Teton Centennial Trail Project

IDAHO HIGHWAY 33

Teton County, Idaho

Concept Design Report

Prepared for:

Western Federal Lands Highway Division and the city of Victor, Idaho

WFLHD Task Order No. DTFH7015F19006

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INTRODUCTION

BACKGROUND

The proposed Teton Centennial Trail project is located along a transportation corridor that weaves through national forests and the Teton foothills connecting the city of Victor, Idaho, and the city of Wilson, Wyoming. The proposed trail would wind along the Idaho Highway 33 (ID-33) and for a short distance extending eastward along Wyoming Highway 22 (WY-22). The highway provides the sole access to the high-use trailheads and parking areas throughout the year. More than 2 million visitors travel through the Teton Pass and project area annually, and the proposed trail will provide visitors safe, non-motorized access.

Multiple agencies have invested time and resources in the proposed project, including the city of Victor, U.S. Forest Service, and Idaho Transportation Department (ITD). The project has strong local support.

PURPOSE OF CONCEPT DESIGN REPORT

The primary purpose of this Concept Design phase of the project is to provide adequate design support to effectively present and analyze alternatives that may be forwarded for preliminary design. This has included developing multiple line and grades, pavement structures and templates for evaluation. The purpose of this report is to present a summary of the alternatives that have been investigated and the team's recommendation for the alternatives to be advanced to the preliminary design phase.

The Concept Design Report is a project development document that builds upon the information provided in the Federal Land Access Program (FLAP) proposal (see Appendix A) and the Reconnaissance Report (see Appendix E). The report provides a description of alternatives evaluated and recommendation of the recommended alternative considering.

EXECUTIVE SUMMARY

The Teton Centennial Trail is a project to build a separated bicycle and pedestrian trail along ID-33 and WY-22 from Victor, Idaho to Trail Creek Campground, east of the Wyoming state border. An additional trail segment extending from the state border to the Trail Creek Campground on the Wyoming side has been added by Central Federal Lands to be included in this project. The Teton Centennial Trail will provide access to a comprehensive trail system and prompt alternative transportation modes to access millions of acres of National Forest. The proposed project is part of the National Environmental Policy Act (NEPA) decision issued in 2002. The Section 106 archaeological concurrence was also obtained in 2002. The proposed project plans to stay within the parameters of those decisions. The conceptual design of the project has demonstrated the feasibility to meet standards, established estimated project costs, and provided a basis for alternative selection. The project maintains strong local support and provides many potential benefits to the community and users. The foremost project challenge is the difference in estimated costs between the FLAP proposal and this Concept Report. The cost estimates will need to be reviewed by the stakeholders, and agreements for additional matching funds may be necessary before the project design phase continues.

PROJECT OBJECTIVES

PROJECT PURPOSE AND NEED

The purpose of the Teton Centennial Trail project is to increase safety, promote alternative transportation modes, and connect the community and users to the surrounding National Parks. ID-33, south of the city of Victor, serves an arterial highway function, providing an important connection between Idaho and Wyoming over the Teton Pass. The roadway also provides access to high-use U.S. National Forest lands on Teton Pass. The highway serves significant bicycle and pedestrian traffic because the route provides access to public lands for many eastern Idaho communities, including Victor and Driggs. ID-33 connects directly to WY-22, providing access to Jackson Hole and Grand Teton National Park on the east side of Teton Pass and connecting to an extensive pathway system.

The needs for the project are to better connect Idaho communities and visitors to public lands, to address increasing bicycle use and demand, and to deal with long-recognized safety problems on ID-33/WY-22, which is busy and narrow and has an average summer-time daily traffic (ADT) levelof approximately 10,000.

Teton Pass has become a destination for bicyclists and pedestrians, especially as Teton County, Idaho, and Teton County, Wyoming, have constructed major connected pathway systems and as ID-33 has been designated part of the Teton Scenic Byway, drawing more visitors, including bicycle and pedestrian travelers. There is a need to address deficient facilities and the resulting safety hazards along this high-use bicycle route corridor. The existing 1- to 2-foot-wide highway shoulders do not serve the needs of bicycle and pedestrian travelers. Along with the need to increase safety for all users, there is a need to improve mode choices by providing a separated pathway. In addition, there is a need to support travel and tourism goals, and recent studies have documented the high economic benefits provided by the area bicycle and pedestrian pathways and trails.

In addition, the project would address identified mobility needs and support established environmental goals. The project need is confirmed in local transportation and land use plans, in U.S. Forest Service plans, and in the environmental study completed for the proposed trail. In support of these plans, there is significant public demand for the project. This trail project is the key missing link needed to connect major regional pathway systems, and given the mountainous terrain, the sole feasible access is over Teton Pass. There is also a need to encourage more environmentally friendly, healthy mode choices that a safe pathway such as that provided by the project. The Teton Centennial Trail project will support and advance established environmental goals in adopted Victor and Teton County Idaho plans.

SCOPE OF PROJECT

The Teton Centennial Trail project is to construct a bicycle/pedestrian pathway from Moose Creek to the Idaho/Wyoming Border and extending into Wyoming to the Trail Creek Campground.

The project is sponsored by the city of Victor, Idaho, and supported by a broad partnership of governmental organizations, nongovernmental organizations (NGOs), businesses, and the U.S. Forest Service. It will construct a 1.9-mile-long, 10-foot-wide paved bicycle/pedestrian pathway along ID-33 from Moose Creek to the Wyoming state line, and another 0.4-mile long extension along WY-22 using portions of the “Old Jackson Highway” roadbed. The current project schedule allows for construction of the project to begin in spring 2017.

This project is an integral part of a growing world-class Teton Pass pathway system proposed to connect Victor, Idaho, and Wilson, Wyoming, which is being created in coordination with the Caribou-Targhee, Bridger-Teton National Forest, the State of Wyoming, Teton County, Idaho, Teton County, Wyoming, ITD, and the Wyoming Department of Transportation (WYDOT).

The Old Jackson Highway was 100 years old in 2013. This project will help mark the centennial celebration of the historic connection of Idaho and Wyoming over Teton Pass by creating enhanced bicycle and pedestrian access for the next century. Times have changed, but the mountains have not. The challenging terrain and iconic views from the trail will draw visitors to experience public lands and will enhance the quality of life in the city of Victor and surrounding communities.

The alignment of the Teton Centennial Trail will take advantage of the old highway roadbed where feasible; roughly 70 percent of the 2.3 miles can be reused roadbed, and the design will connect the route with a continuous 10-foot-wide paved pathway. Minor earthwork will be required to reconnect old road sections.

The old roadbed sits just north and slightly above today’s ID-33 and WY-22, providing excellent separation from the highway, easy access, and good view opportunities of Trail Creek and the

Teton Pass Mountains. The alignment is on a south-facing hillside, thus allowing early spring opening and supporting a long season of use.

The pathway typical section will provide a quality pathway with a 14-foot-wide compacted sub-base, a 12-foot, 4-inch-wide crushed base course, and 2-inch-thick asphalt for a finished 10-foot-wide pathway surface. One bridge over Moose Creek will be replaced to carry vehicular and maintenance traffic to the parking area east of the creek. The bridge will provide a 16-foot roadway width between rails and will have a 65-foot-long span.

SCHEDULE OF PROJECT

The Teton Centennial Trail project development and construction schedule is based on the expected design and development work and the proposed construction work as outlined in this report. The projected schedule is shown in the figure below.

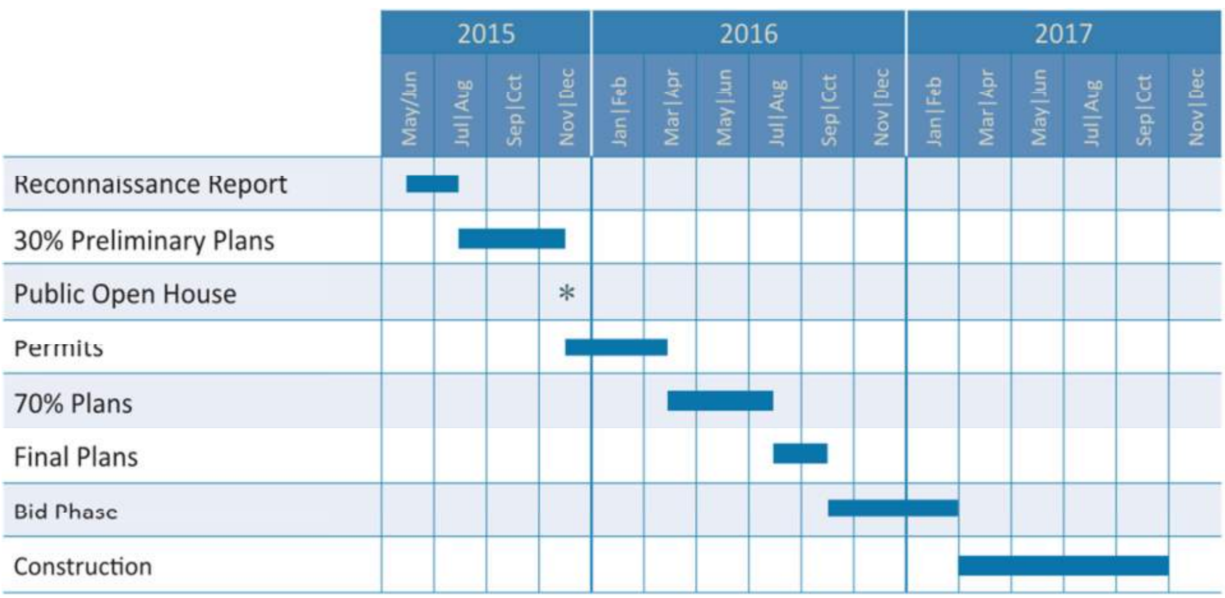


Figure 1: Project Schedule

BUDGET OF PROJECT

A cost estimate for the project was included as part of the 2013 FLAP proposal. The standard bid item estimate totaled $1,523,000 (see Appendix A for details). The budget was based on the following assumptions:

- The paved trail will be 1.9 miles with 2-inch-thick asphalt.
- There will be an at-grade crossing at the Mike Harris Campground entrance.

- Bridge replacement is a single-span 30-foot by 14-foot pre-fabricated steel structure.
- The trail and underpass at the Trail Creek Campground is not included in the budget (Wyoming Segment).

EXISTING CONDITIONS

HIGHWAY

Idaho Highway 33 serves an arterial highway function, has two lanes and two-way traffic, and connects directly with Wyoming Highway 22. The highway purpose includes serving bicycle and pedestrian traffic to provide access to public lands. The existing narrow paved highway shoulders do not serve the needs of bicycle and pedestrian travelers. These conditions have become a safety issue, with numerous identified crash sites on the highway and hazardous conditions.

Figure 2: Existing Idaho Highway 33

EXISTING TRAIL

A narrow, soft trail currently exists that connects with remnants of the abandoned Old Jackson Highway alignment north of and above ID-33. Portions of the existing trail are farther from ID-33 than others, some of which border the top edge of cut slopes along the highway. Based on aerial images, there are four identified switchbacks that may indicate steep grades. There are several drainage ways where wooden planks and boardwalks have been installed for safe crossing. The existing trail begins just east of the Moose Creek Bridge and extends across the

Idaho/Wyoming border and continuing along the north side of WY-22, as shown in the Concept Plans in Appendix B.

EXISTING BRIDGE CROSSING

The Old Jackson Highway alignment crosses Moose Creek on a cast-in-place concrete bridge approximately 20 feet long and 24 feet wide between rails. The old highway roadbed has been abandoned, and the existing Moose Creek Bridge has deteriorated to an unsafe condition and must be replaced as part of the project.

Figure 3: Existing bridge across Moose Creek on Old Jackson Highway

PROPOSED WORK AND ALTERNATIVES

The propose of the conceptual design report is to provide an adequate level of design to effectively evaluate the feasibility of meeting design standards, develop estimated construction costs, and present and analyze alternatives that may be forwarded for preliminary design. The conceptual plans for the trail, alternatives, and bridge are included in Appendix B. The following subsections describe the conceptual design and alternatives of the project.

TRAIL

The proposed 10-foot-wide paved bicycle pedestrian pathway will be constructed north of and elevated slightly above ID-33 from Moose Creek, across the Idaho/Wyoming state line, continuing along WY-22 and ending at the Trail Creek Campground. The trail typical section includes 2-inches of asphalt on 4-inches of aggregate base course with 1-foot aggregate base shoulders and tie-in slopes outside the paved area. A topographic survey was obtained for a rough alignment from the Reconnaissance Report. With the survey, a conceptual trail alignment has been developed that traverses the length of the project and meets design standards. The horizontal and vertical alignments have not been refined in detail but provide a solid basis for constructability, cost estimating, and alternative selection. The design criteria and general design approach for the trail alignment is described by segment in the following sections. The project vicinity map, included as sheet A.3 of the Concept Plans in Appendix B, shows the general trail alignment and surrounding features.

TRAIL DESIGN CRITERIA

Trail design standards vary between agencies, and ITD and the Federal Highway Administration (FHWA) acknowledge a number of bicycle- and pedestrian-specific standards and national standards, including the following:

- American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities
- AASHTO Guide for the Development of Bicycle Facilities
- ADA Accessibility Guidelines for Public Rights of Way (PROWAG)
- Manual on Uniform Traffic Control Devices (MUTCD)
- U.S. Forest Service Trail Accessibility Guidelines

Given the trail location, desired experience, and technical requirements, we recommend the project generally adhere to the U.S. Forest Service trail design parameters for a Class 5 bicycle facility where feasible.

Trail design considerations include:

- The trail will need to be designed for bicyclists of varying experience and pedestrians.
- The trail will need to be designed to handle small maintenance vehicles at a minimum and larger vehicles where noted.
- A parallel horse trail/single-track soft trail is anticipated to be constructed in the future.
- Trail grooming is not anticipated at this time.

- Trail segments longer than 500 feet should have grades less than 15 percent to accommodate multiple nonmotorized users.
- Trail alignment will need to take into account the earthwork mass balance for the project to minimize material import/exports.

CONCEPTUAL TRAIL ALIGNMENT

The west end of the trail will begin on the west side of Moose Creek. Motor vehicles will share the trail in this area for access as the trail crosses Moose Creek and provides a parking area along the southern side. Alternatives for the Moose Creek Bridge and parking area are described in the subsections below. The alignment follows the existing Old Jackson Highway roadbed east toward the Mike Harris Campground entrance. The Moose Creek Trail segment, which carries vehicle and BPA utility vehicle traffic across the bridge and ends at the BPA access road turnout, has an anticipated pavement section of 5-inches of asphalt over 6-inches of aggregate base. As the trail approaches the Mike Harris Campground entrance, the adjacent hillside climbs away and the Old Jackson Highway roadbed terminates at an existing intersection with ID-33, which is offset from the Mike Harris Campground entrance. The rock cut along the highway and steep hillside above the highway create challenging trail routes that could have large impacts to construction costs. Two alternatives have been developed and evaluated, as described in the subsection below (see "Trail Alternatives at the Mike Harris Cutslope"). Due to limited sight distance, the vehicular intersection of Old Jackson Highway and ID-33 will be removed. A highway crossing of the trail to provide access to the Mike Harris Campground is part of the project. Two different alternatives have been developed at this location to determine safety issues, costs and resource impacts as described in the subsection below (see "Crossing Alternatives at the Mike Harris Campground"). The trail connects back to the Old Jackson Highway roadbed just east of the rock slope that is located across from the Mike Harris Campground entrance.

The trail alignment follows the Old Jackson Highway roadbed and departs only when necessary to traverse terrain and in other areas where following the roadbed is not feasible. The trail gradually climbs in elevation for approximately 1.5-miles to the state border. An alternative for a spur trail that connects the Teton Centennial Trail to the paved highway pullout area at the state border with an at-grade crossing has been evaluated, as described in the subsection "Crossing Alternative at the Highway Border Area" below. The trail alignment extends along the north side of the highway (Wy-22) to the Trail Creek Campground entrance. The Trail Creek Campground entrance is located in a narrow hillside area with steep slopes. Three alternatives have been developed to provide a safe crossing at this location, as described in the subsection "Crossing Alternatives at the Trail Creek Campground" below. After crossing the highway the trail alignment follows the campground entrance road down to end at the Trail Creek Campground.

MOOSE CREEK BRIDGE

The bridge across Moose Creek will be replaced. The new bridge will be designed for vehicle use and BPA maintenance access. A detailed Type, Size, and Location (TS&L) Report has been developed that evaluates three different bridge types. Based on cost, maintenance, and constructability, the TS&L Report recommends a 65-foot long bridge consisting of 30-inch prestressed concrete bulb tee girders with a cast-in-place concrete bridge deck (see the TS&L Report in Appendix G for details). Removal of the existing 20-foot x 24-foot, single span bridge will require containment methods to prevent concrete debris from entering the creek. The existing abutment walls will be removed to a minimum of 3 feet below grade.

MOOSE CREEK PARKING LOT ALTERNATIVES

A parking lot located along the south side of the Old Jackson Highway just east of the Moose Creek Bridge has been considered that would accommodate 10 to 20 parking spaces and space for a horse trailer to park and turn around. An aggregate base rock section is recommended for equestrian recreation areas and provides a cost savings compared to using pavement. The proposed section thickness is 16-inches of aggregate rock as recommended in the Conceptual Geotechnical Memo, see Appendix C. Three parking lot alternatives have been developed. Each alternative varies in size, layout, cost, and impacts as described below. Entrance and exit treatments were designed to accommodate a horse trailer or other large vehicles. No facilities or structures were included in the conceptual parking design.

PARKING LOT EVALUATION & RECOMMENDATIONS

The parking lot alternatives are included in the Concept Plans in Appendix B and summarized in the table below. Each of the alternatives are feasible although Alternative A may have wetland impacts that exceed 0.17-acres. Users of the existing soft single track trail currently park at the roadway intersection located at the beginning of the project. No parking forecasts were performed but three cars were observed during a site visit on a weekday and local agency stakeholders report growing usage. Alternative B is recommended for its efficient layout, capacity, and scalability if costs need to be reduced.

Table 1: Parking Lot Alternatives Evaluation Summary

Alternative (Size)	Surface Area	Parking Spots	Area of Potential Wetland Impact (based on survey elevations)	Estimated Construction Cost
A (Large)	25,138 SF	20 with 2 trailer parking spots	7796 SF	$133 ,000
B (Medium)	13,744SF	10 with 1 trailer parking spot	437 SF	$77,000
C (Small)	9,656 SF	16 with 1 trailer parking spot	0 SF	$58,000

TRAIL ALTERNATIVES AT THE MIKE HARRIS CUTSLOPE

As the trail approaches the Mike Harris Campground entrance, the Old Jackson Highway roadbed terminates at an intersection with ID-33, and a steep rock cut slope impedes an easy route along the highway. Two apparent alternatives for the trail in this area are available, as described below.

HIGHWAY ALTERNATIVE

The Highway Alternative trail alignment follows the old highway roadbed to the intersection with ID-33, as shown in the Concept Plans in Appendix B. The trail would then extend along the face of the rock cut slope, then climb up to meet the Old Jackson Highway roadbed on the east side of the rock cut. This alternative lends itself to relatively gentle trail geometry by utilizing pre-existing graded topography, however this is accomplished by requiring trail users interface with the highway facility. A typical section was developed to determine minimum separation between the trail and highway facilities. Based on IDT standards and rockfall factors, the typical section would require highway shoulder widening and a barrier. Placement of longitudinal barrier adjacent to the highway in proximity to a horizontal curve will require a sight distance analysis to determine the scope of any safety impacts to highway operations. A catchment area will be needed adjacent to the rock slope to collect any falling debris. The proposed alternative has an anticipated construction cost of $583,000. Cutting the rock face, scaling the rock cut, and installing wire mesh may be needed and is factored into the anticipated cost of the alternative. Long term maintenance and liability should also be a consideration with this alternative. The following additional work will be needed for this alternative during the design phase:

- Geotechnical testing and evaluation of the rock slope stability.
- Analysis for rock fall protection of the trail and roadway.
- Investigation of highway widening pavement.
- Construction staging and highway traffic control design.
- Coordinate the design and approval with IDT.

HILLSIDE ALTERNATIVE

The second alignment alternative for this section, the Hillside Alternative, begins 400-feet east of the BPA access road intersection with the Old Jackson Highway where the trail diverges from the old roadbed and slowly climbs the adjacent hillside, following new the top of the rock cut slope, as shown in the Concept Plans in Appendix B. The alignment requires a 15-percent slope for 300-feet to climb the hillside but no switchbacks will be necessary. While the trail grades may be steeper than desirable, the trail alignment over the hillside provides a good user experience and overlook. Retaining walls and safety railing will likely be needed as the trail traverses the steep terrain across the hillside. The Hillside Alternative has an anticipated construction cost of $555,000.

EVALUATION & RECOMMENDATIONS

The proposed alternatives have significantly different characteristics that will impact the users of the trail, construction costs, and have long-term implications. The Hillside Alternative is recommended due to its comparatively similar cost to the Highway Alternative while not impacting the highway or increasing project risks associated with the rock cut. Additionally, the Hillside Alternative provides a superior recreational experience, traversing a more natural setting and separating trail users from vehicular traffic.

CROSSING ALTERNATIVES AT THE MIKE HARRIS CAMPGROUND

Conceptual alternatives to provide a connection across ID-33 from the Teton Centennial Trail to the Mike Harris Campground were developed and evaluated. The alternatives include an at-grade crossing and an undercrossing as described below and shown in Appendix B.

AT-GRADE ALTERNATIVE

The proposed at-grade crossing of ID-33 near the Mike Harris Campground provides a safe and cost effective alternative. An evaluation of the existing roadway intersection with the proposed trail alignment was performed. The crossing location is appropriate for a rectangular rapid flash beacon installation and provides adequate highway sight distance for the proposed crossing. The installation would include striping and advanced signing similar to the crossing treatment used along ID-33 in Driggs, Idaho as depicted in Figure 4. The At-grade Alternative has an estimated construction cost of $89,000.

Figure 4: Rectangular Rapid Flash Beacon on ID-33 in Driggs, Idaho

UNDERCROSSING ALTERNATIVE

The Undercrossing Alternative provides a grade separated crossing of ID-33 at the Mike Harris Campground entrance. The trail alignment would follow the Old Jackson Highway roadbed east of ID-33 and descend below existing grade to connect to a reinforced concrete box culvert to cross beneath the highway. The box culvert would have 10-foot by 10-foot interior dimensions. In the vicinity of the culvert entrances, retaining walls adjacent to the trail would be needed in order to limit grading impacts and transition to the crossing structure. A trail connection from the crossing to the Mike Harris Campground entrance is also included. Excavation to bring the trail down to the undercrossing elevation will result in steep grades with a tight turning radius on the South side of the highway. Trail Creek is located approximately 300-feet from the proposed crossing which could affect construction and the undercrossing would likely impact wetlands in the area. The cost of the Undercrossing Alternative is $966,000. For additional details regarding the undercrossing structure, walls, and staging, see the TS&L Report in Appendix G. The following notes should be considered with the selection of this alternative:

- Required maintenance responsibility and access.
- Drainage for the box culvert underneath the highway.
- Crossing location is likely in portions of highway fill.

EVALUATION AND RECOMMENDATION

Since the highway and trail geometry provide for a safe crossing location, the At-grade Alternative is recommended. The Undercrossing Alternative has a considerably higher cost along with various impacts to the highway and other resources.

CROSSING ALTERNATIVE AT THE HIGHWAY BORDER AREA

The trail interaction with the highway border turnout area is a challenge for various reasons. Driver expectancy, vehicle speeds, and visibility are several safety factors. A permanent crossing at the state border was considered in the 2001 Teton Pass Trail Environmental Assessment, but an underpass crossing at the Trail Creek Campground was the alternative selected. The Trail Creek Campground segment, extending east from the state line to the campground, is now included as part of this project. An alternative to construct a trail spur from the main trail down to the highway and provide a crossing to the existing state border area was developed, as shown in Appendix B. The trail connection is short and the geometry supports a safe crossing location. The highway is on a steeper grade coming down from the pass and driver expectations should be considered with the selection of this alternative.

The no-build option is recommended at this location. The border area is for vehicle traffic and does not provide any facilities or connections for pathway users. Maintaining separation between facilities provides a safe condition.

CROSSING ALTERNATIVES AT TRAIL CREEK CAMPGROUND

Conceptual alternatives to provide a connection across WY-22 from the Teton Centennial Trail to the Trail Creek Campground were developed and evaluated. The location of the trail crossing poses several challenges including steep topography and highway impacts. The alternatives include an at-grade crossing and two different undercrossings as described below and as shown in Appendix B.

AT-GRADE ALTERNATIVE

The proposed at-grade crossing of WY-22 near the Trail Creek Campground provides a safe and cost effective alternative. An evaluation of the existing roadway intersection with the proposed trail alignment was performed. The crossing location is appropriate for a rectangular rapid flash beacon installation and provides adequate sight distance for the proposed crossing. The installation would include striping and advanced signing . On either side of the crossing, the trail alignment requires steeper grades than desirable in order to meet the highway elevation as the terrain on either side of the highway varies significantly in elevation. The At-grade Alternative has an estimated construction cost of $134,000.

UNDERCROSSING ALTERNATIVE A (PERPENDICULAR CROSSING)

The Undercrossing Alternative A provides a grade separated crossing of WY-22 at the Trail Creek Campground entrance. North of the highway the trail alignment is on a hillside and must descend at steep grades and with tight curvature in order to connect to a reinforced concrete box culvert which crosses perpendicular to the highway east of the Trail Creek Campground entrance, as shown in the Concept Plans in Appendix B. The box culvert would have 10-foot by 10-foot interior dimensions. The large differences in elevation between the highway, trail, and hillside require the construction of retaining walls in the vicinity of the undercrossing. A trail connection from the crossing to the Trail Creek Campground entrance along the north side of the campground entrance road is also included. Preservation or replacement of existing drainage features and patterns within the area south of the highway at this location must be accounted for as well. The cost of this perpendicular Undercrossing Alternative is $1,362,000. For additional details regarding the undercrossing structure, walls, and staging, see the TS&L Report in Appendix G. The following notes should be considered with the selection of this alternative:

- Required maintenance responsibility and access.
- Drainage within the box culvert underneath the highway.
- Structural costs exclusive of the box culvert.

UNDERCROSSING ALTERNATIVE B (DIAGONAL CROSSING)

The Undercrossing Alternative B provides a grade separated crossing of WY-22 at the Trail Creek Campground entrance. Similar to Undercrossing Alternative A, north of the highway the trail alignment descends steeply from the hillside in order to connect to a reinforced concrete box culvert which crosses the highway at a skew west of the Trail Creek Campground entrance, as shown in Appendix B. The box culvert would have 10-foot by 10-foot interior dimensions. The large differences in elevation between the highway, trail, and hillside require the construction of retaining walls in the vicinity of the undercrossing. A trail connection from the crossing to the Trail Creek Campground entrance along the south side of the entrance roadway is also included. The cost of this diagonal Undercrossing Alternative is $1,576,000. For additional details regarding the undercrossing structure, walls, and staging, see the TS&L Report in Appendix G. The following notes should be considered with the selection of this alternative:

- Required maintenance responsibility and access.
- Drainage within the box culvert underneath the highway.

- Structural costs exclusive of the box culvert.

EVALUATION AND RECOMMENDATION

The At-grade Alternative provides adequate highway sight distance but may conflict with driver expectations as they descend from the highway pass and this may create unsafe crossing conditions. Given the high expected trail usage, Undercrossing Alternative A is preferred to provide a separated and safe crossing to Trail Creek Campground at a lower cost than Undercrossing Alternative B.

OTHER FEATURES

Other project features were considered during the conceptual design including retaining walls and hydraulics as described below.

TRAIL RETAINING WALLS & SAFETY RAILING

At several locations along the proposed trail alignment, retaining walls or reinforced slopes may be required in cut or fill sections. The conceptual trail alignment has set a feasible alignment and identified locations potentially needing walls. A final alignment and evaluation of the cuts and fills required, as well as an evaluation of slope stability, will be needed to effectively locate the required walls. Typically, the cost of retaining walls depends on the wall type selected and several different types may be appropriate for this application, including wire-faced crib walls, rock gabions, concrete block gravity walls, grouted stacked rock walls, timber post and lagging, or small cast-in-place concrete walls. The cost of these types of walls typically ranges from $50 to $125 per square foot of exposed wall face. Final wall type and size, as well as geotechnical design parameters, will need to be evaluated in the following phases of the project.

The construction of walls adjacent to the trail may in some cases require the installation of safety railing along such walls in order to prevent trail users from potentially leaving the pathway and falling. Such railing would need to be at least 42” high to provide cyclists safety. In addition, at locations where the trail alignment follows the top of long, steep slopes, it may be desirable to place safety railing along the trail in order to prevent possible serious injury.

HYDRAULICS

The proposed Teton Centennial Trail Project will replace the existing bridge over Moose Creek. A hydraulic analysis was completed for the existing and proposed bridge conditions using HEC-

RAS (version 4.1). Both bridges are a single span bridge (without piers). The span of the existing bridge is 20 feet wide. The abutments for the proposed bridge will be moved away from the channel to provide one and one half times the bank width of the active channel and the span will be 60 feet wide. Approximately 300' downstream from the Trail Bridge is the confluence of Moose Creek and Trail Creek. Just upstream of the confluence is the Idaho State Highway 30 Bridge over Moose Creek. The HEC-RAS models extended past the Idaho State High 30 Bridge to capture any backwater effects at the proposed trail bridge. The drainage basin at the confluence of Moose Creek and Trail Creek is 21.8 square miles. The basin is heavily forested and has fairly steep terrain. The main channel is clean and winding. The streambed is covered with boulders that are approximately 0.5 to 1-foot in diameter. The adjacent overbanks are covered with thick brush. A manning's "n" value of 0.05 was used for the main channel and a value of 0.10 was used for the overbanks.

According to Section 620.00 in the Idaho Transportation Department's (ITD) Design Manual the reliability of hydrology data sources is in the following order: U.S. Geological Survey (USGS) Gaging Station data, Federal Emergency Management (FEMA) Flood Insurance Study (FIS), USGS Regional Regression Equation Methods as detailed in the USGS Water Resources Investigations report 02 4170 for Idaho, and then ultimately, other sources. A USGS gaging station is located on Moose Creek just upstream of its confluence with Trail Creek. The station number is "13050800" and the station name is "Moose Creek NR Victor ID." Using the StreamStat website, the gage data was used to predict the 2-, 10-, 25-, 50-, 100-, and 500-year flows. Table 2 below lists the recurrence interval and the corresponding peak flow.

Table 2 – USGS Moose Creek Peak Flow

Recurrence Interval (years)	USGS Peak Flow (cfs)
2	280
10	371
25	408
50	433
100	456
500	504

Information from the FEMA Flood Insurance Study (FIS) for Teton County, Idaho and Incorporated Areas Panel 16081C0144C, dated August 4, 1998 was used for this investigation. The map shows that Moose Creek is just outside of a mapped FEMA Floodplain. Since the bridge is not in a mapped floodway, a “no-rise” certification is not required. However, even if the bridge was in a mapped floodway, it would meet the “no-rise” requirements. Compared to existing conditions the backwater effect from the bridge is reduced by 0.06 feet in the proposed conditions. IDT requires a minimum of 2-feet freeboard between the 50-year water surface elevation and the low chord. The low chord elevation for the preferred alternative is 6480.67 feet and the 50-year water surface elevation is 6477.68 feet, which equates to 2.99 feet of freeboard.

Table 3 – Proposed Structure Data (Elevation: NAVD 88)

Bridge Width	19’-2”
Out-to-Out Length	66 ft
Opening Length	60 ft
Q_{50}	433 ft^3/sec
Low chord Elevation	6480.67 ft
Q_{50} HW	6477.68 ft
Q_{50} Freeboard	2.99 ft
Roadway CL Elevation	6484.00 ft
Streambed Elev. at Entrance	6474.31 ft
V_{50}	5.37 ft/sec
V_{500}	5.57 ft/sec
Contraction Scour Depth	0.0 ft

A visit the project site was not performed during this phase and channel degradation, channel aggradation, lateral bank migration, channel avulsion, and large woody debris recruitment/transport that may affect the bridge was evaluated using site photos. The photos indicate that the channel is stable and degradation, aggradation, and avulsion are not occurring near the bridge. The photos also indicated that large woody debris is not a problem at the bridge site. A scour analysis was performed using the methodology in FHWA’s publication “Evaluating Scour at Bridge Fifth Edition, April 2012” (also known as HEC-18) and the 500-year flow data as required by IDT. The D50 of the streambed was estimated to be 9 inches. The 500-year contraction scour was calculated to be zero feet deep.

During the project survey an inventory of the existing culverts was completed. The proposed trail alignment crosses over five culverts and seven of the culverts are in the vicinity of the project but will not be affected by the proposed trail alignment. The culverts were assessed by examining their condition, functionality, capacity, and location. The hydrology for each culvert was calculated using USGS regression equations for Idaho Region 6 for the 25-year storm event. Table 4 below includes a summary of the culvert inventory. The table also notes the culvert assessment; will culverts will likely need to be removed, replaced, or protect.

Table 4 – Culvert Inventory Summary

Existing Culvert	Station	Type	Size	Remove	Replace	Protect	Under Trail Alignment	Notes
1	33+10	CMP	18"	X	X		X	Does not meet capacity requirements
2	47+40	CMP	18"	X			X	Upstream invert is buried and not at trail low point
3	53+48	CMP	18"	X			X	Upstream invert is buried and not at trail low point
4	59+70	CMP	18"	X			X	Not at trail low point
5	66+42	CMP	18"	X	X		X	Upstream invert is buried
6	71+36	CMP	18"			X		There is capacity and project will not impact
7	77+36	CMP	12"	X				Does not appear to have a purpose
8	85+72	CMP	24"			X		Under Highway 33 and project will not impact. Unknown slope. Capacity assumed.
9	110+10	CMP	24"			X		Under Highway 33 and project will not impact. Unknown condition and slope. Capacity assumed.
10	120+34	CMP	24"			X		Under Highway 33 and project will not impact. Unknown condition and slope. Capacity assumed.

11	127+40	CMP	30"			X		Under Highway ID 33 and project will not impact. Has capacity.
12	130+14	CMP	30"			X		Under road and project will not impact. Culvert has capacity.

Two of the existing culverts will be replaced and four will be removed. Four culverts will be added where the trail crosses small streams. Five new culverts will be added at the low points in the trail alignment to convey water from the east ditch to the west ditch. The total number of culverts to be installed under the trail alignment is eleven. The estimated diameter of the proposed culverts is between 18-24 inches.

In many areas along the trail alignment the east ditch will collect sheet flow from the adjacent hill. The ditches will be sized to accommodate the offsite sheet flow. Although not shown on the concept plans, riprap armoring in the ditches will be required for the steep areas of the trail alignment.

SUPPORTING WORK TASKS

The proposed project requires multi-discipline design support. Below are brief descriptions of additional tasks.

SURVEY

The project may require additional survey support to map existing features and topography of the proposed project area that was not collected during the conceptual phase .

PERMITTING

The required permits for the project are discussed in detail in the Environmental Regulatory Considerations Memorandum included in Appendix H. In general, various permits are needed that require a range of expertise. For example, wetland and botanical surveys will be needed to determine resource impacts, and Ordinary High Water determinations will be needed at Moose Creek and various culvert locations.

GEOTECHNICAL

Geotechnical exploration will be required for the trail, bridge, retaining walls, and underpasses (if selected). Detailed descriptions for the anticipated geotechnical work can be found in the Conceptual Geotechnical and Geologic Hazard Assessment Memo prepared by GRI (see Appendix C).

LANDSCAPE RESTORATION

The proposed project will impact many existing natural features, and mitigation planting areas will likely be needed. Opportunities to enhance and buffer the trail using plantings or other natural features should also be considered in the project design.

RIGHT-OF-WAY SUPPORT

The U.S. Forest Service plans to grant an easement to ITD that will cover the trail and any area needed to maintain the trail. Granting appropriately sized easements minimizes time-consuming permit authorizations between agencies in the future. The easement limits will need to be evaluated and defined.

UTILITY COORDINATION

The trail will cross a large BPA facility that runs overhead. No impacts to the facility are anticipated, but coordination with BPA will be necessary to confirm maintenance vehicle details, determine contractor requirements while working around BPA facilities, and plan any disruptions in access or other construction issues. In addition, an existing fiber optic line runs along ID-33, and the trail will likely cross the facility at least once. Coordination to determine clearances and other contractor requirements will be necessary.

PRELIMINARY ESTIMATED CONSTRUCTION COSTS

An estimate of cost has been developed based on the conceptual design described in this report. The total cost estimate for the proposed project with recommended alternatives is $2.5-million, as shown in the table below. See Appendix D for a detailed cost breakdown and assumptions.

Table 5 – Summary of Estimated Construction Costs

Design Component	Estimated Construction Cost
Main Trail Alignment	$1,812,000
Moose Creek Parking Lot – Alternative B	$77,000
Hillside Alternative	$555,000
At-Grade Alternative at the Mike Harris Campground Entrance	$89,000
No Build Alternative at the Border Area	$0
Perpendicular Undercrossing Alternative	$1,362,000
Total	**$3,895,000**

ENVIRONMENTAL

GENERAL DESCRIPTION OF PROJECT RESOURCES

The Environmental Memorandum, see Appendix H, provides an overview of regulatory compliance paths and probable future needs. Since the previous submittal, the Environmental Memorandum has included a list of tribes anticipated as consultation and notification partners during project approvals. Additionally, the project design and documentation has included an analysis of some potential wetland impacts associated with the Moose Creek Bridge replacement and with trailhead parking components of the overall design. Three trailhead parking alternatives have been included in the analysis with varying levels of potential wetland impact. One of the three alternatives would likely avoid any wetland impact, one alternative would involve minor impacts, and one alternative would involve substantial impact likely resulting in the need for mitigation. Additional consideration of impacts will require a wetland delineation to formally establish wetland and waterway boundaries to confirm and calculate actual impacts. If mitigation is ultimately required some opportunities exist on site that would also require field review and verification. Additionally, some design elements, notably bridge design, may yield opportunities for minimization and mitigation credit. During the process of design refinement and alternatives selection, mitigation should be considered and once a final alignment is selected, the Corps should be notified to confirm the approach and potential mitigation needs or if any are warranted.

APPENDIX A

Federal Land Access Program Proposal

ID-29

2013 IDAHO FEDERAL LANDS ACCESS PROGRAM
CAPITAL IMPROVEMENT or ENHANCEMENT PROJECT PROPOSAL

(To be completed jointly by Federal Land Manager and State/County/Local/Tribal Government)

Project Name:	Idaho Teton Centennial Trail Project
Route Name/ Number:	Idaho Highway 33, Moose Creek to Idaho/Wyoming Border
Federal Land(s) Accessed :	Caribou-Targhee National Forest
Agency(ies) with Title to Project:	City of Victor
Agency(ies) with Maintenance Responsibility:	City of Victor, Teton County Idaho, Teton Valley Trails and Pathways
Proposed Work Summary:	• **Teton Centennial Pathway, Moose Creek to Idaho/Wyoming Border** - construct a 1.9-mile, 10' wide paved bicycle pedestrian pathway on the Caribou-Targhee NF from Moose Creek to the Wyoming state line on the "Old Jackson Highway" roadbed. • Project includes replacing one deficient bridge over Moose Creek, and the provision of trailhead information and interpretive signage about historic and natural features and wildlife viewable from the project.
Primary visitor destinations:	City of Victor, Moose Creek, Mike Harris Campground, Trail Creek Campground, Teton Pass, numerous trailheads, town of Wilson WY.
High use Federal recreation sites and/or Federal economic generators (as determined by Federal Land Management Agency):	The project is on the Caribou-Targhee, connecting to the Bridger-Teton National Forest on Teton Pass, through Wilson and connecting with the WY-22 pathway under construction that will connect to the Town of Jackson and Grand Teton National Park pathway system. The Teton Pass project area is a significant high-use federal economic generator for eastern Idaho and is a gateway to the south end of the Greater Yellowstone region.

Project Termini (location)		Mile Posts	Latitude	Longitude		
	Begin	153	494513	4823368	**Project Length** (miles)	**1.9**
	End	155	496347	4821190		

Estimated Total Project Costs	$ 1,523,000		
Funds Requested from Federal Lands Access Program	$ 1,285,000		
Required Local Match	$111,788.20	**From:**	City of Victor
Other Funding Contributions to Project:	$5,000	**From:**	TVTAP

Acres of Federal Land accessed by the project:	Million acres of National Forest and National Park connect to the project, including public land access to many Idaho and Wyoming CTNF trails, campgrounds, and five trailheads directly along this project, and numerous additional trailheads on Teton Pass from state line to Wilson Wyoming.

Functional Classification of the roadway: (Show official designations of route.)
() National Highway System (X) Arterial ( ) Major Collector ( ) Minor Collector ( ) Local Road

Traffic Volumes	Current		20 year Projections	Basis for projections? (e.g. Transportation plan, population growth rate…)
	Actual Counts	Estimated		
Average Daily Traffic (ADT) on Highway	6,000		8,916	Population Growth Rate
Seasonal Average Daily Traffic (peak season) (SADT) on Highway		9,000	13,374	Population Growth Rate
% Trucks	N/A	N/A		
% Federal Land related		5%	10%	Recreational Use Estimate

NBI Structure Number	Dimensions (Overall Length x Width)	No. of Spans	Bridge Type	NBIS Sufficiency Rating (1-100)
No NBI for Moose Creek	30' x 14'	One	Pre-fab steel	n/a

Problem Statement: What purpose does this roadway serve? What is the need for this project? Who will this project serve (such as skiers, communities, hikers…)? What are the conditions requiring relief? Describe the consequences if these conditions are not addressed. Describe physical and functional deficiencies, anticipated changes in road use, safety problems, capacity issues, structural bridge deficiencies, pavement condition, etc.

Idaho 33 south of the City of Victor serves an arterial highway function with an important connection between Idaho and Wyoming over the Teton Pass. The roadway also provides access to high-use national forest lands on Teton Pass. Highway purpose includes serving significant bicycle and pedestrian traffic because the route provides access to public lands for many eastern Idaho communities, including Victor and Driggs. ID-33 connects directly with Wyoming Highway 22 providing access to Jackson Hole and Grand Teton National Park on the east side of Teton Pass, which has an extensive pathway system.

The needs for the project are to better connect Idaho communities and visitors to public lands, to address increasing bicycle use and demand, and deal with long-recognized safety problems on the busy narrow 55 mph Teton Pass highway with summer ADTs reaching 10,000. Teton Pass has become a destination in itself for bicyclists, especially as Teton County Idaho and Teton County Wyoming have constructed major connected pathway systems. Safety is a serious issue; the route has numerous identified crash sites and hazardous conditions all travelers face. There is a need to address deficient facilities and resulting safety hazards along this high-use bicycle route corridor - the existing 1-2 foot wide highway shoulders simply do not serve the needs of bicycle and pedestrian travelers. There is a need to improve mode choices with a separated pathway. In addition, there is a need to support travel and tourism goals, and recent economic studies have documented high economic benefits for the area bicycle and pedestrian pathways and trails. The designation of the ID-33 as part of the Teton Scenic Byway has also drawn visitors to Teton Pass, including bicycle and pedestrian travelers using the Byway.

There are also identified mobility needs that will be addressed. The project need is confirmed in local transportation and land use plans, in Forest Service plans, and in the environmental study completed for the proposed pathway. There is significant public demand for the project. This pathway project is the key *missing link needed to connect major regional pathway systems, and given the mountainous terrain, the sole feasible access is over Teton Pass. There is also a need to encourage more environmentally friendly, healthy mode choices like a safe pathway will create. The Teton Centennial project will support and advance established environmental goals in adopted Victor and Teton County Idaho plans.*

Detailed description of proposed work: Describe the overall design concept, any unusual design elements, design standards, and any work affecting structures (bridges and major culverts). Include widths, surfacing type, earthwork needs or roadside safety features. Include optimum year work should be done and year work needs to be done no later than.

The Teton Centennial Pathway project requests Federal Lands Access Program grant funds to construct a bicycle pedestrian pathway from Moose Creek to the Idaho/Wyoming Border.

The project is sponsored by the City of Victor Idaho and supported by a broad partnership of government, NGO, business, and the National Forest. It will construct a 1.9-mile 10' wide paved bicycle pedestrian pathway along Idaho 33 from Moose Creek to the WY state line, using portions of the "Old Jackson Highway" roadbed. The optimum time to build this is the summer and fall of 2013, with any remaining work completed in 2014.

This project is an integral part of a growing world-class Teton Pass pathway system proposed to connect Victor Idaho and Wilson Wyoming, in coordination with the Caribou-Targhee, Bridger-Teton NF, State of Wyoming, Teton County Idaho, Teton County WY, and ITD and WYDOT.

The Old Jackson Highway will be 100 years old in summer 2013. This project will help mark the centennial celebration of the historic connection of Idaho and Wyoming over Teton Pass - creating enhanced bicycle and pedestrian access for the next century. Times have changed, but not the mountains. The challenging terrain and iconic views will draw visitors to experience public lands and enhance the quality of life in the City of Victor and surrounding communities.

The alignment of the Teton Centennial Pathway will take advantage of the old highway roadbed where feasible; roughly 70% of the 1.9 miles can be reused, and the design will connect the route with a continuous 10' paved pathway. Minor earthwork will be required to reconnect old road sections.

The old roadbed sits just north and slightly above today's Idaho Hwy-33, providing excellent separation from the highway, easy access, and good view opportunities of Trail Creek and the Teton Pass mountains. The alignment on a south-facing hillside will allow early spring opening and support a long season of use.

The pathway typical section will provide a quality pathway with a 14' wide compacted sub base, 12' wide 4" crushed base course, and 2" asphalt for a finished 10' wide pathway surface. One bridge will be replaced over Moose Creek, 14' wide and 30' span.

Right-of-Way Acquisition: Describe which agency (agencies) has title for the project. Describe which agency (agencies) has maintenance responsibilities for the project. Does new ROW need to be acquired? If so, how much and what is the anticipated time (months) to acquire all needed ROW? Will coordination with any railroads be needed?

The project along ID-33 traverses lands of the Caribou-Targhee National Forest, Teton Basin Ranger District. The project is generally within or immediately adjacent to existing Idaho Highway ROW, a *variable width ROW for the highway. The state of Idaho maintains the highway. The CTNF proposes to grant additional ROW width to the State of Idaho/ITD, where needed to encompass the Teton Centennial Pathway project. Minor survey costs are included in the project request.*

Future maintenance for the pathway project would be designated to the City of Victor, and partners Teton County Idaho in coordination with Teton Valley Trails and Pathways, a local Non-for-profit.

There is no railroad coordination needed; however this project connects to the old UP rail-trail, Victor to Driggs, Tetonia-Ashton section, and potentially all the way to West Yellowstone in the future.

Utilities: Identify utilities in the roadway corridor. Would relocation be needed? Would relocation require reimbursement to the utility owner? What is the estimated cost of reimbursement?
The Teton Pass Highway corridor includes an overhead transmission line, and a buried fiber optic line. The pathway project would follow an alignment that does not anticipate any relocation or impact to the existing utilities.

Project is identified within the following (Check all that apply and show plan name)**:**
( ) Statewide Transportation Plan:
(x) Land Management Plan: Victor and Teton County Idaho
(x) Regional Transportation Plan:
(X) County Transportation System Plan:
( ) Tribal Transportation Plan

Which of the following environmental and social issues are within the project area:		**Could the proposed project affect this issue?**
Wetlands	( ) No (x) Yes	( ) No (x) Yes, minor
T&E Species	( ) No (x) Yes	(x) No ( ) Yes
Other Fish & Wildlife & Habitat	( ) No (x) Yes	(x) No ( ) Yes
Wildlife Movement Corridors	( ) No (x) Yes	(x) No ( ) Yes
Wild & Scenic River	(x) No ( ) Yes	(x) No ( ) Yes
Non-Attainment Air Quality Areas	(x) No ( ) Yes	(x) No ( ) Yes
Cultural/Arch/Historic Sites	(x) No ( ) Yes	(x) No ( ) Yes
Public Parks	(x) No ( ) Yes	(x) No ( ) Yes
Wildlife Refuge	(x) No ( ) Yes	(x) No ( ) Yes
Hazardous Materials	(x) No ( ) Yes	(x) No ( ) Yes
Stream Encroachments	(x) No ( ) Yes	(x) No ( ) Yes

Describe any other environmental or social issues that should be considered that are within the project area: Is the route included in an area receiving special management considerations for water quality, wildlife security, connectivity?
The Teton Centennial pathway project was included in an Environmental Assessment of the Teton Pass Trail conducted by the Forest Service. A DN and FONSI were issued by both the Forest Service and FWHA in Denver in 2002 that approved the pathway proposed in this project. The biological assessment will need to be updated due to changes in TES status since the approval of this project. No effects to TES are anticipated.

Describe the range of attitudes, both support and opposition, that this proposed project may receive from organizations, the public and within your own agency: State the basis for this supposition and include coordination efforts and public involvement efforts completed to date.

The Idaho Teton Centennial Trail Project would extend and complete the Idaho portion of a project that was first funded in 1999-2001 through the Millennium Trail Projects and the PLHD grants. That project connected Victor up to Moose Creek. U.S. Senator Mike Crapo helped celebrate the 2004 grand opening.

This new Federal Land Access project has wide support from ID and WY government, business, and non-profit organizations such as Idaho's Teton Valley Trails and Pathways and Friends of Pathways of WY. Businesses have seen significant economic benefit from growing bicycle tourism dollars and city and county agencies have received added sales tax collections. The pathways are strongly supported by the public, which sees the benefits of safe bicycle and pedestrian infrastructure and increased tourism dollars.

Teton County Idaho recently updated their Comp Plan and recreational access and opportunities was one of the top five priorities. The City of Victor has recently approved a recreational trails plan that supported improved close to home trail access to the Caribou-Targhee NF. Teton Valley Trails and Pathways has conducted multiple surveys with the public and meetings with private and public sector groups that prioritized a Teton Pass Pathway a critical need for non-motorized users in Teton Valley.

Teton County Wyoming is an active partner in the project, and fully supports the construction of the Teton Centennial Pathway. Teton County WY is concurrently applying for FY-13 Wyoming FLAP grant to complete the remaining 6-mile Wyoming portion from the Idaho state line to the summit of Teton Pass. That would then safely connect two world-class pathway systems that effectively would connect Ashton Idaho to Jenny Lake in Grand Teton National Park with a pathway system exceeding 150 miles total.

As a further sign of public support, in 2012, a community effort raised private funds and partnered with the Silver Star fiber optic line installation, and together a major repair effort was invested in the east side of old Teton Pass. Over 100 private donors contributed and strong public support was demonstrated for fully connecting the Teton Pass pathway to Victor.

The lead agency for project delivery will be WFLHD. If recommending a different agency be lead, indicate below which agency and provide rationale for recommendation:

The City of Victor proposes to be the lead agency for this project. The City of Victor employs a qualified civil engineer as project manager, and has established relationships with the Caribou-Targhee Teton Basin Ranger District, the Idaho Transportation Department and local contractors. This project delivery method would expedite the project, increase efficiencies and provide a cost savings for the project. The City of Victor will also be able to coordinate easily with Teton County Wyoming for the concurrent Wyoming pathway project proposed, leading to a better project outcome and more potential savings.

Total Project Cost Estimate: Fill-in estimates for appropriate items. Add items as needed. **USE CURRENT UNIT PRICES.**

Quantity	Item	Unit Price	Unit	Total
3,000	Clearing & Grubbing	$ 10	Cubic Yards	$ 30,000
36,000	Excavation and Backfill	$ 7	Cubic Yards	$ 252,000
4,100	Structural Backfill	$ 32	Cubic Yards	$ 131,200

2,050	Base Course	$ 45	Cubic Yards	$ 92,250
1,370	2” Thick Asphalt Concrete Pavement	$ 110	Ton	$ 150,700
1	Retaining Wall/Slope Protection	$ 100,000	Lump Sum	$ 100,000
1	Misc. Restoration	$ 50,000	Lump Sum	$ 50,000
12,320	Fog Coat	$ 0.50	Square Yards	$ 6,160
20,000	Paint Striping	$ 1.50	Linear Feet	$ 30,000
10	Signs	$ 200	Each	$ 2,000
2	Project Signs	$ 500	Each	$ 1,000
1	SWPPP	$ 4,000	Lump Sum	$ 4,000
1	Permitting	$ 1,000	Lump Sum	$ 5,000
1	Bridge	$ 50,000	Lump Sum	$ 50,000
1	Bridge Abutment	$ 20,000	Lump Sum	$ 20,000
Sub-Total				$ 924,310
	Mobilization (10% of Sub-Total)	$	Lump sum	$ 90,690
	Contingencies (30% of Sub-Total)	$	Lump sum	$ 270,000
			TOTAL ESTIMATED CONSTRUCTION COST	$1,285,000
			ESTIMATED PRELIMINARY ENGINEERING COSTS (Typically 15% of Total Estimated Construction Cost)	$ 128,000
			ESTIMATED CONSTRUCTION ENGINEERING COSTS (Typically 10% of Total Estimated Construction Cost)	$ 100,000
			ESTIMATED RIGHT OF WAY COSTS (Survey)	$ 10,000
			ESTIMATED OTHER COSTS (such as utility relocation, unique mitigation, etc.)	$ 0.00
			TOTAL PROJECT COSTS	$ 1,523,000

Required matching funds: (Describe the type and source of funds to provide the required 7.34% funding match. Describe any “soft match”, “in-kind match”, or other eligible Federal funds that will be used to satisfy the match requirements. Describe the timing for providing the required matching funds.)
The City of Victor is proposing an “in-kind match” by providing the Engineering Services for the design, construction documents, and construction engineering/project management. The timing of the match will come concurrently with the design and construction of the project. The provided services total $228,000 or approximately 18% of the Estimated Construction Cost.

Other contributions to the project: (Describe any additional contributions secured or being sought to implement the project proposal.)
Teton Valley Trails and Pathways (TVTAP), a local Non-for-profit commits to assist in ongoing project management and maintenance and will coordinate raising funds for future seal coats at an estimated cost of $5-6,000 every 4-5 years. TVTAP will also help with public outreach and information during the project, with an estimated in-kind value of $5,000 contributed to the total project. Other partners include:

- *Teton County Idaho*
- *City of Driggs*
- *Local Teton Valley Idaho Businesses*
- *Private citizens*

How does the project relate to the following evaluation criteria?

1. **SAFETY**

Improvement of the Transportation Network for the safety of its users.

- How many and what type of crashes have occurred on the project site in the last five years?
Numerous vehicle serious crashes have been documented along ID-33 and the Teton Pass highway. This project will greatly improve safety and access to public lands for bicyclist and pedestrians with a separated pathway. The potential for bicycle and pedestrian crashes would be decreased by the addition of the separated pathway.

- How would the proposed project improve unsafe conditions such as crash sites, inadequate sight distance, roadside hazards, poor vertical/horizontal alignment, hazardous intersections, inadequate lane and shoulders widths, etc?
The pathway would improve the current unsafe conditions that exist for bicycles and pedestrians. Idaho 33 in the project area is only 26-28' width, with two 12' travel lanes leaving only a narrow shoulder for bicycle use. Recent guardrail installation along the corridor actually narrowed the functional road shoulder width for bicycles, pedestrians and winter backcountry skiers, due to shy distance to the guardrail.

There are currently no plans to widen the ID-33 highway shoulders, nor WY-22; such a project would have significant cost and environmental impacts. The project will allow ITD the opportunity to close one and better regulate several access locations with safety issues near the Moose Creek area where BPA has access to the electric transmission line in the corridor.
- Does the proposed project address potentially unsafe locations such as where recreation use may create traffic conflicts with local or through traffic?
Yes, it addresses traffic conflicts along the entire project length. Currently, non-motorized modes only access to the Caribou-Targhee NF Teton Pass area is on narrow, high-speed ID-33. This road way is heavily used throughout the year and has inadequate shoulder for safe use by bicyclist and pedestrians.

- Does the project address safety for a wide range of users (freight, destination motorists, touring motorists, bicyclists, pedestrians, public transportation)?
The project will address safety for a wide range of users, directly serving non-motorized modes and benefiting motorists, public transportation (START Bus) and the movement of freight along the highway. The addition of the separated pathway will assure that the motorized users do not have to adjust for the low-speed non-motorized users, thus decreasing conflicts and accidents for all users.
- What are the results/recommendations of any road safety audits conducted for the project? Describe the basis for your information and include reported accidents and anecdotal information.
User interviews and decades of local experience suggest ongoing conflicts between motorists and cyclists, due to the significant speed differentials, narrow shoulders, and vehicle proximity. The success of the Old Pass Road on the east side shows the benefits for bicyclists and pedestrians to have a separated facility. The bike shops in Wilson and Victor regularly document bicycle rider's safety concerns with riding highways WY22 and ID33.
- Is the project identified in a strategic safety plan?

This project has been identified in the Teton County Idaho Comprehensive Plan update in 2012, Teton Valley Trails and Pathways priority project list, the Teton Pass Trail Environmental Assessment of 2002, and in planning access to the Caribou-Targhee NF trails through the Southern Valley Trails Project adopted by the City of Victor.

2. PRESERVATION

Improvement of the transportation network for economy of operation and maintenance.

- What is the current condition to the existing surfacing? If the surfacing is pavement, what is the Pavement Condition Index (PCI)? How would the project improve the surface condition?
  The project site follows approximately 70% along the Old Jackson Highway, and is a mix of old roadway bed, dirt road, natural surface trail. The new pathway would be 10' wide asphalt and follow ASHTO construction guidelines for pathways.
- Would the proposed project correct a "deficient" bridge identified by the National Bridge Inventory System? What is the bridge's current Sufficiency Rating?
  No; however, the project will replace the old highway bridge over Moose Creek, which is deficient. The bridge is needed for the pathway, and with the proposed H-15 load design could provide a safer utility road access for BPA, which currently takes access off ID-33 south of Moose Creek on a corner with limited sight distance.

3. RECREATION AND ECONOMIC

Development, utilization, protection and administration of the Federal Land and its resources.

- Describe any high use recreation sites or Federal economic generators (as determined by the Federal Land Manager) that are accessed by this project. How many visitors access/use the site annually? How does the project enhance access to these sites?
  The Teton Pass area is considered a high-use recreation area in both summer and winter seasons by the Forest Service and local communities, and the Idaho 33 and WY-22 state highways providing the sole access to numerous busy trailheads, existing parking areas, and the 8,431' summit of Teton Pass, which is a high-use destination in itself. Idaho 33 and WY-22 have a current 6,000 average daily trips, with summer peak days of 10,000. More than 2 million visitors travel through the Teton Pass and project area annually. The corridor also provides public access to adjacent Jedediah Smith Wilderness lands north of the highway corridor.

  The pathway will transform access to the area by incorporating bicycle and pedestrian infrastructure that will safely encourage non-motorized trips. It will also provide superb safe access for people with disabilities to also enjoy the national forest lands.

- Which Federal Lands are accessed by this project? How much Federal Land (acres) is accessed by the project? If multiple Federal Lands are accessed, itemize acreage by agency.
  Caribou-Targhee National Forest - over 3 million acres
  Targhee Forest (portion of CTNF) - 1,645,801 acres
  Bridger-Teton National Forest total - 3.4 million acres
  Grand Teton National Park - 310,000 acres
  Teton Pass - southern gateway to 20 million acre Greater Yellowstone Ecosystem

Enhancement of economic development at the local, regional, or national level, including tourism and recreational travel.

Note: Direct effects of implementing the project, i.e. construction employment will not be scored.

- Identify the community or communities economically dependent on the network, and the elements that comprise the economy (e.g. timber, tourism, etc.) How is the economy tied to the transportation network? How will the proposed project improve the transportation network and support the community's economic goals/needs or other economic plan?
  Victor Idaho and Teton County Idaho are both supported substantially through amenity-based economies and the travel and tourism industries. Teton County Idaho, and neighboring Teton County Wyoming have built a top quality network of pathways and trails that already draw significant tourism and visitation. The Caribou-Targhee NF has a network of mountain bike trails that rival the best in the country.

  Of special note, this year 2013 will mark the Centennial of the highway over Teton Pass. This project will celebrate the milestone of public land access, and to look forward to the next century with a robust multi-modal transportation system for Teton County Idaho and Wyoming.

  New pathway connections east in Jackson Hole and Grand Teton National Park, and north of Victor on the Rails to Trails systems between Victor Idaho and West Yellowstone are becoming well know attractions for cyclists to ride. The "Project" will help bring this system of pathways and trails closer to completion to form a Greater Yellowstone Bicycle Route that will draw tourist from around the country and world. Dedicated systems of such magnitude in places like the Hiawatha trail in Northern Idaho have shown a significant increase in local tourism dollars. The proposed project would enhance tourism dollars to both Teton County Idaho and Wyoming.

- If the proposed project is located on a designated federal, state, or county scenic byway, identify the scenic byway and explain the anticipated benefit related to the byway. Would the project meet the needs identified in the Byway's management plan?
  The project is located on the Teton Scenic Byway. It states in the adopted Teton Scenic Byway Management Plan under site recommendations and site improvements that an extension of the Teton Pass Trail was supported.

4. MOBILITY

Mobility and continuity of the transportation network serving the Federal Land and its dependent communities.

- Identify all planning documents related to this project. Is the project specifically identified in any of these plans? What is the local or regional priority (high, medium, low) of the project considering the Federal Land, State or County network? How does this proposal fit with the Federal Land Management Plan? How does the proposal fit with the county comprehensive plan? How does the proposal fit with any Transportation System Plans or Corridor Plans? What are the consequences to the transportation system of not addressing these needs?
  Teton County Comprehensive Plan, Teton Scenic Byway Management Plan, Southern Valley Trails Plan adopted by the City of Victor, Teton Valley Trails and Pathways priority project list all support the Teton Pass Centennial project. The plan for a pathway from the City of

Victor connecting to Teton Pass and over to Wilson Wyoming is of high priority as there is no adequate system in place for bicyclist and pedestrians to travel safely through this corridor to access the Caribou-Targhee NF. As mentioned above the pathway and increased access to trails on public lands is a priority of the City of Victor and Teton County Idaho. Without this project serious safety hazards will continue; bicyclist and pedestrians will be put in harm's way to access federal lands between Moose Creek and Trail Creek campground along HWY 33.

- Does the proposed project connect to a designated route on the Federal Land Management Agency inventory? Are there any future improvements planned on the designated route?
  The trail will connect to the following designated forest system trails -- 038 Moose Creek, 034 Taylor, 033 Rush-hour, and 040 Coal Creek. In addition the trail will connect and provide recreational opportunities for the Mike Harris and Trail Creek Campgrounds. This proposal is consistent with the 1998 Revised Forest Plan (LRMP).

  This project will complete approximately 2 miles of the final missing 8-miles needed to connect the two Teton pathway systems. This project will complete the Idaho portion to the WY state line, and connect to proposed improvements on the Wyoming side.

  Teton County Wyoming plans to concurrently submit a FY-13 FLAP grant to Wyoming to extend the Teton Centennial Trail Project. That project would directly continue the Idaho pathway from state line to Trail Creek Campground, approximately .25 miles, making that important connection, and also seek funds for planning and design from the Campground to Teton Pass.

  One additional future improvement would be a potential pedestrian bridge over Trail Creek near Trail Creek Campground and the construction of a natural surface trail that connected back to Mike Harris Campground, thus adding additional options for recreational loops and public land connections. This future proposal will need more planning and NEPA compliance.

- How would the proposed project improve the continuity of the transportation network? Which gaps or missing links would the proposed project address? What travel restrictions, bottlenecks, or size/load limits impede travel? What work has been completed on adjacent sections to create route continuity?
  This project would be the final link to connect a safe pathway from Victor Idaho to the border with Wyoming. That system also includes a pathway to Driggs, Idaho, a Pathway from Tetonia Idaho to Ashton Idaho, and future project of a rail to trail between Driggs and Tetonia. All told the project when completed will be over 50 miles of bicycle and pedestrian infrastructure between the Wyoming state border and Ashton Idaho, which could connect in the future all the way to West Yellowstone on the old rail line. From the WY border heading to Wilson Wyoming and from Ashton Idaho to West Yellowstone and through Yellowstone National Park and Grand Teton National Park would continue this pathway network to 100's of miles of infrastructure and a world class tourist destination.

- Is the road the sole access to the area? Will the proposed project mitigate the potential of the

route closing?
There is currently only one route to this are via Idaho HWY 33. The next paved east-west road is approximately 75 miles north and 75 miles to the south. This project would have minor beneficial impact on the ID-33 arterial route by providing emergency access in the event of a highway incident.

- How would the proposed improvements reduce travel time and congestion, increase comfort and convenience for the forest highway user?
Yes. Shifting bicycle and pedestrian traffic from the narrow ID-33 shoulders to a separated pathway will reduce delay of motor vehicles. Due to the uphill grades, there can be significant speed differentials between the motor and nonmotorized modes. As larger bicycle travel groups have discovered Teton Pass, (one 2012 Tour had 400 cyclists) the safety problem is increasing.

  With a safe separated pathway, the highway traffic would have fewer distractions, decreasing potential conflicts and increasing the quality of the user experience for both the motorized and non-motorized users.

- How would the proposed project improve the choices for alternative modes of travel (pedestrian, bike, bus, or rail)? Would the proposed project make any ADA improvements?
This project dramatically improves the choices of alternative modes, specifically bicycle and pedestrian (including people with disabilities). There is some use now, but significant latent demand due to the current unsafe conditions. The project would have significant positive impact to the user experience for both safety and interaction with the National Forest Lands. The project would follow ASHTO guidelines and employ best practices on pathway design and construction. This would allow for a multitude of user groups to access federal lands. There is currently no paved pathway system in the project area that addresses ADA use.

- How would the proposed project improve health and wellness?
Increasing bicycling and walking will improve health outcomes, and this strategy is supported by the CDC, Idaho health agencies, and Teton Valley Idaho communities. These health and wellness benefits have strong peer-reviewed research backing them up. Teton Valley Idaho is known for recreational opportunities. One of the top reasons people move or visit the area is to experience the outdoors and our public lands. By completing this project we will increase opportunities for a variety of users groups to safely access federal lands without getting into their car from almost anywhere in Teton Valley Idaho.

5. ENVIRONMENTAL QUALITY

Protection and enhancement of the rural environment associated with the Federal Land and its resources.

Note: It is assumed all projects will be constructed in accordance with all environmental regulations. This scoring is for projects which enhance environmental goals.

