

TRUE NORTH PROJECT

Transportation And Maintenance Plan

**Fairbanks Gold Mining, Inc.
A Subsidiary of Kinross Gold Corporation
P.O. Box 73726
Fairbanks, Alaska 99707-3726**

December 2000

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APPENDIX

Appendix A Plan Profile Intersection Detail and Typical Cross Section

1.0 INTRODUCTION

Fairbanks Gold Mining, Inc. (FGMI), a wholly owned subsidiary of Kinross Gold Corporation (KGC) has prepared this transportation and maintenance plan for the access/haul road between the True North Project and the Fort Knox Mine.

Periodic updates of this plan will coincide with regulatory changes, one-year reviews, operating modifications, or anomalies noted as a result of the haulage operation.

1.1 GENERAL INFORMATION

Date: December 2000

Name of Facility: Fairbanks Gold Mining, Inc. – True North Project
Type of Facility: Gold Mine and Operation

Location: The True North Access/Haul Road is located on a combination of State, RS2477, School Trust, Mental Health Trust, and FGMI-owned lands.

Corporate Information:

Business Name: Fairbanks Gold Mining, Inc.
Address: P.O. Box 73726
Fairbanks, Alaska 99707-3726
Telephone: (907) 488-4653
General Manager: Thomas E. Irwin
Operations Manager: Rick A. Baker

Fairbanks Gold Mining, Inc. is a wholly owned subsidiary of

Kinross Gold U.S.A., Inc.
185 South State Street, Suite #820
Salt Lake City, UT 84111

Designated Contact Person for Regulatory Issues:

Name: William R. Jeffress
Title: Manager of Environmental Services
Telephone: (907) 488-4653 Ext. 2206

1.2 SITE DESCRIPTION

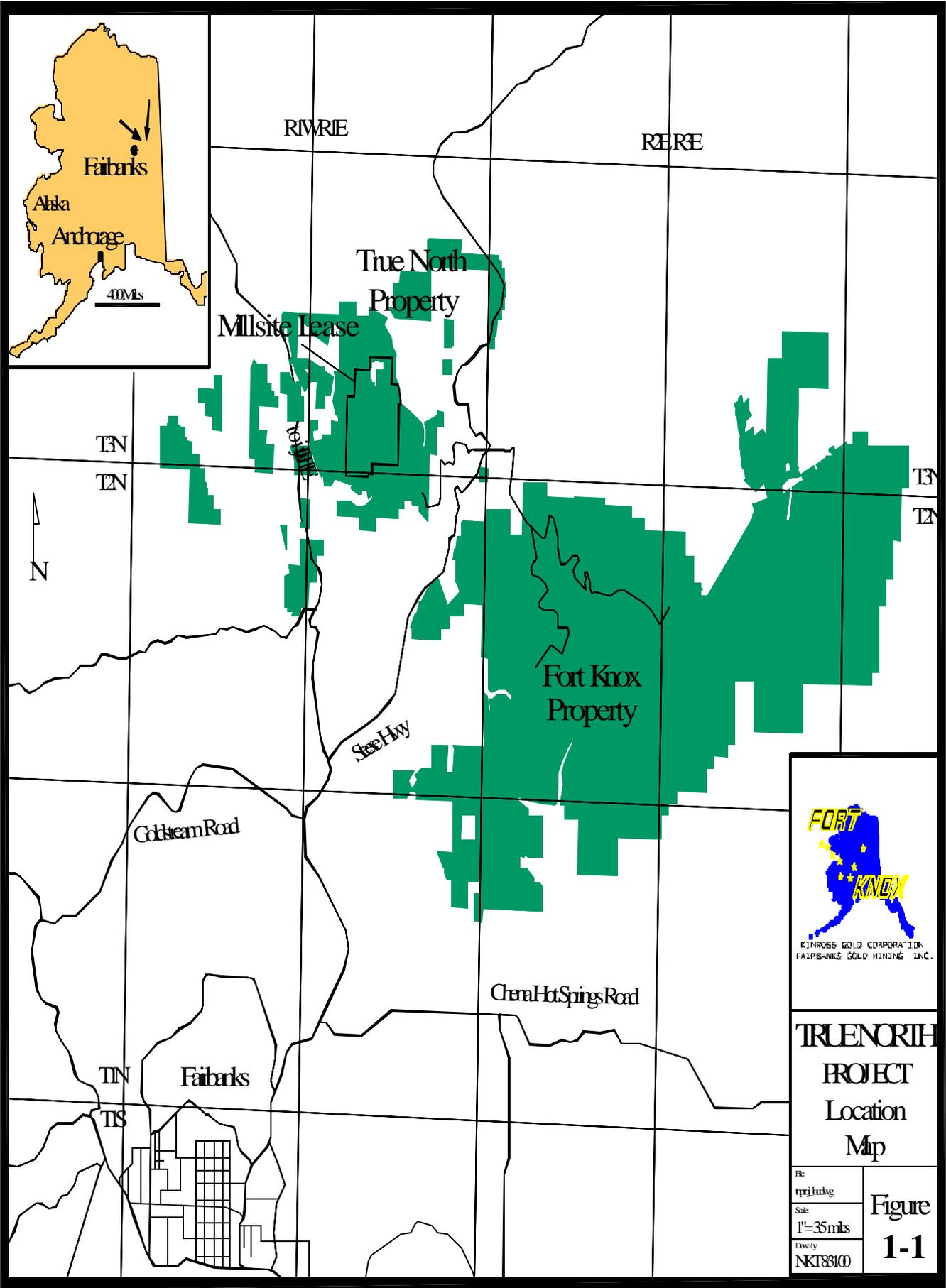
The True North Project is within the Chatanika River watershed located on the northwest flank of Pedro Dome approximately 25 miles northeast of Fairbanks. The ridgelines drain into Murray Creek, a tributary of Dome Creek to the south; and Louis Creek, Whiskey Gulch, and Spruce Creek, tributaries of Little Eldorado Creek to the north. Figure 1-1 shows the general location of the True North Project.

