EXECUTIVE SUMMARY

Stimson Lumber, in Priest River, Idaho (permittee) is requesting a recycled water permit to apply approximately 70,000 gallons of boiler maintenance and water softener regeneration brine annually to unpaved roads at their lumber yard property as a dust suppressant. This is the first reuse permit application by this facility.

1 Introduction

This memorandum satisfies the requirements of the “Recycled Water Rules” (IDAPA 58.01.17.400) for issuing reuse permits. The principal facts and significant questions considered in preparing the draft permit and a summary of the basis for the draft permit conditions are provided.

DEQ reviewed the permit application materials and technical report stamped by Thomas Briggs, PE on September 18, 2018 and submitted to DEQ on October 12, 2018. Supplemental information regarding ground water quality impacts were stamped by Thomas Briggs, PE on August 13, 2019 and submitted to DEQ on August 21, 2019. DEQ issued a completeness determination in a letter dated October 11, 2019.

2 Site Location and Ownership

The Stimson lumber yard property is located in Priest River, Idaho and is about 400 feet south of the Pend Oreille River (Appendix A). The lumber yard consists of 45 acres of which five acres of unpaved road and parking areas are owned by the Stimson Company (Appendix B). These areas require adequate management and control of fugitive dust emissions under the DEQ air quality permit (Permit 017-00001). The permittee is also regulated by the US Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) for stormwater discharges to the Pend Oreille River under the Multi-Sector General Permit (MSGP; EPA 2015).
3 Process Description

The sources of the industrial wastewater for reuse purposes include 1) a water softener recharge brine and 2) boiler maintenance water from annual servicing.

The permittee utilizes a hog-fueled boiler to process raw lumber into a final product. Boilers require low water hardness to limit scaling issues which effectively reduces the heat exchange potential and the boiler's useful life. Water softeners are used to remove water hardness and occasionally resins used in the water softener require a concentrated salt solution (i.e., brine) to efficiently remove water hardness. Currently the brine wastewater is pumped into trucks and hauled to the Priest River wastewater treatment facility. The City of Priest River is not required in their NPDES permit to monitor for TDS removal, so the final effluent quality discharged to surface waters is unknown. The permittee is requesting to apply the diluted brine (reuse water) as a dust suppressant over approximately five acres of unpaved roads and parking areas.

Dust suppressants used to minimize the potential of fugitive dust emissions is considered a beneficial use per the Idaho Recycled Water Rules, IDAPA 58.01.17 (Subsection 602.02). Typical commercially available dust suppressants used by the Idaho Department of Transportation is a 30% solution of magnesium chloride (MgCl₂), the concentration of which is much higher than the concentrations measured in the proposed reuse water (See additional discussion in Section 4.6.3).

Water softener discharge and boiler maintenance water will be collected in a truck or tote and transported to a [existing] lined onsite storage pond. The discharge will be retained in the pond until it is reused or transported to the City's treatment plant... A water truck, operated by Stimson staff, will apply reuse water along unpaved haul roads and between log decks to suppress dust, as required by the facility's air permit. The proposed reuse areas are unpaved with compacted irregular surfaces, and little to no infiltration or runoff is expected. Water will be applied at measured rates that wet only the upper 3 to 4 inches of soil. Recycled water application will occur during periods of dry weather, when the water is expected to fully evaporate (Briggs 2018).

4 Site Characteristics

The site is located on a north-facing hillside along the south bank of the Pend Oreille River. Stimson has operated the facility as a sawmill since acquiring it from Idaho Forest Industries in 2000. The northern portion of the site includes a paved area, the main sawmill, an office, and maintenance and storage facilities. The southern portion of the site includes unpaved roads and log storage and parking areas. The site is bounded by Dufort Road to the north, Old Priest River Road to the west, South 1st Street to the east, and Stimson-owned timberland to the south. Adjacent land use includes commercial forest and residences located east, west and south of the site. Site topography slopes to the north toward Dufort Road at elevations that range from a high of 2,210 feet North American Vertical Datum 1988 near the southern boundary to 2,080 feet along the northern boundary (Briggs 2018).
4.1 Site Management History

This is the permittee’s first reuse permit and there is no site management history.