- Describe how the proposed project contributes to the environmental goals and objectives of the Federal Land Management Plan or other applicable land management plan. Would the proposed project require modifications or amendments to these plans?
  This project is compatible with the CTNF Forest Plan, and will help meet key National Forest goals to connect kids with nature, meets goals of President Obama's America's Great Outdoor initiative, and will address the Forest Service "A Framework for Sustainable Recreation", USDA 2010. The mode shift made possible by the pathway will take some cars off the road, decreasing the use of fossil fuel and decreasing pollution and increasing more avenues to live a healthy lifestyle.
- How would the project enhance wildlife connectivity and/or aquatic organism passage?
  The Idaho project does not specially address wildlife connectivity but does not have an adverse effect on wildlife and has been previously approved in an Environmental Assessment by the FS.
- How would the project enhance water quality, riparian and/or wetland function?
  Replacing the old Moose Creek bridge would widen the span and restore more natural flow characteristics. This will improve migration for the sensitive native Yellowstone Cutthroat Trout.
- Would the project require unique mitigation for impacts? *No.*

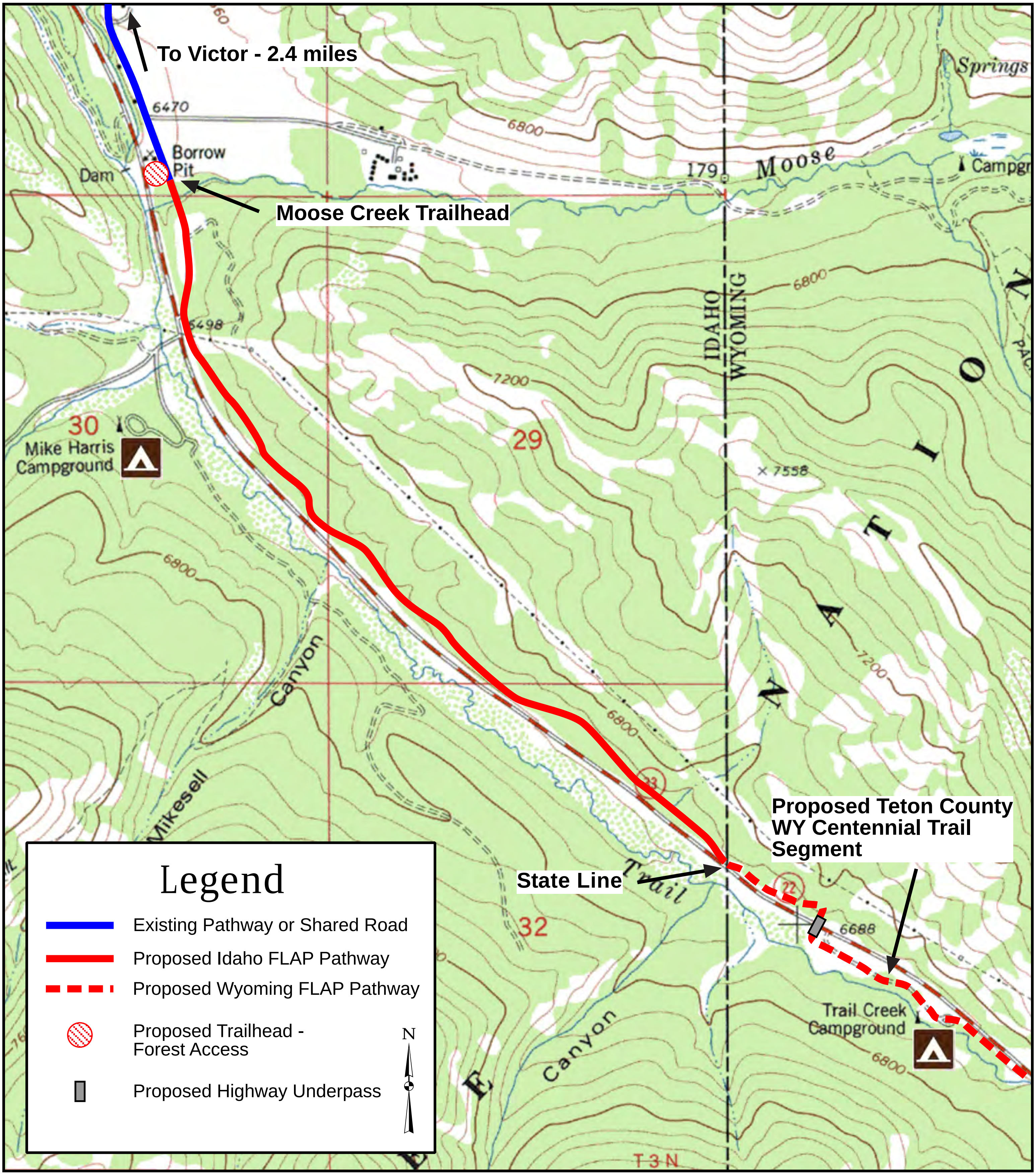
JOINT ENDORSEMENT- This project is supported and endorsed by:
(add agency endorsements as needed)

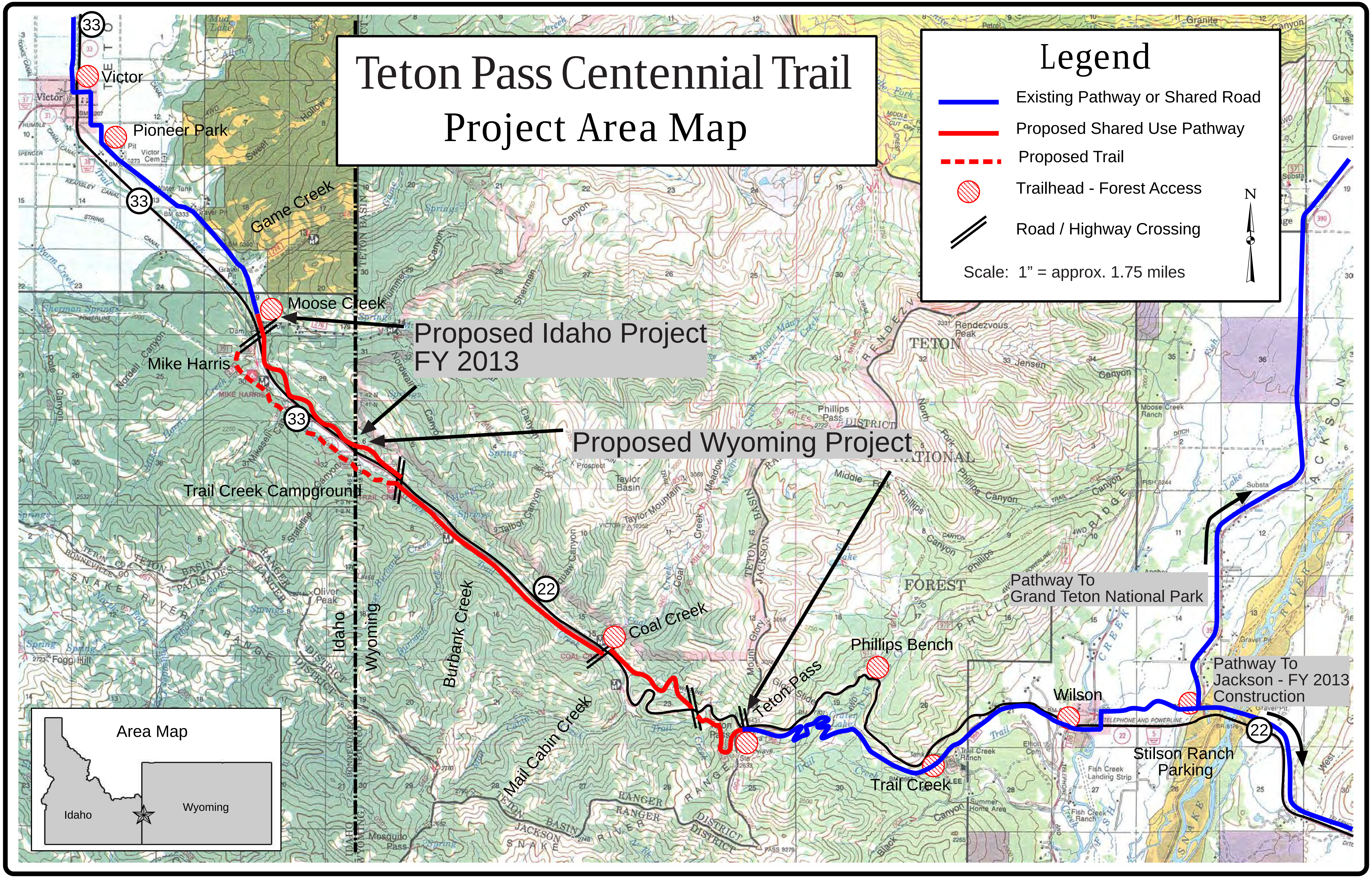
Federal Land Agency(ies):	Caribou-Targhee National Forest	**State, County, Local, or Tribal Government:**	City of Victor
***Federal Land Unit Manager Name:**	Keith Simila Director of Engineering USDA Forest Service Intermountain Region.	****Authorized Official:**	Mayor Zach Smith
Signature:	[signature]	**Signature:**	[signature]
Date:	1/30/2013	**Date:**	January 30th, 2013
E-Mail:	ksimila@fs.fed.us	**E-Mail:**	mayor@victorcityidaho.com
Telephone:	(801) 625-5194	**Telephone:**	(307) 690-3674
Point of Contact:		**Point of Contact:**	
Title:		**Title:**	
E-mail:		**E-mail:**	
Telephone:		**Telephone:**	

** Unit manager such as Park Superintendent, Regional Forester...*

*** Official authorized to commit agency to project implementation such as ITD District Engineers, Highway District Commissioner, County Commissioner...*

Idaho Federal Lands Access Program
Teton Pass Centennial Trail - Victor Segment





Teton Pass Centennial Trail
Project Area Map
Legend
Existing Pathway or Shared Road
Proposed Shared Use Pathway
Proposed Trail
Trailhead - Forest Access
Road / Highway Crossing
Scale: 1" = approx. 1.75 miles
N
Victor
Pioneer Park
Game Creek
Moose Creek
Proposed Idaho Project
FY 2013
Mike Harris
Proposed Wyoming Project
Trail Creek Campground
Burbank Creek
Coal Creek
Idaho
Wyoming
Mail Cabin Creek
Teton Pass
Phillips Bench
Trail Creek
Wilson
Pathway To
Grand Teton National Park
Pathway To
Jackson - FY 2013
Construction
Stilson Ranch
Parking
33
22
Area Map
Idaho
Wyoming

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 97
Rigby, ID 83442-0097

(208) 745-7781
itd.idaho.gov

January 18, 2013

Mr. Robert M. Heuseveldt, P.E. CFM
Administrator-Engineer-Public Works Director
P. O. Box 122
Victor, ID 83455

RE: 2013 Idaho Federal Lands Access Program application

Dear Mr. Heuseveldt:

I would like to thank you for taking time to explain the vision of the Idaho Teton Centennial Trail Project and the City's intent to submit an application to extend this project under the 2013 Idaho Federal Lands Access Program.

I understand that this proposed bicycle pedestrian pathway would lie within or adjacent to the SH-33 Right of Way and that the City would likely need additional Forest Service Right of Way to construct the pathway. After consultation with the Teton Basin Forest Ranger of the Caribou-Targhee National Forest, I would agree that the most expedient way for the City to access this Right of Way would be for the USFS to expand ITD's existing forest easement and then for ITD to enter into an agreement with the City of Victor for the development, construction and ongoing maintenance of the pathway within the expanded forest easement.

The purpose of this letter is to acknowledge ITD's support of this concept and willingness to cooperate with the City of Victor to this end.

Sincerely,

Blake Rindlisbacher, P.E.
District 6 Engineer

BR:ms

January 29, 2013

Tom Bivens
Victor Valley Market
5 S. Main St.
Victor, ID 83455

Re: Teton Pass Centennial Trail

Dear Selection Committee;

This letter serves as our business support for the Teton Pass Centennial Trail extension from Victor, Idaho to the Idaho-Wyoming state line. We feel strongly that the economic future of Teton Valley and the cities of Victor and Driggs are tied to our recreational opportunities.

As business owners, we have noticed a significant increase in recreational cyclists passing through Victor to points north, east and west. Many of these recreationists stop at our business or in town. The major impediment to more cyclist usage is the lack of safe connections to the west and east, particularly east over Teton Pass.

We support sustainable recreation and consider cycling a cornerstone of this activity. Its impact on the community is virtually totally positive and is a future component of our community's amenities. We support the application for the Centennial Trail extension and future efforts to connect the trail to Jackson and a world class complete loop to West Yellowstone, MT.

Sincerely,

Tom Bivins

Tom Bivens
Victor Valley Market

January 29, 2013

Kim Keeley
Victor Emporium
45 N. Main
PO Box 170
Victor, ID 83455

Re: Teton Pass Centennial Trail

Dear Selection Committee;

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Sincerely,

Kim Keeley
Victor Emporium

January 29, 2013

Eric Spitzer
PRO GUIDEDIRECT
175 N. Main
Victor, ID 83455
eric@proguidedirect.com

Re: Teton Pass Centennial Trail

Dear Selection Committee;

This letter serves as our business support for the Teton Pass Centennial Trail extension from Victor, Idaho to the Idaho-Wyoming state line. We feel strongly that the economic future of Teton Valley and the cities of Victor and Driggs are tied to our recreational opportunities.

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Sincerely,

Eric Sptizer
PRO GUIDEDIRECT

January 29, 2013

Joe & Patty Reed
The Brakeman Grill
27 N. Main Street
Victor, ID 83455

Re: Teton Pass Centennial Trail

Dear Selection Committee;

This letter serves as our business support for the Teton Pass Centennial Trail extension from Victor, Idaho to the Idaho-Wyoming state line. We feel strongly that the economic future of Teton Valley and the cities of Victor and Driggs are tied to our recreational opportunities.

As business owners, we have noticed a significant increase in recreational cyclists passing through Victor to points north, east and west. Many of these recreationists stop at our business or in town. The major impediment to more cyclist usage is the lack of safe connections to the west and east, particularly east over Teton Pass.

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Sincerely,

Joe & Patty Reed

Joe & Patty Reed
Brakeman Grill

January 29, 2013

Scott Fitzgerald
Fitzgerald's Bicycles
20 Cedron Road
Victor, ID 83455

Re: Teton Pass Centennial Trail

Dear Selection Committee;

This letter serves as our business support for the Teton Pass Centennial Trail extension from Victor, Idaho to the Idaho-Wyoming state line. We feel strongly that the economic future of Teton Valley and the cities of Victor and Driggs are tied to our recreational opportunities.

As business owners, we have noticed a significant increase in recreational cyclists passing through Victor to points north, east and west. Many of these recreationists stop at our business or in town. The major impediment to more cyclist usage is the lack of safe connections to the west and east, particularly east over Teton Pass.

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Sincerely,

Scott Fitzgerald
Fitzgerald's Bicycles

GRAND TARGHEE RESORT

January 29, 2013

Idaho Federal Lands Access Program
Programming Decisions Committee:

Federal Highway Administration - Phyllis Chun
Idaho Department of Transportation- Tom Cole
Local Highway Technical Assistance Council- Jerry Platz

Copy to: WFL.CallForProjects@dot.gov

Copy to: cfl.planning@dot.gov

Subject: Grand Targhee Resort Support Letter –Teton Centennial Trail Project

Dear Idaho Decisions Committee,

I am pleased to express my strong personal support and the full support of Grand Targhee Resort for Victor, Idaho's Federal Land Access Program grant application, seeking funding for the Idaho portion of the Teton Centennial Trail Project, a much-needed bicycle and pedestrian pathway project connecting our communities over Teton Pass.

Grand Targhee Resort is a ski and summer resort nestled in Alta, Wyoming on the Western slopes of the Tetons. In order to get to Grand Targhee, our out of state guests must travel from either Jackson, Wyoming or Idaho Falls, Idaho through Driggs, Idaho. We host several bicycle group tours in the summer season and many of those tours include Teton Pass. I believe that offering a safe alternative to the current road ride would entice many more group tours to include Teton Pass on their itineraries and bring more visitors to Teton Valley. As the largest employer in Teton Valley, I also appreciate the recreational opportunities it affords Grand Targhee's employees.

The Teton Pass Centennial Project addresses significant public safety problems, and would be very appropriate improvement for the 100th anniversary of the Old Jackson Highway over Teton Pass. Building this separated pathway will enhance the safety of motorists, bicyclists and pedestrians, and address the safety problem of large groups of cyclists using the narrow WY-22 road shoulders on the 55-mph arterial highway.

This project certainly meets the MAP-21 guidance emphasis on high-use recreation sites and economic generators. The project will enhance public land access for residents and visitors alike, bringing significant economic benefits to Idaho. Teton Pass is already a high use area, and we believe a safe pathway from Moose Creek to state line would further increase the economic benefits and connectivity to public lands with enhanced facilities for alternative modes.

The project builds on prior FHWA-PLHD investments on Teton Pass to link the communities of Victor, Idaho and Wilson, Wyoming. Previous investments completed pathway sections in Victor, Idaho and Wilson, Wyoming in 2000-2004, which enhanced public land connections to the National Forest. Both Teton County, Idaho and Teton County, Wyoming have significant existing pathway systems that this project will serve to directly extend, and once the full separated pathway is connected, it will create an outstanding system of regional pathways producing significant new economic development benefits.

The proposed Idaho project construction phase from State Line to Trail Creek Campground was approved in a 2002 Environmental Assessment and Decision by the USDA Forest Service and is ready-to-go. The Idaho proposal is being coordinated with a Wyoming Proposal by Teton County,Wyoming, which is concurrently seeking an Wyoming Federal Lands Access Grant for a pathway to connect from the Idaho/Wyoming state line to the summit of Teton Pass, thus fully connecting the two Teton valleys. This partnership of two communities, two forests, two state transportation departments, and two federal land highway offices merits special support.

The Victor, Idaho proposal is to connect from the existing facilities from Victor to Moose Creek built with PLHD funds, and extend a new pathway approximately 2-miles to the Idaho/Wyoming state line.

The route is highly popular with bicyclists and pedestrians, including increasing numbers of large bicycle touring groups seeking access to high-use federal lands on the Caribou-Targhee and Bridger-Teton National Forests. With the top quality pathway system in both Teton Valley, Idaho and Jackson Hole, Wyoming, increasing number of national cycling tour groups come through each year, many visit Grand Targhee Resort, and for many a highlight of their trip is bicycling over Teton Pass.

For these reasons of access, economic benefit, safety, and strong partnerships, this project is well suited for the Federal Lands Access Program. Thank you for your consideration of this request. It will provide significant benefits to the community of Victor, Idaho, Teton County, ID, the State of Idaho, support economic development including Grand Targhee Resort, and will greatly enhance access and connectivity to National Forest lands for all of eastern Idaho.

Sincerely,

Geordie Gillett
Grand Targhee Resort

P.O. Box 373
Driggs, ID 83422
(208) 201-1622
www.tvtap.org

January 28, 2013

Central Federal Lands Highway Division
12300 West Dakota Ave., Ste 380B
Lakewood, CO 80228

Dear Member of the Programming Decisions Committee:

This letter serves as support from *Teton Valley Trails and Pathways (TVTAP),* a non-profit organization located in Driggs Idaho, for the **Teton County Wyoming FLAP application for the Teton Pass Centennial Trail Project**. The proposed project will provide a long-envisioned shared-use pathway from the town of Victor, Idaho (which also connects to Driggs, Idaho), west through the Caribou-Targhee National Forest, then into Teton County, Wyoming where it crosses Teton Pass and enters into the Bridger-Teton National Forest, and ultimately connects to the town of Jackson, Wyoming where it then moves north along the National Elk Refuge and into Grand Teton National Park's pathway system. This project would enhance access to multiple Federal lands, and would be celebrated along with the 100th anniversary of the old Jackson Highway over Teton Pass. This project has significant benefits to Teton County Idaho as it would extend our pathway system leading from Driggs to Victor and in the future our connection all the way to Ashton Idaho completing over 50 miles of safe bicycle and pedestrian paths from the Wyoming border. The cross border pathway system would be a world class destination for cycling tourist groups and address the access issues and safety concerns for both the casual and frequent user. This is a priority project for TVTAP as it has valuable impacts for our residents, local businesses and visitors.

The mission of TVTAP is a Trails and Pathways Connected Community. For the past 12 years we have been working with the community of Teton Valley Idaho and Wyoming to build more pedestrian and bicycle infrastructure. Those projects have brought safe and valuable trails to the area as well increased tourism dollars and served to bring in new businesses to Teton Valley Idaho.

The Teton Pass Centennial Trail Project will build on the plan to complete a pathway over Teton Pass to link our communities. This route is very popular with both the road biking and the mountain biking community as well as many tour groups. In 2012 a tour group of over 400 road cyclists used Teton Pass as a part of their route. Although they looked forward to returning they noted safety issues as a major concern for using that road and this is echoed with regular users of the route. The completion of a safe route over Teton Pass would undoubtedly bring untold tourism dollars to the community such has been seen in other communities that have significant pathway infrastructure.

We hope the selection committee will agree with us that the application submitted by Teton County Wyoming for the Federal Lands Access Program merits approval. This project will have a significant impact on the users as well as impact local businesses and the community at large.

Sincerely,

Tim Adams
Executive Director

Wyoming Pathways
701 West 30th Street
Cheyenne, WY 82001
307.413.8464 tim@wyopath.org

January 29, 2013

Idaho Federal Lands Access Program
Programming Decisions Committee
- Federal Highway Administration - Phyllis Chun
- Idaho Department of Transportation- Tom Cole
- Local Highway Technical Assistance Council- Jerry Platz
Copy to: WFL.CallForProjects@dot.gov

Subject: Support Letter –Idaho Teton Centennial Trail Project, Federal Land Access Grant

Dear Decisions Committee,

On behalf of Wyoming Pathways Board of Directors and our members, I am pleased to express our full support of the City of Victor Idaho's Federal Land Access Program grant application to fund the Idaho portion of the Teton Centennial Trail Project, a much-needed bicycle and pedestrian pathway project.

Wyoming Pathways supports a statewide system of bicycle, pedestrian, mountain bike, cross-country skiing, and complete streets facilities and programs serving the people of Wyoming, which includes significant regional connections such as the Teton Pass Centennial Project.

This project addresses significant public safety problems, and would be very appropriate for the 100th anniversary of the Old Jackson Highway over Teton Pass. The project will enhance public land access for both residents and visitors alike, bringing economic benefits to the area. This project meets the MAP-21 emphasis on high-use recreation sites and economic generators; in fact, this project will become an additional economic generator!

The project builds on the vision and prior FHWA-PLHD investments of completing a pathway over Teton Pass to link the communities of Victor Idaho and Wilson Wyoming. Previous Federal Land Highway investments completed pathway sections in Victor, Idaho and Wilson Wyoming in 2000-2004, enhancing public land connections of those communities to the National Forest. Both Teton County Idaho and Teton County Wyoming have significant existing pathway systems that this project will serve to directly connect, thus creating an outstanding system of pathways.

The proposed Idaho project was approved in a 2002 Environmental Assessment and Decision by the USDA Forest Service and is ready-to-go. The existing Teton Pass Trail connects the City of Victor to the Forest Service boundary at Moose Creek. This proposal extends the trail into the forest along Idaho Highway 33 by approximately 2-miles to the Idaho/Wyoming State Line.

There is a significant safety problem for bicyclists using the ID-33 narrow road shoulders on a 55-mph arterial highway. Building this separated pathway will greatly enhance the safety of motorists and cyclists. It also provides the most direct access to a safe place for families to ride together near Victor to access the National Forest.

The route is highly popular with bicyclists and pedestrians, including increasing numbers of bicycling tour groups. The project connects to high-use federal lands on the Caribou-Targhee and Bridger-Teton National Forests. For example, last summer, the Tour de Wyoming came through Teton Valley, bringing economic benefits from over 400 cyclists in the area, then all traveling by bicycle over Teton Pass. An increasing number of national cycling tour groups come through Teton Valley Idaho each year on their way to and from Teton Pass, a major high-use destination.

On the Jackson Hole side of Teton Pass, the Old Jackson Highway has been preserved and fully connects from Wilson to the summit of Teton Pass, thus providing an existing pathway on the east side. User counts show hundreds of bicycle and pedestrian trips per day using the existing Old Pass Road. This helps illustrate the strong latent demand for safe access, which the Teton Centennial project will provide. Similar high use can be expected on the Idaho section.

Thank you for your consideration of this request. Please contact me if you have any questions on this support letter. This project is well suited for the Federal Lands Access Program. It will provide significant benefits to the City of Victor, Teton County, the State of Idaho, and will enhance access to our National Forest lands.

Sincerely,

Tim Young

Tim Young
Executive Director

Wilson Office:
Wyoming Pathways
PO Box 153
Wilson, WY 83014
tim@wyopath.org
307-413-8464

www.friendsofpathways.org

Friends of Pathways
PO Box 2062
Jackson, WY 83001
307 733-4534
info@friendsofpathways.org
www.friendsofpathways.org

January 30th, 2013

Idaho Federal Lands Access Program
Programming Decisions Committee

Dear Members of the Programming Decisions Committee:

On behalf of our board, members, and supporters Friends of Pathways (FOP) is pleased to offer this letter of strong support for the City of Victors FLAP application for the Idaho Teton Centennial Trail Project.

This project will provide a long-envisioned shared-use pathway from the town of Victor, Idaho (which also connects to Driggs, Idaho), west through the Caribou-Targhee National Forest, then into Teton County, Wyoming where it crosses Teton Pass and enters into the Bridger-Teton National Forest, and ultimately connects to the town of Jackson, Wyoming where it then moves north along the National Elk Refuge and into Grand Teton National Park's pathway system. This project would enhance and enable access to multiple Federal lands, and would be celebrated along with the 100th anniversary of the old Jackson Highway over Teton Pass.

As preference will be given to projects that provide access to **Federal high-use recreational sites** or **Federal economic generators**, and will be evaluated on the following criteria, we support this project as a great application for this use of funding:

- Access, mobility and connectivity;
- Economic development;
- Facility condition;
- Safety;
- Funding, coordination and cost; and
- Resource protection.

By completing a missing link in a world-class system, this project would capitalize on work accomplished to date in connecting two communities, two states, two National Forests, and ultimately connecting to systems that access a National Elk Refuge and a National Park. Both communities have invested deeply, with long-term vision, in multiple, ongoing pathway projects, and are seeing incredible use and returns by and for visitors and locals, with support from environmental, tourism, health, business, and many other sectors of our local economies.

This pathway project would increase the safety of visitors and residents who have made a commitment to sustainable and healthy transportation and recreation – objectives essential in continuing to work toward building our communities' recognition as destinations for economically and environmentally desirable tourism and travel. The economic impact of these types of projects is demonstrated in numerous studies, and increasing the safety of complete systems is crucial in continuing to attract this type of visitation.

The communities and public lands that would benefit from this project have long encouraged and celebrated what bicycling – bicycle tourism, mountain biking, adventure cycling, and commuter travel among others – means to creating a deep and lasting sense of stewardship in our communities and their visitors toward public lands. Just last year, the pathway in Grand Teton National Park from the Town of Jackson was awarded and celebrated by Secretary of Transportation Ray LaHood as an 'America's Great Outdoors' project. These achievements in our communities and our states should be built upon and encouraged, and the Teton Pass Centennial Trail Project would be a keystone project that, again, matches all of the Federal Lands Access Program criteria at high levels.

With all of these benefits in mind, we fully support this project and respectfully request your thoughtful consideration of this funding request.

Sincerely,

Mike Welch
Executive Director

'Friends of Pathways supports a vibrant community by advocating the completion of a safe and sustainable pathways system for healthy recreation and transportation opportunities in Jackson Hole.'

Fitzgerald's Bicycles

20 Cedron Rd Victor, ID 83455
208-787-2453

January 28th, 2013

RE: City of Victor 2013 Idaho Federal Lands Access Program Application

Dear Selection Committee,

This letter serves as support from Fitzgerald's Bicycles for the City of Victors FLAP application for the Idaho Teton Centennial Trail Project.

The proposed project for a paved pathway between Moose Creek Trailhead to the Idaho/Wyoming state border will serve as a key link to expand the current pathway system in Idaho and connect to a future pathway to Wilson/Jackson Hole Wyoming. This project will extend our pathway system leading from Driggs to Victor and in the future our connection all the way to Ashton Idaho completing over 50 miles of safe bicycle and pedestrian paths.

The Idaho Teton Centennial Trail Project will build on the plan to complete a pathway over Teton Pass to link our communities. This route is very popular with both the road biking and the mountain biking community as well as many tour groups. In 2012 a tour group of over 400 road cyclists used the Teton Pass as a part of their route. Although they looked forward to returning they noted safety issues as a major concern for using that road and this is echoed with regular users of the route. The completion of a safe route over Teton Pass would undoubtedly bring untold tourism dollars to the community such has been seen in other communities that have significant pathway infrastructure. In Idaho studies of the communities along the Hiawatha Trail have showed increased business dollars directly associated with users on that trail.

As a local Victor business owner, I feel this trail could significantly impact my business and all other businesses in Teton Valley (as well as Jackson Hole, WY). **This project, combined with future expansions of the trail, has the potential to impact Teton Valley's economy more than any capital investment since the tracks were laid for the railroad in the middle of last Century.** Please consider supporting this project and the growth of Teton Valley.

Sincerely,

Scott Fitzgerald
Owner
Fitzgerald's Bicycles

Adventure Cycling Association

February 2, 2013

Programming Decisions Committee
Federal Highway Administration – Phyllis Chun
Idaho Department of Transportation – Tom Cole
Local Highway Technical Assistance Council – Jerry Flatz

Subject: Teton Pass Centennial Trail, Idaho Section

Dear Committee,

On behalf of Adventure Cycling Association, I would like to express support for the Federal Land Access Program grant application to fund the Idaho portion of the proposed Teton Pass Centennial Trail. Pathway transportation facilities are playing an ever-increasing role in local and regional economies; this project, proposed for the 100th anniversary of the Old Jackson Highway over Teton Pass, would enhance public-land access for residents and visitors alike, while bringing economic benefits to the greater Teton region.

We have been informed that the proposed Idaho project was approved in a 2004 Environmental Assessment by the US Forest Service, but has not yet been funded. The existing Teton Pass Trail reaches from Teton Valley to the Forest Service boundary only, and this proposed project would extend the trail eastward into the forest along Idaho Highway 33 by approximately 2.4 miles, from Moose Creek to the Idaho/Wyoming State Line.

This project is directly in line with Adventure Cycling Association's mission to empower and inspire people to travel by bicycle.

With more than 45,000 members, Adventure Cycling Association is the largest organization in the country promoting bicycle travel. We have researched and mapped the Adventure Cycling Route Network, which, at nearly 42,000 miles, is among the largest bicycle route networks in the world. The first route we mapped, in 1975, when the organization was known as Bikecentennial, was the TransAmerica Bicycle Trail. It remains the backbone of our ever-growing network. The route is traversed by hundreds of touring bicyclists each summer, both independent riders using maps produced by us and those in groups organized by Adventure Cycling and other tour companies.

Adventure Cycling Association
A member supported not-for-profit organization dedicated to bicycle travel.
(800) 755-2453 • (406)0721-1776 • fax (406) 721-8754 • info@adventurecycling.org
www.adventurecycling.org • 150 E. Pine Street, Missoula, Montana 59802

Though the official TransAmerica Bicycle Trail passes from the Togwotee Pass area through Yellowstone National Park, in recent years—due to challenges faced in Yellowstone—we have been rerouting our organized group rides from Moran Junction south through Jackson Hole and over Teton Pass, then north through Teton Valley on the Victor-Driggs pathway. Any project that increases the miles traveling cyclists can ride on separated pathways and decrease the miles ridden on ID-33 and WY-22 (collectively known as the Teton Pass Highway) receives our full support. If the ultimate goal is achieved—that of a separated pathway all the way over Teton Pass, linking existing pathways systems in Teton Valley and Jackson Hole—it would be a tremendous improvement to this alternative route.

The route in question is popular not only with road cyclists, but mountain bikers as well, who can gain access to national forest trails branching off from the Teton Pass Highway. A significant safety concern exists with all cyclists using the narrow road shoulders on such a busy, high-speed road as ID-33. Building this pathway will enhance the safety of the many cyclists currently using the highway, as well as relieve anxiety for those operating motor vehicles on such a road with bicyclists present. It would also offer a safe place for families to ride together near Victor, providing access to the national forest—or, for visiting families that are camping west of the state line on national forest lands, access to the restaurants and other diversions of Victor and Driggs.

Respectfully,

MMcC

Michael McCoy
Media Specialist
Adventure Cycling Association

January 30, 2013

Programming Decisions Committee

Federal Highway Administration - Phyllis Chun

Idaho Department of Transportation - Tom Cole

Local Highway Technical Assistance Council - Jerry Flatz

Subject: Teton Pass Centennial Trail – Idaho Section

Dear Committee,

I'm writing in support of the Federal Lands Access Program application by the City of Victor, Idaho to build the Idaho section of the Teton Pass Centennial Trail.

The route of the proposed project is popular with both road & mountain cyclists including many cycling tour groups. Last summer, the Tour de Wyoming came through Teton Valley and stayed for 2 days bringing over 400 cyclists to our local businesses. Additionally, many national cycling tour groups come through the valley each year on their way over Teton Pass to Jackson.

There's a significant safety concern with cyclists using the ID-33 narrow road shoulders on such a busy high-speed road. Building this pathway will greatly enhance the safety of motorists and the many cyclists who are currently using the busy highway and would also provide a safe place for families to ride together near Victor providing access to the National Forest.

The project builds on the vision of completing a pathway over Teton Pass to link the communities on the Idaho and Wyoming sides. Both communities have significant existing pathway systems. Previous Federal Land Highway investments completed pathway sections in Victor, Idaho & Wilson, Wyoming in 2004, connecting those communities to the forest.

The proposed Idaho project was approved in a 2004 Environmental Assessment by the US Forest Service, but not yet funded. The existing Teton Pass Trail only connects to the Forest Service boundary so this proposal extends the trail into the forest along Idaho Highway 33 by approximately 2.4 miles, from Moose Creek to the Idaho State Line.

Respectfully,

Chi Melville
Pathways Advocate
Alta, Wyoming

January 30, 2013

Programming Decisions Committee

Federal Highway Administration - Phyllis Chun
Idaho Department of Transportation- Tom Cole
Local Highway Technical Assistance Council- Jerry Platz

Subject: Teton Pass Centennial Trail- Idaho Section

Dear Committee,

As the owner of Peaked Sports, a local bicycle and ski shop I'm writing in support of the Federal Lands Access Program application by the City of Victor, Idaho to build the Idaho section of the Teton Pass Centennial Trail.

The project builds on the vision of completing a pathway over Teton Pass to link the communities of Victor, Idaho and Jackson, Wyoming. Both communities have significant existing pathway systems. Previous Federal Land Highway investments completed pathway sections in Victor, Idaho & Wilson, Wyoming in 2004, connecting those communities to the forest.

I ride this route myself and there's a significant safety concern with cyclists using the ID-33 narrow road shoulders on such a busy high-speed road. Additionally, many national cycling tour groups come through the valley each year on their way over Teton Pass to Jackson. These groups provide significant revenue to my business and others in Teton Valley.

Respectfully,

Richard Weinbrandt
Owner, Peaked Sports

January 30, 2013

Idaho Federal Lands Access Program
Programming Decisions Committee:

Phyllis Chun	Federal Highway Administration
Tom Cole	Idaho Department of Transportation
Jerry Platz	Local Highway Technical Assistance Council

Copy to: WFL.CallForProjects@dot.gov

Subject: Support letter Wilson Backcountry Sports – Teton Pass Centennial Trail Project

Dear Idaho Decisions Committee,

As owners of Wilson Backcountry Sports in Wilson Wyoming, we want to express our strong support for the Victor Idaho Federal Land Access Program grant application for the Teton Centennial Trail Project, the Idaho section of a bicycle and pedestrian pathway project that would connect Victor to Wilson with a pathway over Teton Pass.

We know first hand that pathway and trail improvements on Teton Pass have had a direct positive benefit to our business, our employment, and we see the increased enjoyment of our customers visiting the National Forest. We believe a safe pathway over Teton Pass is needed and would further increase economic benefits and connectivity to public lands for alternative modes.

The project is also needed to address serious safety problems bicyclists and walkers regularly report on the west side of Teton Pass, and the Idaho section is part of the problem. We regularly hear from cyclists, including large bicycle groups about the safety hazard caused by the narrow ID-33 road shoulders on the 55-mph highway. Building a separated pathway will improve this, and enhance the safety of motorists, bicyclists and pedestrians.

This project helps close the missing gap over Teton Pass. It would connect the missing 2-mile pathway section from Moose-Creek to the State Line, where it will connect to the 6-mile Wyoming pathway FLAP grant proposed by Teton County Wyoming. When complete, it will fully connect Wilson with Victor safely. It would a great way to celebrate the 100th anniversary of the Old Jackson Highway over Teton Pass.

This project should be a priority project in Idaho due to the federal grant emphasis on high-use recreation sites and economic generators, which Teton Pass clearly is. The project will further enhance public land access for residents and visitors alike, bringing significant economic benefits to eastern Idaho communities.

This project builds on past investments in federal lands. Teton County Idaho and Teton County Wyoming already have world-class pathway systems in place. In addition, Teton County WY is

PO Box 1013 • 1230 Ida Drive • Wilson, WY 83014 • 307.733.5228

just starting construction on the new Wilson to Jackson WY-22 Pathway, a $10 million project that includes a 700' pathway bridge over the Snake River, paid largely with voter approved SPET funds, showing the public support for pathways in Jackson Hole.

That would create a complete pathway system between the towns of Jackson, Wilson, over the pass to Victor and Driggs. When great systems like these are connected over Teton Pass safely, we are confident it will create significant new economic development benefits.

The City of Victor Idaho is coordinating its proposal with Teton County Wyoming, which is concurrently seeking a Wyoming Federal Lands Access Grant for the pathway to connect from the Idaho/Wyoming state line to the top of Teton Pass. What a great partnership this shows of two communities and two National Forests working together, another reason to support the grant.

Thank you for your consideration of this great project.

Sincerely,

Kichan Olpin

Andy and Kichan Olpin, Owners
Wilson Backcountry Sports

APPENDIX B

Concept Plans

STATE	PROJECT	SHEET NUMBER
ID/WY	ID DOT T 33(1)	A.1

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

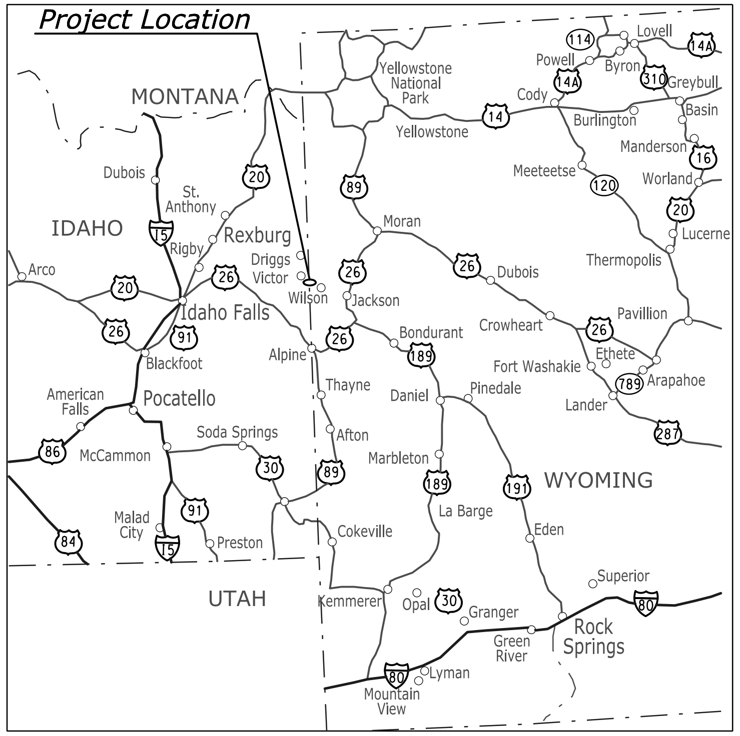
PLANS FOR PROPOSED PROJECT

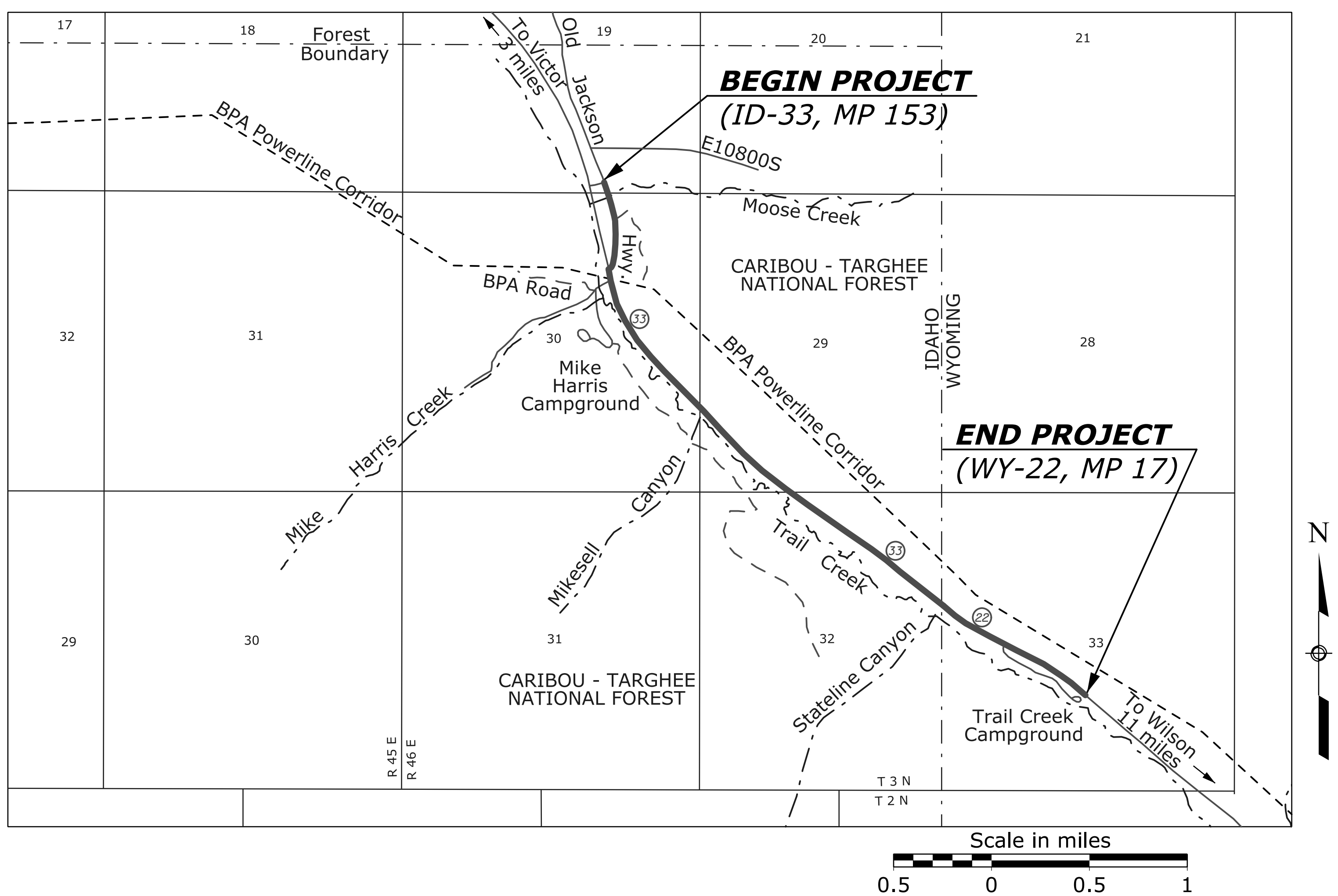
ID DOT T 33(1)

IDAHO TETON CENTENNIAL TRAIL CONCEPT PLAN

CARIBOU - TARGHEE NATIONAL FOREST
TETON COUNTY, IDAHO
TETON COUNTY, WYOMING

LENGTH 2.30 MILES





APPROVED:

Director, Project Delivery,
Western Federal Lands Highway Division DATE ________

TYPE OF CONSTRUCTION:

Grading, Drainage, Paving and Structures

DESIGN DESIGNATION:

ADT (2012)	–	*6,000*
ADT (2032)	–	*8,916*
V	–	*65*
e (max)	–	*N/A*

SPECIFICATION:

Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14 US Customary Units

FEDERAL LANDS HIGHWAY
COMMITMENT TO EXCELLENCE

PLANS PREPARED FOR

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION
VANCOUVER, WASHINGTON

PLANS PREPARED BY

DAVID EVANS AND ASSOCIATES INC.

PROJECT MANAGER
K. Gray

INDEX TO SHEETS

Checked by:
Designed by:
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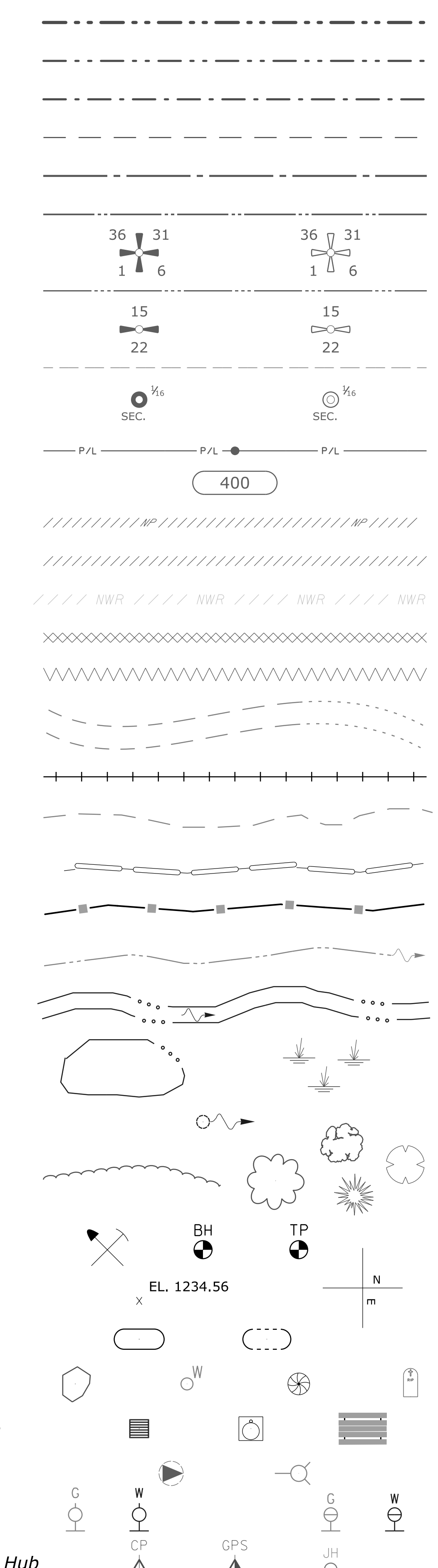
17 December 2015 2:14 PM

Δ	total central angle
Δc	curve central angle
Ø	diameter
θs	spiral central angle
abut.	abutment
ADT	average daily traffic
AH	ahead
appr.	approach
BK	back
BM	bench mark
BP	balance point
br.	bridge
brg.	bearing
cc or c. to c.	center to center
℄	centerline
clr.	clear
CMP	corrugated metal pipe
col.	column
conc.	concrete
conn.	connection
constr. jt.	construction joint
cont.	continuous
CS	point of curve to spiral
ctrs.	centers
CUFT	cubic foot (feet)
culv.	culvert
CUYD	cubic yard(s)
D	diameter
DHV	design hourly volume
dia.	diameter
diag.	diagonal
diaph.	diaphragm
dist.	distance
drwg(s).	drawing(s)
E	east
e	superelevation rate
El. 94.16 ft	elevation with number
elev.	elevation
emb.	embankment
EP	edge of pavement
EQ or eq.	equation
ER	edge of road
EW	edge of water
exc.	excavation
exp. jt.	expansion joint
fin.	finish
flg.	flange
ft2	square foot
ft3	cubic foot (feet)
ftg.	footing
ga.	gage (gauge)
galv.	galvanized
hdwl.	headwall
hex.	hexagon
HW	high water
ID	inside diameter
jt.	joint
L	length of curve
lam.	lamination
lat.	latitude
LNFT	linear foot (feet)
long.	longitudinal
LPSM	lump sum
Ls	length of spiral
lt. or LT	left
LW	low water
M.L.	main line
M.P.	mile post
matl.	material
max.	maximum
MGAL	thousand gallon
min.	minimum
mon.	monument
N	north
NC	normal crown
o. c.	on center
o. to o.	out to out
OD	outside diameter
OG	original ground
PC	point of curve
PCC	point of compound curve
PCS	point of curve to spiral
PI	point of intersection
pl.	plate
POC	point on curve
POS	point on spiral
POT	point on tangent
PS	point of tangent to spiral
PSC	point of spiral to curve
PST	point of spiral to tangent
PT	point of tangent
pvmt.	pavement
R	radius
R.	range
R/W	right-of-way
rdwy.	roadway
reinf.	reinforcement
reqd.	required
RFB	rapid flashing beacon
rt. or RT	right
rte.	route
S	south
SADT	seasonal average daily traffic
SC	point of spiral to curve
sec.	section
shldr.	shoulder
SLRY	slurry unit
spa.	spacing, spaces or spaced
SQFT	square foot
SQYD	square yard
SRS	point of spiral to reverse spiral
SS	point of spiral to spiral (no curve)
ST	point of spiral to tangent
STA, Sta.	station
std.	standard
stgr.	stringer
stiff.	stiffener
struc.	structural
STS	point of spiral to tangent spiral
sym.	symmetrical
T	tangent distance
T.	township
TBM	temporary bench mark
thd.	thread
TS	point of tangent to spiral
Ts	tangent distance (spiraled curve)
typ.	typical
V	design speed
vph	vehicles per hour
VPI	vertical point of intersection
W	west
yd2	square yard
yd3	cubic yard(s)

NOTE:

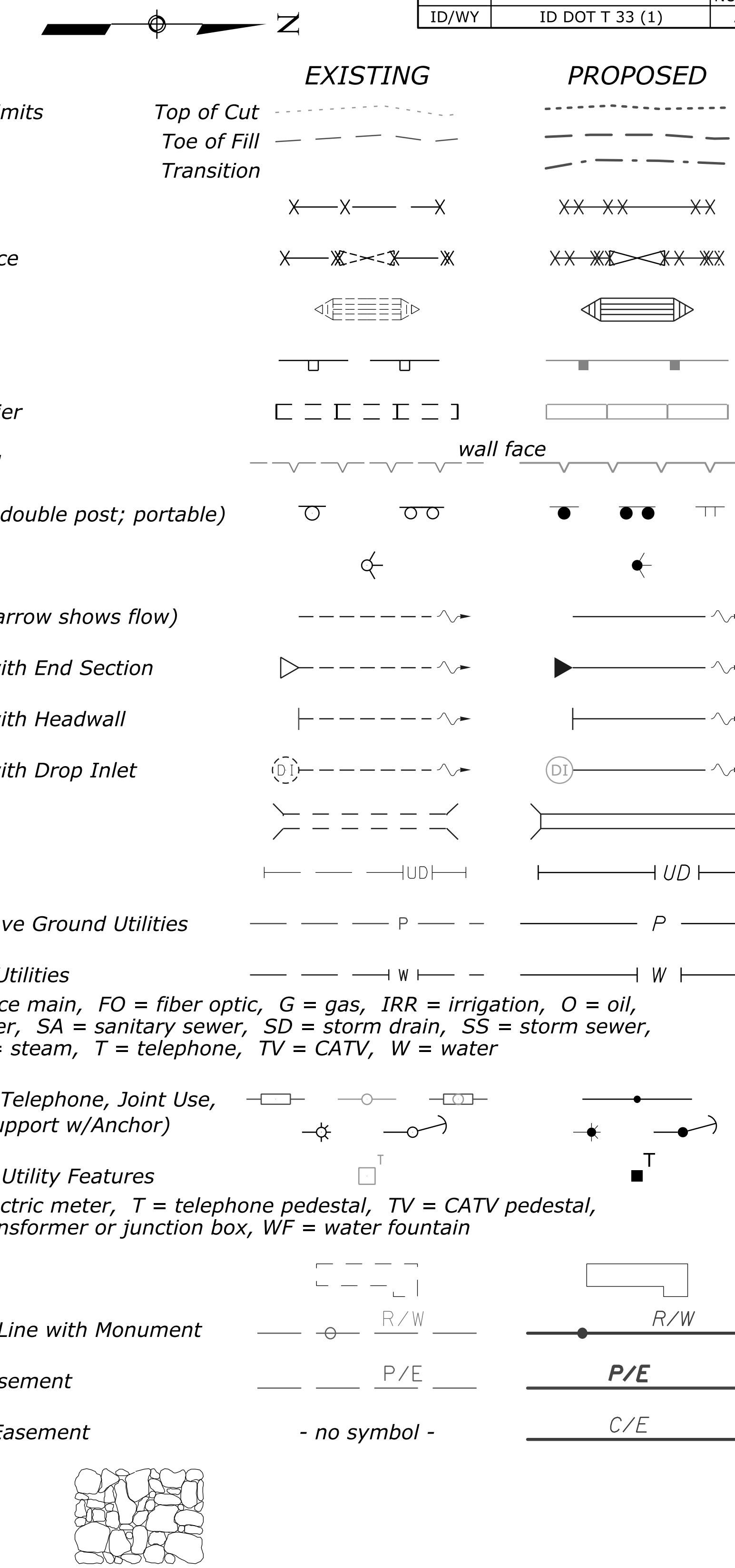
1. Other symbols used in the plans will be shown in a legend on the appropriate plan sheet.

National Boundary
State Boundary
County Boundary
City Boundary
Township or Range Line
Section Line
Section Corner (Found, Projected)
¼ Section Line
¼ Section Corner (Found, Projected)
1/16 Section Line
1/16 Section Corner (Found, Projected)
Property Line w/Found Property Corner
Parcel Number
National Park Boundary
National Forest Boundary
National Wildlife Refuge Boundary
BLM Lands Boundary
Indian Reservation Boundary
Existing Roadway (Road, Paved, Gravel)
Railroad
Trail
Wattle
Silt Fence
Intermittent Drainage or Small Creek
Large Creek or River
Lake, Pond or Reservoir; Marshland
Spring or Seep
Treeline; Individual Trees
Material Source; Bore Hole; Test Pit
Spot Elevation; Coordinate Grid Tick
Above Ground Tank; Underground Tank
Boulder; Well; Satellite Dish; Grave
Cooking Grate; Garbage Can; Picnic Table
Flagpole; Fire Hydrant
Gas & Water Meter; Gas & Water Valve
Control Point (Terrestrial and GPS); Jump Hub



STATE	PROJECT	SHEET NUMBER
ID/WY	ID DOT T 33 (1)	A.2

North Arrow
Slope Stake Limits — Top of Cut, Toe of Fill, Transition
Fence
Gate with Fence
Cattleguard
Guardrail
Concrete Barrier
Retaining Wall
Signs (single, double post; portable)
Delineators
Pipe Culvert (arrow shows flow)
Pipe Culvert with End Section
Pipe Culvert with Headwall
Pipe Culvert with Drop Inlet
Box Culvert
Underdrain
Overhead/Above Ground Utilities
Underground Utilities
FM = force main, FO = fiber optic, G = gas, IRR = irrigation, O = oil,
P = power, SA = sanitary sewer, SD = storm drain, SS = storm sewer,
STEAM = steam, T = telephone, TV = CATV, W = water
Poles (Power, Telephone, Joint Use, Light, Support w/Anchor)
Miscellaneous Utility Features
EM = electric meter, T = telephone pedestal, TV = CATV pedestal,
UP = transformer or junction box, WF = water fountain
Building
Right-of-Way Line with Monument
Permanent Easement
Construction Easement
Riprap



NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

PLAN SYMBOLS AND ABBREVIATIONS

DETAIL APPROVED FOR USE 11/2001
REVISED: 9/2005 1/2007 10/2009

DETAIL W101-1

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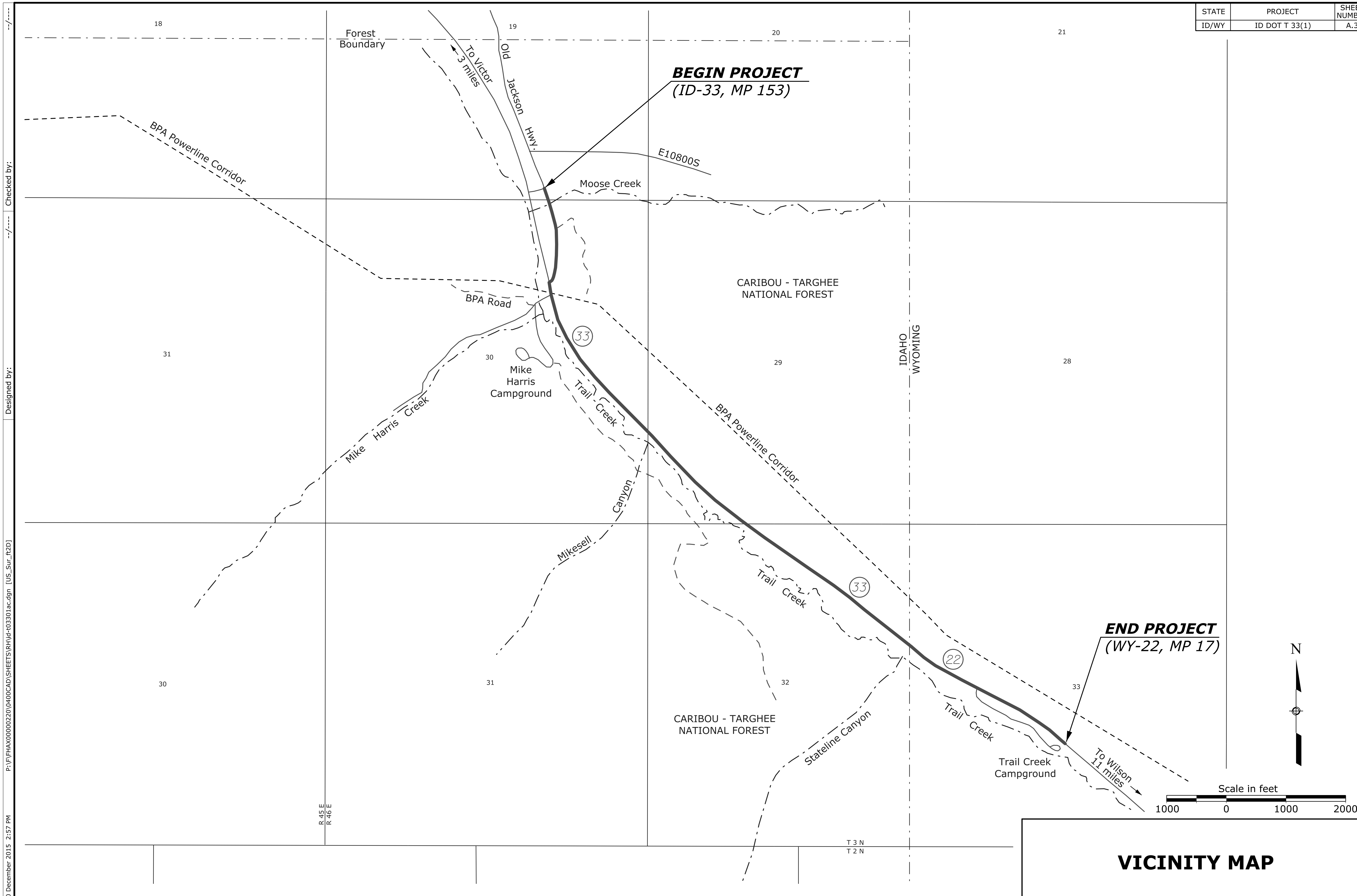

VICINITY MAP

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Checked by: --/----

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STATE	PROJECT	SHEET NUMBER
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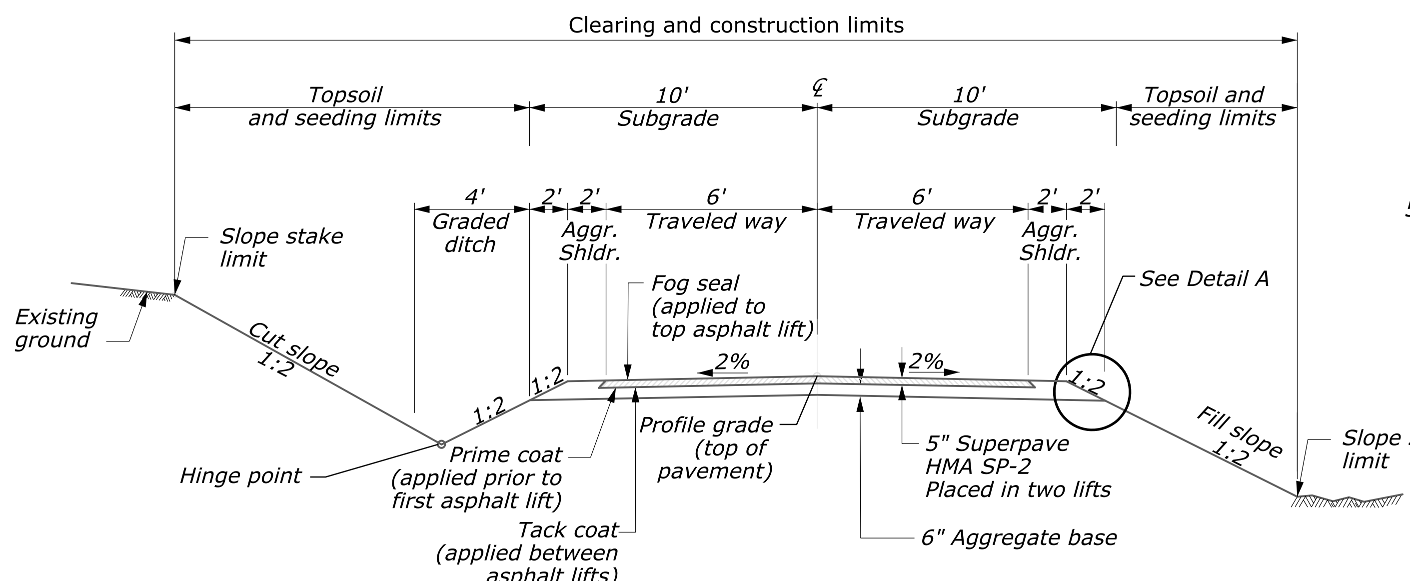
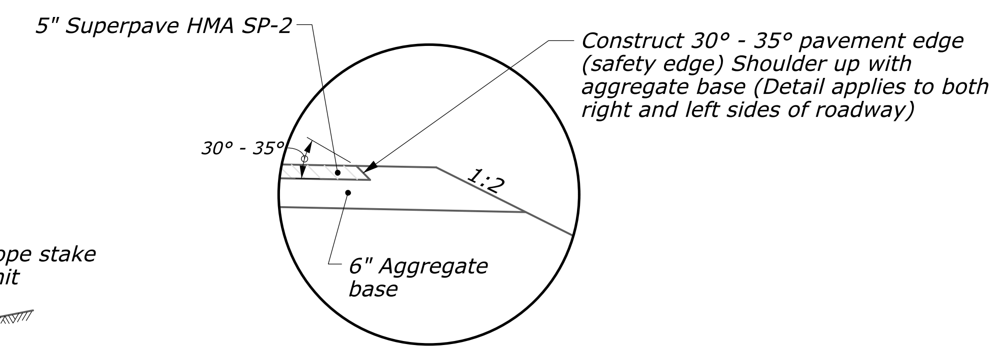


TYPICAL SECTION
MOOSE CREEK SEGMENT - VEHICLE

STA. 10+00 to STA. 12+31
STA. 12+96 to STA. 17+05



DETAIL A

NOTES:

1. Round all earth slopes and all rippable rock slopes.

TABULATION OF TYPICAL SECTION QUANTITIES

ITEM	DESCRIPTION	UNIT	TOTALS

TYPICAL SECTIONS

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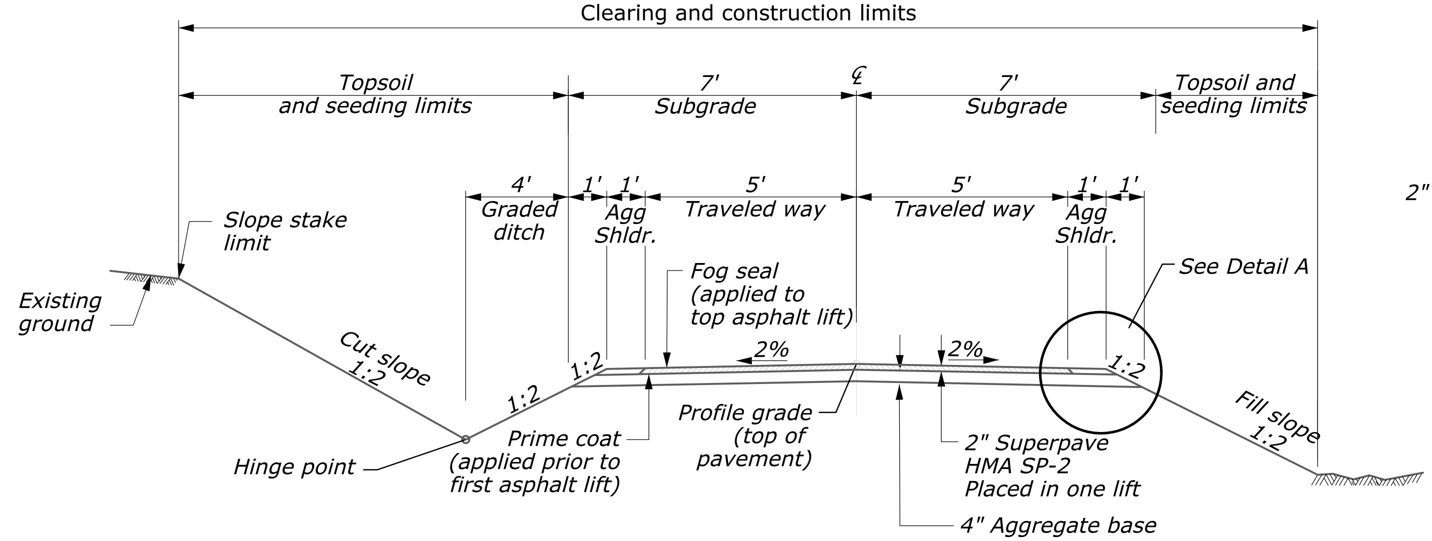
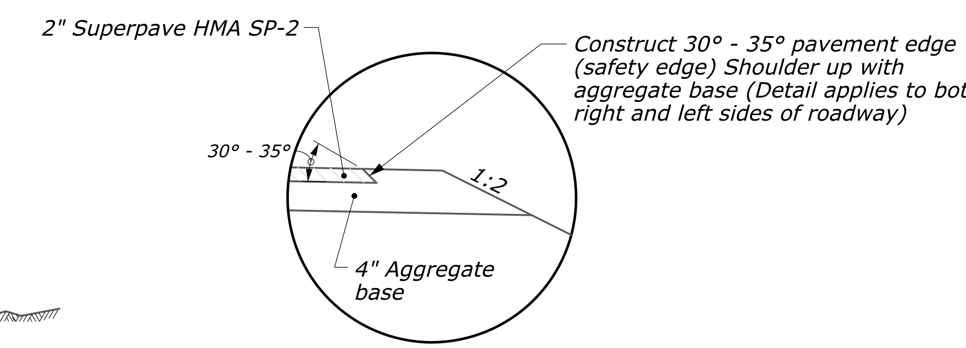


TYPICAL SECTION
GENERAL TRAIL

STA. 17+05 to STA. 129+03
STA. 129+53 to STA. 131+73



DETAIL A

NOTES:

1. *Round all earth slopes and all rippable rock slopes.*

TYPICAL SECTIONS

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ITEM 30201-1000 ROADWAY AGGREGATE	
APPROXIMATE LOCATION	QUANTITY (CUYD)
TOTAL	209

ITEM 20103-0000 CLEARING AND GRUBBING	
APPROXIMATE LOCATION	QUANTITY (sqyd)
TOTAL	

NOTE:

1. Stationing shown is approximate.

TABULATION OF PLAN QUANTITIES

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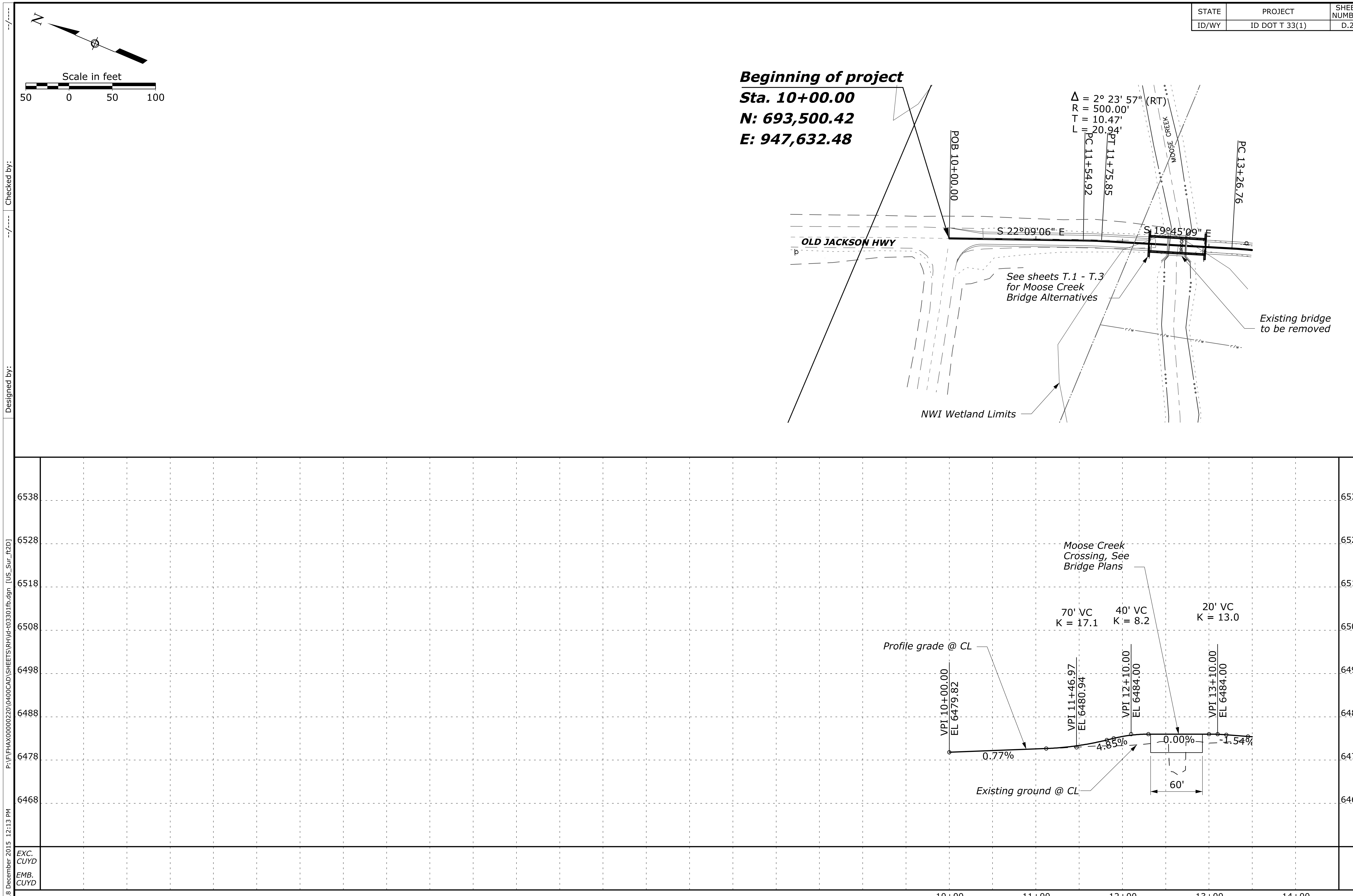

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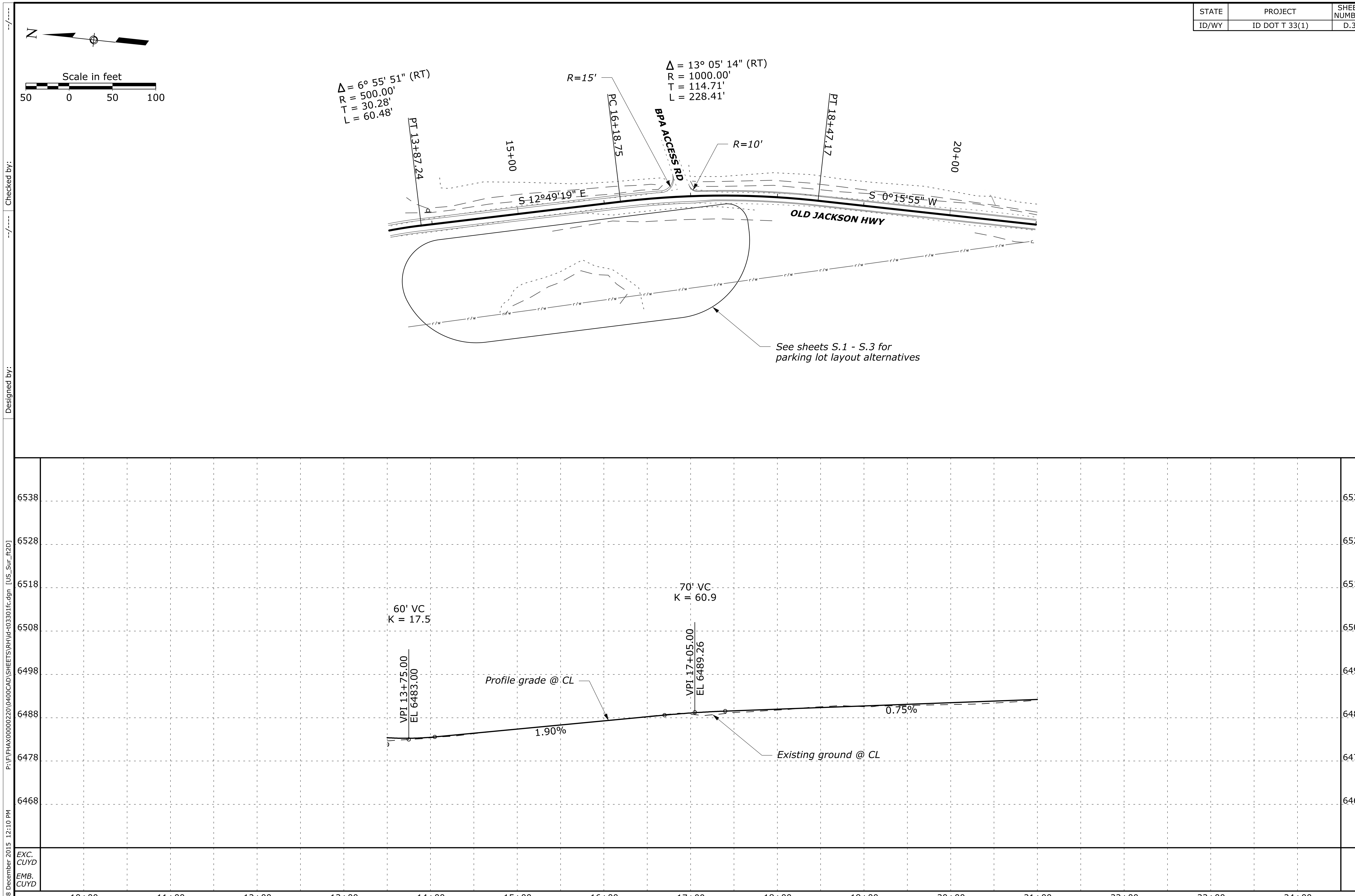

