MULTNOMAH COUNTY
LAND USE AND TRANSPORTATION PROGRAM
1600 SE 190TH Avenue Portland, OR 97233
PH: 503-988-3043 FAX: 503-988-3389
http://www.co.multnomah.or.us/dbcs/LUT/land_use

NOTICE OF DECISION

This notice concerns a Planning Director Decision on the land use case(s) cited and described below.

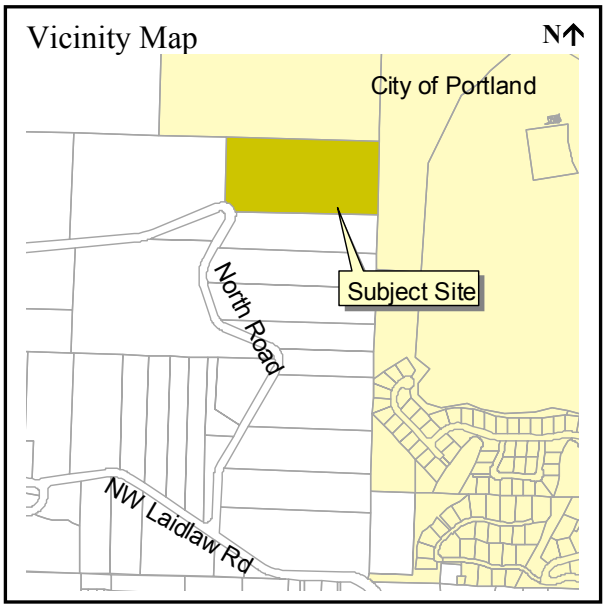
Case File: T2-04-085

Permit: Hillside Development Permit

Location: 4330 NW North Road
TL 100, Sec 22, T1N, R1W, W.M.
Tax Account #R09060-2420

Applicant: Ben Schonberger
Winterbrook Planning
310 SW 4th Ave STE 1100
Portland, OR 97204

Owner: Gregory Di Loreto



Summary: A Significant Environmental Concern Permit for Streams and a Hillside Development Permit for the placement of a single-family dwelling and the construction of a new driveway.

Decision: Approved with Conditions

Unless appealed, this decision is effective Tuesday, July 26, 2005, at 4:30 PM.

Issued by:

By: _____
Don Kienholz, Planner

For: Karen Schilling- Planning Director

Date: Tuesday, July 12, 2005

Opportunity to Review the Record: A copy of the Planning Director Decision, and all evidence submitted associated with this application, is available for inspection, at no cost, at the Land Use Planning office during normal business hours. Copies of all documents may be purchased at the rate of 30-cents per page. The Planning Director's Decision contains the findings and conclusions upon which the decision is based, along with any conditions of approval. For further information on this case, contact Don Kienholz, Staff Planner at 503-988-3043.

Opportunity to Appeal: This decision may be appealed within 14 days of the date it was rendered, pursuant to the provisions of MCC 37.0640. An appeal requires a $250.00 fee and must state the specific legal grounds on which it is based. To obtain appeal forms or information on the procedure, contact the Land Use Planning offices at 1600 SE 190th Avenue (Phone: 503-988-3043). This decision cannot be appealed to the Land Use Board of Appeals until all local appeals are exhausted.

This decision is final at the close of the appeal period, unless appealed. The deadline for filing an appeal is Tuesday, July 26, 2005 at 4:30 pm.

* * * *

If Appealed: A public hearing to consider any appeal will be conducted before one of the following County Hearings Officer's:

Joan Chambers
Liz Fancher
Chris Cook
Bruce White

The appeal hearing will be held on August 12, 2005, at 9:00 A.M. or soon thereafter, in Room 103 at the Land Use Planning Division office located at 1600 SE 190th Avenue, Portland, OR 97233. If no appeal is filed, a notice canceling this hearing will be posted.

Interested parties may testify at the hearing or submit written comments on the proposal at or prior to the hearing, and that a staff report will be prepared and made available to the public at least 7 days prior to the hearing

Any issue which is intended to provide a basis for an appeal to the Land Use Board of Appeals must be raised before the close of the public record. Issues must be raised and accompanied by statements or evidence sufficient to afford the County and all parties to respond to the issue;

The application and all supporting materials and evidence submitted in support of the application may be inspected at no charge at the Multnomah County Land Use Planning Division during normal business hours. Copies of any materials may be obtained at cost. Contact Don Kienholz at (503) 988-3043 with any questions.

* * * *

Applicable Approval Criteria: Multnomah County Code (MCC): MCC 33.0005(L)(13) - Lot of Record; MCC 33.3155 - Dimensional Requirements; MCC 33.3170 - Lot of Record; MCC 33.4575 - Criteria for Approval of SEC-s Permit -Streams; MCC 33.5515 - Application Information Required; MCC 33.5520 - Grading and Erosion Control Standards.

Copies of the referenced Multnomah County Code sections can be obtained by contacting our office at 503-988-3043 or by visiting our website at http://www.co.multnomah.or.us/dbcs/LUT/land_use.

Scope of Approval

1. Approval of this land use permit is based on the submitted written narrative(s) and plan(s). No work shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner(s) to comply with these documents and the limitations of approval described herein.

2. **Pursuant to MCC 37.0690, this land use permit expires two years from the date the decision is final if; (a) development action has not been initiated; (b) building permits have not been issued; or (c) final survey, plat, or other documents have not been recorded, as required. The property owner may request to extend the timeframe within which this permit is valid, as provided under MCC 37.0690 and 37.0700. A request for permit extension may be required to be granted prior to the expiration date of the permit.**

Conditions of Approval

The conditions listed are necessary to ensure that approval criteria for this land use permit are satisfied. Where a condition relates to a specific approval criterion, the code citation for that criterion follows in parenthesis.

1. **Prior to building permit sign-off, the applicant shall record the Notice of Decision [pages 1-5 of this decision] with the County Recorder. The Notice of Decision shall run with the land. Proof of recording shall be made prior to the issuance of any permits and filed with the Land Use Planning Division. Recording shall be at the applicant's expense. Failure to sign and record the Notice of Decision shall void the decision. [MCC 37.0670].**

2. **Trees used for stabilization purposes shall be planted within 30-days of completion of the driveway or within the next appropriate planting season, as identified by the code as period between June 15 and September 15 [MCC 33.4575(E)(4) and (6)].**

3. **The trees to be planted as mitigation for the properties resources as indicated in the applicant's narrative (page 40 of their narrative) shall be in place within one year of this permit becoming final. Upon completion of the plantings, the owner/applicant shall submit a follow-up report to the Land Use Planning office, no later than one year after the permit becomes final. [MCC 33.4575(E)(4)].**

4. **Land disturbing activities within the Stream Conservation Area shall be limited to the period between June 15 and September 15. Revegetation/soil stabilization must be accomplished no later than October 15 [MCC 33.4575(E)(6)].**

5. **The applicant shall retain a Geotechnical Engineer to supervise construction of the driveway and upon completion, submit a report indicating the construction was done properly and according to the plans submitted as part of the application. The report shall be submitted within 45-days of completion [MCC 33.5520(A)(1)].**

6. **Drainage of storm run-off attributed to this development shall be handled, on-site, with the drainage system design that is to be constructed consistent with the specifications outlined by Troy Hull (P.E.) and Warren Krager (CEG) of Professional Service Industries for SOLARC Architecture and Engineering, INC. on the revised June 25, 2004 Geotechnical Engineering Services Report.**

7. **Pursuant to the monitoring plan as required in MCC 33.4575(D)(1)(d), the owner shall submit a statement for each year of the plan from a qualified botanist certifying that plant materials were installed in accordance with the plan and have been fully implemented. The botanist shall also confirm in writing that the performance benchmark of 80% annual survival rate has been obtained.**

8. **The property owner shall maintain best erosion control practices through all phases of development. Erosion control measures are to include the installation of sediment fences/barriers at the toe of all disturbed areas and post construction re-establishment of ground cover. Straw mulch, erosion blankets, or 6-mil plastic sheeting shall be used as a wet weather measure to provide erosion protection for exposed soils. All erosion control measures are to be implemented as prescribed in the current edition of the *Erosion Prevention Sediment Control Plans Technical Guidance Handbook,* copies of which are available for purchase at our office, our through the City of Portland.**

9. **Prior to the issuance of building permits for the dwelling, the owner/applicant shall submit verification that the access roadway and fire fighting water supply are in place and operational [Policy 38].**

10. **Building plans must identify the type and location of the sprinkler system to be installed in the dwelling prior to building permit sign-off. The system must be a NFPA 13 sprinkler system. Additionally, the plans shall clearly indicate the dwelling will have a class A non-combustible rood, and non-combustible siding. The site plans shall also indicate that the driveway will have an etched concrete surface over the steepest grades (22%) and a minimum width of 15-feet wide [Policy 38].**

11. **On-site disposal of construction debris is not authorized under this permit. Spoil materials removed off-site shall be taken to a location approved for the disposal of such material by applicable Federal, State and local authorities. This permit does not authorize dumping or disposal of hazardous or toxic materials, synthetics (i.e. tires), petroleum-based materials, or other solid wastes which may cause adverse leachates or other off-site water quality effects.**

12. **The County may supplement described erosion control techniques if turbidity or other down slope erosion impacts result from on-site grading work. The Portland Building Bureau (Special Inspections Section), the local Soil and Water Conservation District, or the U.S. Soil Conservation Service can also advise or recommend measures to respond to unanticipated erosion effects.**

13. **Whenever sedimentation is caused by stripping vegetation, regrading or other development, it shall be the responsibility of the person, corporation or other entity causing such sedimentation to remove it from all adjoining surfaces and drainage systems prior to issuance of occupancy or final approvals for the project;**

14. **It is the responsibility of any person, corporation or other entity doing any act on or across a communal stream watercourse or swale, or upon the floodplain or right-of-way thereof, to maintain as nearly as possible in its present state the stream, watercourse, swale, floodplain, or right-of-way during such activity, and to return it to its original or equal condition**

Notice to Mortgagee, Lien Holder, Vendor, or Seller:
ORS Chapter 215 requires that if you receive this notice it must be promptly forwarded to the purchaser.

FINDINGS: Written findings are contained herein. The Multnomah County Code criteria and Comprehensive Plan Policies are in **bold** font. Staff comments and analysis are identified as **Staff:** and follow Applicant comments identified as **Applicant:** to the applicable criteria. Staff comments include a conclusionary statement in *italic*.

1. **Project Description**

Applicant: Proposed development within the Stream Conservation Area consists of a new driveway that follows the alignment of an existing cleared path. The new driveway will provide an improved connection between the site's NW North Road frontage and the only reasonably buildable area of the site, which is located in its southeast corner. The new driveway will be paved, 16 feet wide, and approximately 1,400 feet long. Utilities to serve the site (water, electricity, gas) will be buried under the driveway. Grading and clearing along the existing alignment will be required to accommodate Fire District driveway standards, and to stabilize a cut slope. The driveway improvements will enable future construction of a residential dwelling and associated infrastructure (*i.e.*, septic field, out-buildings) in this southeast corner clearing, which is outside of the Stream Conservation Area. Figure 1 shows a vicinity map of the project site. Figure 2 shows a recent aerial photo of the site. Figure 3 shows the Existing Conditions Site Plan. Figure 4 shows the Developed Conditions Site Plan. Figure 5 shows the proposed Mitigation Plan.

In addition, the applicant proposes to correct the violation created by construction of the existing dirt path by a previous owner in 1992. The process for correcting the violation is to apply for a new SEC-s and Hillside Development Permits and provide a mitigation plan. At the same time, the requested permits will address the new impacts created by the proposed improvement of the driveway. The mitigation plan will address the impacts of prior driveway construction by previous owners, as well as impacts related to the proposed construction work.

In a separate application, the applicant and the abutting neighbor to the south have requested a property line adjustment. This proposed change is an equal exchange of 0.91 acres of property that neither increases nor decreases the size of either lot. Figure 6 shows the proposed property line adjustment. This property line adjustment will provide the applicant with more buildable area on the site for future construction of a residential dwelling. The request does not change the need to fix the violation on the site, nor does it have any impact on the applicability of the permitting criteria.

