

Exhibit L – Original Driveway/ROW Permit



Date Started: _____
 Final Inspection: _____
 Approved By: Yes _____ No _____
 Remarks: _____

MULTNOMAH COUNTY, OREGON

DEPARTMENT OF COMMUNITY SERVICES LAND USE & TRANSPORTATION PROGRAM RIGHT-OF-WAY PERMIT SECTION 1620 SE 190TH AVENUE PORTLAND, OREGON 97233 503-988-3582 - FAX: 503-988-3389	APPLICATION FOR A PERMIT TO USE PUBLIC ROAD RIGHT OF WAY UNDER THE JURISDICTION OF MULTNOMAH COUNTY	(COUNTY TO FILL OUT THIS SECTION) Permit No. <u>80244</u> District: <u>1</u> County Maintained: <u>Rural Collector</u> Application Fee: <u>\$90</u> Deposit: <u>\$1,000</u> Check No.: _____ Ins. Req'd: <u>Yes</u>
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FOR APPLICANT: (Please print)

Name: SCOTT REED E-mail Address: scottloganreed@yahoo.com
 Address: 1381 NW BENFIELD DRIVE Phone/Fax: 914-391-6995 (cell)
PORTLAND, OR 97229 Contact Person: SCOTT REED

ROADS AND LOCATIONS COVERED BY THIS PERMIT:

Road	Specific Location	Side of Road	Distance from		Buried Cable or Pipe	
			Center Line	RW Line	Depth	Size & Kind
<u>NW Springville Rd</u>	<u>12460 NW Springville Rd</u>	<u>SOUTH</u>	<u>18'</u>	<u>0'</u>	<u>-</u>	<u>-</u>

GENERAL APPLICATION/PERMIT TERMS:

- Upon approval of this Application by Multnomah County by the indicated signature below, this page shall become the first page of the Permit and the Applicant shall become the "Permittee."
- Permittee must notify Multnomah County at 503-988-3582, at least one business day (24 hours) before commencing work under this permit.
- Except as allowed under the Multnomah County Road Rules Section 18, Subsection 18.250, Permittee must complete any authorized demolition, installation, construction, placement, or similar work activities in the road right-of-way not later than 120 days after Permit Effective Date. Any extension of time beyond that period is subject to the sole discretion of Multnomah County.
- Any Permit issued pursuant to this Application shall be applicable only to the specific public road right(s)-of-way under the Jurisdiction of Multnomah County authorized and identified herein. Applicant must obtain an additional permit or consent from Multnomah County for the use of any other public road right(s)-of-way under the County's Jurisdiction.
- Applicant must obtain the consent from the appropriate authority for the use of any roads, highways, and streets that are not under Multnomah County's Jurisdiction.
- This Permit shall not be effective until a construction plan, specifications or other similar documentation has been reviewed and approved by the County Engineer or designate and incorporated into the Permit.
- This Permit includes the "Permit Provisions" attached hereto and which are incorporated by this reference.
 (Authority: ORS 374.305-ORS 374.330; MCC Chapters 27 and 29)

<p>APPLICANT: By the authorized signature below, Applicant (Permittee) accepts and agrees to all the requirements, terms, conditions and provisions of this Permit.</p> <p>Authorized Signature: _____ Print Name: <u>SCOTT REED</u> Title: <u>OWNER</u> Date of Application: <u>04/14/17</u></p>	<p>MULTNOMAH COUNTY DEPARTMENT OF COMMUNITY SERVICES: Eileen <small>Digitally signed by Eileen Cunningham DN: cn=Eileen Cunningham, o=Multnomah County, ou=Transportation Division, email=eileen.cunningham@multco.us, c=US Date: 2017.06.19 12:13:32 -0700</small></p> <p>Permit Approved By: <u>Cunningham</u> Print Name: <u>Eileen Cunningham</u> Title: <u>Transportation Planner</u> Permit Effective Date: <u>6/19/17</u></p>
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RIGHT-OF-WAY USE PERMIT PROVISIONS

1. (A) This Permit is issued by Multnomah County as the jurisdictional authority (hereinafter "County") over the Right-of-Way described on Page 1 of this Permit (the "Right-of-Way") to the Permittee (County and Permittee hereinafter collectively referred to as the "Parties") and controls all aspects of the Right-of-Way Use(s) set forth on Page 1, and as further provided in and subject to:

1. If applicable, **Exhibit A**, which shall consist of any plans, specifications, drawings, or other design documents (collectively referred to as the "Plans") attached hereto, or as the Parties agree in writing to amend or revise said **Exhibit A**;
2. If applicable, **Exhibit B to Right-Of-Way Use Permit for Construction ("Exhibit B")** attached hereto.
3. If applicable, **Exhibit C, the Consulting Engineer's Statement**, attached hereto.
4. To the extent applicable, **Exhibits A, B and C** are hereby incorporated as a part of this Permit.

This Permit does not authorize any activity on privately owned property. Should Permittee's activities encroach beyond the boundaries of the Right-of-Way covered under this Permit or otherwise exceed the jurisdictional authority of the County; Permittee shall obtain written consent from any owners of property abutting the Right-of-Way before beginning any work under this Permit.