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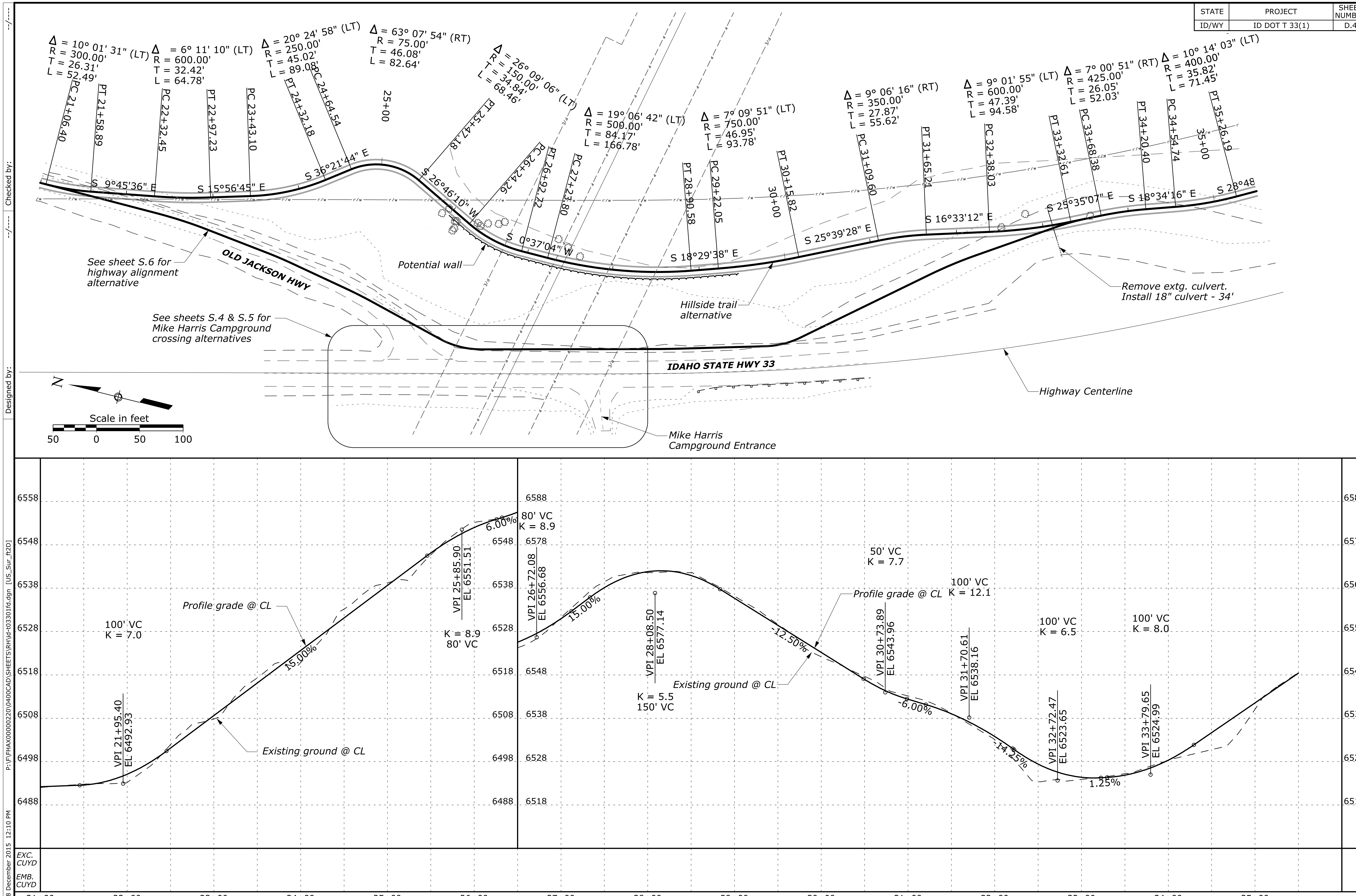
ID/WY	ID DOT T 33(1)	D.4



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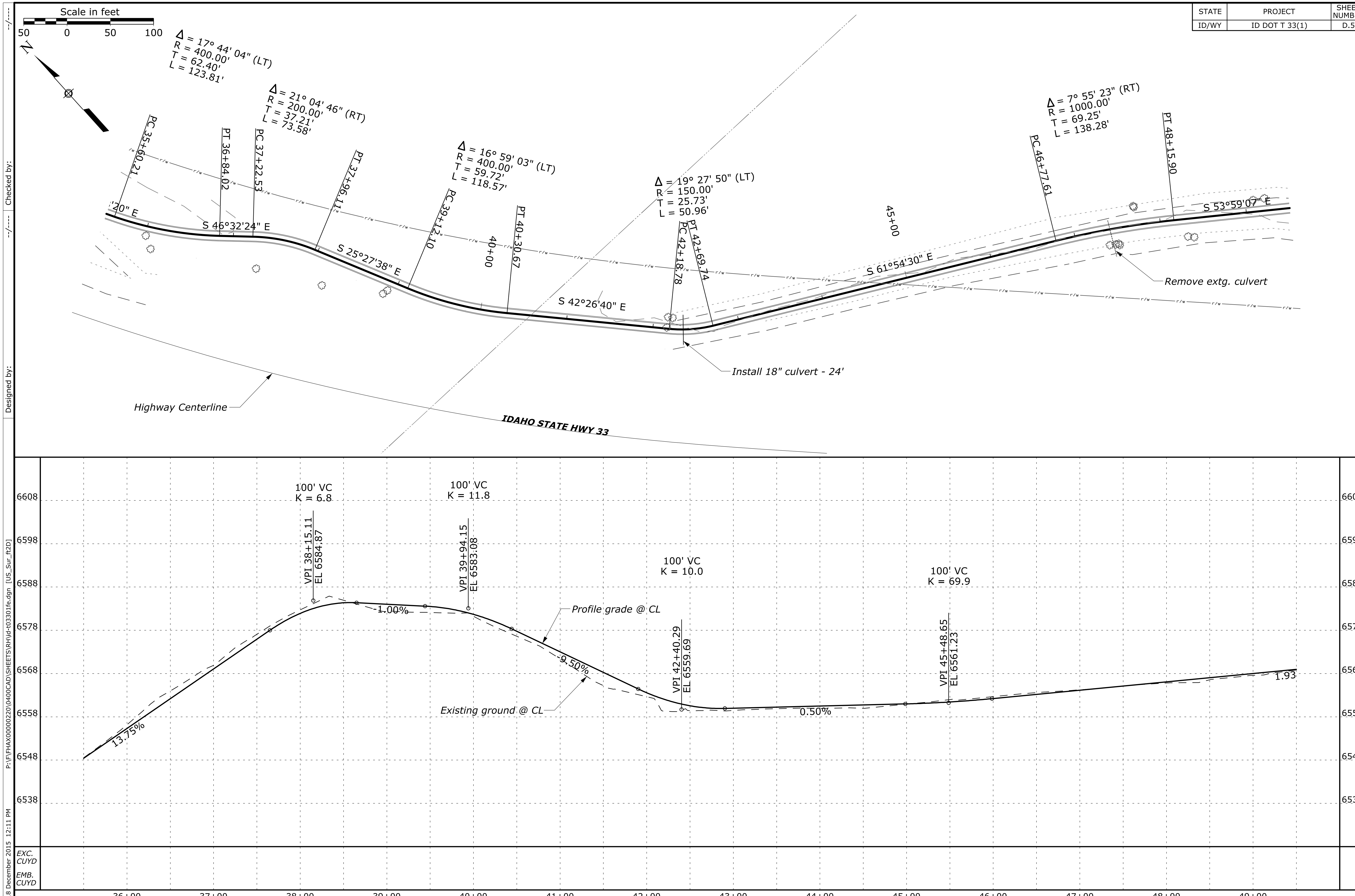
ID/WY	ID DOT T 33(1)	D.5



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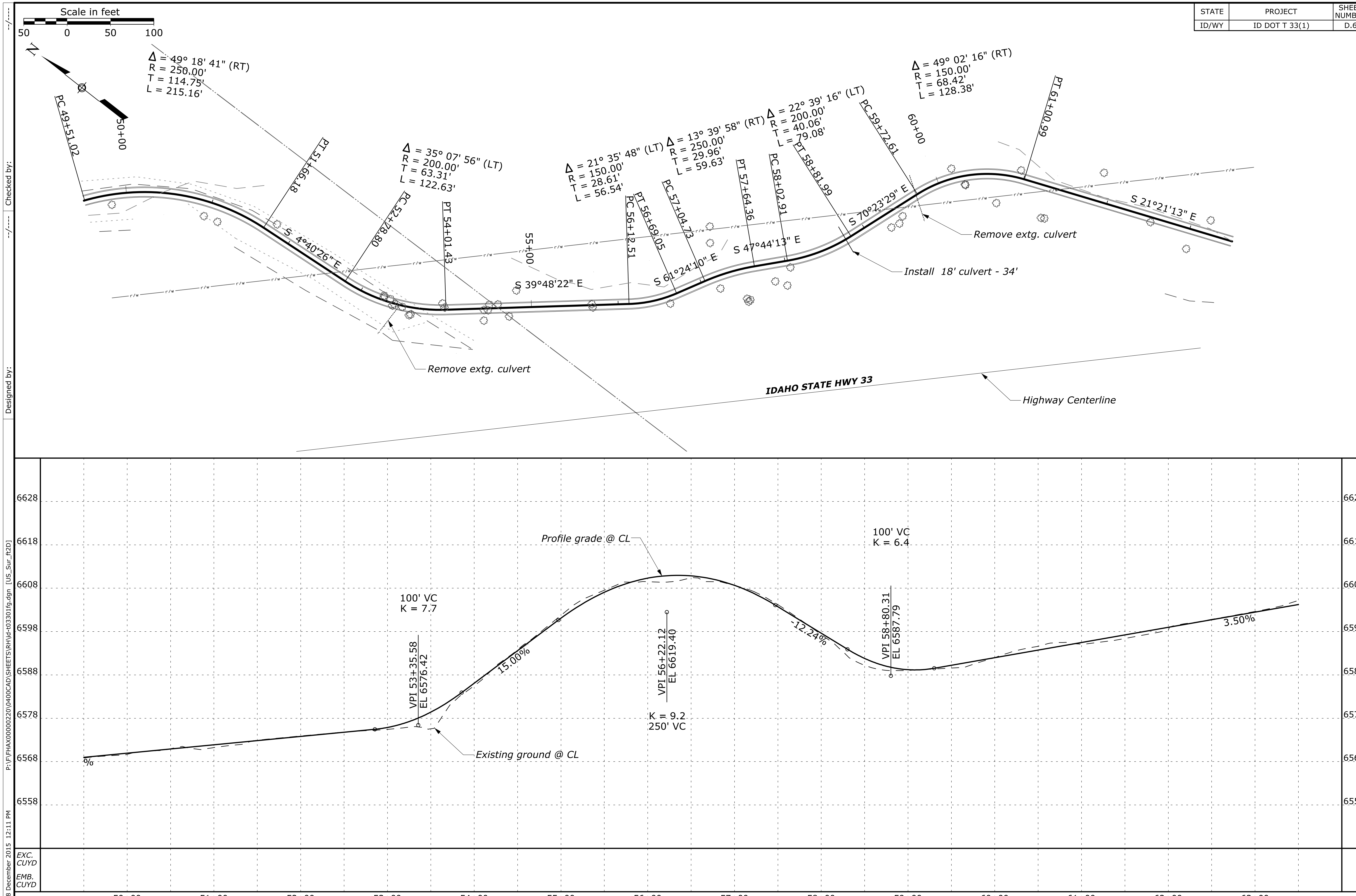
ID/WY	ID DOT T 33(1)	D.6



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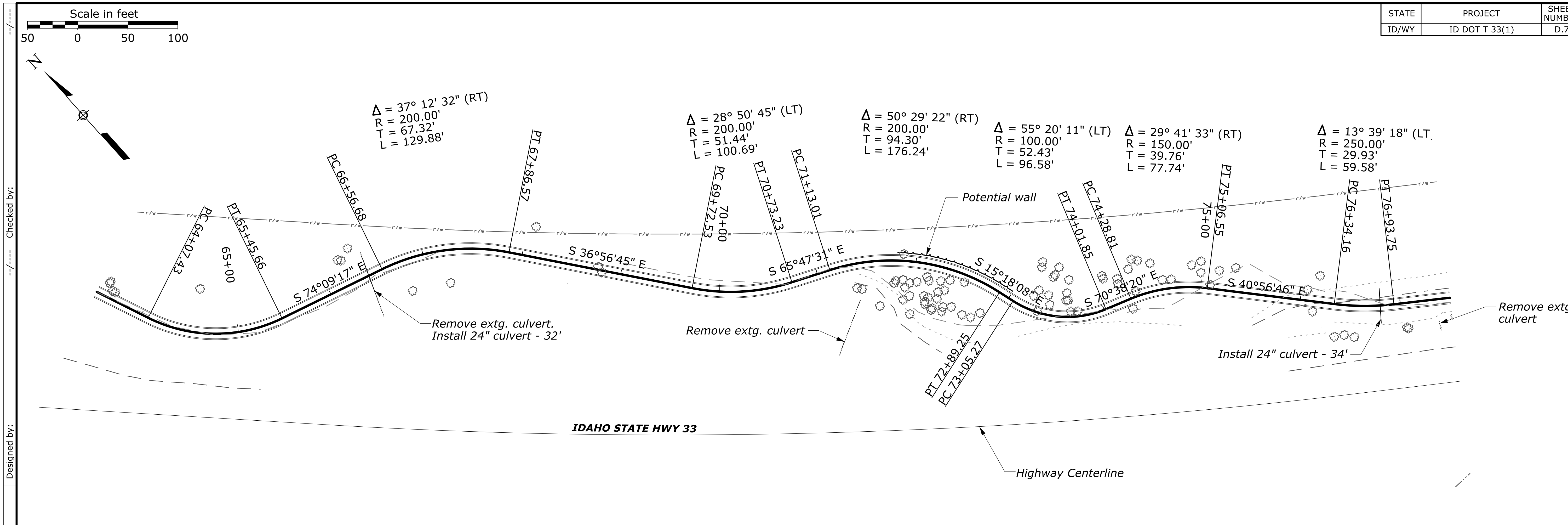
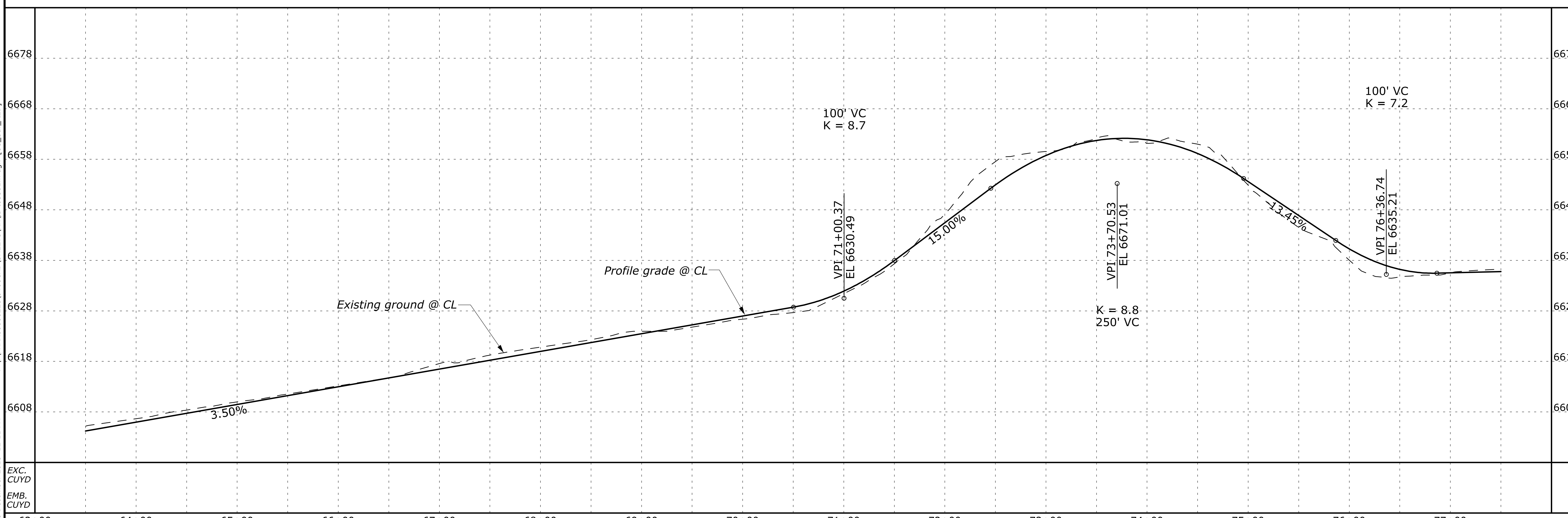
STATE	PROJECT	SHEET NUMBER
ID/WY	ID DOT T 33(1)	D.7





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Designed by:

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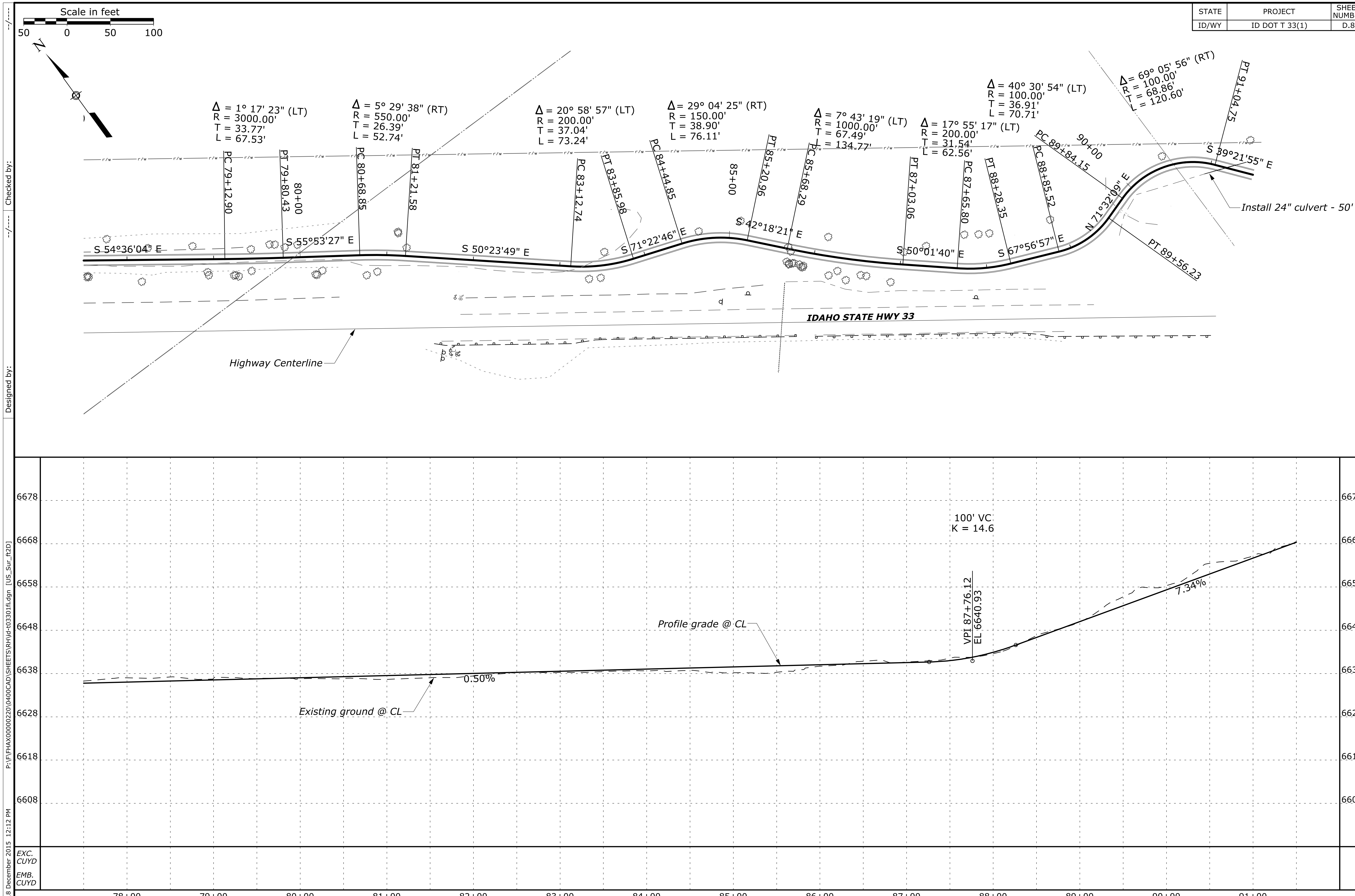
STATE	PROJECT	SHEET NUMBER
ID/WY	ID DOT T 33(1)	D.8



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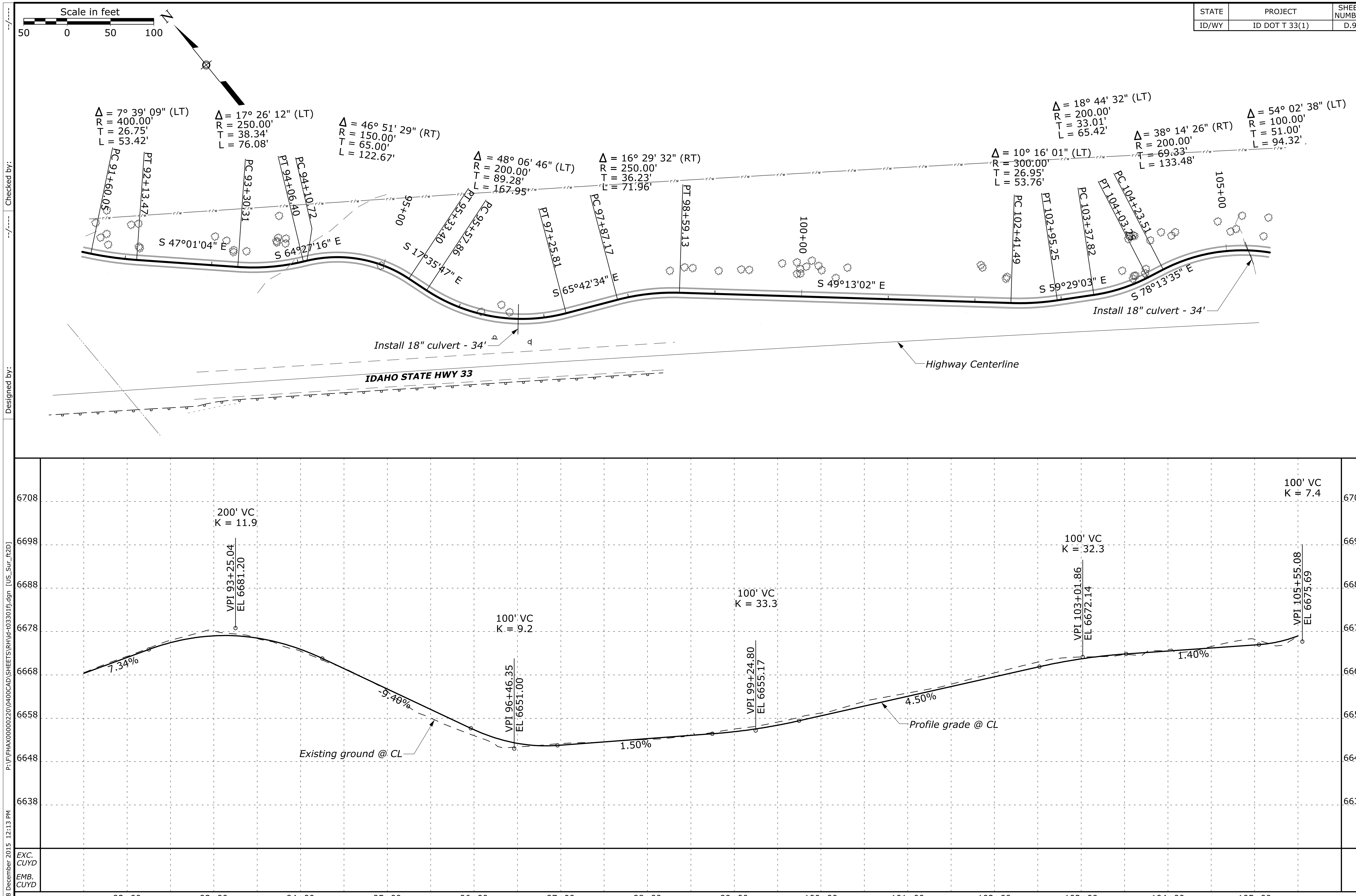

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STATE	PROJECT	SHEET NUMBER
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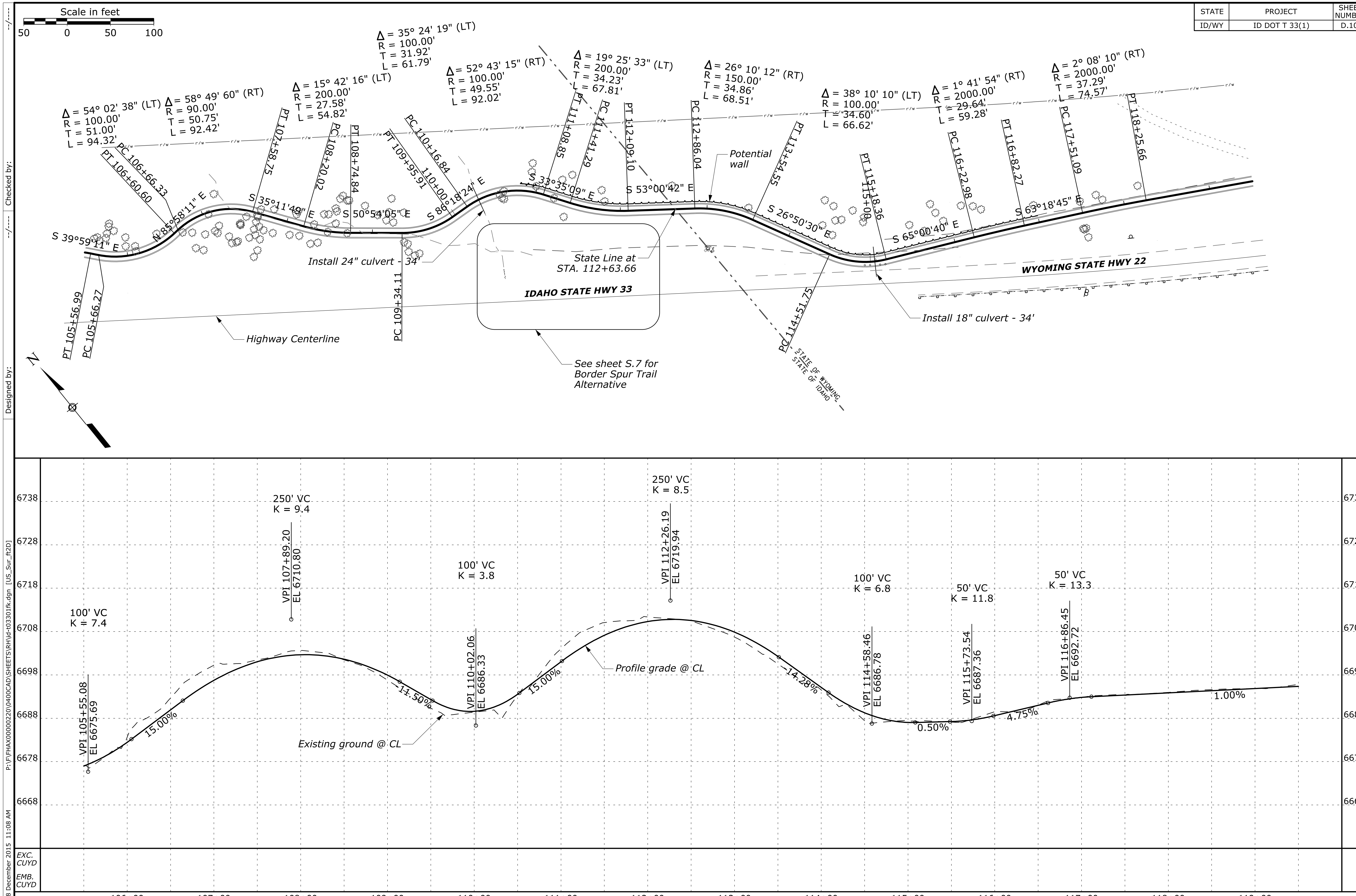

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Designed by:

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STATE	PROJECT	SHEET NUMBER
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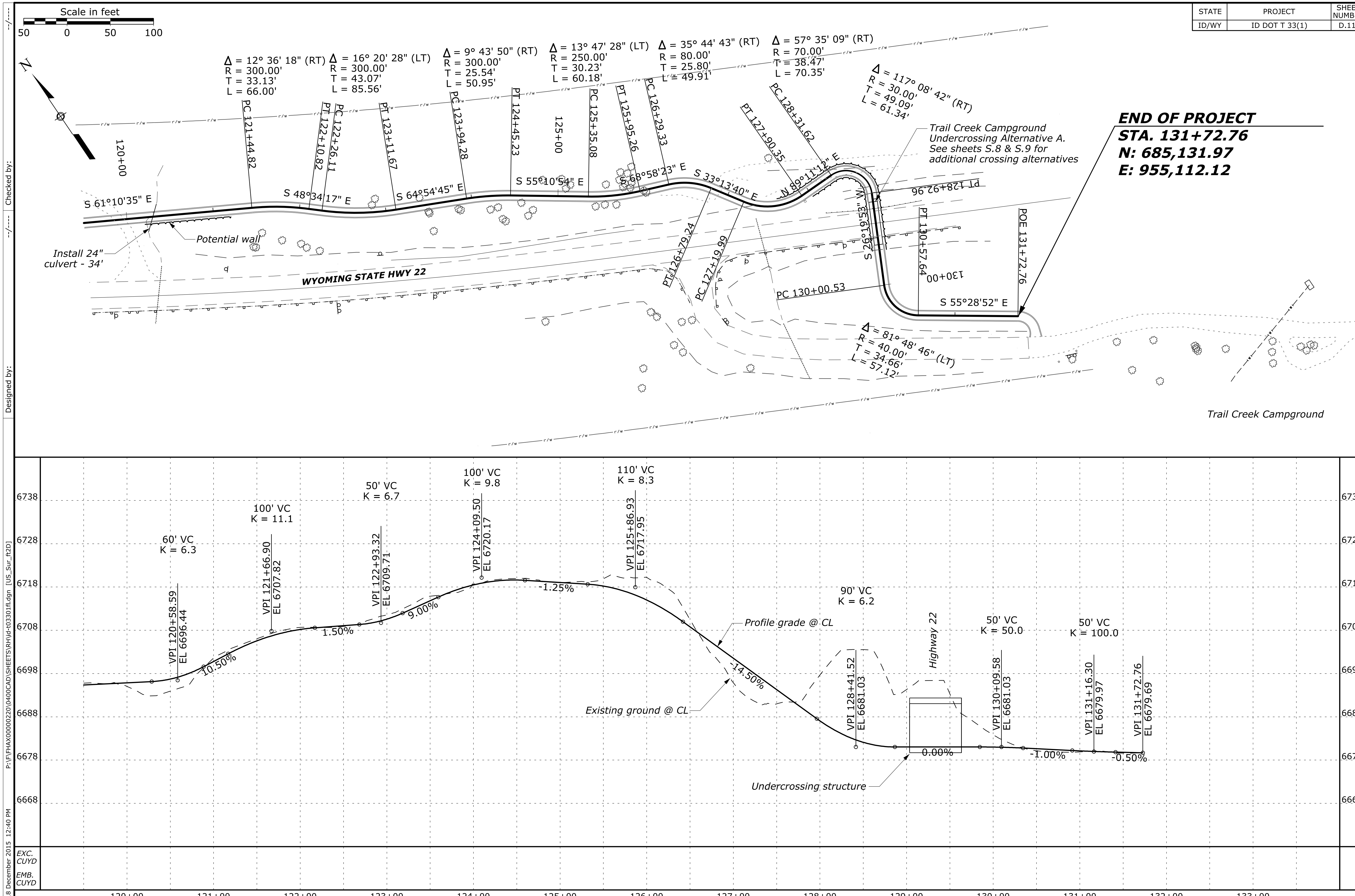
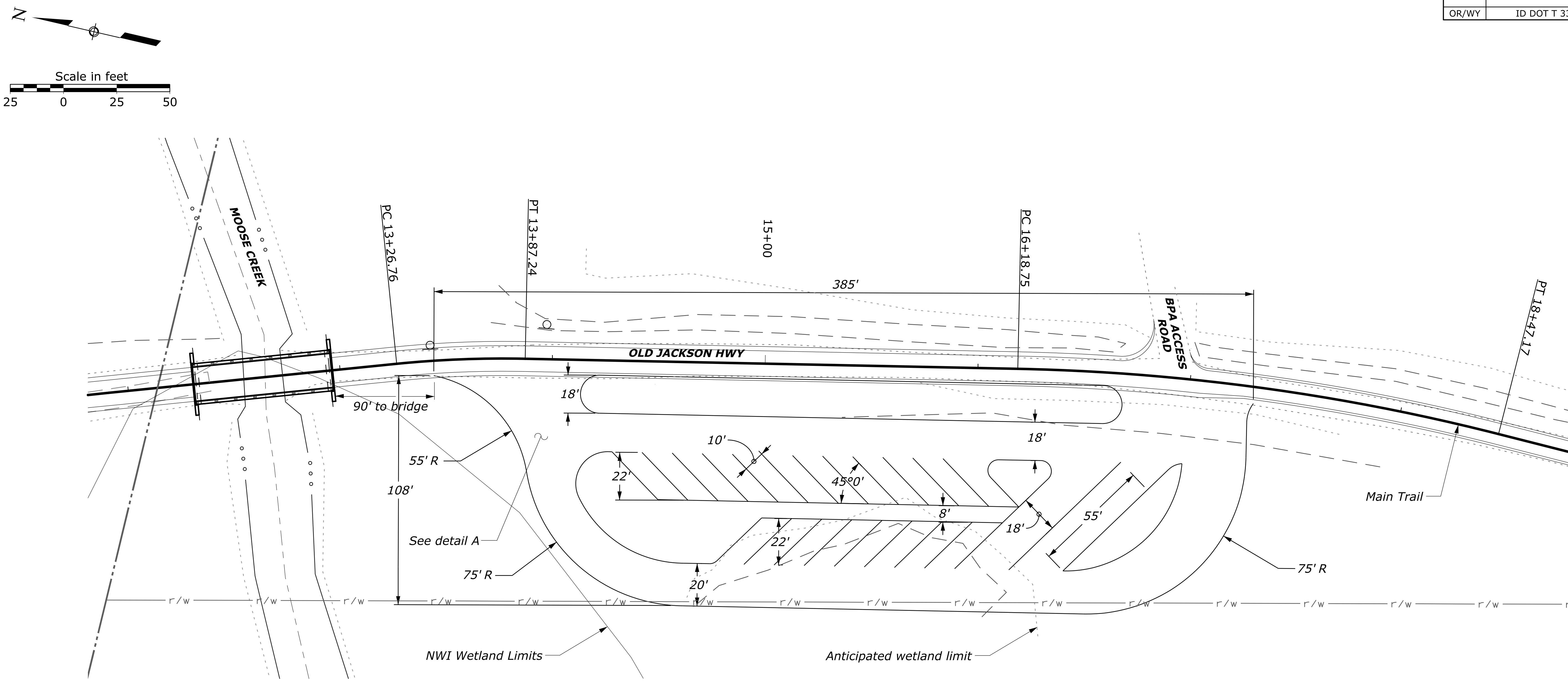
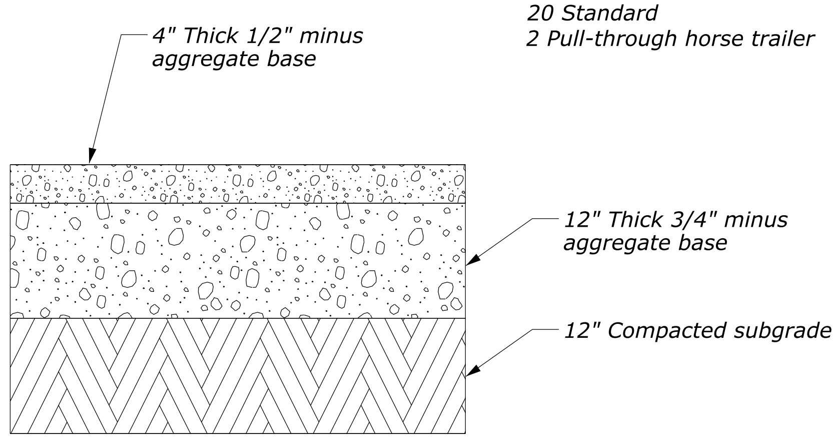


STATE	PROJECT	SHEET NUMBER
OR/WY	ID DOT T 33(1)	S.1



PARKING STALLS

20 Standard
2 Pull-through horse trailer



DETAIL A
PARKING LOT SURFACING

PARKING LOT ALTERNATIVE A

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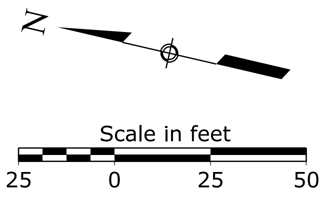

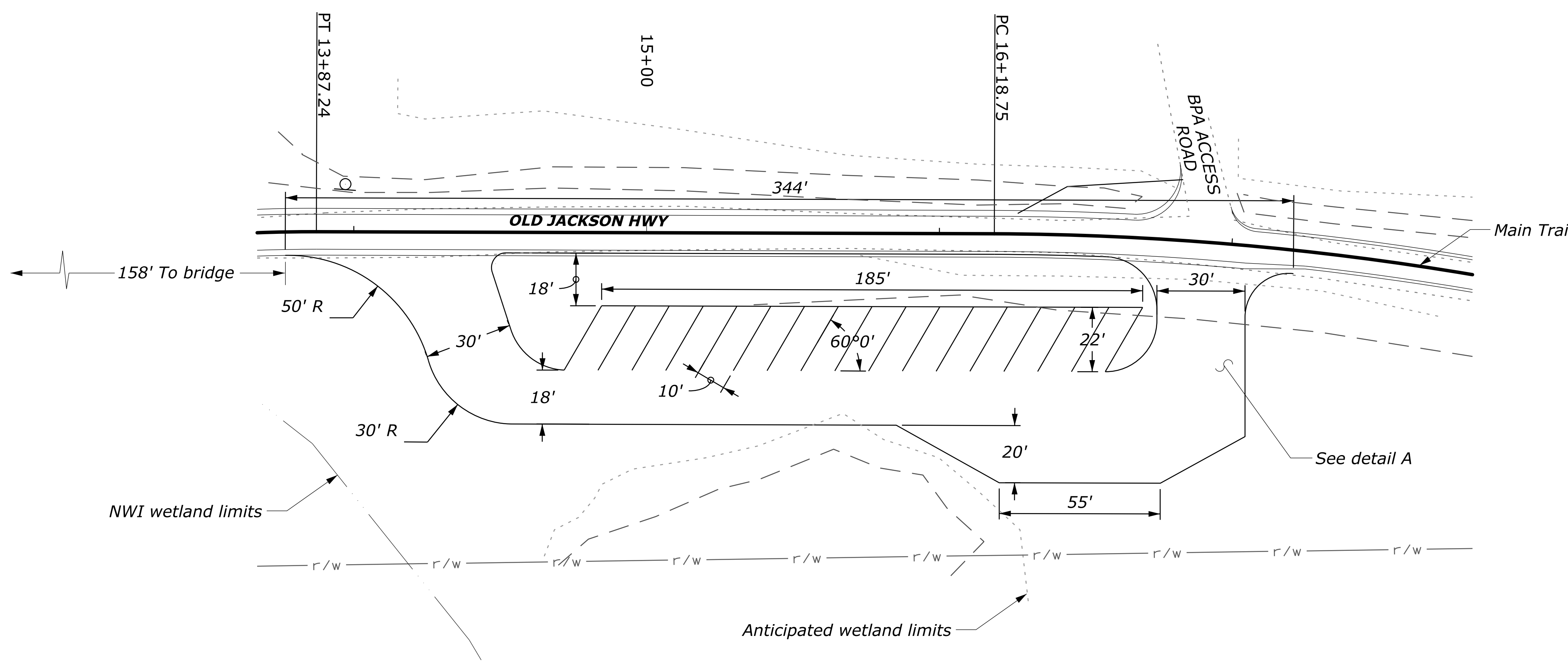

PARKING STALLS

16 Standard
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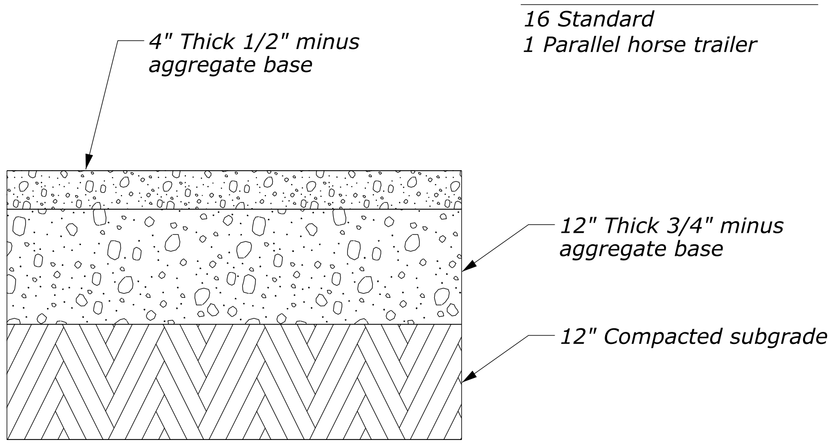

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PARKING LOT ALTERNATIVE B

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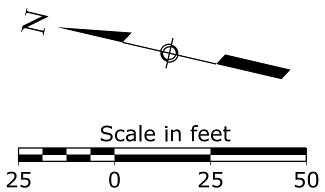

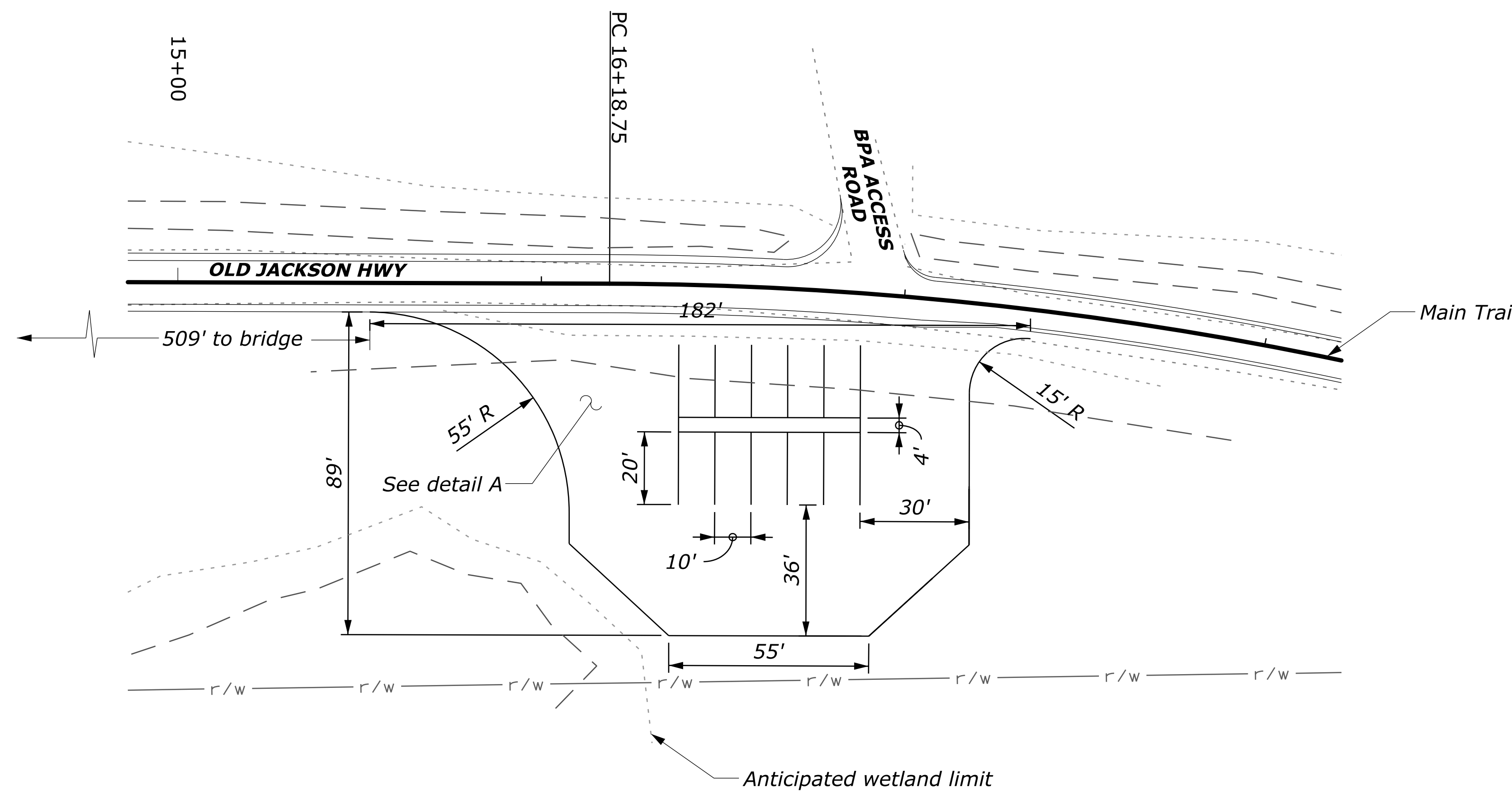

PARKING STALLS

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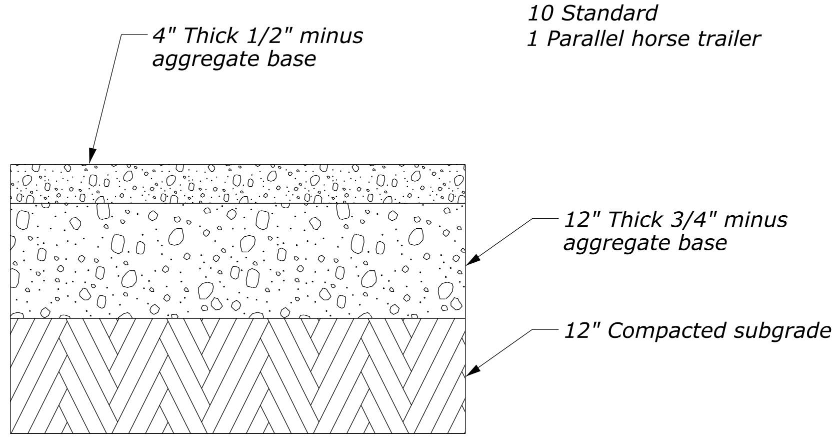
1 Parallel horse trailer



DETAIL A
PARKING LOT SURFACING

PARKING LOT ALTERNATIVE C

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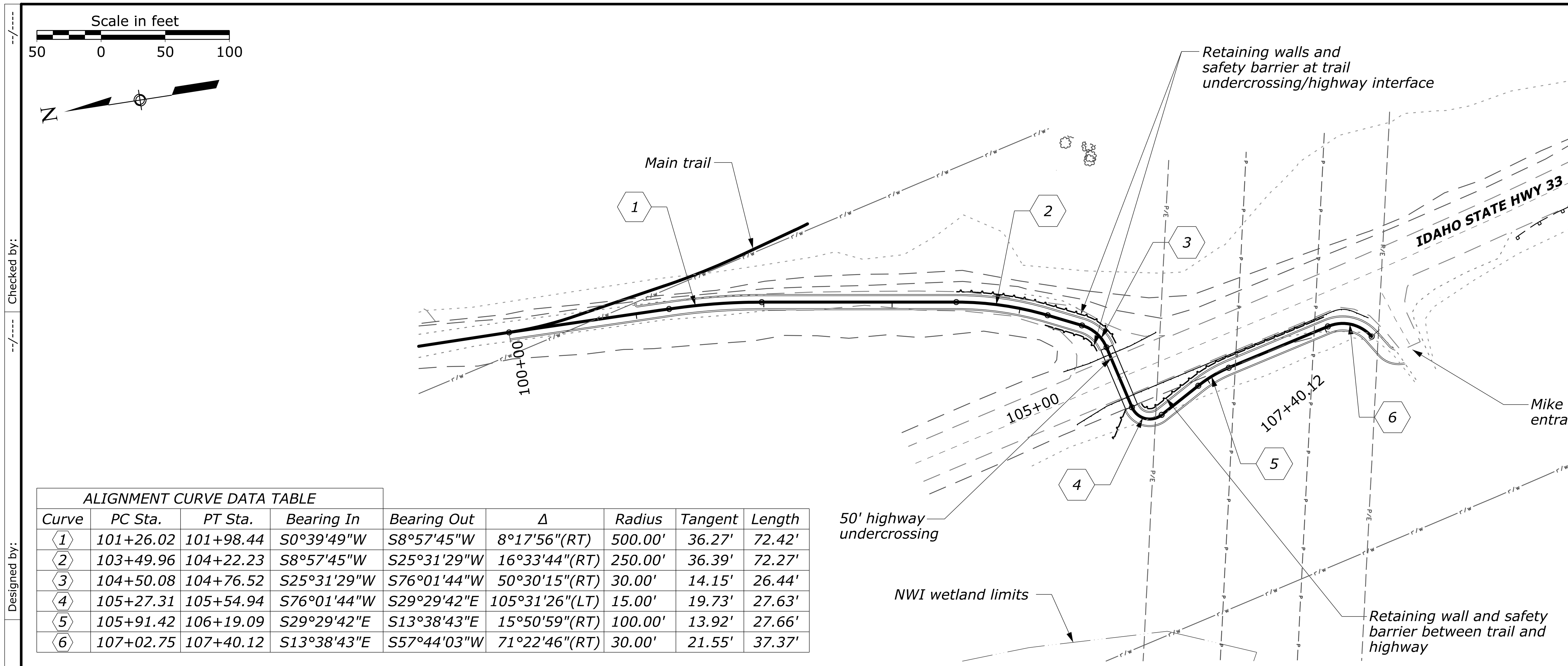

ALIGNMENT CURVE DATA TABLE								
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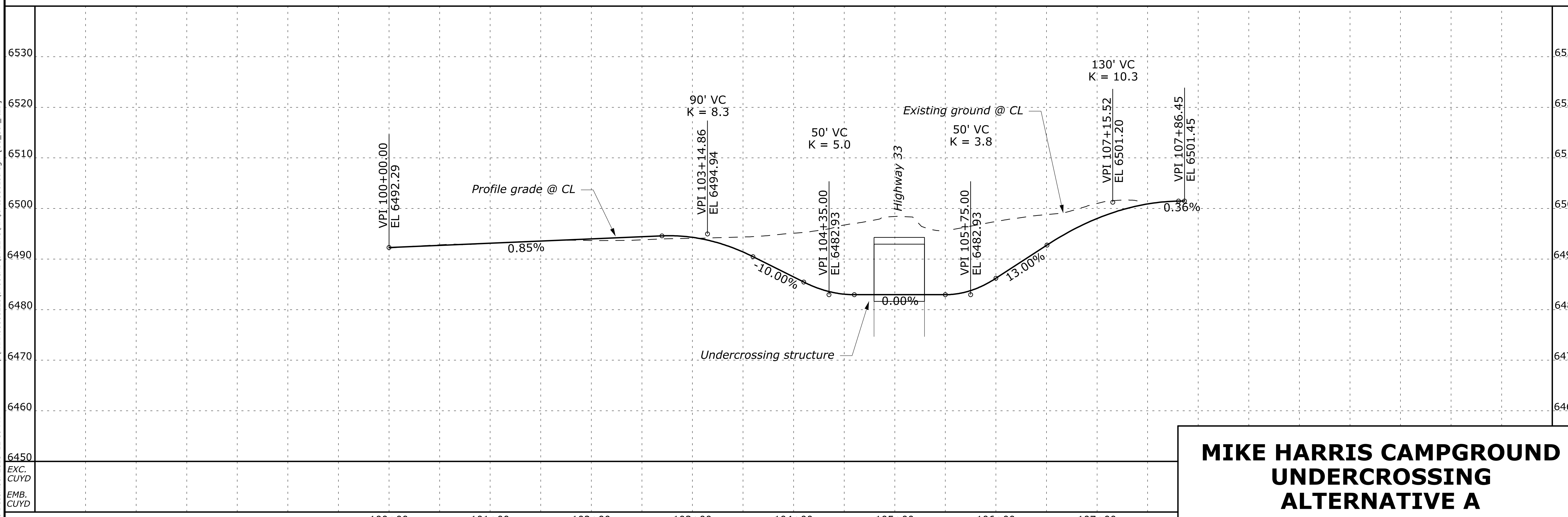
2	103+49.96	104+22.23	S8°57'45"W	S25°31'29"W	16°33'44"(RT)	250.00'	36.39'	72.27'
3	104+50.08	104+76.52	S25°31'29"W	S76°01'44"W	50°30'15"(RT)	30.00'	14.15'	26.44'
4	105+27.31	105+54.94	S76°01'44"W	S29°29'42"E	105°31'26"(LT)	15.00'	19.73'	27.63'
5	105+91.42	106+19.09	S29°29'42"E	S13°38'43"E	15°50'59"(RT)	100.00'	13.92'	27.66'
6	107+02.75	107+40.12	S13°38'43"E	S57°44'03"W	71°22'46"(RT)	30.00'	21.55'	37.37'



MIKE HARRIS CAMPGROUND UNDERCROSSING ALTERNATIVE A

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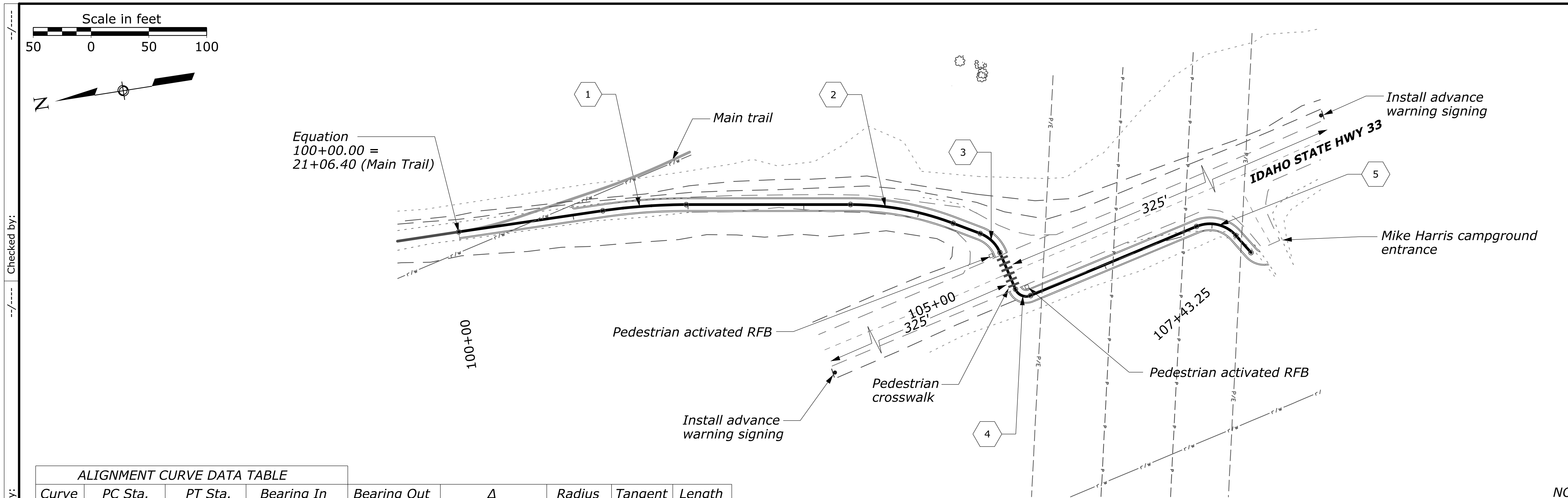

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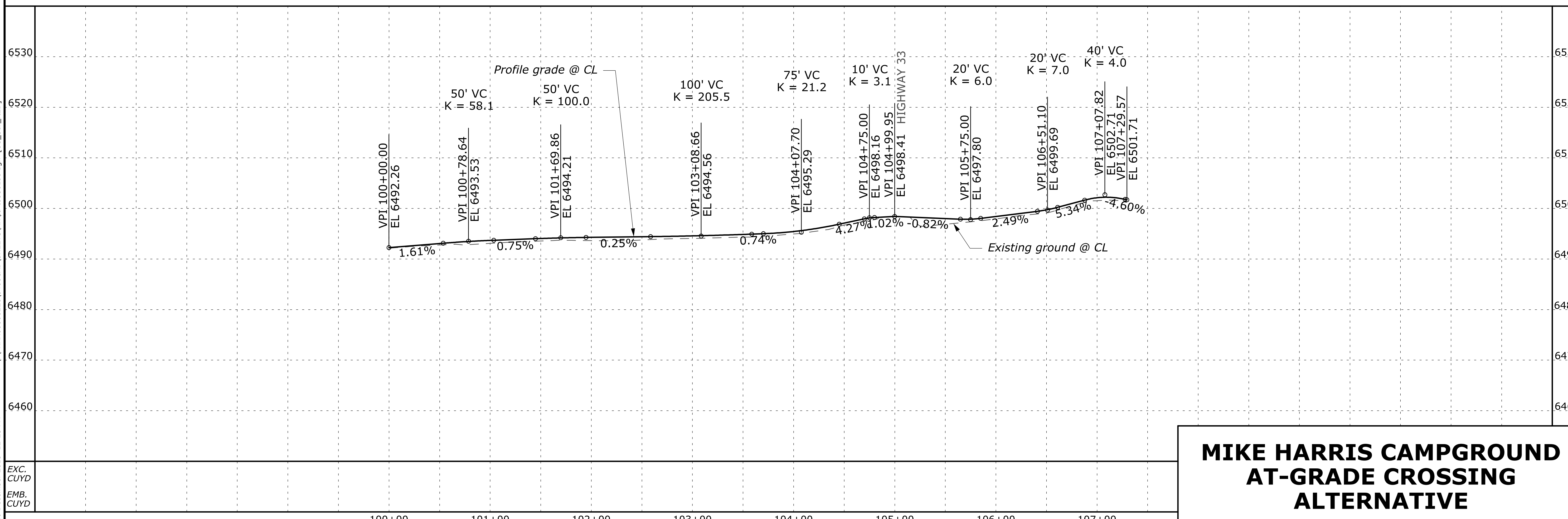
2	103+40.43	104+31.25	S8°57'45"W	S29°46'38"W	20°48'53"(RT)	250.00'	45.92'	90.82'
3	104+56.21	104+80.47	S29°46'38"W	S76°05'57"W	46°19'18"(RT)	30.00'	12.83'	24.25'
4	105+15.11	105+30.77	S76°05'57"W	S13°37'37"E	89°43'34"(LT)	10.00'	9.95'	15.66'
5	106+86.18	107+23.41	S13°37'37"E	S57°28'20"W	71°05'57"(RT)	30.00'	21.44'	37.23'

NOTE:
Highway alignment supports SSD>645' (Design speed=65 MPH) to crossing location from both directions



MIKE HARRIS CAMPGROUND AT-GRADE CROSSING ALTERNATIVE

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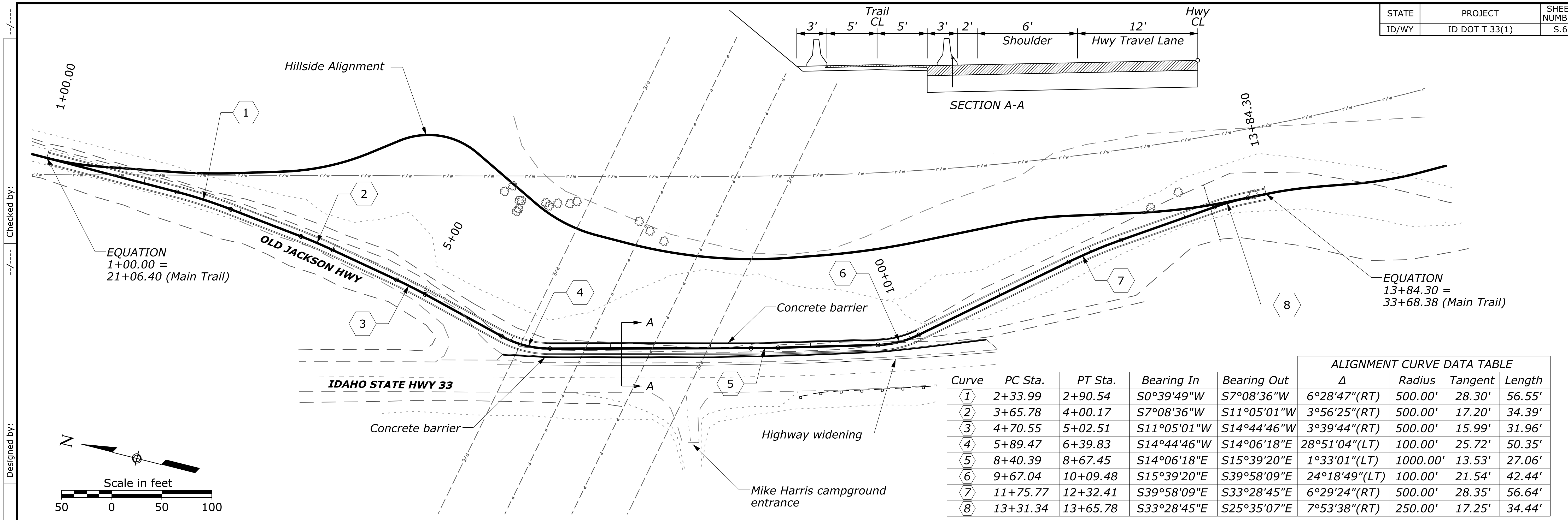

ALIGNMENT CURVE DATA TABLE

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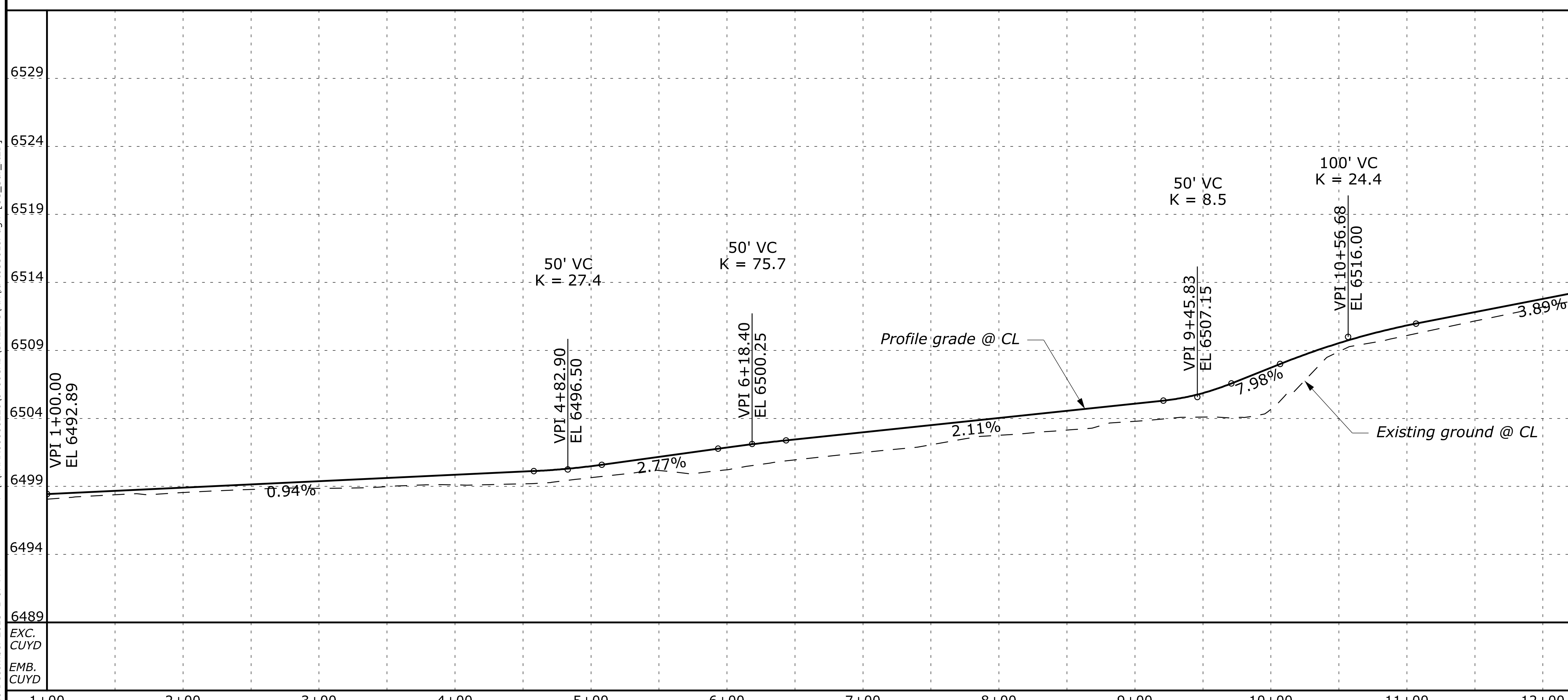
2	3+65.78	4+00.17	S7°08'36"W	S11°05'01"W	3°56'25"(RT)	500.00'	17.20'	34.39'
3	4+70.55	5+02.51	S11°05'01"W	S14°44'46"W	3°39'44"(RT)	500.00'	15.99'	31.96'
4	5+89.47	6+39.83	S14°44'46"W	S14°06'18"E	28°51'04"(LT)	100.00'	25.72'	50.35'
5	8+40.39	8+67.45	S14°06'18"E	S15°39'20"E	1°33'01"(LT)	1000.00'	13.53'	27.06'
6	9+67.04	10+09.48	S15°39'20"E	S39°58'09"E	24°18'49"(LT)	100.00'	21.54'	42.44'
7	11+75.77	12+32.41	S39°58'09"E	S33°28'45"E	6°29'24"(RT)	500.00'	28.35'	56.64'
8	13+31.34	13+65.78	S33°28'45"E	S25°35'07"E	7°53'38"(RT)	250.00'	17.25'	34.44'



HIGHWAY TRAIL ALIGNMENT ALTERNATIVE

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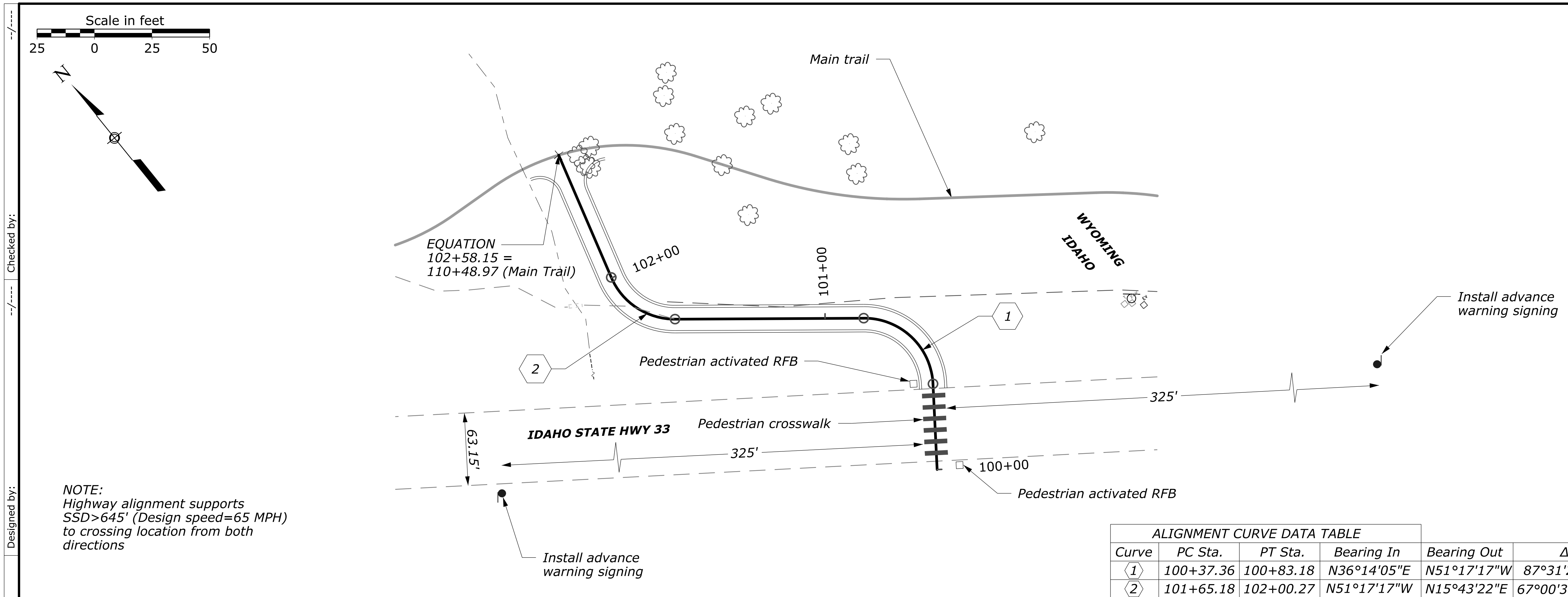

