

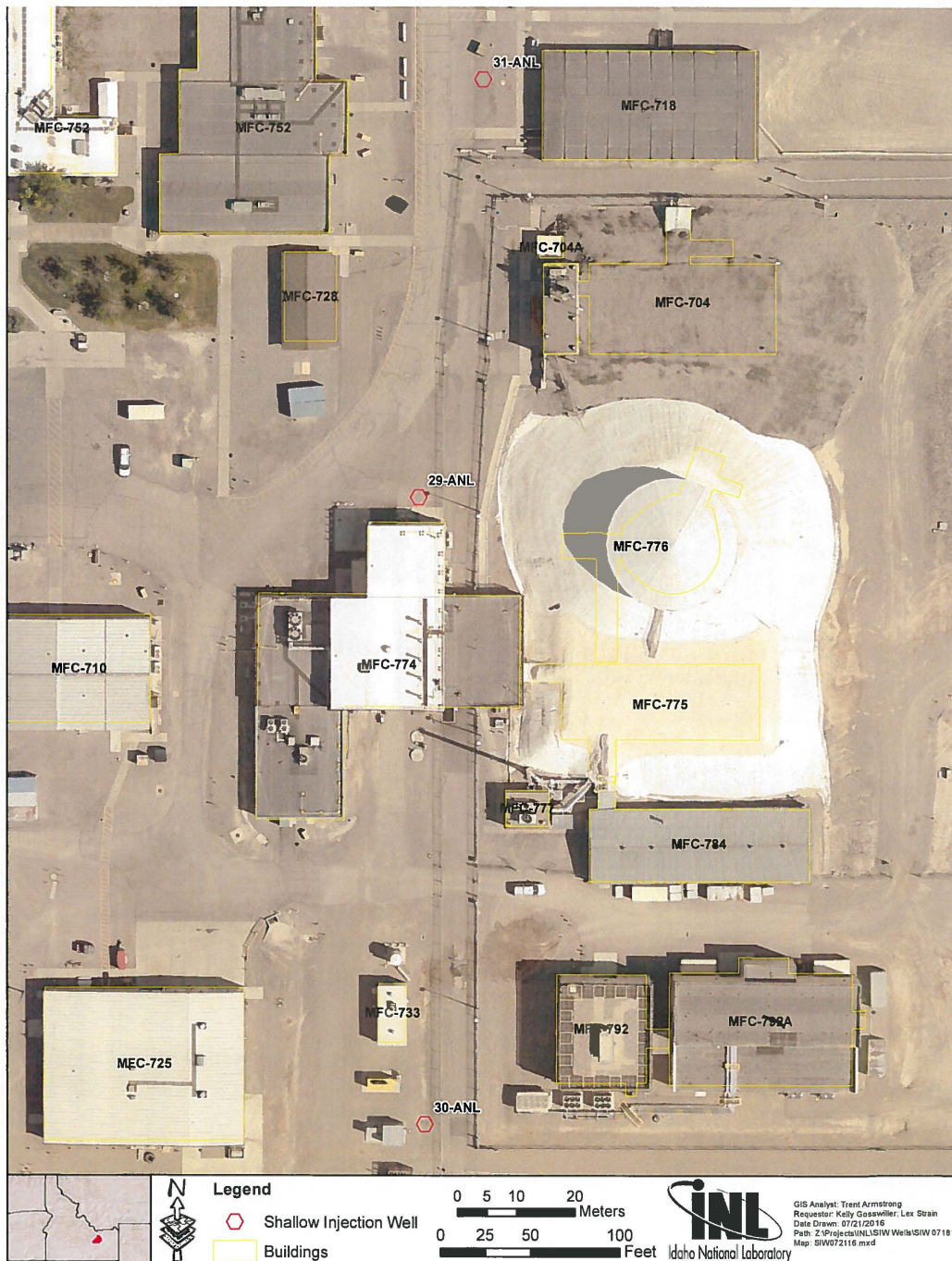
DOE-ID NEPA CX DETERMINATION Idaho National Laboratory

SECTION A. Project Title: Close Shallow Injection Well 34X0001187

SECTION B. Project Description and Purpose:

The Materials and Fuels Complex (MFC) storm water system incorporates a series of tributary ditches, inlets, manholes, culverts, and storm drain piping. The system conveys most storm water runoff to the MFC Industrial Waste Pond. MFC modified portions of the storm water system when upgrading the intrusion detection system in 2016 and 2017. Following the storm water system modifications, the electrical and communication manholes located east of storm water shallow injection well (SIW) 31-ANL (see Figure 1) began filling with water during storm events. The purpose of the proposed action is prevention of water infiltration to the electrical and communication manholes to support proper functioning of MFC systems relying on the electrical and communication systems.

Figure 1. Location of SIW 31-ANL.



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MFC analyzed the following alternatives for preventing water infiltration to the electrical and communication manholes:

1. Drill the bottom of the dry well
2. Seal the dry well
3. Seal the dry well and replace downstream pipes
4. Seal the dry well and install a pump to lift runoff to a pipe to the north.

Alternative 1 – Drill Bottom of Dry Well

This alternative drills the bottom of the dry well until free draining materials are encountered. This alternative prevents storm water runoff to the manholes and assures the dry well continues to drain and function as intended. This alternative would not affect other MFC infrastructure components. The depth to free draining materials is unknown.

