Decision Notice
Forest Plan Amendment 60
And
Finding of No Significant Impacts

Starr Rock Pit Project

USDA Forest Service
Malheur National Forest Service
Blue Mountain Ranger District
Grant County, Oregon

The Starr Rock Pit Project Environmental Assessment (EA) has been completed for the proposed expansion of the existing Starr Rock Pit located on the Malheur National Forest, Blue Mountain Ranger District (see map in Figure 1). Based on analysis in the EA and comments from the public, I have reached decisions documented in this Decision Notice.

This project is located in the Starr Sub-watershed approximately 17 miles south of John Day, Oregon on the Blue Mountain Ranger District, Malheur National Forest.

Background:

Purpose and Need

The purpose and need for the proposed Starr Rock Pit (Pit) expansion is to provide a long-term, economical, and readily accessible source of aggregate material that meets quality standards for transportation projects while limiting resource effects to existing rock pit locations. The Oregon Department of Transportation (ODOT) is requesting a 10 year permit to expand the source and utilize rock for a variety of transportation projects including a US Highway 395 overlay project scheduled for 2007. In addition, the Pit is expected to be used as a material source for road maintenance actions (graveling, pothole filling, etc.) intermittently by the Forest Service and local Road Departments over the same time period. Additionally, the project would address current and future safety concerns at the site. Expansion of the Pit would include development and reclamation of the site in compliance with current state and federal regulations and standards.

Need:

At this time, there are no other developed rock sources in the vicinity of the 2007 US Highway 395 overlay project that meets asphalt quality requirements and there is a need for a long-term aggregate source that meets aggregate quality standards for future projects (10 year timeframe). The location of a quarry in close proximity to proposed projects is important in order to minimize haul between the rock source and the projects to maximize conservation of petroleum fuel resources. There is also a need to reduce the amount of new rock pit construction by limiting

rock pit activities to existing proven sources and a need to remove/harvest trees that have economic value. There is an ongoing need for tree stumps (with 10-12 feet of the bole attached) for a variety of future aquatics projects outside the project area. In addition, the Pit currently has 95 percent vertical slopes that could be hazardous to recreationists using the area and hazardous to workers within the Pit when removing existing stockpiles. In summary, there is a need to:

- Provide a long-term (at least 10 years) source of aggregate that meets aggregate quality standards
- Provide source rock to meet asphalt quality requirements
- Reduce fuel consumption by reducing rock haul distances
- Limit rock pit expansions to existing, proven sources
- Remove/harvest trees that have economic value (a site specific non-significant Forest Plan amendment is required to harvest live trees 21 inch diameter breast high (dbh) or greater)
- Provide stumps (with 10-12 feet of the bole attached) for future aquatic projects
- Correct existing rock pit slopes to remove a possible safety hazard to recreationists and pit workers

Each of these needs as they relate to existing and desired conditions in the Starr Rock Pit Project area is discussed in Chapter 1 of the EA.

Within the project area, the Malheur Forest Plan allocation is Management Area (MA) 14 – Visual Corridors in the Malheur Forest Plan. This area is within the Highway 395 Visual Corridor along US Highway 395. The Forest Plan management goal for the Visual Corridor is to emphasize management of the corridor viewsheds with primary consideration given to their scenic quality and the growth of large diameter trees. Visual quality objectives of retention, partial retention, and modification will be applied while providing for other uses and resources. For special use sites within MA 14: permit sites that can be designed and located to blend with the landscape.

Decision

Based on the analysis described in the Starr Rock Pit Project Environmental Assessment (EA) and comments from the public, it is my decision to select and implement Alternative B – Proposed Action (also referred to as the Selected Alternative). Alternative B will provide a long-term, economical, and readily accessible source of aggregate material that meets quality standards for transportation projects, while limiting resource effects to existing rock pit locations Specifically, the existing 6.2-acre Starr Rock Pit will be expanded by 2.7 acres to encompass a total of 8.9 acres of National Forest System land. The amount of mineral material available in this area is at least 275,000 cubic yards. This will meet mineral material need projections through 2016. A 10-year permit for operation and mineral material production will be issued to ODOT for the expansion and use of the Pit. The permit will be issued with the understanding that the Pit could also be used by the Forest Service and local Road Departments, if those activities did not interfere with ODOT's permitted operations. The decision also will allow the temporary use of crushing, screening, and batch plant equipment within the project boundary to process fine and coarse aggregate rock material produced in the pit. Processing equipment would only occupy the site when projects are being implemented.

In addition, the following are included as part of the decision. Additional Design Elements, Mitigation Measures, Best Management Practices and Monitoring are also part of my decision (see EA pages 15-21):

- A DOGAMI permit will be reopened for the Pit; the DOGAMI permit application would include a reclamation plan for the Pit, and on-going reclamation per entry as the site is used.
- The next entry into the Pit will be in 2007 to produce aggregate material (crushed rock) and asphalt for the highway improvement project slated for US 395. During that entry, topsoil will be conserved and stockpiled for future reclamation efforts.
- Vegetation on 2.7 acres will be removed. All landings for the harvest operations will be located inside the existing rock pit. Slash from the operations would be piled in the Pit and either used during reclamation activities or burned.
- Approximately 10-15 trees of varying sizes will be marked prior to harvest activities to be used for future aquatic habitat improvement projects. These trees will be removed with stumps and 10-12 feet of bole intact during the clearing operations and stockpiled in a designated location.
- A multi-strand smooth-wire fence (the top strand will be higher than the average snow depth) will be built at the edge of the 2.7-acre area cleared of trees to provide for operational and public safety.
- A three-foot high berm will be constructed 10 feet from the edge of the Pit to provide for operational and public safety;
- A gate currently located at the entrance to the Pit will be maintained and locked when the Pit is in use to protect equipment, and during the initial reclamation and vegetation establishment period.
- No new access roads will be constructed outside of the project boundary.
- After the aggregate resource is fully depleted the Pit will be reclaimed. Reject material will first be spread on the Pit floor and then topped with the conserved topsoil. This procedure will be followed for all disturbed areas to the extent possible. Soiled areas will be replanted with species compatible with the management area goals.
- Approximately 0.7 acres will be reclaimed in the southwest corner of the Pit during the 2007 entry.

My decision also includes a site specific non significant Forest Plan Amendment to harvest live trees 21 inches dbh and greater. There are approximately 6-10 trees over 21 inches dbh that would be harvested in this alternative.

Alternatives

Two action alternatives and a no-action alternative were analyzed in detail in the EA. Other alternatives suggested during initial project scoping or design by the Interdisciplinary Team (IDT) considered but not analyzed in detail are identified in the beginning of Chapter 2 of the EA. All Action alternatives that were developed and analyzed in the Starr Rock Pit Project were designed to meet most if not all of the stated project purpose and need. With Forest Plan Amendment 60, all alternatives and activities that were developed and analyzed are fully compliant with Forest Plan Standards and Guidelines, as amended.

Alternative A – No Action

The Pit would not be expanded under the No Action Alternative. However, previously planned activities within the Pit would continue. Material currently stockpiled at the site could be removed. None of the actions identified in the proposed action or other alternative would occur, except for some rehabilitation of the site. This alternative serves as the baseline against which effects of the various action alternatives can be measured and compared.

Alternative B –Proposed Action

This alternative is in response to the purpose and needs identified in EA Chapter 1 and in this Decision Notice. Alternative B represents the agency's initial proposal to meet project purpose and need. The actions included in Alternative B have been previously described in this document.

Alternative C

Alternative C addresses the issue of acres of Forest Land taken out of production. This alternative would expand the Pit by 0.7 acres to meet the short term needs of the 2007 US395 highway improvement project. A site specific non-significant Forest Plan Amendment would be required to harvest live trees 21 inch dbh and greater. There are approximately 1-5 trees 21 inches dbh or greater that would be harvested in this alternative. Approximately 30,000 cubic yards of mineral material would be removed from the Pit in 2007. A short-term permit would be issued to ODOT to use and expand the Pit in 2007. The decision also would allow the temporary use of crushing, screening, and batch plant equipment within the project boundary to process fine and coarse aggregate rock material produced in the Pit. Processing equipment would only occupy the site when the US 395 highway improvement project is being implemented. A detailed description of this alternative can be found in Chapter 2 of the EA.

Table 1: Comparison of Alternatives

	Alternative A No Action	**Alternative B Proposed Action**	**Alternative C**
Acres of Forest Land Taken out of Production:	6.2	8.9	6.9
Approximate Number of Large Trees (21 inches dbh or greater) Being Removed	0	6-10	1-5

Alternatives Considered, but Eliminated from Detailed Study

Only alternatives or specific design elements that were responsive to purpose and need were fully developed and analyzed. Alternatives are, by definition, other strategies or ways to meet purpose and need. Four additional alternatives were considered but not fully developed: 1) Expand pit downward rather than outward; 2) Expand pit without removing any 21 inch dbh or greater trees; 3) Develop new rock pit on either public or private lands; 4) Use material from other existing rock pits, both private and public. A discussion of the rationale for not analyzing these

alternatives in detail is discussed in Chapter 2 of the EA.

Public Involvement

The proposed action was initiated by the Oregon Department of Transportation.

Following the development of the proposed action, public involvement in this project began. The Starr Rock Pit Project was first included in the Malheur National Forest Schedule of Proposed Actions (SOPA) in April 2005 and a public informational letter soliciting comments was mailed on October 7, 2005 to 182 people.

The public scoping comments were used to develop issues for the analysis. The letters are located in the project analysis file.

The preliminary Environmental Assessment was distributed on September 6, 2006 and a notice placed in the Blue Mountain Eagle announcing that the EA was available for comment for 30 days. Written responses (e-mails) received during the comment period, which ended on October 6, 2006, was received from the following two individuals and/or organizations: Howard Geiger and Chandra LeGue, Oregon Natural Resource Council (ONRC), now known as Oregon Wild. The written responses are located in the project analysis file. The comment from ONRC/Oregon Wild was considered in this decision and summarized later on in this Decision Notice. The comment from Mr. Geiger was in support of the project. The response to the ONRC comment can be found in Appendix E of the EA.

Rationale for the Decision

I feel the Selected Alternative best meets the purpose and need for the Starr Rock Pit Project area and considers the public comments and the key issues raised by these comments.

Meeting Project Purpose and Need

1. **Provide a long-term, source of aggregate material that meets aggregate quality standards:**

   The Selected Alternative provides for development of a long-term (at least 10 years) source for aggregate that meets aggregate quality standards. The Selected Alternative would limit the rock pit expansion to Starr Rock Pit that is part of the Forest network of centralized, proven rock source. The definition of a centralized source is one where quality and quality had been proven, and where the quantity was adequate to allow multiple entries or long term service. The Forest Service utilized core drilling, geophysical testing and laboratory testing to determine the quality and quantity of materials and whether a source could meet the criteria for a centralized source (EA page 2).

2. **Provide source rock to meet asphalt quality requirements:**

   The Selected Alternative provides for the use of Starr Rock Pit, which is the only currently developed and proven source of aggregate material that meets asphalt quality requirements for 30 miles (EA page 2).

3. **Reduce fuel consumption by reducing rock haul distances:**

   The Selected Alternative minimizes rock haul distances for known up-coming projects. The Starr Rock Pit is part of network of centralized sources to meet the demand for projects that require large quantities of rock. Projected rock needs for the next 10 years show the Starr Rock Pit in the vicinity of the planned projects (EA page 4).

4. **Limit rock pit expansions to existing, proven sources:**

   The Selected Alternative would limit the rock pit expansion to Starr Rock Pit, which is part of the Forest network of centralized, proven rock source. The definition of a centralized source is one where quality and quality had been "proven", and where the quantity was adequate to allow multiple entries or long-term service. The Forest Service utilized core drilling, geophysical testing and laboratory testing to determine the quality and quantity of materials and whether a source could meet the criteria for a centralized source (EA page 2).

5. **Remove/harvest trees that have economic value:**

   The Selected Alternative would remove/harvest the trees that have economic value (EA page 14).

6. **Provide stumps (with 10-12 feet of the bole attached) for future aquatic projects:**

   Approximately 10-15 trees of varying sizes would be marked prior to harvest activities to be used for future aquatic habitat improvement projects. These trees would be removed with stumps and 10-12 feet of bole intact during the clearing operations and stockpiled in a designated location (EA page 14).

7. **Correct existing rock pit slopes to remove a possible safety hazard to recreationists:**

   The Selected Alternative would provide for a multi-strand smooth –wire fence (the top strand would be higher than the average snow depth) would be built at the edge of the 2.7 acre area cleared of trees to provide for operational and public safety. In addition, a three-foot high berm would be constructed 10 feet from the edge of the Pit to provide for operational and public safety (EA page 14).

Issues

The Selected Alternative offers a balanced solution to the key issue. The following issue, identified by public scoping responses to the initial proposed action, was identified and tracked through the analysis process.

> **Issue 1: Acres of Forest Land taken out of production: The proposed rock pit expansion would increase the number of acres at the Starr Ridge Rock Pit site removed from productive forest land, dedicated to the extraction of non-renewable material while also removing wildlife habitat.**
>
> The potential for adverse affects to wildlife species and habitats occurring as a result of activities under the Selected Alternative are negligible because the Pit constitutes a small, insignificant break in the forest stand canopy and increasing the size of the pit by 2.7 acres would not significantly enlarge the opening or alter connectivity between old-growth stands. (EA page 27). In addition the project area does not support any threatened, endangered and sensitive species. (EA page 28). Removing trees and other vegetation resulting in the loss of habitat for focal neotropical migrants is considered negligible (EA page 32).

Public Concern

The following concern was expressed by ONRC/Oregon Wild during the 30 day comment period, which ended on October 6, 2006, for the Preliminary EA:

> "Consider using the 6 to 10 large trees (over 21 inch dbh) and snags to meet deficit down wood levels in the surrounding landscape."

Conclusion

After considering all the decision factors, I believe Alternative B best balances the purpose and need for project versus the concerns expressed by the public or impacts identified in our resource effects analysis. The loss of the snags and downed wood is considered incidental due to the small size of the project area in relation to the landscape scale of the subwatershed. (EA page 27).

FINDING OF NO SIGNIFICANT IMPACT

Based on the site-specific analysis summarized in the Starr Rock Pit Project EA and this Decision Notice, and on previous experience with similar proposals, I have determined that this action is not a major Federal action, individually or cumulatively, and will not have a significant effect on the quality of the human environment, considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. This determination is based on project design including design elements and resource protection measures (EA, pages 15 to 20) and consideration of the following factors.

1. *Impacts that may be both beneficial and adverse*. Both beneficial and adverse impacts ***(40 CFR 1508.27(b)(1))*** of implementing the Selected Alternative have been fully considered within the EA. Beneficial and adverse direct, indirect, and cumulative environmental impacts discussed in the EA have been disclosed within the appropriate context and intensity. There will be no significant direct, indirect, or cumulative effects to the various resources of the area or other components of the environment. I base this finding on the following summary of expected

impacts displayed in the following Table 2:

Table 2: Non-significant Impacts from the Selected Alternative

Resource	Impacts	Size or Scope of the Impact	Reason an Impact of this Size or Scope is not Significant
Terrestrial Wildlife	MIS Species: Removing vegetation acres would decrease habitat.	2.7 acres additional (8.9 acres total)	Forage and hiding cover are very limited in the project area but abundant elsewhere in the subwatershed – it is unlikely that elk currently utilize the project area. (EA page 27). Removal of additional trees under Alternative B would have no significant impacts on elk. The potential for adverse affects to wildlife species and habitats occurring as a result of activities under Alternative B are negligible because the Pit constitutes a small, insignificant break in the forest stand canopy. Increasing the size of the pit by 2.7 acres would not significantly enlarge the opening or alter connectivity between old-growth stands. (EA page 27). In addition the project area does not support any threatened, endangered and sensitive species. (EA page 28)
	Featured Species: Goshawk: Proximity to the pit;	Nests within 1/3 mile & 1/2 mile from pit	Indirect noise effects on nesting northern goshawk may occur but would be considered minor and/or short term effects due to restrictions on operations during critical periods (EA pages 30-31).
	Land birds including neotropical migrants: Removing vegetation acres would decrease habitat.	2.7 acres additional (8.9 acres total	Removing trees and other vegetation resulting in the loss of habitat for focal neotropical migrants is considered negligible (EA page 32).

Resource	Impacts	Size or Scope of the Impact	Reason an Impact of this Size or Scope is not Significant
Invasive Plants	Potential for introduction and spread of invasive weeds	8.9 acres	All proposed activities will follow weed control direction and standards included in the 2005 Preventing and Managing Invasive Plants Final Environmental Impact Statement and Record of Decision (2005 ROD). All existing populations of invasive species found in the pit will be treated prior to removing material from the pit. (EA page 38).
Recreation	Noise and dust generated by rock production	Starr Campground	Noise and dust generated during rock production in the Pit could possibly be heard and seen from the Starr Campground and US 395, however mitigations would include dust abatement and restriction of work to weekdays (EA pages 46-47).

2. *The degree to which the action affects public health or safety*. Alternative B would have a positive effect to public safety by providing for construction of a multi-strand smooth –wire fence (the top strand would be higher than the average snow depth) to be built at the edge of the 2.7-acre area cleared of trees to provide for operational and public safety. In addition, a three-foot high berm would be constructed 10 feet from the edge of the Pit to provide for operational and public safety (EA pages 46-47). **(40 CFR 1508.27(b)(2))**.

3. *Unique characteristics of the geographic area (40 CFR 1508.27(b)(3))*. My decision will not affect any unique areas such as parklands, prime farmlands, wetlands, wild and scenic rivers, potentially eligible wild or scenic rivers or ecologically critical areas, as there are no such areas within the project area.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial (40 CFR 1508.27(b)(4))*. My decision falls within the scope of the analysis for the Malheur Land and Resource Management Plan (1990) as amended, and it's supporting Final Environmental Impact Statement. My decision includes no activities that were not addressed in the Forest planning process. These types of activities have taken place on the Blue Mountain Ranger District and the Malheur National Forest in similar areas and the resulting effects are well known. In that sense, there is no known scientific controversy over the impacts of the project. CEQ guidelines on controversy refer not to the amount of public opposition, but to a substantial dispute as to the size, nature, or effect of the action. Given the site-specific conditions and impacts disclosed in the EA the effects of implementation of this decision on the quality of the human environment are not likely to rise to the level of scientific controversy as defined by the Council of Environmental Quality.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).* My decision does not impose highly uncertain, or involve unique or unknown, risks. The activities proposed in this decision are well established land management practices, and the risks are well known and understood. Based on previous similar actions the probable effects of this decision on the human environment, as described in the Environmental Assessment, do not involve effects that are highly uncertain or involve unique or unknown risks.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principal about a future consideration.* My decision will not set a precedent for future action with significant effects because this action is not unusual in itself and does not lead to any further action that is unique **(40 CFR 1508.27(b)(6))**.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts* **(40 CFR 1508.27(b)(7))**. Alternative B is not related to other actions with individually insignificant but cumulative significant impacts. The analysis of the past actions follows the Council on Environmental Quality guidance provided on June 24, 2005. Appendix D provides a tabular display of all activities and natural events that already have occurred, are currently occurring, or are likely to occur in the area of potential cumulative effects. The information in Appendix D is then incorporated into cumulative effects discussions in the environmental consequences sections of Chapter 3. There will be no significant cumulative effects to terrestrial wildlife (EA pages 28, 31-32), sensitive plant species (EA page 34), forest vegetation (EA pages 35-36), invasive plants (EA page 38), fisheries (EA pages 40), soils and water (EA pages 42-43), visuals/scenery (EA pages 45), recreation (EA pages 46-47), cultural resources (EA pages 49) and mineral resources and Economics (EA pages 51)

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources (40 CFR 1508.27(b)(8)).* Alternative B would not adversely affect districts, sites, highways, structures, or objects listed in, or eligible for, listing in the NRHP or cause loss or destruction of significant scientific, cultural, or historical resources because all sites are avoided. The State Historic Preservation Officer (SHPO) has certified that the project will have "No Effect".

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat.* The actions are not likely to significantly adversely affect any endangered, threatened, or sensitive terrestrial wildlife species, aquatic species, plant species, or designated critical habitat **(40 CFR 1508.27(b)(9))** under the Endangered Species act of 1973 (see EA, pages 28, 34, 39-40 and BE's located both in Appendix F and in the Project File).

    - Sensitive plant surveys were completed in 2004 and 2005. No sensitive plant species were found. There was no habitat found for any sensitive plant species. There was a determination of No Impact for any sensitive plant species. (EA page 34 and Appendix F).

- There is a finding of No Effect for threatened Northern Bald Eagle, threatened Canadian Lynx and endangered Gray Wolf. A finding of No Impact was reached for sensitive species California Wolverine, Pacific Fisher and American Peregrine Falcon. (Page 28 and Appendix F).

- There is a finding of No Impact to Redband Trout and Malheur Mottled Sculpin. (Appendix F).

- There are no known threatened, endangered or listed sensitive species known to occur in the project area. (EA page 28, 34, 39 and Appendix F)

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. I have examined this action and its relationship with relevant Federal, State, and local laws, regulations, and requirements designed for the protection of the environment (40 CFR 1508.27(b)(10). Applicable laws and regulations were considered in the EA (pages 52 - 55) and other Chapter 3 sections, by resource, "Regulatory Framework").

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

Forest Plan Consistency

Federal Regulations require me to insure that permits, contracts, cooperative agreements, and other activities carried out on the Malheur National Forest are consistent with the Forest Plan. Accordingly, I have reviewed my decision against the Forest Plan direction, and I have determined my decision is consistent with forest management direction established in the Forest Plan, as modified by Regional Forester's Amendment #2 for the Revised Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales, dated June 5, 1995 and INFISH, with one exception: the requirements in the Forest Plan as modified by Regional Forester's Amendment #2, maintaining all live trees 21 inches dbh or greater.

The following amendment provides the rationale to allow these changes to the Forest Plan:

SITE SPECIFIC, NON-SIGNIFICANT FOREST PLAN AMENDMENT 60

The purpose of the non-significant amendment is to allow removal of live trees 21 inches dbh or greater within the area that will be cleared of vegetation in order to expand the existing Starr Rock Pit.

Determination that the Forest Plan Amendment is Not Significant under NFMA

Alternative B of the Starr Rock Pit Project amends the Forest Plan as described on pages 2 and 3 of this Decision Notice. In determining the significance or non-significance of this amendment, I considered the following factors:

Timing –A change is less likely to result in a significant plan amendment if the change takes place after the plan period (first decade). The proposed changes are taking place after the first decade of the current 1990 plan, but will be enacted before the next scheduled revision. The

next scheduled revision of the Malheur Forest Plan has begun with an anticipated completion date of 2007. Therefore, the timing of the changes in this amendment is not significant because of how late this change is occurring under current Forest Plan direction.

Location and Size – The smaller the area affected, the less likely the change is to be a significant change to the Forest Plan. The area affected by this amendment is 2.9 acres out of a total 35,855 subwatershed acres which is less than one percent of the total acreage. This amendment will have little effect on the overall number of trees 21" dbh or larger within the subwatershed. The potential for adverse affects to wildlife species and habitats occurring as a result of activities under the Selected Alternative are negligible because the Pit constitutes a small, insignificant break in the forest stand canopy and increasing the size of the pit by 2.7 acres would not significantly enlarge the opening or alter connectivity between old-growth stands. (EA page 27). In addition, the total administrative area of the Malheur National Forest is 1.7 million acres. Therefore, the total affected area comprises less than 0.000005 of the administrative area of the Forest.

Goals, Objectives, and Outputs – An action is more likely to be a significant Forest Plan amendment if it alters the long-term relationship between the levels of goods and services projected by the Forest Plan and particularly if it would forego the opportunity to achieve an output in later years. Alternative B would remove an insignificant amount of 21 inch dbh trees. None of the trees are located in designated old growth areas. In general, due to the amount of vegetation being removed with this project and amendment, there is a miniscule and insignificant change to the potential old growth, timber output or other services for the Malheur National Forest. In addition, there would be a negligible effect on wildlife habitat in the subwatershed.

Management Prescriptions - A change is more likely to require a significant amendment if it would apply to future decisions throughout the planning area. The amendment associated with Alternative B is specific to this project and would not apply to future actions.

I find that the action of expanding the Starr Rock Pit with the removal of approximately 6-10 live trees over 21 inches is not a significant departure from the national Forest Management Act (NFMA) planning requirements or the Forest Plan with respect to (1) timing; (2) location and size; (3) goals, objectives, and outputs; and (4) management prescription. I further find that the action is non-significant with respect to the implementation regulations of the NFMA Title 36, Part 219.10(e) and (f); the Forest Service Manual at Chapter 1922.51 and 1922.52; and the Forest Service Handbook 1909.12 Chapter 5.32. Therefore, I find that the action constitutes a non-significant amendment to the Forest Plan. Since I have determined that there is no significant change based on the factors described above, I conclude that this amendment is not a significant change to the overall Forest Plan direction as defined in the 1990 Malheur Land and Resource Management Plan and its Record of Decision, as amended. Therefore, an environmental impact statement for a forest plan revision does not need to be prepared.

National Forest Management Act

I find this decision to be consistent with the requirements of the National Forest Management Act implementation regulations. Requirements of 36 CFR 219.28, which are part of the NFMA regulations, will be met. Specifically:

- Harvest will occur only on suited timberlands.
- Alternative B is suited to the goals as stated in the Forest Plan.
- Other design features will maintain site productivity and ensure conservation of soil and water resources.
- Alternative B will consider the resource effects on wildlife habitat, invasive plant species, recreation uses, aesthetic values, and other resource yields.

Environmental Justice

The action does not occur in areas populated by ethnic minorities (Native Americans, Hispanics, African Americans, and Asian Americans), disabled people and low-income groups. The project area is in a forest environment remote from rural and urban population centers.

IMPLEMENTATION, ADMINISTRATIVE REVIEW, and APPEAL OPPORTUNITIES

The 30 day comment period for this project ended on October 6, 2006. This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR 215. Any written notice of appeal of the decision must be fully consistent with 36 CFR 215.11(a) that states "an appeal may be filed by any person who, or non-federal organization or entity that has provided comment or otherwise expressed interest in a particular proposed action by the close of the comment period specified in Sec. 215.6." In addition any written notice of appeal of the decision must be fully consistent with 36 CFR 215.14, "Appeal Content." The notice of appeal must be filed hard copy with the Appeal Deciding Officer (Regional Forester Linda Goodman), ATTN: 1570 APPEALS, 333 S.W. First Avenue, P.O. Box 3623, Portland, Oregon, 97208-3623, faxed to (503) 808-2255, sent electronically to appeals-pacificnorthwest-regional-office@fs.fed.us, with subject: Starr Rock Pit or hand delivered to the above address between 7:45AM and 4:30PM, Monday through Friday, except legal holidays. The appeal including attachments must be filed (regular mail, fax, e-mail, hand-delivery, express, or messenger service) within 45 days of the date of publication of the legal notice (36 CFR 215.15) in the Blue Mountain Eagle, John Day, OR. The publication date of the legal notice in the Blue Mountain Eagle is the exclusive means for calculating the time to file an appeal and those wishing to appeal should not rely on dates or timeframes provided by any other source.

Electronic appeals must be submitted as part of the actual e-mail message, or as an attachment in Microsoft Word, rich text format, or portable document format only. E-mails submitted to e-mail addresses other than the one listed above, in other formats than those listed, or containing viruses will be rejected. It is the appellant's responsibility to provide sufficient project- or activity-specific evidence and rationale, focusing on the decision, to show why the Responsible Official's decision should be reversed.

If no appeals are filed within the 45 day time period following the date on which the legal notice announcing this decision appeared in the Blue Mountain Eagle (215.9(a)), implementation of this decision may occur on, but not before, 5 business days from the close of the appeal filing period.

If an appeal is filed, implementation will not occur prior to 15 days following the date of appeal disposition. If multiple appeals are filed, the disposition date of the last appeal will control the implementation date In the event of multiple appeals of the same decision, the implementation date is controlled by the date of the latest appeal disposition (215.9 (b)).

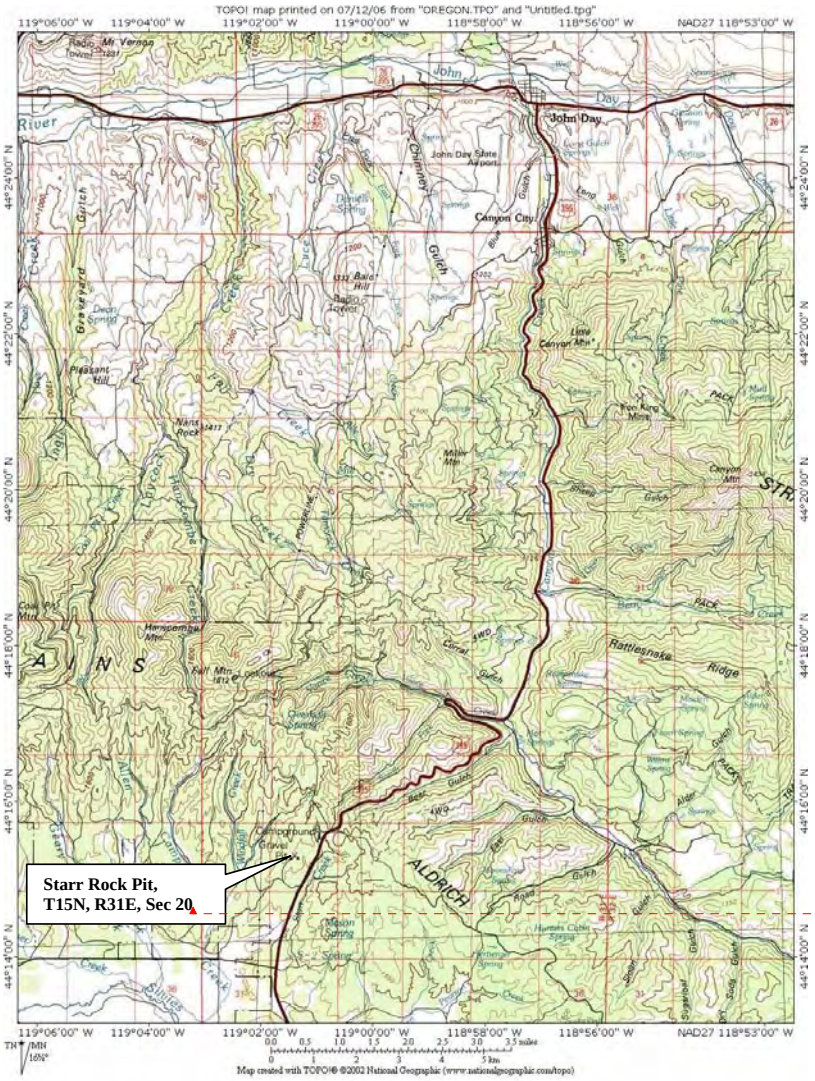
/s/ Gary L. Benes _____ 11-6-06

Gary L. "Stan" Benes, Forest Supervisor Date
Forest Supervisor

Contact Person: Bob Crisler, Interdisciplinary Team Leader Blue Mountain Ranger District
or Carole Holly, Malheur National Forest
P.O. Box 909 John Day, Oregon 97845
Phone: (541) 575-3000

Figure 1: Starr Rock Pit Location Map

Comment: consistency



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Comment: Add map back in

FINAL ENVIRONMENTAL ASSESSMENT
STARR ROCK PIT PROJECT
MALHEUR NATIONAL FOREST
2006

Lead Federal Agency: U.S. Dept. of Agricultural, Forest Service

Responsible Official: Gary L. "Stan" Benes
Forest Supervisor
P.O. Box 909
John Day, Oregon 97845

For Further Information Contact: Bob Crisler or Carole Holly
Malheur National Forest
P.O. Box 909
John Day, Oregon 97845
Phone: 541-575-3000

Summary:

The Blue Mountain Ranger District, Malheur National Forest proposes to expand the existing Starr Rock Pit. The proposed project evaluates alternatives for development and rehabilitation of the Pit. Implementation of the project would ensure a long-term, economical aggregate source for public use in the southern portion of the Grant County area. The project is approximately 17 miles south of John Day.

