



ENVIRONMENTAL PROTECTION PLAN

WHITEFISH LAKE – MACKINAW BAY REMEDIAL ACTION (2012)

**BNSF RAILWAY COMPANY
Whitefish, Montana
Flathead County, Montana**

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Prepared for:

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TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 PERMITS AND LICENSES.....	1
3.0 WATER POLLUTION CONTROL	1
Equipment Inspections.....	1
Turbidity Barriers and Oil Absorbent Booms	2
Curtain and Boom Locations	2
Turbidity Monitoring	3
Erosion Protection	3
4.0 SEDIMENT HANDLING	3
Sediment Transport.....	4
Sediment Loading Operations	4
City Beach Offloading.....	5
Larger Incident Protections.....	5
5.0 SPILL PREVENTION AND COUNTERMEASURES CONTROL PLAN	6
Introduction.....	6
Reporting Channels and Reportable Quantities.....	6
Internal Reporting.....	6
Agency Reporting.....	7
Potential Facility Discharge and Drainage Patterns	8
Spill Prevention Measures	9
Control Measures	10
Countermeasures.....	10
Security	11
Personnel Training and Spill Prevention Procedures	11
SPCCP Amendments	12

1.0 INTRODUCTION

This Environmental Protection Plan has been prepared by Envirocon to detail the requirements for environmental protection, throughout and upon completion of the project for the Mackinaw Bay Remedial Action Project in Whitefish, MT.

This Plan includes a narrative description of plans and procedures for protecting the environment in regards to surface runoff into the Whitefish Lake, preventing release of diesel-range organics (DRO) into water or soils, and contingency plans for handling spills when fueling or maintaining equipment. This plan will also be submitted in accordance with Section 01300 Submittals paragraph 1.05 of the Contract Documents. Information contained in the Plan was developed per Section 01140 Environmental Protection paragraph 1.02.

2.0 PERMITS AND LICENSES

In accordance with Section 01010 Summary of Work and Contract Considerations, Part 1, 1.08.A; this project is being done in cooperation with a United States Environmental Protection Agency (EPA). EPA has authority to operate under its Nation Wide Permit 20 and this work will be performed in compliance with this permit. For the Mackinaw Bay dredging work, EPA has conferred with federal, state, and local governmental agencies. Nevertheless, Envirocon will comply with all applicable laws and regulations and meet the substantive requirements of local authorities, their ordinances, and codes.

3.0 WATER POLLUTION CONTROL

Water pollution control work is intended to provide prevention control and abatement of water pollution to Whitefish Lake. Additionally, the intent is to comply with all applicable federal, state, and local regulations concerning the discharge (directly or indirectly) of pollutants to Whitefish Lake. The majority of the activities for the Mackinaw Bay work will take place either at City Beach or Whitefish Lake. The mechanical dredge process, actually utilizes an excavator with dredging attachments. Water pollution controls will be required during the excavation of sediments, transport of containers across the lake, construction of the City Beach access, and unloading operations. Shoreline erosion from the shore to the lake will not be impacted by site operations at the dredging location.

Equipment Inspections

All equipment delivered to the site will be inspected for cleanliness and pre-existing damage. Delivery and service vehicles, as well as all tools and equipment entering the site, are subject to the same inspection requirements. Additionally boats, barges, and silt curtains will be inspected by Montana Fish, Wildlife, and Parks for the potential to contain invasive species. The objective of the inspection is to prevent the entry of dirty or contaminated equipment that could introduce or further spread contaminants or invasive species into Whitefish Lake.

All equipment delivered to the site will have up-to-date maintenance logs and will be in new or like new condition. Equipment not suitable for delivery will be rejected until the noted deficiencies are corrected.

Turbidity Barriers and Oil Absorbent Booms

Envirocon will utilize floating turbidity barriers in accordance with Section 02483, Part 2, 2.01 that are constructed of varying lengths and adequate depths to contain turbidity during removal, and have a positive connection system between panels. During mechanical dredging or debris removal the potential for sediment disruption exists. These activities will occur within areas protected by floating turbidity curtains with an oil boom strung along the interior of the turbidity curtain.