(B) **Exhibit A** shall not be changed, altered, or modified without first obtaining the written consent of the County Engineer or the County Engineer's designate or as otherwise provided in **Exhibit 1**.

(C) This Permit is subject to ORS Chapter 374 and incorporates the following rules adopted by Multnomah County pursuant to Multnomah County Code Chapter 29:

1. **The Multnomah County Road Rules (MCRR)**, dated March 23, 2004 or as the MCRR shall be amended, and
2. **The Multnomah County Design and Construction Manual (DCM)**, dated June 20, 2000; or as the DCM shall be amended.

(D) For purposes of this Permit, the term "Permittee" shall refer to all parties acting under this Permit, including the property owner, the developer (if different than the owner) and any contractor responsible for or performing the work authorized under this Permit. All such parties acting through authorized representatives with the authority to bind each party shall sign this Permit. No action or work of any kind may proceed under this Permit without the binding signatures of all the parties as Permittees. The use of the term "Permittee" or "Permittees" in this Permit shall be used interchangeably and shall not be intended to limit the number of parties that are Permittees on this Permit.

2. (A) The County contact to coordinate work activities on the Right-of-Way shall be: phone: (503) 988-3582, e-mail: ROW.Permits@multco.us.

(B) Permittee contact person shall be: (supply name, address, telephone and email contact information)

3. Prior to beginning any work or activities under this Permit, the Permittee shall confirm in writing to the County that all Permittees have obtained a commercial general liability insurance policy that provides: (i) for a combined single limit of not less than \$1,000,000 per each incident or occurrence, and with an annual aggregate limit of not less than \$2,000,000; (ii) for extended reporting period coverage for claims made within two years after the activities, work or associated work authorized under this Permit is completed; (iii) for the County, its officers, employees and agents to be named as additional named insureds for all activities, work or associated work being authorized under this Permit. This Permit is automatically revoked without further action if the insurance is permitted to lapse, is canceled, or for any other reason becomes inoperative. Insurance policy limits quoted herein are minimums set for 2014 and shall be subject to County review and adjustment annually.

4. (A) The Permittees agrees to defend, indemnify, and hold harmless the County, its officers, employees, and agents (the "Indemnitees") from:

1. All claims, demands, suits, liabilities, damages, losses, costs, or expenses including, but not limited to, attorney's fees that the Indemnitees may sustain or incur on account of any damage to or destruction of any property that the County may own or in which it may have an interest;
2. All claims, demands, suits, liabilities, damages, losses, costs or expenses including, but not limited to, attorney's fees on account of any damage to or destruction of any property belonging to any person, firm or corporation; and
3. All claims, demands, suits, liabilities, damages, losses, costs, or expenses including, but not limited to, attorney's fees on account of any damage resulting from injury to or death of any person or persons,

which arise out of or are in any way connected with the activities conducted or work performed under this Permit by the Permittees, their officers, employees, contractors, agents, or invitees.

(B) Permittees agree to defend, indemnify, and hold harmless the Indemnitees from all claims, demands, suits, liabilities, damages, losses, costs, or expenses which arise out of or are in any way connected with the use, generation, manufacture, storage, discharge, release, disposal, transportation, or possession of Hazardous Materials by the Permittee, its, employees, contractors, agents, lessees, or invitees at any time during the term of this Permit at the Permit Site. "Hazardous Materials" means: (a) any petroleum, including crude oil or any fraction thereof, natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel, or any mixture thereof, flammable substances, explosives, radioactive materials, hazardous wastes or substances, toxic wastes, wastes or substances or any other materials or pollutants which: (1) pose a hazard to the Permit Site or to persons on or about the Permit Site, or (2) cause the Permit Site to be in violation of any federal, state, or local law, ordinance, regulation, code, or rule relating to Hazardous Materials; (b) asbestos in any form which is or could become friable, urea formaldehyde foam insulation, transformers, or other equipment which contain dielectric fluid containing levels of polychlorinated biphenyls in excess of fifty (50) parts per million; (c) any chemical, material, or substance defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "extremely hazardous waste," "restricted hazardous waste," "waste" or "toxic substances," or words of similar import under any applicable local, state, or federal law or under the regulations adopted or publications promulgated pursuant thereto including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. § 9601, et seq.; the Hazardous Materials Transportation Act, as amended, 49 U.S.C. § 1801, et seq.; the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6901, et seq.; the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251, et seq.; and (d) any other chemical, material or substance, exposure to which is prohibited, limited, or regulated by any governmental authority or may or could pose a hazard to the health and safety of the owners and/or occupants of property adjacent to or surrounding the Permit Site.

(C) The Permittees obligations under Section 3 and Section 4 herein, shall survive the termination of this Permit.

5. Traffic control is the responsibility of the Permittee and shall be performed in accordance with the Manual of Uniform Traffic Control Devices and Oregon Supplements. The Permittee shall submit a copy of the traffic control plan for County review and approval not less than five working days prior to the date the activities or work authorized under this Permit are scheduled to begin. Work or activities shall not begin until written approval of the traffic control plan is obtained from the County Engineer or the County Engineer's designate.
6. The Permittee shall provide the name and telephone contact number for its Project inspector and a 24-hour emergency telephone number(s) for its contractor prior to beginning activities or work under this Permit.
7. ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center (the "Center"). Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the Center. The telephone number for the Center is (503) 232-1987.
8. No modification shall be made to any fixture or installation as shown on Exhibit A and authorized under this Permit without prior approval from the County. Failure to comply with any term or condition of this Permit shall be cause for revocation. The County reserves the right to stop the activities or work performed under this Permit for failure to comply. All costs associated with activities or work stoppage or revocation as provided herein are the responsibility of the Permittee, and all costs shall be borne by the Permittee.