Right-of-Way Improvements

The following information supplements the existing SEC/HDP application by NW North Trees LLC for driveway and utility improvements to 4330 NW North Road (Case #T2-04-085). Multnomah County Transportation has indicated that the applicant will be responsible for improving a portion of the NW North Road right-of-way that leads to the property. This sub-standard segment of road is located within 300 feet of South Bronson Creek and therefore within the SEC-s overlay. Also, this segment of right-of-way is on steep slopes that are subject to Hillside Development regulations. Therefore, this document provides supplemental SEC/HDP findings for Case #T2-04-085, addressing the County-requested right-of-way improvements.

Multnomah County Transportation will require the following standards to be met:

> "Construct improvements to North Road as necessary to meet minimum County requirements for emergency services access, including a 20-ft wide (15-ft for

one or two dwelling units) all-weather surface capable of supporting a gross vehicle load of 50,000 pounds."

The proposed improvements to North Road will serve only one house: the future dwelling at 4330 NW North Road. Minimum County road standards for emergency services access require that a public road serving 1-2 houses be at least 15 feet in width. The available width of NW North Road right-of-way is 50 feet[1], according to County maps. The improved portion of the right-of-way in this location varies from 10 to 15 feet in width, on the eastern side of this right-of-way. South of the juncture for the Shankar/TVWD driveway, the road generally widens to 20 feet or greater in width and meets County standards.

The applicant proposes to improve approximately 350 linear feet of the sub-standard NW North Road right-of-way as shown on the attached drawings. This improvement of NW North Road upgrades the entire street frontages of two neighboring properties to the south of the subject site—those currently owned by the water district and Shankars. The existing gravel path fronting these properties will be widened to 15 feet, and the roadway resurfaced to County standards (eight inches of compacted gravel). A water supply line and electrical power conduit will be laid in a trench in the roadway.

The topography through part of this segment is very steep; the existing pathway is the only bench in the slope down to the stream. By keeping the roadway no greater than 15 feet in width, improvements can be done without significant cutting of uphill slopes or benching of downhill slopes. The predominant vegetation on either side of the existing path is Himalayan blackberry, which will be removed where necessary to make room for the wider path. Following the same alignment as the existing cleared path allows the improvements to be done without removal of any trees 6 inch or greater in diameter.

In short, the proposed road improvements to the publicly-owned right-of-way will conform to County standards, and follow the existing cleared path. Therefore, these improvements can be accomplished with no significant impact to the Stream Conservation Area or disruption of the Slope Hazard Area.

Detailed information on the topography, landscape, habitat values, soils, and other site features of the 4330 North Road site were described in the original application. These features are similar to the conditions bordering the proposed road improvement section. As noted above, however, the area to be improved is either existing gravel or blackberry and therefore the proposed light grading and roadwork is not expected to disturb native vegetation or other resource values. The supplemental information provided here will not repeat earlier findings; it expands the scope of the request to include the road improvements.

Staff: The applicant is seeking to 1. Correct a past zoning violation for grading a driveway without permits 2. To prepare and construct a driveway for a dwelling site on the eastern portion of the property before the rainy season 3. Improve part of the substandard Right-of-Way 4. Implement a mitigation plan for earth disturbance in a Stream Conservation Area as part of the driveway construction. 5. Continue to implement a Voluntary Compliance Agreement.

2. **Site Characteristics**

[1] Right-of-way is 55 feet at Lot 200 (TVWD property).

Applicant: The subject site is a five-sided, but nearly rectangular, lot located in the Bonny Slope area of Multnomah County. The east property boundary of the site is congruent with City of Portland limits. The site is outside the Urban Growth Boundary but classified as non-resource "exception land" that carries Multnomah County's Rural Residential zoning designation. According to county records, the site is 9.48 acres in size. The area was platted in 1923 and the site is a legal lot of record.

The site is forested with a mix of coniferous and younger deciduous trees. A small clearing is located on the southeast corner of the site. The north fork of South Bronson Creek, an intermittent stream, flows diagonally through the site, from its northeast corner to its southeast corner, traversing a distance of approximately 920 feet as it drops 200 feet in elevation. The creek creates a ravine, resulting in steep slopes of 30 to 60 percent on both sides of the stream. A clearing on the southeast corner of the site has more gentle slopes of less than 20 percent. According to the Soil Survey of Multnomah County, the site is located on Cascade Silt Loam, map units 7D and 7E. Refer to Figure 7 for the Soils Map of the site.

The site's street frontage is on its southwest corner, on NW North Road. This section of North Road is unimproved. County maps show that the public right of way crosses the creek and continues to the west. In fact, there are no such improvements. NW North Road effectively dead-ends before reaching the site's frontage.

Current access to the site is via a cleared dirt path, approximately 15 feet in width. This path ascends steeply, gaining almost 300 feet of elevation from the point where it enters the site at the NW North Road right of way (670 feet elevation) to where it concludes in the southeast corner clearing (955 feet). The first segment of the path is located between 50 to 75 feet upslope from South Bronson Creek. At the east end of the site, the path switches back sharply, contouring along the slope, and swings around again just prior to the flatter, southeast corner of the site. An existing 20 to 25 foot high exposed cut slope is located along the path at the first switchback. Smaller, lightly vegetated cut banks exist in several places upslope of the lower segment of the path.

Remnants of an historic, now-overgrown, 10-15 foot wide path also connect the site's NW North Road frontage with the clearing in the southwest corner of the lot. This old path follows the current path's alignment, then it switches back multiple times up the steep part of the slope, concluding in the flatter, southeast corner of the site. Given the history of this area of Multnomah County, this path was likely cut in as a logging road and used to extract timber from the site. Based on the age of the vegetation that has grown up within the path and the condition of the cut, this narrow path has been in place on the site for several decades at least.

Large lots to the north and west are vacant, sloping, and heavily wooded. The site to the south contains an above-ground, 3-million gallon concrete reservoir. This site is owned by the Tualatin Valley Water District. There is no other development on the water district site, which is otherwise heavily wooded. The site immediately to the east is within the City of Portland and is part of a cemetery, Skyline Memorial Gardens. Associated parcels are occupied with graves and a funeral home.

The site is within Multnomah County's land use jurisdiction and is zoned RR, or Rural Residential. In addition, a "Significant Environmental Concern—Streams" (SEC-s) overlay zone applies to the site. The SEC overlay creates a Stream Conservation Area that extends 300 feet from South Bronson Creek. The Stream Conservation Area encompasses 95 percent of the site

area. The only two areas of the site not within the Stream Conservation Area are a small wedge of land at the northwest corner, and most of the clearing in southeast corner of the site.

Staff: The applicant has provided a very thorough and accurate description of the subject site and the surrounding area's characteristics.

3. **Public Comment**

MCC 37.0530(B) Type II Decisions

(B) Type II decisions involve the exercise of some interpretation and discretion in evaluating approval criteria. Applications evaluated through this process are assumed to be allowable in the underlying zone. County Review typically focuses on what form the use will take, where it will be located in relation to other uses and natural features and resources, and how it will look. However, an application shall not be approved unless it is consistent with the applicable siting standards and in compliance with approval requirements. Upon receipt of a complete application, notice of application and an invitation to comment is mailed to the applicant, recognized neighborhood associations and property owners within 750 feet of the subject Tract. The Planning Director accepts comments for 14 days after the notice of application is mailed and renders a decision. The Planning Director's decision is appealable to the Hearings Officer. If no appeal is filed the Planning Directors decision shall become final at the close of business on the 14th day after the date on the decision. If an appeal is received, the Hearings Officer decision is the County's final decision and is appealable to LUBA within 21 days of when the decision is signed.

Staff: An opportunity to comment was mailed to property owners within 750-feet of the property lines on April 7, 2005. No comments were received regarding the application.

Procedures met.

4. **Proof of Ownership**

MCC 37.0550 Initiation Of Action.

Except as provided in MCC 37.0760, Type I - IV applications may only be initiated by written consent of the owner of record or contract purchaser. PC (legislative) actions may only be initiated by the Board of Commissioners, Planning Commission, or Planning Director.

Staff: Multnomah County Assessment and Taxation records shows NW North Tree Farm LLC and Andrew Michaels as owners of the subject lot (Exhibit 1). Mr. Michaels signed the General Application Form (Exhibit 2) and had Winterbrook Planning sign as the applicant, thus authorizing Winterbrook to process the permit. The Tualatin Valley Water District has also given permission to NW North Tree Farm for an easement across their property.

Criterion met.

5. **A Dwelling is Allowed in the Rural Residential Zoning District**

MCC 33.3120 Allowed Uses

(C) Residential use consisting of a single family dwelling constructed on a Lot of Record;

Staff: The applicant is proposing a single-family dwelling on the property, an allowed use.

Criterion met.

6. **The Property is a Lot of Record**

MCC 33.0005(L)(13) – Lot of Record

Lot of Record – Subject to additional provisions within each Zoning District, a Lot of Record is a parcel, lot, or a group thereof which when created and when reconfigured (a) satisfied all applicable zoning laws and (b) satisfied all applicable land division laws. Those laws shall include all required zoning and land division review procedures, decisions, and conditions of approval.

(a) "Satisfied all applicable zoning laws" shall mean: the parcel, lot, or group thereof was created and, if applicable, reconfigured in full compliance with all zoning minimum lot size, dimensional standards, and access requirements.

(b) "Satisfied all applicable land division laws" shall mean the parcel or lot was created:

1. By a subdivision plat under the applicable subdivision requirements in effect at the time; or

2. By a deed, or a sales contract dated and signed by the parties to the transaction, that was recorded with the Recording Section of the public office responsible for public records prior to October 19, 1978; or

3. By a deed, or a sales contract dated and signed by the parties to the transaction, that was in *recordable form* prior to October 19, 1978; or

4. By partitioning land under the applicable land partitioning requirements in effect on or after October 19, 1978; and

5. "Satisfied all applicable land division laws" shall also mean that any subsequent boundary reconfiguration completed on or after December 28, 1993 was approved under the property line adjustment provisions of the land division code. (See *Date of Creation and Existence* for the effect of property line adjustments on qualifying a Lot of Record for the siting of a dwelling in the EFU and CFU districts.)

Staff: The subject property was created as part of the County approved Bonny Slope Subdivision. Currently, the property is in the same configuration as it was when created. When the property was created, it met all land division rules and all zoning requirements and was approved by the County. Since it has not changed configuration, it is a Lot of Record.

Criteria met.

7. **Full Compliance**

MCC 37.0560 Code Compliance and Applications.

Except as provided in subsection (A), the County shall not make a land use decision, or issue a building permit approving development, including land divisions and property line adjustments, for any property that is not in full compliance with all applicable provisions of the Multnomah County Land Use Code and/or any permit approvals previously issued by the County.

(A) A permit or other approval, including building permit applications, may be authorized if:

(1) It results in the property coming into full compliance with all applicable provisions of the Multnomah County Code. This includes sequencing of permits or other approvals as part of a voluntary compliance agreement; or

(2) It is necessary to protect public safety; or

(3) It is for work related to and within a valid easement over, on or under an affected property.

(B) For the purposes of this section, Public Safety means the actions authorized by the permit would cause abatement of conditions found to exist on the property that endanger the life, health, personal property, or safety of the residents or public. Examples of that situation include but are not limited to issuance of permits to replace faulty electrical wiring; repair or install furnace equipment; roof repairs; replace or repair compromised utility infrastructure for water, sewer, fuel, or power; and actions necessary to stop earth slope failures.

Staff: The subject property had several code violations affecting its full compliance. However, owner has entered into a Voluntary Compliance Agreement that allows the property to process permits for the property pursuant to MCC 37.0560(A). One of the violations on the property was the unauthorized driveway that was put in several years ago. The driveway is being brought into compliance with this permit.

Criteria met.

8. **The Proposed Dwelling Meets the RR Dimensional Requirements**

MCC 33.3155 Dimensional Requirements

A. **(A) Except as provided in MCC 33.3160, 33.3170, 33.3175 and 33.4300 through 33.4360, the minimum lot size for new parcels or lots shall be five acres. For properties within one mile of the Urban Growth Boundary, the minimum lot size shall be as currently required in the Oregon Administrative Rules Chapter 660, Division 004 (20 acre minimum as of October 4, 2000).**

Staff: No new lots are proposed to be created as part of this application.