Envirocon will utilize 5" oil-only absorbent booms that are floating style booms that will not sink when saturated with oil. The booms will have mesh outer casings with sock filled interiors that will not shed, locking and overlapping connections, and a continuous rope reinforced center that runs the length of the boom. Additionally 19" sweeps will be used in the immediate area of the dredging, attached to the 5" booms, to minimize the potential for oil sheens to drift under the 5" booms.

Curtain and Boom Locations

A series of silt curtains and booms will be deployed around the dredging operations. Removal of DRO material from beneath the lake surface shall not commence until adequate means are provided to prevent sediment and turbid water from escaping the work area.

The initial containment will surround the mechanical dredging barge. This barge will be surrounded with silt curtain and absorbent boom from the shoreline, around the barge, and again to the shoreline. Additionally absorbent boom will be placed along the shoreline, essentially surrounding the dredging operations with oil only absorbents. All dredging operations will occur within the primary containment.

Secondary containment consisting of silt curtain and absorbent booms will be deployed around the container barges while being loaded. The secondary containment will be deployed from the excavating barge, around the container barge, and then connected to the primary containment. The secondary containment will be opened upon entry and exit of the container barge. This containment will protect the loading operations.

A third containment, consisting of silt curtain will surround the entire work area, encompassing a large portion of Mackinaw Bay. This containment, approximately 1000 feet long, will be connected from shoreline to shoreline; surrounding the excavating barge (primary containment) and loading operations (secondary containment). This third or outer containment will be required to be opened to allow for container barges to enter and exit the work area. This third containment will be weighted as necessary to prevent movement with wind. This containment will maintain not only a barrier for sediment transfer out of the operating area, but provide a visible barrier for the public. Buoys and lights will be deployed on the outer curtain.

Turbidity Monitoring

The dredging operations will be performed in a manner to limit turbidity. Floating turbidity barriers with weighted curtains shall be used to contain the various areas. Turbidity monitoring will be performed if a visible turbidity plume is observed beyond the outer or third barrier. Turbidity monitoring shall occur outside this barrier. At such time monitoring will continue until the turbidity beyond the curtain is less than 10 NTUs above background. If the lake turbidity exceeds specifications or an oil sheen is visually observed on the outside of the third or outer turbidity curtain, the generating activity will cease immediately and corrective action will be taken to include re-positioning of the curtain, containing any visual sheen, and continued monitoring of turbidity.

Erosion Protection

The construction and maintenance of the City Beach loading area may require erosion protection. The activities at Mackinaw Bay are not intended to impact the shoreline. Activities at City Beach may impact the shore line. Material required to improve the crane location will be washed rock without fine material. If deemed necessary Envirocon will install temporary erosion control materials including but not limited to silt fence, straw wattles, or straw bales to ensure that sediment transport from runoff is minimized and contained by employing Best Management Practices (BMPs).

4.0 SEDIMENT HANDLING

The mechanical dredge process requires DRO material to be removed from the lake and placed into roll-off containers, located on a secondary barge. This section will summarize environmental protections to prevent DRO material from releasing into the lake during loading, handling and transport inside and outside of the enclosed work area to the unloading area at City Beach, and transfer to the rail yard.

Sediment Transport

Two barges, each containing two containers will transport material from the Mackinaw Bay to City Beach loaded, and back again empty. The prevention of DRO release starts with dredging activities in Mackinaw Bay. The dredging operations will be enclosed by a silt curtain. This curtain, attached to the shoreline on both sides of the mechanical dredge barge will surround the excavating operations. A secondary silt curtain will be established between the mechanical dredge barge and the barge carrying roll-off containers. The secondary system of silt curtains will contain turbidity from the loading. The third or outer barrier will define the work area. All loading will occur within the confines of the contained area within Mackinaw Bay.

The approach to the dredging activities with the container barge will require the removal of the outer and secondary containment. Prior to the approach of the container barge, a second boat will be required to remove two containments, allow for access, and then close the outer and secondary barriers behind the container barge. Once the empty containers are positioned between the first and secondary containment, loading operations can begin.