9. The Permittee shall restore the Right of Way to an equal or better condition than existed prior to the activities or work authorized under this Permit. The Permittee is responsible for quality control of all demolition or new construction made to the Right of Way. The County may perform spot inspections to monitor quality control. The Permittee shall correct all construction work that does not conform to County standards. The County may require additional work to return the Right of Way to "as good" or "better" condition.
10. The Permittee shall be in compliance with all federal, interstate, state, regional, and local laws, regulations, rules, and ordinances, pertaining to all the activities or work performed under this Permit including, but not limited to, obtaining all necessary and applicable construction and erosion control permits and approvals prior to beginning the activities or work authorized under this Permit and compliance with all applicable business licenses, OSHA rules and regulations.
11. County shall have the right, without notice, at any time including during any of Permittee's activities or work of any kind in the Right of Way, to enter and occupy the entire or any part of the Right of Way for the purpose of inspecting, maintaining, repairing, renewing, replacing or reconstructing the Right of Way, or any replacement facility thereto as County in its sole discretion shall deem necessary and appropriate.
12. County's activities described in Section 11 may require Permittee or its officers, employees, contractors, agents, vendors, lessees, sublessees or invitees (collectively "Permittee Parties") to remove any fixtures, installations or personal property including but not limited to, vehicles, machines, tools and equipment from the Right of Way. Upon entry, County shall, without liability to Permittee Parties, have the right to remove any such fixtures, installations or personal property from the Right of Way as may be necessary to accomplish the required work. County shall have no obligation to restore or repair any improvements removed or damaged in the performance of County's work. Permittee Parties agree that County shall have no obligation to restore the Right of Way or Permittee Parties' improvements and County shall have no liability to Permittee Parties for any disruption of Permittee Parties' business, for loss of Permittee Parties' real or personal property, for Permittee Parties' lost profits or for any other loss incurred by Permittee Parties as a result of such entry or as a result of Permittee Parties being required to vacate the Right of Way pursuant to the terms of this Section 12.
13. Either Subsection 13 (A) or (B) shall be applicable depending on the location. The applicable and non-applicable Subsection shall be marked where indicated.

(A) For Certain Utility Work in Roads in Unincorporated Areas: If this Permit has been issued in connection with work done in the public road that is authorized pursuant to the provisions of ORS 758.010(1) "...to construct, maintain and operate its water, gas, electric or communication service lines, fixtures and other facilities..." along said public road; the County reserves all the rights under ORS 758.010(2) to direct the Permittee to relocate any such fixture, line or facility in the subject public road: Applicable Not Applicable

(B) For Other Uses and For Uses in Roads in Cities: The County reserves the right to **revoke this Permit at any time** in the event the County determines the permitted work or activities, including any fixtures, installations or personal properties in the Right of Way; are in conflict with a County improvement project; public need requires it, or the Permittee fails to comply with the conditions of this Permit. No expenditure of money, lapse of time, or other act or thing shall operate as an estoppel against the County or be held to give the Permittee any vested or other right. Upon revocation of this Permit, the Permittee shall within 30 days of receiving notification, remove, relocate, or abandon (if consented to by the County), all fixtures, installations or personal property in the Right of Way and restore the Right of Way as directed by, and to the satisfaction of, the County: Applicable Not Applicable

14. **(A)** The Owner of the Property that directly abuts or is adjacent to the Right of Way covered under this Permit and who has signed this Permit as one of the Permittees shall bear the responsibilities imposed under ORS 374.315 to ORS 374.320 on the "applicant" and the "owner" with respect to maintenance, repair or removal, as applicable to the type of Project authorized under this Permit, or in the alternative as the County may authorize by Code or Rule with respect to said responsibilities.

(B) As provided in the MCRR at Subsection 18.130 and consistent with ORS 374.320, the County reserves the right to revoke this Permit at any time by mutual consent; for failure of the Applicant to abide by the terms and conditions of the Permit, to protect the public safety as determined by the County Engineer or by operation of law.

(C) **Additional Indemnity.** The Permittee that is the Owner of the Property as identified in Subsection 14.A, also agrees to defend, indemnify, and hold harmless the County, its officers, employees, and agents (the "Indemnitees") from:

1. All claims, demands, suits, liabilities, damages, losses, costs, or expenses including, but not limited to, attorney's fees that the Indemnitees may sustain or incur on account of any damage to or destruction of any property that the County may own or in which it may have an interest;
2. All claims, demands, suits, liabilities, damages, losses, costs or expenses including, but not limited to, attorney's fees on account of any damage to or destruction of any property belonging to any person, firm or corporation; and
3. All claims, demands, suits, liabilities, damages; losses, costs, or expenses including, but not limited to, attorney's fees on account of any damage resulting from injury to or death of any person or persons;

which arise out of or are in any way connected with the installation, construction, alteration, placement of any object or fixture; or the planting or placement of any vegetation; or the modification of the previous existing construction in the Public Right of Way under this Permit:

15. (A) Miscellaneous Provisions.

