLORATIONS

DRAFT

TABLE OF CONTENTS

A.1. GENERAL 1

A.2. DRILLING 1

A.3. SAMPLING 1

A.4. BOREHOLE ABANDONMENT 2

A.5. MATERIAL DESCRIPTIONS 2

A.6. LOGS OF BORINGS 2

A.7. DYNAMIC CONE PENETROMETER TESTS 2

A.8. IN-SITU INFILTRATION TESTING 3

FIGURES

A1 Soil Classification and Log Key

A2 Drill Log, Boring B-1

A3 Drill Log, Boring B-2

A4 Drill Log, Boring B-3

A5 Drill Log, Boring B-4

A6 Drill Log, Boring B-5

A7 DCP Test Data, Boring B-1

A8 DCP Test Data, Boring B-2

A9 DCP Test Data, Boring B-3

A10 DCP Test Data, Boring B-4

A11 Infiltration Test Results, Boring B-2 at 2 feet

A12 Infiltration Test Results, Boring B-2 at 4 feet

A13 Infiltration Test Results, Boring B-3 at 2 feet

A14 Infiltration Test Results, Boring B-3 at 2.5 feet

ATTACHMENT B

SUBSURFACE EXPLORATIONS

A.1. GENERAL

Shannon & Wilson explored the subsurface conditions at the project site with five geotechnical borings, four Dynamic Cone Penetrometer (DCP) tests, and four infiltration tests. The field explorations were performed on November 16 and 17, 2016. The geotechnical borings were designated B-1 through B-5. The borings ranged in depth from 11.5 to 16.5 feet below the ground surface (bgs). The in situ infiltration tests were performed adjacent to Borings B-2 and B-3. The boring locations were surveyed by AKS. Surveyed coordinates and elevations are provided on the Drill Logs in this attachment. This attachment describes the techniques used to advance and sample the borings, and presents logs of the materials encountered during drilling. DCP and in situ infiltration test procedures are also presented.

A.2. DRILLING

The borings were drilled on November 17, 2016 by Greg Vandehey Soil Sampling of Forest Grove, Oregon. Greg Vandehey Soil Sampling provided and operated a trailer-mounted drill rig. Solid stem auger drilling techniques were used to advance all borings. A Shannon & Wilson geology staff member observed the exploratory drilling, collected samples, and logged the material encountered in the borings.

A.3. SAMPLING

Disturbed samples were collected in the borings, typically at 2.5 foot depth interval, using a standard 2-inch outside diameter (O.D.) split spoon sampler in conjunction with Standard Penetration Testing. In a Standard Penetration Test (SPT), ASTM D1586, the sampler is driven 18 inches into the soil using a 140-pound hammer dropped 30 inches. The number of blows required to drive the sampler the last 12 inches is defined as the standard penetration resistance, or N-value. The SPT N-value provides a measure of in-situ relative density of cohesionless soils (silt, sand, and gravel), and the consistency of cohesive soils (silt and clay). All disturbed samples were visually identified and described in the field, sealed to retain moisture, and returned to our laboratory for additional examination.

A.4. BOREHOLE ABANDONMENT

Borings were backfilled with bentonite chips in accordance with Oregon Water Resource Department regulations.

A.5. MATERIAL DESCRIPTIONS

In the field, soil samples were classified visually in general accordance with ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Consistency, color, relative moisture, degree of plasticity, peculiar odors, and other distinguishing characteristics of the samples were noted. Once returned to the laboratory, soil samples were re-examined, various standard classification tests were performed, and field classifications were modified as necessary. We refined our visual-manual soil classifications based on the results of the laboratory tests, using elements of the Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System), ASTM D2487. However, ASTM 2487 was NOT followed in full, because it requires that a suite of tests be performed to classify a single sample. In most cases, we did not have enough of any one sample to perform all of the tests required to fully classify it by ASTM D2487. The specific terminology used in the soil classifications is defined on the Soil Description and Log Key, Figure A1.

A.6. LOGS OF BORINGS

Summary logs of the borings are presented in the Drill Logs, Figures A2 through A6. Material descriptions and interfaces on the logs are interpretive, and actual changes may be gradual. The left-hand portion of the boring logs gives individual sample intervals, percent recovery, SPT data, and natural moisture content measurements. Material descriptions and geotechnical unit designations are shown in the center of the boring log, and the right-hand portion provides a graphic log, miscellaneous comments, and a graphic depicting hole backfill details.

A.7. DYNAMIC CONE PENETROMETER TESTS

Pavement subgrade testing was conducted in Borings B-1 through B-4 using a DCP. The DCP tests were performed adjacent to the borings. The tests were performed on November 16, 2016. The DCP is a device widely used to determine in situ strength properties of base materials and subgrade soils. The four main components of the DCP include the cone, rod, anvil, and hammer. The cone is attached to one end of the DCP rod while the anvil and hammer are attached to the other end. Energy is applied to the cone tip through the rod by dropping the 17.64-pound hammer a distance of 22.6 inches against the anvil. The diameter of the cone is 0.16 inches

larger than the rod to ensure that only tip resistance is measured. The number of blows required to advance the cone into the subsurface materials is recorded. The DCP index is the ratio of the depth of penetration to the number of blows of the hammer. This can be correlated to a variety of material properties, including CBR and Resilient Modulus. DCP testing was performed and documented by Shannon & Wilson field personnel. This attachment presents DCP Test Data in Figures A7 through A10.

A.8. IN SITU INFILTRATION TESTING

Infiltration tests were performed adjacent to Borings B-2 and B-3 on November 16 and 17, 2016, in general accordance with the Encased Falling Head Infiltration Test Procedure described in the City of Wilsonville's 2015 Stormwater & Surface Water Design & Construction Standards. The general procedures are to excavate a hole into soil to the elevation of the proposed facility bottom, for this project approximately 2 to 4 feet. The tests were conducted in a hand-excavated hole (approximately 8-inch diameter). A 6-inch PVC casing was embedded into the native soil to perform an Encased Falling Head Test. The excavated hole was then filled with clean water to a minimum of 12 inches deep, and this depth was maintained for at least 4 hours to presoak the native material. After the presaturation period, the hole was refilled with water to 12 inches, and the draw down time was measured. Measurements were made every 20 minutes for 1 hour. The process of refilling the hole and taking measurements or trial is repeated until the change in measured infiltration rate between two successive trials is no more than 10 percent. Two to three trials are conducted based on rate of infiltration. The field infiltration test results for tests B-2 and B-3 are presented in Figures A11 through A14.

Shannon & Wilson, Inc. (S&W), uses a soil identification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following pages. Soil descriptions are based on visual-manual procedures (ASTM D2488) and laboratory testing procedures (ASTM D2487), if performed.

S&W INORGANIC SOIL CONSTITUENT DEFINITIONS

CONSTITUENT ²	FINE-GRAINED SOILS (50% or more fines) ¹	COARSE-GRAINED SOILS (less than 50% fines) ¹
Major	Silt, Lean Clay, Elastic Silt, or Fat Clay³	Sand or Gravel⁴
Modifying (Secondary) Precedes major constituent	30% or more coarse-grained: Sandy or Gravelly⁴	More than 12% fine-grained: Silty or Clayey³
Minor Follows major constituent	15% to 30% coarse-grained: with Sand or with Gravel⁴ 30% or more total coarse-grained and lesser coarse-grained constituent is 15% or more: with Sand or with Gravel⁵	5% to 12% fine-grained: with Silt or with Clay³ 15% or more of a second coarse-grained constituent: with Sand or with Gravel⁵

¹All percentages are by weight of total specimen passing a 3-inch sieve.
²The order of terms is: *Modifying Major with Minor.*
³Determined based on behavior.
⁴Determined based on which constituent comprises a larger percentage.
⁵Whichever is the lesser constituent.

MOISTURE CONTENT TERMS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

STANDARD PENETRATION TEST (SPT) SPECIFICATIONS

Hammer:	140 pounds with a 30-inch free fall. Rope on 6- to 10-inch-diam. cathead 2-1/4 rope turns, > 100 rpm
Sampler:	10 to 30 inches long Shoe I.D. = 1.375 inches Barrel I.D. = 1.5 inches Barrel O.D. = 2 inches
N-Value:	Sum blow counts for second and third 6-inch increments. Refusal: 50 blows for 6 inches or less; 10 blows for 0 inches.
<i>NOTE: Penetration resistances (N-values) shown on boring logs are as recorded in the field and have not been corrected for hammer efficiency, overburden, or other factors.</i>	

PARTICLE SIZE DEFINITIONS

DESCRIPTION	SIEVE NUMBER AND/OR APPROXIMATE SIZE
FINES	< #200 (0.075 mm = 0.003 in.)
SAND Fine Medium Coarse	#200 to #40 (0.075 to 0.4 mm; 0.003 to 0.02 in.) #40 to #10 (0.4 to 2 mm; 0.02 to 0.08 in.) #10 to #4 (2 to 4.75 mm; 0.08 to 0.187 in.)
GRAVEL Fine Coarse	#4 to 3/4 in. (4.75 to 19 mm; 0.187 to 0.75 in.) 3/4 to 3 in. (19 to 76 mm)
COBBLES	3 to 12 in. (76 to 305 mm)
BOULDERS	> 12 in. (305 mm)

RELATIVE DENSITY / CONSISTENCY

COHESIONLESS SOILS		COHESIVE SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
< 4	Very loose	< 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
> 50	Very dense	15 - 30	Very stiff
		> 30	Hard

WELL AND BACKFILL SYMBOLS

	Bentonite Cement Grout		Surface Cement Seal
	Bentonite Grout		Asphalt or Cap
	Bentonite Chips		Slough
	Silica Sand		Inclinometer or Non-perforated Casing
	Gravel		Vibrating Wire Piezometer
	Perforated or Screened Casing		

PERCENTAGES TERMS^{1,2}

Trace	< 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

¹Gravel, sand, and fines estimated by mass. Other constituents, such as organics, cobbles, and boulders, estimated by volume.

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Memorial Park
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Wilsonville, Oregon

SOIL DESCRIPTION AND LOG KEY

December 2016

24-1-04088-001

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FIG. A1
Sheet 1 of 3

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
(Modified From USACE Tech Memo 3-357, ASTM D2487, and ASTM D2488)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL	TYPICAL IDENTIFICATIONS
COARSE-GRAINED SOILS (more than 50% retained on No. 200 sieve)	Gravels (more than 50% of coarse fraction retained on No. 4 sieve)	Gravel (less than 5% fines)	GW	Well-Graded Gravel; Well-Graded Gravel with Sand
			GP	Poorly Graded Gravel; Poorly Graded Gravel with Sand
		Silty or Clayey Gravel (more than 12% fines)	GM	Silty Gravel; Silty Gravel with Sand
			GC	Clayey Gravel; Clayey Gravel with Sand
	Sands (50% or more of coarse fraction passes the No. 4 sieve)	Sand (less than 5% fines)	SW	Well-Graded Sand; Well-Graded Sand with Gravel
			SP	Poorly Graded Sand; Poorly Graded Sand with Gravel
		Silty or Clayey Sand (more than 12% fines)	SM	Silty Sand; Silty Sand with Gravel
			SC	Clayey Sand; Clayey Sand with Gravel
FINE-GRAINED SOILS (50% or more passes the No. 200 sieve)	Silts and Clays (liquid limit less than 50)	Inorganic	ML	Silt; Silt with Sand or Gravel; Sandy or Gravelly Silt
			CL	Lean Clay; Lean Clay with Sand or Gravel; Sandy or Gravelly Lean Clay
	Silts and Clays (liquid limit 50 or more)	Organic	OL	Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
		Inorganic	MH	Elastic Silt; Elastic Silt with Sand or Gravel; Sandy or Gravelly Elastic Silt
			CH	Fat Clay; Fat Clay with Sand or Gravel; Sandy or Gravelly Fat Clay
		Organic	OH	Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor	PT	Peat or other highly organic soils (see ASTM D4427)	
FILL	Placed by humans, both engineered and nonengineered. May include various soil materials and debris.		The Fill graphic symbol is combined with the soil graphic that best represents the observed material	

NOTE: No. 4 size = 4.75 mm = 0.187 in.; No. 200 size = 0.075 mm = 0.003 in.

NOTES

- Dual symbols (symbols separated by a hyphen, i.e., SP-SM, Sand with Silt) are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart.
- Borderline symbols (symbols separated by a slash, i.e., CL/ML, Lean Clay to Silt; SP-SM/SM, Sand with Silt to Silty Sand) indicate that the soil properties are close to the defining boundary between two groups.
- The soil graphics above represent the various USCS identifications (i.e., GP, SM, etc.) and may be augmented with additional symbology to represent differences within USCS designations. Sandy Silt (ML), for example, may be accompanied by the ML soil graphic with sand grains added.

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 Wilsonville, Oregon

**SOIL DESCRIPTION
 AND LOG KEY**

December 2016

24-1-04088-001

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FIG. A1
 Sheet 2 of 3

GRADATION TERMS

Poorly Graded	Narrow range of grain sizes present or, within the range of grain sizes present, one or more sizes are missing (Gap Graded). Meets criteria in ASTM D2487, if tested.
Well-Graded	Full range and even distribution of grain sizes present. Meets criteria in ASTM D2487, if tested.

CEMENTATION TERMS¹

Weak	Crumbles or breaks with handling or slight finger pressure
Moderate	Crumbles or breaks with considerable finger pressure
Strong	Will not crumble or break with finger pressure

PLASTICITY²

DESCRIPTION	VISUAL-MANUAL CRITERIA	APPROX. PLASTICITY INDEX RANGE
Nonplastic	A 1/8-in. thread cannot be rolled at any water content.	< 4%
Low	A thread can barely be rolled and a lump cannot be formed when drier than the plastic limit.	4 to 10%
Medium	A thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. A lump crumbles when drier than the plastic limit.	10 to 20%
High	It take considerable time rolling and kneading to reach the plastic limit. A thread can be rerolled several times after reaching the plastic limit. A lump can be formed without crumbling when drier than the plastic limit.	> 20%

ADDITIONAL TERMS

Mottled	Irregular patches of different colors.
Bioturbated	Soil disturbance or mixing by plants or animals.
Diamict	Nonsorted sediment; sand and gravel in silt and/or clay matrix.
Cuttings	Material brought to surface by drilling.
Slough	Material that caved from sides of borehole.
Sheared	Disturbed texture, mix of strengths.

PARTICLE ANGULARITY AND SHAPE TERMS¹

Angular	Sharp edges and unpolished planar surfaces.
Subangular	Similar to angular, but with rounded edges.
Subrounded	Nearly planar sides with well-rounded edges.
Rounded	Smoothly curved sides with no edges.
Flat	Width/thickness ratio > 3.
Elongated	Length/width ratio > 3.

ACRONYMS AND ABBREVIATIONS

ATD	At Time of Drilling
approx.	Approximate/Approximately
Diam.	Diameter
Elev.	Elevation
ft.	Feet
FeO	Iron Oxide
gal.	Gallons
Horiz.	Horizontal
HSA	Hollow Stem Auger
I.D.	Inside Diameter
in.	Inches
lbs.	Pounds
MgO	Magnesium Oxide
mm	Millimeter
MnO	Manganese Oxide
NA	Not Applicable or Not Available
NP	Nonplastic
O.D.	Outside Diameter
OW	Observation Well
pcf	Pounds per Cubic Foot
PID	Photo-Ionization Detector
PMT	Pressuremeter Test
ppm	Parts per Million
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
rpm	Rotations per Minute
SPT	Standard Penetration Test
USCS	Unified Soil Classification System
q _u	Unconfined Compressive Strength
VWP	Vibrating Wire Piezometer
Vert.	Vertical
WOH	Weight of Hammer
WOR	Weight of Rods
Wt.	Weight

STRUCTURE TERMS¹

Interbedded	Alternating layers of varying material or color with layers at least 1/4-inch thick; singular: bed.
Laminated	Alternating layers of varying material or color with layers less than 1/4-inch thick; singular: lamination.
Fissured	Breaks along definite planes or fractures with little resistance.
Slickensided	Fracture planes appear polished or glossy; sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps that resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay.
Homogeneous	Same color and appearance throughout.

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Community Garden and Dog Park Parking Area
Wilsonville, Oregon

SOIL DESCRIPTION AND LOG KEY

December 2016

24-1-04088-001

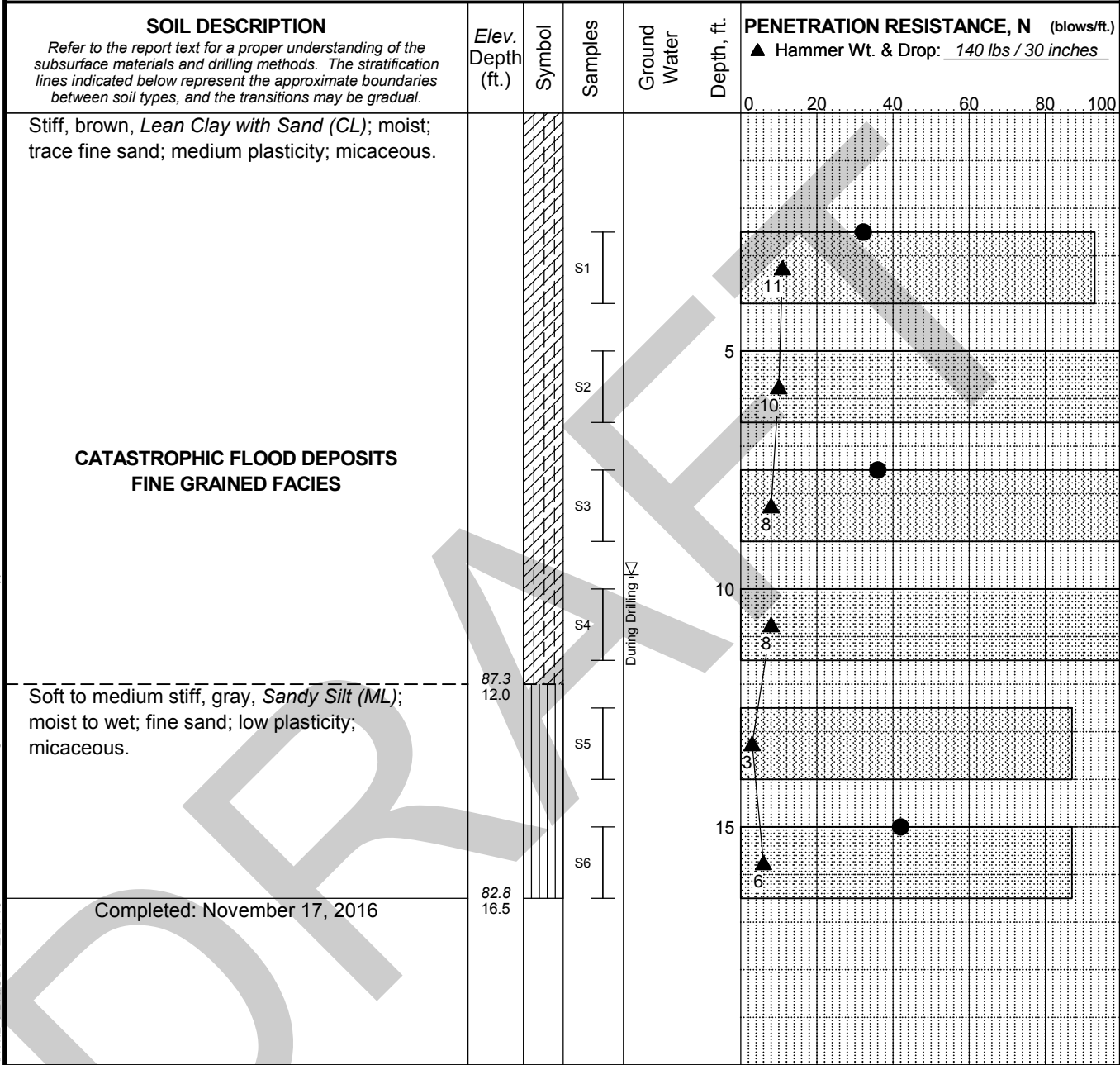
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FIG. A1
Sheet 3 of 3

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Total Depth: 16.5 ft. Northing: 604,026.8 ft. Drilling Method: Solid Stem Auger Hole Diam.: 4 inch in.
 Top Elevation: 99.3 ft. Easting: 7,621,658.8 ft. Drilling Company: Greg Vandehey Rod Type: ~
 Vert. Datum: NAVD 88 Station: _____ Drill Rig Equipment: Simco 2400 Hammer Type: Cathead
 Horiz. Datum: NAD 83 (1991) Offset: _____ Other Comments: _____



Rev. JMW/SC:yp - JMW
 Log: MMV
 MASTER LOG - E 24-1-04088 - GP.J SW/2013LIBRARYPDX.GLB SHANNWIL_PDX.GDT 12/21/16

LEGEND

⊥ Standard Penetration Test ∇ Groundwater Level ATD

● % Water Content
 Plastic Limit ———— Liquid Limit

☐ Recovery (%)

NOTES

1. Refer to KEY for explanation of symbols, codes, abbreviations, and definitions.
2. Groundwater level, if indicated above, is for the date specified and may vary.
3. Group symbol is based on visual-manual identification and selected lab testing.

