**REPORT**

# Stage 2 Interim Action Report for the Former Satralloy Site (Jefferson County, Ohio)

Submitted to:

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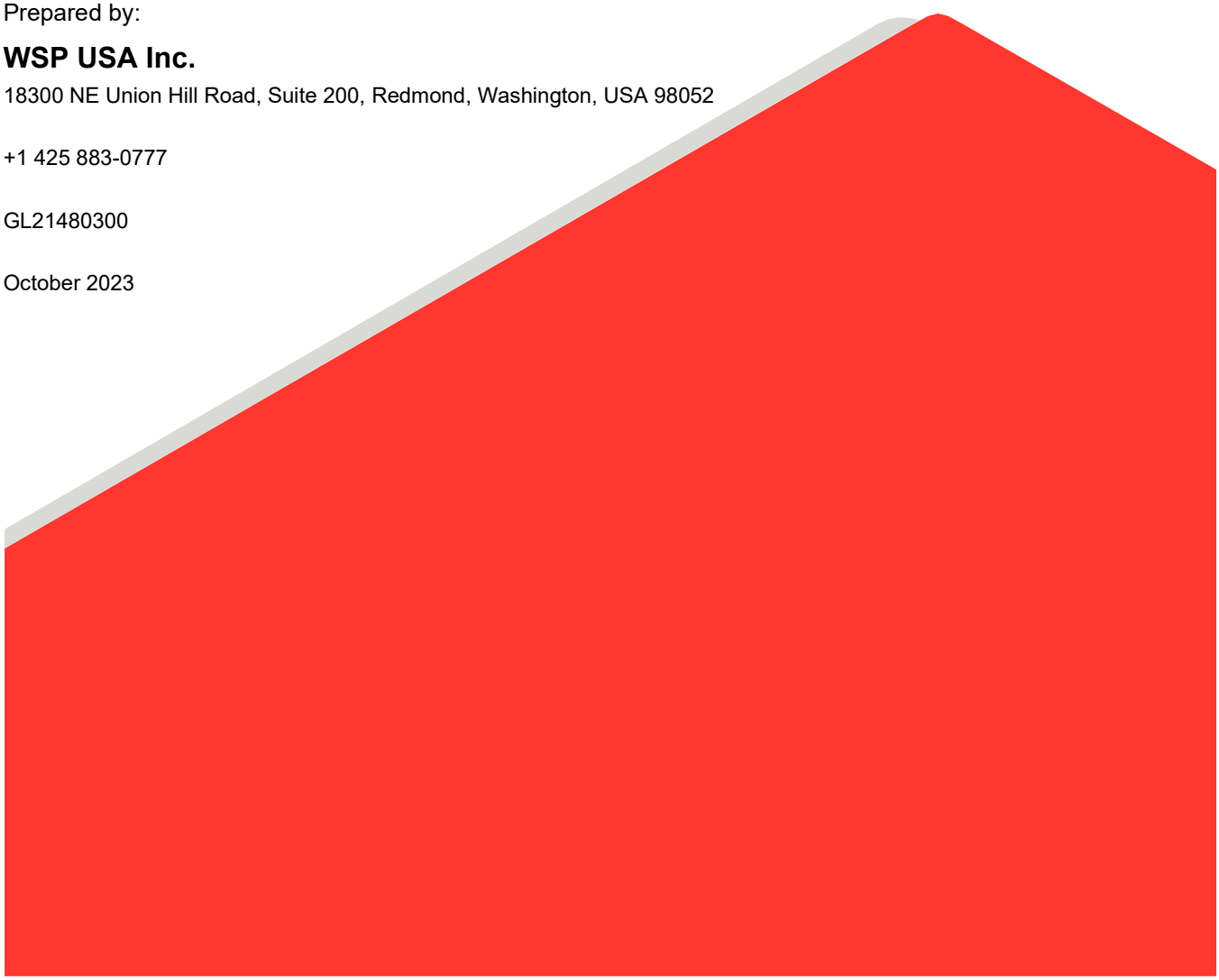

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# Abbreviations

| | |
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| ACM | asbestos-containing material |
| ARC | ARC Abatement, Inc. |
| BMP | Best Management Practice |
| BUSTR | (State of Ohio) Bureau of Underground Storage Tank Regulations |
| C&D | construction and demolition |
| CGP | Construction Stormwater General Permit (OHC000003) |
| Clean Harbors | Clean Harbors, Inc. |
| Cobra | Cobra Roll-Off Service |
| COPI | Consent Order for Preliminary Injunction |
| Cyprus Amax | Cyprus Amax Minerals Company |
| Foote Minerals | Foote Mineral Company |
| Golder | Golder Associates USA Inc. (acquired in full by WSP USA Inc.) |
| HAZWOPER | Hazardous Waste Operations |
| IA Workplan | Interim Action Workplan |
| JHA | job hazard analyses |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NMB | North Mill Building |
| OEPA | Ohio Environmental Protection Agency |
| OSHA | Occupational Safety and Health Administration |
| PCB | polychlorinated biphenyl |
| PTIO | (Air Pollution Control) Permit-to-Install and Operate |
| RECON | Remedial Construction Services, LP |
| Site | Former Satralloy Site |
| SMB | South Mill Building |
| SWP3 | Construction Storm Water Pollution Prevention Plan |
| TSCA | Toxic Substances Control Act |
| UST | underground storage tank |
| VCA | Vanadium Corporation of America |
| WSP | WSP USA Inc. |

# 1.0 INTRODUCTION

This report documents the Stage 2 Interim Action – Demolition Activities for the Former Satralloy Site (Site) located at 4243 County Road 74 in Mingo Junction, Ohio. This report was prepared by WSP USA Inc., (WSP, formerly Golder Associates USA Inc. [Golder]) on behalf of Cyprus Amax Minerals Company (Cyprus Amax).

## 1.1 Background

The Site consists of approximately 333.5 acres of land and includes an abandoned ferrochromium alloy processing plant. The Site is located in Cross Creek Township, Jefferson County, Ohio, and is approximately four miles south of Steubenville, Ohio. The Site is bordered on the north, west, and south by Cross Creek, a perennial stream that discharges into the Ohio River.

Before the demolition described in this report, the Site contained two production mill buildings, an office building, baghouses, and a number of ancillary support buildings. The mill produced chromium and ferrochromium from chromium ores by smelting in four electric arc furnaces housed in the two mill buildings. The furnaces were shut down in 1982 when primary ore processing operations ceased.

A Consent Order for Preliminary Injunction (COPI) (State of Ohio 2010) between Cyprus Amax, Chemetall Foote Corporation, and the State of Ohio to perform a Remedial Investigation / Feasibility Study (RI/FS) for the Site was entered on November 3, 2010. The COPI required, among other things, certain interim actions related to chromium-containing dust and Site security.

## 1.2 Interim Actions

Some interim actions were performed in 2010 with prior consultation with the Ohio Environmental Protection Agency (OEPA) before the COPI went into effect. Subsequent interim actions have been performed in accordance with the Interim Action Workplan (IA Workplan; Golder 2012) approved by the OEPA on April 25, 2013, and Amendments 1 through 5, also approved by OEPA.

The interim actions performed from 2010 through 2017 are referred to as Phase 1 Interim Actions and are summarized in a report titled Completion Report for Phase 1 Interim Action at the Former Satralloy Site (Golder 2017).

Cyprus Amax and its contractors returned to the Site in 2019 to complete the interim actions identified in the COPI. These activities performed from 2019 through 2022 are referred to as the Stage 2 Interim Actions and are described in this report. Interim Actions in both Phase I and Stage 2 included work not identified in the COPI but thereafter proposed and approved under the COPI. In general, the Stage 2 Interim Actions included the completion of the chromium-containing dust removal and disposal, followed by the decontamination, abatement, and demolition of the remaining Site structures.

# 2.0 STAGE 2 INTERIM ACTIONS (2019-2022)

The following Stage 2 Interim Actions were performed between November 2019 and September 2022:

- Installation of a water pump, underground piping, and water hydrants to provide water for Site operations, dust control, and decontamination
- Relocation or disposal of baghouse and other chromium-containing dust previously bagged and staged in the north mill building (NMB) high bay, with dust from the south mill building relocated to the slurry bowl and dust from the NMB disposed off-site

- Maintenance of existing haul roads
- Completion of dust remediation from the NMB
- Asbestos abatement of the transite wall and roof panels and other asbestos-containing material (ACM)
- Building demolition (NMB and ancillary structures, south mill building [SMB] and ancillary structures, north and south ore bins, administration building, pump house, electrical building, water tower, slurry tower and pipeline, and the former truck scale)
- Removal of a 10,000-gallon heating oil underground storage tank, with associated closure and sampling in accordance with state requirements
- Transportation off-site by rail or truck of waste materials for proper disposal as hazardous or non-hazardous waste
- Transportation off-site of scrap metal by rail for recycling
- Development of borrow areas for backfill for construction of safety slopes against foundation walls and other safety features
- Stabilization of Disturbed Areas
- Implementation of stormwater controls per the approved Storm Water Pollution Prevention Plan

The Stage 2 Interim Actions conducted from 2019-2022 were performed in consultation with OEPA. The work was performed per the 2019 Project Manual, Stage 2 Interim Action – Demolition, Former Satralloy Site (Project Manual; Golder 2019).

Photographs of the Site during key Stage 2 events are included in Appendix A.

## 2.1 2019 – 2020 Activities

The Stage 2 Interim Actions were initiated in November 2019. The contractor was Remedial Construction Services, LP (RECON), and Site management and on-site health and safety was provided by Golder. The activities performed during this 2019-2020 period included mobilization, Site layout and infrastructure improvement, and preparation for the Stage 2 Interim Actions. However, this phase of work was suspended early in March 2020 because of health and safety concerns related to the Covid-19 pandemic. After the decision was made to suspend the interim actions, the Site was secured and equipment and personnel were temporarily demobilized. During this temporary Covid-19 shut-down, the Site remained secured with 24/7-onsite security (Section 2.3).

## 2.2 2021 – 2022 Activities

Stage 2 Interim Actions resumed at the Site in July 2021 with the same project team from 2019-2020. Remobilization began on July 12, 2021, with health and safety orientations and Site-specific training for Site workers. Initially, the interim actions focused on mobilization and resuming the disposal of the chromium-containing dust bags. In August 2021, the abatement subcontractor ARC Abatement, Inc. (ARC) mobilized to the Site, after which abatement and demolition activities began.

## 2.3 Site Security

Around-the-clock (24 hours a day, 7 days a week) security has been present at the Site since 2010. On-site security consists of local law-enforcement agents, primarily from the Jefferson County Sheriff Department, who guard the main entrance and perform routine Site patrols. Before beginning work on the Site, new security personnel are provided with initial Site orientation and health and safety training (including Occupational Safety and Health Administration [OSHA] 40-hour Hazardous Waste Operations [HAZWOPER] training), and they receive annual health and safety refresher training.

The Site also includes fencing, guard rails along with signage to deter trespassers. These security features had been installed as part of the Phase I Interim Actions and were maintained during the Stage 2 Interim Actions.

## 2.4 Health and Safety

The Stage 2 Interim Actions were performed in accordance with the approved Site Health and Safety Plan submitted to OEPA (Golder 2019, 2020). Employees of contractors and subcontractors were current with 40-hour HAZWOPER and 8-hour refresher training. Site workers were given site-specific orientation training prior to working on-site.

At the beginning of each work day, Site managers and workers attended a daily health and safety meeting to discuss the planned activities for the day, the associated health and safety risks, and the procedures and protections to mitigate those risks. Site workers prepared job hazard analyses (JHAs) prior to performing work. Before any Site work was performed involving excavation or ground disturbance, a general "blue stake" permit was established for the Site and included the locations of underground utilities. An exclusion zone was maintained around the perimeter of the Site, and Site personnel were required to wear proper personal protective equipment (hard hats, safety shoes, high-visibility clothing, safety glasses, etc.) when entering.

## 2.5 Site Infrastructure Improvements and Temporary Construction Facilities

At the beginning of each mobilization, initial tasks included updates to Site and support zone infrastructure. RECON installed traffic and safety signs in the parking areas and driveways and improved the decontamination pad (Section 2.16). Throughout the Stage 2 Interim Actions, this infrastructure was maintained as necessary.

Through July 2021, the Site infrastructure included an office building and a temporary office trailer used by Site security. The temporary security trailer was removed and replaced with two newer office trailers. A single-wide office trailer was set up for use by Site security and as a meeting/break room for Site workers. A double-wide office trailer was installed with conference space, contractor offices, and restrooms.

The Site improvements included the installation of a water system in late July 2021 to provide a regular water source for the Site. A water pump was installed inside an existing water supply well located in the support zone. A 20-foot Conex box was placed next to the well to house the pump system equipment and controls. A network of underground pipes was installed belowground to provide water to the double-wide office trailer for use with the restroom facilities. Additional underground water lines were installed to connect several new water hydrants, which were installed in the equipment parking and decontamination line area to provide water for equipment decontamination and to fill water trucks used for Site dust control.

Later, in January 2022 after the administration building was demolished (see Section 2.12), a canopy was installed over a portion of the concrete slab. Because the administration building was located near the entrance to

the exclusion zone and equipment parking area, its concrete slab was used for equipment storage and maintenance, and the canopy provided protection against the elements for personnel and equipment.

The pump house was demolished in May 2022, with a sump remaining. Almost immediately after this demolition, water was observed flowing from under the southeastern corner of the nearby former administration building concrete slab, down gradient of the pump house. From that slab corner, the water flowed across the ground surface past the office trailers and through the parking lot. In August 2022, an interceptor trench was installed near the former administration building concrete slab to intercept the water migrating below ground from the pump house sump. The trench was approximately 1.5 feet wide, 4.5 to 5 feet deep, and 100 feet long. It was filled with broken concrete backfill to within about 3 inches of the ground surface with topsoil placed in the top 3 inches. The trench daylights in an existing ditch to the south, which connects to an existing storm drain.

## 2.6 Haul Road Maintenance and Improvements

Site roads were maintained by RECON throughout the Stage 2 Interim Actions, with the objective of stabilizing Site roads, reducing erosion, and allowing for 4-wheel drive vehicle access to various Site areas.

Roads that were constrained by vegetation overgrowth were widened and made more accessible. Some of the vegetation was left in place alongside the road, and felled trees were taken to an on-site storage location. Roads were regraded and slag was used as a granular surface layer when needed to maintain the road surface and repair areas of erosion.

At various sections of the Site roads, safety berms were constructed along the side of elevated roads where a vehicle roll-over hazard existed or where a vehicle leaving the roadway could accelerate downslope. Safety berms were constructed to the mid-axle height of a full-sized 4-wheel drive vehicle.

## 2.7 Chromium-Containing Dust Disposal

During Phase I (2013-2014), baghouse dust and/or other chromium-containing dust from the interiors of the mill buildings was collected, placed in disposal bags, and staged in the high bay of the NMB. During Stage 2, these bags of dust were prepared for final off-site disposal. Dust bags from the NMB were transported off-site by rail for disposal as hazardous waste (see Section 2.14, Transportation and Disposal). Dust from the SMB, which was not hazardous waste, was transported by haul truck to the "slurry bowl" in the Former Mine Area, to be consolidated with slag as part of the final remedy.

RECON began by segregating the bags of dust from the NMB and SMB that had previously been staged in the NMB high bay. This was done because dust from the NMB was classified as a hazardous material that required off-site disposal, while the bags of dust from the SMB were classified as non-hazardous and could therefore be utilized on-site. Bags of NMB were lifted with equipment and moved to the rail spur, where up to 12 rail gondolas from US Ecology were staged. Prior to loading the bags, the gondolas were lined with RailPac® liners per the disposal facility requirements. After each gondola was loaded, the liners were sealed along the top per the manufacturer’s instructions.

During handling, many of the previously filled and staged dust bags tore open, with the dust spilling to the high bay floor. This issue was attributed to the age of the bags and weathering and deterioration that resulted from the extended period of time since the bags had been filled. To continue off-site disposal, it became necessary to re-bag much of the dust into new disposal bags. RECON transferred the contents of damaged bags and dust that had spilled to the NMB high bay floor into new 1- and 5-cubic yard bags.

During sorting and re-bagging, some NMB and SMB dust became commingled, and the identity of some previously filled bags could not be determined. Because dust from the NMB was being transported off-site for disposal as hazardous waste, commingled dust and the contents of any unidentifiable bags were managed as hazardous waste. After the re-bagged dust was removed from the NMB high bay, RECON cleaned the floor with a power broom.

In addition to the previously filled bags of dust, additional dust was collected from the NMB and bagged for off-site disposal during the Stage 2 Interim Actions (see Section 2.8).

The NMB dust bags were initially profiled for transportation by rail to US Ecology's hazardous waste disposal facility in Belleville, Michigan. Upon arrival of the first train of 12 gondolas at the Michigan facility, US Ecology discovered that many of the bags had broken, with dust spilling into the gondola liners. This US Ecology facility had expected to receive intact dust bags and was not equipped to handle loose dust inside the lined gondolas. Therefore, the first 12 gondolas were re-routed to US Ecology's hazardous waste disposal facility in Grandview, Idaho, which was capable of handling the dust. Subsequent shipments of the NMB dust for disposal were sent by rail directly to the Grandview, Idaho facility.

