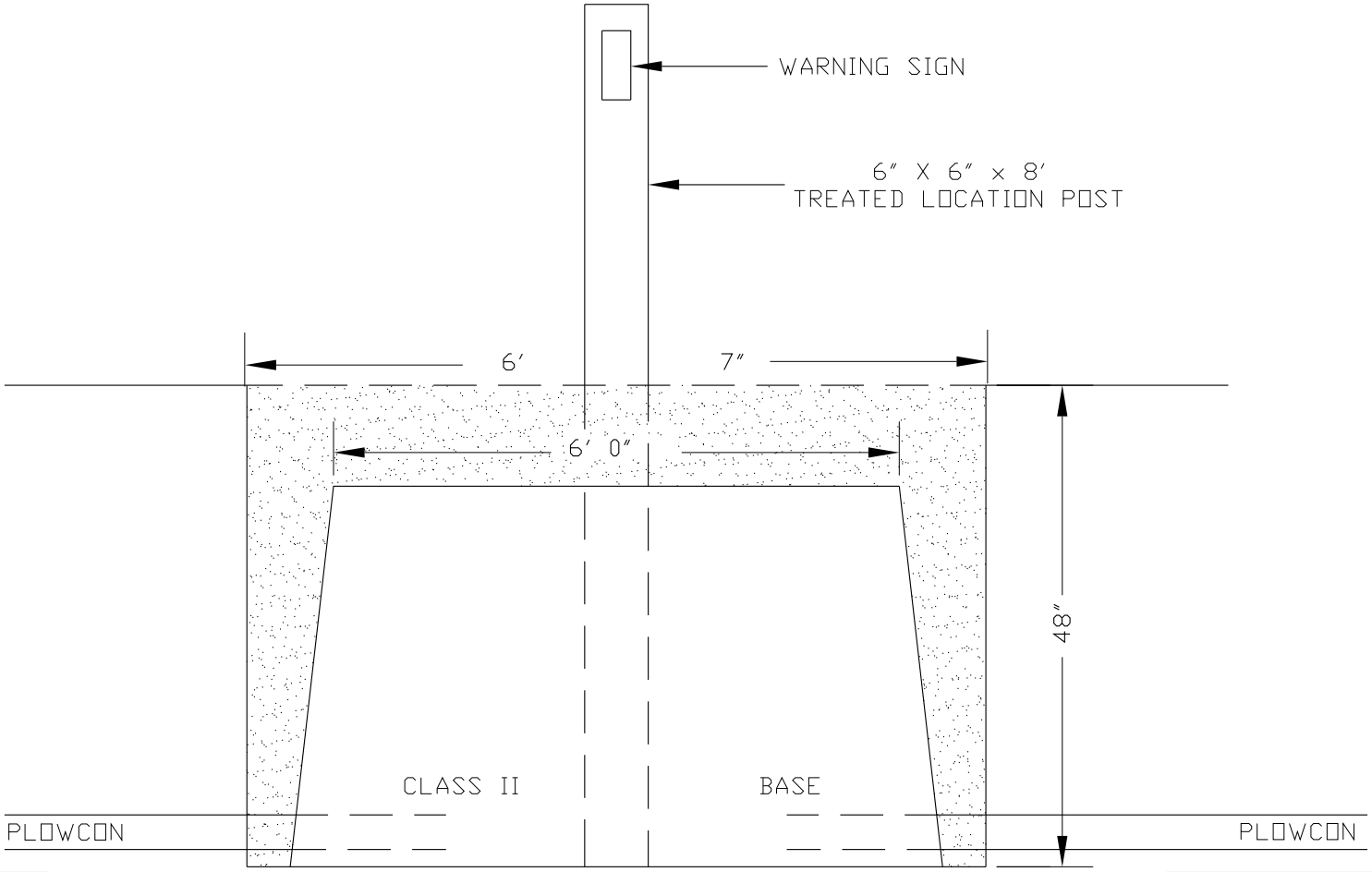
