

conveyance system. These aspects will need to be determined as evaluation process.

Figure 6-7: CIP Project #1 – Site of Potential ISSSP Pump

# MITIGATION PLAN REPORT

## Type II Land Use Application Natural Resources Overlay District

**Forest Edge  
Apartments**  
November 2019

**Prepared For:**

**RJL Holdings**  
2050 Beavercreek Road, #101-348  
Oregon City, Oregon 97045

**Prepared By:**

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# **Type II Land Use Application**

## **Natural Resources Overlay District**

### **Mitigation Plan Report**

November 2019

Forest Edge Apartments  
14155 Beavercreek Road  
Oregon City, Oregon 97045



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APPENDIX A – Site Plan with Mitigation

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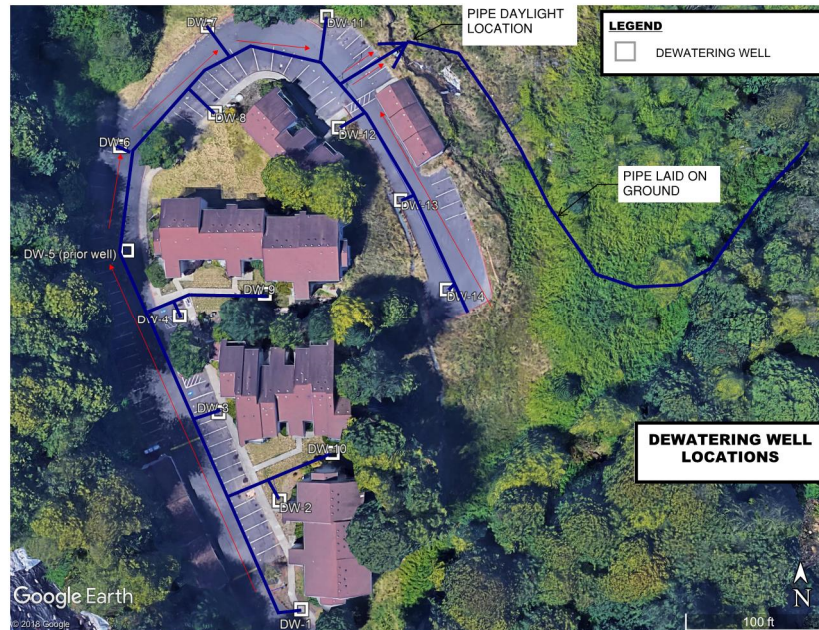
## 1. INTRODUCTION

Forest Edge Apartments is located at 14155 Beaver Creek Road in Oregon City, Oregon (Clackamas County), see image below for site location (courtesy of OCWebMaps).



The project site consists of an upper (south) and lower (north) campus connected by a paved roadway that traverses an incised drainage separating the campuses. The construction of the apartments was completed in 1997 and was originally called Newell Creek Overlook Apartments. Land movements have previously occurred and has forced the tenants of the lower campus to evacuate while the upper campus remains in use. According to GeoDesign, the “environmental conditions that caused the ancient landsliding are unknown, but the failure left the ancient landslide mass predisposed to further landsliding.” A geo-hazard remediation has been performed within the lower campus by GeoDesign, Inc. as they have installed fourteen (14) dewatering wells and slope stabilization matting to mitigate for the previous landslide events. The installation of the dewatering wells will draw down the water table in perpetuity to reduce the possibility for future land movements. A temporary outfall pipe for the dewatering wells was placed within the southern tributary of Newell Creek (see geotechnical report by GeoDesign for more information). The dewatering wells will remain on the lower campus to

reduce the water within the soils, but the temporary outfall will be removed and replaced by a permanent outfall structure that will outflow to an existing stormwater utility system. The existing stormwater utility system has been damaged by the previous land movements and is being proposed to be repaired and replaced under a separate Type I NROD Exemption application. The locations of the 14 dewatering wells and the temporary outfall pipe have been depicted in the figure below. See Type I NROD Exemption application for more information regarding the permanent outfall structure.



A pre-application conference with the City of Oregon City was held on August 14, 2018 for the redevelopment of the lower campus of Forest Edge Apartments.

## 2. PURPOSE

The purpose of this Mitigation Plan Report is to address the following items listed in the Oregon City Muni Code Section 17.49.230, which are also listed below.

- Written responses to each applicable Mitigation Standard in OCMC 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;
- The resources and functional values to be restored, created, or enhanced through the mitigation plan;
- Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);
- Construction timetables; and,
- Monitoring and Maintenance practices pursuant to OCMC 17.49.230.F and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first five years of the mitigation area establishment.

### 3. CODE RESPONSES

#### Chapter 17.49 Natural Resources Overlay District

##### 17.49.10 - Purpose.

The Natural Resource Overlay District designation provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Natural Resource Overlay District (NROD) implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis. It is intended to resolve conflicts between development and conservation of habitat, stream corridors, wetlands, and floodplains identified in the City's maps. The NROD contributes to the following functional values:

- A. Protect and restore streams and riparian areas for their ecologic functions and as an open space amenity for the community.
- B. Protect floodplains and wetlands, and restore them for improved hydrology, flood protection, aquifer recharge, and habitat functions.
- C. Protect upland habitats, and enhance connections between upland and riparian habitat.
- D. Maintain and enhance water quality and control erosion and sedimentation through the revegetation of disturbed sites and by placing limits on construction, impervious surfaces, and pollutant discharges.
- E. Conserve scenic, recreational, and educational values of significant natural resources.

The NROD ecological functions listed above are planned for integration with existing neighborhoods, new residential and commercial developments. The long-term goal of the NROD is to restore and enhance stream corridors, wetlands, and forests to more natural vegetated conditions, recognizing that existing homes and other existing uses will continue in the district. This chapter does not regulate the development within the identified water resource. Separate permits from the Division of State Lands and the Army Corp of Engineers may be required for work within a stream or wetland.

#### **PACE Response:**

This Type II Natural Resource Overlay District (NROD) Site Plan Review Application is for the paved access road being proposed within the lower campus of the existing Forest Edge Apartments. The length of the new access road is approximately 250 feet. It should be noted that a road previously existed within the approximate footprint location of this proposed paved access road several years ago until it was removed between 2006 through 2008 (based on OCWebMaps aerial photos). Since it was removed, the construction of this paved access road is considered new areas of ground disturbance within the NROD that is not considered an exemption that is listed in a Type I NROD application. A Type I NROD application has been previously submitted in October 2019 for the exemptions within the NROD (dewatering wells, parking lot asphalt pavement repair, and stormwater utility system repair/replace). The paved access road shall be used a fire truck turn-around and access road, and is not intended for public use for the tenants of these apartment dwellings.



17.49.015 – Natural Resources Committee

The applicant is encouraged to contact the Oregon City Natural Resources Committee for input and advice on ways to further the purpose of the Natural Resources Overlay District, whether or not a development application is proposed within the Natural Resources Overlay District. Any advice given by the Natural Resources Committee is non-binding on the applicant and the Natural Resources Committee, and shall not relieve an applicant from compliance with this Chapter.

**PACE Response:**

The applicant has been in communication with Oregon City in regards to the requirements of this project.

17.49.020 - NROD identifying documents.

- A. The NROD protects as one connected system the habitats and associated functions of the streams, riparian corridors, wetlands and the regulated upland habitats found in Oregon City. These habitats and functions are described in the following documents upon which the NROD is based:
1. The 1999 Oregon City Local Wetland Inventory.
  2. The Oregon City Water Quality Resource Area Map (Ord. 99-1013).
  3. 2004 Oregon City slope data and mapping (LIDAR).
  4. Metro Regionally Significant Habitat Map (Aerial Photos taken 2002).
  5. National Wetland Inventory (published 1992).
  6. Beavercreek Road Concept Plan (adopted September 2008).
  7. Park Place Concept Plan (adopted April 2008).
  8. South End Concept Plan (Adopted April 2014).

The NROD provisions apply only to properties within the NROD as shown on the NROD Map, as amended. The intent of these regulations is to provide applicants the ability to choose a clear and objective review process or a discretionary review process. The NROD provisions do not affect existing uses and development, or the normal maintenance of existing structures, driveways/parking areas, public facilities, farmland and landscaped areas. New public facilities such as recreation trails, planned road and utility line crossings and stormwater facilities, are allowed within the overlay district under prescribed conditions as described in OCMC 17.49.090. In addition, provisions to allow a limited portion of the NROD to be developed on existing lots of record that are entirely or mostly covered by the NROD ("highly constrained") are described in OCMC 17.49.120.

**PACE Response:**

A portion of the site has been designated as NROD based on OC Web Maps. Please see OCWebMaps NROD overlay on the site plan with mitigation.

17.49.30 - Map as reference.

1. This chapter applies to all development within the Natural Resources Overlay District as shown on the NROD Map, which is a regulatory boundary mapped ten feet beyond the required vegetated corridor width specified in OCMC 17.49.110. The mapped NROD boundary

is based on a GIS-supported application of the adopted documents, plans and maps listed in OCMC 17.49.020A.1.—17.19.020A.8., however the adopted map may not indicate the true location of protected features.

2. Notwithstanding changing field conditions or updated mapping approved by the City (and processed as a Type I Verification per OCMC 17.49.255), the applicant may choose to either accept the adopted NROD boundary or provide a verifiable delineation of the true location of the natural resource feature pursuant to the Type I or Type II procedure in accordance with this chapter.

3. The NROD boundary shall be shown on all development permit applications

4. The official NROD map can only be amended by the City Commission.

5. Verification of the map shall be processed pursuant to OCMC 17.49.250.

#### **PACE Response:**

The applicant has shown the NROD map obtained from OCWebMaps on the site plan with mitigation.

17.49.035 - Addition of wetlands to map following adoption.

The NROD boundary shall be expanded to include a wetland identified during the course of a development permit review if it is within or partially within the mapped NROD boundary and meets the State of Oregon's definition of a "Locally Significant Wetland". In such cases, the entire wetland and its required vegetated corridor as defined in Table 17.49.110 shall be regulated pursuant to the standards of this chapter. The amended NROD boundary may be relied upon by the Community Development Director for the purposes of subsequent development review.

#### **PACE Response:**

Currently, there are no wetlands identified near the proposed paved access road.

17.49.040 - NROD permit and review process.

An NROD permit is required for those uses regulated under OCMC 17.49.090, Uses Allowed under Prescribed Conditions. An NROD permit shall be processed under the Type II development permit procedure, unless an adjustment of standards pursuant to OCMC 17.49.200 is requested or the application is being processed in conjunction with a concurrent application or action requiring a Type III or Type IV development permit.

#### **PACE Response:**

This is a type II NROD Site Plan Review for the paved access road.

17.49.050 - Emergencies.

The provisions of this ordinance do not apply to work necessary to protect, repair, maintain, or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior

improvements in response to emergencies. After the emergency has passed, any disturbed



native vegetation areas shall be replanted with similar vegetation found in the Oregon City Native Plant List pursuant to the mitigation standards of OCMC 17.49.180. For purposes of this section emergency shall mean any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.

**PACE Response:**

The proposed paved road is not work that results in any of the described emergencies in the above paragraph.

**17.49.060 - Consistency and relationship to other regulations.**

- A. Where the provisions of the NROD are less restrictive or conflict with comparable provisions of the OCMC, other City requirements, regional, state or federal law, the provisions that provides the greater protection of the resource shall govern.
- B. Compliance with Federal and State Requirements.
  - 1. If the proposed development requires the approval of any other governmental agency, such as the Division of State Lands or the U.S. Army Corps of Engineers, the applicant shall make an application for such approval prior to or simultaneously with the submittal of its development application to the City. The planning division shall coordinate City approvals with those of other agencies to the extent necessary and feasible. Any permit issued by the City pursuant to this chapter shall not become valid until other agency approvals have been obtained or those agencies indicate that such approvals are not required.
  - 2. The requirements of this chapter apply only to areas within the NROD and to locally significant wetlands that may be added to the boundary during the course of development review pursuant to OCMC 17.49.035. If, in the course of a development review, evidence suggests that a property outside the NROD may contain a wetland or other protected water resource, the provisions of this chapter shall not be applied to that development review. However, the omission shall not excuse the applicant from satisfying any state and federal wetland requirements which are otherwise applicable. Those requirements apply in addition to, and apart from the requirements of the City's comprehensive plan and this code.

**PACE Response:**

The proposed development does not require the approval of other agencies such as DSL or USACOE.

**17.49.70 - Prohibited uses.**

The following development and activities are not allowed within the NROD:

- A. Any new gardens, lawns, structures, development, other than those allowed outright (exempted) by the NROD or that is part of a regulated use that is approved under prescribed conditions. Note: Gardens and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to continue but cannot expand further into the overlay district.

- B. New lots that would have their buildable areas for new development within the NROD are prohibited.
- C. The dumping of materials of any kind is prohibited except for placement of fill as provided in subsection D. below. The outside storage of materials of any kind is prohibited unless they existed before the overlay district was applied to a subject property. Uncontained areas of hazardous materials as defined by the Oregon Department of Environmental Quality (ORS 466.005) are also prohibited.
- D. Grading, the placement of fill in amounts greater than ten cubic yards, or any other activity that results in the removal of more than ten percent of the existing native vegetation on any lot within the NROD is prohibited, unless part of an approved development activity.