In total, 43 gondolas containing chromium-contaminated dust were shipped off-site by rail during the Stage 2 Interim Action. Following the initial train of 12 gondolas shipped in September 2021, another train of 12 gondolas was shipped in January 2022, followed by eight gondolas in March 2022 and eight gondolas in May 2022. The final three gondolas with dust left the Site in July 2022.

## 2.8 NMB Dust Removal

Prior to the removal of transite panels, the NMB was cleaned of loose chromium-containing dust. The dust was removed by a group of ARC workers using vacuums and other mechanical methods. A trailer-mounted industrial vacuum was used to remove the bulk of the dust from accessible areas of the building. The vacuum box was placed in the casting bay and moved with equipment along the length of the furnace deck. This vacuum box was equipped with long hoses that ARC workers used to access and clean much of the furnace deck and casting bay. As dust was vacuumed by the workers with hoses, it was collected in cubic-yard bags. As each bag was filled with dust, ARC workers closed and secured it and then transported it to the NMB high bay staging area, where it was later loaded by RECON into the US Ecology gondolas (see Section 2.7). In addition to this large vacuum box, ARC workers also used smaller floor and back-carried vacuum units in less accessible areas of the NMB outside the reach of the trailer-mounted vacuum.

After the NMB building had been cleaned of the chromium-containing dust, transite panel removal began (Section 2.9). However, many of the transite panels in the NMB roof and some exterior walls were covered with accreted dust. As these transite panels were removed, some of the accreted dust fell off and re-contaminated the NMB casting bay and furnace deck. To ensure that the NMB was adequately cleaned of the chromium-containing dust prior to demolition, the NMB was cleaned again after the transite panels had been removed.

In the casting bay, large pieces of accreted dust had fallen to the bare ground surface. ARC recovered these pieces of accreted dust and placed them in cubic-yard bags for off-site disposal. The floors of the NMB furnace deck were primarily composed of concrete, with smaller areas of metal equipment, decks, and catwalks. On these areas, ARC used brooms, shovels, and vacuum cleaners to remove the fallen accreted dust.

During the cleaning of the upper floors of the NMB furnace deck, particular attention was paid to fall protection because the exterior transite panel walls had been removed exposing the workers to increased fall risks.

Appropriate fall protection equipment and procedures were used, including temporary barriers and the use of fall-protection harnesses and cables by the workers.

After the remaining portions of the NMB casting bay and furnace decks were cleaned a second time, the area was ready for demolition (see Section 2.12).

## 2.9 Transite Panel Removal (Asbestos Abatement)

### 2.9.1 Introduction

During the Phase I Interim Actions, asbestos abatement was performed to remove friable ACM from the Site buildings (Golder 2017). Nonfriable ACM in the form of transite panels remained on the NMB, SMB, and some smaller Site structures, and these were removed during the Stage 2 Interim Actions.

To perform the asbestos abatement of the transite panels, RECON subcontracted with ARC, who mobilized to the Site in August 2021. ARC's staff included licensed asbestos supervisors and abatement workers, and they received Site orientation training prior to beginning work. The asbestos abatement was performed under a demolition permit from OEPA (notification number 171576).

The exterior walls and roofs of the two large mill buildings were primarily composed of transite, and most of the transite removal operations were performed at these buildings. Details of the general removal procedures are provided in the subsections below. Transite panel removal began at the SMB, and subsequently, transite panel removal at the NMB began after the removal of dust inside the NMB (see Section 2.8). Transite was also removed from some smaller Site structures prior to demolition, such as the rail house at the north ore bins.

### 2.9.2 Exterior Walls

The transite panels varied in size and dimension. Transite panels were removed intact to minimize the potential for releasing asbestos. The panels on the exterior walls were removed prior to removing the roof panels.

ARC established a control zone at each transite panel removal work area, and this control zone was moved as needed as the operation progressed down the length of the building. Transite panel removal began at the top of each wall and continued down to the ground. ARC used 80- and 125-foot boom lifts to access the transite panels. Two asbestos workers worked together in the basket of each boom lift to safely remove each panel. As constructed, the panels were secured to the steel frame of the mill building using metal fasteners with lead caps. The workers used hand tools to remove and collect the lead caps for recycling as scrap metal. Once the caps were removed, the two workers lifted each panel off of the shafts of the fasteners. During removal, ARC used amended water to wet any small, broken pieces of transite in accordance with applicable National Emission Standards for Hazardous Air Pollutants (NESHAP) and OSHA requirements.

Because of the panels' size and weight, the boom lift baskets were equipped with sill plates along the bottom front. Workers placed the bottom of each transite panel onto the sill plate and secured it to the basket, which allowed the boom lift to carry the weight of each panel as it was lowered to the ground. Once on the ground, two other asbestos workers took each panel from the boom lift basket and carried it away.

After removal, the transite panels were placed into stacks on a double sheet of polyethylene. After approximately 8-12 panels were accumulated, that stack was wrapped with polyethylene, secured with tape, and then a new stack was started. The wrapped stacks of transite panels were then transferred with forklifts to a waste staging area for preparation for off-site transportation and disposal (Section 2.9.4).

### 2.9.3 Mill Building Roofs

After the transite panels were removed from the exterior walls of each mill building, ARC removed the panels from the roof. Unlike the vertical exterior walls, the roof surfaces were pitched at a slight angle. Additionally, the mill building roofs included raised vent openings that were also lined with transite panels. The removal of the roof panels was performed using the same general approach as the exterior walls, with control zones, two workers in each boom lift basket lifting individual panels to the ground, and workers on the ground taking the panels away to be stacked and wrapped in bundles for disposal as nonfriable ACM. However, the removal of the roof panels took longer to complete because of the pitch of the roof and the greater distances required to convey the panels to the ground one at a time.

At the SMB, roof transite panel removal was performed as described above; however, the method was modified at the NMB due to a significant amount of accreted dust on the roof panels, and some of the walls. This dust had hardened into a thick layer (approximately 1 to 2 inches) on the panels, which greatly increased their thickness and weight. The additional weight of these panels, combined with the height of the NMB roof, made it difficult to remove these panels safely. Eventually, ARC was able to remove most of the roof panels from some of the sections of the NMB, including the furnace deck. However, the roof of the casting bay caused the greatest challenges because of its height and width. Because of safety concerns for the ARC asbestos workers, a variance to the demolition permit was obtained from OEPA. Instead of removing the panels manually from the casting bay roof, the transite roof panels remained in place while the roof of the casting bay was brought down through controlled demolition. After the casting bay roof was on the ground and the area was determined to be safe to enter, ARC established a control zone around the roof section and asbestos workers entered the area to remove the remaining transite panels. Intact panels were managed in stacks as described above, and broken pieces of transite were placed in cubic yard disposal bags.

### 2.9.4 Preparation for Asbestos Waste Disposal

ARC managed and prepared the asbestos waste for off-site transportation and disposal at several waste staging areas. Each area included bundles of wrapped/taped transite panels and roll-off containers. ARC workers lined each empty container with polyethylene sheeting and then filled them with the wrapped panel bundles using a forklift. Once each roll-off container was filled, ARC sealed the top with the polyethylene liner prior to off-site transportation.

Off-site transportation of the ACM waste was provided by Cobra Roll-Off Service (Cobra), as a subcontractor to RECON. The ACM waste was taken to the Waste Management American Landfill near Waynesburg, Ohio. A total of 146 roll-off containers containing nonfriable ACM were sent off-site for disposal, including 103 from the NMB and 43 from the SMB. Also, one roll-off of friable ACM, consisting of small, broken pieces of transite, was also sent off-site for disposal.

## 2.10 Other Asbestos Abatement

In addition to the transite wall and roof panels (see Section 2.9), a few additional types of ACM were encountered in the Site buildings. These materials were assessed and abated as they were encountered throughout the Stage 2 Interim Actions.

Previous regulated material surveys had identified the flat, built-up roofing areas of several of the Site buildings as being suspect materials. This type of roofing was found on smaller sections of the NMB and SMB (for example, the high bay and low bay of the NMB), and the entire roofs of the administration building, pump house, and electrical building. To determine whether these flat roof areas were ACM, they were surveyed in August 2021 by

an Ohio-licensed Asbestos Hazard Evaluation Specialist. The results determined that the primary, flat roofing areas were not ACM, although a few small areas with roof patches did contain ACM. Those small areas were abated by ARC prior to the building demolition.

Additionally, another type of ACM that was identified during Stage 2 Interim Actions was nonfriable gasket material in previously inaccessible duct work from the baghouses and off-gas pipes. As these duct sections were brought down to the ground and became accessible, the gaskets were identified and assessed. Many of them were determined to be ACM, and these sections of duct were separated from the rest of the scrap metal. ARC asbestos workers then removed the gaskets for disposal as non-friable ACM.

Another type of nonfriable ACM was found in duct banks leading from the basement of the electrical building. The ACM was a series of circular pieces of electrical conduit encased in concrete that was presumably used for underground power transmission cables to the NMB and SMB. The edges of this ACM were visible where the duct banks exited the basement walls, and they were presumed to continue throughout the entire length of the buried duct banks. The same conduit material was visible in the ground-level concrete retaining walls of the NMB and SMB. These materials were left in place, and the duct bank penetrations at the electrical building, NMB, and SMB were covered by the backfilled slopes that were constructed against the concrete foundation walls.

During abatement activities, when ARC encountered suspected ACM, it was not sampled but assumed to be asbestos-containing and was disposed of as ACM. For example, a small quantity of electrical wires in the electrical building and pump house were considered to be ACM suspect materials. These materials were removed by ARC for disposal as nonfriable ACM.

The above-described other types of nonfriable ACM were disposed along with the NMB and SMB transite panels as discussed in Section 2.9.4.

## 2.11 Other Regulated Materials

Some regulated materials had previously been removed from the Site buildings during the Phase I Interim Actions (Golder 2017). During the preparation of the Site buildings for demolition during the Stage 2 Interim Action, additional regulated materials were properly removed, as described in the following subsections.

### 2.11.1 Refractory Brick

The furnaces in the NMB and SMB were lined with refractory brick. Because the refractory brick potentially contained a naturally occurring radioactive material, it was segregated from the rest of the demolition debris before and during demolition (Section 2.12). In addition, a small number of refractory bricks from the NMB were contaminated with chromium.

The refractory brick was transported off-site in two rail gondolas for disposal as hazardous waste at the US Ecology facility in Grandview, Idaho. As was done for the NMB dust, the refractory brick was placed inside RailPac® liners in each gondola, which were sealed prior to off-site transport. The two gondolas containing refractory brick were sent off-site in August 2022.

### 2.11.2 Waste Tires

A pile of tires had been located near the pump house. During the Stage 2 Interim Actions, additional waste tires that were encountered were added to this pile. Prior to off-site transportation, the tires were quartered per the requirements of the disposal facility. In June 2022, the tires were loaded into a truck for disposal as waste tires at the US Ecology facility in Belleville, Michigan.

### 2.11.3 PCB-Impacted Concrete

The former maintenance shop of the NMB contained two concrete pedestals that were believed to have been used to hold electrical equipment. Oil staining was visible on both pedestals and a portion of the concrete floor around them. This area had been sampled for PCBs in January 2019, and the results indicated the presence of PCBs, with one sample above 50 milligrams per kilogram, which is the Toxic Substances Control Act (TSCA) threshold for disposal as PCB waste.

The PCB-impacted concrete was removed for off-site disposal as PCB waste. Even though only one of the pedestals was shown to exceed the TSCA limit, both of the oil-stained pedestals and a wider area of impacted concrete slab around them were removed. In June 2022, RECON used an excavator with a concrete hammer attachment to remove the concrete pedestals and surrounding slab and break them into manageable pieces of concrete debris. The debris was then loaded into two trucks for transportation to the US Ecology facility in Belleville, Michigan.

### 2.11.4 Oily Wastes

Throughout the Stage 2 Interim Actions, RECON performed routine maintenance and repairs of their equipment. As a result of this routine maintenance, a small quantity of liquid waste (e.g., oily water and other fluids) was generated. During waste disposal profiling, analytical testing determined that this oily liquid waste contained benzene above the hazardous waste threshold for the toxicity characteristic. There was a small quantity of this waste (approximately 30 gallons in one 330-gallon tote), which was disposed of by Clean Harbors, Inc. (Clean Harbors) in August 2022 as hazardous waste.

### 2.11.5 Lead-Based Paint

Flaking paint on structures was presumed to contain lead and was removed prior to demolition. The presumed lead-based paint was disposed of with the chromium-containing dust at the US Ecology facility in Idaho.

### 2.11.6 Universal Wastes

Universal wastes included fluorescent light bulbs and two small appliances (microwave and refrigerator). These universal wastes were disposed by Clean Harbors.

## 2.12 Demolition

### 2.12.1 Introduction and Demolition Sequence

Along with the transite panel abatement and the completion of the NMB chromium-containing dust disposal, the other major component of the Stage 2 Interim Actions was the demolition of the remaining Site buildings and structures. Demolition was performed by RECON using mechanical (non-explosive) methods in accordance with the Project Manual, NESHAP demolition permit, applicable codes, worker safety requirements, and RECON's pre-work submittals. Demolition of each structure or portion of a structure was only performed after inspection and sign-off by the project team, which included environmental inspections to ensure that regulated materials had been removed, reviews of the demolition methods by RECON's construction manager, and health and safety reviews. Once each structure or building section was cleared for demolition, it was roped off and access was limited to authorized demolition personnel.

Demolition of the Site structures began with the north and south ore bins, and the demolition of these structures continued throughout the Stage 2 Interim Actions because of the large amount of concrete. Demolition of smaller structures began with the slurry tower in the slurry bowl and then a railroad structure (the "dog house") after ARC

completed the removal of transite panels. Subsequently, demolition focused on the baghouses, silos, and associated ductwork and other structures around the SMB and then the NMB. These ancillary structures were demolished to allow for better access by ARC to the main mill building structures for transite panel removal (Section 2.9).

Because of their large size, the demolition of the SMB and NMB occurred in phases corresponding with the different building sections. Demolition was also performed in sequence following the completion of transite panel removal from each building section. For both mill buildings, demolition began on the east, downhill slope and continued uphill to the taller sections. In general, for these major mill building sections, both transite panel removal and demolition of the lower sections were completed first, to allow access to the next building section for continued transite panel removal / demolition. At the SMB, demolition began at the shipping bay, continued to the casting bay, and then continued to the furnace deck. At the NMB, demolition was performed first on the maintenance area and then continued with the low and high bays after dust removal operations were completed. Demolition continued with the casting bay and then the furnace deck. Demolition began and was completed for the SMB before the NMB, although some demolition activities of the two mill buildings occurred concurrently.

Other structures demolished during the Stage 2 Interim Actions included the slurry tower, the water tank, the administration building, the pump house, the slurry pipe, the electrical building, and the former truck scale.

### 2.12.2 Standard Demolition Methods

Demolition of the Site buildings and structures was performed using mechanical (non-explosive) methods in accordance with the Project Manual and RECON's pre-work submittals. RECON used multiple excavators with standard buckets and specialty demolition attachments including metal shears, grappler arms, concrete hammers, and concrete pulverizers. The mill buildings and bag houses were primarily constructed of steel beams, so demolition was performed using excavators with metal shears making strategic cuts to load-bearing steel members and then safely pulling the sections down to the ground. For much of the demolition operations, RECON also utilized a long-reach excavator with shears to demolish accessible portions of the tallest sections of the mill buildings.

For concrete structures and components (e.g., the north and south ore bins, north and south silos, and concrete floors in the furnace decks of the mill buildings), demolition was performed with excavators using the concrete hammer and pulverizer attachments.

The administration building, pump house, and electrical building were relatively simple one- or two-story structures composed of concrete block walls with a flat, built-up roof. Demolition of these buildings was performed with the excavator with grappler attachment by pushing the concrete block walls in so that each structure could collapse on itself.

### 2.12.3 Alternate Demolition Methods

Some of the Site structures or sections were too tall to be safely demolished by the conventional procedures described above. For these structures, the demolition equipment was not able to cut and remove the upper pieces of the structure and bring them to the ground safely without posing a risk to the operator and equipment.

For these structures, RECON proposed the use of alternate demolition methods. RECON submitted method statements for each of these structures that included the alternate demolition method and the specific procedures and steps to ensure that they would be performed safely. These method statements were reviewed by the project team, including health and safety specialists, and were revised, if necessary, before being approved.

Alternate demolition methods were used for the furnace decks for both the NMB and SMB and for the north and south off-gas vent pipes, which were the tallest structures at the Site. Although the specific details varied for each structure, they were all generally demolished through a felling plan in which key structural members were cut under controlled conditions.

