

DRAFT

**Stormwater Pollution Prevention Plan
for Phase B Soil Remediation of Remediation Zones RZ-B through RZ-E
Tronox, LLC
Henderson, Nevada**

March 30, 2010

Prepared For:

Tronox LLC (Owner)
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APPENDICES

- A State of Nevada Division of Environmental Protection Stormwater General Permit
NVR100000
- B BMP Inspection Forms



**1.0 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
FOR CONSTRUCTION ACTIVITIES**

Project Name:..... Phase B Soil Removal at Tronox
Henderson Facility

Project Location:..... Tronox Henderson Facility
Henderson, Nevada

Assessor's Parcel Number (APN):..... 178-13-501-001 ¹

Owner: Tronox LLC

Owner Representative:..... to be determined

Owner's Address:..... 560 North Lake Mead Drive,
Henderson, NV 89015

Owner's Phone:..... (702) 651-2200

Construction Dates: April 1, 2007 to
December 31, 2010

**Person Responsible for
Implementing the SWPPP:** Contractor (to be determined)

Responsible Person's Address: to be determined

Responsible Person's Phone: to be determined

Notice of Intent Filing Date:..... to be determined

¹ There are approximately 20 APNs associated with Phase B Soil Removal at the Tronox Henderson Facility, according to information available at the Clark County Assessor's Office website at <http://www.accessclarkcounty.com/assessor>.



2.0 OWNER CERTIFICATION STATEMENT

Owner Approval and Certification of SWPPP

Project Name: Phase B Soil Removal
at Tronox Henderson Facility

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I also confirm that a stormwater pollution prevention plan (SWPPP) has been completed, will be maintained at the project Site from the start of construction activities, and that the SWPPP will be compliant with any applicable local sediment and erosion control plans. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines for knowing violations.

Initial Certification

Print Name: _____ Title: _____, Tronox LLC

Signed: _____ Date: _____

Annual Re-Certification

Print Name: _____ Title: _____, Tronox LLC

Signed: _____ Date: _____



3.0 CONTRACTOR’S CERTIFICATION STATEMENT

SWPPP Acknowledgement by the Contractor

Project Name: Phase B Soil Removal
at Tronox Henderson Facility

The Contractor(s) responsible for implementing this SWPPP for the duration of the Phase B Soil Remediation Contract acknowledges by signing below that they have read this SWPPP and are knowledgeable about its content, requirements, and their responsibility thereunder. I certify under penalty of law that I understand the terms and conditions of the State’s General Permit (NVR100000) that authorizes stormwater discharges associated with industrial activities from the construction Site identified as part of this certification.

Company 1: _____ Title: _____

Print Name: _____ Title: _____

Signed: _____ Date: _____

Company 1: _____ Title: _____

Print Name: _____ Title: _____

Signed: _____ Date: _____



4.0 INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) has been developed for the proposed Phase B Soil Removal at the Tronox Henderson Facility located in Henderson, Clark County, Nevada (the Site). This SWPPP has been prepared in accordance with the requirements of the State of Nevada Division of Environmental Protection's Stormwater General Permit NVR100000 dated September 14, 2007. A copy of the General Permit is included in Appendix A.

The purpose of the SWPPP is to identify the potential sources of pollution that may reasonably be expected to affect the quality of potential stormwater discharges from the Site in relation to activities described in this Plan. The SWPPP describes the implementation practices that will be used to reduce the pollutants in stormwater discharges associated with construction activities related to building abatement and demolition, removal of structures including above and underground utilities, and excavation, potential temporary stockpiling, loading and off-Site transport of soil for disposal. The stormwater management practices and measures described in this SWPPP are in compliance with the terms and conditions of the Stormwater General Permit NVR100000.

4.1 Site Location and Description

The Site is located ½-mile southwest of the intersection of Boulder Highway and West Warm Springs Road within the Black Mountain Industrial (BMI) complex in an unincorporated section of Clark County in Henderson, Nevada approximately 13 miles southeast of Las Vegas and 2 miles northeast of the City of Henderson's downtown. The general location and layout of the Site are presented as Figures 1 and 2. The main facilities at the project Site are currently operated by Tronox LCC, a producer of industrial chemicals, including electrolytic manganese dioxide, elemental boron, and boron trichloride.

The Site is generally rectangular in shape with the long side in the north-south direction. Elevations across the Site range from 1,677 to 1,873 feet above mean sea level. The land surface slopes toward the north at a gradient of approximately 0.023 feet per foot (ft/ft). The developed portions of the Site have been modified by grading to accommodate plant facility buildings, surface impoundments, access roads, a landfill and other site features.

The major buildings that exist on the Site include Unit Buildings 1 through 6. These buildings were the main buildings for the World War II magnesium production. Unit Building 3 is currently used by Tronox for offices and storage. Unit Buildings 5 and 6 are currently used by Tronox for production. Building 5 is also used for some storage. Unit Buildings 1, 2, and 4 are not currently used and have been partially demolished. Other buildings exist on the Site including an administrative office building, a wash room building, Tronox production facilities,



the Veolia treatment facilities, a laboratory building, former perchlorate production facilities, and others. Included within the Site is a 600- by 750-foot area owned and operated by Chemstar. Three ponds exist at the northern end of the Site that will be in use during the remediation and will be retained by Tronox.

The Site is crossed by asphalt concrete roads, unpaved roads and railroad spurs. Two of the rail spurs are still in service. An extensive network of underground utility lines exist, including both active and inactive utilities. A drainage ditch (Beta Ditch) crosses the Site from west to east. During the main production era, the Beta Ditch was the main drainage for liquid wastes that flowed to the pond area to the east. Currently the Beta Ditch is plugged off near the eastern end. Drainage from the Beta Ditch from the Tronox Site will no longer be allowed.

Manganese tailings have been stockpiled and capped with soil over approximately 8.6 acres in the eastern central portion of the Site. This material is a non-hazardous solid waste product generated in the production of electrolytic-grade manganese dioxide. The total volume of this stockpile is approximately 213,000 cubic yards (ENSR, 2007). Tronox plans to relocate this historic tailings stockpile to the Apex landfill, consistent with its ongoing transport and disposal of the manganese tailings generated by its current manufacturing operations. The historic tailings pile will be removed from the Site between approximately April and August, 2010. This activity is not included within the scope of the Removal Action Work Plan for Phase B Soil Remediation of Remediation Zones RZ-B through RZ-E, Tronox Facility, Henderson, Nevada, dated March 2010 (RAW; Northgate, 2010a) and its support plans including this SWPPP.

Within the boundaries of the Site are the Sale Parcels A, B, C, D, E, F, G, H, and I. These parcels are at the edges of the Site at the north, west, and south sides (see Figure 5). The Sale Parcels are not currently in use. This RAW does not include any removal actions on the Sale Parcels. Excavation of impacted soil on the Sale Parcels has been addressed in accordance with a work plan submitted to and approved by NDEP (Basic Environmental Company, 2008). Excavation and removal of soil from the Sale parcels began in March 2010 and will be completed in April 2010.

The entire Site encompasses a total of approximately 450 acres. Approximately 213 acres will be accessed during construction activities, including soil excavation over 170 acres. The remaining 237 acres in the southern portion of the Site will not be accessed during the project and are not subject to this SWPPP. For soil remediation evaluation purposes, the Site has been broken down into five main areas of work know as Remediation Zones (RZs) RZ-A, RZ-B, RZ-C, RZ-D, and RZ-E. The general location and layout of the Site including the Remediation Zones are presented as Figures 1 and 2.



5.0 PROJECT DESCRIPTION

The construction activities addressed in this SWPPP will be conducted in accordance with the approved RAW and its support plans. The following support plans will be implemented as part of the RAW:

- Dust Mitigation Plan and Clark County Dust Control Permit (Northgate, 2010b);
- Perimeter Air Monitoring Plan (Northgate, 2010c); and
- Transportation Plan (Northgate, 2010d).

The scope of work generally involves the abatement and demolition of several buildings and the removal of structures including above and underground utilities to provide access for removal of soil in the proposed excavation areas. Following clearance of the proposed excavation areas, the main scope of work focuses on the phased excavation, potential temporary stockpiling, loading and transport of approximately 440,000 cubic yards of soils to one or more approved offsite land disposal facilities.

The scope of work for this SWPPP identifies the stormwater management practices and measures that will be implemented as part of the remediation project. A Notice of Intent (NOI) for stormwater discharges during construction will be submitted prior to implementing the RAW, and a copy of the NOI will be appended to the SWPPP.

5.1 Nature of Proposed Construction Activity

The scope of work for the removal action at the Site involves the following steps: 1) Abatement and demolition of several buildings and other Site features; 2) excavation of impacted soils in accordance with the RAW; 3) transportation of the above materials to one or more approved offsite disposal facilities; and 4) completion of grading.

5.2 Intended Sequence of Major Soil Excavation and Removal Activities

Construction activities will be implemented in 4 phases associated with the sequential building and soil removal at proposed areas within the Remediation Zones RZ-B, -C, -D and -E. Soil removal will start within RZ-B in the southern portion of the Site advancing north towards RZ-D. This sequence of work will proceed downslope, from areas of higher elevation to areas of lower elevation at the Site.



Figure 3, the Tronox Phase B Remediation Program Schedule presents a detailed construction sequence. However, the sequence may be subject to modification during field implementation and construction may occur simultaneously in several Remediation Zones depending on resources and feasibility.

The preliminary sequence of major activities is expected to be as follows:

- Mobilize personnel and equipment to the Site;
- Set-up Site support facilities, including project trailers, parking areas and temporary security fencing;
- Install erosion and sedimentation control measures;
- Construct required access roads and haul roads across the Site;
- Establish decontamination areas and Site exit stations;
- Abatement and demolition of several buildings and removal of structures including above and underground utilities located in the proposed excavation areas;
- Clear and grub brush and vegetation located in the proposed excavation areas;
- Excavation of the proposed areas will occur in 4 sequential phases: RZ-B, -C, -D, and -E. Each phase includes abatement and demolition of buildings, excavating of chemically impacted soil at proposed areas up to a depth of 10 feet below the existing ground surface, potential temporary stockpiling, loading and transport of the excavated soil for off-Site disposal, and finish grading of the excavated areas; and
- Remove the support facilities and demobilize from the Site.

5.3 Site Area

Construction activities are expected to access an area of approximately 213 acres at the Site. Below is a summary of areas anticipated to be accessed and excavated at each Remediation Zone:

- Approximately 42 acres will be accessed in the RZ-B Area (of that, approximately 12 acres will be excavated).
- Approximately 62 acres will be accessed in the RZ-C Area (of that, approximately 20 acres will be excavated).
- Approximately 103 acres will be accessed in the RZ-D Area (of that, approximately 42 acres will be excavated).



- Approximately 6.2 acres will be accessed in the RZ-E Area (of that, approximately 4 acres will be excavated).

Figure 3 General Site Map includes a depiction of each Remediation Zone and associated excavation areas.

5.4 Run-off Coefficients

Run-off coefficients are estimated for each Remediation Zone using run-off coefficients for varying percentages of impervious areas and desert surface characteristics presented in Table 601, Section 600 of the Hydrologic Criteria and Drainage Design Manual published by the Clark County Regional Flood District (CCRFD; CCRFD, 1999). The individual pre-project run-off coefficients are 0.87 for RZ-B, 0.51 for RZ-C, 0.66 for RZ-D, and 0.28 for RZ-E based on an estimated percentage of impervious area for each Remediation Zone and associated run-off coefficient. The weighted average pre-project run-off coefficient for the Site is calculated as follows:

$$\text{Pre-Project RZ-B} = 42 \text{ acres} \times 0.87 = 36.1$$

$$\text{Pre-Project RZ-C} = 62 \text{ acres} \times 0.51 = 31.8$$

$$\text{Pre-Project RZ-D} = 103 \text{ acres} \times 0.66 = 68.1$$

$$\text{Pre-Project RZ-E} = 6.2 \text{ acres} \times 0.28 = 1.7$$

$$\text{Average Pre -Project Run-Off Coefficient} = (36.1 + 31.8 + 68.1 + 1.7) / 213 = 0.65$$

The pre- and post construction run-off coefficients vary for each Remediation Zone and on average due to the removal of impervious surface materials including asphalt and building foundation. The individual post-project run-off coefficients are 0.85 for RZ-B, 0.49 for RZ-C, 0.64 for RZ-D, and 0.25 for RZ-E based on an estimated percentage of post-construction impervious area for each Remediation Zone and associated run-off coefficient. The weighted average post-project run-off coefficient is calculated as follows:

$$\text{Post -Project RZ-B} = 42 \text{ acres} \times 0.85 = 35.3$$

$$\text{Post -Project RZ-C} = 62 \text{ acres} \times 0.49 = 30.6$$

$$\text{Post -Project RZ-D} = 103 \text{ acres} \times 0.64 = 66.0$$



$$\text{Post -Project RZ-E} = 6.2 \text{ acres} \times 0.25 = 1.6$$

$$\text{Average Post -Project Run-Off Coefficient} = (35.3 + 30.6 + 66.0 + 1.6) / 213 = 0.63$$

5.5 Receiving Water(s) Identification

Regional surface water drainage is generally to the north and east. Surface water flow occurs for brief periods of time during periodic precipitation events, and eventually drains to the Las Vegas Wash, which is approximately 2.6 miles north of the Site's northern border. The Site is not located within the 100-year floodplain of the Las Vegas Wash.

Four jurisdictional wetlands are present in the northern portion of the site that contains water during portions of the year. These seasonal wetlands occupy approximately 13 acres. The seasonal wetlands are located outside of the limits of the soil removal areas. Stormwater within the Site will be contained and managed in accordance with the measures described in Sections 6.0 and 7.0 of this SWPPP, and will not be discharged to either the onsite seasonal wetlands or Las Vegas Wash.

5.6 Soil Types

According to the United States Department of Agriculture's Natural Resources Conservation Service (USDA NRCS) Soil Survey for the Las Vegas Valley Area, Nevada, Part of Clark County (USDA NRCS, 2006), the soil types present at the Eastside Common Areas consist of the Arizo very gravelly fine sandy loam 2 to 8 percent slopes, the Caliza-Pittman-Arizo complex 0 to 8 percent slopes, the Caliza very gravelly sandy loam 2 to 8 percent slopes, and Slickens. The soil types present at the Tronox Henderson Facility consist of the Caliza extremely cobbly fine sandy loam 2 to 8 percent slopes and Urban Land. All of these soils are well drained with a low water holding capacity. Based on soil samples collected from the Site during previous investigations, the soils are primarily sand and gravel with occasional cobbles consistent with the depositional environment of an alluvial fan. The Site is located on alluvial fan sediments with a surface that slopes to the north-northeast at a gradient of approximately 0.02 ft/ft towards the Las Vegas Wash. Alluvial soils were deposited from the McCullough and River Mountain ranges located to the southwest and southeast of the Site.



6.0 PRACTICES AND MEASURES

Best management practices will be implemented during soil removal and associated building abatement and demolition activities to: 1) prevent and/or minimize accelerated erosion and sedimentation; and 2) control, minimize and/or prevent releases of impacted soils entrained with stormwater discharges at and from the site. All erosion and sediment controls will be constructed according to the *Nevada Best Management Practices Handbook* published by the State Conservation Commission in 1994 (SCC, 1994) and the *Nevada Contractors Field Guide for Construction Site Best Management Practices (BMPs)* published by the Nevada Division of Environmental Protection (NDEP) in 2008 (NDEP, 2008).

The following subsections describe the best management practices (BMP) that will be implemented during the building demolition and soil removal activities. A series of berms currently located at the northern boundary of the RZ-D area will be incorporated into the Site BMPs. These berms will also be used to control and manage any stormwater that does not infiltrate into Site soils.

6.1 Stormwater Best Management Practices

Best management practices will be employed during all major soil disturbing activities at the Site, as described in Section 5.2. The following table presents the BMPs required for each major soil disturbing activity, as applicable.