ALIGNMENT CURVE DATA TABLE

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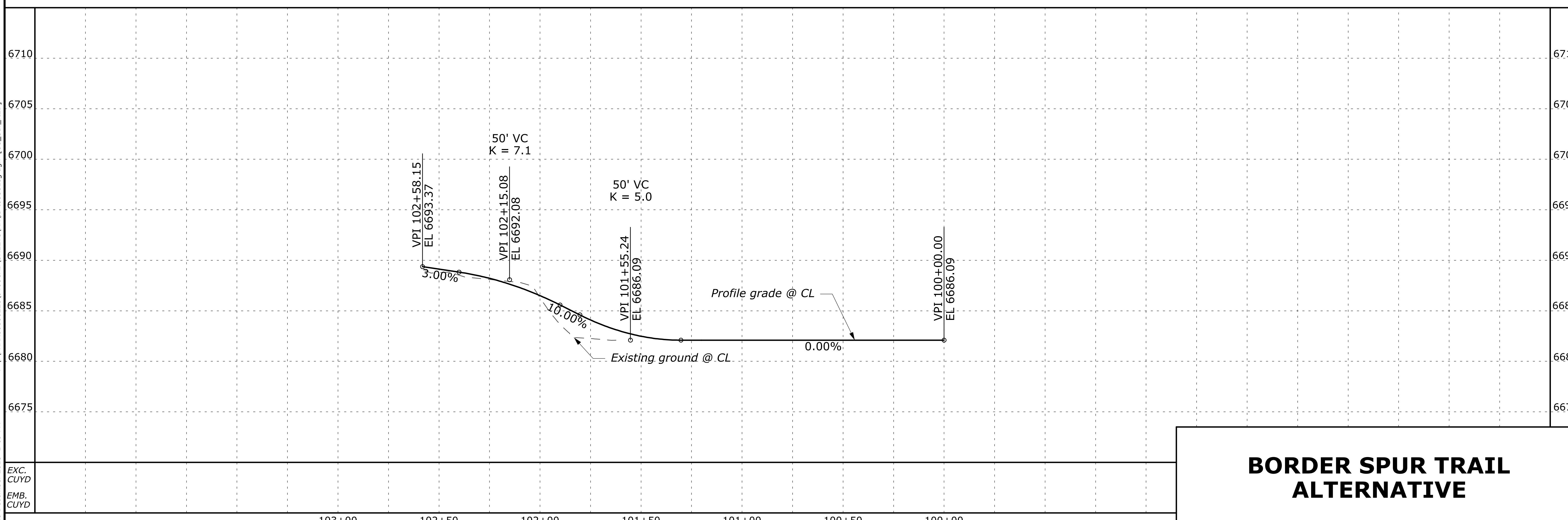
2	101+65.18	102+00.27	N51°17'17"W	N15°43'22"E	67°00'38"(RT)	30.00'	19.86'	35.09'



BORDER SPUR TRAIL ALTERNATIVE

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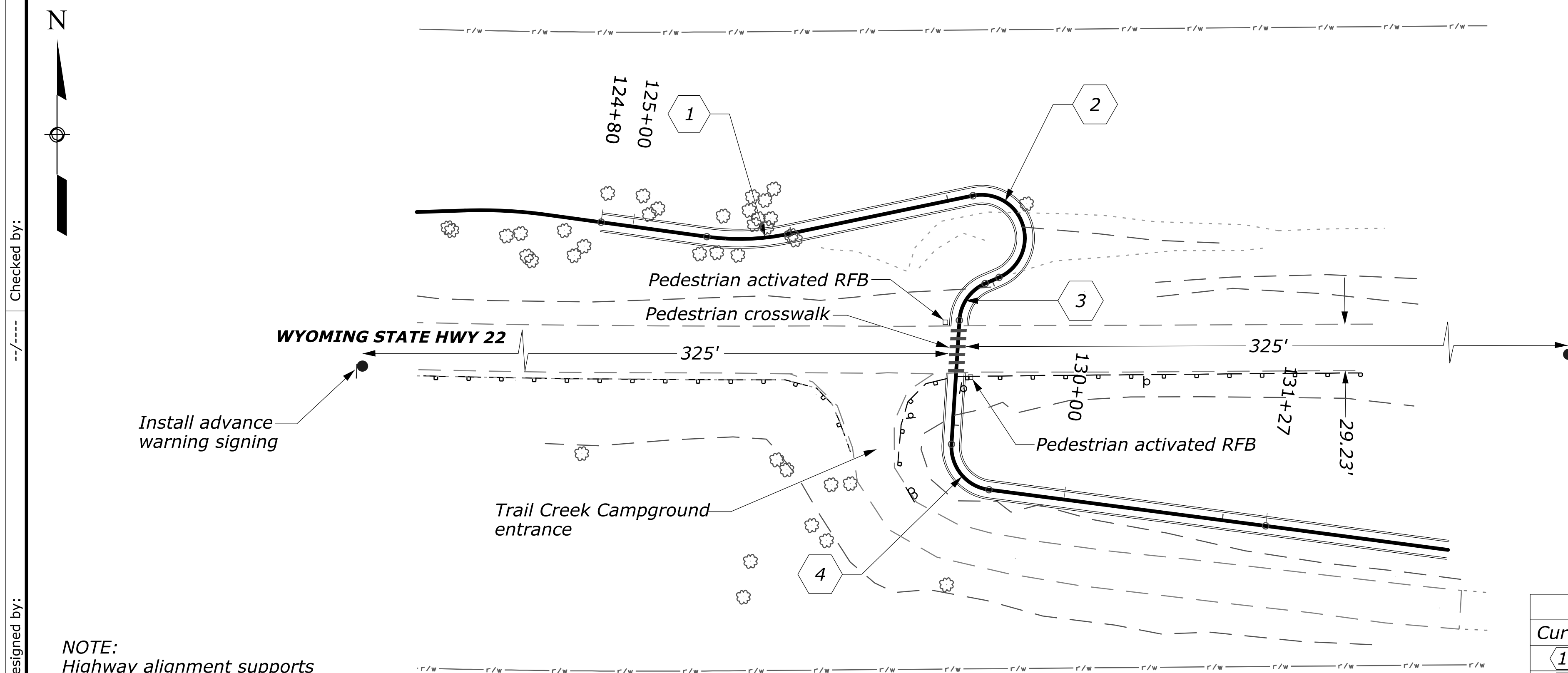
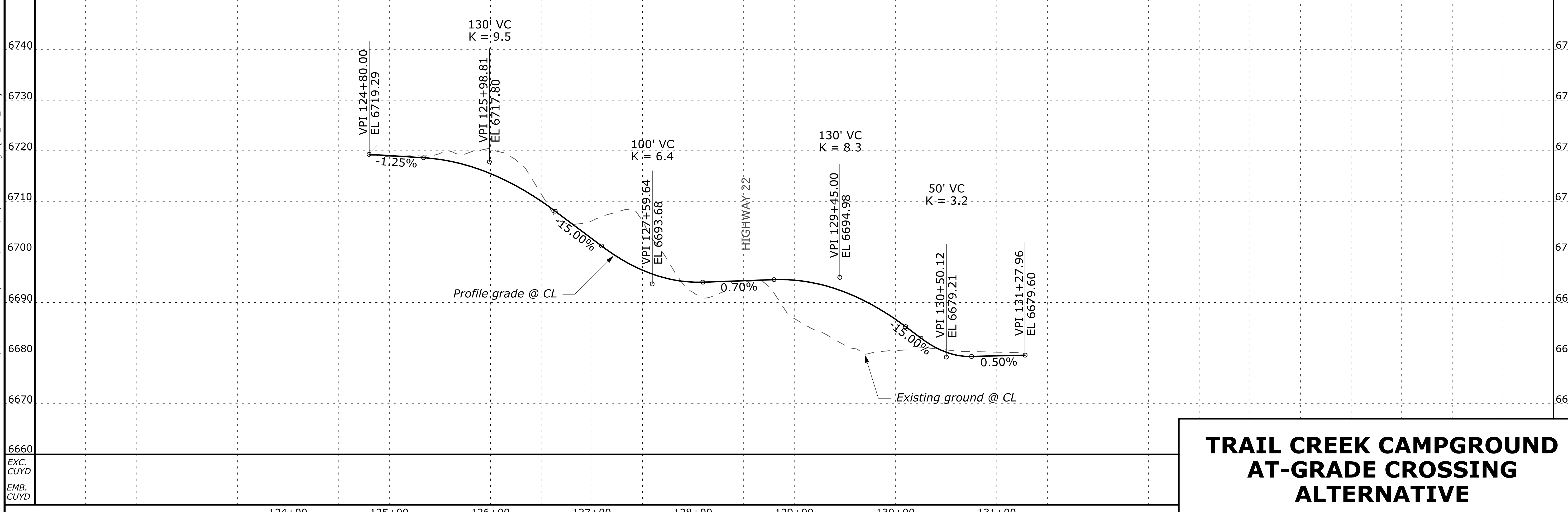


NOTE:
Highway alignment supports SSD>645' (Design speed=65 MPH) to crossing location from both directions

ALIGNMENT CURVE DATA TABLE

Curve	PC Sta.	PT Sta.	Bearing In	Bearing Out	Δ	Radius	Tangent	Length
1	125+46.76	125+97.81	S55°10'54"E	S74°41'05"E	19°30'10"(LT)	150.00'	25.78'	51.06'
2	127+16.06	127+95.28	S74°41'05"E	N86°35'12"W	168°05'52"(RT)	27.00'	259.02'	79.21'
3	128+04.74	128+34.33	N86°35'12"W	S30°38'12"W	62°46'36"(LT)	27.00'	16.47'	29.58'
4	129+12.09	129+52.71	S30°38'12"W	S55°34'03"E	86°12'15"(LT)	27.00'	25.27'	40.62'



TRAIL CREEK CAMPGROUND AT-GRADE CROSSING ALTERNATIVE

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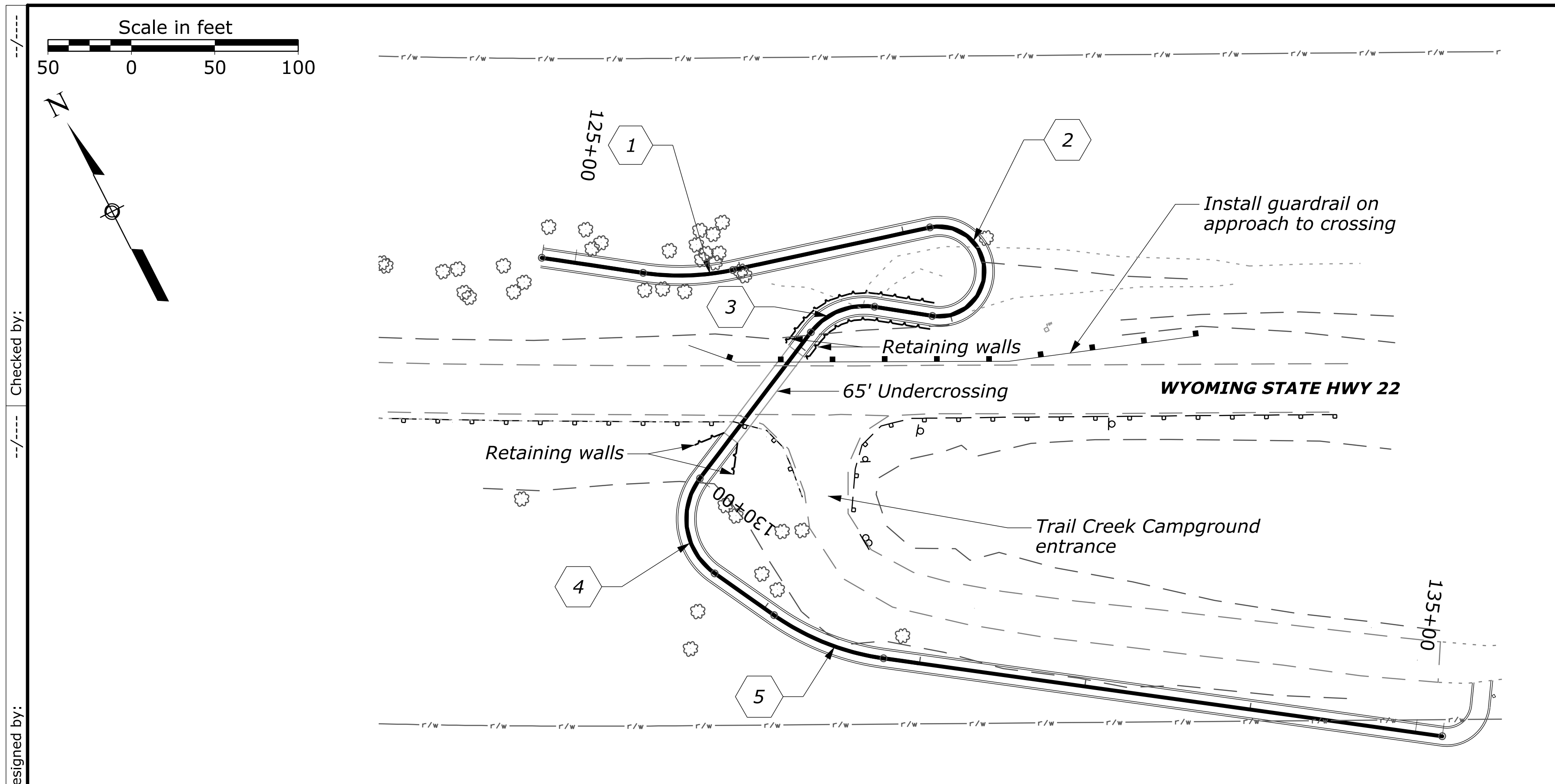

ALIGNMENT CURVE DATA TABLE

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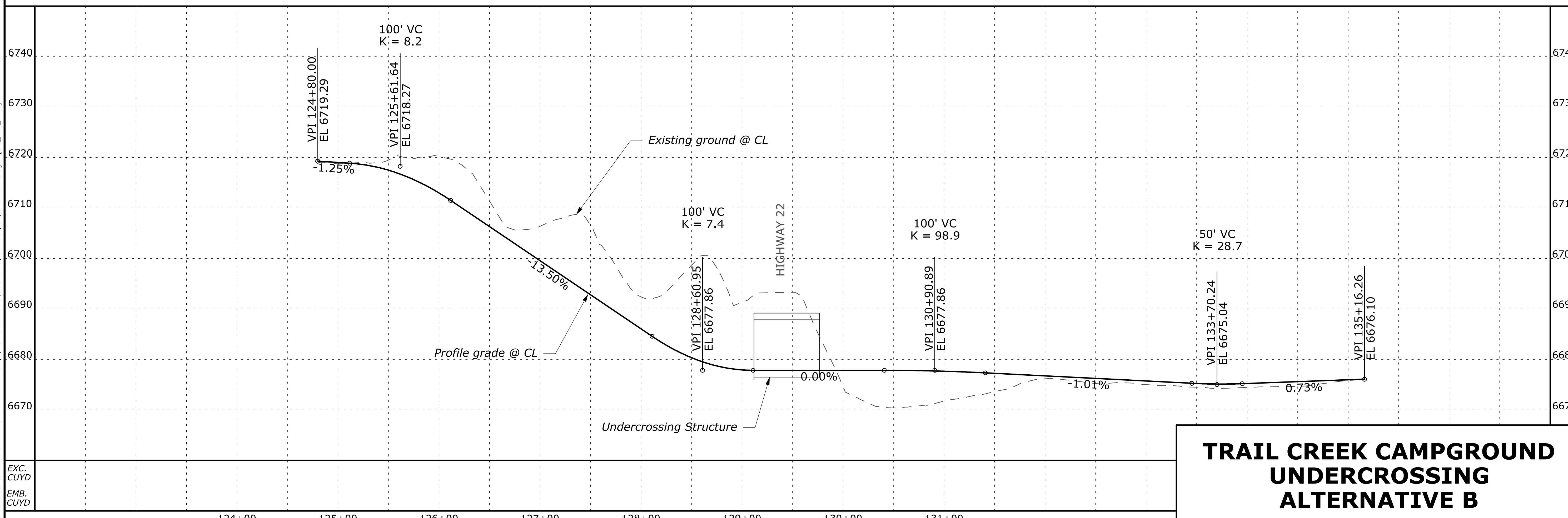
1	125+41.41	125+95.49	S54°31'47"E	S75°11'12"E	20°39'25"(LT)	150.00'	27.34'	54.08'
2	127+16.24	128+11.06	S75°11'12"E	N53°58'58"W	201°12'14"(RT)	27.00'	——	94.82'
3	128+46.17	128+89.31	N53°58'58"W	S64°13'40"W	61°47'22"(LT)	40.00'	23.93'	43.14'
4	129+99.21	130+63.52	S64°13'40"W	S27°52'59"E	92°06'38"(LT)	40.00'	41.50'	64.31'
5	131+07.08	131+78.24	S27°52'59"E	S55°03'52"E	27°10'54"(LT)	150.00'	36.26'	71.06'



TRAIL CREEK CAMPGROUND UNDERCROSSING ALTERNATIVE B

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APPENDIX C

Conceptual Geotechnical and Geologic Hazard Assessment Memo

GRI
9750 SW Nimbus Avenue
Beaverton, OR 97008-7172
p | 503-641-3478 f | 503-644-8034

TECHNICAL MEMORANDUM

To: John Maloney, PE / David Evans and Associates, Inc.

Date: December 17, 2015
(REVISED)
GRI Project No.: 5728

From: Scott Schlechter, PE, GE; Lindsi Hammond, PE; and George Freitag, CEG

Re: Concept Geotechnical and Geologic Hazard Memorandum
Federal Highway Administration (FHWA)
ID DOT T 33(1), Teton Centennial Trail
Teton County, Idaho

DRAFT

This technical memorandum summarizes our concept-level geotechnical and geological hazard assessment for a portion of the Teton Centennial Trail project that starts in Teton County, Idaho and extends into Teton County, Wyoming. The Vicinity Map, Figure 1, shows the general location of the proposed trail alignment described above. The purpose of this phase of work was to assist David Evans and Associates, Inc. (DEA), with preliminary evaluation of current geotechnical and geological conditions along the proposed trail alignment, and provide concept-level geotechnical and pavement recommendations for design and construction of this portion of the trail. Our work was completed in accordance with our agreement with David Evans and Associates, Inc. (DEA) under FHWA contract DTFH70-10-D-00019, Task Order No. DTFH7015F19006. This memorandum also provides recommendations for geotechnical and geological investigation work, which is required for the final design and construction of the project.

PROJECT DESCRIPTION

The overall Teton Centennial Trail project will extend along the Teton Pass Highway from Victor, Idaho, to Wilson, Wyoming, a distance of about 17 miles. This phase of the project involves an approximate 2.3-mile-long section of the Teton Centennial Trail that starts near Moose Creek in Teton County, Idaho and extends past the Idaho/Wyoming state border to the Trail Creek Campground in Teton County, Wyoming. The Site Plan, Figure 2, shows the general location of the proposed trail alignment included in this phase of the project. The trail will be constructed along the north side of the Teton Pass Highway and will include design and construction of a new bicycle/pedestrian path using portions of the Old Jackson Highway and an existing unimproved dirt trail.

As currently planned, the project elements include:

- A10-ft-wide asphalt concrete surfaced path;
- Replacement of the Moose Creek Bridge and new pavement construction at Moose Creek;
- New aggregate surfaced parking area southeast of the Moose Creek Bridge;
- Possible retaining walls; and

- Possible structures or improvements to allow pedestrian crossing of the Teton Pass Highway near the Mike Harris Campground in Teton County, Idaho and the Trail Creek Campground in Teton County, Wyoming.

Conceptual plans provided by you, indicate the trail will begin immediately north of Moose Creek at station 10+00 and extend to Trail Creek Campground at station 131+72.76. Based on our review of the conceptual plans, we anticipate the maximum height of cuts and fills to establish final grades along the trail alignment will typically be less than about 4 ft. However, we anticipate some areas may require retaining structures where the height of cuts and fills to establish final grades will exceed about 4 ft.

SITE DESCRIPTION

The proposed trail alignment runs parallel to the north side of the Teton Pass Highway and is located on the southwest-facing slope of the Taylor Mountain Upland, which rises to an elevation of 10,352 ft (WGS 84). The trail will begin near Moose Creek at about elevation 6,480 ft (WGS 84) and extend southeast to the Trail Creek Campground at about elevation 6,680 ft (WGS 84). The trail will traverse the hillside with grades typically ranging from 2 to 3% and 10 to 15% along relatively flat and rolling areas, respectively.

The majority of the ground surface along the proposed trail alignment is vegetated with wild grass, brush, and trees. Several drainages fed from the Taylor Mountain Upland cross the proposed trail alignment and drain into Trail Creek. Portions of the trail will be located at the top of rock cut slopes that were likely created during construction of the Teton Pass Highway. We estimate the rock slopes were cut at about 1H:1V to 1.5H:1V (Horizontal:Vertical) and based on our review of aerial imagery, the slopes appear to be stable.

GEOLOGIC SETTING

The project is located in the Idaho-Wyoming thrust belt geologic province, which is a segment of the Cordilleran thrust belt that is comprised of folded and faulted Paleozoic and Mesozoic sedimentary rocks. The path is located on the west flank of Taylor Mountain, which is a prominent southern peak of the Teton Range.

The path will cross over several geologic units. Near Moose Creek, the path is located on Quaternary alluvial deposits, consisting of unconsolidated silt, sand, and gravel. As the path gains elevation to the southeast, the upland rock units consist of Quaternary colluvium, Mesozoic sedimentary rocks, and Neogene volcanic rocks (Mitchell and Bennett, 1979). Quaternary colluvium consists of partially consolidated or cemented silt, sand and gravel that accumulate on sloping ground due to weathering and erosional processes. The sedimentary rocks are mapped as Gannett Group, and consist of sandstone and limestone. The volcanic rocks are mapped as Kirkham Hollow Volcanics, and consist of tuff and rhyolite.

GEOLOGIC HAZARD REVIEW

An Environmental Assessment (EA) for the entire 17-mile Teton Centennial Trail was completed by the Teton Basin Ranger District, Caribou-Targhee National Forest in 2001. The EA identified several geologic hazards that could potentially affect the overall project including unstable soils/landslides, avalanches, and seismicity.

As shown on Figure 3, the mapping provided in the EA does not show identified areas of unstable soils/landslides or avalanche zones along this portion of the trail. The EA did not identify rockfall hazards along the trail alignment. Preliminary team comments regarding rockfall hazard are provided in the Site Reconnaissance Findings section of this memorandum, below.

U.S. Geological Survey mapping does not show Quaternary faults that coincide with the trail (U.S. Geological Survey, 2006). The Teton fault is located about 10 miles east of the east end of the trail and is considered to have been active in the last 15,000 years (U.S. Geological Survey, 2006) and capable of generating a maximum earthquake of Mw 7.5 (Pickering, et al, 2009). Hydrogeological work for the City of Victor has documented the influence of faults on groundwater sources near the north portion of the project (Wylie et al, 2005). The faulting associated with the groundwater controls is pre-Quaternary in age.

SITE RECONNAISSANCE FINDINGS

A site reconnaissance was completed on June 15 and 16, 2015, by DEA personnel (John Maloney, PE) and several other team members. The reconnaissance included viewing the proposed path from the Teton Pass Highway and a walking traverse over the majority of the path alignment.

The following list summarizes possible new structures, and preliminary geotechnical- and geological-considerations, made by the team during the reconnaissance.

- The existing Moose Creek Bridge will be removed and replaced.
- Geotechnical testing along the Old Jackson Highway should be included to determine material and depth.
- The existing rock slope cuts generate limited rockfall.
- Geotechnical testing and evaluation of the rock slope stability will affect the path alignment. Wire mesh installed on the rock cuts may be necessary where the path is located below rock faces.
- Culverts under the Teton Pass Highway or other structures near the Mike Harris and Trail Creek Campgrounds may be considered for pedestrian access.

The team also made note of the need for testing of the existing Moose Creek Bridge structure for hazardous materials.

CONCLUSIONS AND FUTURE SCOPE CONSIDERATIONS

Preliminary Geotechnical Recommendations

Based on the preliminary work completed for this assessment, it is our opinion that the planned improvements will not have an adverse effect on existing geologic hazards along the trail alignment.

The following conceptual geotechnical and geologic design recommendations are provided; however, it must be understood that design-level geotechnical and geologic investigations must be completed as the project moves forward.

- New cut slopes less than 3 ft in height to be constructed in colluvium deposits can likely be planned for 1.5H:1V or flatter. Cuts of this height in sedimentary rock deposits or volcanic rock deposits can likely be completed at 1H:1V, if necessary. Taller, unretained cut slopes, if needed, should be planned for 2H:1V until additional site-specific evaluations are completed. In areas where it is impractical to construct cut slopes as discussed above some type of retaining structure may be required.

- Two trail alternatives are being considered between stations 21+00 and 33+00. One alternative is located above an existing, 300-ft-long, 10- to 85-ft-tall, approximately 1 to 1.5H:1V rock cut near the intersection of Old Jackson Highway and Highway 33. A second trail alternative is located along the base of this rock cut. There is limited space, typically 10 ft or less, between Highway 33 and the toe of the existing slope. A combination program of scaling, draped or pinned mesh, rockfall fencing, or similar active protection measures will likely be required if the second trail alternative is pursued. If additional space is required at the toe of the slope, new rock cuts can be planned at about 1 to 1.5H:1V as required to match existing slopes, provided detailed rock slope mapping, investigation drilling, and rock slope design is accomplished in this area as the project proceeds.

- We estimate a cut of about 20 to 25 ft will be required at station 128+50 to construct the underpass beneath the highway that leads to the Trail Creek Campground. Given the height of the cut slope and proximity to the highway, we anticipate this cut slope may require some type of retaining structure.

- Fill slopes should be planned for no steeper than 2H:1V. We anticipate the planned fill slopes at stations 34+50 and 127+25 will have a maximum height of about 8 ft and can be sloped at 2H:1V. Areas where it is impractical to construct fill slopes at 2H:1V may require retaining structures, such as mechanically stabilized earth walls.

- Areas of the trail alignment that are located in seasonal or permanent wetlands may encounter soft or otherwise unsuitable subgrade conditions. Any soft soils or areas of unsuitable material should be overexcavated to firm undisturbed soil and replaced with compacted granular fill. In areas where unsuitable material is encountered, we anticipate the overexcavation depth will be less than 12 in. Alternatively, a woven geotextile fabric or geogrid may be considered to supplement a portion of the overexcavation.

- Depending on the estimated depth of scour, the new Moose Creek Bridge over Moose Creek may be founded on conventional or "deep" spread footings established in colluvium, sedimentary rock, or volcanic rock, which we anticipate underlies the alluvial deposits in this area. If the depth of scour is considerable, spread footings with micropiles to resist uplift may be a cost-effective option.

In our opinion, the risks of landslides, slumps, or other features affecting the global slope stability of the proposed improvements is low.

Conceptual Pavement Design

We developed preliminary pavement sections for: 1) the Centennial Trail Path, 2) the approaches to the Moose Creek Bridge, and 3) the aggregate surfaced parking area located near the Moose Creek Bridge. Our preliminary pavement design recommendations are based upon subsurface information from the Natural Resources Conservation Service (NRCS) Soil Survey data and traffic data from the Idaho

Department of Transportation. The preliminary design analysis was accomplished in general accordance with the procedures outlined in the Federal Lands Highway Division Project Development Design Manual (PDDM) and the 1993 AASHTO *Guide for Design of Pavement Structures* (AASHTO Guide).

The Soil Survey information indicates that the predominant near surface soil (approx. 95% of the alignment) consists of the Koffgo/Rhylow/Povey soil series. In a typical profile the Koffgo/Rhylow/Povey Series consists of a low plastic silty, sandy gravel or sandy, gravelly silt. The remainder of the alignment (approx. 5%) consists of the Cryaquolls or Foxcreek Soil Series. In a typical profile, the Cryaquolls Series consists of a fine, sandy silt to a depth of 30-in. over a sandy, silty gravel or sandy, gravelly silt. In a typical profile the Foxcreek Series consists of a thin layer of peat over clayey silt to a depth of 21 in. over a sandy, silty gravel.

Our preliminary assessment indicates that the Koffgo/Rhylow/Povey Soil Series is not a *problem soil* from a construction standpoint and it should be feasible to moisture condition and compact this soil during the normal summertime construction window. On the other hand, the upper 2 to 2½ feet of both the Cryaquolls and Foxcreek Soil Series may be difficult to moisture condition for compaction or may not provide suitable subgrade support. Hence, for preliminary scoping purposes, we recommend that subgrade stabilization (as shown below) be planned for up to 5% of the Centennial Trail Path.

Our preliminary design recommendations are summarized below.

Centennial Trail path

- 2.0-in.-thick Superpave HMA SP-2, ½-in. size (placed in one lift)
- 4.0-in.-thick ¾-in.-minus Aggregate Base Course (AB), Gradation A
- Upper 12 in. of subgrade compacted in accordance with Section 205.03-1 (F) for Class A compaction.

Moose Creek Bridge Approaches

- 5.0-in.-thick Superpave HMA SP-2, ½-in. size (placed in two equal lifts)
- 6.0-in.-thick 3/4-in.-minus Aggregate Base Course (AB) "A" Gradation
- Upper 12 in. of subgrade compacted in accordance with Section 205.03-1 (F) for Class A compaction.

Aggregate Surfaced Parking Area

- 4.0-in.-thick ½-in.-minus Aggregate Base Course (AB)
- 12.0-in.-thick ¾-in.-minus Aggregate Base Course (AB) "A" Gradation
- Geotextile Fabric
- Upper 12 in. of subgrade compacted in accordance with Section 205.03-1 (F) for Class A compaction.

Subgrade Stabilization (assumed for 5% of the Centennial Trail Path)

In areas where the subgrade is unstable or it is not feasible to compact the subgrade, subgrade stabilization should be done in lieu of subgrade compaction. The following alternative sections are recommended for subgrade stabilization:

- 4-in.-thick, 3/4in.-minus size Aggregate Base (Gradation A)
- 12-in.-thick, 2-in.-minus size Aggregate Base
- TX5 Geogrid
- Subgrade Geotextile
- On undisturbed subgrade

or

- 4-in.-thick, 3/4-in.-minus size Aggregate Base (Gradation A)
- 18-in.-thick, 2-in.-minus size Aggregate Base
- Subgrade Geotextile
- On undisturbed subgrade

Construction materials and procedures should comply with the applicable sections of the 2012 Idaho Department of Transportation (IDOT) Standard Specifications for Construction.

Material Resource Reconnaissance

Through online review, we identified two sources for aggregate materials and one source for hot mix asphalt concrete. The aggregate and hot mix asphalt concrete sources are located in Driggs, Idaho, which is about 20 minutes north of the trail alignment. Other aggregate sources were identified in Jackson, Wyoming; which is about 30 minutes away from the beginning of the trail.

Additional Pavement Construction Considerations

The recommended AC thickness of 2.0 in. for the trail provides the required structural capacity and is the minimum practical lift thickness from a construction standpoint. However, given the relatively high altitude of the site, there is the potential for cool weather well into the construction season and therefore, care will be necessary in scheduling paving to ensure that the 2.0-in.-thick mat doesn't cool too quickly before compaction can be achieved. The time before the mat reaches the cessation temperature (the temperature at which the asphalt binder becomes stiff enough to prevent any further reduction in air voids regardless of compactive effort) is a function of several factors, including air temperature base temperature, wind speed, initial mat temperature upon delivery and mat thickness.

Some measures that can be taken to increase the potential for successful compaction include paving on warm days with little to no wind, ensuring the mix delivery temperature is high enough to allow sufficient time to compact the mat, and not allowing the paver to operate far in advance of the rollers. If the contractor is having difficulty compacting the mat and none of the above measures are sufficient, it may be necessary to increase the lift thickness from 2.0 in. to 3.0 in., since a 3.0-in. mat typically allows approximately double the time for compaction before the cessation temperature is reached.

CONCEPTUAL INVESTIGATION PLAN

As part of the next phase of work, we recommend a detailed geotechnical and geological investigation and design work to be completed for the project. The investigation should include subsurface explorations at the new Moose Creek Bridge, along the Old Jackson Highway roadway, near the pedestrian access across the Teton Pass Highway to the Mike Harris and Teton Creek Campgrounds, and in the vicinity of new retaining walls. The engineering and geology evaluation should include mapping and assessment of existing rock slopes and rockfall hazards that could impact the proposed path. Final design may include installation of wire mesh or other protection measures along rock slopes that could generate rockfall, which could affect path users.

For planning purposes, the following list provides more detailed scope items for the next phase of design:

- Drill a boring at each end of the Moose Creek Bridge to a depth of about 40 ft below surface grade. Collect geotechnical samples and complete laboratory testing and engineering analyses for the new Moose Creek Bridge.
- Drill two borings at the location of the new pedestrian access across the Teton pass Highway near the Mike Harris Campground. Collect geotechnical samples and complete laboratory testing and engineering analyses for the new structure.
- Drill two borings at the location of the new pedestrian access across the Teton pass Highway near the Teton Trail Campground. Collect geotechnical samples and complete laboratory testing and engineering analyses for the new structure.
- Excavate test pits to depths of about 5 to 10 ft with a trackhoe at about 500-ft-intervals in select areas along the proposed trail alignment (approximately 25 test pits). Collect geotechnical samples and complete laboratory testing and engineering analyses for the new trail. Document field observations from the test pits regarding the likely the occurrence and distribution of subsurface water that could affect trail design.
- Depending on the location and size of the proposed retaining walls, additional borings or test pits should be completed as part of the next phase of design. Collect geotechnical samples and complete laboratory testing and engineering analyses for the new retaining walls.
- Complete a geological reconnaissance and perform geological mapping of existing rock slopes and rockfall hazards for the entire new trail alignment using the mapping criteria outlined in Miller and Silverman (2000). Rock slope design and rockfall mitigation criteria should be completed in accordance with the Idaho Transportation Department (ITD) Materials Manual (2015). Complete detailed observations and record location of rock outcrops, springs, wet ground, slope instability, and other geological and geotechnical features.
- Summarize the geotechnical and geological field work, laboratory testing, engineering analyses, and design information in a project report. Engineering recommendations should include bridge and highway crossing foundation recommendations, seismic design parameters, retaining wall geotechnical design parameters, slope stability analyses, and trail pavement section recommendations. Report will be consistent with guidelines provided by ITD (2015) and FHWA (2003).

In addition to the above, the existing Moose Creek Bridge structure should be visually evaluated for the possible presence of hazardous materials. Suspected materials with lead based paint and asbestos should be sampled and tested. Visual documentation of chemically treated wood should be documented. A summary report with the field observations, chemical test results, and recommendations for construction management should be prepared.

LIMITATIONS

This technical memorandum has been prepared to aid with the planning of the proposed improvement project with respect to geotechnical issues and geologic hazards. The scope is limited to the specific project and location described herein, and the description of the project elements represents our present understanding of the significant aspects of the project relative to geotechnical and geological matters. In the event that any changes in the project are planned, we should be given the opportunity to review the changes and modify or reaffirm the information provided in this memorandum. No warranty, expressed or implied, is provided.

Submitted for GRI,

Scott M. Schlechter, PE, GE	Lindsi Hammond, PE	George A. Freitag, CEG
Principal	Project Engineer	Associate

References:

Federal Highway Administration, 2003, Checklist and guidelines for review of geotechnical reports and preliminary plans and specifications. Publication No. FHWA ED-88-053

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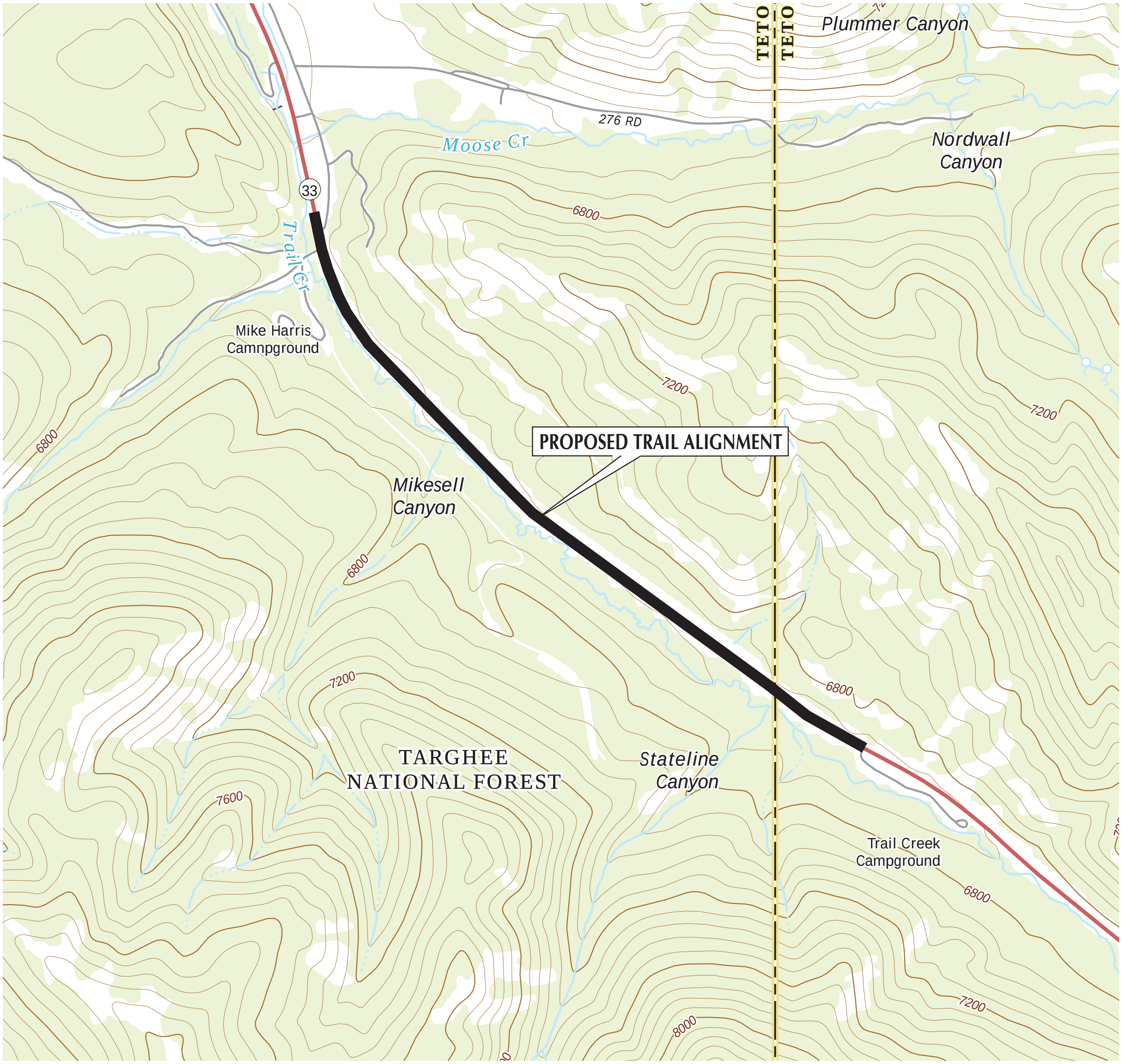
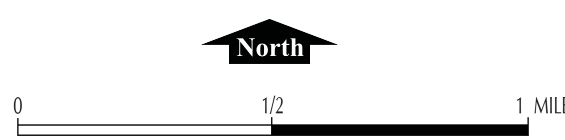


USGS TOPOGRAPHIC MAP
VICTOR, ID-WY IDAHO (2013)

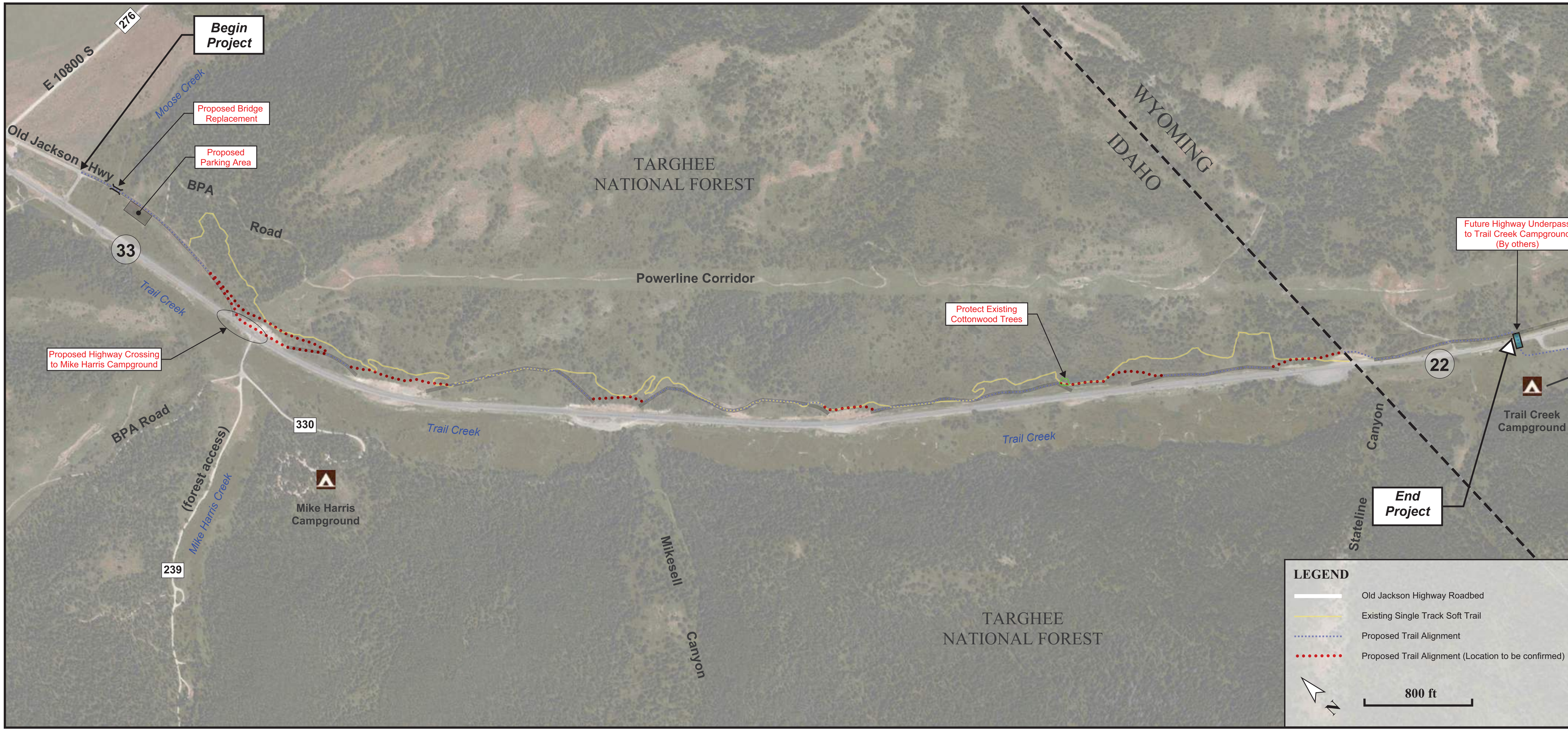


GRI

DAVID EVANS AND ASSOCIATES, INC.
TETON CENTENNIAL TRAIL

VICINITY MAP

DEC. 2015 | JOB NO. 5728 | FIG. 1



Teton Centennial Trail Project, July 8, 2015

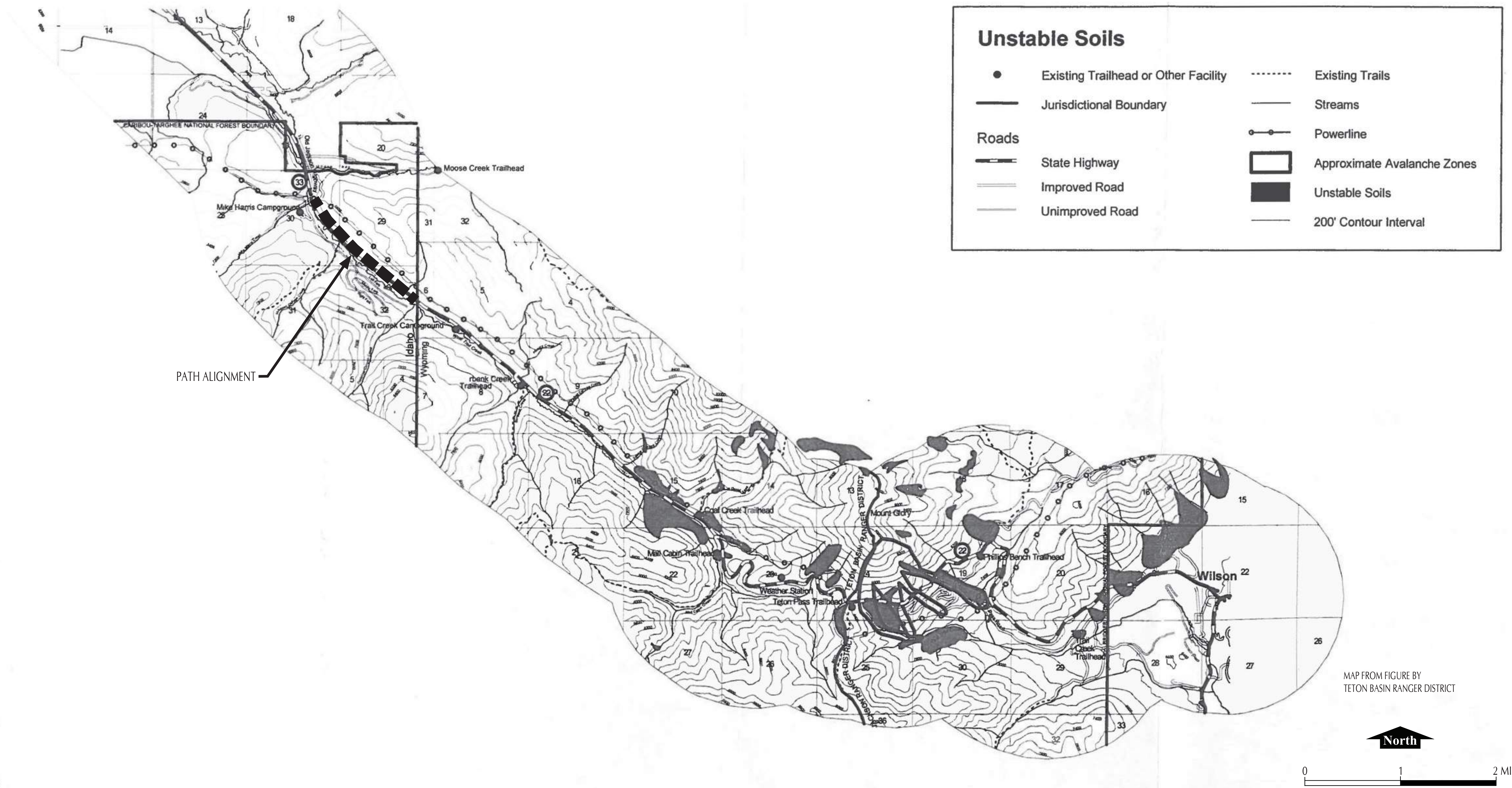
SITE PLAN FROM FILE BY DAVID EVANS AND ASSOCIATES, INC. (DATED NOVEMBER 10, 2015)

GRI

DAVID EVANS AND ASSOCIATES, INC.
TETON CENTENNIAL TRAIL

SITE PLAN

DEC. 2015 JOB NO. 5728 FIG. 2



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DAVID EVANS AND ASSOCIATES, INC.
TETON CENTENNIAL TRAIL

UNSTABLE SOILS MAP

DEC. 2015 JOB NO. 5728 FIG. 3

APPENDIX D

Concept Cost Estimate

Project Description:	Idaho Teton Centennial Trail	Client: FHA				
Corridor Section:	Border Spur Alternative					
Location:	Teton County, Idaho	Entered by: CRCO				
Description:	STA. 101+64.74 to STA. 102+58.15	Checked by: JFM				
Date:	12/15/2015					
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 3,100.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 620.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 310.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 5,030.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 500.00
6		CLEARING AND GRUBBING	LS	$ 100.00	ALL	$ 100.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	140	$ 1,400.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	35	$ 367.50
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	3	$ 90.00
				Subtotal		**$ 2,457.50**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
500 - BRIDGES						
10		BRIDGE	LS	$ -	ALL	$ -
11		WALLS	LS	$ -	ALL	$ -
12		42 INCH WOOD RAIL	LS	$ 850.00	ALL	$ 850.00
				Subtotal		**$ 850.00**
600 - BASES						
13		AGGREGATE BASE	CY	$ 30.00	15	$ 450.00
				Subtotal		**$ 450.00**
700 - WEARING SURFACES						
14		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	13	$ 975.00
				Subtotal		**$ 975.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
15		STRIPING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
16		SIGNING	LS	$ 1,000.00	ALL	$ 1,000.00
17		RECTANGULAR RAPID FLASHING BEACON	LS	$ 20,000.00	ALL	$ 20,000.00
				Subtotal		**$ 20,000.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
18		SEEDING	AC	$ 2,000.00	0.05	$ 100.00
				Subtotal		**$ 100.00**
SUBTOTAL FOR CONSTRUCTION						**$ 30,870.00**
		CONTINGENCIES		30%		$ 9,270.00
		ENGINEERING DESIGN		15%		$ 4,640.00
		CONSTRUCTION ENGINEERING		10%		$ 3,090.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 47,900.00**

Project Description:		Idaho Teton Centennial Trail	Client: FHA			
Corridor Section:		Highway Alternative				
Location:		Teton County, Idaho	Entered by: CRCO			
Description:		STA. 1+00.00 to STA. 13+84.30	Checked by: JFM			
Date:		12/16/2015				
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 37,500.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (10%)	LS	10%	ALL	$ 37,500.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 3,750.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 79,750.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 5,700.00
6		CLEARING AND GRUBBING	LS	$ 700.00	ALL	$ 700.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	700	$ 7,000.00
8		ROCK EXCAVATION	CUYD	$ 30.00	500	$ 15,000.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	1,300	$ 13,650.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	40	$ 1,200.00
				Subtotal		**$ 43,250.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
10		BRIDGE	LS	$ -	ALL	$ -
11		WALLS	LS	$ 54,000.00	ALL	$ 54,000.00
11		SCALING	LS	$ 13,000.00	ALL	$ 13,000.00
12		WIRE MESH	LS	$ 70,000.00	ALL	$ 70,000.00
11		42 INCH WOOD RAIL	LS	$ 12,000.00	ALL	$ 12,000.00
				Subtotal		**$ 149,000.00**
600 - BASES						
12		AGGREGATE BASE	CY	$ 30.00	450	$ 13,500.00
				Subtotal		**$ 13,500.00**
700 - WEARING SURFACES						
13		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	490	$ 36,750.00
				Subtotal		**$ 36,750.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
14		CONCRETE BARRIER	FT	$ 50.00	1,000	$ 50,000.00
15		STRIPING	LS	$ 200.00	ALL	$ 200.00
				Subtotal		**$ 50,200.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
16		SIGNING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
17		SEEDING	AC	$ 2,000.00	0.4	$ 800.00
				Subtotal		**$ 800.00**
SUBTOTAL FOR CONSTRUCTION						**$ 374,800.00**
		CONTINGENCIES		30%		$ 113,000.00
		ENGINEERING DESIGN		15%		$ 57,000.00
		CONSTRUCTION ENGINEERING		10%		$ 38,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 583,000.00**

Project Description:	Idaho Teton Centennial Trail		Client: FHA			
Corridor Section:	Hillside Alternative					
Location:	Teton County, Idaho		Entered by: CRCO			
Description:	STA. 21+00.00 to STA. 33+50.00		Checked by: JFM			
Date:	12/16/2015					
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 35,700.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 7,140.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 3,570.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 47,410.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 5,400.00
6		CLEARING AND GRUBBING	LS	$ 3,900.00	ALL	$ 3,900.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	4,500	$ 45,000.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	11,000	$ 115,500.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	40	$ 1,200.00
				Subtotal		**$ 171,000.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
10		BRIDGE	LS	$ -	ALL	$ -
11		WALLS	LS	$ 102,000.00	ALL	$ 102,000.00
12		42 INCH WOOD RAIL	LS	$ 12,000.00	ALL	$ 12,000.00
				Subtotal		**$ 114,000.00**
600 - BASES						
13		AGGREGATE BASE	CY	$ 30.00	200	$ 6,000.00
				Subtotal		**$ 6,000.00**
700 - WEARING SURFACES						
14		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	170	$ 12,750.00
				Subtotal		**$ 12,750.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
15		STRIPING	LS	$ 200.00	ALL	$ 200.00
				Subtotal		**$ 200.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
16		SIGNING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
17		SEEDING	AC	$ 2,000.00	2.0	$ 4,000.00
				Subtotal		**$ 4,000.00**
SUBTOTAL FOR CONSTRUCTION						**$ 356,900.00**
		CONTINGENCIES		30%		$ 108,000.00
		ENGINEERING DESIGN		15%		$ 54,000.00
		CONSTRUCTION ENGINEERING		10%		$ 36,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 555,000.00**

Project Description:	Idaho Teton Centennial Trail	Client: FHA
Corridor Section:	Main Line	
Location:	Teton County, Idaho	Entered by: CRCO
Description:	STA. 10+00.00 to 21+00.00, 33+50.00 to 124+80.00	Checked by: JFM
Date:	12/16/2015	

ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 117,000.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 23,400.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 11,700.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 153,100.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 17,600.00
6		CLEARING AND GRUBBING	LS	$ 10,000.00	ALL	$ 10,000.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	21,000	$ 210,000.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	2,600	$ 27,300.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	250	$ 7,500.00
				Subtotal		**$ 272,400.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 10,000.00	ALL	$ 10,000.00
				Subtotal		**$ 10,000.00**
500 - BRIDGES						
10		BRIDGE	LS	$ 190,200.00	ALL	$ 190,200.00
11		WALLS	LS	$ 250,000.00	ALL	$ 250,000.00
12		42 INCH WOOD RAIL	LS	$ 93,000.00	ALL	$ 93,000.00
				Subtotal		**$ 533,200.00**
600 - BASES						
13		AGGREGATE BASE	CY	$ 30.00	1,800	$ 54,000.00
				Subtotal		**$ 54,000.00**
700 - WEARING SURFACES						
14		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	1,700	$ 127,500.00
				Subtotal		**$ 127,500.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
15		STRIPING	LS	$ 2,000.00	ALL	$ 2,000.00
				Subtotal		**$ 2,000.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
16		SIGNING	LS	$ 5,000.00	ALL	$ 5,000.00
				Subtotal		**$ 5,000.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
17		SEEDING	AC	$ 2,000.00	5.0	$ 10,000.00
				Subtotal		**$ 10,000.00**
SUBTOTAL FOR CONSTRUCTION						**$ 1,167,200.00**
		CONTINGENCIES		30%		$ 351,000.00
		ENGINEERING DESIGN		15%		$ 176,000.00
		CONSTRUCTION ENGINEERING		10%		$ 117,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 1,812,000.00**

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Project Description:	Idaho Teton Centennial Trail		Client: FHA			
Corridor Section:	Mike Harris At-Grade Crossing Alternative					
Location:	Teton County, Idaho		Entered by: CRCO			
Description:	STA. 100+00.00 to STA. 107+29.57		Checked by: JFM			
Date:	12/16/2015					
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 5,600.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 1,120.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 560.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 8,280.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 900.00
6		CLEARING AND GRUBBING	LS	$ 320.00	ALL	$ 320.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	700	$ 7,000.00
8		EMBANKMENT IN PLACE	CUYD	$ 10.50	60	$ 630.00
9		SUBGRADE STABILIZATION	CUYD	$ 30.00	20	$ 600.00
				Subtotal		**$ 9,450.00**
400 - DRAINAGE AND SEWERS						
10		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
11		BRIDGE	LS	$ -	ALL	$ -
12		WALLS	LS	$ -	ALL	$ -
13		42 INCH WOOD RAIL	LS	$ 4,400.00	ALL	$ 4,400.00
				Subtotal		**$ 4,400.00**
600 - BASES						
14		AGGREGATE BASE	CY	$ 30.00	120	$ 3,600.00
				Subtotal		**$ 3,600.00**
700 - WEARING SURFACES						
15		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	100	$ 7,500.00
				Subtotal		**$ 7,500.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
16		STRIPING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
17		SIGNING	LS	$ 1,000.00	ALL	$ 1,000.00
18		RECTANGULAR RAPID FLASHING BEACON	LS	$ 20,000.00	ALL	$ 20,000.00
				Subtotal		**$ 21,000.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
19		SEEDING	AC	$ 2,000.00	0.2	$ 400.00
				Subtotal		**$ 400.00**
SUBTOTAL FOR CONSTRUCTION						**$ 56,200.00**
		CONTINGENCIES		30%		$ 17,000.00
		ENGINEERING DESIGN		15%		$ 9,000.00
		CONSTRUCTION ENGINEERING		10%		$ 6,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 89,000.00**

Project Description:	Idaho Teton Centennial Trail		Client: FHA			
Corridor Section:	Mike Harris Under Crossing Alternative					
Location:	Teton County, Idaho		Entered by: CRCO			
Description:	STA. 100+00.00 to STA. 107+86.45		Checked by: JFM			
Date:	12/15/2015					
ITEM NO.	**SPECIFICATION SECTION**	**ITEM**	**UNIT**	**UNIT COST**	**QUANTITY**	**COST**
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 62,200.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (10%)	LS	10%	ALL	$ 62,200.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 6,220.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 131,620.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 9,400.00
6		CLEARING AND GRUBBING	LS	$ 380.00	ALL	$ 380.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	3,300	$ 33,000.00
8		EMBANKMENT IN PLACE	CUYD	$ 10.50	20	$ 210.00
9		SUBGRADE STABILIZATION	CUYD	$ 30.00	20	$ 600.00
				Subtotal		**$ 43,590.00**
400 - DRAINAGE AND SEWERS						
10		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
11		UNDERCROSSING	LS	$ 130,000.00	ALL	$ 130,000.00
12		WALLS	LS	$ 300,000.00	ALL	$ 300,000.00
13		42 INCH WOOD RAIL	LS	$ 3,400.00	ALL	$ 3,400.00
				Subtotal		**$ 433,400.00**
600 - BASES						
14		AGGREGATE BASE	CY	$ 30.00	120	$ 3,600.00
				Subtotal		**$ 3,600.00**
700 - WEARING SURFACES						
15		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	100	$ 7,500.00
				Subtotal		**$ 7,500.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
16		STRIPING	LS	$ 200.00	ALL	$ 200.00
				Subtotal		**$ 200.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
17		SIGNING	LS	$ 500.00	ALL	$ 500.00
18		RECTANGULAR RAPID FLASHING BEACON	LS	$ -	ALL	$ -
				Subtotal		**$ 500.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
19		SEEDING	AC	$ 2,000.00	0.2	$ 400.00
				Subtotal		**$ 400.00**
SUBTOTAL FOR CONSTRUCTION						**$ 621,900.00**
		CONTINGENCIES		30%		$ 187,000.00
		ENGINEERING DESIGN		15%		$ 94,000.00
		CONSTRUCTION ENGINEERING		10%		$ 63,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 966,000.00**

Project Description:	Idaho Teton Centennial Trail		Client: FHA			
Corridor Section:	Parking Lot A Alternative					
Location:	Teton County, Idaho		Entered by: CRCO			
Description:	STA. 13+43.77 to STA. 17+30.71		Checked by: JFM			
Date:	12/16/2015					

ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 8,500.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 1,700.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 850.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 12,050.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 1,300.00
6		CLEARING AND GRUBBING	LS	$ 1,800.00	ALL	$ 1,800.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	180	$ 1,800.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	2,200	$ 23,100.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	0	$ -
				Subtotal		**$ 28,000.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
10		BRIDGE	LS	$ -	ALL	$ -
11		WALLS	LS	$ -	ALL	$ -
				Subtotal		**$ -**
600 - BASES						
12		AGGREGATE BASE	CY	$ 30.00	1,300	$ 39,000.00
				Subtotal		**$ 39,000.00**
700 - WEARING SURFACES						
13		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	0	$ -
				Subtotal		**$ -**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
14		THERMAL PLASTIC, EXTRUDED OR SPRAYED, SURFACE, NON-PROFILED	FT	$ 1.00	1,900	$ 1,900.00
				Subtotal		**$ 1,900.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
15		SIGNING	LS	$ 2,000.00	ALL	$ 2,000.00
				Subtotal		**$ 2,000.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
16		SEEDING	AC	$ 2,000.00	0.3	$ 600.00
				Subtotal		**$ 600.00**
SUBTOTAL FOR CONSTRUCTION						**$ 84,600.00**
		CONTINGENCIES		30%		$ 26,000.00
		ENGINEERING DESIGN		15%		$ 13,000.00
		CONSTRUCTION ENGINEERING		10%		$ 9,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 133,000.00**

Project Description:		Idaho Teton Centennial Trail	Client: FHA			
Corridor Section:		Parking Lot B Alternative				
Location:		Teton County, Idaho	Entered by: CRCO			
Description:		STA. 14+16.11 to STA. 17+04.75	Checked by: JFM			
Date:		12/16/2015				
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 4,300.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 860.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 430.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 6,590.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 700.00
6		CLEARING AND GRUBBING	LS	$ 1,000.00	ALL	$ 1,000.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	170	$ 1,700.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	800	$ 8,400.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	0	$ -
				Subtotal		**$ 11,800.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 750.00	ALL	$ 750.00
				Subtotal		**$ 750.00**
500 - BRIDGES						
10		BRIDGE	LS	$ -	ALL	$ -
11		WALLS	LS	$ -	ALL	$ -
				Subtotal		**$ -**
600 - BASES						
12		AGGREGATE BASE	CY	$ 30.00	700	$ 21,000.00
				Subtotal		**$ 21,000.00**
700 - WEARING SURFACES						
13		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	0	$ -
				Subtotal		**$ -**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
14		THERMAL PLASTIC, EXTRUDED OR SPRAYED, SURFACE, NON-PROFILED	FT	$ 1.00	930	$ 930.00
				Subtotal		**$ 930.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
15		SIGNING	LS	$ 1,500.00	ALL	$ 1,500.00
				Subtotal		**$ 1,500.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
16		SEEDING	AC	$ 2,000.00	0.2	$ 400.00
				Subtotal		**$ 400.00**
SUBTOTAL FOR CONSTRUCTION						**$ 43,000.00**
		CONTINGENCIES		30%		$ 13,000.00
		ENGINEERING DESIGN		15%		$ 7,000.00
		CONSTRUCTION ENGINEERING		10%		$ 5,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 68,000.00**

Project Description:	Idaho Teton Centennial Trail		Client: FHA			
Corridor Section:	Parking Lot C Alternative					
Location:	Teton County, Idaho		Entered by: CRCO			
Description:	STA. 15+52.84 to STA. 17+35.79		Checked by: JFM			
Date:	12/16/2015					
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 3,150.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 630.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 315.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 5,095.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 500.00
6		CLEARING AND GRUBBING	LS	$ 600.00	ALL	$ 600.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	60	$ 600.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	720	$ 7,560.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	0	$ -
				Subtotal		**$ 9,260.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
500 - BRIDGES						
10		BRIDGE	LS	$ -	ALL	$ -
11		WALLS	LS	$ -	ALL	$ -
				Subtotal		**$ -**
600 - BASES						
12		AGGREGATE BASE	CY	$ 30.00	500	$ 15,000.00
				Subtotal		**$ 15,000.00**
700 - WEARING SURFACES						
13		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	0	$ -
				Subtotal		**$ -**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
14		THERMAL PLASTIC, EXTRUDED OR SPRAYED, SURFACE, NON-PROFILED	FT	$ 1.00	350	$ 350.00
				Subtotal		**$ 350.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
15		SIGNING	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
16		SEEDING	AC	$ 2,000.00	0.05	$ 100.00
				Subtotal		**$ 100.00**
SUBTOTAL FOR CONSTRUCTION						**$ 31,400.00**
		CONTINGENCIES		30%		$ 10,000.00
		ENGINEERING DESIGN		15%		$ 5,000.00
		CONSTRUCTION ENGINEERING		10%		$ 4,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 51,000.00**

Project Description:	Idaho Teton Centennial Trail	Client: FHA
Corridor Section:	Trail Creek At-Grade Crossing	
Location:	Teton County, Idaho	Entered by: CRCO
Description:	STA. 124+80.00 to STA. 131+27.33	Checked by: JFM
Date:	1216/2015	

ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 8,500.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (2%)	LS	2%	ALL	$ 1,700.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 850.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 12,050.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 1,300.00
6		CLEARING AND GRUBBING	LS	$ 800.00	ALL	$ 800.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	2,000	$ 20,000.00
8		EMBANKMENT IN PLACE	CUYD	$ 10.50	1,200	$ 12,600.00
9		SUBGRADE STABILIZATION	CUYD	$ 30.00	20	$ 600.00
				Subtotal		**$ 35,300.00**
400 - DRAINAGE AND SEWERS						
10		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
11		BRIDGE	LS	$ -	ALL	$ -
12		WALLS	LS	$ -	ALL	$ -
13		42 INCH WOOD RAIL	LS	$ 5,900.00	ALL	$ 5,900.00
				Subtotal		**$ 5,900.00**
600 - BASES						
14		AGGREGATE BASE	CY	$ 30.00	100	$ 3,000.00
				Subtotal		**$ 3,000.00**
700 - WEARING SURFACES						
15		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	80	$ 6,000.00
				Subtotal		**$ 6,000.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
16		STRIPING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
17		RECTANGULAR RAPID FLASHING BEACON	LS	$ 20,000.00	ALL	$ 20,000.00
18		SIGNING	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 21,000.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
19		SEEDING	AC	$ 2,000.00	0.4	$ 800.00
				Subtotal		**$ 800.00**
SUBTOTAL FOR CONSTRUCTION						**$ 85,600.00**
		CONTINGENCIES		30%		$ 26,000.00
		ENGINEERING DESIGN		15%		$ 13,000.00
		CONSTRUCTION ENGINEERING		10%		$ 9,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 134,000.00**

Project Description:		Idaho Teton Centennial Trail	Client: FHA			
Corridor Section:		Trail Creek Crossing - Diagonal Undercrossing Alternative				
Location:		Teton County, Idaho	Entered by: CRCO			
Description:		STA. 124+80.00 to STA. 135+16.25	Checked by: JFM			
Date:		12/16/2015				
ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 101,500.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (10%)	LS	10%	ALL	$ 101,500.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 10,150.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 214,150.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 15,300.00
6		CLEARING AND GRUBBING	LS	$ 1,200.00	ALL	$ 1,200.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	5,800	$ 58,000.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	900	$ 9,450.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	30	$ 900.00
				Subtotal		**$ 84,850.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
10		BRIDGE	LS	$ 195,000.00	ALL	$ 195,000.00
11		WALLS	LS	$ 500,000.00	ALL	$ 500,000.00
12		42 INCH WOOD RAIL	LS	$ 6,500.00	ALL	$ 6,500.00
				Subtotal		**$ 701,500.00**
600 - BASES						
13		AGGREGATE BASE	CY	$ 30.00	130	$ 3,900.00
				Subtotal		**$ 3,900.00**
700 - WEARING SURFACES						
14		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	110	$ 8,250.00
				Subtotal		**$ 8,250.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
15		STRIPING	LS	$ 200.00	ALL	$ 200.00
				Subtotal		**$ 200.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
16		SIGNING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
17		SEEDING	AC	$ 2,000.00	0.6	$ 1,200.00
				Subtotal		**$ 1,200.00**
SUBTOTAL FOR CONSTRUCTION						**$ 1,015,600.00**
		CONTINGENCIES		30%		$ 305,000.00
		ENGINEERING DESIGN		15%		$ 153,000.00
		CONSTRUCTION ENGINEERING		10%		$ 102,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 1,576,000.00**

Project Description:	Idaho Teton Centennial Trail	Client: FHA	
Corridor Section:	Trail Creek Crossing - Perpendicular Undercrossing Alternative		
Location:	Teton County, Idaho	Entered by: CRCO	
Description:	STA. 124+80.00 to STA. 131+72.76	Checked by: JFM	
Date:	12/16/2015		

ITEM NO.	SPECIFICATION SECTION	ITEM	UNIT	UNIT COST	QUANTITY	COST
200 -TEMPORARY FEATURES AND APPURTENANCES						
1		MOBILIZATION (10%)	LS	10%	ALL	$ 88,000.00
2		TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (10%)	LS	10%	ALL	$ 88,000.00
3		EROSION CONTROL (1%)	LS	1%	ALL	$ 8,800.00
4		POLLUTION CONTROL PLAN	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 185,800.00**
300 - ROADWORK						
5		CONSTRUCTION SURVEY WORK (1.5%)	LS	1.5%	ALL	$ 13,200.00
6		CLEARING AND GRUBBING	LS	$ 680.00	ALL	$ 680.00
7		GENERAL EXCAVATION	CUYD	$ 10.00	2,600	$ 26,000.00
7		EMBANKMENT IN PLACE	CUYD	$ 10.50	400	$ 4,200.00
8		SUBGRADE STABILIZATION	CUYD	$ 30.00	20	$ 600.00
				Subtotal		**$ 44,680.00**
400 - DRAINAGE AND SEWERS						
9		DRAINAGE APPERTUNANCES	LS	$ 1,000.00	ALL	$ 1,000.00
				Subtotal		**$ 1,000.00**
500 - BRIDGES						
10		BRIDGE	LS	$ 130,000.00	ALL	$ 130,000.00
11		WALLS	LS	$ 500,000.00	ALL	$ 500,000.00
12		42 INCH WOOD RAIL	LS	$ 6,300.00	ALL	$ 6,300.00
				Subtotal		**$ 636,300.00**
600 - BASES						
13		AGGREGATE BASE	CY	$ 30.00	90	$ 2,700.00
				Subtotal		**$ 2,700.00**
700 - WEARING SURFACES						
14		LEVEL 3, ACP MIXTURE, 1/2 INCH DENSE	TON	$ 75.00	80	$ 6,000.00
				Subtotal		**$ 6,000.00**
800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
15		STRIPING	LS	$ 200.00	ALL	$ 200.00
				Subtotal		**$ 200.00**
900 - PERMANENT TRAFFIC CONTROL AND ILLUMINATION SYSTEMS						
16		SIGNING	LS	$ 500.00	ALL	$ 500.00
				Subtotal		**$ 500.00**
1000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
17		SEEDING	AC	$ 2,000.00	0.4	$ 800.00
				Subtotal		**$ 800.00**
SUBTOTAL FOR CONSTRUCTION						**$ 878,000.00**
		CONTINGENCIES		30%		$ 264,000.00
		ENGINEERING DESIGN		15%		$ 132,000.00
		CONSTRUCTION ENGINEERING		10%		$ 88,000.00
		RIGHT OF WAY (ALL COSTS INCLUDING ADMINISTRATION, ACQUISITION & DEMO)	LS	-	ALL	$ -
PROJECT TOTAL (ROUNDED)						**$ 1,362,000.00**

APPENDIX E

Reconnaissance Report

Teton Centennial Trail Project

IDAHO HIGHWAY 33

Teton County, Idaho

Reconnaissance Report

Prepared for:

Western Federal Lands Highway Division and the city of Victor, Idaho

WFLHD Task Order No. DTFH7015F19006

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

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INTRODUCTION

BACKGROUND

The proposed Teton Centennial Trail project is located along a transportation corridor that weaves through national forests and the Teton foothills connecting the city of Victor, Idaho, and the city of Wilson, Wyoming. The proposed trail would wind along the Idaho Highway 33 (ID-33). The highway provides the sole access to the high-use trailheads and parking areas throughout the year. More than 2 million visitors travel through the Teton Pass and project area annually, and the proposed trail will provide visitors safe, nonmotorized access.