For the SMB and NMB, the general procedure was as follows: temporary tension cables were attached to the structure and secured to the ground to stabilize it. RECON workers then used torches to make partial notch cuts at the tops and bottoms of the base support beams. The cuts were designed to weaken the beams so that they would fall in a specific way once lateral pressure was applied, while remaining strong enough to support the weight of the building. Once all of the notch cuts were made, the stability cables were disconnected. Then, equipment located at a safe distance used cables attached to the structures to pull the structure down to the ground. Once pulled, the ground-level steel beams folded as intended at the notch cuts and the upper portions of the furnace deck came down to the ground. The ultimate result was that the remainder of the furnace decks were closer to the ground so that demolition by conventional means (Section 2.12.2) could be continued.

For the north and south off-gas vent pipes, a similar alternate method was used. Each structure was temporarily secured while strategic notch cuts were made to the supporting steel beams. Then equipment located at a safe distance pulled on cables attached to the structure so that it could fall safely to the ground.

Also, as described above in Section 2.9.3, a demolition variance was obtained for the casting bay of the NMB to bring the roof down with the transite panels still attached.

### 2.12.4 Demolition Debris Sorting and Sizing

For each building, structure, or building section, demolition by the methods described above continued until the structure was pulled to the ground. The demolition crew then reduced the size of the debris and sorted it into different material streams for reuse, recycling, or disposal. The primary materials removed for reuse/recycling were scrap metal and concrete, with the rest of the material consolidated as construction and demolition (C&D) debris.

Scrap metal was pulled from the debris, separated into the different types of scrap (heavy melting steel, plate and structural steel, ferrous scrap for shredding, rebar, and non-ferrous steel) and then sized down per the requirements of Rocky Mountain Recycling, the scrap broker. After the material was segregated, it was moved by haul truck to one of several scrap staging and sorting locations for further size reduction. Where possible, scrap metal was cut using excavators with shears. However, much of the scrap metal debris was too large to be cut this way and was manually cut by workers using acetylene torches.

The reduced-sized scrap metal was moved to the rail spur area for loading into rail gondolas for transport to the scrap metal facilities. The scrap metal shipments were managed by Rocky Mountain Recycling, who coordinated with the railroad and the various scrap yards receiving the different kinds of scrap. Scrap metals shipments began in January 2022 and continued through September 2022. In total, 219 gondolas with approximately 8,348 long tons of scrap metal were sent off-site for recycling.

### 2.12.5 Concrete Debris

Concrete was separated from the demolition debris, separated from rebar, and then sized down with the concrete pulverizer. Concrete was initially intended to be reduced to a maximum particle size of 6 inches to be used as an erosion protection layer on backfilled slopes. However, as the concrete material was being crushed much of it became powder not suitable for use for erosion protection. Instead, the pulverized concrete was left in several

piles on-site for consolidation with the remainder of the slag during the next phase of remediation. As a replacement for erosion protection, a seed and mulch mixture was used instead to stabilize the slopes that remained at the Site after the Stage 2 Interim Actions (Section 2.15).

After separating scrap steel and concrete, the remaining demolition debris was C&D debris. This waste was loaded into roll-off containers and was hauled off-site by Cobra to the Waste Management American Landfill near Waynesburg, Ohio. A total of 205 loads and 1,698 tons of C&D waste were sent off-site during the Stage 2 Interim Actions.

## 2.13 Heating Oil UST Decommissioning and Removal

A 10,000-gallon underground storage tank (UST) was previously located near the north ore bins. The UST was historically used to store heating oil for the NMB, and it was removed during the Stage 2 Interim Actions. A summary of the details of the UST decommissioning and removal is provided in this section.

A UST storing heating oil for consumptive use on the premises is exempt from the Ohio Bureau of Underground Storage Tank Regulations (BUSTR) and equivalent United States Environmental Protection Agency UST regulations; however, the removal of a flammable or combustible UST is governed by the Ohio Fire Code. There are no other applicable state or federal environmental regulations for heating oil tank closures in Ohio, unless there was a spill that impacted waters of the State. Though not required, a closure assessment and evaluation of the analytical results was completed in general accordance with the equivalent BUSTR regulations.

The UST decommissioning work was performed by Clean Harbors. In May 2022, the UST was opened to assess its condition and was found to contain approximately 12 inches of water, which had possibly been trapped from previous groundwater infiltration. A sample of the liquid was collected and analyzed for waste disposal parameters, and the results indicated that the liquid was non-hazardous.

Permit number PER-141733 for UST decommissioning was obtained from the State of Ohio Fire Marshal's office, and the UST decommissioning and removal work was performed on June 7, 2022. A State of Ohio Fire Marshal and a State-certified UST installer were on-site to oversee the process to ensure that the work was performed properly.

A RECON equipment operator used an excavator with bucket attachment to uncover the top of the UST, with the excavated soil placed in spoil piles next to the excavation. Once exposed, the UST was opened, and a crew from Clean Harbors decontaminated the UST using high-pressure water jets, with the wash water recovered in a vacuum truck. After the UST was decontaminated, it was removed from the ground. During removal, the UST broke into two sections at the weld seam, and the sections were set aside on the ground outside the excavation. No groundwater was encountered in the excavation.

After the UST was removed, soil from the excavation area (floor and sidewalls) and the spoils piles was sampled for field testing and off-site laboratory analyses per BUSTR. Closure samples were collected from the tank cavity floor and sidewalls following the recommended procedures in the BUSTR Technical Guidance Manual for closure assessments. Soil samples were collected from the excavated backfill in accordance with BUSTR Petroleum Contaminated Soil regulations. Samples were collected and field-screened using a photoionization detector to select samples for laboratory analysis. A summary of the samples collected, and the field screening results, is provided in Table 1.

Soil samples were properly preserved in laboratory-provided glassware and transported to Eurofins Environmental Testing America, Barberton, Ohio, by their courier. The laboratory analyzed the samples for middle distillate chemicals of concern as defined by BUSTR. A summary of the analytical results is provided in Table 2.

After the soil samples were collected, the excavation was partly backfilled, with the upper portion graded back to safe slopes. The area around the UST was then roped off to prevent entry until the analytical results for the soil samples were received. The UST sections were later processed for off-site recycling as scrap metal. The wash water in the vacuum truck was transferred to four 1,250-gallon totes, sampled for the BUSTR analytical parameters, and then staged on-site until the results were received. The results indicated that the wash water was not hazardous, and the wash water was later disposed of off-site as non-hazardous waste by Clean Harbors (see Section 2.14).

No chemicals of concern were detected above the BUSTR Closure Actions Levels, which are also listed in Table 2. These results were provided to the Fire Marshal, who agreed that the excavation could be backfilled to grade, which was completed on July 8, 2022. On August 5, 2022, the Fire Marshal returned to the Site to perform the final inspection and concluded that the UST removal and backfill had been performed properly. A copy of the final Fire Marshal inspection report is provided in Appendix B.

## 2.14 Transportation and Recycling/Disposal

Throughout the Stage 2 Interim Actions, a variety of materials were sent off-site for recycling or disposal.

As discussed in Section 2.12, scrap steel was sent off-site for recycling. A total of 219 gondolas with 8,348 long tons of scrap was shipped off-site by rail from January through September 2022. Scrap metal recycling was managed by Rocky Mountain Recycling, who coordinated with the railroad and receiving scrap yards.

In addition to the scrap material, a number of waste streams were sent off-site for disposal as either hazardous or non-hazardous waste. The following types of waste materials were sent off-site during the Stage 2 Interim Actions:

- NMB chromium-containing dust
- Nonfriable ACM (i.e., transite panels and gaskets)
- Friable ACM
- C&D debris
- Refractory brick
- Waste tires
- PCB-impacted concrete
- Wastewater from the UST decommissioning
- Oily waste from equipment maintenance
- Universal wastes (e.g., appliances and fluorescent light bulbs)

A summary of these waste streams for disposal and recycling during Stage 2 is provided in Table 3. This table includes the name of the waste stream, the receiving facility, the number of loads, and the total quantity. For each

of these wastes, a waste profile was completed and approved by the receiving facility. Each waste shipment was transported under appropriate waste manifests.

Transportation of scrap and waste by rail off-site was performed by the Wheeling and Lake Erie Railroad. Over-the-road transportation was performed by several trucking companies, depending on the waste stream and receiving facility. The largest waste streams transported off-site by truck were nonfriable ACM and C&D debris, which were transported by Cobra as a subcontractor to RECON. Other, smaller waste streams were transported off-site by the disposal company (e.g., US Ecology and Clean Harbors). From February 1 through April 30, 2022, trucking loads were reduced to comply with the seasonal load reductions on Jefferson County roads.

## 2.15 Post-Demolition Site Stabilization

After demolition activities were completed and as waste management was winding down, RECON prepared the Site for the conclusion of the Stage 2 Interim Actions. The purpose of site stabilization was to leave the Site in a secure and safe condition until the next phase of the remedial action and to comply with stormwater requirements.

Per the Project Manual, concrete pillars and pedestals were removed down to the concrete slabs, which were left at grade. The concrete retaining walls of the NMB, SMB, and other structures (e.g., the electrical building) were left in place, and safety slopes were constructed against them to mitigate fall hazards.

Soil used for backfill was obtained from Borrow Areas 1G and A. To obtain the backfill, RECON removed the top level of vegetation and topsoil at the borrow area, and then used an excavator and haul truck to excavate and move the backfill to the needed location. At each retaining wall, the soil was placed in 12-inch-thick lifts and compacted with a vibrating drum rolling compactor. As the soil for the slopes was placed and compacted, a dozer graded the material to a 2H (horizontal): 1V (vertical) slope and then contoured it into the surrounding grade for positive drainage. At the crests of the backfilled slopes, safety berms were constructed to mitigate vehicle rollover hazards.

Once backfill was no longer needed from the borrow areas, RECON regraded those areas to provide positive drainage. Following backfill and grading, RECON applied a hydroseed and mulch mixture to the slopes to promote the growth of vegetation and prevent erosion. The hydroseed and mulch mixture was reviewed and approved by the project engineers prior to use, and the seed mixture met the criteria provided in the Project Manual.

### 2.15.1 Below-Grade Sumps

As a part of the structure demolition, sumps or below-grade areas were uncovered and filled with clean hard fill to grade. These areas include below-grade portions of the north and south silos, and the tunnels under the north and south ore bins. However, three below-grade sumps (one at the pump house and two at the former compressor room of the NMB) were found to contain water and were not filled during the Stage 2 Interim Actions.

The below-grade sump at the pump house was found to be connected hydraulically to other portions of the Site, with water continually flowing into the sump and then flowing downgradient to the former concrete slab of the administration building, where it surfaced. The source of the water flowing into the pump house sump was not identified, but it was believed to be either infiltrating groundwater or upgradient runoff being captured by underground water lines connected to the sump. Downgradient, the water exited from under the administration building slab and flowed across the surface of the support zone and parking lot. Because the specific source of water was not known, the sump was left intact to be used for water storage during the next phase of remediation.

To mitigate the run-off, RECON installed an interceptor trench between the former administration building and pump house to divert the flow of water to a drainage ditch.

At the NMB, two sumps containing water were found in the area of the former compressor room. Water samples collected from each sump contained hexavalent chromium, PCBs, and other metals. Because the source of the water in the sumps was not known, they were left intact to be further assessed and addressed during the next phase of the remedial action.

At both the pump house and the NMB compressor room, the openings to the sumps were secured with metal plates that were painted with the word "Hole" to alert visitors of the potential fall hazard and to prevent accidental entry.

## 2.16 Equipment Decontamination and Demobilization

A decontamination pad is located between the exclusion zone and the support area and serves as the main entrance for vehicles and equipment into the Site. This decontamination pad was used to decontaminate heavy equipment and trucks leaving the exclusion zone. At the beginning of the Stage 2 Interim Actions, RECON improved the decontamination pad by placing fresh gravel on the surface (Section 2.5).

Decontamination was performed by pressure-washing using a hand-held wand with water provided by the on-site water well. Wash water associated with the decontamination was contained in the decontamination pads and allowed to infiltrate into the ground in accordance with prior approval obtained from OEPA. Periodically throughout the Stage 2 Interim Actions, RECON maintained the decontamination pad with a skid steer and pressure washer to wash the gravel of the fines.

## 2.17 Design and Scope Changes

There were several design and scope changes during the Stage 2 Interim Actions. The original scope of work included the construction of a large settling pond to the east of the NMB. However, it was decided that this settling pond was not needed, and it was not constructed.

As discussed in Section 2.9.3, many of the transite panels in the NMB had become covered in accreted dust, which increased their weight. Because of potential safety risks in removing them manually, RECON and ARC obtained a demolition variance from OEPA in which the remaining portion of the casting bay roof was brought down to the ground through controlled demolition, after which the safe removal of the transite panels resumed.

The Project Manual originally specified that concrete be reduced to a maximum size of 6 inches for use as an erosion protection layer on backfilled slopes. However, as discussed in Section 2.12.5, much of the concrete was reduced to powder after being pulverized. Because it was unsuitable for use in erosion protection, the concrete debris was left in several piles on-site to be addressed during the next phase of remediation. An approved hydroseed and mulch mixture was used instead for erosion protection on the backfilled slopes (Section 2.15).

While most below-grade sumps and chambers were filled to grade with clean hard fill per the Project Manual, the pump house sump and two sumps at the NMB compressor room were not filled because they were found to contain water. Instead, these were secured to mitigate safety hazards, and they will be further assessed and addressed during the next phase of remediation (see Section 2.15.1).

# 3.0 PERMITS

## 3.1 Stormwater

Construction work in Ohio is governed by Ohio's Construction Stormwater General Permit (OHC000003) (CGP). Cyprus Amax submitted a Notice of Intent for Coverage under the CGP to OEPA on February 10, 2010. The Construction Storm Water Pollution Prevention Plan (SWP3) was prepared in accordance with the CGP and submitted to OEPA on July 24, 2012. The Site received approval for coverage under the GCP on July 25, 2012.

During Stage 2 Interim Actions, monitoring and implementing requirements of the SWP3 were performed. The CGP required specific activities to be performed and documented. These included:

- Notice of Intent for coverage under the CGP.
- Train Site workers on the SWP3 requirements.
- Install and maintain stormwater controls Best Management Practices (BMPs) in accordance with the SWP3.
- Conduct and document inspections, weekly and after storm events >1/2-inch in a 24-hour period.
- Collect SWP3 stormwater samples, when required, and maintain documentation.
- Maintain a clean and orderly Site.

RECON was responsible for implementing the SWP3 and installing and maintaining BMPs during the 2019-2022 Site work.

### 3.1.1 Work and Disturbed Areas

Specific Work Areas were designated on the Site for purposes of complying with the GCP. "Disturbed Areas" would be created when activities in Work Areas, such as grading, excavating, grubbing, and filling were performed. An area was considered "disturbed" from the time a "shovel hit the ground" until the soils in the area were stabilized as required in the SWP3. Two types of Disturbed Areas were established: >14 days and <15 days. A Disturbed Area was no longer considered disturbed when final stabilization measures were implemented.

Work and Disturbed Areas are shown on Drawings IAS-400 and IAS-410 in the Project Manual. BMPs and drainage facilities are shown on drawings IAS-420 and IAS-430. Disturbed Areas were managed in accordance with the SWP3.

### 3.1.2 Stormwater Controls

Stormwater controls were installed to improve stormwater flow during construction activities, improve performance of existing controls, and to improve overall stormwater flow across the Plant Area of the Site. Temporary stormwater controls were installed and BMPs implemented during the Stage 2 Interim Actions.

The SWP3 identified work areas on the Site and areas that would be disturbed by construction activities. When a Disturbed Area was disturbed for >14 days, stormwater controls designed for that Disturbed Area were installed in accordance with the specifications described in the SWP3. Stormwater controls were generally not installed for those areas that would be disturbed <15 days. However, if one of these work areas was to be disturbed >14 days, stormwater controls were installed. Examples of stormwater controls installed at the Site included:

- Grading and/or compacting

- Culverts
- Swales
- Diversion berms
- Rip rap and weirs
- Seed and straw matting
- Silt fence, hay bales, and erosion wattles.

Upon completion and final stabilization of a Disturbed Area, temporary stormwater controls, such as silt fencing and straw bales, were removed except in the hydro-seeded areas where vegetation had not yet become established. More permanent controls, such as berms and swales, were left in place.

### 3.1.3 Disturbed Areas

During IA activities, Disturbed Areas were created. To comply with the SWP3, Disturbed Areas would either be restored or have additional stormwater controls installed depending on the duration of the disturbance. After IA activities were completed in a work area, the Disturbed Areas were stabilized by grading, seeding (if applicable), and spreading straw or straw matting.

### 3.1.4 Disturbed Area Monitoring

Disturbed Areas were monitored throughout the Stage 2 Interim Actions to evaluate whether stormwater controls would be installed, repaired, or replaced. Once a work area became disturbed, the start date of the Disturbed Area was recorded, and monitoring began. When an area was determined it would be disturbed for >14 days, the stormwater controls as described in the Construction SWP3 were installed. If stormwater controls did not appear to be adequate during storm events, additional controls were installed. Once completed and the final stabilization control was in place, the end date was recorded on the log and temporary stormwater controls were removed or left in place to allow stabilization controls (e.g., hydro-seed) to become established.