Under laws and applicable policies, the proposal addresses the need for a long-term, economical, and readily accessible source of aggregate material that meets quality standards for transportation projects. The project proposes to expand the existing 6.2 acre Starr Rock Pit by 2.7 acres to encompass a total of 8.9 acres of National Forest System lands. In addition, a 10 year permit for expansion and use of the rock pit would be issued to the Oregon Department of Transportation. This alternative would supply both asphalt quality and maintenance aggregate rock for both short- and long-term public transportation needs in the greater Grant County area. A site specific non-significant Forest Plan amendment would be required to harvest live trees 21 inches diameter breast high (dbh) or greater in order to expand the rock pit.

This environmental assessment provides detail of the project and describes its effects on the human environment. It was prepared according to policies and regulations implementing the National Environmental Policy Act (NEPA). Its purpose is to inform both the public and responsible Forest Service officials so that the following decisions can be made:

1. Whether the Forest Service has met NEPA procedural requirements to study and disclose effects of the proposed action and any alternatives on the quality of the human environment;
2. Whether any predicted effects are inconsistent with Forest Plan standards and guidelines or other applicable laws, regulations and policies;
3. Whether any predicted effects amount to a significant adverse impact on the quality of the human environment; and
4. Whether to implement the action as proposed, to modify it, to develop another alternative, or do further environmental review.

STARR ROCK PIT PROJECT
FINAL ENVIRONMENTAL ASSESSMENT

U.S.D.A. Forest Service
Malheur National Forest
Blue Mountain Ranger District
Grant County, Oregon

November 2006

STARR ROCK PIT PROJECT
FINAL ENVIRONMENTAL ASSESSMENT

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1.0 Purpose and Need for Action

1.1 Introduction

The Blue Mountain Ranger District, Malheur National Forest, is proposing the expansion of the Starr Rock Pit (as referred to as the Pit) to provide a long-term, economical, and readily accessible source of aggregate material that meets quality standards for transportation projects. Use of the pit is consistent with the Regional Memorandum of Understanding between USDS Forest Service, Pacific Northwest Region and State of Oregon Department of Transportation (Appendix A). A permit for expansion and use of the rock pit would be issued to the Oregon Department of Transportation (ODOT) for a 10 year period. As part of the expansion, a site specific non-significant Forest Plan amendment would be required to harvest live trees 21 inch diameter at breast height (dbh) or greater.

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

Chapter 1: Purpose and Need: This chapter discusses the regulatory direction, federal and state regulations, purpose of and need for the Project, and scope of the analysis.

Chapter 2: Alternatives: This chapter provides a detailed discussion of issues identified from scoping comments received. It describes the issues that were used to develop alternatives. The alternatives are described in detail, along with design criteria and mitigation measures. A comparison of alternatives and their potential effects on the environment as well as how they meet the purpose and need is presented. The agency preferred alternative is identified.

Chapter 3: Environmental Consequences: This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource. Within each section, the affected environment is described first, followed by the effects of the No Action alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.

Chapter 4: Agencies and Persons Consulted: This section provides a list of preparers and agencies consulted during the development of the environmental assessment.

Appendices: The Appendices provide more detailed information to support the analyses presented in the environmental assessment.

1.2 Background Information

Prior to the 1970's, rock pit development on the Malheur National Forest (the Forest) was not well coordinated, which resulted in many potential rock sources being disturbed

without prior evaluation of the quality and quantity of materials available at the sites. Only after site development and associated disturbance did it often become apparent that only low quality materials or very limited quantities of high quality materials were available at a given site. In the early 1970's the Forest developed a Forest Service Manual (FSM) supplement which established direction and policy related to the exploration and development of new sources. It required that before any large new sites could be developed, the site viability or quality and quantity of materials available needed to be determined. The basic requirements were that about 80,000 cubic yards or more of quality materials could be extracted per acre of excavation area – some exceptions were allowed (less volume per acre) in areas where quality rock was scarce.

Using that direction, the Forest began a program to locate and establish a network of "centralized" rock sources to meet the demand for projects that required large quantities of material. The definition of a centralized source is one where quality and quantity had been "proven", and where the quantity was adequate to allow multiple entries or long-term service. The Forest utilized core drilling, geophysical testing, and laboratory testing to determine the quality and quantity of materials, and whether a source could meet the criteria for a centralized source. These efforts extended to both previously developed sites with apparent high quality materials and at new prospective sites where no suitable sources had been previously developed. The primary goals of the program were to meet the demand for high quality materials and limit the magnitude of surface disturbances. Using the described policy a network of approximately 120 centralized sources was established on Malheur National Forest Lands.

There are two centralized rock pits located within the Starr sub-watershed. However, the Starr Rock Pit is the only one with rock that meets asphalt aggregate quality requirements. There are also approximately five small but active (non-centralized) sources in the sub-watershed; these all have relatively soft marine sedimentary rock types, which are unsuitable for use as asphalt aggregates. The Starr Rock Pit is the only developed and quality proven source of aggregate material for 30 miles.

The Starr Rock Pit is also one of very few of the Forest centralized sources that is located close to State or Federal highways. It is located near the top of the Hwy. 395 grade, near the summit of Starr Ridge. This puts the site in approximately the middle of a 40 plus mile section of highway. This site is also located within a 17-mile downhill haul to the John Day Highway (US 26) thus making it desirable for projects on that road as well. The site is well situated to meet the needs of Grant County for material on the Izee Road (County Road 63).

The location of the Pit, at the top of a grade, allows for relatively flat or downhill hauling to potential projects in all directions. This type of haul route allows for the reduction in number of hauling vehicles, reduction in haul distances, lower fuel consumption, and reduced traffic congestion related to numerous slow moving haul vehicles

According to ODOT records, the Starr Rock Pit was first developed in 1941. The oldest record found in the Forest files was a 1973 pit investigation report which indicates the

site was originally developed by ODOT and that previous development was somewhat haphazard, "with numerous pockets and ridges inside the developed area." The most recent entries into the Pit were in 1993 and 2000. In 1993, ODOT produced and removed 25,000 cubic yards of sanding rock; in 2000, the Forest Service produced approximately 22,000 cubic yards of rock. Known entries into the Pit from 1961 through 2000 are given in Table 1.

The Forest ran quality tests of material from the Pit in 1973, and did core drilling in 1975, 1983, and 1985 as pit development expanded to the west. The long-term development plans for this site included limited expansion to the west to allow a safe slope with benches, and lowering of the pit floor. Most of the drilling done in 1983 and 1985 was within the existing pit floor. Those tests revealed that high quality rock continued for at least 50 feet below the existing floor elevation. Currently, reject material and stockpiled rock created from previous operations continue to be removed from within the proposed project boundary by the Forest and ODOT.

Table 1. Historic Usage of Starr Rock Pit (Quarry #OR-12-023-5)

YEAR	TOTAL VOLUME (yds^3)	USER	PROJECT
1961	12,000	ODOT	Snowshoe Camp-Starr Creek Section Pavement Preservation (repaving)
1977	10,000	ODOT Maintenance	Dist. 14 Rock Production
1980	20,000	ODOT	US395: Seneca Area Rock Production
1984	75,000	ODOT	US395: Vancee Cr. Rest Area-Cottonwood Cr. Section: (repaving)
1985	18,000	USFS	MNF Seneca Area Oil Rock Production
1987	15,000	ODOT Maintenance	Seneca Area Rock Production
1989	10,000	USFS	MNF Rock Production
1991	13,500	ODOT	John Day-Burns Highway Preservation (repaving)
1992	17,000	USFS	MNF Rock Production
1993	25,000	ODOT Maintenance	Dist. 14 Sanding Rock Production
2000	22,000	USFS	MNF Rock Production

MNF – Malheur National Forest; ODOT – Oregon Department of Transportation; USFS – Forest Service

In addition to the pavement preservation project slated for US Highway 395 in 2007, a number of other projects that could use material from the Starr Rock Pit have been identified (Table 2). It is likely that at least 275,000 cubic yards of material will be needed for road preservation, maintenance, and winter sanding rock between 2007 and 2016.

Table 2. Project Need for Material from Starr Rock Pit (2007-2016)

YEAR	TOTAL VOLUME yds^3	USER	PROJECT
2007	35,000	ODOT	US395: Starr Ridge -Cottonwood Cr. Section (repaving)
2008	20,000	ODOT Maintenance	Seneca and John Day Sanding Rock Production
2010*	10,000	ODOT	US395: John Day Area Chip Seal Overlay
2011*	15,000	ODOT Maintenance	US395: Seneca Area Shoulder Widening
2012*	20,000	ODOT Maintenance	Seneca and John Day Sanding Rock Production
2014*	10,000	ODOT	US395: Seneca Area Chip Seal Overlay
2016*	20,000	ODOT Maintenance	Seneca and John Day Sanding Rock Production
TBD*	30,000	ODOT Maintenance	Shoulder rock from John Day to Seneca @ 2 x (25 miles, 3 ft wide, 12” thick)
TBD*	65,000	ODOT Maintenance	AC overlays/Chip Seals from John Day to County Line @ (40 miles, 32 ft wide, 3” thick); assuming life of 6-8 yrs
TBD*	4,500	ODOT Maintenance	Shoulder rock from Mt. Vernon to Prairie City @ 2 x (21 miles, 3 ft wide, 2” thick)
TBD*	65,000	ODOT Maintenance	AC overlays/Chip Seals from Mt. Vernon to Prairie City @ (21 miles, 36 ft wide, 2” thick); assuming life of 6-8 yrs
TBD*	25,000	ODOT Maintenance	Emergency/Unanticipated Repairs
2009*	8,000	Grant County	Izee Low Volume Pavement Preservation
Annual	10,000	Grant County	Shoulder rock @ 1,000/yr
Annual	10,000	Grant County	Chip Seal rock @ 1,000/yr
TBD*	75,000	Grant County	One major project involving roadway reconstruction, shoulder, base, and resurfacing
TBD*	10,000	Grant County	Emergency/Unanticipated Repairs

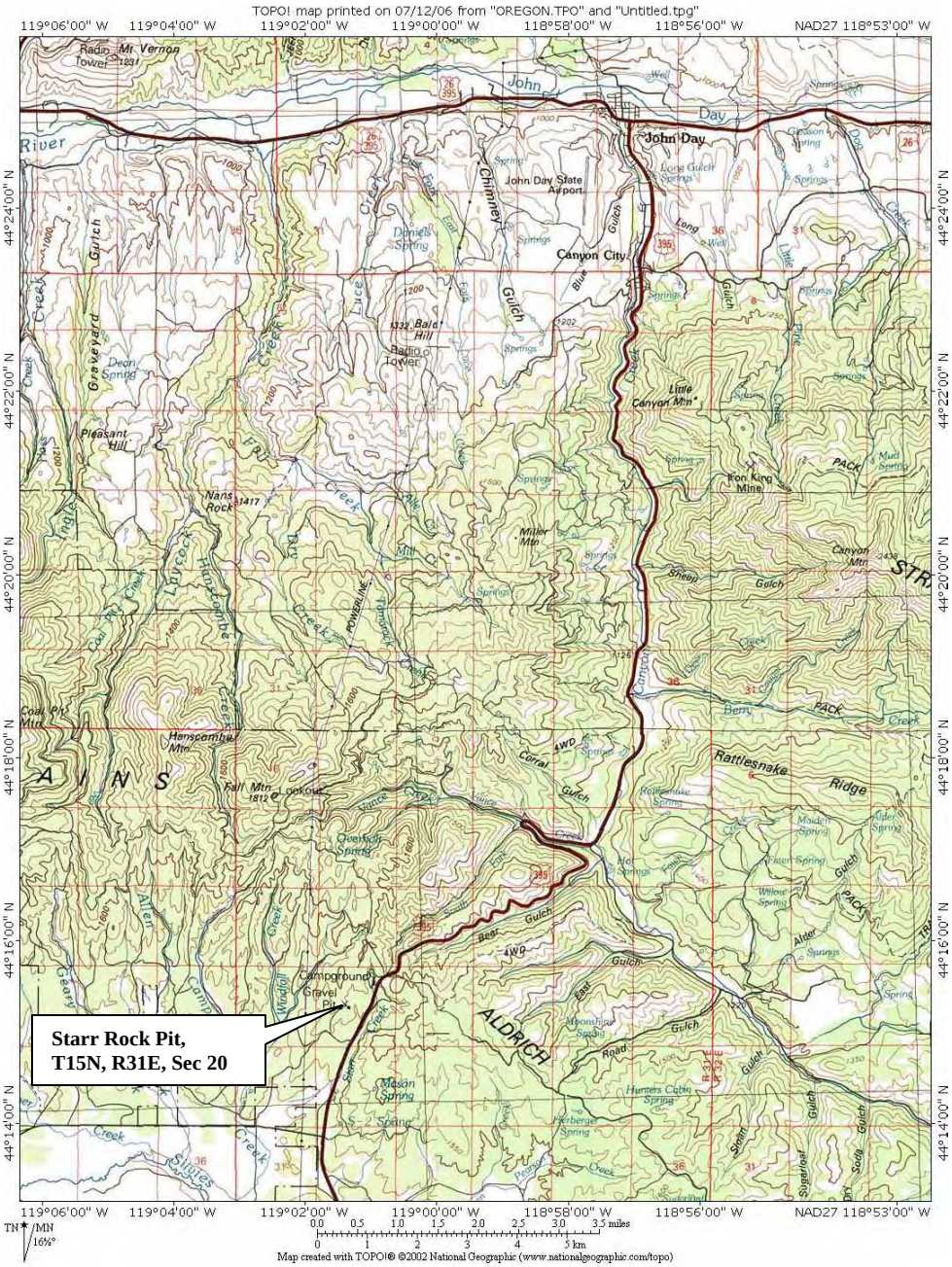
MNF – Malheur National Forest; ODOT – Oregon Department of Transportation; USFS – Forest Service

***** Estimated year and volume is dependant upon allocated funding, weather, and pavement performance.

1.2.1 Location

The Starr Rock Pit is located in the southern part of the Blue Mountain Ranger District, approximately 17 miles south of John Day, Oregon in the Starr Sub-watershed. The rock pit is in Township 15 South, Range 31 East, NW1/4 of Section 20; Willamette Meridian, Grant County, Oregon.

Figure 1: Starr Rock Pit Location Map



1.3 Purpose and Need for Action

Purpose:

The purpose and need for the proposed Starr Rock Pit (Pit) expansion is to provide a long-term, economical, and readily accessible source of aggregate material that meets quality standards for transportation projects while limiting resource effects to existing rock pit locations. The Oregon Department of Transportation (ODOT) is requesting a 10 year permit to expand the source and utilize rock for a variety of transportation projects including a US Highway 395 overlay project scheduled for 2007. In addition, the Pit is expected to be used as a material source for road maintenance actions (graveling, pothole filling, etc.) intermittently by the Forest Service and local Road Departments over the same time period. Additionally, the project would address current and future safety concerns at the site. Expansion of the Pit would include development and reclamation of the site in compliance with current state and federal regulations and standards.

Need:

At this time, there are no other developed rock sources in the vicinity of the 2007 US Highway 395 overlay project that meets asphalt quality requirements and there is a need for a long-term aggregate source that meets aggregate quality standards for future projects (10 year timeframe). The location of a quarry in close proximity to proposed projects is important in order to minimize haul between the rock source and the project so as to maximize conservation of petroleum fuel resources. There is also a need to reduce the amount of new rock pit construction by limiting rock pit activities to existing proven sources and a need to remove/harvest trees that have economic value. There is an ongoing need for tree stumps (with 10-12 feet of the bole attached) for a variety of future aquatics projects outside the project area. In addition, the Pit currently has 95 percent vertical slopes that could be hazardous to recreationists using the area and hazardous to workers within the Pit when removing existing stockpiles.

In summary, there is a need to:

- Provide a long term (at least 10 years) source of aggregate that meets aggregate quality standards
- Provide source rock to meet asphalt quality requirements
- Reduce fuel consumption by reducing rock haul distances
- Limit rock pit expansions to existing, proven sources
- Remove/harvest trees that have economic value (a site specific, non-significant Forest Plan amendment would be required to harvest live trees 21 inches dbh or greater)
- Provide stumps (with 10-12 feet of the bole attached) for future aquatics projects
- Correct existing rock pit slopes to remove a possible safety hazard to recreationists and pit workers

1.4 Proposed Action

A proposed action is defined early in the project-level planning process. This serves as a starting point for the interdisciplinary NEPA planning team, and gives the public and other agencies specific information on which to focus comments. Using these comments, and information from preliminary analysis, the interdisciplinary team then develops alternatives as needed to the proposed action. The Proposed Action, scoped from October 7, 2005 through November 7, 2005 has been refined to reflect the actual amount of rock needed by multiple agencies during a ten year period. The primary change to the Proposed Action is a reduction of the amount of rock material and a corresponding decrease in the size of the pit expansion and is not a significant change to the original proposed action. The revised Proposed Action is referred throughout the document as the Proposed Action (Alternative B) and is briefly described below and evaluated in detail in Chapter 2.

The Blue Mountain Ranger District, Malheur National Forest is proposing to expand the existing 6.2-acre Starr Rock Pit by 2.7 acres to encompass a total of 8.9 acres of National Forest System land. Approximately 275,000 cubic yards of mineral material would be removed from the Pit through 2016. A 10-year operating and mineral material permit would be issued to ODOT for expansion and use of the Pit. The quarry, however, could also be used by the Forest Service and local Road Departments as a source of material for road maintenance. The decision also would allow the temporary use of crushing, screening, and batch plant equipment within the project boundary to process fine and coarse aggregate rock material produced in the Pit. Processing equipment would only occupy the site when projects are being implemented.

An Oregon Department of Geology and Mineral Industries (DOGAMI) operating permit, which expired in 1995, would be reopened by ODOT and include a DOGAMI required reclamation plan for the Pit.

In addition to expanding the size of the Pit, the proposal includes: constructing a three-foot high berm and a fence near the edge of the Pit to provide for operational and public safety; removing 2.7 acres of vegetation; and rehabilitating the site to meet requirements of DOGAMI and the Forest Service.

Within the 2.7–acre Pit expansion area, all trees would be harvested/removed, including approximately 6-10 live trees over 21 inches dbh. A site specific non-significant Forest Plan amendment would be necessary to allow harvesting of live trees 21 inches dbh or greater.

1.5 Malheur Forest Plan Direction

1.5.1 Relationship to the Forest Plan

The Land and Resource Management Plan of the Malheur National Forest (Forest Plan, USDA 1990) represents the preferred alternative of the Final Environmental Impact

Statement, approved May 1990, and provides direction for management of the Forest and general discussions of associated environmental impacts. This EA tiers to and relies upon the analysis found in the 1990 Final Environmental Impact Statement for the Malheur National Forest Land and Resource Management Plan. Amendments to the Forest Plan include, but are not limited to, the Regional Forester's Eastside Forest Plan Amendment No. 2 (USDA 1995a) and the Inland Native Fish Strategy (INFISH, USDA 1995b). The project identified in this EA is being proposed to meet appropriate Forest-wide goals and standards (pages IV-1 to IV-45) and to comply with Management Area goals and standards (pages IV-46 to IV-139) of the Forest Plan. This EA also tiers to the Final Environmental Impact Statement (FEIS), approved October, 2005 for Preventing and Managing Invasive Plants. This FEIS added additional standards to the Forest Plan.

Amendments to the Forest Plan

- Regional Forester's Eastside Forest Plan Amendment No. 2
Amendment No. 2 was established for proposed forest management activities and was designed to incorporate the interim riparian, ecosystem, and wildlife standards for Eastside National Forests.

- Inland Native Fish Strategy
The standard listed in the INFISH Environmental Assessment was meant to provide direction to preserve future planning options. Mineral management standard MM-5 found in the INFISH guidance document notes: *"Permit sand and gravel mining and extraction within Riparian Habitat Conservation Areas only if no alternatives exist, if the action(s) would not retard or prevent attainment of the Riparian Management Objectives, and adverse effects to inland fish can be avoided."*

1.5.2 Forest Plan Allocations within the Starr Rock Pit Analysis Area

The Forest Plan provides broad direction for managing the Forest. Forest-wide standards and guidelines provide overall management direction, which are described in the Forest Plan on pages IV-24 through IV-45. All lands on the Forest are divided into Management Areas (MA), which emphasize specific resources through management prescriptions. The Pit is within the Highway 395 Visual Corridor, MA14, along US Highway 395.

MA 14 – Visual Corridors: The goal for this MA is to emphasize management of the corridor viewsheds with primary consideration given to their scenic quality and growth of large diameter trees. Visual quality objectives of retention, partial retention, and modification will be applied while providing for other uses and resources. For special use sites within MA 14: permit sites that can be designed and located to blend with the landscape. More detailed information on Visual Corridors is provided in the Forest Plan on pages IV-108 through IV-112. Lands adjacent to US Highway 395 are designated as a Sensitivity Level 1 Corridor Viewshed. The visual quality/scenic integrity objective for the viewshed from Highway 395 near the Starr Ridge Summit is foreground retention.

1.6 Deciding Official and the Decision to be Made

The Forest Supervisor for the Malheur National Forest is the Responsible Official for this EA. The Forest Supervisor will review the environmental consequences to decide whether to implement the Proposed Action, another action alternative or continue to implement the No Action alternative (Alternative A).

The Responsible Official also decides:

1) Whether this action would have a significant impact upon the quality of the human environment and thus require development of an Environmental Impact Statement.
2) If the selected alternative is consistent with the Forest Plan and other applicable laws.

1.7 Public Involvement and Issues Development

The project was listed in the Malheur National Forest Schedule of Proposed Action report dated April 4, 2005 (USDA 2005a). A letter, including a project description, was mailed to approximately 182 interested individuals and organizations on October 7, 2005 asking for comments regarding this proposal.

The following list of individuals or groups provided scoping responses:

1. Karen Coulter, Blue Mountains Biodiversity Project/League of Wilderness Defenders
2. William Wilcox
3. Howard Geiger

Comments received and issues raised by the public in response to the October 7, 2005 mailing, and Forest Service staff concerns with the project include:

- ODOT and local Road Departments have expressed a need to continue the use of the Pit.
- Safety concerns of the proposed action on winter recreation users near the Pit.
- Cutting live trees greater than 21” dbh.
- Questions regarding the need to expand quarries.
- Effects on northern goshawk (*Accipiter gentilis)* nesting.
- Support for the project by private citizens.

All comments received during the initial scoping were considered during the analysis process. The preceding comments will be addressed by implementing Forest Plan direction, project design, and/or site-specific mitigation measures for any selected alternative.

1.8 Key Issues

Issues were identified as a result of the scoping process with the public, other agencies, and internally. Issues were separated into those considered key and non-key. An issue is key based upon the topographic distribution (extent), the length of time the issue is likely to be of interest (duration), or the level of interest or conflict generated by the issue (intensity). Key issues are used to formulate alternatives, develop mitigation, and to track effects.

The following was identified as a key issue and will be used to design and compare the alternatives presented in Chapter 2.

Issue 1
Acres of Forest Land taken out of production

The proposed rock pit expansion would increase the number of acres at the Starr Ridge Rock Pit site removed from productive forest land, dedicated to the extraction of non-renewable material while also removing wildlife habitat.

Measurement criteria:

- Acres of irreversible and irretrievable commitment of resources.
- Number (approximate) of large trees (21 inches dbh or greater) being harvested

Other Issues Analyzed

Other non-key issues are addressed in the effects analysis and are used to compare alternatives. Issues discussed below were raised by the public and were considered as this project was developed and analyzed. These issues did not drive alternatives, but they were addressed or used in this analysis.

Some issues fit into the following categories: (1) outside the scope of the proposed action; (2) already decided by law, regulation, Forest Plan, or other higher level decision; (3) irrelevant to the decision being made; or (4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7 "*identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review*".

The following is a list of other issues. An expanded discussion of these issues can be found in Chapter 3 of this EA.

> Invasive Plants: There is concern that invasive plants could be introduced and spread as a result of Pit expansion. This is discussed in Chapter 3, Environmental effects in the Invasive Plants section.

Water Resources: There was a concern that Pit expansion could affect water resources. This is discussed in Chapter 3, Environmental effects in the Aquatic Resources section.

Safety: The close proximity of the Pit to the Vance Creek trail has been raised as a public safety issue as users of the trail may accidentally wander over the edge of the Pit. This issue has been addressed by design measures within each alternative and the effects have been discussed in Chapter 3, Environmental effects in the Recreation section.

1.9 Project Record

This EA hereby incorporates by reference the Project Record (40 CFR 1502.21). The Project Record contains Specialist Reports and other technical documentation used to support the analysis and conclusions in this EA.

These Specialist Reports are for Wildlife (incorporated into the BE), Botany, Heritage, Future Use and Economic, Reclamation, and Geology for the Starr Rockpit Project. Relying on Specialist Reports and the Project Record helps implement the CEQ Regulations' provision that agencies should reduce NEPA paperwork (40 CFR 1500.4). The objective is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental impacts of the Proposed Action and how these impacts can be mitigated, without repeating detailed analysis and background information available elsewhere. Chapter 3 provides a summary of the specialist's reports in adequate detail to support the rationale for the decisions.

The Project Record is available for review at the Blue Mountain Ranger District, John Day, Oregon during normal business hours (8:00 a.m. to 4:30 p.m.).

2.0 The Alternatives

2.1 Alternative Development

This section describes the alternatives that were developed in response to the key issue that was identified. A reasonable range of alternatives was created and evaluated to determine potential environmental impacts of the various proposals (see Chapter 3). With the proposed site specific non-significant Forest Plan Amendment to harvest live trees 21 inches diameter breast high (dbh) and greater, all the alternatives are consistent with the Forest Plan as amended, including the Regional Forester's Eastside Forest Plan Amendment No. 2 and the Inland Native Fish Strategy Environmental Assessment.

General information and specific field data were collected, analyzed, and evaluated. This information was used to create a picture of the existing conditions of the resources within the planning area, and develop possible actions. Measures required to mitigate for the anticipated effects of this project are presented in this chapter. A detailed discussion of direct, indirect, and cumulative effects by alternative is found in Chapter 3

<u>Alternatives considered but eliminated from detailed study</u>

1. An alternative that expanded the Pit downward rather than outward was considered. However, in order to create safe working conditions for workers within the Pit, expanding downward is not possible without expanding outward. Additional expansion would be required in order to meet safe working slopes as the Pit goes deeper.

2. An alternative that expanded the Pit without harvesting live trees 21 inches dbh or greater was considered but dropped from further consideration due to the impracticality of creating working faces between the 21 inch dbh trees. The probability of unsafe working slopes and the possibility of under cut trees that could topple into the work area make this an unsafe alternative.

3. An alternative for developing a new rock pit on either public or private land was considered but dropped from further consideration due to the need to provide an economical source of aggregate material that meets quality standards for transportation projects while limiting rock pit expansions to existing proven sources. This alternative would not address the need to correct existing slopes at the rockpit to make it less hazardous for recreationists or workers that would continue to use the pit for existing operations.

4. Other alternatives that were evaluated included using material from other existing rock pits, both private and public. This was dropped from further consideration because it did not meet the purpose and need for action to correct existing slopes at the pit to make it less hazardous for recreationists or workers that would continue to use the pit for existing operations. In addition, due to the lack of existing rockpits that contain

asphalt quality rock within proximity to Highway 395, the need to reduce fuel consumption by reducing rock haul distances would not be met.

2.2 Description of Alternatives Considered

Three alternatives were analyzed. These were developed to respond to the key issue identified in Chapter 1 associated with the Proposed Action. This key issue is: Acres of Forest Land taken out of production. The following summary shows how each alternative was designed to respond to the significant issues.

Alternative A – No Action
Alternative B – Proposed Action
Alternative C – Expand the Pit to meet the needs for the ODOT planned 2007 US Highway 395 Overlay Project

2.2.1 Forest Plan Amendments

A site specific non-significant Forest Plan Amendment is proposed in all Action Alternatives to harvest live trees 21 inches dbh and greater.

2.2.2 Alternatives

Alternative A – No Action
The Pit would not be expanded under the No Action Alternative. However, previously planned activities within the Pit would continue. Material currently stockpiled at the site could be removed. None of the actions identified in the proposed action or other alternative would occur, except for some rehabilitation of the site.

This alternative serves as the baseline against which effects of the various action alternatives can be measured and compared.

Alternative B - Proposed Action
This alternative would expand the existing 6.2 acre Starr Rock Pit by 2.7 acres to encompass a total of 8.9 acres of National Forest System land. A site specific non-significant Forest Plan Amendment would be required to harvest live trees 21”dbh and greater. There are approximately 6-10 live trees 21 inches dbh or greater that would be harvested in this alternative. Appendix B includes plan sheets that depict pit expansion under this proposal. The amount of mineral material available in this 2.7 acre area is at least 275,000 cubic yards. This would meet mineral material need projections through 2016 (See Table 2, page 4).