Multiple agencies have invested time and resources in the proposed project, including the city of Victor, U.S. Forest Service, and Idaho Transportation Department (ITD). The project has strong local support.

PURPOSE OF RECONNAISSANCE REPORT

The primary purpose of this Reconnaissance Report is to provide the agencies that are responsible for the development and implementation of the project with the information needed to refine the project scope, budget, and schedule. This information includes clarifying the project purpose and need, and establishing an approach to move the design forward.

The Reconnaissance Report is a project development document that builds upon the information provided in the Federal Land Access Program (FLAP) proposal (see appendix A). The report provides the following: documentation of existing conditions, stakeholder wants, multi-discipline project needs assessment and proposed work, preliminary construction cost estimates, resources that might be impacted, and potential issues and resolutions, as well as preliminary identification of studies and site investigations that will be needed and potential permits required.

EXECUTIVE SUMMARY

The Teton Centennial Trail is a project to build a separated bicycle and pedestrian trail along Idaho-33 from Victor, Idaho to the Wyoming state border. A future trail segment will run from the state border to the Trail Creek Campground on the Wyoming side. The Teton Centennial Trail will provide access to a comprehensive trail system and prompt alternative transportation modes to access millions of acres of National Forest. The proposed project is part of the National Environmental Policy Act (NEPA) decision issued in 2002. The Section 106 archaeological concurrence was also obtained in 2002. The proposed project plans to stay within the parameters of those decisions. The project is positioned to advance to the design phase and has been developed to allow a reasonable understanding of costs, a well-defined scope, and an understanding of potential issues, as identified in this report. The project maintains strong local support and provides many potential benefits to the community and users. The number of alternatives to be evaluated for the project is limited because of the project's reuse of the "Old Jackson Highway" roadbed, which is proposed to make up almost 70 percent of the trail length. The foremost project challenge is the difference in estimated costs between the FLAP proposal and this Reconnaissance Report. The cost estimates will need to be reviewed by the stakeholders, and agreements for additional matching funds may be necessary before the project design phase begins.

PROJECT OBJECTIVES

PROJECT PURPOSE AND NEED

The purpose of the Teton Centennial Trial project is to increase safety, promote alternative transportation modes, and connect the community and users to the surrounding National Parks. ID-33, south of the city of Victor, serves an arterial highway function, providing an important connection between Idaho and Wyoming over the Teton Pass. The roadway also provides access to high-use U.S. National Forest lands on Teton Pass. The highway serves significant bicycle and pedestrian traffic because the route provides access to public lands for many eastern Idaho communities, including Victor and Driggs. ID-33 connects directly to Wyoming Highway 22, providing access to Jackson Hole and Grand Teton National Park on the east side of Teton Pass and connecting to an extensive pathway system.

The needs for the project are to better connect Idaho communities and visitors to public lands, to address increasing bicycle use and demand, and to deal with long-recognized safety problems on ID-33, which is busy and narrow and has average daily traffic (ADT) levels in the summer that reach 10,000.

Teton Pass has become a destination in itself for bicyclists and pedestrians, especially as Teton County, Idaho, and Teton County, Wyoming, have constructed major connected pathway systems and as ID-33 has been designated part of the Teton Scenic Byway, drawing more visitors, including bicycle and pedestrian travelers. There is a need to address deficient facilities and the resulting safety hazards along this high-use bicycle route corridor. The existing 1- to 2-foot-wide highway shoulders do not serve the needs of bicycle and pedestrian travelers. Along with the need to increase safety for all users, there is a need to improve mode choices by providing a separated pathway. In addition, there is a need to support travel and tourism goals, and recent economic studies have documented the high economic benefits provided by the area bicycle and pedestrian pathways and trails.

In addition, the project would address identified mobility needs and support established environmental goals. The project need is confirmed in local transportation and land use plans, in U.S. Forest Service plans, and in the environmental study completed for the proposed trail. In support of these plans, there is significant public demand for the project. This trail project is the key missing link needed to connect major regional pathway systems, and given the mountainous terrain, the sole feasible access is over Teton Pass. There is also a need to encourage more environmentally friendly, healthy mode choices that a safe pathway such as that provided by the project. The Teton Centennial Trail project will support and advance established environmental goals in adopted Victor and Teton County Idaho plans.

SCOPE OF PROJECT

The Teton Centennial Trail project is to construct a bicycle/pedestrian pathway from Moose Creek to the Idaho/Wyoming Border.

The project is sponsored by the city of Victor, Idaho, and supported by a broad partnership of governmental organizations, nongovernmental organizations (NGOs), businesses, and the U.S. Forest Service. It will construct a 1.9-mile-long, 10-foot-wide paved bicycle/pedestrian pathway along ID-33 from Moose Creek to the Wyoming state line, using portions of the “Old Jackson Highway” roadbed. The current project schedule allows for construction of the project to begin in spring 2017.

This project is an integral part of a growing world-class Teton Pass pathway system proposed to connect Victor, Idaho, and Wilson, Wyoming, which is being created in coordination with the Caribou-Targhee, Bridger-Teton National Forest, the State of Wyoming, Teton County, Idaho, Teton County, Wyoming, ITD, and the Wyoming Department of Transportation (WYDOT).

The Old Jackson Highway was 100 years old in 2013. This project will help mark the centennial celebration of the historic connection of Idaho and Wyoming over Teton Pass by creating enhanced bicycle and pedestrian access for the next century. Times have changed, but the mountains have not. The challenging terrain and iconic views from the trail will draw visitors to experience public lands and will enhance the quality of life in the city of Victor and surrounding communities.

The alignment of the Teton Centennial Trail will take advantage of the old highway roadbed where feasible; roughly 70 percent of the 1.9 miles can be reused roadbed, and the design will connect the route with a continuous 10-foot-wide paved pathway. Minor earthwork will be required to reconnect old road sections.

The old roadbed sits just north and slightly above today's ID-33, providing excellent separation from the highway, easy access, and good view opportunities of Trail Creek and the Teton Pass Mountains. The alignment is on a south-facing hillside, thus allowing early spring opening and supporting a long season of use.

The pathway typical section will provide a quality pathway with a 14-foot-wide compacted sub-base, a 12-foot, 4-inch-wide crushed base course, and 2-inch-thick asphalt for a finished 10-foot-wide pathway surface. One bridge over Moose Creek will be replaced to carry vehicular and maintenance traffic to the parking area east of the creek. The bridge will provide a 16-foot roadway width between rails and will have an 80- to 100-foot-long span.

SCHEDULE OF PROJECT

The Teton Centennial Trail project development and construction schedule is based on the expected design and development work and the proposed construction work as outlined in this report. The projected schedule is shown in the figure below.

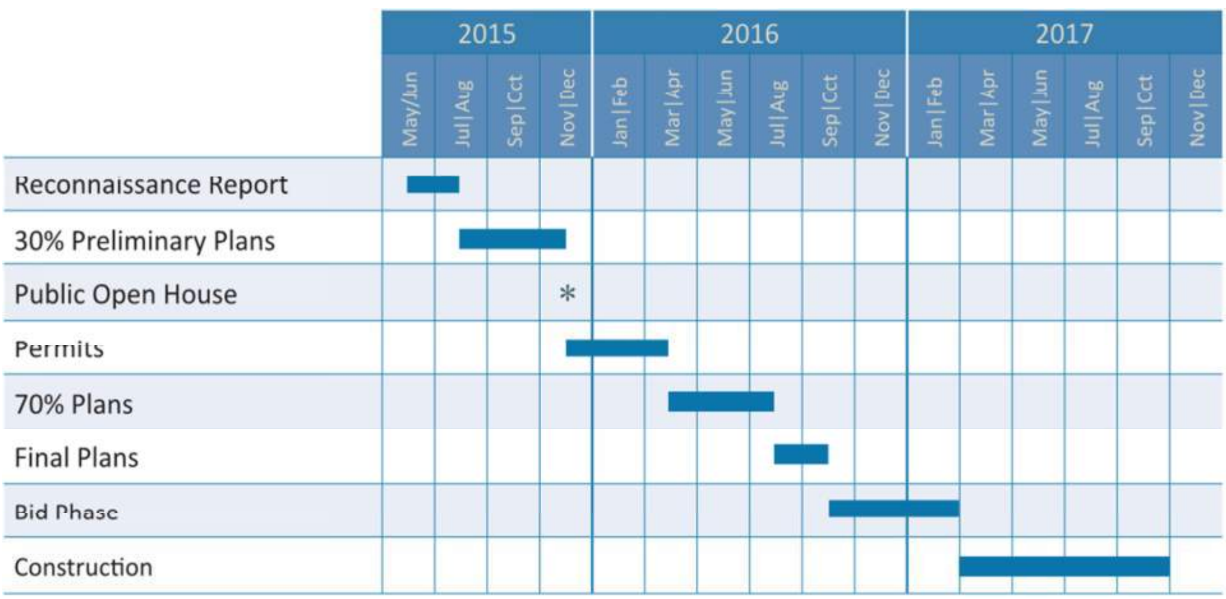

Figure 1: Project Schedule

BUDGET OF PROJECT

A cost estimate for the project was included as part of the 2013 FLAP proposal. The standard bid item estimate totaled $1,523,000 (see Appendix A for details). The cost estimate was based on the following assumptions:

- The paved trail will be 1.9 miles with 2-inch-thick asphalt.
- There will be an at-grade crossing at the Mike Harris Campground entrance.
- Bridge replacement is a single-span 30-foot by 14-foot pre-fabricated steel structure.
- The underpass at the Trail Creek Campground entrance is not included (Wyoming Segment).

EXISTING CONDITIONS

HIGHWAY

Idaho Highway 33 serves an arterial highway function, has two lanes and two-way traffic, and connects directly with Wyoming Highway 22. The highway purpose includes serving bicycle and pedestrian traffic to provide access to public lands. The existing narrow paved highway shoulders do not serve the needs of bicycle and pedestrian travelers. These conditions have become a safety issue, with numerous identified crash sites on the highway and hazardous conditions.

Figure 2: Existing Idaho Highway 33

EXISTING TRAIL

A narrow, soft trail currently exists that connects with remnants of the abandoned Old Jackson Highway alignment north of and above ID-33. Portions of the existing trail are farther from ID-33 than others, some of which border the top edge of slopes cuts along the highway. Based on aerial images, there are four identified switchbacks that may indicate steep grades. There are several drainage ways where wooden planks and boardwalks have been installed for safe crossing. The existing trail begins just east of the Moose Creek Bridge and ends at the Idaho/Wyoming border, as shown on the map in Appendix B.

EXISTING BRIDGE CROSSING

The Old Jackson Highway alignment crosses Moose Creek on a cast-in-place concrete bridge approximately 20 feet long and 24 feet wide between rails. The old highway roadbed has been abandoned, and the existing Moose Creek Bridge has deteriorated to an unsafe condition and must be replaced as part of the project.

Figure 3: Existing bridge across Moose Creek on Old Jackson Highway

PROPOSED WORK AND ALTERNATIVES

TRAIL

The proposed 10-foot-wide paved bicycle pedestrian pathway will be constructed north of and elevated slightly above ID-33 from Moose Creek to the Idaho/Wyoming state line. The trail will include small, aggregate base shoulders and tie-in slopes outside the paved area. The trail will traverse the hillside, and significant earthwork to flatten slopes and make connections will be required. The general design approach for the trail alignment is described by segment in the following sections. The trail alignment map, included as Appendix B, shows the general trail alignment and associated features.

MOOSE CREEK SEGMENT

The west end of the trail will begin on the west side of Moose Creek. Motor vehicles will share the trail in this area for access as the trail crosses Moose Creek and provides a parking area along the southern side. The alignment will follow the existing Old Jackson Highway roadbed east toward the Mike Harris Campground entrance. The trail will pass the Bonneville Power Administration (BPA) access road and the existing single-track soft trail on the north side. As the trail approaches the Mike Harris Campground entrance, the adjacent hillside climbs away and the Old Jackson Highway roadbed terminates at an existing intersection with ID-33, which is offset from the Mike Harris Campground entrance. Due to limited sight distance, it is recommended that this Old Jackson Highway/ID-33 intersection be removed and the area restored to a natural area. An alternatives evaluation of the proposed trail alignment is recommended for this area, as described in the subsection below (see "Trail Alternatives at the Mike Harris Cutslope"). An at-grade highway crossing is proposed at this location. The trail connects back to the Old Jackson Highway roadbed just east of the rock slope that is located across from the Mike Harris Campground entrance.

HILLSIDE SEGMENT

The hillside segment of the trail represents the majority of the trail length. The trail alignment will follow the Old Jackson Highway roadbed and depart only in areas where the roadbed vanishes off existing rock cut slopes. The single-track soft trail alignment within the hillside segment incorporates switch backs, steeper grades, and features targeted toward mountain bike users. Known resources within this segment include wetland areas, habitat areas, and large cottonwood trees. Where a trail alignment needs to be determined within this segment, a balance between trail experience, cost, and resource impacts should be taken into account. Alternative evaluations for this segment are not considered necessary. Instead, we recommend that a well-prepared site team finalize the trail alignment during site work as part of the next project phase (described in Appendix E – Site Investigation Plan). This approach will save significant survey time and will eliminate the need to perform a formal alternatives evaluation.

BORDER SEGMENT

The trail alignment will gradually depart from the hillside and merge with the existing highway corridor. The trail alignment is proposed to extend along the north side of the highway to the

Trail Creek Campground entrance. The existing single-track soft trail currently adjoins into the highway corridor without demarcation or protection. A temporary or permanent at-grade crossing (or both) should be evaluated in this area, as described in the subsection "Trail Alternatives at the Highway Border Area" below.

TRAIL DESIGN CRITERIA

Trail design standards vary between agencies, and ITD and the Federal Highway Administration (FHWA) acknowledge a number of bicycle- and pedestrian-specific standards and national standards, including the following:

- American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities
- AASHTO Guide for the Development of Bicycle Facilities
- ADA Accessibility Guidelines for Public Rights of Way (PROWAG)
- Manual on Uniform Traffic Control Devices (MUTCD)
- U.S. Forest Service Trail Accessibility Guidelines

Given the trail location, desired experience, and technical requirements, we recommend the project follow the U.S. Forest Service trail design parameters for a Class 5 bicycle facility, See Appendix G).

Trail design considerations include:

- The trail will need to be designed for bicyclists of varying experience and pedestrians.
- The trail will need to be designed to handle small maintenance vehicles at a minimum and larger vehicles where noted.
- A parallel horse trail/single-track soft trail is anticipated to be constructed in the future.
- Trail grooming is not anticipated at this time.
- Trail segments longer than 500 feet should have grades less than 15 percent to accommodate multiple nonmotorized users.
- Trail alignment will need to take into account the earthwork mass balance for the project to minimize material import/exports.

OTHER FEATURES

Other features of the trail to be considered are:

- The drainage way crossing types to be built.

- Safety barriers or fence types to be used that minimize impacts to the visual quality of the surrounding environment.

TRAIL ALTERNATIVES AT THE MIKE HARRIS CUTSLOPE

As the trail approaches the Mike Harris Campground entrance, the Old Jackson Highway roadbed terminates at the intersection of ID-33, and a steep rock cut slope impedes an easy route along the highway. Two apparent alternatives for the trail in this area are available, as described below.

HIGHWAY ALTERNATIVE

Under the first alternative, the trail alignment would follow the old highway roadbed at the intersection with ID-33. The trail would then run along the face of the rock cut slope, then climb to meet the Old Jackson Highway roadbed on the east side of the rock cut. The following initial considerations were identified in association with this alternative:

- Geotechnical testing and evaluation of the rock slope stability is needed, because it will affect the trail alignment.
- Further analysis is needed to provide rock fall protection for the trail and roadway, if recommended based on the geotechnical evaluation.
- The length of trail for a benched rock face is estimated to be 300 feet in length with an elevation change of approximately 5 to 8 feet, resulting in a 2 percent to 3 percent running slope.
- Retaining walls for the benched rock face may incur approximately $150,000 in additional project costs.
- Constructing the trail along the face of the rock slope may have an impact on highway sight distance.

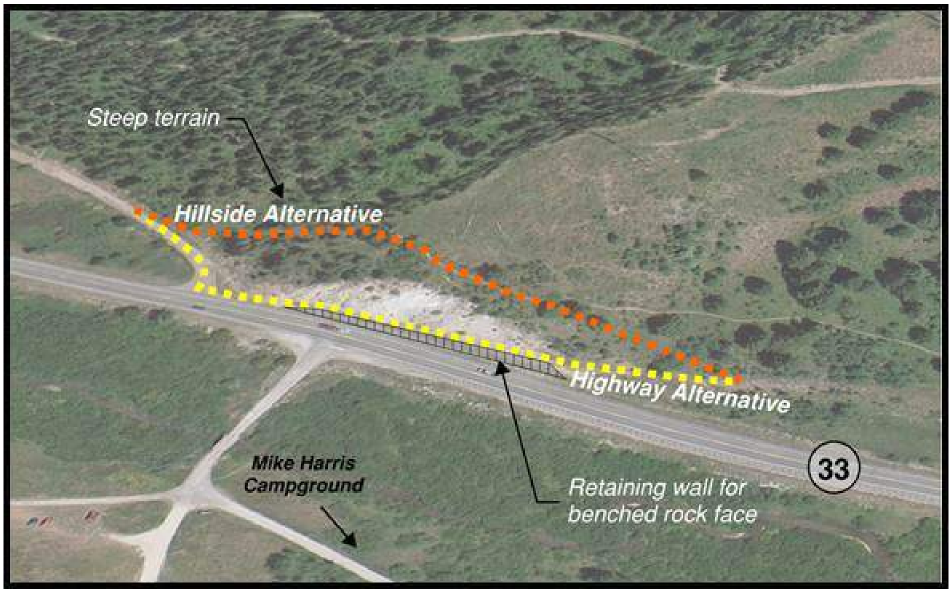

Figure 4: Trail Alternatives at Mike Harris Cutslope

HILLSIDE ALTERNATIVE

The second alignment alternative, the hillside alternative, would be to begin away from the intersection and slowly climb the hillside up and over the rock cut slope. The following initial considerations were identified with this alternative:

- This trail alignment alternative may require significant clearing and earthwork.
- The length of the trail would be increased.
- Steep grades may require switchbacks.
- The trail alignment would not take advantage of the Old Jackson Highway roadbed in this area.
- Opportunities for a viewpoint may exist at the top of the rock cut.

TRAIL ALTERNATIVES AT THE HIGHWAY BORDER AREA

The trail interaction with the highway border turnout area is a challenge for various reasons. Driver expectancy, vehicle speeds, and visibility are several safety factors. A permanent crossing at the state border was considered in the 2001 Teton Pass Trail Environmental Assessment, but an underpass crossing at the Trail Creek Campground was the alternative selected. The Trail Creek Campground segment, running from the state line to the campground, is not included as part of this project so the proposed trail will terminate at the border. No formal at-grade crossing is proposed at the state border area. We recommend maintaining a separation between the trail and highway. The trail alignment should follow an elevated path and connect down to the highway corridor closer to the Trail Creek Campground entrance. Until the Wyoming portion of the trail is built, the proposed trail will end at the state border. A temporary highway crossing could be implemented to avoid stranded users or trail signing should be included to restrict a highway crossing.

MOOSE CREEK BRIDGE

The trail along Old Jackson Highway will be extended to the east from the current limits, where the alignment turns south, to connect to ID-33. The extended roadway section will be a paved surface and will provide access for recreational vehicles, including horse trailers, to the parking area just east of the bridge and for BPA maintenance vehicles.

The existing deteriorated concrete bridge across Moose Creek will be removed. Removal of the existing bridge will require containment methods to prevent concrete debris from entering the creek. The existing abutment walls will be removed to a minimum of 3 feet below grade.

BRIDGE DESIGN CRITERIA

The replacement bridge will be designed to ITD bridge design standards, which follow the requirements set forth in the AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, Seventh Edition, 2014. Considering that the new bridge is intended to provide access for BPA maintenance vehicles and potentially heavy equipment, and also considering that the bridge will be periodically load rated by Load and Resistance Factor Rating procedures for capacity to carry legal highway loads, it is prudent to design for the AASHTO HL-93 truck and concurrent lane loading.

Moose Creek is habitat for Yellowstone Cutthroat Trout. To avoid impacting the stream habitat, it is recommended that the bridge completely span the bank-to-bank stream width. The creek channel is not well defined in this area, and an evaluation will be necessary to determine the proposed bridge span (will likely require an 80- to 100-foot-long bridge). The roadway profile will be set in conjunction with the selected bridge type to provide a minimum of 2 feet of clearance above the 50-year design flood elevation of Moose Creek.

The bridge will provide access to a parking area at the trailhead that will accommodate 10 to 20 vehicles. In addition, the bridge will provide access for BPA maintenance vehicles. The anticipated daily traffic on the bridge is low enough that a single lane is appropriate for this crossing. The bridge will also be short enough and on a relatively straight alignment, so that oncoming traffic has adequate sight distance to stop and allow traffic to clear the bridge before proceeding. The bridge will provide a single lane that is 12 feet wide with 2-foot-wide shoulders on each side, for a total roadway width of 16 feet. ITD's standard Two-Tube Curb Mounted Rail, with a curb width of 1 foot 7 inches is recommended on each side, resulting in a bridge out-out width of 19 feet 2 inches.

BRIDGE ALTERNATIVES

Based on the understanding and requirements described above, a prestressed concrete bridge is recommended, because it has a lower cost than a steel structure and because of the durability of concrete, which reduces the long-term maintenance needed. Twenty seven inch deep prestressed box beams and 2 ITD standard prestressed girder sections have been evaluated for use at this bridge site as follows:

- 27-inch prestressed box beams can achieve the required length of 80 feet and, although ITD does not have standard box section details, unit costs for these members are available indicating that local precasters have the ability to produce these sections. The total structure depth for this alternative is 31 inches including a 2-inch allowance for girder camber and 2-inches of asphalt wearing surface.
- 36-inch deep, Bulb-T prestressed girders with a 37-inch wide top flange: This section would utilize three girders spaced about 6 feet apart with an 8-inch cast-in-place concrete deck. Total structure depth is 46-inches including a 2-inch allowance for girder camber.
- 36-inch Deck Bulb-T prestressed girders with a 6-foot, 5-inch-wide by 8-inch-deep top flange that serves as the deck. This section would also utilize three girders. Total structure depth is 47-inches including a 2-inch allowance for girder camber and 2-inches of asphalt wearing surface.

Advantages of the prestressed box beam bridge are that a separate construction stage to form and pour the deck is not required. In addition, the structure depth for the prestressed boxes is at least 15-inches less than either of the girder alternatives. One of the disadvantages is that wider abutments are typically required to provide for a lateral shear block outside of the solid bridge superstructure section to resist lateral loading. The advantage of the Deck Bulb-T section, similar to the slab section described above, is that the girders are set and the deck is already in place thereby saving considerable field time during construction. The girders are connected by spot welding and grout. The standard Bulb-T girders require deck construction in place after the girders are set, which includes forming, placing reinforcement and concrete, and then curing, all of which can take several weeks to complete. If the construction schedule is not a critical issue, standard Bulb-T girders are typically more cost-effective.

The roadway vertical profile over Moose Creek will be determined during the design phase and could impact the bridge type selection. Typical bridge foundations that are likely suited for this site include spread footing and driven steel piles. Given the short span length and light loads, spread footing will be assumed for the cost estimate noted below. Spread footings typically cost less than driven pile foundations.

Concept-level cost estimates for these three bridge alternatives inclusive of cast-in-place deck on the Bulb-T alternative, and standard two-tube curb mounted railing and reinforcement for all alternatives, but excluding abutment and foundation construction, are:

- 27-inch prestressed box beam with asphalt overlay...$130,000
- 36-inch prestressed bulb-T girders with a cast-in-place deck $106,000
- 36-inch prestressed deck bulb-T girders with asphalt overlay............................$127,000

For the purpose of determining total project costs for this project phase, the mid-range cost for Deck Bulb-T girder alternative will be assumed. This alternative provides for a shortened construction duration by eliminating the need for a cast-in-place deck.

HIGHWAY CROSSINGS

AT-GRADE CROSSING

Existing roadway facilities should be evaluated for the proposed at-grade crossing of ID-33 near the Mike Harris Campground. Several roadway attributes and features will need to be assessed to determine whether the appropriate level of safety is provided. Safety improvements to consider include the following roadway and traffic design elements:

- Roadway shoulder width.
- Roadway grade and profile.
- Signage and pavement markings.
- Stopping and intersection sight distance.
- Intersection alignment.
- Highway access conflicts.
- Channelization (left-turn and right-turn lanes) based on need.
- An initial evaluation has determined that there is adequate sight distance available for a crossing across from the campground entrance, though sight distance is reduced at the Old Jackson Highway intersection, 200 feet to the west, due to vegetation and the existing hillside.
- Rectangular Rapid Flash Beacons (RRFBs) are a lower-cost alternative to traffic signals that supplement standard pedestrian crossing warning signs at crossings across

uncontrolled approaches. The cost of an RRFB is approximately $15,000 to $20,000 per crossing location.

- The existing access road to the campground seems to be located at or near a vertical crest curve on ID-33, which is the optimum location for an at-grade crossing.

Figure 5: Rectangular Rapid Flash Beacon on ID-33 in Driggs, Idaho

UNDERPASS CROSSING

An evaluation of an underpass crossing of ID-33 at the Mike Harris Campground entrance was discussed at the reconnaissance kickoff visit (refer to Kickoff Meeting Notes in Appendix F). Including an evaluation of an underpass crossing could be included as part of the next project phase and would need to take the following considerations into account:

- Required maintenance responsibility and access.
- Drainage concerns, because the initial evaluation assumes that the trail alignment will have a vertical sag curve under the highway.
- Greater impact during construction than an at-grade crossing, because the excavation required to construct a tunnel would require considerable traffic control and staging of ID-33.
- Tunnel location is likely in portions of highway fill.

A highway underpass alternative, consisting of a 10-foot by 10-foot reinforced concrete box culvert should be considered in order to provide a safer crossing alternative. Excavation to bring the trail down to the undercrossing elevation may result in steep grades with tight turning radius switchbacks and retaining walls that add cost to the project. Potential sites for the underpass could also impact wetlands in the area. Concrete cut walls to retain existing ground for excavation of the depressed trail typically range in cost from $90 to $125 per square foot of exposed wall surface. The length and height of potential retaining walls at all four corners of a box culvert undercrossing will depend on the crossing location, but it is not unreasonable to assume that these retaining walls could cost as much as $250,000. A precast 10-foot by 10-foot reinforced concrete box culvert undercrossing is estimated to cost $2,200 per foot, installed. Because the paved surface of ID-33 is approximately 30 feet wide, it is reasonable to assume that a box culvert undercrossing would need to be at least 50 feet long in order to provide a clear zone for traffic safety and space on both sides for snow removal storage. In addition to the retaining walls and excavation needed to bring a trail to the depressed undercrossing elevation, the box culvert itself could add another $110,000 to the project.

MOOSE CREEK PARKING LOT

A parking lot located along the south side of the Old Jackson Highway just east of the Moose Creek Bridge should be considered that would accommodate 10 to 20 parking spaces and space for a horse trailer to turn around. Aggregate is the recommended surface for equestrian recreation areas and provides a cost savings compared to using pavement. Based on a typical parking arrangement, a 62-foot width would allow for a single drive aisle with angled parking on either side. Entrance and exit treatments would need to be designed to accommodate the horse trailer or other large vehicles.

TRAIL RETAINING WALLS

At several locations along the proposed trail alignment, retaining walls or reinforced slopes may be required in cut or fill sections. A final alignment and evaluation of the cuts and fills required, as well as an evaluation of slope stability, will be needed to effectively locate the required walls. Typically, the cost of retaining walls depends on the wall type selected and several different types may be appropriate for this application, including wire-faced crib walls, rock gabions, concrete block gravity walls, grouted stacked rock walls, timber post and lagging, or small cast-in-place concrete walls. The cost of these types of walls typically ranges from $50 to $125 per square foot of exposed wall face. Final wall type and size, as well as geotechnical design parameters, will need to be evaluated in the following phases of the project.

SUPPORTING WORK TASKS

The proposed project requires multi-discipline design support. Below are brief descriptions of additional tasks.

SURVEY

The project will require survey support to map existing features and topography of the proposed trail alignment, bridge area, parking lot area, and highway crossings. The surveyed area can be minimized where the trail follows the Old Jackson Highway alignment. Broader survey areas will be needed where trail alignment alternatives are being evaluated. Survey of specific features within the highway crossing areas will be required. Cross sections of Moose Creek will be needed for hydraulic analysis in support of the bridge design.

PERMITTING

The required permits for the project are discussed in detail in the "Potential Permit" section below. In general, various permits are needed that require a range of expertise. For example, wetland and botanical surveys will be needed to determine resource impacts, and Ordinary High Water determinations will be needed at Moose Creek and various culvert locations.

GEOTECHNICAL

Geotechnical exploration will be required for the trail, bridge, retaining walls, and underpasses (if needed). Detailed descriptions for the anticipated geotechnical work can be found in the Preliminary Geotechnical and Geologic Hazard Assessment Memo prepared by GRI (see Appendix C).

LANDSCAPE RESTORATION

The proposed project will impact many existing natural features, and mitigation planting areas will likely be needed. Opportunities to enhance and buffer the trail using plantings or other natural features should also be considered in the project design.

RIGHT-OF-WAY SUPPORT

The U.S. Forest Service plans to grant an easement to ITD that will cover the trail and any area needed to maintain the trail. Granting appropriately sized easements minimizes time-consuming permit authorizations between agencies in the future. The easement limits will need to be evaluated and defined.

UTILITY COORDINATION

The trail will cross a large BPA facility that runs overhead. No impacts to the facility are anticipated, but coordination with BPA will be necessary to confirm maintenance vehicle details, determine contractor requirements while working around BPA facilities, and plan any disruptions in access or other construction issues. In addition, an existing fiber optic line runs along ID-33, and the trail will likely cross the facility at least once. Coordination to determine clearances and other contractor requirements will be necessary.

PRELIMINARY ESTIMATED CONSTRUCTION COSTS

An initial estimate of cost has been developed based on the scope of work described in this report. The total cost estimate for the proposed project is $2-million, (see Appendix D for a detailed cost breakdown and assumptions).

RESOURCES POTENTIALLY IMPACTED

GENERAL DESCRIPTION OF PROJECT RESOURCES

The Teton Centennial Trail project crosses through the Targhee National Forest between the city of Victor, Idaho, and the Wyoming border. The proposed trail follows the Old Jackson Highway and parallels ID- 33 to the south. The project vicinity consists primarily of forested areas, interspersed with a number of access roads, a BPA power line corridor, and a public campground.

The project vicinity consists of scrub-shrub habitat surrounded by mature conifer and aspen forests, a type of habitat complex that is suitable for raptors, owls, songbirds, furbearers, and big game. Riparian and wetland areas near the western end of the proposed trail are of especially high value to wildlife, including amphibians, moose, waterfowl, and songbirds. The suitability of these habitats could be diminished somewhat by the addition of human-related disturbances resulting from construction of the proposed trail and bridge replacement and from an increase in recreational activity in the area (Teton Basin and Jackson Ranger Districts 2001).

WATER RESOURCES

The proposed trail crosses Moose Creek, where a bridge replacement is planned as part of the project. A number of other creeks, including Trail Creek and Mike Harris Creek, and a known wetland are located in the project vicinity. It can be inferred from aerial photography, the geomorphic position of the hill, and the length of the proposed trail that the proposed trail also would cross a number of small tributaries. It is possible that water quality assurances may be required, especially depending on whether any tributaries drain to streams with known fish habitat.

MOOSE CREEK

Moose Creek is a tributary of Trail Creek, which itself is a tributary of the Teton River. Brook Trout (*Salvelinus fontanalus*) and Yellowstone Cutthroat Trout (*Oncorhynchus clarkia bouvieri*) are both present in Moose Creek (IDFG 2015).

Potential impacts to aquatic species and riparian areas may occur as a result of bridge replacement work along Moose Creek. In-water work may require fish salvage, and both temporary and permanent impacts to Moose Creek as a result of construction activities may require mitigation. Additional analysis may be required as bridge design details are finalized to determine the extent of impacts on aquatic resources.

WETLANDS

Based on the project site visit, there is one known wetland south of the proposed trail, between the trail and ID-33, and east of the Mike Harris Campground.

Review of the National Wetlands Inventory (NWI) shows the potential presence of wetlands in the project vicinity based on proximity to known water resources, soil survey maps, and air photo signatures (see Appendix H). NWI maps note the potential presence of wetlands associated with Moose Creek, Trail Creek, and Mike Harris Creek from approximately E 10800 S Road past the border with Wyoming (USFWS 2015).

On-the-ground surveys would be required to determine the presence and/or extent of these wetland areas, and a wetland delineation could possibly be required. If wetlands are present within the project site, construction of the trail, bridge crossing, and possibly the parking lot could result in temporary and/or permanent impacts that would trigger the need for permits and potential mitigation.

STATE AND FEDERALLY LISTED SPECIES, TETON COUNTY, IDAHO

The state and federally listed threatened, endangered, and candidate species found in Teton County, Idaho, are provided in Table 1 below. Potential impacts to these species and their habitat would need to be addressed if they are present in the project area. Coordination with the U.S. Forest Service would be needed to determine whether the project would impact any U.S. Forest Service sensitive species. As discussed in the Teton Pass Trail Environmental Assessment (2001), habitat affected by trail construction would be of low value because of its proximity to existing roads, trail systems, and campgrounds.

Table 1. State and Federally Listed Endangered Species

SPECIES	STATUS	NOTES
Animal		
Canada lynx (*Lynx Canadensis)*	Federal – Threatened; designated critical habitat State - Threatened	May occur within the project area; no designated critical habitat within the project area
Grizzly bear (*Ursus arctos horribilis)*	Federal – Threatened; no designated critical habitat State – Threatened	May occur within the project area; no confirmed sightings in project area from 1965 to 2000
Gray wolf (*Canis lupus*)	Federal – Recovery	May occur within the project area
Plant		
Whitebark pine (*Pinus albicaulis)*	Federal – Candidate State – Candidate	May occur within the project area
Ute ladies'-tresses (*Spiranthes diluvialis)*	Federal – Threatened	Project area outside of the known population occurrences

Canada lynx is typically found in boreal forests, though in western states it is more likely found in subalpine coniferous forests of mixed age. Such coniferous forests are found in Idaho, and lynx are considered extant along nearly the entire Idaho-Wyoming border (Nowell 2008). It is possible that suitable habitat exists in this portion of the Caribou-Targhee National Forest, and therefore further research is recommended.

Grizzly bears can adapt to many habitat types and are known to have extensive ranges. The Yellowstone Distinct Population Segment (DPS) maps describe their distribution as reaching nearly to the project area. Because this distribution may have changed since the maps were created, further research, including discussion with the U.S. Forest Service biologist, is recommended.

Gray wolves are in recovery and there is a strong experimental population in Yellowstone National Park; they have been seen near the project site. Gray wolves have large ranges and can adapt to varied habitats, although they prefer unfragmented forest or scrub habitat (USFWS 2015). Research on gray wolves, including discussion with the U.S. Forest Services biologist, is recommended.

Whitebark pine is typically found at high elevations. While the project site lies around 6,500 feet to 6,700 feet in elevation, there are more ideal conditions for whitebark pine growth outside of the project area (USFWS 2014). A botanical survey of the project area is recommended to determine if this species is present.

Ute ladies'-tresses is not known to occur in the project area. However, riparian edges around Moose Creek may provide suitable habitat (USDA NRCS 2009). A botanical survey is recommended if potential habitat is documented during wetland delineation field work. If suitable habitat is present, follow-up surveys should be conducted during the flowering season (from mid-July through August.

SENSITIVE PLANTS IN THE CARIBOU-TARGHEE NATIONAL FOREST

The Caribou-Targhee National Forest has compiled a list of 14 sensitive plants found within the forest (USFS 2006). Of those 14 species, further research to determine potential occurrence within the project area is recommended for Pink agoseris (*Agoseris lackschewtzii*), Payson's milkvetch (*Astragalus paysonii*), and Payson's bladderpod (*Lesquerella paysonii*). The remaining species are described in the Targhee Monitoring Report as occurring well outside of the project area. More research may be required to determine whether additional sensitive plant species have been added to the U.S. Forest Service list since 2006 and whether these species have the potential to occur within the project area.

OTHER SPECIES OF CONCERN

YELLOWSTONE CUTTHROAT TROUT

Although Yellowstone cutthroat trout have been considered for listing under the Endangered Species Act (ESA) as recently as 2006, the U.S. Fish and Wildlife Service (USFWS) determined that listing was not warranted based on the results of a status review at that time. A Memorandum of Understanding was initiated in 2000 among fish management agencies in Montana, Idaho, Wyoming, Nevada, and Utah; the U.S. Forest Service, and the National Park Service (NPS) to coordinate conservation efforts for the protection and restoration of Yellowstone Cutthroat Trout populations (USGS 2009).

The State of Idaho has developed a Management Plan for the Conservation of Yellowstone cutthroat trout in Idaho, which provides a management framework to "ensure the long-term persistence of the subspecies at levels capable of providing angling opportunities (USFS 2009)." Potential impacts to this species would need to be taken into consideration during design and construction.

WILDLIFE PASSAGE

A number of wildlife species, including elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), and moose (*Alces alces*) are present year round within the project area (USFS 2001). While the creation of a new trail could increase habitat fragmentation to some degree, wildlife passage is not expected to be impacted as a result of construction of the proposed trail. However, the installation of retaining walls could hinder wildlife movements, depending on the steepness, height, and length of the walls. Further research is recommended to determine whether any major migration routes occur in the project area, in order to inform design options.

INFORMATION NEEDS

The following items will likely require more detailed analysis to determine the extent to which resources will be potentially impacted by the project:

- Additional research to determine the project's compatibility with the Targhee National Forest Plan.
- A refined analysis of threatened and endangered species' suitable habitat present in the project area and surveys.
- Detailed analysis of habitat types within the project area to determine potential presence of sensitive species.
- Mapping of waters and wetlands in the project footprint.
- Mitigation requirements for habitat impacts.

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USFWS. 2004. Grizzly Bear Recover. Accessed July 2, 2015. Available online at: http://www.fws.gov/mountain-prairie/species/mammals/grizzly/yellowstoneindex.html.

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POTENTIAL ISSUES AND INITIAL RECOMMENDATIONS FOR RESOLUTION

The proposed project has been advanced by the stakeholder agencies, and as the project has been developed, many project unknowns have been identified and addressed. The reconnaissance work has identified the key project issues discussed below.

PROJECT COST

The reconnaissance report cost estimate exceeds the costs anticipated in the FLAP proposal.

Recommendations: The stakeholder agencies should review the costs and evaluate the ability and willingness to commit additional matching funds. Several cost reduction measures could be considered, if necessary, including the removal of the proposed parking lot or a nonmotorized Moose Creek bridge crossing.

BRIDGE COSTS

Several important bridge requirements may have a significant impact on project cost, including bridge foundations, span length, and vertical clearance of the creek.

Recommendations: The next project phase will include the geotechnical evaluation, environmental considerations and hydraulic studies needed to determine cost impacts for the bridge.

CULVERT COSTS

The Old Jackson Highway roadbed has several existing cross drain culverts. The culverts are built within unknown fill conditions, and their rehabilitation or replacement could have significant impacts on project cost. The culverts may also be deemed historically significant.

Recommendations: A Federal Highway Administration built environment specialist will need to evaluate these structures and make determinations on historical significance. The next project phase will need to evaluate existing tributary trail crossings and the existing culvert conditions.

STUDIES AND SITE INVESTIGATIONS NEEDED

The proposed project is well-defined, and some project development by the stakeholder agencies has occurred. The permitting and design of the project will require site investigations and reports as listed below:

SITE INVESTIGATIONS

- General Site Investigation
- Topographical and Feature Surveys – see “Proposed Work” section above for details
- Wetland and Botanical Surveys – see “Proposed Work” section above for details
- Geotechnical – see “Proposed Work” section above for details

REPORTS

- Trail Design Report, including evaluations of highway crossings and alternatives
- Rectangular Rapid Flash Beacon (RRFB) Warrant Study
- Erosion Control and Water Quality Report
- Bridge and Culvert Hydraulics Report
- Geotechnical Report

- Bridge Design Report

POTENTIAL PERMITS

The U.S. Forest Service has performed significant work on the permitting for the project, including the following:

- An Environmental Assessment was developed for the entire 8-mile trail length from Victor, Idaho, to Wilson, Wyoming. The Environmental Assessment was approved in 2001.
- State Historic Preservation Office (SHPO) Section 106 clearance was obtained in 2002.

Potential permits and authorizations required for construction of the Teton Centennial Trail may include, but are not limited to:

- Finding of No Significant Impact (FONSI) from the Teton Basin District Ranger and issuance of Authorization for Construction:
  - A review of the listed Threatened and Endangered Species is needed and concurrence from FHWA that the existing assessment is still valid is prudent.
- ITD – District 6 authorization to construct within the highway right-of-way.
- U.S. Army Corps of Engineers (USACE) Clean Water Act (CWA) Section 404 Permit for discharges of dredged or fill materials into Waters of the United States.
- U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) General Permit for the discharge of stormwater.
- U.S. Fish and Wildlife Service (USFWS) Section 7 Endangered Species Act (ESA) Consultation.
- Compliance with the Migratory Bird Treaty Act:
  - Impacts to actively nesting birds or their habitat may require authorization under this Act.
- Idaho Department of Environmental Quality (IDEQ) Clean Water Act (CWA) Section 401 Water Quality Certification:
  - 401 Certification of the USACE 404 Permit; federal authority delegated to the states.
- Idaho Department of Water Resources (IDWR) Stream Alteration Permit.
- Idaho Historic Preservation Office (IHPO) National Historic Preservation Act (NHPA) Section 106 Concurrence: verification that no changes in the clearance may be necessary.

Additional permits would be required for the Trail Creek Campground connection located in Wyoming.

APPENDIX F

Culvert Inventory

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#1(Sta. 33+10)__________

Location – Route _Near ID 33_________

MP ___153_______

Offset Right/Left __________

GPS Coordinates _Upstream N948094.5186, E691299.5224 ____________

Downstream N948046.8738, E691271.0512__________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __18" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~56'________

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? $\boxed{\text{YES}}$ / NO

If yes, is the CROWN COLLAPSING, $\boxed{\text{SIDES BEING PUSHED IN OR OUT,}}$

BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

_1404 – CMP bent in at end on top. Looks minor from possible vandalism kicking it in.

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? $\boxed{\text{YES}}$ / NO

If yes, is the invert $\boxed{\text{INTACT,}}$ PERFORATED, GONE?

Describe the severity of corrosion:

Minor as seen visible in 11404.

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / $\boxed{\text{NO}}$

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Partial fill – 25% full of debris.

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

_Not apparent in 11404.____
____
____
____

Head walls

Are there any headwalls? YES / NO

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

For upstream invert.____
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Partial fill – 25% full of debris.

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / $\boxed{\text{NO}}$

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ______________________________

Bed load and debris in the culvert (from above)

Describe - ______________________________

Upstream characteristics

Describe - ______________________________

Downstream characteristics

Describe - ______________________________

OHWL width upstream and down stream

Describe - ______________________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is __N/A____

What detours are possible?

PHOTOGRAPHS

Upstream conditions Partial fill in 11403.

Inlet

Interior

Outlet

Downstream conditions Partial fill, good condition 11404.

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

In IE = 3087.18

Out IE = 3086.92

11403

11404

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name_#2 (Sta 47+40)___

Location – Route ___Near ID 33___

MP ___153____

Offset Right/Left __________

GPS Coordinates _Upstream N949025.3082, E690290.6669 ____________

Downstream N949006.9308, E690255.7224____________________________

Date the culvert was installed - ____

Type – CONCRETE **[STEEL]** ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __18" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension ___~40'_______

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / **[NO]**

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

____

____

____

____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / NO

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____

____

____

____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / $\boxed{\text{NO}}$

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____

____

____

____

Head walls

Are there any headwalls? YES / $\boxed{\text{NO}}$

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

____

____

____

____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Upstream, culvert buried. Downstream, culvert good condition with only leaves.

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ____________________

Bed load and debris in the culvert (from above)

Describe - ____________________

Upstream characteristics

Describe - ____________________

Downstream characteristics

Describe - ____________________

OHWL width upstream and down stream

Describe - ____________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

____

____

____

HIGHWAY INFORMATION

Current ADT of highway is ___N/A___

What detours are possible?

____

____

____

____

PHOTOGRAPHS

Upstream conditions 11406

Inlet

Interior

Outlet

Downstream conditions 11405

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Nonfunctioning culvert

Upstream Surface Elev = 6564.57

Downstream Top Culvert = 6558.72

11406

11405

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#3 (Sta 53+48)___

Location – Route __Near ID 33________

MP ___153_______

Offset Right/Left __________

GPS Coordinates _Upstream N949282.4248, E689799.3558____________

Downstream N949319.5770, E689799.5740__________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __18" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~37'____

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / $\boxed{\text{NO}}$

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT,

BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

____

____

____

____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / $\boxed{\text{NO}}$

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

Can't tell since not a lot of the culvert is visible. From what is visible, no rust.

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / $\boxed{\text{NO}}$

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? YES / NO

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

____
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Upstream buried, culvert not found. Downstream partial fill.

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ______________________________

Bed load and debris in the culvert (from above)

Describe - ______________________________

Upstream characteristics

Describe - ______________________________

Downstream characteristics

Describe - ______________________________

OHWL width upstream and down stream

Describe - ______________________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is __N/A__

What detours are possible?

PHOTOGRAPHS

Upstream conditions 11408

Inlet

Interior

Outlet

Downstream conditions 11407

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Nonfunctioning culvert

Downstream: Top Elev = 6572.91

11408

11407

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#4_(Sta 59+70)_________

Location – Route __Near ID 33_________

MP ___153________

Offset Right/Left ___________

GPS Coordinates _Upstream N949799.9046, E689428.9581_____________

Downstream N949771.0515, E689385.9424____________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __18" CMP_________

Or

Transverse dimension ___________

Vertical dimension ___________

Longitudinal dimension __~52'_________

Slope of invert or crown ___________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / $\boxed{\text{NO}}$

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

_Visible ends still round.____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

From what is visible don't see any.

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / NO

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? YES / $\boxed{\text{NO}}$

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

____
____
____
____

OTHER INFORMATION
(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Partial Fill at both upstream and downstream.

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / **NO**

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ______________________________

Bed load and debris in the culvert (from above)

Describe - ______________________________

Upstream characteristics

Describe - ______________________________

Downstream characteristics

Describe - ______________________________

OHWL width upstream and down stream

Describe - ______________________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is __N/A____

What detours are possible?

PHOTOGRAPHS

Upstream conditions 11409

Inlet

Interior

Outlet

Downstream conditions 11410

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6589.98 top of culvert

Downstream = 6582.77 top of culvert

11409

11410

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name __#5_(Sta 66+42)____

Location – Route __Near ID 33________

MP __153________

Offset Right/Left __________

GPS Coordinates _Upstream N950190.0676, E688943.8549 ____________

Downstream N950166.0329, E688883.2938 __________________________

Date the culvert was installed - ____

Type – CONCRETE **STEEL** ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __18" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~65'________

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / **NO**

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

____

____

____

____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / $\boxed{\text{NO}}$

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

None visible.

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / $\boxed{\text{NO}}$

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? $\boxed{\text{YES}}$ / NO

If yes, what are they made of? CONCRETE, $\boxed{\text{ROCK,}}$ RIP-RAP

Describe the current condition:

_~2"-3" rock at downstream end.____
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Upstream = ¾ filled

Downstream = ¾ filled

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) ______

Depth of flow ______

Weather for the past week __________________

Describe - ______________________________

Bed load and debris in the culvert (from above)

Describe - ______________________________

Upstream characteristics

Describe - ______________________________

Downstream characteristics

Describe - ______________________________

OHWL width upstream and down stream

Describe - ______________________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is __N/A____

What detours are possible?

PHOTOGRAPHS

Upstream conditions 11411

Inlet

Interior

Outlet

Downstream conditions 11412

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6605.26 top of culvert

Downstream = 6598.66 top of culvert

11411

11412

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#6_(Sta 71+36)___

Location – Route __Near ID 33__

MP __153____

Offset Right/Left __________

GPS Coordinates _Upstream N950528.6048, E688574.3750 ____________

Downstream N950478.8443, E688548.8962 __________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter _18" CMP_________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~57'_____

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / $\boxed{\text{NO}}$

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

_CMP still appears round. However, since ½ filled, questionable._________________

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / $\boxed{\text{NO}}$

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

Not from what is visible.

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / $\boxed{\text{NO}}$

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? YES / $\boxed{\text{NO}}$

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

____
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Upstream = ½ filled with dirt

Downstream = ½ filled with dirt

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed. ______________________________________

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / $\boxed{\text{NO}}$

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ______________________________________

Bed load and debris in the culvert (from above)

Describe - ______________________________________

Upstream characteristics

Describe - ______________________________________

Downstream characteristics

Describe - ______________________________________

OHWL width upstream and down stream

Describe - ______________________________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

____

____

____

HIGHWAY INFORMATION

Current ADT of highway is _N/A___

What detours are possible?

____

____

____

____

PHOTOGRAPHS

Upstream conditions 11331

Inlet

Interior

Outlet

Downstream conditions 11332

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6627.01 top of culvert

Downstream = 6616.22 top of culvert

11331

11332

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#7 (Sta 77+36)

Location – Route _Near ID 33_________

MP __153________

Offset Right/Left __________

GPS Coordinates _Upstream N950943.5476, E688173.2861____________

Downstream N950943.6592, E688168.0938___________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __12" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~6'______

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / $\boxed{\text{NO}}$

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT,

BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

_Not from what is visible.____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / $\boxed{\text{NO}}$

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

Doesn't appear rusted.

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / $\boxed{\text{NO}}$

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? YES / $\boxed{\text{NO}}$

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

_No headwall for downstream. Can't tell of upstream since no photo. __________________
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? $\boxed{\text{YES}}$ / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

The oufall is 5' above the soil. It possible that the soil did erode a one point, however vegetation has grown in under the pipe.

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / $\boxed{\text{NO}}$

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / $\boxed{\text{NO}}$

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ____________________

Bed load and debris in the culvert (from above)

Describe - ____________________

Upstream characteristics

Describe - ____________________

Downstream characteristics

Describe - ____________________

OHWL width upstream and down stream

Describe - ____________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is _N/A_____

What detours are possible?

PHOTOGRAPHS

Upstream conditions = 11188 (not in folder)

Inlet

Interior

Outlet

Downstream conditions = 11187

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6631.3770

Downstream = 6629.4973

11187

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name #8 (Sta 85+72)

Location – Route __________

MP __________

Offset Right/Left __________

GPS Coordinates Upstream N951606.4790, E687686.3518

Downstream N951542.2002, E687609.7474

Date the culvert was installed - ______________________________

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter 24" CMP

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension ~100'

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / $\boxed{\text{NO}}$

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

Invert

Concrete - Is the rebar exposed? YES / $\boxed{\text{NO}}$

If yes, what % of rebar in the invert is showing? ______

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? $\boxed{\text{YES}}$ / NO

If yes, is the invert $\boxed{\text{INTACT}}$, PERFORATED, GONE?

Describe the severity of corrosion:

Some evidence of corrosion and rust at downstream invert

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? $\boxed{\text{YES}}$ / NO

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? $\boxed{\text{YES}}$ / NO

If yes, what are they made of? $\boxed{\text{CONCRETE,}}$ ROCK, RIP-RAP

Describe the current condition:

__Upstream. Downstream unknown._______________________________________
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / $\boxed{\text{NO}}$

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / $\boxed{\text{NO}}$

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / $\boxed{\text{NO}}$

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

Upstream none significant (just leaves). Downstream, photo not available.

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ________________________________

Bed load and debris in the culvert (from above)

Describe - ________________________________

Upstream characteristics

Describe - ________________________________

Downstream characteristics

Describe - ________________________________

OHWL width upstream and down stream

Describe - ________________________________

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is __N/A____

What detours are possible?

PHOTOGRAPHS

Upstream conditions 20260

Inlet

Interior

Outlet (no photo taken)

Downstream conditions

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6623.29 IE

Downstream = unknown

20260

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#9__(Sta 110+10)

Location – Route _Under ID 33_________

MP __153________

Offset Right/Left __________

GPS Coordinates _Upstream N953544.029, E686288.4121____________

Downstream N953540.43, E686282.1785 __________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __24" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __7'________

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / NO

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

____

____

____

____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / NO

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? YES / NO

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

____
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE COMPLETELY GONE?

Describe the current condition:

____

____

____

____

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

____

____

____

____

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

____

____

____

____

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

____

____

____

____

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed. ______________________________

____

____

____

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ______________________________

____

____

____

Bed load and debris in the culvert (from above)

Describe - ______________________________

____

____

____

Upstream characteristics

Describe - ______________________________

____

____

____

Downstream characteristics

Describe - ______________________________

____

____

____

OHWL width upstream and down stream

Describe - ______________________________

____

____

Any blockages that can be seen either up or down stream of culvert?

Describe - ___

HIGHWAY INFORMATION

Current ADT of highway is _N/A_____

What detours are possible?

PHOTOGRAPHS

Upstream conditions

Inlet

Interior

Outlet

Downstream conditions 10458

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6684.8255 IE

Downstream = unknown

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name __#10 (Sta 120+34)

Location – Route _Under ID 33_________

MP __153________

Offset Right/Left __________

GPS Coordinates _Upstream N954325.0525, E685732.852____________

Downstream N954284.5379, E685684.5686 __________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter __24" CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~63'_____

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / NO

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

____

____

____

____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

____
____
____
____

Steel - Is the invert rusted? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

____
____
____
____

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

____
____
____
____

Natural Bottom – Does the culvert have a natural invert? YES / NO

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

____
____
____
____

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____

____

____

____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____

____

____

____

Head walls

Are there any headwalls? YES / NO

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP

Describe the current condition:

____

____

____

____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe - ____

Bed load and debris in the culvert (from above)

Describe - ____

Upstream characteristics

Describe - ____

Downstream characteristics

Describe - ____

OHWL width upstream and down stream

Describe - ____

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

____

____

____

HIGHWAY INFORMATION

Current ADT of highway is _N/A_____

What detours are possible?

____

____

____

____

PHOTOGRAPHS

Upstream conditions 10666

Inlet

Interior

Outlet

Downstream conditions

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6685.7007 IE

Downstream = unknown

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name__#11 (Sta 127+40)

Location – Route _Under ID 33_________

MP __153________

Offset Right/Left __________

GPS Coordinates _Upstream N954924.5749, E685394.8216____________

Downstream N954905.2687, E685338.6576__________________________

Date the culvert was installed - ____

Type – CONCRETE **STEEL** ALUMINUM PLASTIC (HDPE) OTHER

ROUND BOX SQUASH PIPE MULTI PLATE

BOTTOMLESS ARCH THREE SIDED BOX

.

Size – Diameter ___30" CMP_______

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension ___~60'____

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape? YES / **NO**

If yes, is the CROWN COLLAPSING, SIDES BEING PUSHED IN OR OUT, BOTTOM HEAVING UP, END OF CULVERT FALLING OFF?

Describe the current shape:

__Shape is still round.____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

Photo 20175 shows CMP tear on top (damage).

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / NO

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? $\boxed{\text{YES}}$ / NO

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP, $\boxed{\text{OTHER}}$

Describe the current condition:

_Metal flared end sections.____
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE COMPLETELY GONE?

Describe the current condition:

____
____
____
____

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / $\boxed{\text{NO}}$

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

____
____
____
____

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / $\boxed{\text{NO}}$

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

____
____
____
____

Bed load and debris

Is there any bed load or debris in the culvert? YES / $\boxed{\text{NO}}$

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

____
____
____
____

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week ________________

Describe -

Bed load and debris in the culvert (from above)

Describe -

Upstream characteristics

Describe -

Downstream characteristics

Describe -

OHWL width upstream and down stream

Describe -

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

HIGHWAY INFORMATION

Current ADT of highway is __N/A_____

What detours are possible?

PHOTOGRAPHS

Upstream conditions 20175

Inlet

Interior

Outlet

Downstream conditions 20077

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6690.111 IE

Downstream = 6685.597 IE

<u>20175</u>

<u>20177</u>

CULVERT INVENTORY

GENERAL INFORMATION

(Provide the following and/or circle all the descriptors below that apply.)

Culvert Identification/Name___#12   (Sta 130+14)

Location – Route _Near ID 33_________

MP _153_________

Offset Right/Left __________

GPS Coordinates _Upstream N954882.9467, E685276.3209 ____________

Downstream N954873.0891, E685209.6741__________________________

Date the culvert was installed - ____

Type – CONCRETE $\boxed{\text{STEEL}}$ ALUMINUM   PLASTIC (HDPE)   OTHER

ROUND   BOX   SQUASH PIPE   MULTI PLATE

BOTTOMLESS ARCH   THREE SIDED BOX

.

Size – Diameter __30” CMP________

Or

Transverse dimension __________

Vertical dimension __________

Longitudinal dimension __~68’________

Slope of invert or crown __________

STRUCTURAL CONDITION

(Circle all the descriptors below that apply.)

Shape

Has the culvert lost its structural shape?   YES / $\boxed{\text{NO}}$

If yes, is the   CROWN COLLAPSING,   SIDES BEING PUSHED IN OR OUT,

BOTTOM HEAVING UP,   END OF CULVERT FALLING OFF?

Describe the current shape:

____

____

____

____

Invert

Concrete - Is the rebar exposed? YES / NO

If yes, what % of rebar in the invert is showing? _____

Is the corrosion severity of the rebar LOW, MEDIUM, HIGH?

Describe the extent of exposure and the severity of corrosion:

Steel - Is the invert rusted? YES / $\boxed{\text{NO}}$

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of corrosion:

_Not from what is visible, but hard to tell because of mud and brush.__________________

Plastic - Are there signs of abrasion? YES / NO

If yes, is the invert INTACT, PERFORATED, GONE?

Describe the severity of abrasion:

Natural Bottom – Does the culvert have a natural invert? YES / $\boxed{\text{NO}}$

If yes, is the invert STABLE, DEGRADING, AGGRADING?

If degrading or aggrading describe the severity:

Joints

Are the joints separating? YES / NO

If so, how many joints are completely separated so that misalignment of the barrels can occur? _____

Have the barrels become misaligned? YES / NO

Describe to what extent:

____
____
____
____

Seams

Are the seams in a spiral metal culvert showing signs of stress by opening up or otherwise coming apart? YES / NO

If yes, what % of the seams are opening? _____

Where are the open seams? INVERT, SIDE, CROWN

Describe the current condition:

____
____
____
____

Head walls

Are there any headwalls? YES / NO

If yes, what are they made of? CONCRETE, ROCK, RIP-RAP, OTHER

Describe the current condition:

_Metal flared end section on upstream end.________________________________
____
____
____

OTHER INFORMATION

(Circle all the descriptors below that apply.)

Coatings

Are there any coatings? YES / NO

If yes, is the coating COMPLETELY INTACT, PARTIALLY GONE

COMPLETELY GONE?

Describe the current condition:

Erosion at ends of culvert

Are there any signs of erosion at the inlet or outlet? YES / NO

If yes, is the erosion SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Piping along barrel

Is there any evidence of water piping along the outside of the barrel? YES / NO

If yes, is the piping SLIGHT, MODERATE, SEVERE?

Describe the current condition:

Bed load and debris

Is there any bed load or debris in the culvert? YES / NO

If yes, is the amount of debris LIGHT, MODERATE, HEAVY?

Describe the current condition:

_Upstream and downstream blocked with mud.

HYDRAULIC CAPACITY

Describe how the sub-basin is changing with respect to land use and how the changes might affect the hydraulic capacity of the culvert:

The project is in the Targhee National Forest and basin area draining to the project will not be developed.

FISH PASS-ABILITY

Does this culvert need to be fish passable? YES / NO

If yes, provide the following information:

Existing slope of the culvert (from above) _____

Depth of flow _____

Weather for the past week _________________

Describe -

Bed load and debris in the culvert (from above)

Describe -

Upstream characteristics

Describe -

Downstream characteristics

Describe -

OHWL width upstream and down stream

Describe -

Any blockages that can be seen either up or down stream of culvert?

Describe - ____

____

____

____

HIGHWAY INFORMATION

Current ADT of highway is _N/A_____

What detours are possible?

____

____

____

____

PHOTOGRAPHS

Upstream conditions 20082

Inlet

Interior

Outlet

Downstream conditions 10764

OTHER COMMENTS AND/OR SKETCHES

Provide any other comments and/or sketches necessary to fully describe any of the items above, or any other items the inspector deems appropriate.

Upstream = 6678.284 IE

Downstream = 6674.207 IE

20082

10764

APPENDIX G

Moose Creek Bridge Replacement Type, Size, and Location Report

Teton Centennial Trail Project

Moose Creek Bridge Replacement

DRAFT Type, Size, and Location Report

Prepared for:

Western Federal Lands Highway Division and the city of Victor, Idaho

Contract: DTFH70-10-D-00019
Task Order: DTFH7015F19006
Project: ID DOT T 33(1)

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

December 18th, 2015

Table of Contents

Appendices

Appendix A: Draft TS&L Plans

Appendix B: Draft Preliminary Cost Estimates

PROJECT DESCRIPTION

The "Teton Centennial Trail Project" (Project) is located along Idaho Highway 33 (ID-33) and Wyoming Highway 22 (WYO 22), a transportation corridor linking the towns of Victor, ID and Jackson, WY over the Teton Pass. Located in the Caribou-Targhee National Forest, the proposed trail will provide visitors safe, non-motorized access through this scenic corridor.

For much of the Project length, the proposed trail follows the "Old Jackson Highway", parallel to ID-33. At the western edge of the Project, this alignment crosses Moose Creek via an approximately 20 foot long existing concrete frame/slab bridge. The Project objectives include the replacement of this deteriorated structure.

At this location, a paved roadway section is proposed, crossing Moose Creek to a proposed paved parking area for vehicles, recreation vehicles, horse trailers, and Bonneville Power Administration (BPA) maintenance vehicles just east of the bridge.

REPORT OBJECTIVES

The objectives of this Bridge Type, Size and Location Report (TS&L) are to present and summarize the proposed replacement alternatives considered for the Moose Creek Bridge, describe the relative advantages and disadvantages of each replacement alternative, present preliminary plans and cost estimates for each alternative, and recommend a preferred alternative for advancement to final design.

A secondary objective of this report is to provide a conceptual overview of the options and preliminary rough costs of the proposed trail underpass crossings of ID-33 at the Mike Harris Campground and WYO 22 at the Trail Creek Campground.

EXISTING CONDITIONS

The existing structure carrying Old Jackson Highway over Moose Creek is a single-span, 20 foot long x 24 foot wide concrete slab/frame bridge. The old roadbed has been abandoned and the structure exhibits extensive widespread concrete deterioration. Due to its unsafe condition and extensive rehabilitation needs, replacement has been deemed necessary.

EXISTING STRUCTURE REMOVAL

As stated above and in the Reconnaissance Report dated July 2015, the existing, deteriorated structure will be removed. Removal of the structure will require containment methods to prevent concrete debris from entering Moose Creek. The existing abutment walls will be removed to a minimum of 3 feet below grade.

DESIGN CRITERIA

The replacement bridge will be designed in accordance with the Idaho Transportation Department (ITD) Load and Resistance Factor Design (LRFD) Bridge Design Manual; the AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014; and the Federal Lands Highway Project Development and Design Manual (PDDM). In cases of conflict, the PDDM shall govern.

Considering that the new bridge is intended to provide access for BPA maintenance vehicles and potentially heavy equipment, and also considering that the bridge will be periodically load rated by Load and Resistance Factor Rating procedures for capacity to carry legal highway loads, it is prudent to design for the AASHTO HL-93 truck and concurrent lane loading.

Moose Creek is a habitat for Yellowstone Cutthroat Trout. To avoid impacting the stream habitat, it is recommended that the bridge completely span the bank-to-bank stream width; a preliminary hydraulics and hydrologic analysis has determined this clear span to be 60 feet between inner faces of abutments. Moreover, the roadway profile has been set in order to provide a minimum of 2 feet of vertical clearance above the 50-year design flood elevation of Moose Creek, which has been determined as 6477.75'.

The bridge will provide access to a parking area at the trailhead that will accommodate 10 to 20 vehicles. In addition, the bridge will provide access for BPA maintenance vehicles. The anticipated daily traffic on the bridge is low enough that a single lane is appropriate for this crossing. The bridge will also be short enough and on a relatively straight alignment, so that oncoming traffic has adequate sight distance to stop and allow traffic to clear the bridge before proceeding. The bridge will provide a single lane that is 12 feet wide with 2 foot wide shoulders on each side, for a total roadway width of 16 feet. ITD's standard Two-Tube Curb Mounted Rail, with a curb width of 1'-7", is recommended on each side, resulting in a bridge out-to-out width of 19'-2".

DESIGN EXCEPTIONS

At this stage, no ITD design exceptions are anticipated.

BRIDGE ALTERNATIVES

MATERIAL SELECTION

Based on the understanding and requirements described above, a prestressed concrete bridge is recommended. For this application, a prestressed concrete structure has a lower cost and is more durable than a comparable steel structure, thus reducing initial and long-term costs.

The bridge alternatives developed for the Reconnaissance Report were based on an assumed structure length of 80 feet to 100 feet. The following superstructure alternatives were identified in the Reconnaissance Report as likely options to consider based on preliminary information:

- 27-inch Prestressed Concrete Box Beams
- 36-inch Prestressed Concrete Bulb Tee Girders
- 36-inch Prestressed Concrete Deck Bulb Tee Girders

As a result of preliminary surveying and hydraulics information, and as discussed above, a clear span of 60 feet has been determined to satisfy the hydraulics and permitting requirements. Therefore, this TS&L Report will evaluate modified alternatives to take into account the shorter structure length requirement. The deck bulb tee girder section is the smallest section of this type; however, the 36-inch prestressed concrete bulb tee girders can be reduced to a 30-inch section, due to the shortened structure length.

ITD does not have current precast box beam details; however, unit costs for these members are available, indicating that local precasters have the ability to produce these sections. ITD's standard 26-inch deep prestressed voided slabs can achieve this span length with the use of 0.6-inch diameter prestressing strand. Since box beams are not current ITD standard sections and the standard 26-inch voided slab can achieve the required span and actually reduce the structure depth by an inch, the 26-inch deep precast, prestressed voided slab will be carried forward in the type comparison.

Additionally, an AASHTO Type 2 prestressed concrete girder is an appropriate section for a crossing of this length, and was included in the initial comparison for this TS&L evaluation. Thus, four distinct prestressed concrete typical sections were initially compared for feasibility. The sections are as follows:

- 26-inch Prestressed Concrete Voided Slabs
- AASHTO Type 2 Prestressed Concrete Girders
- 30-inch Prestressed Concrete Bulb Tee Girders
- 36-inch Prestressed Concrete Deck Bulb Tee Girders

After an initial comparison, the AASHTO Type 2 Prestressed Concrete Girder typical section was eliminated due to its similarity and its higher cost per girder linear foot to the 30-inch Prestressed Concrete Bulb Tee Girder. The three remaining bridge alternatives were developed further in order to obtain preliminary plans and cost estimates, and are discussed below. Preliminary plan, elevation and typical sections drawings of each of these three alternatives are included in Appendix A.

26-INCH PRESTRESSED CONCRETE VOIDED SLABS

26-inch prestressed voided slabs can achieve the required span length of 60' with the use of 0.6-inch diameter prestressing strand. Standard precast voided sections are 4-feet wide and DEA has found that most precast suppliers in Idaho are not able to vary the standard slab width. Therefore, five standard slab sections will be required resulting in a total bridge width of 20 feet. Additionally, the curb on ITD's standard 2-tube rail overhangs the edge of the bridge 1½-inches on each side resulting in a total out-to-out bridge width of 20'-3". A waterproofing membrane would be applied to the top surface of the slabs, and then a 2-inch asphalt overlay would provide the wearing surface for traffic. The slabs would be transversely post-tensioned in order to limit differential deflections and the resulting longitudinal cracking of the asphalt wearing surface.