Criterion met.

(B) That portion of a street which would accrue to an adjacent lot if the street were vacated shall be included in calculating the area of such lot.

Staff: The subject lot is currently 9.48-acres and therefore meets the minimum lot size with or without the area of the adjacent right-of-way.

Criterion met.

(C) Minimum Yard Dimensions – Feet

Front	Side	Street Side	Rear
30	10	30	30

Maximum Structure Height – 35 feet

Minimum Front Lot Line Length – 50 feet.

Staff: The edge of the proposed building site is 30-feet from the rear property line, meeting the rear setback. All other property lines are minimum 160-feet from the building envelope, therefore meeting all side, front and rear setbacks.

Criteria met.

9. **The Proposal Meets the SEC-s Approval Criteria**

MCC 33.4575 Criteria for Approval of SEC-s Permit -Streams

A. **(D) For stream resources designated "3-C" the applicant shall demonstrate that the proposal:**

1. **(1) Will enhance the fish and wildlife resources, shoreline anchoring, flood storage, water quality and visual amenities characteristic of the stream in its pre-development state, as documented in a Mitigation Plan. A Mitigation Plan and monitoring program may be approved upon submission of the following:**

Applicant: The mitigation plan satisfies all the components listed in this criterion. A resource assessment described and quantified the functional values of the site; this plan outlines the enhancement of those values.

Furthermore, this mitigation plan compensates for two events, one historic and one proposed. The mitigation measures proposed correct the violation that occurred when the existing driveway path was cut in 1992 (inconsistent with the then-approved permit). Additionally, they mitigate for new impacts that will result from proposed work. Rather than proposing separate mitigation plans—one to fix the violation, and a second for proposed work—this plan consolidates mitigation into a single effort that will address the impacts of all applicable development activities.

An alternatives analysis has been completed for driveway access to the site. Such an analysis is not required by the code, but demonstrates the process the applicant went through to choose the proposed alignment. The conclusion of the analysis, found on page 10, is that the proposed driveway alignment that follows the existing cleared path is the only feasible and lowest impact alternative.

Alternatives Analysis

Preparation of an alternatives analysis is not a requirement for a Hillside Development permit or a Significant Environmental Concern permit. The analysis that follows has been completed as a good faith gesture to demonstrate that the applicant attempted to find other ways to access the site that reduce impacts on the hillside and the Stream Conservation Area. Given the expense and permitting burden of the proposed alternative, the applicant had a strong incentive to find an easier option.

In meetings with the applicant, County staff suggested that the applicant research alternative ways to access the southeast corner of the property, which is the only buildable area of the site outside the SEC-s overlay. To this end, staff offered the applicant a map of "Potential Alternative Access Points Via Easement" to this area. (Exhibit 4) It is important to note that 100 percent of the site's street frontage is within the SEC-s overlay. Therefore, access to the site must occur via the Stream Conservation Area or through easements which avoid it. Staff suggested that if one of these easement alternatives were feasible, the existing cleared path through the SEC overlay could potentially be abandoned. Following this course of action would still require a Hillside Development permit that would both correct the violation and deal with impacts from a new driveway, but it would avoid encroachment in the SEC overlay. In response, the applicant thoroughly researched the options proposed by staff, and has prepared an analysis of potential access alternatives.

For reference, from north to south:

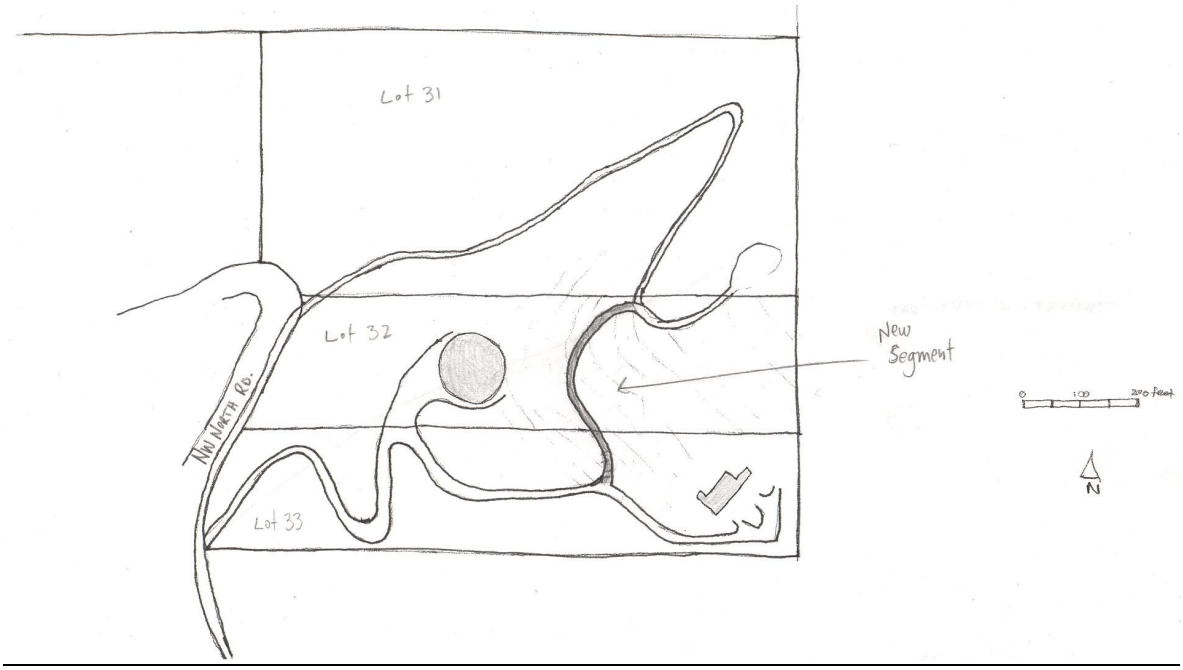
- Lot 31 is the site owned by the applicant, Andrew Michaels / NW North Trees, LLC.

- Lot 32 borders the site to the south and is owned by the Tualatin Valley Water District. A 3-million gallon, concrete water tower is located at the center of the Lot 32.

- Lot 33 is located south of the water district site, and is owned by Vijay and Anne Shankar. A single-family residence is on the east side of Lot 33.

The Shankars driveway, on the street frontage of Lot 33, is the only existing, permitted access point from North Road for any of the three lots. This driveway serves both Lot 33 and, through a private easement agreement, Lot 32. That is, the water district's access to their property exists via an easement granted by the Shankars.

Alternative Access A



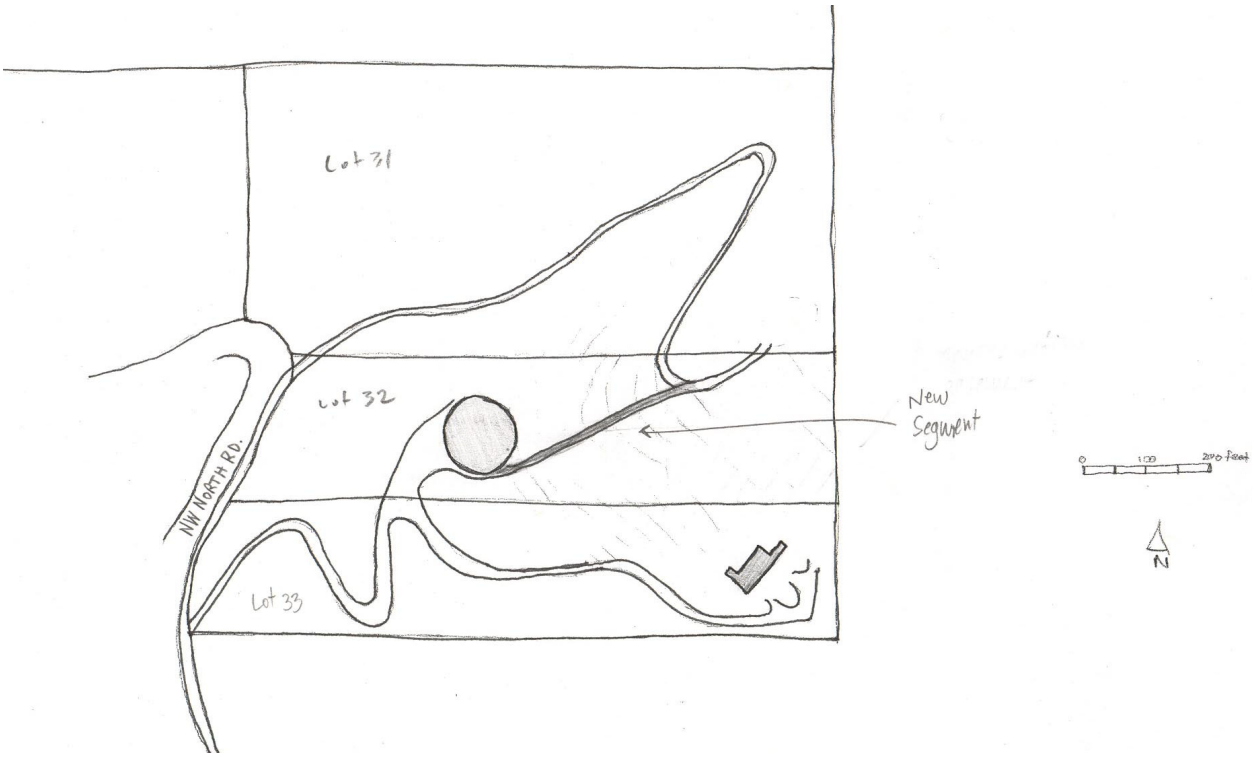
This alternative shows a spur coming off the Lot 33's existing driveway, crossing Lot 32 up-slope from the water tower, and connecting with the existing path to Lot 31.

From an engineering perspective, this option was found to be feasible. The new driveway spur would be at an approximately 15 percent slope.

From an easement perspective, this option was found not to be feasible. The applicant, Andrew Michaels, met with Vijay and Anne Shankar, the current owners of Lot 33, in April 2004 to request an easement across their property from their existing driveway on North Road. The Shankars refused a fair market value offer of compensation, and stated that they were not willing to grant an easement across their property. This meeting is documented in Exhibit 5.

Because an easement cannot be acquired, this alternative is not possible.