### 3.1.5 Stormwater Monitoring

Stormwater monitoring was required when Disturbed Areas were "Active" (i.e., disturbed longer than 30 days). Disturbed Areas (listed above) were monitored independently to evaluate whether stormwater controls selected for that Disturbed Area were effective. Stormwater samples of the runoff were collected from an Active Disturbed Area during the second 30-day period after the disturbance was initiated. During the Stage 2 Interim Actions, stormwater samples were collected and analyzed in accordance with the procedures described in the Construction SWP3.

### 3.1.6 Inspections, Training, and Recordkeeping

#### *3.1.6.1 Training*

Personnel working at the Site were trained on the requirement of the Construction SWP3 with emphasis placed on installing and maintaining BMPs and ensuring that demolition activities do not damage stormwater controls nor introduce pollutants into the storm system or waters of the Site.

#### *3.1.6.2 Inspections*

Inspections of the Disturbed Areas and stormwater controls were conducted on a weekly basis and within 24 hours of a storm event that produced >½ inch of rain in a 24-hour period. An inspection form and checklist

were completed for each inspection. Each inspection was recorded on the Satralloy Construction SWP3 Activities Log.

#### *3.1.6.3 Recordkeeping*

During the Stage 2 Interim Actions, a copy of the Construction SWP3 and associated records were maintained at the Site. These documents will be maintained for 3 years after the end date of the demolition activities. In addition, once the Notice of Termination is submitted to OEPA, the Owner will maintain a record summarizing the SWP3, its implementation, and its compliance with the CGP.

## 3.2 Air Permits

Two Air Pollution Control Permit-to-Install and Operate (PTIO) permits were issued to Cyprus Amax for Site work. These permits have conditions and restrictions. Permit P0113889 was issued for fugitive dust from unpaved roadways and parking areas associated with Site activities and material handling. The permit became effective on April 26, 2013 and remained in effect during Stage 2 Interim Actions. Using a water truck to apply water to the Site roads and work areas, fugitive dust was mitigated.

Permit P0114196 was issued on June 28, 2013, for a 400-ton-per-hour crusher with load-in, grizzly screener and conveyor. A crusher was not installed or operated, and monitoring was not necessary.

### 3.2.1 Control Measures

Control measures were implemented at the Site to prevent visible dust emissions (except for 3 minutes during any 60-minute observation period). Roadways, parking areas, and work areas where work was being conducted were watered to control fugitive particulate emissions (dust). Watering for dust control was performed by RECON using a water truck. The source of the water used for dust control was the on-site production well (see Section 2.5).

### 3.2.2 Monitoring

During Site work, inspections of the Site roads and parking area in use were conducted at least daily in accordance with the permit. Roadway segments on the Site included plant access roads, work areas, rail spur, and the parking lot. Inspections consisted of visual observations of the work areas to confirm that proper dust controls (i.e., appropriate watering) were implemented.

### 3.2.3 Recordkeeping

The PTIO and associated inspection records were maintained at the Site for the duration of the Interim Action work. All the records required by this permit will be retained for 5 years from the date the record was created. These records will be maintained by Cyprus Amax at the Site.

### 3.2.4 Reporting

Annual Permit Evaluation Reports were submitted to OEPA through OEPA's eBusiness Center. Copies of these reports and their submittal confirmation information are on file at the Site.

### 3.2.5 Perimeter Air Monitoring

Perimeter air quality monitoring was performed to monitor Site-generated airborne dust for regulated material dust, if any. Perimeter air monitoring was performed during the Stage 2 Interim Actions as described in the Perimeter Air Monitoring Workplan (Appendix B of the IA Workplan).

Four semi-permanent stations were installed at select locations around the Site including:

- In the grass area at the eastern end of the Support Area
- At the top of the Plateau Access road on the upland plateau/ridgetop
- To the west of the rail spur switch
- At the southern end of the Site

Prior to beginning work, baseline readings were completed over four 8-hour days during periods of non-activity. Once Site work was begun, perimeter air monitoring was performed on a weekly basis. The samples were analyzed by ALS Environmental of Cincinnati, Ohio, for metals (arsenic, chromium, and lead), silica, and asbestos and other fibers. Perimeter air monitoring continued for four weeks after the conclusion of the Stage 2 Interim Actions. During the Stage 2 Interim Activities, there was only one exceedance of the method reporting limits, which was for silica. Laboratory data reports will be maintained by the Cyprus Amax with other air permit records. After the final round of air monitoring of the Stage 2 Interim Actions, the air sampling instruments, and solar panels were removed from the four monitoring stations and stored on-site for possible future use.

# 4.0 AS-BUILT DRAWINGS

As-built drawings are provided in Appendix C. These drawings reflect the site conditions at the completion of the demolition activities during the Stage 2 Interim Actions, including an as-built topographic survey of the borrow areas and other regraded areas of the Site, acquired by RETTEW Associates, Inc. of Lancaster, Pennsylvania in October 2022.

The as-built drawings contain red revision clouds with corresponding revision numbers in triangles adjacent to the clouds to indicate aspects of the design that have changed since the final approved design drawings. This approach was used, per the project Construction Quality Assurance (CQA) process, to document that the project was constructed in accordance with the approved design and approved changes that occurred during construction.

# 5.0 REFERENCES

Golder Associates Inc. (Golder). 2012. *Interim Action Workplan for the Former Satralloy Site, Jefferson County, Ohio*. November 15, 2012.

Golder. 2017. *Completion Report for Phase 1 Interim Action at the Former Satralloy Site*. December 14, 2017.

Golder. 2019. *Project Health and Safety Plan for the Former Satralloy Site, Jefferson County, Ohio*. April 2, 2019.

Golder. 2020. *Project Health and Safety Plan for the Former Satralloy Site, Jefferson County, Ohio*. December 16, 2020.

State of Ohio. 2010. *Consent Order for Preliminary Injunction to Conduct a Remedial Investigation and Feasibility Study and to Pay Response Costs*. November 3, 2010

# Tables

**Table 1 - Heating Oil Tank Closure Field Screening Results**

| Sample Location | Date | Field Screening Results (ppmv) | Submitted forAnalysis |
|---|---|---|---|
| ***Tank Cavity Sidewalls and Floor*** | | | |
| UST-HD-F1 | 6/8/2022 | 16.3 | Y |
| UST-HD-F2 | 6/8/2022 | 7.8 | N |
| UST-HD-SW1 | 6/8/2022 | 1.9 | N |
| UST-HD-SW2 | 6/8/2022 | 8.6 | Y |
| UST-HD-SW3 | 6/8/2022 | 0 | N |
| UST-HD-SW4 | 6/8/2022 | 6.2 | N |
| UST-HD-SW5 | 6/8/2022 | 24.9 | Y |
| UST-HD-SW6 | 6/8/2022 | 4.4 | N |
| ***Stockpile*** | | | |
| UST-HD-SP1 | 6/8/2022 | 1.9 | Y |
| UST-HD-SP2 | 6/8/2022 | 0.8 | Y |
| UST-HD-SP3 | 6/8/2022 | 0 | N |
| UST-HD-SP4 | 6/8/2022 | 0.3 | Y |
| UST-HD-SP5 | 6/8/2022 | 0 | N |
| UST-HD-SP6 | 6/8/2022 | 0 | N |
| UST-HD-SP7 | 6/8/2022 | 1 | N |
| UST-HD-SP8 | 6/8/2022 | 0.1 | N |
| UST-HD-SP9 | 6/8/2022 | 0 | N |
| UST-HD-SP10 | 6/8/2022 | 0.5 | Y |
| UST-HD-SP11 | 6/8/2022 | 0.5 | Y |
| UST-HD-SP12 | 6/8/2022 | 0.2 | Y |

**Table 2 - Heating Oil Tank Closure Analytical Results Compared to Action Levels**

| Chemical of Concern | Unit | Closure Action Level* | Maximum Result | Tank Cavity Floor and Sidewalls | | | Backfill | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UST-HD-F1 6/8/2022 | UST-HD-SW2 6/8/2022 | UST-HD-SW5 6/8/2022 | UST-HD-SP1 6/8/2022 | UST-HD-SP10 6/8/2022 | UST-HD-SP11 6/8/2022 | UST-HD-SP12 6/8/2022 | UST-HD-SP2 6/8/2022 | UST-HD-SP4 6/8/2022 |
| ***Volatile Organic Compounds*** | | | | | | | | | | | | |
| Benzene | mg/kg | 0.246 | < 0.0046 | < 0.0044 | < 0.0042 | < 0.0045 | < 0.0039 | < 0.0046 | < 0.0041 | < 0.0039 | < 0.0041 | < 0.0046 |
| Ethylbenzene | mg/kg | 84.5 | < 0.0046 | < 0.0044 | < 0.0042 | < 0.0045 | < 0.0039 | < 0.0046 | < 0.0041 | < 0.0039 | < 0.0041 | < 0.0046 |
| Toluene | mg/kg | 70.7 | < 0.0046 | < 0.0044 | < 0.0042 | < 0.0045 | < 0.0039 | < 0.0046 | < 0.0041 | < 0.0039 | < 0.0041 | < 0.0046 |
| Xylenes, Total | mg/kg | 42.7 | < 0.0092 | < 0.0088 | < 0.0084 | < 0.0091 | < 0.0077 | < 0.0092 | < 0.0081 | < 0.0079 | < 0.0082 | < 0.0092 |
| ***Semi-Volatile Organic Compounds*** | | | | | | | | | | | | |
| Acenaphthene | mg/kg | N/A | 0.18 | < 0.019 | < 0.018 | 0.18 | 0.022 | 0.0092 J | < 0.018 | < 0.016 | < 0.018 | < 0.019 |
| Acenaphthylene | mg/kg | N/A | 0.037 J | < 0.019 | < 0.018 | 0.037 J | 0.0063 J | 0.019 | < 0.018 | < 0.016 | < 0.018 | < 0.019 |
| Anthracene | mg/kg | N/A | < 0.094 | < 0.019 | < 0.018 | < 0.094 | 0.045 | 0.086 | 0.012 J | 0.0044 J | < 0.018 | < 0.019 |
| Benzo[a]anthracene | mg/kg | 12 | 0.19 | < 0.019 | < 0.018 | 0.056 J | 0.14 | 0.19 | 0.033 | 0.02 | < 0.018 | < 0.019 |
| Benzo[a]pyrene | mg/kg | 1.2 | 0.16 | < 0.019 | < 0.018 | 0.069 J | 0.13 | 0.16 | 0.034 | 0.021 | < 0.018 | < 0.019 |
| Benzo[b]fluoranthene | mg/kg | 12 | 0.23 | < 0.019 | < 0.018 | 0.066 J | 0.19 | 0.23 | 0.038 | 0.027 | < 0.018 | 0.012 J |
| Benzo[g,h,i]perylene | mg/kg | N/A | 0.13 | < 0.019 | < 0.018 | < 0.094 | 0.11 | 0.13 | 0.019 | 0.016 | < 0.018 | 0.0095 J |
| Benzo[k]fluoranthene | mg/kg | 120 | 0.1 | < 0.019 | < 0.018 | < 0.094 | 0.078 | 0.1 | 0.017 J | < 0.016 | < 0.018 | < 0.019 |
| Chrysene | mg/kg | 1,200 | 0.2 | < 0.019 | < 0.018 | 0.068 J | 0.14 | 0.2 | 0.039 | 0.023 | < 0.018 | 0.01 J |
| Dibenz[a,h]anthracene | mg/kg | 1.2 | < 0.094 | < 0.019 | < 0.018 | < 0.094 | 0.024 | 0.028 | < 0.018 | < 0.016 | < 0.018 | < 0.019 |
| Fluoranthene | mg/kg | N/A | 0.44 | < 0.019 | 0.011 J | 0.16 | 0.26 | 0.44 | 0.07 | 0.033 | < 0.018 | 0.018 J |
| Fluorene | mg/kg | N/A | 0.16 | < 0.019 | < 0.018 | 0.16 | 0.015 J | 0.02 | < 0.018 | < 0.016 | < 0.018 | < 0.019 |
| Indeno[1,2,3-cd]pyrene | mg/kg | 12 | 0.11 | < 0.019 | < 0.018 | < 0.094 | 0.099 | 0.11 | 0.015 J | 0.011 J | < 0.018 | < 0.019 |
| Naphthalene | mg/kg | 0.511 | 0.095 | < 0.019 | 0.0068 J | 0.069 J | 0.095 | 0.018 | 0.03 | 0.026 | < 0.018 | < 0.019 |
| Phenanthrene | mg/kg | N/A | 0.29 | 0.0079 J | 0.0079 J | 0.2 | 0.16 | 0.29 | 0.053 | 0.032 | < 0.018 | 0.016 J |
| Pyrene | mg/kg | N/A | 0.33 | < 0.019 | 0.0074 J | 0.14 | 0.19 | 0.33 | 0.057 | 0.031 | < 0.018 | 0.015 J |
| ***Total Petroleum Hydrocarbons*** | | | | | | | | | | | | |
| TPH as C10-C20 | mg/kg | 2,000 | 540 | < 21 | < 20 | 540 | < 94 | < 20 | 11 J | < 18 | < 20 | < 21 |

Notes:

** = Closure Action Levels as defined in Ohio Administrative Code 1301:7-9-12 for Soil Type 1 (sand and gravel). Exceedances in bold type (no exceedances for this data set)*

*J = Estimated value: generally where value is less than the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL).*

*Bolded Results Exceed Action Levels (No exceedances in this data set)*

## Table 3 - Summary of Waste Stream Disposal and Recycling

| Waste Stream | Facility | Number of Loads | Total Weight |
|---|---|---|---|
| NMB Dust | US Ecology Idaho | 43 rail gondolas | 2,985 tons |
| Transite Panels (Non-Friable ACM) | Waste Management American Landfill | 146 roll-offs (103 from NMB, 43 from SMB) | 921 tons |
| Construction & Demolition Debris | Waste Management American Landfill | 205 roll-offs | 1,698 tons |
| Friable ACM | Waste Management American Landfill | 1 roll-off | 6 tons |
| Scrap Metal | Various - Coordinated by Rocky Mountain Recycling | 219 rail gondolas | 8,348 long tons |
| PCB-Impacted Concrete | US Ecology Michigan | 2 x 30-yard end-dumps | 30 tons |
| Scrap Tires | US Ecology Michigan | 1 roll-off | 30 cubic yards |
| Waste Water from UST Decontamination | Clean Harbors | 4 totes | 1,200 gallons |
| Refractory Brick | US Ecology Idaho | 2 rail gondolas | 188 tons |
| Liquid Oil Waste (Hazardous) from Equipment Maintenance | Clean Harbors | 1 x 330-gallon tote | 330 pounds |
| Universal Waste (light bulbs and appliances) | Clean Harbors | 1 shipment with multiple containers | 240 pounds |

**APPENDIX A**

# Photographs

**PHOTOGRAPH 1**

7/12/2021

North Mill Building before transite removal and demolition.

**PHOTOGRAPH 2**

7/12/2021

South Mill Building before transite removal and demolition.

**PHOTOGRAPH 3**

8/9/2021

South Mill Building before transite removal and demolition.


**PHOTOGRAPH 4**

8/18/2021

Decontamination pad and entrance to exclusion zone.

**PHOTOGRAPH 5**

7/12/2021

Previously filled bags of chromium-containing dust staged in the high bay of the North Mill Building.

**PHOTOGRAPH 6**

7/14/2021

Loading previously filled dust bags into lined rail gondola.

**PHOTOGRAPH 7**

7/27/2021

Loading dust bags into lined rail gondola.

**PHOTOGRAPH 8**

10/28/2021

Newly loaded bags of chromium-containing dust staged by the rail spur.

**PHOTOGRAPH 9**

10/20/2021

Removal of transite wall and roof panels from the South Mill Building.

**PHOTOGRAPH 10**

12/21/2021

Removal of transite roof panels from the South Mill Building.

**PHOTOGRAPH 11**

11/2/2021

Removal of transite wall panels from the North Mill Building.

**PHOTOGRAPH 12**

8/26/2021

Using the boom lift with sill plate to remove a transite wall panel from the South Mill Building.

**PHOTOGRAPH 13**

8/26/2021

Stacking transite panels on polyethylene sheeting.

**PHOTOGRAPH 14**

8/26/2021

Transite removal is almost completed from the lower section of the South Mill Building.

**PHOTOGRAPH 15**

12/8/2021

Polyethylene-wrapped transite bundles and roll-off containers at a waste staging area.