As per the attached site distance analysis, clear and maintain vegetation near the access to provide a minimum of 350 feet of sight distance in the eastern direction.

1. This permit authorizes construction of a new 20 ft wide asphalt approach to NW Springville Road at the (descriptive location) of the property at (address). As noted in Multnomah County Design and Construction Manual (DCM), driveway must not encroach on any neighboring frontage, and the top of the driveway ramp must start at least 0.6 meters (2 feet) from the property line. The driveway location is shown on attached site plan.

2. The individual/contractor doing the work under this permit is required to notify this office (503-988-3582) for inspection 24 hours prior to any work being done under this permit. Leave message with permit number, location, name of caller, and phone number if necessary.

3. The driveway access is to be asphalt from right-of-way (ROW) to edge of road pavement. ROW width for this road is (use maps and DCM to determine width based on functional class). Asphalt approach should be paved from edge of roadway to X feet from centerline (based on ROW width)

4. The asphalt shall meet requirements provided in Multnomah County standard general detail (see attached).

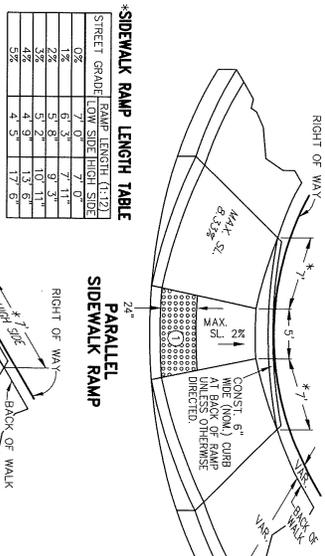
5. The existing edge of the road pavement shall be sawcut as directed by the County inspector to provide a clean butt-joint between old and new asphalt pavement.

6. Immediately prior to placing the final asphalt wearing surface, the existing pavement shall be cleaned, removing all loose material, and coated with hot liquid asphalt tack coat to ensure a bond with the new asphalt surfacing. The restored pavement shall be finished to a smooth riding surface and to the grade of the surrounding undisturbed pavement. The final pavement joints are to be sealed and sanded. The County inspector shall be contacted 24 hours prior to paving the driveway connection to the County Road.

(B) Permittee's Initials for Signature: 

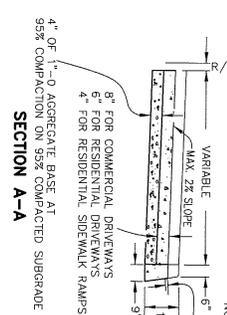
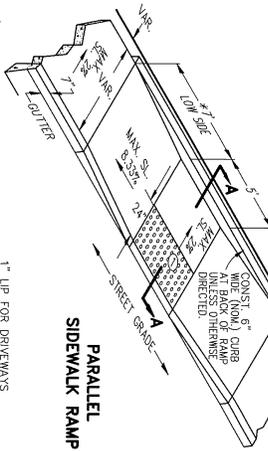
(Add any specific special terms or conditions unique to the Permit Site here. Permittee must initial here to indicate acceptance of the additional special terms and conditions. Add additional sheets as necessary.)

DRIVEWAY AND SIDEWALK RAMP DETAILS



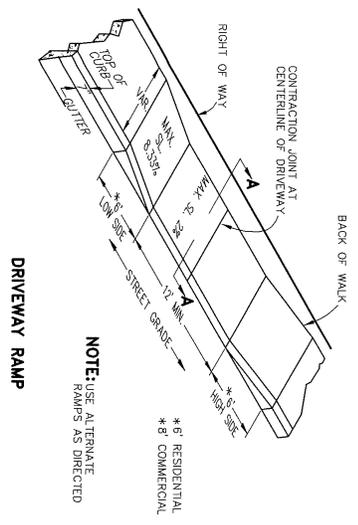
***SIDEWALK RAMP LENGTH TABLE**

STREET GRADE	RAMP LENGTH (L12)
0%	7' 0"
1%	6' 3"
2%	5' 8"
3%	5' 2"
4%	4' 9"
5%	4' 3"

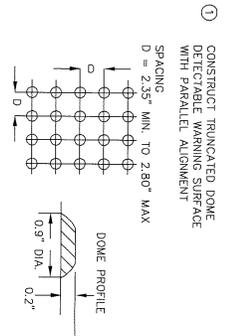


***DRIVEWAY RAMP LENGTH TABLE**

STREET GRADE	RAMP LENGTH (L12)
0%	7' 0"
1%	5' 4"
2%	4' 10"
3%	4' 5"
4%	4' 0"
5%	3' 9"



