

3.17 Transportation System and Gravel Pits

3.17.1 Summary

The purpose of this section is to provide information on the proposed changes to the transportation system in the Border Project area, including system roads, temporary roads and associated gravel pits. In addition, this section includes information on the transportation system that is helpful in understanding how roads affect the other resource areas. However, this section will not disclose the effects of adding roads to the system or of using temporary roads. Environmental effects of the road system are disclosed in relevant Chapter 3 sections of this EIS.

Most of the proposed treatment units can be accessed via existing system roads or temporary roads. Therefore, in the Border Project, there is minimal need for new roads to be added to the system. Alternative 1 would not add any additional roads to the system. However, Alternatives 2 and 3 would add about 1.6 miles of OML 1 winter road and 0.6 miles of OML 1 seasonal road to the managed road system. These new roads added to the system would not be open for public motorized use per Forest Plan direction (Forest Plan page 2-49, O-TW-3). Also, Alternatives 2 and 3 include proposed decommissioning of 9.7 miles of road (mostly winter road). As a result, there would be a net reduction of 7.5 miles of road in the Project area.

3.17.1 Introduction

Management of the minimum road system needed for long-term vegetation management is part of the purpose of the Border Project. The Project's interdisciplinary team considered the entire transportation system within the Project area and made proposals regarding the future need and designation of roads (Forest Plan, pg. 2-49, O-TS-7).

The roads data and mapping were based on the Forest's most current road information. In addition, District personnel reviewed the data for edits and proposals (Project file). Also refer to the 2004 Superior National Forest Plan Final EIS Appendix F for more information on road inventory and management. To help the reader, definitions for road terminology are listed below (Table 3.17.1) Appendix F of the SNF Forest Plan EIS also includes photo examples of the primary types of roads.

Table 3.17.1 Road Types and Definitions	
Road Type	Definition
Classified Road	Roads wholly or partially within or adjacent to National Forest System (NFS) lands that are determined to be needed for long-term vehicle access, including forest system roads, State roads, county and township roads, and other roads authorized by the Forest Service.
Objective Maintenance Level OML	Objective Maintenance Level for Classified Roads is the intended level of maintenance to be received by each road. OMLs are divided into five levels of maintenance intensity, with the levels numbered from 1 through 5: OML 1 designating the lowest level of maintenance and OML 5 designating the highest level of maintenance.
OML 1 Seasonal	NFS Classified Road with an objective maintenance level of 1. This is a seasonal intermittent service road closed to street legal motorized vehicular traffic.
OML 1 Winter	NFS Classified Road with an objective maintenance level of 1. This is an intermittent service road only used in winter. These roads are constructed typically without removal of the existing topsoil, and utilize snow and ice as part of the road surface. They are only used during frozen roadbed conditions, and are closed at other times of the year.
OML 2	NFS Classified Road with an objective maintenance level of 2. Roads operated for use by high clearance vehicles. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted (such as log haul), dispersed recreation or other specialized uses.
OML 3	NFS Classified Road with an objective maintenance level of 3. Roads operated for use by passenger car vehicles. Roads in this maintenance level are typically low speed, single lane with turnouts and surfaced.
OML 4	NFS Classified Road with an objective maintenance level of 4. Roads operated for use by passenger car vehicles. Most roads are double lane and aggregate surfaced. However, some roads may be single lane.
Classified Seasonal Road	NFS road constructed for seasonal use. These roads are constructed for dry weather use, and are normally constructed of native or pit run borrow material. In addition to spring load restrictions, these roads are normally closed to use during unseasonable wet weather periods. These are typically OML 1 and 2 roads, and suitable for high-clearance vehicles.
Temporary Road	A road that is authorized for short-term use and not intended to be part of the forest transportation system.
Trail	A linear travel way for purpose of travel by vehicles 50 inches in width or less, pack animals or people.
Unclassified Road	Roads on NFS land that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization.