**PHOTOGRAPH 16**

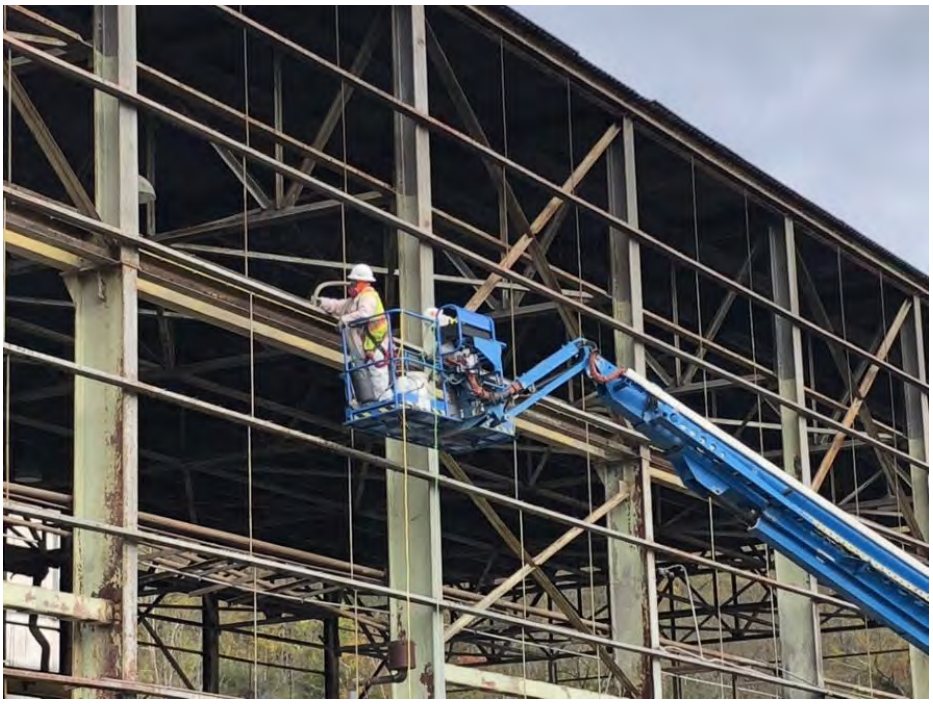
11/2/2021

Trailer-mounted vacuum for collection of chromium-containing dust from the North Mill Building.

**PHOTOGRAPH 17**

11/2/2021

Vacuuming dust from a beam at the North Mill Building.



**PHOTOGRAPH 18**

11/11/2021

Vacuuming dust from transite panels after removal from the North Mill Building.

**PHOTOGRAPH 19**

12/2/2021

The North Mill Building after dust cleaning and removal.

**PHOTOGRAPH 20**

1/26/2022

Staged refractory brick from the South Mill Building.

**PHOTOGRAPH 21**

3/23/2022

Pile of waste tires.

**PHOTOGRAPH 22**

6/16/2022

Loading waste tires into a container for disposal.

**PHOTOGRAPH 23**

6/10/2022

Concrete pedestal in North Mill Building with PCB contamination.

**PHOTOGRAPH 24**

6/27/2022

Removal of concrete contaminated with PCBs at the North Mill Building.

**PHOTOGRAPH 25**

6/28/2022

Loading PCB-contaminated concrete into a truck for disposal.

**PHOTOGRAPH 26**

11/4/2021

Excavator with pulverizer attachment demolishing concrete at the north ore bins.

**PHOTOGRAPH 27**

1/7/2022

Demolition of the South Mill Building.

**PHOTOGRAPH 28**

3/30/2022

Remaining South Mill Building structure before felling.

**PHOTOGRAPH 29**

3/31/2022

Remaining South Mill Building structure after felling.

**PHOTOGRAPH 30**

4/18/2022

Footprint of the South Mill Building after demolition.

**PHOTOGRAPH 31**

5/3/2022

Demolition at the North Mill Building.

**PHOTOGRAPH 32**

5/4/2022

Demolition of a portion of the North Mill Building with the long-reach excavator.

**PHOTOGRAPH 33**

5/10/2022

Remaining North Mill Building structure before felling.

**PHOTOGRAPH 34**

5/10/2022

Remaining North Mill Building structure after felling.

**PHOTOGRAPH 35**

6/9/2022

South off-gas pipes before felling.

**PHOTOGRAPH 36**

6/9/2022

South off-gas pipes after felling.

**PHOTOGRAPH 37**

6/17/2022

North off-gas pipes before felling.

**PHOTOGRAPH 38**

6/17/2022

North off-gas pipes after felling.

**PHOTOGRAPH 39**

1/11/2022

Demolition of the administration building.

**PHOTOGRAPH 40**

5/4/2022

Demolition of the pump house.

**PHOTOGRAPH 41**

7/14/2022

Demolition of the electrical building.

**PHOTOGRAPH 42**

9/22/2021

Slurry tower before demolition.

**PHOTOGRAPH 43**

9/22/2021

Slurry tower after demolition.

**PHOTOGRAPH 44**

5/26/2022

Using torches to cut scrap metal.

**PHOTOGRAPH 45**

6/29/2022

Using torches to cut scrap metal.

**PHOTOGRAPH 46**

3/11/2022

Loading pieces of scrap metal into haul truck.

**PHOTOGRAPH 47**

2/21/2022

Loading pieces of scrap metal into rail gondola.

**PHOTOGRAPH 48**

3/1/2022

Loading pieces of scrap metal into rail gondola.

**PHOTOGRAPH 49**

5/5/2022

Loaded rail gondola with scrap metal.


**PHOTOGRAPH 50**

6/7/2022

Cleaning the 10,000-gallon heating oil UST.

**PHOTOGRAPH 51**

6/7/2022

Removing the 10,000-gallon heating oil UST from the ground.

**PHOTOGRAPH 52**

12/21/2021

A roll-off truck with transite panels for off-site transportation and disposal is spray-washed at the decontamination pad.

**PHOTOGRAPH 53**

3/23/2022

Decontamination of equipment exiting the exclusion zone.


**PHOTOGRAPH 54**

5/18/2022

Excavation of soil for backfill at Borrow Area 1G.

**PHOTOGRAPH 55**

5/17/2022

Backfill and compaction of safety slope against the foundation wall of the South Mill Building.

**PHOTOGRAPH 56**

5/18/2022

Backfill of safety slope against the foundation wall of the South Mill Building.

**PHOTOGRAPH 57**

8/13/2021

Silt fence and straw bales around a drainage feature for stormwater control.

**PHOTOGRAPH 58**

4/6/2022

Silt fence and straw bales around a drainage feature for stormwater control.

**PHOTOGRAPH 59**

4/27/2022

Water spray for dust control during demolition at the North Mill Building.

**PHOTOGRAPH 60**

11/11/2021

Watering a site road for dust control.

**PHOTOGRAPH 61**

5/13/2022

Watering a site road for dust control.

**PHOTOGRAPH 62**

8/26/2021

Perimeter air sampling equipment.

**PHOTOGRAPH 63**

8/1/2022

Spraying hydroseed to the backfilled safety slope at the former South Mill Building.

**PHOTOGRAPH 64**

8/1/2022

Spraying hydroseed to the backfilled safety slope at the former South Mill Building.

**PHOTOGRAPH 65**

8/1/2022

Former South Mill Building area right after hydroseed application.

**PHOTOGRAPH 66**

9/14/2022

Former South Mill Building area, several weeks after hydroseed application.

**APPENDIX B**

# Fire Marshall Inspection Report

Ohio | Department of Commerce

Division of State Fire Marshal

**Division of State Fire Marshal**
**Code Enforcement Bureau**

# Fire Safety Inspection Report

**Inspection #**ONT-2220307

**Former Satralloy Site**
**4243 Cty Rd 74**
**Mingo Junction Ohio 43938**

A Fire Safety Inspection of the above facility was conducted on August 05, 2022, in accordance with the 2017 Ohio Fire Code by **Gregory Probst,68234.** The inspection was conducted with **Steve Hall.**

**Total Violations: 0**
**Corrected: 0**
**Uncorrected: 0**

**All violations shall be corrected as listed. Further enforcement orders may be issued if violations are not corrected.**

## Inspection Details

- Inspection on 6-7-2022. This inspection is being conducted with universal precautions taken Eyeglasses, hand washing before and after inspection, report not signed to limit contact and social distancing utilized. High viz vest, hard hat, steel toe boots and safety glass on during the inspection. The facility has been closed for many years. It is believed they changed the alloy process in the 1980 and shut the plant down in the earily 2000. The site was an old alloy factory with two units. The owners wanted the buildings and units removed and land back to green space. During the process of removing they found an old underground tank. Look back through building prints and it was noted as a heating oil tank. The demo company did pull a removal permit back in 6-23-2014 #62-41-0090. But the work did not start until 2018-2019, then covid 19 shut them down for approximately one year. With work starting back up they pulled another permit. Today the following people were on site: Steve Hall from WPS USA, Dave and Ron from Recon, William Brandenstein from steel city fueling systems (certificated UTI) and Clean Harbors. After safety meeting we drove up to the site. It is by the north unit, the tank is a single wall 10,000 gallon tank. They have uncovered the top of the tank and the safety man took readings with meter through the vent pipe opening. It read 0 LEL, 0 CO, 0 H2S and 20.9 O2. They took a hydraulic hammer on a excavator and opened the manway cover and placed two other openings on the top of the tank at the ends. Clean Harbor pumped out the tank (8' x 26.5"). There was approx 1 foot of liquid in the tank. The demo company did have samples taken from the tank and it showed mainly water. After cleaning and pumping the tank out. Meter was placed in the tank openings again. It showed the same readings as above. They had to do some earth moving to get the tank out. Once they did that they removed the tank. It broke in two sections at the weld. There was some sludge which did come out of the tank and the two sections were moved off the side to be cut up with hydraulic shears and taken away for scrap. The hole was sloped so if an animal got into the hole it could get out. The edges around the hole they made a earthen bream. They will be placing fencing around the hole also. They are scheduled to take samples tomorrow and if they are good they are going to fill it in and cover it over. THE TANK IS REMOVED AND GOING TO BE TAKEN TO SCRAP.
- This inspection is being conducted with universal precautions taken Eyeglasses, hand washing before and after inspection, report not signed to limit contact and social distancing utilized. Also proper ppe donned. Steel toe boots, hi viz vest, hard hat and safety glasses. Re inspection of tank removal PER-141733, Steve Hall went with me during inspection. I witness the removal of the underground 10,000 gallon heating oil tank on 6-7-2022. See the attach report for more information. They have taken soil samples and sent them off for testing before covering over the hole left by the removal. The soil samples came back and found no contamination of the soil by the heating oil. They covered the hole in with rock / dirt. On Site meet with Steve with proper PPE on. We went up to the location in a side by side with seat belts used, on the Northeast past of the site and seen the hole was covered over with rock / dirt. It had rained last night so the area did have some water covering over the rock / dirt area. But the area is a roadway now. Steve is going to send me the lab results to attach to the report. THE TANK WAS REMOVED AND TAKEN FOR SCRAP, THE AREA IS COVERED OVER AND MADE A DIRT / GRAVEL ROADWAY FOR THE SITE.

## Violations

**This report is subject to change by the State Fire Marshal. If substantive changes are made to this report the owner/representative will receive a copy of the revised document**

## Signatures

Ohio | Department of Commerce

Division of State Fire Marshal

[redacted]

Gregory Probst,68234
August 05, 2022

[redacted]

S
Augu

Code Enforcement Bureau
8895 East Main Street
Reynoldsburg, Ohio 43068
Form Name
Date Updated

614-728-5460
Fax 614 -728-5168
TTY/TDD 800-750-0750

com.ohio.gov

# Inspection

**Inspection**

| | |
|---|---|
| **Inspection #** | INS-2022-959089 |
| **Type** | 62-AST Install |
| **Reason** | Permit |
| **Scheduled** | 06/07/2022 08:30 |
| **Status** | Inspection Completed |

**Completion of Work**

| | |
|---|---|
| **Inspector** | Gregory Probst |
| **Started On** | 06/07/2022 08:20 |
| **Completed** | 06/07/2022 14:30 |
| **Reinspection** | 06/25/2022 0:00 |
| **Assisting Inspectors** | |

**Owner/Occupant**

Cyprus Specialty Metals Company
62-41-0129
4243 Cty Rd 74
Mingo Junction, OH 43938

| **Contacts** | **Phone** |
|---|---|
| | (928) 215-2556 |

**Violation Summary**

| | |
|---|---|
| **Total Violations** | 0 |
| **Corrected** | 0 |
| **Uncorrected** | 0 |

**Summary**

**Inspection Summary**
**62-UST Removal***

This inspection is being conducted with universal precautions taken Eyeglasses, hand washing before and after inspection, report not signed to limit contact and social distancing utilized. High viz vest, hard hat, steel toe boots and safety glass on during the inspection.

The facility has been closed for many years. It is believed they changed the alloy process in the 1980 and shut the plant down in the earily 2000. The site was an old alloy factory with two units. The owners wanted the buildings and units removed and land back to green space. During the process of removing they found an old underground tank. Look back through building prints and it was noted as a heating oil tank. The demo company did pull a removal permit back in 6-23-2014 #62-41-0090. But the work did not start until 2018-2019, then covid 19 shut them down for approximately one year. With work starting back up they pulled another permit.

Today the following people were on site: Steve Hall from WPS USA, Dave and Ron from Recon, William Brandenstein from steel city fueling systems (certificated UTI) and Clean Harbors.

After safety meeting we drove up to the site. It is by the north unit, the tank is a single wall 10,000 gallon tank. They have uncovered the top of the tank and the safety man took readings with meter

## Inspection

through the vent pipe opening. It read 0 LEL, 0 CO, 0 H2S and 20.9 O2. They took a hydraulic hammer on a excavator and opened the manway cover and placed two other openings on the top of the tank at the ends. Clean Harbor pumped out the tank (8' x 26.5"). There was approx 1 foot of liquid in the tank. The demo company did have samples taken from the tank and it showed mainly water. After cleaning and pumping the tank out. Meter was placed in the tank openings again. It showed the same readings as above.

They had to do some earth moving to get the tank out. Once they did that they removed the tank. It broke in two sections at the weld. There was some sludge which did come out of the tank and the two sections were moved off the side to be cut up with hydraulic shears and taken away for scrap.

The hole was sloped so if an animal got into the hole it could get out. The edges around the hole they made a earthen bream. They will be placing fencing around the hole also. They are scheduled to take samples tomorrow and if they are good they are going to fill it in and cover it over.

THE TANK IS REMOVED AND GOING TO BE TAKEN TO SCRAP.

-The following was inspected, including but not limited to:
- -removal of the tank was done in accordance with the permit
- -all electrical was disconnected prior to removal of the tank
- -electrical and piping was removed from ground (except where allowed to stay in accordance with permit)
- -the piping left in place was capped properly
- -the tank was purged of contents
- -the tank L.E.L. was tested to within an allowable level (<10 ppm)
- -the tank access was made by pneumatic or hydraulic tools
- -the tank was properly protected while being accessed
- -the tank was removed from the premises

**Permit Number:** PER-141733

**Tank(s) used for:** General heating oil.
*(i.e., storage, dispensing)*

**Number of Tank(s):** 1

**Size of Tank(s):** 10,000 gallons

## Inspection

**Contents of Tank(s):** Heating Oil.

**LEL Reading: 0 before and after cleaning and pumping.**

**Approved: for removal, need to cover hole.** Yes No

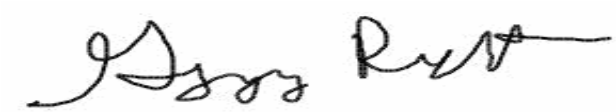
A review of the inspection was made by the inspector to the facility representative and/or owner.