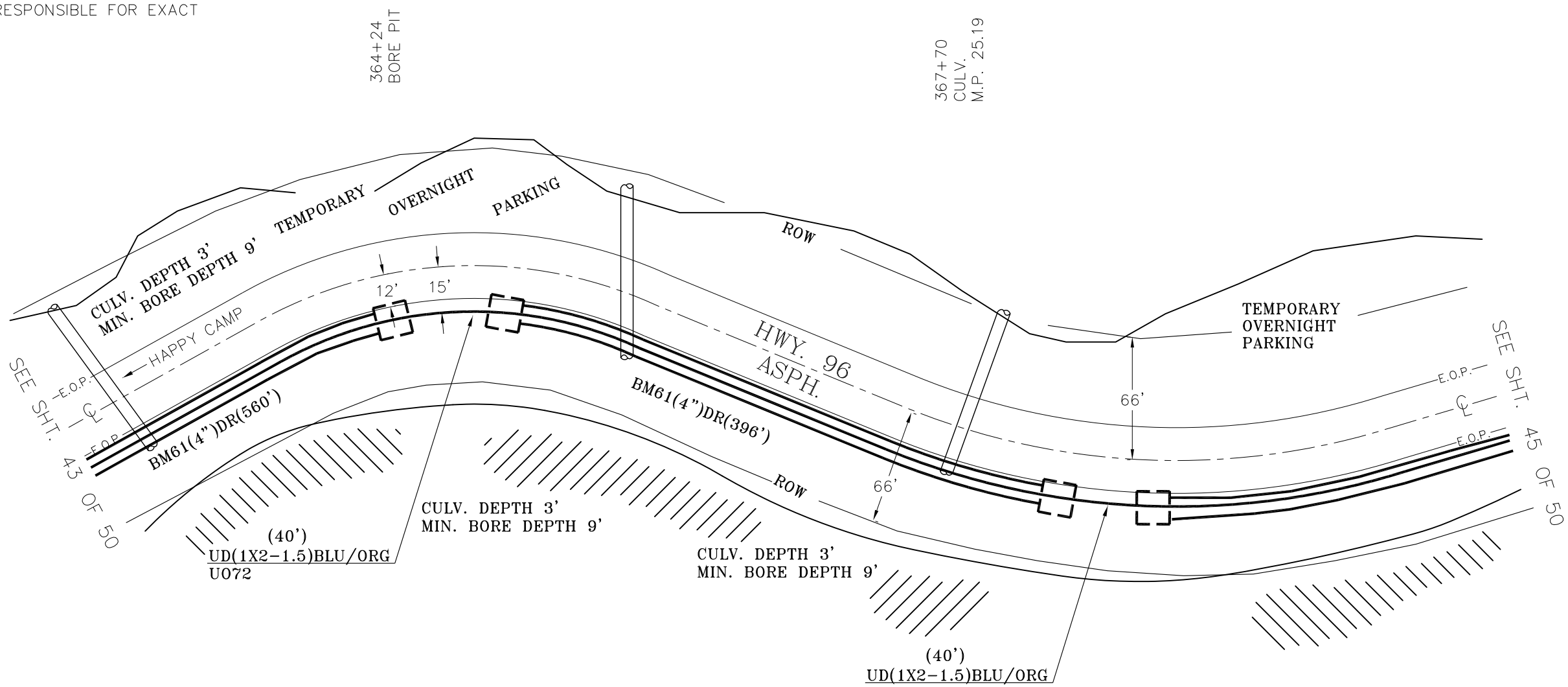