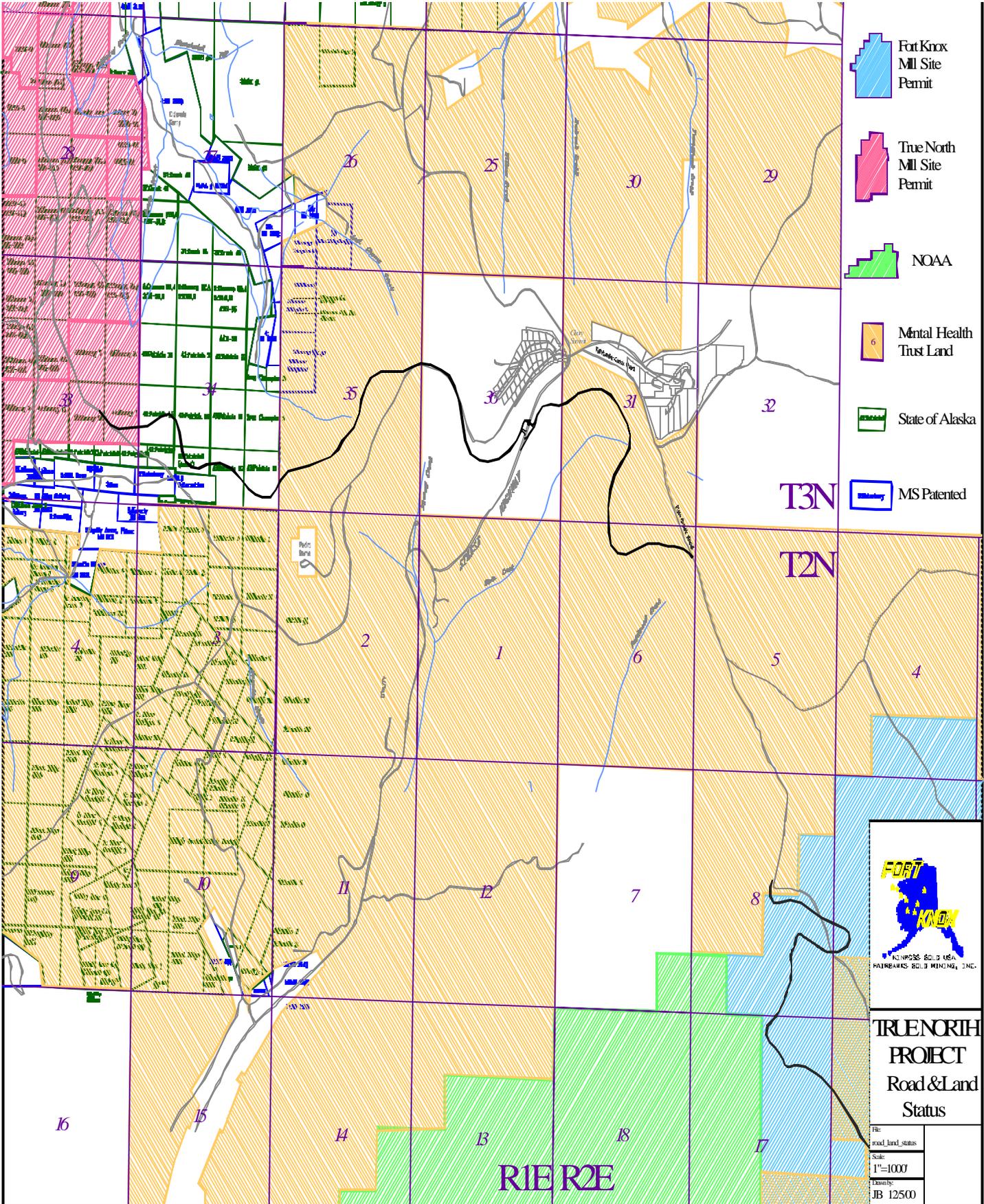
The Project will operate year-around with conventional open pit mining averaging 30,000 tons per day; of which, approximately 10,000 tons of ore per day will be trucked to the Fort Knox mill for processing. The access road from True North to Fort Knox is approximately 10 miles long from gate-to-gate with a 32-foot wide running surface. Figure 1-2 shows the proposed alignment and land status of the True North Access/Haul Road ("the road").