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 Community Garden and Dog Park Parking Area
 Wilsonville, Oregon

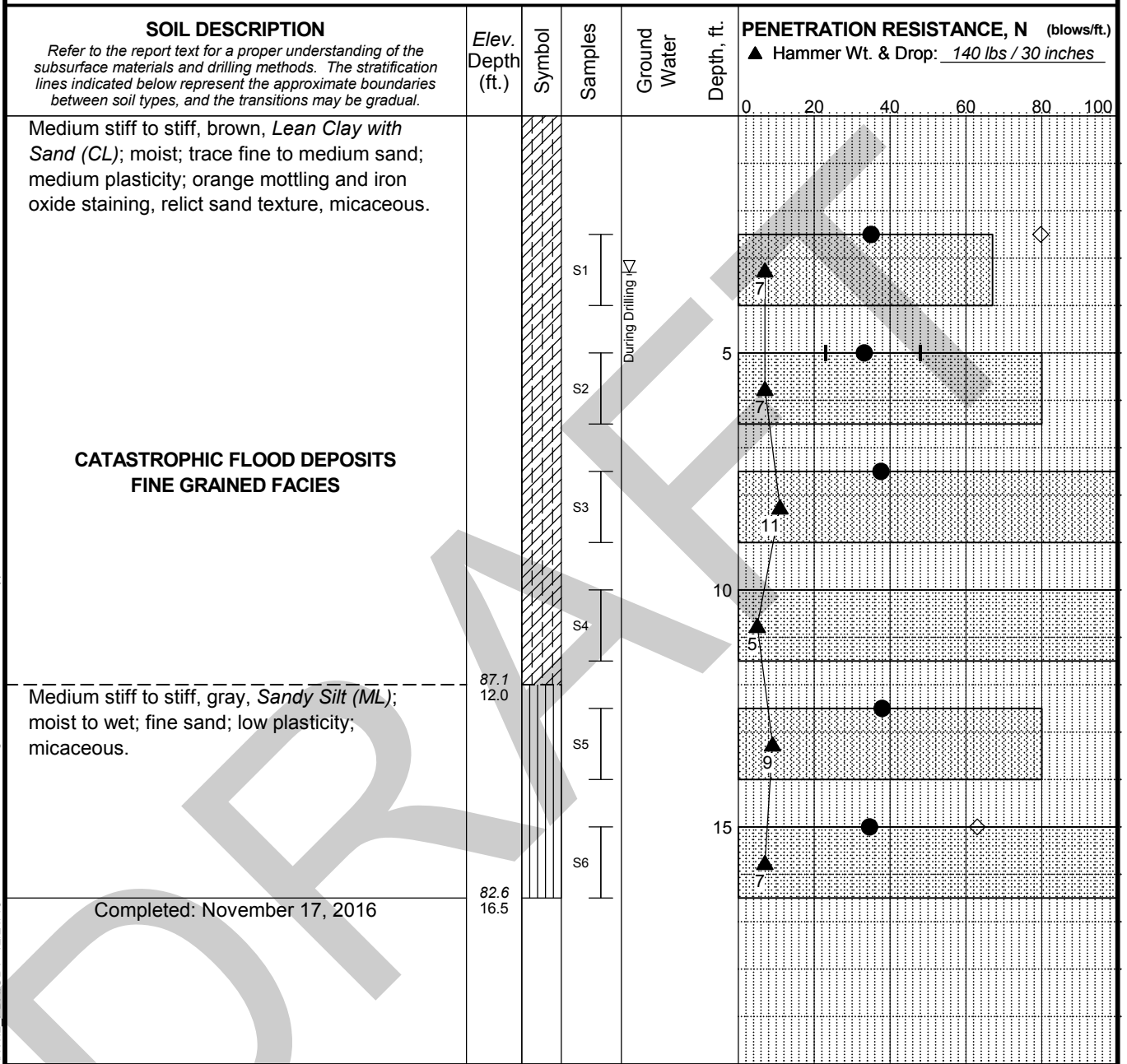
LOG OF BORING B-1

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FIG. A2

Total Depth: 16.5 ft. Northing: 603,892.5 ft. Drilling Method: Solid Stem Auger Hole Diam.: 4 inch in.
 Top Elevation: 99.1 ft. Easting: 7,621,740.4 ft. Drilling Company: Greg Vandehey Rod Type: ~
 Vert. Datum: NAVD 88 Station: _____ Drill Rig Equipment: Simco 2400 Hammer Type: Cathead
 Horiz. Datum: NAD 83 (1991) Offset: _____ Other Comments: _____



Rev. JMW/SC:yp- JMW
 Log: MMV
 MASTER LOG-E 24-1-04088-GPJ SW2013LIBRARYPDX.GLB SHANNWIL_PDX.GDT 12/21/16

- LEGEND**
- ⊥ Standard Penetration Test
 - ▽ Groundwater Level ATD
 - ▽ Groundwater Level on Date Shown
 - ◻ Recovery (%)
 - ◇ % Fines (<0.075mm)
 - % Water Content
 - Plastic Limit — Liquid Limit

- NOTES**
- Refer to KEY for explanation of symbols, codes, abbreviations, and definitions.
 - Groundwater level, if indicated above, is for the date specified and may vary.
 - Group symbol is based on visual-manual identification and selected lab testing.

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 Wilsonville, Oregon

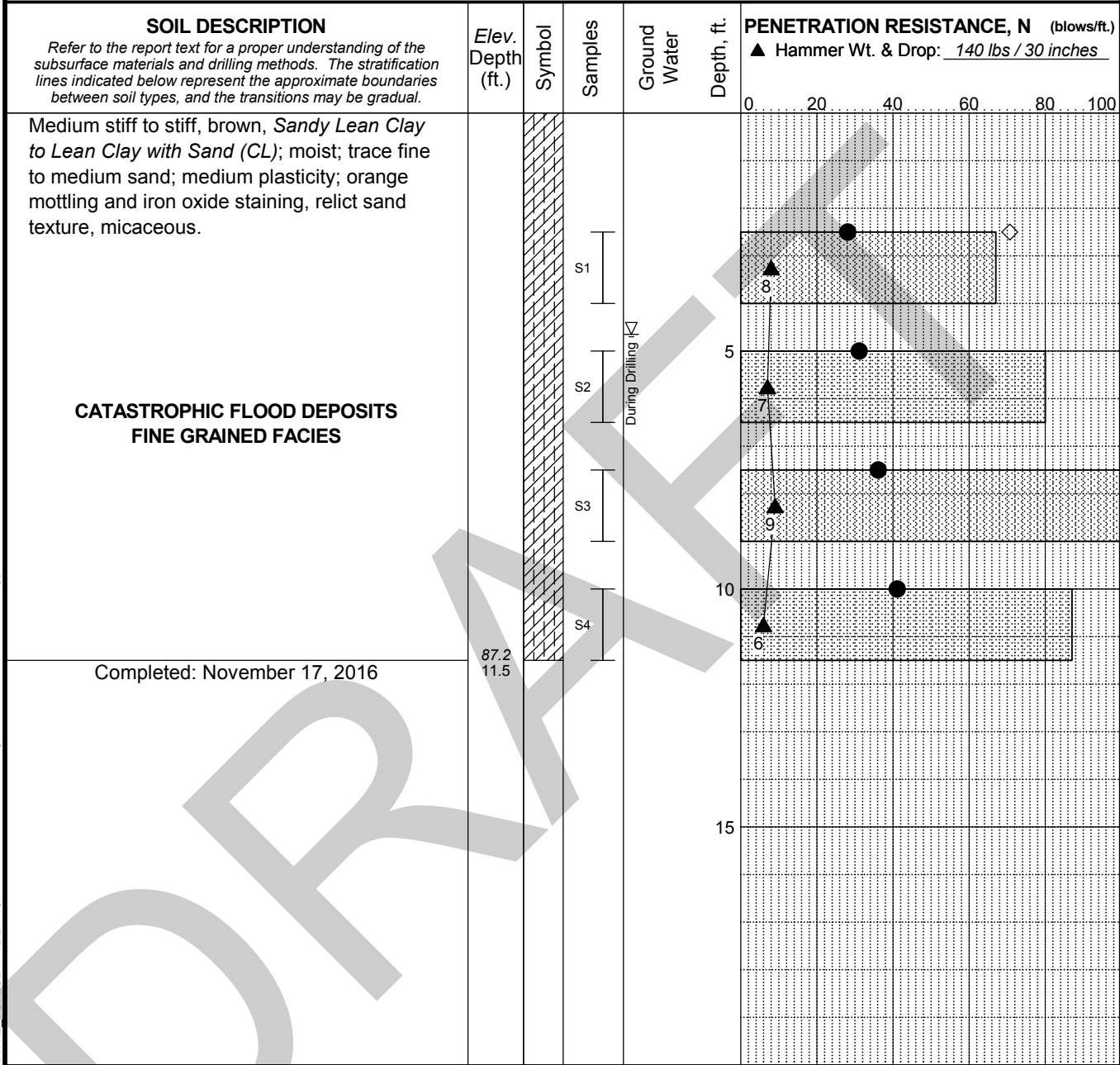
LOG OF BORING B-2

December 2016 24-1-04088-001

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FIG. A3

Total Depth: 11.5 ft. Northing: 603,929.2 ft. Drilling Method: Solid Stem Auger Hole Diam.: 4 inch in.
 Top Elevation: 98.7 ft. Easting: 7,621,845.7 ft. Drilling Company: Greg Vandehey Rod Type: ~
 Vert. Datum: NAVD 88 Station: _____ Drill Rig Equipment: Simco 2400 Hammer Type: Cathead
 Horiz. Datum: NAD 83 (1991) Offset: _____ Other Comments: _____



Log: MMV Rev: JMW/SC\$yp: JMW
 MASTER LOG-E 24-1-04088-GPJ SW2013\LIBRARY\PD\X.GLB SHANNWIL_PDX.GDT 12/21/16

LEGEND

[Symbol] Standard Penetration Test ▽ Groundwater Level ATD
 [Symbol] Recovery (%) ▽ Groundwater Level on Date Shown
 [Symbol] % Fines (<0.075mm)
 ● % Water Content
 Plastic Limit [Symbol] Liquid Limit

NOTES

- Refer to KEY for explanation of symbols, codes, abbreviations, and definitions.
- Groundwater level, if indicated above, is for the date specified and may vary.
- Group symbol is based on visual-manual identification and selected lab testing.

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 Wilsonville, Oregon

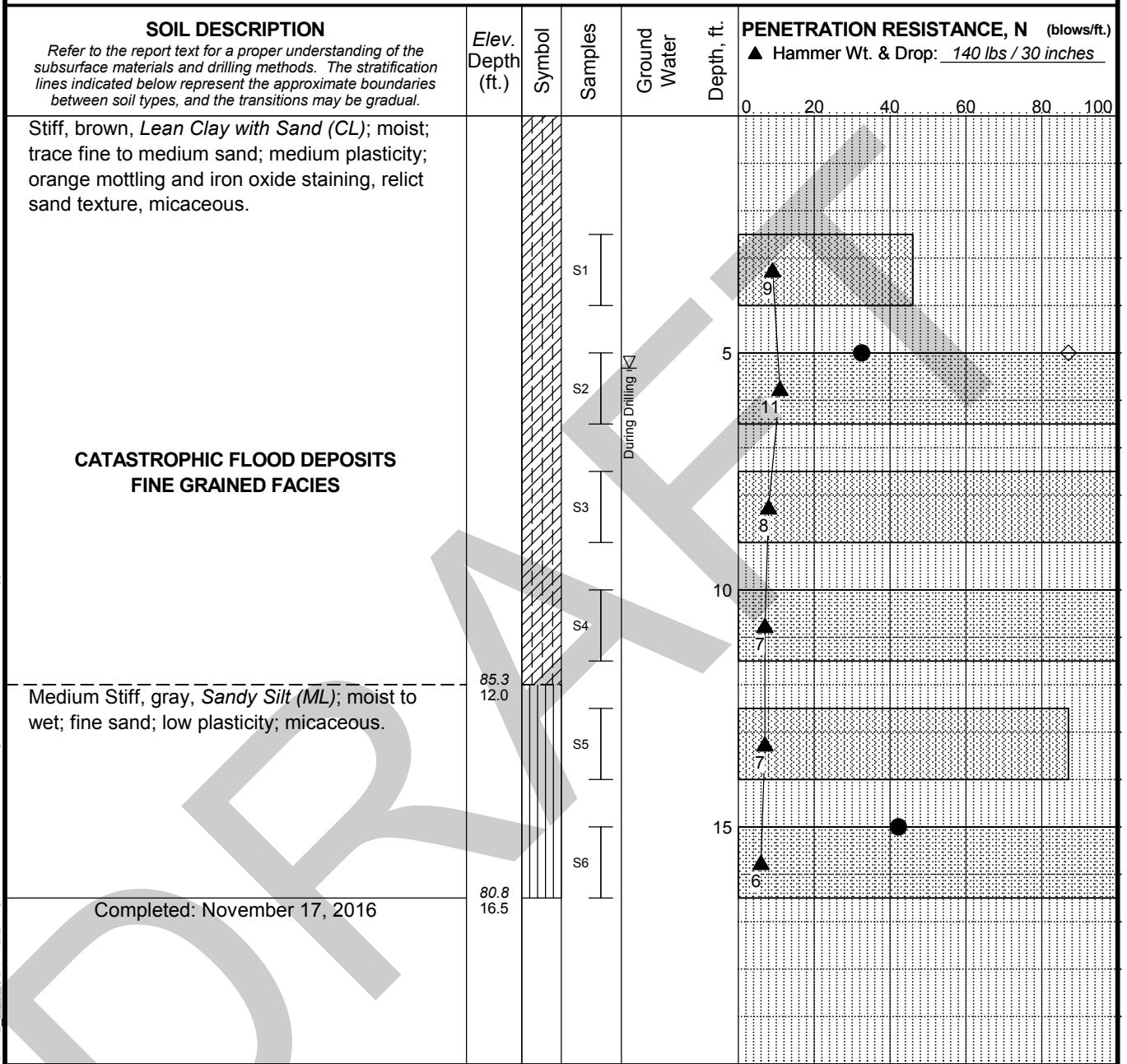
LOG OF BORING B-3

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FIG. A4

Total Depth: 16.5 ft. Northing: 603,874.4 ft. Drilling Method: Solid Stem Auger Hole Diam.: 4 inch in.
 Top Elevation: 97.3 ft. Easting: 7,621,920.3 ft. Drilling Company: Greg Vandehey Rod Type: ~
 Vert. Datum: NAVD 88 Station: _____ Drill Rig Equipment: Simco 2400 Hammer Type: Cathead
 Horiz. Datum: NAD 83 (1991) Offset: _____ Other Comments: _____



Rev. JMW/SC: JMW
 Log: MMV
 PDX.GDT 12/21/16
 SHANNON & WILSON, INC.
 GPJ SW/2013 LIBRARY PDX.GLB SHANNON & WILSON, INC.
 MASTER LOG-E 24-1-04088-GPJ

- LEGEND**
- ⊥ Standard Penetration Test
 - ▽ Groundwater Level ATD
 - ▽ Groundwater Level on Date Shown
 - ▣ Recovery (%)
 - ◇ % Fines (<0.075mm)
 - % Water Content
 - Plastic Limit — Liquid Limit

- NOTES**
- Refer to KEY for explanation of symbols, codes, abbreviations, and definitions.
 - Groundwater level, if indicated above, is for the date specified and may vary.
 - Group symbol is based on visual-manual identification and selected lab testing.

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 Wilsonville, Oregon

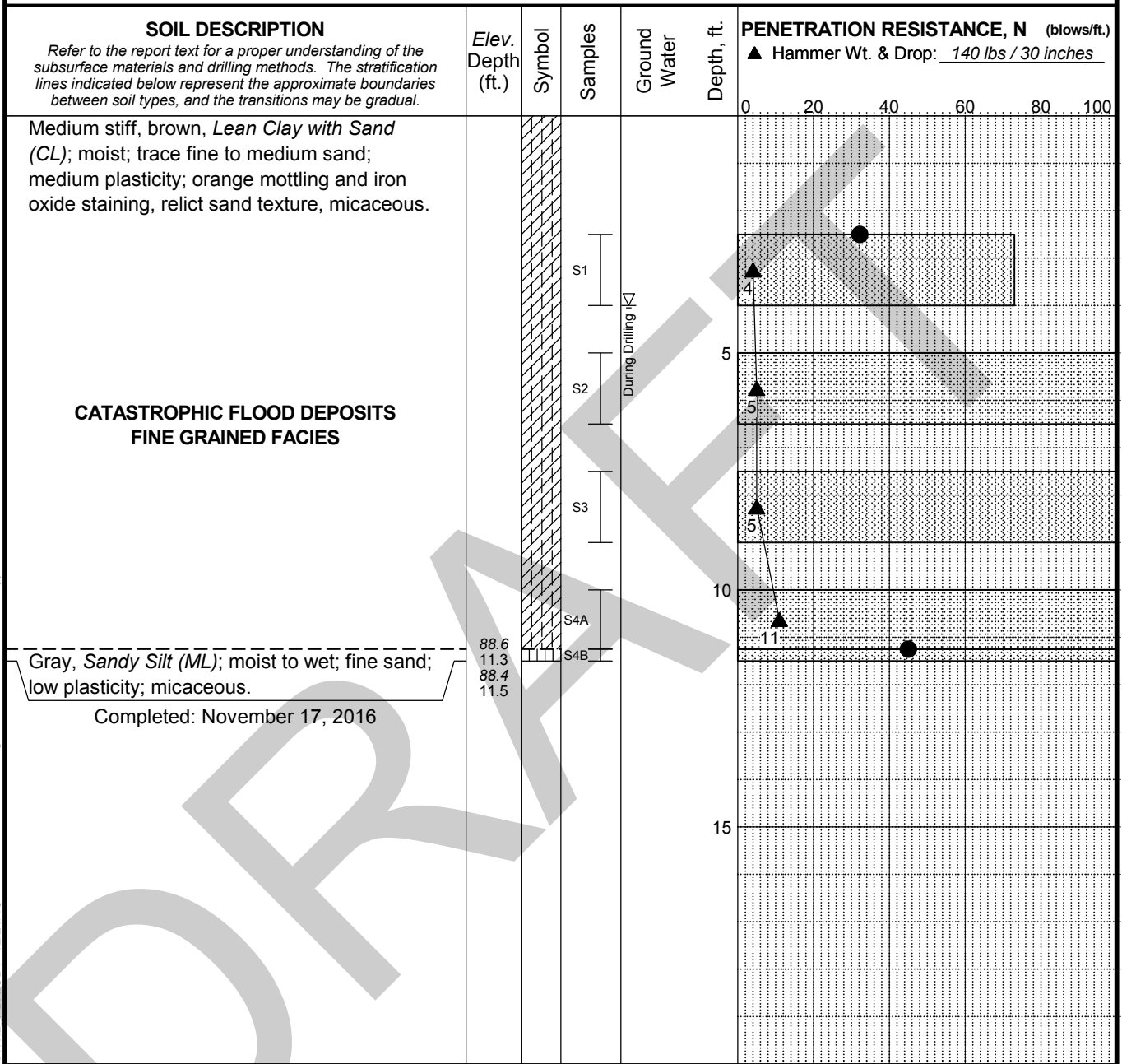
LOG OF BORING B-4

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FIG. A5

Total Depth: 11.5 ft. Northing: 604,157.0 ft. Drilling Method: Solid Stem Auger Hole Diam.: 4 inch in.
 Top Elevation: 99.9 ft. Easting: 7,621,741.4 ft. Drilling Company: Greg Vandehey Rod Type: ~
 Vert. Datum: NAVD 88 Station: _____ Drill Rig Equipment: Simco 2400 Hammer Type: Cathead
 Horiz. Datum: NAD 83 (1991) Offset: _____ Other Comments: _____



Rev: JMW/SC\$yp- JMW
 Log: MMV
 MASTER LOG-E 24-1-04088-GPJ SW2013LIBRARYPDX.GLB SHANNWIL_PDX.GDT 12/21/16

- LEGEND**
- Standard Penetration Test
 - Groundwater Level ATD
 - Groundwater Level on Date Shown
 - Recovery (%)
 - % Water Content symbol"/> % Water Content
 - Plastic Limit Liquid Limit

- NOTES**
- Refer to KEY for explanation of symbols, codes, abbreviations, and definitions.
 - Groundwater level, if indicated above, is for the date specified and may vary.
 - Group symbol is based on visual-manual identification and selected lab testing.