A 10-year permit for operation and material production would be issued to ODOT for the expansion and use of the Pit. The permit would be issued with the understanding that the Pit could also be used by the Forest Service and local Road Departments, if those activities did not interfere with ODOT’s permitted operations. The decision also would allow the temporary use of crushing, screening, and batch plant equipment within the project boundary to process fine and coarse aggregate rock material produced in the

Pit. Processing equipment would only occupy the site when projects are being implemented. In addition, the following are included as part of the proposal:

- A DOGAMI permit would be reopened for the Pit; the DOGAMI permit application would include a reclamation plan for the Pit, and on-going reclamation per entry as the site is used.
- The next entry into the Pit would be in 2007 to produce aggregate material (crushed rock) and asphalt for the highway improvement project slated for US 395. During that entry, topsoil would be conserved and stockpiled for future reclamation efforts.
- Vegetation on 2.7 acres would be harvested/removed. All landings for the harvest operations would be located inside the existing rock pit. Slash from the operations would be piled in the Pit and either used during reclamation activities or burned.
- Approximately 10-15 trees of varying sizes would be marked prior to harvest activities to be used for aquatic habitat improvement projects. These trees would be removed with stumps and 10-12 feet of bole intact during the clearing operations and stockpiled in a designated location.
- A multi-strand smooth-wire fence (the top strand would be higher than the average snow depth) would be built at the edge of the 2.7-acre area cleared of trees to provide for operational and public safety.
- A three-foot high berm would be constructed 10 feet from the edge of the Pit to provide for operational and public safety;
- A gate currently located at the entrance to the Pit would be maintained and locked when the Pit is in use to protect equipment, and during the initial reclamation and vegetation establishment period.
- No new access roads would be constructed outside of the project boundary.
- After the aggregate resource is fully depleted the Pit would be reclaimed. Reject material would first be spread on the Pit floor and then topped with the conserved topsoil. This procedure would be followed for all disturbed areas to the extent possible. Soiled areas would be replanted with species compatible with the management area goals.
- Approximately 0.7 acres would be reclaimed in the southwest corner of the Pit during the 2007 entry.

Alternative C

This alternative would expand the Pit by 0.7 acres to meet the needs of the 2007 US 395 highway improvement project. A site specific non-significant Forest Plan Amendment would be required to harvest live trees 21 inch dbh and greater. There are approximately 1-5 live trees 21 inches dbh or greater that would be harvested in this alternative. Appendix B includes plan sheets that depict pit expansion under this proposal. Approximately 30,000 cubic yards of mineral material would be removed from the Pit in 2007.

A short-term permit would be issued to ODOT to use and expand the Pit in 2007. The decision also would allow the temporary use of crushing, screening, and batch plant

equipment within the project boundary to process fine and coarse aggregate rock material produced in the Pit. Processing equipment would only occupy the site when the US 395 highway improvement project is being implemented. In addition, the following are also included as part of the proposal:

- A DOGAMI permit would be reopened for the Pit; the DOGAMI permit application would include a reclamation plan for the Pit.
- Vegetation on the 0.7-acre expansion area would be harvested/removed. All landings for the harvest operations would be located inside the existing rock pit. Slash from the operations would be piled in the Pit and burned.
- Approximately 10-15 trees of varying sizes would be marked prior to harvest activities to be used for aquatic habitat improvement projects. These trees would be removed with stumps and 10-12 feet of bole intact during the clearing operations and stockpiled in a designated location.
- A multi-strand smooth-wire fence (the top strand would be higher than the average snow depth) would be built at the edge of the 0.7-acre area cleared of trees to provide for operational and public safety.
- A three-foot high berm would be constructed 10 feet from the edge of the Pit to prevent access to the top edge of the Pit and to provide for operational and public safety.
- A gate currently located at the entrance to the Pit would be maintained and locked when the Pit is in use to protect equipment, and during the initial reclamation and vegetation establishment period.
- No new access roads outside the project boundary would be proposed.
- To aid in Pit rehabilitation, topsoil would be conserved where possible and stockpiled for later use. After the project is completed, the saved topsoil would be spread over reject material in the disturbed areas, to the extent possible. Soiled areas would then be seeded/planted with species compatible with the management area goals.

2.3 Design Elements, Mitigation Measures, Best Management Practices and Monitoring Common to Action Alternatives

The following design elements, Best Management Practices (BMPs), and monitoring are common to both action alternatives, and reduce impacts of the project on resources and provide data to analyze long-term effects.

The selection and design of BMPs are an integral part of the Forest Plan—Standards and Guidelines for Soil, Water and Air (Forest Plan IV – 39-40). The BMP process is defined in the Forest Plan, page VI – 5. BMPs are selected for each project by a team of staff specialists. BMP selection and design are dictated by site-specific water quality objectives, soils, topography, geology, vegetation, climate, economics, institutional constraints, etc. These BMPs were selected to protect beneficial uses and meet other resource needs. Many of the BMPs are incorporated as standard practices into project implementation while others are a description of the planning process used and,

therefore, are not included as mitigation. Project specific BMPs are monitored to determine their effectiveness.

ODOT Standard and Special Contract Provisions for aggregate development, which are designed to specifically address avoidance and minimization of impacts, would be implemented for ODOT projects that use the Pit. Standard and Special provisions that would apply to Pit operations during the proposed US Highway 395 project in 2007 are included in Appendix C.

Water Quality

BMPs are the primary mechanism to achieve water quality standards. The U.S. Forest Service, Pacific Northwest Region (R6) has developed a set of general BMPs described in the *General Water Quality Best Management Practices* (USDA 1988). This publication describes the background of BMPs, including the role of BMPs in meeting the Clean Water Act of 1977 (P.L. 95-217). Requirements for implementing the Oregon Water Quality Management Plan on federal land are described in Memoranda of Understanding between the Forest Service and the Oregon Department of Environmental Quality signed in 1979 and 1982. Based on the regional BMPs, the Forest has developed a set of Forest-wide and individual Management Area standards.

Forest-wide standards that have been selected to meet water quality objectives are found on page IV – 39 (numbers117-120) of the Forest Plan.

The following site specific BMPs have been selected and designed to meet water quality standards for this project.

- Erosion Control Plan submittal and approval,
- Timing of construction activities,
- Control of surface roadway drainage,
- Maintenance of roads,
- Dust abatement BMP and ODOT dust control specifications (see Appendix C)
- Restoration of borrow pits and quarries, and
- Landscape and Hazardous Materials – spill prevention, control and countermeasures plan both within the Pit and along the travel route to US395 and highway improvement project site (see Appendix C).

Water quality provisions that would be included as Standard and Special Provision in ODOT contracts for working in the Pit would meet or exceed the BMPs stated above. These specifications include development of a site specific erosion control plan and pollution control plan (see Appendix C).

The DOGAMI operating and reclamation plan requires the protection of water quality. The plan calls for the Pit floor to be sloped towards the working face so that surface water does not leave the site. Rock on the Pit floor is sufficiently fractured to allow infiltration of any water that would potentially pond.

Soil

Access Roads. No new roads would be built or reconstructed outside of the project boundary to access the Pit. Field inspections have found that the roads leading to the Pit are stable with no erosion present. The road grade leading to the Pit is gentle and surfaced with either pavement or gravel, thus no drainage or erosion problems would be anticipated. Recommended standard BMP's include:

- Malheur National Forest Road Rules (1991)
- Forest Road Maintenance specifications
- Water bars may be constructed, if necessary, to prevent erosion on the gravel access road (USFS Road 4920-464) from the snow park to the Pit.

Reclamation Plan. An operation and reclamation plan would be developed in accordance with the Forest BMPs and DOGAMI requirements. The soil in the project area is Gwin-Rockly-Lickskillet, a stony-silt loam. The overburden consists of up to five inches of well drained, very stony or extremely stony loams and silt loams with approximately four feet of weathered material over bedrock. The underlying rock is medium to fine grained. The Pit has not been extensively worked since 2000, but it shows no signs of erosion or geologic instability.

Some previously disturbed areas within the existing Pit would be reclaimed during entries made during the term (2007-2016) of the USFS-issued operational permit to ODOT. For example, 0.7 acres of previously disturbed ground, located in the southwest corner of the Pit, would be reclaimed in 2007 as part of the entry for the US Highway 395 improvement project. Final reclamation of the Pit would not be completed until all of the available aggregate material is utilized. That would not occur until after the 10-year permit period.

The operation and reclamation plan would require the following actions:

- Stockpile the topsoil and overburden portions of the soil profile in previously disturbed portions of Pit; most likely in the southeast corner. In general, topsoil consists of the first five inches below the surface.
- Grade the final slope to DOGAMI and Forest Service specifications.
- The Pit floor would be sloped toward the working face thus keeping all surface water confined within the Pit. Due to soil/geologic conditions, standing water has not historically collected on the Pit floor nor is it expect to pond once the reclamation is completed. No runoff is anticipated beyond the project boundary.
- Place any oversized boulders against the Pit face and cover with crusher rejects mixed with topsoil and organic material. Some larger boulders could be stockpiled for use as riprap, or for use in fisheries or aquatics stream enhancement projects.
- Incorporate organic material into the soil and crusher rejects during reclamation. Recommend using some buried and partially buried logs during reclamation to provide stability and structure to the slopes and provide organic material. At a

minimum, strip off existing vegetative cover from the area to be developed along with topsoil layer. This material would be spread over previously placed reject material on areas to be reclaimed.

- For revegetation, use plant species that occur in the project area and along the road into the Pit. Recommend planting/seeding with a mixture of drought-hardy native shrubs, forbs and grasses. Species that could be planted include: bitterbrush (*Purshia tridentate*), elk sedge (*Carex garberi*), pinegrass (*Calamagrostis rubescens*), or other native species.

Recommended standard BMPs ----

- An erosion control plan would be developed addressing stormwater containment within the Pit. Straw bales and sediment mats would be installed if needed.
- The reclamation plan for the Pit would focus on reestablishing native vegetation on disturbed areas within the project boundary.

Sensitive Plant Species

If sensitive species are found while activities are underway the Forest botanist would be consulted regarding measures required to protect plants and any essential habitat.

Invasive Plants

Historically, aggregate operations have been a source of invasive plants that can be spread. The following are examples of measures that would be implemented to prevent the spread of weedy species. All measures are consistent with the 2005 R6 Invasive Plant Program - Preventing and Managing Invasive Plants Record of Decision. (ROD, 2005) and the USDA-Forest Service Guide (Version 1.0, dated July 5, 2001) to Noxious Weed Prevention Practices.

- Inspect the Pit for invasive plants prior to each entry.
- Treat any invasive plants found in the Pit treated before operations begin and material is hauled off-site.
- Use only gravel, fill, sand, and rock that are judged to be weed free by District or Forest Weed Specialists for road projects.
- Actions conducted or authorized by written permit by the Forest Service that would operate outside the limits of the road prism (including public works and service contracts) require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands. In this case, all heavy equipment would be cleaned prior to leaving the Pit, also.
- Use weed free straw and mulch for all projects conducted or authorized by the Forest Service on National Forest System Lands. If State certified straw and/or mulch is not available, individual Forests should require sources certified to be weed free using the North American Weed Free Forage Program standards or a similar certification process.

Terrestrial Wildlife

Previous surveys have shown that no threatened or endangered wildlife species, Malheur National Forest sensitive species, nor supporting habitats occur in the project area.

Rocky Mountain Elk. Rocky Mountain elk (*Cervus elaphus*) was the only management indicator species identified as likely using the area near the pit. Because no roads would be constructed or reconstructed, the open road density in the sub-watershed (presently 2.1 mi/mi^2) would not change.

Northern Goshawk. The northern goshawk has been identified as a species of concern in the Regional Forester's Eastside Forest Plan Amendment No. 2 (USDA 1995a). Three goshawk nests are located within 1/3 mile of the existing Pit, and another four nests occur more than 1/2 mile from the Pit. All of those nests are within a single goshawk nesting territory. The proposed project is not within the post fledging area (PFA) associated with that territory.

The critical time for northern goshawk nesting and post-fledging periods is April 1st through September 30th. To address concerns about potential negative effects to goshawk nesting, timber harvest and, gravel and asphalt production activities would be timed appropriately as directed by the Forest Wildlife Biologist. Specific activities would be limited in duration to lessen potential impacts, and monitored for noise levels. Operational Measures for the initial pit expansion - Highway 395 improvement project. *(All other activities would need to meet seasonal restriction specifications as directed by the Forest Wildlife Biologist.)*

- A blasting plan would be developed by ODOT and reviewed by the Forest.
- Blasting techniques that lessen the noise produced would be implemented.
- To protect courtship and nest establishment, no blasting would be allowed between March 15th and June 30th. Blasting is expected to be completed in one day, and only one detonation sequence may be required.
- Blasting would occur after 11:00 a.m. when the level of background noise from other non-production related sources near the nest sites (e.g. traffic on US 395 and recreationists at or near Starr Campground) is high.
- Confine drilling and blasting to no more than four days.
- Restrict crushing activities within the Pit until after July 15th.
- Timber harvest/removal would not be allowed between March 15th and June 30th.
- Restrictions may be removed after May 30th if the nearby nesting territory is inactive.
- Locate crushing machinery and other processing equipment as close as possible to the face (north side) of the Pit.
- Asphalt production would be confined within the pit and not be allowed between March 15 and June 30.
- Stockpile processed and/or reject material in the southeast corner of the Pit, near existing stockpiles, to help reduce the level of noise leaving the Pit.

- By March 1 of any operating year, the Forest Service would be notified of planned activities within the Pit.

Pit Reclamation. After the Pit is deactivated, it would be replanted with native grasses, forbs, and shrub species that are palatable to big game animals and beneficial to other terrestrial species. Disturbed areas within the Pit not needed for future aggregate production would be evaluated for reclamation prior to the end of the 10-year (2007-2016) pit development period.

Heritage Resources
Previous archaeological surveys and review of the Oregon State Historical Preservation Office data base indicate that no cultural sites occur in the vicinity of the Pit. In the event that cultural resources are uncovered during either of the proposed action alternatives, work would be stopped. The Forest Heritage Program coordinator would be contacted immediately and appropriate protection measures taken.

2.4 Comparison of Alternatives

Table 3. Comparison of Alternatives by Issue and Measurement

Key Issue	Units/ - standard of Measure	Alt A	Alt B	Alt C
Issue 1: **Acres of Forest Land taken out of production**				
Measurement: • Acres of irreversible and irretrievable commitment of resources	Acres	6.2	8.9	6.9
• Approximate number of large trees (21 inches dbh or greater) being removed	Number (approximate)	0	6-10	1-5

2.5 Monitoring Plan

In addition to any monitoring requirements that may apply from the Malheur National Forest Monitoring Plan or Best Management Practices (BMPs), the following monitoring activities would be implemented:

1. Invasive Plant Monitoring (District or Forest Weed Specialist)

Monitor the Pit during entries, and for three growing seasons following completion of each project, for invasive plant species.

2. Reclamation (DOGAMI and Forest Geologist/Minerals Specialist)

Ensure that the Pit reclamation and rehabilitation activities are completed as directed by DOGAMI and Forest Service specifications.

3. Goshawk (District or Forest Wildlife Biologist)

Based on ODOT planned activities (planned activities report from ODOT due March 1), goshawk would be monitored prior to 5/15 to determine active/inactive status of the nest. ODOT would be notified by 5/30 of the status of the nest in order to avoid goshawk disturbance during the reproduction period.

3.0 EFFECTS OF IMPLEMENTATION

3.1 Introduction

This chapter provides a summary of the existing environmental conditions that could be affected by each of the alternatives under consideration, as well as the potential effects of those alternatives. The existing conditions information offers a basis for evaluating the environmental consequences of implementing each alternative. This assessment of effects assumes compliance with standards and guidelines established in the Forest Plan, Regional standards, State and Federal laws, and National policies. These standards, guidelines, policies, and laws provide measures which minimize and sometimes avoid adverse impacts, and require rehabilitation of resources affected by Forest programs.

The consequences of implementing each alternative are summarized in terms of changes in the affected environment from the current situation. Forest Service Handbook 1909.15—Environmental Policy and Procedures Handbook (USDA 1985)—identifies a list of environmental factors to be considered in data collection and environmental analysis.

Direct, Indirect and Cumulative Effects

Existing conditions and the effects of all alternatives are listed by resource and the discussion centers on impacts (effects) that are direct, indirect, or cumulative. These impacts can be either beneficial or adverse.

- Direct environmental effects are those occurring at the same time and place as the initial cause or action.
- Indirect environmental effects are those that occur later in time or are spatially removed from the activity.
- Cumulative effects are those effects that result from the incremental impact of the action when added to other past, present or reasonably foreseeable future actions regard of the agency or person that undertakes such other actions (40 CFR 1508.7).

The listing of past, present, and reasonably foreseeable actions, both federal and non-federal, were researched and considered by the specialists for potential cumulative effects. These effects are discussed within each of the following resource sections. Only those activities that would create possible cumulative effects were analyzed within these resource effects sections. The listing of past, present, and foreseeable activities that could cumulatively add to the effects from this proposal are identified in Appendix D. These activities were considered by each Interdisciplinary Team specialist for potential cumulative effects. The effects analysis is consistent with the Council on Environmental Quality guidance letter of June 24, 2005 because the applicable past,

present and future actions, as outlined in Appendix D, have been considered for each physical component comprising the Starr Rock Pit Project.

In general, the analysis area is limited to the Starr Creek Sub-watershed (approximately 35,855 acres); however the analysis area may vary between resources and is therefore defined at the beginning of each resource section. There are no Congressionally Designated areas within or affected by any alternative. This area is not within any Inventoried Roadless Area (IRA) nor are there any unroaded areas affected by this project.

Specialist Reports

This EA hereby incorporates by reference the Project Record (40 CFR 1502.21). The Project Record contains Specialist Reports and other technical documentation used to support the analysis and conclusions in this EA. These Specialist Reports are located in each specialist's section of the Project Record and contain the detailed analysis that the resource specialists relied upon to reach the conclusions in the EA.

These Specialist Reports are for Wildlife (incorporated into the BE), Botany, Heritage, Future Use and Economic, Reclamation, and Geology for the Starr Rock Pit Project. Relying on Specialist Reports and the Project Record helps implement the CEQ Regulations' provision that agencies should reduce NEPA paperwork (40 CFR 1500.4). The objective is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental impacts of the Proposed Action and how these impacts can be mitigated, without repeating detailed analysis and background information available elsewhere.

The Project Record is available for review at the Blue Mountain Ranger District, John Day, Oregon during normal business hours (8:00 a.m. to 4:30 p.m.).

3.1.1 Terrestrial Wildlife

Regulatory Framework

The Malheur Forest Plan contains Standards and Guidelines that must be met for specific Management Areas and wildlife habitats. The Regional Forester's Eastside Forest Plan Amendment No. 2 (USDA 1995a) amends some of the standards contained in the Forest Plan and establishes standards for old-growth habitat, snag and downed wood densities, and habitat connectivity. The standards and guidelines in the Forest Plan, as amended, apply to the proposed activities contained in this analysis; the proposed project is consistent with Forest Plan direction and regulations.

Analysis Method

The analysis area used for determination of direct, indirect and cumulative effects is the Starr Creek Sub-watershed (approximately 35,855 acres). Reference to project area is the area within the maximum proposed expansion.

Activities that would alter the forest condition were evaluated to determine what effects they would have on wildlife. Rather than addressing all wildlife species, the Forest Plan focuses on three categories of wildlife: management indicator species (MIS), threatened, endangered and sensitive (TES) species and featured species. In addition, interest has been raised for landbirds including neotropical migratory birds. Categories and wildlife species are summarized below:

- **Management Indicator Species (MIS) —** species selected by the Malheur National Forest as "barometers" of species diversity, viability, and the forest ecosystem. They are monitored over time to assess how changes in forest conditions (especially from management) affect MIS populations and habitat, and thus also populations of other species with similar habitat needs. Pine marten, pileated woodpecker, and northern three-toed woodpecker represent old-growth habitats. Rocky Mountain elk represent big game species. Primary cavity excavators (most woodpeckers) represent dead wood habitats.

- **Threatened, Endangered and Sensitive (TES) Species —** An endangered species is an animal or plant species listed under the Endangered Species Act that is in danger of extinction throughout all or a significant portion of its range. A threatened species is an animal or plant species listed under the Endangered Species Act that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A sensitive species is an animal or plant species identified by the Forest Service Regional Forester for which species viability is a concern either: a) because of significant current or predicted downward trend in population numbers or density, or b) because of significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. The Region 6 Sensitive Animal List (USDA 2004a) was used to determine which sensitive species are suspected to occur on the Forest, and specifically within the proposed project area

- **Featured Species —** The Malheur Forest Plan defines a featured species as a wildlife species of high public interest or demand. The featured species associated with the project area are northern goshawk and antelope. Effects to northern goshawk will be discussed in the Featured Species section. Effects to antelope will be discussed with elk and deer under the Management Indicator section..

- **Landbirds including Neotropical Migratory Birds (NTMB) —** Landbirds, including Neotropical migratory birds, are discussed because many species are experiencing downward population trends. Discussion can be found in the section Species of Concern – Landbirds including Neotropical Migratory Birds (NTMB).

Cumulative effects have been analyzed in respect to past, ongoing and foreseeable future activities listed in Appendix D. Effects were first analyzed within the context of the project area. If there were no negative or positive contributions to cumulative effects at this scale, then no further analysis was conducted. If there were contributions to effects at this scale, then the analysis scale was broadened to a larger land-base scale, usually the subwatershed level.

The Wildlife section is subdivided into sub-sections: Management Indicator Species (MIS), Threatened, Endangered and Sensitive Species (TES), Featured Species, and Landbird Species including Neotropical Migratory Species. Sub-sections will summarize specific analysis methods.

The following sources of information were used to complete this section:

- Notes, summaries, photos and other documents generated from numerous field visits to the project area from 2004 through 2006. In 2005, reconnaissance of the project area was made by an ODOT biologist to determine the presence/absence of threatened, endangered, and sensitive wildlife, and their habitats. Formal wildlife surveys were not conducted for most species.
- Publications, reports, scientific papers, and personnel communications with professional wildlife biologists and managers. Those utilized are documented and cited within a Biological Evaluation as well as this EA.
- Extent and duration of past, present, on-going, and future activities within the Starr Creek Sub-watershed basin.
- Application of measures to mitigate anticipated effects.

Management Indicator Species

Existing Conditions — MIS Species

Wildlife Management Indicator Species (MIS) were selected in the forest planning process to represent animals associated with major habitat types or important habitat features on the Forest. The Forest Plan (page IV-32) gives direction to provide for the habitat requirements of these species to ensure their viability. The following is a list of Malheur National Forest MIS species that could occur in the project area and their associated habitats.

Table 4. Malheur National Forest Wildlife Management Indicator Species

Species	Habitat Types
Rocky Mountain Elk	General Forest habitat and winter ranges
Pileated Woodpecker	Dead/down tree habitat (mixed conifer) in mature and old stands
Pine marten	Mature and old stands at high elevation (>4,000 feet)
Primary cavity excavators	Dead/down tree (snag) habitat

The site has a south facing aspect and is underlain with rocky material. The biophysical environment is warm dry and the existing structural stage is mid structural, stem exclusion with mixed conifer (ponderosa pine and Douglas fir) and an open understory comprised of pockets of conifer reproduction. The stand classifies as big game marginal cover (the stand meets the 40% canopy cover definition for marginal cover classification). The Habitat Effectiveness Index (HEI) was not calculated for this project as the total amount of disturbed acres is negligible in relation to the total number

of acres within the subwatershed. The number of trees per acre (approximately 90) is well below the average (214-272) typically found in a Ponderosa pine/Douglas-fir – elk sedge plant association. There are several trees in the project area that are over 21 inches dbh; however, large snags, downed logs, and log piles are uncommon. There are no old-growth (MA13) stands within the project area and the project area does not include any riparian habitat. Historically, timber has been harvested in the area adjacent to the proposed project.

MIS use of the existing forest habitat adjacent to the Pit is limited due to the following reasons:

- The structural stage of the stand is stem exclusion and therefore lacks old-growth and high canopy characteristics that support reproduction habitat for pine marten (*Martes americana*) and pileated woodpeckers (*Dryocopus pileatus*).
- Large diameter snags (>20 inches in diameter) are absent. Approximately 3-4 small snags per acre (average diameter of 14" dbh) are present in the expansion area; that density is below the Forest Plan standard.
- There is limited downed woody material present and it is less than the standard given in the Forest Plan.
- The understory is open with only small pockets of regeneration; thus providing limited hiding cover for big game species.
- The project site is a high elevation forest that experiences severe weather and, thus, is not winter range for big game.
- Big game forage production is limited due to overstory, rocky conditions, and south facing slopes.

Effects Specific to Alternative A – No Action

Direct, Indirect, and Cumulative Effects

The current direct effect of the Pit on wildlife has been the creation of an opening, devoid of trees, and understory vegetation. Cover and forage are no longer available in this small (6.2 acre) opening. Indirect effects to wildlife can be attributed to the use of the existing Pit for some commercial and recreational activities. The Pit opening, easy access, and close proximity to the developed Sno-park parking lot attract the public who use the site for riding all terrain vehicles, snowmobiling, skiing, target practice, camping, and hunting. Commercial use of the Pit for aggregate and sanding material production has occurred periodically since 1941. The direct and indirect effects this disturbance has had on wildlife are considered to be non-significant because the impact area is very small and localized.

The No Action Alternative would not have any additional direct or indirect effects on terrestrial wildlife species as the Pit would not be expanded beyond its existing size.

Because no additional aggregate development would occur under Alternative A, no additional cumulative effects would be anticipated. Future reclamation efforts would be the responsibility of the Forest Service.

Effects Common to Both Action Alternatives

Pit reclamation, would occur as part of both action alternatives. Some reclamation would occur in conjunction with future entries; however, most of the reclamation would occur once the usable rock source within the project boundary is exhausted. Under both action alternatives, the sides of the Pit would be benched from the top to the bottom according to specifications mandated by DOGAMI and the Forest.
The reclamation sequence would be: 1) spread overburden and gravel rejects, 2) top with a soil mixture of topsoil and organic material, and 3) plant appropriate grasses and forbs, and drought-resistant shrubs. Organic material to be mixed with topsoil would include shrubs, whole trees, and tree trimmings cleared in advance of pit expansion. It is anticipated that seeded grasses and forbs would likely be prevalent on the site within a few years. Conifer seedlings would likely take many years to re-establish as trees would not be planted and natural regeneration would be relied upon to re-forest the site.

The site might be capable of providing forage and browse for big game species within ten years after it is reclaimed.

Effects Specific to Alternative B – Proposed Action

Direct, Indirect, and Cumulative Effects

Alternative B would reduce wildlife habitat (marginal cover and some forage) in the project area by an additional 2.7 acres. This alternative requires removing all trees, including approximately 6-10 trees that are greater than 21 inches dbh. Approximately 10 snags (14 inches average diameter) would also be removed. Given that forage and hiding cover are very limited in the project area but on a landscape basis, abundant elsewhere in the subwatershed, it is unlikely that elk currently utilize the project area to any great extent. Thus, removal of additional trees in the small expansion area would have no significant direct or indirect impacts on elk. Deer and antelope could also forage in the project area, but as with elk, the number of acres of habitat affected is incidental. The HEI Model was not run due to the small number of acres affected. No old-growth associated species would be affected by the expansion because no old-growth habitat would be impacted. The loss of snags and downed wood is considered incidental due to the small size of the project area in relationship to the landscape scale of the subwatershed, thus no effect to primary cavity excavator populations would occur. If the Pit was not expanded, large live and dead tree habitat might develop on those 2.7 acres over time.

Presently, the 6.2-acre Pit opening constitutes a small, insignificant break in the forest stand canopy. Increasing the size of the Pit by 2.7 acres would not significantly enlarge the opening or alter connectivity between old-growth stands.

Given the existing forest stand structure on and adjacent to the project, small size of the project area, and on-going recreational activities near the area, opportunities to mitigate direct and indirect impacts are limited. Partial reclamation of the pit with native

vegetation beneficial for big game would mitigate to a small extent the loss of vegetation.

The list of past, on-going and foreseeable future projects displayed in Appendix D of this EA was reviewed for inclusion in the discussion of cumulative effects. Expanding the Pit opening by 2.7 acres, would have a negligible effect on the subwatershed scale and would not contribute to a significant loss of habitat. Because HEI is normally measured at the subwatershed scale and because this alternative reflects a very small percentage change of the total habitat within the subwatershed, a cumulative reduction of forest vegetation on a total of 8.9 acres would not have a noticeable or significant affect on HEI as measured on a landscape scale.

Effects Specific to Alternative C

Direct, Indirect, and Cumulative Effects

This alternative would remove approximately 0.7 acres of forest vegetation to allow Pit expansion to provide material for the US Highway 395 pavement preservation project scheduled to start in 2007. Direct, indirect and cumulative effects would be similar to Alternative B except less area would be impacted.

Threatened, Endangered, and Sensitive Species

Existing Condition — TES Species

The existing condition of the forest stand adjacent to the proposed project and historic recreational uses in the area preclude the presence of threatened, endangered, and sensitive species. The forest adjacent to the Pit is not mature and does not include habitats that support these species. A field reconnaissance by an ODOT biologist in 2005, findings of the Forest Wildlife Biologist, and a Biological Evaluation completed by ODOT conclude that no threatened, endangered, or sensitive species occur in or near the project site.

Effects Common to All Alternatives

Because the project area does not support any threatened, endangered, or sensitive species, it is assumed that none of the alternatives would have any direct, indirect, and cumulative effects on those species.

Featured Species

Northern Goshawk

Existing Condition — Northern Goshawk Nesting

For the last 15 years, the Forest has monitored a northern goshawk nesting territory that is north of the Pit. According to the Forest Wildlife Biologist, the territory has had a 95 percent success rate since monitoring began. Within the territory, there are three nests located within 1/3 mile of the existing Pit, and four nests more than 1/2 mile from the Pit. During most years, the pair has used one of the nests closest to the Pit. The proposed project, however, is not within the post-fledging area (PFA) associated with the territory.

The pair has been able to successfully nest most years despite the presence of numerous human activities near their nest sites or within the PFA. Recreational activities have occurred in all seasons and include: all terrain vehicle, motorcycle, and snowmobile riding; target shooting; cross-country skiing; and camping. Starr Campground is as close as 600 feet from some of the nests, and the campground abuts the PFA. US Highway 395, a major travel route between John Day and Burns, is less than ¼ mile from some of the nest sites. Although vulnerable young probably were in the nest in June 1993, monitoring notes show that young successfully fledged that year even though ODOT produced 25,000 cubic yards of material in the Pit that June. The last extensive entry into the Pit occurred in 2000 when 22,000 cubic yards of material was produced by the Forest Service. Monitoring notes indicate that the goshawks successfully bred that year also. Given their high degree of nesting success, it is apparent that the pair is habituated to the noise and visual disturbances generated by the above activities.