**PACE Response:**

Note that a road previously existing within the exact same footprint location of the proposed paved access road. This road was removed between the years of 2006-2008. This application is a new application within the NROD since the old road was removed. A new mitigation plan is also being proposed for the development in the NROD.

17.49.80 - Uses allowed outright (exempted).

The following uses are allowed within the NROD and do not require the issuance of an NROD permit:

- A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the City.

**PACE Response:**

Restoration of any of the above items are not being proposed for this development.

- B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.

**PACE Response:**

Farming practices as discussed above are not being proposed for this development.

- C. Utility service using a single utility pole.

**PACE Response:**

Utility service as discussed above are not being proposed for this development.

- D. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.

**PACE Response:**

Boundary and topographic surveys such as those discussed above are not being proposed for this development.

- E. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the Community Development Director.

**PACE Response:**

Geotechnical services are not being proposed for this development.

- F. Trails meeting all of the following:
1. Construction shall take place between May 1 and October 30 with hand held equipment;
  2. Widths shall not exceed forty-eight inches and trail grade shall not exceed twenty percent;
  3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;
  4. Located no closer than twenty-five feet to a wetland or the top of banks of a perennial stream, or no closer than ten feet of an intermittent stream;
  5. No impervious surfaces; and
  6. No native trees greater than one-inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least two-inch diameter and planted within ten feet of the trail.

**PACE Response:**

Trails are not being proposed for this development.

- G. Land divisions provided they meet the following standards, and indicate the following on the final plat:
1. Lots shall have their building sites (or buildable areas) entirely located at least five feet from the NROD boundary shown on the City's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least 3,500 square feet with minimum dimensions of forty feet wide by forty feet deep;
  2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;
  3. Impervious streets, driveways and parking areas shall be located at least ten feet from the NROD; and
  4. The NROD portions of all lots are protected by:
    - a. A conservation easement; or

- b. A lot or tract created and dedicated solely for unimproved open space or conservation purposes.

**PACE Response:**

Land divisions are not being proposed for this development.

- H. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the City's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the City.

**PACE Response:**

Most of the proposed paved road is located within the NROD.

- I. Routine repair and maintenance of existing structures, roadways, driveways and utilities.

**PACE Response:**

Routine repair and maintenance of existing structures (existing asphalt pavement repair and stormwater system) is being proposed within this site through a different Type I Exemption application.

- J. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.

**PACE Response:**

Replacement and rehabilitation of the existing asphalt pavement and existing stormwater system is being proposed within this site through a different Type I Exemption application.

- K. Measures approved by the City of Oregon City to remove or abate nuisances or hazardous conditions.

1. L. Tree Removal. The Community Development Director may permit the removal of any tree determined to be a dead, hazardous, or diseased tree as defined in OCMC 17.04. Any

tree that is removed in accordance with this Section (L) shall be replaced with a new tree of at least ½-inch caliper or at least six foot overall height. An exception to this requirement may be granted if the applicant demonstrates that a replacement tree has already been planted in anticipation of tree removal, or if the existing site conditions otherwise preclude tree replacement (due to existing dense canopy coverage or other ecological reasons).

2. The replacement tree(s) shall be located in the general vicinity of the removed tree(s), somewhere within NROD on the property. The replacement tree(s) shall be identified on the Oregon City Native Plant List or other locally adopted plant list (e.g. Metro or Portland). The property owner shall ensure that the replacement tree(s) survives at least two years beyond the date of its planting.

**PACE Response:**

Removal of invasive species within the mitigation plan area is being required by Oregon City.

- M. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List or other locally adopted plant list (e.g. Metro or Portland), or as recommended by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, arboriculture, horticulture, wildlife biology, botany, hydrology or forestry), and removal of refuse and fill, provided that:
1. All work is done using hand-held equipment;
  2. No existing native vegetation is disturbed or removed; and
  3. All work occurs outside of wetlands and the top-of-bank of streams.

**PACE Response:**

An environmental professional has recommended the removal of invasive species within the mitigation plan area and the replanting of 50 trees and 249 shrubs as part of the mitigation plan. The mitigation plan is further discussed in the Mitigation Plan report.

- N. Activities in which no more than one hundred square feet of ground surface is disturbed outside of the bankfull stage of water bodies and where the disturbed area is restored to the pre- construction conditions, notwithstanding that disturbed areas that are predominantly covered with invasive species shall be required to remove the invasive species from the disturbance area and plant trees and native plants pursuant to this Chapter.

**PACE Response:**

Activities, such as those discussed above or near areas such as discussed as above, are not being proposed for this development.

- O. New fences meeting all of the following:
1. No taller than three and a half feet and of split rail or similar open design.;
  2. Two feet width on both sides of fence shall be planted or seeded with native grasses, shrubs, herbs, or trees to cover any bare ground;
  3. Six inches of clearance from ground level;
  4. Fence posts shall be placed outside the top-of-bank of streams and outside of delineated wetlands.

**PACE Response:**

New fences are not being proposed for this development.

- P. Gardens, fences and lawns within the NROD that existed prior to the time the overlay district was applied to a subject property are allowed to be maintained but cannot expand further into the overlay district.

**PACE Response:**

Gardens, fences and lawns within the NROD are not being proposed for this development.

17.49.090 - Uses allowed under prescribed conditions.

The following uses within the NROD are subject to the applicable standards listed in OCMC

17.49.100 through 17.49.190 pursuant to a Type II process:

- A. Alteration to existing structures within the NROD when not exempted by OCMC 17.49.080, subject to OCMC 17.49.130.

**PACE Response:**

The proposed paved road is not an alteration to an existing structure within the NROD.

- B. A residence on a highly constrained vacant lot of record that has less than three thousand square feet of buildable area, with minimum dimensions of fifty feet by fifty feet, remaining outside the NROD portion of the property, subject to the maximum disturbance allowance prescribed in OCMC 17.49.120.A.

**PACE Response:**

A residence, such as the one described in the previous paragraph, is not being proposed for this development.

- C. A land division that would create a new lot for an existing residence currently within the NROD, subject to OCMC 17.49.160.

**PACE Response:**

A land division is not being proposed for this development.

- D. Land divisions when not exempted by OCMC 17.49.080, subject to the applicable standards of OCMC 17.49.160.

**PACE Response:**

A land division is not being proposed for this development.

- E. Trails/pedestrian paths when not exempted by OCMC 17.49.080, subject to OCMC 17.49.170 (for trails) or OCMC 17.49.150 (for paved pedestrian paths).

**PACE Response:**

Trails/pedestrian paths are not being proposed for this development.

- F. New roadways, bridges/creek crossings, utilities or alterations to such facilities when not exempted by OCMC 17.49.080.

**PACE Response:**

The proposed paved road is a new access road that is not exempted by OCMC 17.49.080. This section standard has been met.

- G. Roads, bridges/creek crossings Subject to OCMC 17.49.150.

**PACE Response:**

The proposed paved road is a new access road that is not exempted by OCMC 17.49.080. This section standard has been met.

- H. Utility lines subject to OCMC 17.49.140.

**PACE Response:**

Utility lines are not being proposed for this development.

- I. Stormwater detention or pre-treatment facilities subject to OCMC 17.49.155.

**PACE Response:**

Stormwater detention or pre-treatment facilities are not being proposed for this development.

- J. Institutional, industrial or commercial development on a vacant lot of record situated in an area designated for such use that has more than seventy-five percent of its area covered by the NROD, subject to OCMC 17.49.120.B.

**PACE Response:**

Institutional, industrial or commercial development are not being proposed for this development.

- K. City, county and state capital improvement projects, including sanitary sewer, water

and storm water facilities, water stations, and parks and recreation projects.

**PACE Response:**

City, county, and state capital improvement projects are not being proposed for this development.

- L. Non-hazardous tree removal that is not exempted pursuant to OCMC 17.49.080.K.

**PACE Response:**

Non-hazardous tree removal is not being proposed for this development.

- M. Fences that do not meet the standards for exemption pursuant to OCMC 17.49.080.O.4.

**PACE Response:**

Fences are not being proposed for this development.

17.49.100 - General development standards.

The following standards apply to all Uses Allowed under Prescribed Conditions within the NROD with the exception of rights of ways (subject to OCMC 17.49.150), trails (subject to OCMC 17.49.170), utility lines (subject to OCMC 17.49.140), land divisions (subject to OCMC 17.49.160), and mitigation projects (subject to OCMC 17.49.180 or 17.49.190):

- A. Native trees shall be preserved unless they are located within ten feet of any proposed structures or within five feet of new driveways, or if deemed not wind-safe by a certified arborist. Trees listed on the Oregon City Nuisance Plant List or Prohibited Plant List are exempt from this standard and may be removed. A protective covenant shall be required for any native trees that remain;

**PACE Response:**

An existing tree is located near STA 23+30 and is within 10 feet of the proposed paved access road; this tree shall be preserved and protected.

- B. The Community Development Director may allow the landscaping requirements of the base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites in the Natural Resource Overlay District.

**PACE Response:**

This section does not apply to the proposed development.



- C. All vegetation planted in the NROD shall be native and listed on the Oregon City Native Plant List or other locally adopted plant list (e.g. Metro or Portland), or as recommended by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, arboriculture, horticulture, wildlife biology, botany, hydrology or forestry);

**PACE Response:**

All replanted vegetation within the mitigated plan area shall be native and listed on the OC Native Plant List or as otherwise described above.

- D. Grading is subject to installation of erosion control measures required by the City;

**PACE Response:**

Erosion control measures shall be installed prior to any grading activity on the site.

- E. The minimum front, street, or garage setbacks of the base zone may be reduced to any distance between the base zone minimum and zero in order to minimize the disturbance area within the NROD portion of the lot;

**PACE Response:**

Minimum setbacks are not required for the proposed paved access road.

- F. Any maximum required setback in any zone, such as for multi-family, commercial or institutional development, may be increased to any distance between the maximum and the distance necessary to minimize the disturbance area within the NROD portion of the lot;

**PACE Response:**

Maximum required setbacks are not required for the proposed paved access road.

- G. Fences in compliance with OCMC 17.49.080.N;

**PACE Response:**

Fences are not being proposed for the proposed development.

- H. Exterior lighting shall be placed or shielded so that they do not shine directly into resource areas;

**PACE Response:**

Exterior lighting is not being proposed for the proposed development. Some lighting already exists within the site.

- I. If development will occur within the one hundred-year floodplain, the standards of OCMC 17.42 shall be met; and

**PACE Response:**

The proposed development is not being constructed within the 100-year floodplain.

- J. Mitigation of impacts to the regulated buffer is required, subject to OCMC 17.49.180 or 17.49.190.

**PACE Response:**

A mitigation plan is being proposed, see section 17.49.180 and -190 for additional information.

17.49.110 - Width of vegetated corridor.

- A. Calculation of Vegetated Corridor Width within City Limits. The NROD consists of a vegetated corridor measured from the top of bank or edge of a protected habitat or water feature. The minimum required width is the amount of buffer required on each side of a stream, or on all sides of a feature if non-linear. The width of the vegetated corridor necessary to adequately protect the habitat or water feature is specified in Table 17.49.110.

Table 17.49.110

Protected Water Feature Type (see definitions)	Slope Adjacent to Protected Water Feature	Starting Point for Measurements from Water Feature	Width of Vegetated Corridor (see Note 1)
Anadromous fish-bearing streams	Any slope	• Edge of bankfull flow	200 feet
Intermittent streams with slopes less than 25 percent and which drain less than 100 acres	< 25 percent	• Edge of bankfull flow	15 feet

All other protected water features	< 25 percent	<ul style="list-style-type: none"> <li>•Edge of bankfull flow</li> <li>• Delineated edge</li> </ul>	50 feet
	≥25 percent for 150 feet or more (see Note 2)		200 feet
	≥25 percent for less than 150 feet (see Note 2)		Distance from starting point of measurement to top of ravine (break in ≥25 percent slope) (See Note 3) plus 50 feet.

**Notes:**

1. Required width (measured horizontally) of vegetated corridor unless reduced pursuant to the provisions of OCMC 17.49.120.
2. Vegetated corridors in excess of fifty feet apply on steep slopes only in the uphill direction from the protected water feature.
3. Where the protected water feature is confined by a ravine or gully, the top of the ravine is the break in the ≥25 percent slope.
  - B. Habitat Areas within City Parks. For habitat and water features identified by Metro as regionally significant which are located within city parks, the NROD Boundary shall correspond to the Metro Regionally Significant Habitat Map.
  - C. Habitat Areas outside city limit/within UGB. For habitat and water features identified by Metro as regionally significant which are located outside of the city limits as of the date of adoption of this ordinance, the minimum corridor width from any non-anadromous fish bearing stream or wetland shall be fifty feet.