Memorial Park
 Community Garden and Dog Park Parking Area
 Wilsonville, Oregon

LOG OF BORING B-5

December 2016 24-1-04088-001

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FIG. A6

DCP TEST DATA

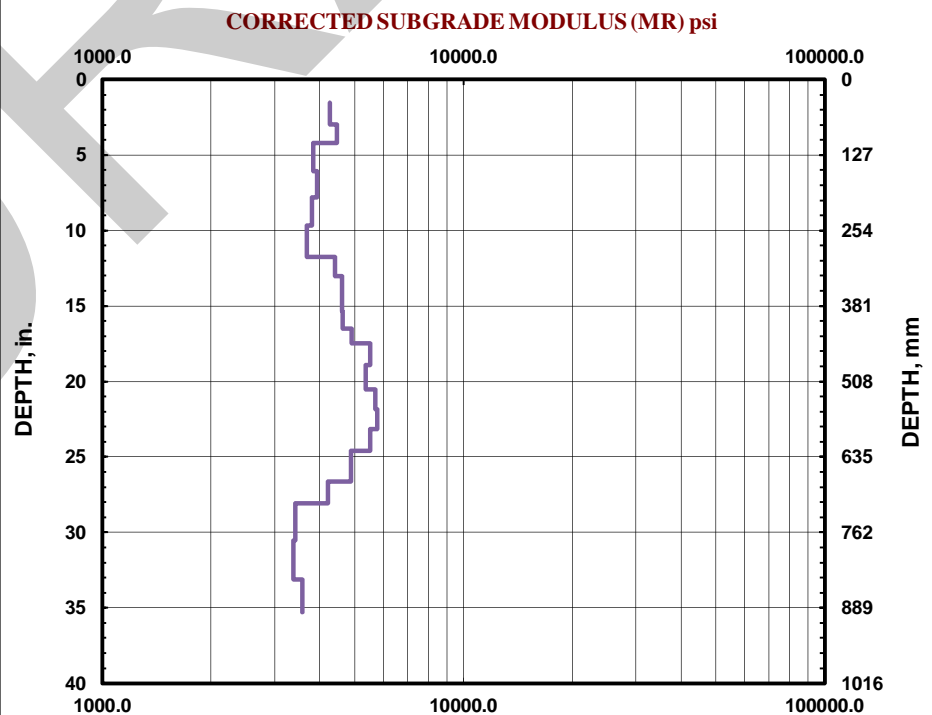
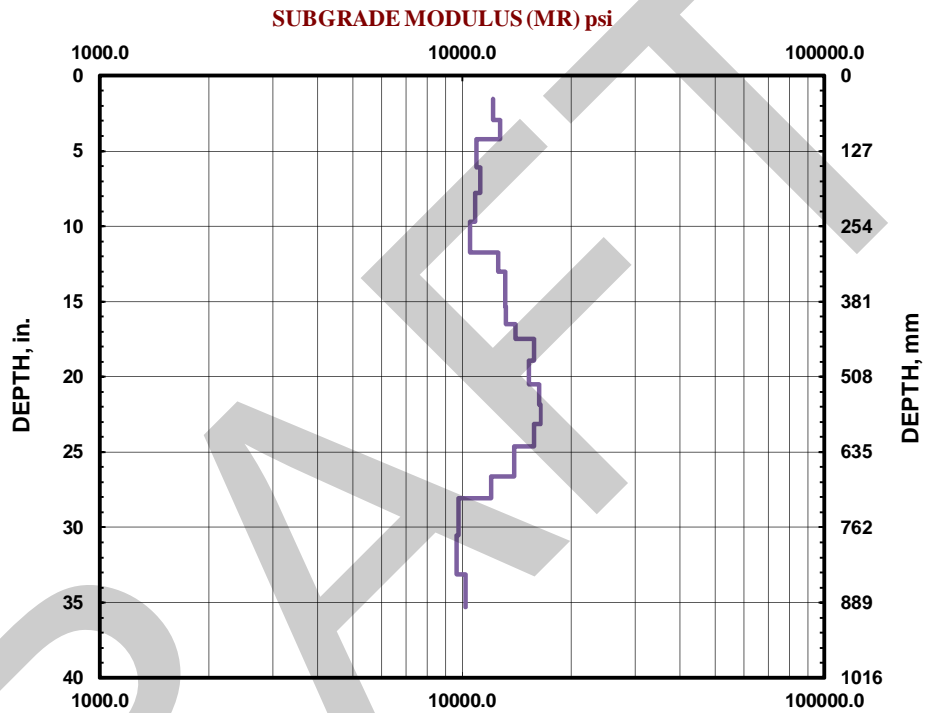
Project: Memorial Park Community Garden
Location: B-1

Date: 16-Nov-16
Soil Type(s): CL

Hammer
 10.1 lbs.
 17.6 lbs.
 Both hammers used

CH
 CL
 All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
4	360	1
10	713	1
10	930	1
4	993	1
10	1169	1
10	1299	1
10	1410	1
10	1507	1
4	1540	1
10	1621	1
10	1693	1
10	1758	1
10	1819	1
7	1859	1
10	1914	1
10	1966	1
10	2018	1
10	2069	1



Based on approximate interrelationships of MR (ODOT PAVEMENT DESIGN GUIDE 2011)

FIG. A7

DCP TEST DATA

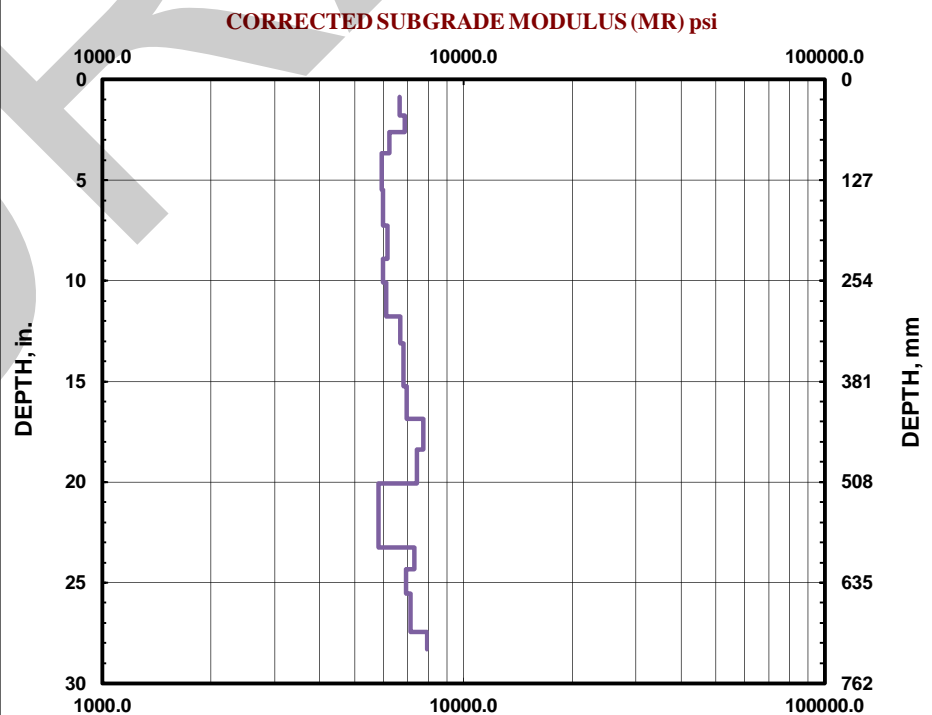
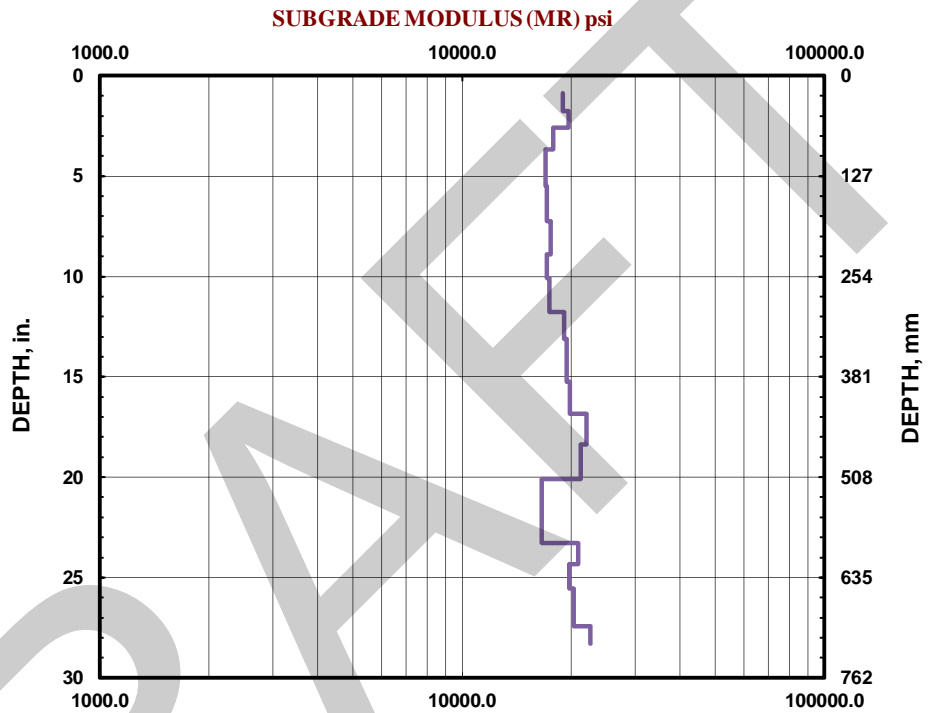
Project: Memorial Park Community Garden
Location: B-2

Date: 16-Nov-16
Soil Type(s): CL

Hammer
 ○ 10.1 lbs.
 ● 17.6 lbs.
 ○ Both hammers used

○ CH
 ● CL
 ○ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
5	391	1
5	504	1
10	729	1
10	1135	1
10	1371	1
10	1616	1
10	1753	1
10	1866	1
10	1953	1
10	2023	1
10	2090	1
10	2153	1
10	2210	1



Based on approximate interrelationships of MR (ODOT PAVEMENT DESIGN GUIDE 2011)

FIG. A8

DCP TEST DATA

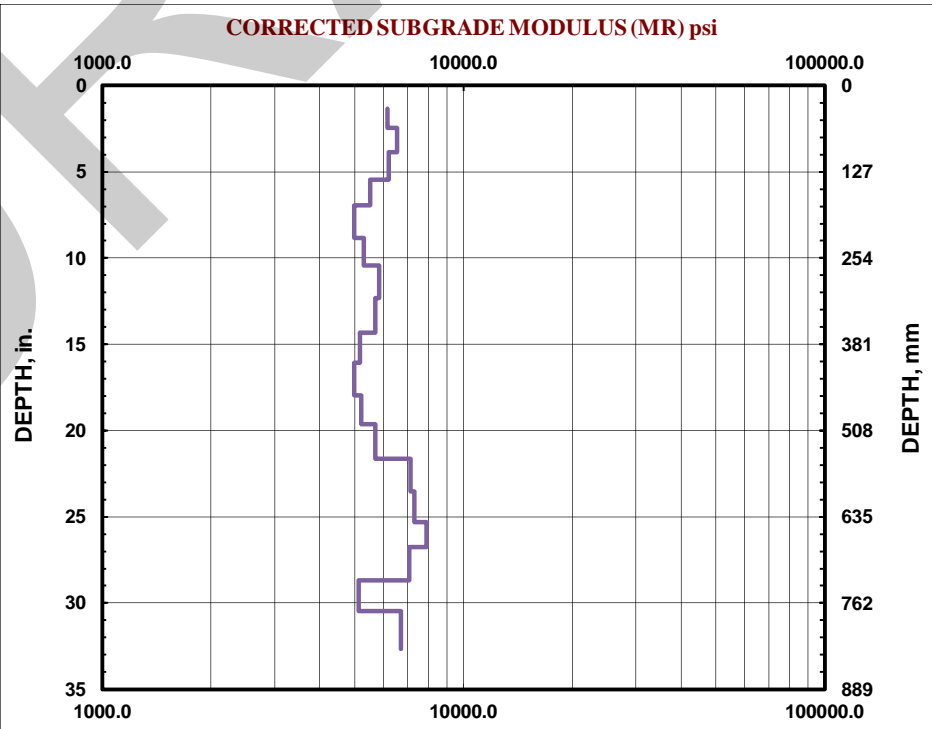
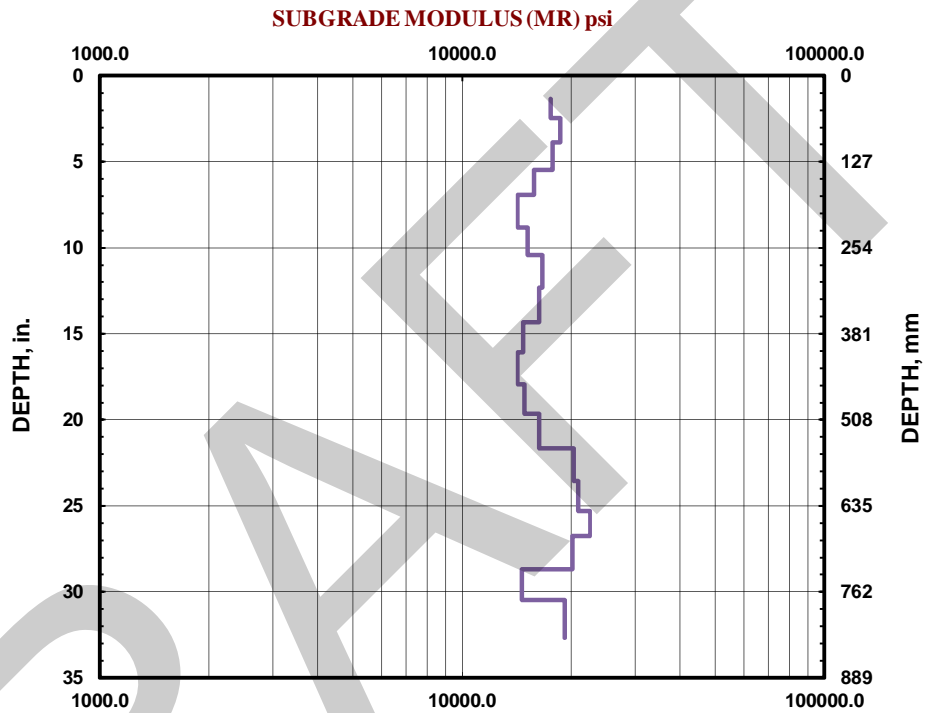
Project: Memorial Park Community Garden
Location: B-3

Date: 16-Nov-16
Soil Type(s): CL

- Hammer
- 10.1 lbs.
 - 17.6 lbs.
 - Both hammers used

- CH
- CL
- All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
5	389	1
5	539	1
10	770	1
10	1066	1
10	1330	1
10	1600	1
10	1714	1
10	1828	1
10	1714	1
10	1828	1
10	1881	1
10	1920	1
10	1961	1
10	2003	1
10	2019	1



Based on approximate interrelationships of MR (ODOT PAVEMENT DESIGN GUIDE 2011)

FIG. A9

DCP TEST DATA

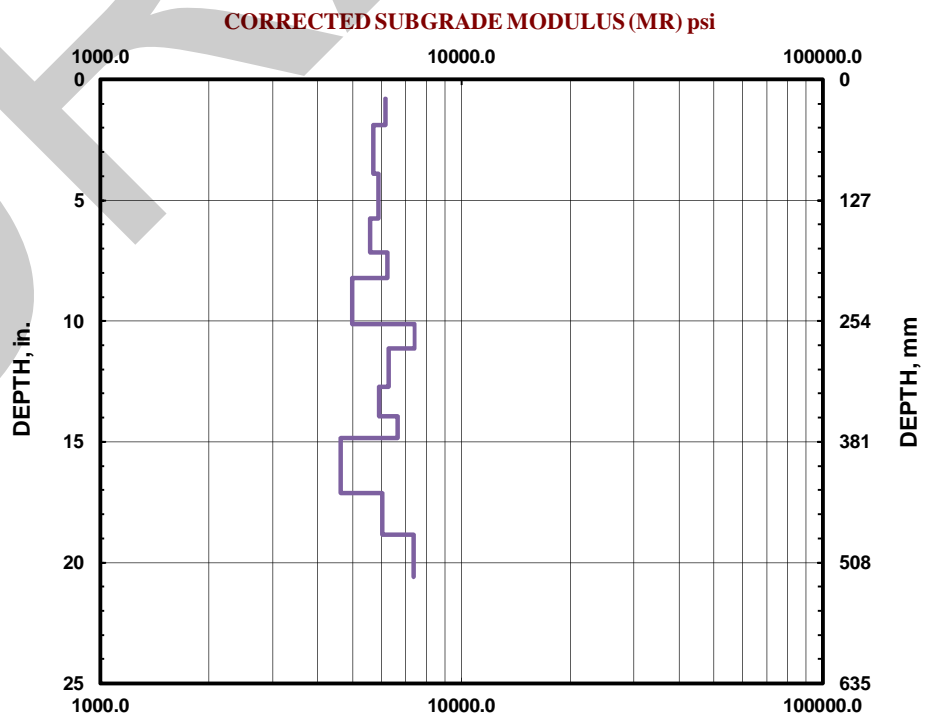
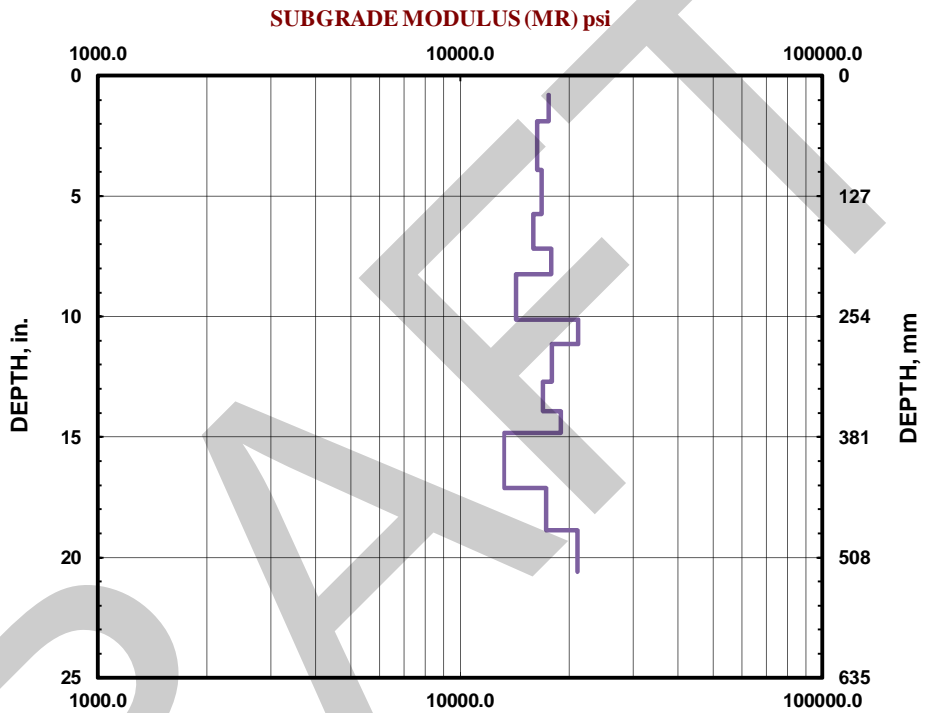
Project: Memorial Park Community Garden
Location: B-4

Date: 16-Nov-16
Soil Type(s): CL

Hammer
 ○ 10.1 lbs.
 ● 17.6 lbs.
 ○ Both hammers used

○ CH
 ● CL
 ○ All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
5	441	1
5	503	1
10	699	1
10	987	1
10	1124	1
10	1359	1
10	1586	1
10	1823	1
10	1939	1
10	2028	1
10	2091	1
10	2136	1
10	2199	1
10	2210	1
10	2234	1
10	2249	1
10	2270	1



Based on approximate interrelationships of MR (ODOT PAVEMENT DESIGN GUIDE 2011)

FIG. A10

Location: B-2		Date: 11/16/16		Infiltration Test Number:		
		Job Number: 24-1-04088-001		I-1		
Depth to bottom of hole: 2.0 ft		Casing Dia.: 6" PVC		Test Method: Encased		
Tester's Name: Nathan Villeneuve						
Tester's Company: Shannon & Wilson, Inc.						
Depth (feet):			Soil Texture:			
0.0 to 2.0			<i>Lean Clay (CL)</i>			
Presaturation began at 12:09pm on 11/16/16, with 1 foot of water. Presaturation concluded at 7:30am on 11/17/16. The water level dropped 0.03 feet overnight (about 20 hours).						
Time	Time Interval (minutes)	Measurement (feet)	Head (feet)	Water Level Drop (feet)	Infiltration rate (inches per hour)	Remarks
<i>TRIAL 1</i>						
7:45	--	1.53	0.97	--	--	
8:05	0:20	1.53	0.97	0.000	0.00	
8:25	0:20	1.53	0.97	0.000	0.00	
8:45	0:20	1.53	0.97	0.000	0.00	
<i>TRIAL 2</i>						
9:55	--	1.53	0.97	--	--	
10:15	0:20	1.53	0.97	0.000	0.00	
10:35	0:20	1.53	0.97	0.000	0.00	
10:55	0:20	1.53	0.97	0.000	0.00	
<i>TRIAL 3</i>						
11:15	--	1.53	0.97	--	--	
11:35	0:20	1.53	0.97	0.000	0.00	
11:55	0:20	1.53	0.97	0.000	0.00	
12:15	0:20	1.53	0.97	0.000	0.00	
12:35	0:20	1.54	0.96	0.010	0.36	