Sediment Loading Operations

The container barge will be tied to the mechanical dredge barge. The loading operations require additional precautions to minimize the release of DRO material inside the containment and prevent a release outside the containment. All containers will be lined with 6 mil poly plastic. The doors on the containers will be inspected to confirm that the door latches are secure.

Starting with the mechanical dredge removing a bucket of material from the bottom the lake, the operator brings the loaded bucket to the surface. The bucket will be observed to determine the volume of material and lake water in the bucket. The mechanical dredge bucket has the capability to rotate. Each bucket will be dewatered. The intent of the operation is to minimize water from being loaded in the roll-off containers. While the material will be saturated, the loading of water will be minimized to prevent the potential release of impacted water during transport, loading, or hauling. Loading operations will only occur when the mechanical dredge operator has visually confirmed that the mechanical dredge bucket will not spill material when loading a container.

Once the containers are loaded, a visual inspection will confirm that the load is stable and that there is no potential for material spillage from the container to the barge deck or barge deck to the lake. The security of the load will be checked to confirm the container tie-downs are secure. The containers are large enough to hold 30 yards, however due to the weight of the sediments, only approximately 6 yards will be placed in each container. The minimal volume in each container will allow for sufficient free-board, and spillage protection.

During transport of loaded barges, the containers will be monitored for water leaks. The debris removal process of the operation will prevent materials such as larger rocks, trees, or metal from damaging the liners. Additionally the loading process will minimize the height that the mechanical dredge bucket drops sediment into the container, to prevent damage to the liner.

City Beach Offloading

The barge will be pushed back to the City Beach access. Upon arrival at City Beach, a crane will be staged to unload the containers. The unloading area constructed at City Beach will allow a crane to pick the roll-off containers from the barge and place the containers directly on the transport truck. The initial loaded container will be placed directly on the truck. The second container will be placed on the boat ramp and then lifted onto the truck when the transport returns. The full containers will be off-loaded and empty containers will be placed back onto the barge. One advantage of the crane is that the containers will be removed from the barge and close proximity to the water, in a level position.

Appropriate BMPs will be established on the constructed shoreline at City Beach to prevent any potential release of water from the containers during the loading process on the truck. These BMPs may include a combination of containment behind the containers at they sit on the boat ramp, ditching in the constructed pad, or berms to prevent the potential of water from the containers from reentering the lake. Absorbent booms will be available in the immediate area to contain potential fuel or hydraulic leaks from the crane or transport trucks. Containers will be inspected prior to transport over the road. The containers will then be transported to the rail yard.

Larger Incident Protections

The aspect of performing this type of operation on Whitefish Lake requires considerations for the potential of a catastrophic release, incident, or sinking of a vessel. Such a release may include; a container or excavator sliding off of a barge, the sinking of a barge or boat, or the large quantity release of fuel from a boat. Precautions are planned and put in place prior at the start of operations and during the activities.

All containers and equipment will be chained down utilizing the same DOT rated equipment as would be used to haul this equipment over the highway. Pumps will be kept on the barges if a breach in the hull of a barge should occur. Access to the interior of the every barge section is available through an opening to pump water. Each container barge has 5 pieces. If one barge section were to breach, the entire barge would still float. All boats will have bilge pumps, however these larger pumps are available if a boat were to have a catastrophic breach in the hull.

Spill containing materials, in appropriate quantity (mentioned in next section), are available to control a release. Absorbents will be available on all boats. Silt curtain and absorbents can be moved from the Mackinaw Bay Area to contain a large release if required. Any situation of concern out on Whitefish Lake will be immediately evaluated. No single employee will be on their own to make a decision regarding how to prevent a situation from worsening. Radio communication will allow for all employees in the area to assist with an event. Additional contractors working for Envirocon on Whitefish River will be available in the area with boats and equipment upon request. Upon evaluation, any situation of concern with the boats, barges, or containers can be minimized simply by steering the barge to the closest shoreline.