Alternative Access B



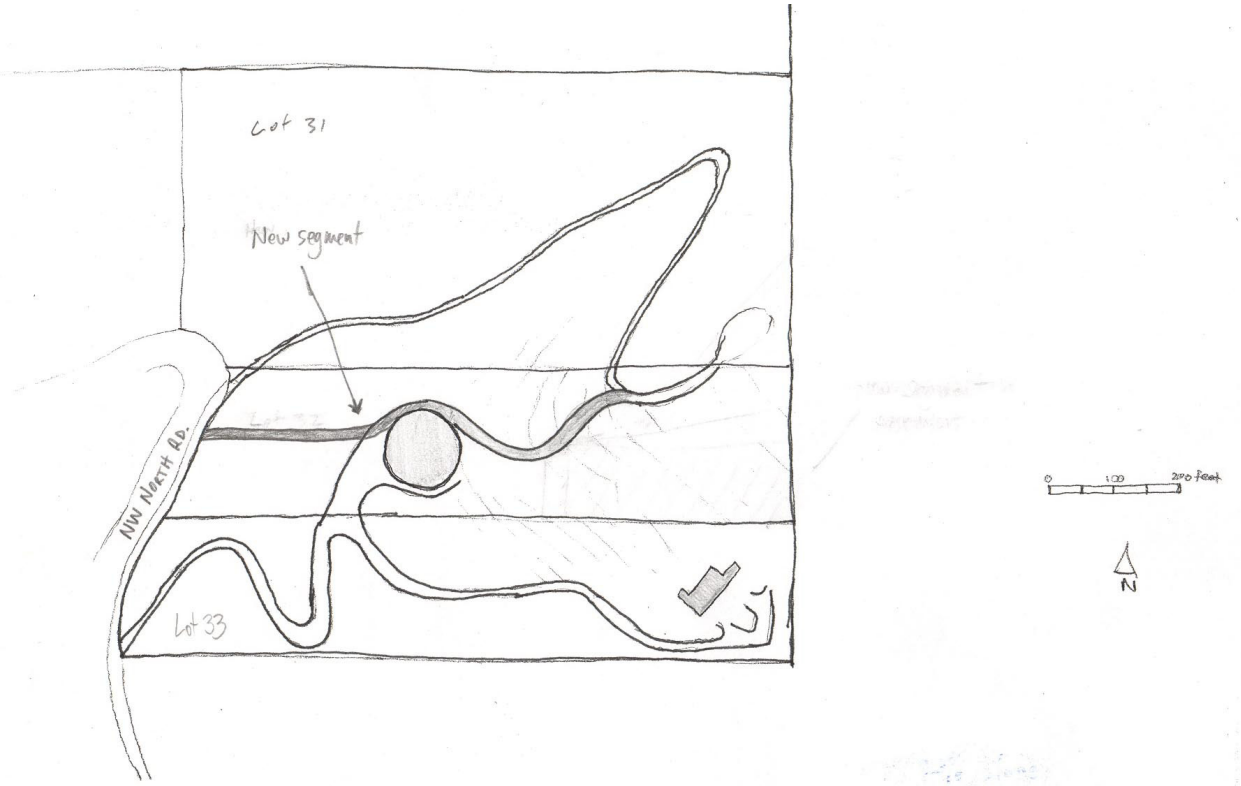
This alternative shows a spur extending from the access driveway to the water tower on Lot 32, skirting around the south side of the tower and continuing up-slope to connect with the existing path to Lot 31. Access to the water tower is via the existing driveway on Lot 33. This route matches the proposed alternative "A1" shown by County staff on the map presented to the applicant.

From an engineering perspective, this option was found to be feasible. The new driveway spur would be at an approximately 20 percent slope.

From an easement perspective, this option was found not to be feasible. The applicant, Andres Michaels, met with Vijay and Anne Shankar, the current owners of Lot 33, in April 2004 to request an easement across their property along their existing driveway on North Road. The Shankars refused a fair market value offer of compensation, and stated that they were not willing to grant an easement across their property. This meeting is documented in Exhibit 5.

Because an easement cannot be acquired, this alternative is not possible.

Alternative Access C



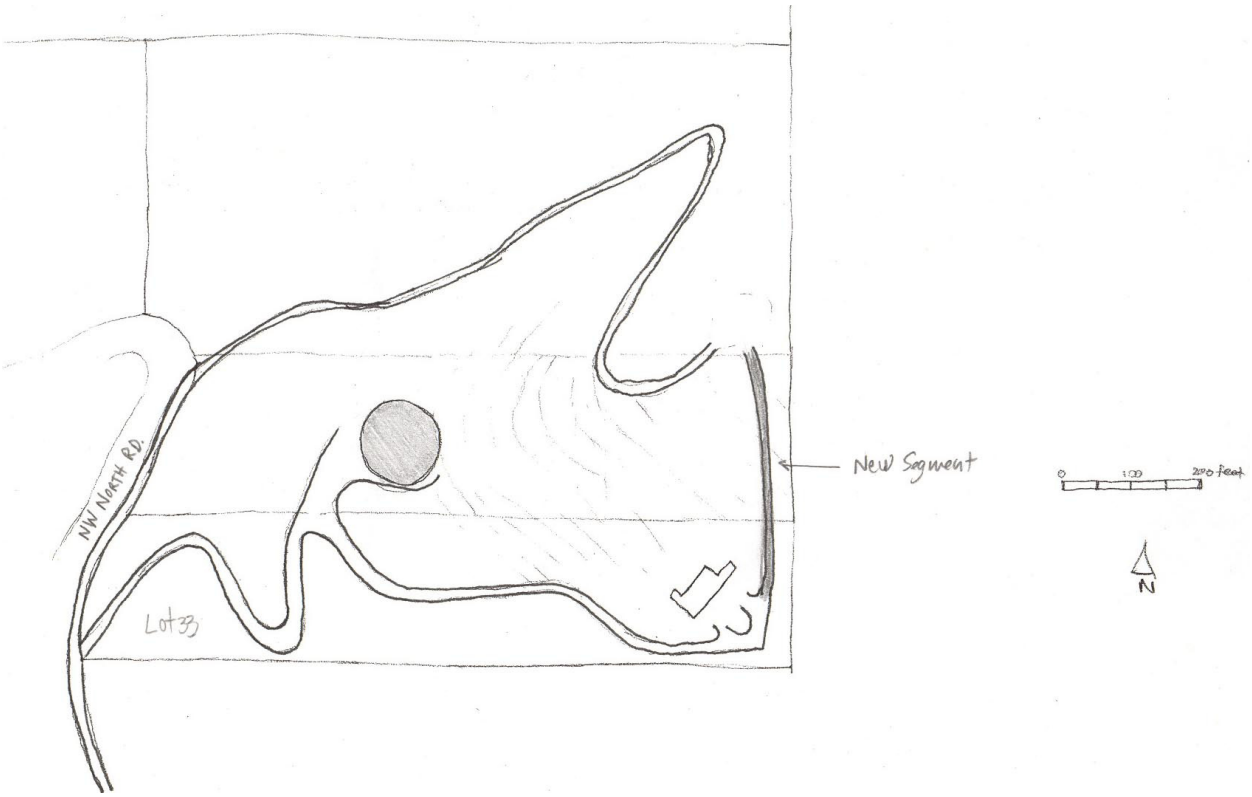
This alternative shows a new driveway cut in from Lot 32's frontage on NW North Road to the water tower, circling around the north side of the tower and continuing up-slope to connect with the existing path on Lot 31. This alignment would be entirely within the Stream Conservation Area, and creates new disturbance.

From an engineering perspective, this option is not feasible. The lower part of the new driveway spur, from the NW North Road right of way to the water tower, would be at an approximately 35 percent slope. This slope does not meet any of the approved transportation, slope hazard, or Fire District standards for driveway access. A new driveway alignment up this very steep slope is not approvable.

From an easement perspective, this option could be feasible. Because it was determined early on that this alignment was unacceptable from an engineering standpoint, the applicant did not approach the water district to request an easement.

Because of excessively steep slopes, this alternative is not possible.

Alternative Access D



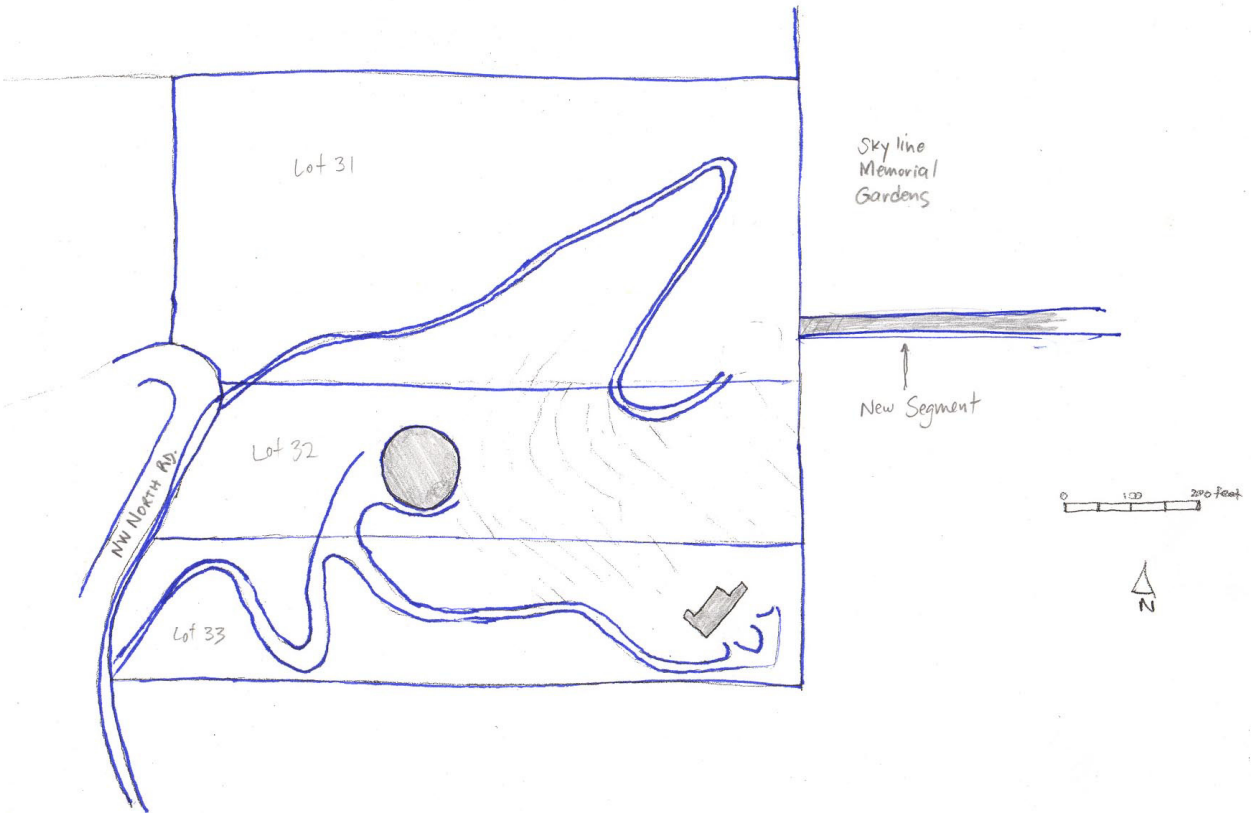
This alternative shows a spur extending from behind the existing house on Lot 33. The new driveway segment would cut across the east edge of Lot 32 to reach the clearing. Access to new segment is via the existing driveway on Lot 33. This route matches the proposed alternative "A2" shown by county staff on the map presented to the applicant.

From an engineering perspective, this option was found to be feasible. The new driveway spur would be at an approximately 15 percent slope.

From an easement perspective, this option was found not to be feasible. The applicant, Andres Michaels, met with Vijay and Anne Shankar, the current owners of Lot 33, in April 2004 to request an easement across their property from their existing driveway on North Road. The Shankars refused a fair market value offer of compensation, and stated that they were not willing to grant an easement across their property. This meeting is documented in Exhibit 5.

Because an easement cannot be acquired, this alternative is not possible.

Alternative Access E



This alternative shows a spur extending from an internal road system of the cemetery to the east, Skyline Memorial Gardens. This route matches the proposed alternative "A3" shown by county staff on the map presented to the applicant. The east property line is the boundary line between the City of Portland and unincorporated Multnomah County, so the new driveway would be within city limits and would be subject to city regulations.

From an engineering perspective, this option was found to be feasible. The new driveway spur would be at an approximately 20 percent slope.

From a permitting perspective, this option was found not to be feasible. The land area immediately to the east of Lot 31 is within the City of Portland and is zoned OSc, that is, Open Space with an Environmental Conservation Overlay.

Per the city's zoning code, the proposed driveway is an "accessory use" to the proposed single family dwelling because it is "a subordinate part of" and "clearly incidental to" the dwelling (Portland Zoning Code, 33.910.030). An accessory use is, "unless otherwise stated, subject to the same regulations as the primary use." (PZC, 33.920.030.C) A single family residence falls under the city's Household Living use category. (PZC, 33.920.110) The Open Space zone explicitly prohibits Household Living uses. (PZC, 33.100.100, Table 100-1) Allowing prohibited uses through the adjustment process is also prohibited by the code. (PZC 33.805.030) Therefore, a driveway to serve a Household Living use is not allowed in the Open Space Zone. In short, this zoning prohibits this driveway alignment.

Moreover, because this area of the cemetery property is subject to an Environmental Conservation overlay, an environmental review would be required to construct the driveway. This review requires that the applicant demonstrate through an alternatives analysis that this option is the least impact alternative. However, to construct this access, significant new grading, tree removal, and habitat impact would be required. Given the comparatively minor environmental impacts of the proposed alternative, it would be essentially impossible to show that the "least impact alternative" standard is met.