**PACE Response:**

The water features that are listed in the table above are not located near the proposed development.

17.49.120 - Maximum disturbance allowance for highly constrained lots of record.

In addition to the General Development Standards of OCMC 17.49.100, the following standards apply to a vacant lot of record that is highly constrained by the NROD, per OCMC 17.49.090.B and 17.49.090.F:

- A. Standard for Residential Development. In the NROD where the underlying zone district is zoned Residential (R-10, R-8, R-6, R-5, R-3.5): the maximum disturbance area allowed for new residential development within the NROD area of the lot is three thousand square feet.
- B. Standard for all developments not located in R-10, R-8, R-6, R-5, and R-3.5. For all other underlying zone districts, the maximum disturbance area allowed for a vacant, constrained lot of record development within the NROD is that square footage which when added to the square footage of the lot lying outside the NROD portion equals twenty-five percent of the total lot area.
  1. Lots that are entirely covered by the NROD will be allowed to develop twenty-five percent of their area.

2. This can be determined by: (1) Multiplying the total square footage of the lot by .25; or (2) Subtracting from that amount the square footage of the lot that is located outside the NROD. The result is the maximum square footage of disturbance to be allowed in the NROD portion of the lot. If the result is  $\leq 0$ , no disturbance is permitted and the building shall be located outside of the boundary.
- C. In all areas, the disturbance area of a vacant, highly constrained lot of record within the NROD shall be set back at least fifty feet from the top of bank on Abernethy Creek, Newell Creek, or Livesay Creek or twenty-five feet from the top of bank of any tributary of the aforementioned Creeks, other water body, or from the delineated edge of a wetland located within the NROD area.
- D. If the highly constrained lot of record cannot comply with the above standards, a maximum 1,500 square foot disturbance within the NROD area may be allowed.

#### PACE Response:

The proposed development is not located within any of the residential zones, and other locations described above.

#### 17.49.130 - Existing development standards.

In addition to the General Development Standards of OCMC 17.49.100, the following standards apply to alterations and additions to existing development within the NROD, except for trails, rights of way, utility lines, land divisions and mitigation projects. As of June 1, 2010, applicants for alterations and additions to existing development that are not exempt pursuant to OCMC 17.49.080.J. shall submit a Type II or Type III application pursuant to this section.

Mitigation is required, subject to OCMC 17.49.180 or 17.49.190.

#### 17.49.140 - Standards for utility lines.

The following standards apply to new utilities, private connections to existing or new utility lines, and upgrades of existing utility lines within the NROD:

- A. The disturbance area for private connections to utility lines shall be no greater than ten feet wide;
- B. The disturbance area for the upgrade of existing utility lines shall be no greater than fifteen feet wide;
- C. New utility lines shall be within the right-of-way, unless reviewed under subsection D.
- D. New utility lines that cross above or underneath a drainage way, wetland, stream, or ravine within the NROD but outside of a right-of-way shall be processed as a Type III permit pursuant to OCMC 17.49.200, Adjustment from Standards.
- E. No fill or excavation is allowed within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;
- F. The Division of State Lands must approve any work that requires excavation or fill in a wetland;
- G. Native trees more than ten inches in diameter shall not be removed unless it is shown that there are no feasible alternatives; and
- H. Each six to ten-inch diameter native tree cut shall be replaced at a ratio of three trees for each one removed. Each eleven-inch or greater diameter native tree shall be replaced at a ratio of five trees for each removed. The replacement trees shall be a minimum one-half inch diameter and selected from the Oregon City Native Plant List. All trees shall be planted within the NROD on the subject property. Where a utility line

is approximately parallel with the stream channel, at least half of the replacement trees shall be planted between the utility line and the stream channel.

- I. Mitigation is required, subject to OCMC 17.49.180 or 17.49.190.

#### **PACE Response:**

Utility lines are not being proposed within the proposed paved access road.

17.49.150 - Standards for vehicular or pedestrian paths and roads.

The following standards apply to public rights-of-way and private roads within the NROD, including roads, bridges/stream crossings, driveways and pedestrian paths with impervious surfaces:

- A. Stream crossings shall be limited to the minimum number and width necessary to ensure safe and convenient pedestrian, bicycle and vehicle connectivity, and shall cross the stream at an angle as close to perpendicular to the stream channel as practicable. Bridges shall be used instead of culverts wherever practicable.
- B. Where the right-of-way or private road crosses a stream the crossing shall be by bridge or a bottomless culvert;
- C. No fill or excavation shall occur within the ordinary high water mark of a stream without the approval of the Division of State Lands and/or the U.S. Army Corps of Engineers;
- D. If the Oregon Department of State Lands (DSL) has jurisdiction over any work that requires excavation or fill in a wetland, required permits or authorization shall be obtained from DSL prior to release of a grading permit;
- E. Any work that will take place within the banks of a stream shall be conducted between June 1 and August 31, or shall be approved by the Oregon Department of Fish and Wildlife; and
- F. Mitigation is required, subject to OCMC 17.49.180 or 17.49.190.

#### **PACE Response:**

There are currently no stream crossings that are located near the proposed paved road.

17.49.155 - Standards for stormwater facilities.

Approved facilities that infiltrate stormwater on-site in accordance with Public Works Low-Impact Development standards, including but not limited to; vegetated swales, rain gardens, vegetated filter strips, and vegetated infiltration basins, and their associated piping, may be placed within the NROD boundary pursuant to the following standards:

- A. The forest canopy within the driplines of existing trees shall not be disturbed.
- B. Only vegetation from the Oregon City Native Plant List shall be planted within these facilities.
- C. Mitigation is required, subject to OCMC 17.49.180 or 17.49.190.
- D. The storm water facility may encroach up to one-half the distance of the NROD corridor.
- E. The stormwater facility shall not impact more than one thousand square feet of the NROD. Impacts greater than one thousand square feet shall be processed as a Type III application.
- F. The community development director may allow landscaping requirements of the

base zone, other than landscaping required for parking lots, to be met by preserving, restoring and permanently protecting habitat on development sites within the Natural Resource Overlay District.

G. The design of the stormwater facility shall be subject to OCMC 13.12.

**PACE Response:**

Stormwater facilities are not being proposed within the proposed development.

17.49.160 - Standards for land divisions.

Other than those land divisions exempted by OCMC 17.49.070.G., new residential lots created within the NROD shall conform to the following standards.

- A. For a lot for an existing residence currently within the NROD. This type of lot is allowed within the NROD for a residence that existed before the NROD was applied to a subject property. A new lot for an existing house may be created through a partition or subdivision process when all of the following are met:
  - 1. There is an existing house on the site that is entirely within the NROD area; and
  - 2. The existing house will remain; and
  - 3. The new lot is no larger than required to contain the house, minimum required side setbacks, garage, driveway and a twenty-foot deep rear yard, with the remaining NROD area beyond that point protected by a conservation easement, or by dedicating a conservation tract or public open space.
- B. Protection and ownership of NROD areas in land divisions:
  - 1. New partitions shall delineate the NROD area either as a separate tract or conservation easement that meets the requirements of subsection 2. of this section.
  - 2. Prior to final plat approval, ownership and maintenance of the NROD area shall be identified to distinguish it from the buildable areas of the development site. The NROD area may be identified as any one of the following:
    - a. A tract of private open space held by the homeowners association;
    - b. For residential land divisions, a tract of private open space held by a homeowner's association subject to an easement conveying stormwater and surface water management rights to the City and preventing the owner of the tract from activities and uses inconsistent with the purpose of this document;
    - c. Public open space where the tract has been dedicated to the City or other governmental unit;
    - d. Conservation easement area pursuant to OCMC 17.49.180.G. and approved in form by the Community Development Director; or
    - e. Any other ownership proposed by the owner and approved by the Community Development Director.
    - f. NROD tracts shall be exempt from minimum frontage requirements, dimensional standards of the zoning designation, street frontage requirements, or flag lot standards pursuant to OCMC 16.08.053.

**PACE Response:**

Land divisions are not being proposed for this development.

17.49.170 - Standards for trails.

All trails that are not exempt pursuant to OCMC 17.49.80.F shall be processed through a Type II or Type III process pursuant to this chapter; and shall provide mitigation, subject to OCMC 17.49.180 or 17.49.190.

**PACE Response:**

Trails are not being proposed for this development.

17.49.180 - Mitigation standards.

The following standards (or the alternative standards of OCMC 17.49.190) apply to required mitigation:

- A. Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area. Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;

**PACE Response:**

The proposed NROD disturbance area for the proposed paved road is 4,975 SF. For a mitigation plan to occur at a 2:1 ratio (mitigation area:proposed NROD disturbance area), a mitigation plan area of 9,950 SF shall be required. A wetland is not located near the proposed development.

- B. Mitigation shall occur on the site where the disturbance occurs, pursuant to the following:
  1. The mitigation required for disturbance associated with a right-of-way or utility in the right-of-way shall be located as close to the impact area as possible within the NROD;
  2. If not possible to locate mitigation on the same site, the mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and
  3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.

**PACE Response:**

The Mitigation Plan area is located northeast of the lower campus of Forest Edge apartments, located relatively close to the disturbance area. This location was recommended by the Geotechnical Engineer in order to reduce to possibility of land movement.

- C. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.



**PACE Response:**

The Mitigation Plan area is located within the NROD area.

- D. Invasive and nuisance vegetation shall be removed within the mitigation area;

**PACE Response:**

Invasive species shall be removed within the mitigation area.

- E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.

NOTE: Applications on sites where no trees are present or which are predominantly covered with invasive species shall be required to mitigate the site, remove the invasive species and plant trees and native plants pursuant to Option 2.

**PACE Response:**

The applicant shall comply with Option 2 for the mitigation plan discussed in the following paragraphs. Mitigation Plan Option 1 has been crossed out (ie. ~~crossed out~~) as this section shall not apply to the proposed development.

~~1. Mitigation Planting Option 1.~~

- ~~a. Planting Quantity. This option requires mitigation planting based on the number and size of trees that are removed from the site pursuant to Table 17.49.180E.1.a.~~

~~Table 17.49.180E.1.a. Required Planting~~

<del>Size of Tree to be Removed (DBH)</del>	<del>Number of Trees and Shrubs to be Replanted</del>
<del>6 to 12"</del>	<del>2 trees and 3 shrubs</del>
<del>13 to 18"</del>	<del>3 trees and 6 shrubs</del>
<del>19 to 24"</del>	<del>5 trees and 12 shrubs</del>
<del>25 to 30"</del>	<del>7 trees and 18 shrubs</del>
<del>Over 30"</del>	<del>10 trees and 30 shrubs</del>

- ~~b. Plant Size. Replacement trees shall be at least one-half inch in caliper on average, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees. Oak, madrone, ash or alder may be one gallon size. Conifers shall be a minimum of six feet in height. Shrubs shall be at least one gallon container size or the equivalent in ball and burlap, and shall be at least twelve inches in height at the time of~~



- planting. All other species shall be a minimum of four inch pots;
- c. ~~Plant Spacing. Except for the outer edges of mitigation areas, trees and shrubs shall be planted in a non-linear fashion. Plant spacing for new species shall be measured from the driplines of existing trees when present. Trees shall be planted on average between eight and twelve feet on center, and shrubs shall be planted on average between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted on average between eight and ten feet on center.~~
  - d. ~~Mulching and Irrigation. Mulch new plantings a minimum of three inches in depth and eighteen inches in diameter. Water new plantings one inch per week from June 30th to September 15th, for the three years following planting.~~
  - e. ~~Plant Species. Shrubs shall consist of at least two different species. If ten trees or more are planted, no more than one half of the trees may be of the same genus. Conifers shall be replaced with conifers. Bare ground shall be planted or seeded with native grasses and ground cover species.~~

#### **PACE Response:**

Mitigation Planting Option 1 does not apply to the proposed development. See Option 2 in the following paragraphs.

- 2. Mitigation Planting Option 2.
  - a. Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be three hundred thirty square feet of disturbance area, then three hundred thirty divided by five hundred equals .66, and .66 times five equals 3.3, so three trees shall be planted, and .66 times twenty-five equals 16.5, so seventeen shrubs shall be planted). Bare ground shall be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs

#### **PACE Response:**

NROD Disturbed area = 4,975 SF

Required number of trees to be replanted =  $(4,975 \text{ SF} / 500) \times 5 = 50 \text{ trees (actual 49.75)}$

Required number of shrubs to be replanted =  $(4,975 \text{ SF} / 500) \times 25 = 249 \text{ shrubs (actual 248.75)}$

Bare ground shall be planted or seeded.

- b. Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than twelve inches in height.

**PACE Response:**

Plantings may vary in size but no initial plantings shall be shorter than 12-inches in height.

- c. Plant Spacing. Trees shall be planted at average intervals of seven feet on center. Shrubs may be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center.

**PACE Response:**

Spacing for trees are at an average interval of 7 feet on center and spacing for a single-species cluster of 4 shrubs at an average between 8 and 10 feet on center.

