

7 OPERATIONS: OFFSITE INFRASTRUCTURE

Offsite infrastructure is necessary to support for the proposed cleanup of legacy impacts and site restoration, for exploration, mining and ore processing, and for closure. Offsite infrastructure includes upgrades to existing roads, bridges, services and new offsite facilities required for the Project.

To develop this infrastructure, numerous diversely skilled contractors will be required. As discussed in Section 3.2.4.1, Midas Gold will make sure that both its employees and its contractors take a concentric circle approach to hiring, starting with people based in Valley County, then adjacent Adams County, followed by the broader State population and, finally, the balance of the United States. Hiring preference will be provided to appropriately skilled and experienced residents in that order.

Given the remoteness of the site, the relative short construction season in this part of Idaho, and the complexity of the Project, Midas Gold plans for up to three years of construction work to upgrade, install and construct the supporting offsite infrastructure needed for the Project.

The offsite Project infrastructure needs include:

- Upgrade and extension of the Burntlog Road and portions of the Thunder Mountain Road, including construction material borrow sites, to support safe and reliable all-season access to the site;
- Upgrades and improvements to the existing IPCo electrical distribution system to provide clean, low emissions, reliable, low-cost electricity supplemented by the existing solar power generation system at the site (see Figure 7-1);
- Use of existing or construction of new offsite warehousing, metallurgical laboratory and administration facilities in Valley County, near or within the town of Cascade; and
- A facility to support road maintenance and snow removal along the access route and housing for snowmobile trail grooming equipment as needed.

7.1 SITE ACCESS

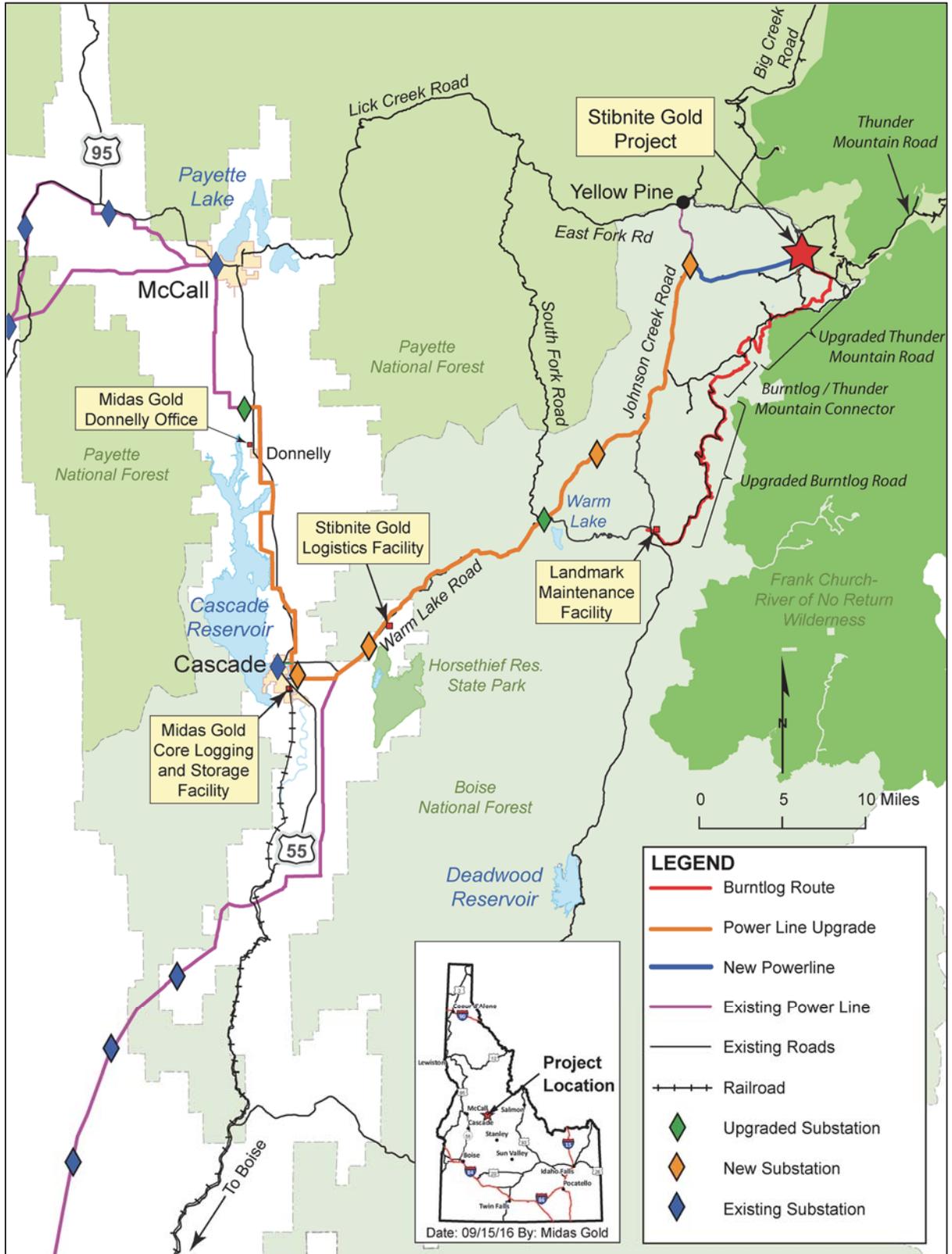
Currently, the Project can be accessed by several different routes (see Figure 1-1).