NOTE: USE ALTERNATE RAMPS AS DIRECTED

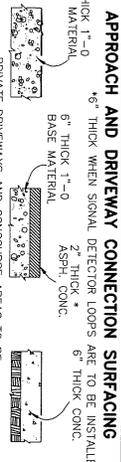


OPTION A
CONSTRUCT TRUNCATED DOME DETECTABLE WARNING SURFACE WITH PARALLEL ALIGNMENT

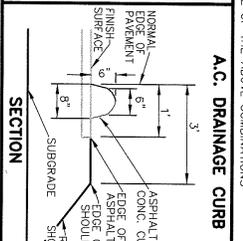
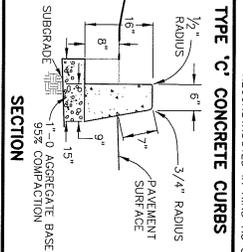
OPTION B
ON-SITE FABRICATION OF DOME SURFACE (STRONGWALL INDUSTRIES - STRONGWALL SWADA-2000 OR APPROVED EQUAL)



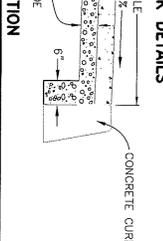
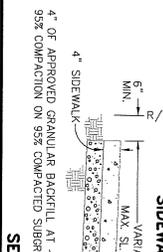
POST MOUNTING SOCKET



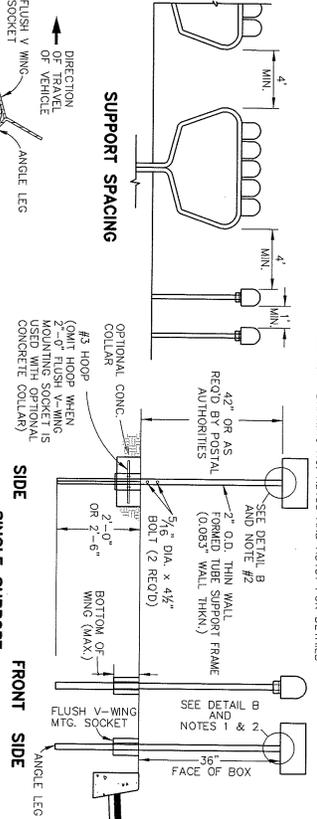
APPROACH AND DRIVEWAY CONNECTION SURFACING



CONCRETE CURBS, WALKS, DRIVEWAYS AND RAMPS

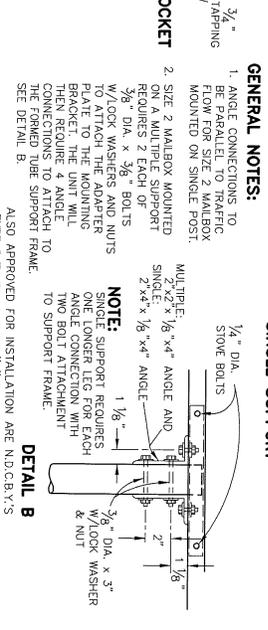


MONOLITHIC CURB AND SIDEWALK



GENERAL NOTES:

- ANGLE CONNECTIONS TO BE PARALLEL TO TRAFFIC FLOW FOR SIZE 2 MAILBOX MOUNTED ON SINGLE POST.
- SIZE 2 MAILBOX MOUNTED ON A MULTIPLE SUPPORT REQUIRES 2 EACH OF 3/8\"/>



DETAIL B

ALSO APPROVED FOR INSTALLATION ARE N.D.C.B.'S TYPE 1, II, III, & TYPE 'B' PARCEL LOCKERS

NOTE: ALL MATERIAL AND WORKMANSHIP SHALL CONFORM WITH CURRENT MULTNOMAH COUNTY STANDARD SPECIFICATIONS.

FOR THE FOLLOWING DETAILS SEE DRAWING NO. MC100E:

- PAVEMENT RESTORATION (PIPE BEDDING)
- MANHOLE COVER AND FRAME
- MANHOLE ADJUSTMENT SEQUENCE AND RING
- PRECAST STEEL STEPS AND FIELD INSTALLED STEEL LADDER