4.2 Climatic Characteristics

Climate data was taken from the Western Regional Climate Center for the Sandpoint weather station located approximately 18 miles east of the proposed reuse site. The total precipitation averages about 31.5 inches annually of which 11.2 inches falls during the propose application period. A summary of the climate characteristics are provided in Table 1 below.

Table 1. Climate characteristics from the Western Regional Climate Center for the Sandpoint area station.

<table>
<thead>
<tr>
<th>Month</th>
<th>Mean precipitation (inches)</th>
<th>Mean pan evaporation (inches)</th>
<th>Mean high temperature (°F)</th>
<th>Mean low temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>3.78</td>
<td>0</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>Feb</td>
<td>2.6</td>
<td>0</td>
<td>37</td>
<td>22</td>
</tr>
<tr>
<td>Mar</td>
<td>3.03</td>
<td>0</td>
<td>46</td>
<td>26</td>
</tr>
<tr>
<td>Apr</td>
<td>2.32</td>
<td>0</td>
<td>57</td>
<td>31</td>
</tr>
<tr>
<td>May</td>
<td>2.64</td>
<td>4.96</td>
<td>67</td>
<td>38</td>
</tr>
<tr>
<td>Jun</td>
<td>2.6</td>
<td>5.51</td>
<td>74</td>
<td>44</td>
</tr>
<tr>
<td>Jul</td>
<td>1.18</td>
<td>7.47</td>
<td>82</td>
<td>47</td>
</tr>
<tr>
<td>Aug</td>
<td>1.06</td>
<td>6.78</td>
<td>82</td>
<td>45</td>
</tr>
<tr>
<td>Sep</td>
<td>1.38</td>
<td>4.47</td>
<td>71</td>
<td>38</td>
</tr>
<tr>
<td>Oct</td>
<td>2.36</td>
<td>0</td>
<td>54</td>
<td>31</td>
</tr>
<tr>
<td>Nov</td>
<td>4.33</td>
<td>0</td>
<td>38</td>
<td>27</td>
</tr>
<tr>
<td>Dec</td>
<td>4.21</td>
<td>0</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>31.49</td>
<td>29.19</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Adapted from Briggs 2018.

4.3 Soils

Geology in the vicinity of the site consists of Pleistocene flood deposits of sand, gravel, and silt deposited by outburst floods associated with Glacial lake Missoula. These deposits occupy topographic low areas along rivers and within glacially carved valleys, and are surrounded by metamorphic bedrock that makes up the surrounding hillsides and mountains. Logs from nearby domestic wells document that drilling encountered deposits of sand, silt, and clay interspersed with metamorphic bedrock and occasional boulders.

The Natural Resource Conservation Service soil survey report for Bonner County describes the upper 5 ft of site surface soil as Pend Oreille and Sagle silt loam. In accordance with the Unified Soil Classification System, the survey report further classifies site soil as silt (ML) to silty gravel (GM), with 23 to 65 percent of the Pend Oreille unit (upper portion of the site) and 13 to 73 percent of the Sagle unit (lower portion of the site) passing a U.S. No. 200 sieve (Natural Resource Conservation Service, accessed August 22, 2018). These units each contain significant
amounts of silt, limiting the infiltration capacity of the soil. Excavations associated with recent construction of site stormwater improvements encountered silt, clay, and fine sand within the upper 10 to 12 ft of soil. No regional water table was observed during the fieldwork (Landau 2018a).

4.4 Surface Water

The Pend Oreille River is located approximately 400 ft from the northern boundary of the proposed reuse area, and more than 1,200 ft from the southern boundary. A small drainage gully, near the northeast boundary of the site, collects runoff from adjacent properties. No other lakes, streams, or creeks are located near the site. A site stormwater system collects runoff that is not retained in site soil. This system includes a series of ditches, buried pipes, and culverts that route runoff to several settling ponds, where it is retained prior to offsite discharge.... In accordance with the facility's U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit program for industrial discharges, stormwater is discharged to the Pend Oreille River through a series of outfalls at the northern edge of the site. The stormwater system drains the entire site; any runoff from the land application area will be routed through this system, retained on site, and combined with stormwater runoff from other paved and unpaved areas of the site. Discharge is monitored in accordance with the facility's permit requirements (Briggs 2018).