For initial clean-up, construction, operations, reclamation, and closure activities, Midas Gold plans to access the area from State Highway 55, north of the town of Cascade, via the existing County Road 10-579, known locally as the Warm Lake Highway, which is an all-weather, asphalt paved two-lane road.

Initially, access from Warm Lake to site will be via the existing road network but, based on suggestions received from local community members, Midas Gold proposes to provide long term access via the upgraded and extended Forest Service Road NF-447 (known as the Burntlog Road), and upgraded portions of Forest Service Road 375 (known as the Thunder Mountain Road); see Figure 7-1. The assessment of alternative access routes to site that resulted in the Burntlog Route being the preferred alternative is summarized in Appendix G.

It is worth noting that the idea of using the Burntlog Route for long-term site access was originally proposed by a local resident during one of Midas Gold's early community meetings held in Yellow Pine to discuss the Stibnite Gold Project, and this route has been adopted by Midas Gold.

Figure 7-1, Proposed Burntlog Route and 138 kV Electric Transmission Line Routing



The existing Burntlog Road starts east of Landmark, near the intersection of the Warm Lake Highway and the Johnson Creek Road (Valley County Road 10-413). During the first year of construction, Midas Gold will upgrade, improve and extend the Burntlog Road to connect it to the existing Thunder Mountain Road. Until the upgrade to this access route (the **Burntlog Route**) is completed, Midas Gold employees, construction workers, suppliers and others will access the Project site via the Johnson Creek Road (County Road 10-413) to Yellow Pine, and from Yellow Pine to the Project site via the East Fork Road (Forest Service Road 50-412, also known as the Stibnite Road) (collectively, this route is the **Yellow Pine Route**). The Yellow Pine Route access will require upgrades that may include minor alignment adjustments, widening, ditching, culvert repair, and graveling, as well as winter snow removal and summer dust suppression, all in order to support the increased road use until the Burntlog Route is completed. These upgrades to existing routes are consistent with road improvements and maintenance emplaced during exploration and development activities to mitigate traffic impacts and road use in the area and to limit sediment impacts to area rivers. To support interim winter maintenance activities until the Burntlog Route is available, additional tree clearing may be needed along the Johnson Creek route to facilitate snow removal and disposal from the roadway during this initial period. On completion of the upgrades to the Burntlog Route, the Johnson Creek and East Fork roads will no longer be used by Project traffic.

By creating year-round access via the Burntlog Route, Midas Gold will reduce seasonal (winter) recreational capacity on the road between Warm Lake and Landmark, and will essentially eliminate the use of this route as a groomed snow machine route. To compensate for this likely impact (a loss of approximately 11 miles of currently groomed trail), Midas Gold will work with Valley County and local snowmobile groups to replace the groomed route up the Warm Lake summit with an alternative (most likely a Trout/Cabin Creek routing), which will also provide year-round access for electric transmission line maintenance. Another temporary route will be identified and groomed to facilitate access to the Landmark area during the Project's Construction Phase. During construction and upgrade of the power line corridor along Cabin Creek Road and Trout Creek Road, the trail groomer could be transported between Warm Lake and Landmark to provide access for the groomer. Valley County Recreation Department currently conducts trail-grooming activities in the area with support from user groups and the State of Idaho.

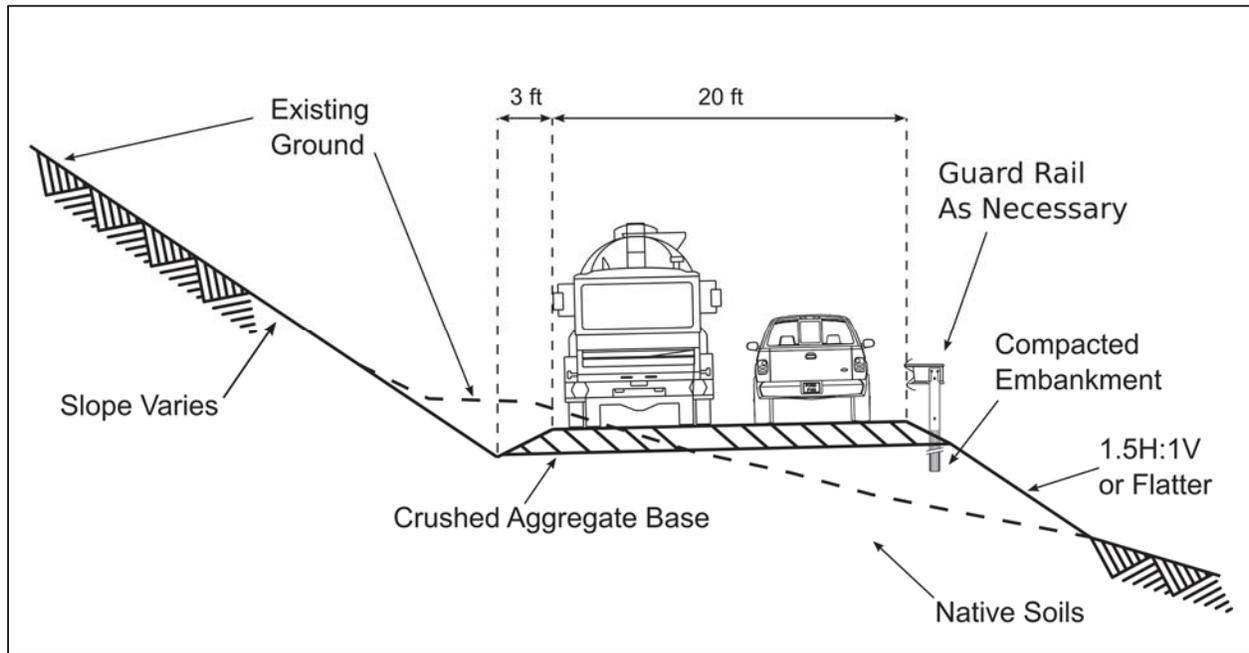
The use of the Burntlog Route will avoid travel adjacent to Johnson Creek and the South Fork of the Salmon River (including the EFSFSR) during operations and closure, substantially reducing potential sediment production from vehicle traffic, and eliminating the risk of vehicle incidents in close proximity to major fish-bearing waterways. Use of the Burntlog Route will also substantially reduce the potential for vehicle incidents with local residents and road users travelling to the established communities along the Johnson Creek Road and in Yellow Pine, and recreational areas such as Big Creek.

