COMPREHENSIVE PLAN AMENDMENT DOCKETING FORM

****Note: This application is filed concurrently with Rezone Application****

I. CHECK THE APPROPRIATE BOXES

COMP PLAN MAP [XX] COMP PLAN TEXT [ ]

NOTICE: If the amendment you are applying for is within an URBAN GROWTH AREA or you are proposing a UGA expansion of the Ellensburg, Cle Elum, or Roslyn UGA you are required to docket your item with that City as well. You must contact the appropriate City for filing deadlines, fees, application, and costs.

II. GENERAL INFORMATION

A. APPLICANT'S NAME: Suncadia LLC
   MAILING ADDRESS: P. O. Box 887
   Roslyn WA 98941
   Attn: Traci Shallbetter
   E-MAIL ADDRESS: tshallbetter@suncadia.com
   BUSINESS PHONE: 509-649-3000 HOME PHONE: N/A

B. AGENT'S NAME: F. Steven Lathrop
   MAILING ADDRESS: Lathrop, Winbauer, Harrel, Slothower & Denison LLP
   P. O. Box 1088
   Ellensburg WA 98926
   E-MAIL ADDRESS: steve@lwbsd.com
   BUSINESS PHONE: 509-925-5622

III. FOR MAP AMENDMENTS

A. TAX PARCEL NUMBER(S): 20-15-18040-0013 (14058) (See attached for additional parcels)
   ACREAGE: 22.12
   SITE ADDRESS: nkn Nelson Dairy Road
   OWNER(S): Forrest Miller and Linda Sfera
   MAILING ADDRESS: 22915 Wax Orchard Road SW
   Vashon WA 98070-6915

   HOME PHONE: ________________________________

(Additional sheets may be attached if more then one parcel is involved)
B. EXISTING COMPREHENSIVE PLAN DESIGNATION: Rural

C. EXISTING ZONING: Portion Forest & Range; Portion Rural 3

D. PROPOSED COMPREHENSIVE PLAN DESIGNATION: MPR

E. PROPOSED ZONING DESIGNATION: MPR

F. THE PRESENT USE OF THE PROPERTY IS: Residential, pasture and forest

G. SURROUNDING LAND USE: Bordered by the Suncadia MPR on the west, south and east; some residential adjacent on the northeast, scattered forest to the north between the property and Ronald. Nelson Dairy Road runs through the property

H. SERVICES

Please provide the following information regarding the availability of services.

The site is currently served by sewer _____; septicXX (check one)
Sewer purveyor (if on public sewer system): __________________________

The site is currently served by a public water system XX; well________
Water purveyor (if on public water system): __________________________

The site is located on a public road XX private road ________ (check one)

Name of road: Nelson Dairy Road crosses through the property

Fire District: #6 __________________________
IV. FOR TEXT AMENDMENTS

Identify the sections of the Comprehensive Plan and Zoning Ordinance that you are proposing to change and provide the proposed wording (attach additional pages if necessary)

N/A

V. FOR ALL AMENDMENTS

A. Why is the amendment needed and being proposed?
Suncadia desires to add this property to the MPR to provide access and utilities to Phase 2 that will reduce the development’s impact upon the critical areas of the Stream C corridor; to allow for additional open space and buffering of the MPR from adjacent lands; and to permit a configuration of lots in this portion of Phase 2 that will better suit the topography of the area.

B. How does the proposed amendment consistent with the County-Wide Planning Policies for Kittitas County?
Master Planned Resorts are specifically provided for pursuant to RCW 36.70A.360 and the County’s Comprehensive Plan MPR Policies. The subject property abuts current MPR boundaries on the East, West and South.

C. How is the proposed amendment consistent with the Kittitas County Comprehensive Plan?
The property would be made subject to all county requirements for the MPR, including the Development Agreement executed in 2000 and the MountainStar Master Planned Resort Sub Area Plan as set out in Chapter 9 of the Comprehensive Plan.

D. How have conditions changed that warrant a comprehensive plan amendment?

Please see attached
V SUPPORTING INFORMATION (ATTACH THE FOLLOWING)

A. SITE PLAN OF THE PROPERTY WITH THE FOLLOWING FEATURES: buildings; points of access, ABUTTING roads, and parking areas; septic tank and drainfield and replacement area.

B. Application is hereby made for A COMPREHENSIVE PLAN AMENDMENT to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agencies to which this application is made, the right to enter the above-described location to inspect the proposed and or completed work.

Signature of Authorized Agent  

Date 6/30/06

Signature of Land Owner of Record (required for application submittal) Date  

6/29/06

Revised 07/06/05
ATTACHMENT TO APPLICATION FOR
COMPREHENSIVE PLAN MAP AMENDMENT
APPLICANT: SUNCADIA, LLC
PROPERTY OWNER: MILLER

III(A) Additional tax parcels:

Tax Parcel No.: 20-15-18040-0003 (372834)
Acreage: 40.88

Tax Parcel No.: 20-15-18030-0001 (342834)
Acreage: 23.06

Tax Parcel No.: 20-15-18030-0007 (14057)
Acreage: 20.76

Tax Parcel No.: 20-15-18030-0006 (14055)
Acreage: 20.62

Legal Description of Property:

PARCEL 1:
Parcels A, B, D and E of that certain Survey as recorded January 29, 1999, in Book 24 of
Surveys, page 10, under Auditor's File No. 199901290041, records of Kittitas County,
Washington; being a portion of the East Half of the Southwest Quarter and the West Half
of the Southeast Quarter of Section 18, Township 20 North, Range 15 East, W.M., in the
County of Kittitas, State of Washington.

PARCEL 2:
Portion of Parcel C of that certain Survey as recorded January 29, 1999, in Book 24 of
Surveys, page 10, under Auditor's File No. 199901290041, records of Kittitas County,
Washington; being a portion of the East Half of the Southwest Quarter and the West Half of
the Southeast Quarter of Section 18, Township 20 North, Range 15 East, W.M., in the
County of Kittitas, State of Washington;
EXCEPT that portion of the Southeast Quarter of the Southwest Quarter of Section 18,
Township 20 North, Range 15 East, W.M., in the County of Kittitas, State of Washington,
more particularly described as follows:
Commencing at the South Quarter corner of said Section 18;
thence North 89°34'40" West along the South line of said Section, 407.42 feet to the point
of beginning;
thence continuing North 89°34'40" West along said South line, 380.00 feet, more or less, to
the West line of said Southeast Quarter of the Southwest Quarter;
thence North 00°46'03" East along said West line, 390.00 feet;
thence leaving said West line, South 43°39'24" East, 542.88 feet to the point of beginning.
Item V(d) How have conditions changed that warrant a comprehensive plan amendment?

The owner of the subject property has expressed a willingness to sell the property to Suncadia. Based upon more detailed and advanced land planning and new feedback from citizens, Suncadia has determined that acquisition of the property and its incorporation into the MPR would benefit the MPR, the local community, and the natural environment. Specifically, if the property is brought into the MPR, it will enable Suncadia to revise certain land plans in a way that will reduce impacts on sensitive areas in the Stream C corridor, increase wildlife and wetland protection, and provide more efficient land planning. Incorporating the property into the MPR will have these benefits on the natural and built environment and to the community without resulting in any material changes to densities, open space, buffers or other elements of the MPR.
REZONE APPLICATION
(To change from the existing zone to another zone)

Kittitas County encourages the use of pre-application meetings. Please call the department if you would like to set up a meeting to discuss your project. Incomplete applications will not be accepted.

Please type or print clearly in ink. Attach additional sheets as necessary. The following items must be attached to this application packet:

REQUIRED ATTACHMENTS

☑ Address list of all landowners within 300 feet of the site's tax parcel. If adjoining parcels are owned by the applicant, the 300 feet extends from the farthest parcel. If the parcel is within a subdivision with a homeowners or road association, please include the address of the association.

☑ Site plan of the property with all proposed: buildings; points of access, roads, and parking areas; septic tank and drainfield and replacement area; areas to be cut and/or filled; and, natural features such as contours, streams, gullies, cliffs, etc.

☐ SEPA Checklist

This application is being filed concurrently with a Comprehensive Plan Map Change Application for this property. In lieu of a checklist, a SEPA Addendum supporting each application will be filed by July 14, 2006.

FEE:

$1100.00 ($900 Rezone + $200 SEPA) to Kittitas County Community Development Services Department

FOR STAFF USE ONLY

I CERTIFY THAT I RECEIVED THIS APPLICATION AND IT IS COMPLETE.

SIGNATURE: 

DATE: 6/30/06

RECEIPT # 047110

NOTES:

ORIGINAL

1 of 4
1. Name, mailing address and day phone of land owner(s) of record:

Name: Forrest Miller and Linda Serra
Mailing Address: 22915 Wax Orchard Road SW
City/State/ZIP: Vashon WA 98070-6915
Day Time Phone: 

2. Name, mailing address and day phone of authorized agent, if different from landowner of record:

Agent Name: Suncadia LLC attn: Traci Shalbetter F. Steven Lathrop
Mailing Address: P.O. Box 887 P.O. Box 1088
City/State/ZIP: Roslyn, WA 98941 Ellensburg WA 98926
Day Time Phone: 509-649-3000 509-925-5622

3. Contact person for application (select one):

☑ Owner of record    ☑ Authorized agent

All verbal and written contact regarding this application will be made only with the contact person.

4. Street address of property:

Address: 1390 Nelson Dairy Rd
City/State/ZIP: Roslyn Washington

5. Legal description of property:

Please see attached. As used in this application, all such legally described property shall be referred to as the "Property."

6. Tax parcel number:

20-15-18040-0013 (14058) **Please see attached for additional

7. Property size:

Total of 127.44 acres per Kittitas County Tax Rolls

8. Narrative project description: Please include the following information in your description: describe project size, location, water supply, sewage disposal and all qualitative features of the proposal; include every element of the proposal in the description (be specific, attach additional sheets as necessary):

Suncadia LLC is under contract to purchase the Property for inclusion in its resort under the MPR zoning designation consistent with the Comprehensive Plan Amendment Docketing Form filed concurrently herewith. As a condition of and pursuant to the requested rezone, the Property would be made subject to the Development Agreement between Suncadia and Kittitas County relative to the Suncadia (formerly MountainStar) Master Planned Resort. Overall MPR densities do not change, and open space will be added and perimeter buffers enhanced.
9. **What is the present zoning district?**
   Portion in Forest & Range; Portion in Rural 3

10. **What is the zoning district requested?**
    MPR

11. **Applicant for rezone must demonstrate that the following criteria are met (attach additional sheets as necessary):**

    A. The proposed amendment is compatible with the comprehensive plan.
       The proposed amendments will be compatible with the comprehensive plan subject to approval of the
       Comprehensive Plan Amendment Docketing Form filed concurrently herewith.

    B. The proposed amendment bears a substantial relation to the public health, safety or
       welfare.
       The proposed amendment is consistent and will comply with the County Approvals.

    C. The proposed amendment has merit and value for Kittitas County or a sub-area of the
       county.
       The County has previously determined this master planned resort to be of benefit to the county, and the
       addition of the Property materially benefits the County and surrounding lands by allowing access and
       utilities to Phase 2 to avoid critical areas; making better, less intrusive use of existing topography; not
       increasing overall MPR densities, and adding open space and enhancing perimeter buffers.

    D. The proposed amendment is appropriate because of changed circumstances or because of
       a need for additional property in the proposed zone or because the proposed zone is
       appropriate for reasonable development of the subject property.
       Please see reply at the end of this form: Page 4 of 4

    E. The subject property is suitable for development in general conformance with zoning
       standards for the proposed zone.
       Yes; see attached conceptual development plan

    F. The proposed amendment will not be materially detrimental to the use of properties in the
       immediate vicinity of the subject property.
       It will not be materially detrimental as perimeter buffers will be enhanced.
G. The proposed changes in use of the subject property shall not adversely impact irrigation water deliveries to other properties. 

No impact on irrigation water

12. Application is hereby made for permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agencies to which this application is made, the right to enter the above-described location to inspect the proposed and or completed work.

13. Are there any other pending applications associated with the property associated with this application? ☑ Yes ☐ No

Comprehensive Plan Amendment

Signature of Authorized Agent: ____________________________

Date: 6/30/06

Signature of Land Owner of Record (Required for application submittal):

X ____________________________

Date: 6/29/06

Item 11(d):
The owner of the subject property has expressed a willingness to sell the property to Suncadia. Based upon more detailed and advanced land planning and new feedback from citizens, Suncadia has determined that acquisition of the property and its incorporation into the MPR would benefit the MPR, the local community, and the natural environment. Specifically, if the property is brought into the MPR, it will enable Suncadia to revise certain land plans in a way that will reduce impacts on sensitive areas in the Stream C corridor, increase wildlife and wetland protection, and provide more efficient land planning. Incorporating the property into the MPR will have these benefits on the natural and built environment and to the community without resulting in any material changes to densities, open space, buffers or other elements of the MPR.
ATTACHMENT TO APPLICATION FOR
REZONE
APPLICANT: SUNCADIA, LLC
PROPERTY OWNER: MILLER

Item 5: Legal Description of Property:
PARCEL 1:
Parcels A, B, D and E of that certain Survey as recorded January 29, 1999, in Book 24 of Surveys, page 10, under Auditor's File No. 199901290041, records of Kittitas County, Washington; being a portion of the East Half of the Southwest Quarter and the West Half of the Southeast Quarter of Section 18, Township 20 North, Range 15 East, W.M., in the County of Kittitas, State of Washington.

PARCEL 2:
Portion of Parcel C of that certain Survey as recorded January 29, 1999, in Book 24 of Surveys, page 10, under Auditor's File No. 199901290041, records of Kittitas County, Washington; being a portion of the East Half of the Southwest Quarter and the West Half of the Southeast Quarter of Section 18, Township 20 North, Range 15 East, W.M., in the County of Kittitas, State of Washington;
EXCEPT that portion of the Southeast Quarter of the Southwest Quarter of Section 18, Township 20 North, Range 15 East, W.M., in the County of Kittitas, State of Washington, more particularly described as follows:
Commencing at the South Quarter corner of said Section 18;
thence North 89°34'40" West along the South line of said Section, 407.42 feet to the point of beginning;
thence continuing North 89°34'40" West along said South line, 380.00 feet, more or less, to the West line of said Southeast Quarter of the Southwest Quarter;
thence North 00°46'03" East along said West line, 390.00 feet;
thence leaving said West line, South 43°39'24" East, 542.88 feet to the point of beginning.