SISKIYOU TELEPHONE
30 Telco Way, Etna, CA. 96027
Phone# 530-467-6000
FAX#: 530-467-6403

UH 264 3'1" X 6'7"
HAND HOLE BOX
MODEL 264 TA
W/20K COVER

SCALE: NTS	
DRAWN BY	DATE
CARL EASTLICK	02/04
DRAWING NO.	
001 of 001	

UTILITY LOCATIONS ARE APPROXIMATE.
CONTRACTOR RESPONSIBLE FOR EXACT LOCATION.



361+46
CULV.
M.P. 25.32

364+64
BORE PIT

365+54
CULV.
M.P. 25.23

368+60
BORE PIT

369+00
BORE PIT

PED OR POLE NUMBER																							PED OR POLE NUMBER	SUB NUMBER							

CO.	SISKIYOU TELEPHONE
EXCH.	HAPPY CAMP
ROUTE	
J.O. NO.	15HC500
SHEET	44 OF 50
MAP REF.	
COUNTY	SISKIYOU
T. 14N	R. 6E SEC 10
TAX CODES	
TITLE:	PHASE ONE. BUILD FIBER AND CONDUITS M.P. 32.2 TO M.P. 24.0
AS BUILT DATE	

SCALE NTS

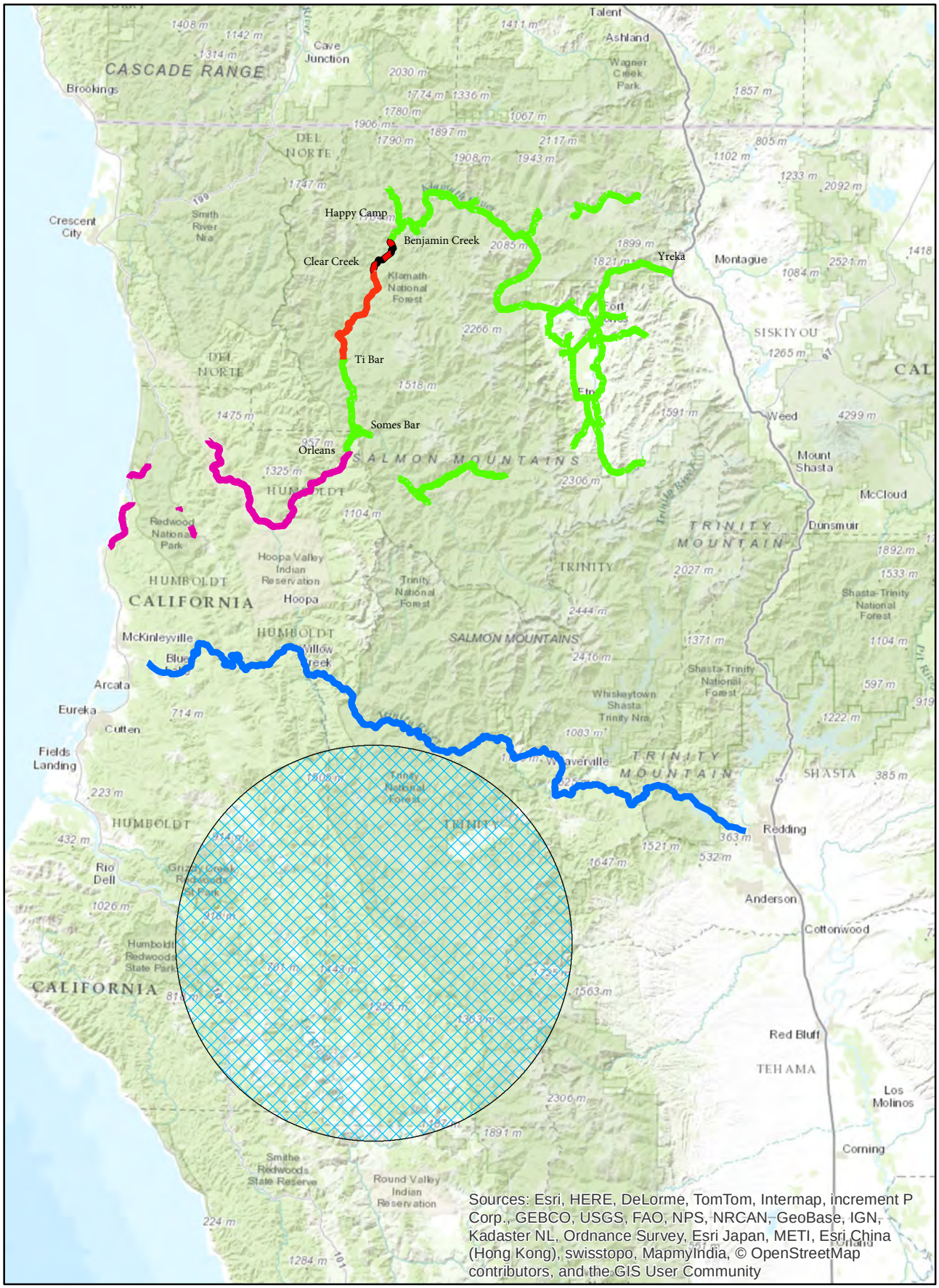
SISKIYOU TELEPHONE

CONTACT ENG.

PHONE NO.

Filename: 44-50
Engineer: C. EASTLICK
Drafter: C.EASTLICK
Last Accessed: 10/23/15
Time: 9:28 AM

SUB. INFO.



NW California CASF Grant Projects

October 2015

N
W E
S

Legend

- Benjamin Creek To Clear Creek Fiber Project
- Happy Camp To Somes Bar Fiber Grant

Subtype

- Siskiyou Telephone Existing Fiber
- T-17187 Grant
- T-17418 Grant
- T-17227 Grant

Project Description

PD-1 PEA Section 3.4.1 Hard-Rock directional boring techniques are the same as horizontal directional drilling.

Bore pit is approximately 3 feet in width by 9 feet in length and will appear on each end of the bore. The initial trenching for each bore pit will be monitored by a Tribal Monitor. The trench spoils will then be hauled to a temporary staging area to be hauled away to Happy Camp. The bore pit would then be backfilled with Class ll Base Rock at the end of each day until bore completed. The bore pit would then be secured with Base Rock until actual splicing of conduit is completed.

PD-2 PEA Section 3.4.2 utility boxes and reference to hand hole utility boxes are called out as UH264 or UM264

On staking sheets and Units Placed, these are all the same as Hand Hole.