3.17.2 Current and Proposed Transportation System

Maps 2 and 3 depict and Table 3.17.2 summarizes the existing transportation system. System trails are shown on the maps for reference but are not summarized in the table because changes are not proposed for trails. It is important to remember that National Forest System Roads, which are land management roads, are not public roadways and restrictions may apply for use by the public. As a result, roads may or may not be open for public motorized use. Motorized use of roads in the Border Project area is summarized in this EIS section 3.6.

Maps 2 and 3 depict and Table 3.17.2 shows transportation system changes by alternative (Alternatives 2 and 3) compared to the existing condition (Alternative 1) within the Border Project area. The difference between Alternatives 2 and 3 is the mileage of temporary roads with 44 miles estimated for Alternative 2 and 38 miles estimated for Alternative 3.

Because the interdisciplinary team looked at the long-term transportation system needs while developing the alternatives, the system road changes are the same for the Alternatives 2 and 3. Proposed changes to the road miles were determined by needs within the Project area including, but not limited to, vegetative management, land access requests from the State and county, and access to gravel resources. Vegetative management is the main purpose and need of the Border Project and most decisions were based on this.

Proposed and future vegetative treatments within the Project area determined, for the most part, the type of road access needed for each activity; classified system roads (long-term access) or temporary roads (short-term access). Generally, pine stands that would be commercially thinned every 10-15 years need a classified system road for access. Clear-cuts or other even-aged harvests with natural regeneration or planting of pine or spruce would normally need a temporary road for harvest as well as access for subsequent timber stand improvements. However, if future land management activities were anticipated surrounding such stands, classified system roads were proposed because multiple commercial entries were anticipated. In addition, season of access (winter or summer) was generally determined by factors such as wetland crossings, terrain, types of existing access roads in the vicinity, winter or summer harvest, and distance to gravel pits for road building and other associated road costs. System road objective maintenance levels were determined by short and long-term access needs and the ability to maintain the road with available and anticipated funding.

Alternatives 2 and 3 would reduce 7.5 miles of road in the Border Project area. The primary changes proposed to the system are summarized below:

- 1.6 miles of OML 1 winter road added to the National Forest (NF) Road System
- 9.4 miles of OML 1 winter road and 0.3 miles of higher maintenance level road decommissioned
- 0.6 miles of OML 1 all-season road added to the NF Road System
- 0.3 miles of higher maintenance level road on private land removed from the NF Road System

Road Type	Alt. 1	Alt. 2	Alt. 3
OML 1 winter	118.4	110.6	110.6
OML 1 winter roads (Travel Management EA)	2.7	2.7	2.7
OML 1 all-season	12.7	13.3	13.3
OML 1 all-season roads (Travel Management EA)	3.6	3.6	3.6
OML 2	33.2	33.2	33.2
OML 3, 4, 5, and other ownership higher maintenance level roads	57.2	56.9	56.9
TOTAL NFS roads	227.8	220.3	220.3
Temporary road estimate	0	44	38
*The Travel Management EA also includes decommissioning 5.8 miles of existing drivable road in the Project area. These roads are not on the maps or included in this table because they are not needed for the Border Project proposals.			

Several guidelines provide direction for construction or reconstruction of system roads or temporary roads. The State of Minnesota’s “Sustaining Minnesota Forest Resources Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers and Resource Managers” (June 2005) were developed to guide landowners in “best management practices” during forest management. Roads are covered in the chapter on “Forest Road Construction and Maintenance”. Additionally, Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03 and provisions in timber sale contracts also are used as guidelines and specifications for the construction and maintenance of system and/or temporary roads. Also see Appendix B in this EIS for implementation direction measures pertaining to roads.

As shown in Table 3.17.2 temporary roads proposed in Alternatives 2 and 3 are the biggest contributor to the change in miles of road from the existing condition. Temporary winter roads make up the highest number of miles due to lowland access associated with many of the vegetative treatments and that only short-term access is needed. In addition, winter roads would allow economical access to land areas that would otherwise be financially harder to reach.