4.5 Ground Water/Hydrogeology

4.5.1 Hydrogeology

Well logs for domestic wells were obtained from the [Idaho Department of Water Resources] to evaluate groundwater conditions in the vicinity of the site. The logs show that, with one exception (Littman well log), where very shallow perched water was observed above a clay unit, groundwater is not present within 45 feet of ground surface.

Elevation data from the United States Geological Survey Priest River Quadrangle, as well as a topographic survey completed for the site, were used to convert depth-to-water measurements documented in the well logs to groundwater elevations (2013). Groundwater elevations varied according to the range of geologic conditions encountered in the wells. However, where confining or perched zones were not encountered, depth- to-the-regional-water-table was consistent with the elevation of the Pend Oreille River to the north. At these well locations, groundwater elevations ranged from approximately 2,045 to 2,065 ft. This corresponds to fluctuations in the elevation of the Pend Oreille River, which ranges from an elevation of 2,055 to 2,065 ft annually. Based on the elevation data, the depth-to-groundwater beneath the reuse area is expected to range from 65 to 155 ft below ground surface, depending on location, and is interpreted to flow toward the Pend Oreille River (Landau 2018a).

4.5.2 Ground Water Quality

Ground water depth ranges from 65-155 feet below ground surface and generally flows north toward the Pend Oreille River. Median background TDS concentration is about 158 mg/L.
(Briggs 2019). There do not appear to be any downgradient wells from the proposed reuse site and the nearest private well is located approximately 500 feet east of the proposed reuse site.

### 4.6 Wastewater/Recycled Water Characterization and Loading Rates

#### 4.6.1 Recycled Water Characterization

The permittee sampled the softener brine from the lagoon to determine general contaminants of concern. A summary of the results are provided in Table 2 and Table 3.

**Table 2. Diluted softener brine nutrient concentration results.**

<table>
<thead>
<tr>
<th>Sample date</th>
<th>TKN (mg/L)&lt;sup&gt;a&lt;/sup&gt;</th>
<th>NO&lt;sub&gt;2&lt;/sub&gt;/NO&lt;sub&gt;3&lt;/sub&gt; (mg/L)&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Total N (mg/L)&lt;sup&gt;c&lt;/sup&gt;</th>
<th>P (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/12/18</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>0</td>
</tr>
</tbody>
</table>

ND is non-detect results.

- a. Maximum detectable limit is 0.50 mg/L
- b. Maximum detectable limit is 0.05 mg/L
- c. Maximum detectable limit is 0.55 mg/L

**Table 3. Diluted softener brine constituent concentration results.**

<table>
<thead>
<tr>
<th>Sample date</th>
<th>TDS (mg/L)</th>
<th>TSS (mg/L)</th>
<th>pH (std units)</th>
<th>Chloride (mg/L)</th>
<th>BOD (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/12/18</td>
<td>15,500</td>
<td>15</td>
<td>7.8</td>
<td>9,550</td>
<td>ND</td>
</tr>
</tbody>
</table>

#### 4.6.2 Hydraulic Loading Rates

Based on the permittee’s operating records, it is estimated nearly 1.592 million gallons (MG) of water is necessary between May and October (184 days) for dust suppression. The technical report indicates about 62,400 gallons of softener brine and about 8,000 gallons of boiler maintenance water is generated annually (Briggs 2018). The volume of the proposed reuse water represents about 4% (0.0704 MG/1.592 MG) of the total water needed for dust suppression. The softener brine will be discharged to a lined, open atmosphere storage lagoon in which 98,146 gallons of precipitation is gained and about 91,000 gallons is lost to evaporation annually (Briggs 2018).

#### 4.6.3 Constituent Loading Rates

The permittee plans to discharge the softener brine and boiler maintenance water to the lagoon which will be diluted with rain water. The concentration for the diluted wastewater can be estimated using Equation 1. The calculation assumes TDS concentrations for the boiler maintenance water is 100 mg/L and rain water is 10 mg/L (Briggs 2019).
Solving for Equation 1 using the hydraulic and constituent concentrations (summarized in Table 4), the TDS concentration from the diluted reuse water to be applied as a dust suppressant is 704 mg/L.