Forest stand structure in the expansion area and adjacent to the project precludes goshawks from nesting there; probably because the canopy cover is less than 60%. Also, it is unlikely that northern goshawks would hunt in the area immediately adjacent to the Pit because the habitat there provides only marginal forage and cover for prey species.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

The direct, indirect, and cumulative effects to northern goshawk nesting would not change under the No Action Alternative. The Pit and adjacent areas would continue to be used by the public for recreation. Existing reject material and stockpiled gravel could continue to be removed as needed for Forest Service and ODOT projects.

There are no data that demonstrate negative cumulative effects to northern goshawk nesting from the various historic disturbances—campers at Starr Campground, operations in the Pit, motorized and non-motorized use of the Forest Service roads and trails, and noise from traffic on US 395—that occur proximate to the nest sites and PFA. Monitoring of the pair has shown that they have been highly successful nesters over the last 15 years despite those disturbances.

Effects Specific to Alternative B – Proposed Action

Direct and Indirect Effects

Direct and indirect effects to northern goshawks are possible with the continued use of the Pit for rock production as proposed. In 2007, portions of US 395 are scheduled to be overlaid with new pavement which would require aggregate and asphalt production in the Pit. At other times within the 10-year permit term, the Pit would be used by ODOT, Forest Service, and Local road departments as a material source.

To produce aggregate and sanding material, a variety of equipment must be used for drilling, blasting, and crushing. Also, trucks are needed to haul the processed material from the Pit. For jobs such as the upcoming pavement preservation project on US 395, an asphalt production plant would be temporarily operated in the Pit. All of this equipment would generate noise which could have an indirect effect on northern goshawk use of nests and a PFA located north of the Pit. A rock crusher, and other processing machinery, is projected to produce decibel levels of 90.0 dB(A) at the source. As the sound travels away from the Pit, the noise level would decrease and is projected to be 69.0 decibels at 1,000 feet from the Pit (Barksdale 1991). Other factors that would attenuate noise at the nests include the orientation of the Pit opening (the Pit faces southeast and the nests are to the north-northeast), natural topographic barriers, vegetative cover between the Pit and nests, relative humidity and air temperature during the time the Pit is being worked.

Although noise produced during quarrying operations could produce an indirect effect on nesting northern goshawks, this would be considered a minor and/or short-term effect because: 1) the proposed activity is localized, 2) production of aggregate material in the Pit would be sporadic and not occur every year, 3) pit entries typically are short in duration (less than a month at a time), and 4) activities would be restricted during the critical periods of the nesting cycle (courtship, nest selection/building, incubation, and rearing). Drilling and blasting would not be allowed until after the average fledging date, July 1; crushing, processing, and asphalt production would not be allowed to start until July 15th, or two weeks after the average fledging date

Effects Specific to Alternative C

The effects specific to Alternative C would be similar to those described for Alternative B above, except that the disturbance would only be associated with the short term permit for the use of the Pit for the upcoming 2007 Highway 395 overlay project. In 2007, portions of US 395 are scheduled to be overlaid with new pavement which would require aggregate and asphalt production in the Pit. To produce aggregate, a variety of equipment must be used for drilling, blasting, and crushing. Also, trucks are needed to haul the processed material from the Pit. An asphalt production plant would be temporarily operated in the Pit. All of this equipment would generate noise which could have an indirect effect on northern goshawk use of nests and a PFA located north of the Pit. A rock crusher, and other processing machinery, is projected to produce decibel levels of 90.0 dB(A) at the source. As the sound travels away from the Pit, the noise level would decrease and is projected to be 69.0 decibels at 1,000 feet from the Pit (Barksdale 1991). Other factors that would attenuate noise at the nests include the orientation of the Pit opening (the Pit faces southeast and the nests are to the north-northeast), natural topographic barriers, vegetative cover between the Pit and nests, relative humidity and air temperature during the time the Pit is being worked.

Although noise produced during quarrying operations could produce an indirect effect on nesting northern goshawks, this would be considered a minor and/or short-term effect because: 1) the proposed activity is localized, and 2) activities would be restricted

during the critical periods of the nesting cycle (courtship, nest selection/building, incubation, and rearing). Drilling and blasting would not be allowed until after the average fledging date, July 1; crushing, processing, and asphalt production would not be allowed to start until July 15th, or two weeks after the average fledging date

Cumulative Effects

All of the activities in Appendix D have been considered for their cumulative effects on northern goshawk. It is unlikely that either of the action alternatives along with the past, present or reasonably foreseeable projects would have a cumulative effect on northern goshawk nesting and use of the PFA adjacent to the Pit. As noted, the action alternatives propose sporadic entries into the Pit, timed to occur outside the critical periods of the nesting cycle. Results of previous monitoring indicate that the pair has been able to successfully breed for many years despite the presence of a variety of human disturbances near the nests and the PFA at all times of the year, including entries into the Pit during the 1993 and 2000 northern goshawk breeding seasons.

Landbirds including Neotropical Migratory Birds (NTMB)

Existing Condition

Neotropical migratory birds breed in temperate North America and spend winter primarily south of the United States-Mexico boarder. Of the 225 migratory birds that are known to occur in North America, 82 are known to breed on the Malheur National Forest. Long-term population data on neotropical migrants show downward population trends for some of the species.

In 2000, the Oregon-Washington Chapter of Partners in Flight published its Northern Rocky Mountains Bird Conservation Plan (Altman 2000). The Plan provides conservation recommendations for the various species of landbirds that occupy the Oregon-Washington portions of the Interior Columbia Basin. The Plan identified the following priority habitats for the landbird conservation: old-growth dry forests, old-growth moist forest, riparian woodland, and shrubland, and unique habitats including alpine forests, shrub-steppe, montane meadow and aspen habitats. Many of the avian species/habitats identified in the Northern Rocky Mountain Bird Conservation Plan (Altman 2000), are also addressed in the USFWS Bird Conservation Concern (USFWS 2002).

Table 5 lists priority habitats and associated focal species that could occur in the expansion area. The forest habitat type adjacent to the Pit is stem exclusion – dry forest (ponderosa pine and dry mixed conifer), open structure with a few dense thickets of pine regeneration. Scattered ponderosa pine and Douglas-fir trees greater than 21 inches in diameter are found in isolated pockets within the expansion area. However, the forested stand proposed for pit expansion does not classify as old forest single stratum that could provide limited habitat for these species.

Table 5. Focal Neotropical Migrants that Could Occur Within the Project Boundary.

Species	Primary Breeding Habitat
White-headed woodpecker	Old-growth i.e. old forest single stratum (OFSS)
Flammulated owl	OFSS with interspersions grassy openings, dense thickets
Chipping sparrow	OFSS with regenerating pines

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

The direct, indirect and cumulative effects to would not change under the No Action Alternative. Forest stands adjacent to the Pit would continue to grow and, over time, more trees 21 inches dbh or greater would be present. Habitat would improve for species such as the white-headed woodpecker, flammulated owl and chipping sparrow.

Effects Common to Both Action Alternatives

Direct and Indirect Effects

The direct impacts of removing trees and other vegetation for the Pit expansion is the loss of potential habitat for dry forest species such as the white-headed woodpecker, flammulated owl and chipping sparrow. The loss of any future potential habitat would be small (2.7 acres for Alternative B and 0.7 acres for Alternative C), localized, and would not have an effect on landbird populations. The loss of habitat at this level is considered negligible

Cumulative Effects

All of the activities in Appendix D have been considered for their cumulative effects on old forest single stratum (OFSS) associated landbird species. Past activities such as timber harvest, road construction, fire suppression and wildfire have reduced OFSS habitat. OFSS is generally below the Historic Range Variability) in the dry biophysical environments, based on HRV modeling in adjacent areas.

Since 1995, the Forest Plan, as amended, has directed the Malheur National Forest to conduct timber sales in a manner that moves stands towards old forest multi-stratum (OFMS) and OFSS structural stages. Projects rarely are designed to remove live trees greater than 21 inches dbh. Future thinning and burning projects listed in Appendix D would design projects to meet this direction of retaining live 21 inches dbh trees.

The number of trees proposed for removal under the proposed pit expansion is considered negligible and would not contribute to a significant loss of potential habitat. There would be no significant adverse cumulative effects to OFSS-associated species including white-headed woodpeckers, flammulated owls, and chipping sparrows.

Consistency with Direction and Regulations

Regional Forester's Eastside Forest Plans Amendment #2 (USDA 1995) amended the Forest Plan to manage late and old structure (LOS). Under Scenario A(2)(a), the amendment says in areas outside of LOS," …maintain all remnant late and old seral and/or structural live trees greater than or equal to 21 inches DBH." A site specific non-significant amendment to this standard allowing harvest of live trees equal to or over 21 inches dbh would make the Starr Rock Pit project adhere to the Forest Plan.

The stand classifies as big game marginal cover (i.e. 40% or less canopy cover) and the effects would be negligible.

Although this project removes snags and down wood, the loss is considered negligible at the landscape level.

For northern goshawks, the action alternatives are consistent with the Forest Plan and the Regional Forester's Eastside Forest Plans Amendment #2. Nest stands would be protected. Known territories would be monitored annually for nesting activity. If the territory is active, seasonal restrictions would be applied during the breeding season to minimize disturbance.

In adherence with the Forest Plan, the presence/absence of threatened, endangered, and sensitive wildlife was assessed with the project area. All alternatives are consistent with Forest Plan standards and guidelines, and other direction, with respect to threatened, endangered, and sensitive wildlife.

Irreversible/Irretrievable Effects
No irreversible and irretrievable commitments of resources would result from the action alternatives with respect to wildlife.

3.1.2. Threatened, Endangered and Sensitive Plant Species

Regulatory Framework
The Malheur National Forest Plan (pages IV-32 to IV-33) requires managers to:

- Assess all proposed projects involving habitat changes or disturbance having potential to alter the habitat of threatened, endangered or sensitive plant and animal species.
- Perform biological (field) evaluations for use in planning of proposed projects when sensitive species are present or suspected. Conduct surveys in cooperation with other agencies and groups to document the locations of sensitive species populations and to provide more specific information on habitat requirements and relative management guidelines.

Analysis Method
The Forest Sensitive Plant List (USDA 1999) was used to determine which sensitive plants are suspected to occur on the Forest, and specifically within the proposed project area. In 2005, the project area was surveyed by an ODOT botanist to determine the

presence/absence of threatened, endangered, and sensitive plant species, and their habitats.

Reference to project area is the area within the maximum proposed expansion.

Existing Condition — TES Plants

The survey completed in 2005 demonstrated that no threatened, endangered, or sensitive plant species, nor associated habitats, occur in or near the project area.

Alternative A – No Action

Direct and Indirect Effects

Under the No Action Alternative, the Pit would not be expanded. Material currently stockpiled could be removed for road maintenance projects or used in reclaiming the site. No forest habitat would be affected.

The No Action Alternative would have no direct, indirect or cumulative effects to threatened, endangered or sensitive plant species because no new ground disturbing activities would occur.

Effects Common to Both Action Alternatives

Direct, Indirect and Cumulative Effects

No listed species have been found within the proposed project site. Thus, although the action alternatives would eliminate vegetation by expanding the Pit (by 2.7 and 0.7 acres under Alternatives B and Alternative C, respectively), those actions would not result in direct, indirect, or cumulative effects to threatened, endangered, or sensitive plant species.

Consistency with Direction and Regulations

In adherence with the Forest Plan, the presence/absence of threatened, endangered, and sensitive plants was assessed with the project area. All alternatives are consistent with Forest Plan standards and guidelines, and other direction, with respect to threatened, endangered, and sensitive plants.

Irreversible/Irretrievable Effects

No irreversible and irretrievable commitments of resources would result from the action alternatives with respect to threatened, endangered, or sensitive plants.

3.1.3 Forest Vegetation

Regulatory Framework

The Forest Plan provides Forest-wide management goals and objectives regarding forest vegetation. The applicable forest vegetation standards for the analysis area include:

- Maintain stand vigor through the use of integrated pest management such as stocking level control and species composition in order to minimize losses due to insects and diseases (Forest Plan standard 98, IV-37)
- The Regional Forester's Eastside Forest Plan Amendment No. 2 amends the Forest Plan and sets interim ecosystem and wildlife standards.

Analysis Method

Several analytical tools have been employed to describe upland vegetation. The forest growth model Forest Vegetation Simulator (FVS) (Dixon 2002) and Stand Visualization System (SVS) were used in conjunction with recent (1998) forest stand exams to qualify and quantify forest growth and development, and structural and compositional characteristics associated with the no action and proposed action alternatives.

Existing Condition — Forest Vegetation

The analysis area for the proposed project is the Starr Sub-watershed consisting of 35,855 acres. The biophysical environment is warm dry and the existing structural stage is mid structural, stem exclusion with mixed conifer (ponderosa pine and Douglas fir) and an open understory comprised of pockets of conifer reproduction. A Historic Range of Variability has not been run for this area since vegetation changes due to this proposed project are negligible and would not affect a change to the landscape level HRV analysis.

Since the Pit was opened in 1941, approximately 6.2 acres of forest vegetation has been removed to extract the rock resource. It is assumed that the forest vegetation that has been impacted is similar to the stand that currently exists to the north of the Pit.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

There would be no direct or indirect effects to forest vegetation if Alternative A is selected. The cumulative effect of past action in the Pit has been the removal of 6.2 acres of forest vegetation, no additional cumulative effects would occur under Alternative A.

Alternative B – Proposed Action

Direct, Indirect, and Cumulative Effects

The direct effect of implementing this alternative would be the removal of 2.7 acres of vegetation. Over 85 percent of the trees found within the project site are less than 16 inches dbh. However, approximately 6-9 of the trees to be harvested are over 21 inches dbh. Approximately, ten snags (14 inches average diameter) would be removed, also. The project area is not within a dedicated old-growth Management Area, and old-growth habitat would not be affected. From 2007 through at least 2016 (ten-year permit term), the site would be devoid of trees with mainly herbaceous cover dominating the site. If the Pit was not expanded, large live and dead tree habitat might develop on these acres over time.

All of the activities in Appendix D have been considered for their cumulative effects on forest vegetation. Of those activities within the analysis area, approximately 11,600 acres of forest land was harvested between 1983 and 2005, including associated road building. About 3,000 acres within the analysis area have been treated with pre-commercial thinning; portions of the thinned acreage were within the 11,600 acres harvested. Prescribed burns have been conducted on 1,330 acres within the analysis area. The Highway 395 Corridor Fuel Reduction Project is listed on the Spring 2006 Schedule of Proposed Actions as a planned activity for precommercial and commercial thinning of natural and activity fuels. Due to the size and extent of the proposed action and the condition of the forest stand structure adjacent to the project, it is unlikely that there would be a significant cumulative effect to vegetation.

This alternative would also include reclamation of 0.7 acres of the previously disturbed ground within the Pit boundary in 2007. It is anticipated that seeded grasses and forbs would likely be prevalent on the site within a few years. The establishment of conifer seedlings would likely take much longer to re-establish themselves.

Alternative C
The direct, indirect and cumulative effects of implementing this alternative would be similar as those for Alternative B; however the effects would be associated with a smaller number of acres.

Consistency with Direction and Regulations
The action alternatives would not meet the standards of the Regional Forester's Eastside Forest Plan Amendment No. 2 because live trees over 21 inches dbh would be harvested. Thus, as part of the expansion, a non-significant Forest Plan amendment would be required to harvest live trees 21 inches dbh or greater.

Irreversible/Irretrievable Effects
Development of the Pit would require the removal of vegetation, but that action would not be an irreversible commitment of a renewable resource, forest vegetation. Once the rock is mined and utilized, the Pit would be reclaimed with vegetation suited for the area and found in adjacent undisturbed areas.

Over the short-term there would be a loss of a renewable resource (trees, shrubs, herbaceous vegetation) as a result of both action alternative, but this would not be an irretrievable effect.

3.1.4 Invasive Plants

Regulatory Framework
The Malheur Forest Plan Standard No. 188 is to implement invasive plant control programs to confine present infestations and prevent establishment of invasive plants in new areas. Other weed control direction is included in the 2005 Preventing and Managing Invasive Plants Final Environmental Impact Statement and Record Of Decision (2005 ROD), which this document tiers to and which amended the existing Malheur Forest Plan, and in the Federal Noxious Weed Act of 1974 (U.S.C. §§ 2801-

2814). These policies require cooperation with state, local, and other federal agencies in the application and enforcement of all laws and regulations relating to management and control of invasive plants.

Standards from the 2005 ROD that would be implemented to address invasive plants include:

- Require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands if activities would be conducted outside the limits if the road prism (including public works and service contracts).
- Use of weed-free straw and mulch for all projects, conducted or authorized by the Forest Service, on National Forest Lands.
- Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of Pit material. Use only gravel, fill, sand, and rock that are judged to be weed-free by District or Forest Weed Specialists.
- Consult with District or Forest-level invasive plant specialists if road grading, brushing, and ditch cleaning would occur in areas with high concentrations of invasive plants.

Analysis Method

The potential for spreading weeds was assessed for activities that expose bare ground or involve transport of material. The existing disturbed Pit area and proposed expansion site were surveyed for noxious weeds in 2005. That survey focused on species included on the Oregon Department of Agriculture (2005) Noxious Weed list.

Existing Condition — Invasive plants

On the Blue Mountain Ranger District, invasive plants are often found along roads, in quarries, around recreational sites, and other areas where the ground has been disturbed. Invasive plants are primarily spread by vehicles including on and off-road machines, livestock and game animals; areas of bare ground are particularly susceptible to weed invasions.

During a botanical survey completed in 2005, only cheatgrass (*Bromus tectorum*), an invasive species included on the list of Current Invasive Plant Species on National Forest Lands in the Pacific Northwest, was found within the Pit.

Alternative A – No Action

Direct and Indirect Effects

The potential spread of invasive plant species within and outside the Pit may continue under Alternative A. Cheatgrass, an invasive species found within the Pit, would continue to be spread by recreational users (ATV riders, shooters, etc.) of the pit during periods when stockpiled material remains on site because treatment of weeds within the rock pit is not required until use and transport of the material. During removal operations, only gravel, fill, sand, and rock that are judged to be weed free by District or

Forest Weed Specialists is allowed to be used. Therefore, under the 2005 ROD, the cheatgrass would need to be treated prior to removal from the pit.

Effects Common to Both Action Alternatives

Direct and Indirect Effects

Alternatives B and C would expand the Pit and result in increased truck traffic on the access roads leading to the site and along the highway. Treatment of the invasive weeds found on site would be required prior any use of pit material. These requirements would decrease risk of further establishment of weeds within the Pit and along roads. That risk would be mitigated by implementing the Design Measures, BMPs, etc. described in Chapter 2. Also, all activities within the Pit, under both action alternatives, would meet the guidelines in the USDA Pacific Northwest Invasive Plant Program ROD (USDA 2005b) and future Malheur National Forest direction on managing invasive plants. When material is removed from the site, only that gravel, fill, sand, and rock that is judged to be weed free by District or Forest Weed Specialists is allowed to be used. Therefore, under the standards established by the 2005 ROD, the cheatgrass would need to be treated prior to removing material from the pit. In addition, machinery would be cleaned prior to entry on Forest Lands, ensuring that new weeds are not introduced to the Pit.

Cumulative Effects

All of the activities in Appendix D have been considered for their cumulative effects on invasive plants. It is unlikely that either of the action alternatives along with the past, present or reasonably foreseeable projects would increase the amount of invasive weeds adjacent to the Pit. Implementing of the USDA Pacific Northwest Invasive Plant Program for Preventing and Managing Invasive Plants (USDA 2005b) would require the Pit to be free of invasive weed species prior to working the Pit. Therefore, there should eventually be a positive cumulative effect from the actions proposed.

Consistency with Direction and Regulations

In adherence with the Forest Plan, the presence/absence of invasive plants was assessed within the project area. All alternatives are consistent with Forest Plan standards and guidelines, and other direction, with respect to invasive plants.

Irreversible/Irretrievable Effects

There are no irreversible and irretrievable commitments of resources that may result from the alternatives with respect to invasive plants.

3.1.5 Fisheries

Regulatory Framework

The Forest Plan, as amended, provides direction to protect and manage the fisheries resource.

Forest Plan Goals for fisheries habitat:

- Provide for improved fish habitat conditions to support increased populations of anadromous and resident fish.
- Assist in the identification, protection and recovery of threatened, endangered, and sensitive species.

Forest Plan standards represent a minimum or maximum permissible level of an output or activity. Specific standards for fish and wildlife are found in the Forest Plan on pages IV 27-34. Additional standards are outlined in the water quality section; specifically, the BMPs for water quality. Section 3.1.6 of this EA details standards for soil and water.

Inland Native Fish Strategy (INFISH) (USDA 1995b) provides standards and guidelines to protect fish habitat.

Analysis Method

The Pit location within the watershed and the presence/absence of riparian areas in the project area were analyzed to determine the potential effects of the project on the fisheries resource. The process necessary to produce the final rock product was evaluated to determine potential impacts to water resources, also.

Existing Condition — Fisheries

The Pit lies in the Upper Silvies 5th Field Hydrological Unit Classification. On-site visits and review of topographic maps show no streams within the project area. The main fork of Starr Creek is approximately 1/3 mile southeast of the project area; the West Fork of Starr Creek, an intermittent channel, is located about 660 feet east of the Pit. No run-off from the Pit would enter any waterway. However with the expansion of the rock pit, there is an opportunity to use the stumps resulting from harvest activities for future aquatics projects located in this subwatershed or other areas in the vicinity of the pit. In order to "key" the stumps into the creek, they would need to have approximately 10-12 feet of the bole attached to the stump.

Neither steelhead (*Oncorhynchus mykiss*) nor bull trout (*Salvelinus confluentus*) are present in Starr Creek. No fish occur in the creek on Forest Service land. The Pit is approximately one mile from Windfall Creek which contains redband trout (also *Oncorhynchus mykiss*).

Forest Road 4920-333 crosses over Starr Creek near its junction with US 395 and is a two-lane road with a paved surface to the snow park. The MNF 2004 Roads Analysis (USDA 2004b) rated the 4920-333 Road as a low watershed and aquatics risk, and low to medium soil and geologic hazard. A culvert with four to five feet of fill was placed under the road several years ago to pass Starr Creek. Inspection of the culvert showed no signs of failure. Forest Road 4920-464 leading from the Starr Sno-park to the Pit is graveled and is rated on the Forest road inventory list as a low watershed and aquatics risk.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

There would be no direct, indirect, or cumulative effects under Alternative A.

Effects Common to Both Action Alternatives

Direct, Indirect, and Cumulative Effects

There are no streams within the proposed project boundary. Producing rock and asphalt in the Pit would require water for dust abatement and processing. However, that water would be transported to the site from an approved off-site source. Thus, there would be no direct, indirect, or cumulative effects from the action alternatives on the fishery resource.

Although loaded gravel and asphalt trucks would pass over the Starr Creek culvert when the Pit is in operation, the likelihood of any vehicles accidentally leaving the road and entering the creek are very remote. Trucks passing over the crossing would be traveling slowly as they approach or leave the nearby intersection of Forest Service Road 4920-333 and US 395. Also, ODOT standard specifications and special provisions would require a Pollution Control Plan for this project to address potential spills into Starr Creek at the crossing on Forest Service Road 4920-333. Pollution control equipment would include containment devices. Another factor that would reduce any impact should an accident occur is the fact that Starr Creek historically is dry during the summer months when the activities would be conducted.

Consistency with Direction and Regulations

All alternatives are consistent with the Forest Plan, and other direction, with respect to fisheries.

Irreversible/Irretrievable Effects

No irreversible and irretrievable commitments of fisheries resources would result from the alternatives.

3.1.6 Soil and Water

Soil

Regulatory Framework

The Forest Plan meets all legal and regulatory requirements for soil conservation. The Forest Plan requires the evaluation of the potential for soil disturbance, compaction, puddling, mass wasting, and surface soil erosion for all ground disturbing activities. Revegetation of disturbed areas is required also (page IV-40 of the Forest Plan).

Analysis Method

The Malheur Soil Resource Inventory (SRI) and Forest Roads Analysis (USDA 2004b) were reviewed to compile general baseline soil and land type information for the project area. On-site visits were conducted to gather site-specific data. The project soils

specialists used professional judgment, soils inventory data, review of scientific literature, and discussions with the Forest Soil Scientist to determine potential effects to the soil resource from proposed activities.

Existing Condition — Soils

The Starr Rock Pit is located in T15S, Range 31E, SW ¼ of Section 20, WM.
Soils in the area are in the Gwin-Rockly-Lickskillet association which is well-drained, shallow very stony or extremely stony loams, and silt loams over bedrock. No unstable areas are known.

The existing Pit footprint is 6.2 acres. Some topsoil, reject material and gravel piles have been stockpiled from previous entries. No portions of the Pit have been reclaimed. Currently, the working cut faces are high, near vertical and exposed rock. The cut faces are not actively eroding.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

There would be no direct, indirect, or cumulative effects under Alternative A because no additional disturbance would occur. Pit development started in 1941 and today shows no signs of soil instability either within or adjacent to the development area.

Existing stockpiled material would continue to be removed. The size of the Pit would remain at 6.2 acres. Reclamation of the Pit floor would involve spreading the limited amount of reject gravel material and stockpiled topsoil over disturbed areas followed by seeding/planting with native vegetation. Reducing the steep Pit face could not occur because that would require expanding the disturbed area to allow for flattening or benching the face to meet height standards.

Effects Common to Both Action Alternatives

Direct and Indirect Effects

Access Roads: The access road leading to the Pit (Forest Road 4920-333) leaves US 395 at milepost 16.6. It is paved for ½ mile to the Starr Sno-Park. From the snow park it is another 0.4 miles on a gravel road (Forest Road 4920-464) to the Pit. While direct and indirect effects occurred when those roads were built, the proposed action alternatives would not construct any new access roads; operational trails (routes for equipment to move within and along the top of the Pit) could be constructed within the Pit boundaries. Some minor maintenance activities, such as grading and dust abatement, may be required on the surface of Forest Road 4920-464. The road grade is gentle and shows no signs of instability and the adjacent soil has a high rate of infiltration. Thus, no drainage problems are anticipated and it is unlikely that sediment from the road would reach any surface waters.

Soil Productivity: The land devoted to a developed Pit is effectively removed from the productive land-base because the topsoil is removed and gravelly subsoil is

exposed. Reclamation would partially restore site productivity by replacing salvaged topsoil along with organic matter.

Soil Erosion: Exposed quarry faces (the steep working slopes where the rock is removed) are typically bare and, if they are too steep, sometimes calve off rock. The rock on faces of the Starr Rock Pit does not show any signs of eroding or calving.

Cumulative Effects

All of the activities in Appendix D have been considered for their cumulative effects on the soil resources. Although developing a rock quarry has a major impact on soils by removing the acres impacted from the productive land base, it is unlikely that either of the action alternatives along with the past, present or reasonably foreseeable projects would have a cumulative effect on soil resources within this project area due to the small size of the Pit in relationship to disturbances on a landscape scale.

Differences in the Effects between Alternatives B and C

The only difference in the effects to soils between Alternatives B and C is the total number of acres impacted. Alternative B would increase the size of Pit by 2.7 acres; Alternative C would increase the Pit by 0.7 acres.

Consistency with Direction and Regulations

The proposed project is consistent with Forest Plan direction and regulations. The proposed project would meet Forest Plan standards and guidelines for soils.

Irreversible/Irretrievable Effects

No irreversible and irretrievable commitments of soil resources would result from the alternatives. Although soil would be removed prior to pit expansion, that material would be stockpiled and eventually spread back over disturbed portions of the Pit after the rock resource was exhausted.

Water

Regulatory Framework

Best Management Practices (BMPs) are the primary mechanism to achieve water quality standards. The U.S. Forest Service, Pacific Northwest Region (R6) has developed a set of general BMPs described in the General Water Quality Best Management Practices (USDA 1988). That publication describes the background of BMPs, including the role of BMPs in meeting the Clean Water Act. Requirements for implementing the Oregon Water Quality Management Plan on federal land are described in the Memoranda of Understanding between the Forest Service and the Oregon Department of Environmental Quality (1979 and 1982). Based on the regional BMPs, the Forest has developed a set of Forest-wide and management area standards.

The selection and design of BMPs are an integral part of the Standards and Guidelines for Soil and Water in the Forest Plan (pages IV 39-40). BMPs are selected for each project by a team of staff specialists. BMP selection and design are dictated by site-specific water quality objectives, soils, topography, geology, vegetation, climate,

economics, institutional constraints, etc. BMPs were selected to protect beneficial uses and meet other resource needs. Many of the BMPs are included as mitigation measures, but some are incorporated as standard practices into project implementation. Project specific BMPs are monitored to determine their effectiveness.

Forest Plan Standards that would be used to address water quality include:

- Examining the project area to determine if sites of high soil erosion with mass failure potential are present.
- Following BMPs specific to the project to meet the Clean Water Act.
- Implementing a reclamation plan to adequately revegetate the Pit.

Existing Condition — Watershed

The proposed Pit enlargement is within the Starr Creek drainage, a tributary to the Silvies River. The elevation at the site is 5,120 feet. Average annual rainfall in the area is 20 inches. The proposed Pit expansion is located on a ridge between two small drainages. The terrain is gently sloping and well vegetated with trees and shrubs. At its closest point, Starr Creek is 1/3 mile from the Pit. An access road leading to the Pit, Forest Road 4920-333, crosses Starr Creek just west of US Highway 395. The Starr Creek culvert exhibits no sign of deterioration and there is a sufficient depth of material over the culvert to support heavy equipment and truck traffic passing over it.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

There would be no direct, indirect, or cumulative effects under Alternative A because no additional disturbance would occur. Pit development started in 1941 and there are no indications of runoff leaving the site and entering waterways.

Effects Common to Both Action Alternatives

Direct and Indirect Effects

Neither of the proposed action alternatives would be expected to have noticeable direct or indirect effects on water resources. Water quality would not change due to this project because the potential for runoff to move off site and into a waterway is extremely low. The isolated/localized change in vegetation would not affect the timing of spring snowmelt and runoff water quality and timing would not be affected.

Minor road maintenance activities, if needed, on the access road leading to the Pit would comply with regional and Forest BMPs and have no direct and indirect effects on water quality.

Cumulative Effects

Because this project is not expected to have any direct or indirect effects, adverse cumulative effects are not expected.

Consistency with Direction and Regulations
The proposed project is consistent with Forest Plan direction and regulations. The proposed project would meet Forest Plan standards and guidelines for water quality. The proposed action meets the requirements of the Forest Plan, INFISH guidelines, and the Clean Water Act.