To provide for safe, year-round use of the Burntlog Route for Project workers and suppliers, Midas Gold will improve the existing Burntlog and portions of the Thunder Mountain roads as follows:

- Straighten tight corners to allow for improved safety and traffic visibility;
- Maintain grades of less than 10% in all practicable locations;
- Place sub-base material and surfacing with gravel to provide a stable long-term roadway and reduced sediment run-off;
- Widen the existing road surface to a 20-foot-wide travel way (approximately 26 feet including shoulders); Figure 7-2 presents a typical design cross-section for the Burntlog Route;

- Install side-ditching, culverts (see Figure 7-3), guardrails and bridges (see Figure 7-4), where necessary with design features to provide fish passage and limit sediment delivery to streams; and,
- Extend, using the same design and construction criteria, the Burntlog Road to connect to the existing Thunder Mountain Road.

Figure 7-2, Typical Burntlog Access Road Cross-Section



Midas Gold will coordinate with the Forest Service and the Valley County Roads Department regarding the Burntlog Route, which will include an agreement for ongoing road maintenance during the Project life. The maintenance responsibilities will include routine maintenance, dust control, and snow removal to provide safe and efficient year-round access to the Project. Upon Project closure and reclamation, the upgraded portions of the Burntlog and Thunder Mountain roads will be restored to approximately their present conditions, while the extended part of the Burntlog Road will be removed and reclaimed.

Midas Gold will work to optimize cuts and fills during the upgrade and expansion of the Burntlog Road and will establish borrow sites along the Burntlog Road corridor as needed to meet construction and maintenance needs (see Figure 7-5).