Construction Activity	BMPs
Mobilize personnel and equipment	Not applicable
Setup support facilities	Construction entrance, staging areas, good housekeeping
Install erosion and sediment control measures	Fiber rolls, silt fence, rock filled bags (install fiber rolls, silt fence barrier and J-hooks, and rock filled bag barrier at Site perimeter; install fiber rolls and rock filled bag barriers at existing storm drain system inlets)
Construct access roads and haul roads	Existing berms
Establish decontamination area and track-out stations	Existing and planned berms, gravel pad including dry decontamination procedures at exclusion zone (excavation area) exits as needed, wheel wash stations at Site exits
Abatement and demolition of buildings within proposed excavation areas	Good housekeeping, existing upgradient berms or diversions, Fiber rolls down-gradient of building removal (contractor may implement alternative BMPs upon engineer approval)



Construction Activity	BMPs
Removal of above ground structures within proposed excavation areas	Good housekeeping
Remove utilities within proposed excavation areas	Good housekeeping, fiber rolls down-gradient of utility excavation (contractor may implement alternative BMPs upon owner approval)
Clear and grub in proposed excavation areas	Good housekeeping, existing features (berms at Site perimeter)
Excavate soil at proposed areas in 4 phases	Slope shaping (grading), existing downgradient berms, fiber rolls (install fiber rolls up-gradient of proposed excavation areas)
Potentially stockpile soil for subsequent transport and off-Site disposal	Boundary berms at stockpile perimeter
Transport of materials generated during abatement, demolition and excavation for disposal at a landfill	Decontamination Stations, Trackout Pads, Existing berms along the haul road. Removal of visual contamination on haul routes prior to anticipated rain events. Full time street sweeper during on-road (4 th Street) hauling activities
Construct detention basins (excavate beta-ditch, close gaps in existing retention perimeter berm at Site boundary by installing earthen mounts)	Existing berms, boundary berms/slopes
Demobilization	Not applicable

6.2 Soil Stabilization

Stabilization measures are designed to reduce the erosion potential of stockpiled soil and soil in disturbed areas by shielding the soil surface from direct erosive impacts, by slowing the rate of water run-off and by physically holding the soil in place using a controlled application of water to form a crust or other appropriate measures.

Stabilization practices will be implemented in disturbed areas as soon as practicable after the completion of excavation and grading activities have ceased. Care will also be taken during the remedial activities to minimize the areal extent of the disturbed areas and protect existing vegetation to the extent possible.

6.2.1 Temporary Soil Stabilization Practices

Temporary stabilization practices will be implemented on soil stockpiles and disturbed portions of the Site where construction activity is expected to cease for 14 days or more and will not be resumed within 21 days. Dust control will be conducted as a temporary stabilization practice for



disturbed areas and on haul roads to prevent or reduce the movement of wind-borne dust particles. Disturbed areas where excavation activities are determined to be complete will be watered to form a crust immediately following disturbance or a synthetic organic fluid or equivalent will be applied.

6.2.2 Permanent Soil Stabilization Practices

Permanent stabilization practices will be implemented on disturbed portions of the Site where construction activities have been completed. These measures include slope shaping as part of the final grading. The grading of the proposed excavation areas will be performed in accordance with the design documents. The design of the proposed excavation areas considered soil erosion and runoff potential for setting the finished grade.

6.2.3 Soil Stabilization Timing

The stabilization practices will be coordinated with the initiation and completion of the excavation and grading activities, as applicable. Stabilization measures will be initiated as soon as practicable where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has ceased, unless earth-disturbing activities will be resumed within 21 days.

When all required RAW activities at a Remediation Zone have been implemented, the maintenance of the erosion control measures left in place will become the responsibility of the owner.

6.2.4 Installation and Maintenance

Stabilization practices will be installed in accordance with good engineering practice and the methods described in the *Nevada Best Management Practices Handbook* (SCC, 1994) and the *Nevada Contractors Field Guide for Construction Site Best Management Practices* (NDEP, 2008). Additional stabilization practices listed in these manuals may also be used at the Site if needed. The location of the stabilization measures will be based on visual observation and the extent of disturbance within the work areas of the Site. The anticipated locations of these measures are depicted on Figure 2. The Contractor will be responsible for the implementation and maintenance of these practices, as described in Section 7.0. Upon permanent stabilization of the Site, the NDEP Notice of Termination will be filed.



6.3 Structural Practices

Structural practices are designed to prevent erosion and minimize sediment at the site to the extent practicable. Structural practices will be implemented in and around the construction areas to divert or filter flows from exposed soils, reduce flow velocities or temporarily store flows and limit runoff from the exposed areas of the site. The following structural practices will be used at the Site during the implementation of the remedial activities:

- **Existing Earthen Berms** - Existing earthen Site perimeter berms present at the Site. In addition earthen mounds will be constructed to close gaps along the existing Site perimeter berms. These mounds will remain in place during the implementation and after the completion of the remedial activities.
- **Earthen Berms** - may also be constructed along the perimeter of temporary stockpiles to contain stormwater from areas where material will be temporarily staged. These berms will be removed during loading and transportation of the stockpiled material for off-Site disposal.
- **Fiber Roll Sediment Barriers** - Fiber roll sediment barriers will be used down-gradient of work zones and at the Site perimeter to retain sediments by retarding flow and intercepting and filtering stormwater runoff. Fiber roll sediment barriers will be installed at existing storm drain system inlets to retain sediments and filter stormwater runoff.
- **Silt Fence Barriers** - Silt Fence Barriers will be used at the Site perimeter to retain sediments by retarding flow and intercepting and filtering stormwater runoff.
- **Rock Filled Bag Barriers** - Rock Filled Bag Barriers will be used at the Site perimeter to retain sediments by retarding flow and intercepting and filtering stormwater runoff. Rock Filled Bag Barriers will be installed at existing storm drain system inlets to retain sediments and to filter stormwater runoff.
- **Straw Bale Sediment Barriers** - Straw bale sediment barriers may be used across swales and in ditches and drainage areas to retain sediments by retarding flow and intercepting and filtering stormwater runoff.
- **Rock Apron** - Rock apron will be placed at culvert outlets to dissipate stormwater flow.
- **Permanent Sediment Basins** - One or more permanent detention basin will be installed in the northern portion of the Site (RZ-D area) prior to removal of soil from the proposed excavation areas. The northern detention basin will consist of the existing perimeter berm including a planned mound at the northern boundary of the Site. The northern basin will be used to collect stormwater run-off during the grading activities, as well as run-off waters after the completion of the project. Following excavation and plugging of the western inlet and eastern outlet, the beta-ditch in the center of the Site will provide a permanent detention basin to collect stormwater from southern drainage areas after the



completion of construction activities. The detention basins will allow for the settling of any sediment entrained in the stormwater run-off prior to infiltration or evaporation.

- **Stabilized Construction Entrances/Exits** - Stabilized construction entrances/exits will be installed at each work area and the Site exit to facilitate the removal of sediment/soil from construction equipment and transport vehicles prior to exiting the work area or the Site. Site entrances/exits will consist of wheel wash stations for vehicles and trucks exiting each Site exit. The stations will be located at each access to paved public roadways. If for vehicles and trucks are required to enter excavation areas exits will consist of gravel pads.

6.3.1 Structural Practices Timing

The installation of the structural measures will be coordinated with the initiation of the construction phase in the areas where abatement, demolition or soil removal activities are scheduled and where material will be temporarily staged, if necessary. The sediment and erosion control measures may be adjusted as site conditions permit during the remedial activities. When the work areas are stabilized or work has been completed per the design, the temporary erosion and sediment control measures will be removed from the Site as directed by the owner.

When soil removal at a Remediation Zone is complete, discharges from that area will be permitted separately and the installation and maintenance of the erosion control measures left in placed will become the responsibility of the owner.

6.3.2 Installation and Maintenance of Structural Practices

The erosion and sediment control measures will be installed in accordance with the methods described in the *Nevada Best Management Practices Handbook* and the *Nevada Contractors Field Guide for Construction Site Best Management Practices*. Additional erosion and sediment control measures listed in this manual may also be used at the Site if needed. The location of the erosion and sediment control measures will be based on visual observation of surface water migration pathways at the Site. The anticipated locations of these measures are depicted on Figure 2. The Contractor will be responsible for the implementation of these controls for the duration of construction associated with the Building Demolition and Soil Removal as described in this SWPPP. In addition, the contractor will identify and protect storm drain inlet locations at the Site prior to initiation of the construction phase.



6.3.3 Sediment Management

Accumulations of sediment in the detention basins will be removed when the design capacity has been reduced by approximately 50%. Accumulations of sediment entrained in the fiber rolls, silt fence, and other sediment barriers will be removed as necessary to ensure proper operation. The removed sediments will be consolidated within a future designated area at the Site.

6.4 Post Construction Stormwater Management Controls

The owner will manage post-construction stormwater controls including post-construction BMP maintenance, as necessary.

6.5 Non-Stormwater Discharge Management

Non-stormwater discharges associated with construction including

- Water used to wash vehicles where detergents are not used (except remediation equipment and transport trucks which will be handled separately, stored in tanks, analytically tested, and disposed in accordance with NDEP requirements);
- Water used to control dust provided effluent or other wastewater are not used;
- Potable water sources including water line flushing;
- Fire hydrant flushing; and
- Pavement wash waters where spills or leaks of hazardous materials have not occurred.

These non-stormwater discharges will be routed through structural control measures to remove any sediments entrained in the water prior to temporary storage and reuse as dust control or evaporation.

6.6 Other practices

6.6.1 Good Housekeeping

Good housekeeping practices will be implemented to minimize accidents and maintain a high quality of work. The following good housekeeping practices will be implemented during the remedial activities:

- Erosion and sediment control measures will be adequately positioned, properly constructed and maintained throughout the duration of the project;
- Clearing operations will be confined to the limits of excavation. Existing vegetation will be protected to the extent possible;



- All materials stored on-Site will be stored in a neat, orderly manner in their appropriate containers;
- Erosion and sediment control measures will be effective in retaining sediments on-Site;
- Controls will be installed such that sediment transported from the Site onto city roads will be minimized;
- Stabilization practices will be effective in permanently stabilizing disturbed areas;
- Corrective measures will be implemented as soon as practicable after a deficiency is noted;
- Good housekeeping practices will be incorporated into discussions during the daily safety meetings; and
- Trash and other waste debris will be picked up on a daily basis and placed in the appropriate containers for off-site disposal.

6.6.2 Material Storage and Construction Waste Disposal

Hydraulic oils, motor oils, and lubricants will be stored in the on-Site lubricant storage cabinet. Quantities of these items should not exceed 20 gallons. If larger quantities of these items are required to be on hand, the Contractor will review the storage and containment of those items at such time. All appropriate health and safety requirements for storing this material on-Site will be followed.

Diesel fuel may be stored at the project site in double-walled tanks. The tanks may consist of up to 12,000-gallon tanks surrounded by adequate spill protection as required for fueling operations. All appropriate health and safety requirements for storing this material will be followed. Permits will also be obtained as required by governing law.

Construction materials expected to be stored on-site during the construction activities may include aggregate, structural fill, liner, etc. These materials will be stored at the material staging area located in the vicinity to the support zones, as depicted on Figure 2. Stockpiles of granular materials will be covered, as needed, with polyethylene sheeting on a daily basis to prevent wind dispersion of the stockpiled materials when not in use.

Portable restroom facilities will be located at active excavation areas, each support facility or decontamination zone for use by site personnel and will be serviced by a third party on a regular basis.



All non-hazardous construction debris and general office trash will be disposed in a dumpster placed on-site. Trash receptacles will also be placed in the storage trailers for the collection of non-hazardous trash and debris. These waste materials will be disposed off-site at a Subtitle D disposal facility, such as the Republic Services, Inc. landfill located in Apex, Nevada. Spent personal protective equipment (PPE) generated during the remedial activities will be placed in designated site containers and disposed of properly.

Impacted soil excavated from the Remediation Zones will be direct loaded for transport or temporarily staged in designated material staging areas or in excavation areas for subsequent transport to an approved offsite disposal facility.

6.6.3 Hazardous Waste Storage and Disposal

Hazardous wastes generated during the abatement and demolition of buildings, removal of the structures and utilities, and soil removal activities which will require off-site disposal will be contained as appropriate and transported to an approved offsite disposal facility.

6.6.4 Spill Prevention and Response

Pollution prevention measures will include implementation of BMPs. If a reportable quantity of oil or hazardous material release is discovered, the Contractor will notify the National Response Center at (800) 424-8802 immediately. The U.S. EPA will be notified verbally within 24 hours and in writing within 14 days. Complete emergency response and spill cleanup procedures are detailed in the Site-specific Health and Safety Plan. The SWPPP will also be modified to include the date of the release, the circumstances leading to the release and the steps taken to prevent reoccurrence of the release. If greater than 1,320 gallons of oil or oil products (i.e., diesel fuel) are stored or used on-Site during the remedial activities, a Spill Prevention, Control and Countermeasures Plan shall be developed by the Contractor to further describe the spill prevention and response procedures for the Site.

6.6.5 Off-Site Vehicle Tracking

Trucks used to transport excavated soils will be required to stay on established haul roads located outside of the exclusion zone. If trucks are required to enter the exclusion zone (proposed excavation areas), dry decontamination procedures will be implemented in order to remove soil residuals from the undercarriage members (i.e., truck tailgates and side boards) will be swept clean using brooms and other hand tools. An inspection of the vehicle will be conducted to verify that no contaminated material or soils will be tracked off-site. If necessary, steam cleaning procedures will be implemented to further reduce or eliminate off-site tracking of mud or dirt



from the site if straight decontamination or dry decontamination is determined to be less effective for tracking site soils onto public roadways.

Several construction entrance/exits including tire wash stations will be constructed at the site exits to help reduce vehicle tracking of soils from the site onto public roads. The exits will be swept as needed to remove any excess mud, dirt or rock tracked from the site. Any incidental soil tracked from the load-out area will be immediately cleaned up. The construction exits will be constructed in accordance with the *Nevada Best Management Practices Manual* and the *Nevada Contractors Field Guide for Construction Site Best Management Practices*.

Vehicular traffic will be restricted to a speed limit of 15 mph on the Site and vehicles will be required to stay on established site haul roads to the extent possible.

6.6.6 Dust Control

A *Dust Mitigation Plan and Clark County Dust Control Permit* will be prepared for abatement, demolition and soil removal activities at the Site that describes in detail dust control measures including speed limits, application of dust palliatives and the frequent application of water on haul roads, staging areas, during demolition and to form a crust on soil stockpiles and disturbed areas at the site (Northgate, 2010b). Dust control will be conducted to prevent or reduce the movement of wind-borne dust particles. Disturbed areas where excavation activities are determined to be complete will be watered to form a crust immediately following disturbance or a synthetic organic fluid or equivalent will be applied.

6.6.7 Soil Stabilization at Culverts

There is an outlet culvert located approximately 400 feet east of the intersection of West Road and Progress Road that discharges run-off collected in the storm drain system in the southern portion of the Site into the Beta-ditch. Figure 2 shows the location of the storm drain outlet culvert. Soil stabilization measures at the culvert location will include implementation of BMPs such as placement of rock apron to dissipate flows from on-site culvert outlets. These BMPs shall be implemented upon completion of the excavation at RZ-E.

6.6.8 Run-off Controls at Remediation Zones

Uncontaminated areas will be protected from runoff water originating from contaminated areas by maintaining the general order of excavation and sequence of construction as described in Section 5.2. Excavation activities will generally progress from higher elevations (south) to lower



elevations (north), reducing the potential for stormwater runoff from chemical-impacted areas to drain towards clean areas.

Additionally, in order to protect uncontaminated areas from potentially contaminated runoff, existing physical barriers such as the Beta Ditch and existing berms at the northern boundary of the Site (RZ-D) will be maintained during construction.