Item 6: Additional tax parcels:

Tax Parcel No.: 20-15-18040-0003 (372834)
Acreage: 40.88

Tax Parcel No.: 20-15-18030-0001 (342834)
Acreage: 23.06

Tax Parcel No.: 20-15-18030-0007 (14057)
Acreage: 20.76

Tax Parcel No.: 20-15-18030-0006 (14055)
Acreage: 20.62
SEPA ADDENDUM

Suncadia Master Planned Resort
Miller Property Comprehensive Plan Amendment and Rezone

JULY 14, 2006
INTRODUCTION

This addendum is submitted as additional environmental review in support of a proposed Comprehensive Plan Amendment and Rezone of the Miller property located on Nelson Dairy Road, Kittitas County and as described in the Comprehensive Plan Amendment Docketing Form and Rezone Applications filed for this property. The proposal, if approved by Kittitas County, would incorporate this 127.44-acre property into the Suncadia Master Planned Resort.

This introduction provides an overview of previous environmental documentation, planning and County decision making for the Suncadia MPR; a context for the environmental checklist and Kittitas County’s review of the application; and describes the relationship of the proposed Comprehensive Plan amendment and rezone to the various MPR documents and requirements.

1. Prior MPR Planning and Approvals

The MountainStar (now Suncadia) Master Planned Resort (MPR) was approved by Kittitas County in October 2000, following five years of planning, environmental review and decision making. The 6,225-acre MPR was approved for use as a four-season destination resort which would be developed in 3 general phases (and multiple sub-phases) over a period of 15-30 years. Land uses permitted within the resort include a wide range of recreational amenities (including golf courses), resort facilities (lodges/conference center, shops and restaurants), open space, residential and lodging units, and utilities and roads.

The County’s process and approvals for the MPR included the following related decisions:

- amendment of the Comprehensive Plan to designate an MPR sub-area and establish its boundaries;
- a rezone to an MPR zoning classification, identifying appropriate MPR uses;
- execution of a development agreement, which contains the MPR conceptual master plan and extensive conditions of approval. The development agreement also contains procedures for County review and approval of general site plans and site development plans, which are tools to plan and implement individual phases or sub-phases of the MPR;
- approval of an MPR development permit; and
- adoption of a planned action ordinance, designating the MPR as a planned action for purposes of future environmental review.

The planned action ordinance was supported by the following environmental documents which are adopted by this Addendum:

On October 10, 2000, under Ordinance No. 2000-15, the County approved the Master Planned Resort Project Application and Issued an MPR Project Development Permit for the MountainStar Master Planned Resort (now Suncadia).

On October 10, 2000, under Ordinance No. 2000-16, the County also authorized the execution of the Development Agreement between the County and Trendwest Resorts, Inc. and Trendwest Investments, Inc. for the development of the MPR and, under Ordinance No. 2000-17 approved the Planned Action Ordinance, authorizing MountainStar to be processed as a Planned Action under SEPA. The County subsequently adopted Ordinance No. 2003-13 approving the assignment from Trendwest Resorts, Inc. and the assumption by Suncadia LLC of the Development Agreement on September 2, 2003.

The proposed Comprehensive Plan amendment and rezone, if approved, would incorporate the Miller property into the MPR sub-area and make it subject to all MPR Comprehensive Plan policies, development regulations, and the requirements of the Development Agreement, including conditions of approval and development standards for the MPR (as well as any supplemental property-specific conditions that might be imposed). Subsequent applications (e.g., for general site plans, site development plans and subdivisions) would address more detailed planning for the site.

2. Relationship of Miller Property to the MPR

The 127.44-acre Miller property is located west of the City of Roslyn between Nelson Dairy Road and the existing boundary of the MPR. The property contains a residence, a barn and accessory buildings. The property is characterized primarily by open meadows and contains extensive wetlands on the eastern portion.

Table 1 shows MPR area and uses based on the currently approved MPR and following proposed incorporation of the Miller property into the MPR. According to the conceptual site plan included with the Comprehensive Plan amendment application, if the Miller property is incorporated into the MPR most of it (approximately 95 acres) would remain undeveloped. This area contains the extended Stream C corridor, wetlands and open space intended to provide wildlife habitat. Approximately 26 acres, generally located contiguous to the MPR’s Phase 2 area, would be developed for resort residential units. Any units constructed in this area of the Miller property would be offset by removal of a like number of planned units elsewhere on the MPR, to remain within the MPR cap of 3,785 resort accommodation units established by settlement agreement.

<table>
<thead>
<tr>
<th></th>
<th>Approved MPR</th>
<th>Changes with Miller Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Acres</td>
<td>6,320</td>
<td>6,446</td>
</tr>
<tr>
<td>Open Space (acres)</td>
<td>5,239</td>
<td>5,335</td>
</tr>
<tr>
<td>Developable Footprint (acres)</td>
<td>1,081</td>
<td>1,116</td>
</tr>
<tr>
<td>Homsites/Density (acres/units per dev. acre)</td>
<td>849/4.4</td>
<td>875/4.3</td>
</tr>
<tr>
<td>Resort Accommodations (units)</td>
<td>3,785</td>
<td>3,785</td>
</tr>
<tr>
<td>Recreational Facilities (acres)</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Visitor Accommodations (acres)</td>
<td>35</td>
<td>35</td>
</tr>
</tbody>
</table>

3
Incorporation of the Miller property into the MPR would provide an enhanced buffer/transition between the MPR, adjacent rural lands, and the towns of Roslyn and Ronald. Providing a stronger physical and visual buffer would be consistent with MPR policies in the Kittitas County Comprehensive Plan (GPO 2.192).

Incorporating the property into the MPR would also provide better protection of streams and wetlands and additional valuable habitat. The Miller property’s open meadow environment is rare on the MPR site, and site planning would emphasize preservation of this area for its aesthetic and natural values. Any proposed development would be consistent with Kittitas County critical area regulations and the MPR conditions of approval. Incorporating the Miller property could result in some replanning of the Phase 2 area of the MPR to permit more efficient use of some Phase 2 lands for resort development in view of the additional open space provided by the Miller property.

The potential 30 to 40 resort residential units identified on the conceptual site plan for the western portion of the Miller property would be within the overall unit cap established for the MPR. No change in the approved number of MPR accommodation units is requested. Planned resort housing would be reduced elsewhere on the site to remain within the approved limit.

Addition of the Miller property to the MPR would not change the number of approved access points to the resort, as no additional access is requested. A portion of Nelson Dairy Road already goes through the MPR. The addition of the Miller property to the MPR will make possible the realignment of Swiftwater Drive to reduce stream and wetland crossings and eliminate a need for cut and fill construction along portions of the Stream C corridor.

An addendum is an environmental document that adds to but does not substantially change the analysis in an existing EIS. The proposals addressed in the original EIS and the addendum need not be the same, but must be similar in terms of the types or degree of impacts. As reflected in the information contained in Section B below, environmental impacts associated with incorporation of the Miller property into the Suncadia MPR would be the same or less than those identified in the EIS prepared for the MPR.
A. BACKGROUND

1. Proposed timing or schedule (including phasing, if applicable):

Suncadia has proposed the Comprehensive Plan amendment and rezone for docketing as part of the 2006 annual plan amendment cycle. Adoption/approval of plan amendments is expected by Kittitas County in December 2006.

2. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. Approval of the proposed Comprehensive Plan amendment and rezone would add the subject property to the Suncadia MPR, expanding the MPR area by approximately 127 acres. Suncadia proposes to use the property for the following purposes: to provide access and utility connections to the Phase 2 area of the MPR that would reduce the impact of planned resort development on the environmental resources of the Stream C corridor; to provide additional open space and buffering between the MPR and adjacent lands; to protect on-site wetlands, provide open meadow habitat and connect the site’s wildlife corridor with contiguous habitat; to permit construction of up to approximately 40 resort residential units in the additional MPR area, within the overall unit limits established for the MPR; and to permit a configuration of lots in this portion of Phase 2 that will better fit with the topography of the area. Approval for specific uses of the property will be requested through future applications for general site plans and one or more additional division(s) within Phase 2 of the MPR.

3. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Supplemental to this SEPA Addendum and the prior environmental review documents referred to above are the following documents with specific technical information relevant to the proposal:

- Miller Property Wetland Assessment, July 2006 – Raedeke Associates, Inc. (Appendix A)
- Preliminary Coal Mine Hazard Assessment, June 2006 – Icicle Creek Engineers (Appendix B)
- Miller Property Cultural Resource Records Search for SEPA Checklist, July 2006 – Central Washington University, Department of Anthropology (Appendix C)
- Suncadia- Miller Property Acquisition Traffic Evaluation, June 2006 – Transportation Solutions, Inc. (Appendix D)

4. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Neither Suncadia nor the current property owner has applications pending for approval of other proposals that would affect the subject property. Plans for a future division of the MPR incorporating this property will be prepared and submitted subsequent to Kittitas County approval of the proposed action.
5. List any government approvals or permits that will be needed for your proposal, if known.

The proposal is for non-project action, specifically adoption of a Comprehensive Plan amendment and approval of a rezone for a specific property. Upon approval of the Comprehensive Plan and rezone actions, the property would be incorporated into the Suncadia MPR and specific plans for the area would be developed, consistent with the MPR conceptual master plan (September 2000) as supplemented and amended in this application, sub-area plan, development regulations and development agreement. Future development actions involving the subject property will require site development plan approval and building permits, and may require other permits; these will be addressed in a future checklist for project-specific actions.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other . . . . .

The site is predominantly a mix of flat and rolling terrain. A small valley or swale trending northwest-to-southeast approximately bisects the property, and approximately half of the site acreage lies on the generally flat floor of this valley. Most of the valley floor area is open meadow and pasture. Nelson Dairy Road runs generally along the northeastern margin of the valley. The moderate slopes of a low, forested ridge rise to the north and east from the road. The south/west edge of the valley is flanked by rolling, forested terrain. This portion of the property includes a ravine occupied by the Stream C corridor upstream from the current MPR boundary.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest terrain on the property is on the low ridge to the northeast of Nelson Dairy Road; slope gradients in this location range up to approximately 25 to 30 percent. [Note: Information on slope based on scaling from Phase 2 General Site Plan, which is noted as “Not to Scale.”]

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Suncadia has not conducted detailed soils investigations on the property at this time, and this property was not included in the site-specific studies for the MPR EIS. Extrapolation from Figure 3.1.2 of the MPR Draft EIS (Kittitas County 2000, 1999) indicates that surficial materials on the Miller property are primarily glacial outwash deposits (Qow) with some glacial moraine deposits (Qgm), both similar to those found elsewhere in the Phase 1 and 2 areas of the MPR. Surface soils are likely to be of the Roslyn and/or Racker type, which are loam soils with varying proportions of sand and gravel.
The wetland assessment of the Miller property conducted for Suncadia indicates the upland soils are variable but generally consist of fine, sandy loams, some with cobbles (Raedeke Associates, Inc. 2006). Similarly, the mine hazard assessment describes the surface materials as glacial outwash and glacial till consisting of silty sand with gravel, cobbles and boulders (Icicle Creek Engineers 2006).

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No evidence of unstable soils on the site was observed in walk-throughs of the site related to the pending acquisition. Figures 4.1.2 and 4.1.3 in the MPR Draft EIS (Kittitas County 1999) indicate that the property is in an area of low erosion hazard and low landslide hazard.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

No grading or filling are proposed as part of this action. Any future grading or filling activities proposed for the site will be addressed in project-specific applications for such development. As noted, most of the property would be used for its amenity and biological values, including open space, wildlife habitat and wetland protection.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

See above. No ground-disturbing activity is proposed as part of this action.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

See above. No development activity is proposed as part of this action. An existing farmstead on the property and the Nelson Dairy Road have created a small area of existing impervious surface. Future development on the property would be subject to the clearing and impervious surface limits established for the MPR.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Not applicable; no ground-disturbing activities are proposed. Appropriate best management practices would be identified and implemented in connection with future development.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

The proposal is for a non-project action that would not directly result in any air emissions. Emissions from future development actions on the property, including
construction and operation of resort infrastructure and units, will be addressed in a
subsequent checklist for a future development application.

b. Are there any off-site sources of emissions or odor that may affect your
proposal? If so, generally describe.

None are known or suspected.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Not applicable; no emission-producing activities are proposed.

3. WATER

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site
(including year-round and seasonal streams, saltwater, lakes, ponds,
wetlands)? If yes, describe type and provide names. If appropriate, state
what stream or river it flows into.

Surface Water

Two branches of an unnamed tributary to the Cle Elum River flow through
the property. The main tributary, identified as Stream 1434C (Stream C),
has a continuous, year-round flow as a result of pipe overflows from the
City of Roslyn water supply reservoir located in the southwestern part of
the City (Kittitas County 1999). Stream C itself flows from Roslyn to the
Cle Elum River and is located to the south of the Miller property.

Stream 1434C1, also known as the North Fork of Stream C, flows through
the southwestern corner of the Miller property. This is an intermittent
stream fed by seasonal runoff from the Number 4 mine tailings north and
west of Ronald, stormwater runoff from Ronald, and runoff from the
Number 3 mine tailings east of Ronald (Kittitas County 1999). Raedeke
Associates, Inc. (2006) indicated this stream was not flowing during site
visits conducted in April and May 2005, and appeared to meet Kittitas
County criteria for classification as a Category 4 stream.

Another, intermittent, unnamed branch of Stream C flows from northwest
to southeast through the Miller property, generally parallel to and west of
Nelson Dairy road. The sources of this stream are not completely
identified, although it appears to receive some flow from a wetland area
located on the Miller property between this stream and Nelson Dairy
Road. The second Stream C tributary exits the Miller property at its
southeastern corner, flowing into a wetland identified as Wetland 37 in the
MPR EIS studies (Kittitas County 1999).
Wetlands

Raedeke Associates, Inc. conducted a wetland assessment of the Miller property for Suncadia in June 2006; their report is attached as Appendix A. Raedeke staff delineated three wetlands on the property, identified as Wetlands A, B and 7. Summary information on those wetlands is as follows:

- Wetland A is approximately 10.4 acres in size and is located in the north-central portion of the Miller property, to the west of Nelson Dairy Road. This wetland has no surface inlet, and appears to receive inflow from precipitation and subsurface flow from the hillside to the east. Wetland A outlets into a topographic swale that drains to the southeast, toward Wetland 7. Raedeke classified Wetland A as a combination of palustrine, emergent, persistent (PEM1), scrub-shrub, broad-leaved deciduous (PSS1) and forested, broad-leaved deciduous (PFO1) wetland, and concluded it would be considered a Category II wetland under Title 17A of the Kittitas County Code KCC.