No process components will be present at the property; therefore mining will be similar to a gravel pit or rock quarry operation.

1.3 OBJECTIVES

The Transportation and Maintenance Plan is prepared in accordance with the True North Right-of-Way Proposed Decision, ADL 416471, Attachment 6, Part 31. The purpose of this document is to provide information to all concerned parties regarding the operation of the proposed private/exclusive access haul road.





-  Fort Knox Mill Site Permit
-  True North Mill Site Permit
-  NOAA
-  Mental Health Trust Land
-  State of Alaska
-  MS Patented



**TRUENORTH
PROJECT
Road & Land
Status**

File:
road_land_status
Scale:
1"=1000'
Drawn by:
JB 12500

R1E R2E

2.0 ROAD DESIGN

As part of Alaska statute (AS 19.25.200) *Encroachment Permits*, the Alaska Department of Transportation and Public Facilities (DOT) have adopted the Driveway Design Standards and Regulations. These standards represent the minimum criteria for design, construction and operation for every driveway or intersection, which intersects a public roadway within the State of Alaska. Whenever a person or Company wishes to place a driveway within the State road right-of-way, the law requires that a Driveway Permit be obtained.

Four driveway permits were submitted by FGMI to DOT; three for the east and west intersections and the underpass at the Steese Highway and one for the intersection with Fish Creek Road. Prior to construction of a driveway, DOT reviews the design plans for consistency within the Driveway Standards.

Dot and FGMI have entered into the Steese Highway Undercrossing Agreement that specifically addresses the design (as generally described below), construction, traffic control & detour, and maintenance of the underpass. This agreement will remain in effect until FGMI no longer needs the underpass for its mining operations.

The road design is divided into five sections. These are:

<i>Segment</i>	<i>Station (start-end)</i>	<i>General Description</i>
1. North Pedro (2H:1V)	1+00 to 140+00	steep side-hill topography
2. Pedro Dome Road Upgrade	140+00 to 160+00	relatively flat topography
3. West Steese topography	160+00 to 190+00	moderately flat sidehill
4. Steese Highway Underpass Highway	190+00 to 210+00	bridge/underpass Steese
5. East Steese topography	210+00 to 304+00	moderately flat sidehill

Segment #3 and segment #5 from Station (start-end) 160+00 - 250+00, approximately 8,100 feet (6.0 acres) will be chip sealed to minimize fugitive dust along that portion of the access haul road. Segment #4, the Steese Highway underpass including on/off ramps, will be asphalted. Approximately 2,089 feet will be covered with asphalt.

The plan-and-profile sheets and the typical cross-sections for the road alignment are included in Appendix A.

In addition to meeting and exceeding the Driveway Standards, FGMI incorporated several other safety considerations into the road design. These additional steps further increase the safety of the road, particularly at the intersection of the Steese Highway. These measures reflect FGMI's commitment to achieving a balance of safety with practicality, both for the public and the company traffic. As safety is paramount, these considerations and others are described in this section.

2.1 Usage

The primary use of the private/exclusive access haul road will be for ore delivery to the Fort Knox mill. Nine 600-hp end-dump tractor-trailer trucks will be in operation at any given time, delivering approximately 10,000 tons per day of ore. The trucks will average a 60-tons payload and a cycle time of about 1.1-hours round-trip. Approximately 167 trips per day will occur 24-hours a day, 365 days a year.

Other traffic occurring on the access/haul road will be:

- employees to/from Fort Knox and True North
- vendors and delivery services
- Fort Knox and True North mine tours

The existing Fairbanks Creek, Fish Creek, and Pedro Dome roads will remain open and continue to provide access to residents, recreational users, and other exploration/mining activities.

2.2 Speed Limit

The designed speed limit for the road is 40 mph with an average daily traffic (ADT) assumption of 500 vehicles. The posted speed limit along the access/haul road is 35 mph, except near the Steese Highway (15 mph) and Fish Creek Road (25 mph) intersections.