6.6.9 Off-Site discharges

No post-construction off-Site discharges from the Site are expected during and upon completion of the project.



7.0 INSPECTION AND MAINTENANCE PROCEDURES

Inspection and maintenance of the control measures are a major part of effective erosion and sediment control programs. Qualified personnel that are knowledgeable in the principles and practice of erosion and sediment controls and who possess the skills to assess conditions at the site that could impact stormwater quality and the effectiveness of the BMPs selected to control the quality of the stormwater discharges (i.e., the Contractor Project Manager or his designee) will conduct the site inspections and ensure that the BMPs are maintained as appropriate during the construction period.

7.1.1 Inspection

The inspections will consist of a walkthrough of all areas of the Site disturbed by construction activity and areas used for the storage of materials that are exposed to precipitation. Specifically, observations will be made of those disturbed areas that have not undergone final stabilization, areas used for the storage of materials that are exposed to precipitation that have not undergone final stabilization, and structural control measures. Erosion and sediment control measures will be inspected to verify they are functioning properly and that they are positioned adequately for the control of run-off and sediment. Stormwater inlets will be inspected for evidence of sediment accumulation or flow restriction. Locations where vehicles enter or exit the Site will be inspected for evidence of off-Site sediment tracking. Discharge locations, where accessible, will be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Areas where petroleum products are stored, used or handled will be inspected for spills or leaks from vehicles and equipment. The inspections will be documented as described in Section 7.1.1.2.

7.1.1.1 Schedule

Routine inspections will be conducted at the site to ensure that the BMPs are functional and the SWPPP is being properly implemented. Inspections will be performed at least once every 7 calendar days and within 24 hours of the end of a storm event that produces at least 0.5 inches of rainfall.

Weather observations, including the total amount of rainfall per 24-hour period, will also be measured and recorded on a daily basis. The following sources may be used to obtain weather forecasts and observations for the Henderson, NV area:

- The National Weather Service at www.wrh.noaa.gov
- The Weather Channel at www.weather.com



7.1.1.2 Report and Records

7.1.1.2.1 Construction Activities Log

Records associated with the construction activities that will be maintained with the SWPPP include the following:

- Dates when major grading activities occur;
- Dates when construction activities temporarily or permanently cease on a portion of the site; and
- Dates when stabilization measures are initiated. This information will be recorded on the construction activity log included in Appendix B.

7.1.1.2.2 Inspection Report

Inspections will be performed by “qualified personnel” which means a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact stormwater quality and the effectiveness of the BMPs selected to control the quality of the stormwater discharges. Inspection results will be documented on an inspection report form and will include the following information, at a minimum:

- Name and qualification of the person conducting the inspection;
- Date the inspection was conducted;
- Findings of the inspection, including locations of discharges of sediment or other pollutants from the site, locations of BMPs that need to be maintained, locations of BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed that did not exist at the time of the inspection;
- Corrective actions taken to correct deficiencies; and
- Date the corrective action was implemented.

Incidents of non-compliance with the permit will also be documented on the inspection forms and maintained with the SWPPP for the duration of the construction activities. The documentation will include specific information on the cause of the non-compliance and actions that were taken to prevent any further causes of non-compliance. For those reports where incidents of non-compliance were not identified, the report will contain a certification that the



facility is in compliance with the SWPPP and the Stormwater General Permit and will be signed by the Contractor's Project Manager.

The inspection forms will be retained by the Owner as part of the SWPPP for a period of at least 3 years or longer if required by NDEP from the date that permit coverage expires or the site is finally stabilized. Example inspection forms are included in Appendix B to this SWPPP.

7.2 Maintenance

Based on the results of the inspections, the BMPs will be maintained, repaired or replaced. If the site inspections reveal that the BMPs are not operating effectively or if the effective capacity has been reduced by 50%, then maintenance will be performed before the next anticipated storm event or as soon as possible if maintenance before the next anticipated storm event is not practicable. The actions taken to correct the noted deficiencies will be documented as described in Section 7.1.1.2.2.

7.3 Updates to the SWPPP

This SWPPP has been prepared and will be maintained and updated to be consistent with all federal, state and local requirements for all applicable stormwater, sediment and erosion site plans or permits. Any updates or revisions required to the SWPPP will be made and fully implemented within 7 business days of the date a deficiency is identified during a site inspection. Updates or revisions to the SWPPP will also be required if:

- a change in the design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to waterways of the U.S. that has not been previously addressed in the SWPPP;
- during inspections, monitoring, or investigation by the owner or local, state or federal officials, it is determined that the discharge of stormwater or sediment is causing or contributing to water quality exceedances, or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site.

If implementation of the BMPs required by the SWPPP revision is impracticable before the next storm event, then the BMPs will be implemented as soon as possible thereafter. The updates or revisions to the SWPPP will be documented on the SWPPP update form included in Appendix B. These forms will be maintained with the SWPPP for the duration of the construction activities.



8.0 REFERENCES

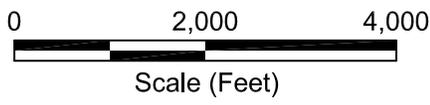
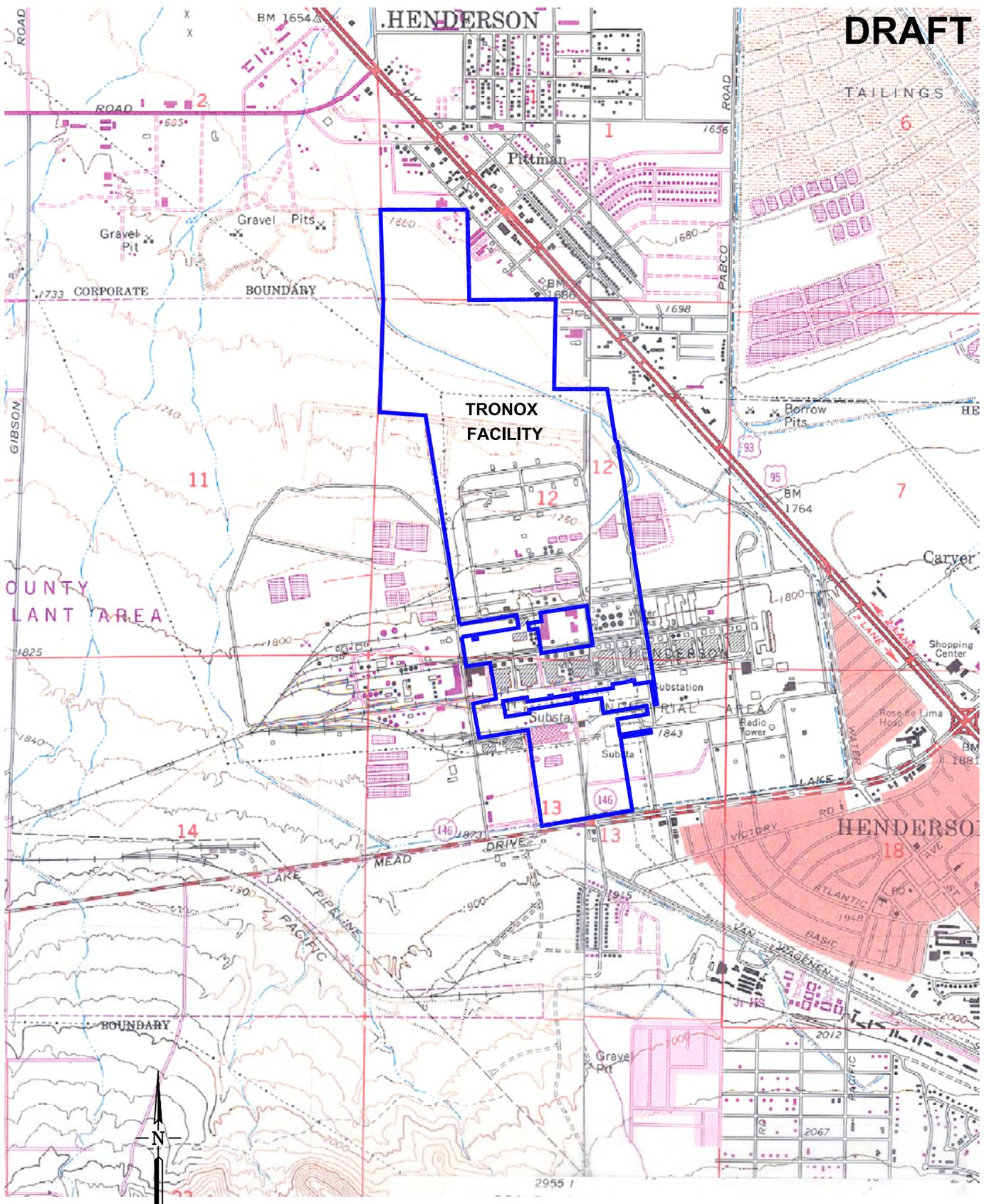
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FIGURES



DRAFT



M:\01 Projects\2027 Tronox\Phase B\Remediation\RAW\S\WPP\Figure 1- Site Location Map.dwg Layout: 8.5x11-P User: dleg Mar 29, 2010 - 1:10:00am

SHEET NUMBER:	1
FIGURE NUMBER:	1

SITE LOCATION MAP		
Stromwater Pollution Prevention Plan		
Tronox LLC		
Henderson, Nevada		
SCALE:	DATE:	PROJECT NUMBER:
NA	03/29/10	2027

DESIGNED BY:		REVISIONS		
NGEM	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:				
CHECKED BY:				
APPROVED BY:				



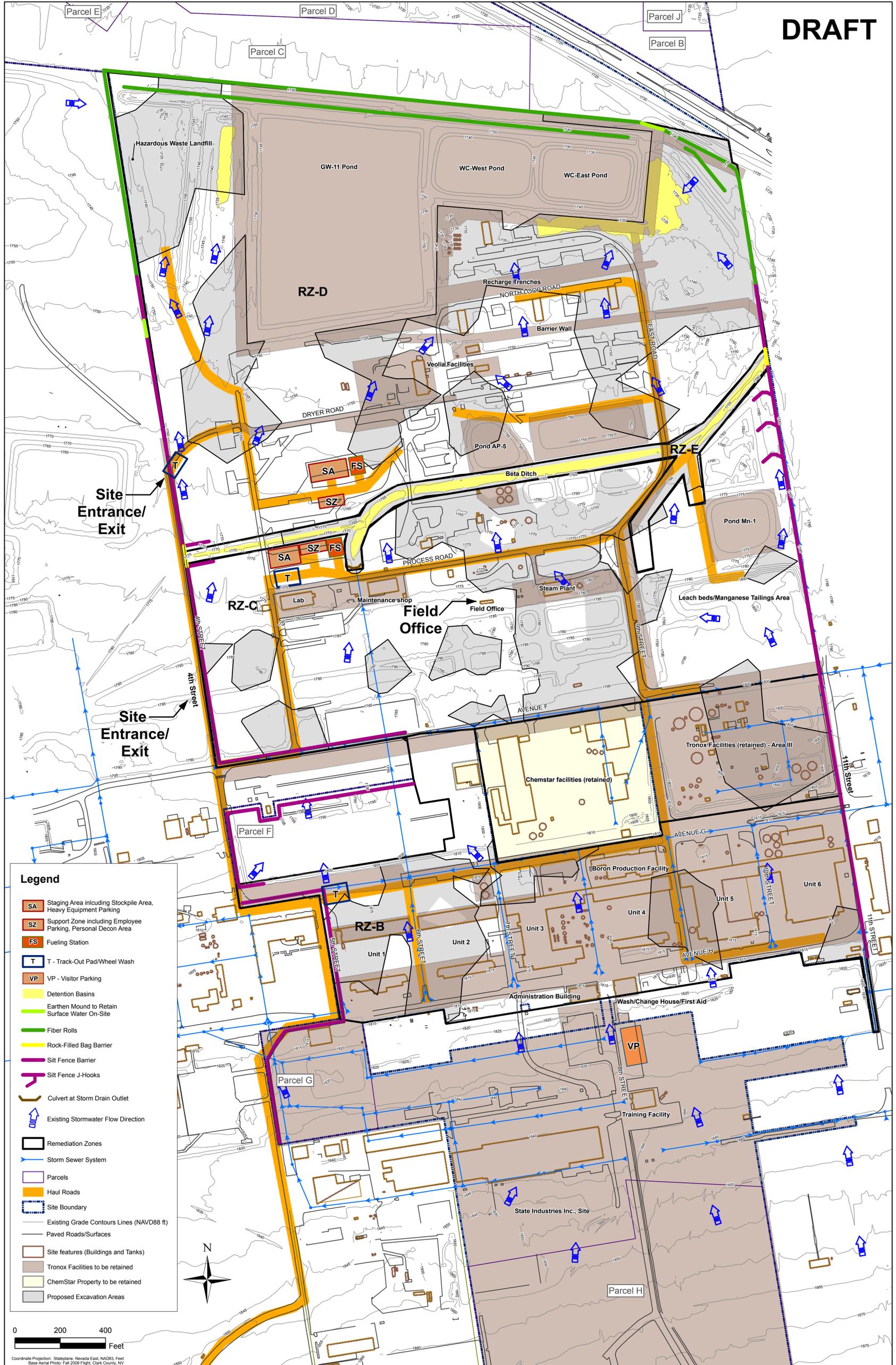
northgate
environmental management, inc.



TRONOX

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SHEET NUMBER 1	FIGURE NUMBER 2	DETAILED SITE MAP		
		Storm Water Pollution Prevention Plan Tronox LLC Henderson, Nevada		
SCALE: 1 in = 200 ft	DATE: 03/29/10	PROJECT NUMBER: 2027.01		

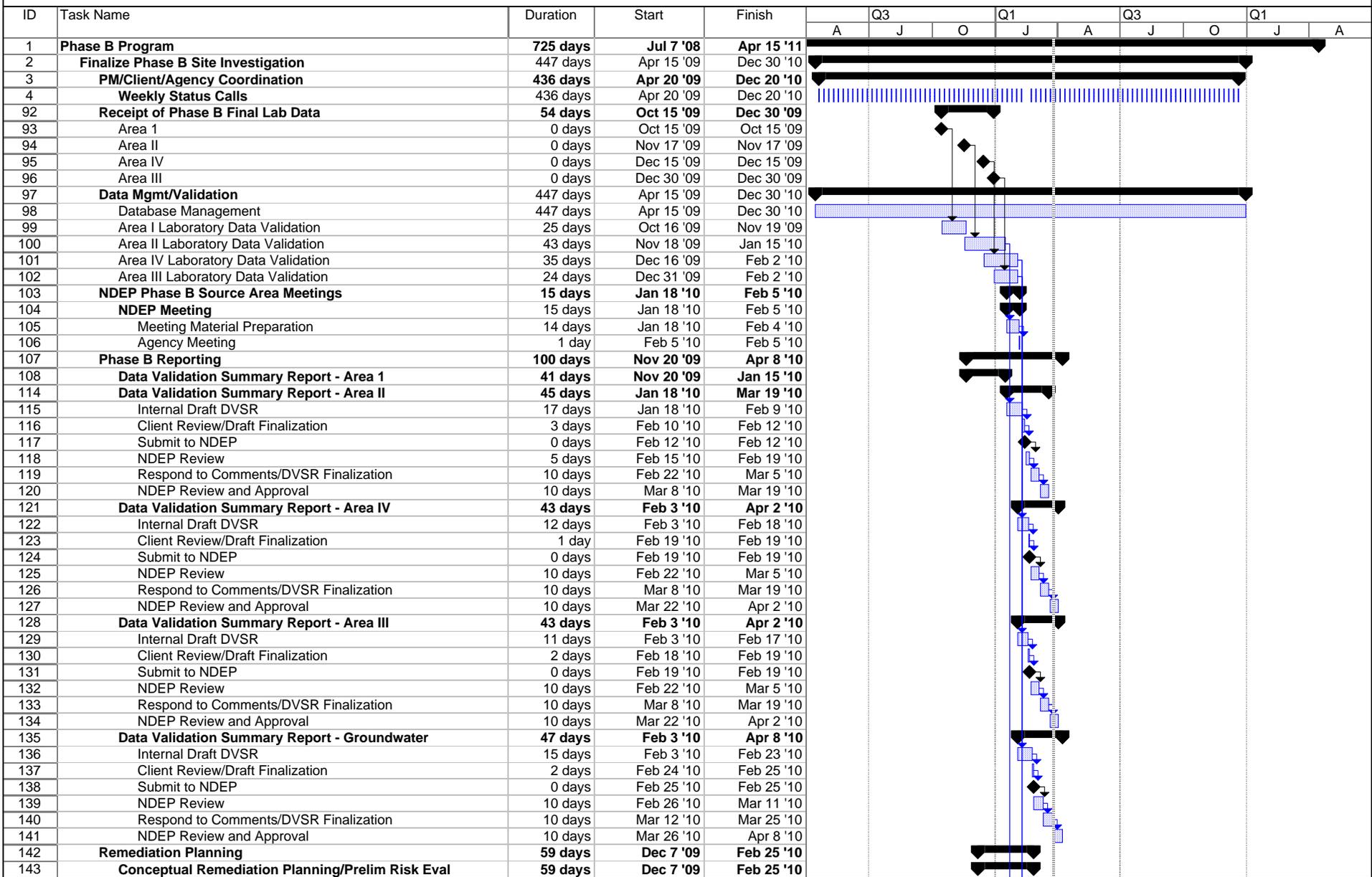
DESIGNED BY:	NO.:	REVISIONS	DATE:	BY:
DRAWN BY:		DESCRIPTION:		
CHECKED BY:				
APPROVED BY:				

northgate
environmental management, inc.