For comparison, dust abatement from the Idaho Department of Transportation (ITD 2019) suggests a 30% solution of magnesium chloride may have a concentration as high as 385,000 mg/L (DEUSA 2018). Also, EPA recommends limiting TDS concentrations in reuse irrigation water to a range of 500 to 2,000 mg/L (EPA 2004). A diluted, reuse water applied to the ground surface would be acceptable under these conditions; however, it will be the responsibility of the permittee to ensure concentrations in the reuse water applied are within this range.

Table 4. Reuse water composition summary.

<table>
<thead>
<tr>
<th></th>
<th>Volume (MG)</th>
<th>TDS (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softener brine</td>
<td>0.062</td>
<td>15,500</td>
</tr>
<tr>
<td>Boiler maintenance water</td>
<td>0.008</td>
<td>100</td>
</tr>
<tr>
<td>Precipitation to lagoon</td>
<td>0.098</td>
<td>10</td>
</tr>
<tr>
<td>Evaporation from lagoon</td>
<td>-0.091</td>
<td>--</td>
</tr>
<tr>
<td>Supplemental water (potable)</td>
<td>1.514</td>
<td>100</td>
</tr>
</tbody>
</table>

Loading rates for various constituents can be determined from Equation 2.
As previously discussed, a 30% solution of MgCl₂ is typically used as a dust suppressant with a concentration of 385,000 mg/L. This solution is applied once per year at a rate of 0.5 gallons per square yard (ITD 2019). At these rates, the constituent loading (based in part on Equation 2) would be about 42.3 lb/acre-day (see calculation below).

\[ L = \frac{Cf \times Q \times 8.345 \frac{lbm}{L_{MG \times mg}}}{A} \]

Where

- \( L \) = mass loading rate (lb/ac)
- \( Cf \) = final concentration (mg/L)
- \( A \) = area applied (acres)
- \( Q \) = total annual flow (MG)

A calculation to determine the constituent loading rate.

\[ L = \frac{0.5 \frac{gal}{yd^2} \times 1 \frac{MG}{10^6 \frac{gal}{acre}} \times 4840 \frac{yd^2}{acre} \times 8.345 \frac{lb}{L_{MG \times mg}} \times 385,000 \frac{mg}{L}}{184 \text{ days}} = 42.3 \text{ lb/acre \times day} \]

The proposed application rate for reuse purposes is based on the 1.592 MG of water as dust suppressant; 0.074 MG of which is the reuse water diluted by precipitation and potable water. Assuming the TDS concentrations are typically 704 mg/L following dilution, the anticipated annual loading rate, based on Equation 2, is about 10.2 lb/acre-day (see calculation below).

\[ \frac{(1.592 \ MG) \times (704 \ mg/L) \times (8.345 \ lb L/MG \ mg)}{5 \ acres \times 184 \ days} = 10.2 \text{ lb/acre \times day} \]

The theoretical reuse application rate is nearly 25% of a magnesium chloride application. DEQ will recommend monitoring of the TDS concentration in the reuse water to better understand what the actual concentrations are and that it will be within an acceptable range for purposes of dust suppression. DEQ will also recommend a constituent loading limit for the non-volatile dissolved solids not to exceed 42.3 lb/acre.

## 5 Site Management

Site management addresses buffer zones, runoff, seepage testing, and waste solids management and disposal.

### 5.1 Buffer Zones

Buffer zones for protection of surface water, ground water, drinking water supplies, and the public are required by IDAPA 58.01.17.604. The DEQ Reuse Guidance Manual provides recommended buffer distances for various reuse scenarios. For this permit, the following
scenario was used in determining buffer distances: Industrial, rural location, sprinkler application. A summary of buffer zones is shown in Table 5.

Table 5. Buffer zone recommendations.

