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FINAL ENVIRONMENTAL ASSESSMENT
for the
Proposed Class II Landfill Expansion Project
Northern Montana Joint Refuse Disposal District
Conrad, Montana

February 26, 2019

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LIST OF ACRONYMS

ARM – Administrative Rules of Montana

AADT – Annual Average Daily Traffic

BMP's – Best Management Practices

CFR – Code of Federal Regulations

CQA/CQC – Construction Quality Assurance and Construction Quality Control

DEQ – Montana Department of Environmental Quality

EA – Environmental Assessment

EIS – Environmental Impact Statement

E&P – Exploration and Production

ESA – Endangered Species Act

FA – Financial Assurance

FML – Flexible Membrane Liner

FPSD – Federal Prevention of Significant Deterioration

FWP – Montana Department of Fish, Wildlife, and Parks

GCCS – Gas Collection and control System

GWIC – Ground Water Information Center

HDPE – High Density Polyethylene

HELP – Hydrologic Evaluation of Landfill Performance

LCRS – Leachate Collection and Removal System

LEL – Lower Explosive Limit

LFG – Landfill Gas

LLDPE – Low Linear Density Polyethylene

MBMG – Montana Bureau of Mines and Geology

MCA – Montana Code Annotated

MDT – Montana Department of Transportation

MEPA – Montana Environmental Policy Act

MNHP – Montana Natural Heritage Program

MPDES – Montana Pollutant Discharge Elimination System

MSL – Montana State Library

MSW – Municipal Solid Waste

NMJRDD – Northern Montana Joint Refuse Disposal District

NMOC – Non-Methane Organic Compound

NMD – No-Migration Demonstration

NOI – Notification of Intent

NRCS – Natural Resource Conservation Service

O&M – Operation and Maintenance

OHWM – Ordinary High-Water Mark

PCB – Polychlorinated Biphenyls

PCC – Post-Closure Care

RCRA – Resource Conservation and Recovery Act

RPOC – Relevant Point of Compliance

SHPO – State Historic Preservation Office

SpW – Special Waste

SWMA – Montana Solid Waste Management Act

SWMS – Solid Waste Management System

SWP – Montana DEQ Solid Waste Program

SWPPP – Storm Water Pollution Prevention Plan

SWS – Montana DEQ Solid Waste Section

TDS – Total Dissolved Solids

TENORM – Technologically Enhanced Naturally Occurring Radioactive Material

TSCA – Toxic Substance Control Act

USACE – United States Army Corps of Engineers

USEPA – United States Environmental Protection Agency

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey

1. PURPOSE AND NEED FOR PROPOSED ACTION

1.1 SUMMARY

The Northern Montana Joint Refuse Disposal District (NMJRDD) is licensed to currently operate a Class II Solid Waste Management System (SWMS) near Conrad, Montana. On July 7, 2016, NMJRDD submitted a SWMS license application to the Montana Department of Environmental Quality (DEQ), to expand the existing boundary of the licensed NMJRDD landfill. The proposed expansion will add 139 years of waste disposal capacity (4,138,000 cubic yards) to the active NMJRDD Class II landfill. The proposed expansion will include six separate landfill units developed in twelve phases on 160 acres of property owned by NMJRDD.

The site for the proposed expansion abuts NMJRDD's current landfill southern boundary, and is located approximately nine miles north of Conrad, with access south off Montana Highway 44 (**Figure 1-1**). The proposed expansion encompasses 160 acres of NMJRDD-owned property in the SW1/4 of Section 3, Township 29 North, Range 3 West, Montana Principal Meridian, Pondera County, Montana. The expansion would involve a total of approximately 126 acres developed throughout the extended life of the facility. The new landfill units will add 106 acres of disposal, and the remaining 20 acres will include the ponds, roads, soil stockpiles, ditches, and minor temporary storage and support areas. A maximum active area of 30 acres will be open at the landfill during each phase of disposal throughout its operational life. The final cover will extend over the entire landfill footprint at closure of the expansion area.

If licensed, construction of the new disposal units, soil stockpiles, and storm water detention pond areas is expected to commence in 30 years. NMJRDD will be required to submit (for DEQ's approval) updated construction and design documents prior to any new activity in the expansion area.

1.2 PURPOSE AND NEED

The Montana Integrated Waste Management Act establishes policy goals for Municipal Solid Waste (MSW) reduction in the state through the development of a progressive solid waste management plan. The plan's coordinated priorities for solid waste management involve source reduction, reuse, recycling, and composting to promote the least adverse impact on human health and the environment. Landfill disposal and incineration are the final options for the routing and collection of waste. Currently most of the MSW generated in Montana is landfilled at 30 licensed Class II facilities scattered across the state.

The Montana Solid Waste Management Act (SWMA) establishes the minimum requirements for the licensing, regulation, and development of SWMS facilities where solid waste is collected and managed. The SWMA also addresses long range planning to ensure that sufficient landfill capacity is available in Montana for disposal of waste generated by the state's growing population. The administrative rules adopted under SWMA's authority establish the requirements for regulating various activities that involve waste management, such as the licensing, fees, design, operation, financial assurance, closure, post-closure care, monitoring, remediation, and enforcement of operations at SWMS facilities.

Wastes are grouped in the solid waste administrative rules by common physical and chemical characteristics according to standards that identify the intrinsic potential for each group to cause environmental degradation or public health hazards. Wastes in each group must be managed at the appropriate class of SWMS to ensure that an adequate degree of care is provided as necessary for the protection of human health and the environment. Group II wastes, or MSWs, include decomposable wastes and mixed solid wastes containing decomposable materials. Group III wastes include clean wood wastes and other clean non-water soluble or inert solids such as unpainted brick or concrete, untreated, unpainted and unglued wood materials, and tires. Group IV wastes include construction and demolition wastes and asphalt. A Class II facility design requires the most stringent controls for management of MSW or Group II waste, thereby also allowing for disposal of Group III, IV, and many special wastes. Special solid wastes (*e.g.* infectious, asbestos, or oilfield exploration and production wastes) have unique handling, transportation, or disposal requirements to ensure adequate protection of the environment and public health, safety, and welfare. All solid waste groups exclude bulk liquids, regulated hazardous wastes, and Toxic Substance Control Act (TSCA) wastes.

NMJRDD has applied for an expansion of its licensed Class II landfill operations. The applicant's main objective is to ensure that the ongoing environmentally protective disposal of Class II waste from Pondera, Glacier, and Toole Counties; the eastern half of Glacier National Park; and the Cities of Choteau and Browning will continue as necessary into the future at the active facility site. DEQ's purpose and need is to evaluate NMJRDD's request for approval of the proposed license expansion application. DEQ's decision must be consistent with the SWMA, the Clean Air Act, and the Water Quality Act.

DEQ's Solid Waste Program (SWP) has evaluated NMJRDD's license application for a major change to expand its licensed Class II facility. The agency is required under the Montana Environmental Policy Act (MEPA) to disclose any potential impacts to the physical and human environment that may result from its approval. The goals of the environmental assessment (EA) are to:

1. Report to the public the results of a DEQ environmental review conducted in accordance with MEPA (comments are logged and filed); and
2. Determine the potential need for an Environmental Impact Statement (EIS).

A MEPA document assists DEQ in making balanced decisions, but it does not expand the regulatory authority invested to SWP. Nor does it result in a certain decision on the license request, but rather serves to identify the potential impacts of a state action taken in accordance with the SWMA, solid waste rules, and other laws and rules governing the proposed facility design and activities. This final EA documents DEQ's decision (Appendix D) and may incorporate any changes of the draft found necessary by DEQ in response to all substantive comments received. DEQ's responses to the public comments are issued in writing and attached (Appendix C).

1.3 PROJECT LOCATION AND STUDY AREA

The active NMJRDD Class II landfill facility is located approximately nine miles north of Conrad and two miles west of Interstate 15 on Montana Highway 44 (Valier Road) in Pondera County, Montana (**Figure 1-1**). The property is owned by NMJRDD. The study area includes the proposed facility expansion site and adjacent areas within a one-mile

radius of the proposed facility perimeter fence. As noted in Section 3, the size of the study areas evaluated in the EA may vary to help DEQ to identify and evaluate the potential impact on each resource analyzed. Adjacent land uses are residential, agricultural, and recreational, without special restrictions. All nearby airports are located more than 10,000 feet from the proposed site. The site is located within a low level seismic impact zone that does not affect design standards.

1.4 REGULATORY RESPONSIBILITIES AND REQUIREMENTS

In reviewing an application for a new license (or a major change to an existing license) DEQ must comply with MEPA and the SWMA, including applicable administrative rules. DEQ approval of a license depends on compliance of the proposal with SWMA and other applicable requirements. Prior to a licensing decision, MEPA procedures direct DEQ to analyze the proposal for potential environmental impacts and to publish its findings in an EA for public review and comment prior to its decision.

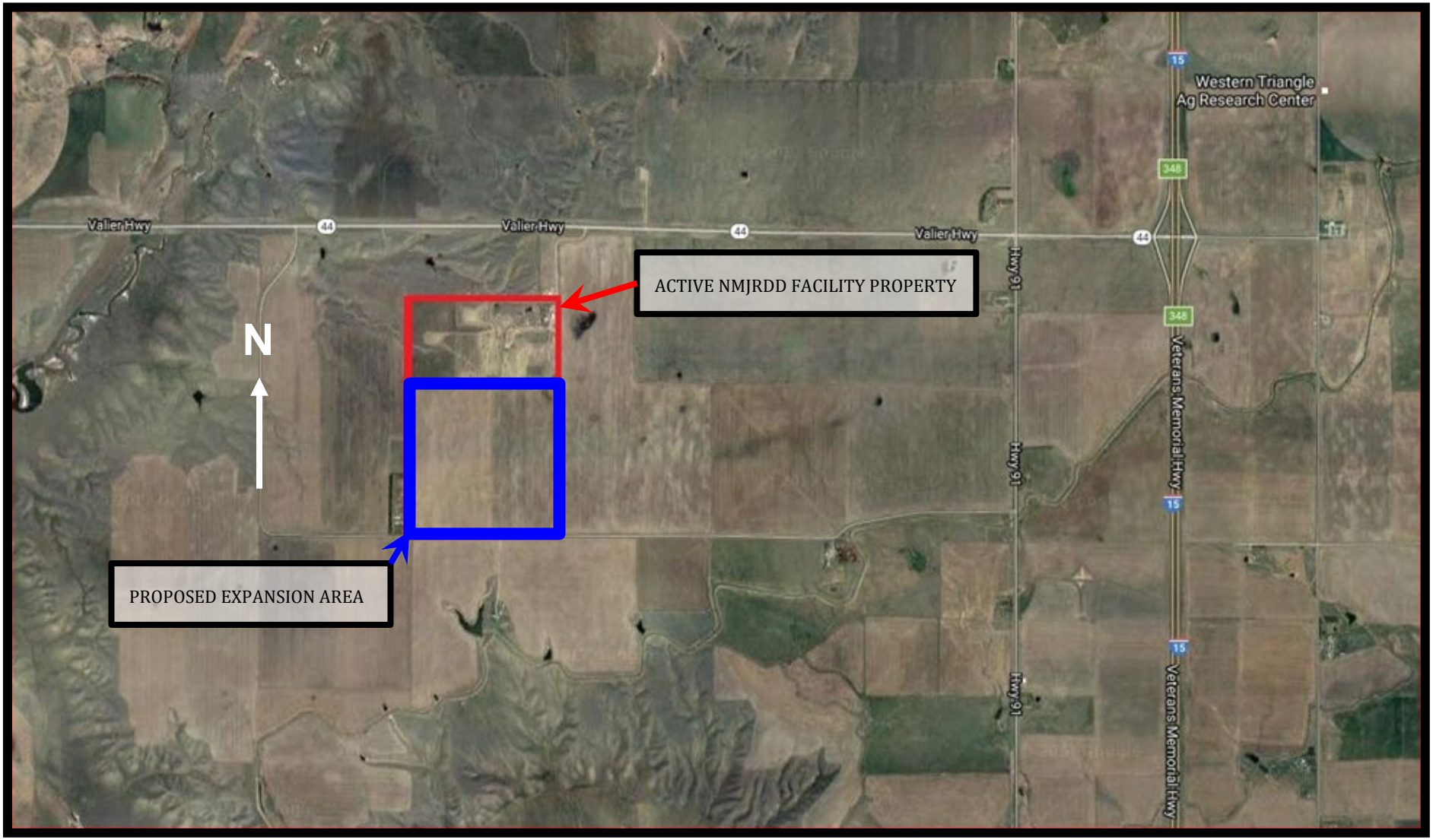
Upon completion of the EA process DEQ may:

- Approve the application
- Deny the application
- Expand upon the EA
- Write an EIS

Table 1-1. Agencies involved and their respective permitting or licensing responsibilities.

Applicable Regulatory Activities	
Responsibilities	Agencies
SWMS license	DEQ – Waste and Underground Tank Management Bureau
Air quality permitting	DEQ – Air Quality Bureau
General permit for erosion or storm water discharge associated with industrial activity	DEQ – Water Protection Bureau
Montana pollutant discharge elimination system (MPDES) permit	DEQ – Water Protection Bureau
SWMS license validation by county health officer	Pondera County Health Officer
County road construction and maintenance, land use, and weed plan approval	Pondera County

Figure 1-1. General location of the licensed NMJRDD Class II facility (red), accessed from Montana Highway 44 (Valier Road) to the north. The proposed expansion (blue) extends the facility southward to Prairie View Road.
(Source: NMJRDD License Application, 2016) NOT TO SCALE



1.5 PUBLIC PARTICIPATION

As the lead agency, DEQ is now releasing this Final EA to present its findings as described in Section 1.4. DEQ first published the Draft EA on August 24, 2018, beginning a 30-day public comment period which ended on September 23, 2018. Adjacent landowners and interested persons were sent a copy of the document for review.

DEQ has responded in writing to comments received during the 30-day public comment period (Appendix C) and will notify the interested individuals on the final EA's availability. DEQ may have incorporated into the Final EA additional pertinent analysis or expanded discussion of some impacts (or of mitigating aspects of the proposal or rules) that was identified by its written responses.

2. DESCRIPTION OF ALTERNATIVES

2.1 INTRODUCTION

This chapter summarizes alternatives to the proposed plan, including the "No Action" alternative required by MEPA. MEPA requires DEQ to evaluate reasonable alternatives to the Proposed Action.

Section 75-1-220, Montana Code Annotated (MCA), states that unless a project is state sponsored, DEQ's review of an existing alternative facility or a modified alternative of the proposed project is not required. Therefore, DEQ only considers alternatives applicable to the proposed SWMS at the proposed location.

Two rule-based standard alternatives are available for consideration when DEQ evaluates the proposed design for the NMJRDD Class II liner and final cover systems. DEQ rejected these two standard options upon review of the applicant submittals. The documents provided in the submittals however demonstrated equivalence of the proposed alternative designs to each of the prescriptive standard designs. These alternative liner and final cover design demonstration proposals were both approved by DEQ based on their performance, as required. Substitution of these prescriptive design standards for the proposed designs was not necessary.

The proposed action was therefore based on the proposed alternative designs submitted by the applicant. Incorporation of the performance-based liner and final cover design demonstrations into the proposed expansion application documents are justified because: (i) known site investigations confirm that the geologic conditions beneath the expansion area correspond with the reported design demonstration data, and (ii) the proposed base and final cover liner performances will be identical to the liner in the demonstrations. DEQ finds that the designs submitted by the applicant will ensure that the concentration of relevant contaminants (see list of "Table 1" constituents and maximum contaminant levels allowed in Appendix B) will not be exceeded at the relevant point of compliance in the uppermost aquifer (see discussion in Section 3.4.3.2.2).

2.2 DEQ ALTERNATIVE 1 - NO ACTION ALTERNATIVE

Under the no action alternative, the proposed landfill expansion would not be approved by DEQ and could not be built by NMJRDD. The management of NMJRDD waste after

closure of the licensed SWMS would be accomplished by hauling wastes to another licensed Class II landfill facility.

2.3 DEQ ALTERNATIVE 2 – PROPOSED ACTION

The Proposed Action expands NMJRDD's SWMS at the licensed landfill site. The Proposed Action will license the SWMS facility depicted in **Figure 2-1**.

2.3.1 LANDFILL DESIGN AND CONSTRUCTION

2.3.1.1 Landfill Features

The proposed landfill design and operation includes construction of the following:

- Interior roads
- Waste disposal units
- Leachate removal system
- Soil stockpiles
- Stormwater control system
- Stormwater ponds
- Perimeter fence, berms, and ditches

2.3.1.2 Landfill Liner Design

The landfill units in the proposed expansion will allow the disposal of 4,138,000 cubic yards of waste and extend the life of the NMJRDD facility by an estimated 139 years. The sloping, corrugated base of the proposed 106-acre landfill unit has a central swale in each phase that connects with a leachate removal manhole at the toe sump. A new Class II landfill unit must obtain DEQ approval for a liner design that:

- Ensures that the concentration values listed in Appendix B will not be exceeded at the relevant point of compliance (RPOC) in the uppermost aquifer, or
- Utilizes a composite liner and leachate collection and removal system that maintains a leachate depth of less than 30 centimeters over the liner.

NMJRDD selected an alternative landfill liner design that specifies standards for scarification and re-compaction of the upper six inches of the natural clay till in place below the landfill base. This alternative liner design is based upon a No-Migration Demonstration (NMD) finding that the naturally impermeable subsurface and depth to the uppermost aquifer combine beneath the site to prevent the migration of contaminants to the RPOC (Section 3.4.3.2.2). NMJRDD successfully demonstrated that there is no potential for contaminants to migrate from the landfill into the uppermost aquifer or drinking water source beneath the facility during the landfill's 139-yr active life plus 30 years of post-closure care. The approved NMD requires the installation of a leachate removal system, as usual by design.

2.3.1.3 Landfill Unit Construction

Six Class II landfill units (Areas 4 through 9) will be built and filled in 12 phases, with two phases for each landfill unit (for example, see red Cell 5A and green 5B in **Figure 2-1**). Topsoil removed during cell construction will be stockpiled for final cover during phased closure. Each cell will be excavated as needed to an average depth of 20 feet. The base materials excavated during construction will be used for daily, intermediate, and final cover. The base grades of each cell will be constructed to maintain a 2% minimum slope towards a central swale, for example where Cells 5A and 5B (**Figure 2-1**) will join to form the landfill unit. After excavation, the in-place natural subgrade exposed on the base of each cell will be scarified and re-compacted into one 6-inch soil envelope, rolled, and inspected for adequate smoothness to route leachate downslope. Once construction of the landfill base has been completed, the leachate removal system will be constructed along the downslope edge of each cell on top of the base (Section 2.3.1.4).