Operations will be stopped at any time a potential situation or event could occur. The operations on the lake will be performed following appropriate maritime and USCG procedures. USCG representatives will be available for consultation if required. The Mackinaw Bay dredging operations will be performed in such a manner that risk will be minimized as much as possible.

5.0 SPILL PREVENTION AND COUNTERMEASURES CONTROL PLAN

Introduction

This Spill Prevention and Countermeasures Control Plan (SPCCP) was prepared in accordance with the U.S. Environmental Protection Agency's (EPA's) Oil Pollution Prevention Regulations, 40 CFR Part 112, as well as all applicable federal, state, and local regulations to address the potential for spills of petroleum products (e.g. diesel fuel, hydraulic oil) in the maintenance, operations, and/or repair of equipment used to execute the Scope of Work. This work requires the use of heavy equipment, which in turn requires Envirocon to use portable petroleum product storage and stationary diesel storage in the form of (1) lube truck and (1) 1,000 gallon portable diesel tank that will be maintained in the rail yard. Since the total quantity of stored petroleum products will exceed the amounts specified in 40 CFR 112.1(d)(2)(ii) (1,320 gallons for all containers on-site, or 660 gallons for any individual container), this Spill Prevention Control and Countermeasures Plan will be implemented.

Reporting Channels and Reportable Quantities

The Envirocon Superintendant will take on the responsibility to implement this SPCCP. In addition to physically containing a spill, the BNSF and Kenney/Jenks representatives will be notified immediately.

Internal Reporting

The following key personnel will be notified immediately upon release or spill for all spills estimated to be greater than one gallon for land based spills or any amount of release that occurs in navigable waterways (i.e. Whitefish Lake):

Envirocon Environmental representative(s):

Brian Vibbert, Superintendant,	(406) 546-9551
Kris Cook, Project Director,	(406) 360-6128
Chris Houck, Project Manager,	(406) 370-0977

Kennedy/Jenks representative(s):

Rob Hagler, Senior Associate Engineer,	(406) 899-1670
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BNSF representative(s):

Dave Smith,	(406) 256-4046
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Agency Reporting

The Montana Department of Environmental Quality (DEQ) Spill Management and Reporting Policy require the following notifications:

Spills that must be reported to DEQ:

- Releases or spills of hazardous substances in amounts that meet or exceed the reportable quantities in 40 CFR Part 302.
- Spills, overfills, and suspected releases from underground storage tanks and petroleum storage tanks. ARM 17.56.501
- Releases or spills of any materials that would lower the quality of groundwater below water quality standards. ARM 17.30.1045

Spills that should be reported to DEQ:

- Spills that enter or may enter state water or a drainage that leads directly to surface water;
- Spills that cause sludge or emulsion beneath the surface of the water, stream banks or shorelines;
- Spills that cause a film, “sheen,” or change the color of water, stream banks, or shorelines;
- Spills of 25 gallons or more of any petroleum product.

In the event of a spill, Envirocon will prepare and submit to BNSF a report describing the spill, its causes and all remedial actions taken to control and remove the spill. Also, depending on the type of spill, other Federal, State and/or Local agencies will be notified. For any land-based spills greater than 25 gallons or any amount of spilled petroleum products that results in visible sheen on any Site waterways, the following contacts can be made as appropriate, and in addition to calling the above Site personnel:

Montana Disaster and Emergency Services	406-324-4777
Montana DEQ Duty Officer	406-431-0014

Fire/Ambulance/Police Emergency Services	911
Fire Department (Non-Emergency)	406-863-2483
Medical (Non-Emergency)	406-863-3500
Police Department (Non-Emergency)	406-863-2420
Poison Control Center	800-222-1222
National Response Center	800-424-8802
Office of Emergency Services	858-300-1211

Potential Facility Discharge and Drainage Patterns

The Site has one major potential source of petroleum product storage that services equipment at the lake. The land-based storage source is a 1,300 gallon diesel lube truck that will fuel equipment at the City Beach parking area and return to the rail yard. Equipment requiring fuel for the work include: the mechanical dredge (excavator), crane, and boats.