Irreversible/Irretrievable Effects
The alternatives would not result in irreversible or irretrievable effects to water quality.

3.1.7 Visuals/Scenery

Regulatory Framework
The Malheur National Forest Scenic resource is managed by direction provided in the Forest Plan. Visual Quality is assessed and evaluated under Landscape Aesthetics, USDA Forest Service Handbook No. 701(USDA 1995c).

The proposed project site is within a Visual Corridor Management Area (MA-14). This management area consists of the visible and potentially visible landscape along major travel routes where the traveling public has a high to medium sensitivity to the scenery. The corridor along US 395 has been identified as Sensitivity Level 1. Primary management considerations for viewshed corridors are scenic quality and the growth of large diameter trees. Visual quality objectives of retention, partial retention, and modification are applied while providing for other uses and resources. Partial retention as defined in the Forest Plan (page VI-41) allows management activities to be evident to the viewer, but they must remain visually subordinate to the surrounding landscape. Visual quality objectives are minimum guidelines for meeting the Forest Plan visual goals.

Analysis Method
Management activities such as expansion of the rock Pit can affect scenic quality. The degree of visibility of various activities depends on the interaction of certain elements to the viewers such as: slope and aspect of the land; surrounding landscape; and the frequency and duration of view. These factors have been considered in the analysis of the effects for each alternative in meeting visual quality objectives.

Existing Condition — Visuals/Scenery
The current visual condition along US 395 is moderately altered, but is meeting the desired visual quality objective of the Forest Plan. The mixed conifer, multistory forest stand, and broken topography allow only a very limited foreground viewing opportunity from US 395 looking west in the direction of the Starr Rock Pit. Although the Pit is considered to be in the foreground viewshed from US Highway 395, it is not visible from the highway due to topographical screening (hills and ridges).

Campers at the Starr Campground cannot see the Pit or the access road. The Pit is within 0.4 miles of the Starr Sno-park, but it is not visible from the parking lot. Cross-country skiers and hikers using the Vance Creek Trail can see the top edge of the existing pit, but they cannot see the Pit floor or highwalls unless they leave the trail.

Other recreationists, such as target shooters and ATV riders, see the working areas of the existing Pit because they purposely go inside the Pit to practice their activities.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

Because no changes would occur at the Pit under the No Action Alternative there would be no direct, indirect, or cumulative effects from this alternative.

Effects Common to Both Action Alternatives

Direct and Indirect Effects

The effects of activities on visual resources depend on the visibility of landscape changes from sensitive viewing points. Because the Pit cannot be seen from the highway due to topographical screening, the action alternatives would have no direct or indirect effects to the visual standard (retention) required by the Forest Plan for the US 395 corridor. Also, because no new roads would be constructed or reconstructed outside the project boundary under either action alternative, there would not be any new disturbance in the foreground viewshed.

The visual quality/scenic integrity standards from the Starr Campground and Starr Sno-park area would not be altered by implementing either of the action alternatives.

Visual quality/scenic integrity from the Vance Creek trail would be altered by the Pit development if either of the action alternatives were implemented. Because trees would be cut and the Pit opening advanced toward the trail, the foreground view from the trail would be more open.

Cumulative Effects

Because this project is not expected to have any direct or indirect effects, adverse cumulative effects are not expected.

Consistency with Direction and Regulations

The proposed activities identified in the action alternatives would meet the Forest Plan standards for visual quality/scenic integrity objectives. As required by the visual quality objectives for retention in the Forest Plan, the management activity (proposed Pit expansion) would remain visually subordinate to the surrounding landscape.

Irreversible/Irretrievable Effects

The action alternatives would not result in any irreversible and irretrievable effects to visual resources.

3.1.8 Recreation

Regulatory Framework

The Forest Plan recreational direction is to manage Visual Corridors (MA 14) as roaded natural. In these areas, timber harvest is evident and motor vehicles are permitted on all or parts of the road system.

Starr Campground, located approximately ½ mile northeast of the Pit, is managed as a Developed Recreation Site (MA-12) to provide opportunities for interpretation and enhancement of natural resources.

Analysis Method

The area surrounding the proposed Pit expansion was analyzed for potential impacts to recreational features such as the Starr Campground, Starr Sno-park, Vance Creek trail, Forest Service roads, and US 395.

Existing Condition — Recreation

Recreational opportunities in the Starr Ridge Area are diverse in nature. The Starr Campground is a developed recreation site used mostly by summer campers and fall hunters. The Starr Sno-park (located 0.4 miles south of the rock Pit) is a central gathering point from which recreationists can ride ATVs and snowmobiles, snow-shoe, and cross-county ski along roads and trails in the area. The Vance Creek trail located west and north of the Pit is used mainly in the winter. The trail is marked with blue diamond signs nailed to trees - at some locations it is within 150 feet of the Pit edge. Shooters use the Pit itself for target practice and to sight in their guns prior to the hunting seasons. Sight seeing trips along US 395 near the project area is another activity enjoyed by the public.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects – Winter Recreation

Snowmobile riding and cross-county skiing are the two most common winter activities in the area. The steep face of the rock pit would not be altered and the potential for accidents to recreationists by falling over the top edge of the pit would continue to exist.

Direct, Indirect, and Cumulative Effects – Camping, Driving for Pleasure, Other uses

Alternative A would not result in direct, indirect or cumulative effects to camping, driving for pleasure or recreational pursuits in the Pit or surrounding area. The current steep Pit face remains. The gate near the Pit entrance would remain unlocked.

Effects Common to Both All Action Alternatives

Direct and Indirect Effects – Winter Recreation

The numerous recreational opportunities in the Starr Ridge area would continue to be available under both action alternatives.

As a safety measure and to prevent access to the top of the pit, a multi-strand smooth wire fence (the top strand would be higher than the average snow depth) would be built at the edge of the residual vegetation. Additionally, a three-foot high safety berm would be placed between the fence and 10 feet from the edge of the expanded Pit. To meet current DOGAMI standards (Oregon DOGMAI 2001), expansion of the Pit would require benching the working face. That action would effectively split the existing 95-foot highwall into three 30-35-foot high segments. Each of those faces would also be sloped to reduce their steepness. All of these measures would improve safety for trail users.

Direct and Indirect Effects – Summer/Fall Use

The Pit is approximately ½ mile southwest of the Starr Campground, but it cannot be seen from the campground. The Pit is currently used for a variety of recreational activities including target practice by recreational firearm users and ATV riding. Those activities would not be allowed in the Pit during the period when rock and asphalt are being produced and equipment and workers are present. There are numerous other roads in the area for off road vehicle use, so short closures of the Pit should not significantly impact ATV riders.

Indirect effects that would occur as a result of the proposed project include:

- Noise and dust generated during rock production in the Pit could possibly be heard and seen from the Starr Campground and US 395 during operations. Mitigation for these potential effects would include dust abatement and restricting work to weekdays.

- Heavy trucks would use Forest Road 4920-333 and US 395 when the Pit is being worked and the highway is being repaved. While Forest road 4920-333 is mainly used during the winter months, there may be some overlap in use by recreationists and gravel producers. Warning signs would be placed along US 395 and Forest Road 4920-333 to alert the public of the potential danger.

Cumulative Effect

All of the activities in Appendix D have been considered for their cumulative effects on recreation resources. It is unlikely that either of the action alternatives along with the past, present or reasonably foreseeable projects would have a cumulative effect on recreation use of the area within or adjacent to the Pit.

Consistency with Direction and Regulations

The proposed project is consistent with Forest Plan direction and regulations. The proposed project would meet Forest Plan Standards for Recreation of roaded natural.

Irreversible/Irretrievable Effects

The action alternatives would not result in any irreversible and irretrievable effects to recreation resources.

3.1.9 Cultural Resources

Regulatory Framework

The legal framework that mandates the Forest to consider the effects of its actions on cultural resources is wide-ranging. Section 106 of the National Historic Preservation Act (NHPA) of 1966 (amended in 1976, 1980, and 1992) is the preeminent legislation governing the treatment of cultural resources during Federal project planning and implementation. Regulations that clarify and expand upon the NHPA include 36 CFR 800 (Protection of Historic Properties) 36 CFR 63 (Determination of Eligibility to the National Register of Historic Places), and 36 CFR 296 (Protection of Archaeological Resources). The Pacific Northwest Region of the Forest Service, the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Office (SHPO), signed a programmatic agreement regarding the management of cultural resources on the National Forest system lands in 2004. That agreement outlines specific procedures for the identification, evaluation, and protection of cultural resources during activities or projects sponsored by the Forest Service. It also establishes the process that the SHPO utilizes to review Forest Service undertakings for NHPA compliance.

The National Environmental Policy Act (NEPA) of 1970 is also a cultural resource management directive as it calls for agencies to analyze the effects of their actions on socio-cultural elements of the environment. Laws such as the National Forest Management Act (NFMA) of 1976, the Archaeological Resources Protection Act (ARPA) of 1979, the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, and Executive Order 13007 (Indian Sacred Sites) also guide Forest Service decision making. The American Indian Religious Freedom Act (AIRFA) of 1978 requires that federal agencies consider the impacts of their projects on the free exercise of traditional Indian religions.

The Forest Plan, as amended, tiers to the previously mentioned laws and corresponding Forest Service manual direction as it sets forth resource management goals, objectives, and standards.

Analysis Method

Forest-wide standards pertinent to cultural resource effects analysis for this project include:

- Consider the effects of all Forest Service undertakings on cultural resources.
- Conduct a professionally supervised cultural resource survey on National Forest Lands to identify cultural resource properties. Use sound survey strategies and the Malheur National Forest Cultural Resource Inventory Survey Design (Thomas 1991)
- Evaluate the significance of sites by applying the criteria for eligibility to the National Register of Historic Places.
- Coordinate the formulation and evaluation of alternatives with the State cultural resource plan, the SHPO and State Archaeologist, other State and Federal agencies, and with traditional and religious leaders of Native American Indian groups and tribes with historic ties to the project planning area.

Additional information regarding the analysis for heritage resources is in the Heritage Specialist Report located in the Analysis File.

Existing Condition — Cultural Resources

Surveys for prehistoric and historic cultural materials in the proposed project area were conducted in 2004 and 2006. No prehistoric or historic artifacts were found (O'Grady 2005, Roedel 2006).

Effects Common to All Alternatives

Direct, Indirect, and Cumulative Effects

The proposed project area does not encompass any prehistoric or historic sites. Thus, there would be no direct, indirect, or cumulative effects to cultural resources as a result of any alternative.

If cultural resources were uncovered during the course of the proposed project, the Forest Heritage Program Coordinator would be contacted for assistance to mitigate any impact. Cultural resources that are unevaluated for inclusion on the NRPH are managed as if they are eligible and mitigation for those resources follow specific management prescriptions.

Consistency with Direction and Regulations

In accordance with the Forest Plan, an archaeological survey was conducted within the project area. The resulting report (O'Grady 2005) was submitted to, and concurred with by the SHPO (Hamrick 2005). Because no cultural resources are present in the proposed project area it is very unlikely that the project would have any impact to this resource.

Irreversible/Irretrievable Effects

The action alternatives would not result in any irreversible and irretrievable effects to cultural resources.

3.1.10 Minerals Resources and Economics

Regulatory Framework

The Forest Plan includes objectives for conducting rock resource inventories, and orderly development and efficient use of mineral resources. Each developed site would include a plan for surface reclamation after resources are exhausted and mining completed. The Forest Plan further stipulates that proposed actions must pass a test of reasonableness to protect the surface resource values, and provide an opportunity to develop the mineral resource without placing undue hardship on the operator. Forest-wide standard 136 (page IV-41) states:"*Administer the appropriate laws and regulations relating to minerals in a reasonable and consistent manner. Coordinate with appropriate agencies*". Forest standard 137 states: "*Provide common variety minerals and materials if consistent with the management area direction. Authorize common variety mineral exploration and removal under terms and conditions to prevent, minimize or mitigate adverse impacts on surface and uses*". Management Area standards 20 and 21 (page IV-111) note that a proposed minerals project should design

operating plans to meet visual quality objectives to the extent reasonable and utilize existing access routes to developments wherever possible.

A Regional Memorandum of Understanding between the USDA Forest Service, Pacific Northwest Region, and State of Oregon, Department of Transportation, provides a framework for cooperation and a common understanding of the guidelines and administrative processes governing ODOT use of material sources on lands administered by the Forest Service in Oregon (see Appendix A). Material sources on National Forest lands provide rock material for some ODOT planned highway projects, maintenance needs, and emergency highway repairs.

Existing Condition — Minerals Resources and Economics

The Pit currently encompasses approximately 6.2 areas. Material from the Pit has been utilized by the Forest Service and ODOT since 1941. The Pit is a source of high quality materials and is strategically located near the Starr Ridge Summit along US Highway 395. This puts the site in approximately the middle of a 40+ mile section of highway with few other sources of high quality rock. The Pit is also well situated to meet Grant County needs for material for maintenance of the Izee Road (County Road 63). Because the Pit is within 17 miles of John Day, and it is a downhill haul from the Pit, it would be feasible and energy efficient to use material from the Pit for projects between the Mount Vernon and Prairie City also.

On-site visits to the Pit and evaluation of existing geologic conditions, showed very stable conditions; the roads leading to the Pit have been identified as being medium to low soil and geologic hazards. Rock to be crushed is meta-graywacke and basalt, which typically have tightly bound minerals not subject to leaching and the creation of caustic materials. There are no known caustic minerals in the material at this site and there would be no change to the existing conditions of the material other than crushing.

There are no private rock sources within a 30-mile radius of the Pit that are DOGAMI permitted, are cleared for cultural resources and threatened and endangered species, and contain laboratory tested material that is suitable for asphalt production. The closest commercial sources are located on US 26 east of John Day and near Burns. A low quality rock source is located at the junction of the Izee road and US 395.

Alternative A – No Action

Direct, Indirect, and Cumulative Effects

No aggregate would be produced at the Pit under the No-Action alternative. The direct effect would be a need to purchase certified aggregate material from private sources when material is needed for highway projects. Gravel and sanding material for maintenance activities also would have to be obtained commercially and may not be immediately available when needed for emergency road repairs or treating icy road conditions. Existing stockpiled rock and reject material would be removed by the Forest Service and ODOT for road related projects.

Audits of bidding history on ODOT projects have shown that offering a prospective source of materials, such as Starr Rock Pit to meet project material needs, stimulates bidding competition. That increased competition leads to overall reduction in project costs and better utilization of tax dollars.

A cost comparison was completed for purchasing and hauling rock from commercial sources near John Day and Burns versus obtaining rock from the Pit for the upcoming US 395 highway preservation project. For approximately 30,000 cubic yards of crushed rock, the cost from a John Day source would be approximately $300,000-$400,000 ($10-13 per cubic yard). From the Burns area, the material would cost $800,000-$900,000 ($27-$30 per cubic yard). Estimated cost of material produced at the Pit would be $10,000. Most of the costs associated with getting material from commercial sources are for haulage. Hauling material from the commercial sources would require trucks to travel over 2 hours, round-trip, to the US Highway 395 project site; haul time from the Pit would be less than 30 minutes. It is anticipated the cost of hauling material from distant commercial sources could increase substantially over the next 10 years because of rising fuel prices.

There would be an indirect effect to public safety on US 395 and US 26, and through populated area such as John Day, Canyon City, and Seneca, because of increased truck traffic, if gravel trucks were used to transport material (gravel and sand) from a distant source to the pavement preservation project area in 2007.

Alternative B – Proposed Action

Direct, Indirect, and Cumulative Effects

The direct effect would be the ability to produce material meeting the required quality standards near where it is needed for road paving and maintenance projects. The haul of material would be much less expensive than commercial sources (see above) over the next ten years if the proposed alternative is selected. Energy savings would also be realized if material were hauled from the Pit rather than hauling is from commercial sources in either John Day or Burns.

The indirect effect would be an improvement to public safety because trucks would not have to haul material long distances on US 395, US 26, and through the towns of John Day, Canyon City, and Seneca. Due to the Pit's strategic location, sand for improving traction at the Starr summit could be more quickly accessed and distributed on the highway in winter.

All of the activities in Appendix D have been considered for their cumulative effects on minerals resources. It is unlikely that this alternative, along with past, present or reasonably foreseeable projects would have a cumulative effect on the mineral resource use of the area.

The beneficial cumulative effect is a cost savings from utilizing the material from the Pit verses purchasing it from an outside source. Over several entries, the cost savings would be substantial and there would be considerable energy (fuel) conservation.

Alternative C

Direct, Indirect, and Cumulative Effects

Alternative C would allow crushing of 30,000 cubic yards of rock for a road improvement project scheduled for 2007 for US 395. The direct effect would be a cost savings for the 2007 project of $300,000 - $900,000. This alternative, however, would require ODOT and others to find a different source of certified material in the future.

An indirect effect would be an improvement to the traveling public and through populated areas (John Day, Canyon City, and Seneca) by not having trucks haul through those towns or for long distances and times on US 395 and US 26 during the 2007 tourist season.

The direct and indirect effects of not producing material at the Pit after 2007 would be similar to the No-Action alternative with increased costs and fuel use, and greater public safety issues on US 395 and US 26.

Consistency with Direction and Regulations

The proposed project is consistent with Forest Plan direction and regulations for the development of mineral resources. It is consistent with the Memorandum of Understanding between R6 Forest Service and ODOT, also. The original development of the Pit occurred prior to approval of the Forest Plan in 1990. Extraction of aggregate material in 1991, 1992, 1993, and 2000 occurred under the current plan. A DOGAMI permit approving use of the Pit was secured prior to the 1991 entry, but expired in 1995.

Irreversible/Irretrievable Effects

The production and removal of material from the Pit, by the proposed project and future entries, constitutes an irreversible and irretrievable commitment of the mineral resource.

3.2 Effects that cannot be Avoided

Unavoidable effects are those adverse environmental impacts that cannot be avoided. For all action alternatives, unavoidable effects include exposing soils to potential erosion, a long-term reduction in vegetative cover during Pit development, and removal of mineral resources.

3.3 Irreversible and Irretrievable Commitment of Resources

The term “irreversible commitment of resources” refers to actions that disturb a non-renewable resource, or disturb a renewable resource to the point that renewal can occur over a long period of time or at great expense. Development of the Pit is an irreversible commitment of a nonrenewable rock resource for use on the Malheur National Forest, or in the betterment of the local transportation system administered by the State and County agencies. Once the rock is mined and utilized, it is no longer available for other

projects. No other irreversible commitments of resources were identified in any of the alternatives.

An “irretrievable commitment of resources” is the loss of production or use of renewable resources because of an allocation decision. This represents opportunities foregone and would include some loss of vegetative cover (trees, shrubs, and/or forbs) as a result of initial development and expansion of the Pit. Clearing vegetation on this site would be a long-term loss of forest cover in the expanded area. However, as portions of the Pit are exhausted, those areas would be rehabilitated by spreading reject material and stored topsoil over disturbed areas, and seeding/planting with species suitable for the management goals in the area. Vegetation can be reestablished on the Pit site after the mineral resource is exhausted.

3.4 Findings and Disclosures

Several laws and executive orders require project-specific findings or other disclosures and are included here. The project complies with the following and other relevant legal requirements and coordination, and regulations. These apply to all alternatives considered in detail in this EA.

National Forest Management Act
All project alternatives fully comply with the Malheur Forest Plan. This project incorporates all applicable Forest Plan forest-wide standards and guidelines and management area prescriptions as they apply to the Project Area, and complies with Forest Plan goals and objectives. This includes additional direction contained in all amendments. All required interagency review and coordination has been accomplished; new or revised measures resulting from this review have been incorporated.

The Forest Plan complies with all resource integration and management requirements of 36 CFR 219 (219.14 through 219.27). Application of Forest Plan direction for the Starr Rock Pit project ensures compliance at the project level.

The National Environmental Policy Act (NEPA) of 1969, as amended
NEPA establishes the format and content requirements of environmental analysis and documentation, such as the Starr Rock Pit Project. This project is consistent with all requirements.

Relationship Between Local Short-term Uses of Man’s Environment and the Maintenance and Enhancement of Long-term Productivity [42U.S.C. 4332 (C) (iv)]
The Multiple Use - Sustained Yield Act of 1960 requires the Forest Service to manage National Forest System lands for multiple uses (including timber, recreation, fish and wildlife, range, and watershed). All renewable resources are to be managed in such a way that they are available for future generations. Maintaining the productivity of the land is a complex, long-term objective. All alternatives protect the long-term productivity

of the Analysis Area through the use of specific Forest Plan standards and guidelines, design criteria, and design measures.

Endangered Species Act (ESA)
None of the alternatives is anticipated to have a direct, indirect, or cumulative effect on any threatened or endangered species in or outside the Project Area. Biological evaluations have been completed. Concurrences from the responsible federal agency, for any threatened or endangered species potentially inhabiting the Project Area were not required for this project because the Biological Evaluation determined that there are no effects to any threatened or endangered species. Consultation with NOAA or USFWS is not necessary for fisheries because the area is part of an inland fishery and contains no ESA fish species. The Magnuson-Stevens Fishery Conservation and Management Act as amended (1996) does not apply to the Project Area.

The Migratory Bird Treaty Act of 1918
The purposes of this Act are to establish an international framework for the protection and conservation of migratory birds. All alternatives are consistent with the 1918 Migratory Bird Treaty Act (MBTA) and the Migratory Bird Executive Order 13186.

Clean Water Act
The design of project activities is in accordance with Forest Plan standards and guidelines, Best Management Practices, and applicable Forest Service manual and handbook direction. Project activities are expected to meet all applicable State of Oregon water quality standards.

Floodplains and Wetlands (Executive Orders 11988 and 11990) and Prime Farmland, Rangeland, and Forestland
Implementation of any project alternative would have no affect on floodplains and wetlands. None of the Project Area creeks are on the Department of Environmental Quality 303(d) list of water quality limited streams. Design criteria were developed to prevent adverse impacts to wetlands. There are no park lands, prime farmlands, or wild and scenic rivers within the analysis area. All alternatives are in accordance with the Secretary of Agriculture Memorandum 1827 for prime farmland, rangeland, and forest land.

Executive Order 12962 (aquatic systems and recreational fisheries)
The proposed action and action alternatives would not affect recreational fisheries as directed under Executive Order 12962, Recreational Fisheries.

Executive Order 13112 (invasive species)
All alternatives are consistent with the Forest Plan and other direction with respect to invasive species.

Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (as amended):
This act directed the Secretary of Agriculture to prepare a Renewable Resources Assessment and updates. The USDA Forest Service Forest Inventory and Analysis unit provides updates for this assessment.

National Historic Preservation Act
Cultural resource surveys of varying intensities have been conducted following inventory protocols approved by the State Historic Preservation Officer (SHPO). Native American communities have been contacted and public comment encouraged. The consultation and concurrence process with SHPO has been concluded. No significant effects on known cultural resources are anticipated. The Forest complies with Section 106 of the National Historic Preservation Act, under the terms of the 2004 Programmatic Agreement between Advisory Council on Historic Preservation (ACHP), SHPO, and the United States Forest Service, Region 6.

Clean Air Act
The proposed activities would not significantly affect public health or safety.

Environmental Justice (Executive Order 12898)
Executive Order 12898 requires that federal agencies adopt strategies to address environmental justice concerns with the context of agency operations. With implementation of any of these alternatives, there would be no disproportionately high or adverse human health or environmental effects on minority or low-income populations. The actions would occur in remote areas and nearby communities would mainly be affected by economic impacts related to contractors implementing activities. Contracts for this work contain clauses that address worker safety and employment practices. Implementation of any project alternative is not anticipated to cause disproportionate adverse human health or environmental effects to minority or low-income populations.

Energy Requirements and Natural or Depletable Resource Requirements and Conservation Potential:
The Starr Rockpit Project has been designed to conform to applicable laws and regulations pertaining to natural or depletable resources, including minerals and energy resources. In terms of petroleum products, the action alternatives have been designed to conserve depletable petroleum resources to the extent possible.

4.0 Consultation with Others

Forest Service Contributing Personnel:

Supervisor's Office Staff

Mark Lysne	Project Leader,Geology/Geotech
Carole Holly	Forest Environmental Coordinator
Steve Cossette	Planning Staff
Wilbert Tay	Forest Minerals Administrator
Ken Schuetz	Forest Wildlife Biologist
Chance Gowan	Forest Aquatic Biologist
Mike Tatum	Forest Silviculturist
Jennifer Harris	Recreation Staff
Tom Friedrichsen	Forest Hydrologist
Laura Mayer	Forest Fuels Planner
Don Hann	Forest Archaeologist
Larry Baughman	Forest Measurements Specialist

USFS Enterprise Staff

Donna Mattson	Visuals
Tom Glassford	Cumulative Effects Analysis

Blue Mountain Ranger District Personnel

Bob Crisler	District Environmental Coordinator
Scott Cotter	District Fish Biologist
Nancy Hafer	District Botanist

Oregon Department of Transportation Personnel:

Bob Brown	Editor
Patrick O'Grady	Archaeologist
Rick Jerofke	Region Environmental Coordinator
Howard Postovit	Environmental Lead
Gary VanHouten	Senior Geologist
Bruce Haase	Botanist

Others:

Dr. Patricia Kennedy	Goshawk authority

5.0 References/Personal Communications

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Appendix A

Regional Memorandum of Understand
between
USDA Forest Service
Pacific Northwest Reigon
And
State of Oregon
Department of Transportation

FS Agreement No. NFS 04-RU-11060000-304
ODOT Misc. Contracts & Agreements No. 21263

REGIONAL MEMORANDUM OF UNDERSTANDING
between
USDA FOREST SERVICE
PACIFIC NORTHWEST REGION
and
STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

This REGIONAL MEMORANDUM OF UNDERSTANDING (RU) is hereby entered into by and between the USDA Forest Service, Pacific Northwest Region, hereinafter referred to as the Forest Service, and the State of Oregon, acting by and through its Department of Transportation, hereinafter referred to as ODOT.

I. PURPOSE

The purpose of this MOU is to provide a framework for cooperation and a common understanding of the guidelines and administrative processes governing ODOT's use of material sources on lands administered by the Forest Service in the State of Oregon. Material sources on National Forest System (NFS) lands provide rock material for some of ODOT's planned highway projects, maintenance needs and emergency highway repairs. Excess excavation materials from ODOT contracts, as well as State road right-of-way waste material, such as rockfall, landslide deposits, and routine ditch cleaning, are sometimes stockpiled at material source sites on NFS lands. Interagency cooperation in developing and using mineral materials from NFS lands serves the mutual interest of the parties and the public.

II. STATEMENT OF MUTUAL BENEFIT AND INTERESTS

The Forest Service is responsible for protection, occupancy, and management of NFS lands and resources for public use and benefit, and for the management and development of a public lands transportation system needed to accomplish these purposes. These responsibilities include managing rock resources in accordance with the Mineral Materials Act of 1947, Forest Service regulations at 36 CFR 228, Subpart C (Exhibit A); and Forest Service policy as described in Forest Service Manual 2800, Chapter 2850 (Exhibit B).

ODOT is responsible for the planning, location, design, construction, and perpetuation of a safe and efficient public transportation system needed for the benefit of the public in accordance with USC Title 23 Highways, and requires mineral materials in order to accomplish their program of work. ODOT is also responsible for ensuring that social, economic, energy, and environmental effects are considered in the planning, development, and maintenance of state transportation projects and that these projects are in the overall interest of the public.

In consideration of the above premises, the parties agree as follows:

III. ODOT SHALL:

1. Notify the Forest Service in writing, at least annually, of the areas in which ODOT may need to use a Forest Service material source in the next two years, with allowances for emergency (in need of immediate repair) and unplanned (not an emergency, but in need of timely repair) work. Written notifications shall be submitted to the appropriate District Ranger, with a copy to the Forest's rock resource manager.

2. Formally request the use of a Forest Service materials source at least 18 months prior to designating that source in a contract, except in emergency situations. This allows adequate time for any site investigation, development planning, and/or environmental analysis required prior to issuing a permit. The written request shall be submitted to the appropriate District Ranger, with a copy to the Forest's rock resource manager.

3. In unplanned and emergency situations, notify the Forest Service as soon as practicable of ODOT's need for mineral materials.

4. Notify the appropriate Forest Service District Ranger seven days in advance of entry into a Forest Service mineral materials source, and invite Forest Service staff to all relevant pre-work and post-work meetings.

5. Designate an ODOT representative for each permit and provide a statement of the representative's role, duties, and authority relative to the permit.

6. Provide the District Ranger and/or permit administrator with a copy of the blasting plan for each permit, and plans for explosives transportation and storage, for review by a Forest Service-Certified Blaster 14 days prior to blasting. Additionally, notice shall be given to the District Ranger 48 hours prior to blasting. ODOT and their contractors shall meet all Forest Service requirements for storing, transporting, and using explosives (FSM 6745, Exhibit C).

7. Investigate, survey, and provide an operating and reclamation plan at those sites where ODOT is the primary user, except where local rock resource managers have adequate existing information and a development plan. Plans will be developed to Forest Service specifications (or specifications both agencies agree to), and be provided in an AutoCAD compatible format.

8. At a minimum, address the following items in each specific ODOT-developed operating plan: site cleanup; hazardous materials; erosion control; pollution control; garbage; oversize and overburden; noxious weed control; stockpile locations; and reclamation. These operating and reclamation plans are subject to Forest Service approval.

9. Perform interim or final reclamation measures according to the contract operating plans and drawings to ensure that no significant environmental degradation occurs.

10. Share, at no cost, information obtained during site investigations, extraction operations and project use. For example, test results pertaining to material quality and quantity, GPS data, GIS coverage, and site investigations.

11. Not sell or dispose of excess mineral materials. Mineral materials produced on NFS lands in excess of ODOT project needs remain the property of the Forest Service, and are subject to disposal by the Forest Service. Excess mineral materials may include overrun of quantities, overburden, oversized and reject materials, and crusher fines.

12. Stockpile excess non-timber materials generated within ODOT project right of way through NFS lands, at a Forest Service approved site, unless it is designated for removal as part of the contract. Non-timber materials include, but are not limited to, landscape rock, topsoil, and fill material.

13. Stockpile all merchantable timber in an area designated by the Forest Service, or acquire the timber at fair market value from the Forest Service.

14. Comply with Forest Service invasive plants management plans, where present, fire suppression requirements (R6-FS-6300-52, Exhibit D), and requirements for the use of water sources at all material sources, disposal sites, and rights of way through NFS lands used by ODOT. ODOT shall be responsible for the timely treatment of weed infestations caused by any ODOT operations or project-related activities at permitted sites on NFS lands.