At the margin between Cells A and B, a berm will first be constructed upslope along the central swale to divert leachate to a manhole installed at the toe of Cell A, before lateral expansion into Cell B. The berm will be removed when Cell B is constructed uphill and tied to Cell A, the two cells joining along the axial swale to complete each phase of unit construction. As landfilling progresses according to the rate of waste acceptance, Cells A and B in unit Areas 4 through 9 will eventually be tied together into the existing landfill and closed with a continuous final cover (**Figure 2-2**). The maximum waste thickness in the proposed landfill units will be approximately 50 feet. Given an average 20-ft cut for the base, the landfill will rise to an average 30 feet above the surrounding land surface.

An interior access road from the existing Class II facility will be constructed along the western boundary of the proposed expansion area. The continuous final cover will be constructed as the landfill unit phases are joined along the center of the expansion area and advance southward. The landfill lateral expansion and construction of the disposal units will generally develop from west to east and north to south. All landfill units will be constructed according to a DEQ-approved Construction Quality Assurance and Quality Control (CQA/CQC) Plan.

Although some of the infrastructure will be constructed over the life of the landfill, certain infrastructure will be necessary at the onset of expansion operations. They include:

- Operations area
- Interior and perimeter access roads
- Initial disposal cells
- Storm water ponds
- Gas monitoring probes

Additional infrastructure, including storm water control channels and access to ponds, will be constructed as needed during phased landfill unit development.

2.3.1.4 Leachate Removal System Construction

A leachate collection system is not required, as noted in Section 3.4.3.2.2. The proposed leachate removal system will consist of a 4-foot diameter manhole sump installed two feet below the landfill base at the toe of each unit, where Cells A and B meet on the axis of each unit. A slotted 6-inch polyvinyl chloride (PVC) pipe bedded in gravel will be placed laterally at a 2% slope falling towards the sump across the lower toe of each unit area (areas 4 through 9), so that leachate generated from the landfill will flow into the manhole. The leachate manhole will be extended vertically as landfilling progresses. The lateral leachate risers will provide access to the leachate manholes at the cleanouts. The leachate removal system will be constructed according to a DEQ-approved CQA/CQC Plan. Leachate may not commingle with storm water.

2.3.1.5 Stormwater Controls Construction

All stormwater runoff from within the proposed expansion area will be captured in two stormwater ponds (**Figure 2-2**). Perimeter rip-rap ditches will be constructed to route all runoff to the stormwater ponds, whereas natural runoff from the surrounding topography will be routed away from the facility to adjacent drainages. Interior routing features within the facility are designed to convey flows up to the maximum runoff predicted from a 25-year, 24-hour storm event (1.8 inches/hour). The detention ponds have the capacity to store the total discharge of this event from within the facility expansion.

Detention Pond 2 will be constructed within the existing landfill area west of the landfill disposal units. This 1.8-acre, 9-ft deep with a capacity of 4.2 million gallons will capture stormwater from Areas 4 and 6 in the proposed expansion. It will also capture stormwater from the current landfill after it has been closed and capped. The pond has a spillway, rip-rap exit channel, and valved discharge outlet pipe with a riprap plunge pool to further minimize erosion impacts.

Detention Pond 3 will be located along the southern boundary of the proposed expansion area. This 7.7-acre, 8-ft deep pond will contain 17 million gallons and capture stormwater from Areas 5 and 7 through 9. The design has an emergency spillway and rip-rap exit channel but does not include other controlled discharge options.

2.3.1.6 Scale House and Equipment Building

Access to the proposed landfill expansion will continue to pass through the currently active facility's entrance gate and past the scale house. Landfill personnel will continue to screen, weigh, and record the wastes according to waste type and classification. The existing buildings will remain to support the ongoing operations in the facility expansion area. These buildings include the NMJRDD manager's office, equipment storage, and maintenance shop. The cardboard recycling area will also remain active. Landfill personnel will direct incoming loads to the appropriate area(s).

2.3.1.7 Soil Stockpiles

As noted in Section 2.3.1.3 and 2.3.1.7, topsoil removed during construction will be stockpiled for later use during final cover construction. The natural in-place earthen material below the topsoil will be removed as each landfill cell is excavated. It will be stockpiled within the disposal footprint area, adjacent to the active disposal cells. These stockpiles will be used for daily and intermediate cover, and as a soil component of the final cover. All runoff from soil stockpiles, including those located outside the waste disposal cells, will be routed to the stormwater ponds. Best management practices (BMPs), such as revegetation, may allow runoff from some of these stockpiles to be routed off site if necessary.

2.3.1.8 Final Closure

Final closure of the facility will be required after the waste disposal units have reached full capacity and wastes are no longer accepted. The final cover of the proposed landfill expansion units will be constructed in phases, as shown in **Figure 2-2**. As each unit reaches final grade during a phase of filling, final cover will be applied in a progression that follows the sequence of construction from Areas 4 through 9.

When all landfill cells in the proposed expansion area are full, the final cover, installed in phases over the previously filled units, including the current landfill, will ultimately be tied together into a single continuous cap over the entire landfill mound (**Figure 2-2**).

The same final cover design that was approved for the existing landfill will also be used for the closure of each landfill phase in the proposed expansion area. The final cover profile for the proposed expansion area (**Figure 2-3**) will consist of the following vegetation and field-tested soil components (top to bottom) selected from the on-site excavated soil stockpiles:

- Native local vegetation (from seed mix)
- Minimum 12-inch thick topsoil layer
- Minimum 18-inch thick loose soil layer (frost protection)
- Minimum 18-inch compacted clay liner of select tested soil

The intermediate covered waste will provide the base for the final cover system. The topsoil will be seeded with DEQ-approved native plant species and fertilized accordingly. The final cover will be installed according to the DEQ-approved Closure Plan, material specifications, and the approved CQA/CQC Plan requirements. The proposed end use for the closed expansion area is range land.

Stormwater from the final cover will be controlled by a network of terraces and down chutes constructed above the final cover elevations. Precipitation that does not run off the landfill will infiltrate into the upper layers of the final cover system to be stored in the frost protection and topsoil layers for release

Figure 2-1. Proposed NMJRDD Class II Landfill Expansion features showing landfill units 4 to 9. The sloping base of each unit area (green) shows the axis (heavily dashed, Cell 5A red) and lateral pipes (lightly dashed, Cell 5B yellow) where leachate flows to a manhole sump (solid black circle) at the low point. *(Source: NMJRDD SWMS License Application, 2016) NOT TO SCALE*

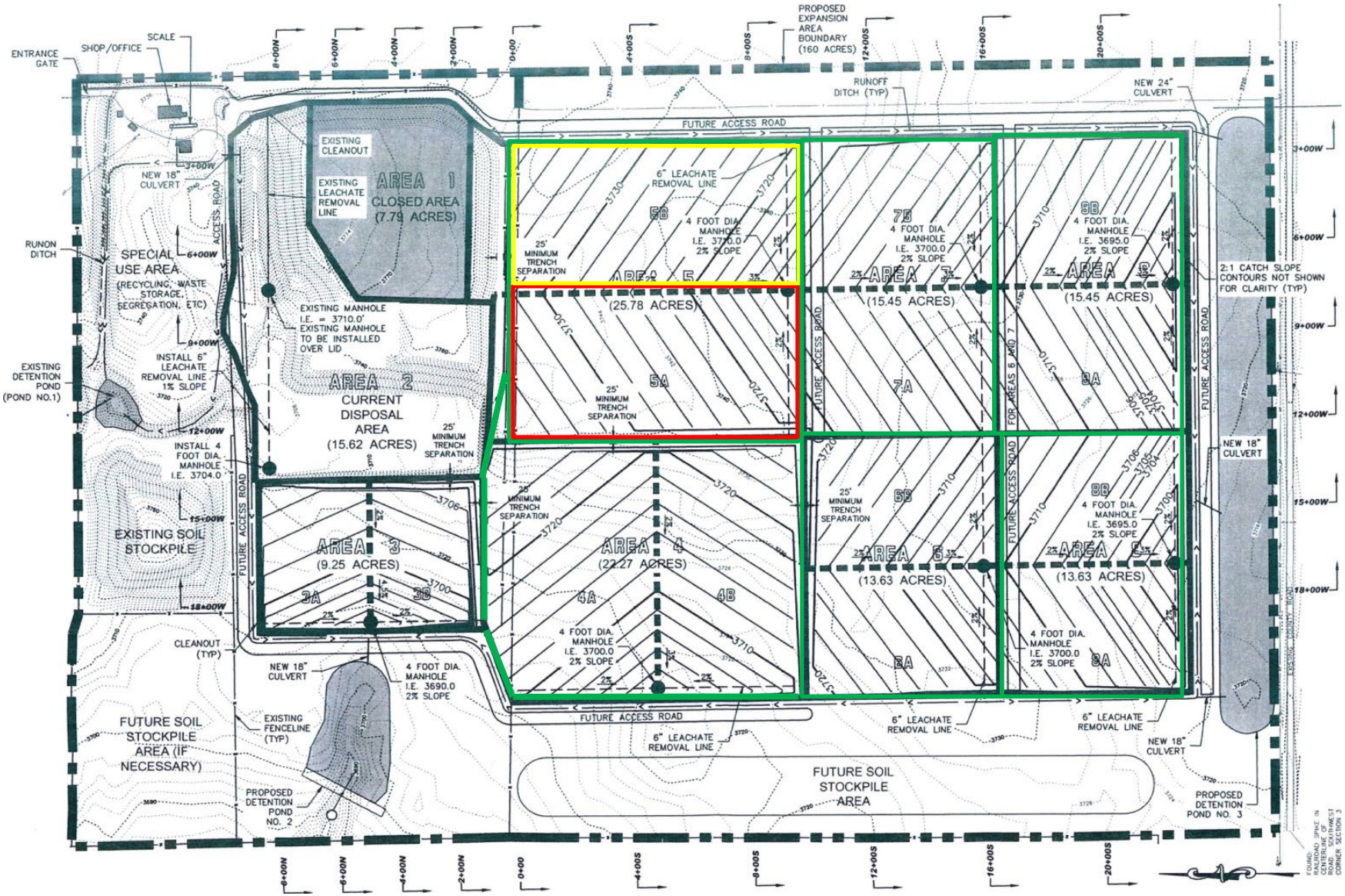


Figure 2-2. Proposed NMJRDD Class II Landfill Expansion final cover elevations and contours.
(Source: NMJRDD SWMS License Application, 2016) NOT TO SCALE

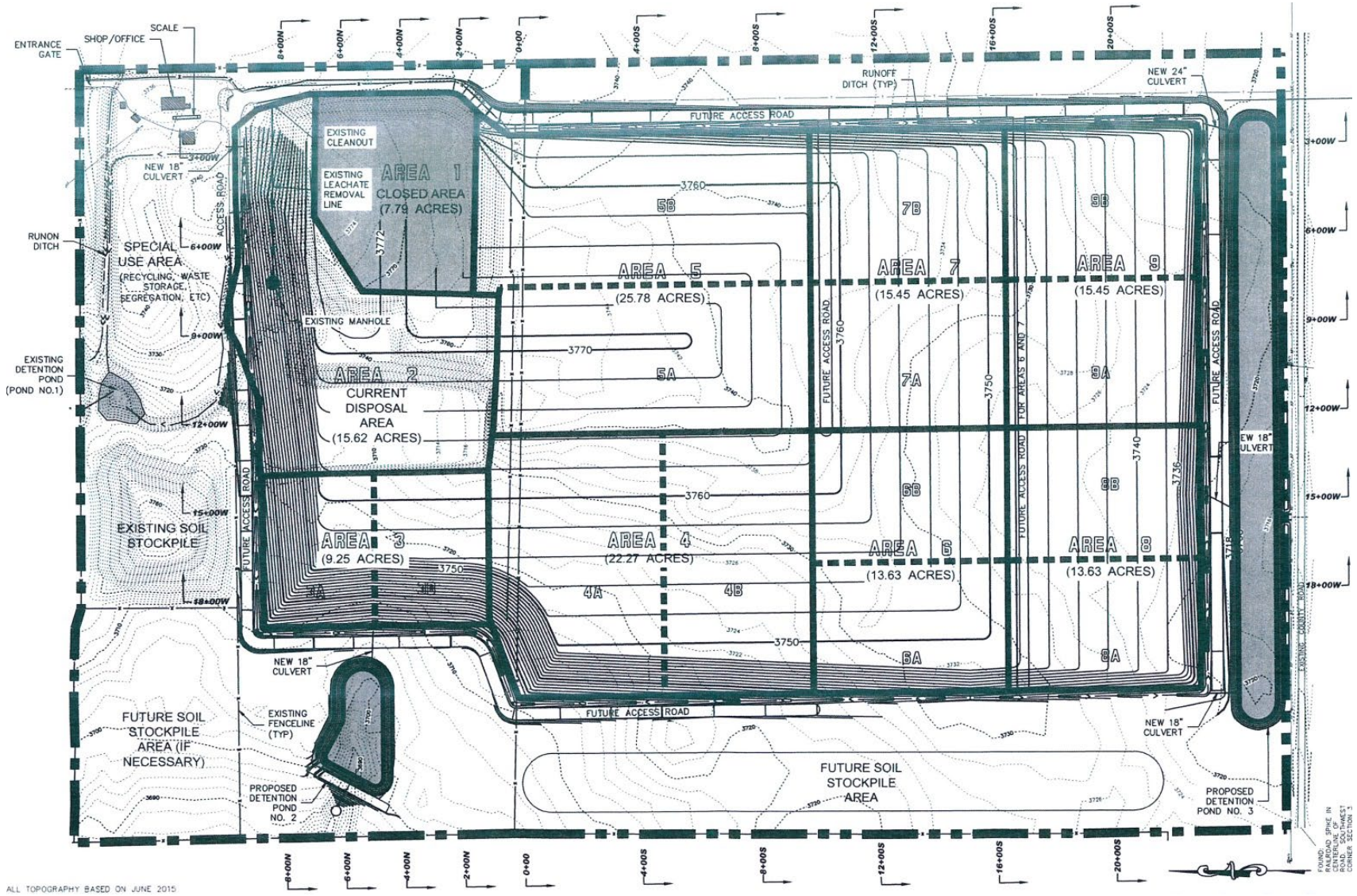
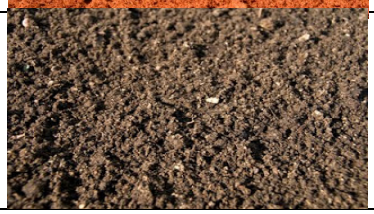


Figure 2-3. Features of the Final Cover Profile for the Proposed Landfill Expansion

SCHEMATIC OF THE FINAL COVER SOIL ELEMENTS	
	Native local vegetation
	Minimum 12-inch topsoil
	Minimum 18-inch loose soil layer (frost protection)
	Minimum 18-inch compacted clay liner

and uptake by vegetation. Passive gas vents will be installed as necessary to vent methane collected below the clay liner at the base of the final cover. The landfill's perimeter will be surrounded by an access road and stormwater channels. When final closure is complete, final cover will extend approximately 11 feet beyond the landfill boundary, leaving a road width of approximately 34 feet. Lateral leachate pipe risers will daylight on the landfill margin along the road for access to the leachate manholes. At specific locations around the boundary, the road's width may narrow to allow for manholes and headwalls to be placed between the landfill's boundary and the perimeter road.

2.3.2 LANDFILL OPERATIONS, MONITORING, CLOSURE, AND MAINTENANCE

NMJRDD will expand the facility's operations by following the DEQ-approved Operation and Maintenance (O&M) Plan. Current regulations require solid waste facilities to obtain DEQ approval prior to beginning operations in the expansion area, or before making any operational changes. The facility must continue to comply with applicable SWMA and associated Administrative Rule requirements, including the payment of fees and submission of annual renewal application. Failure to follow these requirements could result in enforcement actions, license revocation, or denial of a renewal application. The following items represent the minimum O&M Plan requirements in force at the initiation of the expansion project would also remain in effect. A review of the O&M Plan will be required at that time.

2.3.2.1 Personnel

The proposed expansion facility will continue to be operated by a minimum staff of three NMJRDD employees. Personnel will continue to inspect incoming loads, review incoming waste load records, operate landfill equipment, monitor stormwater, methane, and leachate, control litter, and apply daily and intermediate cover soil.

2.3.2.2 Operating Hours

The active landfill is open Monday through Friday from 8:00 a.m. to 4:30 p.m. The facility is closed on New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. No changes are planned for the facility.

2.3.2.3 Site Access

The active landfill's entrance is south of Montana Highway 44 (Valier Highway), approximately 2 miles west of Interstate 15. Facility traffic will continue to enter the site through the existing gate.

2.3.2.4 Landfill Equipment

NMJRDD would own and operate equipment at the facility to handle and process waste. NMJRDD is responsible for training personnel to operate the equipment. Available equipment includes:

- A 1155 Case track loader
- Two 2-wheel loaders
- An 826 Caterpillar compactor
- An Al John compactor (for backup)
- Two Terex scrapers
- A grader
- A skid steer
- A water truck

2.3.2.5 Acceptable Wastes

The proposed expansion area will continue to accept Group II, III, and IV wastes, including:

- Putrescible MSW
- Bulky waste
- Wood waste
- Friable and non-friable asbestos
- Contaminated soil
- Non-water-soluble solids (brick, dirt, rock, rebar-free concrete)
- Brush, lumber, and vehicle tires [ARM 17.50.503(1)(b)]
- General construction and demolition waste

- Waste asphalt

2.3.2.6 Waste Screening and Acceptance

The landfill staff will continue to perform random load inspections to prevent prohibited wastes from entering the facility. The loads will be inspected visually at the scale, and when unusual or prohibited wastes are noticed, the driver will be questioned, and the waste rejected if necessary. For rejected loads, the gate attendant or inspector will document the date, time, driver's name, license plate number, company name and address, size of the load, reason load was rejected, and inspector's name. If appropriate, the gate attendant will supply the driver with a contact at DEQ, or at a suitable company, for assistance in finding a suitable disposal facility. If regulated hazardous waste, regulated polychlorinated biphenyl (PCB) or Toxic Substance Control Act (TSCA) wastes, untreated infectious waste, or Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) waste is found during the gate check, NMJRDD will notify DEQ within 24 hours of discovery.