TRONOX <http://www.ngem.com>

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review



Task Milestone Rolled Up Task Rolled Up Progress External Tasks Group By Summary
Progress Summary Rolled Up Milestone Split Project Summary Deadline

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review

ID	Task Name	Duration	Start	Finish	Q3		Q1		Q3		Q1	
					A	J	O	J	A	J	O	J
196	Work Plan	19 days	Feb 25 '10	Mar 23 '10								
197	Work Plan Draft	4 days	Feb 25 '10	Mar 2 '10								
198	Tronox/Chartis Review	5 days	Mar 3 '10	Mar 9 '10								
199	Submittal to NDEP	0 days	Mar 9 '10	Mar 9 '10								
200	NDEP Preliminary Approval	5 days	Mar 10 '10	Mar 16 '10								
201	NDEP Review and Approval	10 days	Mar 10 '10	Mar 23 '10								
202	Bid Development	10 days	Mar 15 '10	Mar 26 '10								
203	SOW preparation	5 days	Mar 15 '10	Mar 19 '10								
204	Submittal to Contractors	0 days	Mar 19 '10	Mar 19 '10								
205	Contractor Selection	5 days	Mar 22 '10	Mar 26 '10								
206	Notice to Proceed	0 days	Mar 26 '10	Mar 26 '10								
207	Field Work	52 days	Mar 24 '10	Jun 3 '10								
208	Mobilization	5 days	Mar 29 '10	Apr 2 '10								
209	RZ-B	13 days	Mar 24 '10	Apr 9 '10								
210	Field Coordination/GBP	5 days	Mar 24 '10	Mar 30 '10								
211	Field Sampling	5 days	Apr 5 '10	Apr 9 '10								
212	RZ-C	18 days	Mar 26 '10	Apr 20 '10								
213	Field Coordination/GBP	5 days	Mar 26 '10	Apr 1 '10								
214	Field Sampling	7 days	Apr 12 '10	Apr 20 '10								
215	RZ-D	14 days	Apr 2 '10	Apr 21 '10								
216	Field Coordination/GBP	5 days	Apr 2 '10	Apr 8 '10								
217	Field Sampling	9 days	Apr 9 '10	Apr 21 '10								
218	RZ-E	12 days	Apr 9 '10	Apr 26 '10								
219	Field Coordination/GBP	5 days	Apr 9 '10	Apr 15 '10								
220	Field Sampling	3 days	Apr 22 '10	Apr 26 '10								
221	Additional Step-Out Sampling (if required)	10 days	Apr 23 '10	May 6 '10								
222	Field Coordination/GBP	5 days	Apr 23 '10	Apr 29 '10								
223	Field Sampling	5 days	Apr 30 '10	May 6 '10								
224	Laboratory Analysis	47 days	Mar 31 '10	Jun 3 '10								
225	Mobile Laboratory Analysis	26 days	Mar 31 '10	May 5 '10								
226	Mobilization	3 days	Mar 31 '10	Apr 2 '10								
227	Analysis	23 days	Apr 5 '10	May 5 '10								
228	RZ-B	7 days	Apr 5 '10	Apr 13 '10								
229	RZ-C	10 days	Apr 12 '10	Apr 23 '10								
230	RZ-D	15 days	Apr 9 '10	Apr 29 '10								
231	RZ-E	5 days	Apr 22 '10	Apr 28 '10								
232	Additional Step-Out (if required)	5 days	Apr 29 '10	May 5 '10								
233	Fixed Lab Analysis	39 days	Apr 12 '10	Jun 3 '10								
234	RZ-B	20 days	Apr 12 '10	May 7 '10								
235	RZ-C	20 days	Apr 21 '10	May 18 '10								
236	RZ-D	20 days	Apr 22 '10	May 19 '10								
237	RZ-E	20 days	Apr 27 '10	May 24 '10								
238	Additional Step-Out (if required)	20 days	May 7 '10	Jun 3 '10								
239	Data Validation	41 days	May 10 '10	Jul 5 '10								
240	RZ-B	30 days	May 10 '10	Jun 18 '10								
241	DV EDDs	20 days	May 10 '10	Jun 4 '10								
242	Data Validation Summary Tables	10 days	Jun 7 '10	Jun 18 '10								
243	RZ-C	30 days	May 19 '10	Jun 29 '10								
244	DV EDDs	20 days	May 19 '10	Jun 15 '10								
245	Data Validation Summary Tables	10 days	Jun 16 '10	Jun 29 '10								
246	RZ-D	30 days	May 20 '10	Jun 30 '10								

Task Milestone Rolled Up Task Rolled Up Progress External Tasks Group By Summary

Progress Summary Rolled Up Milestone Split Project Summary Deadline

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review

ID	Task Name	Duration	Start	Finish	Q3		Q1		Q3		Q1	
					A	J	O	J	A	J	O	J
247	DV EDDs	20 days	May 20 '10	Jun 16 '10								
248	Data Validation Summary Tables	10 days	Jun 17 '10	Jun 30 '10								
249	RZ-E	30 days	May 25 '10	Jul 5 '10								
250	DV EDDs	20 days	May 25 '10	Jun 21 '10								
251	Data Validation Summary Tables	10 days	Jun 22 '10	Jul 5 '10								
252	Data Validation Summary Report - RZ Sampling	57 days	Jun 21 '10	Sep 7 '10								
253	RZ-B	46 days	Jun 21 '10	Aug 23 '10								
254	Internal Draft DVSR	11 days	Jun 21 '10	Jul 5 '10								
255	Submit to Tronox/Chartis	5 days	Jul 6 '10	Jul 12 '10								
256	Submit to NDEP	5 days	Jul 13 '10	Jul 19 '10								
257	NDEP Review	10 days	Jul 20 '10	Aug 2 '10								
258	Respond to Comments/DVSR Finalization	10 days	Aug 3 '10	Aug 16 '10								
259	NDEP Review and Approval	5 days	Aug 17 '10	Aug 23 '10								
260	RZ-C	46 days	Jun 30 '10	Sep 1 '10								
261	Internal Draft DVSR	11 days	Jun 30 '10	Jul 14 '10								
262	Submit to Tronox/Chartis	5 days	Jul 15 '10	Jul 21 '10								
263	Submit to NDEP	5 days	Jul 22 '10	Jul 28 '10								
264	NDEP Review	10 days	Jul 29 '10	Aug 11 '10								
265	Respond to Comments/DVSR Finalization	10 days	Aug 12 '10	Aug 25 '10								
266	NDEP Review and Approval	5 days	Aug 26 '10	Sep 1 '10								
267	RZ-D	46 days	Jul 1 '10	Sep 2 '10								
268	Internal Draft DVSR	11 days	Jul 1 '10	Jul 15 '10								
269	Submit to Tronox/Chartis	5 days	Jul 16 '10	Jul 22 '10								
270	Submit to NDEP	5 days	Jul 23 '10	Jul 29 '10								
271	NDEP Review	10 days	Jul 30 '10	Aug 12 '10								
272	Respond to Comments/DVSR Finalization	10 days	Aug 13 '10	Aug 26 '10								
273	NDEP Review and Approval	5 days	Aug 27 '10	Sep 2 '10								
274	RZ-E	46 days	Jul 6 '10	Sep 7 '10								
275	Internal Draft DVSR	11 days	Jul 6 '10	Jul 20 '10								
276	Submit to Tronox/Chartis	5 days	Jul 21 '10	Jul 27 '10								
277	Submit to NDEP	5 days	Jul 28 '10	Aug 3 '10								
278	NDEP Review	10 days	Aug 4 '10	Aug 17 '10								
279	Respond to Comments/DVSR Finalization	10 days	Aug 18 '10	Aug 31 '10								
280	NDEP Review and Approval	5 days	Sep 1 '10	Sep 7 '10								
281	Removal Action Work Plan (Including PAMP, SWPPP)	139 days	Feb 8 '10	Aug 19 '10								
282	RAW Preparation	30 days	Feb 8 '10	Mar 19 '10								
283	Review RAW (Tronox, Chartis)	5 days	Mar 22 '10	Mar 26 '10								
284	Revise and Finalize RAW	5 days	Mar 29 '10	Apr 2 '10								
285	Submit RAW to NDEP	0 days	Apr 2 '10	Apr 2 '10								
286	NDEP Preliminary Review	5 days	Apr 5 '10	Apr 9 '10								
287	NDEP Review	10 days	Apr 12 '10	Apr 23 '10								
288	Respond to Comments/RAW Finalization	10 days	Apr 26 '10	May 7 '10								
289	NDEP Review and Approve RAW	5 days	May 10 '10	May 14 '10								
290	RZ-B Excavation Plan	50 days	May 4 '10	Jul 12 '10								
291	EP Preparation	10 days	May 4 '10	May 17 '10								
292	Review (Tronox, Chartis)	5 days	May 18 '10	May 24 '10								
293	Revise and Finalize EP	5 days	May 25 '10	May 31 '10								
294	Submit EP App to NDEP	0 days	May 31 '10	May 31 '10								
295	NDEP Preliminary Review	5 days	Jun 1 '10	Jun 7 '10								
296	NDEP Review	10 days	Jun 8 '10	Jun 21 '10								
297	Respond to Comments/EP Finalization	10 days	Jun 22 '10	Jul 5 '10								
298	NDEP Review and Approve EP	5 days	Jul 6 '10	Jul 12 '10								

Task Milestone Rolled Up Task Rolled Up Progress External Tasks Group By Summary
Progress Summary Rolled Up Milestone Split Project Summary Deadline

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review

ID	Task Name	Duration	Start	Finish	Q3			Q1			Q3			Q1		
					A	J	O	J	A	J	O	J	A			
299	RZ-C Excavation Plan	59 days	May 4 '10	Jul 23 '10												
300	EP Preparation	15 days	May 4 '10	May 24 '10												
301	Review (Tronox, Chartis)	5 days	May 25 '10	May 31 '10												
302	Revise and Finalize	5 days	Jun 1 '10	Jun 7 '10												
303	Submit to NDEP	0 days	Jun 7 '10	Jun 7 '10												
304	NDEP Preliminary Review	5 days	Jun 8 '10	Jun 14 '10												
305	NDEP Review	10 days	Jun 15 '10	Jun 28 '10												
306	Respond to Comments/EP Finalization	10 days	Jul 5 '10	Jul 16 '10												
307	NDEP Review and Approve EP	5 days	Jul 19 '10	Jul 23 '10												
308	RZ-D Excavation Plan	65 days	May 17 '10	Aug 13 '10												
309	EP Preparation	20 days	May 17 '10	Jun 11 '10												
310	Review (Tronox, Chartis)	5 days	Jun 14 '10	Jun 18 '10												
311	Revise and Finalize	10 days	Jun 21 '10	Jul 2 '10												
312	Submit to NDEP	0 days	Jul 2 '10	Jul 2 '10												
313	NDEP Preliminary Review	5 days	Jul 5 '10	Jul 9 '10												
314	NDEP Review	10 days	Jul 12 '10	Jul 23 '10												
315	Respond to Comments/EP Finalization	10 days	Jul 26 '10	Aug 6 '10												
316	NDEP Review and Approve EP	5 days	Aug 9 '10	Aug 13 '10												
317	RZ-E Excavation Plan	65 days	May 21 '10	Aug 19 '10												
318	EP Preparation	20 days	May 21 '10	Jun 17 '10												
319	Review (Tronox, Chartis)	5 days	Jun 18 '10	Jun 24 '10												
320	Revise and Finalize	10 days	Jun 25 '10	Jul 8 '10												
321	Submit to NDEP	0 days	Jul 8 '10	Jul 8 '10												
322	NDEP Preliminary Review	5 days	Jul 9 '10	Jul 15 '10												
323	NDEP Review	10 days	Jul 16 '10	Jul 29 '10												
324	Respond to Comments/EP Finalization	10 days	Jul 30 '10	Aug 12 '10												
325	NDEP Review and Approve EP	5 days	Aug 13 '10	Aug 19 '10												
326	Contractor Plans And Specifications/Contractor Selection	127 days	Feb 22 '10	Aug 17 '10												
327	Demolition	73 days	Feb 26 '10	Jun 8 '10												
328	Regulated Building Material Surveys	43 days	Feb 26 '10	Apr 27 '10												
329	Bid Specifications	7 days	Feb 26 '10	Mar 8 '10												
330	Submit Bid Specs	0 days	Mar 8 '10	Mar 8 '10												
331	Bid Walk	1 day	Mar 15 '10	Mar 15 '10												
332	Receive Bids	5 days	Mar 16 '10	Mar 22 '10												
333	Select Contractor	3 days	Mar 23 '10	Mar 25 '10												
334	Contractor Mobilization	3 days	Mar 26 '10	Mar 30 '10												
335	Conduct Surveys	20 days	Mar 31 '10	Apr 27 '10												
336	Field Work	5 days	Mar 31 '10	Apr 6 '10												
337	Analysis	10 days	Apr 7 '10	Apr 20 '10												
338	Report Prep	5 days	Apr 21 '10	Apr 27 '10												
339	Prepare Demo and Abatement Plans and Specifications	9 days	Apr 28 '10	May 10 '10												
340	Review Plans and Specifications (Tronox)	5 days	May 11 '10	May 17 '10												
341	Issue Plans and Specifications	5 days	May 18 '10	May 24 '10												
342	Bid Walk	1 day	May 25 '10	May 25 '10												
343	Bid Submittal Date	5 days	May 26 '10	Jun 1 '10												
344	Review Bids and Award Contract	5 days	Jun 2 '10	Jun 8 '10												
345	Remediation	106 days	Mar 18 '10	Aug 12 '10												
346	Mn Tailings	15 days	Mar 18 '10	Apr 7 '10												
347	Review Bid Documents and Get Clarifications/Reissue (if nec	5 days	Mar 18 '10	Mar 24 '10												
348	Bid Submittal Date	5 days	Mar 25 '10	Mar 31 '10												
349	Review Bids, Contract Negotiation and Award	5 days	Apr 1 '10	Apr 7 '10												
350	Site Wide - (based on Area B, supplements to follow)	41 days	May 25 '10	Jul 20 '10												