15. Comply with all applicable Federal, State, and local regulations.

IV. THE FOREST SERVICE SHALL:

1. Respond within thirty days to ODOT's written requests for material source use. Responses should specifically address Forest Service management concerns and environmental analysis requirements regarding material source development, including road use permits and special use permits. Responses should also address requests for assistance in site survey, investigation, and design. The Forest Service and ODOT shall jointly determine who will complete and who will pay for these activities on a case-by-case basis, based on projected uses of the material source over the life of the free-use contract to be issued to ODOT.

2. Provide ODOT a free-use mineral materials permit (FS 2800-9, Exhibit E) for individual or multiple entries, for any time period up to 10 years (see Exhibit A) in accordance with the terms of this MOU. At the time the permit is issued, the Forest Service shall designate a permit administrator and provide a statement as to their role, duties, and authority in the administration. A Special Use Permit (SUP) shall be issued for operations involving processing or uses of the material source beyond those needed for the first salable product, such as asphalt batch plants, storage and removal of materials after the contract period.

3. Issue a SUP for other uses of a site, such as the disposal of ditch cleanings, landslide deposits, excess construction materials, or similar materials (see Exhibit A).

4. Recover all costs associated with the issuing and administering individual permits and/or contracts to ODOT. These fees will be based on the actual time Forest Service personnel spend in preparing each permit/contract, and an estimate of the time that will be spent in administering the specific permit/contract. The Forest Service will process the appropriate instrument for the collection of these fees.

5. Charge fees, using FS Form 77000-41 (Exhibit F), for ODOT use and maintenance of Forest Service roads used to access and haul mineral materials (see Exhibit A). Fees will vary by Forest and include the mandatory road use fee, rock surfacing replacement, and maintenance collection for each specific permit/contract. Fees will be based on the Forest's established value of the road and ODOT's commensurate share of road maintenance costs. Alternatively, at the discretion of the Forest Service, and in lieu of the maintenance collection, ODOT may perform maintenance on those Forest Service roads used by ODOT for access and hauling. In some cases, ODOT will be required to repair haul roads prior to use in order to insure driver safety and resource protection.

6. Notify ODOT of other permitted users of the subject materials source when the contract is issued. Coordinate any other use of a Forest Service mineral material source with ODOT when ODOT has an active contract for removal of material from that source. This is to ensure that no significant user or safety conflicts arise and ODOT's contract quantity is not compromised.

7. Provide ODOT a list or map of existing Forest Service sites that are potentially available as mineral material sources (used for crushing, screening, batching, and stockpiling) and disposal sites, and which are within ten road miles of State Highways passing through NFS lands. The Forest Service shall share, at no cost, any available information about existing or potential mineral material sources, i.e., quality and quantity, GPS data, GIS coverage, and site investigations.

8. Only consider requests for ODOT for mineral materials for their highway projects. Mineral materials requests from a bidder or contractor on ODOT highway projects are subject to the competitive sales process (see Exhibit A).

9. Review and approve material source operating and reclamation plans prepared by ODOT. Review and approve reclamation upon completion of work.

10. Recognize that ODOT's unplanned and emergency project needs for mineral materials will require cooperation to insure public safety.

V. IT IS MUTUALLY AGREED AND UNDERSTOOD BY AND BETWEEN BOTH PARTIES THAT:

1. FREEDOM OF INFORMATION ACT (FOIA). Any information furnished to the Forest Service under this instrument is subject to the Freedom of Information Act (5 U.S.C. 552).

2. MODIFICATIONS. Modifications within the scope of this instrument shall be made by mutual consent of the parties, by the issuance of a written modification, signed and dated by all parties, prior to any changes being performed.

3. PARTICIPATION IN SIMILAR ACTIVITIES. This instrument in no way restricts the Forest Service or ODOT from participating in similar activities with other public or private agencies, organizations, and individuals.

4. COMMENCEMENT/EXPIRATION DATE. This instrument is executed as of the date of the last signature and is shall remain in effect for 5 years from that date,at which time it will expire unless extended.

5. TERMINATION. Either party, in writing, may terminate this instrument in whole, or in part, at any time before the date of expiration.

6. PRINCIPAL CONTACTS. The principal contacts for this instrument are:

Forest Service Principal Contact	**ODOT Principal Contact**
Daryl Gusey, Regional Geologist or Courtney Cloyd, Regional Geologist	Russ Frost, Statewide Aggregate Resource Coordinator
P.O. Box 3623	63034 O.B. Riley Rd
Portland, OR 97208-3623	Bend, OR 97701
Phone: (503) 808-2429 (Gusey) (503) 808-2705 (Cloyd)	Phone: (541) 388-6186
FAX: (503) 808-2429 (Gusey) (503) 808-2705 (Cloyd)	FAX: (541) 385-0476
E-Mail: dgusey@fs.fed.us jcloyd@fs.fed.us	E-Mail: russell.g.frost@odot.state.or.us

Forest Service Administrative Contact	**ODOT Administrative Contact**
See Exhibit G	See Exhibit H

7. NON-FUND OBLIGATING DOCUMENT. This instrument is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for Government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority. Specifically, this instrument does not establish authority for noncompetitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

8. AUTHORIZED REPRESENTATIVES. By signature below, ODOT certifies that the individuals listed in this document as representatives of ODOT are authorized to act in their respective areas for matters related to this agreement.

9. RETENTION AND ACCESS REQUIREMENTSFOR RECORDS. The Forest Service and ODOT through any authorized representative shall have access to and the right to examine all records related to this instrument. As used in this provision, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form. All pertinent records shall be retained for a period of 3 years.

10. This MOU and attached Exhibits constitute the entire understanding between the parties on the subject matter hereof. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this MOU. No waiver, consent, modification or change of terms of this MOU shall bind either party unless the parties enter into a separate binding instrument, mutually agreed to in writing.

11. The foregoing MOU is a nonbinding proposal and is not and should not be construed as a binding legal commitment by either party. Both parties, however, commit to use their best efforts to comply with the terms of this MOU and work according to the guidelines herein.

The Oregon Transportation Commission on June 18, 2003, approved Delegation Order No. 2, which authorizes the Director to approve and execute agreements for day-to-day operations when the work is related to a project included in the Statewide Transportation Improvement Program or a line item in the biennial budget approved by the Commission.

On September 6, 2002, the Director of the Oregon Department of Transportation approved Subdelegation Order 2, delegating day-to-day authority to the Deputy Directors, Division Managers, Chief of Staff, Technical Services Manager/Chief Engineer, Branch and Regions Managers for their respective Branch or Region, which includes authority to approve and execute personal services contracts, and intergovernmental agreements up to $75,000 when the work is related to a project included in the Statewide Transportation Improvement Program or in other system plans approved by the Oregon Transportation Commission, or in a line item in the approved biennial budget.

IN WITNESS WHEREOF, the parties hereto have fully executed this MOU as of the last date written below.

USDA Forest Service

LINDA GOODMAN
Regional Forester
Pacific Northwest Region

5/24/04
Date

State of Oregon, by and through,
its Department of Transportation

JOHN ROSENBERGER
Deputy Director, Highway Division

5-17-04
Date

Recommended for Approval

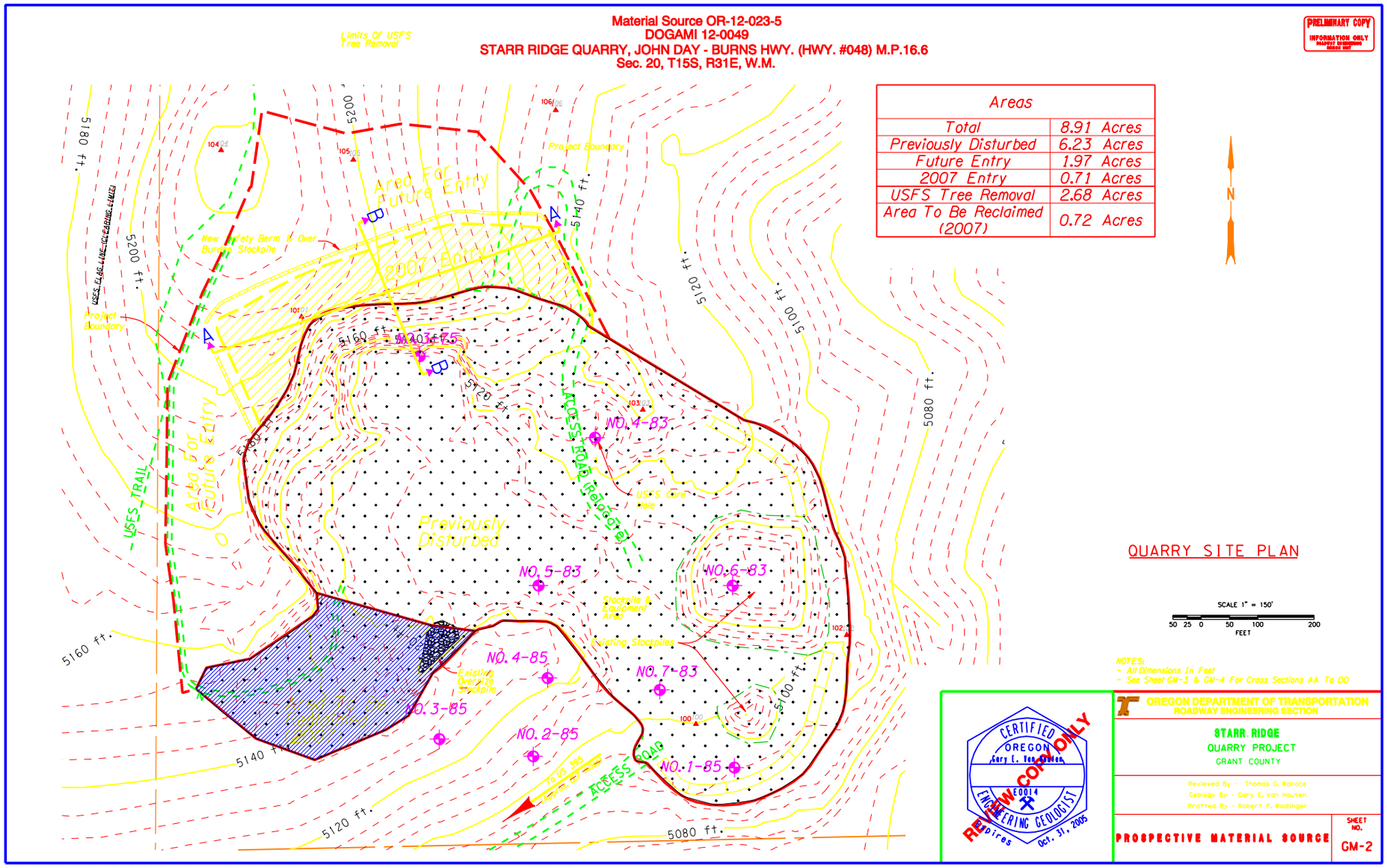
MIKE LONG
Geo/Hydro Manager

5-14-04
Date

Attachments: Exhibits A through F

Appendix B

Starr Rock Pit Development Plan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DOGAMI 12-0049
STARR RIDGE QUARRY, JOHN DAY - BURNS HWY. (HWY. #048) M.P.16.6
Sec. 20, T15S, R31E, W.M.
PRELIMINARY COPY
INFORMATION ONLY
Limits Of USFS Tree Removal
Project Boundary
Area For Future Entry
2007 Entry
New Safety Berm & Over Burden Stockpile
USFS Flag Line (Do Not Cut)
USFS TRAIL
Area For Future Entry
Previously Disturbed
ACCESS ROAD (Existing)
USFS Core Hole
Stockpile & Equipment Area
Existing Stockpiles
Existing Oversize Stockpile
Existing Quarry Floor
To US 395
Limits Of Tree Removal
NO.1-85
NO.2-85
NO.3-85
NO.4-85
NO.5-83
NO.6-83
NO.7-83
NO.4-83
5200 ft.
5180 ft.
5160 ft.
5140 ft.
5120 ft.
5100 ft.
5080 ft.
Areas
Total 8.91 Acres
Previously Disturbed 6.23 Acres
Future Entry 1.97 Acres
2007 Entry 0.71 Acres
USFS Tree Removal 2.68 Acres
Area To Be Reclaimed (2007) 0.72 Acres
N
QUARRY SITE PLAN
SCALE 1" = 150'
50 25 0 50 100 200
FEET
NOTES:
- All Dimensions In Feet
- See Sheet GM-3 & GM-4 For Cross Sections AA To DD
CERTIFIED OREGON Gary L. Van Houten EGO14 ENGINEERING GEOLOGIST
REVIEW COPY ONLY
Expires Oct. 31, 2005
OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION
STARR RIDGE
QUARRY PROJECT
GRANT COUNTY
Reviewed By - Thomas G. Wallace
Geology By - Gary L. Van Houten
Drafted By - Robert P. Wadlinger
PROSPECTIVE MATERIAL SOURCE
SHEET NO.
GM-2
THIS IS THE FILENAME LOCATION **********
DD-MMM-YYYY HH:MM
USERNAME
1:1200 - 3

Material Source OR-12-023-5
DOGAMI 12-0049
STARR RIDGE QUARRY, JOHN DAY - BURNS HWY. (HWY. #048) M.P.16.6
Sec. 20, T15S, R31E, W.M.

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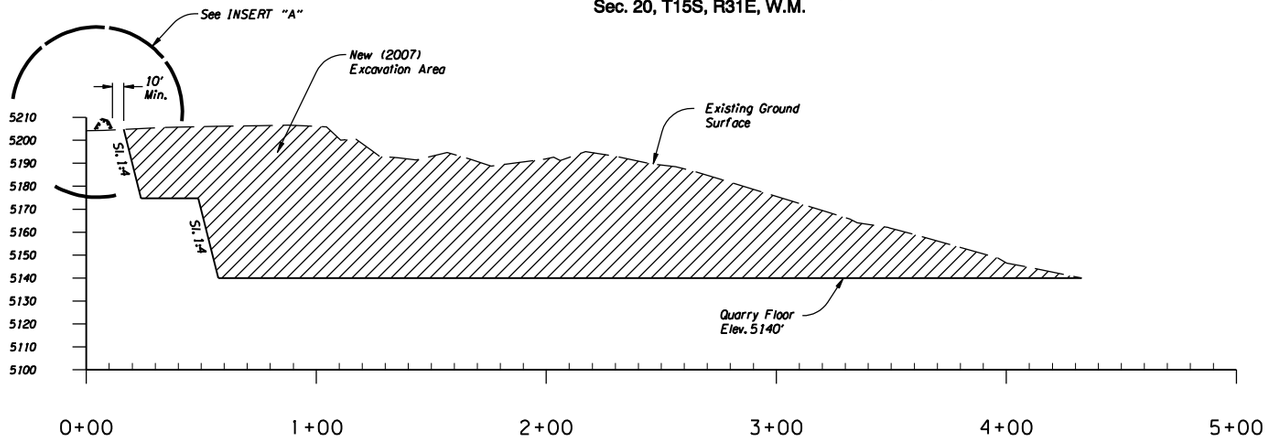
INFORMATION ONLY



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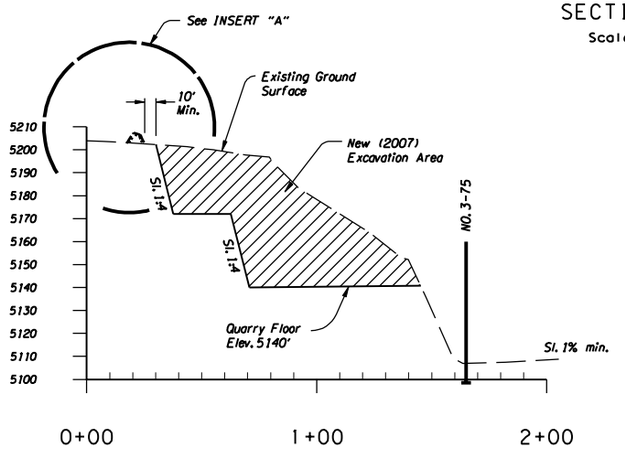

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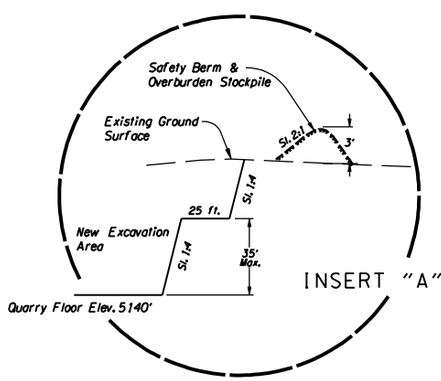

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TYPICAL SECTIONS AA & BB
& INSERT A

CERTIFIED OREGON Gary E. Van Houten ENGINEERING GEOLOGIST Oct. 31, 2005
REVIEW COPY ONLY
Expires

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

STARR RIDGE
QUARRY PROJECT
GRANT COUNTY

Reviewed By - Thomas G. Wallace
Geology By - Gary E. Van Houten
Drafted By - Robert P. Wadinger

PROSPECTIVE MATERIAL SOURCE

SHEET NO. GM-3

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Appendix C

ODOT Standard and Special Contract Specifications for Erosion and Sediment Control, Environmental Protection, and Quarry Use and Development

Section 00280 - Erosion and Sediment Control Description

00280.00 Scope - This work consists of installing, maintaining, and removing temporary erosion and sediment control devices such as berms, dikes, swales, check dams, sediment traps, sediment basins, matting, mulching, slope drains, sediment fences, sediment barriers, construction accesses, and other structural or nonstructural erosion and sediment control devices. Typical work areas include medians, interchanges, cut and fill slopes, areas disturbed by Project construction, material sources, and disposal sites.

The work described in these Specifications and shown on the plans is the Erosion and Sediment Control Plan (ESCP) and is the minimum requirement for wet weather site conditions.

Coordinate all temporary erosion control features with all permanent erosion control features, if applicable, to the extent practicable to assure economical, effective, and continuous erosion control throughout the construction and post-construction period.

00280.01 National Pollutant Discharge Elimination System - The Agency's ESCP's are developed to comply with Federal, State, and local laws, rules and regulations, and the National Pollutant Discharge Elimination System (NPDES) General Construction Permit for erosion prevention and sediment control for on-site construction activities. A copy of the Permit is available from the Agency. Erosion and sediment control features, other than those shown on the plans, may be required depending on the Contractor's methods of operation and schedule.

00280.02 Agency Controlled Lands Erosion and Sediment Control Plan - For work on all Agency-controlled lands, submit signed copies of the following for review and approval ten days before the preconstruction conference:

- A Contractor developed ESCP that incorporates the Agency's ESCP and all proposed modifications to it
- Implementation schedules for the ESCP

The Contractor may submit the ESCP that is included in the Project plans. To assist in the preparation or modification of the ESCP, refer to the Agency's Erosion and Sediment Control Manual.

For each phase of the scheduled work indicate on the ESCP how the proposed erosion and sediment control devices will divert flows, store flows, limit runoff from exposed areas, stabilize exposed soil, and filter sediment.

Include the following information in the implementation schedules, if applicable:

- A list of emergency on site stockpiled materials
- Clearing and grubbing for perimeter controls
- Installing perimeter controls
- Construction phasing
- Clearing and grubbing, grading, and trenching for activities other than perimeter controls
- Grading related to the Project
- Temporary stabilizing exposed soil surfaces
- Final grading, landscaping, and stabilization
- Work on or at bridges and other watercourse structures
- Isolating work area from surface water during in-water work
- Installing and removing utilities
- Work required in wetlands
- Monitoring rainfall
- Inspecting controls
- Installing, maintaining, monitoring, and removing temporary controls
- Installing and maintaining permanent controls
- Disposing of waste materials
- Haul road and borrow pit controls
- Additional controls for wet season work and temporary work suspensions

The ESCP and the implementation schedules shall be prepared by an individual who is knowledgeable in erosion and sediment control.

Keep a copy of the approved ESCP on site during all construction activities. During inactive periods longer than 7 calendar days, the ESCP may be on-site or retained by the Agency.

Do not begin work until the ESCP and the implementation schedules are approved.

Update the ESCP and schedules as needed for unexpected storm events or for other reasons to ensure that sediment-laden water does not leave the construction site. Add approved changes to the ESCP and schedules as soon as possible after changes have been implemented, but no later then 24 hours after implementation.

00280.03 Non-Agency Controlled Lands Erosion and Sediment Control Plan - For work on all non-Agency controlled lands, submit signed copies of the following for review ten days before the preconstruction conference:

- A Contractor developed ESCP
- A description of the methods to be used for the ESCP

Describe the following:

- Clearing and grubbing
- Installing perimeter controls
- Construction phasing
- Grading
- Temporary stabilizing exposed soil surfaces
- Final grading, landscaping, and stabilization
- Inspecting controls
- Installing, maintaining, monitoring, and removing temporary controls
- Installing and maintaining permanent controls
- Disposing of waste materials
- Haul road and borrow pit controls
- Additional control for wet season work and temporary work suspensions
- Methods of diverting flows, storing flows, limiting runoff from exposed areas, stabilizing exposed soil, and filtering sediment

The ESCP and methods of operation shall be prepared by an individual who is knowledgeable in erosion and sediment control.

Also, furnish the following:

- Signed, written letter from the property owner that allows the Contractor access to the property. Include a statement in the letter that holds the Agency harmless for all consequences related to the Contractor's use of the property.
- Signed agreement with the property owner detailing the Contractor's operation and use of the property.
- Copies of permits or proof that permits are not required from all pertinent federal, State, county, city, and local agencies.

If the Contractor's operations requires work on non-Agency controlled lands that were not presented at the preconstruction conference, or if changes to the Contractor's submitted ESCP are necessary, submit a new or revised ESCP to the Agency for review.

00280.04 Erosion and Sediment Control Manager (ESCM) - Designate and provide a representative, experienced in all disciplines of highway construction, as the Erosion and Sediment Control Manager (ESCM). The ESCM is responsible for assuring the duties described in 00280.61 are done and has the authority to immediately mobilize necessary personnel to correct and modify erosion prevention and sediment control devices as required. Provide the ESCM's name and working phone number ten days before the preconstruction conference. Provide written changes in the appointment of this individual during the term of the Contract.

Materials

00280.10 General - Provide materials meeting the following requirements. The Contractor may submit a request for proposed alternate materials by following the requirements of 00140.70.

(a) Biofilter Bags - Provide minimum size 460 mm x 150 mm x 760 mm (18" x 6" x 30") plastic mesh bags with 13 mm (1/2 inch) openings filled with approximately 20 kg (45 pounds) of clean, 100% recycled wood-product waste.

(b) Check Dams - Provide check dam material meeting the following requirements:

- Aggregate - Aggregate with maximum size between 150 mm (6 inches) and 75 mm (3 inches) meeting the requirements of 00330.16.
- Straw Bales - Standard rectangular straw bales meeting the requirements of 00280.10(n).
- Biofilter Bags - Biofilter bags meeting the requirements of 00280.10(a).
- Sand Bags - Sand bags meeting the requirements of 00280.10(l).
- Stakes - Stakes meeting the requirements of 00280.10(n).
- Prefabricated -Prefabricated check dam system meeting the manufacturers recommendations.

(c) Construction Entrances - Provide construction entrance material meeting the following requirements:

- Aggregate - Aggregate with a maximum size between 150 mm (6 inches) and 75 mm (3 inches) meeting the requirements of 00330.16.
- Geotextile - Subgrade geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).

(d) Diversion Dike/Swale - Provide diversion dike/swale material meeting the following requirements:

- Aggregate - Aggregate with maximum size between 100 mm (4 inches) and 25 mm (1 inch) meeting the requirements of 00330.16.
- Seeding - Temporary seeding meeting the requirements of 01030.13.

(e) Temporary Drainage Curbs - Provide temporary drainage curb material as follows:

- Type 1 - Concrete drainage curb meeting the requirements of 00480.11.
- Type 2 - Asphalt concrete drainage curb meeting the requirements of 00480.12.
- Type 3 - Sand bags meeting the requirements of 00280.10(l).

(f) Dust Control - For dust control, use water at an application rate determined by the Engineer or use liquid stabilizer emulsion or dry powder tackifier according to the following:

- Liquid Stabilizer Emulsion - Provide a tackifier base material of liquid and polyvinyl acetate polymers with emulsion resins containing not less than 55 % total solids by mass (weight). Do not use tackifiers that contain polyacrylates or polyvinyl acrylics.
- Dry Powder Tackifier - Provide a tackifier base consisting of one or more active hydrocolloids from natural plant sources which hydrates in water and blends with other slurry materials, and upon application and drying tacks the slurry particles to the soil surface, and exhibits no growth or germination inhibiting factors. Provide stabilizing emulsion in a dry powder form that may be remulsifiable and consists of a processed organic adhesive derivative of one of the following:
- Gumbinder derived from guar (Cyamopsis tetragonoloba)
- Gumbinder derived from plantian (Plantago insularis)

Use nontoxic dust control materials that do not have an adverse effect on soil structure or establishment and growth of vegetation.

(g) Flow Spreader - Provide aggregate for flow spreaders with a maximum size between 150 mm (6 inches) and 75 mm (3 inches) meeting the requirements of 00330.16.

(h) Inlet Protection - Provide inlet protection materials meeting the following requirements:

- Wire Mesh - Provide wire mesh materials as follows:
- Type 1 Inlet Protection - Wire mesh meeting the requirements of 00280.10(o).
- Type 2 Inlet Protection - 1 mm diameter (19 gage) steel-wire mesh with 10 mm x 10 mm (3/8" x 3/8") openings.
- Geotextile - Type 1 sediment fence geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).
- Aggregate - Aggregate with maximum size between 100 mm (4 inches) and 25 mm (1 inch) meeting the requirements of 00330.16.

- Stakes - Stakes meeting the following requirements:
- Type 1 Inlet Protection - Use commercial grade metal posts with a mass (weight) of at least 2 kg/m (1.35 pounds/foot).
- Type 4 Inlet Protection - Use minimum 25 mm x 50 mm x 450 mm (1" x 2" x 18") wooden posts.
- Biofilter Bags - Biofilter bags meeting the requirements of 00280.10(a).
- Prefabricated Filter Inserts - Provide prefabricated filter inserts manufactured specifically for collecting sediment in drainage inlets and listed on the QPL. Include handles and/or fasteners sufficient to keep the insert from falling into the inlet during maintenance and removal of the insert from the inlet.
- Concrete Masonry Units - Provide nominal 200 mm x 200 mm x 400 mm (8" x 8" x 16"), 13 kg (29 pound) concrete building blocks with two 140 mm x 140 mm (5 1/2" x 5 1/2") openings and 25 mm (1 inch) minimum outer wall thickness.
- Sod - Provide grass sod grown on agricultural land that is cultivated specifically for turf sod meeting the following requirements:
- Free of weeds, diseases, nematodes, and insects
- Mature and not less than 10 months old
- Machine cut to a uniform thickness of 16 mm (5/8 inch) or more, excluding top growth and thatch
- Broken pieces and torn or uneven ends will not be accepted
- Reinforcing Steel - Provide commercial grade reinforcing steel.

(i) Matting - Provide matting material that conforms to the Texas DOT/TTI Hydraulics and Erosion Control Laboratory requirements and meets the following performance criteria categories:

- Type A - Slope protection mat for clay soil slopes 1V:3H or flatter.
- Type B - Slope protection mat for sandy soil slopes 1V:3H or flatter.
- Type C - Slope protection mat for clay soil slopes steeper than 1V:3H.
- Type D - Slope protection mat for sandy soil slopes steeper than 1V:3H.
- Type E - Flexible channel liner for shear stress from 0 to 96 Pa (0 to 2 pounds/square foot).
- Type F - Flexible channel liner for shear stress from 0 to 192 Pa (0 to 4 pounds/square foot).
- Type G - Flexible channel liner for shear stress from 0 to 287 Pa (0 to 6 pounds/square foot).
- Type H - Flexible channel liner for shear stress from 0 to 383 Pa (0 to 8 pounds/square foot). Provide check slot material and fasteners as follows:
- Check Slot:
- Channel Application - Compacted class 25 (50) riprap meeting the requirements of Section 00390.
- Slope Application - Compacted native material.
- Fasteners - Use U-shaped wire staples or heavy duty pins as follows:
- Staples - 2 mm diameter (14 gage) steel wire staples. 25 mm (1 inch) "U" width with a length of 150 mm (6 inches) minimum for cohesive soils and 200 mm (8 inches) minimum for non-cohesive soils.
- Pins - 4.75 mm (3/16 inch) diameter steel pin with a 50 mm (2 inch) diameter steel washer secured at the head of the pin with a length of 450 mm (18 inches) minimum for cohesive soils and 600 mm (24 inches) minimum for non-cohesive soils.

Provide the manufacturer’s material and installation specifications to the Agency prior to installation.

(j) Temporary Mulch - Provide mulch material conforming to 01030.15(b) and tackifier material conforming to 001030.16.

(k) Plastic Sheeting - Provide plastic sheeting slope protection, anchoring system, and toe protection according to the following:

- Plastic Sheeting - Minimum 0.15 mm (6 mil) thick polyethylene plastic sheeting.
- Anchoring System - Anchor system consisting of minimum 30 kg (65 pounds), non-puncture type anchor weights with cords or ropes of adequate strength to support the weights on the slope or new or used chain link fence conforming to 03010.30.
- Stakes - Commercial grade metal posts with a mass of at least 2 kg/m (1.35 pounds/foot).
- Rock - Class 25 (50) riprap conforming to Section 00390.

(l) Sand Bags - Provide 610 mm x 300 mm x 150 mm (24" x 12" x 6") durable, weather-resistant, tightly woven bags sufficient to prevent leakage of filler material. Fill bags with at least 34 kg (75 pounds) of firmly packed

fine pcc aggregate 9.75 mm - 0 (3/8" - 0) or round 9.5 mm - 4.75 mm (3/8" - 3/16") pea gravel.

(m) Temporary Scour Holes - Provide class 50 (100) riprap for temporary scour holes conforming to Section 00390.