2.3.2.7 Prohibited Wastes

The following materials will not be accepted for disposal at the facility:

- Mercury-containing devices
- Hazardous materials/hazardous waste
- Un-rinsed pesticide containers
- Untreated infectious waste
- Electronic waste
- Waste oil
- Batteries
- Septage
- PCB contaminated materials or TSCA wastes
- TENORM wastes from oilfield exploration and production
- Liquid wastes

2.3.2.8 Landfilling Procedures

The facility will add six landfill areas (**Figure 2.1**). Each disposal area will be excavated 20 feet deep and filled in two phases (Cell A followed by Cell B). Leachate flowing downslope along the base of Cell A will first be routed by a berm at the edge to collect in the sump manhole at the toe of the cell. Cell B will be constructed when needed to slope downwards and connect with Cell A along the central swale that then replaces the berm. The combined cells thereby form a "vee trench" for leachate to flow from both phases along the central swale to the sump manhole as each disposal area is filled to final grade. Materials

excavated during cell construction will be used as daily and intermediate soil cover over each minimum 8-feet thick lift of waste fill.

2.3.2.9 Wet Weather Operations

Temporary berms and ditches will be constructed to divert runoff from the working and traffic areas to outside the active disposal area. Temporary access roads to the working areas will be maintained to keep them passable. Stockpiles of aggregate will be kept onsite to improve interior roads as necessary during inclement weather events. No wet weather storage of waste is proposed. Waste haulers will be contacted to stop hauling if wet conditions make the internal haul roads impassable or prevent the proper placement and compaction of waste in the cell. The operator may have to temporarily halt normal operations during wet weather.

2.3.2.10 Litter Control

Wastes will continue to be compacted and covered at the end of each working day in the active waste disposal unit. Whenever possible, the active working face will be oriented to the downwind side of prevailing winds and kept to the smallest practical area to minimize exposure and reduce blowing litter. Landfill personnel will continue to patrol the landfill perimeter daily and pick up litter blown from the working face. Additionally, portable litter fences may be placed downwind of the working face. Litter caught on the fences is removed daily (or as necessary). All open truck loads must be secured with a tarp. NMJRDD also has a portable vacuum that will continue to be used to clean the litter screens and fences. During periods of high winds when regular methods for the control of blowing litter are challenged, NMJRDD will evaluate the situation to implement one of the following procedures:

- Reduce the working face and rapidly place soil cover as a wind problem develops
- Place more litter screens in backup positions downwind
- Utilize an alternative cell sheltered from the wind
- Load onsite containers for temporary storage until wind abates

2.3.2.11 Dust Control

The operator is required to control fugitive dust on the facility roads. Water will be applied as a dust suppressant when needed using a water truck. Water will be applied in a manner that will not cause runoff, erosion, or leachate.

2.3.2.12 Stormwater Control

Stormwater originates from precipitation events as well as snow and ice melt in the spring season. Stormwater can soak into the ground, be held on the surface to evaporate, or flow by sheet wash to collect in adjacent drainages and flow downstream towards other bodies of water. Yet the mode of precipitation transport depends on the intensity and duration of the storm onsite. Exterior ditches or berms will intercept and route natural runoff from the surrounding terrain away from the facility.

Two detention ponds will collect and retain all interior stormwater flows impacting the facility. The ponds will retain and settle all suspended sediments generated during runoff events. The stormwater flows and ponds will be managed according to the facility's Stormwater Pollution Prevention Plan (SWPPP). All stormwater runoff generated within the facility boundary, but outside of the waste disposal areas, will be captured. Perimeter rip-rap ditches will carry the maximum runoff generated on site from a 25-year, 24-hour storm event (1.8 inches/hour) and discharge this interior runoff to the ponds.

Stormwater Pond 2 is placed west of the currently licensed landfill disposal units and will service both the existing landfill and the proposed facility. This 4.2-million-gallon pond will capture stormwater from Areas 4 and 6 of the facility and from the existing landfill cap after its closure. The discharge calculated from a 25-year, 24-hour storm event for the 83.2-acre area captured by this pond is 4.1 million gallons.

Stormwater Pond 3 is located along the southern boundary of the proposed expansion area. This 17-million-gallon pond will capture the stormwater from Area 5 and Areas 7 through 9. The discharge calculated from a 25-year, 24-hour storm event for the area captured by this pond is 5.7 million gallons. This pond will only discharge through the spillway when a peak event exceeds the design storm event capacity by a factor of three.

During flow routing, stormwater runoff will be managed using standard best management practices (BMPs). Stormwater BMPs are control measures used to manage changes in the quality and quantity of stormwater runoff. BMPs are designed to reduce the stormwater volume, peak flows, and sediment quantity through evaporation, infiltration, detention, and filtration. BMPs, including establishment and maintenance of vegetation on closed areas and on soil stockpiles, will be implemented as needed. Areas receiving final cover will be contoured for positive drainage so that surface runoff will be routed away from the active disposal area. Runoff from fully re-vegetated and

closed areas of the landfill final cover may discharge naturally off the site.

Pond 2 will have controlled discharge options, so that a general stormwater industrial discharge permit will be obtained from DEQ's Water Protection Bureau (WPB) prior to releasing any collected stormwater. Proper notification to the DEQ WPB, including the required results from testing for total dissolved solids (TDS) and total iron, will be conducted before discharging water from the ponds to state waters.

2.3.2.13 Leachate Removal System Management

As noted in Section 2.3.1.4, a leachate collection system is not required; however, a leachate removal system will capture all drained leachate. The proposed leachate removal system will consist of a 4-foot diameter manhole sump installed two feet below the landfill base and located on the axis at the toe of each unit area where Cells A and B meet (**Figure 2-2**). Two slotted six-inch PVC pipes bedded in gravel extend upward laterally at a 2% slope in a vee from the axial manhole across the lower toe of each cell to a surface cleanout at the unit margin. Leachate generated from the landfill unit (*e.g.,* Area 5) will flow toward the toe, down the lateral vee, and into the axial sump at the toe of each unit. The leachate pipes will be accessed at the 12-inch lateral PVC riser pipes located at the surface on the outside margins of the expansion units. The leachate manhole will be extended vertically as landfilling progresses. NMJRDD will measure the depth of liquids accumulated in the manhole at least once every three months and after any high precipitation events. These measurements will be recorded in the facility's operating record. If the leachate level rises one foot above the slotted pipe, the leachate must be sampled and tested. Upon approval by the wastewater treatment operator and DEQ, leachate can be pumped from the manholes through the lateral risers and hauled to a wastewater treatment facility. Leachate could also be sprinkled or injected to recirculate over the active or closed waste areas upon approval. Liquid contacting waste must remain in the unit as leachate.

2.3.2.14 Erosion control

The facility will implement short-term and long-term erosion control features, and employ practices preventing damage to constructed grades and vegetation. Short-term erosion control features such as mattes, mulch, silt fences, straw bales, and waddles will be installed to prevent topsoil erosion until adequate vegetation has been established. Prior to construction, a Notification of Intent (NOI) to discharge stormwater from construction activities will be submitted to obtain a Montana Pollutant Discharge Elimination System (MPDES)

construction permit. A construction SWPPP will be prepared in accordance with the MPDES constriction permit to specifically address erosion control.

Areas of final constructed grade, intermediate cover slopes, and final cover slopes will be seeded to establish vegetation and weed control measures. They will also be contoured for positive drainage, so that surface runoff will be routed away from the active disposal area. Runoff from fully re-vegetated and closed areas of the landfill final cover may discharge naturally to adjacent, offsite areas. Routine visual inspection will be used to assess the condition of the vegetation and erosion control features. Seeded areas that fail to establish dense cover will be reseeded. If warranted, a soil test will be performed to determine the need for fertilizers or amendments. Areas with high erosion potential due to concentrated flow will be inspected after less significant rain events. Eroded areas will be repaired and/or re-seeded promptly. Fiber blankets, mulch, or other erosion control methods will be used with weed control measures as needed until vegetation is re-established.

2.3.2.15 Fire Prevention and Protection

Fire control consists of prevention and protection. Landfill personnel will continue to remain alert for any indication that a load may be smoldering or about to ignite. If a smoking or smoldering load is observed on the landfill disposal cell, the waste will immediately be pushed away and isolated from the active working face. A thick layer of soil will then be spread over the waste and compacted, to smother the fire. Water from the water truck may also be used to help extinguish it. This waste will not be incorporated into the working face until the fire is extinguished. If a smoking or smoldering load is observed in a transport vehicle, the driver will be directed to the gravel parking lot away from the building and instructed to unload. DEQ will be contacted if any large fires break out on site and cannot be extinguished within 24 hours.

2.3.2.16 Methane Monitoring

Prior to the construction of a waste unit in the expansion area, a series of landfill gas monitoring wells will be installed along the perimeter of the waste disposal unit at locations and depths approved by DEQ. After waste is in place, NMJRDD will monitor methane levels at least once every three months to ensure that the concentration of methane gas generated by, and migrating from, the facility does not exceed regulations: 25% of the lower explosive limit (LEL) for methane in facility structures, or the LEL for methane at the property boundary. Any exceedance of these standards for methane levels will be reported

at once to DEQ, followed by the submittal of a landfill gas remediation plan for approval and implementation.

2.3.2.17 Final Closure

Once all landfill disposal cells have been filled to their final elevation, final closure activities may begin according to the DEQ-approved Closure/Post Closure and CQA/CQC plans. NMJRDD must first submit an NOI to DEQ at least 30 days prior to final closure activities, and unless otherwise approved, all closure activities must be completed within 180 days following DEQ's approval of the NOI. During closure, the in-place intermediate cover soil will be tied together to cover any open landfill phases, the entire surface smoothed, and the final cover installed and revegetated to form a continuous final cover over the entire landfill mound.

The approved final cover design for the licensed landfill will likewise apply to phased closure of each disposal unit in the proposed expansion area. The standard final cover profile (**Figure 2-3**) for the proposed expansion area, will consist of the same field-tested components as installed previously.

The daily or intermediate covered waste will provide the base for the final cover system. The final cover components would then be installed over the intermediate cover prepared according to the methods and testing specified in the DEQ-approved Closure Plan. The projected final use of the closed expansion area is range land. Buildings and ponds may be demolished or reclaimed as necessary. Vegetation would also be restored throughout the entire licensed boundary area, with a seed mixture approved by the local soil conservation district and DEQ, and then monitored annually by NMJRDD to ensure that re-vegetation is complete. The facility will regularly implement sufficient weed control measures throughout the closed facility property during the closure process.

2.3.2.18 Financial Assurance

In accordance with ARM 17.50.540, all Class II landfills must provide and maintain financial assurance (FA) to cover costs associated with facility closure and post-closure care. Financial assurance ensures that work associated with the facility's closure, and post-closure care are completed as necessary if the operator cannot or will not do it. FA will be required for the NMJRDD facility expansion.

NMJRDD has proposed to continue the trust fund mechanism for FA to ensure adequate closure and post-closure care monies. The current projected total closure cost for the facility is $178,864, accumulated through annual payments to the trust over the first 38 years of

projected life. The current projected annual post-closure care cost for FA is $1,800 for $54,000 total cost over 30 years. The facility will update the closure and post-closure care costs annually (including inflation) and provide additional payment as needed annually to ensure the trust is adequately funded. DEQ will be the sole beneficiary of the trust funds and will control all funds released.

2.3.2.19 Post-Closure Care

Once all final closure activities have been completed and approved by DEQ, the 30-year post-closure care period for the facility will begin. Post-closure care will be conducted according to the DEQ-approved Post-Closure Care (PCC) Plan. The PCC Plan identifies required operational, inspection, maintenance, monitoring, and reporting activities, and identifies how often they will be conducted.

A report describing PCC inspections, facility conditions observed, leachate and erosion management needs, methane control operations, corrective actions, maintenance, and monitoring activities performed at the closed facility will be submitted to DEQ annually. NMJRDD will perform quarterly methane monitoring during the post-closure care period in accordance with a DEQ-approved Methane Monitoring Plan. The facility will regularly implement sufficient weed control measures throughout the 30-year post-closure care period.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE

3.1 INTRODUCTION

Section 3 describes only the human and natural resources that could be affected by the Proposed Action and discusses the potential impacts of the No Action Alternative and the Proposed Action on each resource identified.

3.2 LOCATION DESCRIPTION AND STUDY AREA

The project location and associated study area for the Proposed Action includes all lands and resources in the proposed project area. Yet the area considered for potential impacts on a resource may necessarily extend into surrounding regions beyond the project area as needed for technical analysis. Each "resource analysis area" therefore at least includes the lands identified for the proposed project area (Section 1.3), but also include any extensions noted for a specific resource.

3.3 TERRESTRIAL AND AQUATIC LIFE AND HABITATS

3.3.1 ANALYSIS AREA AND METHODS

The analysis area for wildlife is the proposed boundary of the 160-acre NMJRDD Class II landfill facility expansion site. Due to the lack of species observed in a one-mile radius of the surrounding perimeter, DEQ expanded the

analysis area to include the entire Township 29 North, Range 3 West. The analysis methods included DEQ's research of the Montana Natural Heritage Program (MNHP) and the US Fish and Wildlife Service (USFWS) databases (to determine the presence of threatened, listed, and/or endangered plant and animal species), review of topographic maps, and a site visit (to determine the presence of aquatic systems within and adjacent to the proposed expansion area).

3.3.2 AFFECTED ENVIRONMENT

The proposed landfill expansion project area is located on a plateau, and adjacent to the southern boundary of the licensed NMJRDD landfill. The topography of the area surrounding the site is a combination of buttes, plateaus, and coulees. The parcel is currently idle but was once a dryland wheat field. There are no rivers, wetlands, or permanent water bodies in the immediate vicinity. There are no surface water features, including drainages or wetlands, on or within the proposed expansion area.

A search of the MNHP and USFWS databases indicated that there are no listed, threatened, or endangered species, no species of concern, and one potential species of concern in the study area. The SWP made a site visit in February of 2018 and observed over a dozen mule deer. A search of these databases for Township 29 North, Range 3 West, indicated no threatened or endangered species in the area. (See **Table 3-1** for species listed in Township 29 North, Range 3 West).

The Marias River is located approximately five miles north of the current NMJRDD Class II landfill. The active landfill and proposed expansion site are not located within a 100-year floodplain.

3.3.3 ENVIRONMENTAL CONSEQUENCES

3.3.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to terrestrial and aquatic life and habitats.

3.3.3.2 Proposed Action

Transient avian and terrestrial wildlife populations occupy habitat near the current NMJRDD landfill facility. While they also likely occupy, or pass through, the proposed expansion area, they are not likely to occupy this parcel permanently because of the ongoing human activity in the area. Transient, by definition, means "lasting only for a short time" or "impermanent". Wildlife exhibits transient behavior, relocating regularly, and rarely remaining in one area for long periods. This is especially true in areas with regular, recurring human activity. Although the displacement of avian and terrestrial wildlife caused by

construction and operation of the facility may alter the movement of local wildlife, it would not be considered critical because it is not a unique or rare wildlife environment. The proposed action would likely result in shifts in species composition from wildlife that is less tolerant of disturbance to species that adapt more readily to disturbance and increased human presence. Considering the vast amount of similar habitat surrounding the proposed expansion area, the impact to wildlife would be minimal.

Construction of landfill units and associated features of the proposed expansion area would not impact any wetlands or surface water features in the area, as there are none on or within the vicinity of the site. Operation of the proposed landfill could pose concerns if leachate were to enter drainages downgradient of the facility. The leachate collection system would be designed to capture and isolate all leachate, thereby eliminating the possibility of leachate entering surface water in the area. Additionally, NMJRDD would continue to implement storm water controls using standard BMPs to control erosion and sediment from storm water runoff at the facility.

Perimeter riprap ditches would be constructed to convey all storm water to the storm water ponds.

3.4 HYDROLOGY

3.4.1 ANALYSIS AREA AND METHODS

The analysis area for hydrology is the proposed NMJRDD Class II Landfill facility expansion site and a one-mile radius of the surrounding perimeter. Some discussion of regional geology, based upon published reports, is provided. The analysis methods for hydrology included: reviewing on-site drilling information, publications of the Montana Bureau of Mines and Geology (MBMG) and the MBMG's Groundwater Information Center (GWIC), United States Geological Survey, the Hydrogeological and Soils Characterization Report for the proposed NMJRDD expansion and published topographic maps of the area.

3.4.2 AFFECTED ENVIRONMENT

3.4.2.1 Surface Water

The proposed NMJRDD Class II expansion site is located twelve miles east of the Town of Valier, just south of Montana State Highway 44 and two miles west of Interstate 15. The site is characterized as relatively flat, tilled agricultural land that gently slopes towards the northwest and the south. A gentle ridge that runs from the southwest to the northeast transects the central portion of the expansion. The nearest surface water drainages, Schulz Coulee and Big Flat Coulee, are located

approximately one-mile due west of the expansion area, where Showdown Lane crosses the coulees. Schultz Coulee, located west of the expansion area, drains north toward the Marias River. Big Flat Coulee, located south of the landfill expansion area, drains to the south towards the Dry Fork of the Marias River.

3.4.2.2 Ground Water

The distribution and physical properties of the underlying geologic units affect the availability, movement, and quality of ground water. Glacial deposits, and soils derived from glacial deposits, cover virtually all the bedrock in the area, except for exposures in the side slopes of some coulees, gullies, streams, and road cuts. Glacial deposits were formed by continental glaciers during late Wisconsin and Illinoisan glaciations, and consist of predominantly till or drift (typically pebbly clay loam), which accumulated in ground moraines with occasional outwash deposits.

Regional stratigraphy is summarized in **Table 3-1** and is described as "typical of the northern Montana plains; nearly flat-lying Cretaceous beds partly covered with till deposited by the continental ice sheet."

Nearby NMJRDD landfill, bedrock consists of flat-lying, Upper Cretaceous shales of the Telegraph Creek and Marias River Formations. These shales overlay are in thick sequences (3,000 feet or greater) that overlay dolomite and limestone of the Madison formation.

Regionally and locally, groundwater in the area is limited, due to the general low permeability of the majority of the glacial deposits and underlying shale bedrock, and the excessive depth (greater than 3,000 feet) to the permeable Madison Group. The water-bearing characteristics of till deposited in the area by continental glaciation are described as clayey or loamy tills with low permeability, that yields little or no water to wells. Other studies indicate that the Colorado Shale (locally renamed Marias River Shale) is not a potential source of groundwater because no water-bearing beds are found in it, and any small amount of water that might be obtained would be too highly mineralized for most uses. Similarly, water found in the Telegraph Creek Formation would be limited and highly mineralized, making it inadequate for most uses. The Montana Groundwater Atlas describes the area as lacking bedrock aquifers, presumably due to the great depth of the dolomite and limestone of the Madison Group in the area.

