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**GROUNDWATER**
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**GAS/ODOR**
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**LINER**
-   
**OPERATIONS**

## PROPOSED IMPROVEMENT

- Scientific tracing using dye will be completed to demonstrate groundwater underneath the proposed landfill flows extremely slowly and will not impact regional lakes.
- State regulations require a minimum separation distance between groundwater and the bottom of the landfill. South Hills will provide double the required separation.
- Odor management is typically a short section in the facility's Operations Plan. South Hills commits to developing a stand-alone, detailed Odor Management Plan to clearly define the steps required to prevent odors at the site from both active waste placement and the release of landfill gases.
- South Hills will incorporate gas collection features into the initial construction of the landfill – starting active gas control potentially decades sooner than required.
- South Hills commits to an annual investment of \$100,000 into gas and odor control prevention.
- A traditional composite liner system is required, however South Hills will utilize a double liner system with a leak detection layer.
- An electric leak detection test will be completed on the liner system before waste is placed.
- South Hills commits to the prevention of litter; we will fine haulers who do not comply with covered load requirements.
- South Hills will provide reports on the site's website for transparency.

## REQUIRED

- No requirement for dye tracing.
- No required demonstration.
- No Odor Management Plan is required; must be addressed in the Operations Plan but is typically minimal.
- Gas system required once emissions reach 34 Mg NMOC per year; have 30 months to install active gas control system.
- No requirement for gas system prior to that unless there is documented gas migration.
- Single composite liner system (compacted soil liner plus HDPE plastic liner)
- No requirement in Missouri for electronic leak detection.
- Screening must be addressed in the Ops Plan but there are no specific requirements or design criteria.
- Litter must be addressed in the Ops Plan but there is no specific requirements for a litter fence. Noise must be addressed in the Ops Plan but there are no specific requirements. MDNR requires traffic analysis but does not limit which roads can be used.
- Uncovered loads must be addressed in the Ops Plan but there are no specific requirements.
- Reports are available from MDNR via a Sunshine Request.