FIG. A11

Location: B-2		Date: 11/16/16		Infiltration Test Number:		
		Job Number: 24-1-04088-001		I-2		
Depth to bottom of hole: 4.0 ft		Casing Dia.: 6" PVC		Test Method: Encased		
Tester's Name: Nathan Villeneuve						
Tester's Company: Shannon & Wilson, Inc.						
Depth (feet):			Soil Texture:			
0.0 to 4.0			<i>Lean Clay (CL)</i>			
Presaturation began at 12:09pm on 11/16/16, with 1 foot of water. Presaturation concluded at 7:30am on 11/17/16. The water level dropped 0.06 feet overnight (about 20 hours).						
Time	Time Interval (minutes)	Measurement (feet)	Head (feet)	Water Level Drop (feet)	Infiltration rate (inches per hour)	Remarks
<i>TRIAL 1</i>						
7:45	--	2.96	0.94	--	--	
8:05	0:20	2.96	0.94	0.000	0.00	
8:25	0:20	2.96	0.94	0.000	0.00	
8:45	0:20	2.96	0.94	0.000	0.00	
<i>TRIAL 2</i>						
9:55	--	2.96	0.94	--	--	
10:15	0:20	2.96	0.94	0.000	0.00	
10:35	0:20	2.96	0.94	0.000	0.00	
10:55	0:20	2.96	0.94	0.000	0.00	
<i>TRIAL 3</i>						
11:15	--	2.96	0.94	--	--	
11:35	0:20	2.96	0.94	0.000	0.00	
11:55	0:20	2.96	0.94	0.000	0.00	
12:15	0:20	2.96	0.94	0.000	0.00	
12:35	0:20	2.96	0.94	0.000	0.00	

FIG. A12

Location: B-3		Date: 11/16/16		Infiltration Test Number:		
		Job Number: 24-1-04088-001		I-3		
Depth to bottom of hole: 2.0 ft		Casing Dia.: 6" PVC		Test Method: Encased		
Tester's Name: Nathan Villeneuve						
Tester's Company: Shannon & Wilson, Inc.						
Depth (feet):			Soil Texture:			
0.0 to 0.5			Lean Clay (CL)			
0.5 to 0.8			Poorly Graded Sand (SP)			
0.8 to 2.0			Lean Clay (CL)			
Presaturation began at 12:09pm on 11/16/16, with 1 foot of water. Presaturation concluded at 7:30am on 11/17/16. The water level dropped 0.06 feet overnight (about 20 hours).						
Time	Time Interval (minutes)	Measurement (feet)	Head (feet)	Water Level Drop (feet)	Infiltration rate (inches per hour)	Remarks
<i>TRIAL 1</i>						
7:47	--	2.00	0.95	--	--	
8:07	0:20	2.00	0.95	0.000	0.00	
8:27	0:20	2.00	0.95	0.000	0.00	
8:47	0:20	2.00	0.95	0.000	0.00	
<i>TRIAL 2</i>						
9:57	--	2.00	0.95	--	--	
10:17	0:20	2.00	0.95	0.000	0.00	
10:37	0:20	2.01	0.94	0.010	0.36	
10:57	0:20	2.01	0.94	0.000	0.00	
<i>TRIAL 3</i>						
11:17	--	2.01	0.94	--	--	
11:37	0:20	2.01	0.94	0.000	0.00	
11:57	0:20	2.01	0.94	0.000	0.00	
12:17	0:20	2.01	0.94	0.000	0.00	
12:37	0:20	2.01	0.94	0.000	0.00	
12:57	0:20	2.01	0.94	0.000	0.00	

FIG. A13

Location: B-3		Date: 11/16/16		Infiltration Test Number:		
		Job Number: 24-1-04088-001		I-4		
Depth to bottom of hole: 2.5 ft		Casing Dia.: 6" PVC		Test Method: Encased		
Tester's Name: Nathan Villeneuve						
Tester's Company: Shannon & Wilson, Inc.						
Depth (feet):			Soil Texture:			
0.0 to 0.5			Lean Clay (CL)			
0.5 to 0.8			Poorly Graded Sand (SP)			
0.8 to 2.5			Lean Clay (CL)			
<p>Water was encountered while excavating at 2.5 feet below ground surface. Test was conducted at this depth. Presaturation began at 14:47 on 11/16/16, with 1 foot of water. Presaturation concluded at 07:32 on 11/17/16. The water level dropped 0.06 feet overnight (about 20 hours). *PVC was dry at 11:37, drilling nearby may have affected test.</p>						
Time	Time Interval (minutes)	Measurement (feet)	Head (feet)	Water Level Drop (feet)	Infiltration rate (inches per hour)	Remarks
TRIAL 1						
7:47	--	3.50	1.00	--	--	
8:07	0:20	3.51	0.99	0.010	0.36	
8:27	0:20	3.51	0.99	0.000	0.00	
8:47	0:20	3.51	0.99	0.000	0.00	
TRIAL 2						
9:57	--	3.51	0.99	--	--	
10:17	0:20	3.51	0.99	0.000	0.00	
10:37	0:20	3.51	0.99	0.000	0.00	
10:57	0:20	3.51	0.99	0.000	0.00	
TRIAL 3						
11:17	--	3.51	0.99	--	--	*
11:37	0:20	4.50	0.00	0.990	35.64	
TRIAL 4						
11:57	--	4.00	0.50	--	--	
12:17	0:20	4.00	0.50	0.000	0.00	
12:37	0:20	4.00	0.50	0.000	0.00	
12:57	0:20	4.00	0.50	0.000	0.00	

FIG. A14

ATTACHMENT B
LABORATORY TESTING

DRAFT

TABLE OF CONTENTS

B.1 GENERAL 1

B.2 SOIL TESTING 1

 B.2.1 Moisture (Natural Water) Content..... 1

 B.2.2 Atterberg Limits 1

 B.2.3 Particle-Size Analysis..... 1

FIGURES

- B1 Atterberg Limits Results
- B2 Grain Size Distribution

ATTACHMENTS

Northwest Testing, Inc. Lab Report No. 16-318, Dated: 12/20/2016

DRAFT

ATTACHMENT B

LABORATORY TESTING

B.1 GENERAL

Soil samples obtained during field explorations were examined in the laboratory. Physical characteristics of the samples were noted, and field classifications were modified, as necessary, in accordance with the terminology presented in Attachment A, Figure A1. During the course of the examination, representative samples were selected for further testing. The soil-testing program included moisture content analyses, Atterberg limit determinations, and particle-size analyses. These tests are described in the following paragraphs. All test procedures were performed in general accordance with applicable ASTM International standards. The term “general accordance” means that certain local and common descriptive practices and methodologies have been followed. All laboratory testing was performed by Northwest Testing, Inc., (NTI) of Wilsonville, Oregon.

B.2 SOIL TESTING

B.2.1 Moisture (Natural Water) Content

Natural moisture content determinations were performed, in accordance with ASTM D2216, on selected soil samples. The natural moisture content is a measure of the amount of moisture in the soil at the time of exploration. It is defined as the ratio of the weight of water to the dry weight of the soil, expressed as a percentage. The results of moisture content determinations are presented in the boring logs in Attachment A.

B.2.2 Atterberg Limits

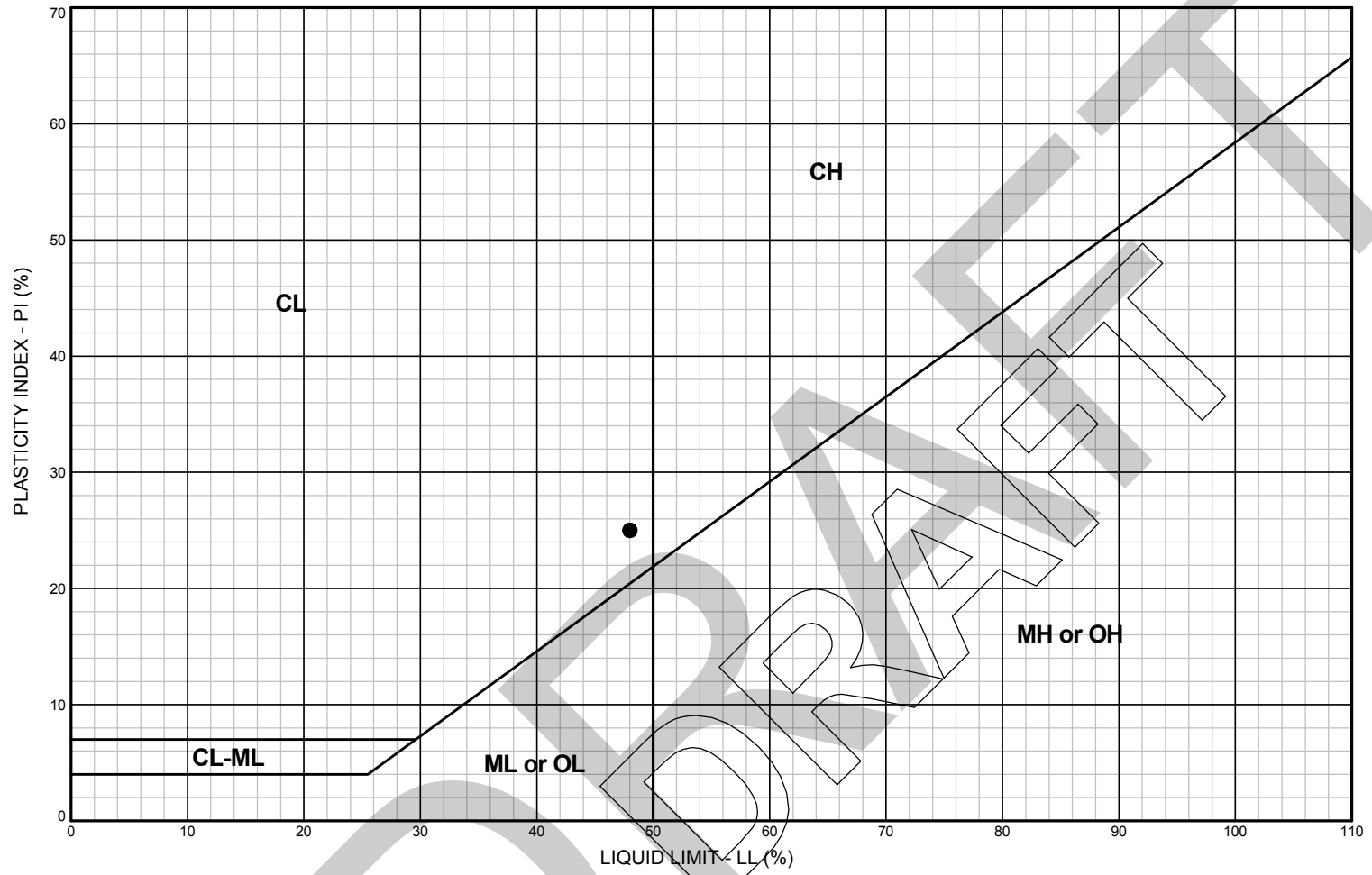
Atterberg limits were determined in accordance with ASTM D4318. This analysis yields index parameters of the soil that are useful in soil classification as well as engineering analyses. Atterberg limit tests include liquid and plastic limits. The results are plotted on Figure B1, Atterberg Limits Results, and are also shown graphically on the boring logs in Attachment A.

B.2.3 Particle-Size Analysis

Particle-size analyses were determined in accordance with ASTM D1140. A wet sieve analysis was performed to determine a percentage (by weight) of the sample passing the No. 200

(0.075 mm) sieve. Results of the particle-size analyses are presented in Figure B2, Grain Size Distribution. For all particle-size analyses, the percentage of material passing the No. 200 sieve is also shown graphically in the boring logs in Attachment A.

DRAFT

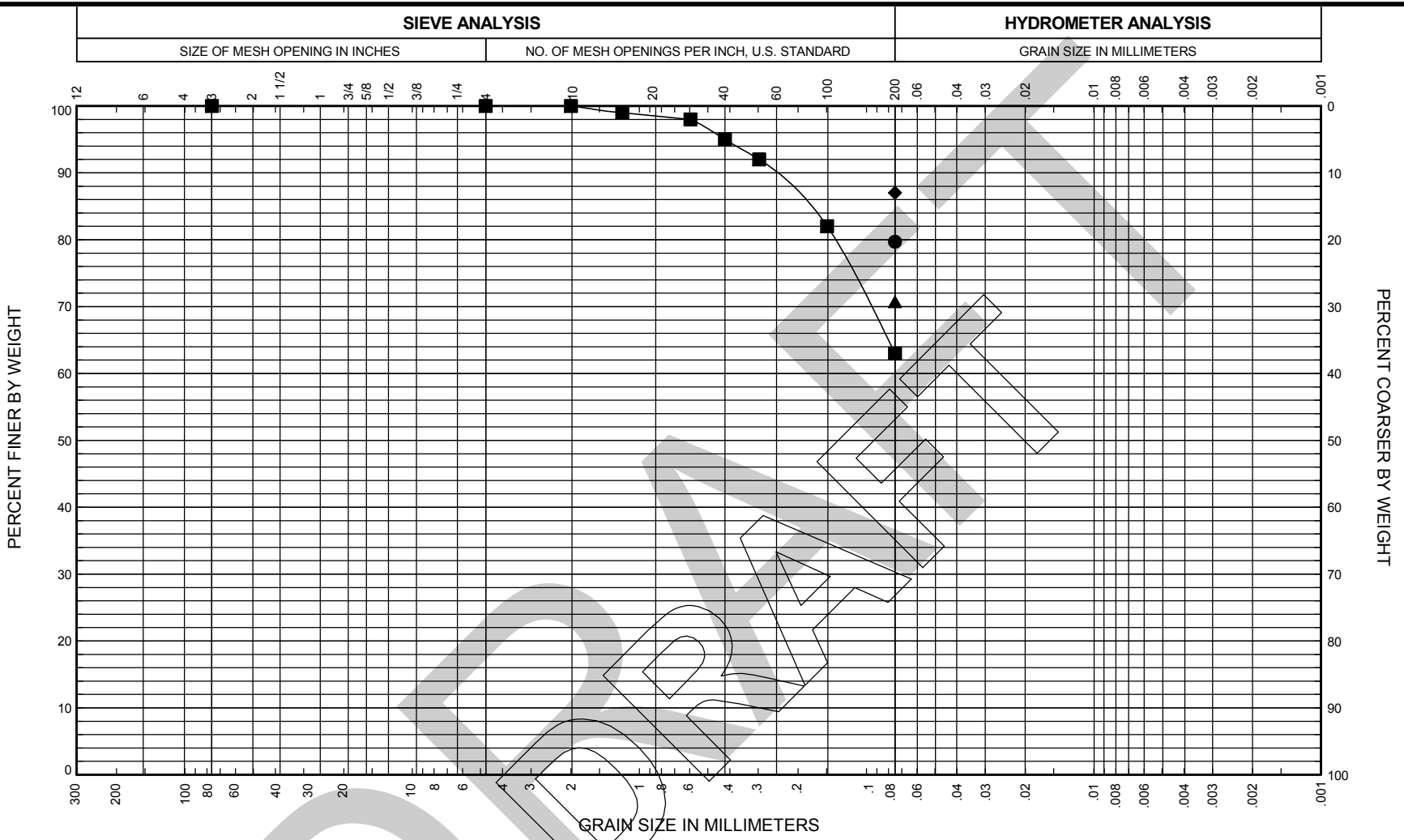


- NOTES**
- 1) Atterberg limits tests were performed in general accordance with ASTM D4318 unless otherwise noted in the report.
 - 2) Group Name and Group Symbol are in accordance with ASTM D2488 and are refined in accordance with ASTM D2487 where appropriate laboratory tests are performed.
 - 3) Plasticity adjectives used in sample descriptions correspond to plasticity index as follows:
 - Nonplastic (NP) (< 4%)
 - Low Plasticity (4 to 10%)
 - Medium Plasticity (10 to 20%)
 - High Plasticity (> 20%)

BORING AND SAMPLE NO.	DEPTH (feet)	GROUP SYMBOL ²	GROUP NAME ²	LL %	PL %	PI % ³	NAT. W.C. %	FINES %	Memorial Park Community Garden and Dog Park Parking Area Wilsonville, Oregon		
● B-2, S2	5.0	CL	Lean Clay with Sand	48	23	25	33		ATTERBERG LIMITS RESULTS		
											December 2016
									SHANNON & WILSON, INC. Geotechnical and Environmental Consultants		FIG. B1

FIG. B1

NOTES:
 1) Sieve analyses were performed in general accordance with ASTM D6913, sieve with hydrometer analyses were performed in general accordance with ASTM D422, and amount finer than #200 sieve analyses were performed in general accordance with ASTM D1140 unless otherwise noted in the report.
 2) Group Name and Group Symbol are in accordance with ASTM D2488 and are refined in accordance with ASTM D2487 where appropriate laboratory tests are performed.



COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE	FINES: SILT OR CLAY
	GRAVEL		SAND			

BORING AND SAMPLE NO.	DEPTH (feet)	GROUP SYMBOL ²	GROUP NAME ²	GRAVEL %	SAND %	FINES %	NAT. W.C. %	DRY DENSITY PCF
● B-2, S1	2.5	CL	Lean Clay with Sand	-	-	80	35	
■ B-2, S6	15.0	ML	Sandy Silt	0	37	63	35	
▲ B-3, S1	2.5	CL	Sandy Lean Clay	-	-	71	28	
◆ B-4, S2	5.0	CL	Lean Clay	-	-	87	33	

Memorial Park
 Community Garden and Dog Park Parking Area
 Wilsonville, Oregon

GRAIN SIZE DISTRIBUTION

December 2016 24-1-04088-001

SHANNON & WILSON, INC.
 Geotechnical and Environmental Consultants

FIG. B2

FIG. B2

TECHNICAL REPORT

Report To: Ms. Aimee Holmes, P.E., C.E.G.
Shannon & Wilson, Inc.
3990 S.W. Collins Way, Suite 203
Lake Oswego, Oregon 97035

Date: 12/20/16

Lab No.: 16-318

Project: Laboratory Testing – 24-1-04088-001

Project No.: 2966.1.1

Report of: Moisture content, Atterberg Limits, sieve analysis, and amount of material passing the number 200 sieve

Sample Identification

NTI completed moisture content, Atterberg limits, sieve analysis, and amount of material passing the number 200 sieve testing on samples delivered to our laboratory on December 13, 2016. Testing was performed in accordance with the standards indicated. Our laboratory test results are summarized on the following table and attached page.