Conventional, pile-supported cap and backwall abutments would be utilized with this option. The small expansion joint between the slab ends and the backwall would be sealed with a properly sized joint seal and asphalt wearing surface will likely be continued over the joint and backwall, providing a smooth transition to the approach pavement. If it is determined that transverse cracking of the asphalt wearing surface over the expansion joints is anticipated, the asphalt can be sawcut and then sealed with a hot pour sealer in order to control the cracking. Integral abutments do not appear to be a valid option for this superstructure alternative due to the nature of the slab sections and the difficulties in providing a true integral relationship between the superstructure and the abutment for this superstructure type.

In the Reconnaissance Report, while both spread footings and driven steel pile foundations were discussed, the more cost effective spread footings were utilized in order to determine the initial cost estimate for the structure alternatives. However, taking into account the unknown subsurface conditions as well as the likelihood of anticipated scour at this crossing, driven steel pile foundations appear to be the more appropriate foundation type to include in the analysis at this phase of the project.

Prestressed concrete voided slabs are a high-durable, closed section member, providing low future maintenance costs. Precast slabs can be erected fairly quickly and the added time savings of not having to form and cast a deck slab provides additional benefits. Longitudinal cracks will typically form in the asphalt wearing surface, reflective of the joints between each slab unit, but as long as the slabs are tied together transversely with the tie rods, these cracks are generally small in nature. However, there is always a potential for water and chlorides to infiltrate the waterproofing membrane and corrode the tie rods; differential deflection of the slabs and longitudinal cracking of the asphalt wearing surface are the result. This cracking then provides for an additional path for water and chlorides to infiltrate the slabs.

30-INCH PRESTRESSED CONCRETE BULB TEE GIRDERS

The use of 30-inch bulb tee prestressed girders is another appropriate superstructure configuration for this setting. This typical section would utilize three girders spaced at 6’-4” on center with an 8-inch cast-in-place concrete deck.

It is anticipated that integral backwall abutments would be utilized in order to reduce future maintenance costs by eliminating expansion joints located over the bearing areas and girder ends. It is assumed that the abutments would be supported on concrete caps with steel piles.

As discussed above, driven steel piles appear to be the more appropriate foundation type at this phase in the project, rather than the proposed spread footings as discussed in the Reconnaissance Report. As the preferred abutment type for this alternative is an integral abutment, the steel piles are necessary to provide the flexibility inherent in the foundation so that the structure can expand and contract under thermal forces.

Bulb tee prestressed girders are another high-durability, widely used bridge girder. The IDT 30-inch bulb tee consists of a 24-inch wide bottom flange/bulb and a 37-inch wide top flange. Similar to voided slabs, these are common sections that can be cast, transported, and erected very efficiently. However, this typical section does call for a separately formed, cast, and cured concrete deck, which increases construction time.

36-INCH PRESTRESSED CONCRETE DECK BULB TEE GIRDERS

The IDT 36-inch deck bulb tee section is actually a 43-inch deep prestressed concrete section, where the top flange is 8-inch thick and serves as the deck for the typical section. These girders are erected side-by-side, the flange tips are connected together using field welds and a grouted keyway, and then a waterproofing membrane and a2-inch thick asphalt wearing surface is placed on top as the traffic surface. Similar to the 30-inch bulb tees, three of these sections would be utilized. The top flange of the deck bulb tee girders would be 6'-3½" to achieve the required bridge width. As with the bulb tee girder alternative described above, integral backwall abutments are anticipated for this superstructure configuration as well, and it is assumed that the abutments would be founded on concrete caps with steel piles.

Also similar to the bulb tee girders, the deck bulb tees are high-durability sections that are relatively efficient and easy to erect. However, they do generally exhibit the same types of longitudinal cracking in the asphalt wearing surface as the voided slab typical section, although typically the individual girders are less likely to deflect differentially and cause the more extensive and severe cracking in the wearing surface. As an added benefit, the girder top flanges, which also serve as the concrete deck, allow for shorter construction duration as a separate cast-in-place concrete deck is not required.

CONSTRUCTABILITY

All three superstructure alternatives exhibit a high degree of constructability. All consist of commonly produced and constructed prestressed concrete sections and all should be easily transported and erected. All superstructure alternatives utilize tried and true construction methods. However, slight differences in constructability do exist between the three alternatives.

The voided slab and deck bulb tee alternatives allow for slightly shorter construction durations since a separate concrete deck casting operation is not required. After the sections are erected and the secured together – either with tie bars as in the voided slabs or a longitudinally field welded connection in the deck bulb tees – a waterproofing membrane is placed and then an asphalt wearing surface is placed. However, this advantage in construction duration is relatively small as compared to the overall project duration.

CONSTRUCTION COST ESTIMATE

Preliminary construction cost estimates have been developed for the three bridge alternatives. These cost estimates are based upon the superstructures and substructures as discussed above; the preliminary plan and elevation and typical section drawings as shown in Appendix A; ITD cost estimate information as found in the ITD LRFD Bridge Manual Article 16.2, updated July 2015; and, where necessary, the ITD Bid Average Unit Price Report for 10/1/13 to 9/30/14 Projects.

- Alternative A: 26-inch Prestressed Concrete Voided Slabs
  - $239,300

- Alternative B: 30-inch Prestressed Concrete Bulb Tee Girders
  - $190,200

- Alternative C: 36-inch Prestressed Concrete Deck Bulb Tee Girders
  - $222,000

Note that the preliminary construction cost estimates include a 30% contingency.

The Preliminary Construction Cost Estimates are shown in Appendix B.

PREFERRED BRIDGE ALTERNATIVE

In order to combine a quantitative analysis with a more qualitative approach, the three bridge alternatives can be ranked from best to worst with regards to three main characteristics: Initial Cost, Future Maintenance Costs, and Constructability. As is generally the case, initial cost is an important factor, but not the only factor. The structure must allow for low future maintenance costs, and the structure must also allow for ease and timeliness in construction. The alternatives will be ranked in each of the three factors.

INITIAL COST

1. Alternative B: 30-inch Prestressed Concrete Bulb Tee Girders
2. Alternative C: 36-inch Prestressed Concrete Deck Bulb Tee Girders
3. Alternative A: 26-inch Prestressed Concrete Voided Slabs

In terms of initial cost only, the 30-inch bulb tee girders are the preferred option, resulting in an almost 15% reduction in cost over the 36-inch deck bulb tees.

FUTURE MAINTENANCE COSTS

1. Alternative B: 30-inch Prestressed Concrete Bulb Tee Girders
2. Alternative C: 36-inch Prestressed Concrete Deck Bulb Tee Girders
3. Alternative A: 26-inch Prestressed Concrete Voided Slabs

Again, the 30-inch bulb tee girders are the preferred option for future maintenance costs. This alternative utilizes a cast-in-place concrete deck along with integral abutments, virtually eliminating the likelihood of any moisture or chlorides onto the superstructure and bearing locations. The 36-inch deck bulb tees are slightly less attractive in terms of future maintenance costs, as they also utilize integral abutments; however, the asphalt wearing surface is prone to cracking, which allows for a path for moisture to possibly penetrate the waterproofing membrane and attack the connections between adjacent flanges. Note that this is still a very attractive typical section in terms of future maintenance costs, just not as ideal as Alternative B.

The voided slab section is the least desirable option in terms of future maintenance costs. Conventional abutments are required, thus introducing an expansion joint at the bridge ends and a possible path for moisture and chlorides to penetrate the beam ends and bearing locations. Moreover, the longitudinal cracking of the asphalt wearing surface reflective over the joints between adjacent slabs can provide an opportunity for additional moisture and chlorides to attack the transverse post-tensioning, which can lead to excessive differential deflection of the slabs and increased cracking.

CONSTRUCTABILITY

1. Alternative A: 26-inch Prestressed Concrete Voided Slabs
2. Alternative C: 36-inch Prestressed Concrete Deck Bulb Tee Girders
3. Alternative B: 30-inch Prestressed Concrete Bulb Tee Girders

In terms of constructability, the voided slabs are preferred slightly over the deck bulb tee girders, with the standard bulb tee girders as the least attractive option. Bridge construction with slabs is a standard, straight-forward process where the conventional abutments are constructed, the slabs are erected, and then the asphalt wearing surface is placed. The only additional difficulty present with Alternative C is that the integral abutments are slightly more time and labor intensive than conventional abutments. With Alternative B, the girders are erected and then a separate cast-in-place concrete deck is constructed, creating additional construction time and therefore cost. However, although the standard bulb tee girder construction requires a slightly longer construction duration than the other two alternatives, this construction remains very straight-forward, and is still considered a highly constructible solution.

RECOMMENDATION

Taking into account initial cost, future maintenance costs, and constructability, the recommended bridge alternative for the Moose Creek crossing of the Teton Centennial Trail Project is ***Alternative B, 30-inch Prestressed Concrete Bulb Tee Girders***. This alternative provides for the most cost effective solution in terms of both initial costs and future maintenance costs, while still providing for an extremely biddable and buildable bridge solution.

UNDERPASS CROSSINGS

As stated in the Report Objectives, a concept-level discussion of the underpass crossing options near the Mike Harris Campground and the Trail Creek Campground and the associated preliminary costs are a secondary objective of this report.

MIKE HARRIS CAMPGROUND UNDERCROSSING

At the Mike Harris Campground, the trail crosses from the north side of ID-33 to the south side. One of the crossing alternatives at this location is an underpass crossing. The proposed grade of the trail roughly matches the existing ground on the north side of ID-33, and then drops into a cut in order to provide the proper elevation difference for the underpass. On the south side, the existing ground is slightly higher than the north side. Therefore, the proposed grade slopes up out of the underpass to match up with existing ground about 200 feet away.

The underpass alternative crosses under ID-33, perpendicular to the highway alignment, just west of the Mike Harris Campground access road. Staged construction will be required for this option, as the undercrossing is constructed under an active highway and a full closure with detour route is not a feasible alternative. Typical staged constructed methods will call for temporary roadway to be constructed on one side of the alignment, traffic shifted to that side while the other side of the roadway and embankment is excavated and the culvert and roadway is constructed, traffic shifted back over the completed section while the remaining roadway is excavated and the newly constructed culvert is widened, and then traffic shifted back to the original alignment over the new culvert.

A very preliminary analysis of the staged construction methods indicates a necessary culvert length of approximately 50 feet. Based on ITD's latest cost estimate information and taking into account the additional cost associated with staged construction, a 10-foot x 10-foot precast concrete box culvert is estimated to cost $2,600 per foot, installed. This results in a preliminary cost of about $130,000.

The proposed precast concrete box culvert underpass would require significant excavation along both sides of the highway alignment in order to bring the trail down to the undercrossing elevation. This excavation results in steep grades with tight turning radii and retaining walls that would add cost to the project. Concrete cut walls to retain existing ground for excavation of the depressed trail typically range in cost from $90 to $125 per square foot of exposed wall surface. Based on the preliminary alignment and taking into account walls at all four corners of the culvert, a preliminary cost of approximately $300,000 would likely be added to the project in order to construct these walls.

Another consideration to take into account for the Mike Harris Campground undercrossing is the presence of Trail Creek and associated wetlands just south of the ID-33 alignment. In order to construct the trail as it emerges from the underpass culvert and rises up to meet existing grade, it is reasonable to assume that the adjacent wetlands and creek would likely be impacted during construction, and mitigation efforts will likely be necessary. This would undoubtedly add time and cost to the project for this alternative, and should be avoided if at all possible.

TRAIL CREEK CAMPGROUND UNDERCROSSING

After submittal of the Reconnaissance Report, it was determined that the project scope would also include the section of the Teton Centennial Trail along WYO 22 between the Idaho-Wyoming border and the Trail Creek Campground. The trail crosses from the north side of the WYO 22 alignment to the south side at the Trail Creek Campground. At this location, three possible crossing alternatives have been developed. The three alternative alignments across WYO 22 are shown in the Concept Plans. Undercrossing Alternative A is the preferred alternative, while the At-Grade Crossing Alternative and the Undercrossing Alternative B are the option alternatives. Undercrossing Alternatives A and B are undercrossings just east and west of the campground access road, respectively.

At this location of the WYO 22 alignment, the existing grade on the north side of the highway is significantly higher in elevation than both the highway and the south side. The existing grade on the south side slopes away from the highway alignment rather abruptly.

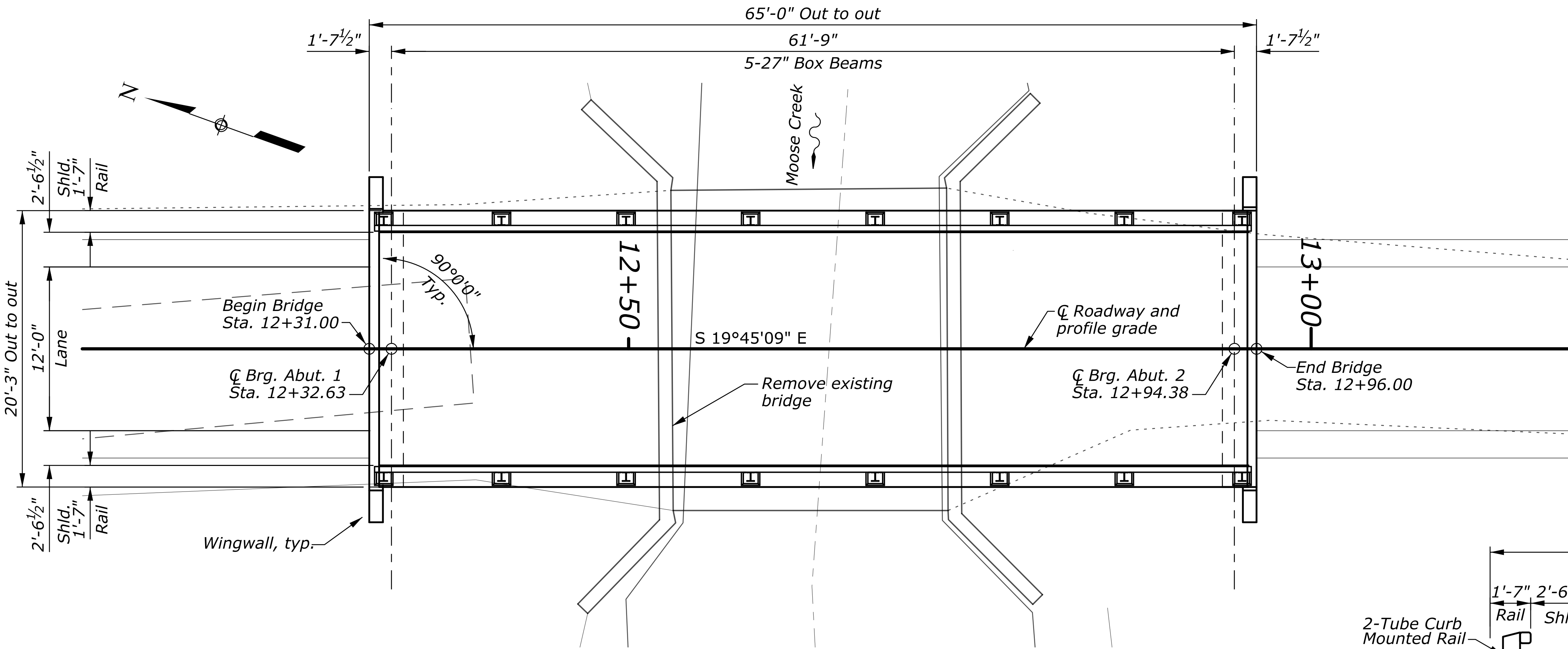
Undercrossing Alternative B consists of a skewed undercrossing just west of the Trail Creek Campground access road, while Undercrossing Alternative A places an undercrossing just east of the access road and perpendicular to the highway alignment. Staged construction will be required for both of these options, as the undercrossing is constructed under an active highway and a full closure with detour route is not a feasible alternative. Typical staged construction methods for Alternatives A and B will call for temporary roadway to be constructed to the north of the alignment, traffic shifted to the north while the southern portion of the roadway and embankment is excavated and the culvert and roadway is constructed, traffic shifted back to the south over the completed section while the roadway to the north is excavated and the newly constructed culvert is widened to the north, and then traffic shifted back to the original alignment over the new culvert.

A very preliminary analysis of the staged construction methods for both Alternatives A and B indicates a necessary culvert length of approximately 50 feet for the perpendicular Alternative A and 75 feet for the skewed Alternative B. Based on ITD's latest cost estimate information and taking into account the additional cost associated with staged construction, a 10-foot x 10-foot precast concrete box culvert is estimated to cost $2,600 per foot, installed. This results in a preliminary cost of about $130,000 for the perpendicular crossing (Alternative A) and $195,000 for the skewed crossing (Alternative B).

The proposed 10-foot x 10-foot precast concrete box culvert underpass would require significant excavation along both sides of the highway alignment in order to bring the trail down to the undercrossing elevation. This excavation results in steep grades with tight turning radii and retaining walls that would add cost to the project. Concrete cut walls to retain existing ground for excavation of the depressed trail typically range in cost from $90 to $125 per square foot of exposed wall surface. Based on the preliminary alignments for both alternatives and taking into account walls at all four corners of the culvert, a preliminary cost of approximately $500,000 for either alternative would likely be added to the project in order to construct these walls.

Appendix A: Draft TS&L Plans

STATE	PROJECT	SHEET NUMBER
ID	ID DOT 33(1)	T.1



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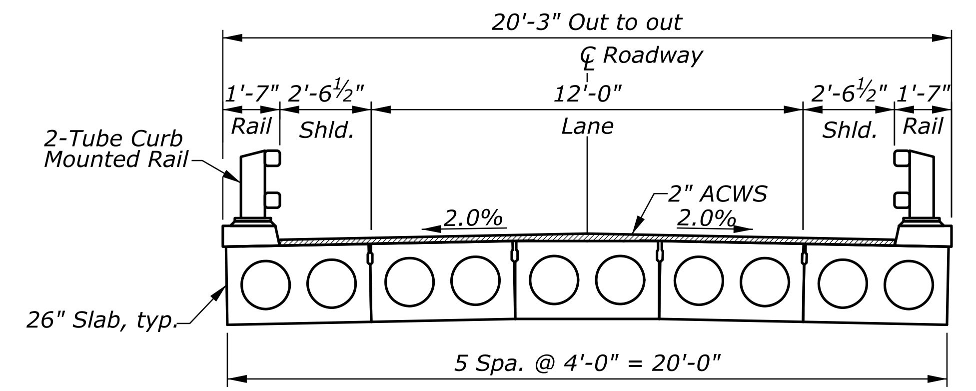

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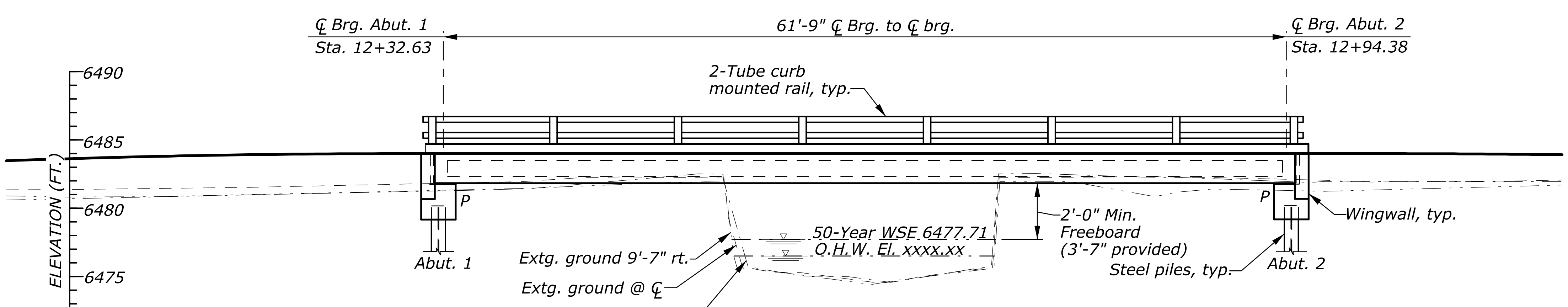

ELEVATION
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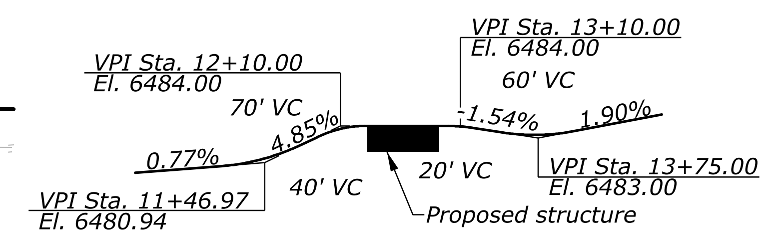


GRADELINE DIAGRAM
No Scale

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

TETON CENTENNIAL TRAIL

TARGHEE NATIONAL FOREST
TETON COUNTY

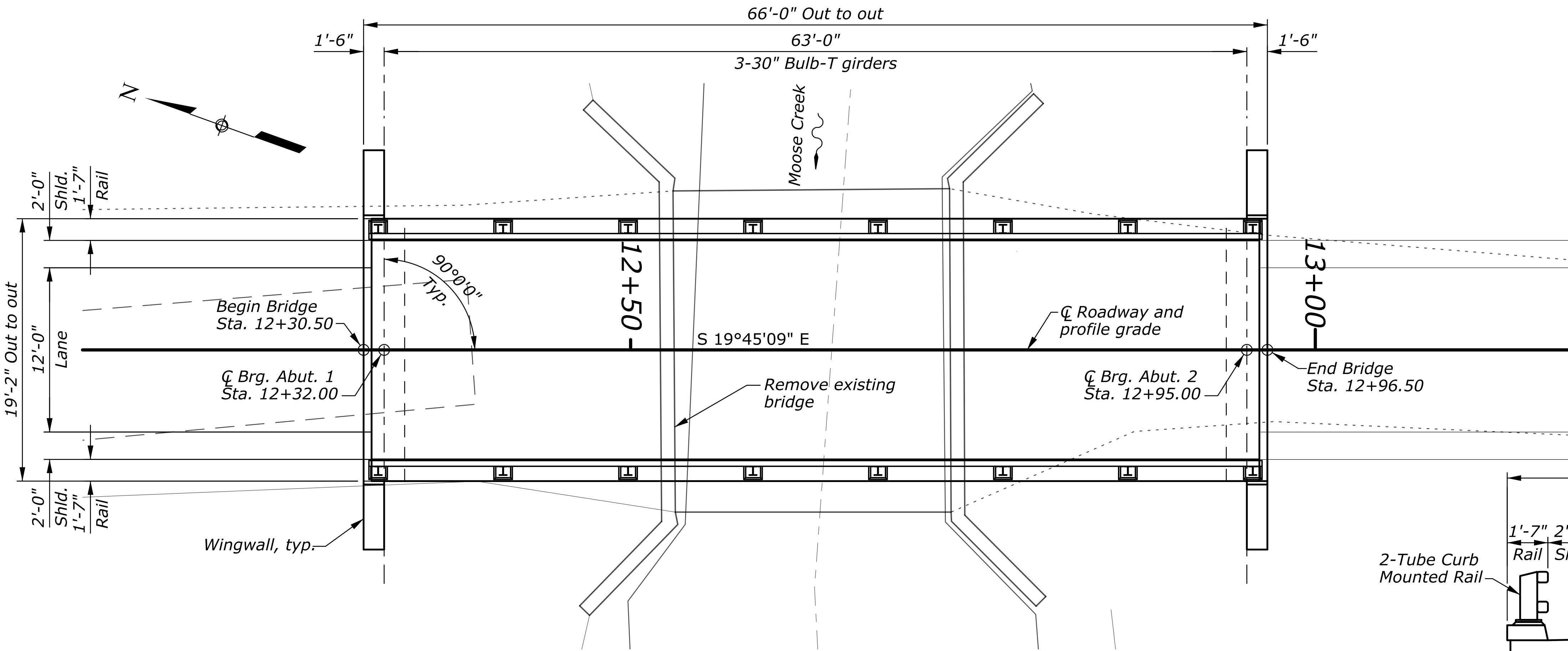
IDAHO

PLAN AND ELEVATION AND
TYPICAL SECTION (ALTERNATIVE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
M. HARLAN	D. ALTENBURG	T. STONES	AS SHOWN ON PLANS	K. Gray	01 of 03	DECEMBER 2015	XXXXXX-X

STATE	PROJECT	SHEET NUMBER
ID	ID DOT 33(1)	T.2



PLAN

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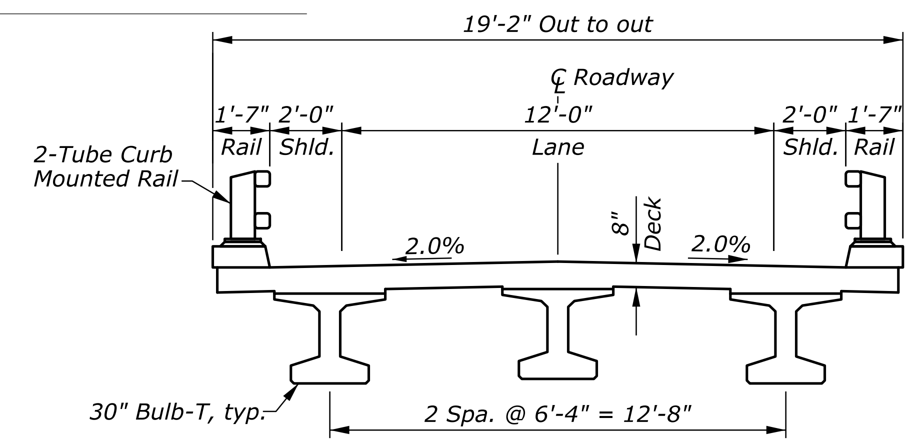

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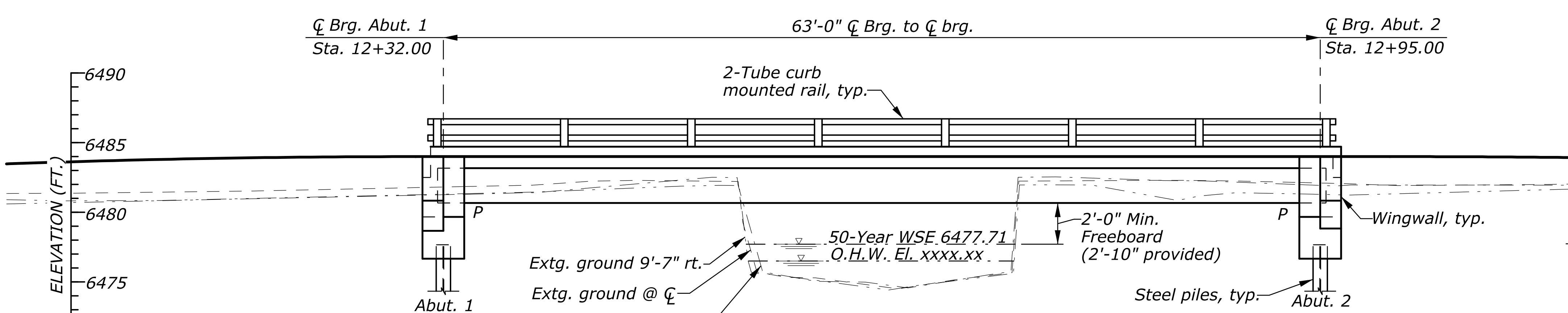

ELEVATION

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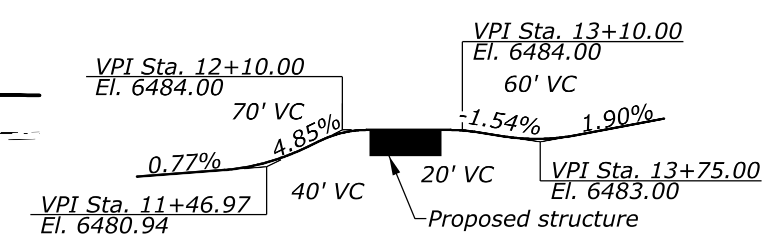


GRADELINE DIAGRAM

No Scale

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

TETON CENTENNIAL TRAIL

TARGHEE NATIONAL FOREST
TETON COUNTY

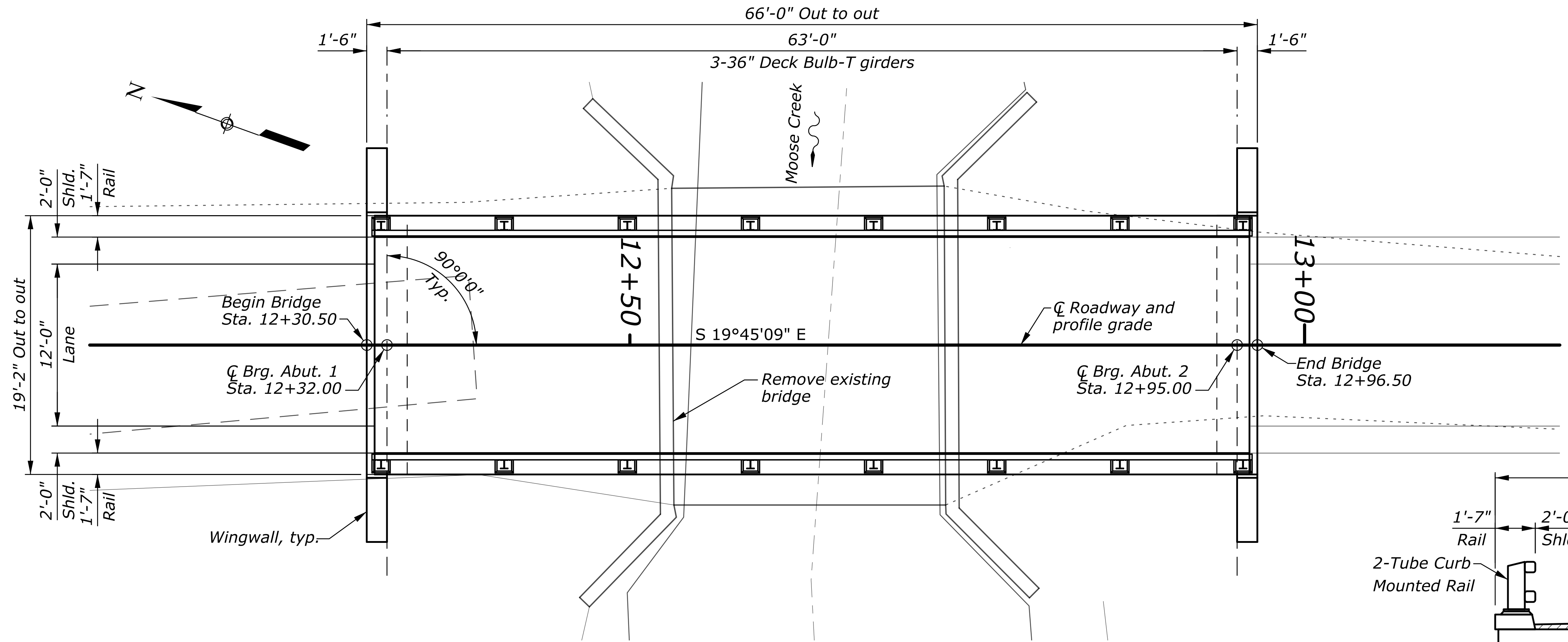
IDAHO

PLAN AND ELEVATION AND TYPICAL SECTION (ALTERNATIVE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
M. HARLAN	D. ALTENBURG	T. STONES	AS SHOWN ON PLANS	K. Gray	02 of 03	DECEMBER 2015	XXXXXX-X

STATE	PROJECT	SHEET NUMBER
ID	ID DOT 33(1)	T.3



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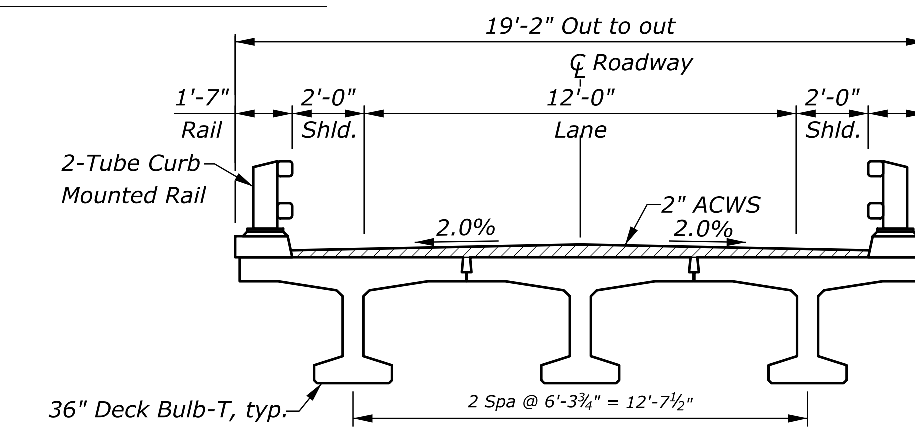

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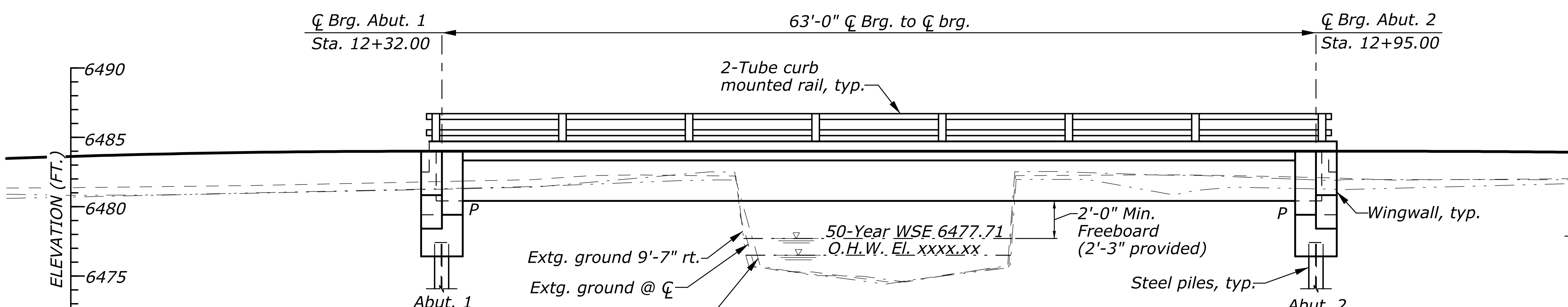

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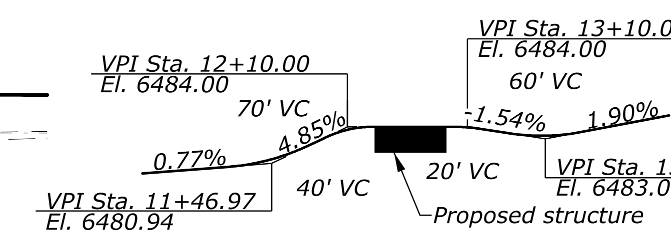

GRADELINE DIAGRAM
No Scale

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

TETON CENTENNIAL TRAIL

TARGHEE NATIONAL FOREST
TETON COUNTY

IDAHO

PLAN AND ELEVATION AND TYPICAL SECTION (ALTERNATIVE C)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								M. HARLAN	D. ALTENBURG	T. STONES	AS SHOWN ON PLANS	K. Gray	03 of 03	DECEMBER 2015	XXXXXX-X

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2 December 2015 3:31 PM

Appendix B: Draft Preliminary Cost Estimates

Preliminary Cost Estimate

Teton Centennial Trail Project
Moose Creek Crossing
Project No: FHAX0220
Bridge No:

Alternative A: 26" Prestressed Concrete Voided Slab Units
Layout Description: Five 48" wide slab units.

Superstructure:

Item	Quantity	Unit	Unit Cost	Total
Voided Slabs	317.5	FT	$ 308.00	$ 97,790.00
2 Tube Curb Mount Rail	125.8	FT	$ 125.00	$ 15,718.75
Superpave HMA Pavement	13.9	Ton	$ 63.00	$ 874.45
Conc Waterproofing System, Type A or D	123.4	SY	$ 18.00	$ 2,220.83
Compression Seal only <2"	43.5	FT	$ 19.00	$ 826.50
			Superstructure Total:	**$ 117,430.54**

Substructure:

Abutments:

Item	Quantity	Unit	Unit Cost	Total
Concrete Class 40A Sch. No. 1	13.7	CY	$ 500.00	$ 6,842.08
Metal Reinforcement Sch. No. 1	1847	LB	$ 0.95	$ 1,754.99
Provide & Drive HP 12x74 Piling	400	FT	$ 85.00	$ 34,000.00
Loose Riprap	47	CY	$ 55.00	$ 2,580.25
Riprap/Erosion Control Geotextile	70.4	SY	$ 3.00	$ 211.11
			Substructure Total:	**$ 45,388.43**

Mixcellaneous:

Item	Quantity	Unit	Unit Cost	Total
Removal of Single Span Bridges	480	SF	$ 14.00	$ 6,720.00
Structure Excavation Sch. No. 1	70	CY	$ 14.00	$ 985.65
Compacting Backfill	28	CY	$ 15.00	$ 417.81
			Miscellaneous Total:	**$ 8,123.45**

Subtotal:		**$ 170,942.42**
Contingency:	30%	$ 51,282.73
Mobilization:	10%	$ 17,094.24
GRAND TOTAL:		**$ 239,300.00**

Preliminary Cost Estimate

Teton Centennial Trail Project
Moose Creek Crossing
Project No: FHAX0220
Bridge No:

Alternative B: 30" Prestressed Concrete Bulb Tee Girders
Layout Description: Single span, three 30" bulb tees spaced at 6'-4" on center.

Superstructure:

Item	Quantity	Unit	Unit Cost	Total
Concrete Class 40A Sch. No. 2	33.9	CY	$ 580.00	$ 19,677.68
Bulb Tee Girders	191.5	FT	$ 148.00	$ 28,342.00
Metal Reinforcement Sch. No. 2	6955	LB	$ 0.95	$ 6,607.29
2 Tube Curb Mount Rail	127.8	FT	$ 125.00	$ 15,968.75
			Superstructure Total:	**$ 70,595.72**

Substructure:

Abutments:

Item	Quantity	Unit	Unit Cost	Total
Concrete Class 40A Sch. No. 1	30.6	CY	$ 500.00	$ 15,304.55
Metal Reinforcement Sch. No. 1	4132	LB	$ 0.95	$ 3,925.62
Provide & Drive HP 12x74 Piling	400	FT	$ 85.00	$ 34,000.00
Loose Riprap	49	CY	$ 55.00	$ 2,702.47
Riprap/Erosion Control Geotextile	73.7	SY	$ 3.00	$ 221.11
			Substructure Total:	**$ 56,153.74**

Mixcellaneous:

Item	Quantity	Unit	Unit Cost	Total
Removal of Single Span Bridges	480	SF	$ 14.00	$ 6,720.00
Structure Excavation Sch. No. 1	126	CY	$ 14.00	$ 1,765.61
Compacting Backfill	42	CY	$ 15.00	$ 629.75
			Miscellaneous Total:	**$ 9,115.37**

Subtotal:		**$ 135,864.83**
Contingency:	30%	$ 40,759.45
Mobilization:	10%	$ 13,586.48
GRAND TOTAL:		**$ 190,200.00**

Preliminary Cost Estimate

Teton Centennial Trail Project
Moose Creek Crossing
Project No: FHAX0220
Bridge No:

Alternative C: 36" Prestressed Concrete Deck Bulb Tee Girders
Layout Description: Single span, three 36" deck bulb tees (43" total depth including 8" top flange/deck) with 6'-3 1/2" wide flanges.

Superstructure:

Item	Quantity	Unit	Unit Cost	Total
Prestr. Deck Bulb Tee Girder	191.5	FT	$ 393.00	$ 75,259.50
2 Tube Curb Mount Rail	127.8	FT	$ 125.00	$ 15,968.75
Superpave HMA Pavement	13.2	Ton	$ 63.00	$ 831.60
Conc Waterproofing System, Type A or D	117.3	SY	$ 18.00	$ 2,112.00
			Superstructure Total:	**$ 91,228.25**

Substructure:

Abutments:

Item	Quantity	Unit	Unit Cost	Total
Concrete Class 40A Sch. No. 1	33.8	CY	$ 500.00	$ 16,888.18
Metal Reinforcement Sch. No. 1	4560	LB	$ 0.95	$ 4,331.82
Provide & Drive HP 12x74 Piling	400	FT	$ 85.00	$ 34,000.00
Loose Riprap	49	CY	$ 55.00	$ 2,702.47
Riprap/Erosion Control Geotextile	73.7	SY	$ 3.00	$ 221.11
			Substructure Total:	**$ 58,143.58**

Mixcellaneous:

Item	Quantity	Unit	Unit Cost	Total
Removal of Single Span Bridges	480	SF	$ 14.00	$ 6,720.00
Structure Excavation Sch. No. 1	130	CY	$ 14.00	$ 1,825.80
Compacting Backfill	43	CY	$ 15.00	$ 645.96
			Miscellaneous Total:	**$ 9,191.76**

Subtotal:		**$ 158,563.59**
Contingency:	30%	$ 47,569.08
Mobilization:	10%	$ 15,856.36
GRAND TOTAL:		**$ 222,000.00**

APPENDIX H

Concept Environmental Memo

DAVID EVANS AND ASSOCIATES INC.

MEMORANDUM

DATE: December 18, 2015

TO: Denise Steele
Western Federal Lands Highways Division
610 E. Fifth Street
Vancouver, WA 98661

FROM: Casey Storey

SUBJECT: Teton Centennial Trail – Environmental Regulatory Considerations

PROJECT: FHAX0000-0220
Idaho Teton Trail

CC: File

A. Introduction

The following memorandum updates environmental conditions relevant to the Teton Centennial Trail Project. This memorandum includes consideration of project updates implemented since the development of the Teton Centennial Trail Project Reconnaissance Report, prepared by David Evans and Associates in July, 2015 (Attachment 1 – Not attached). A general project description can be found within Attachment 1. Since that report was prepared, the project has been expanded to include a short segment of trail extending into Wyoming to the Trail Creek Campground. Previously, all project components were limited to Idaho. The following memorandum will provide: a summary of the permitting and reviewing stakeholders anticipated to be involved in project implementation, an overview of endangered species compliance status, the results of recent cultural resource and hazardous materials evaluations of the project corridor, the results of a desktop wetland determination and analysis of impacts to wetlands and waters, and a summary of 4(f) and 6(f) resource considerations.

B. Permitting and Review Stakeholders

As a result of natural resource analyses and the ongoing design of project components, a summary of anticipated regulatory conditions has been developed. Additionally, a list of agencies with approving authority and likely involvement with project review is included in the table below. Also included within the table are assumed permits and approvals associated with each entity.

Table 1. Regulatory and Approving Stakeholders and Regulatory Framework	
Regulatory or Review Entity/Agency/Stakeholder	**Permit or Approval Requirement**
US Army Corps of Engineers	404 Permit – Nationwide or Individual Permit
US Fish and Wildlife Service	Endangered Species Compliance, Migratory Bird Treaty Act (MBTA) Compliance
US Environmental Protection Agency	NPDES Construction General Permit - Idaho
Wyoming Department of Environmental Quality	NPDES Construction General Permit – Wyoming, 401 Water Quality Certification
Idaho Department of Environmental Quality	401 Water Quality Certification
US Forest Service	Special Use Authorization for Development
Wyoming State Historic Preservation Office	Potential Review Authority re: Section 106
Idaho Historical Society	Potential Review Authority re: Section 106
Tribes with regional jurisdiction	
Idaho	
Shoshone - Bannock	Potential Review Authority re: Section 106
Wyoming	
Northern Arapaho	Potential Review Authority re: Section 106
Eastern Shoshone	Potential Review Authority re: Section 106
Montana*	
The Crow Nation	Potential Review Authority re: Section 106

*Project occurs near but outside of the projected traditional aboriginal lands of the Crow Nation.

C. Endangered Species Compliance Update

The entirety of the Teton Centennial Trail including all of the components included in this analysis was covered by the US Forest Service EA prepared in 2001. As part of the EA and NEPA process conducted in 2001 and 2002 a biological assessment and biological evaluation were prepared to ensure project compliance with the Endangered Species Act. As part of the analysis, project actions in both Wyoming and Idaho were not determined to result in adverse effects to any species listed by the US Forest Service (USFS). As the administrating body for listed species in the project area, the US Fish and Wildlife Service (USFWS) concurred with the No Effect and Not Likely to Adversely Affect findings provided by the USFS. It is anticipated that these findings will persist with the current proposed project actions. Evaluation of this assumption by the USFWS is recommended prior to project implementation.

D. Historical and Archaeological Background

As part of the prior project analysis and Environmental Assessment process, both the Wyoming and Idaho State Historic Preservation Offices (SHPO) were consulted to ensure project compliance with Section 106 of the National Historic Preservation Act (NHPA). Each agency found that the project would not result in effects to historic properties. An overview of relevant cultural resources will be examined once provided by FHWA to ensure that project elements avoid any previously identified cultural resource of concern. In addition, at the discretion of the FHWA, the current project and upcoming project design may be presented to the SHPO offices of both Wyoming and Idaho to ensure that the final design avoids any effects to historic properties. In particular, a bridge across Moose Creek is anticipated to be replaced and the bridge may not have been previously evaluated for historical significance.

E. Culvert Age Evaluation

The planned project actions will remove and replace a number of culverts within the project corridor. Due to the age of the trail, the trail location corresponding with the alignment of the Old Jackson Highway, and the anticipated age of these culverts an evaluation of NRHP listing eligibility was conducted. The evaluation of these culverts found that all culverts were likely to date to the 1940s or 1950s and none were recommended for eligibility under the NRHP. None of the culverts evaluated were deemed to possess distinctive characteristics or association with significant patterns of history. The summary of this evaluation is included as Attachment 2 to this memorandum.

F. Wetlands and Waters

A project corridor evaluation of wetland and water resources was conducted using the USFWS National Wetland Inventory (NWI) mapper, the Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS), and aerial photography. Wetlands identified in the project area include palustrine scrub/shrub (PSS) along the riparian corridor of two streams within the project alignment. Most of these wetlands are identified south of Highway 33 and do not overlap with project components. An overlay of mapped wetlands from the NWI was prepared and matched to the proposed trail alignment, plan view. A profile view of mapped wetlands is not informative as project limits follow existing trail alignments with no mapped wetlands occurring along the alignment accept at the Moose Creek crossing (see below). . The plan view map along with applicable plan sheets can be found as Attachment 3 of this memorandum. The evaluation determined that wetlands occur within the project corridor and have the possibility of being impacted at one location associated with the bridge replacement over Moose Creek. Another location not depicted on Attachment 3 where wetlands may be impacted would be at the location of a proposed trailhead parking area at the northern end of the project. The NWI does not indicate wetlands in this vicinity, but surveyed elevations suggest wetlands are likely to occur here. Based on this finding three parking area configurations were analyzed to determine least impact. All three configurations vary in the number of available parking spots. Impacts to presumed wetlands increase with increasing parking capacity. These wetland impacts range from zero for configuration B to 7,796 sqft. (0.18 acres) for configuration A. The three configuration details are provided below in Table 1 and plan sheets pertaining to these alignments are located under Attachment 4.

Table 1. Teton Centennial Trail – Trailhead Parking Configuration Alternatives

Configuration I.D.	Surface Area	Parking Spots	Area of Potential Wetland Impact *
A (Large)	25,138 SF	20 with 2 trailer parking spots	7796 SF
B (Small)	9,656 SF	10	0
C (Medium)	13,744 SF	16	437 SF

*Based on topographic survey and not NWI mapping. All areas are an estimate and must be verified with field delineation.

Waters identified within the project area from the above referenced mapping resources in addition to the USGS Topographic Quadrangle Map include Moose Creek, Trail Creek, and an unnamed tributary to Trail Creek. Mapping indicates that Moose Creek and Trail Creek are perennial streams, while the unnamed tributary appears to be an intermittent or ephemeral waterway. As previously indicated, the project will include the replacement of the existing bridge over Moose Creek. The new bridge will increase the span width and increase ecological function of the waterway with the ability to pass larger flows, increase floodplain connectivity and reduce scour. The new bridge will not require placement of fill within the waterway and depending on final design, may result in a net decrease in material below ordinary high water. At the conceptual level – removal of the existing bridge abutments would result in a net decrease of 84 sqft of material below ordinary high water. The planned bridge will follow the same alignment as the existing bridge and may not result in wetland fill in association with the increased span width. However, final design and wetland field delineation will establish any potential wetland filling at this project location.

Prior to anticipated project permitting, all preliminarily mapped wetlands within the project corridor should be field delineated during the growing season, anticipated in this area to be mid-May through September. All waterways within the project corridor, including perennial, intermittent, and ephemeral streams should be evaluated for flows and ordinary high water elevations and boundaries should be established for each.

Also prior to permitting, preliminary designs should be reviewed by regulatory partners to assist the design team in minimization, avoidance, and mitigation strategies associated with potential or unavoidable wetland impacts. Depending on the area of impacts mitigation may be achievable with enhancement of existing wetlands, site restoration, and invasive species removal as available. Wetland impacts less than 0.10 acres in size that do not create adverse environmental impact and include general improvements to wetlands and special aquatic sites may not require mitigation, dependent on review by the Corps of Engineers. Wetland impacts in excess of 0.10 acres may require mitigation, on-site or off-site. No mitigation banks are currently established within the project service area. A cursory review of the project area in proximity to the planned trailhead location suggests some opportunities for onsite mitigation, but would warrant additional field analysis to determine the viability and extent of this area. As practicable, all efforts will be made to avoid and minimize trail impacts to wetlands and waterways. Additionally, impacts to riparian corridors and other natural areas will be minimized or avoided to ensure compliance with the regulatory requirements and standards as established in prior consultations and agreements by stakeholder agencies.

Resources:

Crow Nation Traditional Aboriginal Territory, available at: http://crowthpo.org/

National Wetland Inventory, available at: http://www.fws.gov/wetlands/Data/Mapper.html

NRCS: Web Soil Survey, available at: http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

USGS Quadrangle Maps, available at: http://store.usgs.gov/

US Army Corps of Engineers Available Mitigation Banks, available at: http://www.nww.usace.army.mil/BusinessWithUs/RegulatoryDivision/MitigationBanks.aspx

G. Hazardous Waste Evaluation

As part of the ongoing environmental evaluation of the project corridor, a hazardous waste evaluation was conducted and a technical memorandum was prepared (Attachment 4). All investigation activities were completed using desktop review of mapping, databases, and records searches. A field evaluation of potential hazardous waste in the project corridor was not conducted. The evaluation concluded that no records evidence of off-site hazardous materials facilities are associated with the project or would affect the project. The evaluation did determine the potential for hazardous material components within the Moose Creek Bridge, planned for removal as part of project actions. In addition, the report concluded that project area soils may represent historic lead contamination warranting further evaluation. The full technical memorandum is included as Attachment 4.

H. Section 4(f) and Section 6(f) Analysis

An evaluation of Section 4(f) and Section 6(f) resources has been provided as a separate memorandum included as Attachment 5.

Attachments/Enclosures

- Attachment 1: Teton Centennial Trail Project Recon Report (Not attached)
- Attachment 2: Culvert Evaluation
- Attachment 3: Project Wetlands Maps – Plan View, Vicinity Map (Waters)
- Attachment 4: Trailhead Parking Alternatives
- Attachment 5: Moose Creek Bridge Conceptual Design
- Attachment 6: Project Hazardous Materials Evaluation Report
- Attachment 7: Section 4(f) and Section 6(f) Assessment

Attachment 1: Teton Centennial Trail Project Recon Report (Not Attached)

Attachment 2: Culvert Evaluation

Archaeological Investigations Northwest, Inc.

3510 N.E. 122nd Ave. • Portland, Oregon 97230
Phone (503) 761-6605 • Fax (503) 761-6620

Vancouver Phone (360) 696-7473
E-mail: ainw@ainw.com
Web: www.ainw.com

MEMO

Date: November 18, 2015

To: John Maloney, PE, David Evans and Associates, Inc.

From: Judith A. Chapman, M.A., Senior Architectural Historian/Archaeologist
Elizabeth J. O'Brien, B. Architecture, Architectural Historian

Re: Teton Centennial Trail Project
Teton County, Idaho and Teton County, Wyoming
Old Jackson Highway Culvert Evaluation
AINW Report No. 3569

Introduction

The Teton Centennial Trail will be constructed on the Old Jackson Highway roadbed within the Caribou-Targhee National Forest from Moose Creek in Idaho to the Trail Creek Campground in Wyoming (Figures 1 through 3). The trail will provide a connection from Victor, Idaho, to the town of Jackson, Wyoming, within the Grand Teton National Park pathway system and serve as a gateway to the Greater Yellowstone region. The 10-foot-wide bicycle/pedestrian trail will be maintained by the City of Victor, Teton County, Idaho, and by the Teton Valley Trails and Pathways group. The trail project is being done by Western Federal Lands Highway Division of the Federal Highway Administration and is subject to Section 106 of the National Historic Preservation Act.

Archaeological Investigations Northwest, Inc. (AINW), has conducted an evaluation of twelve culverts along the proposed trail using field survey information and photographs provided by David Evans and Associates, Inc. The results of the evaluation with eligibility recommendations for listing in the National Register of Historic Places (NRHP) are shown in Table 1. Photographs were unavailable for two culverts (Nos. 9 and 10), and they were evaluated based on descriptive information. AINW recommends that the culverts are not eligible for listing in the NRHP. The evaluation recommendation was made by AINW staff who meet the professional qualifications of the Secretary of the Interior's Standards and Guidelines for Historic Preservation.

Old Jackson Highway began as a trail, and by 1886 it had become a main wagon route from Victor, Idaho, over Teton Pass to Jackson Hole, Wyoming (Daugherty 1999; GLO 1914). The U.S. Forest Service conducted a survey for an improved route in 1913 and highway construction continued up to 1917 (Page 1915:55). After the improvements, the road was still unstable in the winter months due to landslides. Between 1923 and 1929, the highway was widened and sections were relocated; no substantial modifications occurred to the highway after the widening project. Construction of Highway 33, which parallels the old highway, began in 1961 and officially replaced Old Jackson Highway in 1969 (Teton Basin Ranger District 2001; Schoen 2002). The subject section of Old Jackson Highway has not been recorded as a historic resource.

All twelve culverts are corrugated metal (steel) pipe (CMP) that vary in length and range in diameter from 12 to 24 inches (Table 1). Two culverts (Nos. 1 and 8) have upstream concrete headwalls, and several have flared metal ends. The culverts appear to date to a period after the 1920s improvements to the old roadway and before 1961, when the new highway was built. Although CMP pipes were in common use for culverts after the 1920s, they usually lasted only 10 to 35 years, depending on conditions. For this reason, the culverts on Old Jackson Highway may date closer to the 1940s or 1950s.

AINW recommends that the twelve culverts are not eligible for listing in the NRHP. Although they retain sufficient historic integrity, as an engineering type they do not separately or as a grouping contribute to the potential significance of the highway. Since the culverts lack distinctive engineering qualities, they are not representative examples of a type, period, or method of construction under Criterion C of the NRHP. The culverts are not associated with significant patterns of history (Criterion A), since they were built after the initial Old Jackson Highway construction period from 1913 to 1917, and they have no known associations to significant people of the past (Criterion B).

Conclusions

Twelve CMP culverts on Old Jackson Highway are recommended to be not eligible for listing in the NRHP. A baseline survey and evaluation of the culverts indicate they lack distinctive engineering qualities that would make them significant. If further evaluation is needed, AINW recommends recording the culverts on inventory forms for review and compliance with the Idaho and Wyoming State Historic Preservation Offices.

References

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Page, Logan Waller
1915 Construction and Maintenance of Road and Bridges, From July 1, 1913 to December 31, 1914. United States Department of Agriculture, Bulletin No. 284. Government Printing Office, Washington, D.C.

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Teton Basin Ranger District and Jackson Ranger District
2001 *Teton Pass Trail, Environmental Assessment.* On file, Teton Basin Ranger District, Caribou-Targhee National Forest.

TABLE 1

HISTORIC RESOURCES IDENTIFIED

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
1	Old Jackson Highway Victor, Idaho vicinity UTM: 948094.5186, 691299.5224 948046.8738, 691271.0512	Pre-1961 steel CMP culvert Diameter: 18 inches Length: 56 feet Upstream concrete headwall	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
2	Old Jackson Highway Victor, Idaho vicinity UTM: 949025.3082, 690290.6669 949006.9308, 690255.7224	Pre-1961 steel CMP culvert Diameter: 18 inches Length: 40 feet (approx.) No headwall noted; upstream culvert buried	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
3	Old Jackson Highway Victor, Idaho vicinity UTM: 949282.4248, 689799.3558 949319.5770, 689799.5740	Pre-1961 steel CMP culvert Diameter: 18 feet Length: 40 feet (approx.) No headwalls noted; upstream culvert buried	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
4	Old Jackson Highway Victor, Idaho vicinity UTM: 949799.9046, 689428.9581 949771.0515, 689385.9424	Pre-1961 steel CMP culvert Diameter: 18 inches Length: 52 feet (approx.) No headwalls noted	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
5	Old Jackson Highway Victor, Idaho vicinity UTM: 950190.0676, 688943.8549 950166.0329, 688883.2938	Pre-1961 steel CMP culvert Diameter: 18 inches Length: 65 feet (approx.) Upstream headwall partially buried, appears to be concrete	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
6	Old Jackson Highway Victor, Idaho vicinity UTM: 950528.6048, 688574.3750 950478.8443, 688548.8962	Pre-1961 steel CMP culvert Diameter: 18 inches Length: 57 feet (approx.) No visible headwalls	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
7	Old Jackson Highway Victor, Idaho vicinity UTM: 950943.5476, 688173.2861 950943.6592, 688168.0938	Pre-1961 steel CMP culvert Diameter: 24 inches Length: 6 feet (approx.) No concrete headwalls	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Downstream No Upstream Photo Available
8	Old Jackson Highway Victor, Idaho vicinity UTM: 951606.4790, 687686.3518 951542.2002, 687609.7474	Pre-1961 steel CMP culvert Diameter: 24 inches Length: 100 feet (approx.) Upstream concrete headwall and one wing wall	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream No Downstream Photo Available

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
9	Old Jackson Highway Victor, Idaho vicinity UTM: 953544.029, 686288.4121 953540.43, 686282.1785	Pre-1961 steel CMP culvert Diameter: 24 inches Length: 7 feet (approx.) No concrete headwalls; currently buried due to erosion	Likely Not Eligible for listing in the NRHP based on the other examples within this area that are lacking in distinctive engineering qualities (Criterion C)	No Photos Available at this Time
10	Old Jackson Highway Wyoming UTM: 954325.0525, 685732.852 954284.5379, 685684.5686	Pre-1961 steel CMP culvert Diameter: 24 inches Length: 63 feet (approx.) No concrete headwalls; metal flared end sections Buried due to erosion	Likely Not Eligible for listing in the NRHP based on the other examples within this area that are lacking in distinctive engineering qualities (Criterion C)	No Photos Available at this Time

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
11	Old Jackson Highway Wyoming UTM: 954924.5749, 685394.8216 954905.2687, 685338.6576	Pre-1961 steel CMP culvert Diameter: 30 inches Length: 60 feet (approx.) No concrete headwalls; metal flared end sections	Recommended Not Eligible for listing in the NRHP as it lacks distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

TABLE 1, continued

MAP ID NUMBER	LOCATION	RESOURCE DESCRIPTION	NRHP ELIGIBILITY	PHOTOGRAPHS
12	Old Jackson Highway Wyoming UTM: 954882.9467, 685276.3209 954873.0891, 685209.6741	Pre-1961 steel CMP culvert Diameter: 30 inches Length: 68 feet (approx.) No concrete headwalls; metal flared end sections	Recommended Not Eligible for listing in the NRHP as it is lacking in distinctive engineering qualities (Criterion C)	 Upstream  Downstream

NOTES:
Resources were recorded and digitally photographed by DEA, Inc., for AINW in October 2015.
Map ID Numbers are keyed to the Figure 1 through 3 maps.

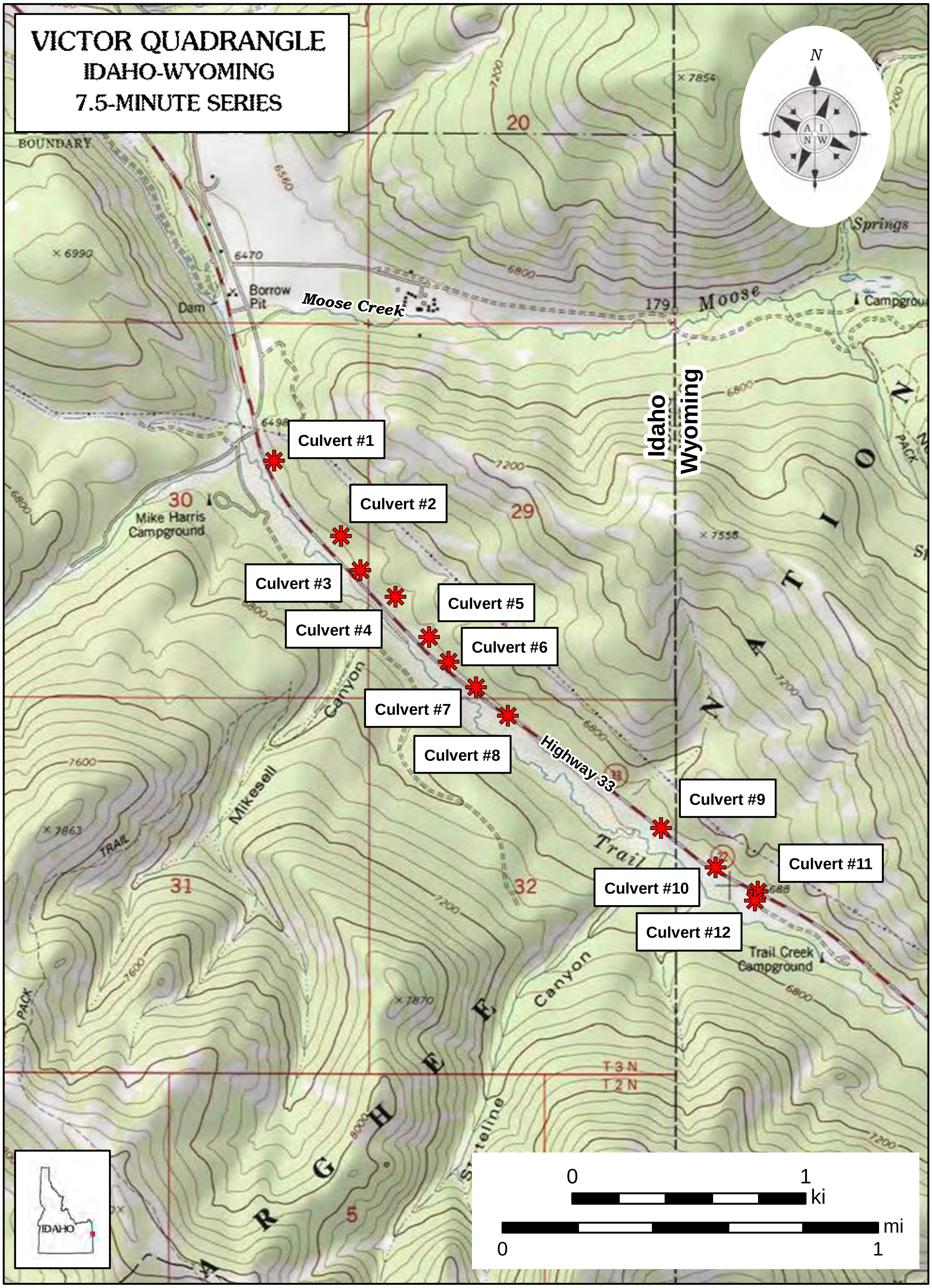


Figure 1. The Teton Centennial Trail project extends from Moose Creek in Idaho to the Trail Creek Campground in Wyoming.

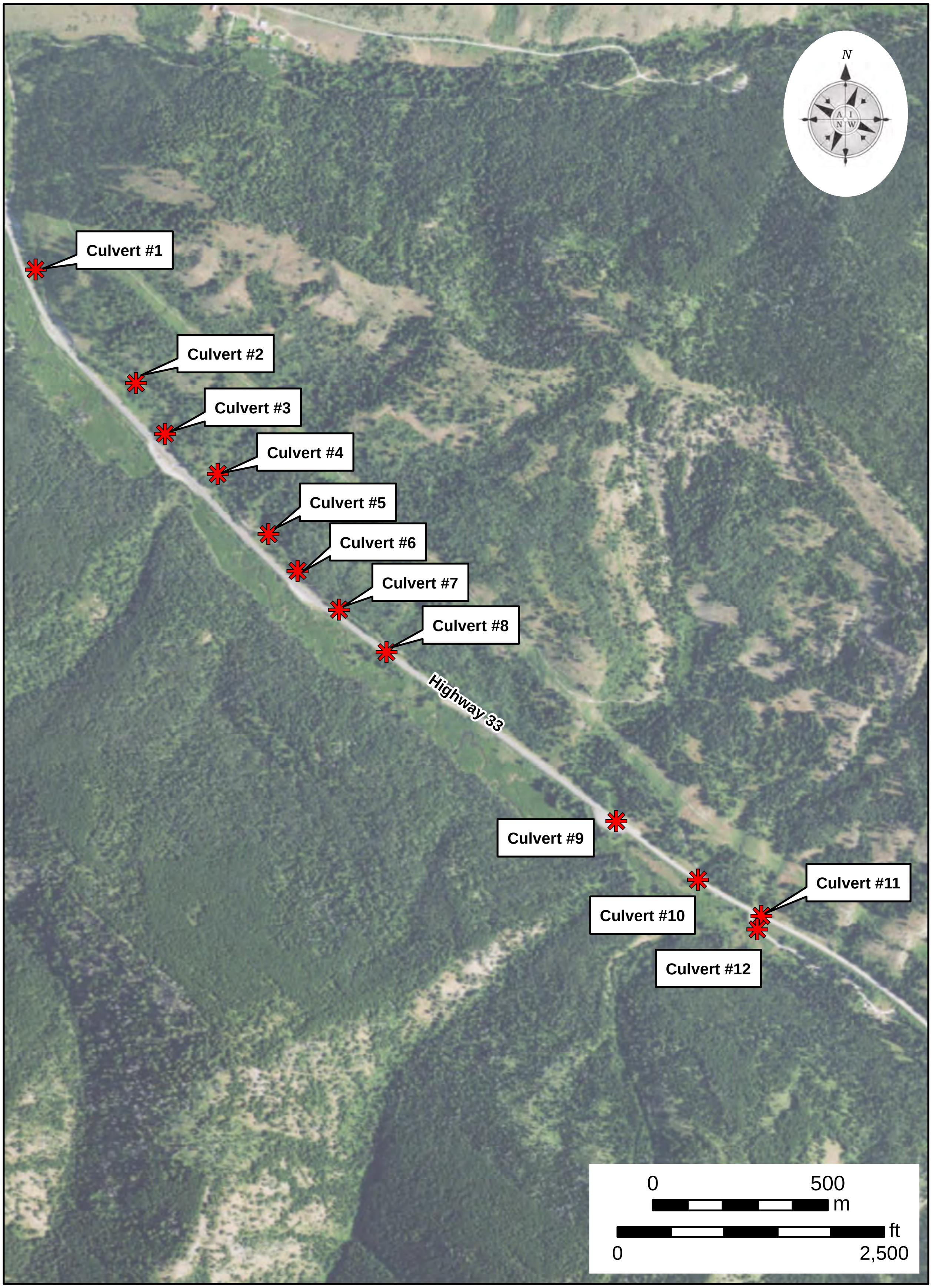


Figure 2. Twelve corrugated metal culverts were evaluated for NRHP eligibility. None are recommended to be eligible either individually or as a grouping.