<table>
<thead>
<tr>
<th>Guidance Buffer Zone</th>
<th>Actual Reuse Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearest Inhabited Residence</td>
<td>300</td>
</tr>
<tr>
<td>Nearest Public Water System</td>
<td>1,000</td>
</tr>
<tr>
<td>Nearest Private Water Supply</td>
<td>500</td>
</tr>
<tr>
<td>Areas Accessible to the Public</td>
<td>0</td>
</tr>
<tr>
<td>Nearest Surface Water</td>
<td>100</td>
</tr>
<tr>
<td>Nearest Irrigation Ditches/Canals</td>
<td>50</td>
</tr>
<tr>
<td>Fencing</td>
<td>Three-wire pasture fence</td>
</tr>
<tr>
<td>Posting</td>
<td>Every 500 feet and each corner of the outer perimeter of the buffer zone of the site</td>
</tr>
</tbody>
</table>

a. Not used.
b. The DEQ Reuse Guidance Manual provides recommended buffer distances for various reuse scenarios. For this permit, the following scenario was used for determining buffer distances: Industrial, rural location, sprinkler application.

As shown in Table 5, all existing buffer zones satisfy the DEQ Guidance buffer requirements. The Guidance buffer zones requirements will be specified in the new permit.

The property currently has security fencing around the majority of the site. DEQ recommends the permittee maintain this perimeter fencing around the site. Signage around the perimeter of the reuse site will need to be placed to inform members of the public that the reuse water is applied within the property.

5.2 Runoff

The permittee shall prepare and submit to DEQ for review and approval a Runoff Management Plan with control structures and other BMPs designed to prevent runoff from the permitted site except in the event of a 25-year, 24-hour storm event or greater, using the Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28, ‘Isopluvials of 25-YR, 24-HR Precipitation. Upon approval, the permittee shall implement the runoff management plan.

Application of salts to the ground surface may result in surface sealing along with compaction from traffic may result in additional runoff. The runoff management plan should address this and provide possible road maintenance to prevent runoff.

DEQ recommends the reuse permit include the following restrictions to minimize the potential for the reuse water to discharge to the storm collection system and surface waters:

- Application of the reuse water cannot occur within 24-hours of a forecasted rain event or within 24-hours following a rain event. This is to ensure the reuse water is not flushed into the storm collection system during a rain event. The nature of a rain event will eliminate the need for dust suppressants while the soil is wetted, so DEQ has confidence the permittee will be able to comply with this requirement.
• Application of the reuse water cannot occur when the soil is saturated and there is standing water or if the ground surface is frozen. Similar to the above discussion, this restriction is meant to minimize the reuse water from entering the storm collections system as runoff.
• Maintain a minimum horizontal buffer of 50 feet between the storm collection system and the reuse application area. This requirement will provide some assurance potential runoff will be capture within the buffer zone.

If the permittee complies with the applicable stormwater BMPs, it can reasonably be assumed that the diluted reuse water will not be discharged to surface water unless monitoring demonstrates otherwise. Direct discharge or runoff of any reuse water shall be reported to DEQ per Section 8. Standard Permit Conditions in the reuse permit. Additional reporting to the US EPA is also required as specified in the Multi-Sector General Permit (IDR053126).

The reuse permit is not intended to modify or be less stringent than the MSGP. The permittee is not authorized to discharge the reuse water (i.e., non-stormwater) to the stormwater collection system. Any additional permitting required by the US EPA for this activity shall be addressed by the permittee and a copy of that permit shall be submitted to DEQ prior to the first application of the reuse water. It is the permittee’s responsibility to ensure they are covered and operating their facility in full compliance with the MSGP and other Federal requirements.

5.3 Seepage Rate Testing
Seepage testing is highly recommended. Test procedures for completing seepage tests are recommended to be submitted at least 45 days prior to the due date shown in the table above.

Information on seepage testing procedures are located at: http://www.deq.idaho.gov/water-quality/wastewater/lagoon-seepage-testing.aspx

5.4 Waste Solids, Biosolids, Sludge, and Solid Waste
Non-inert solids generated at the reuse facility need to be addressed in the waste solids management plan.

5.5 Salts
Salts are compounds consisting of cations and anions which typically inhibit plant growth in municipal applications; however, this permit does not include a crop component. Total dissolved solids concentrations generally describes principle ions in a solution and can be used to evaluate salinity in the environment. This can be measured in the reuse water applied as a dust suppressant and evaluated for potential impacts to groundwater. TDS can also be indirectly measured in the soil as the electrical conductivity (EC).