3.17.3 Proposed Road Decommissioning

Table 3.17.3, Roads Proposed for Decommissioning, lists roads within the Project area slated for decommissioning or removal as system roads. The majority of roads planned for decommissioning are winter roads through swamps or roads that could receive resource damage and are not good candidates for motorized recreational use. These roads are not needed to meet land management objectives or the access needs of other landowners. Forest Plan direction as well as national direction requires maintenance of the minimum road system necessary to carry out land management activities. Also see Appendix F, Volume II, FEIS Forest Plan Revision (July 2004) for more information as well as pages 2-47 to 2-50, Forest Plan.

Decommissioning of roads would return the roadway to a more natural state and put it back in to productivity. Generally, the beginning 50 feet or so of the road would remain open to allow for dispersed camping or parking for recreational activities. Several decommissioning techniques would be used as described in the 2004 Superior National Forest Plan Final EIS Appendix F. G-TS-16, page 2-50, in the Land and Resource Management Plan (July 2004) lists five site-level conditions (items a thru e) that are part of decommissioning that could be used. Not all decommissioning techniques would be used on every road. Each road is different and surveys will be conducted to determine what decommissioning techniques are required to effectively close the road. Soil and water improvements would also be designed into the decommissioning where applicable. Roads would be decommissioned when funding becomes available. This can be accomplished through several different funding sources such as stewardship contracts, soil/water improvement funds, Knutsen-Vanderelt (KV) funds as well as others.

3.17.4 Forest-wide Travel Management Project

Unclassified roads are roads that currently have some motorized vehicle use, but have not been designated as a National Forest System road. Decisions on unclassified roads will be made in the Forest-wide Travel Management Project. Further, the Forest-wide Travel Management Project applies to the entire Superior National Forest and includes the Border Project area. As a result of the Forest-wide Travel Management Project, unclassified roads would either be added to the road or trail system, or be decommissioned. Decommissioning roads involves stabilizing and restoring unneeded roads to a more natural condition. Additional information on the Forest-wide Travel Management Project can be found on the Forest web site (www.fs.fed.us/r9/superior) under Projects and Plans. As noted, unclassified roads were not planned to be included in the Border Project. However, one unclassified road (0.1 mile) that was inadvertently omitted from the Forest-wide Travel Management Project will be included in the Border Project to be an OML 1 road.

The Border Project interdisciplinary team considered the Forest-wide Travel Management proposals in design of the Proposed Action. Border Project analyses use the assumption that the Forest-wide Travel Management decisions would be implemented. If a Forest-wide Travel Management decision is not final when the Border Project is to be implemented, the existing unclassified roads with decisions from Travel Management and needed for Border would be used temporarily for the purpose associated with the Border Project. Once those purposes for the Border Project are met, those segments would continue to be addressed through the Forest-wide Travel Management Project. If county or State access is needed using unclassified roads, those segments would also be used temporarily and left in their existing conditions until the Travel Management decision is final. The unclassified roads planned for decommissioning in Travel Management are not shown on the maps because these roads were confirmed not to be needed for Border vegetation or any agency vegetation management access at this time. The following summarizes Travel Management proposals within the Border Project.

- 2.7 miles of OML 1 winter road added to the NF Road System
- 3.6 miles of OML 2 all-season road added to the NF Road System
- 5.8 miles of existing drivable roads decommissioned

Table 3.17.3 Roads Proposed for Decommissioning	
Road Number	Miles
489 G	0.6
490 AB	0.05
490 A	0.6
490 AA	0.3
498	0.85
479 B	0.4
497	1.3
497 A	0.4
491 EDA	0.5
859AC	0.1
859 A	0.6
859 AD	0.6
495 F	0.9
606 AA	1.1
495 K	1.0
493	0.4
Total Miles	9.7



Figure 3.17.1 Example: *Before* an Effective Road Closure (Summer 2001)



Figure 3.17.2 Example: *After* an Effective Road Closure (Summer 2005)

3.17.5 Gravel Pits

Aggregate from gravel pits produces materials that are used in road construction and maintenance; trail construction and maintenance; and site development for both public and private facilities. This use creates a demand for gravel within the Border Project area. Likewise, this Project includes continued extraction of gravel from eleven existing gravel pits, development of one additional gravel pit, expansion of three existing gravel pits, and rehabilitation of one depleted gravel pit.