Additionally, from an easement perspective, this alternative is not feasible. A residential driveway requires 24-hour access. For security reasons and to prevent vandalism, Skyline Memorial Gardens closes from dusk to 8 a.m. every day. Allowing cemetery roadways to be used for residential through-traffic is unlikely to be acceptable to the cemetery property owner.

Because zoning prohibits it, this alternative is not possible.

Conclusion

Five access alternatives, including three specifically recommended by County staff, were analyzed for feasibility. In fact, all of these options would be less expensive for the applicant to construct and would involve less permitting work than the chosen alternative of following the existing cleared path. However, all the alternatives researched had a fatal flaw. In most of these cases, the fatal flaw was the inability to acquire an easement across neighboring property. The applicant made a good faith effort to acquire an easement from the Shankars, and they refused. Neither the county nor the applicant has the authority to compel neighbors to allow an unwanted use of their private property. Likewise, neither the County nor the applicant has the authority to change the City of Portland regulations on the cemetery property that prohibits a residential driveway. In summary, none of the alternatives researched in this analysis are feasible.

The proposed route, which follows an existing cleared path through the site, is the only feasible option and the least impact alternative. The County has made clear to the applicant that no credit is to be given in the SEC-s permit process for the existence of the cleared path, because it was constructed by a previous owner in violation of its approved permit. Still, violation or not, the path does exist, and following its alignment to build a driveway access to the site has less impact on the existing conditions of the area than cutting down trees and altering slopes elsewhere. For example, only 13 existing trees of six inch caliper or greater will be removed for construction of the new driveway, versus potentially dozens more for any of the alignments proposed above. Minimal environmental impact compared with existing conditions was the original rationale for choosing the proposed alignment, and it still holds true, in light of the alternatives reviewed above. Combined with the mitigation measures described in this document, the site will see an overall net benefit in environmental function.

The four components of the mitigation plan are addressed directly below.

a. **(a) A site plan and written documentation which contains the applicable information for the Stream Conservation Area as required by MCC 33.4575 (C);**

Applicant: A site plan and map of the Stream Conservation Area is included as Figure 3. The information outlined in 33.4575(C) would be required for any SEC-s permit application. Each of the elements required are addressed individually within this application. To summarize, they are:

Table 4. SEC-s Submittal Requirements

Code citation	Requirement	Location in Applicants' Submitted Application
MCC 33.4575 (C)(1)	Site Plan	Existing Conditions Site Plan (Figure 3); Aerial Photo (Figure 2)
MCC 33.4575 (C)(2)	Assessment of Stream Conservation Area Functional Values	Resource Assessment; Functional Values Assessment Scoring Tables (Exhibit 2)
MCC 33.4575 (C)(3)	Grading and Erosion Control Plan	Grading and Erosion Control Plan (Figures 8-11); Geotechnical Report (Exhibit 1)
MCC 33.4575 (C)(4)	Hazard Study	Geotechnical Report (Exhibit 1)
MCC 33.4575 (C)(5)	Mitigation Plan	Mitigation Plan
MCC 33.4575 (C)(6)	Mitigation Plan Approval Criteria	Findings: SEC-s Criteria

Staff: The applicant has provided an in-depth review of the site area, the conservation area and a site plan meeting the requirements of MCC 33.4575(C). The proposed Mitigation plan will adequately enhance the fish and wildlife resources, shoreline anchoring, flood storage, water quality and visual amenities characteristic of the stream in its pre-development state as proposed.

Criterion met.

b. **(b) A description of the applicant's coordination efforts to date with the requirements of other local, State, and Federal agencies;**

Applicant: Multnomah County planning staff were consulted at several pre-application meetings, including those held on December 23, 2003,

February 18, April 19, and July 7, 2004. Follow-up coordination has occurred with several agencies since that time, including the County Transportation department. Staff comments have been incorporated into the proposed plans.

The Oregon Department of Fish and Wildlife (Todd Alsbery) was consulted by the applicant for information on fish in this reach of South Bronson Creek. While specific information was limited, the applicant has incorporated available state and federal data on fish and wildlife resources into the resource assessment section of this document.

Because no fill or removal is proposed within the 0.02 acre wetland on the site, no permit is required from the Division of State Lands of the U.S. Army Corps of Engineers. Further, no Endangered Species Act-listed species have been identified at the site. Therefore, no consultation with federal resource agencies is required.

Multnomah County planning and transportation staff have been consulted throughout the process. The roadway improvements are to be done on public property, to County minimum standards for emergency vehicle access. Staff comments have been incorporated into the proposed plans.

Staff: The applicant has given a description of coordination efforts.

Criterion met.

c. **(c) A Mitigation Plan which demonstrates retention and enhancement of the resource values addressed in MCC 33.4575 (D)(1);**

Applicant: The resource values addressed by the cited regulation are: "fish and wildlife resources, shoreline anchoring, flood storage, water quality and visual amenities." The baseline condition of the site is addressed in the Resource Assessment section of this document. The "retention and enhancement" of these resource values will be achieved by specific mitigation measures as summarized in Table 5 and described in greater detail in the following narrative. Pre-development and post-development functional value assessment ratings are provided in Exhibit 3.

Table 5. Change in Functional Values from Proposed Mitigation and Enhancement Activities

Function	Proposed Enhancements	Pre-development Rating (Score, out of 15)	Post-development rating (Score, out of 15)	Change
Fish Habitat	Remove debris/trash, new planting of natives (LWD recruitment, organic inputs)	Medium (9)	Medium (10)	+1
Wildlife Habitat	New planting of natives (food, cover, habitat structure and diversity), removal of invasives	Medium (11)	Medium (13)	+2
Shoreline Anchoring	New planting of natives along streambank, remove debris/trash	Medium (9)	Medium (10)	+1
Flood Storage	New planting of natives, manage storm runoff at source	Medium (10)	Medium (11)	+1
Water Quality	New planting of natives, treat cut slopes, manage storm runoff at source.	High (14)	High (15)	+1
Visual Amenities	New planting of natives (successional conifers), remove debris/trash	Low (8)	Low (9)	+1
Total Score		*61*	*68*	*+7*

1. Fish and Wildlife Resources

The applicant will plant shade-tolerant and/or later succession trees and arborescent shrubs (*i.e.*, western red cedar, western hemlock, grand fir, western yew, pacific dogwood, vine maple) within existing young alder stands. This planting will occur within the site, particularly targeted to areas on either side of the proposed driveway, which are heavily populated by alder. The intent is to add species diversity, and establish conifers that will be "released" when the relatively short-lived alders die out. New diversity of trees will improve habitat conditions for many forest species (including songbirds and pileated woodpeckers) and create recruitment potential for

large woody debris that does not presently exist. New plantings will also help move the site toward a closed canopy condition that improves wildlife habitat values and provides greater shade over the stream, thereby lowering water temperatures. Lower temperatures will also increase dissolved oxygen levels and improve overall water quality conditions in Bronson Creek as documented by DEQ (2002).

Also in the alder understory, the applicant will remove and manage invasive species within the Stream Conservation Area, particularly English ivy, Himalayan blackberry, and English holly. Removal of invasives will reverse the incremental loss of cover and food sources which harm wildlife habitat. The planting plan will expand existing populations of shade-tolerant Oregon grape, salal, osoberry, and currant. New species provide food sources, improve habitat structural diversity, and provide additional water quality protection, all of which enhance habitat for fish and wildlife. Water quality, shoreline anchoring, and aesthetics will also improve as a consequence of this planting plan.

In addition, the applicant will take steps to vegetate and stabilize the exposed banks along the upslope side of the lower segment of the driveway. First, fall plantings of low native shrubs and native grass seeding will be established, with soils amended as needed to support the plantings. These plantings include *Salix, Rubus, Symphoricarpos, Ribes, Mahonia, Rosa, Amelanchier*, and will be provided with regular watering and maintenance for three growing seasons, or until established. Second, biotechnical methods such as the use of brush mattresses, live staking, or a combination thereof will be installed on the cut banks on the lower portion of the road. A detail is shown in Figure 10. This removes a potential source of erosion and sedimentation, which improves the water quality of the creek below. Lower turbidity in South Bronson Creek improves its value as fish habitat.

Finally, no fencing or other barriers will be installed along the proposed driveway that would be an impediment to wildlife movement through the site.

In short, the planting of later successional, large conifers will increase large woody debris recruitment potential over the long term, which enhances the fish habitat resource value above its pre-development state. Also, the removal of exotic invasive species and planting of diverse native species will increase habitat diversity, cover, and food sources, which enhances wildlife habitat resource value above its pre-development state. Once these enhancements are in place, fish and wildlife habitat values will increase as shown in Table 5.

2. Shoreline Anchoring

No disturbance is proposed that would adversely impact the banks of the creek or its shoreline anchoring function.

The applicant will plant shade-tolerant, later succession trees and arborescent shrubs (*e.g.*, western red cedar, vine maple) within existing young red alder stands. Some planting will occur along the stream banks. This will add species diversity and establish conifers that will be "released" when the relatively short-lived alders die out.

Also in the alder understory, the applicant will remove and manage invasive species within the Stream Conservation Area, particularly Himalayan blackberry and English holly. The planting plan will expand existing populations of shade-tolerant Oregon grape, salal, osoberry, and currant. These species will be planted, where appropriate, upslope from the stream to absorb runoff and stabilize existing slopes, reducing the potential for erosion of the stream bank. In addition the applicant will remove debris and garbage from the stream channel that could be disrupting flow and contributing to erosion. Removing and disposing of this debris, which includes a discarded washing machine, will improve the shoreline anchoring function of the stream corridor.

In this way, the new plantings and debris removal will contribute to shoreline anchoring, and represent an enhancement of this function, compared with its pre-development state. The improvement in this function is modest because existing conditions are quite stable. Nevertheless, enhancement activities will improve this resource value.

3. Flood Storage

Both the existing path and the proposed driveway have negligible impacts on the flood storage function of South Bronson Creek. As discussed in the resource assessment, the segment of the South Bronson Creek that flows through the site has very little flood storage capacity because of its steep, constrained channel and lack of floodplain area.

Driveway runoff will be treated at the source, and there will be no direct discharge into the stream, and no loss of flood storage capacity. The new driveway has been designed with integrated stormwater management features that minimize the impact of the storm runoff. The proposed driveway has been designed to minimize the concentration of stormwater runoff. The design incorporates curb cuts every 10 linear feet of driveway on the downslope side, which release into filter areas. An erosion control system that utilizes straw wattles will be placed at every curb cut. (See Figure 11.) This design detains driveway runoff and allows it to slowly infiltrate into the area of the roadway shoulder, and also prevent downslope erosion. According to stormwater runoff calculations, the peak runoff flow for the 10-year storm event at curb cut areas will be on the order of 0.01 cubic feet per second (cfs). This small quantity of runoff can be detained by the curb cut design, after which it will infiltrate through the system. Exhibit 3 shows preliminary stormwater runoff calculations.

In addition, the applicant will plant native trees and shrubs and will expand existing populations of Oregon grape, salal, osoberry, and currant. These plants absorb water and disperse rainfall, thereby reducing the quantity and rate that surface water enters the stream during storm events, and improving its flood storage function. Because of these actions, flood storage on the site will be enhanced, compared with its pre-development state.

4. Water Quality

The increase in impervious surfaces created by the proposed driveway will have a negligible impact on the hydrology of South Bronson Creek. The stormwater management facilities have been designed to minimize the impact of the stormwater runoff, as described above.

Permanent erosion control and filtration measures will be constructed along the downslope edge of the driveway. This measure will provide erosion control during construction, filter runoff, and function as a sediment trap after construction. The proposed erosion control and filtration measures will enhance the water quality of the stream by trapping sediment produced from the existing exposed weathered bedrock and colluvial deposits.

Further, the applicant will take steps to re-vegetate and stabilize the exposed banks along the upslope side of the lower segment of the driveway. This will remove a potential source of sedimentation, and improve the water quality of the creek below.

Because of these actions, the water quality function of the Stream Conservation Area will be enhanced, when compared with its pre-development state. Once these enhancements are in place, this function will increase as shown in Table 5.