**All violations shall be corrected as listed**
**Further enforcement orders may be issued if violations are not corrected**

*As of December 15, 2017, the 2017 Ohio Fire Code shall apply.
**This report is subject to change by the State Fire Marshal. If substantive changes are made to this report the owner/representative will receive a copy of the revised document.

https://codes.ohio.gov/ohio-administrative-code/chapter-1301:7-7

**Signatures**



**Steve Hall**

06/07/2022

**Date**

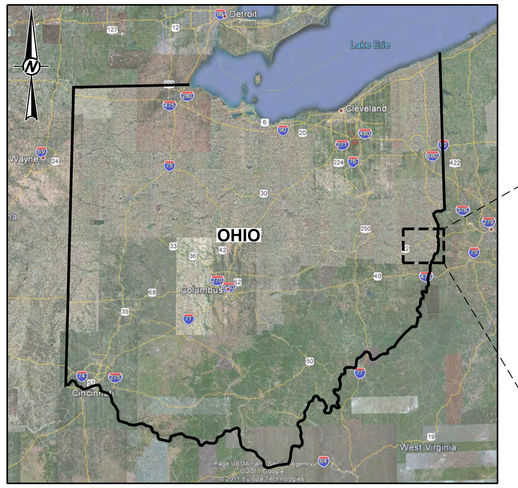
06/07/2022

**Date**

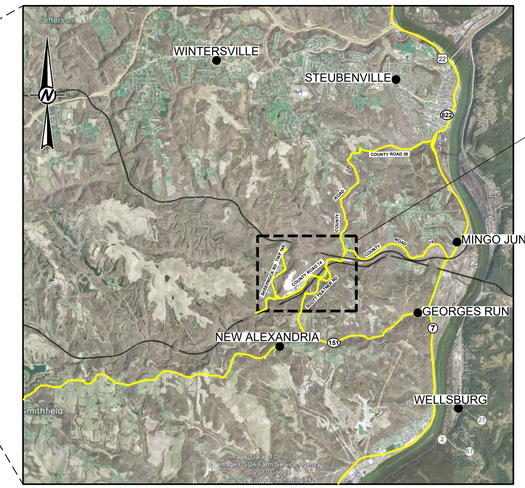
APPENDIX C

# As-Built Drawings

# STAGE 2 INTERIM ACTION - DEMOLITION
# FORMER SATRALLOY SITE
# JEFFERSON COUNTY, OHIO




**LOCATION MAP**
NOT TO SCALE




**VICINITY MAP**
NOT TO SCALE

| DRAWING LIST | |
|---|---|
| Sheet Number | Sheet Title |
| IAR-100 | COVER SHEET |
| IAR-110 | SITE OVERVIEW AND SURVEY CONTROL |
| IAR-120 | GROUNDWATER MONITORING WELLS |
| IAR-130 | SITE FACILITIES LAYOUT |
| IAR-140 | EXISTING ELECTRICAL AND STORMWATER UTILITIES |
| IAR-150 | CONTRACTOR SUPPORT AREA AND EXISTING ELECTRICAL UTILITIES |
| IAR-160 | SITE ROAD SYSTEM |
| IAR-165 | MINE AREA AND UPPER PLATEAU ACCESS ROAD UPGRADES |
| IAR-200 | DEMOLITION PLAN - PLANT AREA |
| IAR-210 | DEMOLITION PLAN - NORTH SITE AREA |
| IAR-215 | NON-HAZARDOUS WASTE PLACEMENT AREA |
| IAR-220 | INTERIOR PLAN - NORTH AND SOUTH MILL BUILDINGS |
| IAR-230 | BACKFILL AND FENCING PLAN - NORTH MILL BUILDING AREA |
| IAR-240 | BACKFILL AND FENCING PLAN - SOUTH MILL BUILDING AREA |
| IAR-250 | BORROW AREA PLAN |
| | |
| IAR-270 | DEMOLITION DETAILS (1 OF 2) |
| IAR-272 | DEMOLITION DETAILS (2 OF 2) |
| IAR-274 | MISCELLANEOUS DETAILS |

4

4

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

SEAL

CLIENT
CYPRUS AMAX MINERALS COMPANY

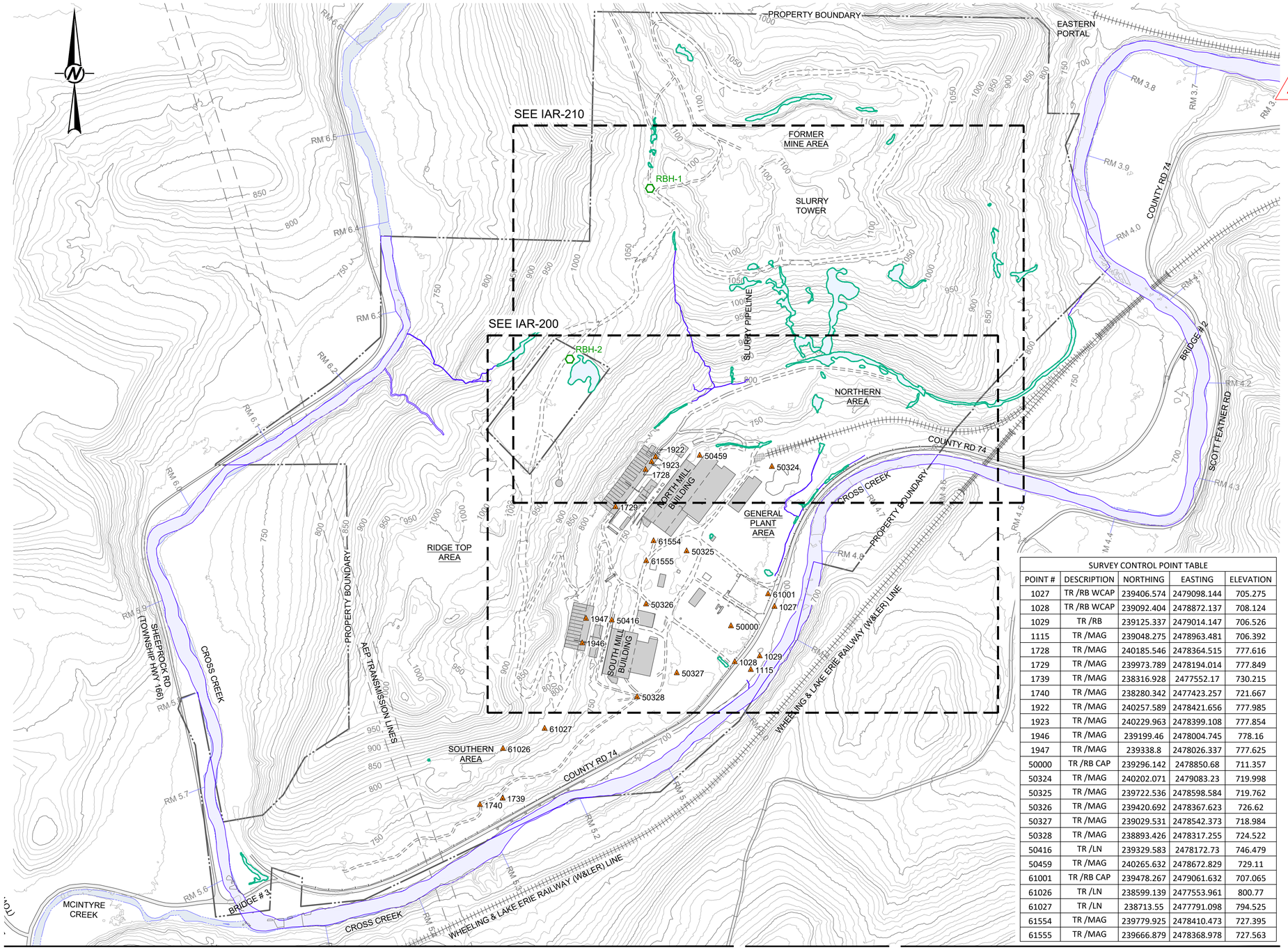
CONSULTANT

REDMOND
18300 NE UNION HILL ROAD
REDMOND, WA
USA
[+1] (425) 883 0777
www.golder.com

PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**COVER SHEET**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 1 of 25 IAR-100 |




**NOTES**

1. BASE TOPOGRAPHY PROVIDED BY JEFFERSON COUNTY, OHIO, ENGINEER'S OFFICE, DATED 2003. TOPOGRAPHY UPDATED USING AS-BUILT SURVEY OF STAGE 1 INTERIM ACTION PROVIDED BY RETTEW, DATED AUGUST 30, 2017, AS-BUILT SURVEY OF NEW HAUL ROAD PROVIDED BY RETTEW, DATED DECEMBER 20, 2021 AND AS-BUILT SURVEY OF STAGE 2 INTERIM ACTION (DEMOLITION) PROVIDED BY RETTEW, DATED OCTOBER 4, 2022.

   COORDINATE SYSTEM: NAD83 OHIO STATE PLANE, NORTH ZONE, US FOOT
   VERTICAL DATUM: NAVD 88

2. PROPERTY BOUNDARY BY BONAR SURVEYING, BERGHOLZ, OHIO, DATED OCTOBER 17, 2006.

3. JURISDICTIONAL WETLAND AND TRIBUTARY ORDINARY HIGH WATER MARK (OHWM) DELINEATION PROVIDED BY WESTLAND RESOURCES, INC., DATED NOVEMBER 14, 2018. WETLAND AND TRIBUTARY DELINEATIONS ARE PRELIMINARY, SUBJECT TO CORPS APPROVAL.

4. CROSS CREEK MILE MARKERS OBTAINED FROM GEODATABASE AVAILABLE ON THE OHIO STATE DNR WEBSITE, JUNE 2012.

5. SITE ADDRESS: 4243 COUNTY ROAD 74
   MINGO JUNCTION, OH 43938

**LEGEND**

- EXISTING PROPERTY BOUNDARY (SEE NOTE 2)
- EXISTING ON-SITE ACCESS ROAD
- EXISTING COUNTY ROAD (PAVED)
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- JURISDICTIONAL WETLAND (SEE NOTE 3)
- JURISDICTIONAL TRIBUTARY (SEE NOTE 3)
- 1729 SURVEY CONTROL POINT
- MW-7 GROUNDWATER MONITORING WELL

SURVEY CONTROL POINT TABLE

| POINT # | DESCRIPTION | NORTHING | EASTING | ELEVATION |
|---|---|---|---|---|
| 1027 | TR /RB WCAP | 239406.574 | 2479098.144 | 705.275 |
| 1028 | TR /RB WCAP | 239092.404 | 2478872.137 | 708.124 |
| 1029 | TR /RB | 239125.337 | 2479014.147 | 706.526 |
| 1115 | TR /MAG | 239048.275 | 2478963.481 | 706.392 |
| 1728 | TR /MAG | 240185.546 | 2478364.515 | 777.616 |
| 1729 | TR /MAG | 239973.789 | 2478194.014 | 777.849 |
| 1739 | TR /MAG | 238316.928 | 2477552.17 | 730.215 |
| 1740 | TR /MAG | 238280.342 | 2477423.257 | 721.667 |
| 1922 | TR /MAG | 240257.589 | 2478421.656 | 777.985 |
| 1923 | TR /MAG | 240229.963 | 2478399.108 | 777.854 |
| 1946 | TR /MAG | 239199.46 | 2478004.745 | 778.16 |
| 1947 | TR /MAG | 239338.8 | 2478026.337 | 777.625 |
| 50000 | TR /RB CAP | 239296.142 | 2478850.68 | 711.357 |
| 50324 | TR /MAG | 240202.071 | 2479083.23 | 719.998 |
| 50325 | TR /MAG | 239722.536 | 2478598.584 | 719.762 |
| 50326 | TR /MAG | 239420.692 | 2478367.623 | 726.62 |
| 50327 | TR /MAG | 239029.531 | 2478542.373 | 718.984 |
| 50328 | TR /MAG | 238893.426 | 2478317.255 | 724.522 |
| 50416 | TR /LN | 239329.583 | 2478172.73 | 746.479 |
| 50459 | TR /MAG | 240265.632 | 2478672.829 | 729.11 |
| 61001 | TR /RB CAP | 239478.267 | 2479061.632 | 707.065 |
| 61026 | TR /LN | 238599.139 | 2477553.961 | 800.77 |
| 61027 | TR /LN | 238713.55 | 2477791.098 | 794.525 |
| 61554 | TR /MAG | 239779.925 | 2478410.473 | 727.395 |
| 61555 | TR /MAG | 239666.879 | 2478368.978 | 727.563 |

MONITORING WELLS

| NAME | NORTHING | EASTING |
|---|---|---|
| RBH-1 | 241787.396' | 2478390.348' |
| RBH-2 | 240816.927' | 2477934.000' |

0 300 600
1" = 300' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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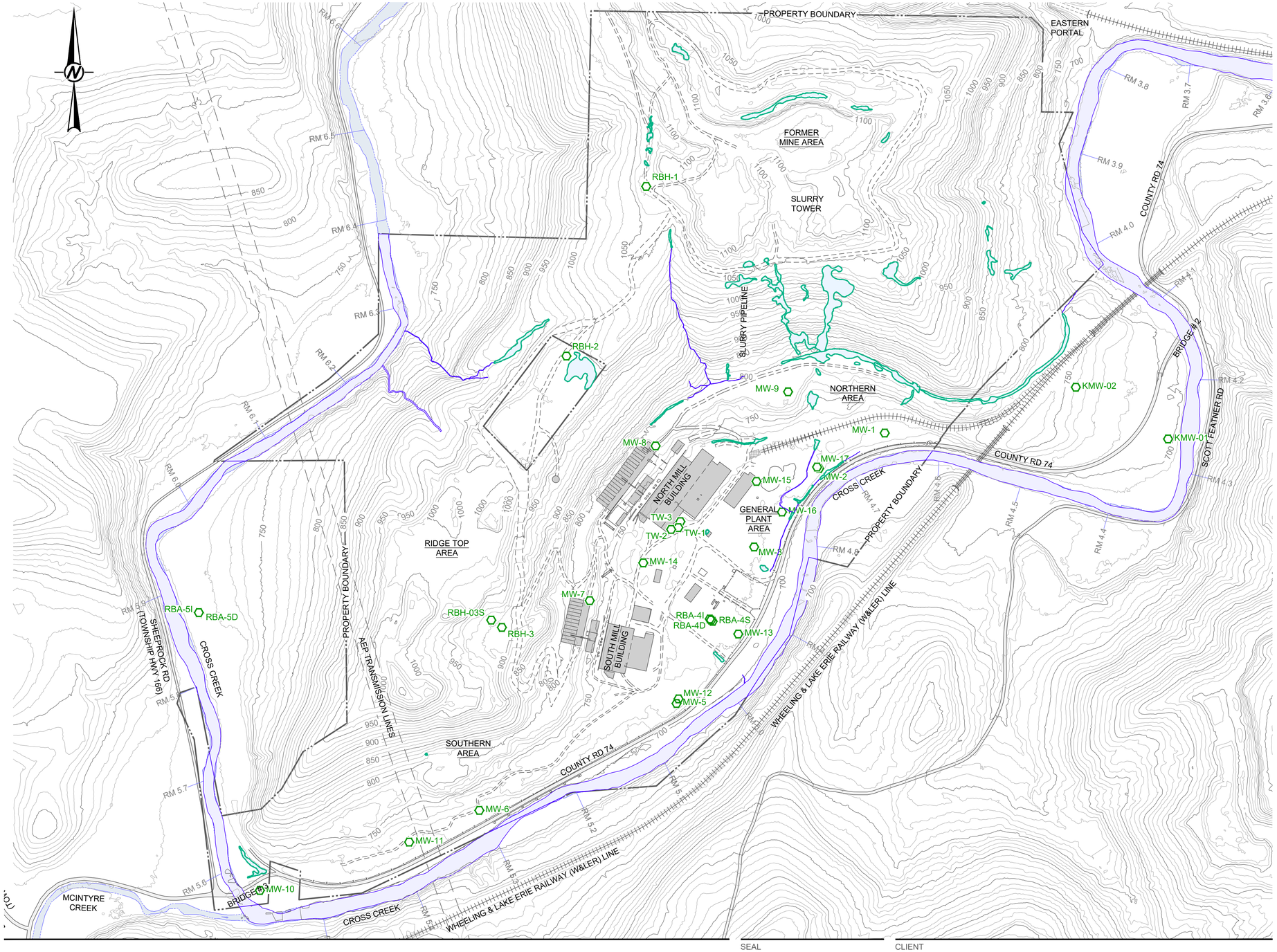
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**SITE OVERVIEW AND SURVEY CONTROL**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 2 of 25 IAR-110 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

Path: \\redmond.golder.gds\gaomat\$\gaomatlocs\Fireport\former_satralloy\09_projects\1239330905_satralloy\300_Stage2InterimActionDesign\02_PRODUCTION\DWGs\ | File Name: 1239330905_300_002.dwg | Last Edited By: kdapolito Date: 2023-07-11 Time:9:58:36 AM | Printed By: KDaPolito Date: 2023-07-31 Time:7:43:17 AM




**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING COUNTY ROAD (PAVED)
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- MW-7 GROUNDWATER MONITORING WELL

| MONITORING WELLS | | |
|---|---|---|
| NAME | NORTHING | EASTING |
| KMW-01 | 240342.225' | 2481375.629' |
| KMW-02 | 240638.427' | 2480848.183' |
| MW-1 | 240376.194' | 2479754.783' |
| MW-10 | 237758.588' | 2476180.402' |
| MW-11 | 238035.342' | 2477034.268' |
| MW-12 | 238854.792' | 2478575.293' |
| MW-13 | 239225.894' | 2478917.022' |
| MW-14 | 239633.075' | 2478373.457' |
| MW-15 | 240099.389' | 2479021.344' |
| MW-16 | 239924.310' | 2479167.074' |
| MW-17 | 240181.557' | 2479367.749' |
| MW-2 | 240173.088' | 2479379.559' |
| MW-3 | 239724.307' | 2479007.607' |
| MW-5 | 238828.655' | 2478563.874' |
| MW-6 | 238216.800' | 2477435.668' |
| MW-7 | 239417.162' | 2478067.304' |
| MW-8 | 240302.506' | 2478444.236' |
| MW-9 | 240612.077' | 2479201.761' |
| RBA-4D | 239305.812' | 2478761.724' |
| RBA-4I | 239312.122' | 2478754.019' |
| RBA-4S | 239298.827' | 2478770.424' |
| RBA-5D | 239344.113' | 2475832.745' |
| RBA-5I | 239348.656' | 2475831.116' |
| RBH-03S | 239305.557' | 2477504.014' |
| RBH-1 | 241787.396' | 2478390.348' |
| RBH-2 | 240816.927' | 2477934.000' |
| RBH-3 | 239263.839' | 2477564.624' |
| TW-1 | 239835.100' | 2478574.019' |
| TW-2 | 239824.547' | 2478533.048' |
| TW-3 | 239869.387' | 2478585.982' |

