

Appendix P

Soil Excavation and Off-site Disposal Contingency Plan

Targeted soil excavation per the standards promulgated under Statewide Order 29-B offers an effective option to remove elevated constituent concentrations for those limited areas identified within the Limited Admission areas. However, the only chloride parameters above comparative standards under Statewide Order 29-B only are either within the pipeline right-of-way associated with active off-site oil and gas production activities or at depths associated with the clay lenses identified along the eastern portion of the property west of Bergeron Road associated with the intermediate zone. Therefore, excavation is not a feasible option, especially since the surface and subsurface chloride concentrations have been determined to be protective of the intended use of the property and/or the underlying water bearing zones. Similarly, Hydro-Environmental Technology, Inc. (HET) is unable to provide a Statewide Order 29-B compliant plan until which time the pipeline right-of-way is no longer in operation. If desired or requested by the department, the shallow soils can be observed over time to ensure that the constituent concentrations do not result in distressed vegetation. Note that the subsurface chloride concentrations within the intermediate zone and associated clay lenses are addressed under the 29-B compliant plan for groundwater.

However, HET offers the costs to conduct soil excavation after removal of the pipeline for completeness purposes only. The proposed excavation area would be approximately twenty-five (25) feet by eighty-five (85) feet to address elevated EC concentrations at a depth between two (2) and four (4) feet below land surface for an estimated total of 314 cubic yards. Surface soils at depths less than two (2) feet will be excavated and stockpiled for use as backfill material at surface. In addition, HET proposed that additional sampling of the eight (8) to ten (10) foot zone be conducted to verify concentrations of EC at this depth that were not confirmed through split sample analyses, especially given the fact that the six (6) to eight (8) foot zone contains EC concentrations below Statewide Order 29-B upland criteria. Excavation would continue under the compliant plan until which time all elevated concentrations are removed. The estimated costs and supporting documentation for the 29-B compliant plans for soil is attached and estimated at \$127,892.40.

P.1: Excavated Soil Handling Procedures

All soils generated during the excavation of the proposed area of concern will be directly loaded into LADOTD approved trucks or containers for transport to an LDEQ and BP approved landfill. All waste will be transported under landfill approved profile. In addition, waste manifest documentation will be maintained by each truck driver for transport of each load for disposal. The manifests will be obtained from the disposal company to document the generator, the transporter, and the disposal facility and should contain multiple copies for the generator, transporter, owner, and landfill.

A copy of all disposal documents will be maintained for documentation purposes. This includes, but is not limited to, approved waste profile, manifests signed by the landfill for each load of material transported to the landfill, weight tickets, and any other documents provided by the landfill before, during, or after transport or necessary to profile, transport, and dispose of the generated soils. All documentation will be included within the final closure report.

P.2: Confirmation Sample Collection Procedures

Confirmation sampling will be conducted over time and at the request of the department to monitor the concentrations of chloride related parameters in the surface soils within the bounds of the pipeline right-of-way. Soil samples will be analyzed for the following parameters by an accredited laboratory, as necessary and appropriate, based on previous sampling data:

1. LDNR Statewide Order 29-B parameters (EC/SAR/ESP, Oil and Grease, True Total Barium)
2. total chlorides by Method 9056A
3. synthetic precipitation leachate procedure (SPLP) by Extraction Method 1312
4. metals by EPA SW-846 Method 6010B/7471B
5. percent moisture by Method D2216

Appropriate detection limits were obtained by laboratory personnel on all parameters for application to LDNR Statewide Order 29-B or RECAP, as appropriate.

P.3: Backfill Requirements

Backfill operations will not be conducted until which time confirmation samples from both sidewall/base samples and stockpile samples have concluded that the approved standards have been met within the surface soils. Backfill will only be necessary in those areas of excavation that extend below natural land surface. Restoration of the elevations of the former pad areas will not be obtained as part of this plan. The LDNR will be notified and informed of the results for discussion prior to backfill and completion of the excavation process.

Backfill material will consist of the un-impacted soils of like material and will be placed into the area of excavation in eight (8) inch lifts and properly compacted (95% standard proctor density). Appropriate compaction testing will be performed via nuclear probe on eight (8) inch lifts to ensure that the material meets the compaction requirements, as necessary and appropriate.

P.4: Water Accumulation Handling Procedures

During the course of soil excavation, methods will be employed to limit and isolate the proposed areas of excavation from surface water intrusion. However, any accumulated water will be treated and disposed in accordance with applicable permitting requirements. Appropriate sampling and documentation will be performed to ensure the requirements of discharge. Additional documentation of the discharge permit will be met, including obtaining prior approval, sampling, notification, and reporting requirements. The necessary laboratory analytical requirements will be determined as part of the applicable permitting or disposal requirements on an as needed basis.

P.5: Utilities and Obstructions

Known underground and overhead utilities are present on-site, including overhead electrical lines along the property boundaries and the presence of active flow lines to the site. The appropriate utility companies and current operators will be contacted to mark the lines prior to initiation of field activities through the Louisiana One Call system. Additional utility companies will be contacted based upon information from Louisiana One Call or from known utilities in the area. Proper records will be maintained to document contact with these utility companies, as well as subsequent communications, maps, and

markings. In addition, proper distance from the identified lines will be maintained as to not cause damage or interfere with the area of investigation.

P.6: Area Maintenance and Security

The facility will be kept in good condition during the course of the project to ensure proper maintenance and security for safety purposes. The site is surrounded by a fence. Additional perimeter fencing will be installed on an as needed basis to secure the edges of the area of excavation and/or to define appropriate access areas.

All trash generated during the course of the project will be properly disposed, and the site will be maintained in good condition, with trash removed regularly to maintain a good working environment and not become an eyesore for surrounding facilities. All equipment will be maintained in good working order with no leaks or damage that would adversely affect the project site or surrounding facilities. Care will be taken immediately upon discovering any leaks or problems, if any, and emergency response equipment, including, but not limited to, absorbent pads, absorbent material, brooms, clean water, drums, and shovels, will be readily accessible on-site to address a leak upon discovery.

P.7: Personal Protective Equipment

All personnel will be appropriately trained and fully aware of the site conditions. During the course of this project, personal protective equipment (PPE) will be worn by all site workers as described by the Occupational Safety and Health Administration (OSHA) as Level D. This includes coveralls or long pants and shirts, boots/shoes (chemical resistant steel toe), safety glasses, and hard hat, at a minimum. Additional PPE may be warranted on an as-needed basis.