Truck speed is one aspect of road design, and braking is obviously an important factor in controlling speed, especially on downhill, loaded hauls. The ore trucks have a triple brake system; each of which can operate independently, if necessary. These are discussed below:

1. **Truck Service Brake** - standard with each unit, but can fade or overheat over time
- extended use results in increased engine, drivetrain, and tire wear
2. **CAT BRAKESAVER** - uses hydraulic retarder; utilizes oil churning action with rotor/stator (auxiliary) quiet, yet contributes up to 133% of engine hp at the drive wheels
3. **JACOBS ENGINE BRAKE** engine compressed air released through exhaust, not piston stroke (auxiliary) louder, but mitigated with *Silent Partner* muffler (see Noise section)

With all three systems, the operator has over 720 hp of braking at 2100 rpm, a tremendous performance advantage over other braking systems; thereby, increasing his/her confidence and control of the vehicle's speed.

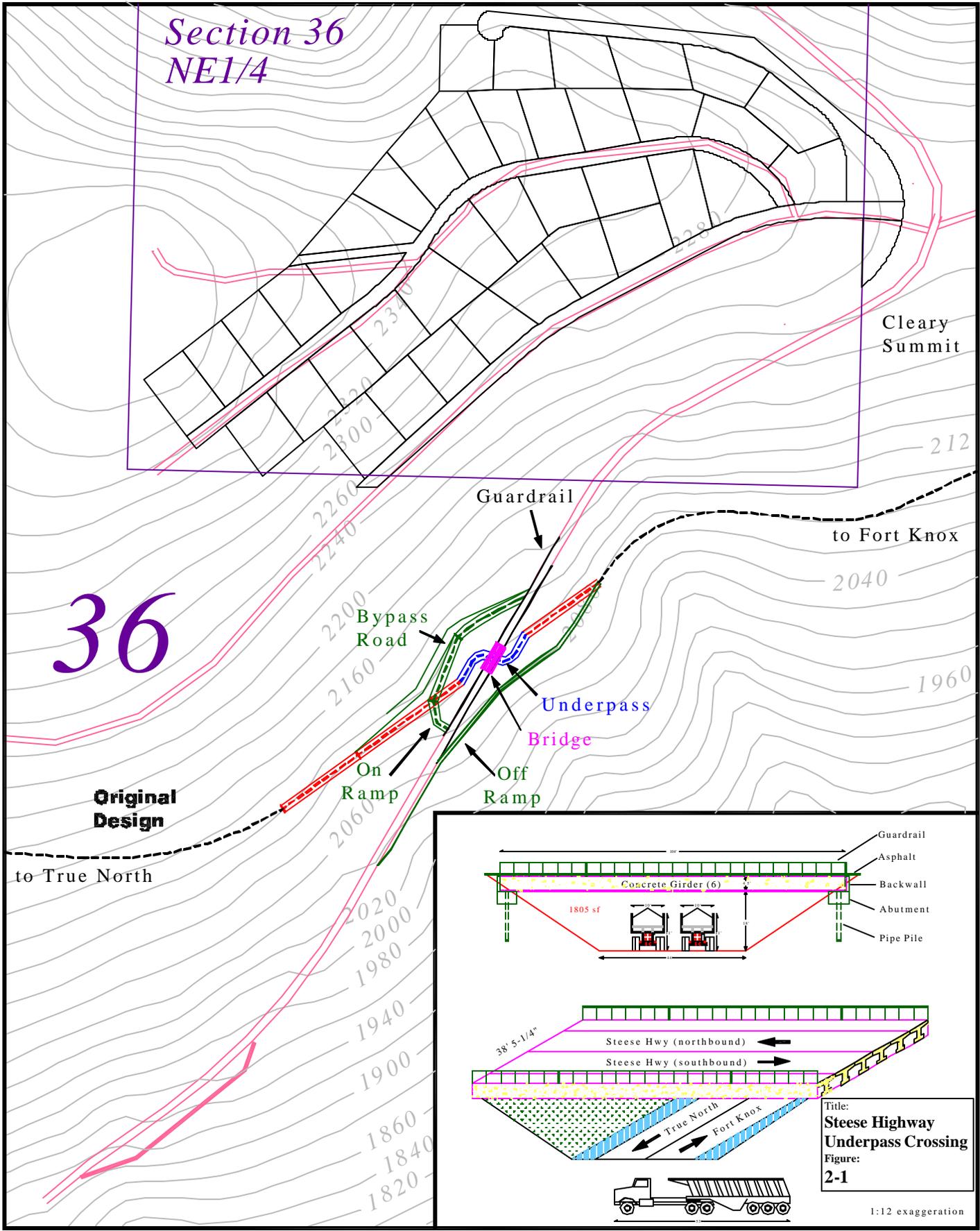
2.3 Sight Distance

One of the most important conditions within the Driveway Permit Standards is sight distance. Sight distance criteria involve several aspects of design, including the speed of the oncoming traffic and the grade of the road profile. Due to the underpass design of the access/haul road these conditions and concerns have been minimized in respect to ore haulage. Ample sight distance is present for both the on. Figure 2.1. depicts the general arrangement of the underpass crossing and on/off ramps.