Potential Source	Product	Quantity	Predicted Location/ Rate of Flow
Lube Truck	Ethylene Glycole Coolant	55 GAL	City Beach Parking Area/Low
	Non-Ethylene Glycole Coolant	55 GAL	City Beach Parking Area/Low
	80/90 GearLube	55 GAL	City Beach Parking Area/Low
	Used Oil	100 GAL	City Beach Parking Area/Low
	Diesel	1,300 GAL	City Beach Parking Area/Instantaneous
	Hydraulic Fluid	100 GAL	City Beach Parking Area/Low
	30 Wt Motor Oil	100 GAL	City Beach Parking Area/Low
	Grease	20 GAL	City Beach Parking Area/Low
Mechanical dredge	Diesel	<100 GAL	Whitefish Lake/Instantaneous
	Hydraulic Fluid	<50 GAL	Whitefish Lake/Low
Crane	Diesel	<200 GAL	Whitefish Lake Shoreline/Instantaneous
	Hydraulic Fluid	<200 GAL	Whitefish Lake Shoreline/Low
Tug Boats	Diesel	<100 Gal Each	Whitefish Lake/Instantaneous

Spill Prevention Measures

The sources of petroleum products at the project site are inventoried above. The lube truck is dual lined. The Lube Truck is DOT approved for the fluids contained within the tanks and the truck has applicable DOT placarding. The truck is set up such that the hoses that deliver each product roll up into a contained portion of the truck (intrinsic to the truck design) to prevent small leaks from spilling into the environment.

Spill Prevention Measures will include:

- A) Personnel will NOT leave the tank, fuel supply truck, or Site lube truck unattended during fueling operations. There will be manual control of all oil transfer operations. The personnel performing the transfer will remain in the area during the transfer to monitor the operation and check for any leaks or overflows.
- B) No Smoking or hot work will be permitted within 50 feet of fuel storage areas or fuel transfer operations.
- C) Drip/catch pans should be utilized to the maximum extent possible during fueling operations to catch small amounts of overflow and any drips that might come from the hose nozzle during fueling operations.
- D) Regular inspections of lube truck for leaks, structural damage, corrosion, inspection of the fire extinguisher, spill kit, etc. These inspections will be documented in the "Daily Equipment Inspection Log Book." The Inspection forms are submitted to the Construction Manager daily.
- E) All equipment and containers shall be fueled through spouts and/or funnels to limit and prevent spillage. The fuel vendor supply truck is equipped with automatic shutoff fueling spouts to prevent overflow and spillage.
- F) All petroleum product transfer hoses will be maintained in good condition and free of visible leaks
- G) Containers will only be filled to manufacturers' specified capacity, which allows for fluid expansion. Also, containers will be kept in good condition, suitable for maintaining integrity during the course of normal use. Materials in containers found to be leaking or in unsuitable condition for maintaining integrity will be transferred to new containers. All containers will be clearly labeled indicating the contents of each container.
- H) Any fuel that is "down bottled" to a smaller storage container must be placed into containers that are compatible with the fuel, labeled, stored in secondary containment and flammable cabinet or other fire prevention area with other compounds that are can be stored together from a chemical compatibility standpoint (e.g. do not store fuels and oxidizing compounds together).

- I) Storage tanks and lube trucks will be kept in the Site lay down area, as far away from waterways as feasible. No direct paths to these waterways shall be established by means of ditches, storm water runoff, grading and the like.
- J) Additionally, a 20 pound-ABC rated fire extinguisher along with spill absorbent pads or material will be located on the lube truck and a spill kit and 20 pound-ABC rated fire extinguisher located between 25 and 75 feet from the storage tank.
- K) Absorbent booms will be installed in the operating area to contain any oil waste or sheen at all times during operations in Mackinaw Bay. Envirocon will also have a vacuum truck on standby located in the rail yard to immediately remove any petroleum release along the shoreline. Additional absorbent booms and pads will be readily available for lake areas not accessible for the truck.