Due the lack of groundwater in the bedrock units underlying the area, information on regional potentiometric surface and flow direction within the shallow units of less than 1,000 feet deep is limited. Regional flow of deeper units, including the permeable Madison Group, is known to be to the east-northeast. There are no known water supply wells that

utilize the regional aquifer system adjacent to NMJRDD. The nearest public water supply well is the Town of Valier water supply. This water supply well (GWIC ID # 85046) is relatively shallow (90 feet) and completed in the Eagle Sandstone, which is not present at the NMJRDD site. Wells shown in **Figure 3-1** are soil borings and monitor wells completed as part of the licensed landfill investigation, or shallow Montana Salinity Control Association wells. Table 3-2 lists nearby wells in a one-mile radius.

3.4.3 ENVIRONMENTAL CONSEQUENCES

3.4.3.1 No Action Alternative

Under this alternative, because the site would not be developed, there would be no additional impacts to the site's surface or ground water.

3.4.3.2 Proposed Action

3.4.3.2.1 Surface Water

Surface water at the proposed site is from rain or snow, melting of accumulated snow, or seepage from groundwater springs. Discharge from those sources flows freely over the land's surface and into the intermittent drainages.

Surface water flow may occur because of bare rock or ice, when the soil is saturated and ponding capacity is exceeded, when precipitation falls more quickly than the soil can absorb it, or, more typically, from a combination of these conditions. Storm water runoff can cause erosion and may transport sediments some distance from their source, depending upon the intensity of the runoff, vegetative cover, soil characteristics, and topography.

As discussed in the stormwater construction and controls Sections 2.3.1.5 and 2.3.2.12, the overall design of the proposed NMJRDD expansion includes constructing two perimeter ditches, and berms, along the north side of the licensed landfill. The ditches and berms will divert run-on from entering any waste area. Surface water drainage within the proposed expansion boundary has been designed to divert runoff from the waste areas to one of three detention ponds. Pond 1 is in use by the landfill, and Ponds 2 and 3 have not been built yet. Perimeter ditches would be installed along the east, west, and south boundaries outside of the active waste disposal areas to convey any storm water runoff to one of the two new ponds (Ponds 2 and 3). The storm water retention ponds are designed to retain, as required, the total volume of runoff generated from a 25-year,

Table 3-1. Montana Natural Heritage Program: All species listed for Township 29 North, Range 3 West (Accessed August 1, 2018)

Species Group	S3pecies Common Name	Species Scientific Name	Montana Status	Origin	Number Observed
Fish	Brook Stickleback	Culaea inconstans	Potential Species of Concern	Native	2
Fish	Fathead Minnow	Pimephales promelas		Native	2
Fish	Lake Chub	Couesius plumbeus		Native	2
Fish	Longnose Dace	Rhinichthys cataractae		Native	2
Fish	Spottail Shiner	Notropis hudsonius		Exotic	2
Fish	White Sucker	Catostomus commersoni		Native	2
Invertebrates	Two Form Bumble Bee	Bombus bifarius		Native	2
Invertebrates	Central Bumble Bee	Bombus centralis		Native	1
Invertebrates	Yellow Bumble Bee	Bombus fervidus		Native	1
Invertebrates	Yellow-head Bumble Bee	Bombus flavifrons		Native	1
Invertebrates	Brown-belted Bumble Bee	Bombus griseocollis		Native	1
Invertebrates	Indiscriminate Cuckoo Bumble Bee	Bombus insularis		Native	1
Invertebrates	Nevada Bumble Bee	Bombus nevadensis		Native	1
Invertebrates	American Bumble Bee	Bombus pensylvanicus		Native	1
Invertebrates	Red-belted Bumble Bee	Bombus rufocinctus		Native	1
Invertebrates	Forest Bumble Bee	Bombus sylvicola		Native	1
Invertebrates	Tri-colored Bumble Bee	Bombus ternarius		Native	1
Invertebrates	Half-black Bumble Bee	Bombus vagans		Native	1
Vascular Plants	Russian Knapweed	Acroptilon repens		Exotic	52
Vascular Plants	Spotted Knapweed	Centaurea stoebe		Exotic	68
Vascular Plants	Canada Thistle	Cirsium arvense		Exotic	68
Vascular Plants	Field Bindweed	Convolvulus arvensis		Exotic	55
Vascular Plants	Leafy Spurge	Euphorbia esula		Exotic	55
Vascular Plants	Whitetop	Lepidium draba		Exotic	61
Vascular Plants	Dalmatian Toadflax	Linaria dalmatica		Exotic	12

Table 3-2. REGIONAL STRATIGRAPHIC UNITS

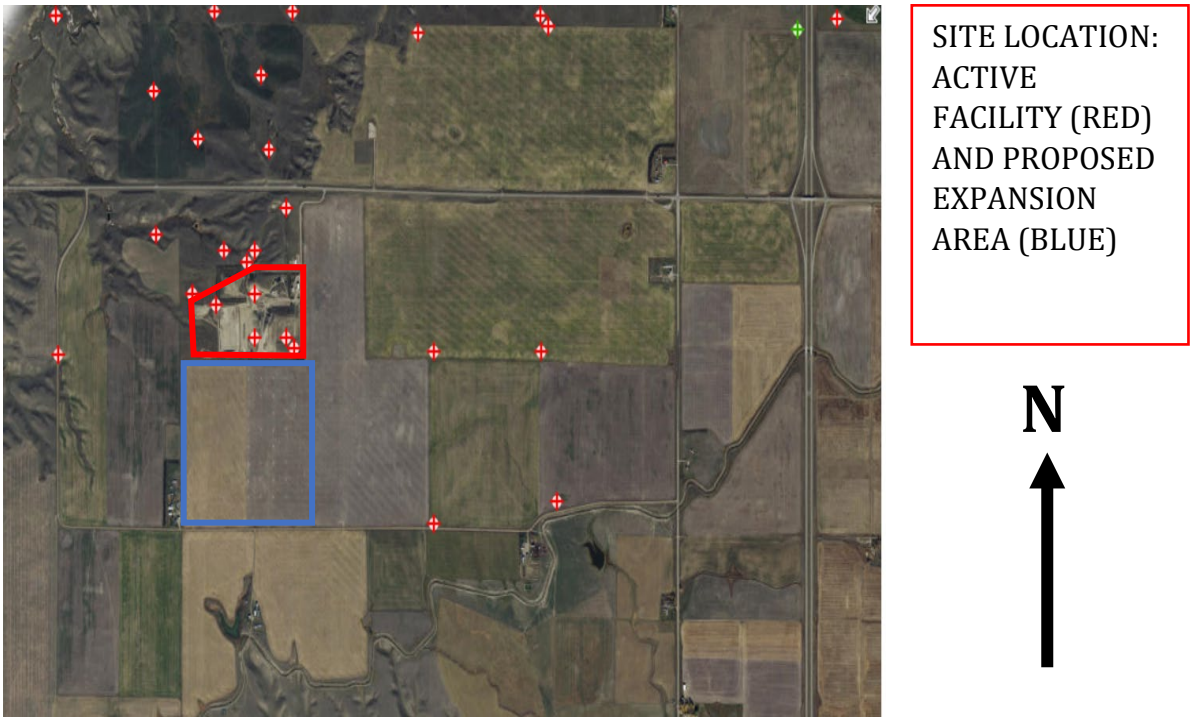
Source: Hydrometrics Inc. NMJRDD Soils and Hydrogeology report, June 2016

Unit Name (Map Symbol)	Geologic Age	Description	Typical Thickness in Area (feet)
Glacial Deposits (Qg)	Pleistocene	Unsorted deposits of clay-to-boulder-size material. Clast composition is exotic with respect to local bedrock; predominant lithologies are pink granite, quartz-biotite schist, granite 1meiss, and quartzite.	0 to 100
Telegraph Creek Formation (Ktc)	Upper Cretaceous	Interbedded medium-brownish gray sandy shale and brown, fine-grained, thin-bedded, argillaceous sandstone. Proportion of sandstone relative to shale increases upward in stratigraphic section.	150
Marias River Formation-Kevin Member (Krnk)		Medium-dark gray to brownish gray, calcareous, fissile shale. In the subsurface the informal name, First White Specks, IS commonly applied because of the characteristic white specks (calcite) visible on shale partings. Thin, light-gray bentonite beds, gray limestone septarian concretions, and fossil bivalves *(Jnoceramus prisms)* are common in this member.	620
Marias River Formation-Ferdig Member (Krnf)		Dark-gray fissile shale with scattered laminae and very thin beds of sandstone and siltstone in the lower part. Reddish brown, gray, and brownish gray septarian concretions usually less than 1 foot in diameter are common.	220
Blackleaf and Kootenai Formations	Lower Cretaceous	Mudstone and sandstone.	1,500
Mount Pablo/ Morrison Formation and Ellis Group	Lower Cretaceous to Middle Jurassic	Siltstone, sandstone, shale.	1,500
Madison Group	Mississippian	Dolomite and limestone	1,200

Figure 3-1. Summary of wells and soil borings in a one-mile radius

Source: Montana Bureau of Mines and Geology Ground Water Information Center, November 2016 (GWIC)

NOT TO SCALE



24-hour storm event. Pond 2 would be constructed first, prior to the placement of waste in the proposed expansion area. A drain down valve would be installed in this pond to discharge storm water, if necessary.

Pond 3 would be located on the southern border of the expansion area and would not have a drain down valve since the topography will not allow it. As a result, the pond has been designed to hold 2.9 times the volume of runoff from a 24-hour, 25-year storm event, and would essentially function as an evaporation pond. The pond will have a spillway, in the event the pond becomes full. If a discharge from any of the storm water detention ponds is necessary, a General Industrial Storm Water Discharge permit would be obtained from DEQ's Water Protection Bureau. If a discharge occurs, the discharge permit requires that the storm water be sampled for total suspended solids and iron to ensure that the waters do not deposit sediment downstream.

Due to the relatively small watershed, containing the intermittent drainages, the low precipitation the area receives, the effectiveness of the perimeter ditches, and the proposed storm water controls, impacts to surface water from the proposed expansion are expected to be minor. The controlled release of storm water from any of the ponds would not contain the suspended sediment load that unmanaged runoff from heavy precipitation or snowmelt contains. Thus, the quality of the storm water released could be better than the storm water quality that currently flows unmanaged from the undeveloped site.

3.4.3.2.2 Groundwater-No Migration Determination

The hydrogeological and soils investigation was conducted in February of 2015. The field work consisted of drilling and excavating; 12 exploratory borings and 38 test pits. Eleven of the 12 test borings, ranging in depth from 57 to 132 feet below ground surface (bgs), terminated in the Marias River shale. The one boring that did not terminate in the Marias River shale terminated at 50 feet bgs in the overlying glacial till. Two of the borings (TB-20 and TB-21) encountered limited groundwater between 104 and 128 feet bgs. The 38 test pits were excavated to a minimum depth of approximately ten feet bgs. **Figures 3-2** and 3-3 show the locations of test pits and soil borings.

The subsurface profile in the exploratory borings generally consisted of a thin layer of topsoil overlying interbedded layers of glacial till, to approximately 49 feet bgs, with interbedded silt, sand, and gravel. The Marias River shale was encountered at depths of 47 to 82 feet bgs, depending on the boring location. The Marias River shale in the area is reported to be at least 620 feet thick and overlain by the upper Cetaceous Telegraph Creek formation. The upper Cetaceous Telegraph Creek formation is approximately 150 feet thick, and consists of sandstone and shale units, along with approximately 100 feet of glacial deposits from the Pleistocene glacial periods. Groundwater was encountered in two of the drilled borings, in minimal quantities and in isolated zones.

The overall conclusion drawn from the investigation is that the property proposed for the landfill expansion (and surrounding areas) does not present an identifiable connecting groundwater system that would allow for the placement of background or

downgradient wells. These conditions are well evidenced and supported by the fact that there are no water supply wells in the area. Of the 31 wells and or borings identified in the GWIC database that are located within one mile of the proposed expansion site, they are either borings for the Montana Department of Transportation, wells for the Montana Salinity Control Association, or wells and borings from the earlier hydrogeologic investigation for the current landfill. None of these wells are used for water supply. Therefore, due to the lack of groundwater resources beneath and within the immediate vicinity of the facility, it is unnecessary to develop a groundwater monitoring network and plan.

The speed of movement of leachate migration, and landfill gas diffusion, within the till and shale located beneath the expansion and the licensed landfill, was calculated using the Hydrologic Evaluation of Landfill Performance (HELP) Model, version 3.07, developed by the Army Corps of Engineers. The model uses landfill construction and operation parameters, soil physical properties, and climate data to predict one-dimensional moisture flow through the user-specified landfill geometry. HELP model results, using site specific data, estimated that it would take a minimum of 340 years for leachate and gas to migrate through the glacial till and reach the Marias River shale. This estimate is well beyond the expected life of the proposed expansion (including the required 30-year post-closure period). Finally, the combination of the re-compacted and in-place native soils, with the in-place subgrade base liner provides an exceptional barrier to potential of leachate migration. This would also likely prevent the lateral and vertical migration of contaminants (Appendix B) to points of potential impact for a period well beyond the operational life and post-closure period of the proposed facility.

The extreme probable migration times for leachate fall well below the range required to trigger the need for a contaminant fate and transport demonstration. Neither a composite landfill liner nor a leachate collection system is required, so an analysis of earthquake stability is not necessary for the landfill even though the site is located within a seismic impact zone.

DEQ's conclusion is that there is no potential for migration of contaminants to the uppermost aquifer during the proposed 139-year operational life and 30-year post-closure period (169-year total) of the proposed landfill expansion area. Therefore,

groundwater would not be impacted, and monitoring would not be required.

3.5 GEOLOGY AND SOILS

3.5.1 ANALYSIS AREA AND METHODS

The analysis area for geology is the proposed NMJRDD Class II Landfill facility expansion site and a one-mile radius of the perimeter. Some discussion of regional geology, based upon published reports, is included in this analysis. The analysis methods for geology included: reviewing onsite drilling information from the Hydrogeological and Soils Characterization Report for the proposed expansion, the Montana Bureau of Mines and Geology publications, the U.S. Geological Survey (USGS), USGS Seismic Hazard Maps and earthquake analysis tools, and the U.S. Department of Agriculture's Natural Resource Conservation Service (along with their associated geology and soil maps), and topographic maps.

3.5.2 AFFECTED ENVIRONMENT

Glacial deposits, and soils derived from glacial deposits, cover virtually all the bedrock in the area except for exposures in the side slopes of some coulees, gullies, streams, and road cuts. Glacial drift at the site is primarily clay till, except for sandy clay that occurs in the northern half of the existing landfill.

The predominant soil type at the proposed expansion is the Scobey-Kevin clay loams (map unit "164B") and found on 0 to 4 percent slopes (**Figure 3-2**). These soils are characterized as well-drained, loamy clay soils, with a moderately low to moderately high capacity to transmit water. A typical profile of the Scobey-Kevin clay loams, from top to bottom, consists of 0 to 6 inches of clay loam, 6 to 15 inches of clay and 15 to 79 inches of clay loam.

3.5.3 ENVIRONMENTAL CONSEQUENCES

3.5.3.1 No Action Alternative

Under this alternative, because the site would not be developed, there would be no additional impacts to the site's soils or geology.

3.5.3.2 Proposed Action

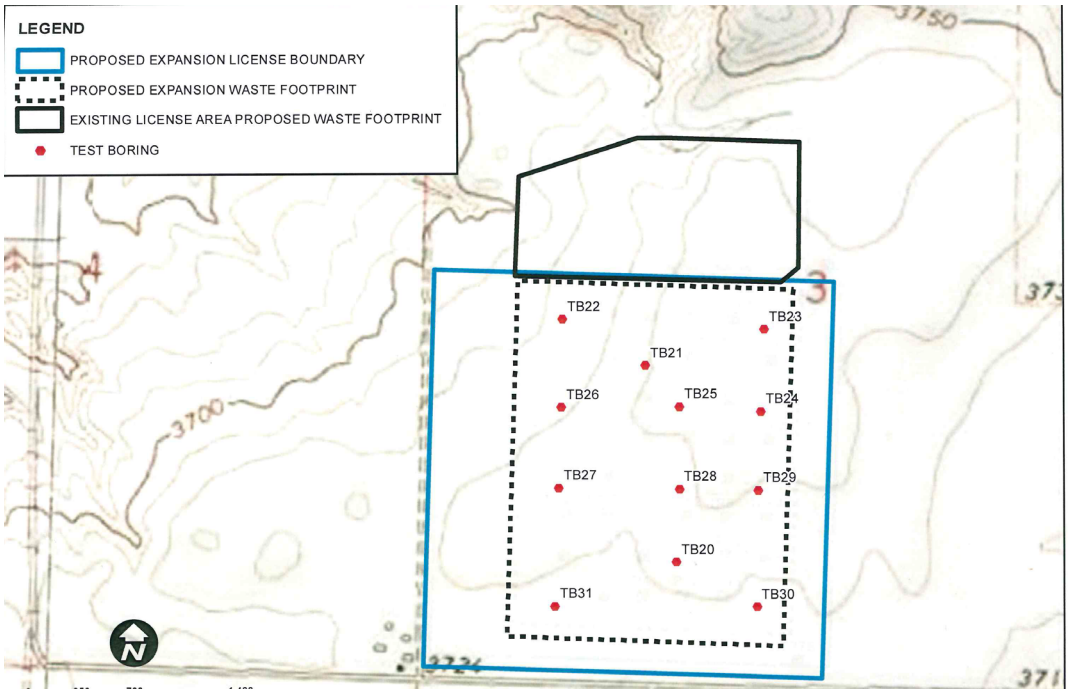
The site would be excavated to accommodate the proposed landfill disposal units, roads, and storm water control features. Excavation to a maximum depth of 20 feet below the natural grade to establish the landfill expansion footprint would yield 2,936,000 cubic yards of loose soil and weathered material. These materials would be used to provide subgrade fill to establish base elevations for the landfill units, and provide the compacted soil component of the landfill, final cover, and leachate pond liners.