(n) Sediment Barriers - Provide sediment barriers and sediment barrier materials meeting the following requirements:

- Straw Bales - Provide standard 20 - 30 kg (45 - 65 pound) rectangular straw bales that are wire-bound or string-tied. Straw material shall meet the requirements of 01030.15(b).
- Biofilter Bags - Biofilter bags meeting the requirements of 00280.10(a).
- Wattles - Provide wattles made of straw meeting the requirements of 01030.15(b) except use only rice or coconut straw material. Wrap the straw, to a minimum density of 44 kg/m^3 (2.75 pounds/cubic foot), in tubular plastic netting meeting the following requirements:
- 200 mm (8 inch) to 260 mm (10 inch) diameter size
- Minimum strand thickness of 0.08 mm (0.003 inch)
- Knot thickness of 1.4 mm (1/16 inch)
- Mass of 33 g/m (Weight of 0.35 ounces/foot) (plus or minus 10%)
- Made from 85% high density polyethylene, 14% ethyl vinyl acetate, and 1% color for UV inhibition
- Sand Bags - Sand bags meeting the requirements of 00280.10(l).
- Brush Barrier - Provide maximum 150 mm (6 inch) diameter woody debris brush or topsoil strippings for brush barriers. Provide type 1 sediment fence geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).
- Filter Berm and Rock Filter - Provide aggregate with maximum size between 100 mm (4 inches) and 25 mm (1 inch) meeting the requirements of 00330.16. Provide subgrade geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).
- Prefabricated Barrier System - Provide prefabricated barriers manufactured specifically for temporarily obstructing the flow of sediment-laden water and listed on the QPL.
- Stakes - Provide the following size stakes:
- Biofilter Bags - Use minimum 25 mm x 50 mm x 450 mm (1" x 2" x 18") wood posts
- Brush Barrier - Use minimum 25 mm x 50 mm x 450 mm (1" x 2" x 18") wood posts
- Straw Bales - Use minimum 38 mm x 38 mm x 900 mm (1 1/2" x 1 1/2" x 36") wood posts
- Wattle - Use minimum 25 mm x 25 mm x 600 mm (1" x 1" x 24") wood posts

(o) Sediment Fence - Provide the following materials for sediment fences:

- Geotextile - Sediment fence geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).
- Posts - Posts meeting the following requirements:
- Supported Sediment Fence - Commercial grade metal posts with a mass of at least 2 kg/m (1.35 pounds/foot).
- Unsupported Sediment Fence - 38 mm x 38 mm x 1200 mm (1 1/2" x 1 1/2" x 48") minimum wooden posts.
- Wire Mesh - Galvanized wire mesh with 50x50 - MW3.2xMW3.2 (2x2 - W0.5xW0.5) or 102x50 - MW3.2xMW3.2 (4x2 - W0.5xW0.5) openings or horizontal and vertical self supporting, prior to fastening to posts, mesh with a minimum tensile strength of 485 MPa (70 ksi) meeting the requirements of ASTM A 82.

(p) Sediment Mat - Provide sediment mats from the QPL.

(q) Temporary Sediment Trap - Provide the following materials for sediment traps:

- Geotextile - Type 2 drainage geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).
- Aggregate Base -37.5 mm - 0 (1 1/2" - 0), 25 mm -0 (1" - 0), or 19 mm - 0 (3/4" - 0) aggregate for aggregate base meeting the requirements of Section 00641.
- Aggregate - Aggregate with maximum size between 150 mm (6 inches) and 75 mm (3 inches) meeting the requirements of 00330.16.

(r) Temporary Slope Drains - Provide either plastic pipe meeting the requirements of Section 02410 or metal pipe meeting the requirements of Section 02420. If the contributing area is not established, use 300 mm (12 inch) diameter.

(s) Slope Berms - Provide earthwork materials for slope berms according to 00330.41 or stone embankment material with the maximum size between 100 mm (4 inches) and 25 mm (1 inch) meeting the requirements of

00330.16.

(t) Tire Wash Facility - Provide the following materials for tire wash facilities:

- Aggregate - 37.5 mm - 0 (1 1/2" - 0), 25.0 mm - 0 (1" - 0), or 19.0 mm - 0 (3/4" - 0) aggregate base material meeting the requirements of Section 00641.
- Reinforcing Steel - Reinforcing steel meeting the requirements of 02510.10.
- Geotextile - Subgrade geotextile meeting the requirements of Section 02320. Provide "Level B" documentation according to 02320.10(c).
- Concrete - Commercial grade concrete meeting the requirements of Section 00440.

(u) Chemical Soil Stabilization - Provide a liquid stabilizing emulsion meeting the requirements of 00280.10(f).

Construction

00280.40 Installation - Install erosion and sediment control devices as shown and according to the Agency's Erosion and Sediment Control Manual. Install erosion and sediment control devices before performing clearing, grading, or other land alteration activities. Ensure that sediment laden water does not leave the Project boundaries, enter drainage systems or waterways, or violate applicable water standards.

00280.41 Work Restrictions - The following work restrictions apply:

(a) Disturbance Limits - Flag all construction site-clearing limits. Do not disturb areas outside the flagging limits. Maintain the flagging during Project construction.

(b) Perimeter Controls - Perimeter controls include interceptor ditches, berms in fill areas, and sediment fences or straw bales along the banks of existing streams and toes of slopes. Install all appropriate perimeter controls before beginning major site grubbing operation.

Install all erosion and sediment control features for soil disturbing activities that are within 90 meters (300 feet) horizontal distance of the two-year flood elevation before beginning work.

(c) Wet Season Work and Temporary Work Suspension - Wet season work is defined as work between October 1 and May 30. Before working during the wet season and before temporary work suspension for winter, meet with the Agency to review and update the ESCP and to develop a schedule to ensure that appropriate controls are implemented and maintained during the wet season work and work suspension periods.

During wet season work, stabilize soil stockpiles at the end of each workday by diverting flows, placing covers, or installing sediment barriers at the stockpiles. Also, limit excavation and bare ground activities to only that which is required for immediate operations.

(d) Disturbance Restrictions - If soil erosion and sediment resulting from construction activities is not effectively controlled, the Agency will limit the amount of disturbed areas to that which can be effectively

controlled. Incorporate erosion and sediment control measures into the Project at the earliest practicable time. Install all erosion and sediment control devices according to the approved implementation schedule and these Specifications. If the Contractor fails to control erosion, the Agency will stop all construction work according to 00180.70.

00280.42 Stabilization - Stabilize soil areas as follows:

(a) Soil Exposure Limitations - Stabilize all soils which are exposed and disturbed during construction related activities according to the following:

- Statewide (Entire Year) - Stabilize within seven days of exposure, all areas within 30 meters (100 feet) of waterways, wetlands, or other sensitive areas using methods that do not rely solely upon germination to control erosion.
- West of the Cascades (Entire Year) - Stabilize all other areas within 14 days of exposure.
- East of the Cascades (October 1 through April 30) - Stabilize all other areas within 14 days of exposure.
- East of the Cascades (May 1 through September 30) - Stabilize slope and embankment construction in stages based on site conditions, weather, and as determined by the Agency.

(b) Temporary Stabilization - Protect from erosion the surface area of exposed soils caused by construction activities. Temporary stabilize exposed soil surfaces not at finish grade at all times and soil surfaces at finish grade when working outside the permanent seeding dates. Provide the following until permanent stabilization measures are implemented:

- Schedule temporary stabilization on an 14 day basis, or more frequent, if needed or directed

- Implement at a minimum, appropriate temporary stabilization measures according to the schedule. Temporary stabilization includes, chemical soil tackifiers, temporary seeding, temporary mulching, erosion control matting, plastic sheeting, preparing seed bed, fertilizing, watering, and adding soil amendments.
- Document implemented measures on the ESCP

Active work areas scheduled for re-disturbance before the next scheduled temporary stabilization period may be left unstabilized if approved by the Agency.

(c) Permanent Stabilization - Permanently stabilize exposed soil surfaces at finished grade. Permanent stabilization methods include, but are not limited to, seeding, mulching, riprap protection, and bio-engineered slope stabilization. Permanent stabilization includes stabilization of temporary structures such as detours, stockpiles, and staged earthwork. Immediately perform permanent stabilization at each completed excavation and embankment area except for areas that are scheduled to be redisturbed.

If areas that have been seeded and are not sufficiently stabilized by an established stand of vegetation according to 01030.60, or the soil surface is not protected with sufficient temporary stabilization measures by November 1 of each year, do the following:

- Take measures necessary to redirect the flows away from the disturbed areas
- Re-grade disturbed areas to finished grade
- Apply permanent seeding at the original specified rate
- Apply temporary mulching or matting

If areas to be stabilized, prior to re-grading, are too steep or lack access for effective straw mulch application, apply, upon approval, other effective measures such as chemical soil stabilizers.
Incorporate permanent erosion control features into the Project at the earliest practicable time. Use temporary erosion control features for the following situations:

- To correct conditions that occur during construction activities that were not foreseen during the design stage of the Project
- That are needed prior to installing permanent erosion control features
- To temporarily control erosion that develops during normal construction activities

Where erosion will be a problem and if construction permits, construct permanent erosion control features immediately after clearing and grubbing and grading operations are complete. If permanent erosion control features cannot be constructed furnish and install temporary erosion control features.

00280.43 Area Preparation - Prepare areas according to 01040.48(d).

Track all fill slopes at finished grades steeper than 1V:3H and flatter than 1V:1.5H so that track impressions run parallel to slope contours. Maintain at least 35 mm (1 3/8 inch) tall track grousers.

00280.46 Application - Install erosion and sediment control devices as shown and according to the following:

(a) Biofilter Bags - Place and arrange biofilter bags as shown or directed.
(b) Check Dams - Construct check dams as shown or as directed.

Type 1: Aggregate - Place aggregate in the ditch section with the center low point below the outside edge.

Type 2: Straw Bales - Place aggregate in ditch section and extend check dam with straw bales sufficient to direct flow over aggregate weir.

Type 3: Biofilter Bags - Place aggregate in ditch section and extend check dam with biofilter bags sufficient to direct flow over aggregate weir. Aggregate weir may be replaced with additional biofilter bags if approved.

Type 4: Sand Bags - Place aggregate in ditch section and extend check dam with sand bags sufficient to direct flow over aggregate weir. Aggregate weir may be replaced with additional sand bags if approved.

Type 5: Pre-fabricated Check Dam System - Install pre-fabricated check dam systems according to the plans, Special Provisions, and the manufacturer's recommendations. Field fabricated systems are not allowed.

(c) Construction Entrances - Construct construction entrances at each access point between the construction site and all public or private roads or other paved surfaces.

When construction entrances are in use and mud and dirt tracking is evident, take additional steps to eliminate tracking by hosing off tires before vehicles leave the site, or by modifying construction techniques or work operation. Perform tire washing on gravel pads. Use silt-trapping structures to collect and drain wash water before it leaves the construction site.

(d) Diversion Dike/Swale - Construct diversion dikes and swales above the cut slope to divert runoff from undisturbed areas away from disturbed slope areas. Convey runoff to an undisturbed area and discharge in a nonerosive manner.

Construct diversion dikes and swales at the toe of fill slopes to divert and convey sediment-laden water to a sediment control facility. Compact dike material according to the MFTP.

Immediately after completing constructing diversion dikes and swales place temporary seed and mulch according to Section 01030, or place erosion matting and seed as directed.

(e) Temporary Drainage Curbs - Construct temporary drainage curbs as shown or directed.

(f) Dust Control - Apply appropriate dust (wind erosion) control according to the following:

- Water - Apply water according to Section 00340.
- Liquid Stabilizer Emulsions - Dilute liquid stabilizer with water at a ratio of 30:1 then apply at a rate of 270 L/ha (29 gallons/acre) unless the manufacturer recommends a greater rate of application.
- Dry Powder Tackifier - Apply at a rate of 157 kg/ha (140 pounds/acre) unless the manufacturer recommends a greater rate of application.

(g) Flow Spreader - A flow spreader is a 300 mm (12 inch) to 450 mm (18 inch) high berm of aggregate that is at a uniform grade throughout its length. Place the flow spreader to receive channeled runoff so that the water is uniformly dispersed along the length of the spreader. Discharge water into a stabilized area at nonerosive velocities.

(h) Inlet Protection - Construct inlet protection that directs flows through the control and into the inlet. Select materials from alternatives shown on the plans or Special Provisions.

Type 1 - Install supported sediment fence around the perimeter of the inlet according to 00280.46(n).

Type 2 - Place wire mesh over the inlet grate. Place sediment fence geotextile over the wire mesh and perimeter area near the inlet. Install aggregate over the geotextile fabric.

Type 3 - Install pre-fabricated inserts according to the plans, Special Provisions, and manufacturer's recommendations. Field fabricated inserts are not allowed.

Type 4 - Install biofilter bags according to the plans.

Type 5 - Install concrete masonry units around the perimeter of the inlet. Place sediment fence geotextile around the outside perimeter, up the outside face, and on the top of masonry units. Place aggregate over the geotextile fabric and flush with the top of masonry units.

Type 6 - Within 36 hours of harvest, install sod around the perimeter of the inlet.

(i) Matting -Insure that the matting is installed according to the plans, these Specifications, or the manufacturer's recommendations, whichever is more stringent.

(1) Area Preparation - Remove all materials (vegetation, rocks, wood, etc.) larger than 50 mm (2 inches) in size. Smooth the surface and remove undulations sufficient to allow the matting to be placed in complete contact with the soil.

(2) Seeding - Apply seeding over the same area where matting is required according to one of the following:

a. Seeding Prior to Mat Installation - Apply according to Section 01030. This method is preferred.

b. Seeding After Mat Installation - This method is allowed only if specified in the Special Provisions or approved. Apply according to Section 01030 at double the application rate for seed.

c. Single Application - Mat and Seed:

- Hydraulically Applied Mat - Apply seed at double the rate specified in Section 01030. Thoroughly mix seed, fertilizer, and mat material.

- Manually Applied (Pre-seeded) Mat - Pre-seed the mat at double the rate specified with the seed mix specified in Section 01030.

(3) Mat Placement - Apply matting loosely so it is in complete contact with the soil to prevent erosion occurring beneath it. Apply mat and fasteners as shown. Construct check slots on all channel applications and on slope applications when shown or specified.

(j) Temporary Mulch - Evenly apply dry mulch and tackifier material according to these Specifications. In areas not accessible to heavy equipment, mulch by hand or by other approved methods. Areas not prepared according to 01040.48(d) will require greater rates of application at the Contractor's expense. Tack mulch material in place mechanically or with hydraulically applied tackifier to form a cohesive surface cover that is resistant to displacement by wind and water.

(1) Dry Mulch - Apply straw mulch on slopes 1V:1.5H or flatter. Spread straw mulch by hand or blower. Place approximately 50 mm (2 inch) deep, in loose condition, at a rate between 4.5 to

6.7 Mg/ha (2 to 3 tons/acre) of dry mulch. Place straw mulch so that it is loose enough for sunlight to penetrate and air to circulate, but dense enough to shade the ground, reduce water evaporation, and materially reduce soil erosion. Anchor using hydraulically applied tackifier, crimping disc, or sheep's-foot roller approved by the Agency or methods specified in the Special Provisions.

Provide blower equipment that uses air pressure with an adjustable spout that uniformly applies dry mulch at constantly measured rates. Apply the materials using a sweeping, horizontal motion of the nozzle.

(2) Tacking - Straw mulch may be tackified using hydraulically applied tacking agents or mechanical methods at the following rates of application:

a. Hydraulically Applied Tacking Agents:

- Liquid Stabilizer Emulsions - Dilute liquid stabilizer with water at a ratio of 30:1 then apply at a rate of 270 L/ha (29 gallons/acre) unless the manufacture recommends a greater rate of application.
- Dry Powder Tackifier -Apply at 90 kg/ha (80 pounds/acre) with 880 kg (1,940 pounds) of hydromulch fiber unless the manufacturer recommends a greater rate of application.

b. Mechanical Methods - Straw mulch may be mechanically tackified using a crimping disk or sheep's-foot roller.

- Crimping disc - A heavy disk with flat, scalloped discs approximately 6 mm (1/4 inch) thick, having dull edges and spaced no more than 230 mm (9 inches) apart.
- Sheep's-Foot Roller - Modified sheep's-foot roller equipped with straight studs, made of approximately 20 mm (3/4 inch) steel plate, placed approximately 200 mm (8 inches) apart and staggered. Ensure that the studs are not less than 150 mm (6 inches) long nor more than 150 mm (6 inches) wide, and rounded to prevent withdrawing the straw from the soil. Use a roller with enough mass to incorporate the straw sufficiently into the soil providing a uniform surface cover.

(k) Plastic Sheeting - Place plastic sheeting on disturbed, temporary slopes where immediate protection is required and mulching or other methods of soil stabilization are not feasible. Temporary slopes include vertical excavations for retaining walls and other temporary soil excavations and embankments related to structural work.

Cover exposed soils with plastic sheeting and secure it tightly in place using an anchoring system of sand bags, chain link fence, or other approved methods. Do not allow the anchoring system to puncture the plastic sheeting. Trench plastic sheeting at the top of slope and secure adequately to maintain cover during reasonably expected conditions in the area. Direct water away from areas above the plastic sheeting to prevent erosion from undermining the plastic sheeting.

Control drainage from areas covered by the plastic sheeting so that the discharge occurs onto the toe protection.

(l) Temporary Scour Holes - Construct temporary scour holes at the outfall ends of temporary slope drains or as shown.

(m) Sediment Barriers: Type 1: Straw Bales - Place and arrange straw bales as shown or directed. Type 2: Biofilter Bags - Place and arrange biofilter bags as shown or directed. Type 3: Wattles - Place and arrange wattles as shown or directed. Type 4: Sand Bags - Place and arrange sand bags as shown or directed. Type 5: Brush Barrier - Place and arrange brush barriers as shown or directed. Place woody debris or topsoil strippings in a linear pile.

Type 6: Filter Berm - Place and arrange filter berms as shown or directed. Place rock in an evenly spread,

trapezoidal berm. Type 7: Pre-fabricated Barrier System - Install pre-fabricated barrier systems according to the plans, Special Provisions, and manufacturer's recommendations. Field fabricated systems are not allowed.

(n) Sediment Fence - Construct supported (mesh and metal posts) and unsupported (no mesh) as follows:

- When installing geotextile and mesh, or geotextile alone, use a continuous roll of geotextile cut to the length of the barrier to avoid joints

- Manufacturer's factory seams are acceptable. Field sewn seams are not acceptable.
- Drive posts into undisturbed soil as shown.
- Securely fasten the geotextile (and mesh) to the upslope side of the posts. Securely fasten each end of the geotextile (and mesh) to the end posts.
- Use stitched loops over posts for unsupported silt fence
- Excavate a trench on the upslope side of the fence and place geotextile to the bottom of the trench. Backfill the trench with native material and compact.
- Attach the supported sediment geotextile to the wire mesh
- Install the manufactured silt fence system according to the plans, Special Provisions, and manufacturer's recommendations. Connect end of rolls as shown.

(o) Sediment Mat - Place sediment mats a minimum of 6 m (20 feet) downstream of work areas. Install mats individually or in groups on the stream bottom. Remove the mats not later than 48 hours after stream activities are complete. Remove them from the Project site, or if approved, place them on the stream bank and cover with permanent seeding.

(p) Temporary Sediment Trap - The trap may be formed by constructing a berm or by partial or complete excavation. Direct the discharge flow to a stabilized conveyance outlet or level spreader.

(q) Temporary Slope Drains -Construct watertight slope drains and extend as the embankment height increases. Construct temporary slope berms at the top of embankment slopes to direct water into the drains until permanent drainage structures are completed.

(r) Temporary Stabilization - Surfaces which require temporary stabilization include, but are not limited to:

- Exposed soil surfaces not at finished grade
- Exposed soil surfaces at finished grade when outside permanent seeding dates
- Stockpiles of exposed soils

Temporary stabilization methods include chemical soil stabilization, permanent seeding with temporary mulching, temporary mulching, matting, bark mulch and other temporary cover and stabilization measures. Prepare soil surfaces as specified for the appropriate method used.

If seed of any kind is applied and has not achieved 70% density of the surrounding existing grass areas prior to the end of the permanent seeding dates, then apply additional temporary stabilization measures, other than seeding.

(s) Slope Berm - Construct a 0.5 m (18 inch) minimum high berm of compacted material at the top of embankments during construction to direct water away from exposed slopes.

(t) Tire Wash Facility - Excavate the area for installation of the tire wash facility. Install subgrade geotextile, aggregate base coarse, reinforced concrete, and water as shown.

(u) Chemical Soil Stabilization - Hydraulically apply a liquid stabilization emulsion chemical soil stabilizer at the following rates unless the manufacturer recommends a greater rate of application:

- Long Term Control of Exposed Soil Surfaces - 325 L/ha (35 gallons/acre). Dilute the emulsion with water at the rate of one part emulsion to 20 parts water.
- Steep Slopes with Raveling Small Rock - 435 L/ha (45 gallons/acre). Dilute the emulsion with water at the rate of one part emulsion to 10 parts water.

00280.47 Work Quality - Protect areas according to 01030.49.

00280.48 Emergency Materials - Provide, stockpile, and protect emergency materials on-site for unknown weather or erosion conditions. A list of emergency materials will be listed in the Special Provisions. Replenish emergency materials as they are used.

The emergency materials are in addition to the other erosion control materials required to implement and maintain the ESCP.

Remove all unused emergency materials from the Project site at the completion of the Project.

Maintenance

00280.60 General - Maintain installed erosion and sediment control devices in good working order at all times. Keep the devices in place until the Agency issues notification of acceptance of stabilization. All maintenance and repairs are at the Contractor's expense.

00280.61 Erosion and Sediment Control Manager - The ESCM's duties include:

- Manage and insure proper implementation of the ESCP
- Accompany the Agency's representative to the field to review the ESCP before beginning construction activities
- Monitor rainfall on and in the vicinity of the Project site
- Monitor receiving streams in the vicinity of the Project site
- Weekly inspect erosion and sediment control features on active construction sites
- Every two weeks inspect erosion and sediment control features on inactive sites
- Inspect erosion and sediment control features on all inactive and active sites at least daily during rainy periods when 15 mm (5/8 inch) or more of rain has fallen within a 24 hour period
- Mobilize crews to make immediate repairs to the control devices or to install additional control devices during working and non-working hours
- Record actions taken to clean up significant amounts of sediment
- Complete the Erosion Control Monitoring form
- Update the ESCP monthly and within 24 hours after changes are implemented
- Prepare a contingency plan in preparation for emergencies and the rainy season
- Accompany the Agency's representative on inspections and, if requested, on inspections made by the regulating agency representatives

00280.62 Ineffective Controls - If a control feature does not function effectively, immediately repair, replace, or provide additional devices. Devices repaired, replaced, or added due to improper installation, insufficient maintenance, or damage from Contractor operations will be at the Contractor expense.
00280.63 Monitoring - Monitoring consists of the following:

(a) Rainfall - Furnish and install a rain gauge at the Project site. Notify the Agency if 15 mm (5/8 inch) or more of rainfall occurs within a 24 hour period. As soon as practicable, but not later than 24 hours, after 15 mm (5/8 inch) or more of rainfall occurs, including weekends and holidays, inspect the entire Project to determine the condition of all erosion and pollution control devices.

(b) Receiving Stream - Observe and record color and turbidity or clarity within 10 m (30 feet) upstream and downstream of locations where surface waters from the construction site enter the receiving stream. Note whether sheen and floating matter are present or absent. Describe any apparent color and the clarity of the discharge, and any observable difference in comparison with the receiving stream.

(c) Monitoring Form - Complete the Erosion Control Monitoring form after each inspection, observation of the receiving stream erosion control facility modification, or maintenance action. Submit the forms to the Agency weekly for active sites and every two weeks for inactive sites.

00280.64 Sediment Removal - Remove sediment and upgrade or repair the devices as needed as soon as practicable, but not later than two days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment needed for repair operations. If rainfall continues over a 24 hour period, or other circumstances that preclude equipment operation in the area, hand carry and install additional sediment control devices with best management practices and approved by the Agency.

(a) Catch Basins - Maintain catch basin inserts and other forms of inlet protection by removing trapped sediment when storage capacity has been reduced by 50%.

(b) Sediment Controls - Remove sediment from sediment fences, sediment barriers, check dams, and sediment traps once it has reached one third of the exposed height of the device or storage depth. Replace aggregate and rock filter material with new aggregate material when the sediment reduces the filtering capacity of the device by one half. Replace biofilter bags with clean, washed bags when removing sediment from them. Wash bags in an approved sediment control area.

(c) Paved Areas - Keep all paved areas clean for the duration of the Project. Use cleaning methods that do not transport sediment-laden water to receiving streams.

(d) Construction Entrances - Add and remove aggregate or other specified material as needed to maintain the proper function of the construction entrances.

(e) Permanent Stabilization - Restabilize within two calendar days of disturbance all areas disturbed by the Contractor's operations or other causes including wind, water, and vandalism.

(f) Straw Bales - Replace straw bales when they become non-functional or, at a minimum, on an annual basis or at the beginning of each construction season as appropriate.

Finishing and Clean Up

00280.70 Removal -Within 30 days of the notification of acceptance of permanent stabilization, remove temporary erosion and sediment control devices and materials from the area. Remove accumulated sediment before removing the devices and materials. Immediately shape and permanently stabilize areas affected by the removal process. All temporary erosion and sediment control features that are not incorporated into the permanent work remain the property of the Contractor. Do not remove temporary erosion and sediment control devices before permanent stabilization is accepted.
00280.71 Sediment Disposal - Re-grade removed sediment into slopes or remove and dispose of off-site according to all federal, state, and local laws and ordinances. Do not flush sediment-laden water into drainage systems.

Measurement

00280.80 Lump Sum Basis - No separate measurement will be made for lump sum items.

00280.81 Unit Basis - Unit basis items will be measured on a unit basis, per each, by actual count of each device or location where the device is constructed or placed and accepted.

00280.82 Length Basis - Length basis items will be measured by the meter (foot) along the line and grade of the item or device constructed or placed and accepted.

- Flow spreaders and diversion dike/swale will be measured along the long axis
- Sediment barrier, when measured on the length basis, will be measured along the long axis of the barrier regardless of type
- Temporary slope drains will be measured from the beginning of the metal end pieces to the end of the drain. Measurement will be made when each installation is at its maximum length.

00280.83 Area Basis - Area basis items will be measured on the ground surface by the meter (foot), and computed to the m^2 (square foot) or ha (acre) unit as applicable.

00280.85 Limitations - The quantities of emergency materials listed in 00280.48 of the Special Provisions are included in the pay item quantities listed in bid schedule.

"Erosion Control" includes the following:

- Developing, revising, and documenting the ESCP
- Mobilization
- Monitoring activities
- Furnishing, stockpiling, protecting, restocking, and removing emergency materials
- Preparing Project for winter shut-down
- Inspecting, maintaining, and removing erosion control devices
- Restoring all disturbed ground and work areas

If "Erosion Control" is not listed as a pay item, it is Incidental work for which no separate payment will be made.

Emergency materials that are incorporated into the Project will be paid for under the appropriate pay item.

"Plastic Sheeting" includes the costs for protecting exposed slopes with plastic sheets, anchoring devices, and toe protection maintenance.

"Matting" includes the costs for preparing the slope surface and stabilizing exposed soil with erosion mat material.

Biofilter bags and sand bags used in constructing check dams or sediment barriers will not be separately paid for. Biofilter bags and sediment fence used in constructing inlet protection will not be separately paid for. Payment for these items will be included in payment made for the items "Check Dams", Sediment Barriers", and "Inlet Protection" as applicable.

No separate or additional payment will be made for the following:

- Removing and disposing of sediment build up behind sediment fences and sediment barriers

- Removing and reinstalling required appurtenances to modify temporary slope drains as the embankment slopes are changed
- Constructing and removing temporary slope berms
- Applying dust control
- Erosion control for work outside the construction limits including but not limited to borrow pits, haul roads, disposal sites, and equipment storage sites

Payment will be payment in full for furnishing and placing all materials, performing all work, and furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

00280.91 Lump Sum Progress Payments - The amount paid for lump sum items in the Contract progress payment will be based on the percent of the original Contract amount that is earned from other Contract items, not including advances on materials, and as follows:

- 50% upon initial installation of erosion items
- An additional 25% when 50% of the original Contract amount is earned
- The remaining 25% when the Project is complete and all temporary erosion control devices are removed from the Project site

Section 00290 - Environmental Protection Description

00290.00 Scope - This Section describes the Contractor's duties and obligations with respect to protection of the waters, air, wildlife and other environmental resources of the State.

Comply with all applicable federal, State and local environmental , health, safety and other laws, acts, statutes, regulations, administrative rules, ordinances, orders and permits, as they may be amended from time to time (referred to in this Section as "Laws"). Comply with all applicable Laws, whether or not specifically referenced in this Section or elsewhere in the Contract.

The following federal, State and local agencies are known to have enacted ordinances and regulations relating to environmental pollution and the preservation of natural resources that may affect the performance of the Contract:

Federal Agencies:

Agriculture, Department ofForest Service Soil Conservation Service

Army, Department of the Corps of Engineers

Commerce, Department of National Marine Fisheries Service

Defense, Department of

Energy, Department of

Environmental Protection Agency

Federal Energy Regulatory Commission

Health and Human Services, Department of

Housing and Urban Development, Department of

Interior, Department ofHeritage, Conservation, and Recreation Service Bureau of Indian Affairs Bureau of Land Management Bureau of Mines Bureau of Reclamation, Geological SurveyMinerals Management ServiceOffice of Surface Mining, Reclamation, and Enforcement
U.S. Fish and Wildlife Service

Labor, Department of Mine Safety and Health Administration Occupational Safety and Health Administration
Transportation, Department ofCoast Guard Federal Highway Administration

Water Resources Council

State of Oregon Agencies:

Administrative Services, Department of Agriculture, Department ofNatural Resources Division

Soil and Water Conservation District Columbia River Gorge Commission Consumer and Business Services, Department of

Insurance Division Oregon Occupational Safety and Health Division Energy, Office of

Environmental Quality, Department of Fish and Wildlife, Department of Forestry, Department of Geology and Mineral Industries, Department of Human Resources, Department of Labor and Industries, Bureau of Land Conservation and Development Department Parks and Recreation, Department of State Lands, Division of Water Resources Department

Local Agencies:

City Councils County CourtsCounty Commissioners, Boards of Design CommissionsHistorical Preservation

Commissions Planning Commissions
Port Districts

Special Districts

Oregon Tribal Governments

If any provision of these Specifications appears to conflict with one or more Laws, the more stringent requirement shall apply, unless the Engineer directs otherwise in situations where these Specifications are more stringent.

Comply with any additional requirements or Laws imposed by any agency or governmental unit having authority to enforce the Endangered Species Act (ESA) and other Laws.

No condition of the Contract releases the Contractor from any responsibility or requirement under any environmental or other Law.

00290.20 Hazardous Waste and Hazardous Substances - Comply with all applicable federal, State and local laws and regulations as they pertain to the storage, handling, management, transportation, disposal and documentation of:

- Hazardous substances (as defined in ORS 465.200)
- Oil and hazardous materials (as defined in OAR 340-108-0002)
- Hazardous waste (as defined in 40 CFR 261 and OAR 340-101-0033)
- Solid waste (as defined in 40 CFR 258, ORS 459 and OAR 340)

For the purposes of this Section, the term "hazardous substances" includes oil and hazardous materials. Additional requirements, if any, concerning hazardous materials on the Project will be included in the Special Provisions.