- d. Mulching and Irrigation shall be applied in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

**PACE Response:**

Standard irrigation methods are not being proposed for the mitigation plan area due to a recommendation by the geotechnical engineer. Drip irrigation or similar may be provided as necessary dependent on approval from the geotechnical engineers. The soil within the mitigation plan area does not have much bearing capacity due to the slope stability and previous land movements in the area; heavy watering of the area would have negative impacts.

- e. Plant Diversity. Shrubs shall consist of at least three different species. If twenty trees or more are planted, no more than one-third of the trees may be of the same genus.

**PACE Response:**

Shrubs shall consist of at least three different species and no more than one-third of the tree plantings shall be of a single genus.

- f. An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.

**PACE Response:**

An alternative planting plan is not being proposed, mitigation plan option 2 is being proposed.

- G. Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the Community Development Director. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the Planning Division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind to meet the eighty percent survival requirement. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and/or ground cover species.

**PACE Response:**

Monitoring and maintenance shall be the responsibility of the owner. The life expectancy of the new plantings for the mitigation plan area should exceed the 80% minimum survival requirement throughout the winter season in Oregon. The owner shall monitor and maintain the same 80% minimum survival rate during the summer or dry seasons for the next 5 years.

- H. Covenant or Conservation Easement. The applicant shall record a restrictive covenant or conservation easement, in a form provided by the City, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the City to complete mitigation work

in the event of default by the responsible party. Costs borne by the City for such mitigation shall be borne by the owner.

**PACE Response:**

The applicant shall record a covenant or conservation easement that is provided by the city for the proposed mitigation plan area.

- I. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the City, shall be submitted before development within the NROD disturbance area commences. The City will release the guarantee at the end of the five-year monitoring period, or before, upon its determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

### PACE Response:

A financial guarantee shall be paid for establishment of the mitigation plan area.

#### 17.49.190 - Alternative mitigation standards.

In lieu of the above mitigation standards of OCMC 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant.

- A. The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the
Marginal Existing Vegetated Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the
Degraded Existing Vegetated Corridor:	Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native

- B. The proposed mitigation shall occur at a minimum two-to-one ratio of mitigation area to proposed disturbance area;
- C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;
- D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;
- E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;
- F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carry out and ensure the success of the mitigation.

### PACE Response:

The alternative mitigation standard discussed in section 17.49.190 is not being proposed for this application. The applicant is adhering to comply by mitigation plan option 2.

#### 17.49.200 - Adjustment from standards.

If a regulated NROD use cannot meet one or more of the applicable NROD standards then an adjustment may be issued if all of the following criteria are met. Compliance with these criteria shall be demonstrated by the applicant in a written report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas

such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the City may require the report to be reviewed by an environmental consultant. Such requests shall be processed under the Type III development permit procedure. The applicant shall demonstrate:

- A. There are no feasible alternatives for the proposed use or activity to be located outside the NROD area or to be located inside the NROD area and to be designed in a way that will meet all of the applicable NROD development standards;
- B. The proposal has fewer adverse impacts on significant resources and resource functions found in the local NROD area than actions that would meet the applicable environmental development standards;
- C. The proposed use or activity proposes the minimum intrusion into the NROD area that is necessary to meet development objectives;
- D. Fish and wildlife passage will not be impeded;
- E. With the exception of the standard(s) subject to the adjustment request, all other applicable NROD standards can be met; and
- F. The applicant has proposed adequate mitigation to offset the impact of the adjustment.

#### **PACE Response:**

An adjustment for the standard discussed in the section about "Mulching and Irrigation" might be required, dependent on the City's views regarding the safety of the slope stability located in that area. An environmental professional shall prepare the Mitigation Plan Report.

17.49.210 - Type II development permit application.

Unless otherwise directed by the NROD standards, proposed development within the NROD shall be processed as a Type II development permit application. All applications shall include the items required for a complete application by OCMC 17.49.220—17.49.230, and 17.50.080 as well as a discussion of how the proposal meets all of the applicable NROD development standards in OCMC 17.49.100—17.49.170.

#### **PACE Response:**

This proposal for a paved access road shall be processed as an NROD Type II development permit application.

17.49.220 - Required site plans.

Site plans showing the following required items shall be part of the application:

- A. For the entire subject property (NROD and non-NROD areas):
  - 1. The NROD district boundary. This may be scaled in relation to property lines from the NROD Map;
  - 2. One hundred-year floodplain and floodway boundary (if determined by FEMA);
  - 3. Creeks and other waterbodies;
  - 4. Any wetlands, with the boundary of the wetland that will be adjacent to the proposed development determined in a wetlands delineation report prepared by a professional wetland specialist and following the Oregon Division of State

- Lands wetlands delineation procedures;
5. Topography shown by contour lines of two or one foot intervals for slopes less than fifteen percent and by ten foot intervals for slopes fifteen percent or greater;
  6. Existing improvements such as structures or buildings, utility lines, fences, driveways, parking areas, etc.
  7. Extent of the required Vegetated Corridor required by Table 17.49.110.

**PACE Response:**

The items listed above have been incorporated into the site plan.

- B. Within the NROD area of the subject property:
1. The distribution outline of shrubs and ground covers, with a list of most abundant species;
  2. Trees six inches or greater in diameter, identified by species. When trees are located in clusters they may be described by the approximate number of trees, the diameter range, and a listing of dominant species;
  3. An outline of the disturbance area that identifies the vegetation that will be removed. All trees to be removed with a diameter of six inches or greater shall be specifically identified as to number, trunk diameters and species;
  4. If grading will occur within the NROD, a grading plan showing the proposed alteration of the ground at two foot vertical contours in areas of slopes less than fifteen percent and at five foot vertical contours of slopes fifteen percent or greater.

**PACE Response:**

Compliance of the items listed above shall be regulated in the NROD area.

- C. A construction management plan including:
1. Location of site access and egress that construction equipment will use;
  2. Equipment and material staging and stockpile areas;
  3. Erosion control measures that conform to City of Oregon City erosion control standards;
  4. Measures to protect trees and other vegetation located outside the disturbance area.

**PACE Response:**

The items listed above have been incorporated in the Construction Management Plan.

- D. A mitigation site plan demonstrating compliance with OCMC 17.49.180 or 17.49.190, including:
1. Dams, weirs or other in-water features;
  2. Distribution, species composition, and percent cover of ground covers to be

- planted or seeded;
- 3. Distribution, species composition, size, and spacing of shrubs to be planted;
- 4. Location, species and size of each tree to be planted;
- 5. Stormwater management features, including retention, infiltration, detention, discharges and outfalls;
- 6. Water bodies or wetlands to be created, including depth;
- 7. Water sources to be used for irrigation of plantings or for a water source for a proposed wetland.

#### **PACE Response:**

The items listed above have been incorporated into the Mitigation Site Plan, unless items above are not applicable.

#### **17.49.230 - Mitigation plan report.**

A mitigation plan report that accompanies the above mitigation site plan is also required. The report shall be prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. The mitigation plan report shall, at a minimum, discuss:

- A. Written responses to each applicable Mitigation Standard in OCMC 17.49.180 or 17.49.190 indicating how the proposed development complies with the mitigation standards;
- B. The resources and functional values to be restored, created, or enhanced through the mitigation plan;
- C. Documentation of coordination with appropriate local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands (DSL) and the United States Army Corps of Engineers (USACE);
- D. Construction timetables;
- E. Monitoring and Maintenance practices pursuant to OCMC 17.49.230.F and a contingency plan for undertaking remedial actions that might be needed to correct unsuccessful mitigation actions during the first five years of the mitigation area establishment.

#### **PACE Response:**

A mitigation plan report shall be prepared by an environmental professional and the items listed above shall be incorporated in the report.

#### **17.49.240 - Density transfer.**

The NROD allocates urban densities to the non-NROD portions of properties located partially within the NROD, generally resulting in a substantial increase in net development potential. For lots of record that are located within the NROD, density transfer is allowed, subject to the following provisions:

- A. Density may be transferred from the NROD to non-NROD portions of the same property or of contiguous properties within the same development site;
- B. The residential transfer credit shall be as follows: for new residential partitions and subdivisions, one-third of the area of the NROD tract or conservation easement area



may be added to the net developable area outside of the tract or conservation easement area within the boundary of the development site in order to calculate the allowable number of lots.

- C. Permitted Modifications to Residential Dimensional Standards. In order to allow for a transfer of density pursuant to subsection B. above, the dimensional standards of the base zone may

be modified in order minimize disturbance to the NROD. The permissible reductions are specified in Tables 17.49.240C.—17.49.240D.

- D. The applicant shall demonstrate that the minimum lot size of the underlying zone has been met. The area of the NROD in subsection B. above that is used to transfer density may be included in the calculation of the average minimum lot size.

- E. The applicant may choose to make the adjustments over as many lots as required. Table 17.49.240 A: Lot Size Reductions Allowed for NROD Density Transfers

ZONE	Min. Lot Size (%)	Min. Lot Width	Min. Lot Depth
R-10	5,000 sq. feet	50'	65'
R-8	4,000 sq. feet	45'	60'
R-6	3,500 sq. feet	35'	55'
R-5	3,000 sq. feet	30'	50'
R-3.5	1,800 sq. feet	20'	45'

Table 17.49.240 B: Reduced Dimensional Standards for Detached Single-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverag
8,000—9,999 square feet	15 feet	20 feet	7/9 feet	15 feet	40%
6,000—7,999 square feet	10 feet	15 feet	5/7 feet	15 feet	40%
4,000—5,999 square feet	10 feet	15 feet	5/5 feet	10 feet	40%
1,800—3,999 square feet	5 feet	15 feet	5/5 feet	10 feet	55%

Table 17.49.240 C: Reduced Dimensional Standards for Single-Family Attached or Two-Family Residential Units

Size of Reduced Lot	Front Yard Setback	Rear Yard Setback	Side yard Setback	Corner Side	Lot Coverag
3,500—7,000 square feet	10 feet	15 feet	5/0* feet	10 feet	40%



1,800—3,499 square feet	5 feet	15 feet	5/0* feet	10 feet	55%
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\*0 foot setback is only allowed on single-family attached units

- F. For density transfers on properties zoned Commercial, Institutional, Industrial or Multi-Family, the transfer credit ratio is ten thousand square feet per acre of land within the NROD;
- G. The area of land contained in the NROD area may be excluded from the calculations for determining compliance with minimum density requirements of the land division code.
- H. The owner of the transferring property shall execute a covenant that records the transfer of density. The covenant shall be found to meet the requirements of this section and be recorded before building permits are issued; and
- I. All other applicable development standards, including setbacks, building heights, and maximum lot coverage shall continue to apply when a density transfer occurs.

#### **PACE Response:**

A density transfer is not being proposed for this development.

#### **17.49.250 - Verification of NROD boundary.**

The NROD boundary may have to be verified occasionally to determine the true location of a resource and its functional values on a site. This may be through a site specific environmental survey or a simple site visit in those cases where existing information demonstrates that the NROD significance rating does not apply to a site-specific area. Applications for development on a site located in the NROD area may request a determination that the subject site is not in an NROD area and therefore is not subject to the standards of OCMC 17.49.100. Verifications shall be processed as either a Type I or Type II process.

#### **PACE Response:**

An NROD boundary verification is not being proposed, unless the City requires the verification process.

#### **17.49.255 - Type I verification.**

- A. Applicants for a determination under this section shall submit a site plan meeting the requirements of OCMC 17.49.220, as applicable.
- B. An applicant may request a Type I Verification determination by the Community Development Director. Such requests may be approved provided that there is evidence substantiating that all the requirements of this chapter relative to the proposed use are satisfied and demonstrates that the property also satisfies the following criteria, as applicable:
  - 1. No soil, vegetation, hydrologic features have been disturbed;
  - 2. No hydrologic features have been changed;
  - 3. There are no man-made drainage features, water marks, swash lines, drift lines present on trees or shrubs, sediment deposits on plants, or any other evidence of sustained inundation.

4. The property does not contain a wetland as identified by the City's Local Wetland Inventory or Water Quality and Flood Management Areas map.
5. There is no evidence of a perennial or intermittent stream system or other protected water feature. This does not include established irrigation ditches currently under active farm use, canals or manmade storm or surface water runoff structures or artificial water collection devices.
6. Evidence of prior land use approvals that conform to the Natural Resource Overlay District, or which conformed to the Water Quality Resources Area Overlay District that was in effect prior to the current adopted NROD (Ord. 99-1013).
7. There is an existing physical barrier between the site and a protected water feature, including:
  - a. Streets, driveways, alleys, parking lots or other approved impervious areas wider than fifteen feet and which includes drainage improvements that are connected to the City storm sewer system, as approved by the City.
  - b. Walls, buildings, drainages, culverts, topographic features or other structures which form a physical barrier between the site and the protected water features, as approved by the City.
- C. If the City is not able to clearly determine, through the Type I verification process that the applicable criteria subsection B.1.—B.7 above are met, the verification application shall be denied. An applicant may then opt to apply for a verification through the Type II process defined below.

#### **PACE Response:**

A Type I verification is not being proposed for this development.