- Wetland B is approximately 0.5 acres in size and is located in the central portion of the Miller property. It is also to the west of Nelson Dairy Road and is southeast of Wetland A. Wetland B is separated from Wetland A by the existing buildings of the farmstead on the property. Wetland B has no surface inlet or outlet and appears to be an isolated wetland. Raedeke classified Wetland B as a palustrine, emergent, persistent (PEM1) wetland, and concluded it would be considered a Category III wetland under KCC Title 17A.

- Wetland 7 occupies a total area of approximately 4.5 acres and is located in the southeastern corner of the Miller property. This wetland was originally inventoried by Raedeke for the MPR EIS (Kittitas County 1999), as most of this wetland (3.25 acres) lies within the existing MPR boundary and 1.25 acres are on the Miller property. This wetland receives surface inflow from Wetland A and from precipitation, and appears to be semi-permanently flooded. Wetland 7 drains to the southeast, toward Stream C. Raedeke previously classified Wetland 7 as a palustrine, emergent, persistent (PEM1) and palustrine scrub-shrub, broad-leaved deciduous (PSS1) wetland, and concluded it would be considered a Category II wetland under KCC Title 17A.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The proposal is for a non-project action that would not directly result in any work over, in or adjacent to waters. If the property is incorporated into the MPR, most of the site would be used for open space and habitat protection, and a purpose of the acquisition is to protect the existing streams and wetlands from potential impacts. Future development actions on the property could result in work near stream and/or wetland areas, however. Future development applications and environmental documents would address such potential effects.
3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Not applicable; no specific development actions are included in the proposal.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The proposal is for a non-project action that would not directly require a water supply. Pending approval of the current proposal, future development actions on the property could result in uses that would consume water. Any such water demands would be met through water supplies already permitted and developed for the MPR, and would not result in a net increase in MPR water needs.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The proposal is for a non-project action that would not directly involve any waste discharges. Future development actions on the property could result in uses that would produce such discharges, which would be accommodated through the wastewater system already permitted and developed for the MPR.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No. See 3.a (6) above.
c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The proposal is for a non-project action that would not directly result in development of impervious surfaces and generate a need for management of surface runoff. Most of the property would be preserved in its current undeveloped condition and used for open space, perimeter buffer, wetland protection and wildlife habitat. Future development actions on the property could result in surface runoff that would be accommodated through expansion of the stormwater management system already permitted and developed for the MPR.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No. See 3.a (6) above.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Not applicable; no development with runoff impacts is included in the proposal.

4. PLANTS

a. Check or circle types of vegetation found on the site:

——— deciduous tree: alder, maple, aspen, other: cottonwood

——— evergreen tree: fir, cedar, pine, other

——— shrubs

——— grass

——— pasture

——— crop or grain

——— wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other: foxtail, march cinquefoil, soft rush, black hawthorn, pyramid spirea

——— water plants: water lily, eelgrass, milfoil, other

——— other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

None. The proposal is for a non-project action that would not directly result in removal of any existing vegetation. Most of the site would be preserved in its natural state as open space, wetland and wildlife habitat. Future development on the property could result in vegetation removal, however, and the effects of development will be addressed in a subsequent application and environmental checklist.
c. List threatened or endangered species known to be on or near the site.

No threatened or endangered plant species are known to be on or near the Miller property. Plant studies conducted for the MPR EIS (Kittitas County 1999) indicated no threatened or endangered plant species were known or expected to occur on the MPR site, and none were found during field surveys. Based on habitat similarities between the Miller property and the adjacent MPR, no listed plant species are likely to be present on the Miller property.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Not applicable. See 4.b above.

5. ANIMALS

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

   birds: hawk, heron, eagle, songbirds, other: upland game birds, woodpeckers, granivores and frugivores
   mammals: deer, bear, elk, beaver, other: pocket gophers, chipmunks, Douglas squirrel, porcupine, raccoon, skunk, coyote, bobcat, cougar
   fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

No threatened or endangered animal species are known to be on or near the Miller property. Wildlife studies conducted for the MPR EIS (Kittitas County 1999) indicated no threatened or endangered wildlife species were known or expected to occur on the MPR site, and none were found during field surveys. Based on habitat similarities between the Miller property and the adjacent MPR, no listed wildlife species are likely to be present on the Miller property. The two, small intermittent streams present on the property are not known to support fish.

c. Is the site part of a migration route? If so, explain.

Wildlife studies for the MPR EIS addressed the movement patterns of elk and other wildlife, but did not identify any specific migration routes; elk using the MPR site in the winter tended to move north and west up the Cle Elum River valley toward summer range. Local interests consider the generally forested habitat along Stream C to provide a corridor for wildlife movement between lands near the Cle Elum River and the ridges to the north and east of Roslyn. The North Fork of Stream C that flows through the Miller property may provide an important component of this corridor for potential wildlife movement.

d. Proposed measures to preserve or enhance wildlife, if any:

The proposal is for a non-project action that would not directly result in removal of any existing vegetation or adverse effects on potential corridors for wildlife movement. If the property is included within the MPR, future development plans would incorporate the corridor along the North Fork of Stream C into the dedicated
natural open space of the existing Stream C corridor. This would preserve wildlife habitat and potentially expand wildlife movement within this contiguous corridor. Any additional measures to preserve or enhance wildlife will be addressed in a subsequent checklist for a future development application.

6. ENERGY AND NATURAL RESOURCES

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The proposal is for a non-project action that would not directly involve development of any new energy-consuming uses. If the current proposal is approved, future development approved for portions of the property could result in uses that would use energy systems already permitted and developed for the MPR, including natural gas for space heating and electricity for lighting and appliances.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None; see 6.a above. Any future development on the property would incorporate energy conservation measures already adopted for the MPR.

7. ENVIRONMENTAL HEALTH

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

No environmental health hazards would result directly from the proposal, which is for a non-project action. No environmental health hazards specific to the site are known or suspected. The property was formerly used for agriculture. The U.S. Environmental Protection Agency's (2006) EnviroMapper on-line application does not identify any potentially hazardous environmental features within approximately 1 mile of the Miller property.

Suncadia engaged a consultant to investigate the potential for mine hazards on the site; their attached report (Icicle Creek Engineers 2006; see Appendix B) indicates that historical mining activity beneath the site occurred at depths more than 500 feet below the ground surface. In addition, no known mine entries occur on the property and no mining-related surface features were observed on the property. Consequently, Icicle Creek concluded that the property was not an area with a significant risk of mine-related collapse and should be identified as a “declassified coal mine area.”
Future development plans for the property could include MPR resort residential and recreational uses and associated infrastructure. Any environmental health hazards for those uses will be addressed in a subsequent application and environmental checklist.

1) Describe special emergency services that might be required.

No special emergency services would be required for the proposal, a non-project action.

2) Proposed measures to reduce or control environmental health hazards, if any:

Not applicable.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Traffic on Nelson Dairy Road, the only public road accessing the subject property, is the primary potential noise source for the site (see related discussion under B.14 below). Traffic volumes on this road are low, on the order of approximately 150 vehicles per day on average, and are not sufficient to generate noticeable noise. Adjacent land uses are rural in nature and do not include industrial, mining or other activities that are significant noise sources.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

The proposal is for a non-project action that would not directly involve any new noise-producing uses. If the current proposal is approved, future development actions on portions of the property could result in uses that would generate some noise, primarily from construction. These uses would primarily be open space, wildlife habitat and resort residential units, all of which already occur on the MPR site. Future development would be subject to noise mitigation conditions already adopted for the MPR.

3) Proposed measures to reduce or control noise impacts, if any:

Not applicable; see 7.b.2 above.

8. LAND AND SHORELINE USE

a. What is the current use of the site and adjacent properties?

The existing residence on the site is currently used for residential purposes. The remainder of the property is in pasture and forest use.
b. Has the site been used for agriculture? If so, describe.

The valley-bottom portion of the property, comprising approximately half of the total acreage, is currently pasture land that has been in long-term use for grazing.

c. Describe any structures on the site.

An existing farmstead is located near the approximate center of the property, on the south side of Nelson Dairy Road. The farmstead consists of a 1 ½-story, wood-frame residence, a guest residence, a barn and outbuildings formerly used for equipment storage.

d. Will any structures be demolished? If so, what?

The proposal is for a non-project action and would not directly result in new construction or demolition of existing structures. If the property is incorporated into the MPR, future development on portions of the property would result in a mix of open space, resource protection, recreation and resort residential uses. Suncadia has not yet developed site-specific plans for those uses, and has not determined whether or how the existing structures would be incorporated into future activities.

e. What is the current zoning classification of the site?

The western portion of the property (the acreage within the southwestern quarter of Section 18) is zoned Forest and Range and the remainder is zoned Rural 3.

f. What is the current comprehensive plan designation of the site?

The entire property is within an area designated as Rural.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable; water bodies within the property are not designated under the County shoreline master program.

h. Has any part of the site been classified as an "environmentally sensitive" area?
   If so, specify.

The property includes two wetland areas that are regulated under the Kittitas County Critical Areas Ordinance; see discussion in 3.a.(1) above. A wetland assessment report prepared for Suncadia is attached to this checklist as Appendix A. The stream corridor of the North Fork of Stream C within the adjacent MPR property has been designated as MPR natural open space; this designation would be applied to the portion of the stream corridor on the Miller property with approval of the proposal.
i. Approximately how many people would reside or work in the completed project?

The proposal is for a non-project action that would not directly involve any new construction or demolition of existing structures. Suncadia has not yet developed site-specific plans for future uses if the property is incorporated into the MPR. The conceptual plan for the property includes development of approximately 30 to 40 resort residential lots, as well as open space and wildlife habitat. Some number of future lots could generate permanent residences, but most are assumed to be used for short-term visitor accommodations. No commercial or other uses providing employment are anticipated, based on the general site plan for Phase 2 of the MPR.

j. Approximately how many people would the completed project displace?

The proposal is a non-project action that would change the Comprehensive Plan and zoning designations of the property but would not directly affect or displace any existing uses on the Miller property. If the property were developed in the future as described in i above, one (1) tenant household would likely be displaced at that time.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None required.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Approval of the proposed Comprehensive Plan amendment and rezone would apply an MPR overlay to the property and make it subject to the MPR policies of the Kittitas County Comprehensive Plan, provisions of the MPR sub-area plan, MPR conditions of approval in the development agreement and other County development regulations, and other laws and agreements.

9. HOUSING

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

The proposal is for a non-project action and would not directly involve any new housing construction. If the current proposal is approved, future development applications could include approximately 30 to 40 lots for single-family, resort residential units of the same type as provided in existing divisions of Phase 2 of the MPR. Any such units developed on the property would be within the established overall limit for the MPR; no increase in overall MPR units is proposed.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None; see discussion in 8.i above.
b. Proposed measures to reduce or control housing impacts, if any:

Not applicable; see discussion in 8.k above.

10. AESTHETICS

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Not applicable. The proposal is for a non-project action that would not directly result in development of any structures. If the proposal is approved and the property is incorporated into the MPR, buildings heights and exteriors for any structures proposed for development on the property will be addressed in a subsequent application and environmental checklist, and will be subject to the aesthetic conditions of the MPR development agreement.

b. What views in the immediate vicinity would be altered or obstructed?

Not applicable; see discussion in 10.a above. If the property is incorporated into the MPR, it is conceivable that future development plans would result in resort uses that are visible from off-site locations that do not currently have views of resort uses. Views of and from most of the property would remain unchanged, including extensive open meadows flanked by low, forested ridges. Resort residential units in Phase 2 of the MPR would be visible from the western portion of the Miller property. Changes to views from any future development actions on the property will be addressed in a subsequent application and environmental checklist. Future actions will be subject to the aesthetic conditions of the MPR development agreement, including the requirement to maintain a 100-foot-wide perimeter buffer along the interior side of the MPR boundary. In general, the proposal is expected to enhance the visual separation between the MPR and adjacent lands.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Not applicable; see discussion in 10.a above. Any future development on the property will be subject to the aesthetic and design review conditions adopted for the MPR.

11. LIGHT AND GLARE

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Not applicable. The proposal is for a non-project action that would not directly result in development of any light or glare sources. Light and glare from any future development actions on the property will be addressed in a subsequent application and environmental checklist. Any future development on the property will be subject to the light and glare conditions of the Development Agreement adopted for the MPR.
b. Could light or glare from the finished project be a safety hazard or interfere with views?

   No; see discussion in 11.a above.

c. What existing off-site sources of light or glare may affect your proposal?

   Land uses adjacent to the property are rural in nature and do not include industrial, mining or other activities that are significant light and/or glare sources. Traffic volumes on Nelson Dairy Road are low and do not produce substantial light and glare. If the Comprehensive Plan is amended and the property is incorporated into the MPR, a standard perimeter buffer will be maintained along the exterior of the property.

d. Proposed measures to reduce or control light and glare impacts, if any:

   Not applicable; see discussion in 11.a above.

12. RECREATION

a. What designated and informal recreational opportunities are in the immediate vicinity?

   Planned resort recreational facilities and trails within Phase 2 of Suncadia will be located near the existing Miller property. There are no other designated or informal recreation opportunities in the immediate vicinity. The closest such opportunities would be existing municipal parks within the City of Roslyn and the Coal Mines Trail, both located more than ½ mile from the site.

b. Would the proposed project displace any existing recreational uses? If so, describe.

   No; there are no existing recreational uses on the Miller property that could be affected by any future resort uses proposed for the site.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

   No mitigation measures for recreation are needed, as the non-project proposal would not result in adverse impacts to recreation opportunities. Open space and recreational uses are contemplated as significant future uses for much of the property if it is incorporated into the MPR.