Table 3-3. Nearby Well Information

Gwic Id	PDF	Township	Range	Section	Type	Total Depth	Static water level	Date	Use
151581		29N	03W	2	WELL	38		2/2/1995	
151580		29N	03W	2	WELL	38		2/2/1995	
158725		29N	03W	2	WELL	45		6/12/1996	UNUSED
141380		29N	03W	2	WELL	48		3/11/1994	
125501		29N	03W	3	WELL	128	116.13	10/23/1991	MONITORING
125502		29N	03W	3	WELL	65	25.25	10/23/1991	MONITORING
146412		29N	03W	3	WELL	30		11/9/1994	MONITORING
125503		29N	03W	3	WELL	23	7.08	10/23/1991	MONITORING
146419		29N	03W	3	WELL	18		11/9/1994	MONITORING
125505		29N	03W	3	WELL	24	10.29	9/6/1991	MONITORING
125504		29N	03W	3	WELL	15	11	9/6/1991	MONITORING
125506		29N	03W	3	WELL	55	49.33	10/23/1991	MONITORING
125508		29N	03W	3	WELL	63	56.21	10/23/1991	MONITORING
125507		29N	03W	3	WELL	124	94.68	9/6/1991	MONITORING
125509		29N	03W	3	WELL	200	92.83	10/23/1991	MONITORING
146410		29N	03W	3	WELL	20		8/22/1994	MONITORING
146411		29N	03W	3	WELL	20		8/22/1994	MONITORING
157544		29N	03W	4	BOREHOLE	47.5	31	9/12/1995	GEOTECH
203428		29N	03W	4	WELL	18		10/2/2002	MONITORING
151812		30N	03W	33	BOREHOLE	26.5		10/4/1989	GEOTECH
157548		30N	03W	33	BOREHOLE	32.4		9/12/1995	GEOTECH
204178		30N	03W	33	WELL	38		10/2/2002	MONITORING
917789		30N	03W	34	PETWELL				
151595		30N	03W	34	WELL	13		2/2/1995	
151594		30N	03W	34	WELL	28		2/2/1995	
166534		30N	03W	34	WELL	30		2/20/1997	MONITORING
204180		30N	03W	34	WELL	28		10/2/2002	MONITORING
204182		30N	03W	34	WELL	28		10/2/2002	MONITORING
120169		30N	03W	34	WELL	13		6/2/1990	
141417		30N	03W	34	WELL	23		12/10/1993	
923209		30N	03W	34	PETWELL				
288680		30N	03W	34	WELL	150	112		MONITORING

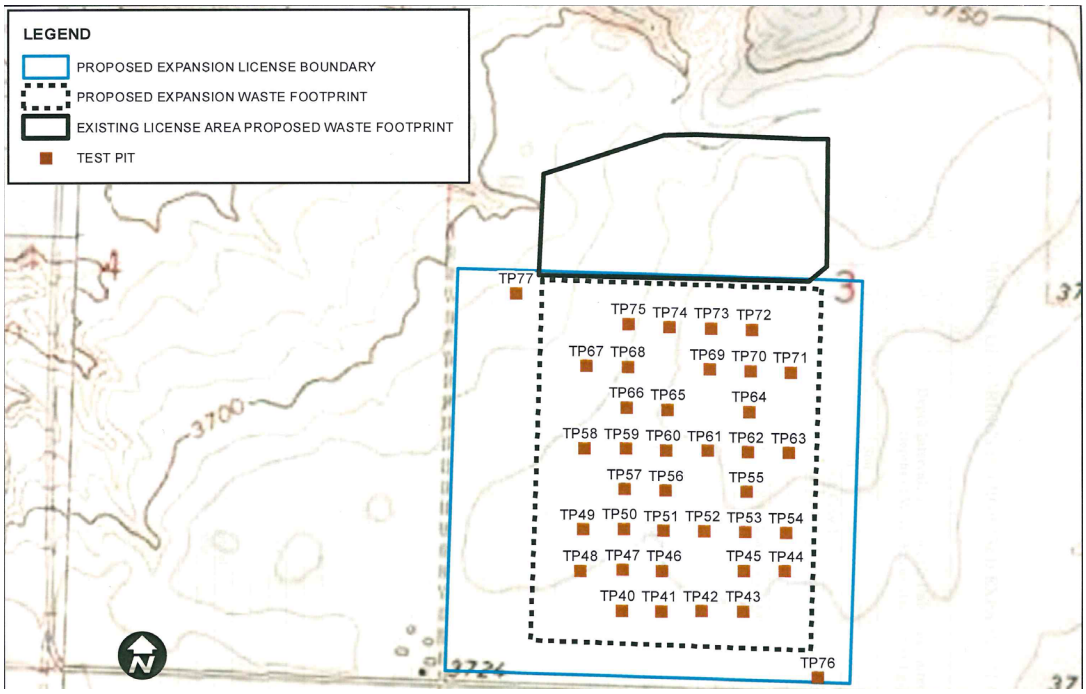
(Source: Montana Bureau of Mines and Geology, GWIC database)

Figure 3-2. Location of 2015 Soil Borings
(Source: Hydrometrics Inc. NMJRDD Soils and Hydrogeology report, June 2016)
NOT TO SCALE



The material beneath the base of all areas within the proposed clay-rich, natural liner material. Testing of pit samples obtained from the native subsurface formation yielded a migration rate that is at least equivalent to the maximum hydraulic conductivity ($1.0x10^{-7}$ cm/sec or 1.242 inches per year) allowed for the soil component of the prescriptive composite liner in the Montana solid waste landfill design rule (ARM 17.50.1204). As demonstrated for saturated flow in the documents submitted with the application, this native material will likely restrict the gravity seepage rate to less than 1.242 inches per year in the subsurface beneath the proposed landfill. No continuous uppermost aquifer was found at the 134-foot maximum depth below ground surface during the site investigations. Therefore, if a release occurred from the disposal unit into the underlying natural clay and shales, it would not reach this depth for 340 years (or possibly longer) based on the subgrade testing noted. The six-inch recompacted soil barrier on the proposed landfill base will enhance existing subgrade conditions that combine to control any potential leachate migration.

Figure 3-3. Location of 2015 Test Pites
(Source: Hydrometrics Inc. NMJRDD Soils and Hydrogeology report, June 2016)
NOT TO SCALE



Construction and operation of the proposed expansion would result in disturbing 131 acres of the 160-acre parcel. The native soil and subgrade materials would be stockpiled and used to construct berms, landfill liner components or cover, and roadways.

Impacts to geology and soils are anticipated to be minor, there will be some soil exposure by the landfill excavation after removal of soils and placement in cover stockpiles. Because the topsoils are well drained, and berms and ditches would be constructed minimizing erosion, construction and operation of the proposed expansion would likely result in minor soil erosion or loss of topsoil. Finally, based on the testing noted, the natural clayey subgrade materials have a maximum hydraulic conductivity such that any liquids passing through the scarified and recompacted clay liner would pass through at a rate of 1.242 inches per year (or 0.0002835 feet per day).

Figure 3-4. Proposed North Montana Joint Refuse Disposal District, Class II Landfill – Soil Types *(Source: NRCS Soil Survey Pondera County, 2016)*

NOT TO SCALE

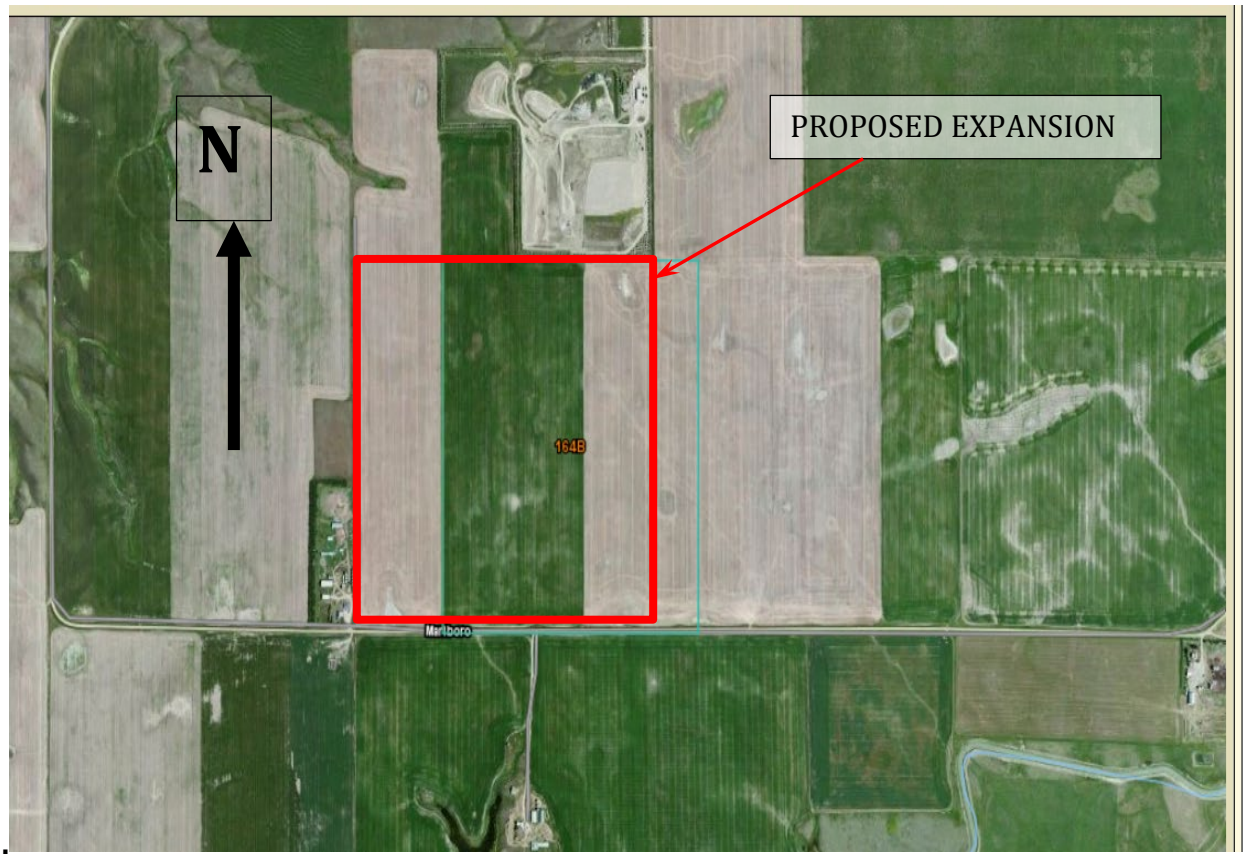


Table 3-4. Summary of Major Soil Properties at NMJRDD, Class II Landfill Facility

Soil Type	Depth profile	Drainage	Saturated Hydraulic Conductivity (Ksat)	Available Water Capacity	Erosion Hazard	Soil Compaction Resistance
Scobey-Kevin clay loams	0 to 6 inches: Clay loam. 6 to 15 inches: Clay 15 to 79 inches: Clay loam	Well Drained	Moderately Low to Moderately High (0.06 to 0.20 in/hr.)	High	Medium	Low Resistance

Construction and operation of the proposed expansion would result in disturbing 131 acres of the 160-acre parcel. The native soil and subgrade materials would be stockpiled and used to construct berms, landfill liner components and cover, and roadways.

Impacts to geology and soils are anticipated to be minor, there will be some subsoil exposed by the landfill excavation after removal of soils and placement in cover stockpiles. Because the topsoils are well drained, and berms and ditches would be constructed minimizing erosion, construction and operation of the proposed expansion would likely result in minor soil erosion or loss of topsoil. Finally based on the testing noted, the natural clayey subgrade materials have a maximum hydraulic conductivity such that any liquids passing through the scarified and recompacted clay liner at the base of the proposed landfill expansion would migrate at a rate of 1.242 in/yr (or 0.00028 feet per day).

3.6 VEGETATION

3.6.1 ANALYSIS AREA AND METHODS

The analysis area is the proposed expansion site and a one-mile radius of the surrounding perimeter. This expansion area is currently used for cropland with introduced plant species. Some of the surrounding area remains prairie that is identified as Lowland Prairie Grassland and Great Plains Mixed-grass Prairie. The analysis methods used to identify vegetation included reviewing published reports from the MNHP, the U.S. EPA, USFWS, and Pondera County.

3.6.2 AFFECTED ENVIRONMENT

The common natural vegetation outside the cropland in this area includes rough fescue, Idaho fescue, western wheatgrass, green needlegrass, blue grama, and needle and thread. Remnants of shortbristle needle and thread dominated vegetation are found in northernmost Montana, and are associated with productive sites, now mostly converted to farmland. Previously cultivated acres that have been revegetated with non-native plants have been transformed into associations such as Kentucky bluegrass-western wheatgrass, or into pure crested wheatgrass stands. In nearby grazing areas, the predominant species include Kentucky bluegrass, smooth brome, and Japanese brome.

3.6.3 ENVIRONMENTAL CONSEQUENCES

3.6.3.1 No Action Alternative

Under this alternative, because the site would not be developed, there would be no additional impacts to vegetation.

3.6.3.2 Proposed Action

Construction and operation of the facility would disturb 131 acres of the 160-acre parcel. The native soil and subgrade materials would be stockpiled. Topsoil removed during the proposed expansion will be stockpiled separately for placement on the final cover.

A search of MNHP's database revealed that there are no records of plant species of concern in the area surrounding the proposed expansion site. During construction, vegetation would be removed to build roads, buildings, and stormwater control features. Earthen materials taken from beneath the topsoil would be stockpiled and used as needed for soil cover.

Existing vegetation within the proposed expansion is not unique or limited, considering the extensive amount of similar land and vegetation surrounding the area. At closure, the final cover will be revegetated with native plant species. Therefore, final closure of the proposed expansion would have a minor positive impact on existing vegetation because native species would replace the introduced crop species that now occupy the proposed expansion area.

3.7 AIR QUALITY

3.7.1 ANALYSIS AREA AND METHODS

The area for the air quality analysis is the proposed expansion site, adjacent to the active NMJRDD landfill. The analysis method included considering information provided by the applicant, and DEQ's experience with other major Class II landfill facilities. All facilities are required to comply with air quality rules.

3.7.2 AFFECTED ENVIRONMENT

The proposed expansion site is along the southern border of the active NMJRDD landfill. NMJRDD owns the property. There has been agricultural activity occurring on the land, producing fugitive dust emissions. Air quality impacts from landfill operations will include fugitive dust emissions from roads, the landfill's operating face, soil stockpiling. and closure activities.

3.7.3 ENVIRONMENTAL CONSEQUENCES

3.7.3.1 No Action Alternative

Under this alternative, because the site would not be developed, there would be no additional impacts to existing air quality beyond the currently fallow agricultural activities of the property.

3.7.3.2 Proposed Action

Air quality impacts associated with landfill activities typically include fugitive dust generated from construction, excavation, vehicle traffic, day-to-day operations, and closure activities. Gas emissions, generated from the biological breakdown of waste, also impact air quality. Landfill gas is mainly a mixture of methane and carbon dioxide, but can also include nitrogen dioxide, oxygen, ammonia, sulfides, hydrogen, and other volatile organic compounds released within each cell of a MSW landfill. Landfill gas is generated as soon as waste is deposited in the landfill. Gas continues to be generated through the operation of the landfill and after the landfill is closed, until all the waste is degraded. Although rare, another potential air quality impact is from landfill fires. NMJRDD attempts to prevent landfill fires through waste inspections and proper landfill waste deposits.

Fugitive dust is created from disturbing the ground, moving dirt, and vehicle activity during construction and excavation activities. Blowing winds increase fugitive dust from these activities and can pick up additional material from stockpiles and the daily cover over the waste. If fugitive dust from construction, excavation, and cover material becomes a problem, dust control measures, such as watering the work surfaces before working, shall be initiated. Watering work surfaces is required during construction activities such as road construction. During closure of the landfill, more cover material is placed on the waste pile, generating fugitive dust from moving the material and from the vehicles used to place it. Dirt roads generate fugitive dust, particularly during dry and windy times. NMJRDD intends to control dust by watering on an as-needed basis and by minimizing activity during windy periods. Water, or a chemical dust suppressant, would be applied at a rate that would not cause runoff, erosion, or water/waste interaction. NMJRDD may halt material handling operations to mitigate fugitive dust emissions if the operator is unable to control emissions. Fugitive dust levels are expected to remain as they are at the current landfill.

Local meteorological conditions affect the impact of fugitive dust. The nearest meteorological data collected by the National Weather Service is from Cut Bank, located about 27.9 miles northwest of the landfill. The terrain between Cut Bank and the landfill is mainly open and flat, used in agricultural production. The Cut Bank meteorology is considered representative of that experienced at the landfill, since there are no significant topographical features that would alter the winds.

The meteorological data from Cut Bank, as shown in **Figure 3.5**, indicates winds in the area generally blow from the west southwest.

The average wind speed is 12.3 mph, with gusts well above 25 mph at times.

Temperature and precipitation data collected by the National Weather Service in Conrad from 2000 to April 2018 is shown in **Tables 3.5** and **3.6**. This weather data indicates the warmest temperatures occur in the summer, during July and August. Precipitation rates are above 1 inch for the spring months of April, May, and June and then again in September. Winter months experience some of the lowest levels of rainfall. The average annual rainfall for Conrad is 12.89 inches. The warm dry summers are likely to be the time when fugitive dust is highest. Windy conditions during dry periods can generate the most fugitive dust if control methods are not used. Application of water and chemical dust suppressant could reduce the fugitive dust emissions by 50-80 percent, if correctly applied.

Some landfills request an air quality burn permit from DEQ's Air Quality Bureau (AQB), allowing the burning of untreated wood waste (reducing the volume of material to be landfilled). NMJRDD's application did not include plans for open burning at the facility.

A landfill must comply with applicable AQB regulations. These include restrictions on particulate matter emissions to not exceed an opacity of 20 percent or more, averaged over 6 consecutive minutes, whether from fugitive dust sources or from combustion sources (per ARM 17.8.304 and ARM 17.8.308). ARM 17.8.308 also requires landfills to take reasonable precautions to prevent generation of fugitive dust. Federal Prevention of Significant Deterioration (FPSD) regulations have classified states and local areas to let states plan for local land use. Each classification allows for different amounts of development and changes to the ambient air quality. Areas designated as FPSD Class I include our national parks, several wilderness areas, and certain Native American Indian Reservations. All other areas in the region are FPSD Class II areas, which include Conrad, the existing NMJRDD landfill, and the proposed expansion. The nearest FPSD Class I area to the proposed expansion site is the Bob Marshall Wilderness in the Rocky Mountains about 40.3 miles to the west. As described earlier, winds generally blow from the west southwest. Air quality impacts are not expected from the proposed NMJRDD landfill at the Bob Marshall Wilderness 40.3 miles away. Montana has several areas that are designated as nonattainment areas by the EPA, which means they have experienced air quality impacts above the National Ambient Air Quality Standards (NAAQS). Although many local areas have not exceeded the NAAQS in years, they still carry the nonattainment designation. The nearest nonattainment area is Columbia Falls. Columbia Falls is about 93 miles west of the proposed NMJRDD landfill and is designated 'nonattainment' for the

Particulate Matter 10-micron NAAQS. Columbia Falls is on the opposite side of the Rocky Mountains from the landfill and predominantly upwind of the landfill.

Air quality impacts from the proposed NMJRDD landfill would not reach Columbia Falls given the terrain features, distance, and predominant wind direction.