#### **17.49.260. - Type II verification.**

Verifications of the NROD which cannot be determined pursuant to the standards of OCMC

17.49.255 may be processed under the Type II permit procedure.

- A. Applicants for a determination under this section shall submit a site plan meeting the requirements of OCMC 17.49.220 as applicable.
- B. Such requests may be approved provided that there is evidence that demonstrates in an environmental report prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry, that a resource function(s) and/or land feature(s) does not exist on a site-specific area.
- C. Verification to remove a recently developed area from the NROD shall show that all of the following have been met:
  1. All approved development in the NROD has been completed;
  2. All mitigation required for the approved development, located within the NROD, has been successful; and
  3. The previously identified resources and functional values on the developed site no longer exist or have been subject to a significant detrimental impact.

**PACE Response:**

The items listed above shall be provided or performed for this application for a Type II Site Plan Design Review.

**17.49.265 - Corrections to violations.**

For correcting violations, the violator shall submit a remediation plan that meets all of the applicable standards of the NROD. The remediation plan shall be prepared by one or more qualified professionals with experience and credentials in natural resource areas, including wildlife biology, ecology, hydrology and forestry. If one or more of these standards cannot be met, then the applicant's remediation plan shall demonstrate that there will be:

- A. No permanent loss of any type of resource or functional value listed in OCMC 17.49.10, as determined by a qualified environmental professional;
- B. A significant improvement of at least one functional value listed in OCMC 17.49.10, as determined by a qualified environmental professional; and
- C. There will be minimal loss of resources and functional values during the remediation action until it is fully established.

**PACE Response:**

Corrections to any violations shall comply with all of the items listed above.

**17.49.180 - Mitigation standards.**

The following standards (or the alternative standards of Section 17.49.190) apply to required mitigation:

- A. Mitigation shall occur at a two-to-one ratio of mitigation area to proposed NROD disturbance area. Mitigation of the removal or encroachment of a wetland or stream shall not be part of this chapter and will be reviewed by the Division of State Lands or the Army Corp of Engineers during a separate review process;

**PACE Response:**

The disturbed area for the proposed access road within the NROD is 4,975 SF, approximately 5,000 SF. Since the code is requiring a 2:1 ratio, the mitigation area will be 10,000 SF. A wetland or stream is not located anywhere near the disturbed area and review by the Division of State Lands or the Army Corp of Engineers will not be required.

- B. Mitigation shall occur on the site where the disturbance occurs, except as follows:
  - 1. The mitigation is required for disturbance associated with a right-of-way or utility in the right-of-way;
  - 2. The mitigation shall occur first on the same stream tributary, secondly in the Abernethy, Newell or Livesay Creek or a tributary thereof, or thirdly as close to the impact area as possible within the NROD; and

3. An easement that allows access to the mitigation site for monitoring and maintenance shall be provided as part of the mitigation plan.

**PACE Response:**

All of the listed exceptions do not apply to the development being proposed.

- C. Mitigation shall occur within the NROD area of a site unless it is demonstrated that this is not feasible because of a lack of available and appropriate area. In such cases, the proposed mitigation area shall be contiguous to the existing NROD area so the NROD boundary can be easily extended in the future to include the new resource site.

**PACE Response:**

The proposed mitigation area shall occur within the existing NROD overlay.

- D. Invasive and nuisance vegetation shall be removed within the mitigation area;

**PACE Response:**

Invasive and nuisance vegetation shall be removed within the proposed mitigation area.

- E. Required Mitigation Planting. An applicant shall meet Mitigation Planting Option 1 or 2 below, whichever option results in more tree plantings, except that where the disturbance area is one acre or more, Mitigation Option 2 shall be required. All trees, shrubs and ground cover shall be selected from the Oregon City Native Plant List.

NOTE: Applications on sites where no trees are present or which are predominantly covered with invasive species shall be required to mitigate the site, remove the invasive species and plant trees and native plants pursuant to Option 2.

1. Mitigation Planting Option 1.

- a. Option 1 - Planting Quantity. This option requires mitigation planting based on the number and size of trees that are removed from the site pursuant to Table 17.49.180E.1.a. Conifers shall be replaced with conifers. Bare ground shall be planted or seeded with native grasses and ground cover species.

Table 17.49.180E.1.a.—Required Planting Option 1

Size of Tree to be Removed (DBH)	Number of Trees and Shrubs to be Replanted
6 to 12"	2 trees and 3 shrubs
13 to 18"	3 trees and 6 shrubs
19 to 24"	5 trees and 12 shrubs
25 to 30"	7 trees and 18 shrubs
Over 30"	10 trees and 30 shrubs

- b. Option 1 - Plant Size. Replacement trees shall be at least one-half inch in caliper on average, measured at six inches above the ground level for field grown trees or above the soil line for container grown trees. Oak, madrone, ash or alder may be one gallon size. Conifers shall be a minimum of six feet in height. Shrubs must be in at least one-gallon container size or the equivalent in ball and burlap, and shall be at least twelve inches in height at the time of planting. All other species shall be a minimum of four-inch pots;
- c. Option 1 - Plant Spacing. Except for the outer edges of mitigation areas, trees and shrubs shall be planted in a non-linear fashion. Plant spacing for new species shall be measured from the driplines of existing trees when present. Trees shall be planted on average between eight and twelve feet on center, and shrubs shall be planted on average between four and five feet on center, or clustered in single species groups of no more than four plants, with each cluster planted on average between eight and ten feet on center.
- d. Option 1 - Mulching and Irrigation. Mulch new plantings a minimum of three inches in depth and eighteen inches in diameters. Water new plantings one inch per week from June 30th to September 15th, for the three years following planting.
- e. Option 1 — Plant Diversity. Shrubs shall consist of at least two different species. If ten trees or more are planted, no more than one-half of the trees may be of the same genus.

#### PACE Response:

No existing trees are being proposed to be removed, therefore Mitigation Option 1 shall not apply. The proposed mitigation plan will adhere to Option 2 requirements.

#### 2. Mitigation Planting Option 2.

- a. Option 2 - Planting Quantity. In this option, the mitigation requirement is calculated based on the size of the disturbance area within the NROD. Native trees and shrubs are required to be planted at a rate of five trees and twenty-five shrubs per every five hundred square feet of disturbance area (calculated by dividing the number of square feet of disturbance area by five hundred, and then multiplying that result times five trees and twenty-five shrubs, and rounding all fractions to the nearest whole number of trees and shrubs; for example, if there will be three hundred thirty square feet of disturbance area, then three hundred thirty divided by five hundred equals .66, and .66 times five equals 3.3, so three trees must be planted, and .66 times twenty-five equals 16.5, so seventeen shrubs must be planted). Bare ground must be planted or seeded with native grasses or herbs. Non-native sterile wheat grass may also be planted or seeded, in equal or lesser proportion to the native grasses or herbs.

#### PACE Response:

$$\frac{4,975 SF}{500 SF} = 9.95$$

$$9.95 \times 5 = 50 \text{ trees required (actual 49.75)}$$

$$9.95 \times 25 = 249 \text{ shrubs required (actual 248.75)}$$

- b. Option 2 - Plant Size. Plantings may vary in size dependent on whether they are live cuttings, bare root stock or container stock, however, no initial plantings may be shorter than twelve inches in height.

**PACE Response:**

No initial plantings shorter than 12 inches in height shall be planted.

- c. Option 2 - Plant Spacing. Trees shall be planted at average intervals of seven feet on center. Shrubs may be planted in single-species groups of no more than four plants, with clusters planted on average between eight and ten feet on center.

**PACE Response:**

The proposed trees shall have an average on center spacing of seven feet. Shrubs shall be planted in single species groups of no more than 4 plants with clusters planted with spacing between 8 and 10 feet on center.

- d. Option 2 — Mulching and Irrigation shall be applied in the amounts necessary to ensure eighty percent survival at the end of the required five-year monitoring period.

**PACE Response:**

Mulching and irrigation shall be applied in the amounts necessary to ensure 80% plant survival by the required 5-year monitoring period.

- e. Option 2 — Plant Diversity. Shrubs shall consist of at least three different species. If twenty trees or more are planted, no more than one-third of the trees may be of the same genus.

An alternative planting plan using native plants may be approved in order to create a new wetland area, if it is part of a wetlands mitigation plan that has been approved by the DSL or the U.S. Army Corps of Engineers (USACE) in conjunction with a wetland joint removal/fill permit application.

**PACE Response:**

The mitigation plan shall have plant diversity. Fifty trees are being proposed for the mitigation plan and no more than 1/3 of the trees will be of the same genus. Two hundred and forty-nine shrubs are being proposed for the mitigation plan and shall consist of 3 or more species.

- F. Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the director of community development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the city's planning division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and ground cover species.

G.

**PACE Response:**

A 5-year monitoring and maintenance plan for the mitigation plan shall be provided and annual reports shall be submitted to the director of community development. The property owner shall be responsible for monitoring and proper maintenance of the mitigation plan area. Upkeep of invasive species removal shall be performed.

- G. Covenant or Conservation Easement. Applicant shall record a restrictive covenant or conservation easement, in a form provided by the city, requiring the owners and assigns of properties subject to this section to comply with the applicable mitigation requirements of this section. Said covenant shall run with the land, and permit the city to complete mitigation work in the event of default by the responsible party. Costs borne by the city for such mitigation shall be borne by the owner.

**PACE Response:**

A covenant shall be recorded with the City in regards to the mitigation plan area.

- H. Financial Guarantee. A financial guarantee for establishment of the mitigation area, in a form approved by the city, shall be submitted before development within the NROD disturbance area commences. The city will release the guarantee at the end of the five-year monitoring period, or before, upon it's determination that the mitigation plan has been satisfactorily implemented pursuant to this section.

**PACE Response:**

A financial guarantee shall be submitted to the City prior to development within the NROD area.

**17.49.190 - Alternative mitigation standards.**

In lieu of the above mitigation standards of Section 17.49.180, the following standards may be used. Compliance with these standards shall be demonstrated in a mitigation plan report prepared by an environmental professional with experience and academic credentials in one or more natural resource areas such as ecology, wildlife biology, botany, hydrology or forestry. At the applicant's expense, the city may require the report to be reviewed by an environmental consultant.

[A.] The report shall document the existing condition of the vegetated corridor as one of the following categories:

Good Existing Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and there is more than fifty percent tree canopy coverage in the vegetated corridor.
Marginal Existing Vegetated Corridor:	Combination of trees, shrubs and groundcover are eighty percent present, and twenty-five to fifty percent canopy coverage in the vegetated corridor.
Degraded Existing Vegetated Corridor:	Less vegetation and canopy coverage than marginal vegetated corridors, and/or greater than ten percent surface coverage of any non-native species.

- B. The proposed mitigation shall occur at a minimum two-to-one ratio of mitigation area to proposed disturbance area;
- C. The proposed mitigation shall result in a significant improvement to Good Existing Condition as determined by a qualified environmental professional;
- D. There shall be no detrimental impact on resources and functional values in the area designated to be left undisturbed;
- E. Where the proposed mitigation includes alteration or replacement of development in a stream channel, wetland, or other water body, there shall be no detrimental impact related to the migration, rearing, feeding or spawning of fish;
- F. Mitigation shall occur on the site of the disturbance to the extent practicable. If the proposed mitigation cannot practically occur on the site of the disturbance, then the applicant shall possess a legal instrument, such as an easement, sufficient to carryout and ensure the success of the mitigation.

**PACE Response:**

The alternative mitigation standards discussed in this code section are not required because we are adhering to the requirements of the Mitigation Plan Option 2 as discussed in 17.49.180.



## 4. MITIGATION PLAN

Mitigation standards, based on OCMC Section 17.49.180, require a 2:1 ratio of mitigation area to proposed NROD disturbance area. The proposed paved firetruck turn-around and access road has an NROD disturbance area of 4,975 SF and in order to comply with the standards, a minimum mitigation area of 9,950 SF shall occur. The proposed mitigation plan area is located within the NROD area as shown in the Site Plan with Mitigation. Compliance with Mitigation Plan Option 2, as stated in OCMC section 17.49.180, is required based on the calculated NROD disturbance area. The following paragraphs discuss the mitigation plan for this site.

The mitigation plan will extend over 5 years and consist of a mitigation work plan, re-vegetation goals, and monitoring and maintenance reporting standards. These components are discussed in the following paragraphs.

### 4.1 Mitigation Work Plan

#### 4.1.1 Site Preparation

- The mitigation area will be first demarcated by a minimum 5-ft tall metal or wood stakes placed no more than 15-ft apart, and all native tree saplings and shrubs will be clearly located and identified with flagged stakes. Invasive species will be reduced to ground level around the native vegetation with hand-held tools to assist visual identification. All identification of native and invasive species will be conducted by a person with appropriate qualifications and experience.
- Erosion control devices may be required to be installed around the mitigation area as directed by the City of Oregon City.
- Before planting work commences, the City of Oregon City must first approve the marking of the mitigation area, marking of native shrubs, and the installation of any required erosion control devices.
- All invasive species will be removed from the mitigation plan area; only hand-held equipment will be used. Mechanical removal of the above ground portion of the plants should take place before chemical application of approved herbicide is placed by direct contact to the stumps of the invasive blackberry and scotch broom plants. Handling of herbicides will be done exclusively by holders of an ODA Pesticide Applicators License. All native trees and shrubs will be appropriately protected from disturbance and chemical application.
- All invasive vegetation removed will be taken from this land parcel and disposed of at a licensed disposal facility.