Laboratory Testing

Atterberg Limits (ASTM D4318)			
Sample ID	Liquid Limit	Plastic Limit	Plasticity Index
B-2 S-2 @ 5 – 6.5 ft.	48	23	25

Attachments: Laboratory Test Results

Copies: Addressee

TECHNICAL REPORT

Report To:	Ms. Aimee Holmes, P.E., C.E.G. Shannon & Wilson, Inc. 3990 S.W. Collins Way, Suite 203 Lake Oswego, Oregon 97035	Date:	12/20/16
		Lab No.:	16-318
Project:	Laboratory Testing – 24-1-04088-001	Project No.:	2966.1.1

Laboratory Testing

Moisture Content of Soil (ASTM D 2216)			
Sample ID	Moisture Content (Percent)	Sample ID	Moisture Content (Percent)
B-1 S-1 @ 2.5 – 4 ft.	32.2	B-3 S-1 @ 2.5 – 4 ft.	28.1
B-1 S-3 @ 7.5 – 9 ft.	36.0	B-3 S-2 @ 5 – 6.5 ft.	31.1
B-1 S-6 @ 15 – 16.5 ft.	42.0	B-3 S-3 @ 7.5 – 9 ft.	36.1
B-2 S-1 @ 2.5 – 4 ft.	35.0	B-3 S-4 @ 10 – 11.5 ft.	41.1
B-2 S-2 @ 5 – 6.5 ft.	33.2	B-4 S-2 @ 5 – 6.5 ft.	32.5
B-2 S-3 @ 7.5 – 9 ft.	37.6	B-4 S-6 @ 15 – 16.5 ft.	42.2
B-2 S-5 @ 12.5 – 14 ft.	37.9	B-5 S-1 @ 2.5 – 4 ft.	32.2
B-2 S-6 @ 15 – 16.5 ft.	34.6	B-5 S-4B @ 11.25 – 11.5 ft.	45.0

Amount of Material Finer than the No. 200 Sieve (ASTM D1140)		
Sample ID	Moisture Content (%)	Percent Passing the No. 200 Sieve
B-2 S-1 @ 2.5 – 4 ft.	35.0	79.7
B-3 S-1 @ 2.5 – 4 ft.	28.1	70.7
B-4 S-2 @ 5 – 6.5 ft.	32.5	87.0

Sieve Analysis of Aggregate (ASTM C117/C136)	
Sieve Size	B-2 S-6 @ 15 – 16.5 ft. Percent Passing
#10	100
#16	99
#30	98
#40	95
#50	92
#100	82
#200	66.3

ATTACHMENT C

**IMPORTANT INFORMATION ABOUT YOUR
GEOTECHNICAL / ENVIRONMENTAL REPORT**

DRAFT



Date: December 22, 2016
To: John P. Christiansen, PE
AKS Engineering & Forestry

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

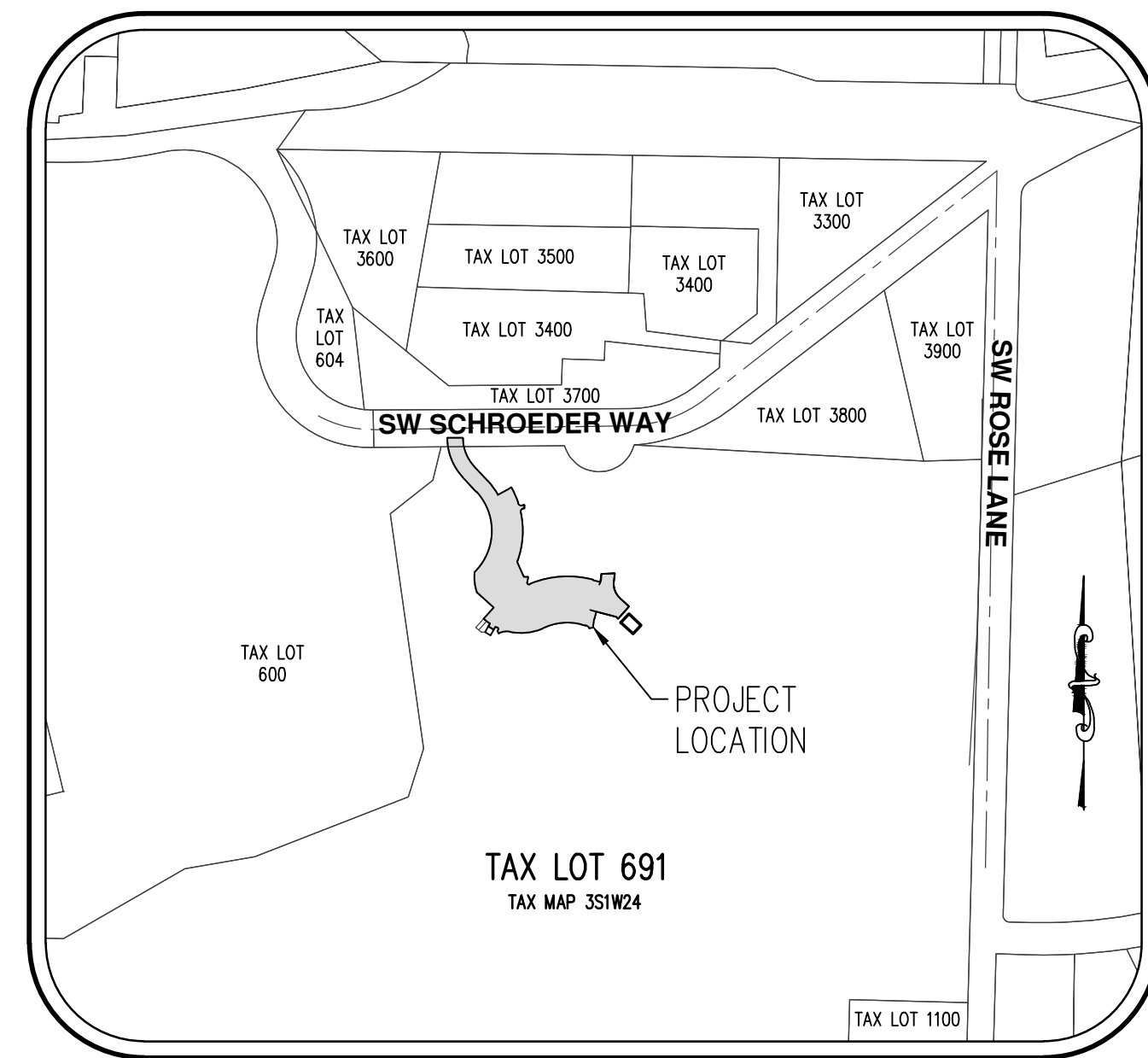
READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

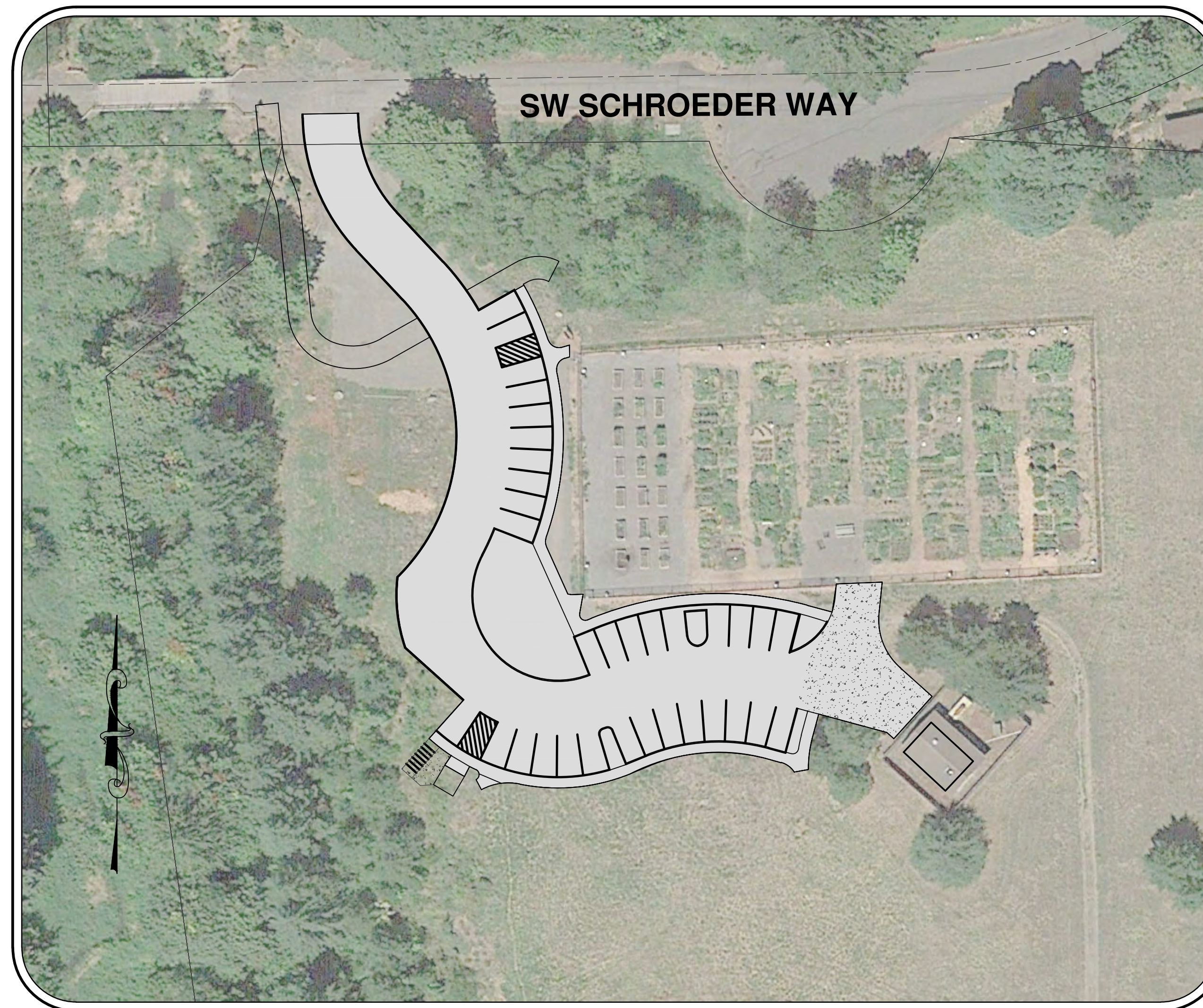
The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland

WILSONVILLE COMMUNITY GARDEN PARKING AREA

PRELIMINARY LAND USE PLANS



VICINITY MAP
1"=250'



SITE MAP
1"=40'

APPLICANT:

CITY OF WILSONVILLE
29600 SW PARK PLACE
WILSONVILLE, OR 97070
CONTACT: TOD BLANKENSHIP

**CONSULTING
PLANNING/
ENGINEERING/
SURVEYING FIRM:**

AKS ENGINEERING & FORESTRY, LLC
CONTACT: JOHN CHRISIANSEN, P.E.
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

**PROPERTY
LOCATION:**

7524 SW SCHROEDER WAY
WILSONVILLE, OR 97070

**PROPERTY
DESCRIPTION:**

TAX LOT 691 CLACKAMAS COUNTY ASSESSOR'S MAP
3-1W-24 LOCATED IN SECTION 24, TOWNSHIP 3
SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN,
CLACKAMAS COUNTY, OREGON.

**EXISTING
LAND USE:**

EXISTING COMMUNITY GARDEN AND PARK INCLUDING
OPEN SPACE, A WELL BUILDING, AND MULTI-USE
TRAILS.

TOTAL SITE AREA:

94.52 ACRES

PROJECT PURPOSE:

PAVED PARKING LOT TO BE UTILIZED FOR ACCESS TO
THE GARDEN AND PARK.

ZONING:

PUBLIC FACILITIES (PF)

VERTICAL DATUM:

HORIZONTAL COORDINATES WERE ESTABLISHED BY
HOLDING A LOCAL DATUM PLANE CONVERTED FROM
OREGON STATE PLANE COORDINATES, NORTH ZONE 3601
NAD83(1991), BY HOLDING WASHINGTON COUNTY CORS
STATION 'JME' WITH A LOCAL DATUM PLANE AND
OREGON STATE PLANE COORDINATES (NORTHING
686,650.893 EASTING 7,563,874.862 ELEVATION 250.09);
CITY OF NEWBERG CORS STATION 'NWGB' WITH A LOCAL
DATUM PLANE AND OREGON STATE PLANE COORDINATES
(NORTHING 605,241.489 EASTING 7,565,225.226
ELEVATION 215.21); PORTLAND AIRPORT CORS STATION
'PDXA' WITH A LOCAL DATUM PLANE AND OREGON STATE
PLANE COORDINATES (NORTHING 710761.809 EASTING
7662283.107 ELEVATION 59.50); CORS STATION 'P412'
WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE
COORDINATES (NORTHING 573,655.356 EASTING
7,663,892.335 ELEVATION 250.88); AND CITY OF
WOODBURN CORS STATION 'WDBN' WITH A LOCAL DATUM
PLANE AND OREGON STATE PLANE COORDINATES
(NORTHING 557,349.700 EASTING 7,590,986.446
ELEVATION 207.36). GROUND DISTANCES WERE
ESTABLISHED BY MULTIPLYING BY A SCALE FACTOR OF
1.0001059888. ELEVATIONS ARE BASED ON NAVD 88.

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM SEWER CLEAN OUT		
CONIFEROUS TREE			STORM SEWER CATCH BASIN		
FIRE HYDRANT			STORM SEWER AREA DRAIN		
WATER BLOWOFF			STORM SEWER MANHOLE		
WATER METER			GAS METER		
WATER VALVE			GAS VALVE		
DOUBLE CHECK VALVE			GUY WIRE ANCHOR		
AIR RELEASE VALVE			POWER POLE		
SANITARY SEWER CLEAN OUT			POWER VAULT		
SANITARY SEWER MANHOLE			POWER JUNCTION BOX		
SIGN			POWER PEDESTAL		
STREET LIGHT			COMMUNICATIONS VAULT		
MAILBOX			COMMUNICATIONS JUNCTION BOX		
			COMMUNICATIONS RISER		

EXISTING

PROPOSED

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE		
OVERHEAD WIRE		
COMMUNICATIONS LINE		
FIBER OPTIC LINE		
GAS LINE		
STORM SEWER LINE		
SANITARY SEWER LINE		
WATER LINE		

SHEET INDEX

- P1-00 COVER SHEET WITH SITE AND VICINITY MAPS
- P1-01 EXISTING CONDITIONS
- P1-02 PRELIMINARY DEMOLITION, GRADING, AND EROSION & SEDIMENT CONTROL PLAN
- P1-03 PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
- P1-04 PRELIMINARY SITE AND COMPOSITE UTILITY PLAN
- P1-05 PARKING LOT PROFILE AND PAVEMENT SECTIONS
- P1-06 PRELIMINARY AERIAL PHOTO PLAN
- P1-07 PRELIMINARY LANDSCAPE PLAN
- P1-08 PRELIMINARY PARK CIRCULATION AND FUTURE TRAIL PLAN PRELIMINARY PARK CIRCULATION AND FUTURE TRAIL PLAN
- P1-09 PRELIMINARY SITE LIGHTING PLAN

AKS
AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD. STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

**COMMUNITY GARDEN
PARKING AREA**
WILSONVILLE
CLACKAMAS COUNTY TAX MAP 3S 1W 24
OREGON

**COVER SHEET WITH SITE
AND VICINITY MAPS**

DESIGNED BY: JPC
DRAWN BY: NAD
CHECKED BY: JPC

SCALE: AS NOTED
DATE: 11/06/2017



JOB NUMBER
5603

SHEET
P1-00

TREE TABLE

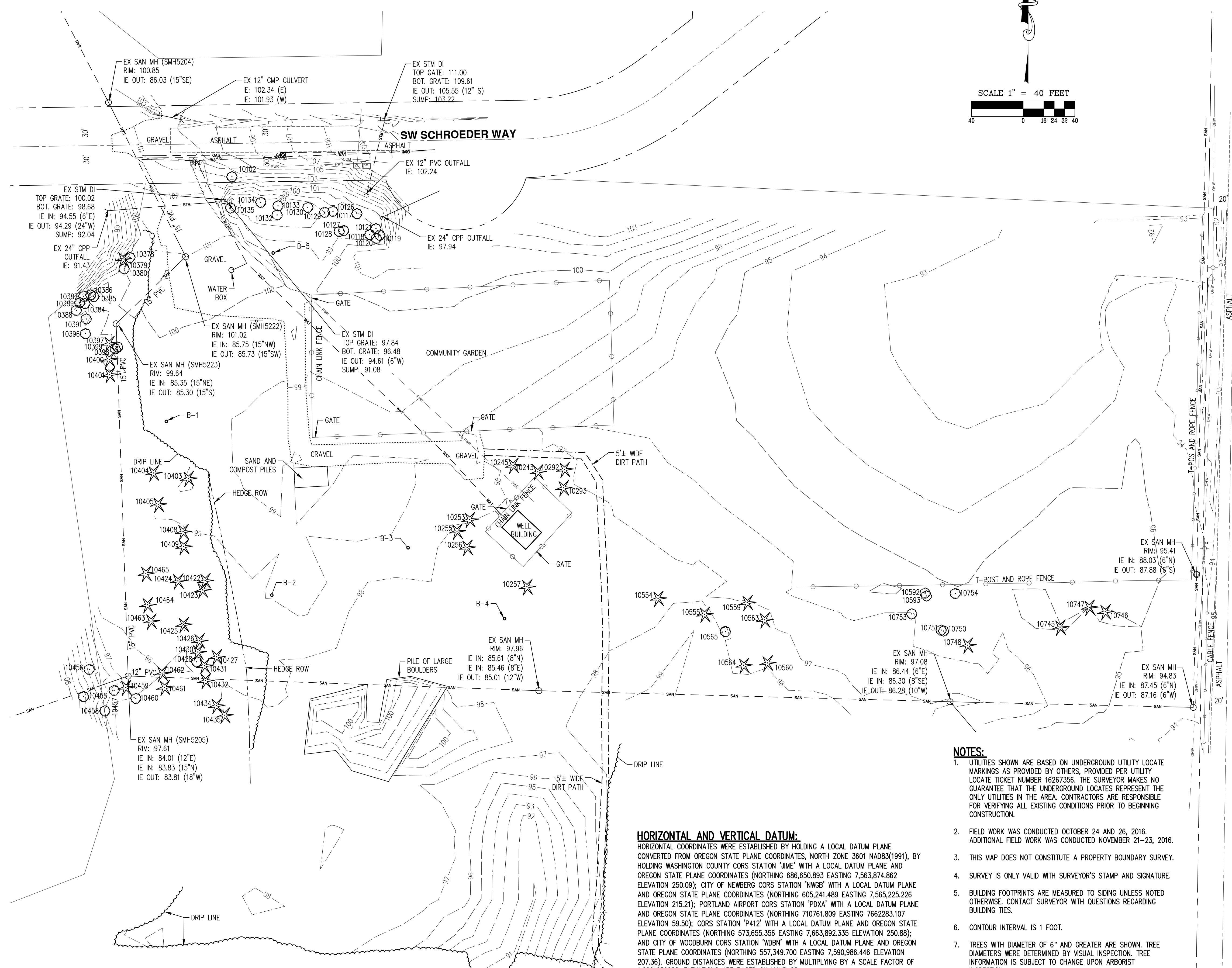
TREE NUMBER	SPECIES	DBH (IN.)
10102	DECIDUOUS	20
10117	DECIDUOUS	19
10118	DECIDUOUS	6,6,9
10119	DECIDUOUS	9
10120	DECIDUOUS	8
10121	DECIDUOUS	7,7
10126	DECIDUOUS	12
10127	DECIDUOUS	9,12
10128	DECIDUOUS	7
10129	DECIDUOUS	7,12
10130	DECIDUOUS	5,6
10132	DECIDUOUS	7,12
10133	DECIDUOUS	6,6,8
10134	DECIDUOUS	6,6,6
10135	DECIDUOUS	6,6
10243	CONIFEROUS	12
10244	CONIFEROUS	14
10245	CONIFEROUS	14
10253	CONIFEROUS	12
10255	CONIFEROUS	8,8
10256	CONIFEROUS	8
10257	CONIFEROUS	14
10292	CONIFEROUS	14
10293	CONIFEROUS	14
10378	CONIFEROUS	10,13
10379	CONIFEROUS	44
10380	CONIFEROUS	20
10384	DECIDUOUS	18
10385	DECIDUOUS	6
10386	DECIDUOUS	8
10387	DECIDUOUS	11
10388	DECIDUOUS	17
10389	DECIDUOUS	12
10391	DECIDUOUS	8
10396	DECIDUOUS	7
10397	CONIFEROUS	18
10398	DECIDUOUS	6
10399	DECIDUOUS	5
10400	DECIDUOUS	15
10401	DECIDUOUS	15
10403	CONIFEROUS	5
10404	CONIFEROUS	17
10405	CONIFEROUS	20
10408	CONIFEROUS	5
10409	CONIFEROUS	7
10422	CONIFEROUS	7
10423	CONIFEROUS	7
10424	CONIFEROUS	7
10425	DECIDUOUS	7
10426	CONIFEROUS	8
10427	CONIFEROUS	6
10428	DECIDUOUS	7,12
10430	CONIFEROUS	7
10431	CONIFEROUS	5
10432	CONIFEROUS	9
10434	CONIFEROUS	6
10435	CONIFEROUS	8
10455	DECIDUOUS	13
10456	DECIDUOUS	17
10457	DECIDUOUS	12,13
10458	DECIDUOUS	18
10459	DECIDUOUS	5
10460	DECIDUOUS	7
10461	DECIDUOUS	17
10462	DECIDUOUS	18
10463	DECIDUOUS	15
10464	DECIDUOUS	15
10465	CONIFEROUS	15
10554	CONIFEROUS	13
10555	CONIFEROUS	12
10559	CONIFEROUS	6
10560	CONIFEROUS	10
10563	CONIFEROUS	5
10564	CONIFEROUS	5
10565	CONIFEROUS	5
10592	DECIDUOUS	9
10593	DECIDUOUS	5
10745	CONIFEROUS	5
10746	CONIFEROUS	14
10747	CONIFEROUS	14
10748	CONIFEROUS	5
10750	DECIDUOUS	10
10751	DECIDUOUS	6
10753	DECIDUOUS	5
10754	DECIDUOUS	5

NOTES:

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 16267356. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- FIELD WORK WAS CONDUCTED OCTOBER 24 AND 26, 2016. ADDITIONAL FIELD WORK WAS CONDUCTED NOVEMBER 21-23, 2016.
- THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
- SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
- BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE DETERMINED BY VISUAL INSPECTION. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.