ARM 17.8.743 requires a facility to obtain a Montana Air Quality Permit (MAQP) before installing a landfill gas flare, or before constructing a facility that has the potential to emit 25 tons per year (tpy) of a regulated air pollutant. The active NMJRDD landfill currently does not hold an MAQP because it does not operate a flare, nor exceeds the emissions threshold limit. The proposed NMJRDD facility will need a MAQP if change to the landfill includes the construction of a landfill gas flare, or the facility has the potential to emit 25 tpy of a regulated air pollutant.

Federal regulations require that new or expanded Class II landfills comply with the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) Part 60, Subparts WWW and XXX.

The additional tonnage and volume of waste from the proposed expansion would elevate these NMJRDD parameters so that the facility would then be affected by air regulations in 40 CFR Part 60 Subparts WWW and XXX.

Qualifying design thresholds require the NMJRDD's total landfill design capacity to be equal to or greater than 2.5 million cubic meters and 2.5 million metric tons. When both thresholds are exceeded, the NMJRDD landfill is required to install a gas collection and control system (GCCS) if the non-methane organic compound (NMOC) emission rate is 50 metric tons per year (recent air rules on hold may lower it to 34 metric tons per year). Information submitted with the application indicates the proposed landfill will be designed for a capacity of 5,011,000 cubic yards (3.83 million cubic meters of waste). With an in-place density of waste estimated at a minimum 1000 pounds per cubic yard, a total mass of 2.27 million metric tons of waste is anticipated for the proposed landfill. Therefore, the NMJRDD landfill is not required to monitor for NMOC. NMJRDD is still required to meet initial design capacity reporting requirements upon commencing construction.

Fires are infrequent events at landfills in Montana. If a fire were to occur at the proposed expansion, the fire would contribute to poor air quality in the surrounding area near the proposed action. Since fires at landfills are infrequent and extinguished, it would be a short-term impact to air quality.

Figure 3-5. Cut Bank, Montana – Wind Rose, 2013 – 2017

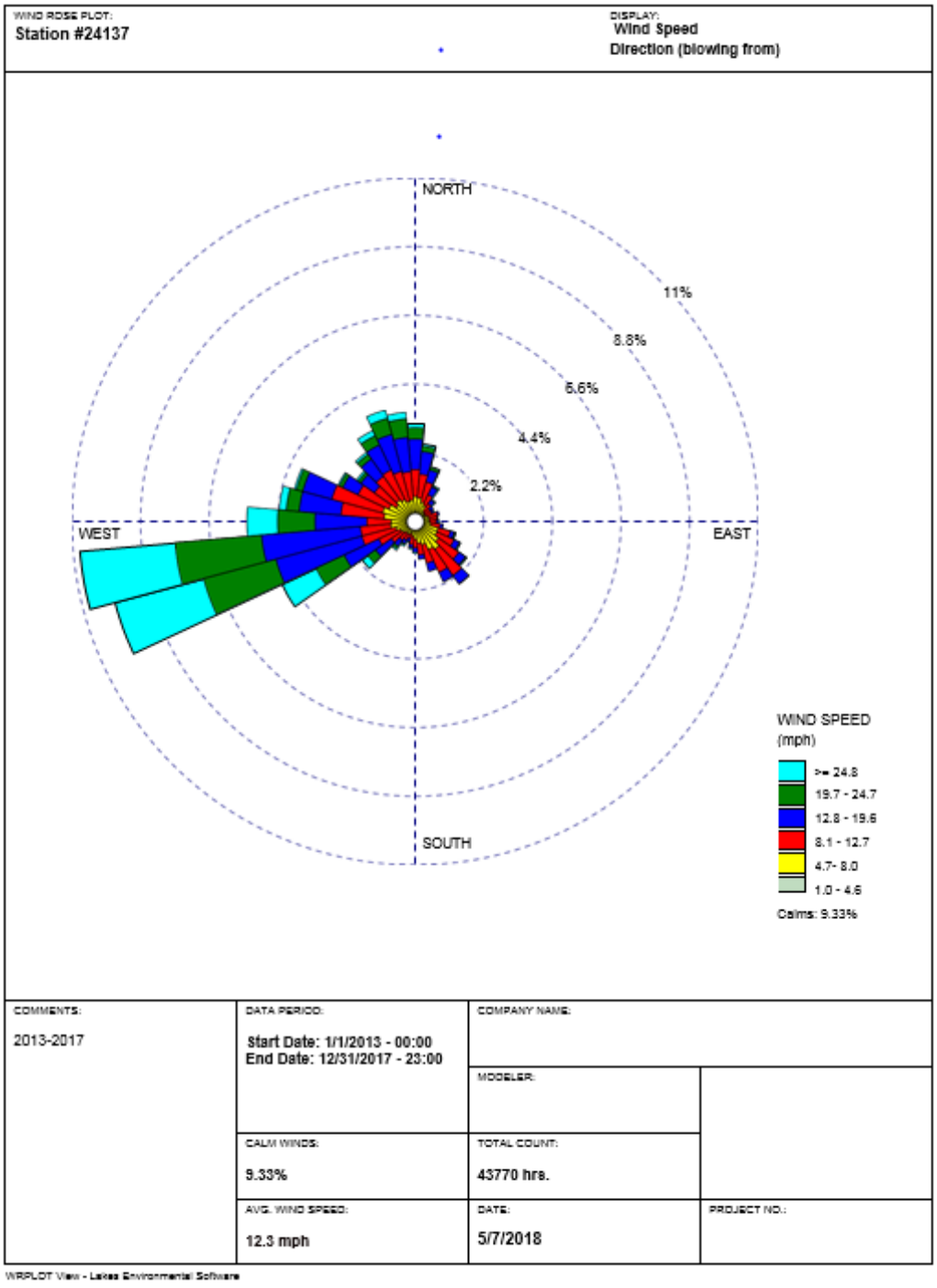


Table 3-5. Conrad, MT Temperature Data, January 2000 – April 2018

Monthly Mean Avg Temperature for CONRAD, MT

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	21.7	25.2	36.8	45.8	52.8	57.5	68.1	65.7	54.2	43.7	25.3	14.9	42.6
2001	27.6	14.9	35.6	42.3	55.1	59.1	66.8	67.8	59.0	45.0	36.2	22.4	44.3
2002	25.1	30.2	15.6	38.3	50.3	58.9	68.9	59.6	56.0	37.8	38.9	27.9	42.3
2003	27.9	23.6	30.3	45.3	50.6	60.0	70.0	69.3	55.3	48.6	23.1	27.5	44.3
2004	15.7	27.8	39.2	46.2	49.0	56.4	66.8	63.3	53.8	43.2	35.3	29.1	43.8
2005	18.0	M	34.5	M	50.9	57.6	67.6	62.6	54.3	46.0	36.1	22.7	45.0
2006	34.8	24.9	30.4	46.4	53.7	61.5	70.0	64.3	55.5	42.1	26.5	28.6	44.9
2007	25.2	20.7	41.4	40.4	53.8	61.5	73.6	65.0	54.5	46.5	M	24.3	46.1
2008	20.3	26.2	33.9	39.7	52.4	58.0	66.4	65.1	54.0	45.5	39.3	14.8	43.0
2009	24.2	26.3	30.0	41.9	50.9	58.4	65.8	64.8	62.3	38.3	37.8	9.8	42.5
2010	21.9	25.4	40.1	42.4	50.1	59.8	65.5	64.5	55.0	49.6	25.5	17.7	43.1
2011	18.4	17.5	28.0	M	49.8	57.1	66.7	68.3	59.8	45.8	32.5	29.1	43.0
2012	24.8	27.3	39.2	46.6	51.5	59.8	70.2	67.7	59.1	40.4	33.7	21.5	45.2
2013	25.8	31.2	33.3	39.7	53.4	59.5	68.0	68.1	59.6	42.8	30.7	20.5	44.4
2014	28.6	14.3	26.1	44.0	52.6	57.8	68.2	66.0	56.7	49.9	25.2	24.0	42.8
2015	25.9	29.4	42.2	45.3	49.9	65.0	67.1	66.8	56.5	48.6	30.6	23.4	45.9
2016	24.0	37.3	40.0	47.6	51.9	62.0	65.4	64.2	55.0	43.2	40.5	13.8	45.4
2017	16.1	23.0	34.4	43.4	55.3	62.8	71.1	65.5	55.4	42.4	29.9	19.6	43.2
2018	21.1	9.7	24.5	38.8	M	M	M	M	M	M	M	M	23.5
Mean	23.5	24.2	33.5	43.2	51.9	59.6	68.1	65.5	56.4	44.4	32.2	21.8	42.9
Max	34.8 2006	37.3 2016	42.2 2015	47.6 2016	55.3 2017	65.0 2015	73.6 2007	69.3 2003	62.3 2009	49.9 2014	40.5 2016	29.1 2004	46.1
Min	15.7 2004	9.7 2018	15.6 2002	38.3 2002	49.0 2004	56.4 2004	65.4 2016	59.6 2002	53.8 2004	37.8 2002	23.1 2003	9.8 2009	23.5

Note: M means missing data.

Table 3-6. Conrad, MT Precipitation Data, January 2000 – April 2018

Monthly Total Precipitation for CONRAD, MT.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2000	0.24	0.57	0.42	0.26	2.02	1.67	0.32	0.10	0.83	0.65	0.46	0.57	M
2001	0.33	0.40	0.27	1.51	0.21	1.94	2.53	0.47	0.45	0.08	0.69	T	8.88
2002	0.15	0.39	1.00	0.54	2.13	5.43	1.07	1.66	1.67	0.32	0.12	0.16	14.64
2003	0.08	0.27	0.75	2.18	1.44	M	0.23	0.28	1.05	1.45	0.57	0.44	M
2004	0.53	0.02	0.20	0.92	3.53	1.87	0.47	2.02	1.08	1.08	0.05	0.65	M
2005	0.36	M	1.28	M	0.52	4.82	0.19	1.74	1.03	1.24	0.63	0.32	M
2006	0.09	0.76	1.19	1.65	1.89	3.03	0.98	0.82	0.99	0.77	0.43	0.32	12.92
2007	0.45	1.05	0.03	2.35	2.21	1.35	0.29	0.23	2.22	0.85	M	0.11	M
2008	0.53	0.42	0.48	0.79	3.96	2.05	1.49	0.99	1.85	0.04	0.24	1.43	14.27
2009	0.78	0.43	0.73	2.69	M	1.49	1.50	0.76	0.46	0.92	0.00	1.06	M
2010	0.90	0.10	0.15	2.88	3.10	2.47	2.00	1.72	1.38	0.15	0.83	1.05	16.73
2011	0.26	1.26	0.51	M	M	4.19	0.67	0.43	0.37	M	0.33	0.14	M
2012	0.36	0.08	0.77	M	1.60	M	0.92	0.95	0.04	1.80	1.01	0.35	M
2013	0.75	0.20	0.31	0.96	1.31	2.69	0.81	0.93	1.02	0.47	0.74	0.65	10.84

Monthly Total Precipitation for CONRAD, MT.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2014	1.07	0.53	0.68	1.64	0.62	3.19	0.71	1.6 4	0.91	0.31	1.18	0.71	13.19
2015	0.64	0.31	0.37	0.15	2.71	0.15	1.29	0.54	2.01	0.62	1.29	0.43	10.51
2016	0.21	0.00	0.16	2.46	2.53	1.02	1.46	1.16	1.56	1.45	0.08	0.68	12.77
2017	1.06	0.78	0.88	2.34	1.44	2.10	0.00	0.05	1.89	1.39	0.72	1.50	14.15
2018	0.15	1.61	1.09	1.85	M	M	M	M	M	M	M	M	M
Mean	0.47	0.51	0.59	1.57	1.95	2.47	0.94	0.92	1.16	0.80	0.55	0.59	12.89
Max	1.07 2014	1.61 2018	1.28 2005	2.88 2010	3.96 2008	5.43 2002	2.53 2001	2.02 2004	2.22 2007	1.80 2012	1.29 2015	1.50 2017	16.73 2010
Min	0.08 2003	0.00 2016	0.03 2007	0.15 2015	0.21 2001	0.15 2015	0.00 2017	0.05 2017	0.04 2012	0.04 2008	0.00 2009	T 2001	8.88 2001

Note: T means trace amount.
M means missing data.

Landfill fires are typically caused by the placement of a hot load in the working face. It is important to note that the different landfill dynamics, characteristics, and regulations, and the fires that occur in them, require different tactics to extinguish them. Efforts would vary depending upon waste characteristics, a surface fire versus an underground fire, the depth of the fire if it's an underground fire, and the ignition source. Surface fires generally burn at relatively low temperatures and are characterized by the emission of dense white smoke and products of incomplete combustion. To access waste below the landfill surface or move burning waste away from the landfill, it may be necessary to use heavy equipment (such as bulldozers).

Fire prevention would further limit the need for extinguishing open flames. Operators would inspect for hot loads. Hot loads would be isolated and extinguished before placed in the landfill. If a fire occurs on the active fill, the operators would use their equipment to push the burning waste away from the active fill, if they can do so safely. Once the waste is isolated, it would be extinguished. In the event of a larger or more persistent fire, the local fire department would be summoned. In the event of a larger fire, the landfill would notify DEQ and their engineering consultant.

The wastes proposed for disposal at the site will generate methane and non-methane organic compounds. As the landfill units are developed, a series of landfill gas monitoring wells would be installed, at locations and depths approved by DEQ. Methane levels would continue to be monitored on a quarterly basis to ensure the concentration of methane gas generated by the facility does not exceed 25% of the Lower Explosive Limit (LEL) for methane in facility structures. The monitoring would also ensure that the 25% LEL limit for methane is not exceeded at the facility's boundary. NMJRDD would immediately

report any exceedance of methane over this standard in the soil to DEQ and would submit a landfill gas remediation plan to DEQ for approval prior to implementation.

In summary, fugitive dust from the landfill can be minimized through good operating practices and using abatement techniques that include land application of water on disturbed areas during construction and excavation, on roads, on storage piles, and on the active landfill. Impacts from the generation of methane and NMOCs will be monitored, and a remediation plan developed as necessary. Air quality impacts from the landfill expansion are not expected to change significantly from those produced by current operations. Therefore, DEQ expects minor air quality impacts to the analysis area.

3.8 INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES

3.8.1 ANALYSIS AREA AND METHODS

The analysis area for industrial, commercial, and agricultural activities is the site of the proposed expansion and surrounding properties. The analysis methods for these activities included: a review of the Montana Cadastral database, studying aerial photographs of the proposed expansion site and surrounding vicinity, and site visits verifying current land use.

3.8.2 AFFECTED ENVIRONMENT

The property proposed for the NMJRDD Class II Landfill expansion site encompasses approximately 160 acres. The parcel is currently idle: it was purchased in 2014 for future expansion of the facility as proposed. The site of the proposed expansion area is designated agricultural property and there are no local land use restrictions or special designations prohibiting location of the proposed expansion at the selected site.

3.8.3 ENVIRONMENTAL CONSEQUENCES

3.8.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to existing industrial, commercial, and agricultural land use activities.

3.8.3.2 Proposed Alternative

Construction and operation of the proposed NMJRDD Class II landfill expansion would increase industrial activity in the area, due to the need for contractors, associated materials, machinery, and machinery repairs. Once construction is complete, industrial activities in the area will be like those currently occurring at the active NMJRDD Class II landfill. Therefore, the impact from construction would be minor.

There were no other commercial activities identified at the proposed expansion site or in the immediate vicinity. Because the 160 acres proposed for expansion currently have no cropping or livestock grazing activities taking place, there will be no impact to agricultural activities. However, upon closure, the proposed post-closure use is livestock grazing. The final cover for the landfill units would be seeded with native vegetation and would likely provide better forage grasses than sparse vegetation that currently exists at the site.

3.9 TRAFFIC AND UTILITIES

3.9.1 ANALYSIS AREA AND METHODS

The analysis area for traffic and utilities includes the site of the current landfill, the proposed expansion area, and the current entrance off Montana Highway 44 (two miles west of Interstate 15). The analysis methods for these activities included: a site visit to identify the impacts of potential traffic, and research conducted by NMJRDD and their engineering consultants.

3.9.2 AFFECTED ENVIRONMENT

The affected environment for traffic and utilities includes the current facility and immediate vicinity. Montana Highway 44 accommodates vehicles going to the landfill, and to residential and agricultural properties in the area.

3.9.3 ENVIRONMENTAL CONSEQUENCES

3.9.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to traffic. The 160-acre parcel is currently idle from agricultural use. There are no other known commercial or industrial uses of the property that would result in an increase in traffic in the area. As a result, traffic accessing the facility would continue to vary, as it does presently, and would continue to be dependent upon periodic road maintenance, and the need to access the landfill, residential, and agricultural properties in the area.

3.9.3.2 Proposed Alternative

The licensed landfill is accessed via Montana Highway 44. Presently, vehicles travel east and west on Highway 44, turning into the landfill's entrance. The current entrance is approximately two miles west of Interstate 15. There would be a slight increase in overall traffic during closure of the current landfill and construction of waste disposal units, roads, and other site features in the proposed expansion area. However, the increase in traffic would be short-lived compared to the facility's projected life. There are no proposed access changes, therefore no changes or modifications to Montana Highway 44 would

be required. As a result, impacts due to the proposed expansion would be minor.

3.10 VISUALS

3.10.1 ANALYSIS AREA AND METHODS

The analysis area for visuals is the site of the proposed expansion and adjacent properties in the immediate vicinity. The analysis methods for these activities included a site visit to identify potential visual impacts.

3.10.2 AFFECTED ENVIRONMENT

The affected environment for visuals in the 160-acre parcel proposed for the landfill expansion, owned by the applicant, and surrounding property within a one-mile vicinity.

3.10.3 ENVIRONMENTAL CONSEQUENCES

3.10.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to viewshed than exist from the licensed landfill activities. The currently active landfill will capped when it reaches final grade, and the closed mound would blend in with the surrounding landscape. The impacts to the visual landscape from the No Action Alternative would be minor.

3.10.3.2 Proposed Alternative

The proposed expansion is located within a 160-acre parcel, owned and controlled by the applicant, abutting the southern boundary of the licensed NMJRDD facility. The applicant selected the site location. There are no local restrictions that prohibit expanding the facility at the selected site.

The landscape affected by the proposal is not locally or regionally unique; it is typical of the area. The proposed expansion area property remains a fallow wheat field and it is not currently used for anything else. The property was purchased in 2014 in anticipation of future landfill expansion. The dominant color of the land is tawny brown, except for a few months in late spring and early summer, when there is enough moisture and plant growth to cover the land in varying shades of green.