#### 4.1.2 Planting Requirements:

Plant species diversity. A total of 50 trees and 249 shrubs will be planted based on the calculation requirement stated in OCMC section 17.49.180.

- 15 Big-leaf maple (*Acer macrophyllum*)
- 15 Red alder (*Alnus rubra*)
- 10 Douglas fir (*Pseudotsuga menzeisii*)
- 10 Western red cedar (*Thuja plicata*)
  
- 84 Sword fern (*Polystichum munitum*)
- 60 Pacific ninebark (*Physocarpus capitatus*)
- 60 Snowberry (*Symphoricarpus albus*)
- 25 Salal (*Gaultheria shallon*)
- 20 Vine maple (*Acer circinatum*)

All planted stock must comply with ANSI Z60.1 Standards for Nursery Stock

- ◆ Plant Sizes. All trees planted will be taller than 12-inches at planting; the deciduous trees will be classified as 'whips'. Shrub container plantings will be a minimum of 1-gallon size and will maintain a 12-inches minimum height at planting.
- ◆ Plant Spacing. Trees shall be planted at average intervals of 7 feet on center and shrubs may be planted in single-species groups of no more than 4 plants, with each cluster planted on average between 8 and 10 feet on center. Each planting must be marked with flagged stakes identifying the species. Irrigation is not being proposed for the mitigation plan area due to a recommendation by the geotechnical engineer. The soil within the mitigation plan area does not have much bearing capacity due to the slope stability and previous land movements in the area; watering the area would have negative impacts. However, sufficient moisture will be applied to the root zone of the plantings during the dry summer months.
- ◆ Planting Timing: Planting shall take place between November 1st and April 1st unless prior approval has been given by the City.
- ◆ Planting standards: Planting shall be undertaken by persons with proven experience in re-vegetating natural areas and proof of this supplied to the City. If mortality of the initial plantings is in response to browsing, deciduous tree and shrub replacements will be protected by 18-inch tall tree shelters. Planting standards must comply with ANSI A300 Part 6. All planting will be completed using hand-held equipment. Plantings to replace dead or dying trees and shrubs will only take place annually

after an Annual Monitoring Report has been submitted to, and approved by, the City of Oregon City.

#### **4.2 Revegetation Goals:**

A minimum of 80% survival of trees and shrubs of those species planted is required at the end of the 5-year maintenance and monitoring period. On an annual basis all dead and dying plantings will be replaced with the same species and meeting the same quality, size and planting standards.

#### **4.3 Monitoring and Maintenance Practices**

Section 17.49.180 of the Oregon City MuniCode states, "Monitoring and Maintenance. The mitigation plan shall provide for a five-year monitoring and maintenance plan with annual reports in a form approved by the director of community development. Monitoring of the mitigation site is the on-going responsibility of the property owner, assign, or designee, who shall submit said annual report to the city's planning division, documenting plant survival rates of shrubs and trees on the mitigation site. Photographs shall accompany the report that indicate the progress of the mitigation. A minimum of eighty percent survival of trees and shrubs of those species planted is required at the end of the five-year maintenance and monitoring period. Any invasive species shall be removed and plants that die shall be replaced in kind. Bare spots and areas of invasive vegetation larger than ten square feet that remain at the end the five-year monitoring period shall be replanted or reseeded with native grasses and ground cover species."

The monitoring and maintenance contingency plan is discussed in the following paragraphs.

- ♦ Maintenance/ Monitoring visits: Standard irrigation methods are not being proposed for the mitigation plan area due to a recommendation by the geotechnical engineer. Drip irrigation or similar may be provided as necessary dependent on approval from the geotechnical engineers. During maintenance/ monitoring visits each planting site will be assessed as to whether some form of supplemental irrigation will be required, and any proposed watering schedules will be discussed with the geotechnical engineer or other capable person responsible for monitoring potential land movements. The scheduling of maintenance visits for drought monitoring will be weather dependent. Each visit will be recorded on a Monitoring Sheet. At each maintenance/ monitoring visit any invasive vegetation within the mitigation area covering more than 10 square feet will be removed from encroaching within the mitigation area.
- ♦ Maintenance/ Monitoring schedule: a baseline (Year Zero) report should be provided after planting inventorying all the plantings and with photographs showing all areas of the mitigation site after planting. The mitigation site should be monitored and maintained every month during the first year, and at a reduced schedule of once every 3 months during years 1 through 5 if the 80% viability goals are being met

annually. During each visit a Monitoring Sheet should be completed detailing all maintenance work carried out, invasive species removal, any browsing or vandalism damage, general site damage, and quantifying any disease, damage or mortality to the plantings.

- ♦ After each full year after planting an Annual Monitoring Report must be submitted to the City of Oregon City detailing all the work and records from each Monitoring Sheet and quantifying an annual plant condition and mortality assessment for all trees and shrubs. Photographs should document the condition of the plantings and any areas still containing invasive species. Only at the end of each full year should all dead or dying plants be replaced to the quantities supplied at the Year Zero planting date. All new plantings will be identified as replacements with flagged stakes.

The plan discussed in this section proposed the mitigation required due to the NROD disturbance area and may also provide some slope stability based on root growth of the trees and plantings.

## **5. AGENCY COORDINATION**

Coordination with other local, regional, state and federal regulatory/resource agencies such as the Oregon Department of State Lands and the United States Army Corps of Engineers are not required for this project.

## **6. CONSTRUCTION TIME TABLES**

The following table provides an approximate schedule of construction activity within the lower campus of Forest Edge Apartments.

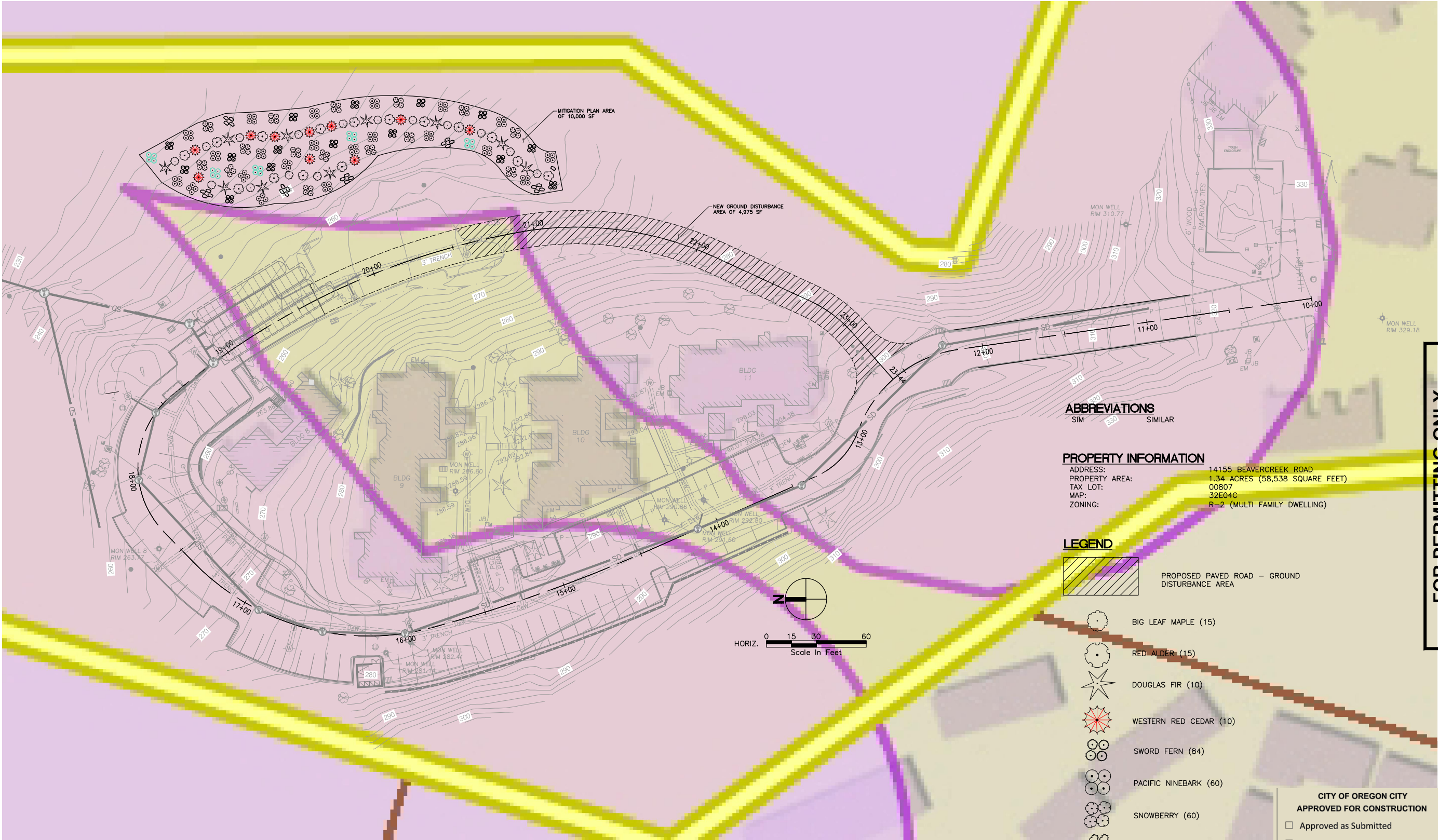
<b>Approximate Schedule Date</b>	<b>Construction Activity Description</b>
August 2020	Start and complete construction for paved fire truck turn-around access road
November 2020	Start plantings for mitigation plan

**APPENDIX A**

**SITE PLAN WITH MITIGATION**



FILE NAME: P:\P1870\18870 - RJL HOLDINGS - FOREST EDGE APARTMENTS\ENGINEERING\SHEETS\NRD TYPE II APPLICATION - ACCESS ROAD\18870 MITIGATION.DWG  
SAVE TIME: 11/19/2019 10:39:25 AM  
PLOT TIME: 11/19/2019 10:40:40 AM  
USER NAME: JENNIFER GLUECK  
XREF FILES: PACE34X22



NATIONAL RESOURCE OVERLAY DISTRICT (NROD) MAP WAS OBTAINED FROM OREGON CITY GIS THROUGH OCWEBMAPS ON OCTOBER 28, 2019.

#### ABBREVIATIONS

SIM SIMILAR

#### PROPERTY INFORMATION

ADDRESS: 14155 BEAVERCREEK ROAD  
PROPERTY AREA: 1.34 ACRES (58,538 SQUARE FEET)  
TAX LOT: 00807  
MAP: 32E040  
ZONING: R-2 (MULTI FAMILY DWELLING)

#### LEGEND

PROPOSED PAVED ROAD - GROUND DISTURBANCE AREA

- BIG LEAF MAPLE (15)
- RED ALDER (15)
- DOUGLAS FIR (10)
- WESTERN RED CEDAR (10)
- SWORD FERN (84)
- PACIFIC NINEBARK (60)
- SNOWBERRY (60)
- SALAL (25)
- VINE MAPLE (20)

#### CITY OF OREGON CITY APPROVED FOR CONSTRUCTION

☐ Approved as Submitted

☐ Approved as Noted in Red

Engineer:

Planning:

Public Works:

You shall be responsible for protecting all existing public and private utilities.

Date of Approval:

FOR PERMITTING ONLY

RJL HOLDINGS, LLC

14155 BEAVERCREEK RD  
OREGON CITY, OR 97045  
(949) 278-5670

FOREST EDGE  
APARTMENTS

SITE PLAN  
WITH MITIGATION

SCALE: 1"=30'	DATE: JUL 2019
DESIGNED BY: JS	CHECKED BY: JS
JOB NUMBER <b>18870.00</b>	
DWG NAME: P18870 MITIGATION	
SHEET <b>1</b>	OF <b>1</b>



4500 Kruse Way, Suite 250  
Lake Oswego, OR 97035  
p. 503.597.3222 f. 503.597.7655  
Civil / Structural / Planning / Survey  
paceengr.com

PRELIMINARY

SYM

REVISION

DATE

## ADDENDUM

**DATE:** December 3, 2019  
**TO:** Christina Robertson-Gardiner, City of Oregon City  
**FROM:** PACE Engineers  
**SUBJECT:** Addendum to Mitigation Plan for Forest Edge Apartments – Lower Campus

The purpose of this addendum is to discuss the added areas required to the mitigation plan due to the disturbed areas for the dewatering wells and repair of the existing stormwater system. Christina Robertson-Gardiner and Laura Terway from the City of Oregon City performed a site visit on November 19, 2019. Brian Lee with PACE Engineers (PACE) was also on site. The purpose of the site visit was to identify which of the existing dewatering wells were located in landscaped areas, which would be considered new disturbed NROD areas that would require additional area to be mitigated. A 2' x 3' structure will surround each dewatering well at construction completion; dewatering wells located in the new disturbed areas will require mitigation. The following dewatering wells (DW) were located in landscaped areas: DW-2, DW-9, DW-10, DW-11, and DW-12. Each of these dewatering wells has been assumed to require a 6 SF disturbance area (2' x 3' = 6 SF). In addition to the disturbed areas surrounding the five previously mentioned dewatering wells, a disturbed area for the repair of the stormwater system will also require mitigation. The stormwater system will consist of repair of an existing manhole and a portion of the stormwater detention facility located within the pervious NROD area located northeast of the lower campus. A disturbance area of approximately 200 SF shall be assumed for the repair of the existing stormwater system.