2.4 Signing and Signaling

All vehicles on the road will honor "right-hand traffic" where the ore trucks co-mingle with public traffic. Areas within the property gates at True North or Fort Knox may utilize "left-hand traffic" where the ore trucks co-mingle with the larger open-pit haul trucks, depending on specific safety considerations at each operation.

The permanent signing detail for the road and the Steese Highway will be installed as well as pavement markings for the Steese Highway turn lane. Signage will include a "No Left Turn" sign placed south of the interchange on the Steese Highway. All other signage required by DOT is depicted on the design drawings on file at DOT and ADNR's Fairbanks offices.



Section 36
NE1/4

36

Cleary Summit

Original Design

Guardrail

Bypass Road

On Ramp

Off Ramp

Underpass
Bridge

to Fort Knox

to True North

Title:
**Steese Highway
Underpass Crossing**
Figure:
2-1

1:12 exaggeration

2.5 Other Safety Considerations

As currently designed, the road underpass meets and exceeds the Driveway Permit Standards. The off and on ramp intersections become even safer with the underpass construction adjustments

In addition to the road signs, several other safety considerations were incorporated into the design of the road. These modifications are listed below.

- Right-hand Turn Lane.

Both Fort Knox and True North traffic traveling uphill on the Steese Highway approaching the road intersection will be required to make a right turn toward Fort Knox.

The situation is avoided in which a vehicle attempting to make a left turn, but is forced to yield to oncoming traffic, is unable to get started again because of the grade and/or road conditions of the Steese Highway.

Additionally, passenger vehicles following uphill behind slower-moving traffic on the Steese Highway will have an opportunity to pass safely at this point without leaving their designated driving lane.

- Cut-Banks.

To further improve sight distance and driver awareness, FGMI will construct cut-banks in the west side-slope near the intersection of the Steese Highway. The cut-banks will be constructed, as appropriate, with the approval of DOT to maximize sight distance at the intersection.

The cut banks and side hills will be stabilized according to DOT standards and where appropriate vegetation reestablished that would not interfere with sight distance.

3.0 OPERATING CONDITIONS

As the True North Project and the associated ore haulage plan is a 24-hour, 365-day operation, various operating conditions are expected throughout the year. Alaska offers a wide range of weather conditions throughout the year, and this plan doesn't address every conceivable scenario. However, this section does discuss the most common situations and those specifically mentioned during the public process.

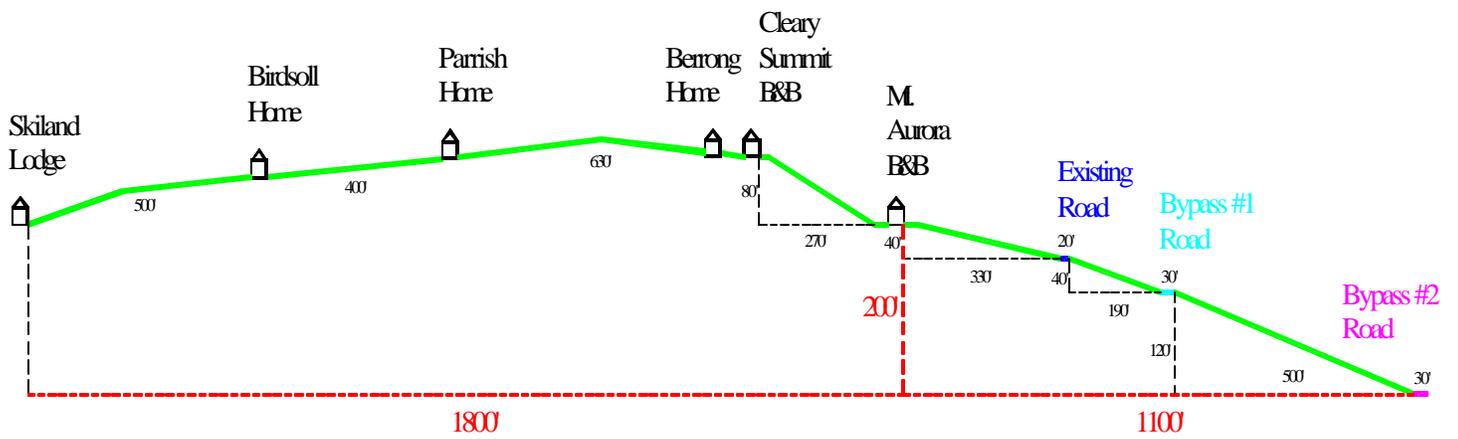
3.1 Lights

There are no regulatory statutes at the Federal, State, or local level of government that establish baseline and/or monitoring criteria for potential light impacts at a given point in space. In lieu of a regulatory standard, FGMI has already reviewed several mitigating techniques should significant light "pollution" occur from either the truck traffic or the road flashers. These efforts represent FGMI's measures to co-exist with the neighboring subdivisions and the aurora-viewing tourist industry.