PD-3 Once the conduit is placed the Contractor would use a special fiber blowing machine. This requires an air compressor and the fiber is actually blown in riding on this air.

PD-4 Pdf. drawing in folder.

PD-5 There will be two types of road surface to be restored. The road shoulder work which is in dirt or rock will be repaired using Class ll Base Rock compacted in 12 inch lifts with a mechanical compactor. This would require 95% compaction. The second surface would be in asphalt and would require 12 inches of Class ll Base Rock over the conduits and 36 inches of 2 sack concrete slurry, providing 100 % compaction. This finished surface would then be ground out to a depth of three inches and this would then be replaced with 3 inches of hot Asphalt Mix.

PD-6 PEA Section 3.5 The roadways including shoulders are presently all asphalt or gravel surface. All work is done in this area and drop off and cut banks prevent equipment accessing outside. Terrain will limit how far off of the highway any equipment can get to. For overnight parking of equipment Caltrans requires 22 feet minimum form edge of asphalt.

PD-7 PEA Section 3.6.6 There is a SWPPP in place to cover erosion and sediment control with specified BMP's to be used as per Caltrans Specifications. The Horizontal Drilling is done using the least amount of pressure to minimize the chance of a Frac-Out. The entire bore route is monitored to catch any Frac-Out that might appear in the road shoulder. Any stream crossing are monitored by a Biological Monitor while drilling within the stream alignment as approved by California Fish and Wildlife in a 1600 Stream Agreement for each stream.

PD-8 All overnight parking and temporary staging areas have been included in the overall acres and were included in all Biological and Cultural studies.

PD-9 Appendix A- Phase 1 map, printed Sheet 44-50 in pdf.

PD-10 Appendix A- Phase 3 map sheet (3) boxes with an X in them represent existing service points along the route and do not pertain to the new construction.