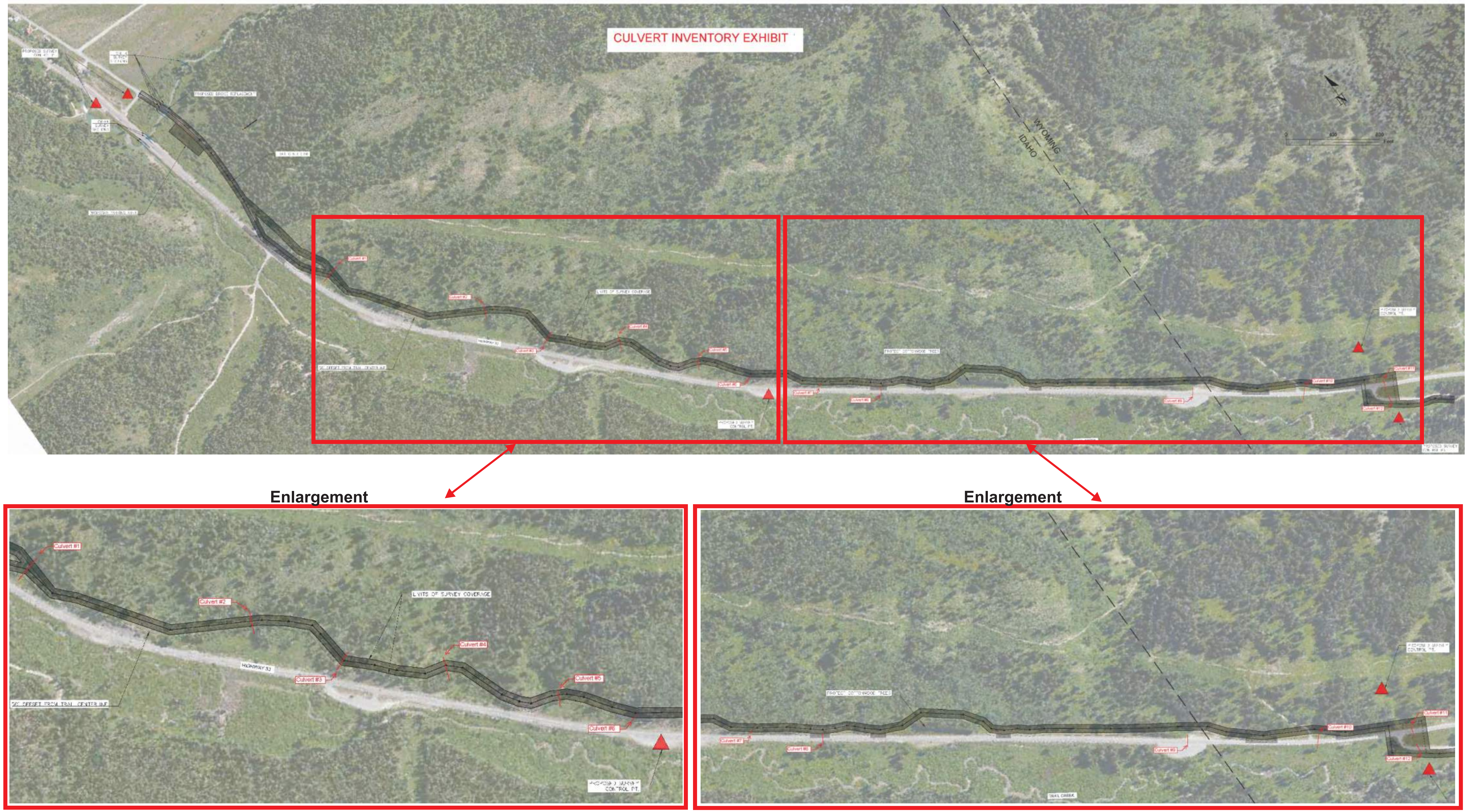
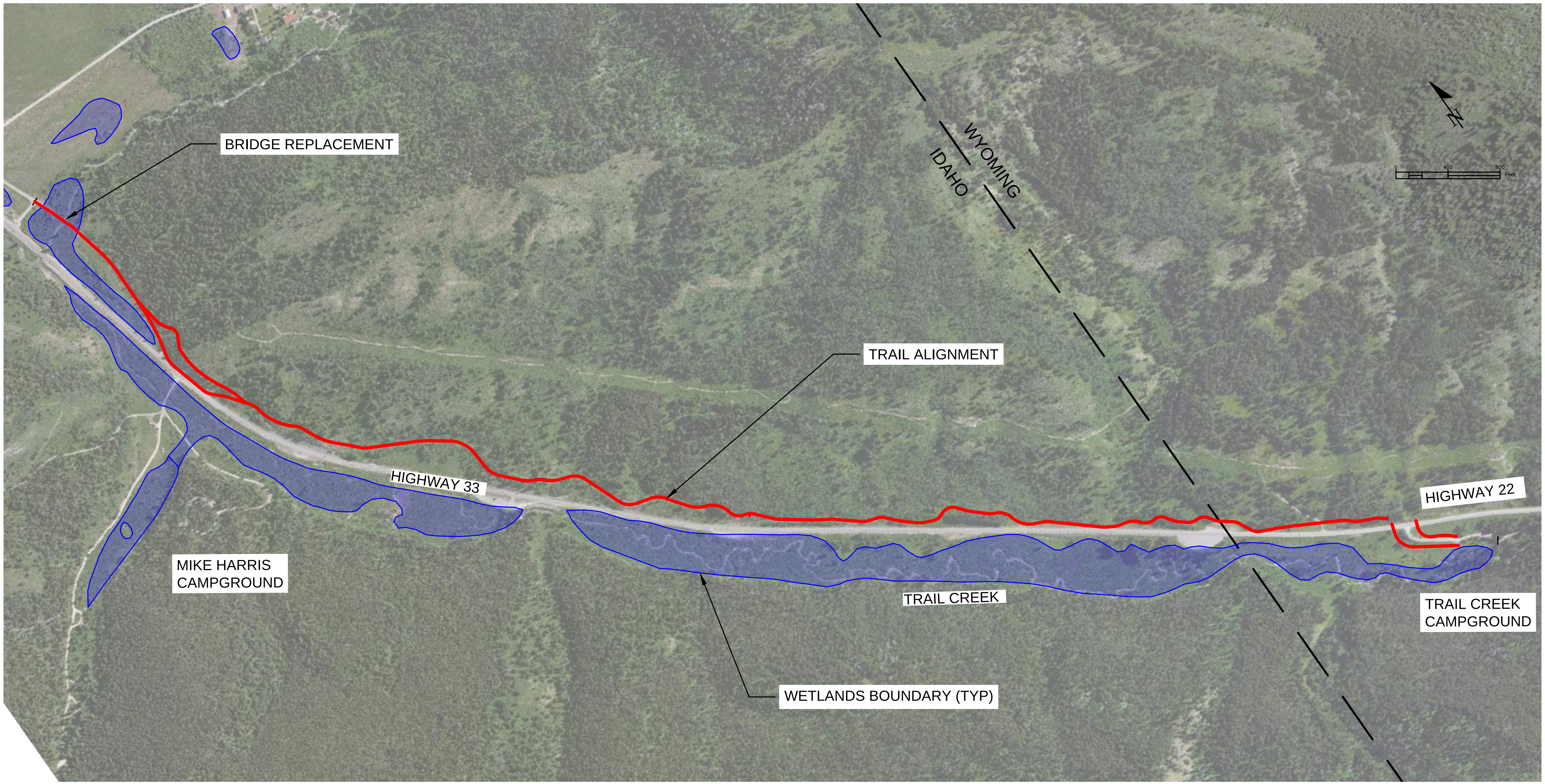


Figure 3. The proposed trail alignment parallels Highway 33 on the Old Jackson Highway roadbed. The twelve culverts pre-date 1961, at which time the old highway was abandoned.

Attachment 3: Wetlands Map – Plan View and Vicinity Map (Waters)

TETON CENTENNIAL TRAIL - WETLANDS MAP



DAVID EVANS AND ASSOCIATES INC.

2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

PROJECT AREA WETLANDS MAP

TETON CENTENNIAL TRAIL CONCEPT DESIGN

WESTERN FEDERAL LANDS HIGHWAY DIVISION
IDAHO/WYOMING BORDER

REVISIONS: APPD

DATE: NOV. 19, 2015
DESIGN: JABE
DRAWN: JABE
CHECKED:
REVISION NUMBER:

SCALE: 1"=800'

PROJECT NUMBER: FHAX0000-0220

DRAWING FILE: TCT_Wetlands Exhibit.dwg

SHEET NO. 1 OF 1

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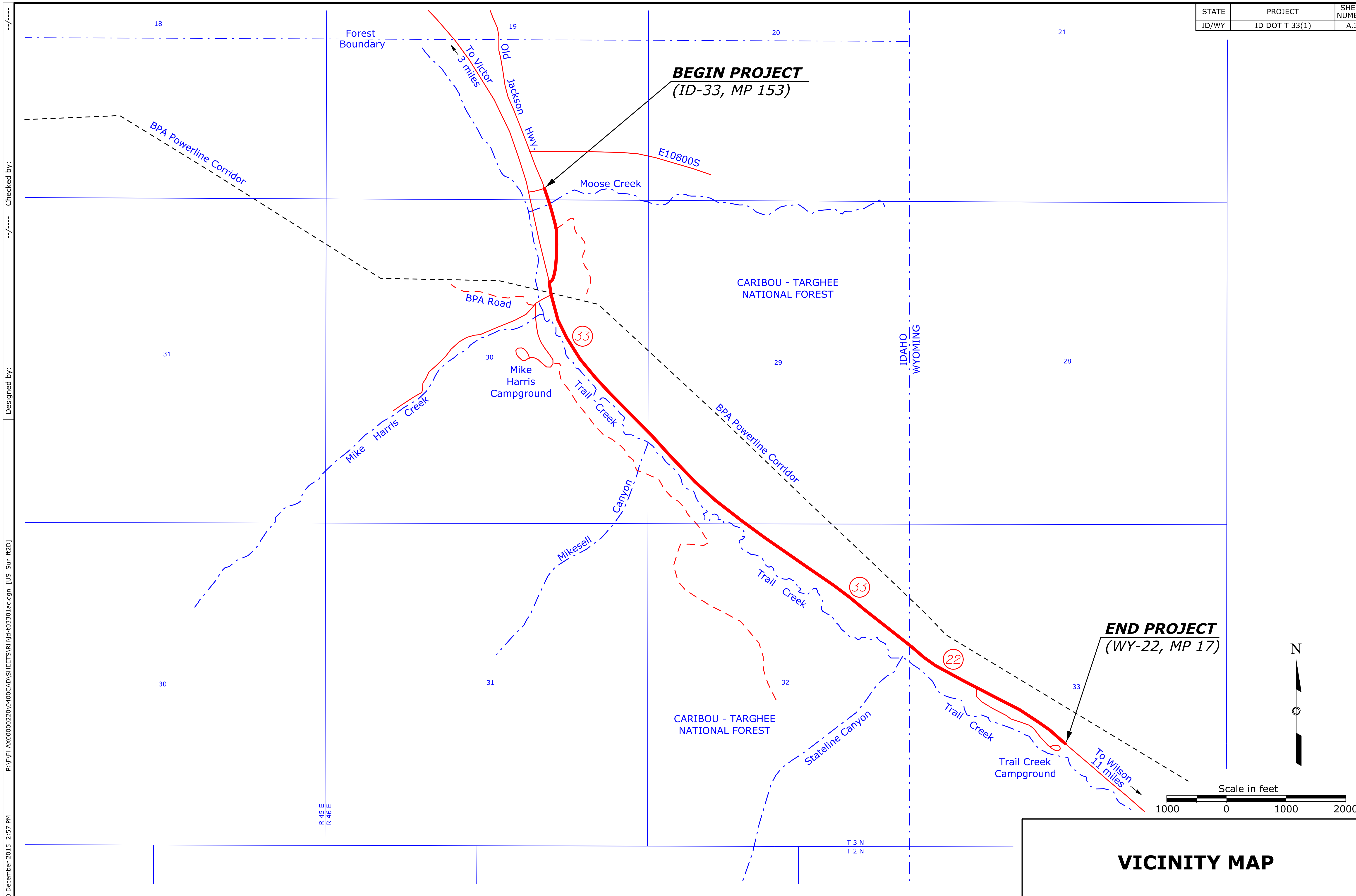

VICINITY MAP

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Attachment 4: Trailhead Parking Alternatives

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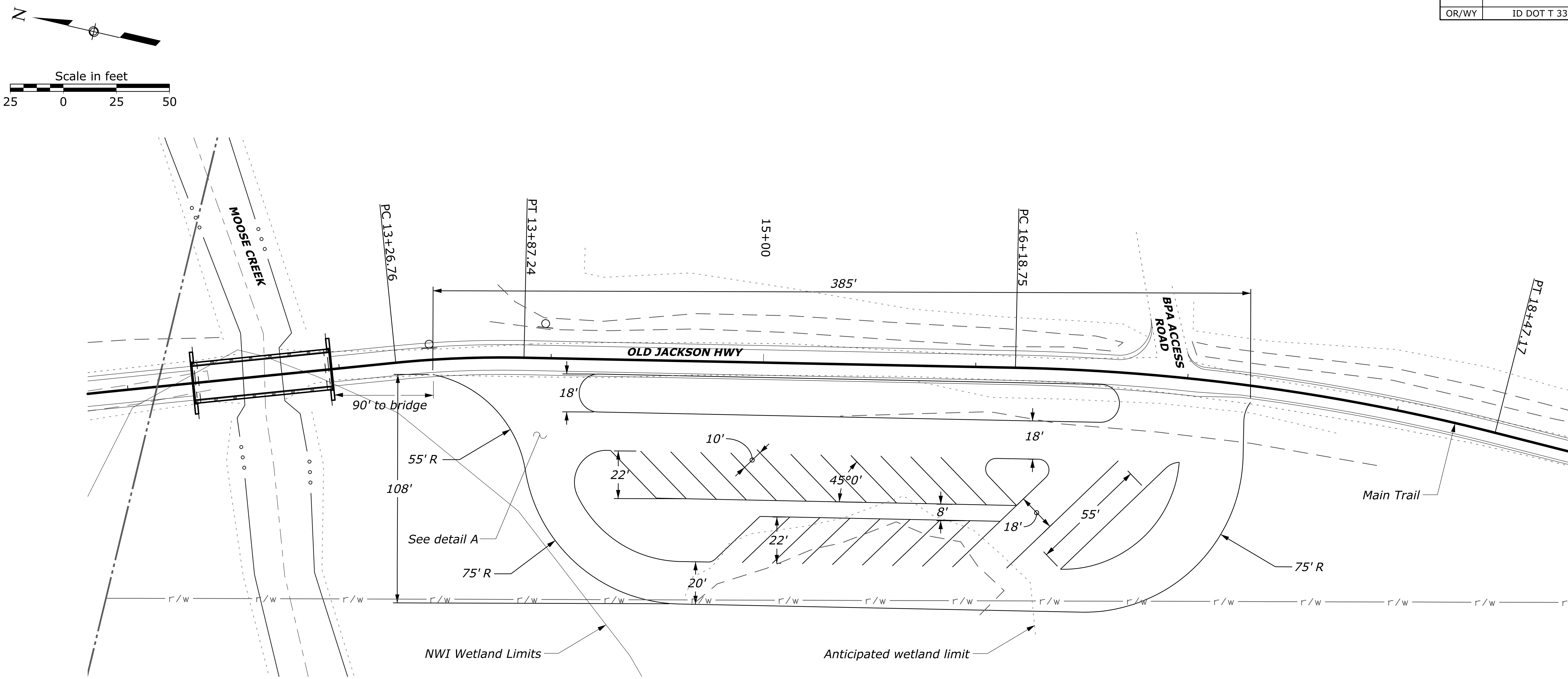
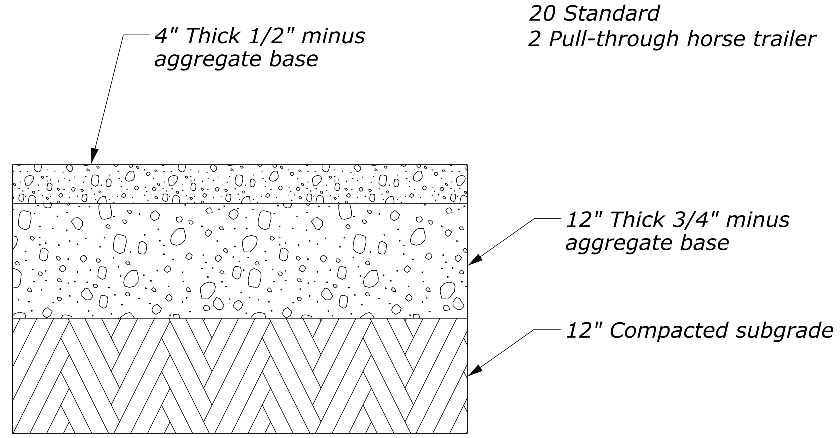


PARKING STALLS

20 Standard
2 Pull-through horse trailer



DETAIL A
PARKING LOT SURFACING

PARKING LOT ALTERNATIVE A

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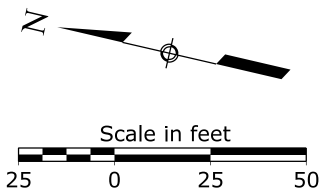
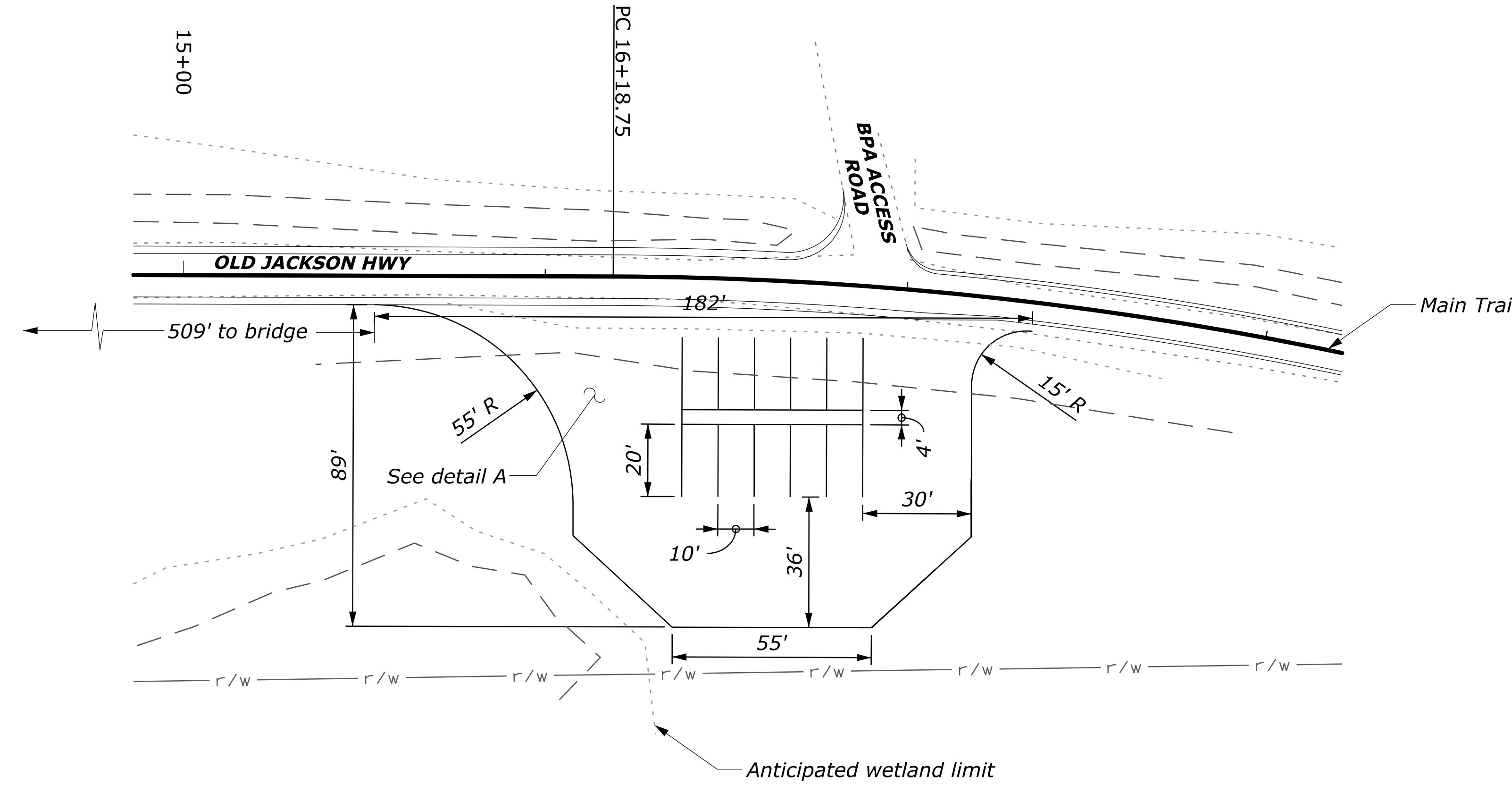
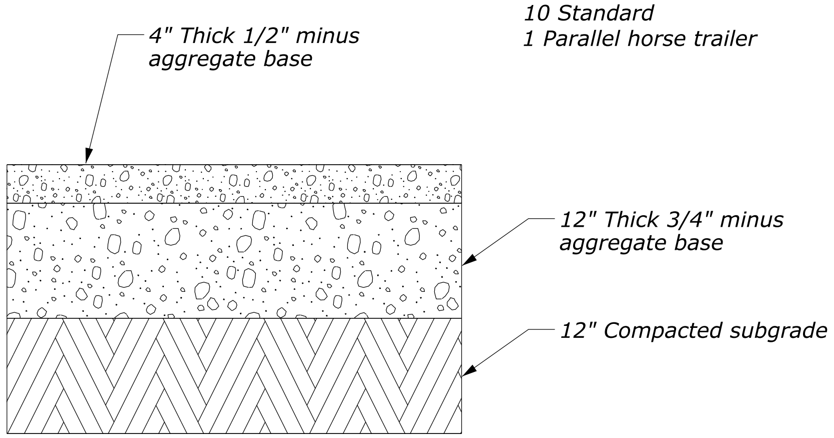




PARKING STALLS

10 Standard
1 Parallel horse trailer



DETAIL A
PARKING LOT SURFACING

PARKING LOT ALTERNATIVE B

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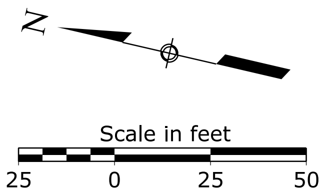

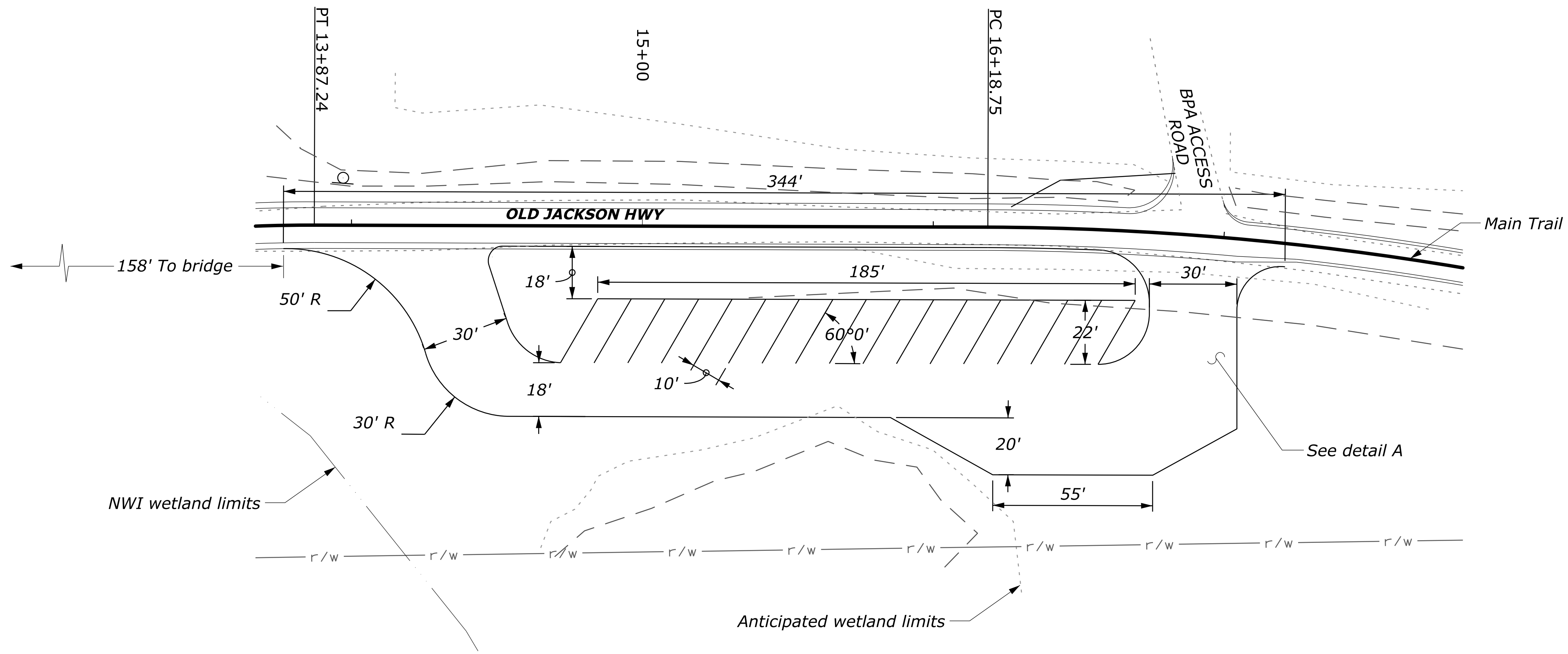

PARKING STALLS
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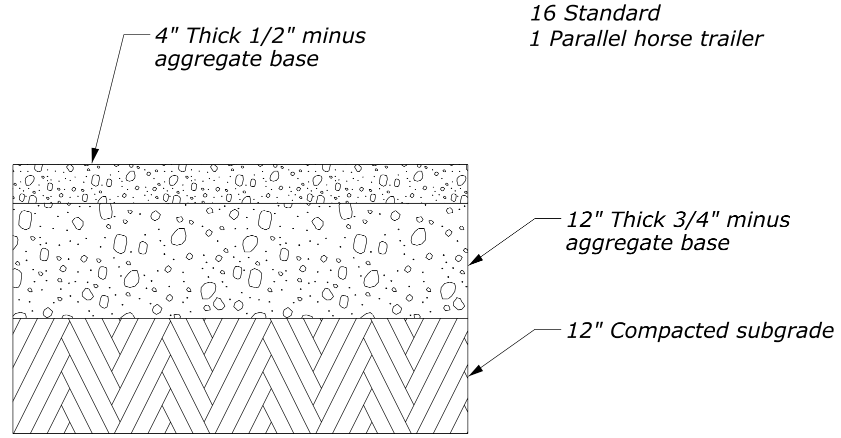
1 Parallel horse trailer



DETAIL A
PARKING LOT SURFACING

PARKING LOT ALTERNATIVE C

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Attachment 5: Moose Creek Bridge Conceptual Design

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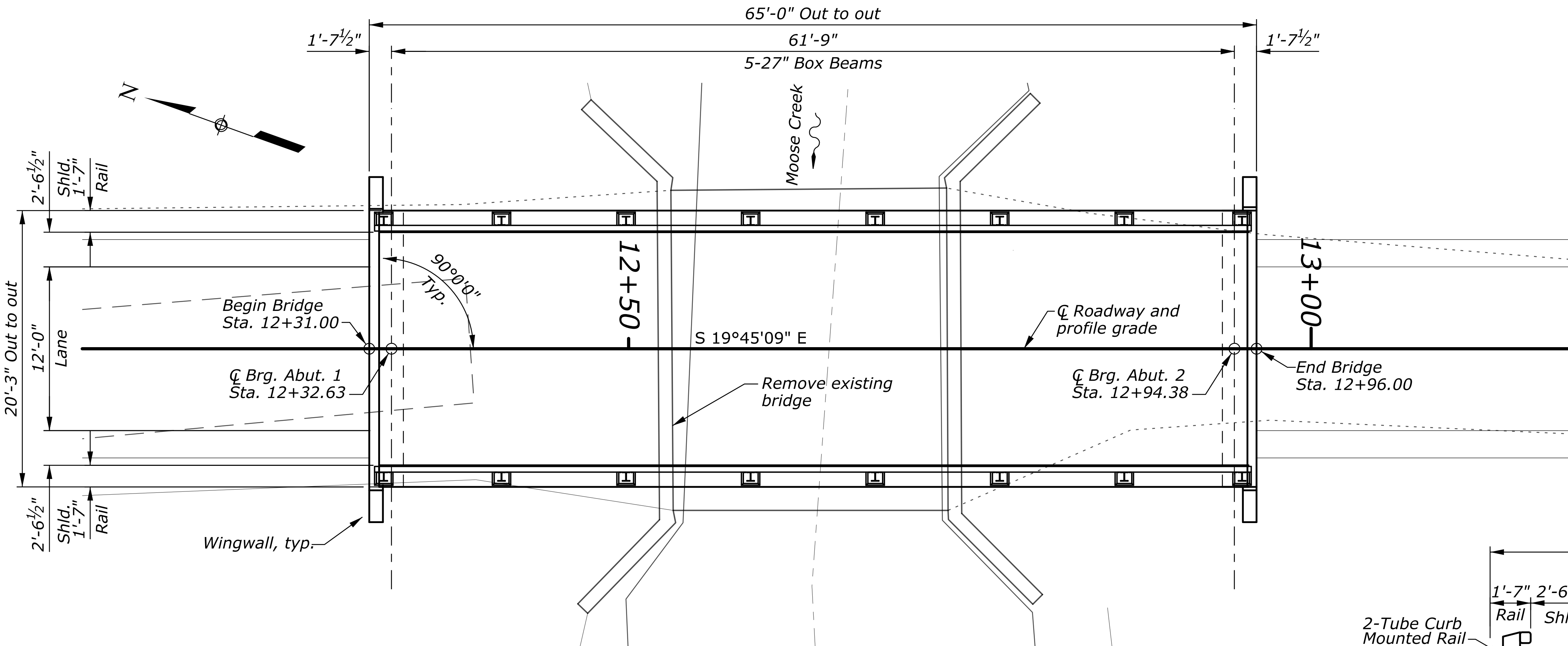

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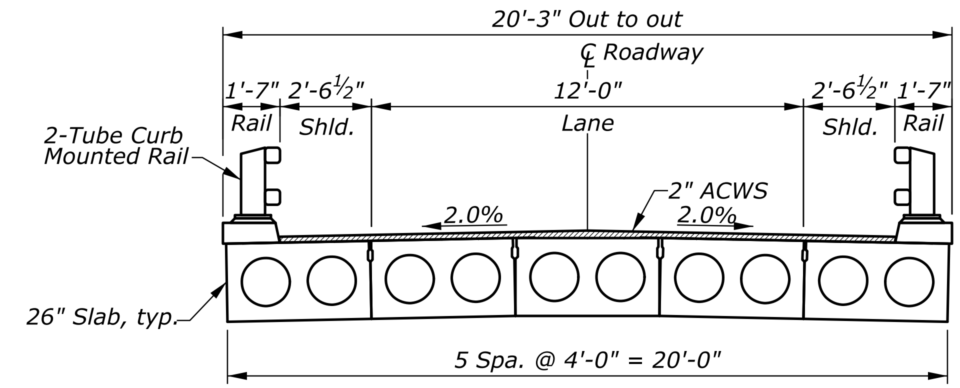

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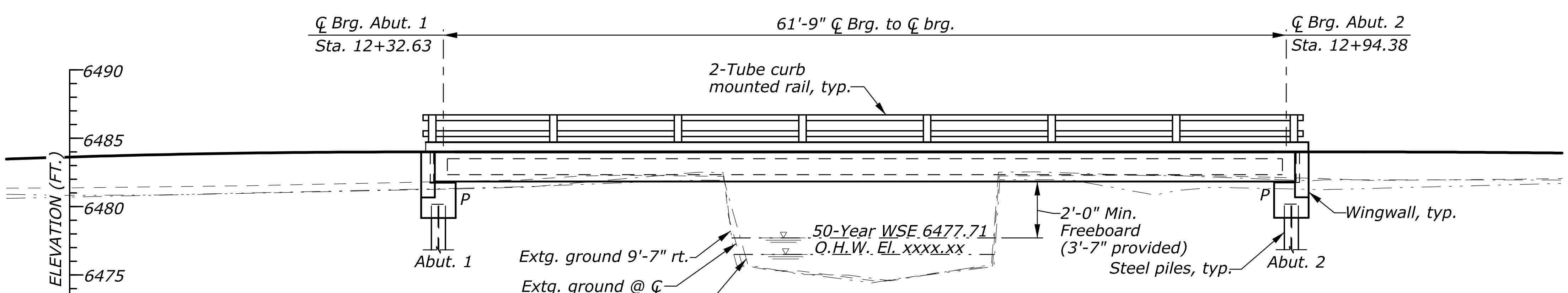

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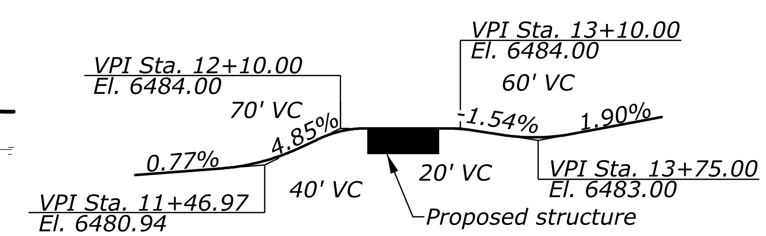

GRADELINE DIAGRAM
No Scale

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

TETON CENTENNIAL TRAIL

TARGHEE NATIONAL FOREST
TETON COUNTY

IDAHO

PLAN AND ELEVATION AND TYPICAL SECTION (ALTERNATIVE A)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
M. HARLAN	D. ALTENBURG	T. STONES	AS SHOWN ON PLANS	K. Gray	01 of 03	DECEMBER 2015	XXXXXX-X

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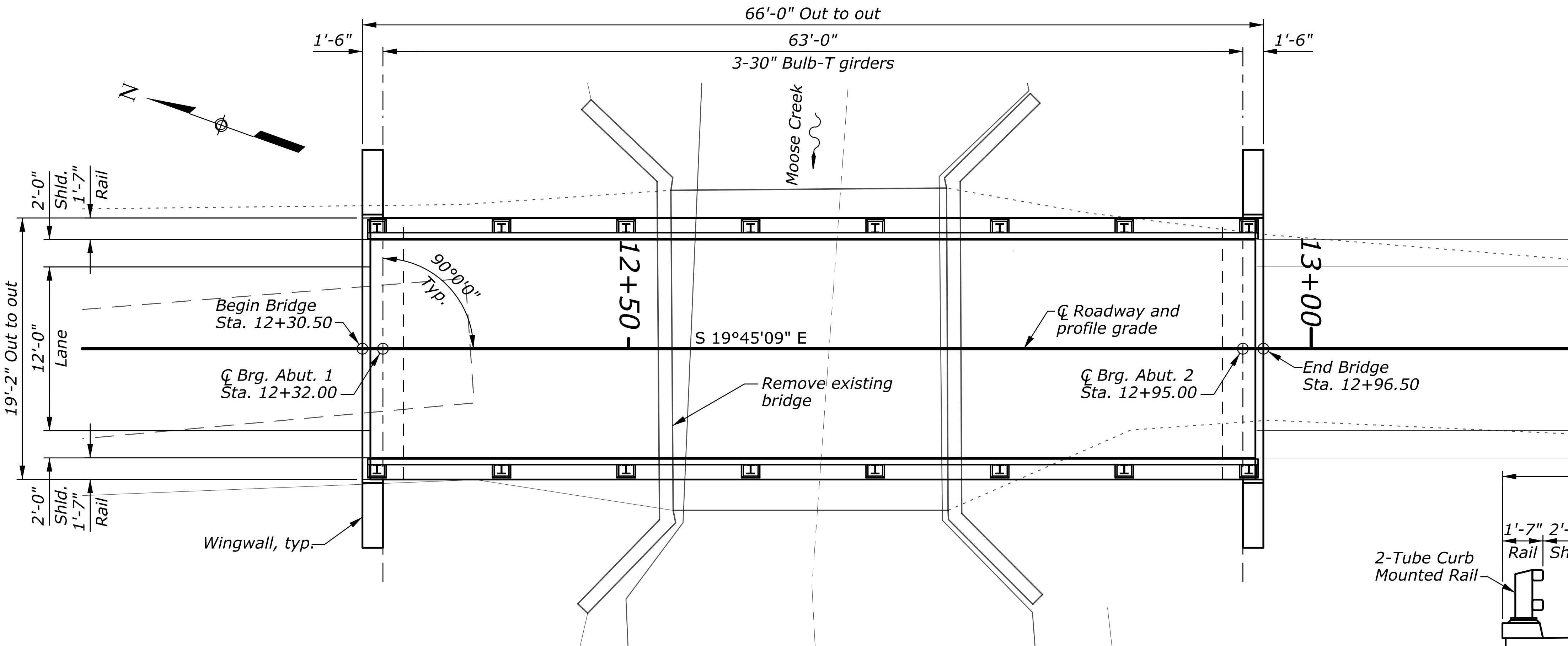
ID	ID DOT 33(1)	T.2



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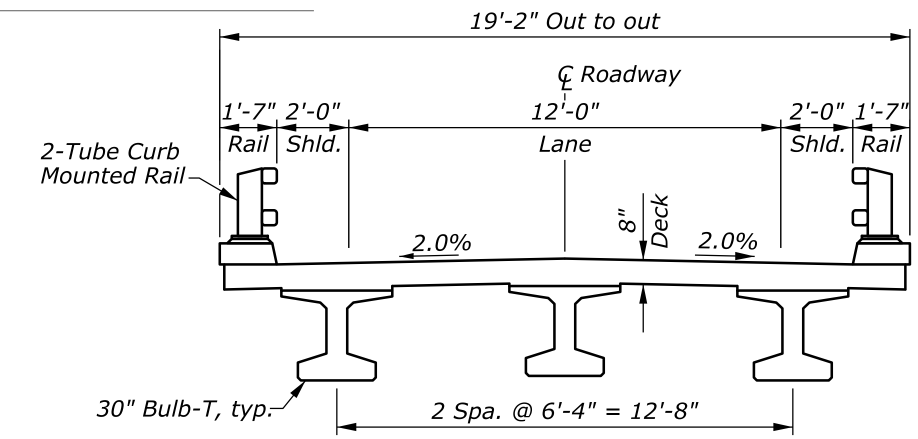

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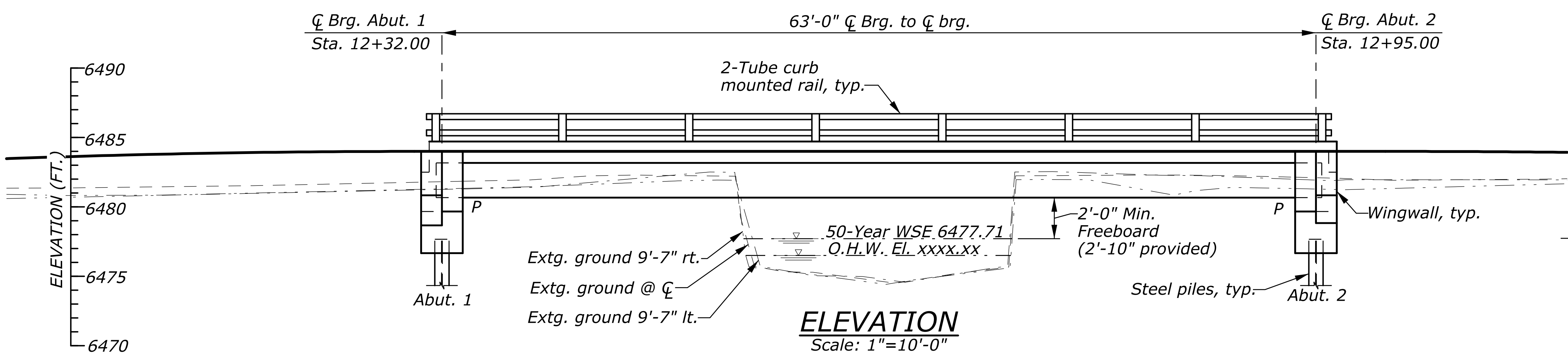

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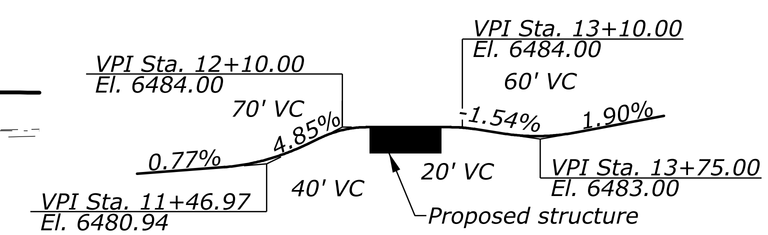

GRADELINE DIAGRAM
No Scale

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

TETON CENTENNIAL TRAIL

TARGHEE NATIONAL FOREST
TETON COUNTY

IDAHO

PLAN AND ELEVATION AND TYPICAL SECTION (ALTERNATIVE B)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS

DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
M. HARLAN	D. ALTENBURG	T. STONES	AS SHOWN ON PLANS	K. Gray	02 of 03	DECEMBER 2015	XXXXXX-X

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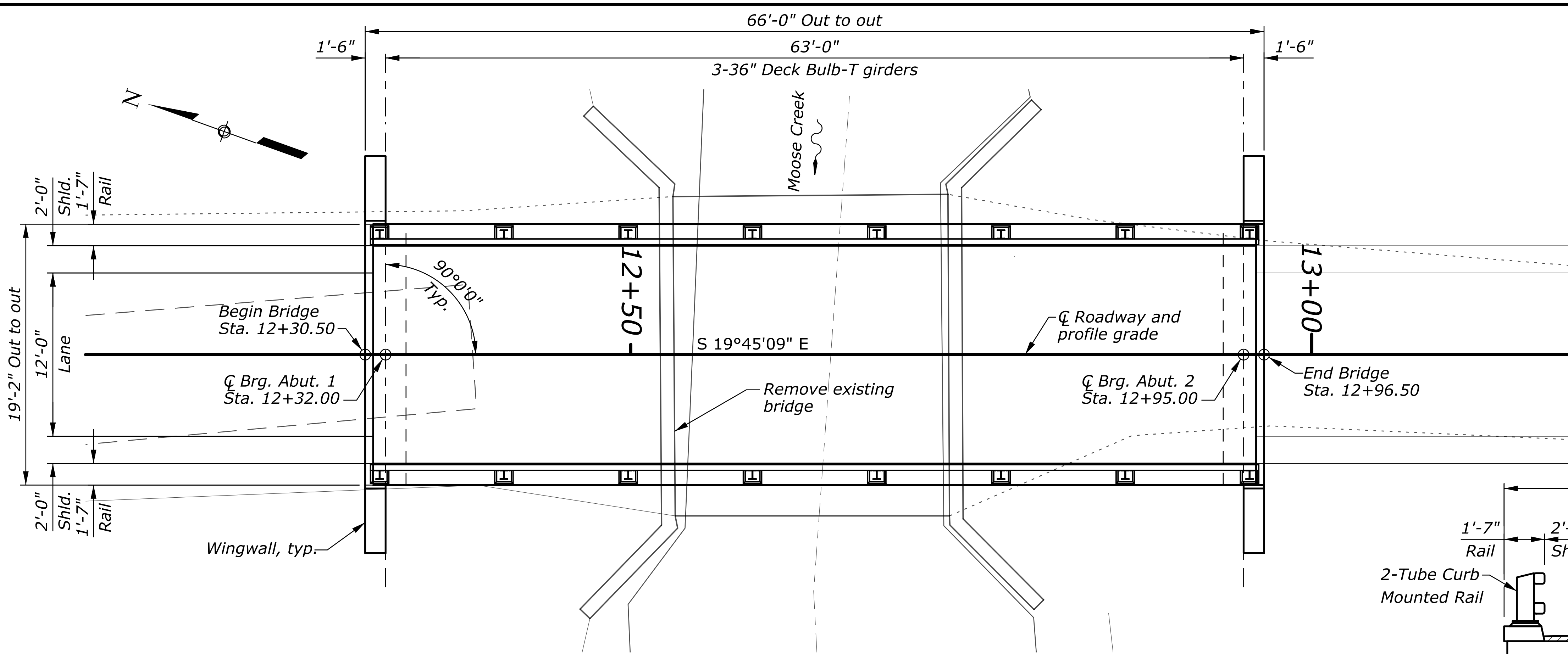
ID	ID DOT 33(1)	T.3



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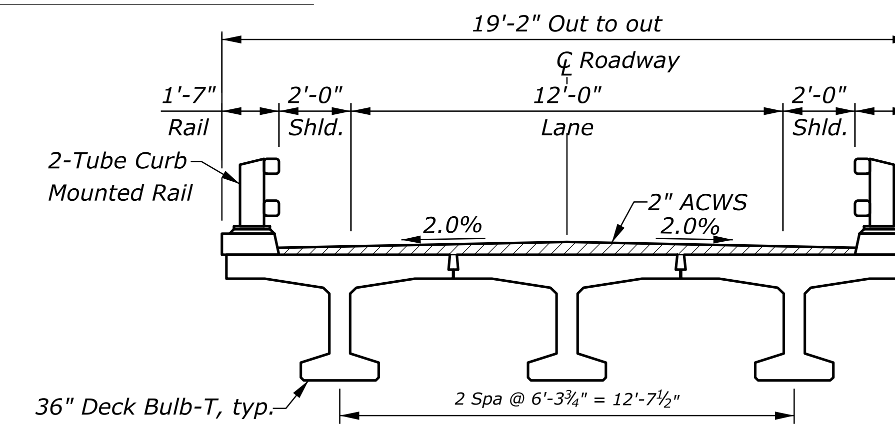

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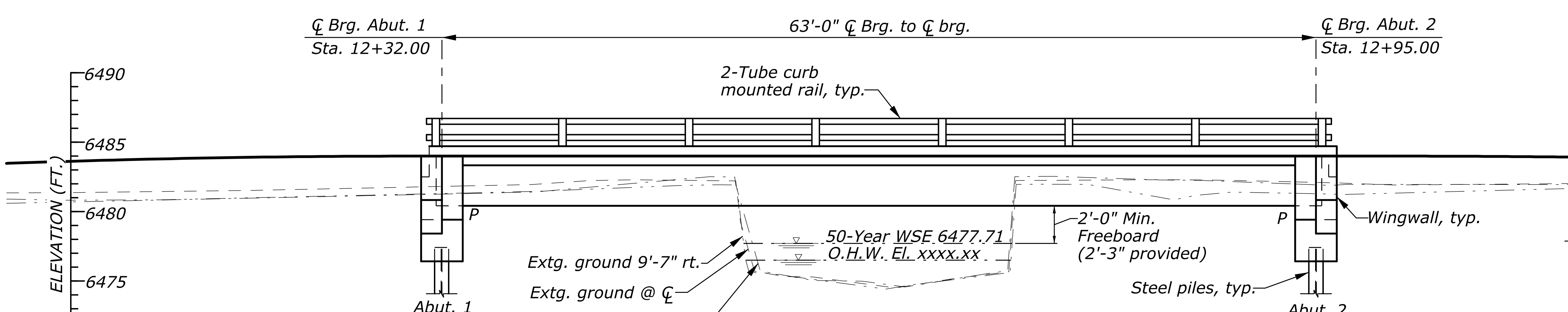

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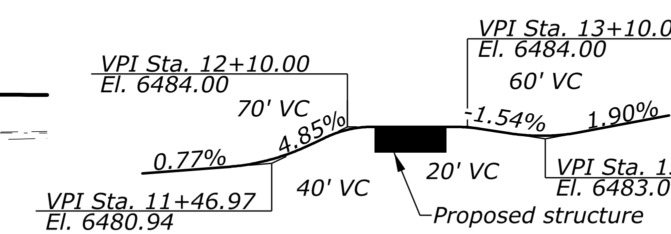


GRADELINE DIAGRAM
No Scale

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION

TETON CENTENNIAL TRAIL

TARGHEE NATIONAL FOREST
TETON COUNTY

IDAHO

PLAN AND ELEVATION AND TYPICAL SECTION (ALTERNATIVE C)

NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	PROJECT TEAM LEADER	BRIDGE DRAWING	DATE	DRAWING NO.
								M. HARLAN	D. ALTENBURG	T. STONES	AS SHOWN ON PLANS	K. Gray	03 of 03	DECEMBER 2015	XXXXXX-X

2 December 2015 3:31 PM \\Pdxfs1\project\F\FHAX00000220\0400CAD\BASES\FHAX0220_Brdg_Border.dgn [US_Sur_ft2D]

Attachment 6: Project Hazardous Materials Evaluation Report

GRI
9750 SW Nimbus Avenue
Beaverton, OR 97008-7172
p| 503-641-3478 f| 503-644-8034

TECHNICAL MEMORANDUM

To: John Maloney, PE / David Evans and Associates, Inc.

Date: November 17, 2015
GRI Project No.: 5728

From: George Freitag, CEG; Mike Marshall, RG

Re: Hazardous Materials Assessment
Western Federal Lands Highway Division (WFLHD)
ID DOT T 33(1), Teton Centennial Trail
Teton County, Idaho

DRAFT

This technical memorandum summarizes our hazardous materials assessment for the Teton Centennial Trail project in Teton County, Idaho and Wyoming. Our work was completed in accordance with our agreement with David Evans and Associates, Inc. (DEA) under WFLHD contract DTFH70-10-D-00019, Task Order No. DTFH7015F19006. The purpose of this assessment was to evaluate if recognized environmental conditions (e.g. potential hazardous waste/contaminated sites) are present in the project area. The proposed alignment is shown on the Site Plan, Figure 1.

SITE AND PROJECT DESCRIPTION

The Teton Centennial Trail project is located in Teton County, Idaho and Teton County, Wyoming. The project is located on the north side of Idaho State Highway 33 and Wyoming State Highway 22 and will include design and construction of a new approximately 2.1-mile bicycle/pedestrian path using portions of the Old Jackson Highway and an existing unimproved dirt trail from Moose Creek in Idaho to the Trail Creek Campground in Wyoming.

As currently planned, the project elements include:

- A10-ft-wide asphalt concrete surfaced path
- Replacement of a bridge at Moose Creek
- Possible retaining walls
- Possible parking lot
- A possible underpass structure or improvement near the Trail Creek Campground to allow pedestrian crossing of Highway 33
- A possible structure or improvement near Mike Harris Campground to allow pedestrian crossing of Highway 33

PHYSICAL SETTING

The U.S. Geological Survey (USGS) topographic map of the Victor 7.5-minute Quadrangle (2013) indicates the ground surface is at about elevation 6,700 ft (NAVD 88) at the east end of the project and slopes to the west to an elevation of about 6,560 ft near Moose Creek and the Mike Harris Campground at the west end of the project.

Geologic maps for the region indicate the site is mantled by Quaternary alluvial and colluvial deposits (Pampeyan et al., 1967). Underlying the Quaternary deposits are Neogene volcanic rocks consisting of light colored rhyolite tuff. Exposures of the volcanic rocks are predominately observed on the hill slopes to the southwest with occasional exposures on the hill slope to the northeast of the proposed project alignment. Cretaceous to Cambrian sedimentary and metamorphic rocks dipping southwest at approximately 30 to 35 degrees underlie the volcanic rocks. The Jackson Thrust fault and the Cache Creek Thrust fault parallel State Highway 33 / 22 and Trail Creek within the project limits.

Groundwater level measurements were collected during the completion of a water well located north of Moose Creek near the west end of the project in July 1992. The well log indicates static groundwater level was measured at 30 ft below the ground surface. Based on the steep surrounding topography, groundwater in the hill slopes above the project site likely flow toward Trail Creek from both southwest facing and northeast facing hillslopes in the project area.

RECORDS REVIEW

Standard Environmental Record Sources

A desktop records review of Federal, State, and Tribal Environmental Records Sources within the general framework of Section 7 of ASTM E 1527-13 Standard was completed. The review was conducted to evaluate and identify recognized environmental conditions (e.g., potential hazardous waste/contaminated facilities) in connection with properties on or adjacent to the proposed project.

GRI subcontracted with GeoSearch to compile government agency database information for listings of facilities or locations with recognized environmental conditions within one mile of the project site. The report was run on November 11, 2015. A copy of the GeoSearch Database report is provided in Attachment A.

Findings: No potential hazardous material facilities were identified within one mile of the project site.

Additional Environmental Record Sources

The Idaho Department of Environmental Quality (DOE) databases were accessed online on November 11, 2015, and a search by map was completed to determine if any facilities of interest were located in the vicinity.

Findings: No facilities were reported at or adjacent to the project site in the databases.

Historical Use Information

In November 2015, GRI reviewed aerial photographs dated 1943, 1953, 1965, 1973, 1980, 1987, 1994, 1999, 2003, and 2013 obtained from GeoSearch. A copy of the photographs is included in Attachment B. Land use based on interpretation of the photographs is described below.

Date	Comments
1943	The Old Jackson Road (Idaho State Highway 33) can be observed winding down the Trail Creek valley. A power transmission line is evident north of the road. No other significant land use activities are evident.
1953	No changes are evident from the previous photograph.
1965	It appears that Highway 33 has been realigned and widened since the previous aerial photograph. Portions of the older highway remain visible. Additional road construction can be observed southwest of the western terminus of the project near the Mike Harris Campground.
1973	No changes are evident from the previous photograph.
1980	No changes are evident from the previous photograph.
1987	No changes are evident from the previous photograph.
1994	No changes are evident from the previous photograph.
1999	No changes are evident from the previous photograph.
2003	No changes are evident from the previous photograph.
2013	No changes are evident from the previous photograph.

GRI also obtained and reviewed additional historical topographic maps from 1943, 1978, and 2013. A copy of the topographic maps is included in Attachment C. Land use interpretation of the topographic maps is described below.

Date	Comments
1943	The Old Jackson Road (Idaho State Highway 33) can be observed winding down the Trail Creek valley.
1978	It appears that Highway 33 has been realigned.
2013	No changes are evident from the previous map.

Findings: The Old Jackson Road (Idaho State Highway 33) was constructed at the project site sometime prior to 1943. The road was realigned between 1953 and 1965 and abandoned portions of the more sinuous older roadway remain. No significant land use changes could be observed since the 1965 aerial photograph. No buildings or other structures were observed within the vicinity of the project site since 1943.

MOOSE CREEK BRIDGE

The existing Moose Creek Bridge was constructed prior to 1943 and is composed of concrete with timber railing. The potential exists for the railing may have been constructed using chemically treated timber. Some of the surfaces of the bridge may be painted, and the paint could potentially be lead-based.

ROADWAY SHOULDER SOIL

The proposed project includes the use of areas that contain the former highway road. The historical use of lead gasoline additives, lead tire weights, and lead-based paint for road striping has introduced elevated concentrations of lead to surface soils near US highways (Barrett, et al. 1998). Some near-highway surface soils, termed *shoulder soils*, may contain lead at sufficient concentrations to represent potential risk to public health and the environment. The proposed project will likely include some excavation of soil for project alternatives. The Oregon and California state transportation departments have internal policies regarding management of lead-impacted shoulder soil (California Department of Transportation, 2009; Oregon Department of Transportation, 2014).

In our opinion, lead contamination from vehicle use of the transportation corridor may have affected roadway shoulder soil adjacent to the former abandoned highway and existing highway.

CONCLUSIONS

GRI performed a hazardous materials assessment of the Teton Centennial Trail project.

In our opinion, this assessment has not revealed records evidence of off-site hazardous material facilities that could affect the project.

In our opinion, the potential exists for chemically treated timber rails to be present on the existing Moose Creek Bridge. Given the small quantity of timber rail, it may be most practical to assume the rail to be treated and managed/recycled as part of the project plans. Alternatively, the timbers could be sampled to confirm the absence of chemical treatment. The bridge may also have paint that is lead based. Prior to demolition, the surfaces of the bridge should be sampled and evaluated for the potential presence of lead-based paint.

In our opinion, lead contamination from vehicle use of the transportation corridor may have affected roadway shoulder soil adjacent to the former abandoned highway and existing highway. We recommend the project team evaluate the need for additional environmental characterization of shoulder soils that may be impacted by project construction. If project site soils are analyzed for lead, a focused program of local area background testing for naturally occurring concentrations should also be considered.

LIMITATIONS AND EXCEPTIONS

This report has been prepared to assist DEA and WFLHD in evaluating the potential for recognized environmental conditions (e.g. potential hazardous waste/contaminated sites) in the project area. More extensive assessment, including additional historical review, a site visit by an environmental professional, site exploration, soil and groundwater sampling, and chemical analyses, may be used to supplement the information presented by this assessment and reduce uncertainty beyond the level associated with this assessment.

The findings and conclusions presented in this report are based on our interpretation of the information obtained through the assessment procedures described in this report. Note this assessment was limited to a records review and a site visit by an environmental professional was not completed. No other warranty or representation, either expressed or implied, is included or intended in this report.

Submitted for GRI,

George A. Freitag, CEG
Associate

Michael S. Marshall, RG
Project Geologist

References:

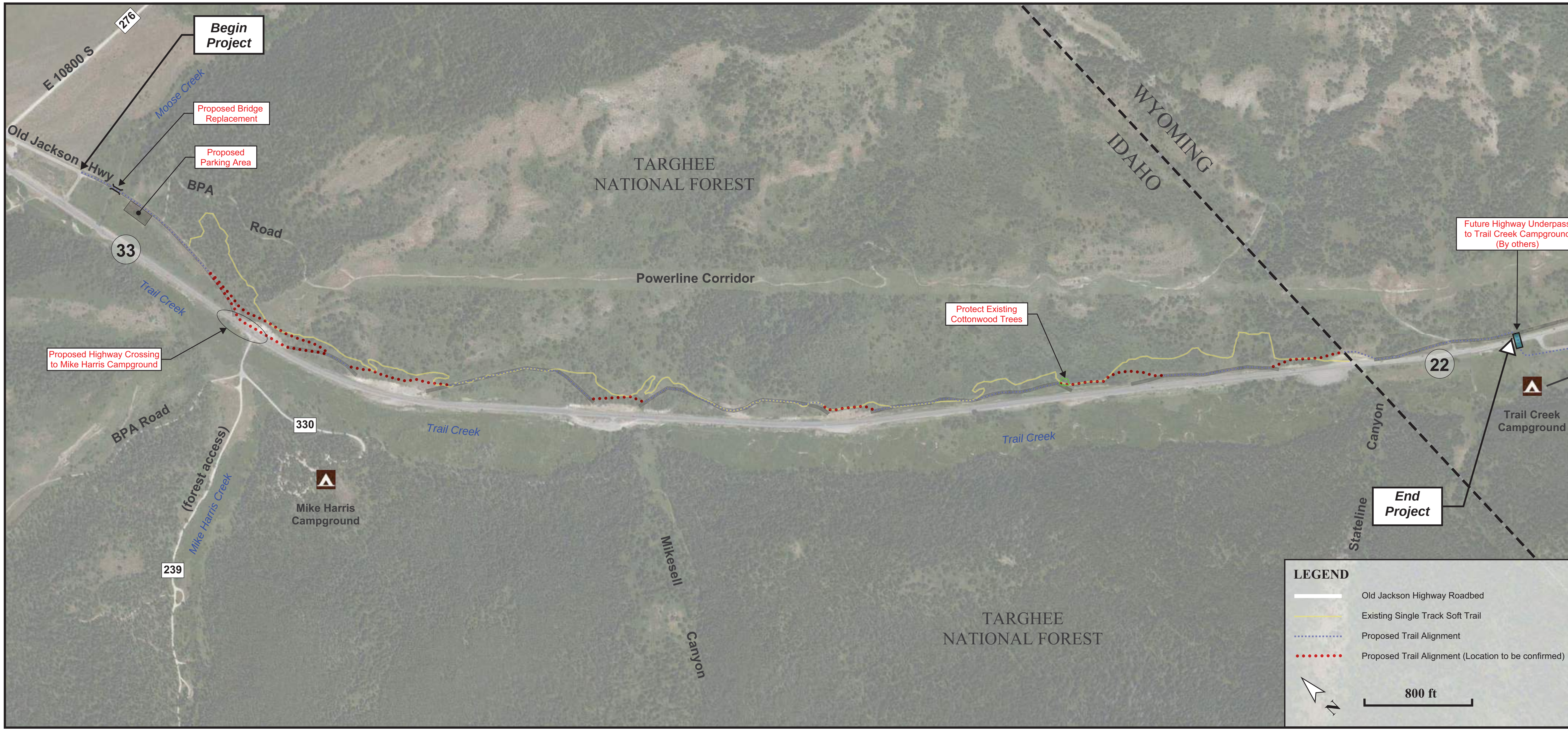
Barrett, M.E., Irish, Jr., L.B., Malina, Jr., J.F., Charbeneau, R.J., "Characterization of Highway Runoff in Austin, Texas Area," Journal of Environmental Engineering, 124: (No. 2), pp 131-137, (1998).

California Department of Transportation, July 1, 2009, as amended, Variance from California Environmental Protection Agency, Department of Toxic Substances Control, regarding management of aerially deposited lead impacted soils in Caltrans' rights-of-way,(http://www.dot.ca.gov/hq/env/haz/pdfs/adl/h295.pdf)

Oregon Department of Transportation, September 14, 2014, Geo-Environmental Section Directive, GE 14-01(D), Management of surface soils removed within operational right-of-way, (http://www.oregon.gov/ODOT/HWY/TECHSERV/docs/tech_bulletins/GE14-01d.pdf)

Pampeyan, E.H., Schroeder, M.L., Schell, E.M., and Cressman, E.R., 1967, Geologic map of the Driggs quadrangle, Bonneville and Teton Counties, Idaho, and Teton County, Wyoming: U.S. Geological Survey, Mineral Investigations Field Studies Map MF-300, scale 1:31,680

U.S. Geological Survey, 2013, Topographic map of the Victor, Idaho, quadrangle, 7.5-min. series, scale 1:24,000.



SITE PLAN FROM FILE BY DAVID EVANS AND ASSOCIATES, INC. (DATED NOVEMBER 10, 2015)

GRI

DAVID EVANS AND ASSOCIATES, INC.
TETON CENTENNIAL TRAIL

SITE PLAN

NOV. 2015 JOB NO. 5728 FIG. 1

ATTACHMENT A

GeoSearch Database Report

GeoSearch
On time. On target. In touch.™

Radius Report

Satellite view

Target Property:

Centennial Trail
idaho 33
victor, Teton County, Idaho 83455

Prepared For:

GRI

Order #: 59372
Job #: 127887
Date: 11/12/2015

Table of Contents

Disclaimer

This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR §312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal,state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR §312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.

The information provided in this report was obtained from a variety of public sources. GeoSearch cannot ensure and makes no warranty or representation as to the accuracy, reliability, quality, errors occurring from data conversion or the customer's interpretation of this report. This report was made by GeoSearch for exclusive use by its clients only. Therefore, this report may not contain sufficient information for other purposes or parties. GeoSearch and its partners, employees, officers And independent contractors cannot be held liable For actual, incidental, consequential, special or exemplary damages suffered by a customer resulting directly or indirectly from any information provided by GeoSearch.

Target Property Summary

Centennial Trail
idaho 33
victor, Teton County, Idaho 83455

USGS Quadrangle: ***Victor, ID***
Target Property Geometry: ***Corridor***

Target Property Longitude(s)/Latitude(s):
(-111.06870, 43.562870), (-111.06699, 43.557490), (-111.06124, 43.552202), (-111.05855, 43.550103), (-111.05383, 43.547428), (-111.04774, 43.544255), (-111.04525, 43.543260)

County/Parish Covered:
Teton (ID) , Teton (WY)

Zipcode(s) Covered:
Wilson WY: 83014
Victor ID: 83455

State(s) Covered:
ID,WY

****Target property is located in Radon Zone 2.***
Zone 2 areas have a predicted average indoor radon screening level between 2 and 4 pCi/L (picocuries per liter).

This report may have unlocatable records. Please see the Unlocatables Report, attached to this file.