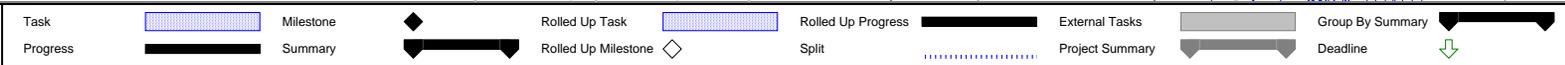


FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

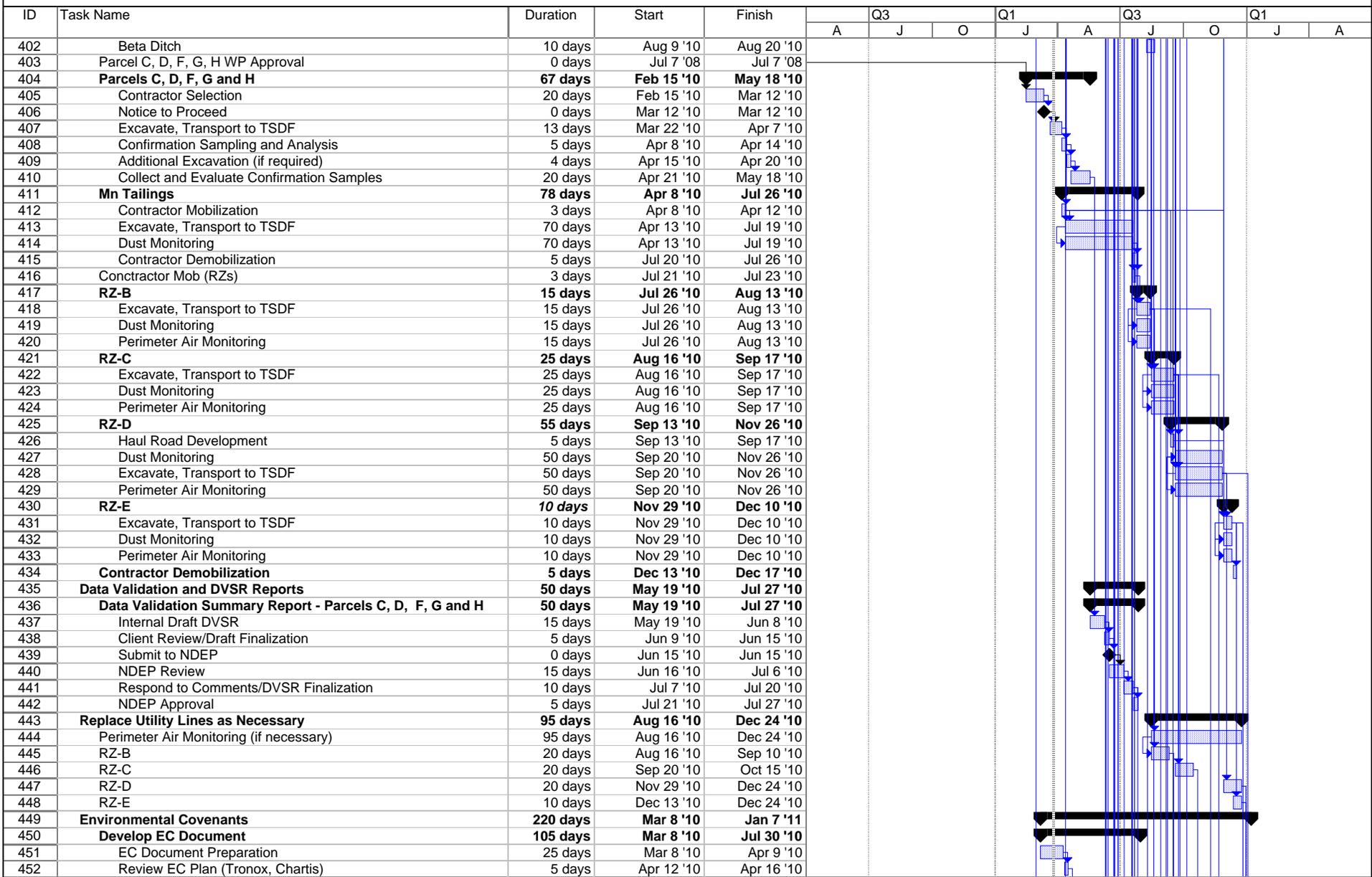
For NDEP Review

ID	Task Name	Duration	Start	Finish	Q3		Q1		Q3		Q1	
					A	J	O	J	A	J	O	J
351	Prepare Remediation Plans and Specifications	20 days	May 25 '10	Jun 21 '10								
352	Review Plans and Specifications (Tronox, Chartis)	5 days	Jun 22 '10	Jun 28 '10								
353	Issue Plans and Specifications	5 days	Jun 29 '10	Jul 5 '10								
354	Bid Walk	1 day	Jul 6 '10	Jul 6 '10								
355	Bid Submittal Date	5 days	Jul 7 '10	Jul 13 '10								
356	Review Bids, Contract Negotiation and Award	5 days	Jul 14 '10	Jul 20 '10								
357	RZ-C	20 days	Jun 15 '10	Jul 12 '10								
358	Prepare Remediation Plans and Specifications	10 days	Jun 15 '10	Jun 28 '10								
359	Review Plans and Specifications (Tronox, Chartis)	5 days	Jun 29 '10	Jul 5 '10								
360	Issue Plans and Specifications	5 days	Jul 6 '10	Jul 12 '10								
361	RZ-D	20 days	Jul 12 '10	Aug 6 '10								
362	Prepare Remediation Plans and Specifications	10 days	Jul 12 '10	Jul 23 '10								
363	Review Plans and Specifications (Tronox, Chartis)	5 days	Jul 26 '10	Jul 30 '10								
364	Issue Plans and Specifications	5 days	Aug 2 '10	Aug 6 '10								
365	RZ-E	20 days	Jul 16 '10	Aug 12 '10								
366	Prepare Remediation Plans and Specifications	10 days	Jul 16 '10	Jul 29 '10								
367	Review Plans and Specifications (Tronox, Chartis)	5 days	Jul 30 '10	Aug 5 '10								
368	Issue Plans and Specifications	5 days	Aug 6 '10	Aug 12 '10								
369	Grading and Dust Monitoring Permit	127 days	Feb 22 '10	Aug 17 '10								
370	Parcels C, D, F, G, and H	20 days	Feb 22 '10	Mar 19 '10								
371	Permits - Mn Tailings	15 days	Mar 8 '10	Mar 26 '10								
372	Permits - Other Areas	15 days	Jul 20 '10	Aug 9 '10								
373	Contractor Submits Grading and DMP	5 days	Jul 21 '10	Jul 27 '10								
374	Clark County Review/Permitting	15 days	Jul 28 '10	Aug 17 '10								
375	Demolition	350 days	Apr 15 '09	Aug 17 '10								
376	RZ-B	10 days	Jun 9 '10	Jun 22 '10								
377	Install Temporary SWPPP Measures	5 days	Jun 9 '10	Jun 15 '10								
378	Demolish Applicable Bldgs	5 days	Jun 16 '10	Jun 22 '10								
379	Remove Applicable Utilities	5 days	Jun 16 '10	Jun 22 '10								
380	RZ-C	25 days	Jun 9 '10	Jul 13 '10								
381	Install Temporary SWPPP Measures	6 days	Jun 9 '10	Jun 16 '10								
382	Demolish Applicable Bldgs	10 days	Jun 23 '10	Jul 6 '10								
383	Install Temporary Critical Utilities	5 days	Jul 7 '10	Jul 13 '10								
384	Remove Applicable Utilities	10 days	Jun 23 '10	Jul 6 '10								
385	RZ-D	30 days	Jun 9 '10	Jul 20 '10								
386	Install Temporary SWPPP Measures	5 days	Jun 9 '10	Jun 15 '10								
387	Demolish Applicable Buildings	10 days	Jun 16 '10	Jun 29 '10								
388	Install Temporary Critical Utilities	10 days	Jun 30 '10	Jul 13 '10								
389	Remove Applicable Utilities	10 days	Jul 7 '10	Jul 20 '10								
390	RZ-E	350 days	Apr 15 '09	Aug 17 '10								
391	Install Temporary SWPPP Measures	5 days	Jun 9 '10	Jun 15 '10								
392	Install Temporary Critical Utilities	10 days	Apr 15 '09	Apr 28 '09								
393	Remove Applicable Utilities	30 days	Jul 7 '10	Aug 17 '10								
394	Soil Remediation	640 days	Jul 7 '08	Dec 17 '10								
395	Identify Backfill Source(s)	60 days	Apr 5 '10	Jun 25 '10								
396	Identify Potential Sources	20 days	Apr 5 '10	Apr 30 '10								
397	"Phase I" Evaluations	40 days	Apr 19 '10	Jun 11 '10								
398	Soil Certification (if required)	20 days	May 31 '10	Jun 25 '10								
399	Soil Sampling and Analysis	20 days	May 31 '10	Jun 25 '10								
400	Implementation of SWPPP Measures	23 days	Jul 21 '10	Aug 20 '10								
401	Site Wide	20 days	Jul 21 '10	Aug 17 '10								

Task Milestone Rolled Up Task Rolled Up Progress External Tasks Group By Summary
Progress Summary Rolled Up Milestone Split Project Summary Deadline

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review



Task Milestone Rolled Up Task Rolled Up Progress External Tasks Group By Summary

Progress Summary Rolled Up Milestone Split Project Summary Deadline

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review

ID	Task Name	Duration	Start	Finish	Timeline																		
					A	J	O	J	A	J	O	J	A										
453	Revise and Finalize EC Plan	5 days	Apr 19 '10	Apr 23 '10																			
454	Submit EC Plan to NDEP	0 days	Apr 23 '10	Apr 23 '10																			
455	NDEP Review	20 days	Apr 26 '10	May 21 '10																			
456	Respond to Comments/WP Finalization	10 days	May 24 '10	Jun 4 '10																			
457	NDEP Prelim approval	20 days	Jun 7 '10	Jul 2 '10																			
458	NDEP Approval	20 days	Jul 5 '10	Jul 30 '10																			
459	Develop Risk Management Plan	105 days	Mar 8 '10	Jul 30 '10																			
460	RMP Preparation	45 days	Mar 8 '10	May 7 '10																			
461	Review RMP (Tronox, Chartis)	5 days	May 10 '10	May 14 '10																			
462	Revise and Finalize RMP	5 days	May 17 '10	May 21 '10																			
463	Submit RMP to NDEP	0 days	May 21 '10	May 21 '10																			
464	NDEP Review	20 days	May 24 '10	Jun 18 '10																			
465	Respond to Comments/RMP Finalization	10 days	Jun 21 '10	Jul 2 '10																			
466	NDEP Approval	20 days	Jul 5 '10	Jul 30 '10																			
467	Cap Pond Berms	30 days	Sep 20 '10	Oct 29 '10																			
468	Cap Remaining Impacted Soils -if necessary	85 days	Sep 13 '10	Jan 7 '11																			
469	RZ-B	20 days	Sep 13 '10	Oct 8 '10																			
470	RZ-C	20 days	Oct 18 '10	Nov 12 '10																			
471	RZ-D	10 days	Dec 27 '10	Jan 7 '11																			
472	RZ-E	5 days	Dec 27 '10	Dec 31 '10																			
473	Finish Grading	58 days	Nov 3 '10	Jan 21 '11																			
474	RZ-B	20 days	Nov 3 '10	Nov 30 '10																			
475	RZ-C	20 days	Nov 15 '10	Dec 10 '10																			
476	RZ-D	10 days	Jan 10 '11	Jan 21 '11																			
477	RZ-E	10 days	Jan 3 '11	Jan 14 '11																			
478	Perchlorate Soil Flushing	289 days	Mar 1 '10	Apr 7 '11																			
479	Pilot Test Workplan	47 days	Mar 1 '10	May 4 '10																			
480	Workplan Preparation	12 days	Mar 1 '10	Mar 16 '10																			
481	Review Workplan (Tronox, Chartis)	4 days	Mar 17 '10	Mar 22 '10																			
482	Revise and Finalize WP	1 day	Mar 23 '10	Mar 23 '10																			
483	Submit WP to NDEP	0 days	Mar 23 '10	Mar 23 '10																			
484	NDEP Review	15 days	Mar 24 '10	Apr 13 '10																			
485	Respond to Comments/WP Finalization	10 days	Apr 14 '10	Apr 27 '10																			
486	NDEP Approval	5 days	Apr 28 '10	May 4 '10																			
487	Pilot Test Implementation	141 days	May 5 '10	Nov 17 '10																			
488	Contractor Selection	10 days	May 5 '10	May 18 '10																			
489	Notice to Proceed	0 days	May 18 '10	May 18 '10																			
490	Column Studies	46 days	May 19 '10	Jul 21 '10																			
491	Collect Soil and Water Materials	5 days	May 19 '10	May 25 '10																			
492	Analyze Soil and Water Materials	3 days	May 26 '10	May 28 '10																			
493	Prepare Soil Columns	5 days	May 31 '10	Jun 4 '10																			
494	Conduct soil column tests	10 days	Jun 7 '10	Jun 18 '10																			
495	Complete Post Test Analyses	3 days	Jun 21 '10	Jun 23 '10																			
496	Prepare Column Study Tech Memo	10 days	Jun 24 '10	Jul 7 '10																			
497	Review Column Study Tech Memo	10 days	Jul 8 '10	Jul 21 '10																			
498	Pilot Scale Demonstration	85 days	Jul 22 '10	Nov 17 '10																			
499	Sample Candidate Pilot Study Areas	5 days	Jul 22 '10	Jul 28 '10																			
500	Analyze Samples from Candidate Areas	5 days	Jul 29 '10	Aug 4 '10																			
501	Select Pilot Study Area	5 days	Aug 5 '10	Aug 11 '10																			
502	Complete Analysis of Study Area	5 days	Aug 12 '10	Aug 18 '10																			
503	Build Pilot Study Percolation Area	10 days	Aug 19 '10	Sep 1 '10																			
504	Install Pilot Study Monitoring Locations	4 days	Sep 2 '10	Sep 7 '10																			

Task Milestone Rolled Up Task Rolled Up Progress External Tasks Group By Summary
Progress Summary Rolled Up Milestone Split Project Summary Deadline

FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review

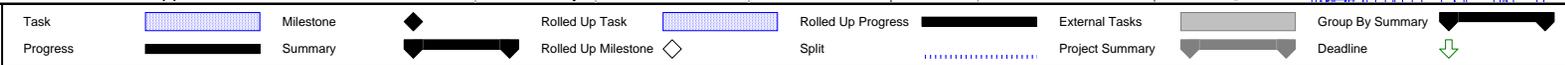
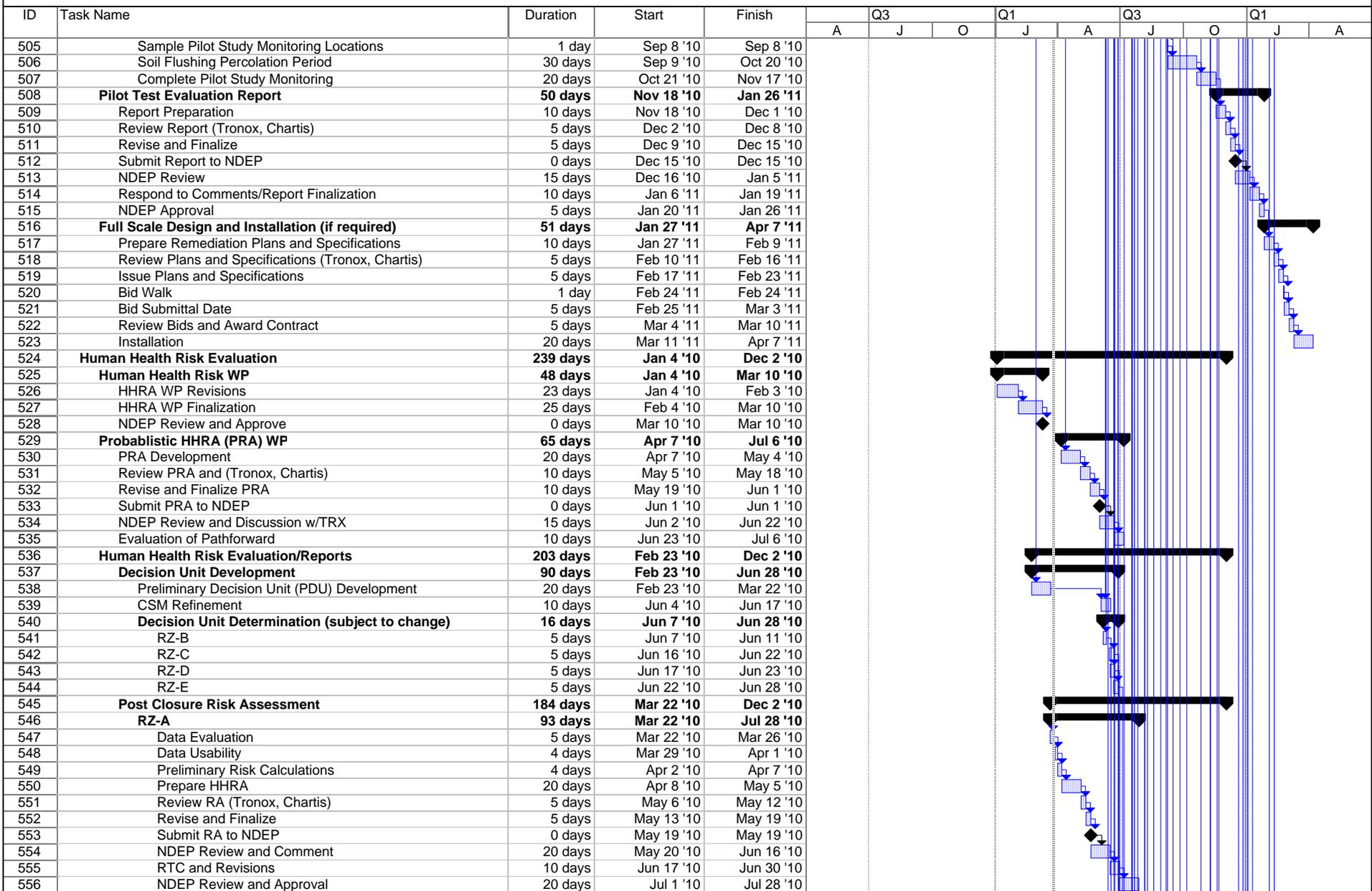


FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

For NDEP Review

ID	Task Name	Duration	Start	Finish	Q3		Q1		Q3		Q1	
					A	J	O	J	A	J	O	J
557	RZ-B: will actually be based on DU's once developed	102 days	Jun 14 '10	Nov 2 '10								
558	Data Evaluation	5 days	Jun 14 '10	Jun 18 '10								
559	Data Usability	4 days	Jun 21 '10	Jun 24 '10								
560	Preliminary Risk Calculations	4 days	Jun 25 '10	Jun 30 '10								
561	Prepare HHRA	20 days	Jul 1 '10	Jul 28 '10								
562	Review RA (Tronox, Chartis)	5 days	Jul 29 '10	Aug 4 '10								
563	Revise and Finalize	5 days	Aug 18 '10	Aug 24 '10								
564	Submit RA to NDEP	0 days	Aug 24 '10	Aug 24 '10								
565	NDEP Review and Comment	20 days	Aug 25 '10	Sep 21 '10								
566	RTC and Revisions	10 days	Sep 22 '10	Oct 5 '10								
567	NDEP Review and Approval	20 days	Oct 6 '10	Nov 2 '10								
568	RZ-C: will actually be based on DU's once developed	103 days	Jun 23 '10	Nov 12 '10								
569	Data Evaluation	5 days	Jun 23 '10	Jun 29 '10								
570	Data Usability	4 days	Jun 30 '10	Jul 5 '10								
571	Preliminary Risk Calculations	4 days	Jul 6 '10	Jul 9 '10								
572	Prepare HHRA	20 days	Jul 12 '10	Aug 6 '10								
573	Review RA (Tronox, Chartis)	10 days	Aug 9 '10	Aug 20 '10								
574	Revise and Finalize	10 days	Aug 23 '10	Sep 3 '10								
575	Submit RA to NDEP	0 days	Sep 3 '10	Sep 3 '10								
576	NDEP Review and Comment	20 days	Sep 6 '10	Oct 1 '10								
577	RTC and Revisions	10 days	Oct 4 '10	Oct 15 '10								
578	NDEP Review and Approval	20 days	Oct 18 '10	Nov 12 '10								
579	RZ-D: will actually be based on DU's once developed	108 days	Jun 24 '10	Nov 22 '10								
580	Data Evaluation	5 days	Jun 24 '10	Jun 30 '10								
581	Data Usability	4 days	Jul 1 '10	Jul 6 '10								
582	Preliminary Risk Calculations	4 days	Jul 7 '10	Jul 12 '10								
583	Prepare HHRA	25 days	Jul 13 '10	Aug 16 '10								
584	Review RA (Tronox, Chartis)	10 days	Aug 17 '10	Aug 30 '10								
585	Revise and Finalize	10 days	Aug 31 '10	Sep 13 '10								
586	Submit RA to NDEP	0 days	Sep 13 '10	Sep 13 '10								
587	NDEP Review and Comment	20 days	Sep 14 '10	Oct 11 '10								
588	RTC and Revisions	10 days	Oct 12 '10	Oct 25 '10								
589	NDEP Review and Approval	20 days	Oct 26 '10	Nov 22 '10								
590	RZ-E	113 days	Jun 29 '10	Dec 2 '10								
591	Data Evaluation	5 days	Jun 29 '10	Jul 5 '10								
592	Data Usability	4 days	Jul 6 '10	Jul 9 '10								
593	Preliminary Risk Calculations	4 days	Jul 12 '10	Jul 15 '10								
594	Prepare HHRA	30 days	Jul 16 '10	Aug 26 '10								
595	Review RA (Tronox, Chartis)	10 days	Aug 27 '10	Sep 9 '10								
596	Revise and Finalize	10 days	Sep 10 '10	Sep 23 '10								
597	Submit RA to NDEP	0 days	Sep 23 '10	Sep 23 '10								
598	NDEP Review and Comment	20 days	Sep 24 '10	Oct 21 '10								
599	RTC and Revisions	10 days	Oct 22 '10	Nov 4 '10								
600	NDEP Review and Approve RA	20 days	Nov 5 '10	Dec 2 '10								
601	Soil Vapor Intrusion Evaluation and Mitigation	253 days	Jan 4 '10	Dec 22 '10								
602	Evaluate Soil Gas Data	10 days	Jan 4 '10	Jan 15 '10								
603	Evaluate Phase B Soil Data	10 days	Jan 18 '10	Jan 29 '10								
604	Evaluate Need for Mitigation	102 days	Feb 22 '10	Jul 13 '10								
605	IAQ Testing (if required)	102 days	Feb 22 '10	Jul 13 '10								
606	Evaluate need for IAQ Testing	10 days	Feb 22 '10	Mar 5 '10								
607	IAQ Testing Plan	47 days	Mar 8 '10	May 11 '10								
608	Prepare Plan	12 days	Mar 8 '10	Mar 23 '10								

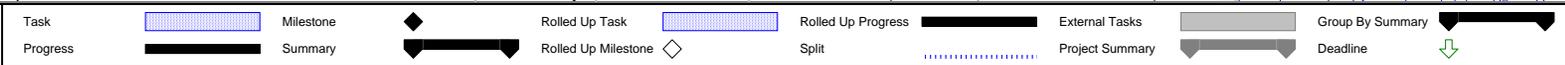


FIGURE 3 Tronox Phase B Remediation Program Schedule March 19, 2010

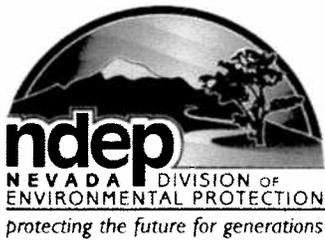
For NDEP Review

ID	Task Name	Duration	Start	Finish	Q3			Q1		Q3		Q1	
					A	J	O	J	A	J	O	J	A
661	Prepare Closure Report	20 days	Nov 22 '10	Dec 17 '10									
662	Review CR (Tronox, Chartis)	10 days	Dec 20 '10	Dec 31 '10									
663	Revise and Finalize CR	10 days	Jan 3 '11	Jan 14 '11									
664	Submit CR to NDEP	0 days	Jan 14 '11	Jan 14 '11									
665	NDEP Review and Comments	20 days	Jan 17 '11	Feb 11 '11									
666	RTC and Revisions	10 days	Feb 14 '11	Feb 25 '11									
667	NDEP Review and Approval	5 days	Feb 28 '11	Mar 4 '11									
668	RZ-D: will actually be based on decision units once developed	75 days	Jan 3 '11	Apr 15 '11									
669	Prepare Closure Report	20 days	Jan 3 '11	Jan 28 '11									
670	Review CR (Tronox, Chartis)	10 days	Jan 31 '11	Feb 11 '11									
671	Revise and Finalize CR	10 days	Feb 14 '11	Feb 25 '11									
672	Submit CR to NDEP	0 days	Feb 25 '11	Feb 25 '11									
673	NDEP Review and Comments	20 days	Feb 28 '11	Mar 25 '11									
674	RTC and Revisions	10 days	Mar 28 '11	Apr 8 '11									
675	NDEP Review and Approval	5 days	Apr 11 '11	Apr 15 '11									
676	RZ-E: will actually be based on decision units once developed	75 days	Dec 27 '10	Apr 8 '11									
677	Prepare Closure Report	20 days	Dec 27 '10	Jan 21 '11									
678	Review CR (Tronox, Chartis)	10 days	Jan 24 '11	Feb 4 '11									
679	Revise and Finalize CR	10 days	Feb 7 '11	Feb 18 '11									
680	Submit CR to NDEP	0 days	Feb 18 '11	Feb 18 '11									
681	NDEP Review and Comments	20 days	Feb 21 '11	Mar 18 '11									
682	RTC and Revisions	10 days	Mar 21 '11	Apr 1 '11									
683	NDEP Review and Approval	5 days	Apr 4 '11	Apr 8 '11									

Task		Milestone		Rolled Up Task		Rolled Up Progress		External Tasks		Group By Summary	
Progress		Summary		Rolled Up Milestone		Split		Project Summary		Deadline	

APPENDIX A
STATE OF NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
STORMWATER GENERAL PERMIT NVR100000





STATE OF NEVADA

Department of Conservation & Natural Resources

Jim Gibbons, Governor

Allen Biaggi, Director

DIVISION OF ENVIRONMENTAL PROTECTION

Leo M. Drozdoff, P.E., Administrator

Stormwater General Permit NVR100000

In compliance with the provisions of the Federal Clean Water Act as amended (33 U.S.C. 1251 et seq; the "Act") and Chapter 445A of the Nevada Revised Statutes (NRS), eligible dischargers who have submitted a Notice of Intent, filing fee, and have a Stormwater Pollution Prevention Plan(s) completed and maintained on the permittee's site location in accordance with this permit, are authorized to discharge

Stormwater Associated with Large Construction Activity

or

Stormwater Associated with Small Construction Activity

and

Stormwater Associated with Industrial Activity from Temporary Concrete, Asphalt, and Material Plants or Operations Dedicated to the Permitted Construction Project

to Waters of the United States in accordance with the conditions set forth in Parts I - V hereof.

This permit shall become effective on September 16, 2007.

This permit and the authorization to discharge shall expire at midnight September 15, 2012.

Signed this 14th day of September, 2007.

Steve McGoff, P.E.

Bureau of Water Pollution Control

PART I. COVERAGE UNDER THIS GENERAL PERMIT

- A. **Permit Area.** This General Permit covers the State of Nevada, except for Tribal Areas.¹
- B. **Objective.** The objective of this permit is to control and reduce pollution of Waters of the U.S. (“WOUS”) from: Stormwater Discharges Associated with Large Construction Activity; Stormwater Discharges Associated with Small Construction Activity; and Stormwater Discharges Associated with Industrial Activity from temporary plants or operations set up to produce concrete, asphalt, or other materials for the permitted construction project; through the use of Best Management Practices (“BMPs”), as defined in Appendix A. In addition, BMPs shall include erosion and sediment controls, stormwater conveyance, stormwater diversion, and treatment structures, and any procedure or facility used to minimize the exposure of pollutants to stormwater or to remove pollutants from stormwater. Discharges to storm drain systems that in turn discharge to WOUS are considered to be discharges to WOUS.
- C. **Eligibility.** This General Permit authorizes discharges from stormwater discharge associated with large construction activity as defined in Appendix A, small construction activity as defined in Appendix A and industrial activities as defined in Appendix A provided the operator complies with all the requirements of this general permit and submits a Notice of Intent (“NOI”) in accordance with Part II of this general permit.

Any discharges that do not comply with the eligibility conditions of this permit are not authorized by the permit. A person must either apply for a separate National Pollutant Discharge Elimination System (“NPDES”) permit to cover the ineligible discharge(s), cease the discharge(s), or take the necessary steps to make the discharge(s) eligible for coverage under this permit.

D. Authorized Discharges

1. Allowable Stormwater Discharges. Subject to compliance with the terms and conditions of this permit, an operator may discharge pollutants in:
 - a. Discharges of stormwater runoff associated with construction activities as defined in Appendix A;
 - b. Discharges that are designated by NDEP as requiring a stormwater permit under 40 CFR 122.26(a)(1)(v); 40 CFR 122.26(b)(15)(ii); or under 40 CFR 122.26(a)(9);

¹ The State of Nevada, Division of Environmental Protection, Bureau of Water Pollution Control does not have permit authority for Tribal Lands. Construction discharge permits for Tribal Lands within the state must be acquired through EPA Region IX.

- c. Discharges from support activities (e.g. concrete or asphalt batch plants, equipment staging yards, material storage yards, excavated material disposal areas, borrow areas) provided:
 - i. The support activity is directly related to a construction site that is required to have NPDES permit coverage for discharges of stormwater associated with construction activity;
 - ii. The support activity is not a commercial operation serving multiple unrelated construction projects by different operators and does not operate beyond the completion of the construction activity at the last construction project it supports; and
 - iii. Appropriate controls and measures covering the discharges from the support activity areas are identified in a stormwater pollution prevention plan ("SWPPP").
 - d. Non-stormwater discharges as noted in Part I.D.2 or as otherwise specifically allowed by the permit; and
 - e. Discharges comprised of a discharge listed in Part I (a) through (d) commingled with a discharge authorized by a different NPDES permit and/or discharge that does not require NPDES permit authorization.
2. Miscellaneous Non-Stormwater Discharges. An operator may discharge the following non-stormwater discharges, provided they are not a significant source of pollutants and the operator implements appropriate BMPs to minimize pollutants discharged per Part III:
- a. Discharges from fire-fighting activities. Although fire-fighting drainage may contain significant pollutant concentrations, the frequency of discharge is low and the discharge is hereby authorized out of necessity;
 - b. Fire hydrant flushing;
 - c. Water used to wash vehicles where detergents are not used;
 - d. Water used to control dust, provided effluent or other wastewaters are not used;
 - e. Potable water sources including water line flushing;
 - f. Routine external building wash down where detergents are not used;
 - g. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
 - h. Uncontaminated air conditioning or compressor condensate;
 - i. Uncontaminated groundwater or spring water;
 - j. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
 - k. Potable water well flushing where the receiving waters are ephemeral;
 - l. Water used for compacting soil, provided effluent or other wastewaters are not used;

- m. Water used for drilling and coring such as for evaluation of foundation materials, where flows are not contaminated with additives; and
- n. Water obtained from dewatering operations of foundations in preparation for and during excavation and construction that will have flows of 300 gallons per minute (“gpm”) or less for thirty (30) days or less.