HORIZONTAL AND VERTICAL DATUM:

HORIZONTAL COORDINATES WERE ESTABLISHED BY HOLDING A LOCAL DATUM PLANE CONVERTED FROM OREGON STATE PLANE COORDINATES, NORTH ZONE 3601 NAD83(1991), BY HOLDING WASHINGTON COUNTY CORS STATION 'JME' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 686,650.893 EASTING 7,563,874.862 ELEVATION 250.09); CITY OF NEWBERG CORS STATION 'NWGB' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 605,241.489 EASTING 7,565,225.226 ELEVATION 215.21); PORTLAND AIRPORT CORS STATION 'PDXA' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 710,761.809 EASTING 7,662,283.107 ELEVATION 59.50); CORS STATION 'P412' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 573,655.356 EASTING 7,663,892.335 ELEVATION 250.88); AND CITY OF WOODBURN CORS STATION 'WDBN' WITH A LOCAL DATUM PLANE AND OREGON STATE PLANE COORDINATES (NORTHING 557,349.700 EASTING 7,590,986.446 ELEVATION 207.36). GROUND DISTANCES WERE ESTABLISHED BY MULTIPLYING BY A SCALE FACTOR OF 1.0001059888. ELEVATIONS ARE BASED ON NAVD 88.



**PRELIMINARY DEMOLITION,
 GRADING, AND EROSION &
 SEDIMENT CONTROL PLAN**

DESIGNED BY: JPC

DRAWN BY: NAD

CHECKED BY: JPC

SCALE: AS NOTED

DATE: 11/06/2017



RENEWAL DATE: 12/31/17

REVISIONS

JOB NUMBER
5603

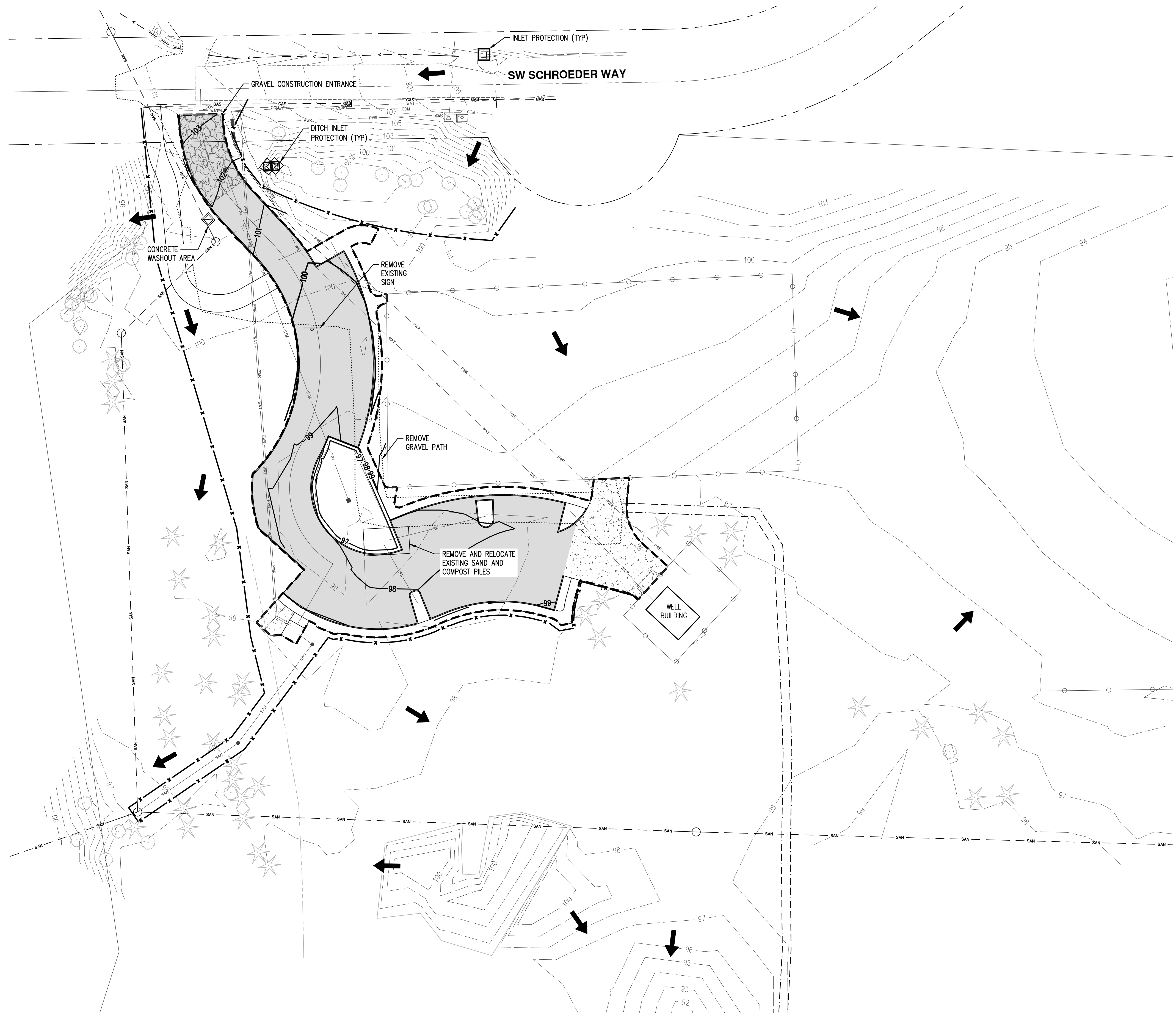
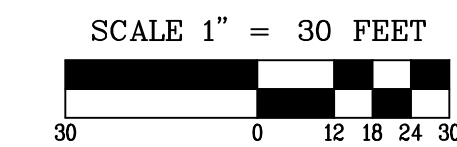
SHEET

P1-02



LEGEND

- EXISTING GROUND CONTOUR (1 FT) -----144-----
- EXISTING GROUND CONTOUR (5 FT) -----145-----
- FINISHED GRADE CONTOUR (1 FT) -----144-----
- FINISHED GRADE CONTOUR (5 FT) -----145-----
- DISTURBED AREA LIMITS -----
- SEDIMENT FENCE/TREE PROTECTION FENCE (TO BE INSTALLED PRIOR TO GRADING) x-----x-----
- INLET PROTECTION (TYP) □
- DITCH INLET PROTECTION (TYP) ◇
- CONCRETE WASHOUT AREA ▣
- DRAINAGE FLOW DIRECTION →
- GRAVEL CONSTRUCTION ENTRANCE [Gravel Pattern]



Detailed Tree Inventory for Memorial Park Community Garden

AKS Job No. 5603

Tree #	DBH (in.)	Height (ft.)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Remove / Preserve
10102	19	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Codominant 8' from ground; Included bark. Some bulges at base. Large broken scaffold	2	2	Preserve
10117	20	60	Pacific Willow (<i>Salix lucida</i>)	Codominant; Lean (S); Crooked; Twisted; 6" stem - Broken; Lean (F); Lean (S)	2	2	Preserve
10118	6.6,9	60	Pacific Willow (<i>Salix lucida</i>)	Bore holes	1	2	Preserve
10119	9	20	Pacific Willow (<i>Salix lucida</i>)	Significantly pruned (Over 75% of canopy); Scars; Cracks	2	3	Preserve
10120	8	20	Pacific Willow (<i>Salix lucida</i>)	Significantly pruned (Over 75% of canopy); Scars; Cracks	2	3	Preserve
10121	7.7	60	Pacific Willow (<i>Salix lucida</i>)	Scars; Bore holes	1	2	Preserve
10126	12	60	Pacific Willow (<i>Salix lucida</i>)	Broken branches	1	1	Preserve
10127	9,12	50	Pacific Willow (<i>Salix lucida</i>)	2' long scars at base; Cavity; Decay; Bulges	2	2	Preserve
10128	7	20	Pacific Willow (<i>Salix lucida</i>)	Significant lean (S);	1	2	Preserve
10129	7,12	65	Pacific Willow (<i>Salix lucida</i>)	Codominant; Lean (NW)	1	2	Preserve
10130	5.6	65	Pacific Willow (<i>Salix lucida</i>)	Crooked	1	1	Preserve
10132	7,12	30	Pacific Willow (<i>Salix lucida</i>)	Significant lean (SW); Large 5' scar on 7" stem; Decay; Pruned; Cavity at base with decay; Broken branches	2	3	Preserve
10133	6.6,8	40	Pacific Willow (<i>Salix lucida</i>)	Codominant; Bulges as base; Crooked; Small cavity at base	1	2	Preserve
10134	6.6,6	35	Pacific Willow (<i>Salix lucida</i>)	Codominant; Lean (S)	1	1	Preserve
10135	6.6	35	Pacific Willow (<i>Salix lucida</i>)	Codominant; Pruned	1	1	Preserve
10243	14	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10245	14	35	Ponderosa Pine (<i>Pinus ponderosa</i>)		1	1	Preserve
10253	12	40	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10255	8.8	35	Ponderosa Pine (<i>Pinus ponderosa</i>)	Codominant	1	1	Preserve
10256	8	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10257	14	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10292	14	35	Ponderosa Pine (<i>Pinus ponderosa</i>)	Bore holes	1	1	Preserve
10293	14	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10378	10,13	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Codominant; Lean (NE); Crooked; 10" stem - Twisted; Cracked bark	1	2	Preserve
10379	44	85	Western Redcedar (<i>Thuja plicata</i>)		1	1	Preserve
10380	20	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Large 20" scaffold branch broken; Crooked; Cracks; Decay; Sweep; Lean (S)	2	3	Preserve
10384	18	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Large scaffold branch dead; Cracks; Decay	2	3	Preserve
10385	6	30	Bigleaf Maple (<i>Acer macrophyllum</i>)	Lean (S)	2	2	Preserve
10386	8	30	Bigleaf Maple (<i>Acer macrophyllum</i>)	Dead top; 25% of bole covered with ivy	2	2	Preserve
10387	11	40	Bigleaf Maple (<i>Acer macrophyllum</i>)	Dead top; 95% of bole covered with ivy	1	2	Preserve
10388	17	65	Bigleaf Maple (<i>Acer macrophyllum</i>)	Crooked; Some dead branches; Codominant 10' from ground	2	2	Preserve
10389	12	60	Bigleaf Maple (<i>Acer macrophyllum</i>)	Lean (S)	1	2	Preserve
10391	8	30	Cherry (<i>Prunus sp.</i>)		1	1	Preserve
10396	7	40	Cherry (<i>Prunus sp.</i>)		1	2	Preserve
10397	18	80	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10398	6	30	Cherry (<i>Prunus sp.</i>)	Very crooked	1	2	Preserve
10399	5	30	Cherry (<i>Prunus sp.</i>)	Very crooked; Sweep; Lean (S)	1	2	Preserve
10400	15	70	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10401	15	70	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10403	5	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10404	17	65	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10405	20	65	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10408	5	40	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10409	7	40	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10422	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10423	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10424	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10425	7	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10426	8	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10427	6	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10428	7,12	35	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant	1	1	Preserve
10430	7	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10431	5	25	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10432	9	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10434	6	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10435	8	30	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10455	13	40	Bigleaf Maple (<i>Acer macrophyllum</i>)	OFFSITE; Lean (W)	1	2	Preserve
10456	17	40	Pacific Willow (<i>Salix lucida</i>)	OFFSITE	1	1	Preserve
10457	12,13	50	Bigleaf Maple (<i>Acer macrophyllum</i>)	Codominant; Crooked base; Sweep; Crooked stem	1	2	Preserve
10458	18	40	Pacific Willow (<i>Salix lucida</i>)		1	1	Preserve
10459	5	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10460	7	40	Red Alder (<i>Alnus rubra</i>)		1	1	Preserve
10461	17	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10462	18	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10463	15	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10464	15	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
10465	15	60	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve

Total # of Existing Trees Inventoried = 67

Total # of Existing Onsite Trees = 65

Total # of Existing Onsite Trees to be Preserved = 65

Total # of Existing Onsite Trees to be Removed = 0

Total # of Existing Offsite Trees = 2

Total # of Existing Offsite Trees to be Preserved = 2

Total # of Existing Offsite Trees to be Removed = 0

***Health Rating:**

- 1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.
- 2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
- 3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

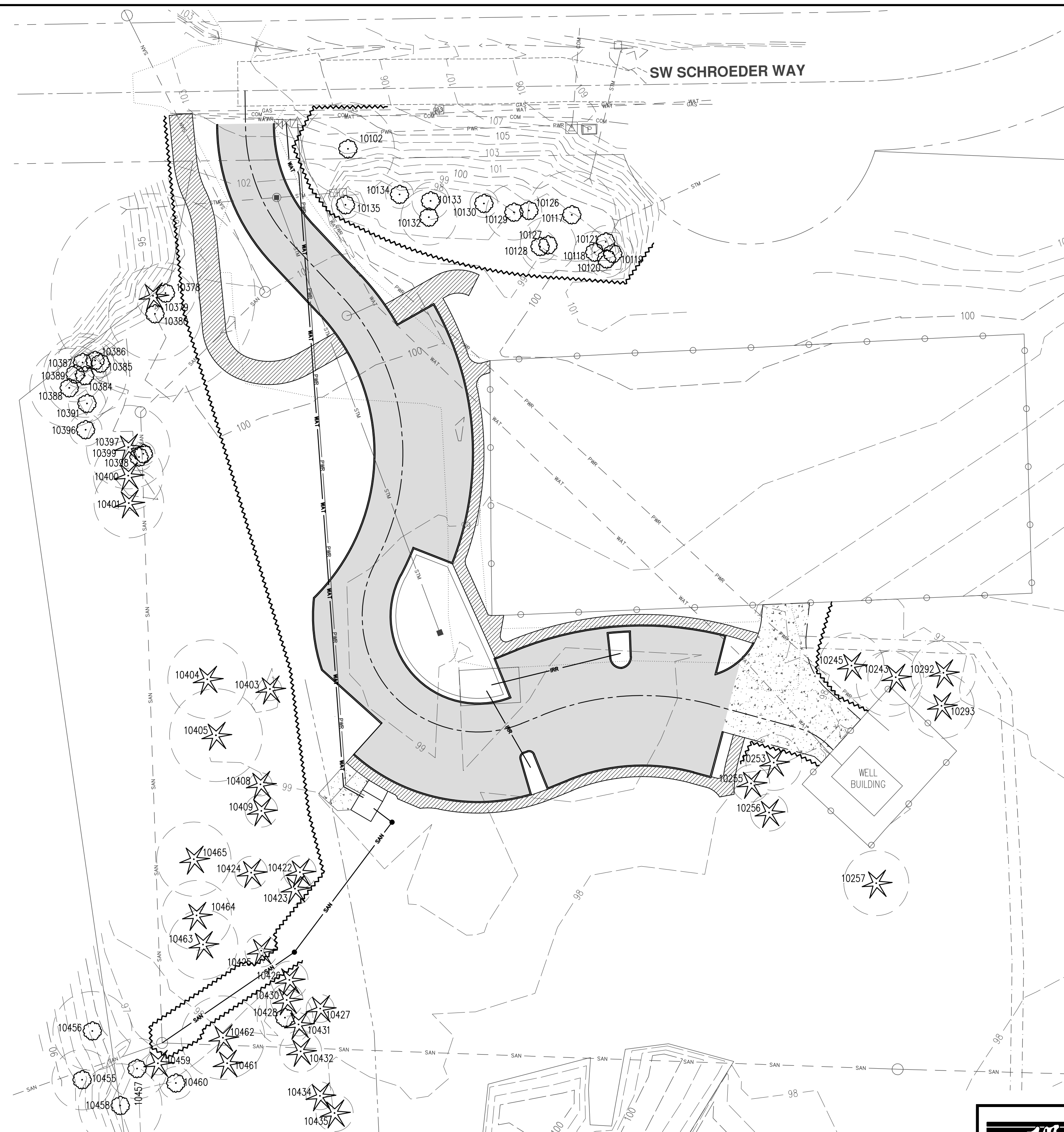
****Structure Rating:**

- 1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
- 2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
- 3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.



LEGEND

- EXISTING GROUND CONTOUR (1 FT) --- 149 ---
- EXISTING GROUND CONTOUR (5 FT) --- 150 ---
- EXISTING CONIFEROUS TREE ★
- EXISTING DECIDUOUS TREE ○
- TREE PROTECTION/CONSTRUCTION FENCE (TREE PROTECTION AREA) [Wavy line symbol]
- OPTIMAL TREE ROOT ZONE (1-FT RADIUS PER 1-IN OF DBH) [Circle symbol]

ANCHOR POSTS SHALL BE MINIMUM 2" STEEL U CHANNEL OR 2"x2" TIMBER, 6' IN LENGTH 8" MAX

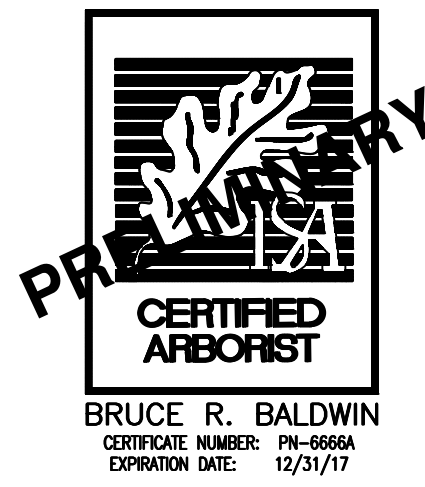
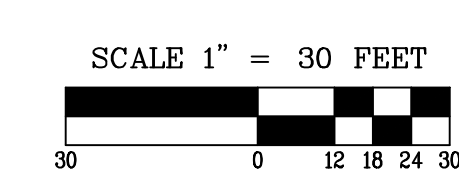
4" MIN

ANCHOR POSTS MUST BE INSTALLED TO A DEPTH OF NO LESS THAN 1/3 THE TOTAL HEIGHT OF POST

NOTES:

- BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
- AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
- DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION / CONSTRUCTION FENCE



AKS
AKS ENGINEERING & FORESTRY, LLC
12065 SW HERMAN RD. STE 100
TUALUMIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

ENGINEERING - SURVEYING - NATURAL RESOURCES
FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

**COMMUNITY GARDEN
PARKING AREA
REMOVAL PLAN**

WILSONVILLE OREGON
CLACKAMAS COUNTY TAX MAP 35 1W 24
TAX LOT 691

**PRELIMINARY TREE
PRESERVATION AND
REMOVAL PLAN**

DESIGNED BY: JPC
DRAWN BY: NAD
CHECKED BY: JPC
SCALE: AS NOTED
DATE: 11/06/2017

REGISTERED PROFESSIONAL
FORESTRY (NOT FOR CONSTRUCTION)
BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/17

RENEWAL DATE: 12/31/17
REVISIONS:

JOB NUMBER
5603

SHEET
P1-03

**PRELIMINARY SITE AND
 COMPOSITE UTILITY PLAN**

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC

SCALE: AS NOTED
 DATE: 11/06/2017
 REGISTERED PROFESSIONAL ENGINEER
 NOT FOR CONSTRUCTION
 2009
 CHRISTIANSEN

RENEWAL DATE: 12/31/17

REVISIONS

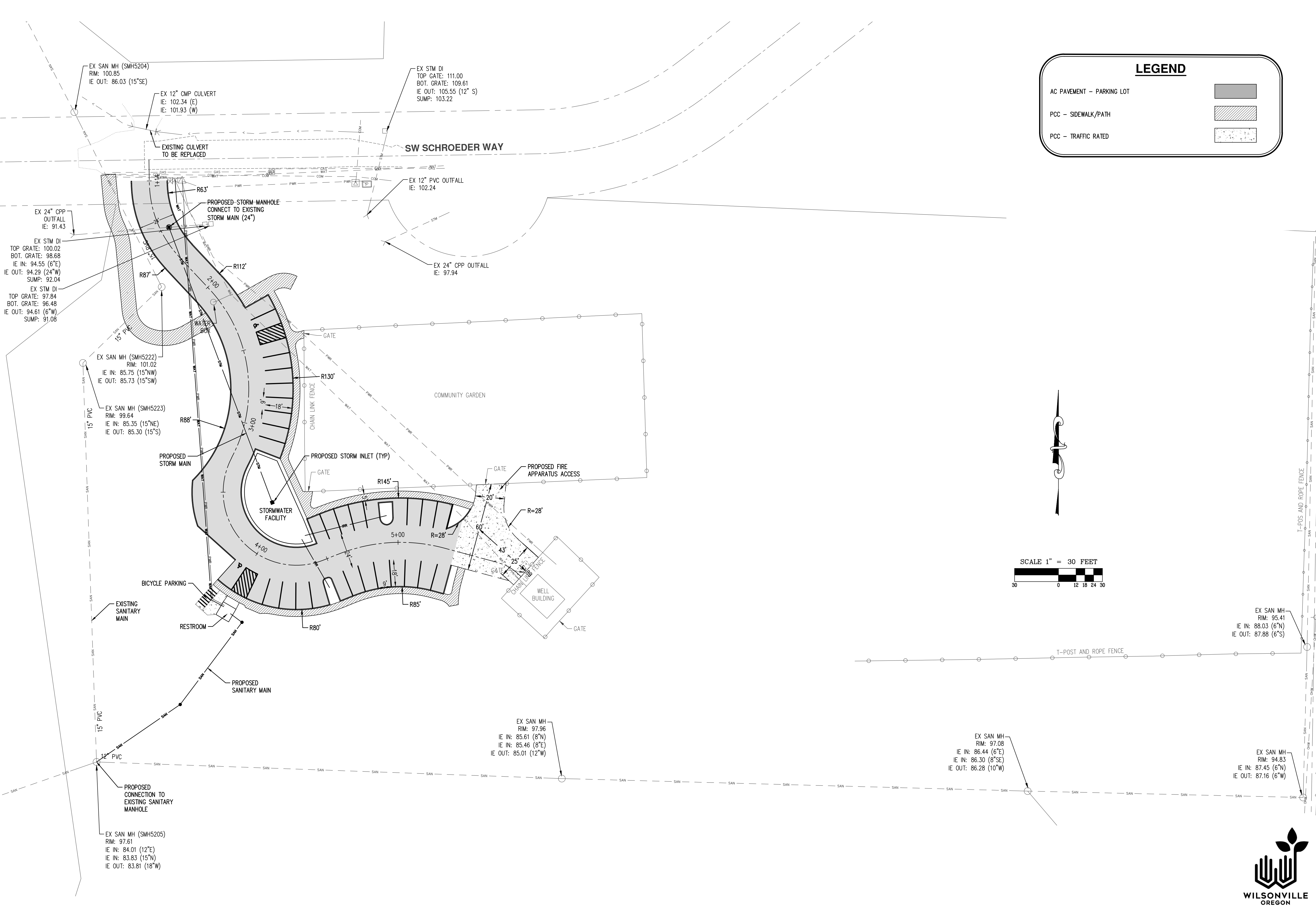
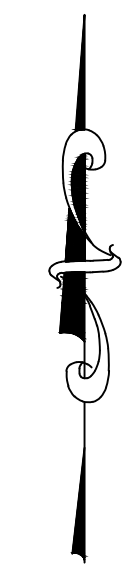
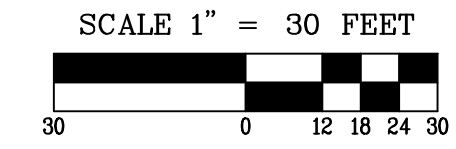
JOB NUMBER
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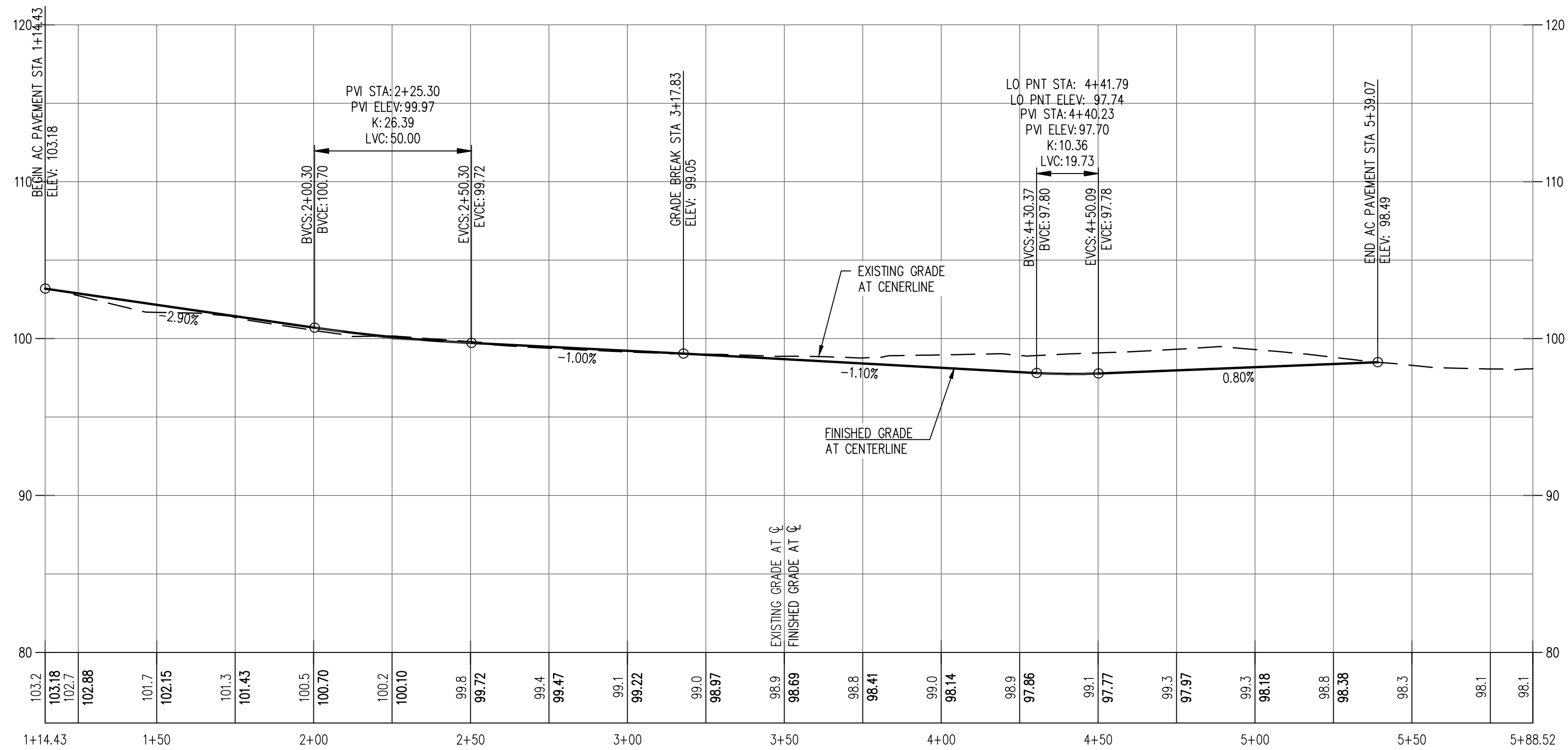
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P1-04



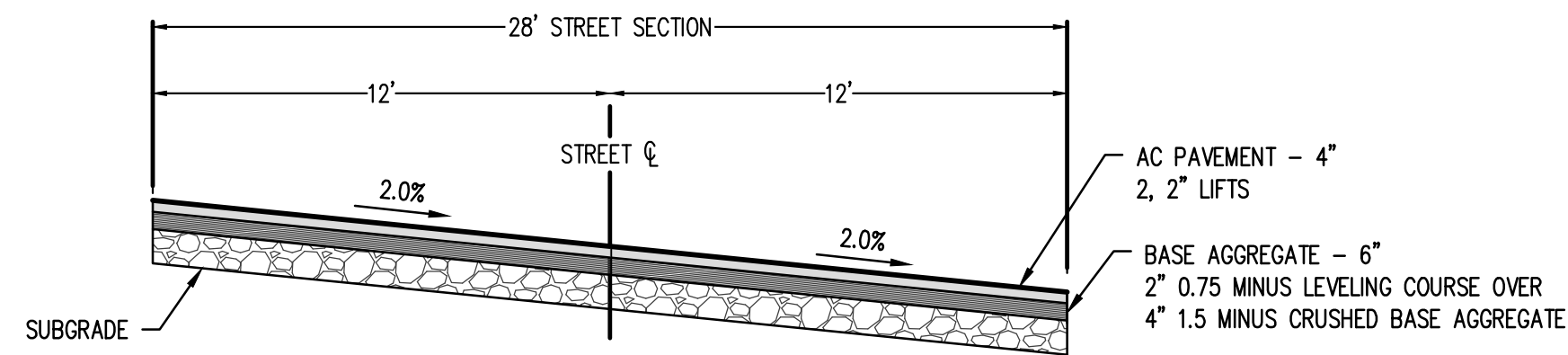
LEGEND

- AC PAVEMENT - PARKING LOT
- PCC - SIDEWALK/PATH
- PCC - TRAFFIC RATED

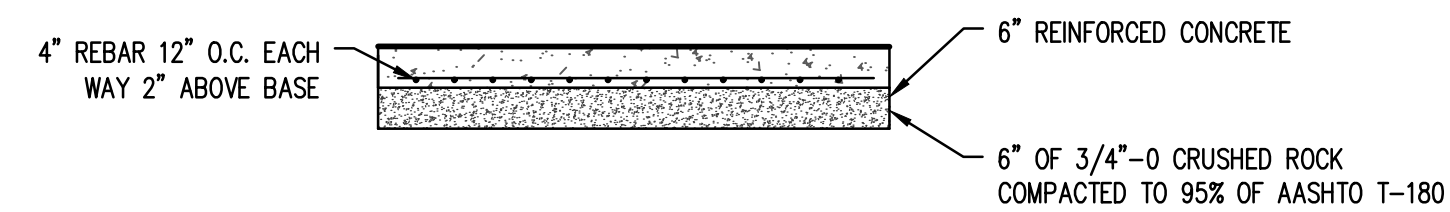




DRIVE AISLE PROFILE
 HORIZ: 1"=30'
 VERT: 1"=6'

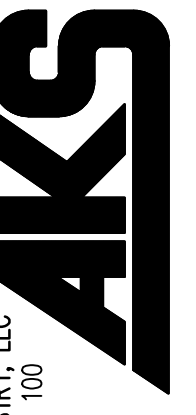
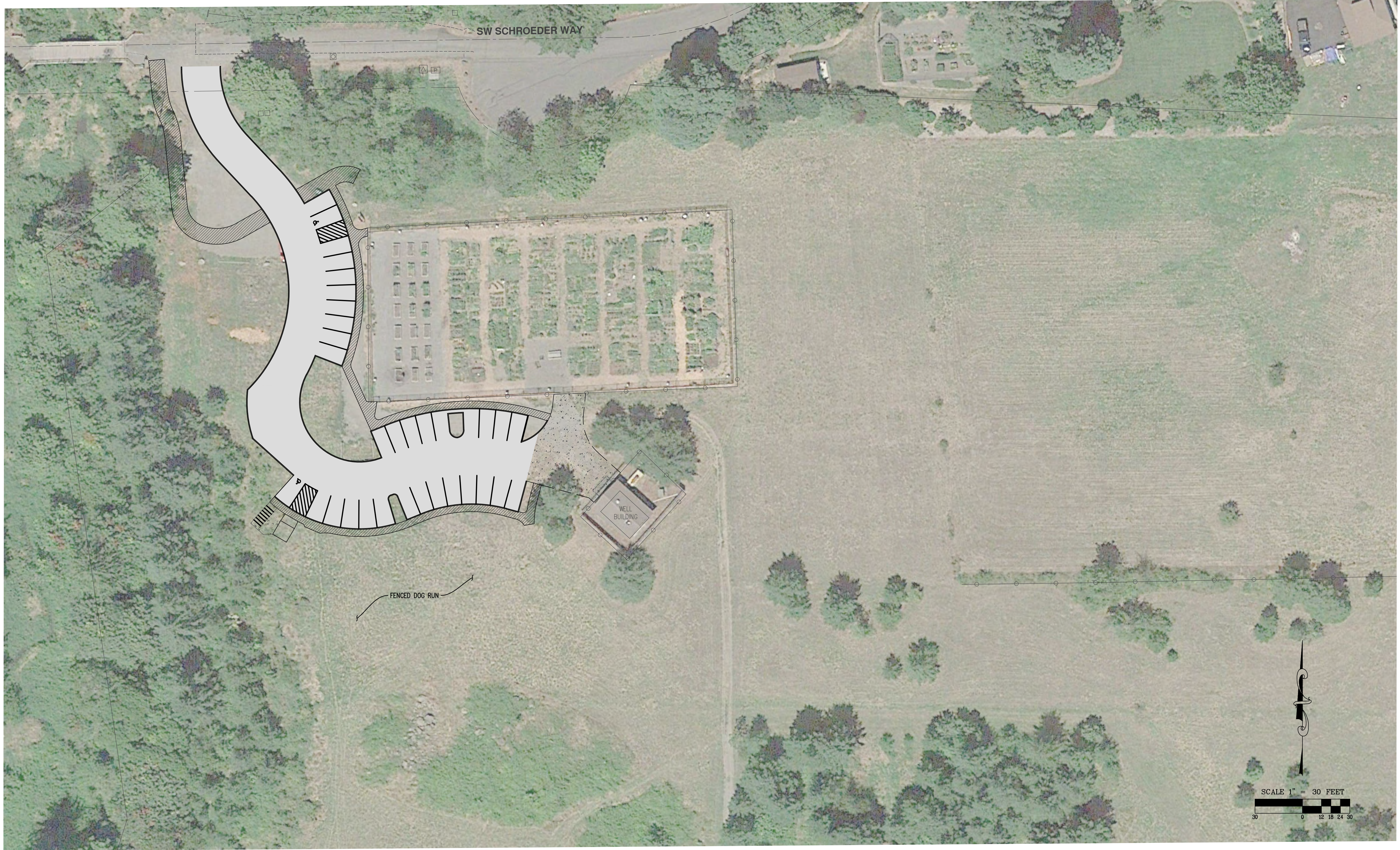


AC PAVEMENT SECTION
 NOT TO SCALE



CONCRETE PAVEMENT SECTION
 NOT TO SCALE





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 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

**COMMUNITY GARDEN
 PARKING AREA**

WILSONVILLE OREGON
 CLACKAMAS COUNTY TAX MAP 35 1W 24
 TAX LOT 691

**PRELIMINARY AERIAL
 PHOTO PLAN**

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 11/06/2017



RENEWAL DATE: 12/31/17

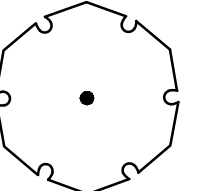




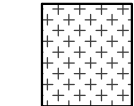
REVISIONS

JOB NUMBER
5603

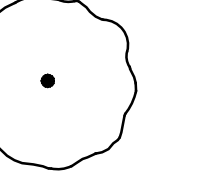





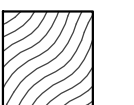
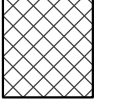
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P1-06

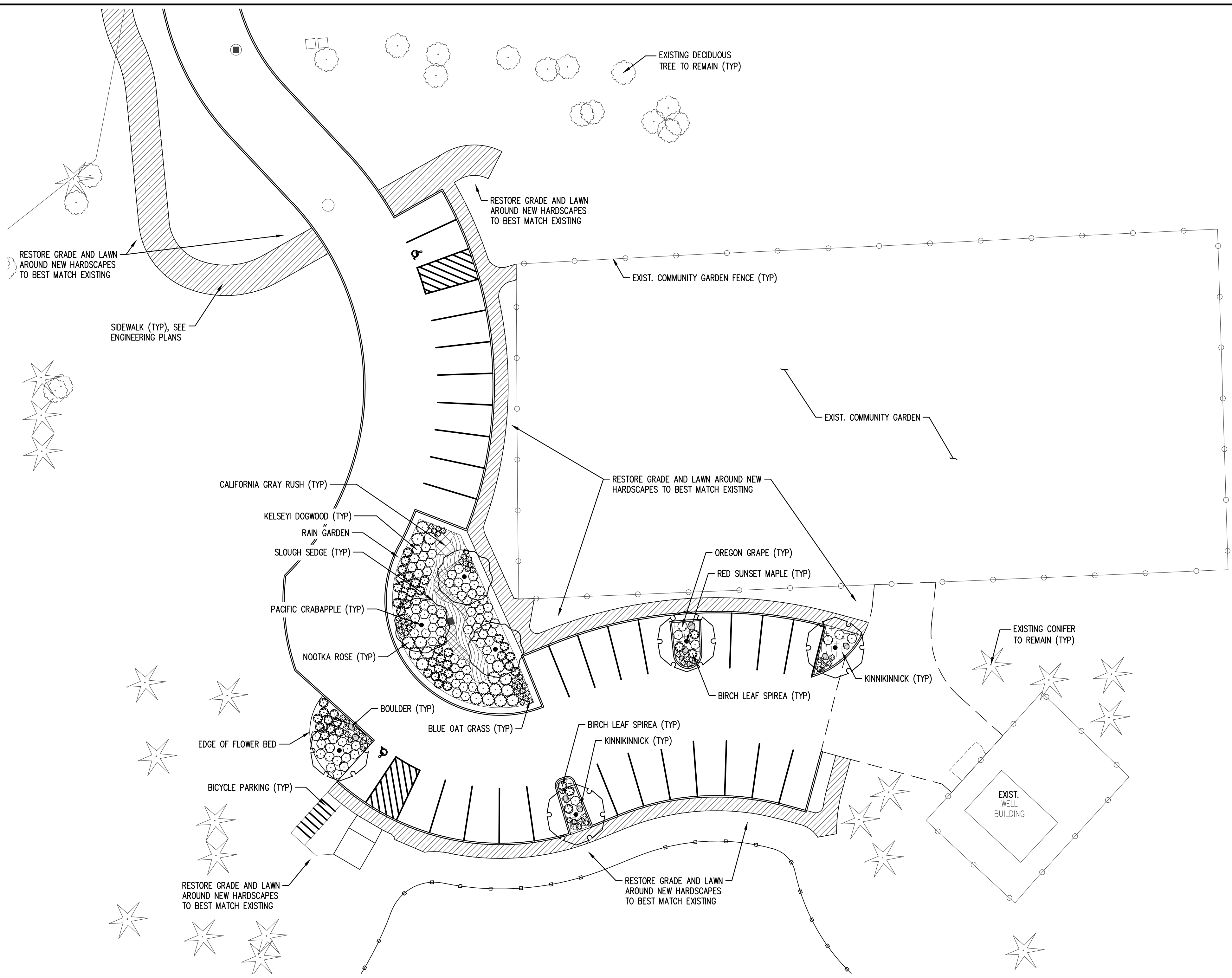


PARKING LOT PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	4	ACER RUBRUM 'FRANKSRED'™	RED SUNSET MAPLE	2" CAL. B&B	AS SHOWN
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	11	CORNUS SERICEA 'KELSEY'	KELSEY DOGWOOD	1 GAL. CONT.	36" o.c.
	26	HELIOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL. CONT.	24" o.c.
	11	MAHONIA AQUIFOLIUM	OREGON GRAPE	1 GAL. CONT.	36" o.c.
	16	SPIRAEA BETULIFOLIA	BIRCH LEAF SPIREA	1 GAL. CONT.	36" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	95	ARCTOSTAPHYLOS UVA-URSI	KINNIKINICK	1 GAL. CONT.	24" o.c.