13. HISTORIC AND CULTURAL PRESERVATION

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

   No. See the investigation report from Central Washington University that is attached as Appendix C.
b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

As described in more detail in Appendix C, the historic routes of the Roslyn Waterline Complex and the original Nelson Dairy Road cross through the Miller property. The Miller property includes remnant parts of the original Roslyn waterline, which the Washington Department of Archaeology and Historic Preservation determined were not eligible for listing on the National Register. The existing Nelson Dairy Road appears to closely follow the path of the original road/trail that evolved into the current public road, and probably obliterated evidence of the original path.

c. Proposed measures to reduce or control impacts, if any:

Not applicable. The proposal is for a non-project action that would not directly result in development that could disturb cultural resources. If the property is incorporated into the MPR, effects on cultural resources from any development actions on the property will be addressed in a subsequent application and environmental checklist. Any future development on the property will be subject to the cultural resources conditions of the Development Agreement adopted for the MPR.

14. TRANSPORTATION

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The Miller property is served by Nelson Dairy Road, a public road maintained by Kittitas County. Nelson Dairy Road is a two-lane gravel road extending from the southwestern side of Roslyn to the west and north, connecting with State Route 903 at the south end of Ronald. An existing driveway serving the farmstead on the property connects to Nelson Dairy Road, and is the only point of vehicle access to the property. The proposal is for a non-project action that would not directly result in any changes to the existing street system. If the current proposal is approved, new MPR uses on the property would be served through the MPR road system and will be addressed in a subsequent checklist for future development applications.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

The site is not served by public transit, as there is no regularly-scheduled transit service in upper Kittitas County.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Not applicable; the proposal is for a non-project action that does not include construction or removal of any parking spaces.
d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No; see discussion in 14.a above.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No; none of these services are located close to the subject property.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

The proposal is for a non-project action that would not directly generate any new vehicle trips. If the proposal is approved, Suncadia will incorporate the Miller property into planning for the Phase 2 area of the MPR. Suncadia assumes that future MPR uses would include open space and approximately 30 to 40 resort residential units. Based on the parameters of the traffic analysis for the MPR EIS, development at this level could produce 260 daily and 28 peak-hour trips. Approximately two-thirds of these trips would be internal trips within the MPR boundaries, while the others would access public roads via the resort entrances on Bullfrog Road or Wilson Road. Peak volumes would occur at late afternoon hours on the weekends. See the letter report from Transportation Solutions, Inc. that is attached as Appendix D.

g. Proposed measures to reduce or control transportation impacts, if any:

Not applicable, based on the non-project nature of the proposal. Preliminary analysis of a possible future development scenario indicates potential development of MPR uses on the Miller property would not result in noticeable peak-hour traffic increases on public roads and would not create additional traffic impacts.

15. PUBLIC SERVICES

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No. The proposal itself is for a non-project action that would not directly result in new uses or generate needs for public services. If the property is incorporated into the MPR, future development on the site could include resort residential and recreation uses. Any such development would be within the overall limits established for the MPR, however, and would not result in a net increase in the resort population.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None required.
16. UTILITIES

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

The proposal itself is for a non-project action that would not directly result in a need for utility services. If the property is incorporated into the MPR, future development on the site could include resort residential and recreation uses. Any such development would be served through extension of the utility systems established for the MPR, which will include electricity, natural gas, water, refuse service, sanitary sewer and stormwater management.

REFERENCES


C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: ........................................................................................................................................

Date Submitted: ..............................................................................................................................
D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

See the previous discussion for items 2.a, 3.a.(6), 7.a and 7.b. If the proposal is approved and the property is incorporated into the MPR, any future resort uses on the Miller property would be developed within the overall limits established for the MPR. Therefore, development on the property would not represent a net increase in the potential for such discharges.

Proposed measures to avoid or reduce such increases are:

Any development on the property would be subject to the applicable conditions of the MPR development agreement, which are intended to minimize such discharges and their adverse effects. No increases are anticipated and no measures are proposed.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

See the previous discussion for items 4.b and 5.d. If the property is included within the MPR, future development plans would incorporate the corridor along the North Fork of Stream C into the dedicated natural open space of the existing Stream C corridor. This would preserve wildlife habitat and potentially expand wildlife movement within this contiguous corridor. Inventoried wetlands on the property would also be set aside as natural open space, and continue to provide ecological values. Any specific measures to preserve or enhance ecological resources from future development of resort uses on the property will be addressed in a subsequent application and environmental checklist.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

If the proposal is approved and the property is incorporated into the MPR, future MPR plans will designate the open space, wetland and wildlife habitat areas on the property that are to be protected, as discussed above. Such areas would be protected by conditions in the MPR development agreement and County critical area regulations.
3. How would the proposal be likely to deplete energy or natural resources?

See the previous discussion for item 6.a. If the proposal is approved and the property is incorporated into the MPR, any future resort uses on the Miller property would be developed within the overall limits established for the MPR. Therefore, development on the property would not represent a net increase in the use of energy or natural resources.

Proposed measures to protect or conserve energy and natural resources are:

If the proposal is approved and the property is incorporated into the MPR, future MPR development on the property would be subject to the applicable conditions of the MPR development agreement, which are intended to conserve energy and natural resources.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

If the proposal is approved and the property is incorporated into the MPR, development of resort uses on the property would not use or affect parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, floodplains or prime farmlands, as there are no such resources on or adjacent to the property. Future development on the site would be subject to the conditions of the MPR development agreement addressing historic or cultural sites, wetlands and wildlife habitat, and future MPR plans will designate open space, wetland and wildlife habitat areas on the property that are to be protected.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Not applicable; see above discussion.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

See the previous discussion for items 8.a through 8.h. If the proposal is approved and the property is incorporated into the MPR, plans for future resort uses on the site would be developed consistent with the Comprehensive Plan, the MPR sub-area plan, the MPR conceptual site plan and general site plans for Phase 2 of the MPR, and the MPR development agreement.

Proposed measures to avoid or reduce shoreline and land use impacts are:

Future development following approval of the proposal would be consistent with applicable land use plans, and would not affect shoreline uses because there are no designated shorelines within or adjacent to the subject property.
6. How would the proposal be likely to increase demands on transportation or public services and utilities?

See the previous discussion for items 14, 15 and 16. If the proposal is approved and the property is incorporated into the MPR, any future resort uses on the Miller property would be developed within the overall limits established for the MPR and would be served through extension of MPR systems. Therefore, development on the property would not represent a net increase in the potential demands for transportation, public services or utilities.

Proposed measures to reduce or respond to such demand(s) are:

If the proposal is approved and the property is incorporated into the MPR, future MPR development on the property would be subject to the applicable conditions of the MPR development agreement regarding transportation, public services and utilities.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

If the proposal is approved and the property is incorporated into the MPR, plans for future resort uses on the site would be developed consistent with the applicable local, state and federal requirements for the protection of the environment, which are included in the conditions of the MPR development agreement. Future MPR plans will designate open space, wetland and wildlife habitat areas on the property that are to be protected.
Appendix A

Miller Property Wetland Assessment, July 2006
Raedeke Associates, Inc.
WETLAND DELINEATION

Suncadia Miller Property
Roslyn, Kittitas County, Washington

July 13, 2006

RAEDEKE ASSOCIATES, INC.
Report To:          Ms. Traci Shallbettor  
                   Suncadia, LLC  
                   109 South First Street  
                   Roslyn WA 98941  

Title:              Wetland Delineation for the Miller Property,  
                   Kittitas County Washington  

Project Number:    2003-028-010  

Prepared By:       RAEDKE ASSOCIATES, INC.  
                   5711 Northeast 63rd Street  
                   Seattle, Washington 98115  
                   (206) 525-8122  

Date:               July 13, 2006
Project Manager: Christopher W. Wright
Soil and Wetland Scientist

Current Project Personnel:
Lisa Danielski
Botanist

Gail Livingstone, B.S.L.A.
Natural Resource Planner

Claude J. McKenzie
Landscape Architect

Danette Emberlin Fuhrer
Administrative Editor
TABLE OF CONTENTS

LIST OF FIGURES ................................................................. v

LIST OF TABLES ................................................................. V

1.0 INTRODUCTION ........................................................................ 1
  1.1 Statement of Purpose .............................................................. 1
  1.2 Study Area ............................................................................ 1

2.0 METHODS .............................................................................. 2
  2.1 Wetland Definitions and Delineation Methodology ....................... 2
  2.2 Background Research ............................................................. 3
  2.3 Field Sampling Procedures ..................................................... 3

3.0 EXISTING CONDITIONS............................................................ 5
  3.1 Results of Background Investigation .......................................... 5
  3.2 Wetland Descriptions ............................................................. 5
  3.3 Streams .............................................................................. 8
  3.4 Upland Descriptions ............................................................. 9

4.0 REGULATORY CONSIDERATIONS........................................... 10
  4.1 Federal Clean Water Act (U.S. Army Corps of Engineers) ............ 10
  4.2 Kittitas County ..................................................................... 10

5.0 LIMITATIONS .......................................................................... 11

6.0 LITERATURE CITED ............................................................... 12

FIGURES AND TABLES .............................................................. 15

APPENDIX A ............................................................................. 1
LIST OF FIGURES

Figure ........................................................................................................ Page

1. Regional Map.......................................................................................... 16
2. Site Vicinity Map.................................................................................... 17
3. Existing Conditions.................................................................................. 18

LIST OF TABLES

Table........................................................................................................ Page

1. Summary of wetlands on the Miller Property......................................... 19
2. List of common and scientific names of plants ..................................... 20
1.0 INTRODUCTION

1.1 STATEMENT OF PURPOSE
At the request of Suncadia, LLC, Raedeke Associates, Inc. investigated the approximately 125-acre Miller Property located in Kittitas County near Roslyn, Washington (Figures 1 and 2). This report documents the results of our April and May 2005 site investigations to identify and delineate areas that could be classified as wetlands or streams within the study area and provides technical baseline data for use in future site planning.

1.2 STUDY AREA
The approximately 125-acre Miller Property is located near Roslyn, Washington (Figure 2). This places the property in Section 18, Township 20 North, Range 15 East, W.M as depicted on maps from Goldsmith and Associates Inc. and provided to us in June 2006.

Raedeke Associates, Inc. limited their field investigations to Parcels B, D and E of the Miller Property. Parcels A and C were not investigated for the presence of wetlands or streams (Figure 3). For the purpose of this report, references to the Miller Property will refer only to the study area encompassing Parcels B, D and E.
2.0 METHODS

2.1 WETLAND DEFINITIONS AND DELINEATION METHODOLOGY

Under Section 404 of the Clean Water Act, a wetland is defined as an area "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Federal Register 1986:41251).

We based our investigation upon the guidelines of the U. S. Army Corps of Engineers (COE) Wetlands Delineation Manual (Environmental Laboratory 1987), as revised in the Washington State Wetlands Identification and Delineation Manual published by the Washington Department of Ecology (WDOE 1997). The WDOE wetlands manual is required by state law for all local jurisdictions (including Kittitas County), is consistent with the 1987 COE wetland delineation manual with respect to wetland identification and delineation, and incorporates subsequent amendments and clarifications provided by the COE (1991a, 1991b, 1992, 1994).

Generally, as outlined in the 1987 and 1997 wetland delineation manuals, wetlands are distinguished by three diagnostic characteristics: hydrophytic vegetation (wetland plants), hydric soil (wetland soil), and wetland hydrology.

Hydrophytic vegetation is defined as "macrophytic plant life growing in water, soil or substrate that is at least periodically deficient in oxygen as a result of excessive water content" (Environmental Laboratory 1987). The U.S. Fish and Wildlife Service (USFWS) Wetland Indicator Status (WIS) ratings are used to define whether hydrophytic vegetation is present (Reed 1988, 1993). The WIS ratings define plant species based on their ability to withstand saturated soil conditions. Plants are rated, from highest to lowest probability of occurrence in wetlands, as obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and upland (UPL), respectively. In general, under the 1987 federal methodology, more than 50% of the predominant plant species in an area must be rated facultative or wetter for the area under consideration to be regarded as having hydrophytic vegetation.

A hydric soil is defined as "a soil that is formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (Federal Register 1994: 35681). The morphological characteristics of the soils in the study area were examined to determine whether any could be classified as hydric.

Wetland hydrology could be present if the soils were saturated (sufficient to produce anaerobic conditions) within the majority of the rooting zone for at least 5% of the growing season (COE 1992). It should be noted, however, that areas having saturation
to the surface between 5% and 12% of the growing season may or may not be wetland (COE 1992; Table A.4, Appendix A). Depending on soil type and drainage characteristics, saturation to the surface would occur if water tables were shallower than about 12 inches below the soil surface during this time period. Positive indicators of wetland hydrology include direct observation of inundation or soil saturation, as well as indirect evidence such as driftlines, watermarks, surface encrustations, and drainage patterns (Environmental Laboratory 1987).

Further discussion of hydrophytic vegetation, identifying hydric soil and hydrologic conditions is in Appendix A.

2.2 Background Research

Prior to our site visit, Raedeke Associates, Inc. reviewed the U.S. Fish and Wildlife Service (1987) National Wetland Inventory (NWI), Ronald Quadrangle, and the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS) 2005 draft Soil Survey for Kittitas County in order to determine if there were previously identified wetlands or areas of hydric soils that would indicate the need to delineate specific portions of the Miller Property.

2.3 Field Sampling Procedures

Raedeke Associates, Inc. staff visited the Miller Property on April 28 and May 3, 2005 to determine if wetlands or streams were present on the property. We used information from the background studies to assist with our investigation of the study area and thoroughly searched the study area for the presence of previously unidentified wetlands and streams.

Vegetation, soils, and hydrology were examined in representative portions of the study area. Plant communities were inventoried, classified, and described during our field investigation. We used the Braun-Blanquet cover-abundance scale and plotless sampling methodology to describe homogenous plant "cover types" in both the wetland and uplands (Mueller-Dombois and Ellenburg 1974; Table A.1 - Appendix A). Vegetation nomenclature follows Hitchcock and Cronquist (1976), as updated by Pojar and MacKinnon (1994), Guard (1995), and Cooke (1997). Wetland classification follows the USFWS wetland classification system (Cowardin et al. 1992).