Figure 7-3, Typical Culvert Plan and Sections

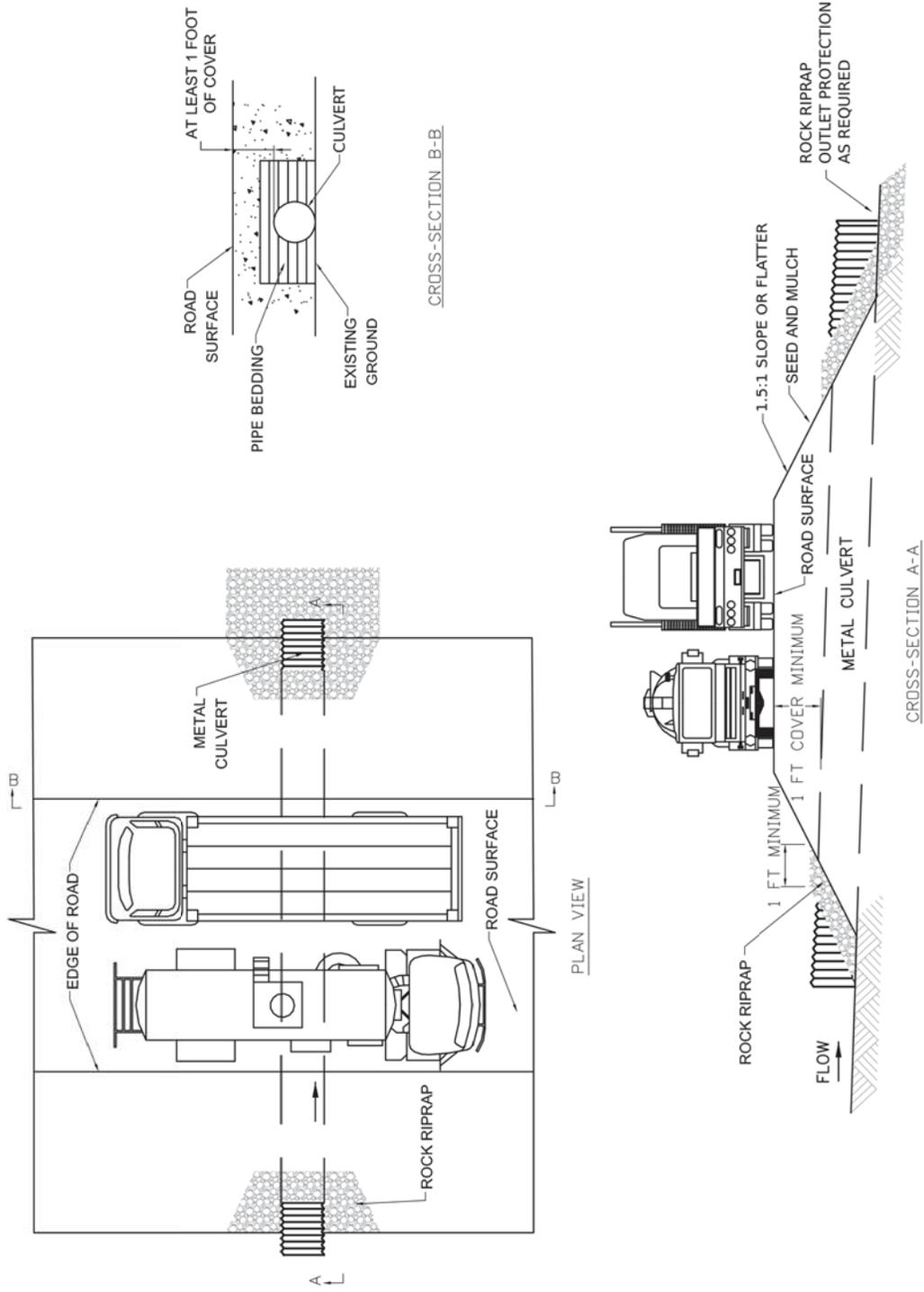


Figure 7-4, Typical Bridge Plan and Sections

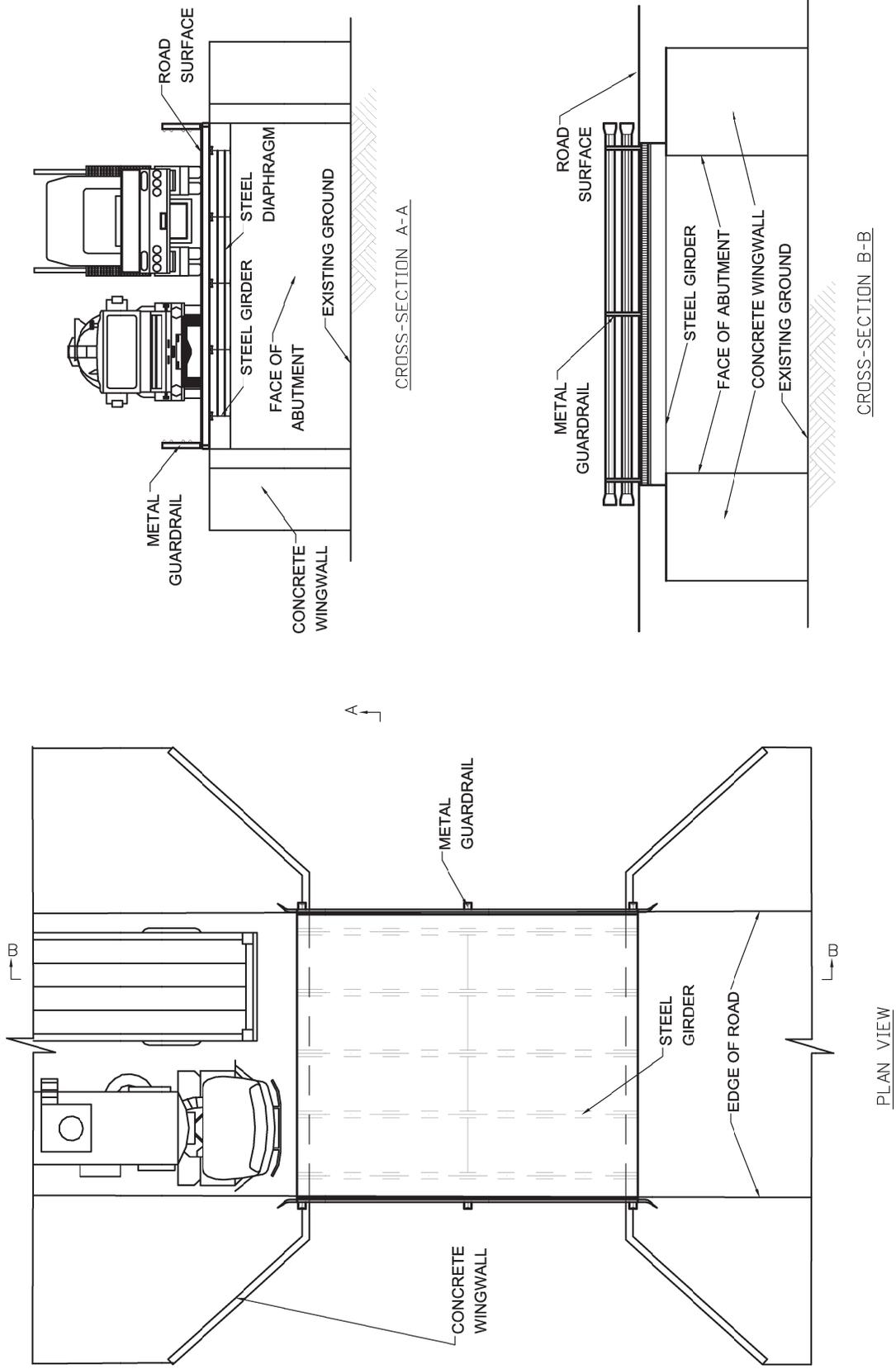
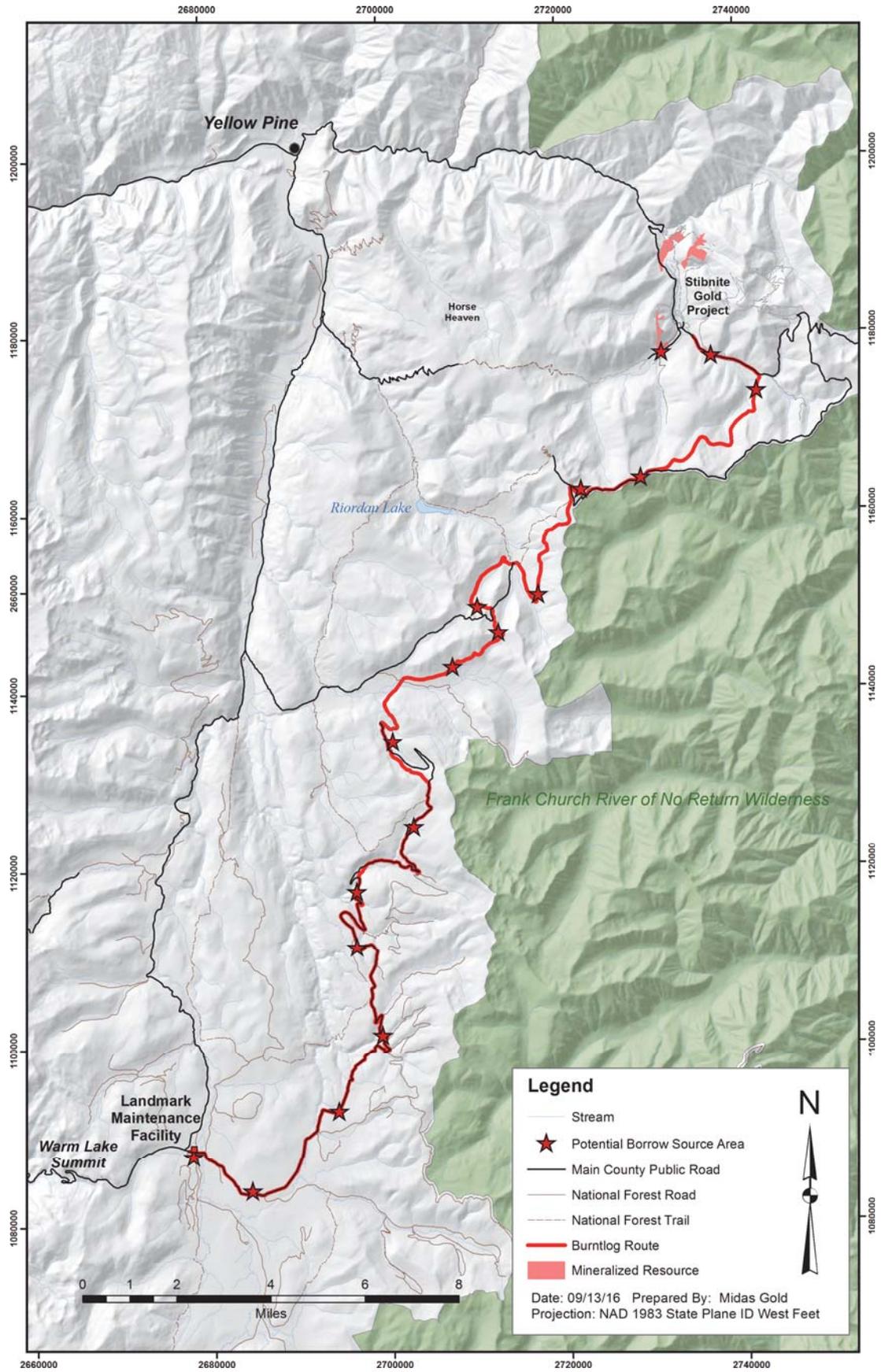