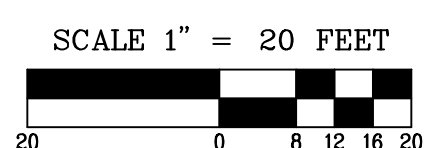
FILTRATION RAIN GARDEN PLANT SCHEDULE

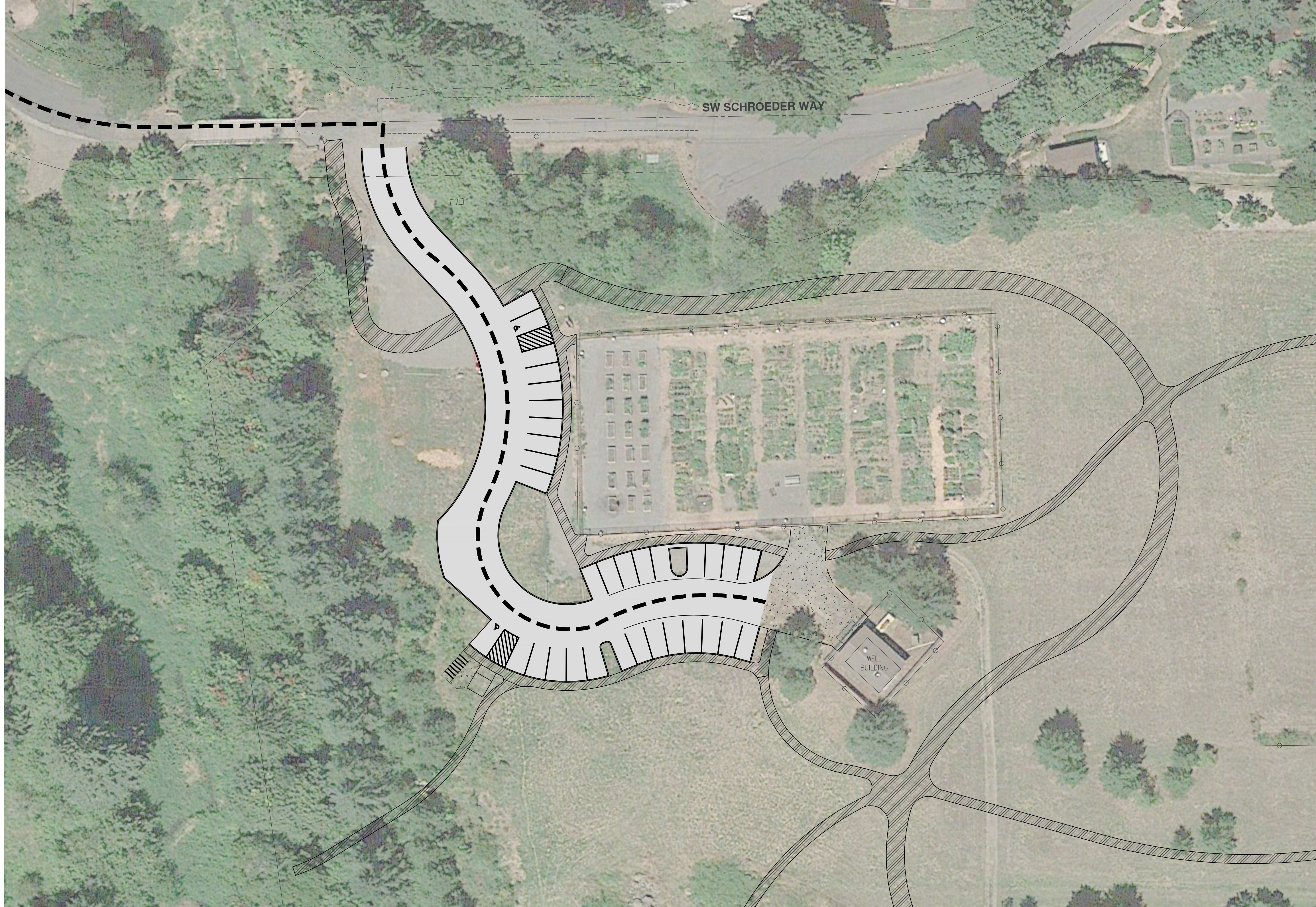
TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	3	MALUS FUSCA	PACIFIC CRABAPPLE	2" CAL. B&B	AS SHOWN
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	51	CORNUS SERICEA 'KELSEY'	KELSEY DOGWOOD	1 GAL. CONT.	36" o.c.
	37	HELIOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GAL. CONT.	24" o.c.
	15	MAHONIA AQUIFOLIUM	OREGON GRAPE	1 GAL. CONT.	36" o.c.
	18	ROSA NUTKANA	NOOTKA ROSE	30" HT. CONT.	48" o.c.
	34	SPIRAEA BETULIFOLIA	BIRCH LEAF SPIREA	1 GAL. CONT.	36" o.c.
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	215	CAREX OBNUPTA	SLOUGH SEDGE	4" SP. CONT.	12" o.c.
	148	JUNCUS PATENS	CALIFORNIA GRAY RUSH	4" SP. CONT.	12" o.c.



GENERAL NOTES:

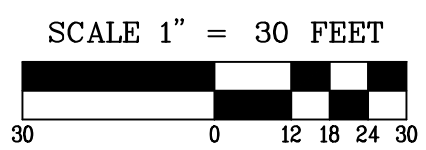
1. PLANTING PLAN IS PRELIMINARY AND INTENDED TO SHOW DESIGN INTENT. CHANGES OR SUBSTITUTIONS MAY BE MADE PRIOR TO FINAL SUBMITTAL BASED ON PLANT AVAILABILITY, FINAL LAYOUT, UTILITY CONFLICTS, ETC.
2. STORMWATER FACILITY AND PARKING LOT PLANTINGS SHALL FOLLOW ALL APPLICABLE CITY OF WILSONVILLE STANDARDS.
3. MULCH: ALL PLANTINGS SHALL BE MULCHED A MINIMUM OF 3" IN DEPTH. MULCH SHALL BE COMPOSTED BARK OR LEAVES THAT HAVE NOT BEEN CHEMICALLY TREATED OR OTHER MULCH TYPE APPROVED BY CITY OF WILSONVILLE. MULCH SHALL NOT BE USED IN FREQUENTLY INUNDATED AREAS TO AVOID WATER QUALITY IMPACTS (LEACHING OF TANNINS AND NUTRIENTS, MIGRATION OF MULCH INTO WATERWAYS, ETC.)
4. IRRIGATION: UNLESS OTHERWISE APPROVED BY CITY OF WILSONVILLE, A TEMPORARY OR PERMANENT IRRIGATION SYSTEM SHALL BE PROVIDED FOR PLANT SURVIVAL AND ESTABLISHMENT. IRRIGATION SYSTEM SHALL BE "DESIGN-BUILD" BY THE LANDSCAPE CONTRACTOR AND PROVIDED TO CITY OF WILSONVILLE FOR APPROVAL PRIOR TO INSTALLATION.
5. TREES AND DEEP ROOTING SHRUBS SHALL NOT BE PLACED DIRECTLY OVER UTILITY LINES OR PIPES.





LEGEND

- CIRCULATION: Dashed line
- CURRENT LAND USE: White box
- FUTURE TRAILS: Hatched box



AKS
 AKS ENGINEERING & FORESTRY, LLC
 12065 SW HERMAN RD. STE 100
 TUALUMIN, OR 97062
 P: 503.563.6151
 F: 503.563.6152
 aks-eng.com

**COMMUNITY GARDEN
 PARKING AREA**
 WILSONVILLE OREGON
 CLACKAMAS COUNTY TAX MAP 35 1W 24
 TAX LOT 691

**PRELIMINARY PARK
 CIRCULATION AND
 FUTURE TRAIL PLAN**

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 11/06/2017

RENEWAL DATE: 12/31/17
 REVISIONS:
 JOB NUMBER: 5603
 SHEET: P1-08



DESIGNED BY: JPC

DRAWN BY: NAD

CHECKED BY: JPC

SCALE: AS NOTED

DATE: 11/06/2017



RENEWAL DATE: 12/31/17

REVISIONS

JOB NUMBER

5603

SHEET

P1-09



LIGHT LEVEL SUMMARY					
CALCULATION AREA	LIGHT LEVEL	UNIFORMITY	MAX	MIN	MAX/MIN
PARKING LOT	0.50	5:1	1.80	0.10	18:1

LUMINAIRE AND LIGHT POLE SCHEDULE										
SYMBOL	QUANTITY	LABEL	CONDITION	LUMINAIRE					LIGHT POLE	
				TYPE	INITIAL	DELIVERED	LUMENS	WATTS	LLF	DISTRIBUTION
*	4	LP-1	PROPOSED	HPS	6400		70	0.80	TYPE 2	25' MOUNTING HEIGHT, WITH 6' MAST ARM

Consistent with LEED® goals & Green Globes™ criteria for light pollution reduction

LuxMaster® Series 53
Area Lighting
 70-150W HPS

PRODUCT OVERVIEW

Features:

- Durable die-cast aluminum housing for long-life performance
- Optical assembly designed for maximum performance
- Removable ballast tray electrical system for installation and maintenance ease
- "Breathing Seal" developed by American Electric prevents contaminants from entering optical assembly for maximum efficiency
- Optics available in flat tempered glass, drop acrylic and drop polycarbonate
- Available in a variety of IES light distributions patterns and cutoff classifications
- Standard product is designed to mount to pipe mast arm. Direct pole mount arms are available
- All electrical components warranted by American Electric Lighting's 6-year guarantee
- UL Listed
- Mogul base, E39, socket standard
- Suitable for -30°C MH / -40°C HPS
- Complies with ANSI: C136.2, C136.10, C136.14, C136.15

Applications:

- Parking lots
- Roadways
- Residential communities
- Commercial environments
- Office communities

PREFERRED SELECTION CATALOG NUMBERS

53 10S CA MT1 R2 DA
 53 15S CA MT1 R2 FG
 53 10S RH 120 R3 FG

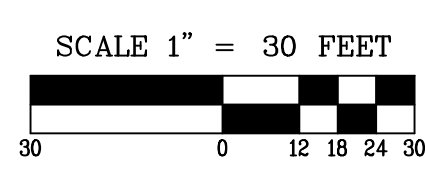
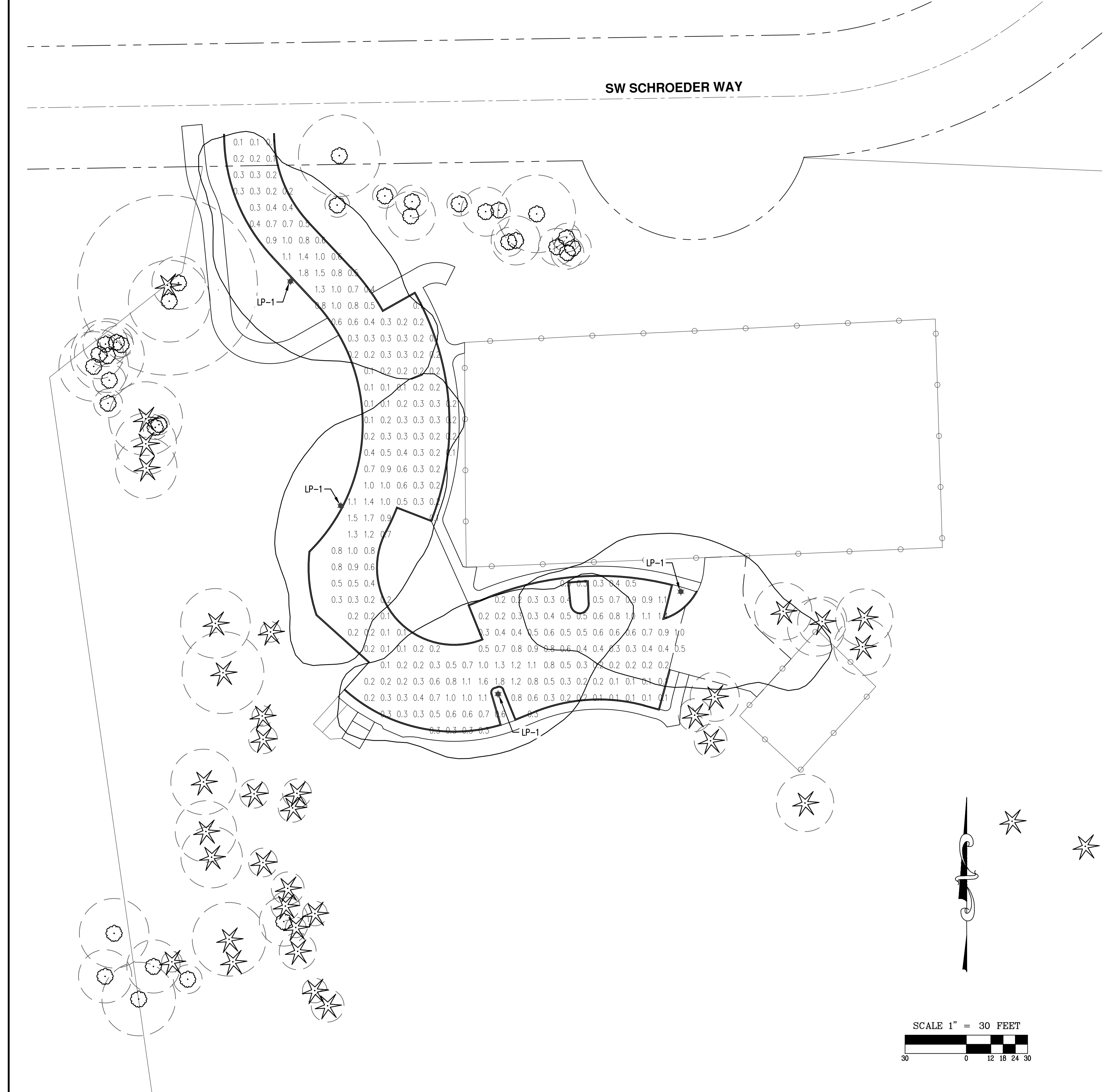
DIMENSIONS

Effective Projected Area (EPA)

The EPA for the LuxMaster® Series 53 with reflector is 4.4 sq. ft. Approx Wt = 30 lbs.

The EPA for the LuxMaster® Series 53 with flat lens is 1.1 sq. ft.

AL-53



NOTE:
 PRODUCT SPECIFICATIONS ARE PRELIMINARY AND SHOW DESIGN INTENT.
 CHANGES OR SUBSTITUTIONS MAY BE MADE PRIOR TO FINAL SUBMITTAL.

DEVELOPMENT REVIEW BOARD MEETING

MONDAY, JANUARY 8, 2018

6:30 PM

VIII. Board Member Communications:

A. Recent City Council Action Minutes

City Council Meeting Action Minutes
December 4, 2017

City Council members present included:

Mayor Knapp
Councilor Starr
Councilor Stevens
Councilor Lehan
Councilor Akervall

Planning Commission Members present:

Gerald (Jerry) Greenfield
Eric Postma
Simon Springall
Peter Hurley
Phyllis Millan
Kamran Mesbah
Albert Levit

Staff present included:

Bryan Cosgrove, City Manager
Jeanna Troha, Assistant City Manager
Barbara Jacobson, City Attorney
Kimberly Veliz, City Recorder
Nancy Kraushaar, Community Development Director
Susan Cole, Finance Director
Mark Ottenad, Public/Government Affairs Director
Angela Handran, Assistant to the City Manager
Pat Duke, Library Director
Chris Neamtzu, Planning Director
Miranda Bateschell, Planning Manager
Zach Weigel, Civil Engineer
Jennifer Scola, Associate Planner
Eric Mende, Capital Projects Engineering Manager
Jordan Vance, Economic Development Manager
Matt Baker, Facilities Supervisor

AGENDA ITEM	ACTIONS
WORK SESSION	
A. Joint Work Session with Planning Commission Regarding Town Center Redevelopment	Staff presented an update on public feedback received through the various summer events regarding the Town Center Master Plan. Additionally, staff received comments and suggestions from the Council and Commission on the Draft Community Design Concept for the Wilsonville Town Center Plan.
REGULAR MEETING	
<u>Mayor's Business</u>	
A. Appointment	Appointment of Brandon Roben, to the Tourism Promotion Committee, Position No. 2, with term ending June 30, 2019.
B. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings he attended on behalf of the City.
<u>Consent Agenda</u>	
A. Resolution No 2659 A Resolution of the City of Wilsonville Acting in its Capacity as its Local Contract Review Board Authorizing the Execution of a Professional Services Agreement with Murraysmith, Inc. to Provide Engineering and Consulting Services for the Memorial Park Pump Station Replacement Project (CIP #2065).	The Consent Agenda was adopted 5-0.

B. Minutes of the November 6, 2017 Council Meeting.	
<u>New Business</u> A. Library Improvements Additional Funding (CIP# 8098)	Council moved to proceed with “Notice of Intent to Award” a construction contract to make improvements to the Library. Motion carried 5-0.
<u>City Manager’s Business</u>	No report.
<u>Legal Business</u>	No report.
ADJOURN	7:35 p.m.
URBAN RENEWAL AGENCY MEETING	
<u>Consent Agenda</u> Minutes of the September 18, 2017 URA Meeting.	The Consent Agenda was adopted 5-0.
<u>New Business</u> A. <u>URA Resolution No. 278</u> Year 2000 Urban Renewal Plan 11th Amendment – Approval to Forward the Year 2000 Urban Renewal Plan 11th Amendment Through the Public Review and Approval Process.	Council moved to adopt URA Resolution No. 278. Motion carried 5-0.
ADJOURN	10:42 p.m.

City Council Meeting Action Minutes
December 18, 2017

City Council members present included:

Mayor Knapp
Councilor Starr
Councilor Stevens
Councilor Lehan
Councilor Akervall

Dwight Brashear, SMART Director
Nancy Kraushaar, Community Develop. Director
Susan Cole, Finance Director
Angela Handran, Assistant to the City Manager
Chris Neamtzu, Planning Director
Eric Mende, Capital Projects Engineering Manager
Keith Katko, Finance Operations Manager
Mark Ottenad, Public/Government Affairs Director
Miranda Bateschell, Planning Manager
Scott Simonton, Fleet Manager
Steve Adams, Engineering Manager

Staff present included:

Bryan Cosgrove, City Manager
Barbara Jacobson, City Attorney
Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager

AGENDA ITEM	ACTIONS
WORK SESSION	
A. Municipal Court Judge’s Contract Renewal	The item was moved from work session order of business. It is to be voted on during the City Council meeting under Mayor’s Business
B. Contract for Technical Support on Battery Electric Bus Project	Staff quickly briefed Council on the Consultant contract with the Center for Transportation and the Environment (CTE), for technical assistance on battery electric bus deployment.
C. I-5 Pedestrian & Bikeway Bridge Funding Plan (CIP #4202)	Staff was directed to move forward with option 2) Proceed with the project using local funds only based on the projected TSDC fund analysis that describes a local funding strategy option for design and construction.
D. Red Light Camera	Council discussed options for installing red light cameras.
E. CIP #4196 -5th to Kinsman Extension Project Update	Staff updated Council on the Capital Improvements Project (CIP) #4196, 5 th to Kinsman Extension Project.
F. Metro/WaCo/Wilsonville/Tualatin Basalt Creek IGA	Staff reported on the IGA between Metro, Washington County, and the Cities of

<p>G. Congestion Improvements Contract Awards</p>	<p>Tualatin and Wilsonville Seeking a Binding Non-Appealable Decision from Metro Concerning One Area, the Central Subarea, of the Basalt Creek Planning Area.</p> <p>Staff gave Council an overview on the I-5 Exit 283 Wilsonville Road Congestion Improvements Contract Awards (CIP #4199). Two separate resolutions 2661 and 2662 are on the Council Agenda to award construction contracts for both of these projects, which are, funded under CIP #4199 – Exit 283 Congestion Improvements.</p>
<p>REGULAR MEETING</p>	
<p><u>Mayor’s Business</u></p>	
<p>A. Employment Contract Renewal (2 year extension) for Municipal Court Judge (Fred Weinhouse)</p> <p>B. Upcoming Meetings</p>	<p>Council renewed the Municipal Court Judge’s contract for an additional 2 years. Motioned passed 4-0.</p> <p>Upcoming meetings were announced by the Mayor as well as the regional meetings he attended on behalf of the City.</p>
<p><u>Consent Agenda</u></p>	
<p>A. <u>Resolution No. 2660</u> A Resolution Of The City Of Wilsonville Authorizing South Metro Area Regional Transit (SMART) To Contract With The Center For Transportation And The Environment (CTE) For Consulting Work Associated With The Deployment Of Battery Electric Transit Buses. (Simonton)</p> <p>B. Minutes of the, November 20, 2017 and December 4, 2017 Council Meetings.</p>	<p>The Consent Agenda was adopted 4-0.</p>
<p><u>New Business</u></p>	
<p>A. <u>Resolution No. 2657</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute An Intergovernmental Agreement Between Metro, Washington County, And The Cities Of Tualatin And Wilsonville Seeking A Binding Non-Appealable Decision From Metro Concerning One Area, The Central Subarea, Of The Basalt Creek Planning Area.</p> <p>B. <u>Resolution No. 2658</u> A Resolution Of The City Of Wilsonville Acting In Its Capacity As Its Local Contract Review Board Authorizing The City Manager To Execute A Construction Contract With 2KG Contractors Inc. For Construction Of The Library Improvements Project (CIP #8098).</p>	<p>Resolution No. 2657 was adopted 4-0.</p> <p>Resolution No. 2658 was adopted 4-0.</p>

<p>C. <u>Resolution No. 2661</u> A Resolution Of The City Of Wilsonville Acting In Its Capacity As Its Local Contract Review Board Authorizing The City Manager To Execute A Construction Contract With Kerr Contractors Oregon, Inc. For Construction Of The I-5 Exit 283 Southbound Ramp Modification Project (CIP #4199SBR).</p> <p>D. <u>Resolution No. 2662</u> A Resolution Of The City Of Wilsonville Acting In Its Capacity As Its Local Contract Review Board Authorizing The City Manager To Execute A Construction Contract With Brown Contracting, Inc. For Construction Of The Old Town Square Intersection Modification Project (CIP #4199FME).</p>	<p>Resolution No. 2661 was adopted 4-0.</p> <p>Resolution No. 2662 was adopted 4-0.</p>
<p><u>City Manager's Business</u></p>	<p>The City Manager requested that Council direct staff on how to proceed with the proposed legislation that would allow the Oregon Department of Aviation to supersite an extension of the Aurora State Airport runway. Council directed staff to work with Clackamas County to oppose the proposed legislation.</p> <p>Additionally, the City Manager advised Council of his work schedule during the holidays, and thanked the Councilors who attended the City Holiday Party.</p>
<p><u>Legal Business</u></p>	<p>City Attorney wished the Council happy holidays.</p>
<p>ADJOURN</p>	<p>8:50 p.m.</p>