Two quantitative indices were used to analyze vegetation data in order to determine if the plant community meets the definition of "hydrophytic vegetation." The first index represents the percentage of dominant species with a WIS rating of facultative or wetter. We used the Braun-Blanquet cover-abundance method (Mueller-Dombois and Ellenberg 1974) as a way to objectively describe homogenous vegetation "cover types." A species with a cover class value of 2 (5% to 25% canopy cover) or greater on the Braun-Blanquet scale is considered a dominant.
The second vegetation index used was a weighted mean of the WIS ratings, after Wentworth and Johnson (1986). This weighted mean index (WMI) calculates the average WIS rating of all species in the plot by weighting each species based upon its relative cover. The WMI is a measure of the plant community's adaptation to saturated soil conditions (Wentworth and Johnson 1986). The WMI provides an objective parameter for determining whether a plant community is indicative of wetland or upland conditions. Ideally, the "breakpoint" between wetland and upland vegetation is a WMI of 3.0, with wetland vegetation characteristics indicated by a WMI less than 3.0 and upland vegetation characteristics indicated by a WMI greater than 3.0. When the WMI is near 3.0 however, vegetation may not clearly indicate whether an area is wetland or upland. In such cases, soil and hydrologic conditions must be carefully considered. As the WMI of a plant community or plot approaches either extreme on the scale (i.e., approaching 1.0 or 5.0), however, the probability of the vegetation indicating wetland or upland, respectively, increases. Wentworth and Johnson (1986) confirmed the effectiveness of this methodology for a wide variety of plant communities in different regions of the United States.

We excavated pits to at least 18 inches below the soil surface, where possible, in order to describe the soil and hydrologic conditions throughout the study area. We sampled soil at locations that corresponded with potential wetland areas. Soil colors were determined using the Munsell Soil Color Chart (Munsell Color 2000).

Topographic changes within the context of the landscape were used to aid in the placement of the wetland boundary. Pink and black diagonally-striped plastic flagging tape was used in the field to represent the outer edge of the wetland or stream. The wetland and stream boundaries were then surveyed and plotted on maps by professional land surveyors at Goldsmith and Associates, Inc. and depicted on a map received in our office on June 19, 2006.
3.0 EXISTING CONDITIONS

The Miller Property is located north of the existing Suncadia MPR and southwest of the town of Roslyn, Washington. The study area contains an existing ranch with associated barns and out-buildings, fences and dirt access roads. The investigated property slopes slightly downward from northwest to southeast.

3.1 RESULTS OF BACKGROUND INVESTIGATION

The USFWS (1987) NWI Ronald Quadrangle map depicts a palustrine scrub-shrub temporarily flooded wetland along the north and east boundary of the Miller Property study area. This NWI also identifies a palustrine emergent seasonally flooded wetland in the southeast portion of the Miller Property.

The soils of the study area were mapped at a scale of 1:24,000 by the NRCS (2005 draft). The Miller Property study area is mapped as Quicksells, a clay loam soil. This soil series is not hydric (U.S.D.A. Soil Conservation Service 1991, Federal Register 1994). Soil series boundaries or mapping units are mapped from aerial photographs with limited field verification. Thus, the location and extent of the boundaries between mapping units may be approximate for a given parcel of land within the survey area.

3.2 WETLAND DESCRIPTIONS

On April 28 and May 3, 2005, Raedeke Associates, Inc. staff delineated the boundaries of three wetlands and the ordinary high water mark of a stream on the Miller Property (Figure 3). Following is a detailed description of each wetland, including vegetation, soil, and hydrology, as well as a preliminary determination of their classification and categorization under Kittitas County code.

3.2.1 Wetland A

Wetland A is an approximately 10.4-acre wetland located in the north-central portion of the property (Figure 3). The wetland slopes down from its northwest corner to the south and east in two distinct arms; the western arm is a narrow trough that outlets to a swale at its south end, with the eastern arm comprising the majority of the wetland. The area between the two arms appears to have been drained by ditches and tiles. The ground surface slopes steeply up to the east of Wetland A. Wetland A appears to extend off-site to the north, although no investigation of the off-site property was conducted.

Wetland A has no surface inlet and appears to receive water primarily from subsurface water flow from the hillside to the east and precipitation. The wetland mainly appears to be seasonally saturated, with occasional ponding following precipitation events and early in the spring after snow melt.
Wetland A outlets to a topographic swale feature that conveys surface water to the south. A culvert, below an east-to-west farm road, conveys water to the south from Wetland A. This water appears to flow south and outlets into the northwest arm of Wetland 7 in the southwest corner of the property.

**Vegetation**

The northwestern portion of Wetland A is dominated by foxtail and marsh cinquefoil, with scattered soft rush and creeping buttercup. The narrow, western arm of Wetland A, extending south to a culvert below a farm road, contains an emergent vegetation community dominated by common cattails. The eastern portion of Wetland A is dominated by quaking aspen and black cottonwood trees. Each of the vegetation communities observed are dominated by hydrophytic (wetland) plant species.

**Soils and Hydrology**

Soils observed in Wetland A are black (10YR 2/1) clay loams over very dark grayish brown (10YR 3/2) fine sandy loams with dark yellowish brown (10YR 4/6) common, fine, prominent mottles. The presence of mottling in dark soils is indicative of hydric soils.

At the time of our April and May 2005 site visits, groundwater was found throughout the wetland. The wetland edge was determined to be where free water was present within 18 inches of the ground surface.

**Determination**

Positive indicators for dominance by hydrophytic vegetation, hydric soil, and wetland hydrology were present within the wetland during the April and May 2005 field investigations. Therefore, the delineated area met necessary criteria to be considered wetland under the guidelines of the Washington State Wetlands Identification and Delineation Manual (WDOE 1997).

Wetland A would be classified as a combination of palustrine, emergent, persistent (PEM1), scrub-shrub, broad leaved deciduous (PSS1) and, forested broad leaved deciduous (PFO1) wetland according to the USFWS wetland classification system (Cowardin et al. 1992).

Wetland A likely would receive greater than 22 points under the Washington State Wetland Rating System for Eastern Washington (1991) and thus would be considered to be a Category II wetland by Kittitas County. Standard buffer width for Category II wetlands is 50 to 200 feet, depending on the intensity of proposed adjoining land uses.
3.2.2 Wetland B

Wetland B is an approximately 0.5 acre wetland located southeast of Wetland A (Figure 3). The wetland slopes down from north to the south and is separated from Wetland A by the existing barns and buildings on the Miller Property.

Wetland B has no surface inlet or outlet and appears to be an isolated wetland. The central portion of the wetland was ponded at the time of our site visits.

Vegetation

Wetland B is dominated by herbaceous vegetation dominated by foxtail and creeping buttercup. The observed dominant vegetation is hydrophytic.

Soils and Hydrology

Soils observed in Wetland B are very dark grayish brown (10YR 3/2) fine sandy loams with dark brown (7.5YR 3/4) mottles. These soils were saturated to within 18 inches of the surface during our April and May 2005 site visits.

Determination

Positive indicators for dominance by hydrophytic vegetation, hydric soil, and wetland hydrology were present within the wetland during the April and May 2005 field investigations. Therefore, the delineated area met necessary criteria to be considered wetland under guidelines of the Washington State Wetlands Identification and Delineation Manual (WDOE 1997).

Wetland B would be classified as a palustrine, emergent persistent (PEM1) wetland according to the USFWS wetland classification system (Cowardin et al. 1992).

Wetland B likely would receive fewer than 22 points under the Washington State Wetland Rating System for Eastern Washington (WDOE 1991) and thus would be considered to be a Category III wetland by Kittitas County. Category III wetlands receive buffers of 25 to 80 feet depending on the intensity of adjoining land use.

3.2.3 Wetland 7

Wetland 7 occurs in the southeastern portion of the Miller Property (Figure 3). Wetland 7 was originally identified and delineated on the Suncadia MPR site in 1997 (Raedeke Associates, Inc. 1997). Approximately 3.25 acres of Wetland 7 occur on the MPR site, approximately 1.25 acres of Wetland 7 occur on the Miller Property.

Wetland 7 receives water both as surface flow from Wetland A and direct precipitation. The wetland appears to be semi-permanently flooded.
Vegetation

Vegetation in the northern (on-site) portion of Wetland 7 is dominated by Black hawthorn and pyramid spirea shrubs. This vegetation community is considered to be a hydrophytic (wetland) plant community.

Soils and Hydrology

Soils observed in the northern portion of Wetland 7 are very dark gray (10YR 3/1) loams over dark gray (10YR 4/1) gravely loams. Soils with low matrix chromas are considered to be hydric (wetland) soils. Wetland 7 has evidence of surface ponding and scour, indicating that the wetland hydrology criteria are met. Surface ponding was observed in the southern (MPR) portions of Wetland 7 during our previous site investigations.

Determination

Positive indicators for dominance by hydrophytic vegetation, hydric soil, and wetland hydrology were present within the wetland during the April 2005 field investigation. Therefore, the delineated areas met necessary criteria to be considered wetland under guidelines of the Washington State Wetlands Identification and Delineation Manual (WDOE 1997).

Wetland 7 would be classified as a palustrine, emergent, persistent (PEM1) and palustrine scrub-shrub, broad leaved deciduous (PSS1) wetland according to the USFWS wetland classification system (Cowardin et al. 1992).

The portions of Wetland 7 on the Suncadia MPR site were previously determined to meet the Category II criteria, therefore the portion of Wetland 7 on the Miller Property also would be Category II. Standard buffer width for Category II wetlands is 50 to 200 feet, depending on the intensity of proposed adjoining land uses.

3.3 Streams

Raedeke Associates, Inc. also identified and delineated the ordinary high water (OHW) mark of a stream in the western portion of the Miller Property (Figure 3). The stream identified and delineated on the Miller Property is the northern extension of Stream C-1 previously identified on the MPR site. The stream was not flowing during our April and May 2005 site visits, however evidence of flow such as drift lines and surface scour were observed.

The stream appears to meet the criteria to be considered a Category 4 stream under the Kittitas County code as it is greater than 2 feet wide and does not flow year-round. Kittitas County does not require buffers on Category 4 streams.
3.4 Upland Descriptions

Other portions of the Miller Property consist primarily of previously cleared areas dominated by herbaceous plants. The southern and western portions of the investigated area, contains a stand of ponderosa pine with a sparse shrub understory.

Soils within the uplands on-site are variable, but generally consist of fine sandy loams, some with cobbles. The surface horizons are generally a very dark grayish brown (2.5Y 3/2 or 10YR 3/2) above a very dark grayish brown to dark yellowish brown (10YR 3/6) subsoil with no mottles. Because the soil matrix chromas in these areas were high, or lacked redoximorphic features, the soils did not meet hydric soil criteria as defined by the WDOE (1997) Washington State Wetlands Identification and Delineation Manual.

We found no evidence of wetland hydrologic conditions such as surface water, watermarks, scouring, or soil saturation within a major portion of the root zone or within any of the remaining upland areas during our April and May 2005 field investigations.
4.0 REGULATORY CONSIDERATIONS

Wetlands and streams are protected by Section 404 of the Federal Clean Water Act and other state and local policies and ordinances including the Kittitas County (1992) Code. Regulatory considerations pertinent to wetland identified within the study area are discussed below, but this discussion should not be considered comprehensive. Additional information may be obtained from agencies with jurisdictional responsibility for, or interest in, the site. A brief review of the U.S. Army Corps of Engineers regulations and Kittitas County policy relative to wetlands and streams is presented below.

4.1 FEDERAL CLEAN WATER ACT (U.S. ARMY CORPS OF ENGINEERS)

Federal law (Section 404 of the Clean Water Act) generally discourages the discharge of dredged or fill material into the nation's waters, including most wetlands, without a permit from the COE. The COE makes the final determination as to whether an area meets the definition of a wetland as defined by the federal government (Federal Register 1986:41251), and thus, if it is under their jurisdiction.

We should caution that the placement of fill within wetlands or other Waters of the U.S. without authorization from the COE is not advised, as the COE makes the final determination as to whether any permits would be required for any proposed alteration. As the COE makes the final determination regarding permitting under their jurisdiction, we recommend requesting a jurisdictional determination from the COE prior to any construction activities, if any modification of wetlands is proposed. A jurisdictional determination would also provide evaluation and confirmation of our wetland delineation by the COE.

4.2 KITITAS COUNTY

Kittitas County regulates impacts to wetlands through Title 17A, Critical Areas, of the Kittitas County Code (1992). The County requires that development activities result in no net loss of wetland function or values and has established specific compensatory mitigation ratios for unavoidable impacts to wetlands regulated by the County. Impacts to Category II wetlands shall be mitigated at a 2:1 ratio. Impacts to Category III wetlands require a mitigation ratio of 1.5:1.
5.0 LIMITATIONS

We have prepared this report for the exclusive use of Suncadia, LLC and their consultants. No other person or agency may rely upon the information, analysis, or conclusions contained herein without permission from Suncadia, LLC.

The determination of ecological system classifications, functions, values, and boundaries is an inexact science, and different individuals and agencies may reach different conclusions. With regard to wetlands, the final determination of their boundaries for regulatory purposes is the responsibility of the various agencies that regulate development activities in wetlands. We cannot guarantee the outcome of such agency determinations. Therefore, the conclusions of this report should be reviewed by the appropriate regulatory agencies prior to any detailed site planning or construction activities.

We warrant that the work performed conforms to standards generally accepted in our field, and prepared substantially in accordance with then-current technical guidelines and criteria. The conclusions of this letter represent the results of our analysis of the information provided by the project proponent and their consultants, together with information gathered in the course of the study. No other warranty, expressed or implied, is made.
6.0 LITERATURE CITED


FIGURES AND TABLES
Table 1. Summary of Wetlands on the Miller Property.