5. Visual Amenities

The Mitigation Plan incorporates management of invasives and new plantings of native species. This plan includes removal and management of invasive species within the Stream Conservation Area. Figure 5 shows the areas where these species will be managed and or removed. This figure also shows the location of the proposed native plantings throughout the Stream Conservation Area. These measures will improve numerous functional values, and enhance the overall visual appearance of the site.

The applicant will move closer to the goal of a full tree canopy for most of the site by inter-planting shade-tolerant trees and arborescent shrubs within existing young red alder stands. This will add species diversity and establish conifers that will be “released” when the relatively short-lived alders die out. The mix of species and increase in canopy will improve the overall aesthetic value of the site.

Debris and garbage, including a washing machine, that has been discarded and thrown into the stream channel will be removed and properly disposed of. Any disturbed areas that occur because of the debris or efforts to remove it will be replanted with native plantings as identified elsewhere in the planting plan. As a result of the new native plantings and debris removal, the visual amenities of the site will see a modest improvement, when compared with its pre-development state. These improvements will enhance the visual amenity function, and increase the assessment score as shown in Table 5.

Staff: The applicant conducted an assessment of the listed resources as outlined above in their narrative. For each resource (Fish habitat, wildlife habitat, shoreline anchoring, water storage, water quality, and visual amenities), the applicant has assessed the quality and quantity of the resource, the potential impact of the proposed development, and how the applicant will mitigate for the resource. Some of the mitigation includes: native tree plantings, revegetation, providing shaded areas, removal of invasive plant species that crowd out natural habitat, stabilization of some hillsides, and a hands off approach of the wetland will enhance the properties resources and improve the habitat. The stream qualities will be retained as no work shall be done in the stream and the plantings near the stream will improve and enhance the immediate area.

Criterion met.

d. **(d) An annual monitoring plan for a period of five years which ensures an 80 percent annual survival rate of any required plantings.**

Applicant: Monitoring of new plantings and invasive removal efforts will be conducted seasonally during the first five years after initial planting and removal. Growth rate and condition of new plantings will be monitored, as will the regrowth of exotic species. General site conditions, including any soil erosion, subsidence, and new weed growth will also be monitored.

The native planting strategy is to install relatively small plant stock in high densities as described on page 41. Some planting die back is anticipated as natural succession occurs, with an overall goal of 80 percent survival, per this standard. Any plantings that die or show signs of damage or disease beyond this 80 percent survival target will be replaced with in-kind plantings within three months of observation. Planting replacement may be delayed up to three months if native plant materials are not immediately available or if weather conditions could jeopardize the success of plantings.

Staff: The applicant has set up a five year monitoring plan that the owner will actively implement.

Criterion met with Condition of Approval..

B. **(E) Design Specifications**

The following design specifications shall be incorporated, as appropriate, into any developments within a Stream Conservation Area:

1. **(1) A bridge or arched culvert which does not disturb the bed or banks of the stream and are of the minimum width necessary to allow passage of peak winter flows shall be utilized for any crossing of a protected streams.**

   Applicant: The proposed driveway does not require a stream crossing. This criterion does not apply.

   Staff: There are no stream crossings proposed as part of the driveway or the roadway.

   Criterion met.

2. **(2) All storm water generated by a development shall be collected and disposed of on-site into dry wells or by other best management practice methods which emphasize groundwater recharge and reduce peak stream flows.**

   Applicant: The stormwater management facilities have been designed to minimize the impact of the stormwater runoff, per best management practices. The driveway is has been designed to minimize gutter flow along the driveway installing curb cuts and filter areas every 10 linear feet of driveway. According to stormwater runoff calculations, the peak runoff flow for the 10-year storm event at curb cut areas will be on the order 0.01 cubic feet per second (cfs). This small quantity of runoff can adequately be detained by the curb cut design as it is allowed to infiltrate. Exhibit 3 shows stormwater runoff calculations.

   Permanent and temporary erosion control and filtration measures will be constructed along the outside edge of the driveway. This measure will provide erosion control during construction, and filter runoff and function as a sediment trap after construction.

   The proposed erosion control and filtration measures will enhance the water quality of the stream by trapping sediment produced from the existing exposed weathered bedrock and colluvial deposits. Erosion control details are shown on Figure 10.

   Stormwater management methods suitable for graveled public roads will be incorporated into the improvements. Specific measures outlined by the County Engineer will be followed for the public part of the project.

   Staff: The applicant has proposed stormwater management techniques consist of flow retardation, channeling and dispersal, and daylighting. The proposed techniques will reduce erosion, sedimentation and handle the stormwater generated from the development on site, without discharging into the stream.

   Criterion met.

3. **(3) Any exterior lighting associated with a proposed development shall be placed, shaded or screened to avoid shining directly into a Stream Conservation Area.**

Applicant: The driveway itself will have no lights. A future house at the end of the driveway will be located outside the Stream Conservation Area, and will have exterior lighting. This lighting will be shielded to avoid shining directly into the Stream Conservation Area. The roadway will have no lights.

Staff: The driveway is the closest development near the stream and as the applicant has indicated, there will be no lights associated with the driveway or directed into the stream. The roadway will not require lights.

Criterion met.

4. **(4) Any trees over 6" in caliper that are removed as a result of any development shall be replaced by any combination of native species whose combined caliper is equivalent to that of the trees removed.**

Applicant: Thirteen trees greater than 6 inches in caliper will be removed as a result of new development within the SEC overlay. All of these trees are located at the switchback between the upper and lower legs of the driveway. The approximate location of these 13 trees is shown on Figure 4. These trees must be removed to stabilize the existing cut slope and to widen this curve's turn radius to satisfy fire district requirements. New trees to be removed constitute 101 caliper inches, as shown in Table 6.

Table 6. Existing Trees To Be Removed

Tree Species	Quantity	Size (dbh)	Total caliper inches
Big Leaf Maple	6	6 inch	36
Big Leaf Maple	2	7 inch	14
Big Leaf Maple	2	8 inch	16
Big Leaf Maple	2	10 inch	20
Douglas Fir	1	15 inch	15
Total	13 trees		101 inches

In addition, the applicant must mitigate for trees that were removed as a result of the 1992 clearing of the existing driveway. No documentation of tree removal for the driveway clearing activity exists. Therefore, the applicant calculated the total tree caliper by measuring the total caliper of a sample of uncleared land on the site, applying this to the area cleared for the driveway, and subtracting out area within the path that was already cleared.

A narrow cleared path, believed to be a logging road, pre-dated the 1992 driveway clearing. This path is described on page 4 under Site Conditions, and is shown on Figure 3. For approximately half its total length within the Stream Conservation Area, the existing path overlaps this logging road. This logging road was part of the predevelopment condition of the site and its overlapping area was subtracted from the total tree caliper calculation.

To calculate the number of trees that may have been removed in 1992, the applicant first measured a sample plot of undisturbed land, located downslope from the bottom of the driveway. This 100 foot by 100 foot plot contained 228 caliper inches of trees greater than 6 inches dbh, or a rate of 22.8 caliper inches per 1,000 square feet. Extrapolating from this sample plot of undisturbed land, and accounting for the width of the existing path and historic logging road, the applicant calculates that 542 caliper inches of trees greater than 6 inches dbh would have been removed to create the existing path. As stated above, new construction will require the additional removal of trees totaling 101 caliper inches. Therefore, the total caliper inches removed as a result of both previous and proposed clearing is 643. Calculations for the mitigation requirement are shown in Table 7 on the following page.

Table 7. Calculation of Total Diameter of Trees Removed

Feature	Quantity
Length of existing path	1,300 feet
Width of disturbance area for existing path	25 feet
Disturbance area of existing path	35,000 square feet
Length of logging road, overlapping existing path:	750 feet
Width of disturbance area for logging road	15 feet
Previously disturbed area within existing path	11,250 square feet
Total disturbance of 1992 driveway cut	23,750 square feet
Tree density of undisturbed land (trees larger than 6 inches dbh)	22.8 caliper inches per 1,000 square feet
Trees removed for 1992 driveway cut	542 caliper inches
Trees to be removed for proposed development (from Table 6)	101 caliper inches
Total trees removed	643 caliper inches

The existing conditions site plan (Figure 3) shows the area, now within the Stream Conservation Area, that was cleared for the existing path and the already cleared areas of the old logging road. Figure 4 shows the location of trees to be removed for further improvement of the driveway, and where replacement plantings for these trees will be located.

The majority of new trees planted on the site to satisfy this requirement will be one-half inch caliper "whips" that will be inter-planted among the existing tree cover. This planting of smaller trees will be done using hand tools on both sides of the stream, particularly targeting areas on both sides of the proposed driveway, which are heavily populated by young alder. In total, 1,200 of these saplings will be planted on approximately 50,000 square feet of mitigation area as shown on the mitigation plan. In previously cleared mitigation areas that are easily accessible from the driveway, larger, two-inch caliper trees will be planted. Of the larger

caliper trees, 22 will be planted in the within Stream Conservation Area alongside the driveway, in the wetland improvement area, and along the historic logging road.

Table 8. Proposed Tree Mitigation.

Trees	Quantity	Total caliper inches
½-inch diameter trees planted within existing forested areas	1,200	600
2-inch diameter trees planted in accessible, cleared areas	22	44
Total tree mitigation	1,222 trees	644 caliper inches

The applicant will plant shade-tolerant and/or later succession trees and arborescent shrubs (*i.e.*, western red cedar, western hemlock, grand fir, western yew, pacific dogwood, vine maple) within existing young alder stands. The intent is to add species diversity, and establish conifers that will be "released" when the relatively short-lived alders die out. New diversity of trees will improve habitat conditions for many forest species (including songbirds and pileated woodpeckers) and create recruitment potential for large woody debris that does not presently exist. New plantings will also help move the site toward a closed canopy condition that improves resource values.

On this heavily forested site, the small tree approach is more ecologically sound than planting larger caliper trees, and over time, functionally equivalent. Larger caliper trees require mechanized methods of planting (trucks, backhoes) and larger disturbed areas to accommodate root balls, both of which disrupt the ecology of the Stream Conservation Area in the short term. Saplings show better adaptability to site conditions and less shock from replanting, and typically catch up to comparable larger caliper stock in only a few short years. Given that these trees will grow slowly beneath the alder overstory for a decade or more, planting smaller caliper trees is a more reasonable approach. Where it is possible to plant trees close to the driveway, larger caliper trees will be planted.

In addition, the intent of this criterion is met through the implementation of other mitigation measures described in the plan. These include removal of invasive species, removal of debris from the stream channel, and various stormwater and erosion control measures. The removal of invasive species is particularly important to the tree replacement goal of this criterion because it creates a healthier environment for the newly planted trees to survive over the long term. Though not specifically required by this criterion, the removal of such species as English ivy, Himalayan blackberry, and English holly will create a background that better encourages growth of native trees, both those existing and those newly planted. Such actions, which protect existing trees and the new plantings, have a preservation value that contributes to meeting this criterion.

Staff: No trees will be removed from the Right-of-Way. For the driveway, the applicant indicated that 13 trees will be removed. In addition to the mitigation for the estimated tree removal from the 1992 driveway clearing, the applicant estimates that there was a total reduction of 643 caliper inches of tree. To mitigate, the applicant is proposing to plant 1,200 saplings of roughly ½ inch caliper. Additionally, the applicant is proposing to plant 22 trees with a 2-inch caliper for a combined mitigation plan of 644 caliper inches, meeting this standard.

Providing the plantings occur and the survival rate is satisfied, this criterion is met.

5. **(5) Satisfaction of the erosion control standards of MCC 33.5520.**

Applicant: The applicant has developed an erosion control plan in full compliance with MCC 33.5520. This plan includes Best Management Practices for reducing erosion on the site. The grading and erosion control plan is shown on Figures 8 through 11.

Staff: The proposed erosion control plan uses Best Management Practices and has addressed the erosion control standards of MCC 22.5520(A)(2) under finding #10(B)(2).

Criterion met

.