A total disturbance area of 60 SF, from the five dewatering wells and manhole, shall require mitigation at a 2:1 ratio. The new mitigation area has been calculated as shown below:

$$[(4,975 \text{ SF}) \times 2] + [(200 \text{ SF}) \times 2] = 10,350 \text{ SF}$$

Mitigation Option 2 as discussed in OCMC 17.49.180 requires the following number of trees and shrubs to be planted within the mitigation area:

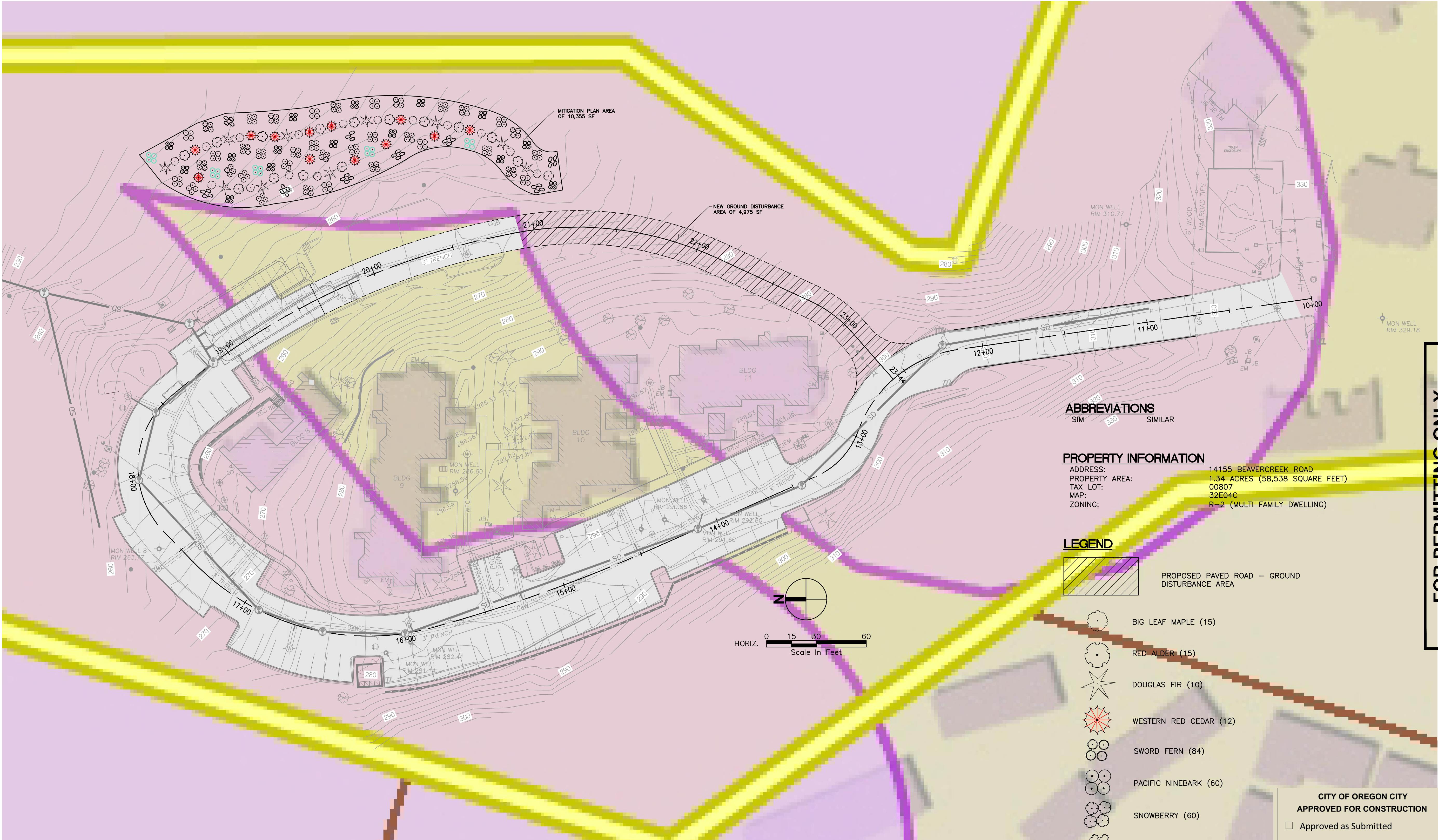
$$\text{Trees: } [(4,975 + 200) \text{ SF} / 500] \times 5 = 51.75 \approx 52 \text{ trees}$$

$$\text{Shrubs: } [(4,975 + 200) \text{ SF} / 500] \times 25 = 258.75 \approx 259 \text{ shrubs}$$

The revised Site Plan with Mitigation is attached to show a mitigation plan area of 10,355 SF with a total number of 52 trees and 259 shrubs.



FILE NAME: \\LO-DATASRV\PROJECT\_DOCS\P18\18870 - RUL HOLDINGS - FOREST EDGE APARTMENTS\CAD\ENGINEERING\SHEETS\NRD TYPE II APPLICATION - ACCESS ROAD\P18870 MITIGATION.DWG  
SAVE TIME: 12/3/2019 11:00:24 AM  
PLOT TIME: 12/3/2019 11:18 AM  
USER NAME: JENNIFER\_GUECK  
XREF FILES: PACE34X22



NATIONAL RESOURCE OVERLAY DISTRICT (NRD) MAP WAS OBTAINED FROM OREGON CITY GIS THROUGH OCWEBMAPS ON OCTOBER 28, 2019.

#### ABBREVIATIONS

SIM SIMILAR

#### PROPERTY INFORMATION

ADDRESS: 14155 BEAVERCREEK ROAD  
PROPERTY AREA: 1.34 ACRES (58,538 SQUARE FEET)  
TAX LOT: 00807  
MAP: 32E040  
ZONING: R-2 (MULTI FAMILY DWELLING)

#### LEGEND

PROPOSED PAVED ROAD - GROUND DISTURBANCE AREA

- BIG LEAF MAPLE (15)
- RED ALDER (15)
- DOUGLAS FIR (10)
- WESTERN RED CEDAR (12)
- SWORD FERN (84)
- PACIFIC NINEBARK (60)
- SNOWBERRY (60)
- SALAL (35)
- VINE MAPLE (20)

#### CITY OF OREGON CITY APPROVED FOR CONSTRUCTION

☐ Approved as Submitted

☐ Approved as Noted in Red

Engineer: \_\_\_\_\_

Planning: \_\_\_\_\_

Public Works: \_\_\_\_\_

You shall be responsible for protecting all existing public and private utilities.

Date of Approval: \_\_\_\_\_

FOR PERMITTING ONLY

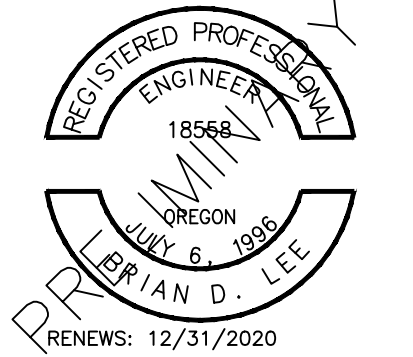
RUL HOLDINGS, LLC

14155 BEAVERCREEK RD  
OREGON CITY, OR 97045  
(949) 278-5670

FOREST EDGE  
APARTMENTS

SITE PLAN  
WITH MITIGATION

SCALE: 1"=30'	DATE: JUL 2019
DESIGNED BY: JS	CHECKED BY: JS
JOB NUMBER <b>18870.00</b>	
DWG NAME: P18870 MITIGATION	
SHEET <b>1</b>	OF <b>1</b>



1

ISSUED FOR TYPE I MINOR SITE PLAN APPROVAL

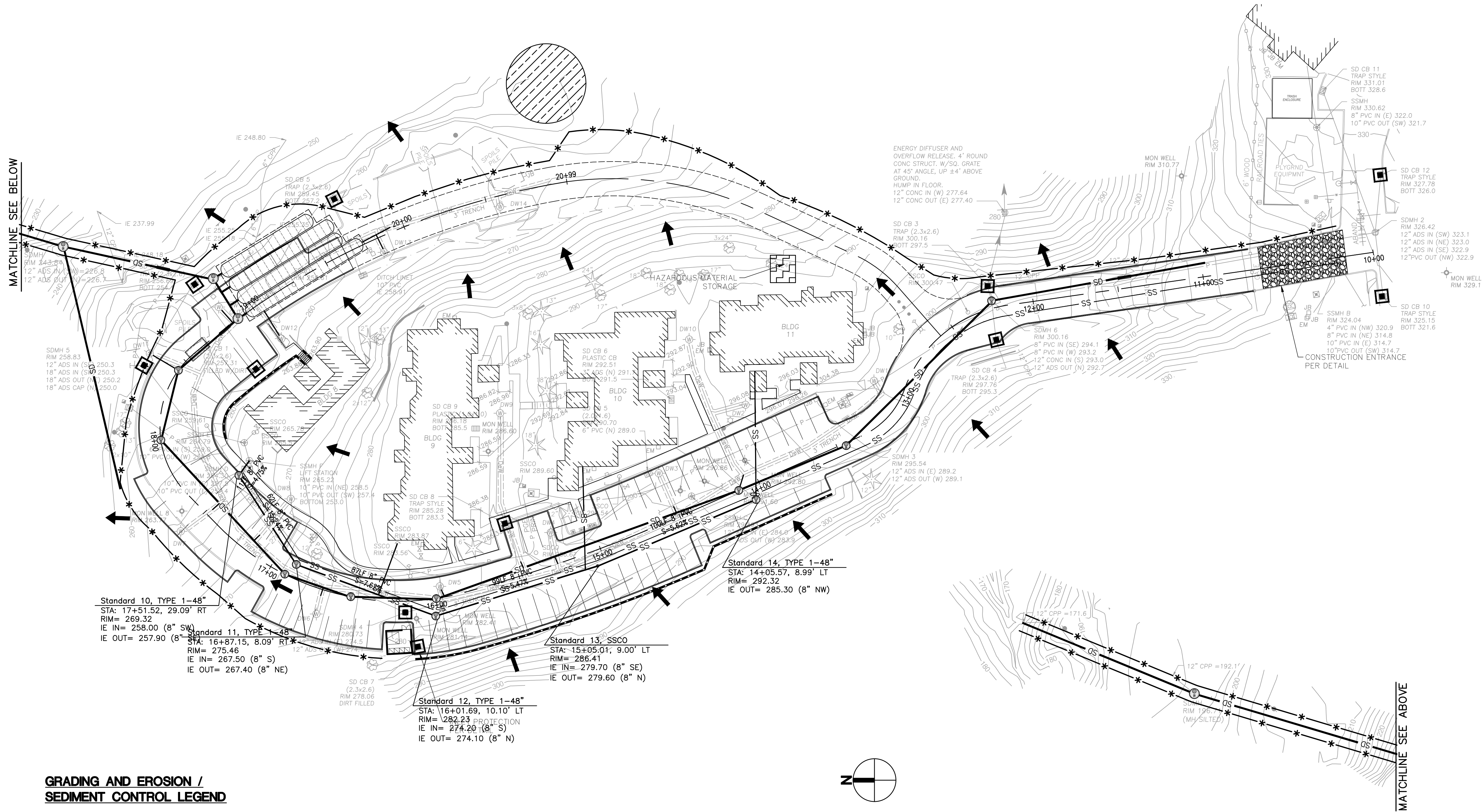
11/20/19

DATE




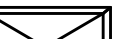





REVISION

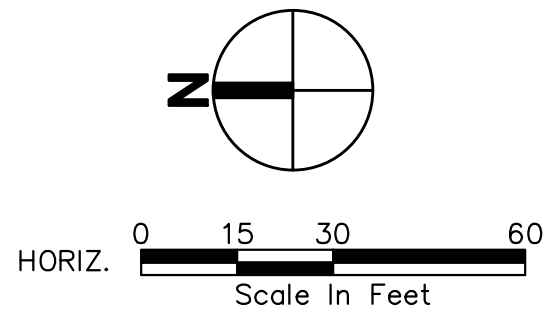
SYM





## GRADING AND EROSION / SEDIMENT CONTROL LEGEND

- |   |  |   |                                   |
|---|--|---|-----------------------------------|
|  | <i>SEDIMENT FENCE/ SEDIMENT BARRIER</i>                |  | <i>INLET PROTECTION</i>           |
|  | <i>CONSTRUCTION FENCE 48" ORANGE OR APPROVED EQUAL</i> |  | <i>CONCRETE WASH AREA</i>         |
|  | <i>STRAW BALES</i>                                     |  | <i>FLOW DIRECTION</i>             |
|  | <i>PLASTIC SHEETING FOR STOCKPILE AREAS</i>            |  | <i>HAZARDOUS MATERIAL STORAGE</i> |
|  | <i>CONSTRUCTION ENTRANCE</i>                           |   |                                   |



**CITY OF OREGON CITY  
APPROVED FOR CONSTRUCTION**

- ☐ Approved as Submitted
- ☐ Approved as Noted in Red

Engineer: \_\_\_\_\_  
Planning: \_\_\_\_\_  
Public Works: \_\_\_\_\_

You shall be responsible for protecting all existing public and private utilities.