Figure 7-5, Burntlog Route and Potential Borrow Sources





7.2 SOLAR POWER & ELECTRIC GRID POWER SUPPLY

Midas Gold intends to build upon its existing solar power generation system currently used for its exploration facilities, likely improving the current system by installing solar panels on the rooftops of Stibnite Lodge and other buildings, including the Landmark Maintenance Facility. This would further reduce the need for onsite power generation and fuel haulage.

For the majority of its power supply, Midas Gold will contract with the IPCo to upgrade the electric service to the Project site from the existing Lake Fork substation, located south of McCall (see Figure 7-1). Connecting to grid power will eliminate the need for construction of coal, diesel or gas-fired power generation on site, substantially reducing emissions and greenhouse gas generation as compared to these alternatives, and substantially reducing the need to transport such fuels to site, further reducing greenhouse gas emissions and risk of spillage while hauling or handling such fuels. The construction for the upgraded electric transmission line may require replacing existing structures along the existing right-of-way. Existing roads (with temporary spur roads as needed) will be used to gain access for line upgrade construction and any long-term maintenance of the transmission line. Minor upgrades to the Trout/Cabin Creek road will be required to facilitate year-round power line maintenance and to facilitate using this route as a groomed snowmobile route.

From the Lake Fork substation, there is an existing 42-mile long 69 kV electric transmission line that passes through Cascade and connects with a substation near Warm Lake. Electricity for Yellow Pine is presently provided by an existing 21.5-mile long 12.5 kV electric distribution line³ that connects to the Warm Lake substation. Both of these existing power lines are inadequate to meet expected electric demand and loads at the Project and must be upgraded to a 138 kV capacity line.