Implementation of Alternative 1 (no action) would result in no additional vegetation management activities and associated road building under this project analysis. Use of existing gravel pits would continue to meet the current need for gravel resources as described here. Gravel would still be in demand across the Project area for maintenance of the current transportation system and other Forest Service facilities such as campgrounds and parking lots. Also, maintenance and construction of roads for other governmental agencies would likely call for use of existing sources. Additionally, gravel would be needed for site development and maintenance and construction of roads within private parcels of land.

Implementation of Alternatives 2 and 3 would result in vegetation management activities that could require the use of gravel for the associated management of the transportation system. The gravel pits included in this analysis would continue to be available to meet the needs of this Project and the need for gravel for other public and private developments. The difference in the amount of material that would be extracted between the action alternatives would be minimal, if any. In addition, implementation of Alternatives 2 and 3 would result in the rehabilitation of the Crane Pit. The pits and their existing and potential size and estimated quantity of material are summarized in Table 3.17.4.

Glacial deposits in the Border Project area vary from shallow to bedrock soils, to deep moraines and deep sand and gravel deposits. Deep sand and gravel deposits are the typical locations for the extraction of mineral material. Because of the topography of the bedrock formations and glacial activity in the area, these deposits occur in various locations. There is an increasing demand for sand and gravel from the existing pits within the Project area. Most of this demand is for relatively small volumes of material for construction, reconstruction, and maintenance of roads and trails and for small construction projects such as parking lots and boat ramps. There is also a need for material for development of private land, projects such as septic systems and driveways. However, the demand for this type of use is usually less than 2,000 cubic yards annually. The Forest Service collects a minimum of \$1.10/cubic yard for gravel pits and some material can cost more if the material is of higher quality. A portion of the fees (\$0.15/cubic yard) from all gravel sales goes into a resource recovery fund that is managed on the Superior National Forest. These funds can then be used for further development of material sources or for rehabilitation of depleted gravel pits.

Table 3.17.4 Gravel Pits in the Border Project Area			
Gravel Pit Name And Legal Description	Current Size (acres)	Estimated Potential Size (acres)	Estimate of Material Available (cubic yards)
Johnson Lake T67N, R18W, Sec 6	0.3	1	20,000-25,000
*Old Woman T67N, R18W, Sec 23	5	40	100,000
*Dixon T67N, R18W, Sec 27	3	12	150,000-175,000
Scot T67N, R18W, Sec 26	0.3	1	15,000-20,000
Crane T67N, R17W, Sec 28	0.1	1	Depleted Rehabilitate
Echo River T66N, R16W, Sec 17	1	2	50,000-75,000
Echo Rapids** T66N, R16W, Sec 18	4	20	200,000-400,000
Lone Pine T66N, R17W, Sec 14	1	1	150,000-175,000
LaCroix 17/VRL T67N, R18W, Sec 34	0.1	1	Unknown
*Kabustasa T67N, R17W, Sec 20	1	5	175,000-225,000
Gold Gate T66N, R17W, Sec 8	0.1	1	unknown
Cemetery T66N, R17W, Sec 32	0.1	1	14,000
New T67N, R18W, Sec 22	0		unknown
* Gravel pits proposed for expansion. ** Echo Rapids EA completed in 2002.			

3.17.6 Other information

This final section briefly describes the proposed haul route, a proposed easement, and describes the process for crossing other ownership.

The haul route for transporting forest products from timber sales would generally be south via roads 24 and 203. However, the far northwest portion of the area would likely have a haul route west using Forest Capital Partners roads. Accordingly, permission would be requested for such access from Forest Capital Partners as well as other land owners and agencies prior to implementation. Proposed special use road requests and one proposed easement are addressed in Section 3.18 of this EIS.