PD-11 Link Schematic for Highway 101 and I-5 Systems. The attached file NW California CASF Grant Projects, shows Siskiyou Telephone existing fiber in Green, which would make the I-5 connection at Yreka, the Proposed Projects Phase 1 thru 3 in red, our existing fiber makes the Highway 101 connection at Orleans joining green to magenta.

PD-12 There are not any CASF phases following completion of this project.

PD-13 We do not have GIS data for the project components. I sent an e-mail to Hedy concerning her request for copies of application, and received a reply on 12/21/17 where she just needed to know if the application she pulled off of the PUC web page was complete. I referred this response to Jim on 12/26/17, *also* forwarded the PEA concerns to Heather and she is getting staff together to respond as needed. Not likely to make much progress until after New Years.

Biological Resources

Referred to CH2M Hill, Heather Waldrop

Cultural and Tribal Resources

Eferred to CH2M Hill, Heather Waldrop

Hazards and Hazardous Materials

HAZ-1 The following materials will be used on the project:

Diesel Fuel, approximately 460 gallons per day. The Bore Rigs(4) will use approximately 240 gallons of fuel per day, the support vehicles will use approximately 220 gallons per day. This diesel fuel will be stored on the individual personnel vehicles used to bring workers, materials and fuels to the job daily. The vehicle with storage tanks will not remain on the job site overnight but will be parked at our materials storage yard in Happy Camp.

Bentonite Bore Powder, The individual bags of bentonite are stored on the Mix Truck used for each drill machine and will remain in powder form until used. Each Mix Truck has approximately 2,000 gallon capacity of mixed fluid to be used when drilling. These will be filled twice a day with water from a 2,500 gallon water truck hauling water from Happy Camp, where it is purchased from the Happy Camp Community Service District. The 2,500 gallon water truck will fill up in Happy Camp at least eight times daily to keep all of the Mix Trucks full and also to wet down the stockpiles of gravel along the job route.

Used Bore Grindings, these grindings are flushed out of the bore tube by pumping bentonite into the drill from the Mix Truck. The waste is then vacuumed into a 600 gallon vac-trailer and disposed of in Happy Camp at our approved disposal location. There will be at least four vac-trailers hauling spoils off of job as needed, normally a minimum of eight trips per day.

HAZ-2 Trenching Spoils, all dirt and rock spoils removed from the portions of the project being trenched will be temporarily stored at gravel locations and be hauled off of job to Happy Camp daily.

HAZ-3 Construction vehicles will be fueled up on road shoulders with a hazard spill mat in place to avoid leaks. All other work vehicles will be fueled up in Happy Camp at local fuel pumps.

Hydrology and Water Quality

HYDRO-1 Over the past several years Siskiyou Telephone has been using directional boring as a mitigation to numerous obstacles encountered while constructing underground lines along the Highway 96 Highway corridor. The agreement with California Fish and Wildlife has been to drill at a depth of 18 feet if stream to be crossed is not running water and to drill at a depth of 30 feet if stream has water present. Depending on the conditions encountered as each permit is applied for these depths and the conditions to be met varies as needed. I have drilled to as deep as 54 feet on occasion. I am required to have a monitor present when drilling with water present, and this requires monitoring above the drill site and below the site. Depending on the sensitivity of the stream being crossed a monitor could be required even if a stream is dry. The Bentonite we use as a lubricant is actually nothing more than clay. The bentonite dissipates quickly as water volume increases. While drilling near water the pressures used by the drill are at a minimum to help avoid any conflicts.

HYDRO-2 We will be using approximately 14,000 gallons a day for the drilling operation and approximately another 6,000 gallons a day for road surface cooling and gravel wetting for compaction.