Most aurora viewing in the Skiland Subdivision is from the Northeast in an arch to the Northwest, but with aurora present in all directions at times. Should aurora viewing occur in the direction of the road, illumination from the City of Fairbanks' lights would likely detract from the view. One mitigating factor to minimize impacts to viewing is the relocation of the road itself, which is now aligned toward the West and South-Southeast side of the subdivision at least 200-ft below and 1100-ft away from the nearest viewing location. A cross-sectional view of the road with respect to potential aurora viewing locations is shown in Figure 3.1.

Another aspect of the road design that mitigates potential light impact is the grade of the road. At any point along the road alignment traveling to/from True North, a truck's headlights will be facing either away from the residences or down into the side-hill road and vegetation. Skiland Subdivision will have no direct light from the ore haul trucks during the round-trip between True North and the Fort Knox Mine.

FGMI will continue testing several trucks with the latest in European headlamp technology, which only recently has conformed to the SAE and DOT standards. Several headlamps, fog lamps (amber), and visor/hood accessories will be tested to provide an optimal combination of safe visibility and reduced glare.



TRUENORTH PROJECT
 Access Road Alternatives
 Typical Cross-section

Figure 3-1

3.2 Noise

Over the past year, FGMI contracted *Michael Minor & Associates* to analyze the project-related noise levels during the operation of the mine. Using the most recent EPA modeling techniques, the studies performed indicate no significant cumulative noise impact. The results of this intensive work are included in the *True North Noise and Vibration Analysis (August 2000)*. Periodic noise monitoring during the operation of True North will be implemented to verify these conclusions.

To further reduce the potential for noise impact, FGMI will install the *Donaldson "Silent Partner"* muffler system on each of the ore trucks. In addition to reducing sound pressure levels by up to 75%, the muffler design also moderates medium- and high-frequency noise; thereby eliminating the harsh staccato "bark" of an engine (jake) brake. With this technology applied to the ore trucks, both the external and internal quality of sound is improved.

3.3 Maintenance

Road maintenance is an integral part of the operating plan for True North. Maintenance of the new access/haul road will be performed by FGMI, including:

- Maintaining road surface during various weather conditions (Section 3.3.1 and 3.3.2);
- Clearing of vegetation at intersections for sight distance, as approved by DOT;
- Stabilizing cut banks and fill area including revegetation of disturbed areas where appropriate; and
- Ensuring proper drainage control.

The road subbase material is a DOT-approved material classified as Subbase, Grading C. Several running surfaces are being investigated by FGMI. As described in Section 2.0, FGMI will use chip seal and asphalt along the access haul road below the Cleary and Skiland subdivisions. On the remaining portions of the access haul road, FGMI will utilize calcium chloride and water trucks for dust control. A variety of factors (weather conditions, costs, and duration) will determine which surface will ultimately be utilized, but in all cases, dust from the road will be minimized year around.

3.3.1 Summer/Fall

During the summer months, maintenance will include:

- Repairing potholes, ruts, and washboards with fill material and equipment, as needed;
- Replacing damaged reflector markers; and
- Maintaining drainage off the road, and proper operation of drain culverts and sediment control structures.

3.3.2 Winter/Spring

During the winter months, maintenance will include:

- Snow removal;
- Sanding and scarifying road for better traction;
- Sanding the on/off ramp portions of the Steese Highway underpass; and
- Maintaining drainage off the road, and proper operation of drain culverts and sediment control structures.

3.4 Special Conditions

3.4.1 Construction

During construction, traffic on the access haul road will be slowed for safety. Pylon cones and additional signage will be established. Possible detours for workers and vendors will occur during this time, which would entail simply using a by-pass on the west of the underpass construction area and the existing road to Fort Knox until construction is complete or the new road is safe for travel.

3.4.2 Accident/Spill Response

Accident Response

Emergency response personnel, as initial responders, will assist in handling medical emergencies and accidents occurring on the access haul road. Site personnel will be trained to handle injuries and illness as needed. Trained personnel will, to the best extent possible, be distributed throughout all shifts. Fort Knox personnel will assist with the Fort Knox Emergency Response Vehicle and personnel, if needed. In addition to on-site personnel and equipment, services of the Steese Volunteer Fire Department and U.S. Army's Medivac helicopter will be available, if needed. A designated landing zone for emergency helicopter landing will be constructed near the True North Project portion of the road and an emergency helicopter-landing zone is already available at the Fort Knox Mine.

Accidents that occur on the Steese Highway are to be reported immediately to the State Troopers. Available equipment from the True North Project will assist in the expedient clearing of the highway, when requested.