In typical municipal reuse irrigation, TDS is primarily managed by flushing through the soil profile with either supplemental irrigation water or reliance on sufficient precipitation throughout the year; Northern Idaho reuse sites typically rely on the latter. TDS is a secondary contaminant for ground water and drinking water standards limited to 500 mg/L (IDAPA 58.01.11.200.01.b
Secondary constituent standards are aesthetic based standards as opposed to health based standards.

As discussed in Section 4.5.2, ground water in the area is between 65 and 115 feet below the ground surface with a median background concentration of 158 mg/L (Briggs 2019). The permittee evaluated potential ground water impacts as a result of reuse activities and concludes that TDS concentrations in groundwater beneath the facility..., during the proposed reuse season, would remain below the [secondary drinking water standards] of 500 mg/L (Briggs 2019). This conclusion was based on a conservative assumption that the TDS is infiltrated into groundwater when flushed through the soils the precipitation over the drainage basins between November and April.

5.6 Emergency Operating plan

In the event the permittee cannot apply the reuse water as a dust suppressant, the permittee is allowed to discharge the industrial wastewater at the Priest River wastewater treatment facility.

6 Monitoring

The proposed monitoring requirements for the draft permit are described in detail in the following subsections. All monitoring will be conducted in accordance with the facility’s Quality Assurance Project Plan (QAPP). See section 7 for requirements regarding the QAPP.

6.1 Wastewater/Recycled Water Monitoring

As discussed in Section 4.6.3, the constituents of concern for this reuse activity include TDS and chlorides. Concentrations for these constituents will need to be monitored to provide some level of confidence that the concentrations are as described in the technical report and its addendum which serve as the basis for this permit.

- At this time, there is limited data regarding the waste brine generated at the facility. DEQ will recommend the permit sample the raw brine for TDS and chlorides prior to discharging to the storage lagoon or any dilution in the first year of the permit. It is assumed the process to recharge the water softener resin is fixed and the resulting concentrations in the brine would not vary significantly.
- DEQ will recommend the permittee monitor TDS and chloride concentrations of the reuse water prior to application be monitored monthly when applying for the duration of the permit.
- DEQ will recommend the permittee monitor the stormwater outlets for TDS and chlorides. Initial monitoring should be completed at least once prior to any application of the reuse water to determine background concentrations and annual monitoring thereafter will coincide with the monitoring required per the MSGP.
- DEQ will recommend the quantity of reuse water be recorded daily when applied as a dust suppressant.
6.2 Soil Monitoring

As discussed in Section 5.5, northern Idaho provides sufficient precipitation annually to flush salts through soils. DEQ will not recommend soil monitoring at this time.

6.3 Ground Water Monitoring

As discussed in Section 5.5, the permittee concluded infiltration of TDS will likely not exceed the secondary water quality and drinking water quality standards of 500 mg/L. Also, there are no down gradient ground water sources from the reuse site (Section 4.5.2). DEQ will not recommend ground water monitoring at this time.

6.4 Calculation Methodologies

Hydraulic and constituent loading rates shall be determined based on the approved methods included with the plan of operation.

7 Quality Assurance Project Plan

The QAPP outlines the procedures used by the permittee to ensure the data collected and analyzed meets the requirements of the permit.

To support its mission, DEQ is dedicated to using and providing objective, correct, reliable, and understandable information. Decisions made by DEQ are subject to public review and may at times, be subject to rigorous scrutiny. Therefore, DEQ’s goal is to ensure that all decisions are based on data of known and acceptable quality.

The QAPP is a permit requirement and must be submitted to DEQ as a stand-alone document for review and acceptance. The QAPP is used to assist the permittee in planning for the collection, analysis, and reporting of all monitoring data in support of the reuse permit and explaining data anomalies when they occur.

DEQ does not approve QAPPs, but reviews them to determine if the minimum EPA guideline requirements are met and that the reuse permit requirements are satisfied. DEQ does not approve QAPPs because the responsibility for validating of the facility’s sampling data lies with the permittee’s quality assurance officer and not with DEQ.

The format of the QAPP should adhere to the recommendations and references in the Assurance and Data Processing sections of the guidance manual (DEQ 2007) and EPA QAPP guidance documents https://www.epa.gov/sites/production/files/2015-06/documents/g5-final.pdf.