Control Measures

Control measures that have been implemented to prevent spills from reaching the Site waterways include dual/secondary containment of at least 110% capacity of the largest container within a lined containment area, Site lay down locations located far from waterways, spill kits located on board the lube truck, every boat, barge, and on the shoreline at City Beach. Inspections of secondary containment areas, spill kit contents, condition of response booms, and personnel training will take place.

The control measures available for the Mackinaw Bay work will include an assortment of absorbents, including the silt curtains surrounding the work area. These measures include:

- 1500' of silt curtain; including primary (dredging barge), secondary (loading barge), and outer 1000' curtain.
- 640'+ of 5" booms designed for oil absorbing only. Total quantity will be maintained at the operations and additional on every barge, boat, and on the shoreline.
- 400' of 19" oil-only sweeps.
- 400'+ oil-only absorbent pads.

Countermeasures

Envirocon will immediately clean up all spills and drips including any materials that may have been contaminated by the spill (e.g. soil, wood, etc) and disposed of in accordance with applicable laws. The following strategies will be implemented in the event of a spill or drip. Absorbent pads may be used to absorb small spills and to remove petroleum products from non-porous entities. The absorbent and pads will be placed into a 1H1/1A1 polydrum or roll-off container. Any contaminated soil will also be shoveled into the 1H1/1A1 polydrum/ roll-off container for future disposal at an appropriate Site.

For mobile sources of spills (i.e. hydraulic, fuel and radiator lines on heavy equipment, etc.) the Envirocon Mechanic will fix the broken equipment and clean up the spilled material. The spilled products will be absorbed utilizing pads or absorbent and shovels and brooms, placed into a 1H1/1A1 polydrum or roll-off container for future disposal. Land-based spills this size will not require notification to regulatory agencies as long as they are less than 25 gallons.

In the event that fuel does reach waterway, a fire occurs, or a spill larger than the reportable quantity occurs, the following actions will be implemented:

- 1) Operations will be conducted in accordance with the approved Site Health and Safety Plan.
- 2) Contact will be established as detailed in the applicable section above titled “Reporting Channels & Reportable Quantities”.
- 3) Booms will be placed around the visible sheen on water and connected to contain the spill, and further absorbed with absorbent pads placed directly on water.
- 4) Spill absorbent pads or soil will be placed in/on any uncontained free petroleum liquid that is up-gradient of the waterway.
- 5) Berms will be created with Site heavy equipment to channel free flow petroleum liquids away from the waterways.
- 6) All spent absorbent, booms, diapers, and petroleum impacted soil will be containerized in either poly drums or roll-off containers and disposed of by at a properly licensed facility.

Security

Site security includes a gated entry to the site, which is locked when Envirocon is not on site. The lube truck is also locked when Envirocon employees are not on site.

Personnel Training and Spill Prevention Procedures

The site operating personnel shall be trained to respond effectively to emergencies by familiarizing themselves with the Site Health and Safety Plan and this Spill Prevention and Countermeasures Control Plan, fueling and fire equipment, and how to communicate this emergency to the proper authority. Personnel who handle or contact hazardous material shall undergo basic site reviews and on-the-job training. In this training, pollution control, prevention, and response will be emphasized. Personnel will be trained to the proper PPE requirements for fueling operations and other specified tasks. Also, personnel will be trained in proper segregation of chemicals being stored together. This training will be performed by Envirocon’s H&S and management personnel during Site mobilization and prior to construction activity.

Personnel training will be documented on the training log and will be available in Envirocon's office trailer for Engineer review. Update training will take place periodically as part of the daily tailgate safety meetings. The training log attendance form is included as an attachment to this Plan.

SPCCP Amendments

The SPCCP shall be amended when one of the following occurs:

- A) The facility changes in its design, construction, operation, maintenance, or other circumstances in such a way that increases the potential for a petroleum spill.
- B) The plan fails in an emergency
- C) The list of site and local emergency numbers changes
- D) The response equipment/protocol substantially changes