Date of Approval: \_\_\_\_\_

**RJL HOLDINGS, LLC**  
14155 BEAVERCREEK RD  
OREGON CITY, OR 97041  
(949) 278-5670

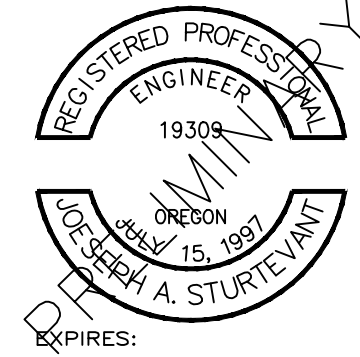
**FOREST EDGE  
APARTMENTS**

SCALE: 1"=30'	DATE: JUL 2019
DESIGNED BY: JS	CHECKED BY: JS
JOB NUMBER <b>18870.00</b>	
DWG NAME: P18870 CONS MGMT	
SHEET <u>1</u>	OF <u>1</u>

**PACE**  
An Engineering Services Company

4500 Kruse Way, Suite 250  
Lake Oswego, OR 97035  
p. 503.597.3222 | f. 503.597.7655

Civil | Structural | Planning | Survey  
[paceengrs.com](http://paceengrs.com)

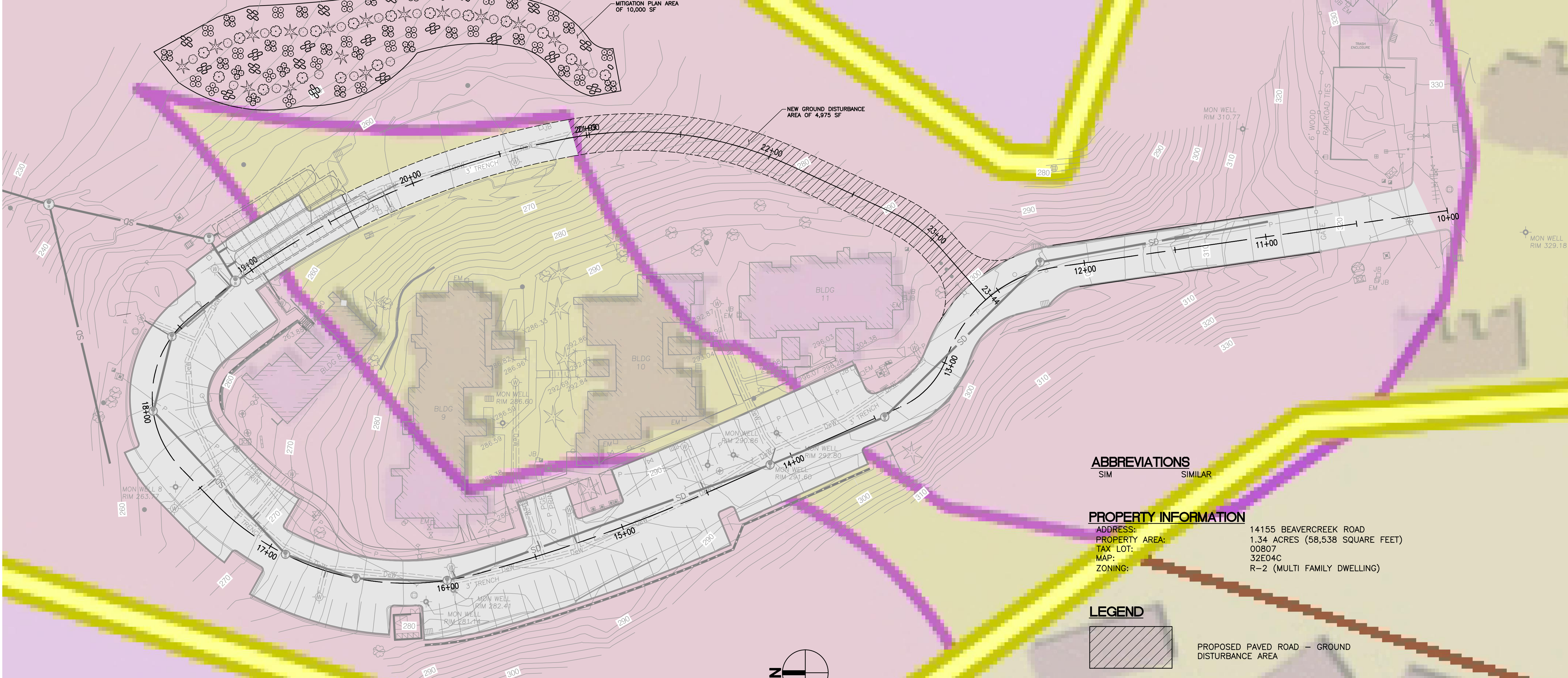


**FOR PERMITTING ONLY**

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FILE NAME: P:\P18\18870 - RJL HOI  
SAVE TIME: 11/12/2019 11:57:30 AM  
PLOT TIME: 11/12/2019 1:27 PM  
USER NAME: JENNIFER GUECK  
XREF FILES: PAGE34X22,



NATIONAL RESOURCE OVERLAY DISTRICT (NROD) MAP WAS OBTAINED FROM OREGON CITY GIS THROUGH OCWEBMAPS ON OCTOBER 28, 2019.

**SIM** **SIMILAR**

## PROPERTY INFORMATION

ADDRESS:	14155 BEAVERCREEK ROAD
PROPERTY AREA:	1.34 ACRES (58,538 SQUARE FEET)
TAX LOT:	00807
MAP:	32E04C
ZONING:	R-2 (MULTI FAMILY DWELLING)

### LEGEND



PROPOSED PAVED ROAD – GROUND  
DISTURBANCE AREA

TREE 1

TREE 2

TREE 3

SHRUB CLUSTER 1

SHRUB CLUSTER 2

SHRUB CLUSTER 3

**CITY OF OREGON CITY  
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Planning: \_\_\_\_\_  
Public Works: \_\_\_\_\_

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Date of Approval:

**RJL HOLDINGS, LLC**

14155 BEAVERCREEK RD  
OREGON CITY, OR 97045  
(949) 278-5670

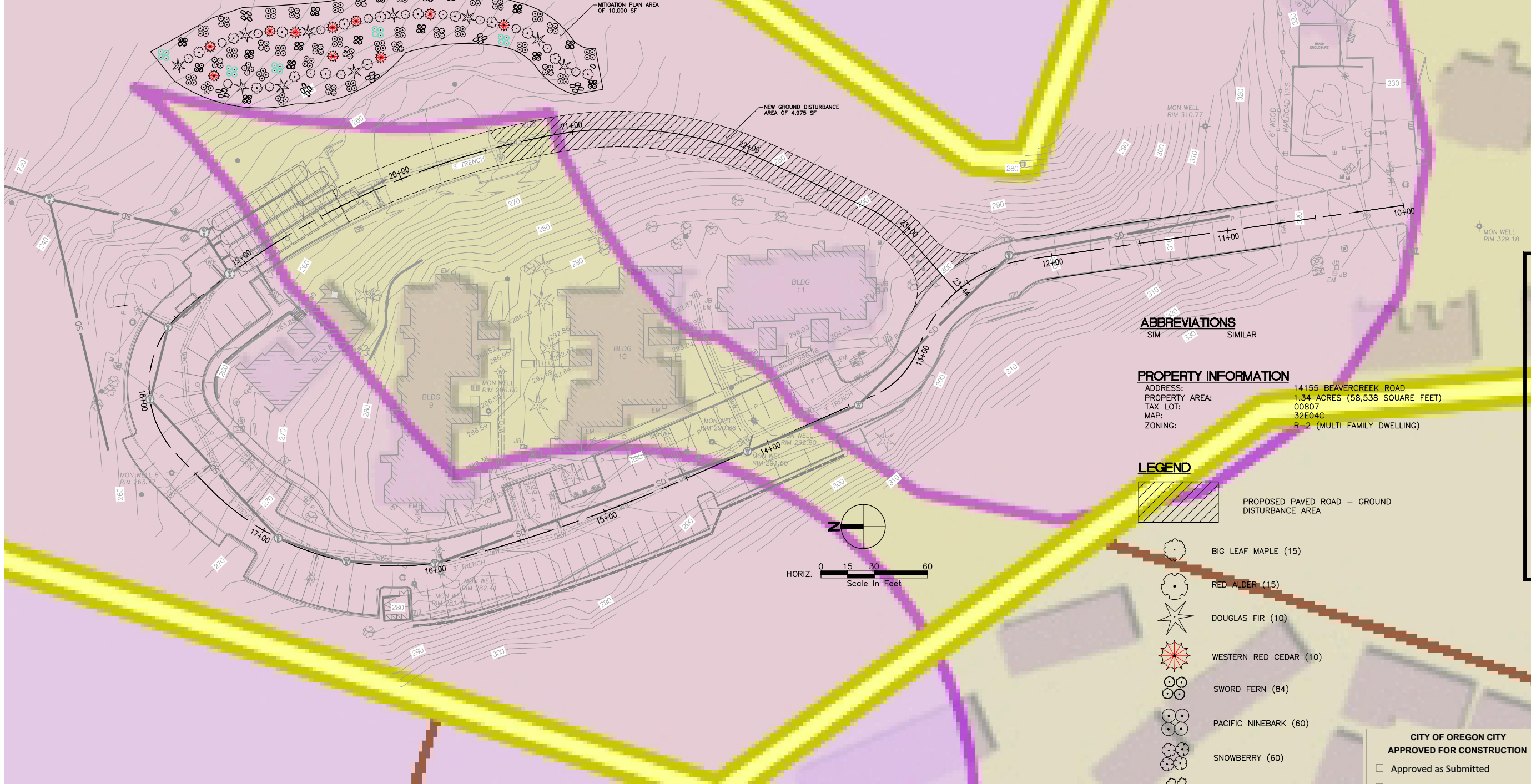
**FOREST EDGE  
APARTMENTS**

## SITE PLAN WITH MITIGATION

SCALE: 1"=30'	DATE: JUL 2019
DESIGNED BY: JS	CHECKED BY: JS
JOB NUMBER <b>18870.00</b>	
DWG NAME: P18870 MITIGATION	
SHEET <u>1</u> OF <u>1</u>	



FILE NAME: P:\P18\18870 - F  
SAVE TIME: 11/19/2019 10:39  
PLOT TIME: 11/19/2019 10:40  
USER NAME: JENNIFER GLUECK  
XREF FILES: PAGE34X22,



NATIONAL RESOURCE OVERLAY DISTRICT (NROD) MAP WAS OBTAINED FROM OREGON CITY GIS THROUGH OCWEBMAPS ON OCTOBER 28, 2019.

SIM 330 SIMILAR

## PROPERTY INFORMATION

ADDRESS: 14155 BEAVERCREEK ROAD  
PROPERTY AREA: 1.34 ACRES (58,538 SQUARE FEET)  
TAX LOT: 00807  
MAP: 32E04C  
ZONING: R-2 (MULTI FAMILY DWELLING)

## LEGEND



PROPOSED PAVED ROAD - GROUND  
DISTURBANCE AREA

- |   |                        |
|---|------------------------|
|  | BIG LEAF MAPLE (15)    |
|  | RED ALDER (15)         |
|  | DOUGLAS FIR (10)       |
|  | WESTERN RED CEDAR (10) |
|  | SWORD FERN (84)        |
|  | PACIFIC NINEBARK (60)  |
|  | SNOWBERRY (60)         |
|  | SALAL (25)             |
|  | VINE MAPLE (20)        |

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Engineer:

### Planning:

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**RJL HOLDINGS, LLC**

14155 BEAVERCREEK RD  
OREGON CITY, OR 97045  
(949) 278-5670

# FOREST EDGE APARTMENTS

# SITE PLAN WITH MITIGATION

SCALE: 1"=30'	DATE: JUL 201
DESIGNED BY: JS	CHECKED JS
JOB NUMBER <b>18870.00</b>	
WG NAME: P18870 MITIGATION	
SHEET <u>1</u> OF <u>1</u>	

**FOR PERMITTING ONLY**

PRELIMINARY



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[illegible]