REVISIONS

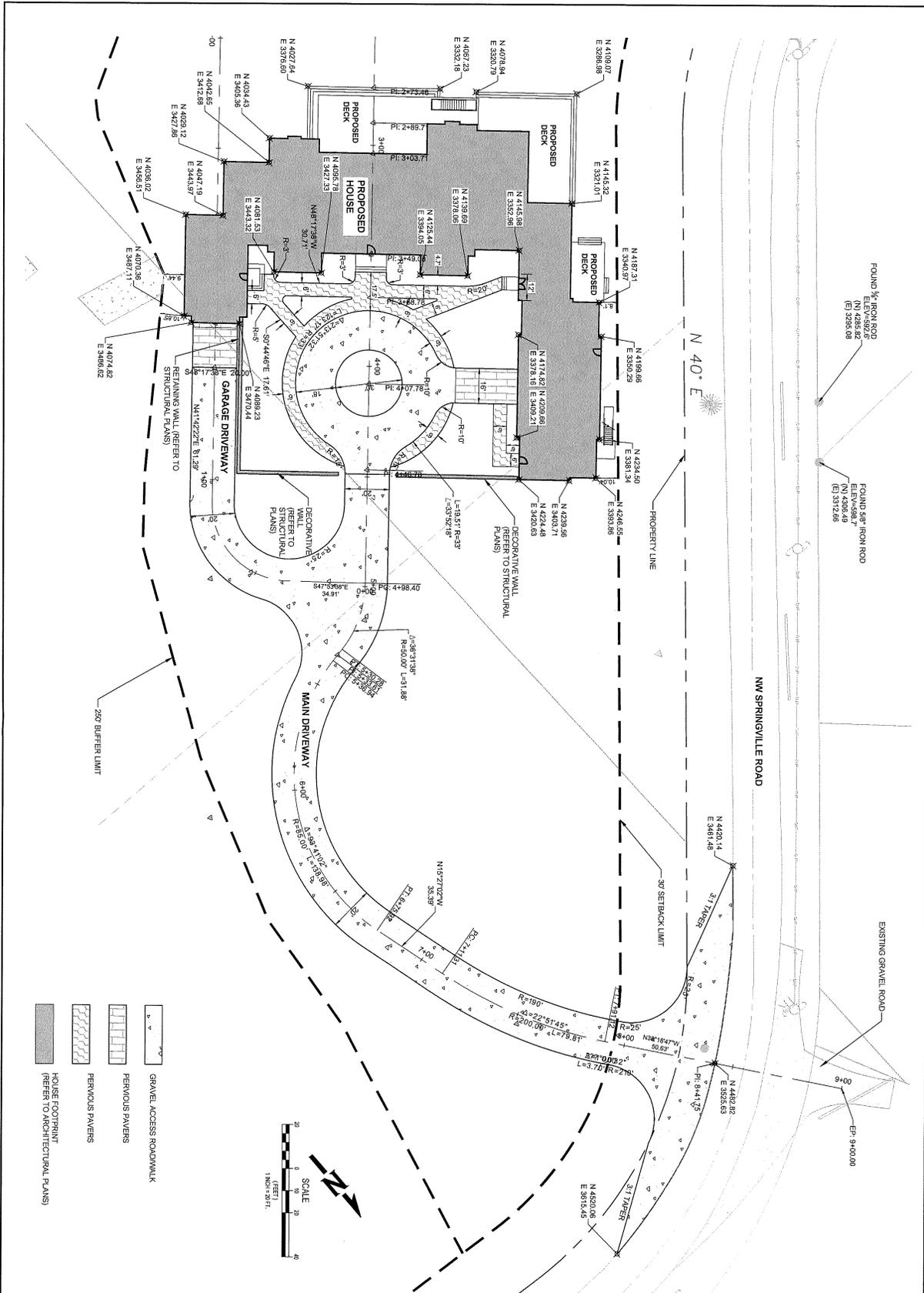
DATE	DESCRIPTION
MAY 20, 2002	ADDED DETECTABLE WARNING SURFACE TO RAMPS
MAY 20, 2002	DEPTH OF AGGREGATE UNDER TYPE 'A' CURB
SEPT 21, 2005	REVISED OPTION 'A' DETECTABLE WARNING SURFACE
JUNE 29, 2009	ADDED MONOLITHIC CURB AND SIDEWALK DETAIL

MULTNOMAH COUNTY
DEPARTMENT OF COMMUNITY SERVICES
LAND USE AND TRANSPORTATION PROGRAM
1620 S.E. 190TH AVE. PORTLAND, ORE. 97233-5999