<table>
<thead>
<tr>
<th>Wetland</th>
<th>Wetland Size ac.</th>
<th>WDOE (1991) Rating</th>
<th>Standard Kittitas Buffer (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10.44</td>
<td>II</td>
<td>50-200</td>
</tr>
<tr>
<td>B</td>
<td>0.48</td>
<td>III</td>
<td>20-80</td>
</tr>
<tr>
<td>7</td>
<td>1.28</td>
<td>II</td>
<td>50-200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TREES</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Pinus ponderosa</em></td>
<td>Ponderosa pine</td>
<td></td>
<td>FACU-</td>
</tr>
<tr>
<td><em>Populus balsamifera</em></td>
<td>Black cottonwood</td>
<td></td>
<td>FAC</td>
</tr>
<tr>
<td><em>Populus tremuloides</em></td>
<td>Quaking aspen</td>
<td></td>
<td>FAC+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SHRUBS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Spiraea pyramindata</em></td>
<td>Pyramid spirea</td>
<td></td>
<td>UPL*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HERBS/FORBS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Alopecurus pratensis</em></td>
<td>Meadow foxtail</td>
<td></td>
<td>FACW</td>
</tr>
<tr>
<td><em>Alopecurus spp.</em></td>
<td>Foxtail</td>
<td></td>
<td>FACW°</td>
</tr>
<tr>
<td><em>Juncus effusus</em></td>
<td>Soft rush</td>
<td></td>
<td>FACW</td>
</tr>
<tr>
<td><em>Potentilla palustris</em></td>
<td>Marsh cinquefoil</td>
<td></td>
<td>OBL</td>
</tr>
<tr>
<td><em>Ranunculus repens</em></td>
<td>Creeping buttercup</td>
<td></td>
<td>FACW</td>
</tr>
<tr>
<td><em>Typha latifolia</em></td>
<td>Common cattail</td>
<td></td>
<td>OBL</td>
</tr>
</tbody>
</table>
APPENDIX A

Methodology
A.1 Plant Community Description and Classification Methods

Qualitative and quantitative indicators are used to determine whether hydrophytic vegetation is present on a particular site. Each of the plant communities on the property are classified according to the predominant vegetative growth form, and in some cases, substrate material, flooding regime, and/or land use. Wetland communities are classified according to Cowardin et al. (1992), while upland communities are classified according to Anderson et al. (1976).

The Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) defines hydrophytic vegetation as “the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present” (Environmental Laboratory 1987:16). Specifically, “hydrophytic vegetation is prevalent in an area when the dominant species comprising the plant community or communities are typically adapted for life in saturated soil conditions” (Environmental Laboratory 1987:17).

In general, hydrophytic vegetation is present when “more than 50 percent of the dominant species are OBL, FACW, or FAC [as defined below] on lists of plants species that occur in wetlands” (Environmental Laboratory 1987:19). Other indicators of hydrophytic vegetation include visual observation of plant species growing in areas of prolonged inundation and/or soil saturation, morphological adaptations of vegetation, technical literature, physiological and reproductive vegetation adaptations.

In order to determine the dominant vegetation in an area, vegetation communities are described and classified using the Braun-Blanquet cover-abundance “plotless” sampling methodology as outlined in Mueller-Dombois and Ellenberg (1974; Table A.1). According to this methodology, a vegetated area is divided into one or more homogeneous cover types. For each cover type, plant species composition and cover are recorded based on “plotless” sampling. Table A.1 contains a key to the Braun-Blanquet cover scale. Scientific and common nomenclature of vegetation follows Hitchcock and Cronquist (1976), as updated by Pajar and MacKinnon (1994), Guard (1995), and Cooke (1997).

Each species within the cover type is assigned a wetland indicator status (WIS) rating as established by Reed (1988, 1993). Wetland indicator status ratings were developed in order to segregate species into “ecological groups.” Each group contains species with similar probabilities of occurrence in wetlands or similar abilities to withstand saturated soil conditions. Plants are rated, from highest to lowest probability of occurrence in wetlands, as obligate (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and upland (UPL). Table A.2 contains a detailed key to the wetland indicator status categories. Plant species not listed in Reed (1988, 1993) are rated upland by default.
Two quantitative indices are used to analyze vegetation data in order to determine if the plant community meets the definition of “hydrophytic vegetation.” The first index represents the percentage of dominant species with a WIS rating of facultative or wetter. A species with a cover class value of 2 (5-25% canopy cover) or greater on the Braun-Blanquet scale is considered a dominant.

The second vegetation index is a weighted mean of the WIS ratings. This weighted mean index (WMI) calculates the average WIS rating of all species in the plot by weighting each species based upon its relative cover. The WMI is a measure of the plant community's adaptation to saturated soil conditions (Wentworth and Johnson 1986). The WMI provides an objective parameter for determining whether a plant community is indicative of wetland or upland conditions. Ideally, the “breakpoint” between wetland and upland vegetation is a WMI of 3.0, with wetland vegetation characteristics indicated by a WMI less than 3.0 and upland vegetation characteristics indicated by a WMI greater than 3.0. When the WMI is near 3.0, however, vegetation may not clearly indicate whether an area is wetland or upland. In such cases, soil and hydrologic conditions must be carefully considered. As the WMI of a plant community or plot approaches either extreme on the scale (i.e. approaching 1.0 or 5.0), however, the probability of the vegetation indicating either wetland or upland increases (see Figure A.1). Wentworth and Johnson (1986) confirmed the effectiveness of this methodology for a wide variety of plant communities in different regions of the United States.

The following example illustrates the calculation of the two indices. Table A.3 contains an example of a calculation in the format contained within the text of Appendix B of our report.

1. Calculation of the percent of the dominant species that are rated facultative (FAC) or wetter:

\[
\% \text{ FAC or wetter species} = \frac{y}{x} \times 100
\]

Where,

\[x = \text{the total number of dominant species. Dominant species are defined as species with a cover class of 2 or greater according to the Braun-Blanquet methodology.}\]

\[y = \text{the number of dominant species that have WIS ratings of FAC or wetter}.\]

2. Calculation of the weighted mean index (WMI):

For the calculation of the WMI, each Braun-Blanquet cover value is converted to the mid-point of the cover class, and the WIS ratings are converted to numerical values. The calculation is done according to the following formula:

\[
\text{WMI} = \text{sum of (CCM} \times \text{WIS)}
\]
sum of (CCM)

where,

CCM = percent cover class midpoint for each species,

WIS = wetland indicator status rating for each species.

The 1987 manual requires only an analysis of vegetation dominance. If the proportion of dominant plant species rated FAC or wetter is greater than 50%, the vegetation community is considered hydrophytic. Although a WMI is calculated for each vegetation community in this report, the determination of the presence of hydrophytic vegetation according to the 1987 methodology is based solely on vegetation dominance values.

A.2 Soil Description and Classification Methods

Hydric soils are classified by examining soil morphology. Soils are described by using exposed profiles within pits or by examining soils obtained from boreholes. Other observations such as topography and degree of disturbance (i.e. filling and/or grading) are also recorded. In order to determine the variation and distribution of soils, boreholes are dug throughout the property. In addition to the field investigation, U.S. Soil Conservation Service Soil Survey reports and maps are examined to determine the soil mapping unit(s) for the property.

Soil color is based on three spectral variables: hue (the dominant spectral color), value (the relative brightness of color) and chroma (the purity of color) (Buol et al. 1980). Alphanumeric values are assigned to these spectral variables using the notation of the Munsell Color System (Munsell Color 2000).

Soils are examined for hydric soil characteristics within the upper 20 inches of the profile. According to the 1987 manual, soils are specifically examined for hydric indicators immediately below the A horizon or 10 inches, whichever is shallower. Hydric soil indicators include, but are not limited to, 1) gley conditions, 2) mottling in a low chroma matrix, 3) histic soils, and 4) saturated or inundated conditions.

Gley conditions are the presence of gray, greenish gray, or bluish colors in the soil. Gley conditions indicate that iron in the soil has been leached or occurs only in reduced form because soil conditions have been anaerobic for a considerable amount of time.

Mottling in a low chroma matrix is the occurrence of “spots” of contrasting soil colors within the soil matrix. Low chroma is defined as having a chroma less than or equal to 2, according to standard Munsell notation, and indicates colors of low purity (i.e. gray colors). The presence of mottles in a low chroma matrix indicates alternating oxidized and reduced conditions as occurs with fluctuating saturated and unsaturated soil conditions.
A histic soil is a soil primarily composed of organic material. In most cases, organic soils are indicators of very poorly to poorly drained conditions. Histic soils typically develop on sites with nearly constant saturation because under such anaerobic conditions plant materials decay slowly.

Saturated or inundated soil conditions are often indicators of hydric soils; however, recent weather conditions must be taken into account. Intense rates of precipitation or constant precipitation over a period of time can produce saturated or inundated conditions in an otherwise non-hydric soil.

While hydric soil morphology can be an indicator of wetland soil, it may not define an area as wetland. Artificially drained hydric soils may exhibit hydric morphology, but no longer be flooded or saturated for sufficient time to favor the growth and regeneration of hydrophytic vegetation. Therefore, these areas would no longer be classified as wetland (Cowardin et al. 1992; Environmental Laboratory 1987).

Conversely, a soil may be subjected to saturated or flooded conditions for a sufficient period of time to favor the growth of hydrophytic vegetation, yet lack “typical” hydric soil morphology. This phenomena occurs commonly in young or poorly developed soils. Examples of soils lacking hydric morphology, yet meeting the hydric soil definition, include poorly drained recent deposits such as sand bars, poorly drained minesoils, or other recently disturbed soils. Certain soil materials can also “mask” the usual morphological indicators of poorly drained conditions.

Soil morphology is an indicator of environmental conditions under which the soil developed; however, its morphology may not reflect present environmental conditions. Careful observation of soil morphology in association with vegetation, topography, and hydrology is needed especially when soils are young or disturbed.

A.3 Characterization of Hydrology

The importance of water to the existence of wetlands is clearly stated in the Corps of Engineers (COE) definition of wetlands as:

those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Federal Register 1986:41251).

Wetland hydrology, the primary determinant for the development of hydric soils and hydrophytic vegetation, is the most critical factor for wetland formation. Without wetland hydrology, an area cannot be classified as a wetland. “Wetland hydrology” describes the hydrological characteristics of areas that are periodically inundated, or have soils saturated to the surface at some time during the growing season of the prevalent vegetation (Environmental Laboratory 1987).
Topography and soil properties are the primary factors controlling local hydrology. Wetland hydrology exists because 1) topography directs water towards or impedes water flow out of an area, 2) soil conditions restrict drainage, or 3) both topographic and soil conditions favor wetland hydrology. Therefore, observations of topography and soil properties are a necessary part of any wetland determination.

Indicators of wetland hydrology include both recorded and field data. Recorded data typically include stream, lake, and tidal gage records of the COE, U.S. Geological Survey (USGS), state, county, and/or local governments. Field data typically include visual observations of inundation, soil saturation, watermarks, driftlines, sediment deposits, and drainage patterns (Environmental Laboratory 1987).

In order for an area to have wetland hydrology according to the 1987 manual, soils must be saturated within a major portion of the vegetation rooting zone (usually within 12 inches of the surface) for at least 5% of the growing season (U.S. Army Corps of Engineers 1991b, 1992; see Table A.4). The growing season is defined as “the portion of the year when soil temperatures are above biological zero (41 degrees F). In the absence of soil temperature data, growing season length is estimated from climatological data provided by most U.S.D.A. Soil Conservation Service county soil surveys. Growing season starting and ending dates are determined based on the “28 degree F or lower” temperature threshold at a 50 percent annual (i.e. “5 years in 10”) frequency (U.S. Army Corps of Engineers 1992).

For example, the growing season as recorded at Everett, Snohomish County, Washington begins on March 13 and ends on November 20. Thus, the growing season is 251 days long. Five percent of the growing season (251 days) is 13 days. Therefore, soils at locations near Everett must be saturated in the major portion of the vegetation rooting zone for 13 consecutive days between March 13 and November 20 in order to exhibit wetland hydrology according to the 1987 manual. Since the climate in this region is generally cool and wet in the winter and warm and dry in the summer, soils are generally wettest (and therefore most likely to meet the wetland hydrology criteria) during the 13-day period between March 13 and March 26.

Inundation or soil saturation are the most direct evidence of wetland hydrology; however, these observations must be considered in context with prevailing weather conditions. Saturation does not necessarily indicate wetland hydrology because even a well drained soil may have ponded or saturated conditions when the rate of precipitation exceeds the infiltration rate of water in the soil. In most cases, however, saturated soil conditions associated with hydric soil morphology form a reasonable indicator of wetland hydrology.

Because of the seasonal nature of precipitation in the Pacific Northwest, positive indicators of wetland hydrology (i.e. saturation) may not be present during all seasons of the year. In addition, the hydrology of many wetland systems has been altered through agricultural and construction practices such as ditching, diking, groundwater withdrawal, surface water diversion, excavation, placement of fill material, soil compaction, and
removal of vegetation. These activities can make the evaluation of wetland hydrology difficult, and may require the use of more intensive field evaluation techniques.

A.3.1 Field Techniques for Evaluating Wetland Hydrology

Appropriate field techniques for wetland hydrology investigation may include detailed soil investigation and mapping to establish the presence of hydric soil morphology, and implementation of groundwater monitoring to determine the extent and duration of soil saturation.

In order to establish whether or not an area meets the federal wetland hydrology criteria, direct observation of wetland hydrology must be made in the field. These direct observations must be performed during the growing season with sufficient frequency to verify the duration of the hydrologic condition. Further, observations of wetland hydrology must be spatially distributed to adequately represent the area in question.

Because soil saturation is a critical factor in wetland determination, it may be necessary to establish a series of monitoring points over a given area to measure the degree and duration of soil saturation. One method for performing this task is the implementation of detailed groundwater monitoring using a combination of groundwater observation wells, boreholes, and soil pits in conjunction with additional site-specific geologic, climatic, and hydrologic information.

Measurement of a shallow water table may be done by excavating a soil pit or borehole in the soil profile and observing the depth at which the soil is saturated. Water table elevation data may also be obtained through the use of observation wells. When placed at variable elevations on the site, shallow groundwater monitoring wells allow measurement of water table levels over time. Observation wells have an advantage over soil pits or boreholes in that the wells are sealed from direct contact with precipitation and allow measurement of water table elevations during periods of heavy precipitation.

A.3.1.1 Soil Pit Methodology

Soil pits are used to examine the morphology of the soil profile at a given location to establish the depth of the water table below the ground surface. Soil pits are excavated with a six-inch wide trenching spade to a depth of at least 20 inches below the ground surface. After excavation, one side of the soil pit is scraped so that fine soil is not smeared across pore openings. Observations of soil morphology, color and texture are made. Observations of water table depth below the ground surface and seepage from the soil pit wall are recorded after a period of time depending on soil texture.

A.3.1.2 Borehole Methodology

Unlined boreholes excavated with a four-inch diameter bucket auger are used to make quick assessments of water table elevations. Borehole excavation is performed by rotating the auger into the soil over several six- to eight-inch intervals and removing the
soil from each successive interval. This process is repeated until the desired depth (20 to 36 inches) is reached. Soil samples taken from the auger are examined for color, texture, and water content. The depth to water table is recorded after a period of time determined by soil texture.