Construction and operation would change the landscape in the area. This change would occur within the proposed expansion boundary, and throughout the facility's projected life. However, such a change would not have a major impact on the landscape in the area because it is adjacent to the licensed landfill. Operation of the proposed landfill expansion would not commence until the currently active landfill

reaches final grade and is closed. Presently, the licensed landfill is not visible from Montana Highway 44, as the entrance is on a hill that blocks the facility from view. The proposed expansion extends south, away from Montana Highway 44. The expansion area will not be visible from State Highway 44, because elevated hilly topography shields the area toward the south next to the road. As disposal areas of the expansion are closed, capped, and revegetated, the visual landscape will gradually improve in the area. These same hills block the viewshed toward the north from adjacent homes to the south and southwest. Therefore, the impacts of construction, operation, and closure of the proposed expansion on the view shed are negligible.

3.11 NOISE

3.11.1 ANALYSIS AREA AND METHODS

The analysis area for noise is the site of the proposed expansion. The analysis methods included a site visit and inspections of the current facility.

3.11.2 AFFECTED ENVIRONMENT

Presently, the applicant owns the 160-acre proposed expansion parcel. The affected environment includes the proposed site and adjacent properties.

3.11.3 ENVIRONMENTAL CONSEQUENCES

3.11.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts from noise.

3.11.3.2 Proposed Alternative

Noise generated from heavy equipment within the proposed expansion area would not be expected to increase from those associated with current operations. Daily operations in the proposed expansion area will not fully commence until the current landfill has reached capacity. There may be an increase in noise generated by construction, which would be temporary. Therefore, the impact of construction, operation, and closure of the proposed expansion to noise is negligible.

3.12 DEMANDS FOR GOVERNMENT SERVICES

3.12.1 ANALYSIS AREA AND METHODS

The analysis area is the site of the proposed expansion. The analysis methods included researching the community's infrastructure, and state services.

3.12.2 AFFECTED ENVIRONMENT

The 160-acre proposed expansion parcel is owned by the applicant. The undeveloped site is not inspected by DEQ's SWP. Current landfill personnel inspect fences and gates to ensure they are in good working order.

3.12.3 ENVIRONMENTAL CONSEQUENCES

3.12.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to the demands for government services.

3.12.3.2 Proposed Alternative

The potential impact of the proposed expansion is expected to be minor. DEQ's SWP would continue to perform inspections of the site during and after construction, which is a typical and routine activity for all licensed facilities. The Pondera County Environmental Health Department may also conduct inspections of the site during and after construction.

City services, equipment operation, and maintenance for the proposed facility would continue to be provided at the same level they are provided for the current landfill.

During the construction phases, there may be a slight increase in traffic on the roads leading to the landfill. This would likely result in a minor impact to traffic enforcement. The additional traffic associated with construction would be short-term, relative to the operational life of the facility.

Once the proposed expansion is operational, DEQ's SWP would continue to be responsible for performing inspections and providing compliance assistance. Resources from the County and State may be required for road maintenance.

The Pondera County Sanitarian, Montana Department of Transportation's (MDT) Motor Carrier Services Division, and DEQ's SWP or Enforcement Division may be called upon to respond to complaints, or spills on county roads and state highways. Spills of any size may be reported to the Pondera County Sanitarian. Spills exceeding 25 gallons must be reported to DEQ's spill hotline. The cleanup of spills occurring during transportation will be overseen by the Pondera County Sanitarian or DEQ's Enforcement Division. Cleanup must be completed in accordance with applicable state and federal

requirements. Individual haulers, and hauling contractors, are responsible for expenses and cleanup due to spills that occur hauling materials to or from the facility.

3.13 CULTURAL UNIQUENESS AND DIVERSITY

3.13.1 ANALYSIS AREA AND METHODS

The analysis area is the site of the proposed expansion. The analysis methods included research conducted by the State Historic Preservation Office (SHPO).

3.13.2 AFFECTED ENVIRONMENT

The 160-acre proposed expansion parcel is owned by the applicant. The parcel is currently unused.

3.13.3 ENVIRONMENTAL CONSEQUENCES

3.13.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to the cultural uniqueness and diversity of the area.

3.13.3.2 Proposed Alternative

SHPO conducted a cultural resource file search for Section 3, Township 29 North, Range 3 West. The results of the search indicated there have been no previously recorded historic sites within the area. Based upon previous ground disturbances associated with the current landfill, agricultural activities, and residential development in the area, combined with the fact that cultural properties had not been identified with such development, SHPO determined that there is a low likelihood that cultural properties would be impacted. Therefore, SHPO determined that a cultural resource inventory is unnecessary. The area does not contain any unique quality, or culturally unique or diverse areas, so the proposed project would have no impact on cultural uniqueness or diversity.

3.14 TAX BASE

3.14.1 ANALYSIS AREA AND METHODS

The analysis area is the site of the proposed expansion and the adjacent properties. The analysis method consisted of DEQ's examination of aerial photos, and the evaluation of data collected from the application for licensure.

3.14.2 AFFECTED ENVIRONMENT

The 160-acre proposed expansion parcel is owned by the applicant. There are no residential subdivisions located near the current facility or proposed expansion.

3.14.3 ENVIRONMENTAL CONSEQUENCES

3.14.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, there will be no additional impacts to tax base.

3.14.3.2 Proposed Alternative

Operation of the landfill would move from the current landfill into the expansion area once the current disposal units reach final grade and are closed. DEQ is not aware of any subdivisions planned adjacent to the proposed facility. There are no reasons to believe that population growth would lead to subdivision growth. DEQ has no basis for determining if property values would change because of the proposed expansion. DEQ believes that the potential impacts to adjacent property values would be negligible. There would be a minor increase in local employment due to the need for construction employees. The long-term employment requirements would not result in the addition of employees. Therefore, operation of the proposed expansion would continue to have a minor impact on the local tax base and to business revenues.

3.15 SOCIOECONOMIC

3.15.1 ANALYSIS AREA AND METHODS

The analysis area for the proposed landfill is the site of the proposed expansion and adjacent properties. Data was collected from NMJRDD's application, landfill staff, and engineering consultant.

3.15.2 AFFECTED ENVIRONMENT

The existing NMJRDD landfill currently manages all wastes generated by residents of Pondera Glacier, and Toole Counties, the Cities of Choteau and Browning, and the eastern half of Glacier National Park. Four county employees operate the licensed landfill.

3.15.3 ENVIRONMENTAL CONSEQUENCES

3.15.3.1 No Action Alternative

Under this alternative, because the proposed expansion area will not be developed, landfill staff and contractors would be forced to find similar employment elsewhere after the existing NMJRDD landfill

closes. This would likely result in relocation to other communities for employment.

Current landfill users would be forced to obtain waste disposal services elsewhere. The nearest licensed Class II landfill is in Shelby, approximately 20 miles north of the NMJRDD landfill. Transporting wastes currently managed at the NMJRDD landfill would result in a cost increase to cover transportation costs. Transportation would also result in an increase of vehicle emissions. Cost increases would result from the transportation fees and from the landfill tipping fees at the City of Shelby landfill since they would likely need to add additional staff to manage the increased waste volumes. The remaining capacity of the Shelby landfill is approximately 336,000 tons; with the addition of NMJRDD's waste, the Shelby landfill would be at full capacity in a year's time. If that occurred, the City of Shelby could close and seek disposal services elsewhere or expand their landfill.

3.15.3.2 Proposed Alternative

During the construction phases of the expansion, there would be a minor increase in local employment due to the additional need for contractors, site operators, and associated support. Construction activities would employ approximately 15 people as construction workers for about six months. However, because this would occur only during construction, the impact to employment is short-term. Operations would move from the current landfill to the expansion area once the site features are constructed; the landfill staff existing at that time would continue. The long-term employment requirements will remain the same.

3.16 CUMULATIVE IMPACTS

Cumulative impacts are the collective impacts on the human environment when a specific action is considered in conjunction with other past, present, and future actions by location and type. Cumulative impact analysis under MEPA requires an agency to consider all past and present state and non-state actions. Related future actions must also be considered, when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. Cumulative impact analyses help to determine whether an action, combined with other activities, would result in significant impacts.

According to MDT, Montana Highway 44 is under the jurisdiction of the Montana Transportation Commission.

According to the Pondera County Planning Department and county commissioners, no other projects are anticipated within the vicinity of the proposed expansion area.

Landfilling activities would move from the current NMJRDD landfill to the proposed expansion area once the current landfill reaches capacity. The timing of initial construction for the proposed expansion project would likely concur with the final disposal activities and closure of the active landfill existing north of the proposed expansion boundary. These combined construction-related activities would cause short-term increases in impacts from fugitive dust and noise. The proposed expansion is designed to accommodate the demand anticipated for NMJRDD waste management. As the population grows, demands on the landfill may increase all facility activities and cause slightly increased but likely minor impacts from dust and noise after operations enter the expansion area.

3.17 UNAVOIDABLE ADVERSE EFFECTS

Residual impacts from the proposed action would include the reuse of developed soil from approximately 106 acres of the 160-acre site for use on roads, as cover soil, and for the construction of berms or other landfill features. Conserved topsoil would be used as the topsoil component in the final cap during final closure of the facility; it would be seeded with native vegetation. Some sediment control structures would remain, and the capped landfill units would look like man-made mound-like features. Post-closure land use would be restricted to animal grazing. No structures that require the placement of footings or foundations are allowed over the closed landfill units. Any disturbance of the closed landfill final cover would have to be approved by DEQ.

Disturbed introduced plant communities would be replaced by native plants. Noxious weeds would increase from the soil disturbance. However, weeds would be controlled by the county weed control program to ensure proper revegetation. All disturbed areas would be reclaimed by reseeding of native species. A program to inventory and treat noxious weeds would be implemented.

4. CONCLUSIONS AND FINDINGS

4.1 A LISTING AND EVALUATION OF MITIGATION, STIPULATIONS, AND OTHER CONTROLS ENFORCEABLE BY THE AGENCY OR ANOTHER GOVERNMENT AGENCY:

The proposed landfill expansion will meet the requirements of the Montana SWMA, and Montana administrative rules regulating solid waste management, water, and air quality. Completion of the MEPA process and this EA definitively exhibits how approved construction and operation of the proposed facility expansion will minimize the potential for harmful releases and impacts to human health and the environment.

4.2 FINDINGS

The depth and breadth of the project is typical of a limited landfill license expansion proposed in a rural setting. The DEQ analyses of potential impacts from the proposed project and the detail provided are appropriate to the complexity, environmental sensitivity, degree of uncertainty, and inherent mitigating factors provided by Montana solid waste code and rules for each resource considered. Public concerns were initially assessed as part of the notification process undertaken by DEQ upon receipt of a complete expansion application. These concerns were addressed in the EA and DEQ's response to later public comment on the Final EA is attached.

To determine whether preparation of an environmental impact statement is necessary, DEQ is required to determine the significance of impacts associated with the proposed action. The criteria that DEQ is required to consider in making this determination are set forth in ARM 17.4.608(1)(a) through (g):

(a) The severity, duration, geographic extent, and frequency of occurrence of the impact;

(b) The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

(c) Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

(d) The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;

(e) The importance to the state and to society of each environmental resource or value that would be affected;

(f) Any precedent that would be set as a result of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and

(g) Potential conflict with local, state, or federal laws, requirements, or formal plans.

The proposed Class II landfill facility expansion will be constructed and operated approximately 9 miles north of Conrad and accessed from Montana Highway 44. It will ultimately encompass approximately 126 of the total 160 acres and will include six separate disposal units that will be developed in twelve phases, over the extensive 139-year life of the facility. This construction will expand the existing landfill footprint by 106 acres to provide an additional capacity for disposal of an estimated 4,138,000 cubic yards of Group II, III, and IV solid wastes.

This operation additionally allows the storage, treatment, recycling, and recovery of those same wastes. The approved design will utilize the most stringent and protective features that can be required by law.

The analysis area for native prairie vegetation surrounding the proposed expansion is part of the broader Lowland Prairie Grassland and Great Plains Mixedgrass Prairie. The more common native species found in this area include rough fescue, Idaho fescue, western wheatgrass, green needlegrass, blue grama, and needle and thread. Remnants of shortbristle needle and thread dominated prairie are also locally found within isolated productive sites now mostly surrounded by farmland. Extensive native prairie of these local types surrounds the similar native prairie found adjacent to the expansion site. Previously cultivated farmland is typically revegetated with either non-native associations, for example Kentucky bluegrass/western wheatgrass, or planted in pure stands of one species such as crested wheatgrass. For livestock grazing, the predominant introduced local species include Kentucky bluegrass, smooth brome, and Japanese brome. The facility location is not within sage grouse core habitat, general habitat, or connectivity area. It has no special agricultural designation. Construction and operation will not adversely affect any threatened or endangered species.

Landfill construction and operation in the expansion area is not expected to impact surface water resources. Due to the effectiveness of the facility perimeter ditches, and proposed storm water controls required by design, the lack of impacts to surface water are based on low rainfall affecting the relatively small watershed of largely intermittent drainages at the site. The controlled release of storm water from any of the onsite storm water detention ponds will not contain the suspended sediment load that naturally impacts these coulees during uncontrolled heavy precipitation or snowmelt events today. Therefore, the quality of the storm water released from a controlled event at the facility could be better than the average quality of storm water that currently flows naturally from the undeveloped site. The capture and release of stormwater by the facility will not impact surface water rights of the surrounding landowners.

Construction and operation of the facility is not expected to impact groundwater. NMJRDD has adequately demonstrated no potential for migration of contaminants to the uppermost aquifer beneath the proposed expansion area during the proposed 115-year operational life and 30-year post-closure period of the facility. Therefore, groundwater monitoring is not required.

DEQ has not identified any growth-inducing or growth-inhibiting aspects of the proposed project. DEQ's approval is not a decision regarding, in principle, any future actions that DEQ may perform. Nor does it set any precedent or commit DEQ to any future action with significant impacts. Finally, construction and operation of the proposed facility does not conflict with any local, state, or federal laws, requirements, or formal plans.

Based on consideration of all the criteria set forth in Arm 17.4.608, DEQ has determined construction and operation of the facility will not significantly affect the human environment. Therefore, an environmental assessment is the appropriate level of environmental review, and an environmental impact statement is not required.

4.3 OTHER GROUPS OR AGENCIES CONTACTED OR CONTRIBUTING TO THIS EA:

Montana Natural Heritage Program
State of Montana Historic Preservation Office
Barry Damschen Consulting, L.L.C.
Hydrometrics, Inc.
U.S. Geological Survey
Montana Bureau of Mines and Geology
U.S. Department of Agriculture - Natural Resource Conservation Service
Montana Department of Transportation
Pondera County Planning Department

4.4 AUTHORS:

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DEQ Solid Waste Section

Date: February 26, 2019

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APPENDIX A: DEFINITIONS

FINAL ENVIRONMENTAL ASSESSMENT
For the
Proposed Class II Landfill Expansion Project
Northern Montana Joint Refuse Disposal District
Conrad, Montana

"Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities.

"Active portion" means that part of a facility or unit that has received or is receiving wastes and that has not been closed.

"Aquifer" means any geologic formation, group of formations, or part of a formation capable of yielding significant quantities of ground water to wells or springs.

"Class II landfill facility" means a facility licensed to operate as Class II solid waste management system that is capable of receiving Group II, Group III, and Group IV wastes but not regulated hazardous wastes. Group III and Group IV waste may be managed in Class II units or separate units at the facility. Household waste, although it may contain some household hazardous waste or other non-regulated hazardous waste, may be disposed of at Class II landfills.

"Closure" means the process by which an owner or operator of a facility closes all or part of a facility in accordance with a department-approved closure plan and all applicable closure requirements.

“Composite-liner” means a system consisting of two components. The upper component must consist of a minimum 30 mil flexible membrane liner (FML) and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{7}$cm/sec, FML components consisting of high density polyethylene (HDPE) must be at least 50-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

"Construction and demolition waste" means the waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings, and other structures, once municipal, household, commercial, and industrial wastes have been removed.

"Contaminated soil" means soil, rocks, dirt, or earth that has been made impure by contact, commingling, or consolidation with organic compounds such as petroleum hydrocarbons. This definition does not include soils contaminated solely by inorganic metals, soils that meet the definition of hazardous waste under ARM Title 17, chapter 53, or of regulated PCB (polychlorinated biphenyls) contaminated soils.

"Dispose" or "disposal" means the discharge, injection, deposit, dumping, spilling, leaking, or placing of any solid waste into or onto the land so that the solid waste or any constituent of it may enter the environment or be emitted into the air or discharged into any waters, including ground water.

"Endangered or threatened species" means any species listed as such, pursuant to section 4 of the federal Endangered Species Act of 1973.

"Facility" means property where solid waste management is occurring or has occurred. It includes all contiguous land and structures, other appurtenances, and improvements on the land used for management of solid waste.

"Groundwater" means water below the land surface in a zone of saturation

“Group II wastes” means decomposable wastes and mixed solid wastes containing decomposable material but exclude regulated hazardous wastes. Examples include, but are not limited to, the following: (i) municipal and household solid wastes such as garbage and putrescible organic materials, paper, cardboard, cloth, glass, metal, plastics, street sweepings, yard and garden wastes, digested sewage treatment sludges, water treatment sludges, ashes, dead animals, offal, discarded appliances, abandoned automobiles, and hospital and medical facility wastes, provided that infectious wastes have been rendered non-infectious to prevent the danger of disease; and (ii) commercial and industrial solid wastes such as packaging materials, liquid or solid industrial process wastes that are chemically or biologically decomposable, contaminated soils, crop residues, manure, chemical fertilizers, and emptied pesticide containers that have been triple rinsed or processed by methods approved by the department.

“Group III wastes” means wastes that are characterized by their general inert nature and low potential for environmental impacts. Group III wastes include wood wastes and non-water-soluble solids.

“Group IV wastes” mean construction and demolition wastes, and asphalt, except regulated hazardous wastes.

"Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under subtitle C of the federal Resource Conservation and Recovery Act of 1976 (RCRA). The definition includes, but is not limited to, waste resulting from the following manufacturing or industrial processes:

(a) electric power generation;
(b) fertilizer/agricultural chemicals;
(c) food and related products/byproducts;
(d) inorganic chemicals;
(e) iron and steel manufacturing;
(f) leather and leather products;
(g) nonferrous metals manufacturing/foundries;
(h) organic chemicals;
(i) plastics and resins manufacturing;
(j) pulp and paper industry;

(k) rubber and miscellaneous plastic products;
(l) stone, glass, clay, and concrete products;
(m) textile manufacturing;
(n) transportation equipment; and
(o) water treatment.