0 300 600
1" = 300' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

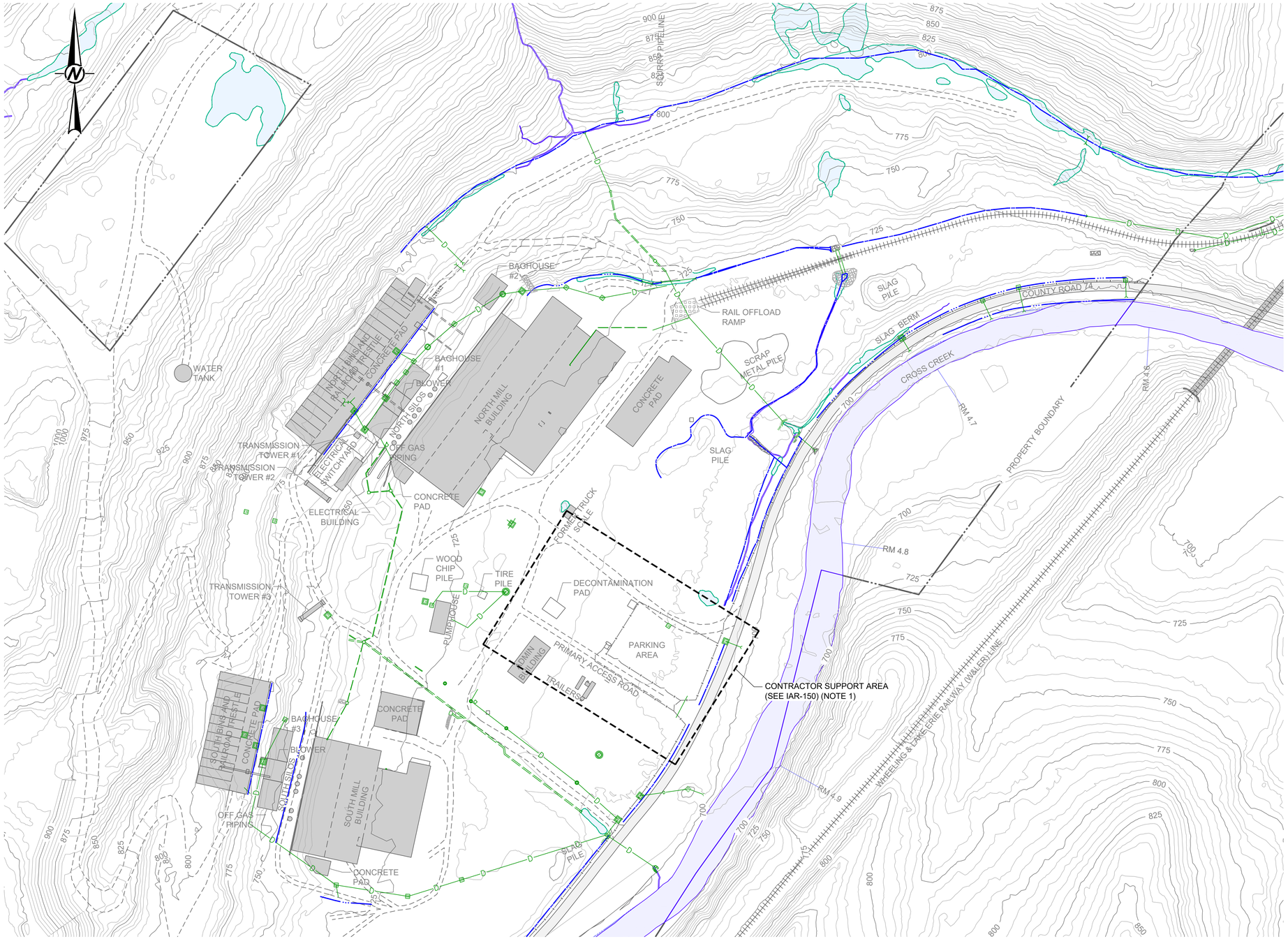
TITLE
**GROUNDWATER MONITORING WELLS**

PROJECT NO. 1239330905 | PHASE 300 | REV. 4 | 3 of 25 SHEET IAR-120

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1in

Path: \\redmond.golder.gds\gaecmat$\geomatics\Freeport\former_satralloy\99_projects\1239330905_satralloy\300_Stage2InterimActionDesign\02_PRODUCTION\DWG\ | File Name: 1239330905_300_003.dwg
Date: 2023-07-31 Time:7:43:52 AM | Printed By: KDaPotto Date: 2023-07-11 Time:8:59:42 AM | Last Edited By: kdapotto




**NOTES**

1. CONTRACTOR FACILITIES LOCATION AND LAYOUT MAY BE ADJUSTED TO ACCOMMODATE PROPOSED OPERATIONS, SUBJECT TO PRIOR WRITTEN APPROVAL BY THE CONSTRUCTION MANAGER.

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING COUNTY ROAD (PAVED)
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING CULVERT / DRAIN PIPE DISCHARGE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING HEADWALL
- EXISTING INLET (INSTALLED IN 2017)
- EXISTING DRAINAGE DITCH
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY

0 120 240
1" = 120' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**SITE FACILITIES LAYOUT**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 4 of 25 IAR-130 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

Path: \\redmond.golder.gds\gecmat$\Geomatics\Fireport\former_satralloy\99_projects\1239330905_satralloy\300_Stage2InterimActionDesign\02_PRODUCTION\DWG\ | File Name: 1239330905_300_005.dwg | Last Edited By: kdapolito Date: 2023-07-11 Time:9:08:20 AM | Printed By: KDaPolito Date: 2023-07-31 Time:7:44:23 AM


**NOTES**

1. EXISTING ELECTRICAL UTILITIES SURVEYED NOVEMBER 19, 2015 BY RETTEW.

**LEGEND**

- CONTRACTOR SUPPORT AREA LIMITS
- EXISTING ON-SITE ACCESS ROAD
- EXISTING COUNTY ROAD (PAVED)
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING CULVERT / DRAIN PIPE DISCHARGE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING HEADWALL
- EXISTING INLET (INSTALLED IN 2017)
- EXISTING DRAINAGE DITCH
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- U/G — EXISTING UNDERGROUND ELECTRICAL LINE
- O/H — EXISTING OVERHEAD ELECTRICAL LINE
- TEL — EXISTING OVERHEAD TELEPHONE LINE

0 50 100
1" = 50' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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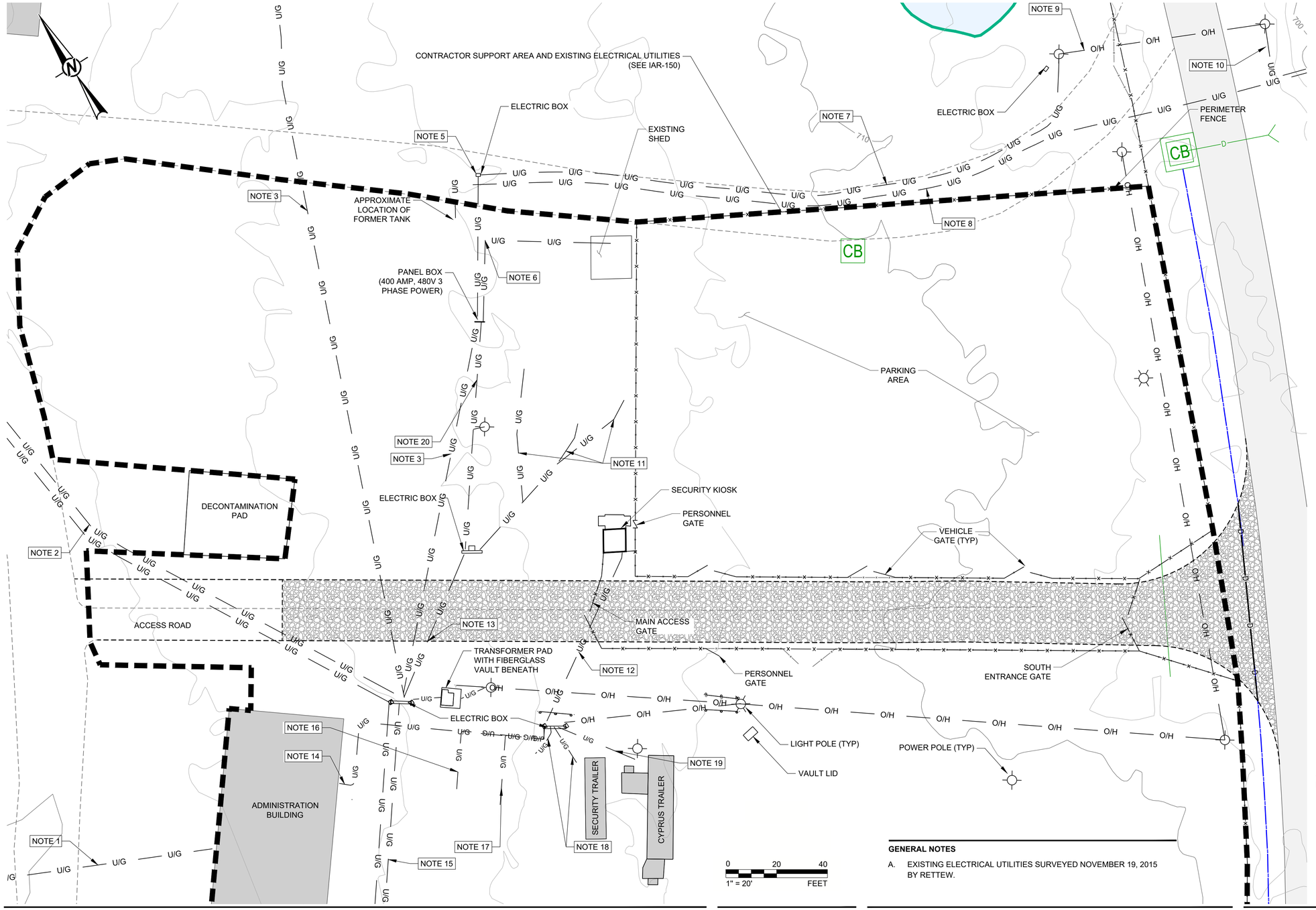
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**EXISTING ELECTRICAL AND STORMWATER UTILITIES**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 5 of 25 IAR-140 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in




**GENERAL NOTES**

A. EXISTING ELECTRICAL UTILITIES SURVEYED NOVEMBER 19, 2015 BY RETTEW.

**ELECTRICAL UTILITIES NOTES**

1. THIS LINE IS A 2-INCH CONDUIT BURIED APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT.
2. THERE ARE A TOTAL OF FOUR 3-INCH CONDUITS WITH 1200 AMP LIVE POWER WIRES INSIDE. FOUR #500 MCM CABLES PER CONDUIT.
3. THIS IS A SET OF FOUR CONDUITS RUNNING FROM THE MAIN BREAKER AREA. THESE CONDUITS ARE APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT. THREE OF THE CONDUITS ARE 1-INCH AND ONE IS 2-INCH.
4. THERE ARE TWO 2-INCH CONDUITS ALONG THIS LINE THAT CONVEY 480 VOLT POWER TO THE RAIL SCALE AND OVERHEAD LIGHTS IN THE RAIL LOADING /UNLOADING AREA. ONE CONDUIT HAS CABLE IN IT AND THE OTHER IS A SPARE FOR OPTIONAL FIBER OPTIC CABLE FOR REMOTE READING OF THE RAIL SCALE DATA. CONDUITS ARE 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT.
5. THIS IS A PULL BOX FOR CABLE THAT GOES TO CROSS CREEK TO POWER A SUMP PUMP THAT WAS USED IN PHASE 1 REMEDIATION.
6. THIS LINE IS A 2-INCH CONDUIT BURIED APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT, WHICH PROVIDES POWER TO THE FORMER FUEL STORAGE AREA.
7. THIS LINE REPRESENTS THE GENERAL LOCATION (NOT SURVEYED) OF 2-INCH CONDUIT BURIED APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT. THIS CONDUIT IS BURIED ALONG THE TOE OF THE BERM THAT RUNS ALONG THE NORTHERN EDGE OF THE FORMER ENTRY ROAD.
8. THIS LINE REPRESENTS THE GENERAL LOCATION (NOT SURVEYED) OF A 3-INCH BURIED CONDUIT THAT CONVEYED WATER FROM CROSS CREEK TO THE BAKER TANK.
9. THIS SECTION IS AN OVERHEAD LINE ABOVE COUNTY ROAD 74.
10. THIS LINE REPRESENTS A 2-INCH BURIED CONDUIT THAT IS APPROXIMATELY 22 FEET LONG AND RUNS APPROXIMATELY 15 FEET IN FRONT OF DRAINAGE OUTLET CULVERT PIPE #6. THE CONDUIT THEN FOLLOWS THE FEEDWATER PIPE TO THE FORMER SUMP PUMP LOCATED IN CROSS CREEK THAT PROVIDED NON-POTABLE WATER DURING PHASE 1 REMEDIATION.
11. THESE THREE LINES RUNNING TO THE FORMER TRAILER LOCATIONS ARE 2-INCH CONDUITS WITH 3 - #2 CONDUCTOR CABLES AND 1 - #6 GROUND WIRE IN EACH CONDUIT. CONDUITS ARE BURIED APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT.
12. ONE 1.5-INCH CONDUIT WITH 3 - #8 CONDUCTOR CABLES AND 1 - #4 GROUND WIRE. ONE 1.5-INCH CONDUIT WITH 4 - CAT5E CABLES. CONDUIT IS BURIED APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT.
13. ONE 3-INCH CONDUIT BURIED APPROXIMATELY 2 FEET DEEP WITH CAUTION TAPE AT A DEPTH OF 1 FOOT.
14. ONE 2-INCH CONDUIT WITH 3 - #2 CONDUCTOR CABLES AND 1- #8 GROUND WIRE. CONDUIT IS BURIED APPROXIMATELY 1 FOOT DEEP WITH CAUTION TAPE ABOVE.
15. FOUR 3-INCH CONDUITS THAT ARE EMPTY.
16. ONE 2-INCH CONDUIT WITH 3 - #3/0 CONDUCTOR CABLES AND 1 - #4 GROUND WIRE. CONDUIT 1 FOOT DEEP WITH CAUTION TAPE ABOVE.
17. ONE 2-INCH CONDUIT WITH 3 - #3/0 CONDUCTOR CABLES AND 1 - #4 GROUND WIRE. CONDUIT IS BURIED APPROXIMATELY 1 FOOT DEEP WITH CAUTION TAPE ABOVE.
18. CONDUIT INSTALLED PRIOR TO PHASE 1 REMEDIATION. TYPE OF WIRE UNKNOWN. CONDUIT IS 1.5-INCH AND BURIED A FEW INCHES DEEP WITH NO CAUTION TAPE ABOVE IT.
19. ONE 2-INCH CONDUIT WITH 3 - #3/0 CONDUCTOR CABLES AND 1 - #4 GROUND WIRE. ONE 1.5-INCH CONDUIT WITH 4 - CAT5E CABLES. CONDUIT IS BURIED APPROXIMATELY 1 FOOT DEEP WITH CAUTION TAPE ABOVE.
20. THIS IS A SET OF FOUR CONDUITS LEADING INTO THE PANEL BOX. ONE 1-INCH CONDUIT WITH 2 - #12 CONDUCTOR CABLES AND 1 - #12 GROUND WIRE. ONE 2-INCH CONDUIT WITH 2 - #12 CONDUCTOR CABLES AND 1 - #12 GROUND WIRE.