A.4 Overview of 1987 Manual

The Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) was originally developed as a set of guidelines for wetland determination rather than as explicit criteria. Nonetheless, all three parameters (i.e. hydric soil, hydrophytic vegetation, and wetland hydrology) must exist for an area to be classified as wetland. The manual “stresses the need to use sound professional judgment, providing latitude to demonstrate whether an area is a wetland or not based on a holistic and careful consideration of evidence for all three parameters” (U.S. Army Corps of Engineers 1991b:1).

According to the 1987 manual, hydrophytic vegetation cannot be inferred from hydric soils or wetland hydrology, except as detailed in the Atypical Situations and Problem Areas sections of the manual (Environmental Laboratory 1987). Hydric soils, however, can be inferred from hydrophytic vegetation given that the vegetation is dominated by obligate wetland plants, or the vegetation is dominated by facultative or wetter wetland plants and the wetland boundary (i.e. the wetland/upland interface) is abrupt.
Range of Weighted Average Scores

```
<table>
<thead>
<tr>
<th>extreme wetland</th>
<th>Wetland</th>
<th>Upland</th>
<th>extreme upland</th>
</tr>
</thead>
<tbody>
<tr>
<td>(100% obligate hydrophytes)</td>
<td></td>
<td></td>
<td>(100% obligate upland species)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>^</td>
<td>^</td>
<td></td>
<td>^</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>.</td>
<td></td>
<td>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>^</td>
<td></td>
<td></td>
<td>^</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>^</td>
<td></td>
<td></td>
<td>^</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>.</td>
<td></td>
<td>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>^</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table A.1. Key to Braun-Blanquet cover-abundance scale.

<table>
<thead>
<tr>
<th>Braun-Blanquet Code</th>
<th>Definition</th>
<th>Cover Class Range (%)</th>
<th>Cover Class Mid-Point (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Any number, with cover more than 3/4 of the reference area</td>
<td>75-100</td>
<td>87.5</td>
</tr>
<tr>
<td>4</td>
<td>Any number, with cover between 1/2 and 3/4 of the reference area</td>
<td>50-75</td>
<td>62.5</td>
</tr>
<tr>
<td>3</td>
<td>Any number, with cover between 1/4 and 1/2 of the reference area</td>
<td>25-50</td>
<td>37.5</td>
</tr>
<tr>
<td>2</td>
<td>Any number, with cover between 1/20 and 1/4 of the reference area</td>
<td>5-25</td>
<td>15.0</td>
</tr>
<tr>
<td>1</td>
<td>Numerous, but less than 1/20 cover, or scattered, with cover up to 1/20</td>
<td>&lt; 5</td>
<td>2.5</td>
</tr>
<tr>
<td>+</td>
<td>Few, with little cover</td>
<td>&lt; 5</td>
<td>2.5</td>
</tr>
<tr>
<td>r</td>
<td>Solitary, with little cover</td>
<td>&lt; 5</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Table A.2. Key to United States Fish and Wildlife Service Wetland Indicator Status (WIS) categories and equivalent numeric values.

<table>
<thead>
<tr>
<th>Indicator Category</th>
<th>Indicator Symbol</th>
<th>Numeric Value</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligate Wetland Plants</td>
<td>OBL</td>
<td>1.00</td>
<td>Plants that occur almost always (estimated probability &gt;99%) in wetlands under natural conditions, but which may also occur rarely (est. probability &lt;1%) in non-wetlands.</td>
</tr>
<tr>
<td></td>
<td>FACW+</td>
<td>1.67</td>
<td>See footnote¹</td>
</tr>
<tr>
<td>Facultative Wetland Plants</td>
<td>FACW</td>
<td>2.00</td>
<td>Plants that occur usually (est. probability &gt;67% - 99%) in wetlands, but also occur (est. probability 1% - 33%) in non-wetlands.</td>
</tr>
<tr>
<td></td>
<td>FACW-</td>
<td>2.33</td>
<td>See footnote¹</td>
</tr>
<tr>
<td></td>
<td>FAC+</td>
<td>2.67</td>
<td>See footnote¹</td>
</tr>
<tr>
<td>Facultative Plants</td>
<td>FAC</td>
<td>3.00</td>
<td>Plants with a similar likelihood (est. probability 33% - 67%) of occurring in both wetlands and non-wetlands.</td>
</tr>
<tr>
<td></td>
<td>FAC-</td>
<td>3.33</td>
<td>See footnote¹</td>
</tr>
<tr>
<td></td>
<td>FACU+</td>
<td>3.67</td>
<td>See footnote¹</td>
</tr>
<tr>
<td>Facultative Upland Plants</td>
<td>FACU</td>
<td>4.00</td>
<td>Plants that occur sometimes (est. probability 1% - &lt;33%) in wetlands, but occur more often (est. probability &gt;67% - 99%) in non-wetlands.</td>
</tr>
<tr>
<td></td>
<td>FACU-</td>
<td>4.33</td>
<td>See footnote¹</td>
</tr>
<tr>
<td>Obligate Upland Plants</td>
<td>UPL</td>
<td>5.00</td>
<td>Plants that occur rarely (est. probability &lt;1%) in wetlands, but occur almost always (est. probability &gt;99%) in non-wetlands under natural conditions.</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Obligate Upland Plants by Default</td>
<td>UPL*</td>
<td>5.00</td>
<td>Not listed by Reed (1988, 1993), and therefore presumed to be an obligate upland plant.</td>
</tr>
</tbody>
</table>

1 Species with a "+" after the rating are considered wetter (i.e., have a greater estimated probability of occurring in wetlands) than respective species without a plus rating, while species with a "-" are considered drier (i.e., have a lower estimated probability of occurring in wetlands) than respective species without a minus rating (Environmental Laboratory 1987:18-19).
Table A.3. Example calculation of vegetation indices.

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>WIS Symbol</th>
<th>B-B WIS Value</th>
<th>Cover Class Value</th>
<th>Cover Class Midpoint</th>
<th>Product of Midpoint and WIS Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juncus effusus</td>
<td>FACW+</td>
<td>1.67</td>
<td>4</td>
<td>62.5</td>
<td>104.4</td>
</tr>
<tr>
<td>Ranunculus repens</td>
<td>FACW</td>
<td>2.00</td>
<td>2</td>
<td>15.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Phalaris arundinacea</td>
<td>FACW</td>
<td>2.00</td>
<td>1</td>
<td>2.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Holcus lanatus</td>
<td>FAC</td>
<td>3.00</td>
<td>1</td>
<td>2.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Dactylis glomerata</td>
<td>FACU</td>
<td>4.00</td>
<td>1</td>
<td>2.5</td>
<td>10.0</td>
</tr>
<tr>
<td>Lolium perenne</td>
<td>FACU</td>
<td>4.00</td>
<td>+</td>
<td>2.5</td>
<td>10.0</td>
</tr>
<tr>
<td>Juncus spp.</td>
<td>FAC-OBL</td>
<td>2.00</td>
<td>+</td>
<td>2.5</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**TOTALS**

|               |             |              |                   |                     | 90.0 | 171.9 |

\[ \text{WMI} = \frac{171.9}{90.0} = 1.91 \]

Percent of the dominant species rated FAC or wetter = \( \frac{2}{2} \times 100 = 100\% \)
Table A.4. Hydrologic zones in non-tidal areas (Environmental Laboratory 1987).

<table>
<thead>
<tr>
<th>Zone</th>
<th>Name</th>
<th>Duration</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Permanently inundated water</td>
<td>100%</td>
<td>Inundation &gt;6.6 feet mean depth</td>
</tr>
<tr>
<td>II</td>
<td>Semipermanently to nearly permanently inundated or saturated</td>
<td>&gt;75% - &lt;100%</td>
<td>Inundation defined as μ6.6 feet mean water depth</td>
</tr>
<tr>
<td>III</td>
<td>Regularly inundated or saturated</td>
<td>&gt;25% - 75%</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Seasonally inundated or saturated</td>
<td>&gt;12.5% - 25%</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Irregularly inundated or saturated</td>
<td>&gt;5% - 12.5%</td>
<td>Many areas having these hydrologic characteristics are not wetlands</td>
</tr>
<tr>
<td>VI</td>
<td>Intermittently or never saturated</td>
<td>&lt;5%</td>
<td>Areas with these hydrologic characteristics are not wetlands</td>
</tr>
</tbody>
</table>

1 This defines an aquatic habitat zone.

2 Refers to duration of inundation and/or soil saturation during the growing season.
Appendix B
Preliminary Coal Mine Hazard Assessment, June 2006
Icicle Creek Engineers
INTRODUCTION

This report summarizes the results of Icicle Creek Engineers’ (ICE’s) for a preliminary coal mine hazard assessment of the “Miller property” located near Roslyn in Kittitas County, Washington. Our geological engineering services were provided in general accordance with our Scope of Services and Fee Estimate dated June 15, 2006.

The Miller property is comprised of five land parcels (referred to as Parcels A through E) located on about 125 acres along Nelson Dairy Road southwest of State Route 903 between the communities of Ronald and Roslyn. The Miller property is underlain by two abandoned underground coal mines. The location of the Miller property relative to nearby physical features is shown on the Vicinity Map, Figure 1. The layout of the Miller property including the property boundary and site features is shown on the Site Plan, Figure 2.

ICE previously completed preliminary and detailed coal mine hazard assessments in the vicinity of the Miller property. The Miller property is currently classified as a “Moderate Coal Mine Hazard Area” based on previous studies by ICE of this general area. Development is allowed in Moderate Coal Mine Hazard Areas, but requires certain design and construction considerations to mitigate potential damage that could result from regional ground subsidence (ground tilt and strain). However, it is possible to “declassify” the coal mine hazard depending on the results of a site-specific preliminary coal mine hazard assessment which is subject to this report.

SCOPE OF SERVICES

The purpose of our services was to conduct a preliminary coal mine hazard assessment as a basis to reclassify the coal mine hazards within the Miller property. Specifically, ICE’s services included:

- Review available information concerning project site topography, geology, soil conditions and other relevant site characteristics.
- Review available mine records to evaluate the location of the mined-out areas, together with the depth of mining, thickness of zone mined and mining methods. This information was reviewed in conjunction with ground surface topography to evaluate for surface expression or collapse of underground openings.
- Review historical aerial photographs for evidence of the location of mining facilities on the surface for comparison with the historical documents and to aid our surface reconnaissance effort.
Complete surface reconnaissance mapping to identify mine openings such as mine shafts, together with stockpiles of tailings or other areas where the original ground surface has been disturbed. In addition, we noted surface topographic anomalies that might indicate collapse of underground workings.

Complete mine mapping by superimposing the identified mines onto a project site base map. This map was used to develop geologic cross-sections showing the depth to mined-out areas and provide a preliminary interpretation of mine overburden conditions. The cross-sections were used to develop maps showing the estimated depth below the ground surface to the mine workings.

Based on the findings of the Preliminary Coal Mine Hazard Assessment, classify the mine hazards as either: 1) Severe Coal Mine Hazard Areas, 2) Moderate Coal Mine Hazard Areas, or 3) Declassified Coal Mine Areas.

EXISTING INFORMATION

The following documents were reviewed regarding the geology, historic coal mining, Critical Areas status and land planning of the Miller property area:

- Kittitas County, January 1995, “Kittitas County Land Use Code Title 17A.”
- Walker & Associates, 1970, aerial photographs of the area between Lake Cle Elum and the city of Cle Elum, scale 1:1200.
GEOLOGIC SETTING

The surficial geology of the Miller property has been mapped by the WDGER (1987) as “glacial drift” and “alluvium.” During the Pleistocene age, a series of alpine glaciations advanced into this area. Meltwater streams, emanating from the terminus of these glaciers, mantled the Cle Elum and Yakima River valleys with up to several hundred feet of silt, sand, gravel and boulders (referred to as “outwash”) and glacially overridden soils consisting of silty sand with gravel, cobbles and boulders (referred to as “glacial till” and is sometimes called “hardpan”) that was deposited at the base of the ice. Collectively, the outwash and glacial till are referred to as “glacial drift.” The glacial drift partially filled in the Cle Elum River valley. Immediately following the last glaciation, wind-blown silt, referred to as “loess,” blanketed the ground surface of the area.

Bedrock, referred to as the Roslyn formation, underlies the entire Miller property. The depth to bedrock is not known based on available information, but is expected to be at least 100 feet deep (overlain by glacial drift). The Roslyn formation bedrock consists of siltstone, sandstone, shale and coal.

SITE CONDITIONS

Our surface reconnaissance of the Miller property was conducted on June 20, 2006. The Miller property is bordered to the south and west by the currently undeveloped Suncadia Phase 2, Division 2 project area and to the north and east by similar undeveloped, forested land. State Route (SR) 903 is located northeast of the Miller property. Access to the property is by Nelson Dairy Road which intersects with SR 903 near the south end of the community of Ronald. Nelson Dairy Road, a gravel-surfaced road, crosses the Miller property from northwest to southeast. Photographs of a portion of the Miller property are shown on Miller Property Photographs, Figure 3.

The Miller property is characterized topographically as occupying a broad, northwest/southeast trending swale or valley. The central valley is about 1,000 feet across and is nearly level at about Elevation 2,200 feet with a slight slope down to the southeast. The central valley is primarily used for pasture with forested areas at each end (north and south ends) and a group of buildings (farmhouse and outbuildings) along the east side of the valley adjacent to Nelson Dairy Road.

A seasonal stream (referred to as the “Stream C Corridor”) flows from the northwest to the south near the center of the valley floor. Two wetlands have been identified by others in the north and southeast corners of the Miller property.

The central valley is flanked to the northeast and southwest by moderately sloping hillsides (the hillside to the southeast is outside of the Miller property). The hillsides rise to about Elevation 2,400 feet. The hillside areas area forested with Ponderosa pine and occasional Douglas fir trees and a light to moderately dense understory of brush.

No anomalous surface features such as closed depressions or uneven topography that could be related to the collapse of abandoned underground mines were observed on the Miller property. No abandoned stockpiles of mine rock fill (mine rock fill is waste coal and rock fragments from the historic mining operations) were observed on the ground surface.

ABANDONED UNDERGROUND COAL MINES

DOCUMENTED MINING

The entire Miller property is underlain by the Northwestern Improvement Company (NWI) No. 3 Mine as shown on the No. 3 Mine Location Map, Figure 4. The central and north portion of the Miller property is underlain by the NWI Ronald No. 2 Mine as shown on the Ronald No. 2 Mine Location Map, Figure 5. Both mines were intermittently active from the early 1900s and were permanently closed in the 1950s.
The No. 3 Mine was worked on the Roslyn Seam and the Ronald No. 2 Mine was worked on the Big Seam. These two coal seams are about 200 feet apart (Lewis, 1940). The thickness of coal mined was about 5 feet for both coal seams (Lewis, 1940). According to the historical mine records, more than 90 percent of the coal was removed from each of the coal seams (WDGER, May 1994).

In both of the mines, the coal was removed using room-and-pillar mining methods where coal "pillars" were left in place for support of the "rooms" where the coal was removed. Eventually, most, or all, of the coal pillars were removed upon retreat of these production areas to promote collapse of the mined-out areas. Based on engineering studies conducted at the time of mining, caving of the mined-out areas (rooms) was required upon retreat of production areas. Room caving was required to allow the overburden pressures in the mines to adjust.