Spill Response

Although spills on the access haul road are the primary responsibility of the trucking company or product manufacturer, FGMI will assist in the coordination of the initial response and cleanup. FGMI environmental personnel will be immediately notified by the operator in order to assist in the cleanup actions and to properly document all the information needed.

A record of all spills will be kept on file and available to the State upon request. This information will be maintained in the same format as the Fort Knox Spill Prevention Control and Counter Measure Plan.

3.4.3 Wildlife Incidents

Wildlife mortalities occurring along the access haul road will be reported to the Alaska Department of Fish and Game (ADF&G). Moose mortalities will be reported to the Alaska Fish and Wildlife Troopers so charitable organizations can be contacted to salvage useable meat.

3.4.4 Reclamation

The access haul road is comprised of approximately 69-acres. This road will require specific evaluation by FGMI, the Mental Health Trust, DOT, and ADNR to determine which portions of the road should be reclaimed and which portions should be maintained for long-term public access.

In areas to be reclaimed, culverts will be removed; natural drainage areas restored or stabilized. Road cuts will be recontoured or stabilized in a manner acceptable to the landowner. Roadbeds will be graded where necessary to provide adequate drainage. Following grading, roadbeds will be scarified/ripped depending upon the degree of compaction and seeded and mulched if needed. Water bars to divert run-on and control erosion and berms to restrict human access will be incorporated where necessary and as approved by ADNR or the Trust Land Office as appropriate.

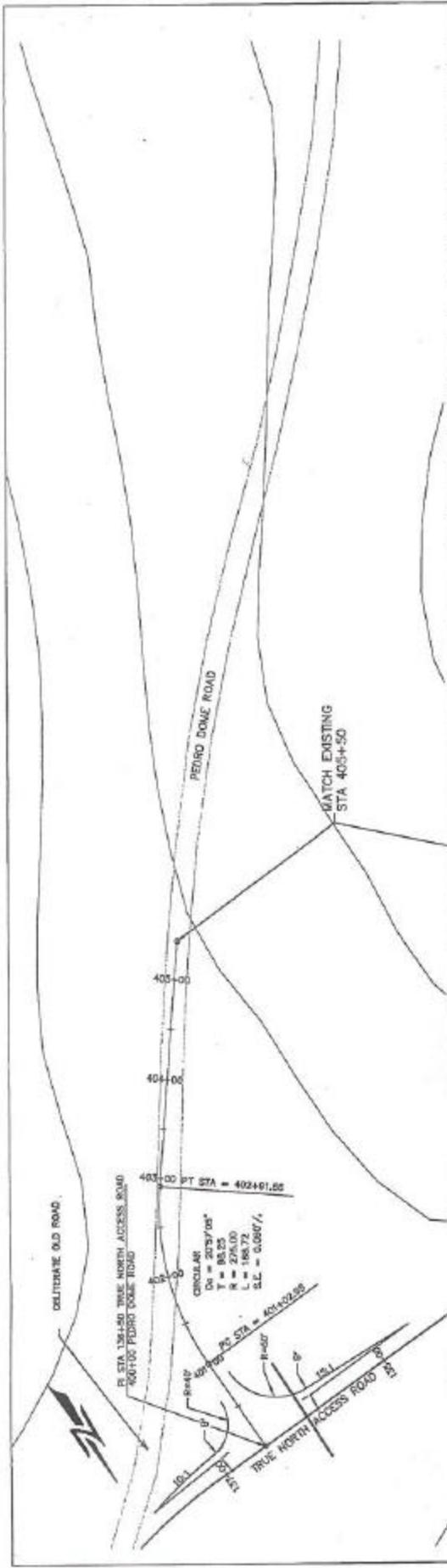
A vegetative cover criterion of at least 70 percent will be achieved prior to final abandonment. The reclamation standard of at least 30 percent vegetative cover over a three-year period is an action level criterion, which will indicate to FGMI that additional reclamation action must be taken to assure a viable vegetative cover is established and natural succession of plant species will continue. Additional action will include reseeding the area, fertilization, or incorporation of additional growth medium on the site. If a substandard vegetative cover does occur, FGMI will be responsible for determining the cause and solution.