8 Site Operation and Maintenance

Site operation and maintenance will be described in a plan of operation required as a compliance activity in the draft permit. The plan of operation shall be submitted to DEQ within twelve (12)
months following permit issuance for review and approval by DEQ. The plan of operation shall describe how the permittee will operate the reuse site in compliance with the reuse permit.

9 Compliance Activities

The list of compliance activities include in the current permit and those that will be required by the new permit is provided below.

9.1 Status of Compliance Activities in Current Permit

Not applicable.

9.2 Compliance Activities Required in New Permit

The following Compliance Activities are specified in the draft permit:

- **CA-254-01**: Submit an updated Plan of Operation (PO) incorporating the requirements of the reuse permit within twelve (12) months after permit issuance. The PO is a document intended to describe how reuse activities are completed in conformance with this reuse permit.
- **CA-254-02**: Submit a Quality Assurance Project Plan (QAPP), including verification that the plan has been implemented by the facility, within twelve (12) months of permit issuance.
- **CA-254-03**: Schedule a Pre-Application Conference one year prior to permit expiration.
- **CA-254-04**: Submit a permit renewal application 180 days prior to expiration of the existing permit.

10 Recommendations

Staff recommends the draft reuse permit be issued for an initial five (5) year permitting cycle. The permit specifies hydraulic and constituent loading limits and establishes monitoring and reporting requirements to evaluate system performance, environmental impacts, and permit compliance.

11 References


ITD 2019. DEQ communication with the Idaho Department of Transportation. *RE: Mag Chloride*


Appendix A. Vicinity Map (Image not scale)
Appendix B. Reuse Site Map (Image not to scale)
Appendix C. Communication between DEQ and ITD regarding magnesium chloride application (ITD 2019)
From: Chris Westerman
Sent: Monday, December 9, 2019 4:01 PM
To: Chris Westerman
Subject: FW: Mag Chloride

File note: Application of MgCl2

\[
\frac{42 \text{ lb}}{\text{ac} \text{ day}} = \frac{0.5 \frac{gal}{SY} \times 4,840 \frac{SY}{ac} \times 10^{-6} \times 8.345 \times 385,000 mg}{184 \text{ days}}
\]

From: Bud Converse [mailto:Bud.Converse@itd.idaho.gov]
Sent: Monday, December 2, 2019 3:23 PM
To: Chris Westerman
Subject: RE: Mag Chloride

Thanks Blake
Chris
As far as I know the dust abatement only goes on once a year, the use of mag is a lot different as a deicer. As a deicer it is applied again after it had diluted out and starts to freeze again and those rates are considerably lower also that’s on pavement.
Bud

From: Blake Thompson <Blake.Thompson@itd.idaho.gov>
Sent: Monday, December 2, 2019 3:17 PM
To: Bud Converse <Bud.Converse@itd.idaho.gov>
Subject: RE: Mag Chloride

If at all possible, if you can water down the area before hand it will help suck the mag into the roadway. I would have to look up one of the old contracts to 385g/L is correct but I would think so of the top of my head.

Blake

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: Bud Converse <Bud.Converse@itd.idaho.gov>
Date: 12/2/19 3:03 PM (GMT-08:00)
To: Blake Thompson <Blake.Thompson@itd.idaho.gov>
Subject: FW: Mag Chloride

Blake, do you have an answer for the first 2 questions, I got the last.
Thanks Bud
Hi Bud,

I had a few quick follow up questions:

- Does the product require any dilution before use?
- I found a data sheet which suggested the concentration for 30% solution was 385 g/L. Does this sound correct to you; am I missing anything?
- How often is the MgCl₂ applied as either dust suppressant or as a deicer?

Thanks

Chris

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From: Bud Converse [mailto:Bud.Converse@itd.idaho.gov]
Sent: Monday, December 2, 2019 8:49 AM
To: Chris Westerman
Cc: Doral Hoff; Bob Schumacher; Blake Thompson
Subject: Mag Chloride

Chris;
This is what I found. Our Orofino Foreman has a section of graveled road in his area, when we do apply Mag Chloride as a dust abatement we are applying a solution of 28-30% at a rate of .50 gallon per Square yard, if the road is somewhat packed down a person may need to apply 2 applications of .25 gallon / Sq. Yd.

I hope this helps, feel free to call if you have any questions.

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