Based on our review of the historic mine maps and site topography, the abandoned underground mine workings underlie the Miller property at a depth ranging from about 730 to 1,240 feet (No. 3 Mine) and 530 to 840 feet (Ronald No. 2 Mine) below the ground surface as shown on Figures 4, 5 and the Geologic Cross-Section A-A’, Figure 6.

UNDOCUMENTED MINING

The Miller property is mantled with glacial drift which is likely more than 100-feet thick. For this reason, it is not likely that underground coal mining would have been initiated from the surface of this property.

AERIAL PHOTOGRAPH REVIEW

Historical aerial photographs of the Miller property and adjacent areas were reviewed for the year 1970. The scale on these photographs is about 1 inch = 1,600 feet. The Miller property and adjacent areas (within 500 feet) appear in the 1970 aerial photographs much like the current 2006 condition of the property. The primary difference is two stock ponds located south and southwest of the farmhouse and outbuildings within the Stream C Corridor in the 1970 aerial photographs. These stock ponds do not currently exist. We did not observe photographic evidence of coal stockpiles or other mining-related surface features in the 1970 aerial photographs.

GENERAL DESCRIPTION OF COAL MINE HAZARDS

Kittitas County does not specifically describe a methodology in their land use code or other regulatory requirements for use in assessing or mitigating coal mine hazards. For this reason, we suggest a methodology that was used for the Suncadia Resort project during the Environmental Impact Statement (EIS) phase of the project in the late 1990s, which ICE completed. This methodology is used by various municipal and county governments in Washington State where coal mine hazards are a factor in permitting land development. The methodology was formulated based on many of the principles described in the Subsidence Engineers Handbook published in 1975 by the National Coal Board in England. The methodologies were further modified by a technical advisory group of local geotechnical, mining and geological engineers in the late 1990s for applicability to the conditions observed in Washington State. The following is a description of coal mine hazards using these references:

Severe Coal Mine Hazards are those areas that pose a significant risk of catastrophic ground surface collapse. Severe coal mine hazard areas typically include, but are not limited to, areas characterized by unmitigated openings such as entries, portals, adits, mine shafts, air shafts, timber shafts, sinkholes, improperly filled sinkholes and other areas of past or significant probability for catastrophic ground surface collapse; or areas characterized by overland surfaces underlain or directly...
affected by abandoned coal mine workings from a depth of zero, which is the surface of the land, to one hundred fifty feet.

**Moderate Coal Mine Hazards** are those areas that pose significant risks of property damage that can be mitigated by implementing special engineering or architectural recommendations. Moderate coal mine hazard areas typically include, but are not limited to, areas underlain or directly affected by abandoned coal mine workings from a depth of zero, which is the surface of the land, to three hundred feet or with overburden-cover-to-seam thickness ratios of less than ten to one depending on the inclination of the seam.

**Declassified Coal Mine Areas** are those areas where the risk of catastrophic collapse is not significant and that the hazard assessment report has determined do not require special engineering or architectural recommendations to prevent significant risks of property damage. Declassified coal mine areas typically include, but are not limited to, areas underlain or directly affected by coal mines at depths of more than three hundred feet as measured from the surface.

Other considerations include the possible presence of mine rock fill and undocumented mining. Mine rock fill includes stockpiles of mining by-products consisting of broken rock and coal. Undocumented mining, typically as shallow prospects, have been encountered in the vicinity of large-scale documented coal mining.

**ANALYSIS OF COAL MINE HAZARDS**

**SEVERE COAL MINE HAZARDS**

Severe Coal Mine Hazards are underlain by abandoned underground coal mines at a depth of less than 150 feet. Based on our review of the historic mine maps, the No. 3 Mine and Ronald No. 2 Mine underlie the Miller property at depths ranging from 530 to 1,240 feet below the ground surface. For this reason (i.e. the mine is more than 150 feet below the ground surface), no Severe Coal Mine Hazards exist at the Miller property.

**MODERATE COAL MINE HAZARDS**

Moderate Coal Mine Hazards are within an area potentially affected by regional ground subsidence. These are areas where regional ground subsidence may occur, but not sinkholes. Regional ground subsidence occurs when the ground surface settles over a large area. Surface deflection is caused by plastic deformation of the strata overlying the mine as the roof sags into the mine. The affected area is expected to be much larger than the vertical projection of the underground mine workings. The effects of regional ground subsidence include vertical ground subsidence, ground strain and tilt.

Based on our experience with abandoned underground coal mines, mine workings more the 500 feet deep are fully collapsed. The No. 3 Mine and Ronald No. 2 Mine are more than 500 feet below the ground surface in this area. Therefore, potential regional ground subsidence would have already occurred. For this reason, no Moderate Coal Mine Hazard Areas exist at the Miller property.

**DECLASSIFIED COAL MINE AREAS**

The entire Miller property should be designated as a Declassified Coal Mine Area because of the lack of subsurface conditions (mine depth and location) that could potentially cause subsidence at the subject property. The Declassified Coal Mine Area is shown on the Coal Mine Hazards Map, Figure 7.
CONCLUSIONS AND RECOMMENDATIONS

Based on our review of available information and preliminary analysis of coal mine hazards at the Miller property, we have developed the following conclusions:

• The entire Miller property is underlain by the No. 3 Mine as shown on Figure 4. The central and north portion of the Miller property is underlain by the Ronald No. 2 Mine as shown on Figure 5.
• Based on our review of the historic mine maps and site topography, the abandoned underground mine workings underlie the Miller property at depths ranging from about 730 to 1,240 feet (No. 3 Mine) and 530 to 840 feet (Ronald No. 2 Mine) below the ground surface as shown on Figures 4, 5 and 6.
• No known mine entries, such as adits or shafts, occur within the Miller property.
• No coal mining-related surface features (mine openings or sinkholes) were observed within the Miller property at the time of our surface reconnaissance on June 20, 2006.
• No Severe Coal Mine Hazard areas exist at the Miller property because the abandoned underground coal mines are more than 150 feet below the ground surface.
• No Moderate Coal Mine Hazard areas exist at the Miller property because the abandoned underground mine workings are relatively deep (more than 500 feet below the ground surface) and can be assumed to be fully collapsed.
• In our opinion, the Miller property should be designated as a Declassified Coal Mine Area as shown on Figure 7. Development in a Declassified Coal Mine Area should not be limited with respect to coal mine hazards. However, there may be other environmental conditions (such as wetlands or steep slopes, etc.) that may pose development limitations and were not addressed in this preliminary coal mine hazard assessment.
• No mine rock fill, undocumented coal mine workings or prospects were observed within the Miller property. No mitigation associated with mine rock fill, undocumented coal mine workings or prospects is required. ICE should be contacted to provide an evaluation if evidence of mine rock fill, undocumented coal mine workings or prospects is encountered during future grading on the site.
• We do not recommend additional evaluation of coal mine hazards at the Miller property.
• We do not recommend specific design and construction methods to mitigate for coal mine hazards.
• We recommend that future buyers of land within the Miller property review this report to obtain an understanding of the historic underground coal mining that was conducted in this area, and as a means to evaluate risk associated with land ownership in an area of historic underground coal mining.

USE OF THIS REPORT

We have prepared this report for use by Suncadia, LLC and their associates and engineers for their use in planning for the property subject to this report. The data and report should be provided to permitting agencies for their information, but our report conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No warranty or other conditions, express or implied, should be understood.
Traci Shallbetter  
Suncadia, LLC  
June 29, 2006  
Page 7  

We trust this information meets your present needs. If you have any questions or if we can be of further assistance to you, please call.

Yours very truly,  
Icicle Creek Engineers, Inc.

Brian R. Beaman, P.E., L.G.  
Principal Engineer/Geologist

Kathy S. Killman, L.G.  
Principal Geologist

Document ID: 0523026.REP

Two copies submitted

Attachments: Figure 1 – Vicinity Map  
Figure 2 – Site Plan  
Figure 3 – Miller Property Photographs  
Figure 4 – No. 3 Mine Location Map  
Figure 5 – Ronald No. 2 Mine Location Map  
Figure 6 – Geologic Cross-Section A-A’  
Figure 7 – Coal Mine Hazards Map

cc: Richard Weinman (one copy)  
Huckell/Weinman Associates, Inc.  
270 – 3rd Avenue, Suite 200  
Kirkland, Washington 98033
View of the Miller property looking northwest along the edge of Nelson Dairy Road (6-20-06)

View of the Miller property looking west along the edge of Nelson Dairy Road (6-20-06)

View of the Miller property looking south along the edge of Nelson Dairy Road (6-20-06)

View looking south along the edge of Nelson Dairy Road near the south end of the Miller property (6-20-06)
Appendix C
Miller Property Cultural Resource Records Search
for SEPA Checklist, July 2006
Central Washington University,
Department of Anthropology
MILLER PROPERTY CULTURAL RESOURCE RECORDS SEARCH FOR
SEPA CHECKLIST

1. The Miller property contains two historic resources, a portion of the Roslyn Waterline Complex and the Nelson Dairy Road. The Miller property includes the remnants of part of the waterline of the Roslyn Waterline Complex (45KT2147); however, on March 3, 1999, the Department of Archaeology and Historic Preservation (DAHP) determined eligible for the National Register ONLY the Roslyn Waterline Bridge component of 45KT2147. That is, the waterline component of the Roslyn Waterline Complex was NOT deemed eligible.

The original road/trail, which has evolved into to the Nelson Dairy Road, shows up on Government Land Office (GLO) maps from 1884. When one compares historic GLO and modern USGS maps, it appears that the historic roadway closely follows the modern roadway. Thus, the original path has likely been obliterated.

2. 45KT2147 consists of the remains of at least three waterlines built since 1898 to bring water to the community of Roslyn. The component that crosses the Miller property consists of the remnants of a stretch of the original Roslyn waterline, one part of which runs roughly parallel to Nelson Dairy Road and another spur bisects the road more or less perpendicularly.

A patent search, conducted on the Bureau of Land Management website, revealed three original land patent grantees, parts of whose properties made up what is today called the “Miller Property.” Caroline Legge received her Legal Land Patent for 160 acres in February 7, 1893. Her aliquot parts were the E1/2 of the SW1/4 of section 18 (20-N 15-E) and the W1/2 of the SE1/4 of section 18 (20-N 15-E). Elmer E Prowell received his patent on April 5, 1893 for 160 acres. His aliquot part was the E1/2 of the E1/2 of section 18 (20-N 15-E). On March 13, 1896 James J Hart received his land patent for lots 3 (or the NW1/4 of the SW1/4 of section 18 [20-N 15-E]) and 4 (or the SW1/4 of the SW1/4 of section 18 [20-N 15-E]) totaling 75.2 acres. These two lots, with their acreages, show up on the GLO map of 1884.

3. If the Miller property were to become part of the Suncadia Master Planned Resort (MPR), cultural resource conservation would be called for under prior Washington State Environmental Protection Act (SEPA) review, Kittitas County permit requirements (Table 1), Chapter 27.53 of the Revised Code of Washington (RCW), and Section 106 of the National Historic Preservation Act (NHPA).
**Table 1.** Documents from SEPA review and Kittitas County requirements for MPR.

- MountainStar Planned Resort Final Environmental Impact Statement, Volumes 1-4, April 2000
- MountainStar Planned Resort Environmental Impact Statement Addendum, March 2002
- Cle Elum Urban Growth Area Final Environmental Impact Statement, February 2002
- Washington Department of Fish & Wildlife Hydraulic Project Approval
Appendix D
Suncadia - Miller Property Acquisition Traffic Evaluation,
June 2006,
Transportation Solutions, Inc.
Suncadia – Miller Property Acquisition

Traffic Evaluation

June 27, 2006

This report summarizes TSI's evaluation of potential traffic impacts associated with the proposed acquisition and development of the Miller property on Nelson Dairy Road adjacent to the north boundary of the MPR. Approximately 40 new home sites would be created on this property along with a three to four acre park/open space that would be open to resort guests and visitors. With the addition of these home sites, the total number of residential units within the resort would remain below the 3,785 allowed under the settlement agreement.

The trip generation rates established in the MPR-FEIS show that the addition of 40 additional homes in this area would generate 260 daily and 28 PM peak hour trips. Approximately 174 of the daily and 20 of the PM peak hour trips would be internal resort trips made between the residential area and the resort core or other destinations within the resort. The remaining 86 daily and 8 PM peak hour trips would travel off the resort to local destinations. These trips would access the local road network at either the planned access on SR-903 west of Winston Road or the existing main resort entrance (Suncadia Trail) on Bullfrog Road. It is estimated that the proposed development would add approximately 3 peak hour trips to the proposed Winston Road access on SR 903 and 5 peak hour trips to the main resort entrance on Bullfrog Road. This increase would not be noticeable to the average motorist.

The open space/park area would consist of three to four acres of open space. These uses would generate approximately 50 to 100 daily and 5 to 10 new PM peak hour trips. Since this area would only be open to resort residents and guests, all of the trips generated by the open space/park would be internal to the site.

Kittitas County daily traffic volume data for 2004 through 2006 shows an average daily traffic volume of approximately 100 vehicles on Nelson Dairy Road. During this 3-year period the lowest average daily traffic volume of 52 vehicles occurred in 2005 and the highest (151 vehicles) occurred in 2006. The cumulative effect of the trips generated by development within the proposed acquisition and trips generated by the rest of the resort are well within the thresholds identified and analyzed in the MPR-FEIS. There would be no additional traffic impacts resulting from this proposal that would warrant mitigation.

Prepared by:

David W. Johnson
Senior Transportation Manager
425-883-4134