6. **(6) Soil disturbing activities within a Stream Conservation Area shall be limited to the period between June 15 and September 15. Revegetation/soil stabilization must be accomplished no later than October 15. Best Management Practices related to erosion control shall be required within a Stream Conservation Area.**

Applicant: The construction period for soil disturbing activities within the Stream Conservation Area will occur between June 15 and September 15. Revegetation and soil stabilization measures performed according to the mitigation plan will be completed prior to October 15, 2005. An erosion control plan that implements Best Management Practices is included as part of the application, as shown in Figures 8 through 11

Staff: This criterion shall be met with a condition of approval.

Criterion met.

7. **(7) Demonstration of compliance with all applicable state and federal permit requirements.**

Applicant: No state and federal permits are necessary for the construction of the proposed driveway within the Stream Conservation Area. The site has one identified wetland, 0.02 acres in size, on the east side of the site. This wetland will be enhanced following the mitigation plan as shown on Figure 5. Because no fill or removal is proposed on the 0.02 acre wetland on the site, no state or federal permits are required.

Staff: The County is not aware of any Federal or State permits that may be required for the proposed project.

Criterion met.

10. **Hillside Development Permit**

MCC 33.5515 Application Information Required

A. **(E) A Hillside Development permit may be approved by the Director only after the applicant provides:**

(1) Additional topographic information showing that the proposed development to be on land with average slopes less than 25 percent, and located more than 200 feet from a known landslide, and that no cuts or fills in excess of 6 feet in depth are planned. High groundwater conditions shall be assumed unless documentation is available, demonstrating otherwise; or

(2) A geological report prepared by a Certified Engineering Geologist or Geotechnical Engineer certifying that the site is suitable for the proposed development; or,

(3) An HDP Form– 1 completed, signed and certified by a Certified Engineering Geologist or Geotechnical Engineer with his/her stamp and signature affixed indicating that the site is suitable for the proposed development.

(a) If the HDP Form– 1 indicates a need for further investigation, or if the Director requires further study based upon information contained in the HDP Form– 1, a geotechnical report as specified by the Director shall be prepared and submitted.

Applicant: A geotechnical report reviewing site conditions and proposed development has been prepared by a Certified Geotechnical Engineer (Exhibit 1). The conclusion of the engineer is that "the site is suitable for the proposed house and barn structures and associated driveway improvements" (Geotech report, page 8). This satisfies the requirement of subsection (2) above.

Staff: The applicant has submitted a geotechnical report prepared by a Certified Geotechnical Engineer which meets MCC 33.5515(E)(2) above and applies to the roadway improvements within the Right-of-Way as well as the driveway.

Criterion met.

MCC 33.5520 Grading and Erosion Control Standards

Approval of development plans on sites subject to a Hillside Development Permit shall be based on findings that the proposal adequately addresses the following standards. Conditions of approval may be imposed to assure the design meets the standards:

B. **(A) Design Standards For Grading and Erosion Control**

1. **(1) Grading Standards**

a. **(a) Fill materials, compaction methods and density specifications shall be indicated. Fill areas intended to support structures shall be identified on the plan. The Director or delegate may require additional studies or information or work regarding fill materials and compaction;**

Applicant: The proposed driveway is approximately 1,500 feet long and consists of a 15-foot wide concrete driving section. This section will be a minimum of 4 inch concrete underlain by a minimum of a 6 inch subgrade that will likely consist of ¾ inch – 0 aggregate compacted to 95 percent standard proctor.

Grading along the lower portion of the driveway, below the first switchback, will utilize a scraper to level out the existing path surface. This area will undergo a maximum of 8 inches of cutting and filling of the existing material.

A three foot maximum cut depth will occur through the roadway section on the lower hairpin turn. The wall adjacent to the hairpin turn will have a maximum cut of 14 feet. Refer to the Geotechnical Engineering Report (Exhibit 1) for details on this cut section.

The proposed driveway above the lower hairpin turn will be graded with a fill depth of approximately one foot. This fill material will we be compacted to 95 percent standard proctor.

Figure 8 indicates details on the location of grading for the driveway. The fill materials described above do not support any structures. Per the county's definition, a driveway is not a structure.

Staff: The applicant has indicated either in the narrative, Geotech report and the site plans the materials, compaction, and density specifications for the driveway and dwelling site. A geotechnical engineer will supervise construction as a condition of approval.

Criterion met.

b. **(b) Cut and fill slopes shall not be steeper than 3:1 unless a geological and/or engineering analysis certifies that steep slopes are safe and erosion control measures are specified;**

Applicant: Certain cut and fill slopes indicated on the site plan and on the erosion control plan will be steeper than 3:1. The geological analysis prepared by a certified geotechnical engineer concludes that these slopes are safe (Exhibit 1). In part, this is due to the erosion control measures that are specified in the grading and erosion control plan (Figures 8 through 11).

Staff: Some of the identified areas will have slopes greater than 3:1. However, a geotechnical engineer has indicated in their report that the slops will be safe. Additionally the applicant will be using erosion control measures that more than meet the Best Management Practices required.

Criterion met.

c. **(c) Cuts and fills shall not endanger or disturb adjoining property;**

Applicant: As shown on the site plan, all of the cuts and fills associated with the driveway will occur on site and do not endanger or disturb adjoining property. Because of the topography of the site, any risk of slide is directed toward the center of the site, away from any adjacent property boundary.

The applicant and the abutting neighbor to the south have filed for a property line adjustment that would change the configuration of the boundary between them. This change, if approved, would place 350 feet of the driveway closest to NW North Road on the property of the southern neighbor. An easement agreement for use of the driveway has been negotiated with this owner. The improved driveway and its associated cuts and fills will be constructed with the explicit permission of the property owner, and will not "endanger" the property.

Staff: The development taking place on the property is near the middle of the current property boundaries, having the least potential impact on adjacent properties. The steepest portions of the driveway are in the middle of the property which poses little risk to the surrounding property owners. Additionally, a geotechnical engineer will be on hand to supervise construction and ensure that the cuts and fills do not endanger the adjacent properties.

Criterion met.

d. **(d) The proposed drainage system shall have adequate capacity to bypass through the development the existing upstream flow from a storm of 10-year design frequency;**

Applicant: The proposed driveway and its drainage system will not cross or otherwise disturb the stream channel. Because the development has no significant impact on the existing upstream flow, this standard does not directly apply.

The increase in impervious surfaces created by the proposed driveway will have a negligible impact on the hydrology of South Bronson Creek. The new driveway has been designed with integrated stormwater management features that minimize the impact of the storm runoff. The proposed driveway has been designed to minimize the concentration of stormwater runoff. The design incorporates curb cuts every 10 linear feet of driveway

on the downslope side, which release into filter areas. An erosion control system that utilizes straw wattles will be placed at every curb cut. This design detains driveway runoff and allows it to slowly infiltrate into the area of the roadway shoulder, and also prevent downslope erosion. According to stormwater runoff calculations, the peak runoff flow for the 10-year storm event at curb cut areas will be on the order of 0.01 cubic feet per second (cfs). This small quantity of runoff can be detained by the curb cut design, after which it will infiltrate through the system. Exhibit 3 shows preliminary stormwater runoff calculations.

Staff: The applicant has had a drainage plan designed to keep stormwater associated with the new development from flowing into the stream on site and away from the County Right-of-Way. The system of spaced release points and minimized concentration will help the stormwater infiltrate before reaching the property line. The drive contains a detention system that according to the engineer, will allow the stormwater of a 10-year/24-hour storm event to infiltrate on site.

Provided the drainage system is installed as proposed, this criterion is met.

e. **(e) Fills shall not encroach on natural watercourses or constructed channels unless measures are approved which will adequately handle the displaced streamflow for a storm of 10-year design frequency;**

Applicant: The proposed driveway and its drainage system will not fill within or otherwise disturb the stream channel. Because the development has no significant impact on the streamflow of South Bronson Creek, this standard does not directly apply. Stormwater management and erosion control methods that control and mitigate runoff (sheet flow) will be installed to reduce impacts on the site. The driveway has been designed to minimize gutter flow along the driveway by installing curb cuts and filter areas every 10 linear feet of driveway. According to stormwater runoff calculations, the peak runoff flow for the 10-year storm event at curb cut areas will be on the order 0.01 cubic feet per second (cfs). This small quantity of runoff can be detained by the curb cut design, after which it will infiltrate through the system. Exhibit 3 shows preliminary stormwater runoff calculations.

Staff: The drainage system on the driveway prevents the generated stormwater from reaching the stream. The dwelling has a drainage system as well and is located over 300-feet from the stream so it will not impact the stream either.

Criterion met.

2. **(2) Erosion Control Standards**

a. **(a) On sites within the Tualatin River Drainage Basin, erosion and stormwater control plans shall satisfy the requirements of OAR 340. Erosion and stormwater control plans shall be designed to perform as**

prescribed by the currently adopted edition of the "*Erosion Prevention & Sediment Control Plans Technical Guidance Handbook (1994)"* and the "*City of Portland Stormwater Quality Facilities, A Design Guidance Manual (1995)*". Land-disturbing activities within the Tualatin Basin shall provide a 100-foot undisturbed buffer from the top of the bank of a stream, or the ordinary high watermark (line of vegetation) of a water body, or within 100-feet of a wetland; unless a mitigation plan consistent with OAR 340 is approved for alterations within the buffer area.

Applicant: The subject site is within the Tualatin River drainage basin. The grading and erosion control plan (Figures 8 through 11) and the methods for handling stormwater runoff have been designed according to the documents cited above.

The existing cleared path that was constructed in 1992 by a previous owner is within the 100-foot undisturbed buffer from South Bronson Creek. The applicant determined through an alternatives analysis that following this alignment to build the improved driveway was the only feasible method for accessing the buildable area of the site (see page 13). Therefore, new construction requires alterations within the 100 foot buffer.

Consequently, the applicant has proposed a mitigation plan for alterations within this buffer area. The mitigation plan addresses the historic impacts of the 1992 creation of the path, and the new impact from the improvements to this driveway path. The mitigation plan is consistent with OAR 340 and the requirements for an SEC-s permit, per MCC 33.4575(D). The mitigation plan specifically includes measures that reduce erosion potential into the stream, stabilize existing slopes, and enhance environmental functions of the site. These mitigation measures will take place throughout the 300-foot Stream Conservation Area, but the majority of mitigation actions will focus on the 100-foot stream buffer, where they will have the greatest benefit to the stream resource

Staff: The site is within the Tualatin River Drainage Basin. The applicant has proposed an erosion control plan that takes into account Best Management Practices such as erosion control blankets, native vegetation replanting, tree plantings, invasive species removal, straw bails, brush mattress, sediment fencing etc. The driveway drainage system will also help mitigate erosion by controlling the stormwater and its release, thus reducing riling and water based erosion.

The applicant must develop within 100-feet of the stream due to the lots access to North Road. The stream crosses under North Road within the roughly 60-feet the property abuts the road. As a result, the applicant has proposed a mitigation plan for the alterations within the 100-foot buffer that include extensive erosion controls, slope stabilization, and environmental enhancements such as planting tree saplings and native vegetation. Staff finds the mitigation plan is consistent with OAR 340.

b. **(b) Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one time during construction;**

Applicant: Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard

Staff: The applicant shall revegetate as soon as practicable as part of the erosion control plan. Additionally, the tree saplings, native vegetation plantings, matting, and brush mattress will help stabilize any exposed areas of earth material.

Criterion met.

c. **(c) Development Plans shall minimize cut or fill operations and ensure conformity with topography so as to create the least erosion potential and adequately accommodate the volume and velocity of surface runoff;**

Applicant: The existing path follows the general contour of the steep slope. The proposed driveway improvements follow this contour and the existing path through the site, creating the least erosion potential of any development option. The volume and velocity of surface runoff from the new driveway can be adequately accommodated by the stormwater management control devices shown in Figures 8 through 11. The proposed driveway has been designed to minimize the concentration of stormwater runoff. The design incorporates curb cuts every 10 linear feet of driveway on the downslope side, which release into filter areas. An erosion control system that utilizes straw wattles will be placed at every curb cut. This design detains driveway runoff and allows it to slowly infiltrate into the area of the roadway shoulder, and also prevent downslope erosion. According to stormwater runoff calculations, the peak runoff flow for the 10-year storm event at curb cut areas will be on the order of 0.01 cubic feet per second (cfs). This small quantity of runoff can be detained by the curb cut design, after which it will infiltrate through the system. Exhibit 3 shows stormwater runoff calculations, prepared and stamped by a registered professional engineer.