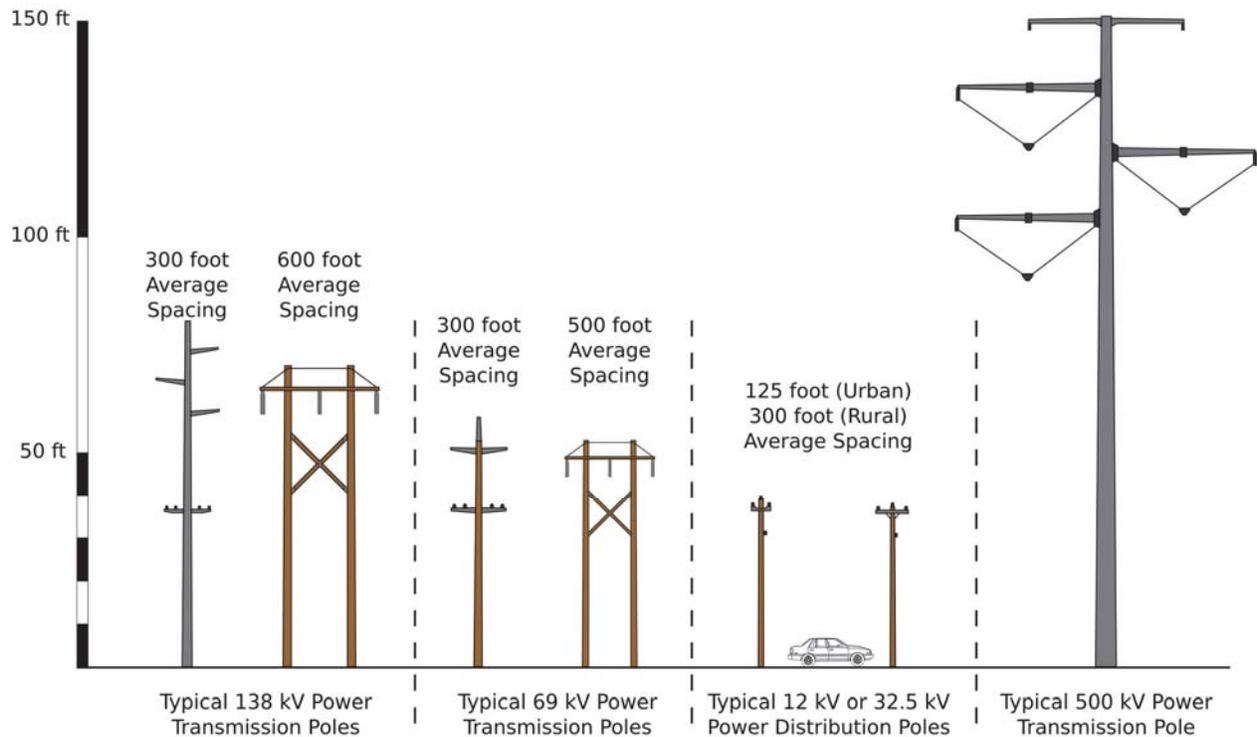
The power line and related structures that, until the 1970s, provided 69-kV line-power electricity from the existing powerline to the Stibnite area have been removed. Therefore, eight miles of replacement overhead 138 kV line will be constructed from the Yellow Pine substation to Stibnite, with associated line and structure upgrades from Lake Fork substation to Yellow Pine substation along the existing route. The upgraded powerline will benefit residents dependent on that powerline through more stable and reliable access to power.

IPCo will also upgrade the 138 kV switchgear at the substations located at Oxbow Dam, Horseflat, McCall, Lake Fork, Cascade and Warm Lake. Combined, these upgrades will (see Figure 7-1) meet the needs of the Project and also maintain stable power supply to the local communities. A new substation will be installed near Johnson Creek airstrip (the “Johnson Creek substation”) to provide electricity to Yellow Pine and the Project site; a new substation will also be needed to support the SGLF (the “SGLF substation”). The upgrades to the local and regional power infrastructure should result in improved reliability to power customers in Valley County. Costs for such upgrades to directly support mine operations will be borne by Midas Gold and improvements will be owned by IPCo.

³ Although the Warm Lake to Yellow Pine distribution line is energized at 12.5 kV, the structures and corridor were originally designed and constructed for 69 kV transmission line (consistent with the previous electric service to Stibnite). Upgrading to a 138 kV transmission line involves a marginally wider corridor and taller structures. The new line will provide reliable long-term electric service both to Yellow Pine residents and to the Stibnite Gold Project community.

The new 138 kV transmission line structures will be either single pole or H-frame structures constructed to Rural Utilities Service (**RUS**) standards (see Figure 7-6). The design will meet Avian Power Line Interaction Committee (**APLIC**) raptor-protection design criteria and grounded hardware requirements, as well as insulating or cover apparatus for perch accommodation.

Figure 7-6, Typical Power Transmission and Distribution Pole Configurations



The transmission line and substation designs will be based on RUS electrical standards for material and construction. IPCo will be responsible for the ultimate power line design and the maintenance of the 138 kV transmission line and the associated substation/switchgear. IPCo will meter electric power for the Project at the Johnson Creek substation.

During construction of the 138 kV line, onsite solar power and generators will be used to produce electric power required for construction work; the 138 kV line is anticipated to come online concurrent with commissioning of the ore processing facility. With the introduction of IPCo line power to the site, the onsite solar power will provide baseload needs while the onsite power generators will be maintained for emergency purposes. Two of the generators will be located in the main substation area adjacent to the ore processing facility, and the third will be located at the onsite employee housing facility. The Project will use the control technologies determined to qualify for Best Available Control Technology (BACT) for each applicable emissions source and pollutant combination. Combined with the use of solar and grid power, these technologies would effectively minimize greenhouse gas and other emissions for combustion sources.

Midas Gold has adopted an energy policy of using low-carbon energy sources of renewable energy as provided by IPCo's hydro facilities and Midas Gold's on-site solar installation, as well as expanding local



forests and other “carbon sinks”. These measures will reduce Project greenhouse gas emissions through this program of localized “climate engineering”.