APPENDIX A

Plan and Profile Intersection Detail And Typical Cross Section

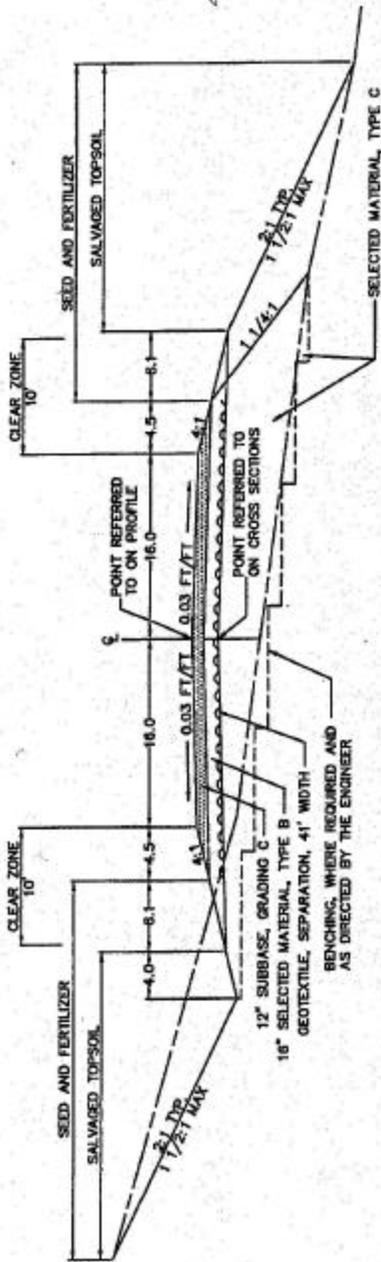
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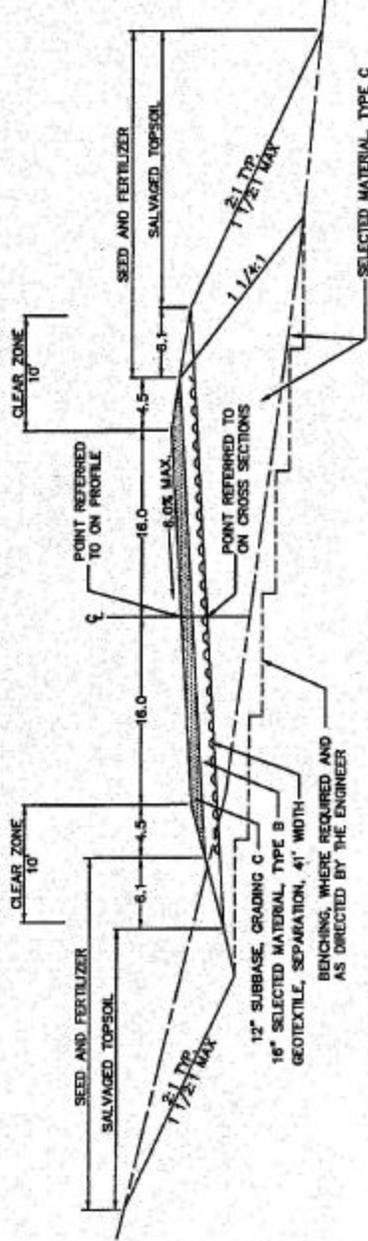


GENERAL NOTES

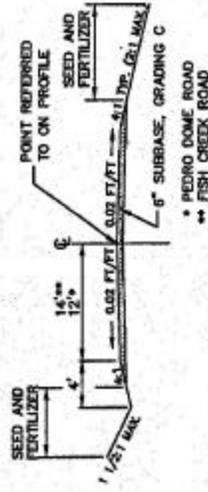
1. AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND ALL SLOPES, DIKES AND BERMS SHALL BE SEEDED AND FERTILIZED, EXCEPT AREAS DESIGNATED BY THE FIELD ENGINEER.
2. SALVAGED TOPSOIL SHALL BE PLACED TO AN APPROXIMATE DEPTH OF THREE INCHES.
3. UNCLASSIFIED EXCAVATION QUANTITIES ARE BASED ON AN OVERBURDEN REMOVAL DEPTH OF SIX INCHES NORMAL.
4. ALL SELECTED MATERIAL SHALL COME FROM UNCLASSIFIED EXCAVATION UNCLASSIFIED MATERIAL DESIGNATED AS WASTE MAY BE DEPOSITED IN FILLS AS TOE BERMS OR SLOPE FLATTENING, AS DIRECTED BY FIELD ENGINEER.
5. SUBGRADE UNDERCUTTING IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS UNCLASSIFIED EXCAVATION. THE EXACT LOCATION OF SUBGRADE UNDERCUTTING WILL BE DETERMINED BY THE ENGINEER.
6. CULVERT LOCATIONS, LENGTHS AND SKEWS ARE APPROXIMATE AND ARE SUBJECT TO MINOR REVISIONS AS DIRECTED BY THE FIELD ENGINEER. ALL CULVERTS SHALL BE FIELD STAKED BASED UPON DESIGN ROADWAY ELEVATION AND WIDTH.
7. WORK REQUIRED TO CONSTRUCT DITCH DIKES WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO THE CORRUGATED STEEL PIPE ITEM.
8. SUPERELEVATION CROWN REVOLVES ABOUT SUBGRADE CENTERLINE SUPERELEVATION RATES AND TRANSITIONS SHALL BE CONSTRUCTED AS SHOWN IN THE SUPERELEVATION SUMMARY.



TYPICAL SECTION



TYPICAL SECTION - SUPERELEVATED



TYPICAL SECTION FOR SIDE ROADS