HYDRO-3 As a mitigation for avoiding wet areas and groundwater along the project alignment these areas would be directionally bored and not disturbed. These projects do not call for any dewatering, however should the need arise we would have approximately 8,500 gallons of containment on hand with the Vac-Trailers and Water Truck as they can all draught water if needed. If this were to happen we would haul this water to our disposal site in Happy Camp. All other storm water would be disposed of through the existing roadside ditch which would be controlled by BMP's as required in our SWPPP plan.

Public Services

PS-1 Section 4.14. The contractor has trained employees to deal with the initial problem should a minor injury occur. If the injury is of a more serious nature, the injured person would be stabilized. The Siskiyou Telephone Construction Monitor has a business band radio and could contact the office to make a 911 call if needed. There is ambulance service available 30 minutes from the project and a Medical Clinic available 30 miles away. If needed a Helicopter would be dispatched to the site. If needed once the injured person was transported to Happy Camp by ambulance, there is Helicopter and Air Service from Happy Camp to Yreka. Yreka is about 30 minutes away by air from Happy Camp.

Transportation and Traffic

T-1 Table 3-1, Section 3.6.2

T-2 All of the construction personnel will be staying in Happy Camp. These are long term personnel hired by the Contractor and will be staying at various RV locations in Happy Camp. There will be from 15 to 20 workers on the project as needed.

T-3 Siskiyou Telephone maintains a single Installer Repairman for the Happy Camp area. This individual would be dispatched ae needed to perform testing on the actual fiber. This individual is within an hour drive of these facilities at most time. Should damage occur to the fiber and conduits, Siskiyou Telephone maintains a four man construction crew out of our main office in Etna. This crew would only be dispatched in the case of an emergency repair. Once these facilities are placed and barring an emergency, there is not any planned maintenance to be done on the fiber or the conduits.

Utilities and Service Systems

US-1 Section 4.17, this should read all waste generated from this project will be disposed of in Happy Camp. This includes trench spoils, drilling fluids and Portable Toilet Waste. Trench spoils will be deposited at approved temporary sites along the project and then reloaded into Dump Trucks and delivered to an approved disposal site in Happy Camp on a daily basis. All fluids generated by the Drilling Operation will be transported throughout the day as needed and the final fluids leaving at night with the personnel as they leave for the day. Portable Toilets will be pumped and cleaned weekly and all waste generated will be disposed of in Happy Camp.

SISKIYOU TELEPHONE
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Contingency Plan for Inadvertent Release of Non-Hazardous Drilling Fluid (Frac out)

Siskiyou Telephone will be utilizing an environmentally safe drilling fluid in combination with established and proven drilling techniques to minimize the potential for any fluid release to the surface along the bore path. The driller will follow established procedure to monitor and maintain returns or circulation during the pilot and reaming process to entrance and exit pits.

The drilling fluid is primarily used to clean drill cuttings from the bore-hole as the down-hole cutters are advanced through the ground. The fluid also serves to cool the down-hole tools, stabilize the bore-hole and reduce friction between the ground formation and the down-hole tools and also the product line during installation. The drilling fluid typically consists of a fresh water base with an inert additive (typically bentonite clay) mixed in to provide fluid properties desirable for use in directional drilling operations. The fluid is pumped from the drill down through the drill stem and into the bore-hole as the drilling progresses for the pilot hole, reaming and product line installation operations.

Depending on the porosity and permeability of the ground formation, a small percentage (typically less than 5%), of the fluid will be naturally absorbed by the formation. Drilling fluid lost from the bore-hole in this manner rarely migrates to the surface. The fluid not absorbed by the ground will fill the annulus between the drill stem and the bore-hole wall. As long as the bore-hole remains open, and a path of lesser hydraulic relief pressure is not encountered (i.e. formation fracture), circulation back to the containment pits will continue for the duration of the drilling and installation operations.