DESIGNED BY: MULTCO
DRAFTED BY: SCS
CHECKED BY: MRP

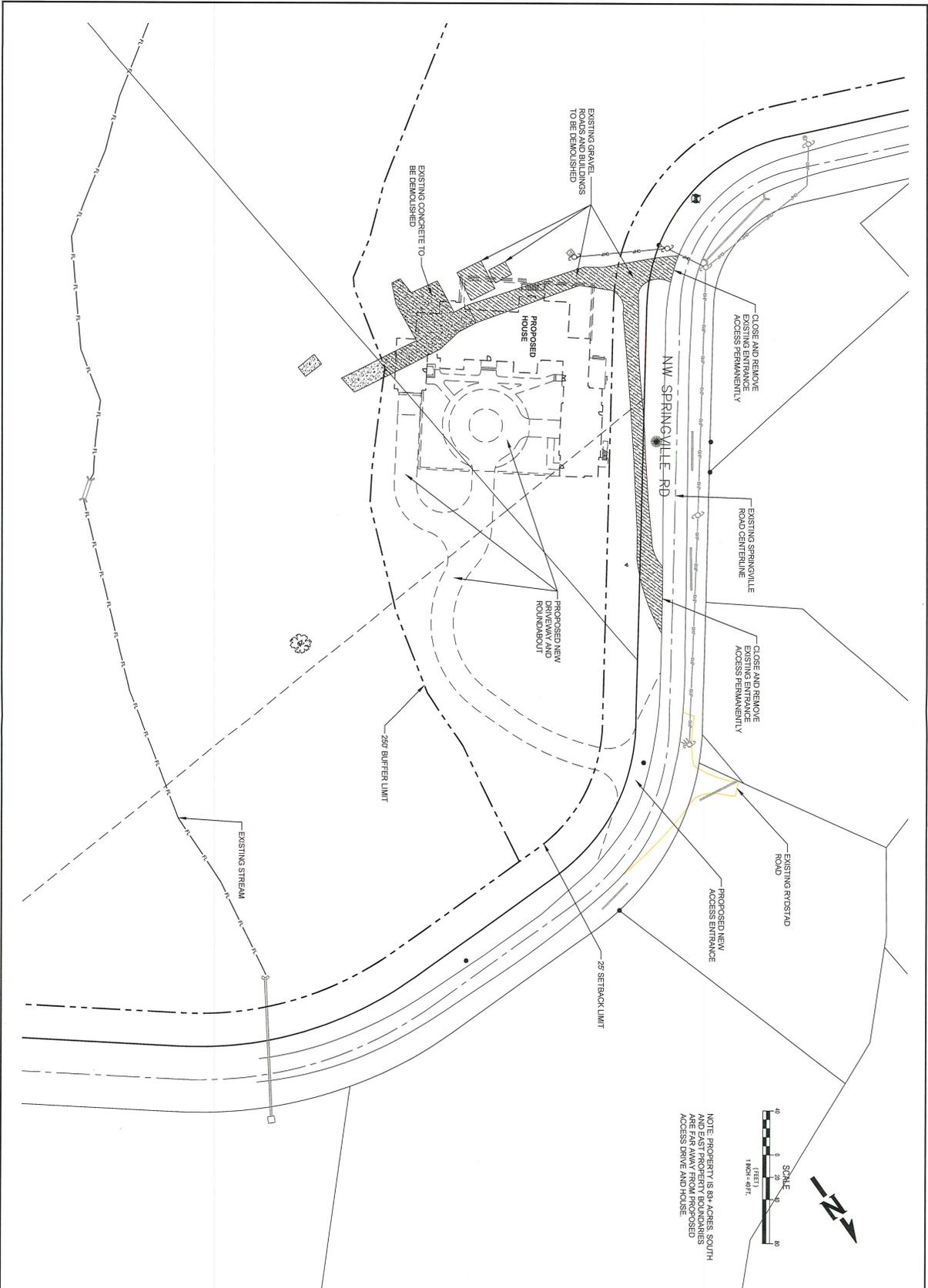
IAN B. CANNON P.E. COUNTY ENGINEER

Drawing No. MC100



FOR PERMIT SUBMITTAL; NOT FOR CONSTRUCTION

C-401 6 of 14	PROJECT NO.: DATE: MARCH 2017 DRAWN BY: [Name] CHECKED BY: [Name] DATE: [Date]	SPRINGVILLE RESIDENTIAL 12460 NW SPRINGVILLE ROAD PORTLAND, OREGON	REED REALTY ADVISORS, LLC 1001 SW 5TH AVENUE 97141-5816	REVISIONS DATE BY
	SHEET CONTENTS: SITE & ACCESS PLAN	12460 NW SPRINGVILLE ROAD PORTLAND, OREGON	REED REALTY ADVISORS, LLC 1001 SW 5TH AVENUE 97141-5816	REVISIONS DATE BY



FOR PERMIT SUBMITTAL; NOT FOR CONSTRUCTION

REVISIONS	DATE	BY

<p>REED REALTY ADVISORS, LLC 1001 SW Tenth SUITE 1100 PORTLAND, OREGON 97149 503.251.8895</p>	<p>PROJECT NO. _____ DATE MARCH 2017 SCALE AS SHOWN DESIGN BY TMT CHECKED BY _____ DATE _____ PROJECT EXISTING ACCESS DEMOLITION PLAN</p>	<p>SPRINGVILLE RESIDENTIAL</p> <p>12460 NW SPRINGVILLE ROAD PORTLAND, OREGON</p>
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<p>3 of 14 C-201</p>

TECHNICAL MEMORANDUM

TO: Scott Reed
FROM: William Farley, EI
Todd Mobley, PE, PTOE
DATE: April 1, 2014
SUBJECT: 12535 NW Springville Road
Sight Distance Evaluation