7.3 STIBNITE GOLD LOGISTICS FACILITIES

In an effort to reduce traffic to and from the Project site, reduce the onsite employee housing requirements and provide more regular weekday jobs within the local community, Midas Gold will locate offsite administrative offices for the operation in Valley County with easy access to State Highway 55 and the Warm Lake Highway. These facilities will be collectively known as the Stibnite Gold Logistics Facilities (SGLF) and will be located in one or more currently existing facilities and/or new facilities on private land. Figure 7-1 provides the location of the main portion of the SGLF and Figure 7-7 presents a general arrangement of the facility; other portions may be located in existing facilities in and around Cascade.

The SGLF will include offices for safety and environmental services, human resources, purchasing and accounting personnel, and for managers. Administrative personnel at this facility will coordinate procurement and payment for the goods and services required at the mine site.

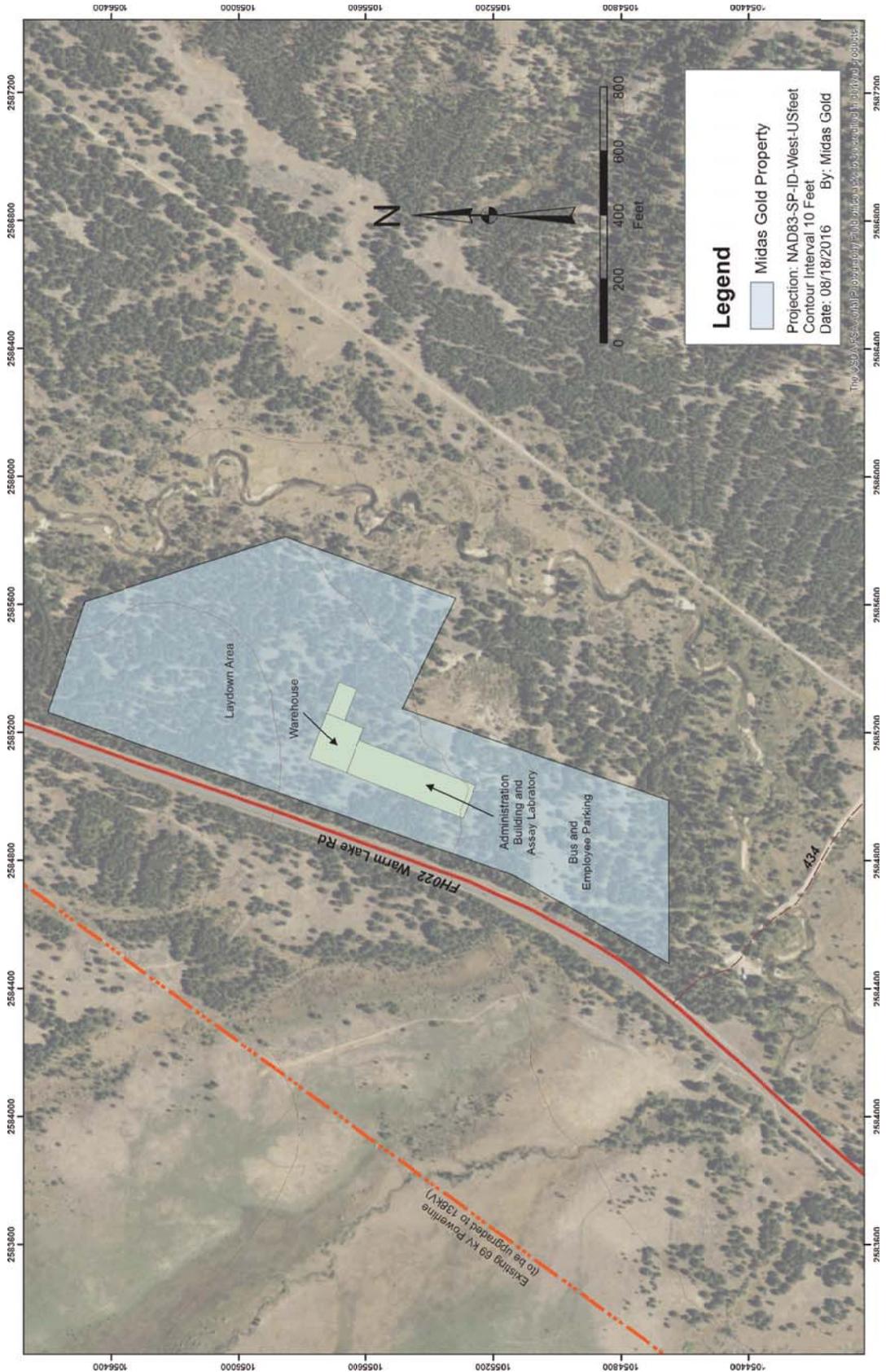
The SGLF will also have warehousing capabilities (both inside and outdoor laydown storage) to accumulate parts and supplies, as well as a parking and staging area for trucks to park prior to traveling to the Project site. Midas Gold will require supply truck drivers to check-in at the SGLF and direct them to either proceed to the Project site or unload at the warehouse for temporary storage and assembly of their load. A truck scale will be located at the SGLF to verify loads going into or out of the warehouse area. The check-in process will include general safety and road readiness inspection of incoming trucks and equipment being transported to site. Midas Gold will require and inspect its heavy equipment transshipment vehicles for items such as safety equipment, installed and maintained engine brake muffling systems which reduce engine brake noise, and general safety checks of equipment. Midas Gold will contractually require its suppliers that ship loads directly to Stibnite, to maintain and inspect their equipment for the same safety and engine brake muffling systems.