E. Limitations of Coverage

1. Post Construction Discharges. This permit does not authorize stormwater discharges that originate from the site after construction activities have been completed and the site, including any temporary support activity site, has undergone final stabilization. Post-construction stormwater discharges from industrial sites may need to be covered by a separate NPDES permit.
2. Prohibition on Discharges Mixed With Non-Stormwater. This permit does not authorize discharges that are mixed with sources of non-stormwater, except as allowed in Part I.D.
3. Discharges Covered by Another NPDES Permit. This general permit does not authorize stormwater discharges associated with construction activities that have been covered under an individual permit or have been required to obtain coverage under an alternative general permit. Construction discharges at mining operations are covered under the Mining General Permit NVR300000.
4. Discharges Threatening Water Quality. This general permit does not authorize discharges that will cause or contribute to non-attainment of water quality standards or to the designated use of receiving waters. The operator must design and implement BMPs sufficient to meet this requirement.

F. Waiver for Small Construction Activities. NDEP may exempt a small construction operator from the requirement to obtain coverage under a stormwater permit, if certain criteria are met and proper application procedures followed.

1. Low Erosion Potential. If the small construction site is between 1 acre and 5 acres and the rainfall erosivity factor calculation (“R” in the Revised Universal Soil Loss Equation) is less than 5 during the **entire** period of construction activity, the site will be eligible for a waiver. The applicant must certify to NDEP that construction activity will occur only when R is less than 5. The erosivity factor can be calculated using NDEP’s NOI database.

The period of construction activity begins at initial earth disturbance and ends with the final site stabilization. The operator must submit a Permit Waiver electronically to NDEP in accordance with Part II of this permit before commencing construction activities in accordance with Part II.

Persons that are not required to file for permit coverage per this section must operate exempt construction sites in a manner that minimizes pollutants in the discharge. In the event discharges from the site may cause or contribute to non-

attainment of water quality standards, NDEP may require the operator to obtain permit coverage.

Note: Construction activities that will disturb 5 acres or more cannot be exempted from stormwater permitting requirements. Also, construction activities less than 5 acres, but the parcel is part of a greater (5 acres or more) common plan of development or sale cannot be exempted.

G. Requirement for Individual Permit. NDEP may require the holder of a general stormwater permit to apply for and obtain an individual permit in accordance with NAC 445A.269.

H. Requirement for Stormwater Permit for Projects Less Than 1 Acre. If NDEP determines that a project less than one (1) acre in size will impact receiving waters or its tributaries within a 1/4-mile radius of the project, the owner of the project will be required to obtain a stormwater permit and abide by the terms of this permit.

I. Waiver for Certain Oil and Gas Operations. NDEP may not require a permit for discharges of storm water runoff from construction operations at oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations. A permit will be required if a stormwater discharge from a construction operation at an oil and/or gas exploration, production, processing, treatment, or transmission facility contributes to a violation of a water quality standard (except for discharges of sediment.)

PART II. REQUEST FOR INCLUSION UNDER THIS GENERAL PERMIT

A. Application for Coverage. A person may be authorized to discharge under this general permit only if the stormwater discharge is associated with construction activities with the project site. An application seeking inclusion under this permit shall:

1. Submit a Notice of Intent (“NOI”) no later than two (2) days prior to the start of construction. Eligible concrete, asphalt, and material plants or operations shall be included on the NOI submitted for the construction project. The site is covered provisionally under this permit once the NOI has been received electronically by NDEP and until approval of the permit by NDEP.
2. For each new NOI, the permittee must develop and implement a SWPPP that meets the requirements of Part III of this permit and covers either the entire site or

all portions of the site for which the permittee is an operator. The SWPPP shall be prepared and maintained on the permittee's project site for these discharges.

B. NOI Electronic Filing Requirements. NOI forms must be completed on-line at NDEP's website at the following address:

http://ndep.nv.gov/bwpc/storm_cont03.htm. The applicant will be required to provide the following information to complete the NOI and submit it to NDEP:

1. Owner/operator (applicant) information including the name, address, city, state, zip code and phone number of both the owner and operator;
2. Project/site information including the project name, project address/location, city, state, zip code, latitude, longitude, at least one Assessor's Parcel Number ("APN") associated with the project and the county;
3. Name of the receiving water for any stormwater discharge;
4. The estimated construction start date;
5. The estimated completion date of construction;
6. An estimate of the area to be disturbed to the nearest acre;
7. An estimate of the likelihood of a stormwater discharge;
8. The address of the location where the SWPPP can be viewed including the city, state, zip code and phone number. *Note: It is not necessary to submit a copy of the SWPPP to NDEP.*

C. Submitting the Completed NOI. After completing the NOI and filing it electronically with NDEP, the applicant must perform the following steps within thirty (30) days to complete the NOI application:

1. Print out a copy of the NDEP confirmation page and sign below the certification statement. The certification statement and the person responsible for signing the NOI is discussed in Part V of this permit;
2. Write a check to "NDEP" for the required permit fees; and
3. Mail the check and confirmation page with the original signature to:

Stormwater Coordinator
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City NV 89701

D. Continuation of Coverage in the General Permit. To continue to be included in this general permit, holders of expired general permit NVR100000 must submit a renewal NOI to NDEP within ninety (90) days of the effective date of this permit to remain included under the original NOI. The permittee must verify that the information on the renewal NOI is valid and accurate before submitting the renewal NOI for continued inclusion. No additional filing fee is required to file this renewal NOI. In addition, the previously supplied permit identification number (CSW-xxxx) must be included with the submittal.

E. Authorization Date of the Permit. The authorization date of the new permit shall be:

1. The date the NOI is approved by NDEP; or
2. The effective date of this permit for all holders of expired general permit NVR100000 that have submitted a renewal NOI for this permit;
3. An approval letter will be sent to the applicant stating the authorization date. Special conditions may be included in the permit.
4. During the period beginning on the authorization date and lasting until permit coverage is terminated, the permittee is authorized to discharge stormwater or approved non-stormwater to WOUS, as discussed in Part I.D. and in accordance with the SWPPP and the conditions listed in this permit.

PART III. STORM WATER POLLUTION PREVENTION PLAN

A. Objective. Prior to submitting the NOI and filing fee, the SWPPP shall be completed and available for inspection at the project site for each construction project and material plant or operation covered by this permit. The purpose of the SWPPP is to identify stormwater pollution sources, reduce their impacts, and comply with the conditions of this permit. The SWPPP shall be prepared in accordance with good engineering practices and shall consist of project information, BMPs, inspection and maintenance, controls for non-stormwater discharges, and a description of permanent stormwater controls that will be built as part of the project. Each of the plan elements must be revised as necessary to maintain accuracy if there are changes in design or construction of the project or if the SWPPP is found to be insufficient. NDEP may require modifications to a SWPPP within a specified time frame. The permittee shall make the SWPPPs available upon request to the State or local agency approving sediment and erosion plans, grading plans, or storm water management plans; local government officials; or the operator of a municipal separate storm sewer receiving discharges from the site. The SWPPP must be kept on-site or locally available and must be available for review by NDEP at the time of an on-site inspection. The SWPPP shall include the following minimum elements:

1. Project Description

- a. Permittee information including the company or agency, street address, city, state, zip code, and phone number;
- b. Contact information of the permittee including the name, street address, city, state, zip code, and phone number;
- c. The name(s) of the person(s) responsible for implementation of the SWPPP;
- d. The project name;
- e. The project location including the address, city, county and at least one APN associated with the project;

- f. A description of the nature of the construction activity;
 - g. A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation);
 - h. Estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other construction activities including offsite borrow and fill areas;
 - i. An estimate of the runoff coefficient of the site for both the preconstruction and post-construction conditions and data describing the soil or the quality of any discharge from the site;
 - j. A general location map of the project (e.g., a portion of a city or county map) and a site map of the project indicating the following:
 - i. Drainage patterns and approximate slopes anticipated after major grading;
 - ii. Construction activities and areas of soil disturbance;
 - iii. Areas of the project that will not be disturbed;
 - iv. Locations of major structural and nonstructural controls identified in the SWPPP;
 - v. Locations where stabilization practices are expected to occur;
 - vi. Locations of off-site material and waste;
 - vii. Borrow or equipment storage areas;
 - viii. Location of all surface waters (including wetlands);
 - ix. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply;
 - x. Locations where storm water discharges to a surface water (including ephemeral waters or dry washes) and to Municipal Separate Storm Sewer Systems (“MS4s”);
 - xi. Location and description of any discharge associated with industrial activity other than construction, including storm water discharges from dedicated asphalt plants and dedicated concrete plants, which is covered by this permit;
 - xii. The name of the receiving water(s) and the aerial extent and description of wetland or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project;
 - xiii. Identify and address offsite material storage areas or borrow areas used solely by the permittee’s project;
 - xiv. A copy of the permit requirements (attaching a copy of this permit is acceptable).
2. **Stormwater Controls.** Each SWPPP shall include a description of appropriate control measures (i.e., BMPs) that will be implemented as part of the construction activity to control pollutants in storm water discharges. The SWPPP must clearly describe for each major activity identified in Part III.1.g: (a) Appropriate control

measures and the general timing (or sequence) during the construction process that the measures will be implemented; and (b) which permittee is responsible for implementation.

3. **Offsite Material Storage Areas.** Offsite material storage areas (also including overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted project are considered a part of the project and must be addressed in the SWPPP.
4. **Erosion and Sediment Controls.** The SWPPP must describe the implementation of control measures, including the following minimum components:
 - a. **Design.** The construction-phase erosion and sediment controls should be designed to retain sediment on site to the degree attainable.
 - b. **Selection, Installation and Maintenance.** All control measures must be properly selected, installed, and maintained in accordance with the manufacturers' specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for site situations, as soon as practicable and before the next storm event. If implementation prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable.
 - c. **Offsite Accumulation of Sediment.** When sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to ensure no adverse effects on water quality (e.g., fugitive sediment in street could be washed into storm drains by the next rain and/or pose a safety hazard to users of public streets).
 - d. **Good Housekeeping.** The SWPPP must describe good housekeeping procedures to prevent litter, construction debris, and construction chemicals exposed to stormwater from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).
5. **Stabilization Practices.**
 - a. **Description and Schedule.** The SWPPP must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized. Stabilization practices may include but are not limited to: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod

stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures.

- b. **Records of Stabilization.** The following records shall be maintained and attached to the SWPPP: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.
 - c. **Deadlines for Stabilization.** Except as provided in Part III.A.5.c.(i), (ii), and (iii) below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - i. Where the initiation of stabilization measures by the fourteenth (14th) day after construction activity temporary or permanently cease(s) is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
 - ii. Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures do not have to be initiated on that portion of site.
 - iii. In arid areas (areas with an average annual precipitation of 0 to 10 inches), semiarid areas (areas with an average annual precipitation of 10 to 20 inches), and areas experiencing droughts where the initiation of stabilization measures by the fourteenth (14th) day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.
6. **Structural Practices.** The SWPPP must include a description of structural practices to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Structural practices may include but are not limited to: silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Placement of structural practices in floodplains should be avoided to the degree attainable. The installation of these devices may be subject to section 404 of the Clean Water Act (“CWA”). A combination of sediment and erosion control measures is required to achieve maximum pollutant removal.

a. Sediment Basins.

- i. For common drainage locations that serve an area with ten (10) or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 2-year, 24-hour storm event from each disturbed acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location it is not necessary to include flows from offsite areas and flows from onsite areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. In determining whether installing a sediment basin is attainable, the permittee may consider factors such as site soils, slope, available area on site, etc. In any event, the permittee must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls shall be used where site limitations would preclude a safe design.
- ii. For drainage locations that serve ten (10) or more disturbed acres at one time and where a temporary sediment basin or equivalent controls is not attainable, smaller sediment basins and/or sediment traps should be used. Where neither the sediment basin nor equivalent controls are attainable due to site limitations, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area and for those side slope boundaries deemed appropriate as dictated by individual site conditions.
- iii. For drainage locations serving less than ten (10) acres, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin providing storage for a calculated volume of runoff from a 2-year, 24-hour storm event or 3,600 cubic feet of storage per acre drained is provided.

b. Velocity Dissipation Devices.

Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. no significant changes in the hydrological regime of the receiving water).

7. **Post-Construction Stormwater Management.** The SWPPP must include a description of stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. Structural measures should be placed on upland soils to the degree attainable. Such measures must be designed and installed consistent with applicable local or state stormwater management requirements.

Such practices may include but are not limited to: stormwater detention structures (including wet ponds); stormwater retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). The SWPPP shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed predevelopment levels.

Note: The installation of these devices may also require a separate permit under section 404 of the CWA. Permittees are only responsible for the installation and maintenance of stormwater management measures prior to final stabilization of the site, and are not responsible for maintenance after stormwater discharges associated with construction activity have been eliminated from the site. However, post construction stormwater BMPs that discharge pollutants from point sources once construction is completed may, in themselves, need authorization under a separate NPDES permit.

8. **Non-Storm Water Discharge Maintenance.** The SWPPP must identify all allowable sources of non-stormwater discharges listed in Part I.D.2 of this permit, except for flows from fire fighting activities. Non-stormwater discharges are to be eliminated or reduced to extent possible. The operator must implement appropriate pollution prevention measures to minimize pollutants in any non-storm water component(s) of the discharge and must describe those measures in the SWPPP. Except if used in emergency firefighting, superchlorinated wastewaters must be held on-site until the chlorine dissipates, or otherwise dechlorinated prior to discharge.
9. **Other Controls.** The SWPPP must describe:
 - a. Measures to prevent the discharge of solid materials, including building

materials, to WOUS, except as authorized by a permit issued under section 404 of the CWA;

- b. Measures to minimize off-site vehicle tracking of sediments, to the extent practicable, and the generation of on-site dust;
- c. Measures to sufficiently stabilize soil at culvert locations to prevent the formation of rills and gullies during construction;
- d. A description of construction and waste materials expected to be stored on-site with updates as appropriate. The SWPPP shall also include a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response; and
- e. A description of pollutant sources from areas other than construction (including stormwater discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

10. Applicable Federal, State, or Local Programs.

- a. The SWPPP shall be consistent with applicable State, and/or local waste disposal, sanitary sewer or septic system regulations to the extent these are located within the permitted area;
- b. When discharges to water quality-impaired waters that are contained in the current 303(d) Impaired Water Body listing issued by the Nevada Division of Environmental Protection, Bureau of Water Quality Planning, the permittee must investigate whether discharges from the permittee's site will contribute significantly to any 303(d) listing, and when the permittee discharges into a water body with an established Total Maximum Daily Load ("TMDL"), the permittee shall comply with all applicable TMDL requirements. This information can be found on the following NDEP website: <http://ndep.nv.gov/bwqp/standard.htm>.

When a TMDL has not been established as described in paragraph above, the permittee must include a section in the SWPPP describing the condition for which the water has been listed. The SWPPP must also include a demonstration that the BMPs that are selected for implementation will be sufficient to ensure that the discharges will not cause or contribute to an exceedance of an applicable State water quality standard;

- c. Permittees that discharge storm water associated with construction

activities must ensure their SWPPP is consistent with requirements specified in applicable sediment and erosion site plans or site permits, or stormwater management site plans or site permits approved by State or local officials;

- d. SWPPPs must be updated as necessary to remain consistent with any changes applicable to protecting surface water resources in sediment and erosion site plans or site permits, or stormwater management site plans or site permits approved by State or local officials for which the permittee receives written notice; and
- e. The SWPP may incorporate by reference the appropriate elements of plans required by other agencies. A copy of the requirements incorporated by reference shall be included as an attachment to the SWPPP.