Alternative 2 – Seal Dry Well

This alternative seals the dry well to contain runoff within the dry well and prevent storm water runoff to the manholes. Under this alternative, the dry well fills until water reaches the elevation of the overflow pipe that conveys runoff to the north. However, storm water runoff would back up the upstream pipe because the overflow pipe is higher in elevation than the upstream pipes. This alternative requires frequent maintenance to prevent water and sediment from consistently filling the pipes.

Alternative 3 – Seal Dry Well and Replace Downstream Pipes

This alternative seals the manhole as mentioned in Alternative 2 and excavates the downstream storm drain pipes. The alternative installs new downstream pipes at lower elevations to allow storm water runoff to flow by gravity. This alternative alleviates other storm drain issues through improved design and construction. The amount of storm drain piping and the number of other structures requiring replacement to accommodate positive flow from the dry well is unknown.

Alternative 4 – Seal Dry Well and Pump Runoff to the North

Alternative 4 seals the dry well and installs a pump to lift the runoff from the dry well to the overflow pipe that conveys runoff to the north.

All alternatives require the following:

- Removing concrete sidewalk sections
- Excavating soils and drain rock material.

Sealing the dry well in Alternatives 2, 3, and 4 requires removing 12" of drain rock from the open bottom concrete structure, installing a layer of gravel, then placing a concrete cap over the gravel.

Pump installation in Alternative 4 includes procuring a pump and installing the following components:

- 2" drain piping through an existing culvert
- 120/208V electrical panel
- Conduit
- Heat trace cable in new drain pipe and a thermostat for heat trace cable.

MFC decided Alternative 4 is the best option best meets the need to prevent water infiltration to the electrical and communication manholes. to support proper functioning of MFC systems relying on the electrical and communication systems.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities generate exhaust from operating heavy equipment, but these emissions would be below reportable levels. Mobile sources (e.g., generators, welders, and compressors) may be used temporarily (less than a year) by subcontractors at the INL Site. These sources must meet Idaho Administrative Procedures Act (IDAPA) 58.01.01.625 visible emission opacity requirements.

There is a potential for fugitive dust.

Discharging to Surface-, Storm-, or Ground Water

The MFC storm water system conveys most storm water runoff to the MFC Industrial Waste Pond through a series of tributary ditches, inlets, manholes, culverts, and storm drain piping. Storm water conveyed through ditches has the potential to infiltrate the soil in minimal amount. Storm water is unlikely to contain contaminants that would impact ground water quality.

Permanent decommissioning of the shallow injection must be in compliance with IDAPA 37.03.03.070.

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Disturbing Cultural or Biological Resources

There are no known archaeological properties within the proposed project area. However, if cultural resources (i.e., bones, flakes of obsidian, "arrowheads" or other stone tools, bottles, tin cans, etc.) are discovered at any time during implementation of any alternative, stop work procedures are implemented until the Cultural Resource Management Office (CRMO) evaluates the resources.

Generating and Managing Waste

The proposed action generates industrial waste from personal protective equipment (PPE), asphalt, concrete, scrap wood, scrap metal, etc.

The proposed action recycles scrap metal when practical and implements pollution prevention and waste minimization when economically practicable to reduce waste volume and/or toxicity. INL transfers waste to Waste Generator Services (WGS) for appropriate disposition under all alternatives.

Releasing Contaminants

The project has potential to release contaminants. Diesel fuel for operating drilling equipment would be stored in fuel tanks. Other chemicals such as hydraulic oil may also be used. Using petroleum products for drilling and possibly other potentially hazardous industrial chemicals has the potential to release minor amounts of contaminants to air, water, and soil.

Contractors must submit chemical inventory lists with associated Safety Data Sheets (SDSs) in vendor data system and enter all chemicals into the INL Comply Plus Chemical Management System.

Although not anticipated, all alternatives have the potential for spills when using chemicals or fueling equipment.

Using, Reusing, and Conserving Natural Resources

All alternatives use fossil fuels and release greenhouse gases (GHGs).

SECTION D. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not "connected" to other action actions (40 CFR 1508.25(a)(1) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

References: 10 CFR 1021, Appendix B to Subpart D, items B1.33, "Stormwater runoff control" and B5.3 "Modification or abandonment of wells."

Justification: Project activities in this Environmental Checklist (EC) are consistent with 10 CFR 1021, Appendix B to Subpart D, Categorical Exclusion B1.33, "Design, construction, and operation of control practices to reduce stormwater runoff and maintain natural hydrology. Activities include, but are not limited to, those that reduce impervious surfaces (such as vegetative practices and use of porous pavements), best management practices (such as silt fences, straw wattles, and fiber rolls), and use of green infrastructure or other low impact development practices (such as cisterns and green roofs);" and

B5.3 "Modification (but not expansion) or plugging and abandonment of wells, provided that site characterization has verified a low potential for seismicity, subsidence, and contamination of freshwater aquifers, and the actions are otherwise consistent with best practices and DOE protocols, including those that protect against uncontrolled releases of harmful materials. Such wells may include, but are not limited to, storage and injection wells for brine, carbon dioxide, coalbed methane, gas hydrate, geothermal, natural gas, and oil. Covered modifications would not be part of site closure."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) Yes No

Approved by Jason Sturm, DOE-ID NEPA Compliance Officer on: 1/14/2019