**LANCASTER
ENGINEERING**

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

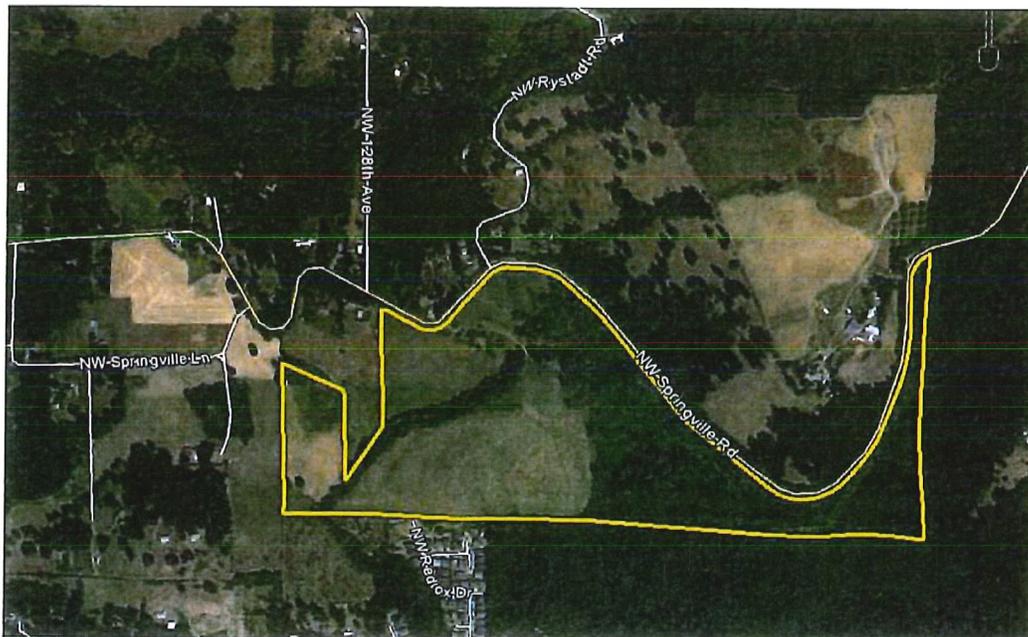
14 APR - 1 PM 3:40

This memorandum analyzes sight distance at the proposed driveway access for the property located at 12535 NW Springville Road in Multnomah County, Oregon. The proposed driveway for the property is located directly opposite of NW Rystadt Road and will be used for a single-family dwelling to access Springville Road.

LOCATION DESCRIPTION

NW Springville Road is under the jurisdiction of Multnomah County and is classified as a Rural Collector. It is a two-lane facility with a posted speed limit of 40 mph. No curbs, sidewalks, or bike lanes are provided along the length of the roadway.

The following figure shows an aerial view of the site and the immediate vicinity (Image from Google Earth).





Scott Reed
April 1, 2014
Page 2 of 3

SIGHT DISTANCE REQUIREMENTS

Section 4.500 of the Multnomah County Road Rules states that, "*all new access points to roads under the County's jurisdiction must have a minimum sight distance equal to the standards in the Design and Construction Manual and AASHTO's A Policy on Geometric Design of Highways and Streets.*"

Referring to the Design and Construction Manual (DCM), section 2.3.7 lists requirements for "Corner Intersection Sight Distance" within Table 2.3.2. For the posted speed limit of 40 mph, the required "Corner Intersection Sight Distance" is listed as 180 feet.

It is further stated in the Design and Construction Manual that, "*Where the minimum corner intersection sight distance shown in Table 2.3.2 cannot be met, the minimum sight distance should be no less than the stopping sight distance on the major street. Stopping sight distance requirements are shown in Section 2.4.1 of the Design portion of this manual.*" Table 2.4.1 shows that for a speed of 40 mph, the required stopping sight distance is 320 feet.

Sight distance requirements were also examined in *A Policy on Geometric Design of Highways and Streets*¹ (AASHTO Green Book). The measurements use driver's eye heights of 3.5 feet above the road for both vehicles exiting the driveway and vehicles on the main roadway with the driver's eye 15 feet behind the edge of the near-side travel lane for vehicles exiting from the site access driveway. The intersection sight distance necessary at the proposed driveway is based on the posted speed limit of NW Springville Road and represents the sight distance needed such that traffic would not have to significantly slow or stop on Springville Road to avoid conflicts with vehicles entering the roadway from the driveway.

Based on the posted speed limit of 40 mph, the required intersection sight distance is 445 feet. Stopping sight distance based on this speed and a 6% downhill grade is 333 feet. The table on the following page summarizes the sight distance requirements from both Multnomah County's Design and Construction Manual and the AASHTO Green Book.

¹ American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 6th Edition, 2011.



Scott Reed
April 1, 2014
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Summary of Sight Distance Requirements

DCM Corner Intersection Sight Distance	180'
DCM Stopping Sight Distance	320'
AASHTO Intersection Sight Distance	445'
AASHTO Stopping Sight Distance	333'

SIGHT DISTANCE MEASUREMENTS

The sight distance measurements were taken in the field according to guidelines specified in the AASHTO Green Book. Due to the topography next to the roadway, sight distance for the access could only be measured at the edge of pavement. Adjustments were made in the field under the assumption that the access would be built to allow the driver to see from 3.5 feet above the road edge when positioned 15 feet from behind the edge of the near-side travel lane.

Sight distance was measured in the field to be 206 feet to the east of the proposed driveway, limited by vegetation near to the access location. If the vegetation in the area is cleared with the construction of the driveway, the available sight distance would be continuous for 341 feet limited by further vegetation on the property. While the available sight distance in this direction does not meet the minimum intersection sight distance per AASHTO's guidelines for the posted 40 mph approach speed, the available sight distance will satisfy all the requirements of the Multnomah County Design and Construction Manual as well as stopping sight distance requirements in the AASHTO manual with the vegetation at the access location cleared.

Sight distance was measured to the west to be 513 feet, limited by a horizontal curve in the roadway. The available sight distance in this direction is sufficient to satisfy all requirements for intersection sight distance and stopping sight distance in both the AASHTO Green Book and the Multnomah County Design and Construction Manual.

CONCLUSION AND RECOMMENDATIONS

Based upon the detailed sight distance investigation of the proposed driveway for the property located at 12535 NW Springville Road, sufficient sight distance is attainable in both directions for the safe and efficient operation of the site access. It is recommended that the vegetation near the access be cleared to provide a minimum of 350 feet of sight distance in the eastern direction.

If you have any questions about the contents of this memorandum or would like any additional information, please don't hesitate to call.