11. Maintenance of BMPs

- a. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. If site inspections required by Part III.A.12 identify BMPs that are not operating effectively or if the capacity has been reduced by 50%, maintenance shall be performed before the next anticipated storm event, or as soon as possible if maintenance before the next anticipated storm event is not practicable;
- b. If existing BMPs need to be modified or additional BMPs are necessary, implementation must be completed before the next anticipated storm event. If implementation prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable; and
- c. The permittee must remove sediment from sediment traps or sedimentation ponds when design capacity has been reduced by 50%.

12. Construction Site Inspections

- a. **Routine Inspection Schedule.** The permittee must ensure routine inspections are performed at the site to ensure the BMPs are functional and that the SWPPP is being properly implemented. The permittee must have the site inspected at least once every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater;
- b. **Inspection Waiver.** Permittees are eligible for a waiver of weekly inspection requirements until one month before thawing conditions are expected to result in a discharge if all of the following requirements are

met:

- i. The project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month);
 - ii. Land disturbance activities have been suspended; and
 - iii. The beginning and ending dates of the waiver period are documented in the SWPPP.
- c. **Inspectors.** Qualified personnel (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site. “Qualified personnel” means a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact stormwater quality and the effectiveness of the BMPs selected to control the quality of the stormwater discharges;
- d. **Scope of Inspections.** Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the drainage system. Sediment and erosion control measures identified in the SWPPP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether sediment and erosion control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking. All BMPs and areas inspected and their condition must be documented in the inspection report;
- e. **Inspection Report.** An inspection report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, and major observations relating to the implementation of the SWPPP shall be made. Major observations should include the location(s) of discharges of sediment or other pollutants from the site; location(s) of BMPs that need to be maintained; location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location; and location(s) where additional BMPs are needed that did not exist at the time of inspection;

- f. **Maintaining Inspection Records.** The permittee must ensure that the inspection reports and record of any follow-up actions taken in accordance with Part III.A.12.e of this permit is retained as part of the SWPPP for at least three years from the date that permit coverage expires or the site is finally stabilized. Inspection reports shall identify any incidents of noncompliance with this permit. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and this permit. The report shall be signed in accordance with Part V.B.1 of this permit;
 - g. **Follow-Up Actions.** Based on the results of the inspection, the SWPPP shall be modified as necessary (e.g., show additional controls on a map required by Part III.A.1.j and/or revise the description of controls required by Part III.A.2) to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP shall be completed within seven (7) calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary, implementation shall be completed within 7 days following receipt of the inspection results or prior to the next anticipated storm event, whenever practicable. If implementation of the BMPs before the next storm event is impracticable, the BMPs shall be implemented as soon as possible if implementation before the next anticipated storm event is not practicable.
13. **Maintaining an Updated SWPPP.** The operator must amend the SWPPP within seven (7) business days whenever:
 - a. There is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to WOUS that has not been previously addressed in the SWPPP; or
 - b. During inspections, monitoring if required, or investigations by the permittee or by local, state, MS4, or federal officials, it is determined the discharges are causing or contributing to water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site.; or
 - c. If implementation of the BMPs required by the SWPPP revision before the next storm event is impracticable, the BMPs shall be implemented as soon as possible if implementation of the BMP before the next anticipated storm event is not practicable.
14. **Deficiencies in the SWPPP.** NDEP may notify the permittee at any time that the SWPPP does not meet one or more requirements of this section. The notification must identify the provisions of this permit that are not being met and parts of the

SWPPP that require modification. Within fifteen (15) days of receipt of the notification by NDEP, the permittee must make the required changes to the SWPPP and submit to NDEP a written certification that the requested changes have been made. NDEP may request a copy of the SWPPP to confirm that all deficiencies have been adequately addressed. NDEP may also take appropriate enforcement action for the period of time the permittee was operating under a plan that did not meet the minimum requirements of this permit.

PART IV. NOTICE OF TERMINATION

A. Notice of Termination. A Notice of Termination (“NOT”) must be submitted upon completion of the project. To terminate permit coverage, an NOT, as approved by NDEP, shall be submitted when final stabilization has been achieved or when the project has been transferred to another permittee.

B. Information Required. The following minimum information is required on an NOT:

1. The stormwater general permit number;
2. Facility operator information, including the name, address, city, state, zip code and phone number;
3. Facility/site location information including the name, address, city, state, zip code, phone number and at least one APN associated with the project; and
4. A certification statement signed and dated by the permittee. The certification statement is:

“I certify under penalty of law that all storm water discharges associated with construction activity from the identified facility that was authorized by a general permit have been eliminated or that I am no longer the operator of the facility or construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.”

Note: For construction projects with more than one permittee and/or operator, the permittee need only make this certification for those portions of the construction site where the permittee was authorized under this permit and not for areas where the permittee was not an operator.

C. Final Stabilization. Final Stabilization means that either:

1. All soil disturbing activities at the site have been completed and a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures have been employed. In such parts of the country, background native vegetation will cover less than 100% of the ground. Establishing at least 70% of the natural cover of the native vegetation meets the vegetative cover criteria for final stabilization (e.g., if the native vegetation covers 50% of the ground, 70% of 50% would require 35% total cover for final stabilization; on a beach with no natural vegetation, no stabilization is required); or

For individual lots in residential construction by either:

- a. The homebuilder completing final stabilization as specified above, or
 - b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization; or
2. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to WOUS, and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization criteria listed above.

PART V. STANDARD PERMIT CONDITIONS

A. Operating Requirements

1. **Proper Operation and Maintenance.** The permittee shall implement all BMPs used to comply with this permit and maintain them in good working order;
2. **Removed Substances.** Solids and other pollutants removed in the course of treatment or control of stormwater shall be disposed of in accordance with applicable laws, regulations, codes, and ordinances;
3. **Water Quality Standards.** There shall be no discharge of substances that cause or contribute to a violation of the water quality standards of the State of Nevada;

4. **Sampling and Analysis.** If any samples or measurements are taken pursuant to this permit they shall be representative of the volume and nature of the discharge. Laboratory analyses shall be performed by a State of Nevada certified laboratory. Results from this lab must be provided to NDEP.
5. **Test Procedures.** Test procedures for analyses of pollutants shall conform to regulations (40 CFR § 136) published pursuant to Section 304(h) of the Act, under which such procedures may be required, unless other procedures are approved by NDEP;
6. **Recording the Results.** If any measurement or sample is taken pursuant to this permit, the permittee shall record the following information:
 - a. The exact place, date, and time of sampling;
 - b. The dates the analyses were performed;
 - c. The person(s) who performed the analyses;
 - d. The analytical techniques or methods used; and
 - e. The results of all required analyses.
7. **Adverse Impact.** The permittee shall take all reasonable steps to minimize any adverse impacts to receiving waters from any unauthorized discharge including monitoring as necessary to determine the nature and impact of the unauthorized discharge.

B. Administrative Requirements

1. Signature Requirements

a. Notices of Intent

All NOIs shall be signed as follows:

- i. **For a corporation.** By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - (1) A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or
 - (2) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other

comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

- ii. **For a partnership or sole proprietorship.** By a general partner or the proprietor, respectively; or
 - iii. **For a municipality, state, federal, or other public agency.** By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (1) The chief executive officer of the agency, or
 - (2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- b. **Duly Authorized Representative.** All SWPPPs and any other information required by this permit or requested by NDEP shall be signed by a person described in Part V.B.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- i. The authorization is made in writing by a person described in Part V.B.1;
 - ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - iii. The written authorization is submitted to NDEP.
- c. **Changes to Authorization.** If an authorization in Part V.B.1 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new written authorization satisfying the requirements of Part V.B.1.b must be submitted to NDEP prior to or together with any information signed by the new representative.

- d. **Certification.** Any person signing a document in Part V.B shall make the following certification.

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I also confirm that a stormwater pollution prevention plan (SWPPP) has been completed, will be maintained at the project site from the start of construction activities, and that the SWPPP will be compliant with any applicable local sediment and erosion control plans. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines for knowing violations.”

2. **Records Retention.** All records and information resulting from activities performed pursuant to this permit shall be retained for a minimum of three years; or longer if required by NDEP.
3. **Availability of Reports.** Except for data determined to be confidential under NRS 445A.665, all reports prepared in accordance with the terms of this permit shall be available for public inspection at NDEP’s office. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445A.710.
4. **Continuation of Coverage.** In accordance with NAC 445A.241, this permit shall remain in effect until reissued, and existing permittees shall be included in the reissued permit if a new NOI is submitted prior to the expiration date of this permit. A filing fee is not required for this new submittal.
5. **Transfer of Ownership or Control.** If control or ownership of the construction project changes, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to NDEP. To transfer permit coverage, the new owner or controller must submit a written request to NDEP. All transfer of permits shall be approved by NDEP.
6. **Annual Fee.** The permittee shall remit an annual fee in accordance with NAC 445A.268 on or before July 1 every year. If the original submittal for this permit is done prior to July 1, the permittee shall resubmit a new annual fee on or before July 1 of that same year.

7. **Right of Entry.** The permittee shall allow NDEP's representatives upon the presentation of credentials:
 - a. To enter upon the construction site or the permittee's premises where any records are kept under the terms and conditions of this permit; and
 - b. At reasonable times, to have access to and copy any records kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method used pursuant to this permit; and to perform any necessary sampling to determine compliance with this permit or to sample any discharge.
8. **Penalty for Violation of Permit Conditions.** The permittee shall comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the CWA and is grounds for enforcement action, permit termination, revocation and re-issuance, or modification, or denial of a permit renewal application. NRS 445A.675 provides that any person who violates a permit condition is subject to administrative and judicial sanctions as outlined in NRS 445A.690 through 445A.705.
9. **Furnishing False Information and Tampering with Monitoring Devices.** Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained by the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required to be maintained under the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, is guilty of a gross misdemeanor and shall be punished by a fine of not more than \$10,000 or by imprisonment. This penalty is in addition to any other penalties, civil or criminal, provided pursuant to NRS 445A.300 to 445A.730, inclusive.
10. **Permit Modification, Suspension or Revocation.** After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - a. Violation of any terms or conditions of this permit;
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
11. **Liability.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or

penalties established pursuant to any applicable Federal, State or local laws, regulations, or ordinances.

12. **Property Rights.** The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
13. **Severability.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Appendix A – Definitions

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "Waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Construction Activities - Construction activities include any clearing, grading and excavation activities that result in the disturbance of one (1) acre or more of total land area, or will disturb less than one (1) acre but are part of a larger common plan for development or sale that will ultimately disturb one (1) or more acres..

CWA - Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483 and Public Law 97-117, 33 U.S.C. 1251 et seq. CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Industrial Activities means temporary concrete, asphalt and material plants which are dedicated to the permitted construction activity.

Large construction activity includes clearing, grading and excavation that results in the disturbance of five acres or more of total land area.

Small construction activity includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. NDEP may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where the value of the rainfall erosivity factor ("R" in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE), pages 21-64, dated January 1997.

Stormwater means storm water runoff, snow melt runoff, and surface runoff and drainage.

APPENDIX B
BMP INSPECTION FORMS



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

CONSTRUCTION ACTIVITIES LOG

Name of Inspector	Date	Major Grading Activities	Temporary Suspension of Construction Activities	Permanent Suspension of Construction Activities	Stabilized Measures Initiated	Comments
Date	Additional Changes					

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____ Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

FIBER ROLLS SEDIMENT BARRIERS

Name of Inspector: _____ Inspection Date: _____
 Title or Qualification: _____
 Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where are the Fiber Rolls Sediment Barriers Located?	Are the Fiber Rolls Embedded in the Ground?	Are the Fiber Rolls Anchored in Place?	What is the Condition of the Fiber Rolls Sediment Barriers?	Are Additional Fiber Rolls Sediment Barriers Needed?

MAINTENANCE REQUIRED FOR FIBER ROLLS SEDIMENT BARRIERS:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____ Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

SILT FENCE SEDIMENT BARRIERS

Name of Inspector: _____ Inspection Date: _____

Title or Qualification: _____

Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where are the Silt Fence Sediment Barriers Located?	Is the Silt Fence Embedded in the Ground?	Is the Silt Fence Anchored in Place?	What is the Condition of the Silt Fence Sediment Barriers?	Are Additional Silt Fence Sediment Barriers Needed?

MAINTENANCE REQUIRED FOR SILT FENCE SEDIMENT BARRIERS:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____

Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

ROCK FILLED BAGS SEDIMENT BARRIERS

Name of Inspector: _____ Inspection Date: _____
Title or Qualification: _____
Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where are the Rock Filled Bags Sediment Barriers Located?	Are the Rock Filled Bags in a functional position?	What is the Condition of the Rock Filled Bags Sediment Barriers?	Are Additional Rock Filled Bags Sediment Barriers Needed?

MAINTENANCE REQUIRED FOR ROCK FILLED BAGS SEDIMENT BARRIERS:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____ Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

EXISTING EARTHEN BERMS

Name of Inspector: _____ Inspection Date: _____

Title or Qualification: _____

Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where is the Earthen Berm Located?	Is the Earthen Berm Still in Place?	What is the Condition of the Earthen Berm?	Are Additional Earthen Berms Needed?

MAINTENANCE REQUIRED FOR EARTHEN BERMS: _____

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____

Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

EARTHEN MOUNTS AT EXISTING BERMS

Name of Inspector: _____ Inspection Date: _____

Title or Qualification: _____

Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where is the Earthen Mount Located?	Is the Earthen Mount Still in Place?	What is the Condition of the Earthen Mount?	Are Additional Earthen Mount Needed?

MAINTENANCE REQUIRED FOR EARTHEN MOUNTS:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____

Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

STABILIZED CONSTRUCTION ENTRANCES/EXITS

Name of Inspector: _____ Inspection Date: _____

Title or Qualification: _____

Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where is the Stabilized Construction Entrance/Exit Located?	Is Sediment Being Tracked onto the Road?	Is the Entry Surface Clean or Sediment Filled?	Does All Traffic Use the Entrance?	Is Additional Rock or Turning Needed at the Entrance/Exit?

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCES/ EXITS:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____

Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM**

PERMANENT SEDIMENT BASINS

Name of Inspector: _____ Inspection Date: _____

Title or Qualification: _____

Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

Where is the Sediment Basin Located?	Is there any Erosion of the Sediment Basin?	Has the Design Capacity Been Reduced by 50%?

MAINTENANCE REQUIRED FOR PERMANENT SEDIMENT BASINS: _____

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

SIGNATURE UPON COMPLETION OF CORRECTIVE ACTION: _____

I certify that this inspection has been conducted in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____

Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE REPORT
FORM
*INCIDENTS OF NON-COMPLIANCE***

Name of Inspector: _____ Inspection Date: _____
Title or Qualification: _____
Days Since Last Rainfall: _____ Amount of Last Rainfall: _____ inches

INCIDENTS OF NON-COMPLIANCE:

CAUSE OF THE NON-COMPLIANCE:

ACTIONS TAKEN TO PREVENT FURTHER CAUSES OF THE NON-COMPLIANCE:

IF THERE ARE NO INCIDENTS OF NON-COMPLIANCE, PLEASE SIGN THE FOLLOWING CERTIFICATION:

I certify that the site is in compliance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____ Date: _____



Phase B Building Demolition and Soil Remediation at Tronox Henderson Facility

**BEST MANAGEMENT PRACTICE INSPECTION AND MAINTENANCE
REPORT FORM**

UPDATES TO THE SWPPP

CHANGES REQUIRED TO THE SWPPP:

REASONS FOR CHANGE:

TO BE PERFORMED BY: _____ **ON OR BEFORE:** _____

I certify that this SWPPP modification is in accordance with the Stormwater Pollution Prevention Plan and the Nevada Stormwater General Permit NVR100000.

Signature: _____ Date: _____