Staff: The path of the driveway follows the topography to allow for the least amount of slope as possible. Using the path as indicated on the site plan and design plans lowers the erosion potential by not using steeper routes and increased gravitational pull on sediment. The matting, plantings, and revegetation will also help reduce erosion potential significantly. The main area of cutting will be the surface of the existing road and the eastern side of the first switchback. The erosion control plan in place will reduce the surface area of exposed earth materials to a minimum. The driveway will also have a stormwater management system installed during

construction to adequately handle the stormwater generated from the development.

Criterion met.

d. **(d) Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development;**

Applicant: Erosion shall be controlled and prevented by such measures as roughening the surface, installation of interceptor ditches, terracing, covering with matting, mulch or plastic sheeting. Runoff shall be prevented from entering a slope and from undercutting the base of slopes. Construction shall not be considered complete and acceptable until all disturbed soil surfaces have been protected from erosion with permanent landscaping, covered with impervious surfaces, restored to original undisturbed condition, or permanently stabilized. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: The measures mentioned by the applicant in the narrative will help protect the surface area and reduce the potential for erosion.

Criterion met.

e. **(e) Whenever feasible, natural vegetation shall be retained, protected, and supplemented;**

1. A 100-foot undisturbed buffer of natural vegetation shall be retained from the top of the bank of a stream, or from the ordinary high watermark (line of vegetation) of a water body, or within 100-feet of a wetland;

2. The buffer required in 1. may only be disturbed upon the approval of a mitigation plan which utilizes erosion and stormwater control features designed to perform as effectively as those prescribed in the currently adopted edition of the *"Erosion Prevention & Sediment Control Plans Technical Guidance Handbook (1994)*" and the "*City of Portland Stormwater Quality Facilities, A Design Guidance Manual (1995)*" and which is consistent with attaining equivalent surface water quality standards as those established for the Tualatin River Drainage Basin in OAR 340;

Applicant: The existing cleared path is within the 100-foot undisturbed buffer from South Bronson Creek. The applicant determined through an alternatives analysis that following this alignment to build the improved driveway was the only feasible method for accessing the buildable area of the site (see page 13). Therefore, new construction requires new disturbance within the 100 foot buffer.

Consequently, the applicant has proposed a mitigation plan for alterations within this buffer area. The mitigation plan addresses the historic impacts of the 1992 creation of the path, and the new impact from the improvements to this driveway path. The mitigation plan is consistent with OAR 340 and the requirements for an SEC-s permit, per MCC 33.4575(D). The mitigation plan incorporates the grading and erosion control plan (Figures 8 through 11) which specifically includes measures that reduce erosion potential into the stream, stabilize existing slopes, and enhance environmental functions of the site. These erosion and stormwater control features are designed to meet or exceed the performance of features in the cited Handbook and Manual. Mitigation measures described in the plan will take place throughout the 300-foot Stream Conservation Overlay, but the majority of mitigation actions will focus on the 100-foot stream buffer, where they will have the greatest impact on the stream resource.

Staff: Because the stream is in the middle of the roughly 60-foot long segment of the property adjacent to NW North Road, the access road will be within 100-feet of the stream. As such a mitigation plan is required. The mitigation plan was found to be consistent with OAR 340 and will reduce the potential for erosion and sediment control in Finding #10(B)(2)(a).

Criterion met.

f. **(f) Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical;**

Applicant: As shown on the grading and erosion control plan (Figures 8 through 11), erosion control measures such as straw wattles, curb cuts, and erosion control blankets will be installed as part of the driveway construction. Permanent plantings will be installed on either side of the driveway and throughout the forested area. A temporary sediment fence will also be installed during the construction period. Detailed notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard

Staff: The erosion control devices will be constructed and placed as the road is constructed. Plantings and revegetation will occur as soon as practicable as indicated by the applicant.

Criterion met.

g. **(g) Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be structurally retarded where necessary;**

Applicant: Numerous temporary and permanent erosion control measures will be installed that will accommodate increased runoff from the paved driveway and during the construction period. According to stormwater runoff calculations, the peak runoff flow for the 10-year storm event at curb

cut areas will be on the order of 0.01 cubic feet per second (cfs). This small quantity of runoff can be detained by the curb cut design, after which it will infiltrate through the system. Exhibit 3 shows preliminary stormwater runoff calculations. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: The applicant's engineer has designed a stormwater system that collects the runoff and disperses it over a number of curb cuts that will allow infiltration into the ground for a 10-year/24-hour storm event. Other The dwelling shall have runoff detained on site and infiltrated back into the ground as well without any impact to adjacent properties or the stream on site. Hay bails, silt fencing, matting, and other devices will help retard, restrict and slow any runoff during construction.

Criterion met.

h. **(h) Sediment in the runoff water shall be trapped by use of debris basins, silt traps, or other measures until the disturbed area is stabilized;**

Applicant: During construction, the disturbed areas will be protected by a temporary sediment fence. Also, because the driveway is within the Stream Conservation Area, construction is restricted to the period between June 15 and September 15. This is traditionally the driest time of the year, when runoff is least likely to occur. Revegetation and soil stabilization measures performed according to the mitigation plan will be completed prior to October 15, 2005. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: The measures proposed by the applicant are considered Best Management Practices and should adequately capture any sedimentation in runoff. Silt fencing, straw bails, and matting are all erosion control devices that trap sediment and prevent erosion.

Criterion met.

i. **(i) Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installation of temporary or permanent drainage across or above such areas, or by other suitable stabilization measures such as mulching or seeding;**

Applicant: Cut and fill slopes shall be constructed in a manner that minimizes erosion. Erosion shall be controlled and prevented by such measures as roughening the surface, installation of interceptor ditches, terracing, covering with matting, mulch or plastic sheeting. A design that incorporates brush mattresses on existing cut slopes will control erosion. Runoff shall be prevented from entering a slope and from undercutting the base of slopes. Detailed erosion control notes and drawings are included on

the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard

Staff: The measures proposed by the applicant should adequately prevent erosion on the exposed areas being developed. Mulching, roughening the surface brush mattresses, and sheeting will all protect the exposed surface areas.

Criterion met.

j. **(j) All drainage provisions shall be designed to adequately carry existing and potential surface runoff to suitable drainageways such as storm drains, natural watercourses, drainage swales, or an approved drywell system;**

Applicant: The proposed driveway has been designed to minimize the concentration of stormwater runoff. The design incorporates curb cuts every 10 linear feet of driveway on the downslope side, which release into filter areas. An erosion control system that utilizes straw wattles will be placed at every curb cut. This design detains driveway runoff and allows it to slowly infiltrate into the area of the roadway shoulder. In this way, surface runoff from the driveway surface will percolate naturally into the ground and will not be released directly into Bronson Creek. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: The proposed system of multiple filter areas designed to take small amounts of the overall stormwater generated allows for the ground to absorb runoff generated from a 10-year/24-hour storm event as indicated by the applicant's engineer. The runoff will infiltrate before it reaches any property lines or the stream located on site.

Criterion met.

k. **(k) Where drainage swales are used to divert surface waters, they shall be vegetated or protected as required to minimize potential erosion;**

Applicant: Swales are not proposed as part of the stormwater management system. Surface runoff will be detained in small areas beneath curb cuts, which are placed every 10 linear feet along the driveway's downslope edge. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: No drainage swales are proposed as part of this project.

Criterion met.

l. **(l) Erosion and sediment control devices shall be required where necessary to prevent polluting discharges from occurring. Control devices and measures which may be required include, but are not limited to:**

1. Energy absorbing devices to reduce runoff water velocity;

2. Sedimentation controls such as sediment or debris basins. Any trapped materials shall be removed to an approved disposal site on an approved schedule;

3. Dispersal of water runoff from developed areas over large undisturbed areas.

Applicant: The proposed stormwater control and erosion control methods shown in Figures 8 through 11 outline the control devices and measures used to limit discharges and sedimentation. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: The submitted erosion control plot plans and written plan place erosion control devices on the downslopes of the construction areas that will trap sediment, retard the water velocity, and will help prevent discharges into the stream on the property. Stormwater will be dispersed at a number of areas that will allow the water to infiltrate prior to reaching the stream.

Criterion met.

m. **(m) Disposed spoil material or stockpiled topsoil shall be prevented from eroding into streams or drainageways by applying mulch or other protective covering; or by location at a sufficient distance from streams or drainageways; or by other sediment reduction measures;**

Applicant: Erosion shall be controlled and prevented by covering exposed soils with matting, mulch or plastic sheeting. Construction shall not be considered complete and acceptable until all disturbed soil surfaces have been protected from erosion with permanent landscaping, covered with impervious surfaces, restored to original undisturbed condition, or permanently stabilized. Detailed erosion control notes are included on the grading and erosion control plan, Figures 8 through 11. These measures satisfy the above standard.

Staff: Plastic sheeting, straw mulching, brush matting, and plantings will all cover exposed or stockpiled soils and prevent erosion.

Criterion met.

n. **(n) Such non-erosion pollution associated with construction such as pesticides, fertilizers, petrochemicals, solid wastes, construction**

chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, continuous site monitoring and clean-up activities.

Applicant: During construction period, the site will be continuously monitored to prevent any of the above pollution from leaving the construction area. The construction of the driveway requires little or no use of any of the pollutants described.

Staff: Continual monitoring of construction will help prevent pollution by chemicals and solid wastes. The erosion control measures proposed as part of the project will also help prevent pollution by absorption and retarding the velocity of runoff that may carry pollutants. The applicant has noted that construction requires little or no non-erosion pollution.

Criterion met.

o. **(o) On sites within the Balch Creek Drainage Basin, erosion and stormwater control features shall be designed to perform as effectively as those prescribed in the "*Erosion Prevention & Sediment Control Plans Technical Guidance Handbook (1994)*". All land disturbing activities within the basin shall be confined to the period between May first and October first of any year. All permanent vegetation or a winter cover crop shall be seeded or planted by October first the same year the development was begun; all soil not covered by buildings or other impervious surfaces must be completely vegetated by December first the same year the development was begun.**

Applicant: The site is not within the Balch Creek Drainage Basin. This standard does not apply

Staff: Staff concurs. The project is not located within the Balch Creek Drainage Basin.

Criterion met.

11. **Multnomah County Comprehensive Plan Policies**

A. **Policy 37**

Water and Disposal Systems

A. Shall be connected to a public sewer and water system, both of which have adequate capacity; or
B. Shall be connected to a public water system, and the Oregon Department of Environmental Quality (DEQ) will approve a subsurface sewage disposal system on the site; or
C. Shall have an adequate private water system, and the Oregon Department of Environmental Quality (DEQ) will approve a subsurface sewage disposal system; or

D. Shall have an adequate private water system, and a public sewer with adequate capacity.

Staff: The City of Portland Sanitarian, the area's representative for the Oregon Department of Environmental Quality, has determined in Land Feasibility Study 60-04 that the property is suitable for a sand filter waste disposal system. The Tualatin Valley Water District has certified that they will be providing water to the site.

Policy met.

B. **Policy 38**

Fire Protection

B. There is adequate water pressure and flow for fire fighting purposes; and

C. The appropriate fire district has had an opportunity to review and comments on the proposal.

Staff: Tualatin Valley Fire & Rescue has reviewed the applicant's request for an alternative means of protect (Exhibit 5) and have agreed to it (Exhibit 6).

Policy met providing the agreed to Alternative Means of Fire Protection is implemented.

Conclusion

Based on the findings and other information provided herein, this application for a Hillside Development Permit and Significant Environmental Concern Permit satisfies, with appropriate conditions, the applicable Multnomah County Zoning Code requirements.

Exhibits

1. Multnomah County Assessment and Taxation Printout
2. General Application Form
3. Site Plan
4. Erosion Control Plan
5. Applicant's Request for an Alternative Means of Fire Protection
6. Tualatin Valley Fire & Rescues concurrence with the request for an Alternative Means of Fire Protection