The absence of an open bore-hole conduit, or the presence of a major formation fracture will typically lead to partial or possible full loss of drilling fluid circulation. While it is impossible to determine the precise nature of this type of fluid loss, it is possible to accurately monitor for it by watching for a significant difference between the rate the fluid is being pumped down-hole and rate it returns to the surface. The drilling fluid pumping rate and the rate of drilling fluid returns to the containment pit is constantly monitored by the driller while the drilling is progressing. The driller will know immediately if an unusually high volume of drilling fluid is being lost down-hole, depending on the ground conditions encountered in the crossing and taking into the account the volume used to fill the bore-hole. Should the driller believe that circulation is being completely lost he will implement the following procedures:

1. Temporarily cease drilling, operations, including pump shut down;
2. Dispatch observers as required to monitor the area in the vicinity of the bore, for inadvertent returns of drilling fluid at the surface.
3. Re-start the pump and stroke the bore-hole up and down in stroke lengths up to 30 feet.

During this procedure the bore-hole will be stroked as many as 6 times but no fewer than 2 in an effort to size the bore-hole annulus and re-open the circulation pathway. In addition, the properties of the drilling fluid may be altered (i.e. thickened) at the same time, to aid in re-establishing circulation as required, depending on bore-hole conditions. The observers will continuously monitor for inadvertent fluid returns as long as the pump remains on. Occasionally, based on the driller's discretion, it may be useful to increase the stroke length past the point at which he believes circulation was lost.

If circulation is re-established drilling will proceed as usual and monitoring for inadvertent fluid returns will no longer be required as long as circulation is maintained. If circulation is not re-established, monitoring for inadvertent fluid returns to the ground surface and river will continue and drilling will proceed.

Typically lost circulation has the highest probability of occurring while the pilot hole is being drilled due to the smaller bore-hole annulus and the relatively large volume of solids being displaced and carried in the drilling fluid. Often times in the course of drilling the pilot hole, circulation will be temporarily lost as the pilot bit is advanced through more permeable or less competent sections of the ground formation and fluid pressures are at a maximum. As the pilot bit advances beyond these section of the bore-hole, the fluid pressure will fall and circulation within the bore-hole in naturally re-established. In these instances, much of the fluid lost to the formation under the greater pressures will return back to the bore-hole as the pressures fall, in which case the drilling fluid is not likely to migrate to the surface. It is also possible for the drilling fluid to leave the bore-hole and migrate in a direction other than the ground surface, in which case it may never be observed even if circulation is lost for long periods of time.

If drilling fluid returns are observed to be continuously surfacing on the ground surface at a location that is accessible, the following procedures will be followed:

1. Cease drilling operations;
2. Contain the location such that the drilling fluid cannot migrate across the ground surface;
3. Excavate a small sump pit at the location and provide a means for the fluid to be returned to either the drilling operations or a disposal site (i.e. pump through hose or Vac tank);
4. Continue drilling operations and continue maintaining the integrity of the containment measures and monitoring the fluid returns as required ensuring that no surface migration occurs.

If inadvertent drilling fluid returns are observed to be surfacing on the ground surface at a location that is inaccessible, the following procedures will be followed:

1. Cease drilling operations;
2. Ensure that all reasonable measures within the limitations of the technology have been taken to re-establish circulation (possibly trip back to the drill to open bore-hole or use lost circulation material to seal fracture, etc.)
3. Continue drilling with the minimum amount of drilling fluid as required to penetrate the formation and successfully install the product line.

It should be noted that often times the drill cuttings generated as a result of the drilling process will naturally bridge and subsequently seal fractures or voids in the rock or earth as drilling progresses thus providing another means of re-establishing circulation. This is especially likely during the reaming process as higher volumes of larger cuttings are typically generated. Therefore it is usually beneficial to proceed with the pilot hole even if circulation has not been re-established since it will likely be re-established at some point during the reaming process.

The use of an environmentally safe drilling fluid ensures that even in the event of fluid loss to sensitive areas there will be no adverse environmental impact other than a temporary minor increase in turbidity until the drilling fluid dissipates. It is important to note that any temporary increase in the turbidity as a result of inadvertent drilling fluid loss while directional drilling the crossing will be several orders of magnitude less than that of an open cut crossing.