"Landfill" means an area of land or an excavation where wastes are placed for permanent disposal and that is not a land application unit, surface impoundment, injection well, or waste pile.

"Leachate" means a liquid which has contacted, passed through, or emerged from solid waste and contains soluble, suspended, or miscible materials removed from the waste.

"Leachate collection system" means an engineered structure, located above a liner and below the refuse in a landfill unit, designed to collect leachate.

"Leachate removal system" means an engineered structure that allows for the removal of leachate from a landfill unit. A leachate removal system may be, but is not necessarily, used in conjunction with a leachate collection system.

"Licensed boundary" means the perimeter of the area within a solid waste management system that the department has approved for solid waste management.

"Licensee" means a person who has, or persons who have, been issued a license by the department to operate a solid waste management system.

"Liquid waste" means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

"Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25° C and atmospheric pressure.

"Major Class II facility" means a Class II facility with a planned capacity of more than 25,000 tons per year.

"Municipal solid waste landfill" means any publicly or privately-owned landfill or landfill unit that receives household waste or other types of waste, including commercial waste, non-hazardous sludge, and industrial solid waste. The term does not include land application units, surface impoundments, injection wells, or waste piles.

"Operator" means the person responsible for the overall operation of a facility or part of a facility.

"Owner" means the person who owns a facility or part of a facility.

"Person" means an individual, firm, partnership, company, association, corporation, city, town, local governmental entity, or any other governmental or private entity, whether organized for profit or not.

"Post-closure care" means the activities required at a landfill after the completion of closure in which all aspects of the landfill containment, extraction, control, and monitoring systems must be inspected, operated, and maintained in accordance with a department-approved post-closure plan and all applicable requirements.

"RCRA" means the federal Solid Waste Disposal Act, as amended by and hereinafter referred to as the Resource Conservation and Recovery Act of 1976 and subsequent amendments, codified at 42 USC 6901 through 6992k.

"Regulated hazardous waste" means a solid waste that is a hazardous waste, as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b) or was not generated by a conditionally exempt small quantity generator as defined in 40 CFR 261.5.

"Remediation" means the act of reducing contamination to a level that is protective of human health and the environment.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Saturated zone" means that part of the earth's crust in which all voids are filled with water.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant.

"Solid waste" means all putrescible and nonputrescible wastes including, but not limited to, garbage; rubbish; refuse; ashes; sludge from sewage treatment plants, water supply treatment plants, or air pollution control facilities; construction and demolition wastes; dead animals, including offal; discarded home and industrial appliances; and wood products or wood byproducts and inert materials. "Solid waste" does not mean municipal sewage, industrial wastewater effluents, mining wastes regulated under the mining and reclamation laws administered by the department, slash and forest debris regulated under laws administered by the department, or marketable byproducts.

"Solid waste management system" means a system which controls the storage, treatment, recycling, recovery, or disposal of solid waste. Such a system may be composed of one or more solid waste management facilities. This term does not include hazardous waste management systems.

"Structural components" means liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of a Class II or lined Class IV landfill unit that is necessary for protection of human health and the environment.

"Unit" means a discrete area of land or an excavation used for the landfilling or other disposal of solid waste.

"Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within a facility's property boundary.

"Waste" means useless, unwanted, or discarded materials in any physical form, e.g., solid, semi-solid, liquid, or gaseous. The term is not intended to apply to by-products or materials which have economic value and may be used by the person producing the material or sold to another person for resource recovery or use in a beneficial manner.

"Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

APPENDIX B: ARM 17.50.1204 Table 1 Constituents

FINAL ENVIRONMENTAL ASSESSMENT
for the
Proposed Class II Landfill Expansion Project
Northern Montana Joint Refuse Disposal District
Conrad, Montana

ARM 17.50.1204 - TABLE 1
GROUNDWATER PROTECTION STANDARDS

Chemical	MCL (mg/I)	Chemical	MCL (mg/I)
Arsenic	0,05	Lindane	0.004
Barium	1.0	Lead	0.05
Benzene	0.005	Mercury	0.002
Cadmium	0.01	Methoxychlor	0.1
Carbon tetrachloride	0.005	Nitrate	10
Chromium (hexavalent)	0.05	Selenium	0.01
2,4 Dichlorophenoxy acetic acid	0.1	Silver	0.05
1,4-Dichlorobenzene	0.075	Toxaphene	0.005
1,2-Dichloroethane	0.005	1,1,1-Trichloromethane	0.2
1,1-Dichloroethylene	0.007	Trichloroethylene	0.005
Endrin	0.0002	2,4,5-Trichlorophenoxy acetic acid	0.01
Fluoride	4	Vinyl Chloride	0.002

APPENDIX C: Response to Comments

FINAL ENVIRONMENTAL ASSESSMENT
for the
Proposed Class II Landfill Expansion Project
Northern Montana Joint Refuse Disposal District
Conrad, Montana

RESPONSE TO COMMENTS

The following statements represent written public comments that were received by the Department of Environmental Quality (DEQ), during the period extending from August 27, 2018, to September 25, 2018, after public review of the Draft Environmental Assessment (EA) published for the proposed Northern Montana Joint Refuse Disposal District (NMJRDD) landfill expansion project.

Public comments are recorded below after the concerns were summarized, categorized, and combined. All original written comments received during public review are on file at DEQ.

DEQ developed general-themed responses to comprehensively address much of the related comments in one place. Responses to specific concerns may be included with the general response as necessary to adequately address some details. This part of the document presents these responses. DEQ made changes to the Final EA in response to some of the comments we received. This is reflected in the responses and the Final EA is amended.

Public Notification and the Montana Environmental Policy Act Process

Comment: A request for extension of the comment period.

Response: The comment period was not extended by DEQ given that only 3 comments were received in a timely manner.

Facility Location and property values

Comment: The proposed landfill expansion site should be located elsewhere away from homes.

Response: DEQ is not involved in the waste management planning processes of NMJRDD or in land acquisition for landfills. The applicant selected the site to take advantage of existing infrastructure by building an extension to the active NMJRDD landfill facility versus changing sites. DEQ does not have authority to select site locations. According to the regulations, DEQ must evaluate each solid waste management system license application received. DEQ's evaluation of proposed sites is based upon compliance with the regulations and the potential impacts of the proposed facility at the proposed location.

Comment: Expansion of the NMJRDD landfill will cause a decrease in property values for homes located adjacent to the proposed facility.

Response: DEQ regulates over 145 solid waste management systems statewide. Many of the large Class II landfills are located near residential subdivisions and neighborhoods with more than 20 residences. In the past 30 years, various research has been done on the impacts of landfills on property values. These studies have yielded inconsistent results. Typically, hedonic regression models have been used to try and isolate the impacts of landfills on property values holding all other variables constant. Surveys have also been used in studies. Some studies show statistically significant adverse impacts of landfills on property values and some do not. Generally, larger impacts on property values are seen from larger landfills, less modern landfills, landfills that accept hazardous waste or pose health risks, areas with negative perceptions of landfills, landfills that are more visible, and higher

end properties. However, even these impacts are not robust across all studies nor are each of these impacts studied in all studies.

The existing NMJRDD landfill has been actively accepting the same amounts of garbage for many years, while having an impact all that time on existing homes within 2-3 miles of their facility. Additional adverse impacts from a similar landfill expansion next to the existing one are hard to quantify and are likely less than if a new landfill was constructed in an existing area. Also, the possibility of lowering home values is potentially reduced because this landfill is not a hazardous waste disposal facility. Thus, it is difficult to quantify what the impacts would be on home values. Clearly, any potential impact on homes from the proposed expansion would be lowered by mitigating factors such as distance from area homes, visual breaks, distance from the Conrad city limit, and a history where any impact of the existing landfill has already been incorporated into current home prices.

Surface Water

Comment: Nearby residents are concerned that odors from the NMJRDD storm water ponds will significantly affect them.

Response: Adequate leachate and runoff controls are required according to approved landfill design (EA page 16, Sections 2.3.1.4 and 2.3.1.5) and procedures in the landfill Operation and Maintenance (O&M) Plan (EA pages 24-25, Sections 2.3.2.12 and 2.3.2.13). Leachate, which is the liquid produced when precipitation contacts garbage, is fully captured over the landfill liner and not allowed to commingle with the storm water system (EA page 16, Section 2.3.1.4). Thus, no source of pollutants would be allowed that could possibly cause odors to emanate from the ponds.

All other run-on and runoff from the facility will be routed to the storm water detention ponds (EA page 16, Section 2.3.1.5). The landfill operator must sample the ponds for total dissolved solids and total iron before any storm water is released from the ponds to flow downstream. These actions are required according to the facility's general storm water discharge permit requirements as regulated by DEQ's Water Protection Bureau for releases. The quality of the storm water released during a controlled event from the proposed storm water ponds would likely be improved relative to storm water that currently flows naturally from the undeveloped site, because it wouldn't contain the sediment that is currently suspended in runoff from the plowed fields. The ponds must only release clean water based on testing (EA pages 23-24, Section 2.3.2.12).

Operations

Comment: The NMJRDD landfill is a constant source of windblown litter today, so the expansion will bring the source even closer to cause a greater effect on homes adjacent to the south boundary. The smell of open waste and noise will also increase as the landfill migrates closer.

Response: Adequate litter control is required according to approved procedures in the landfill Operation and Maintenance (O&M) Plan (EA page 23, Section 2.3.2.10). The active NMJRDD landfill submitted an updated plan for improved litter control that includes special provisions for windy periods. The updated plan was reviewed and approved by DEQ for the

proposed expansion. In accordance with the approved plan, NMJRDD would purchase additional wind screens to improve litter capture around the active working face (area where garbage is deposited) as needed. They can also reduce the size of the working face to minimize the potential for windblown litter prior to the rapid placement of soil cover as an increased wind problem develops on site. Keeping the working face contained to a smaller area will reduce the volume of loose and uncovered wastes during working hours. They will regularly evaluate the conditions necessary to suspend delivery and disposal of waste when the potential for the generation of uncontrolled windblown litter is high. Necessary improvements will be implemented by NMJRDD as needed and monitored by regular DEQ inspections. The smell is likewise largely controlled by the daily placement of soil (six inches thick) over the waste as required and stated in the O&M Plan. There are no requirements for controlling noise during landfill operations, but the limited extent and volume of the NMJRDD landfill and proposed expansion would tend to keep noise levels low.

Other

Comment: Given the landfill will rise above the existing grade, adjacent residents are concerned that the landfill will block their view because the area is relatively flat. The operating landfill is already unsightly. These issues will increase as the landfill expands southward towards the nearest homes.

Response: DEQ agrees. The elevation of the landfill will rise 50 feet above surrounding natural grade at a modest five-to-one ratio of slope. Most of the operations will be even more visible from along north and east view lines from the south and southwest as the expansion is filled with waste. Views from the two nearest homes located south of the proposed expansion will be affected by the operating landfill. The final landfill cover will appear as a low rounded hill versus the plainer character of the natural surrounding topography that exists in the northward viewshed (EA page 54, Section 3.10.3.2). Some trees could be planted along the south and west boundaries of the proposed NMJRDD expansion to block the view of the landfill and improve aesthetics, much like what has already been done on the north boundary of the existing landfill. NMJRDD remains open to such revegetation surrounding the site.

Comment: Residents are concerned about the increased spread of weeds onto farmland surrounding the proposed NMJRDD landfill expansion.

Response: The impact of the expansion on weeds would remain similar to that of the existing operations, because the size of the yearly operations would not increase significantly. The proposed O&M and Closure and Post-Closure plans (EA page 26-27, Sections 2.3.2.14; page 27, Section 2.3.2.17; and page 28, Section 2.3.2.19) and County Weed District also require the effective control of onsite weeds which would maintain the minor impact on surrounding property.

APPENDIX D: Final Decision

FINAL ENVIRONMENTAL ASSESSMENT
for the
Proposed Class II Landfill Expansion Project
Northern Montana Joint Refuse Disposal District
Conrad, Montana

1. Introduction

1.1. Background

On July 7, 2016, the Northern Montana Joint Refuse Disposal District (NMJRDD) submitted a Solid Waste Management System (SWMS) license application to the Solid Waste Program (SWP) at Montana Department of Environmental Quality (DEQ) for the expansion of their current landfill facility license boundary. The application underwent deficiency reviews and was determined complete and in compliance with the substantive requirements of the Solid Waste Management Act (SWMA) when a public notice was issued on December 21, 2016. DEQ published a draft environmental assessment (EA) for public review and comment on August 25, 2018.

1.1. Project Area Description

The proposed Class II landfill expansion encompasses 160 acres of city-owned property. The proposed facility will be located approximately 9 miles northwest of Conrad, with access to the south off Montana State Highway 44 on County-owned property in the SW1/4 of Section3, Township 29 North, Range 3 West, Montana Principal Meridian, Pondera County, Montana. In addition to the 106-acre footprint of the waste disposal unit, the applicant will utilize 20 acres for the construction of ponds, roads, soil stockpiles, ditches, and minor temporary storage areas. The maximum open area during the operational life of the facility will be 30 acres. The 106 acres disturbed by disposal will be divided into cells that are gradually excavated, installed with liner and leachate systems, filled with waste, closed, and revegetated in 12 sequenced phases. Each singular active landfill cell is closed as the next cell is incrementally opened until all landfill phases are completed to close the landfill in 139 years. Only the access roads to the facility, leachate manholes, and monitoring wells will remain unvegetated to permanently disturb the licensed area.

The facility expansion will coordinate the total management of nearly 4,138,000 cubic yards of Group II solid waste from Pondera, Glacier, and Toole Counties, Choteau, and the eastern half of Glacier County.

1.2. DEQ's Responsibilities and Purpose of the Final Decision

The purpose of this final decision document (FD) is to release DEQ's decision on NMJRDD's application for a landfill expansion and to document the reason for the decision. This FD documents DEQ's application of the decision criteria set forth in the SWMA.

DEQ administers the SWMA and Title 75, Chapter 10, Part 2, Montana Code Annotated (MCA) and its associated administrative rules. The Montana Environmental Policy Act (MEPA) required an environmental review of actions taken by State agencies that may significantly affect the quality of the human environment. The environmental review, culminating in the issuance of the Final EA on January 23, 2019, was conducted to fulfill MEPA.

2. Public Involvement

A public notice that DEQ had received an application for the NMJRDD landfill expansion was issued on December 21, 2016. DEQ published the draft EA on DEQ's website on August 27, 2018, beginning a 30-day public comment period. DEQ distributed the draft EA to adjacent landowners and interested persons and published a notice on the document's availability in the local area newspaper. In addition to appropriate Montana state government offices, local copies of the document were sent to the Pondera County Public Library, the Pondera County Sanitarian, the Pondera County Commissioners office, and the NMJRDD office. DEQ closed the comment period September 25, 2018. DEQ received three written comments from the public.

3. Alternatives Considered

Alternatives evaluated in the EA included the No Action and Proposed Action Alternatives.

3.1. No Action

If the application failed to meet the minimum requirements of the SWMA and could not be processed as submitted, DEQ would deny the license expansion application and the facility would not be licensed. If the application is denied, expansion of the facility would not occur, and the impacts identified in the Final EA would not happen.

3.2. Proposed Action

The Proposed Action Alternative will allow NMJRDD to operate the licensed Class II landfill expansion as proposed.

4. Decision and Rationale for Decision

DEQ may deny an application for licensure of a solid waste management system if it fails to meet the requirements of the SWMA. DEQ may not withhold, deny, or impose conditions on any license based on any provision of MEPA. However, MEPA allows the license applicant for a SWMS license and DEQ to identify issues, evaluate the breadth or depth of the potential resource impacts, and mutually develop measures that may be incorporated into a license.

The decision at this point in the process is whether DEQ issues a license for the landfill expansion. Pursuant to § 75-10-221, MCA and the Administrative Rules of Montana (ARM) 17.50.513, DEQ determined NMJRDD's application was complete and complied with the requirements of the SWMA.

DEQ has evaluated NMJRDD's application and determined the environmental consequences. It is DEQ's decision to approve the application and issue a Solid Waste Management System License for the proposed expansion.

For DEQ, the basis of the decision whether to issue a license as requested is determined by a finding of whether the proposed landfill expansion can be operated by NMJRDD in compliance with the SWMA and the accompanying administrative rules. The license is based on the management of the system as approved by DEQ. NMJRDD's failure to comply with applicable law or rule, in particular Title 75, chapter 10, parts 1 and 2, MCA, and ARM Title 17, chapter 50, sub-chapters 4, 5, and 10-17 may result in enforcement actions and/or license revocation and/or denial of an application for annual renewal. NMJRDD will be required to operate and maintain the facility in accordance with DEQ-approved plans and specifications.

5. Findings Required by Laws and Policies

5.1. MEPA

MEPA requires State agencies to conduct an environmental review when making decisions or planning activities that may have a significant impact on the environment. MEPA and the administrative rules promulgated under MEPA define the process to be followed when conducting an environmental review. The draft and Final EA that DEQ prepared regarding NMJRDD's application for a landfill expansion complies with the procedural requirements of MEPA.

DEQ finds that an EA is the appropriate level of review and an EIS is not required under MEPA because the project lacks significant adverse impacts to the human and physical environment based on the following criteria in ARM 17.4.608(1)(a) through (g).

5.2. SWMA

The SWMA recognizes that the health and welfare of Montana citizens is endangered by improperly operated solid waste management systems and by the improper and unregulated disposal of wastes. The SWMA and associated Administrative Rules control solid waste management systems to protect the public health and safety and to conserve natural resources whenever possible (§75-10-202, MCA). In addition to continuing to provide for the disposal of solid wastes for residents of the Northern Montana Joint Refuse Disposal District, the basic objective of the NMJRDD's landfill expansion proposal is to establish a solid waste management system that controls the management of solid wastes, the operation and maintenance of facility activities, and the closure and post-closure care during continued operations at the existing NMJRDD Class II landfill near Conrad.

The site will be operated according to the approved facility Operation and Maintenance (O&M) Plan. NMJRDD will not depart from the approved facility design, O&M Plan, or Closure Plan. It will also obtain approval for and maintain adequate financial assurance.

6. Appeal of DEQ's Decision

This decision is subject to validation by the local health officer. According to § 75-10-222, MCA, the license issued by DEQ is not valid until signed by the local health officer having jurisdiction in the county in which the solid waste management system will be operated. The local health officer may refuse to validate a license issued only upon a finding that the requirements of the SWMA and associated administrative rules cannot be satisfied (§ 75-10-223, MCA). The applicant or any person aggrieved by the decision of the local health officer not to validate a license may appeal the decision to the Board of Environmental Review within 30 days after receiving written notice of the local health officer's decision. The hearing before the board must be held pursuant to the contested case provisions of the Montana Administrative Procedure Act.