Database Findings Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSWY	0	0	TP/AP
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSID	0	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
NO LONGER REGULATED RCRA GENERATOR FACILITIES	NLRRCRAG	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR FACILITIES	RCRAGR10	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR FACILITIES	RCRAGR08	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR FACILITIES	RCRANGR08	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR FACILITIES	RCRANGR10	0	0	0.1250
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	0.5000
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION & LIABILITY INFORMATION SYSTEM	CERCLIS	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	0.5000
NO FURTHER REMEDIAL ACTION PLANNED SITES	NFRAP	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	0.5000
NATIONAL PRIORITIES LIST	NPL	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	1.0000

SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	0	0	TP/AP
BIENNIAL REPORTING SYSTEM	BRS	0	0	TP/AP

Database Findings Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CERCLIS LIENS	SFLIENS	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	0	0	TP/AP
FACILITY REGISTRY SYSTEM	FRSID	0	0	TP/AP
FACILITY REGISTRY SYSTEM	FRSWY	0	0	TP/AP
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR08	0	0	TP/AP
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR10	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	ICIS	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	ICISNPDES	0	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR08	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR10	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	PADS	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR08	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR10	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	SSTS	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
TOXICS RELEASE INVENTORY	TRI	0	0	TP/AP
HISTORICAL GAS STATIONS	HISTPST	0	0	0.2500
OPEN DUMP INVENTORY	ODI	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	DOD	0	0	1.0000
FORMERLY USED DEFENSE SITES	FUDS	0	0	1.0000
RECORD OF DECISION SYSTEM	RODS	0	0	1.0000

SUB-TOTAL		0	0	

Database Findings Summary

STATE (ID) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INSTITUTIONAL AND ENGINEERING CONTROLS REGISTRY	ICEC	0	0	TP/AP
REGISTERED UNDERGROUND STORAGE TANKS	RUST	0	0	0.2500
BROWNFIELD SITES	BF	0	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS	LUST	0	0	0.5000
REMEDIATION PROGRAM SITES	RP	0	0	0.5000
SOLID WASTE FACILITIES	SWF	0	0	0.5000
VOLUNTARY CLEANUP SITES	VCP	0	0	0.5000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CLANDESTINE DRUG LABORATORIES	CDL	0	0	TP/AP
SPILLS LISTING	SPILLS	0	0	TP/AP
UNDERGROUND INJECTION CONTROL WELLS	UIC	0	0	TP/AP
DRY CLEANERS	CLEANERS	0	0	0.2500
SUB-TOTAL		0	0	

STATE (WY) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
SITES WITH INSTITUTIONAL CONTROLS IN PLACE	IC	0	0	TP/AP
STORAGE TANKS	ST	0	0	0.2500
LEAKING STORAGE TANKS	LST	0	0	0.5000
PERMITTED SOLID WASTE FACILITIES	SWF	0	0	0.5000
VOLUNTARY REMEDIATION PROGRAM AND BROWNFIELD SITES	VRPBF	0	0	0.5000
SUB-TOTAL		0	0	

Additional Environmental Records

Database Findings Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
ORPHAN SITES	ORPHANS	0	0	0.5000

SUB-TOTAL		0	0	

Database Findings Summary

TRIBAL LISTING

Standard Environmental Records

Database	**Acronym**	**Locatable**	**Unlocatable**	**Search Radius (miles)**
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	*USTR08*	*0*	*0*	*0.2500*
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	*USTR10*	*0*	*0*	*0.2500*
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	*LUSTR10*	*0*	*0*	*0.5000*
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	*LUSTR08*	*0*	*0*	*0.5000*
OPEN DUMP INVENTORY ON TRIBAL LANDS	*ODINDIAN*	*0*	*0*	*0.5000*
SUB-TOTAL		*0*	*0*	

Additional Environmental Records

Database	**Acronym**	**Locatable**	**Unlocatable**	**Search Radius (miles)**
INDIAN RESERVATIONS	*INDIANRES*	*0*	*0*	*1.0000*
SUB-TOTAL		*0*	*0*	

TOTAL		*0*	*0*	

Locatable Database Findings

FEDERAL LISTING

Standard environmental records are displayed in ***bold****.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
EC	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
ERNSID	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
ERNSWY	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
FRSID	0.0200	0	NS	NS	NS	NS	NS	0
FRSWY	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR08	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR10	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	0	NS	NS	NS	NS	NS	0
ICISNPDES	0.0200	0	NS	NS	NS	NS	NS	0
LUCIS	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NPDESR08	0.0200	0	NS	NS	NS	NS	NS	0
NPDESR10	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR08	0.0200	0	NS	NS	NS	NS	NS	0
PCSR10	0.0200	0	NS	NS	NS	NS	NS	0
RCRASC	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	0	NS	NS	NS	NS	NS	0
TRI	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
NLRRCRAG	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
RCRAGR08	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
RCRAGR10	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
RCRANGR08	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
RCRANGR10	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
HISTPST	0.2500	0	0	0	NS	NS	NS	0
BF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
CERCLIS	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
DNPL	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
NFRAP	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**

Locatable Database Findings

Acronym	*Search Radius (miles)*	*TP/AP (0 - 0.02)*	*1/8 Mile (> TP/AP)*	*1/4 Mile (> 1/8)*	*1/2 Mile (> 1/4)*	*1 Mile (> 1/2)*	*> 1 Mile*	*Total*
NLRRCRAT	***0.5000***	***0***	***0***	***0***	***0***	***NS***	***NS***	***0***
ODI	*0.5000*	*0*	*0*	*0*	*0*	*NS*	*NS*	*0*
RCRAT	***0.5000***	***0***	***0***	***0***	***0***	***NS***	***NS***	***0***
DOD	*1.0000*	*0*	*0*	*0*	*0*	*0*	*NS*	*0*
FUDS	*1.0000*	*0*	*0*	*0*	*0*	*0*	*NS*	*0*
NLRRCRAC	***1.0000***	***0***	***0***	***0***	***0***	***0***	***NS***	***0***
NPL	***1.0000***	***0***	***0***	***0***	***0***	***0***	***NS***	***0***
PNPL	***1.0000***	***0***	***0***	***0***	***0***	***0***	***NS***	***0***
RCRAC	***1.0000***	***0***	***0***	***0***	***0***	***0***	***NS***	***0***
RCRASUBC	***1.0000***	***0***	***0***	***0***	***0***	***0***	***NS***	***0***
RODS	*1.0000*	*0*	*0*	*0*	*0*	*0*	*NS*	*0*
SUB-TOTAL		*0*	*0*	*0*	*0*	*0*	*0*	*0*

STATE (ID) LISTING

*Standard environmental records are displayed in **bold**.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
CDL	0.0200	0	NS	NS	NS	NS	NS	0
ICEC	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
SPILLS	0.0200	0	NS	NS	NS	NS	NS	0
UIC	0.0200	0	NS	NS	NS	NS	NS	0
CLEANERS	0.2500	0	0	0	NS	NS	NS	0
RUST	**0.2500**	**0**	**0**	**0**	**NS**	**NS**	**NS**	**0**
BF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
LUST	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
RP	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
SWF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
VCP	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
SUB-TOTAL		0	0	0	0	0	0	0

Locatable Database Findings

STATE (WY) LISTING

*Standard environmental records are displayed in **bold**.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
IC	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
ST	**0.2500**	**0**	**0**	**0**	**NS**	**NS**	**NS**	**0**
LST	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
ORPHANS	0.5000	0	0	0	0	NS	NS	0
SWF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
VRPBF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
SUB-TOTAL		0	0	0	0	0	0	0

Locatable Database Findings

TRIBAL LISTING

*Standard environmental records are displayed in **bold**.*

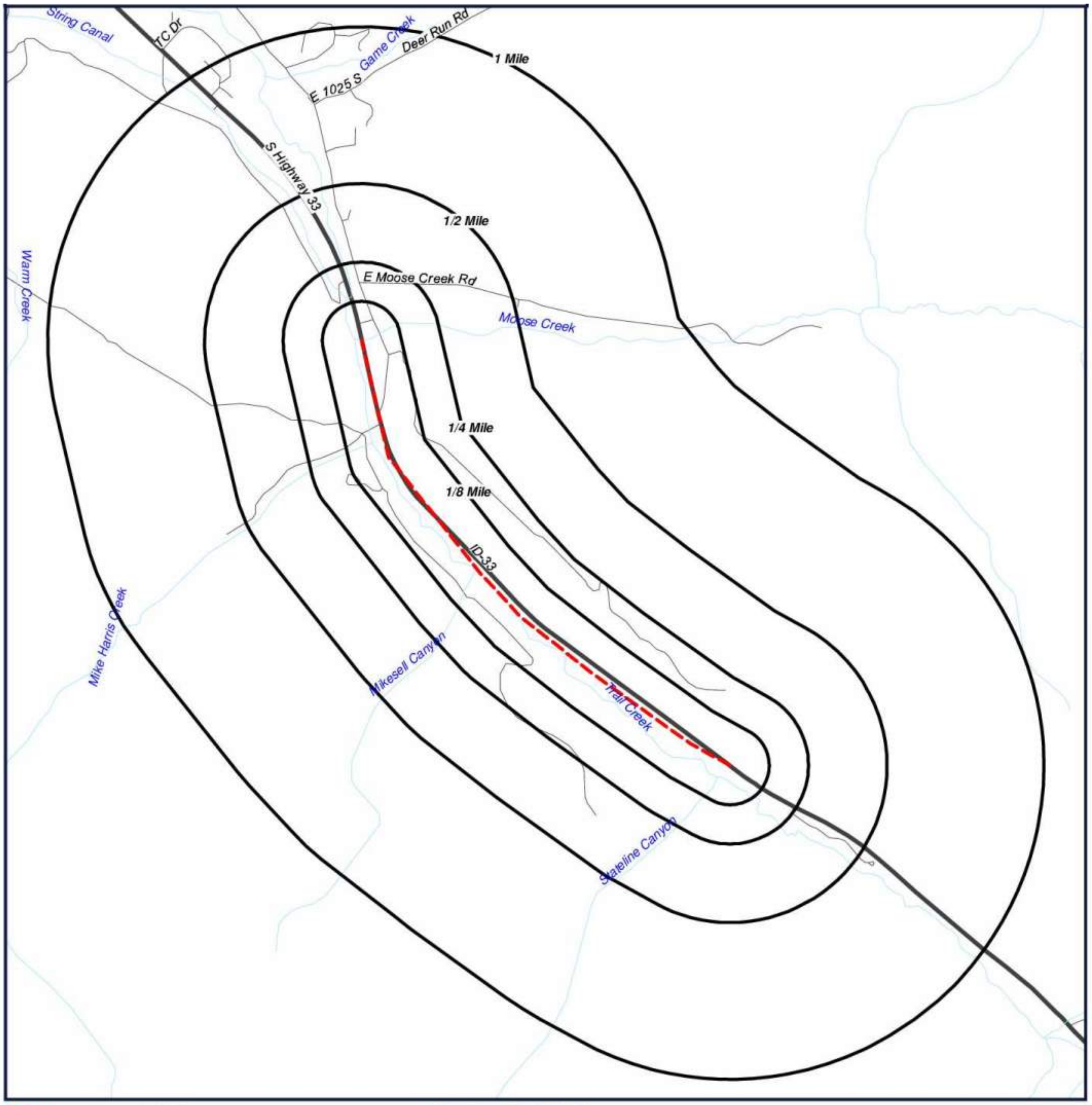
Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
USTR08	**0.2500**	**0**	**0**	**0**	**NS**	**NS**	**NS**	**0**
USTR10	**0.2500**	**0**	**0**	**0**	**NS**	**NS**	**NS**	**0**
LUSTR08	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
LUSTR10	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
ODINDIAN	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
INDIANRES	1.0000	0	0	0	0	0	NS	0

SUB-TOTAL		0	0	0	0	0	0	0

TOTAL		0	0	0	0	0	0	0

NOTES:
NS = NOT SEARCHED
TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Radius Map 1



Target Property (TP)

Centennial Trail
idaho 33
victor, Idaho
83455

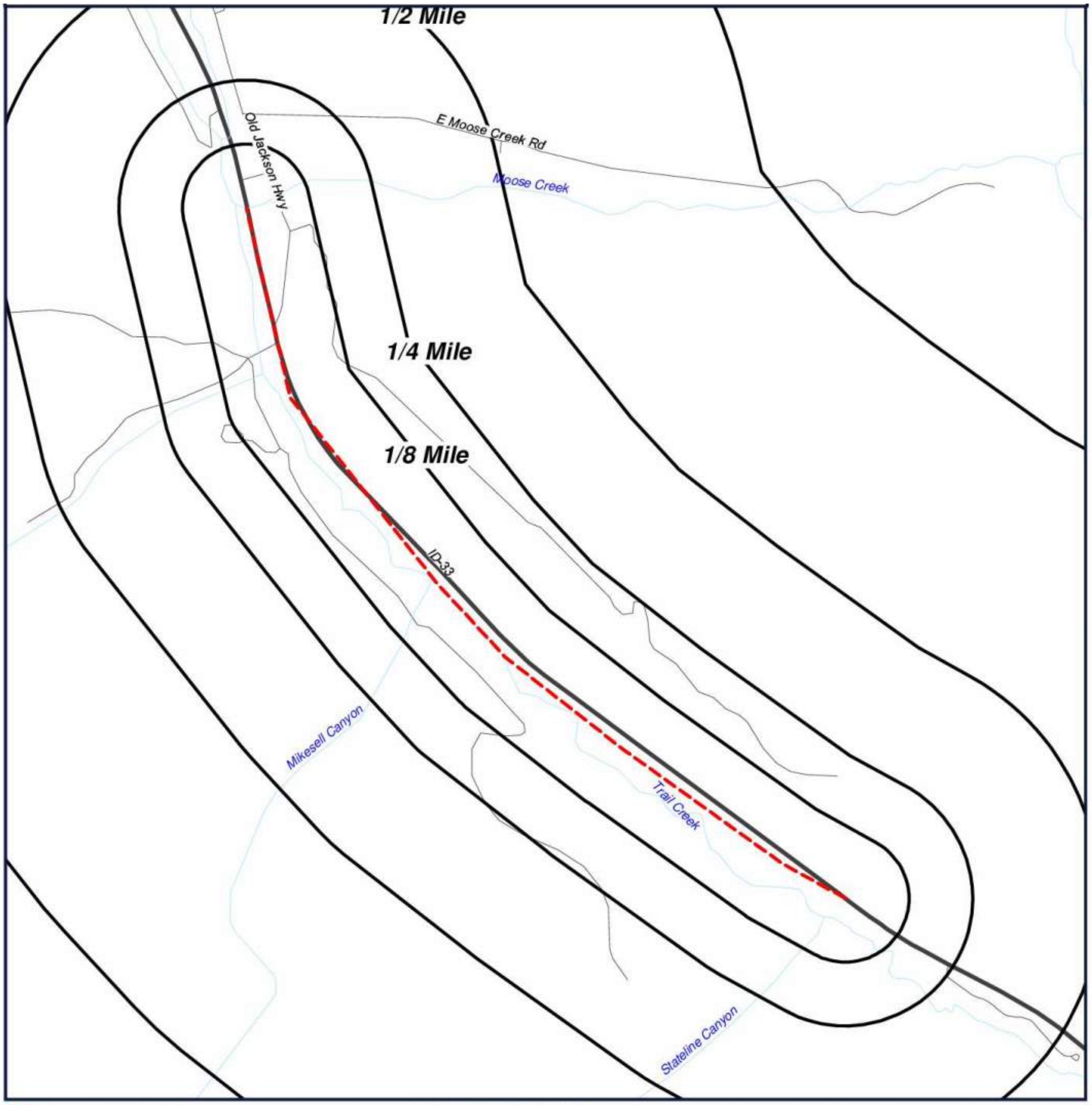
N W E S

0' 1300' 2600' 3900'

SCALE: 1" = 2600'

Click here to access Satellite view

Radius Map 2

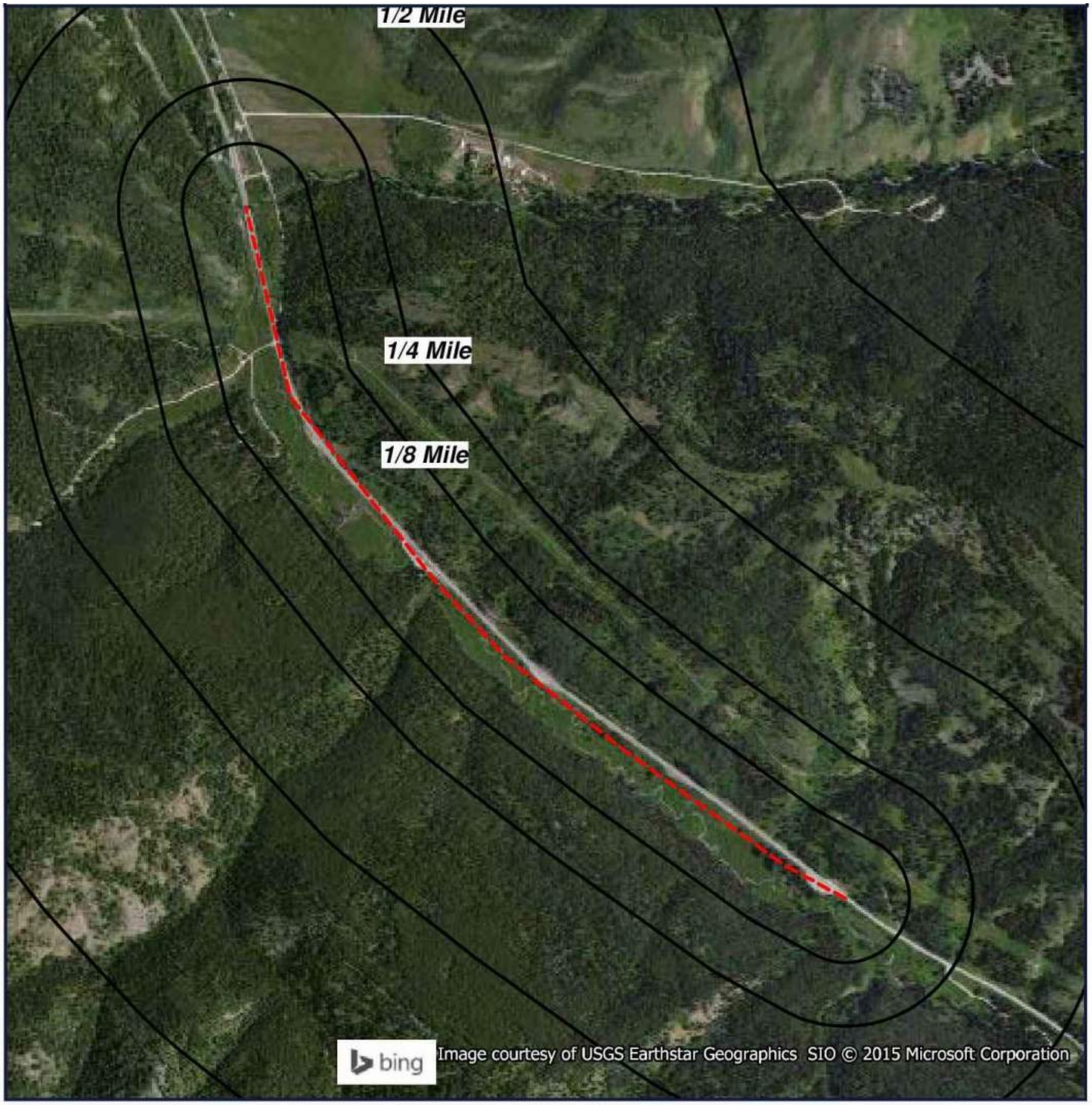


Target Property (TP)

Centennial Trail
idaho 33
victor, Idaho
83455

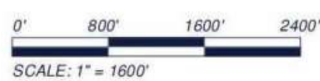
Click here to access Satellite view

Ortho Map



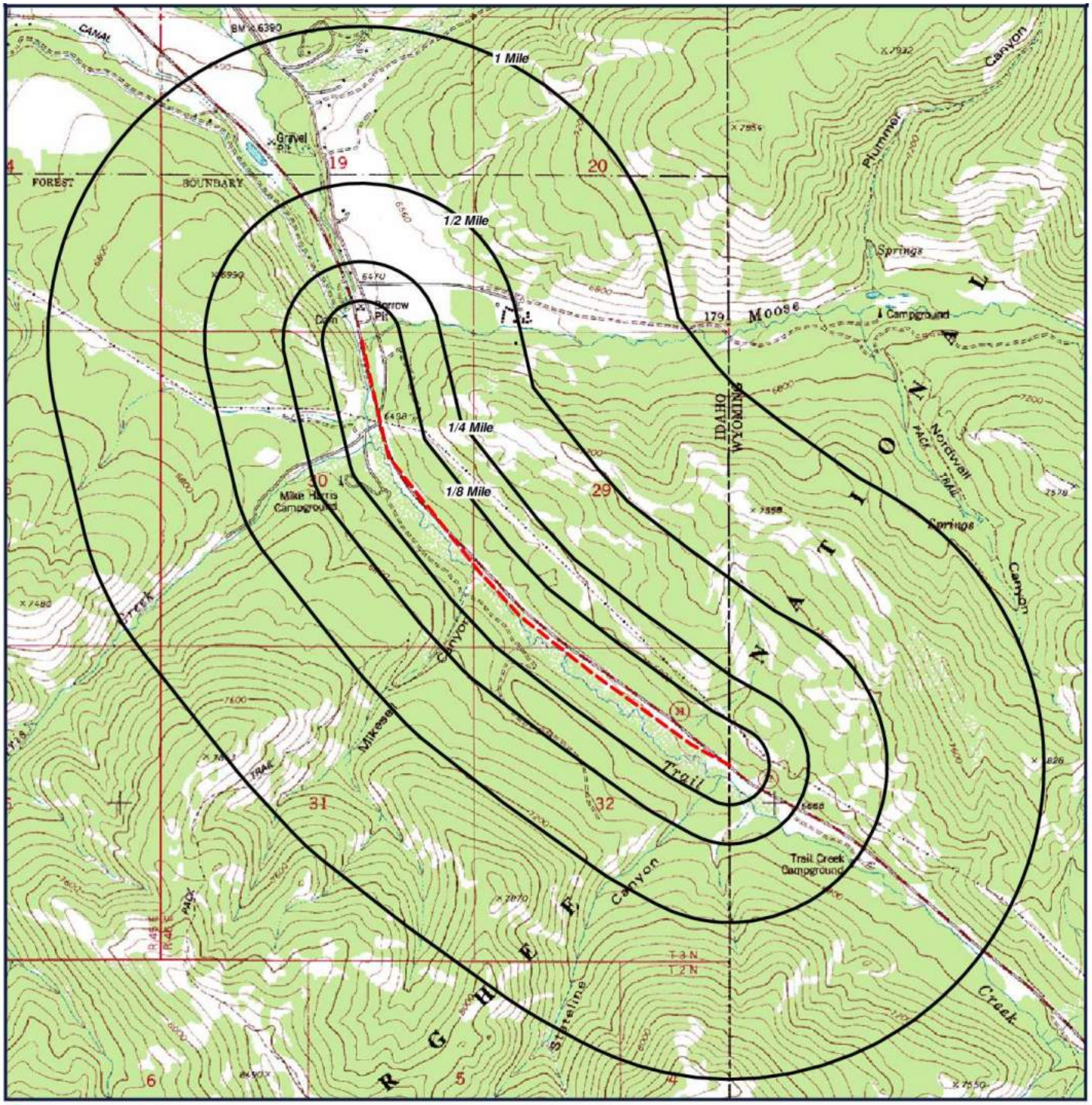
Target Property (TP)

Quadrangle(s): Victor
Centennial Trail
idaho 33
victor, Idaho
83455



[Click here to access Satellite view]

Topographic Map



Target Property (TP)

Quadrangle(s): Victor
Source: USGS, 1978
Centennial Trail
idaho 33
victor, Idaho
83455

N W E S

0' 1300' 2600' 3900'
SCALE: 1" = 2600'

[Click here to access Satellite view]

Unlocatable Summary

This list contains sites that could not be mapped due to limited or incomplete address information.

No Records Found

AIRSAFS Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance.

BRS Biennial Reporting System

VERSION DATE: 12/31/11

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 07/02/15

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

DOCKETS EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

EC Federal Engineering Institutional Control Sites

VERSION DATE: 08/03/15

This database includes site locations where Engineering and/or Institutional Controls have been identified as part of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination.

ERNSID Emergency Response Notification System

VERSION DATE: 05/10/15

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

ERNSWY Emergency Response Notification System

VERSION DATE: 05/10/15

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

FRSID Facility Registry System

VERSION DATE: 07/20/15

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

FRSWY Facility Registry System

VERSION DATE: 07/20/15

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

HMIRSR08 Hazardous Materials Incident Reporting System

VERSION DATE: 11/08/15

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

HMIRSR10 Hazardous Materials Incident Reporting System

VERSION DATE: 11/08/15

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes.

ICIS Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 10/20/14

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

ICISNPDES Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 10/20/14

In 2006, the Integrated Compliance Information System (ICIS) - National Pollutant Discharge Elimination System (NPDES) became the NPDES national system of record for select states, tribes and territories. ICIS-NPDES is an information management system maintained by the United States Environmental Protection Agency's Office of Compliance to track permit compliance and enforcement status of facilities regulated by the NPDES under the Clean Water Act. ICIS-NPDES is designed to support the NPDES program at the state, regional, and national levels.

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

MLTS Material Licensing Tracking System

VERSION DATE: 03/11/15

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements.

NPDESR08 National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Information in this database is extracted from the Water Permit Compliance System (PCS) database which is used by United States Environmental Protection Agency to track surface water permits issued under the Clean Water Act. This database includes permitted facilities located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. The NPDES database was collected from December 2002 until April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data.

NPDESR10 National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Information in this database is extracted from the Water Permit Compliance System (PCS) database which is used by United States Environmental Protection Agency to track surface water permits issued under the Clean Water Act. This database includes permitted facilities located in EPA Region 10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes. The NPDES database was collected from December 2002 until April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data.

PADS PCB Activity Database System

VERSION DATE: 07/01/14

The PCB Activity Database System (PADS) is used by the United States Environmental Protection Agency to monitor the activities of polychlorinated biphenyls (PCB) handlers.

PCSR08 Permit Compliance System

VERSION DATE: 08/01/12

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

PCSR10 Permit Compliance System

VERSION DATE: 08/01/12

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

RCRASC RCRA Sites with Controls

VERSION DATE: 05/19/15

This list of Resource Conservation and Recovery Act sites with institutional controls in place is provided by the U.S. Environmental Protection Agency.

SFLIENS CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete.

SSTS Section Seven Tracking System

VERSION DATE: 12/08/14

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. ("Production" includes formulation, packaging, repackaging, and relabeling.)

TRI Toxics Release Inventory

VERSION DATE: 12/31/13

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

TSCA	Toxic Substance Control Act Inventory
VERSION DATE: 12/31/06	

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and importer site.

NLRRCRAG	No Longer Regulated RCRA Generator Facilities
VERSION DATE: 10/13/15	

This database includes RCRA Generator facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly generated hazardous waste.
Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.
Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.
Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

RCRAGR08 Resource Conservation & Recovery Act - Generator Facilities

VERSION DATE: 10/13/15

This database includes sites listed as generators of hazardous waste (large, small, and exempt) in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.
Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.
Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.
Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

RCRAGR10 Resource Conservation & Recovery Act - Generator Facilities

VERSION DATE: 10/13/15

This database includes sites listed as generators of hazardous waste (large, small, and exempt) in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes.
Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or

Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.

Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.

Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

RCRANGR08 Resource Conservation & Recovery Act - Non-Generator Facilities

VERSION DATE: 10/13/15

This database identifies RCRAInfo system sites that only handle hazardous waste, such as transporters, without generating any amount hazardous waste. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

RCRANGR10 Resource Conservation & Recovery Act - Non-Generator Facilities

VERSION DATE: 10/13/15

This database identifies RCRAInfo system sites that only handle hazardous waste, such as transporters, without generating any amount hazardous waste. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes.

HISTPST Historical Gas Stations

VERSION DATE: NR

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

BF Brownfields Management System

VERSION DATE: 10/08/15

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

CERCLIS Comprehensive Environmental Response, Compensation & Liability Information System

VERSION DATE: 10/25/13

CERCLIS is the repository for site and non-site specific Superfund information in support of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This United States Environmental Protection Agency database contains an extract of sites that have been investigated or are in the process of being investigated for potential environmental risk. In 2014, the Superfund Program implemented a new information system, the Superfund Enterprise Management System (SEMS). Efforts to migrate data to SEMS and to enhance data quality control are now in the final stages. The Program will continue to rely on the final CERCLIS data set (dated November 12, 2013, which reflects official end of Fiscal Year 2013 Program progress) for public reporting until a complete and accurate SEMS data set is available.

DNPL Delisted National Priorities List

VERSION DATE: 07/22/15

This database includes sites from the United States Environmental Protection Agency's Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

NFRAP No Further Remedial Action Planned Sites

VERSION DATE: 10/25/13

NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the National Priorities List, or the contamination was not serious enough to require Federal Superfund action.

NLRRCRAT No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 10/13/15

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

ODI Open Dump Inventory

VERSION DATE: 06/01/85

The open dump inventory was published by the United States Environmental Protection Agency. An “open dump” is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

RCRAT Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 10/13/15

This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

DOD Department of Defense Sites

VERSION DATE: 06/21/10

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

FUDS Formerly Used Defense Sites

VERSION DATE: 06/01/15

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not all properties currently have polygon data available. DISCLAIMER: This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 10/13/15

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

NPL National Priorities List

VERSION DATE: 07/22/15

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

PNPL Proposed National Priorities List

VERSION DATE: 07/22/15

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 10/13/15

This database includes all hazardous waste sites with ongoing corrective action activity and where corrective action is statutorily required to be address but have not had corrective action imposed in the RCRAInfo system. The Corrective Action Program requires owners or operators of RCRA facilities (or treatment, storage, and disposal facilities) to investigate and cleanup contamination in order to protect human health and the environment. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RCRASUBC Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 10/13/15

This database includes hazardous waste sites which are potentially subject to corrective action regardless of whether they have correction action underway, plus any sites showing a corrective action event of RFI or beyond in the RCRAInfo system. Sites conducting corrective action under analogous state authorities are also included. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RODS Record of Decision System

VERSION DATE: 07/01/13

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

CDL Clandestine Drug Laboratories

VERSION DATE: 01/26/15

This list of Clandestine Drug Laboratories is provided by the Idaho Department of Health and Welfare (IDHW). Senate Bill 1122 gave the IDHW the authority and responsibility to develop and maintain a program that lists properties that were used as clandestine drug labs. The IDHW has put together guidance to assist local agencies, property owners, contractors and the general public in addressing contamination at former meth labs.

ICEC Institutional and Engineering Controls Registry

VERSION DATE: 10/08/15

This list of Environmental Covenants is provided by the Idaho Department of Environmental Quality (DEQ). According to the DEQ, an environmental covenants is a legal instrument recorded on real property and governed by the Uniform Environmental Covenants Act. An environmental covenants can only be used on properties that are the subject of an environmental response project under the oversight of the DEQ. An environmental covenant commonly used as a component of a risk-based cleanup to control the potential risks posed by residual contamination, protect the integrity of the cleanup action, and ensure continued protection of human health and the environment.

SPILLS Spills Listing

VERSION DATE: 09/10/15

The Idaho Department of Health and Welfare (IDHM) maintains this list of hazardous materials spills and releases. The information is recorded through the State of Idaho's Central Communications Center.

UIC Underground Injection Control Wells

VERSION DATE: 10/09/15

This is a list of injection wells in the Idaho Department of Water Resources (IDWR) Underground Injection Control (UIC) Program Injection Well database. IDWR is the state agency with primacy for injection wells in Idaho. Injection wells are generally defined as any subsurface fluid distribution system.

CLEANERS Dry Cleaners

VERSION DATE: 12/31/02

The Idaho Department of Environmental Quality (DEQ) gathered air quality data on dry cleaners as part of a Tier I applicability project during 2001 and 2002. The Environmental Protection Agency (EPA) has since determined that dry cleaners are not applicable to this program unless they are a major source. None of the dry cleaners in Idaho are major sources and as such, DEQ no longer maintains updated information on dry cleaners.

RUST Registered Underground Storage Tanks

VERSION DATE: 10/08/15

This underground storage tank database is provided by the Idaho Department of Environmental Quality (DEQ) and includes active and closed underground storage tanks.

BF Brownfield Sites

VERSION DATE: 10/08/15

The Idaho Department of Environmental Quality (DEQ) maintains this list of brownfield program sites. According to the DEQ, a brownfield site is a vacant or underutilized property where redevelopment or reuse is complicated by actual or perceived environmental contamination.

LUST Leaking Underground Storage Tanks

VERSION DATE: 10/08/15

The Idaho Department of Environmental Quality (DEQ) maintains this list of leaking underground storage tanks (LUST). The DEQ LUST program provides for the oversight and cleanup of petroleum releases from state-regulated underground storage tanks.

RP Remediation Program Sites

VERSION DATE: 10/08/15

The Idaho Department of Environmental Quality (DEQ) Waste Management and Remediation Division oversees various sites and facilities that generate or manage wastes or have released wastes into the environment and require remediation. The DEQ Waste Management & Remediation Division categorizes sites into various regulatory programs. The programs included within this list are LUST, UST, RCRA, Brownfields, VCP, NPL, Installation Restoration Program, Mine, Solid Waste, General Remediation, FUDS, and Other- Industrial Preliminary Assessment Program sites.

SWF Solid Waste Facilities

VERSION DATE: 10/08/15

The Idaho Department of Environmental Quality (DEQ) provides this list of solid waste facilities. The DEQ is designated as the state agency responsible for regulating most solid waste management facilities in Idaho, including landfills, incinerators, transfer stations, processing facilities, and wood or mill yard debris facilities under the Idaho Solid Waste Facilities Act and IDAPA 58.01.06.

VCP Voluntary Cleanup Sites

VERSION DATE: 10/08/15

The Idaho Department of Environmental Quality (DEQ) maintains this list of Voluntary Cleanup Program (VCP) sites. The DEQ VCP program was created in 1996 by the Idaho Land Remediation Act to encourage innovation and cooperation between the state, local communities, and private parties to revitalize properties with hazardous substance or petroleum contamination.

IC Sites with Institutional Controls in Place

VERSION DATE: 09/17/15

As defined by the Wyoming Department of Environmental Quality (DEQ), institutional controls are legal or administrative measures that limit human exposure to contaminants. Examples include use control areas, easements, zoning restrictions, and deed notices. They are intended to bolster the integrity of remedies and minimize the potential exposure to contamination by limiting land or resource use. This list of sites with institutional controls in place is provided by the DEQ's Voluntary Remediation Program.

ST Storage Tanks

VERSION DATE: 07/01/15

This listing contains active and inactive storage tank facilities regulated by the Wyoming Department of Environmental Quality's Storage Tank Program (STP). The STP regulates underground storage tanks (USTs) that contain petroleum or hazardous substances; USTs that are larger than 110 gallons or 1,100 gallons on a farm, ranch, or residence; and those that are not heating oil tanks. The STP regulates aboveground storage tanks (ASTs) only if they contain gasoline or diesel, and they are used by a fuel dealer to directly fuel vehicles. The STP does not regulate septic tanks, water storage tanks, hazardous substance ASTs, heating oil tanks, bulk plants, oil refineries, interstate pipeline breakout tanks, or temporary construction ASTs.

LST Leaking Storage Tanks

VERSION DATE: 07/01/15

This listing of active storage tank facilities with contamination is provided by the Wyoming Department of Environmental Quality's Storage Tank Program (STP). According to Wyoming Statues 35-11-1414 through 35-11-1428, the state is responsible for remediation of releases from regulated underground storage tanks and certain aboveground storage tanks. The STP rules and regulations apply to all regulated storage tanks in Wyoming. Storage tank owners/operators are entitled to the state corrective action program if they register their tank(s), pay applicable fees, and complete a minimum site assessment (if applicable). State management of remediation is optional for owners; however, almost no tank system owners have elected to complete cleanup at their expense.

ORPHANS Orphan Sites

VERSION DATE: 04/10/15

The Orphan Site listing is provided by the Wyoming Department of Environmental Quality (DEQ). Under the Environmental Quality Act "Orphan Sites" are defined as: Sites where the DEQ determines that there is no viable party that is responsible for causing or contributing to the contamination present at the site; Sites where DEQ has issued a no further action letter, and where there is a subsequent discovery of contamination which was present at the site when the no further action letter was issued; Spill sites, where DEQ determines that the person responsible for the spill cannot be identified or where DEQ must take prompt action to prevent hazards to human health or the environment at a site where a responsible party fails to act promptly.

Environmental Records Definitions - STATE (WY)

SWF Permitted Solid Waste Facilities

VERSION DATE: 02/04/13

This listing of permitted solid waste facilities is provided by the Solid and Hazardous Waste Division (SHWD) of the Wyoming Department of Environmental Quality. The SHWD's Solid Waste and Permitting Corrective Action Program is responsible for permitting the location, design, construction, operation, monitoring, closure and post-closure care and remediation of solid waste management facilities. The solid waste facilities that are regulated by this program include local community landfills (both operating and closed), municipal waste baling stations and transfer facilities, industrial waste landfills, industrial waste treatment facilities and units, and used oil storage facilities.

VRPBF Voluntary Remediation Program and Brownfield Sites

VERSION DATE: 09/17/15

Wyoming's Voluntary Remediation Program (VRP) was created by the Wyoming Legislature in 2000 to create new opportunities, procedures, standards and incentives for voluntary remediation of contaminated properties. In order to encourage more people to participate in the VRP, the Wyoming Department of Environmental Quality (DEQ) obtained a grant from the U.S. Environmental Protection Agency to provide technical assistance (Brownfields Assistance) at brownfield properties that are eligible to participate in Wyoming's VRP. This DEQ listing contains both VRP and Brownfield properties.

USTR08 Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

USTR10 Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes.

LUSTR08 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

LUSTR10 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 10. This region includes the following states: Alaska, Idaho, Oregon, Washington, and 271 Native Tribes.

ODINDIAN Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

INDIANRES Indian Reservations

VERSION DATE: 01/01/00

The Department of Interior and Bureau of Indian Affairs maintains this database that includes American Indian Reservations, off-reservation trust lands, public domain allotments, Alaska Native Regional Corporations and Recognized State Reservations.

ATTACHMENT B

Aerial Photographs

GeoSearch

On time. On target. In touch.™

Historical Aerial Photographs

http://www.geo-search.net/QuickMap/index.htm?DataID=Standard0000127889

Click on link above to access the map and satellite view of current property

Target Property:

Centennial Trail
idaho 33
victor, Teton County, Idaho 83455

Prepared For:

GRI

Order #: 59372
Job #: 127889
Date: 11/13/2015

TARGET PROPERTY SUMMARY

Centennial Trail
idaho 33
victor, Teton County, Idaho 83455

USGS Quadrangle: ***Victor, ID***
Target Property Geometry: ***Corridor***

Target Property Longitude(s)/Latitude(s):
(-111.068709, 43.562870), (-111.066992, 43.557490), (-111.061242, 43.552203), (-111.058559, 43.550103), (-111.053839, 43.547428), (-111.047745, 43.544256), (-111.045256, 43.543260)

County/Parish Covered:
Teton (ID), Teton (WY)

Zipcode(s) Covered:
Victor ID: 83455
Wilson WY: 83014

State(s) Covered:
ID, WY

****Target property is located in Radon Zone 2.***
Zone 2 areas have a predicted average indoor radon screening level between 2 and 4 pCi/L (picocuries per liter).

*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USDA
DATE: 2013
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USDA
DATE: 2003
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

*

SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 07/23/1999
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

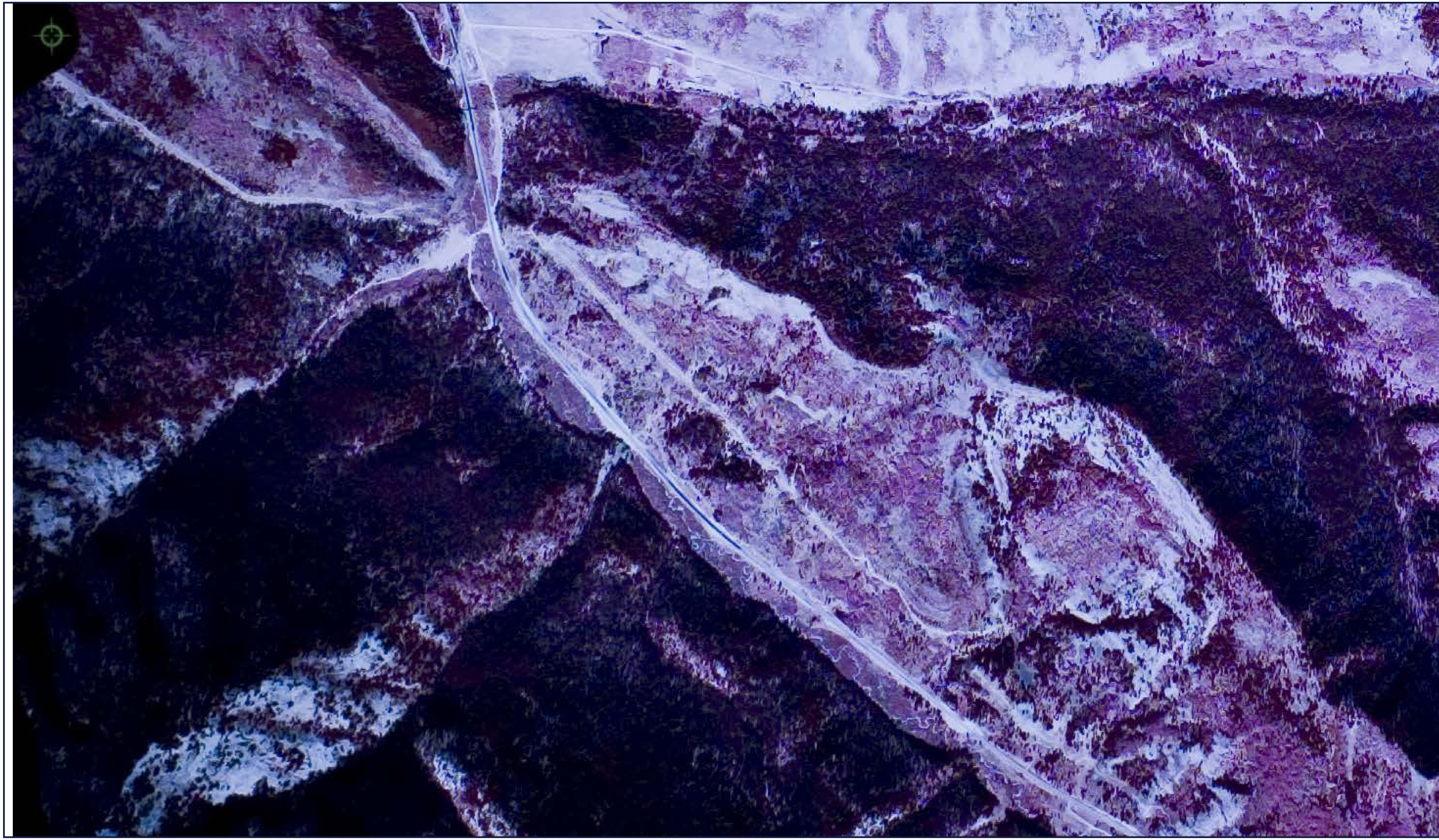
JOB #: 127889 - 11/13/2015

*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 09/05/1994
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

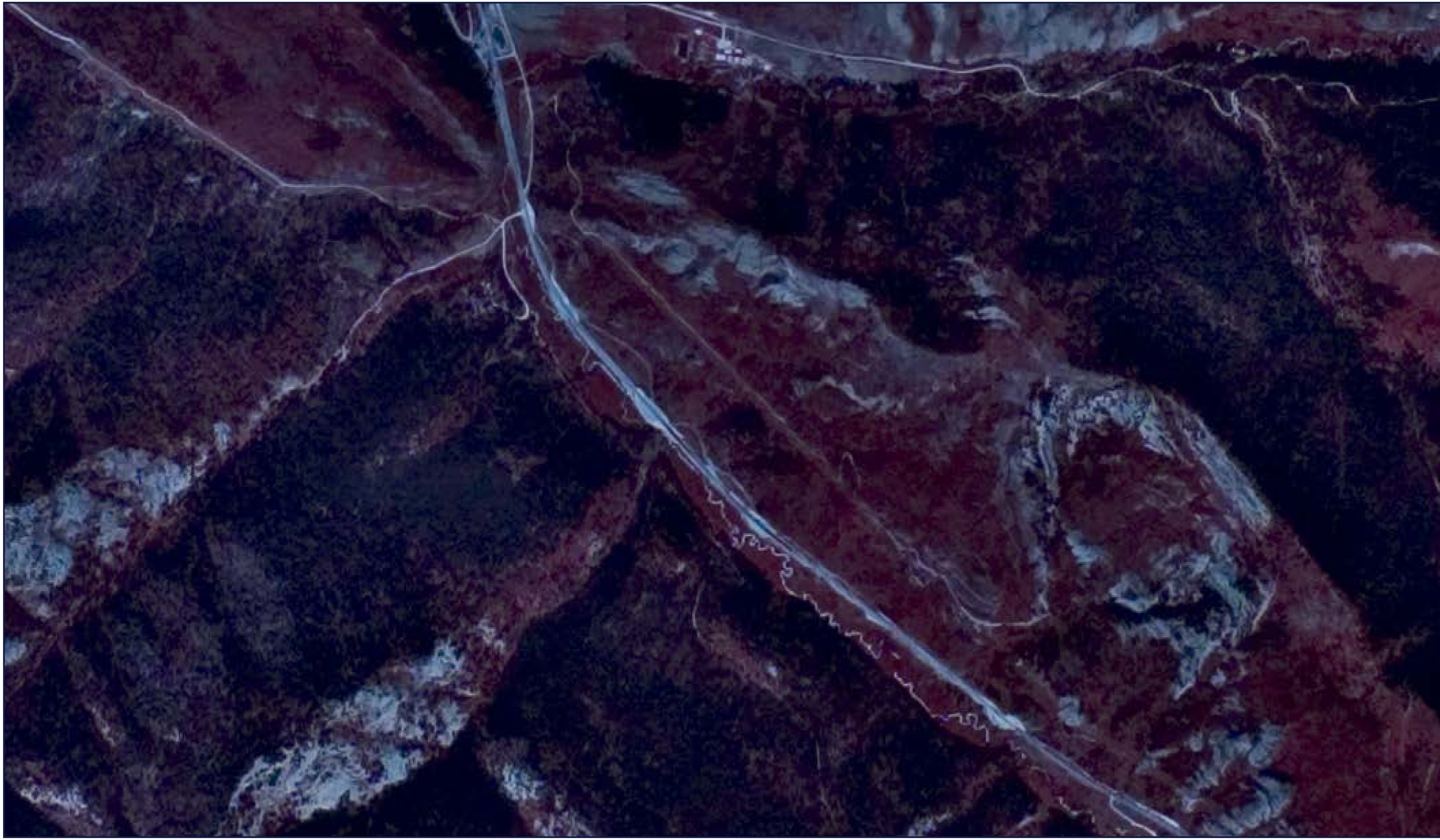


*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 09/10/1987
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch



*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 07/27/1980
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

*

JOB #: 127889 - 11/13/2015

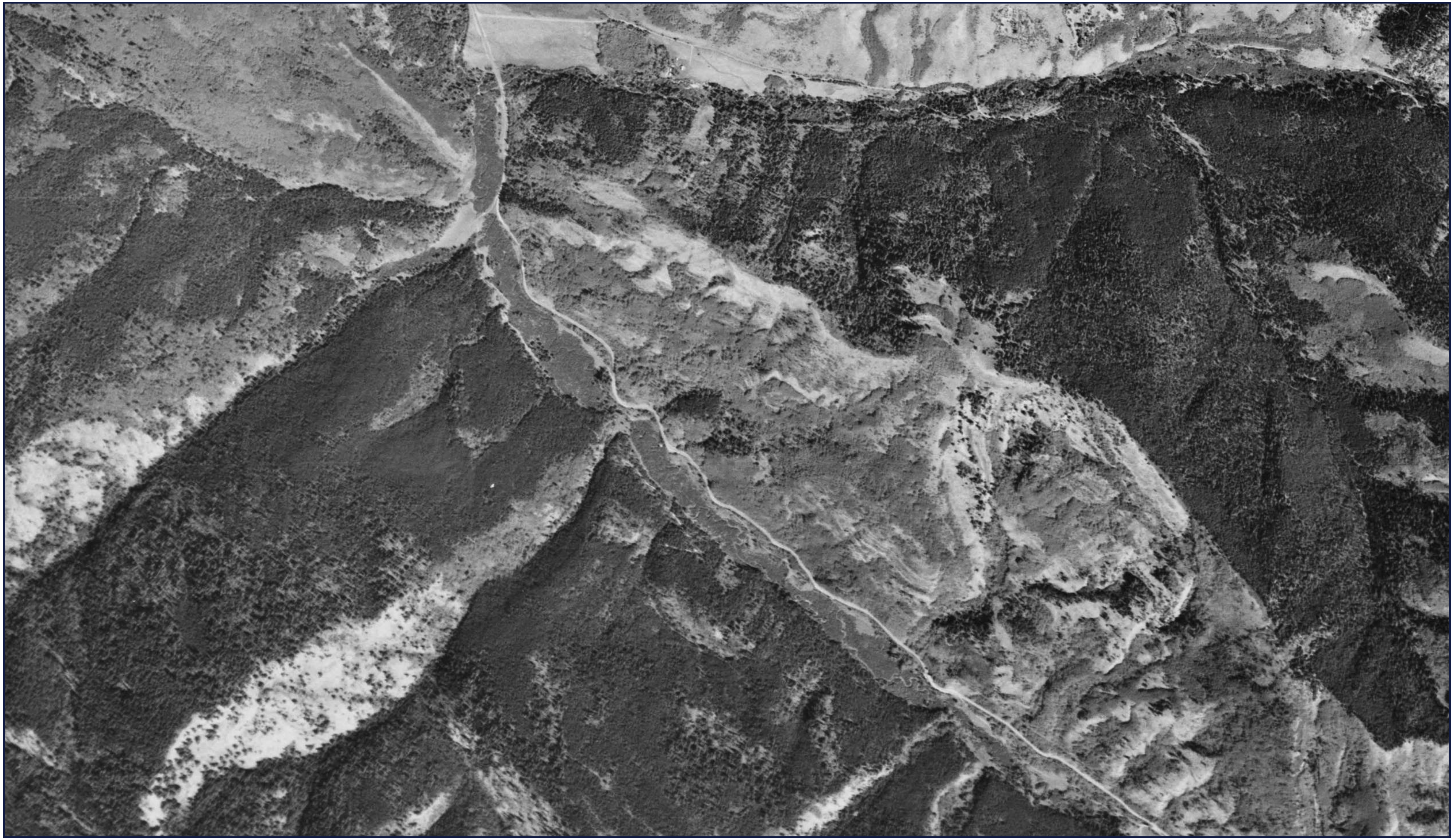
SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 08/29/1973
COUNTY: TETON, ID
SCALE: 1" = 1,000'

*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 08/13/1965
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch



*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: AMS
DATE: 08/18/1953
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

*

JOB #: 127889 - 11/13/2015

SITE: CENTENNIAL TRAIL
SOURCE: USGS
DATE: 07/30/1943
COUNTY: TETON, ID
SCALE: 1" = 1,000'

GeoSearch

ATTACHMENT C

Topographic Maps

Historical Topographic Maps

http://www.geo-search.net/QuickMap/index.htm?DataID=Standard0000127888

Click on link above to access the map and satellite view of current property

Target Property:

Centennial Trail
idaho 33
victor, Teton County, Idaho 83455

Prepared For:

GRI

Order #: 59372
Job #: 127888
Date: 11/12/2015

TARGET PROPERTY SUMMARY

Centennial Trail
idaho 33
victor, Teton County, Idaho 83455

USGS Quadrangle: ***Victor, ID***
Target Property Geometry: ***Corridor***

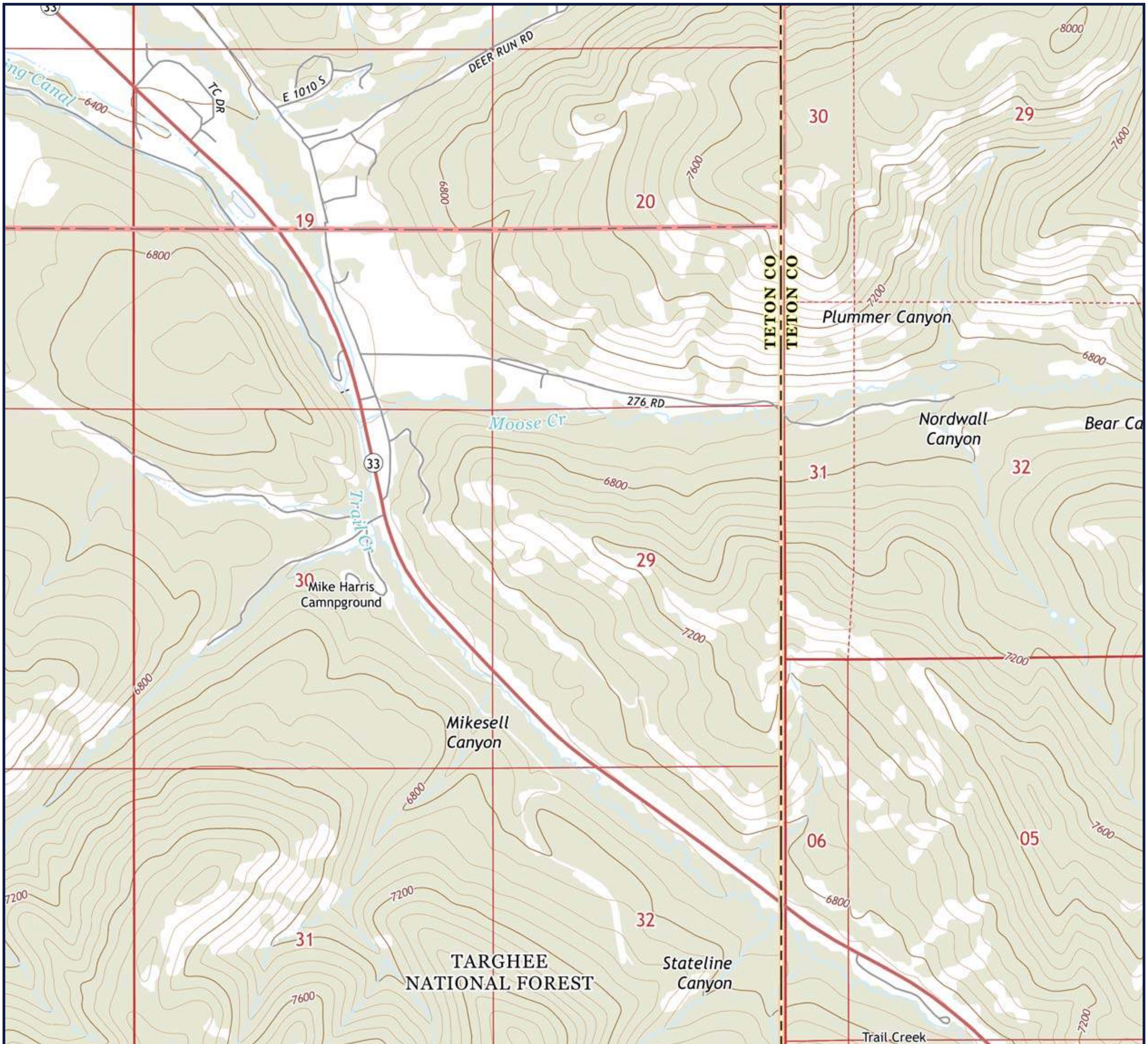
Target Property Longitude(s)/Latitude(s):
(-111.068709, 43.562870), (-111.066992, 43.557490), (-111.061242, 43.552203), (-111.058559, 43.550103), (-111.053839, 43.547428), (-111.047745, 43.544256), (-111.045256, 43.543260)

County/Parish Covered:
Teton (ID), Teton (WY)

Zipcode(s) Covered:
Victor ID: 83455
Wilson WY: 83014

State(s) Covered:
ID, WY

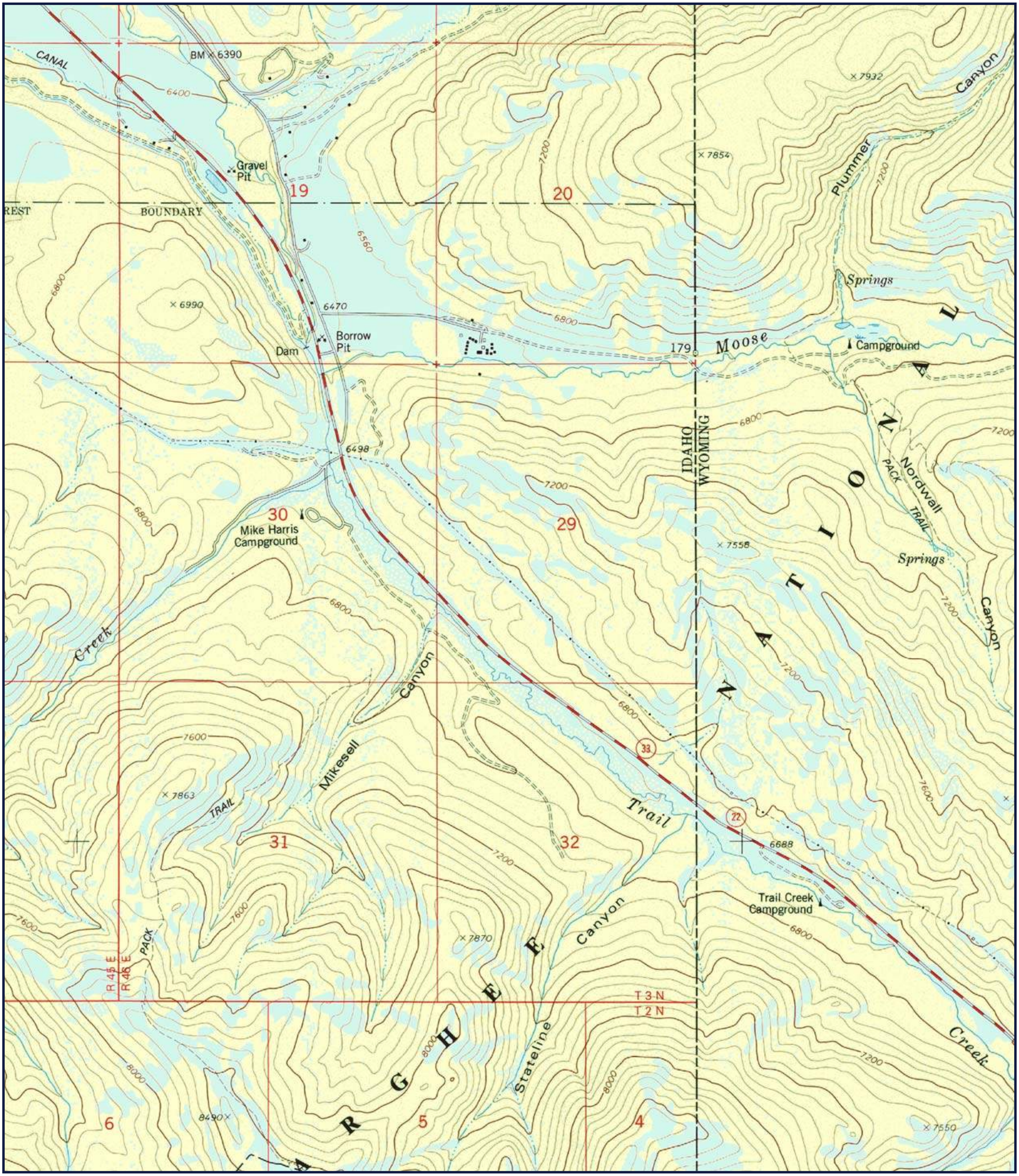
****Target property is located in Radon Zone 2.***
Zone 2 areas have a predicted average indoor radon screening level between 2 and 4 pCi/L (picocuries per liter).



SITE: CENTENNIAL TRAIL
QUAD: VICTOR, ID
DATE: 2013
SCALE: 1:24,000

JOB #: 127888 - 11/12/2015

GeoSearch



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W E
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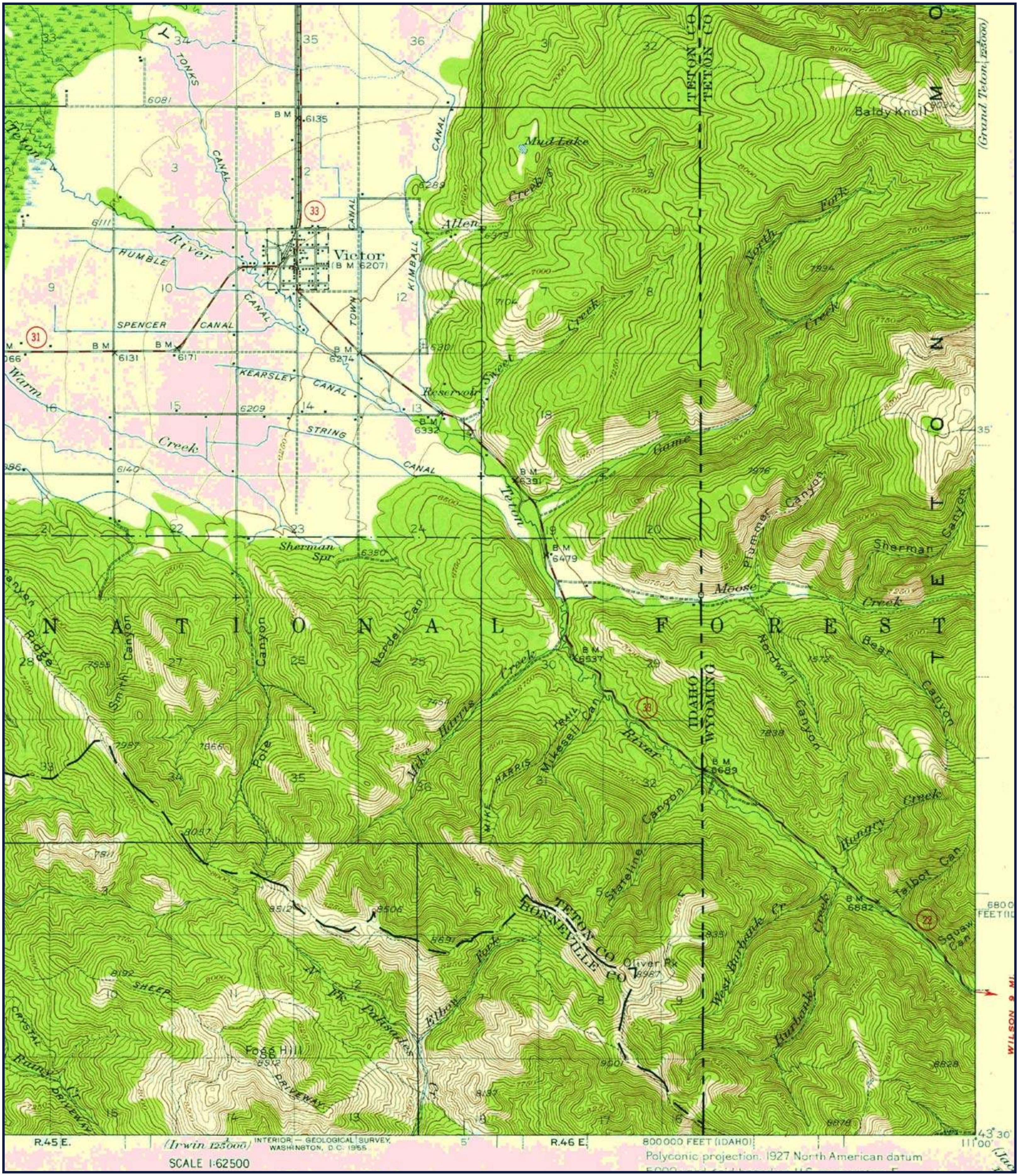
JOB #: 127888 - 11/12/2015

SITE: CENTENNIAL TRAIL
QUAD: VICTOR, ID
DATE: 1978
SCALE: 1:24,000

GeoSearch



N
W E
S

JOB #: 127888 - 11/12/2015

SITE: CENTENNIAL TRAIL
QUAD: DRIGGS, ID
DATE: 1943
SCALE: 1:62,500

GeoSearch

Attachment 7: Section 4(f) and Section 6(f) Assessment

DAVID EVANS AND ASSOCIATES INC.

MEMORANDUM

DATE:	December 18, 2015
TO:	Denise Steele, Project Environmental Specialist
	Western Federal Lands Highways Division
	610 E. Fifth Street
	Vancouver, WA 98661
FROM:	Mara Krinke and Casey Storey
SUBJECT:	**Teton Centennial Trail: 4(f) and 6(f) Assessment**
PROJECT:	Teton Centennial Trail Project
PROJECT NO:	FHAX0000-0220

INTRODUCTION

At the request of the Western Federal Lands Highways Division, David Evans and Associates, Inc. (DEA) assessed the 4(f) and 6(f) conditions related to the proposed Teton Centennial Trail in Teton County, Idaho and Teton County, Wyoming. The proposed trail would cross USFS lands that are part of the Caribou-Targhee National Forest, and would create or allow for future connections to forest campgrounds and to existing and planned recreational trails. The trail would provide a connection across USFS lands from Victor, Idaho, to the town of Jackson, Wyoming. The multi-use (bicycle and pedestrian) trail would be maintained by the City of Victor, Teton County, Idaho, and by the Teton Valley Trails and Pathways group. The trail project is being planned by Western Federal Lands Highway Division of the Federal Highway Administration and is subject to the requirements of Section 4(f) of the USDOT Act of 1966 and Section 6(f) of the Land and Water Conservation Fund Act of 1965.

The project along ID-33 traverses lands of the Caribou-Targhee National Forest (CTNF), Teton Basin Ranger District. The project is generally within or immediately adjacent to existing Idaho Highway ROW, a variable width ROW for the highway. The state of Idaho maintains the highway. The CTNF proposes to grant additional ROW width to the State of Idaho/ITD, where needed to encompass the Teton Centennial Pathway project.

This memorandum accomplishes multiple objectives:

- Identify properties in the project area potentially encumbered by Section 6(f) of the Land and Water Conservation Act
- Identify properties in the project area that meet the definition of Section 4(f) resources (e.g., public parks or recreation areas, wildlife and waterfowl refuges)
- Summarize needed agency coordination regarding Section 4(f) (consulting with applicable local, state, and federal agencies to determine the potential impacts on these properties and whether these impacts constitute a “use”).

- Describe the alternatives analysis process and whether or not (1) there is a "feasible and prudent alternative to the use" of the property, and (2) the proposed action "includes planning to minimize harm" to the property.

Figure 1 shows the study area for the Teton Centennial Trail Project and highlights the known park, recreational, and cultural resources. The Teton Centennial Trail will be constructed on the Old Jackson Highway roadbed within the Caribou-Targhee National Forest from Moose Creek in Idaho to the Trail Creek Campground in Wyoming.

SECTION 6(F) PROPERTIES

Section 6(f) of the Land and Water Conservation Fund Act of 1965 (16 USC Chapter 1, Subchapter LXIX) applies to all projects that affect recreational lands purchased or improved with land and water conservation State grant funds. Section 6(f) prohibits the conversion of property acquired or developed with State grants to a non-recreational purpose without NPS approval. NPS is required to ensure that replacement lands of equal value, location and usefulness are provided as a condition of such conversions, also known as in-kind replacement. Consequently, where conversions of Section 6(f) lands are proposed for highway projects, replacement lands are required. The Land and Water Conservation Fund Act has specific requirements for Federal-aid and Federal lands projects. The Federal lands portion of the law (e.g., used to purchase land for national wildlife refuges) does not include the in-kind replacement provision.

Based on a review of the NPS database for applicable grants and coordination with Denise Steele of WFLHD on November 16, 2015, there are no resources subject to the requirements of Section 6(f) in the project area. Thus, the requirements of Section 6(f) do not apply to the project and are not considered further.

SECTION 4(F) PROPERTIES

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. '303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

See Attachment B - Trail Alignment Map

Section 6009(a) of SAFETEA-LU amended existing Section 4(f) legislation in 23 USC 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This is the first substantive revision of Section 4(f) legislation since passage of the U.S. Department of Transportation Act of 1966. This revision provides that when USDOT determines that a transportation use of Section 4(f) property (after consideration of any impact avoidance, minimization, and mitigation or enhancement measures) results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete. The impact criteria and associated determination requirements are explained in FHWA's 4(f) Policy Paper: https://www.environment.fhwa.dot.gov/4f/4fpolicy.asp to Section 4(f) Resources.

The following section outlines the park, recreation, and cultural resource properties are potentially subject to Section 4(f).

Park and Recreational Properties

The proposed TCT traverses land within the Teton Basin Ranger District Caribou-Targhee National Forest from Moose Creek in Idaho to the Trail Creek Campground in Wyoming. This is all public forest land and is classified as "rural" recreational classification, on the recreation opportunity spectrum, as identified in the Caribou-Targhee Forest RFP (USFS 1997). The rural classification is defined as follows:

> General user affiliation opportunities exist, and facilities are convenient. Natural environment is culturally modified yet attractive. Universal access is easy and meets Americans with Disabilities Act accessibility guidelines standards. Interpretation exists through more-complex wayside exhibits.

Using right-of-way that is currently in forest use (either as the old roadbed or in other forest lands) would not trigger the requirements of Section 4(f) based on guidance from the FHWA on multiple land use holdings (Attachment A).

Specific recreational facilities adjacent to or near the proposed trail corridor highlighted in the Environmental Assessment completed for the project (1997) are:

- Mike Harris Trailhead (Parking for hikers, equestrian riders, snowmobilers, skiers, 10 vehicle capacity)
- Mike Harris Campground (12 campsites; tent and trailer camping, restroooms, water, angler river access)
- Trail Creek Campground (11 campsites; tent and trailer camping, restroooms, water, angler river access)
- Single-track soft trail that currently runs from a location east of Mike Harris Creek to the Wyoming-Idaho state line (see Figure 1).

Cultural Resources

Historic Wagon Trail

One historic site was found and described in the Environmental Assessment completed for the Teton Trail in 2001: a wagon road that also served as a stock trail between Jackson Hole, Wyoming and Teton Basin, Idaho. A portion of the proposed project traverses over a historic wagon route that is eligible for listing on the National Register of Historic Places and is a Section 4(f) property. However, the wagon trail and associated features (e.g., stock corral) are located outside the project area.

Culverts

Archaeological Investigations Northwest, Inc. (AINW) has conducted an evaluation of twelve culverts along the proposed trail using field survey information and photographs provided by David Evans and Associates, Inc. Based on their evaluation, AINW recommends that the culverts are not eligible for listing in the NRHP. The evaluation recommendation was made by AINW staff who meet the professional qualifications of the Secretary of the Interior's Standards and Guidelines for Historic Preservation.

Archaeological Resources

No known archaeological resources are present within the project area. Previous surveys of the BPA transmission line ROW, access road system, and staging areas near or within the project area, were completed in 1997 and 1998 and cited in the Environmental Assessment for the Teton Trail published in 2001. These surveys also included a literature search for existing historic or prehistoric sites. No prehistoric sites were found (BPA and USFS 1998, USFS 2001). Consultation with Wyoming and Idaho SHPO concluded that no historic properties would be affected by the trail project, based on the assessment that the trail would follow an existing roadbed, and no subsurface disturbance would be necessary. (USFS 2002)

However, if subsurface work occurs and if any significant archaeological resources are found during construction, coordination with the applicable State Office of Historic Preservation and coordination with Tribes will be required.

COORDINATION

Future project efforts require coordination with applicable local, state, and federal agencies to determine the potential impacts on these properties and whether these impacts constitute a "use." In addition, the 4(f) regulations require public notice and the opportunity for public comment on a proposed action.

ALTERNATIVES ANALYSIS PROCESS

Once Section 4(f) properties have been identified in the study area, it is necessary to determine if any of them would be used by an alternative or alternatives being carried forward for detailed study. The most common form of use is when land is permanently incorporated into a transportation facility. This occurs when land from a Section 4(f) property is either purchased outright as transportation right-of-way or when the applicant for Federal-aid funds has acquired a property interest that allows permanent access onto the property such as a permanent easement for maintenance or other transportation-related purpose. Since there would be a permanent transfer of right-of-way from the USFS to ITD (and Wyoming DOT/Teton County, WY?), this qualifies as a potential use for those lands determined to have significant value for recreational purposes.

If there will be a use, the next step is to determine if the following apply:

(1) there is a "feasible and prudent alternative to the use" of the property, and

(2) the proposed action "includes planning to minimize harm" to the property.

Feasible and Prudent Alternative

There is no feasible and prudent alternative to constructing the trail. The trail is part of a planned network and any route would traverse USFS land. The existing highway right-of-way is used when appropriate.

Putting the trail on the south side of the highway was considered in earlier project development. Additionally, NWI maps show wetlands predominantly on the south side of the highway and avoiding those resources is desirable.

Planning to Minimize Harm

The alignment of the Teton Centennial Pathway will take advantage of the old highway roadbed where feasible; over half of the alignment can use the old roadbed. In other areas, the project will coincide with an existing single track soft trail. The single track trail would, therefore, potentially be shifted to the new trail in some sections. In addition, the trail could possibly have connection under the highway to the Mike Harris and Trail Creek Campgrounds. The connections would not use any of the land currently used for the campground amenities and therefore are not subject to the restrictions of Section 4(f).

Conclusion

If there were to be any conversion of the recreational resources listed above as part of this project (e.g., property within the campgrounds, or conversion of the single track trail to the multiuse trail), it is likely that the project could determine that there would be a *de minimis* use of the property. A *de minimis* use is one that, after taking into account any measures to minimize harm (such as avoidance, minimization, mitigation or enhancement measures), results in either:

- A Section 106 finding of no adverse effect or no historic properties affected on a historic property (none known, this would only apply if archaeological site is found in future phases of work)

- A determination that the project would not adversely affect the activities, features, or attributes of the USFS lands which qualify for protection under Section 4(f).

REFERENCES

USDA Forest Service. 1997. Targhee National Forest, 1997 Revised Forest Plan. St. Anthony (ID): USDA Forest Service, Targhee National Forest, 223 p. plus appendices.

USDA Forest Service. 2001. Teton Pass Trail Environmental Assessment.

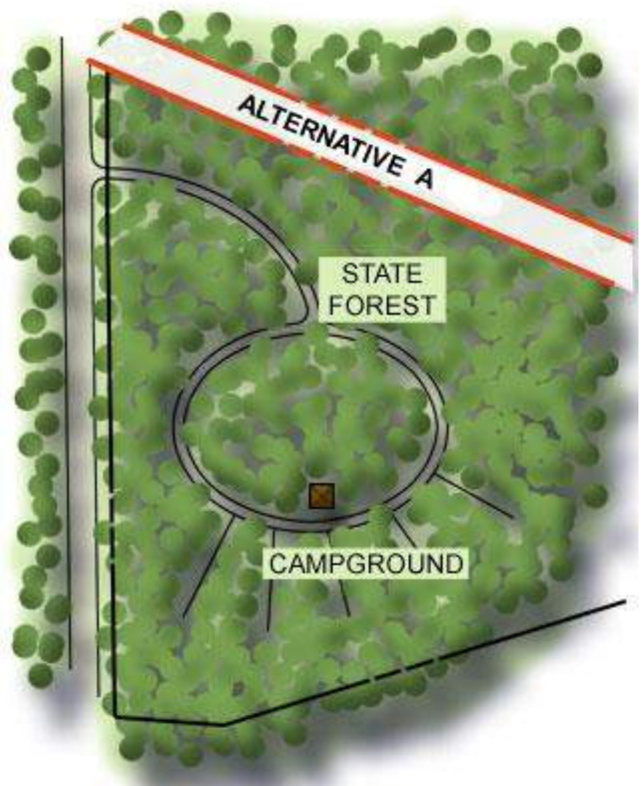
USDA Forest Service. 2002. Decision Notice and Finding of No Significant Impact; Teton Pass Trail. Caribou-Targhee and Bridger-Teton National Forests. Teton County Idaho and Wyoming, and City of Victor.

ATTACHMENT A: FHWA GUIDANCE REGARDING MULTIPLE-LAND USE HOLDINGS

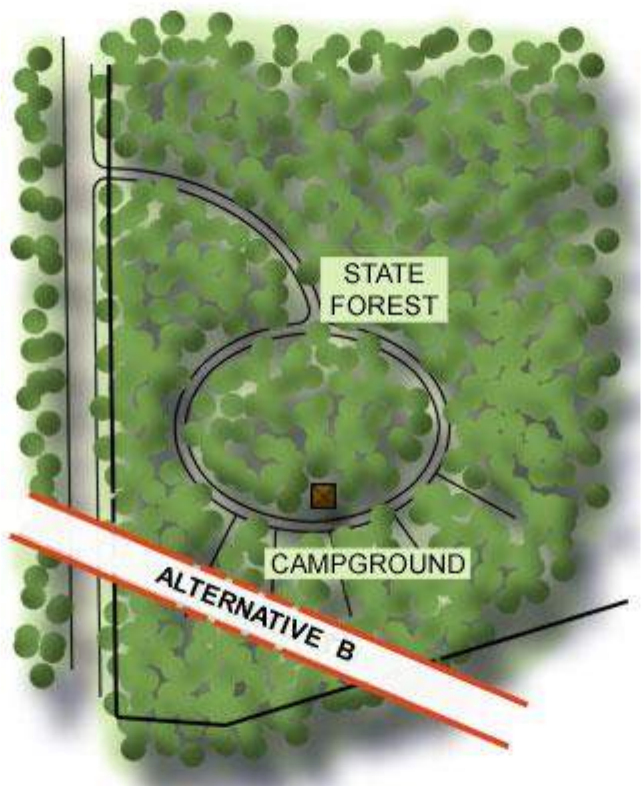
Public Multiple Use Land Holdings[1]

It is not uncommon for lands such as state and national forests, Bureau of Land Management lands, and the US Army Corps of Engineers water impoundment projects to have multiple designated uses, including municipal reservoirs, timber management, mining, or grazing, as well as recreation or historic preservation. These types of properties are referred to as public multiple use land holdings or multi-use properties.

An example of a multi-use property is a state forest where most of the property is managed for timber production with smaller portion set aside as a campground and another portion of the property is on or eligible for the NRHP. When evaluating such properties, keep in mind that the entire property is not eligible for protection under Section 4(f); only those portions designated as a recreation area, refuge or historic site are eligible. An examination of the management plan, if one exists, and coordination with the officials with jurisdiction will be necessary to determine if Section 4(f) should apply to the resource. When a management plan doesn't exist, or is out-of-date, the FHWA should examine how the property is functioning and being managed to determine Section 4(f) applicability.



Alternative A traverses a portion of the land where the primary use is not for Section 4(f) purposes (it's for logging). Therefore, Alternative A would not be considered a Section 4(f) use.



Alternative B traverses a campground, an area designated primarily for Section 4(f) use; therefore, it would be considered a Section 4(f) use.

[1] Source: https://www.environment.fhwa.dot.gov/section4f/properties_other.aspx#5, accessed November 19, 2015.

ATTACHMENT B – TRAIL ALIGNMENT MAP

Teton Centennial Trail Project, July 8, 2015