(a) Hazardous Substance Registration - Register all hazardous substance storage with the Oregon State Fire Marshal, as required by OAR 837-085 to -090, and provide copies of that registration to the Engineer within 14 days of registration.

(b) Worker Right-to-Know Documentation - Have on the Project Site Material Safety Data Sheets (MSDS) for all hazardous substances stored or used on-site, readily available to employees and inspectors at all times. Comply with all federal and State Laws for employee right-to-know in association with the use and storage of hazardous substances on-site.

(c) Fuel Storage - Any fuel to be stored on-site shall be stored in compliance the Uniform Fire Code, NFPA standards, and all other applicable Laws.

(d) Solid Waste Disposal:

(1) General - Prepare a hazardous waste determination for all waste generated at the Project Site, in accordance with 40 CFR 262.11 and OAR 340-102-0011. Determine whether the waste is classified as hazardous waste, as defined in 40 CFR 261 and OAR 340-101-0033, as follows:

- Determine whether the waste is excluded from regulation under 40 CFR 261.4
- Determine whether the waste is listed in Subpart D of 40 CFR 261.4
- Determine whether the waste meets the characteristics set forth in Subpart C of 40 CFR 261.4
- Determine whether the waste is otherwise excluded as a hazardous waste in 40 CFR 261, 264, 265, 266, 268, or 273.
- Determine whether the waste is an "Additional" hazardous waste pursuant to OAR 340-101-0033

For waste classified as hazardous, follow the procedures set forth in 00290.20(e).

Except as provided in (b) below, dispose of non-hazardous solid waste generated at the Project Site at a permitted landfill, in accordance with 40 CFR 258, ORS 459.205 through 459.350, OAR 340-093, and all other applicable Laws. Exceptions to this requirement are noted below:

(2) Inert Material - Handle inert material, as defined in OAR 340-093-0030, according to 00330.41. Inert materials include weathered, consolidated asphalt paving, concrete (including embedded re-bar), clean soil, rock and brick.

(e) Hazardous Waste Management - For all waste streams classified as hazardous waste under 00290.20(d), use an EPA ID number obtained by the Agency for waste characterization and disposal. Conduct all additional testing necessary to characterize the waste for disposal purposes.

(f) Hazardous Substance Transportation - All employees involved in the transportation or preparation for transportation of hazardous substances and hazardous wastes must have received training under the provisions of 49 CFR 100 through 185, in addition to having all necessary permits and licenses for hazardous substance/waste transportation. All hazardous waste must be shipped under a hazardous waste manifest. All hazardous substance and hazardous waste shipments shall be appropriately packaged and labeled, and the vehicles placarded in accordance with 49 CFR 100 through 185. Submit copies of the completed manifests and documentation to the Engineer within 14 days of the hazardous substance/waste leaving the site.

(g) Used Oil - Store used oil in compliance with 00290.20(c), 00290.30 and all other applicable Laws. Used oil may be transported off-site for recycling or for use as fuel as set forth in 40 CFR 261 and 279, and OAR 340-111. The used oil transporter must be registered with the DEQ for this activity unless the Contractor self-transports less than 208 L (55 gallons) at any time to a used oil collection center within the State.

(h) Unexpected Contamination - If, during construction, unanticipated hazardous substances are discovered that threaten the health and safety of workers, the public, or the environment, do the following:

- Immediately remove all affected employees and secure the area to prevent access.
- Notify the Engineer immediately and provide written notification within 24 hours, setting forth a description of the incident.

The Engineer will attempt to resolve the unanticipated situation expeditiously according to 00140.40. Delays to work due to the discovery of unexpected contamination will be considered for exclusion from Contract time according to 00180.50(e).

(i) Spills and Releases - In the event of a spill or release of hazardous substance or hazardous waste, do the following:

- Immediately commence response actions as set forth in the PCP, SPCC and/or Contingency Plan, as appropriate. If any of the provisions set forth in these plans conflict, the actions providing the greatest protection of public health and safety and the environment shall be implemented.
- Immediately notify the Engineer and provide written notification within 24 hours, setting forth a description of the incident.
- If the quantity released exceeds the minimum for a reportable quantity pursuant to 40 CFR 302.4 or OAR 340-108-0010, immediately notify DEQ via the Oregon Emergency Response System (OERS). OERS can be reached at 1-800-452-0311 or (503) 378-4124.
- If the release impacts or threatens to impact any surface water body, or exceeds the quantity listed in 40 CFR 302.4 and OAR 340-108-0010(1)(d), immediately notify the EPA and the USCG through the National Response Center. The National Response Center can be reached at 1-800-424-8802.
- Conduct cleanup of the released material in compliance with OAR 340-108 and all other applicable Laws.
- Provide a written spill report to the Engineer within 48 hours of completing initial cleanup activities. If spill cleanup is not completed within seven days, provide an interim spill report to the Engineer within seven days of the incident. Include, at a minimum, the type of material and quantity released, a description of how the release occurred, containment and cleanup methods employed, disposal location for cleanup materials (include disposal receipts), any EPA, DEQ, OERS and/or Oregon State Fire Marshal incident identification numbers issued, and a description of how similar incidents will be prevented in the future.

00290.29 Health and Safety - Comply with all applicable health and safety Laws as they pertain to the hazardous substances and wastes used, stored and/or generated on the Project Site including, but not limited to, 29 CFR 1910, ORS 654, and OAR 437. If any of these requirements are in conflict, the more stringent requirements shall apply.

00290.30 Pollution Control - Prevent, control and abate pollution of the environment as required by the Contract and all applicable Laws. Perform changes or alterations of work required by new or amended environmental pollution

Laws, not contemplated at the time of bid preparation, according to 00140.50 and ORS 279.318.

(a) Water Pollution Control Measures - Prevent, control and abate pollution of state waters as required by the Contract and local, state and federal regulations and requirements. Be fully informed of the NPDES Storm Water General Conditions, and conduct construction operations accordingly. Meet or exceed the DEQ requirements for the NPDES General Permit 1200-CA. A copy of the permit is available from the Engineer. Maintain a copy of the General Conditions at the Project Site. The criminal penalty for the conviction of a violation of this permit is a fine of not more than $25,000 and each calendar day of violation constitutes a separate offense. DEQ may also impose civil penalties up to $10,000 per calendar day for violation of the terms or conditions of the General Conditions.

(1) Minimum Required Measures - As a minimum, take the following measures:

- Allow no pollutant of any kind (e.g., petroleum products or fresh concrete) to come in contact with an active flowing stream.
- Promptly correct or repair operational procedures, leaks, or equipment problems that may cause pollution at the Project Site. If soils or other media become contaminated as a result of operational procedures or equipment problems, remove and dispose of them according to applicable Laws and Subsection 00290.20(i).
- Dispose of material waste according to 00290.20(d) and (e). Do not bury, dump or discharge material wastes or unused materials at the Project Site, except as provided in 00310.43.
- Limit water leakage from trucks carrying saturated soils to less than 4 L/hr (1 gallon per hour) before allowing them to leave the Project Site.
- Comply with the erosion and sediment control requirements of Section 00280.

Additional measures applicable to the Project will be included in the Special Provisions.

Any penalties assessed against the Agency because of the Contractor's willful or negligent violation of the terms of the General Conditions will be withheld from the progress or final payments according to 00195.50(e).

(2) Permitted Work Areas -Work within permitted work areas shall be performed only within the permitted in-water work period(s), unless otherwise approved. Equipment shall not enter the permitted work area except as allowed in permits issued for the Project.

(b) Pollution Control Plan (PCP) - Develop and submit a PCP to prevent point-source pollution related to Contractor operations for approval 10 days before the pre-construction conference. Maintain a copy of the PCP on the Project Site at all times during construction activities, readily available to employees and inspectors. Ensure that all employees comply with the provisions of the PCP. The PCP shall satisfy all pertinent requirements of all applicable Laws including, but not limited to, the requirements of the Uniform Fire Code and National Fire Protection Association (NFPA) Standards, and shall include the following:

- Methods for confining, removing, and disposing of excess concrete, cement and other mortars.
- Measures for containing fluids and debris from washout facilities.
- Identify hazardous products or materials to be used. Include how they will be handled, monitored, inventoried, and stored as well as spill prevention practices to be followed.
- A spill containment and control plan that includes: notification procedures; specific clean up and disposal instructions for different products; quick response containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
- Measures to be used to reduce and recycle hazardous and non-hazardous waste generated from the Project, including types of materials, estimated quantity, storage methods, and disposal methods.
- Vehicle and equipment maintenance procedures and associated pollution prevention practices.
- Off-site vehicle tracking and dust prevention measures.
- A map showing the locations of proposed hazardous substance storage, spill response equipment, communications equipment, fire suppression equipment and the on-site copy of the PCP.

A "Pollution Control Plan Contractor Packet" is available from the Project Manager.

(c) Air Pollution Control Measures - Control or abate air pollution to safeguard the State's air resources in compliance with ORS 468 and 468A, OAR 340-014 and 340-200 through -268, and all other applicable Laws.

(d) Noise Control - Comply with ORS 467, OAR 340-035, all other applicable Laws and the following construction noise abatement measures:

- Perform no construction within 300 m (1,000 feet) of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 10:00 p.m. and 6:00 a.m. on other days, without the approval of the Engineer.
- Use equipment with sound control devices no less effective than those provided on the original equipment. Equipment with unmuffled exhausts is prohibited.
- Use equipment complying with pertinent equipment noise standards of the EPA.
- Perform no pile driving or blasting operations within 900 m (3,000 feet) of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 8:00 p.m. and 8:00 a.m. on other days, without the approval of the Engineer.
- Mitigate the noise from rock crushing or screening operations performed within 900 m (3,000 feet) of any occupied dwelling by placing material stockpiles between the operation and the affected dwelling, or by other means approved by the Engineer.

Should a specific noise impact complaint occur during the construction of the Project, one or more of the following noise mitigation measures may be required at the Contractor's expense, as directed by the Engineer:

- Locate stationary construction equipment as far from nearby noise sensitive properties as feasible.
- Shut off idling equipment.
- Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
- Notify nearby residents whenever extremely noisy work will be occurring.
- Install temporary or portable acoustic barriers around stationary construction noise sources.
- Operate electric-powered equipment using line voltage power or solar power.

00290.31 Protection of Fish, Wildlife, and Plants:

(a) General - Comply with the Laws of the Oregon Department of Fish and Wildlife, National Marine Fisheries Service and U.S. Fish and Wildlife Service, and the rules and practices developed through the Oregon Plan for Salmon and Watersheds. Conduct operations to avoid any hazard to the safety and propagation of fish and shellfish in waters of the state.

(b) Prohibited Operations - Except where authorized by the Contract and by permit, do not:

- Blast underwater
- Use water jetting
- Release petroleum products or chemicals in the water
- Disturb spawning beds
- Obstruct stream channels
- Cause silting or sedimentation of water
- Use treated timbers within the permitted work area
- Impede adult and juvenile fish passage, including intermittent streams

The permitted work area, if any, will be defined by Special Provision for the Project.

00290.40 Protection of Forests - Obtain necessary permits according to ORS 477.625 and ORS 527.670, and comply with the Laws of any authority having jurisdiction for protection of forests.

00290.41 Protection of Wetlands:

(a) General - Comply with, and require that all the Contractor's employees, agents, and subcontractors comply with the Clean Water Act Section 404 (33 U.S.C. 1344); Federal Rivers and Harbors Act of 1899, Section 10 (33 U.S.C. 403 et seq.); Oregon Removal-Fill law (ORS 196.800 -.990); Oregon Removal and Filling in Scenic Waterways law (ORS 390.805 -.925), and other applicable Laws governing preservation of wetland resources. For the purposes of this Section, "wetland" or "wetlands" will be understood to include wetlands as defined in 00110.20, as well as other jurisdictional waters of the U.S. and/or the State.

(b) Identification of Wetlands - Wetlands known to be on the Project Site will be shown on the Plans.

Wetlands to be permanently filled or excavated, or that will be temporarily impacted, will be identified. Wetlands to be protected will be shown as "no work zones". Further information may be provided in the Special Provisions.

Comply with Clean Water Act Section 404 permits issued by the U.S. Army Corps of Engineers, and Fill/Removal permits issued by DSL, which allow specified quantities of fill and excavation only within specifically identified areas of wetlands.

00290.50 Protection of Cultural Resources - Comply with all Laws governing preservation of cultural resources. Cultural resources may include, but are not limited to, dwellings, bridges, trails, fossils, and artifacts.

If cultural resources are encountered on the Project area or in material sources, and their disposition is not addressed in the Special Provisions:

- Immediately discontinue operations or move to another area of the Project Site or material source
- Protect the cultural resource from disturbance or damage
- Notify the Engineer

The Engineer will:

- Arrange for immediate investigation
- Arrange for disposition of the cultural resources. The Engineer may direct the Contractor to perform salvage operations as Extra Work
- Notify the Contractor when to begin or resume construction operations in the affected area

00290.51 Protection of Sensitive Cultural Sites - Act in compliance with, and require that all the Contractor's employees, agents, and subcontractors on the Project Site for any purpose comply with, all Laws applicable to the preservation and protection of sensitive cultural sites. The existence of any sensitive cultural sites affecting the Project, and the mandatory preservation and protection measures applicable to such sites, are determined in accordance with the Laws including, but not limited to, the National Historic Preservation Act (NHPA) of 1966, Section 106, codified in 36 CFR Part 800 (Protection of Historic Properties), ORS 97.740 to 97.760 and 97.990(5) and (6) (Indian Graves and Protected Objects), ORS 358.905 to 358.955 (Archaeological Objects and Sites) and ORS 390.235 to 390.240 (Archaeological Sites and Historical Material). If sensitive cultural sites are known to be on the Project, further information will be provided in the Special Provisions.

SECTION 00235 - AGENCY PROVIDED MATERIAL SOURCES AND STAGING AREA SITES

Section 00235, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00235.00 Scope - This work consists of utilizing Agency provided prospective or mandatory material sources and prospective or mandatory disposastaging areal sites as the Contractor elects or as required for the construction of the Contract.

00235.01 Material Source Specific Requirements - The following prospective material source(s) that may warrant investigation and consideration for use by the Contractor on this Project is (are) as follows:

- **Source Number** - OR-12-023-5
- **DOGAMI Number** -– OPG 12-0049
- **Location** - Approximately 17 miles south of the City of John Day on the John Day – Burns Highway US 395 (Hwy#048) in the SE ¼ of the NW ¼ of Section 20, T.15 S. , R. 31 E., W.M.
- **Access** - USFS Road #333 junction to west of M.P. 16.60 of the John Day – Burns Highway US 395 (Hwy#048)
- **Available Area for Equipment Setup, Stockpiling, and Processing Aggregate:**

- **Existing** - 6 acres
- **Development** - 0.7 acres

00235.02 Staging Area Site Specific Requirements - The following prospective staging area site that may warrant investigation and consideration for use by the Contractor on this Project is as follows:

- **Source Number** - OR- 12-054-5
- **Location** - Approximately 19.5 miles south of the City of John Day on the John Day – Burns Highway US 395 (Hwy#048) in the SE ¼ of Section 5 and tne NE ¼ of Section 8, T. 16 S., R. 31 E., W.M.
- **Access** - Adjacent west of M.P. 19.45 of the John Day - Burns Highway US 395 (Hwy#048), approximately 600 feet towards the west on a gravel access road
- **Available Area for Staging:**

- **Existing** - 7 acres
- **Development** - N/A

If the contractor elects not to utilize the above listed staging area site, 00160.70, 00280, 00290, 00320, and 00330 applies.

If the contractor elects not to utilize the above listed source(s), 00160.60 applies.

00235.03 Laws - Conduct operations within the material source/disposal site according to all applicable State, county, and federal laws including mining and fire laws. Provide, operate, and maintain wildland fire fighting equipment appropriate for the current fire levels on-site at all times during all material source/disposal site operations.

00235.04 Permits - Copies of the Department of Geology and Mineral Industries (DOGAMI) Permit, Grant County Conditional Use Permit, United States Forest Service (USFS) Contract for Sale of Mineral Materials and Road Use Permits, and the material source or disposaland staging area site narratives for the material sources/stagingdisposal sites are available for inspection at the Project Manager's office. The Contractor shall examine and become familiar with all documents. Operations within the material source/disposalstaging area sites shall conform to the stipulations and conditions of these documents and to all of the requirements of the development plan and these Special Provisions.

00235.05 Pre-Work Meeting - Before occupying the material sources/disposalstaging area sites, hold a pre-work meeting at each material source/disposalstaging area site. Include the following owners or representatives at each meeting:

- Engineer
- Geologist
- U.S. Forest Service representative(s)

Coordinate material source/staging area site occupancy with the Engineer. The material source/staging area site project boundary, new (2007) excavation area(s), new safety/overburden berm(s), new rejects berm(s), existing oversize stockpile, new path to top (of quarry), stockpile and equipment area, and existing stockpiles shall be as shown and as staked. Do not operate beyond the material source/disposalstaging area site boundary, Project boundary or no work area(s) as shown and as staked unless otherwise directed.

00235.06 Source Development - Provide all proposed development plan and specification changes in writing and obtain written approval before making changes to the material source/staging areadisposal site project boundary, new (2007) excavation area(s), new safety/overburden berm(s), new rejects berm(s), existing oversize stockpile, new path to top (of quarry), stockpile and equipment area, and existing stockpiles.

Develop a site-specific Erosion and Sediment Control Plan for each material source/staging area site according to 00280.02 and submit it to the Engineer at or before the pre-work meeting. Construct storm-water control berm(s) as shown and as needed to control runoff. Do not allow any materials, including sediments, aggregate or crushing by-products to enter into waterways or wetlands.

Develop a site-specific Pollution Control Plan for each material source/staging area site according to 00290.30(b), and submit it to the Engineer at or before the pre-work meeting. Include the following details:

- Do not discharge waste or by-product if it contains any substance in concentrations that could contaminate soils or result in harm to fish, wildlife, or water sources.
- Store bag-house sludge, lime, and all potentially hazardous materials and solid waste in a manner that prevents seepage into the ground or groundwater sources. Lined sumps or pits are allowable options for storage. If pits or sumps are used, construct adequate berms or provide other measures to prevent breaching of the pits or sumps.
- For materials capable of causing water pollution if discharged, locate storage facilities in an area that prevents spillage into waterways or wetlands.

Construction

00235.40 General - All vehicles, upon entering the site for the first time, and each subsequent time if the vehicle has left the roadway outside the project site, shall be steam cleaned of all debris (soil, dirt, plant parts, and vegetative matter) before being brought back to the site. Notify the Engineer before moving each vehicle onto the site. Certify, in writing, that the equipment has been steam cleaned.

00235.41 Restrictions and Protection of Resources - Contractor operations within the material source/staging areadisposal site are limited to the following:

- Protect cultural resources according to 00290.50.
- Do not utilize, contaminate, or disperse material from existing stockpiles. If existing stockpiles interfere with the Contractor's operations, move the stockpiles to other locations within the material source/disposal site area as directed, at no additional cost to the Agency.
- Limit mineral and aggregate extraction, processing, equipment operation activities including drilling, and disposal activities to the daylight hours, Monday through Saturday unless modifications to these hours are requested in writing and approved by the Engineer. Do not conduct any operation on Sundays or legal holidays.

(a) USDA Forest Service Owned Sources - This material source/disposal site is under Agency control through a "Contract for Sale of Mineral Material" and "Road Use Permit") agreement with USDA Forest Service. Operations within this material source/ site shall conform to the requirements of this agreement, the development plan, and these Special Provisions.

A $ 0.16 per cubic yard administrative and road use fee charge for material removed from the prospective source or administrative and road use fee charge for disposal of material will be deducted from monies due the Contractor in the progress payments.

00235.42 Source/Site Setup - Before proceeding with work in the material source/staging area site, the following apply:

Fencing:

- Construct approximately 800 linear feet) of type 1 fencing along the west side of the material source as shown and as staked.

(b) Access:

- In the staging area (Source Number OR-12-054-5) realign and maintain the existing access road from the developed stockpile and equipment area to US 395 Highway, as applicable, to be within the Agency owned property. Construct this road with a 12 foot minimum width and reasonably uniform grade, no steeper than a 16% grade (1V:6H), for access to the quarrystaging area floor. An approximate location for development of this road is shown on the plan sheet. Determine the exact location in the field. Obtain the Engineer's approval before constructing the access road. Relocate the existing cattle guard and fencing to the new access location, as directed.

- Routine road maintenance activities, such as grading and watering of the access road, does not need review or approval. Perform maintenance of the cattle guard(s) and gates on staging area access, and to the access road leading from the snow park (FS Rd. 333) to the material source as part of the routine maintenance. Maintain or develop drain dips, water bars, road crowning, in-slopes and out-slopes during road maintenance.

- Realign and regrade or construct the new path to the top and the bench access road as shown. Construct the road with a 4 m (12 foot) width and a reasonably uniform grade, no steeper than 50% (1V:2H:1V), for access to the upper bench by tracked vehicles.

- Using existing, loose and non-stockpiled material or imported, non-hazardous waste material, construct a safety berm along the top edge of the existing excavation, quarry floor, or existing slopes as shown. Maintain a 10 foot buffer between the top edge of the excavation or slope and the toe of the safety berm. Construct the berm 3 feet high, with side slopes of 1V:2H:1V.

(c) Overburden - Before excavating, including drilling and blasting when required or staging area activity, strip and stockpile all soil overburden from within the excavation/staging area and from the area to be developed for stockpile and processing and the to be developed access road(s). Incorporate grass and small shrubs into the overburden stockpiles. Do not remove grass or small shrubs from the overburden. Place stockpiles in the overburden storage area(s). Maintain a minimum 10 foot buffer strip between the toe of the overburden storage area(s) and the excavation area or disposalstaging area stockpile and equipment area. Store overburden stripped from the stockpile and processing area as shown, a minimum of 10 feet from the toe of the aggregate stockpiles. Smooth and contour overburden storage berms to form side slopes no steeper than 1V:2H:1V.

00235.43 Blasting - Perform blasting operations according to Section 00335 except controlled blasting (00335.40(a)) and blasting test sections (00335.40(e)) are not required.

Restrict blasting to the daylight Monday through Friday. Do not blast on Saturdays, Sundays, or legal holidays as defined in 00170.65.

Notify the Engineer, and notify all adjacent residents and property owners that are within 450 m (1,500 feet) of the blasting area, at least 48 hours before blasting. In addition, notify and obtain approvals from USFS. Do not detonate shots until the person videotaping the shot is prepared, or until the Engineer gives approval to proceed.

00235.44 Source/Site Operations - The following apply during material source/staging area site operations:

- Construct slopes, bench(es), and floors of the excavation/disposal area(s) as shown.

- To control dust, apply water to material source/disposal site access, haul road(s), crushing operations, and disposal operations.

- Stockpile scalpings and reject fines in separate and accessible berms or stockpiles as shown.

- Maintain the condition of USFS Road 333 (paved) at all times. Provide traffic control related to ingress and egress movements for the material source/staging area sites in a manner that allows a safe work zone and safe passage of vehicles.

- Maintain the cattle guard and/or livestock gate into the material source/staging area at all times.

00235.45 Source/Site Clean-up - The following apply at the completion of operations:

- Leave no loose material on the site exceeding 1 foot diameter, except as noted below. Process existing oversize material, and all material loosened in the source by the Contractor that meets quality requirements, with the following exception(s):

  A maximum of 500 cubic yards of oversize material with a maximum dimension of 2.5 feet may be stockpiled in the material source/ site. Consolidate stockpile material as shown.

- Place all excess produced aggregate remaining at the end of operations in separate and accessible stockpiles on Agency owned or controlled property in areas designated by the Engineer, at no additional cost to the Agency.

- Leave the material source site haul road, path to the top and bench access road open. Do not rip or block the roads except a few large boulders may be used to block off access to the upper bench area(s).

- Pile and burn all construction slash and combustible debris resulting from use and development of the source, including the preexisting refuse identified at the pre-work meeting, even if it is from outside the material source boundary except for grass and small shrubs that are incorporated into the overburden. Comply with all open burning regulations in effect at the time of source occupancy. If burning is not allowed, all slash and combustible debris becomes the property of the Contractor, to be treated as noncombustible and removed from material source.

00235.46 Seeding:

- Stabilize the safety/overburden berm(s) and rejects berms in addition to other areas within the site disturbed by the Contractor's operations, by seeding, mulching, and tackifying, as directed.

- Provide the following Malheur National Forest seed mixture:

BROADCAST RATE	SEED MIX
1.80 lbs/acre	Hard Fescue ‘Durar’
1.60 lbs/acre	Sheep Fescue ‘Covar’
0.66 lb /acre	Big Bluegrass ‘Sherman’
2.50 lbs/acre	Slender Wheatgrass ‘Pryor’
3.60 lbs/acre	Small Burnet ‘Delar’
0.53 lb /acre	Lewis Flax ‘Appar’

- Use only certified weed free seed. Provide copies of the certification to the Engineer.

- Provide straw mulch according to 01030.15(b).

- Apply a commercial straw mulch tackifier according to the manufacturer’s directions and at the recommended rate.

- Apply seed and mulch according to Section 01030.

- If conditions allow and the Contractor chooses, the area may be stabilized by applying seed using a range drill with a roller attachment. All areas seeded with the range drill and roller will not need to be subsequently covered with mulch and tackifier.

- All variations to these requirements require written approval by the Engineer.

00235.47 Source/Site Shutdown - Before material source/disposalstaging area site shutdown, the following apply:

- Remove all structures, noncombustible debris, and equipment from the material source/disposal site, even if it was pre-existing. Except for grass and small shrubs incorporated into the overburden, bury nothing.

- Remove solid waste and hazardous material from the site and dispose of properly. These include, but are not limited to, bag-house sludge or fines, lime, excess asphalt, materials placed in sumps, tires, pipes, belts, screens and truck cleanings. Provide documentary evidence of proper disposal and verify the amount of material removed.

- The Engineer will sample and test underlaying material after all contaminated material is removed to assure compliance with DEQ regulations and to make sure that no material residue has been left behind. If test results show that material residue remains, perform additional cleanup measures according to DEQ requirements.

- Hold a post-work meeting at the material source/disposal site to evaluate material source/disposal site rehabilitation work. Include the following owners or representatives:

    - Engineer
    - Geologist
    - U.S. Forest Service representative(s)

Appendix D

Cumulative Effects Table

Actions within the Starr Sub-watershed (35,855 acres total) considered in Cumulative Effects Analysis

Past		
Action	**Description**	**Date**
Timber Harvest	**Timber harvest and associated road building. Approximately 5600 acres were harvested from FS lands with various timber sales.**	**1983 - 1989**
Timber Harvest	**Timber harvest and associated road building. Approximately 6000 acres were harvested from FS lands within the Starr Sub-watershed, with the 96 II, Dehorn, Demo, Geary, Geary Aspen, Hanscock II, Jack, Pearson II, Pearson SSTS, Scotty, Silvies NW, Snow Park, Starr, Sweet II, Van Aspen, Vat, Wave II, Whit, and Windfall II timber sales.**	**1990-2005**
Timber Stand Improvement	**Pre-commercial Thinning – approximately 3000 acres, many of which overlapped timber harvest acres, were treated with the Loop, Dehorn, Jack, Pearson, Windfall, Demo, White, Silvies NW, Starr, Van Aspen, Vat, Scotty, and Sweet TSI projects.**	**1990-2005**
Prescribed FIre	**The Windfall/Geary Prescribed Fire project completed under-burning on approximately 1330 acres**	**1999**
Mining	**Intermittent entries into the Starr Ridge rock source, the Izee rock source, and some other small local rock materials sources.**	**1950 - 2000**

Present and/or Ongoing		
Action	**Description**	**Date**
National Forest Roads	**Use and maintenance of approx. 118 miles of open FS roads, and custodial care of approx. 60 miles of closed FS roads in the Starr Sub-watershed.**	**On-going**
US and County Highways, and private roads	**Use and maintenance of US Highway 395, County Road 63, and various private roads within the analysis area (approx. 35 miles total).**	**On-going**
Power line corridor	**Use and maintenance of power line corridor**	**On-going**
Recreation Use	**Use of the Starr Ridge Snow Parks, Starr Bowl Winter Sports Area, Ski Trails, and Starr Ridge Campground, all located within the Starr Sub-watershed.**	**On-going**
Grazing and Agriculture	**Grazing and agriculture on private lands**	**On-going**
Grazing	**Grazing on FS allotments in the Starr Sub-watershed.**	**On-going**

Future		
Action	**Description**	**Date**
Mineral Use	**Continued use of stockpiled aggregates from the Izee Pit by Grant County for maintenance on nearby County Roads.**	**2006-2015**
Fuels Management	**Highway 395 Corridor Fuels Reduction project including precommerical and commercial thinning of natural and activity fuels to reduce the hazard along Highway 395 from Starr Ridge to Bear Valley (approximately 3 miles)**	**2006-2008**

Appendix E: Response to Public Comment:

Starr Rock Pit Project

The preliminary environmental assessment for the Starr Rock Pit Project was made available for public comment, (36 CFR 215) on September 6, 2006. Written responses (e-mails) during the comment period, which ended on October 6, 2006, were received from the following two individuals and/or organizations: Howard Geiger and Chandra LeGue, Oregon Natural Resource Council (ONRC), now known as Oregon Wild. The comment from Mr. Geiger was in support of the project.

This appendix responds to the comment received from ONRC, which is summarized below. The agency responses are in italics.

ONRC submitted the following comment:

> We are pleased that the proposed action developed in the EA has decreased the proposed expansion size significantly from the original scoping notice. The current proposal (in both action alternatives) is much more reasonable for the expected use of the rock pit and will have significantly less impact than a larger expansion.
>
> Our main concern with the proposal is the cutting, and potential removal, of 6 to 10 large (>21" DBH) trees and 10 snags within the expansion area. While we understand the need for cutting these trees if the rock pit is to be expanded, we ask that you use the trees to help meet deficit down wood levels in the surrounding area. Please consider using the cut large trees and snags as down wood in the nearby landscape, instead of a commercial sale of the material.

Forest Service Response:

> *The loss of snags and downed wood is considered incidental due to the small size of the project area in relation to the landscape scale of the subwatershed. (EA page 27). Using the large trees and/or the snags to increase down wood levels would not make an appreciable difference in the number of snags and downed wood in the subwatershed. In addition, one of the purpose and needs for the project is to remove trees that have economic value. However, some of the snags and other organic material may be reserved for reclamation activities (EA p 14).*