The main assay laboratory will be included in the SGLF. The assay laboratory will be the primary location for sample preparation, analysis and reporting for production, exploration and specialty sampling for mine operations. Process and mine rock production samples will be delivered daily to the laboratory for processing and analysis, and the results will be transmitted electronically to the mine operations and exploration personnel at the site.

Midas Gold will maintain a parking and assembly area as part of its SGLF for employees and contractors using bus or van pooling to the Project site. The parking area will accommodate approximately 250 light vehicles. Midas Gold will make busing and vans available for employee and contractor transportation to the site (see Section 12.2) and will mandate their use.

The SGLF, or a nearby site on private property, will also host radio and microwave repeater equipment to provide telephone, internet, and radio communications for the facility and Project related traffic. Additionally, the SGLF will be powered by a direct line connection to the IPCo powerline in the valley. The site may also host a substation to transition power from the IPCo upgraded power line.

Figure 7-7, Stibnite Gold Logistics Facility General Arrangement



7.4 LANDMARK MAINTENANCE FACILITY

To facilitate road maintenance and snow removal during construction, operations, and closure activities, Midas Gold will locate a maintenance facility near Landmark to house equipment such as sanding/snowplowing trucks, snow blowers, road graders, and support equipment (see Table 7-1). Additionally, this facility will house a double-contained fuel storage area to support maintenance equipment. This facility can also serve to support snowmobile trail grooming and grooming equipment storage if needed. The Landmark Maintenance Facility will be located near the intersection of the Warm Lake road and Johnson Creek roads, in a previously disturbed borrow area (see Figure 7-8); this property is located on Federal land administered by the Boise National Forest. Additional features of this facility may include covered stockpiles of coarse sand and gravel for winter sanding activities, housing for road maintenance crews during periods of heavy snow removal needs and other winter maintenance activities, and communications equipment including a tower as needed. Midas Gold will coordinate with the Boise National Forest to determine the potential for housing of personnel and equipment during winter maintenance operations at the Landmark Ranger Station to minimize disturbance and construction of new facilities and to support utilization of existing infrastructure.

Table 7-1, Road Maintenance Mobile Equipment List

| Road Maintenance Equipment Type | Estimated Number of Units ⁽¹⁾ |
|--|--|
| Motor Graders (Cat 160M or equivalent) | 2-3 |
| Plow Trucks | 2-3 |
| Snow Blower | 1-2 |
| Approximate 6,000 gallon water trucks (CAT 725 or equivalent) | 2-3 |
| Binding agent application truck | 1-2 |
| Vibratory Compactor (CS76 or equivalent) | 1-2 |
| Fuel Service Truck | 1-2 |
| Light vehicles | 2-4 |
| Rock rakes | 2-3 |
| Notes: | |
| (1) Midas Gold will hire miscellaneous contractors and their equipment on an as-needed basis to handle small or short time duration projects. | |
| (2) Table 9-2 and Table 10-1 provide additional mobile equipment required for the Project. | |
| (3) The range in the number of units is due to equipment service requirements. The lower number represents the typical number of active units whereas the higher number represents the additional units that may be required while the primary unit is undergoing service. | |

Figure 7-8, Landmark Maintenance Facility General Arrangement



8 OPERATIONS: SITE PREPARATION & ONSITE INFRASTRUCTURE

Certain site preparation work and onsite infrastructure are needed to support the proposed cleanup of legacy impacts and site restoration, exploration, mining and ore processing, and for closure. This infrastructure includes utilities for the day-to-day activities such as electric power supply distribution, water supply and sewage disposal systems, and facilities such as offices, employee housing, workshops and warehouses required to support the construction activities, site workforce and equipment, and the mining, ore processing and reclamation and restoration activities that will occur at the site.

Given the remoteness of the site, the relative short construction season in this part of Idaho, and the complexity of the Project, Midas Gold plans for up to three years of initial onsite construction work to upgrade, install and construct the supporting onsite infrastructure needed for the Project.

This onsite infrastructure includes:

- Site preparation prior to commencement of legacy restoration and construction;
- Upgrade to the existing onsite exploration housing and construction of new onsite housing to support construction, operations and closure, thereby promoting worker safety and quality of life, and to minimize traffic on area roads;
- Sanitary and solid waste facilities;
- Upgrades to the existing onsite power supply system (including solar power) to support construction activities and provide power during operations and closure, as well as during possible service interruptions to the IPCo electric system;
- Construction of onsite water management facilities to handle storm and snowmelt runoff;
- Construction of potable water, fire water and sewage disposal systems on site to support employee housing and office facilities;
- Firefighting and support facilities;
- Security and fencing;
- Expanded communications facilities; and
- Development of borrow sources.

Midas Gold will contract, preferably with local businesses, for the initial site cleanup and construction of the Project. Multiple areas, including those adjacent to the administration offices, ore processing facilities, truck shop and tunnel portal areas, will be made available for temporary contractor office trailers, with adjacent lay-down areas for construction equipment and supplies. The several hundred construction workers will initially be accommodated in the existing (but expanded) exploration housing and, later, at the Stibnite Lodge that will be installed as part of initial site work (see Figure 8-1).

During this site preparation phase, Midas Gold expects that 15 to 20 temporary trailers will be placed on temporary wood-cribbed foundations (or equivalent) and skirted with plywood sheeting. Electricity will be supplied on a temporary basis by the existing solar power generation system, as well as service from the current onsite and additional generators. Propane tanks may also be placed near the trailers to facilitate running the heating systems of these temporary facilities until grid power is available. In addition, portable sanitary facilities will be located throughout the Project area.

Table 14-3 provides estimates for the Project disturbance, by facility, on public and private land, and in Roadless areas.