**LEGEND**

- EXISTING DRAINAGE DITCH
- U/G — EXISTING UNDERGROUND ELECTRICAL LINE
- O/H — EXISTING OVERHEAD ELECTRICAL LINE
- TEL — EXISTING OVERHEAD TELEPHONE LINE
- GRAVEL SURFACING (MAINTAIN)
- GUARD RAIL

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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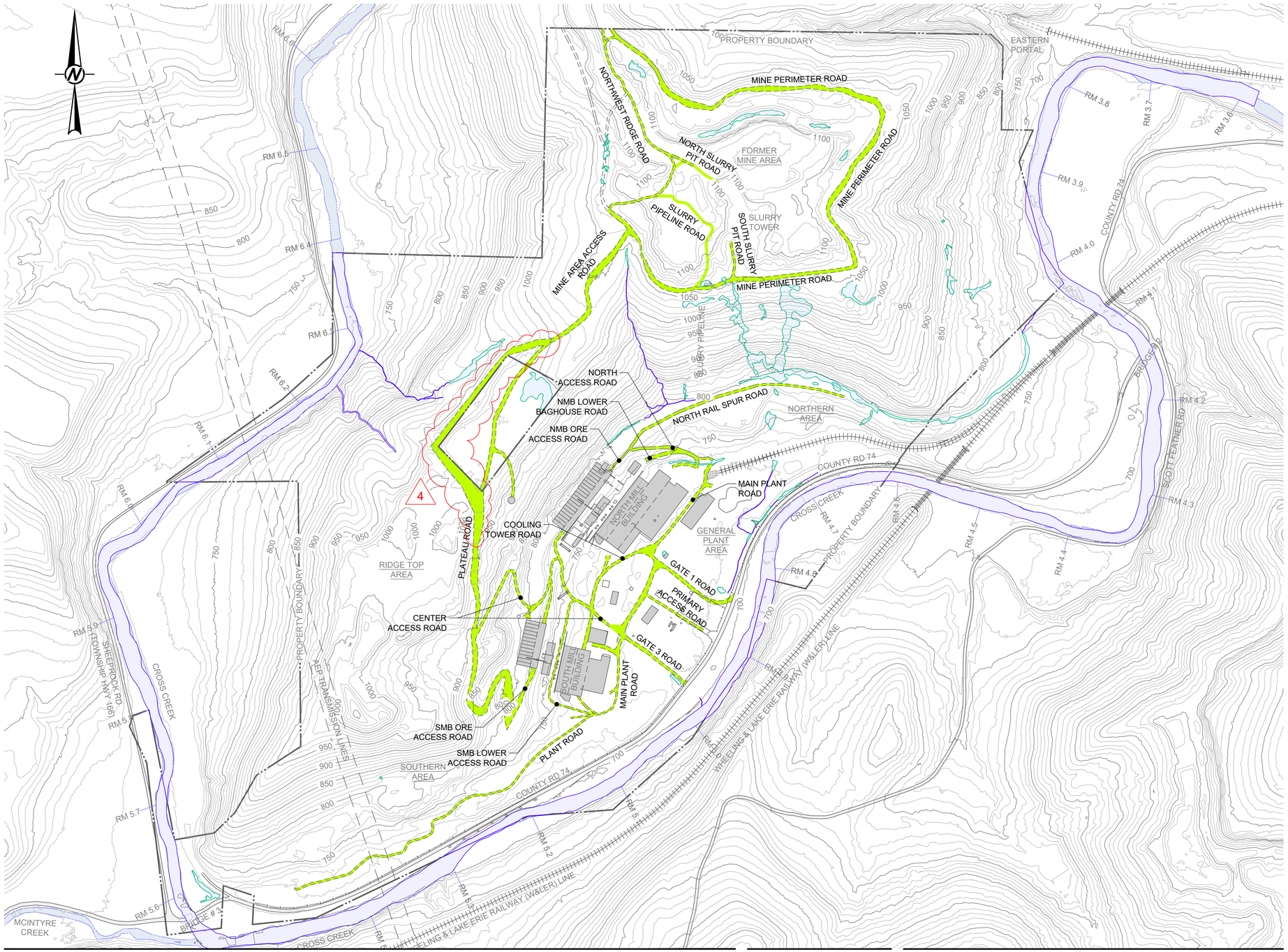
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**CONTRACTOR SUPPORT AREA AND EXISTING ELECTRICAL UTILITIES**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 6 of 25 IAR-150 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1in




**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- ROAD

0 300 600
1" = 300' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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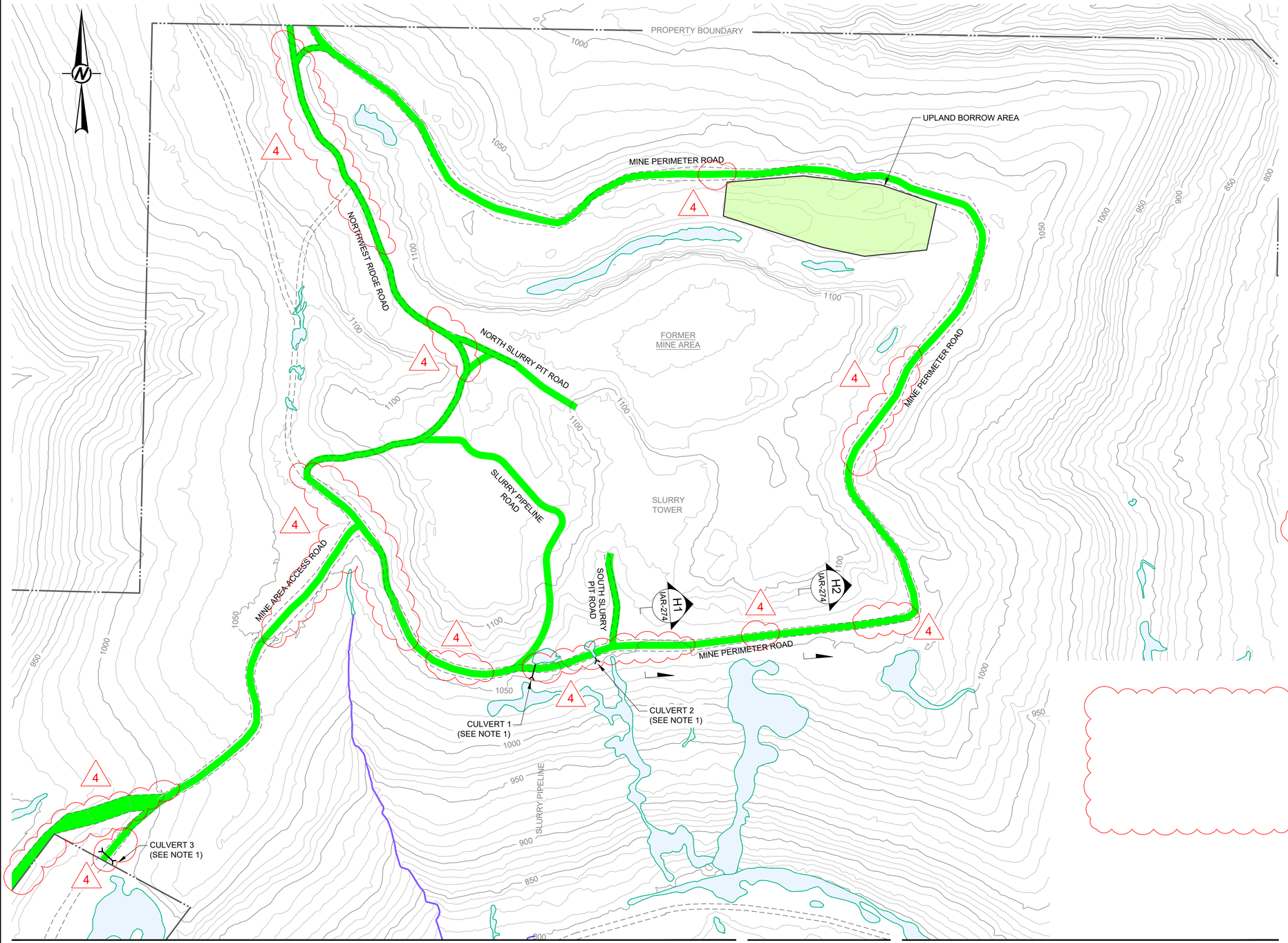
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**SITE ROAD SYSTEM**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 7 of 25 IAR-160 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in




**NOTES**

1. ALL CULVERTS, INCLUDING THOSE NOT SHOWN AT THIS TIME, TO BE 18-IN CMP. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE CONSTRUCTION MANAGER.

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- 4
- BORROW AREA

0 120 240
1" = 120' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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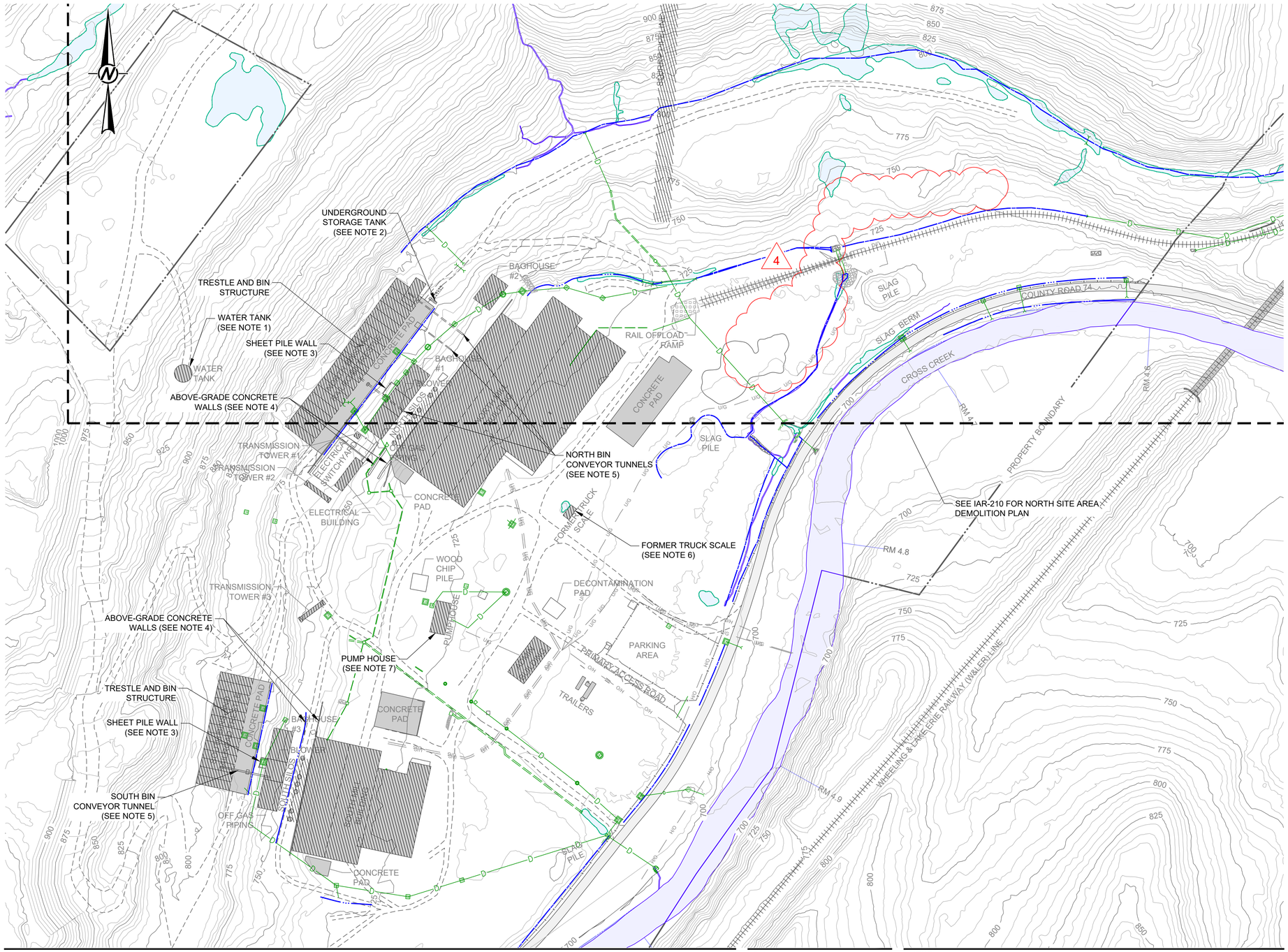
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**MINE AREA AND UPPER PLATEAU ACCESS ROAD UPGRADES**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 8 of 25 IAR-165 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

1 in




**NOTES**

1. DEMOLISH WATER TANK AND ABOVE-GROUND PORTIONS OF PIPING, VALVES, AND ASSOCIATED EQUIPMENT. SALVAGE WOOD PLANKS FORMING TANK AND STOCKPILE AT LOCATION AS DIRECTED BY THE CONSTRUCTION MANAGER. REMOVE CONCRETE FOUNDATION TO EXISTING GRADE.
2. REMOVE UNDERGROUND STORAGE TANK AND BACKFILL EXCAVATION TO GRADE.
3. CUT OFF SHEET PILES EVEN WITH GRADE. DO NOT REMOVE BELOW-GRADE PORTION OF SHEET PILES.
4. DEMOLISH TO GRADE.
5. CONTRACTOR TO BREAK THE ROOF AND FLOOR OF CONVEYOR TUNNELS FOR THE NORTH AND SOUTH BINS. BACKFILL WITH CRUSHED CONCRETE TO 1 FT BELOW GRADE. TOP 1 FT TO BE BACKFILLED WITH GRAVEL OR SOIL.
6. REMOVE SCALE AND BACKFILL PIT TO GRADE.
7. PUMPHOUSE TO BE DEMOLISHED DOWN TO SLAB AND CONCRETE STOCKPILED. CONCRETE CISTERN/PIT FLOORING TO BE BROKEN FOR DRAINAGE AND BACKFILL WITH CRUSHED CONCRETE TO GRADE.

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- U/G — EXISTING UNDERGROUND ELECTRICAL LINE
- O/H — EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING CULVERT / DRAIN PIPE DISCHARGE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING HEADWALL
- EXISTING INLET (INSTALLED IN 2017)
- EXISTING DRAINAGE DITCH
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- EXISTING FACILITY (TO BE DEMOLISHED)

0 120 240
1" = 120' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**DEMOLITION PLAN - PLANT AREA**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 9 of 25 IAR-200 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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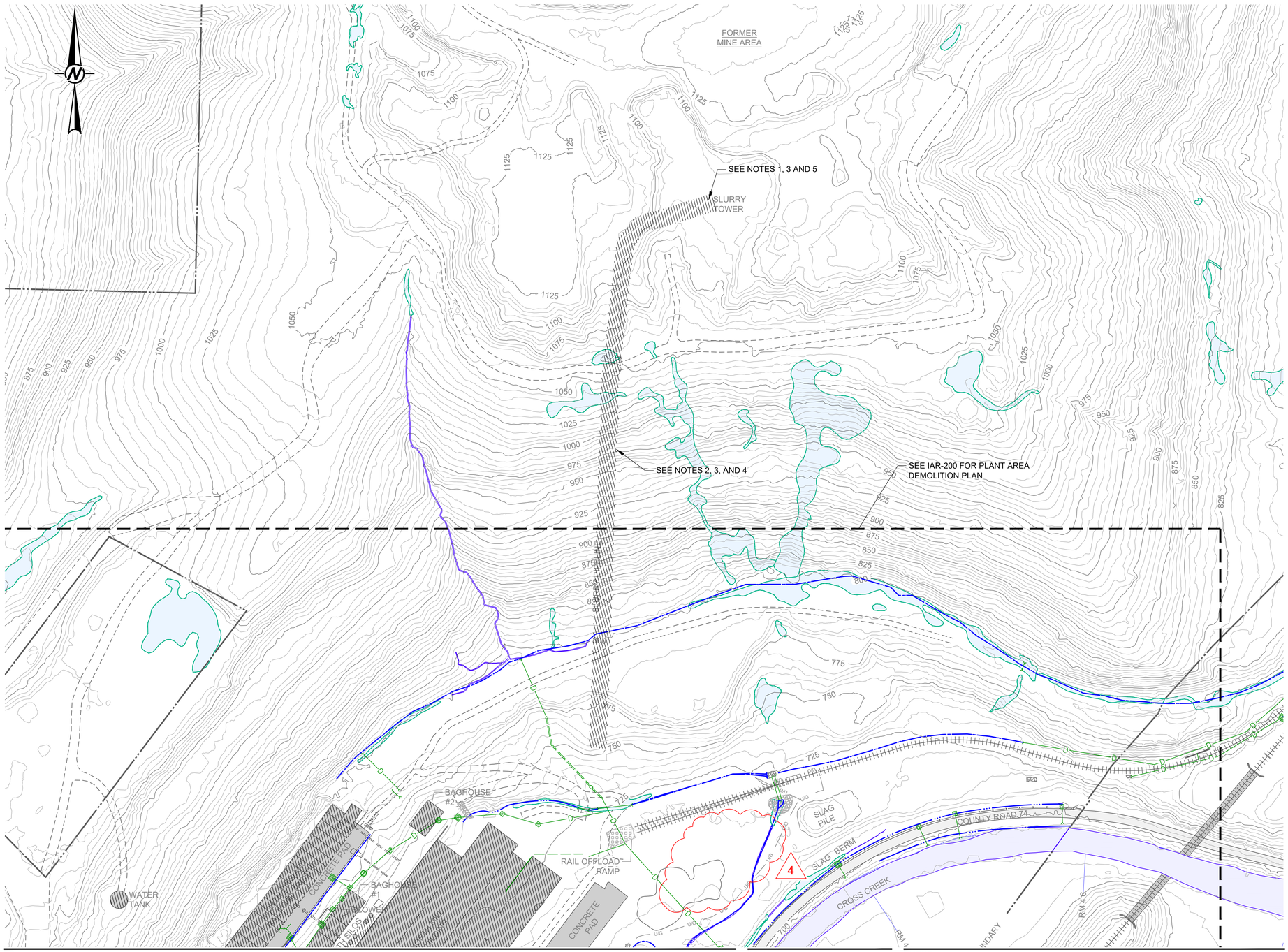


**NOTES**

1. DEMOLISH SLURRY TOWER TO A MINIMUM 3 FT BELOW EXISTING GROUND SURFACE. BACKFILL ANY HOLE TO GROUND SURFACE WITH ADJACENT SOIL / SLAG.
2. REMOVE ENTIRE LENGTH OF SLURRY PIPE. LOCATION AND LENGTH OF SLURRY PIPE MAY VARY FROM THAT SHOWN ON THIS DRAWING. SLURRY PIPE MAY NOT BE PRESENT AT ALL LOCATIONS ALONG INDICATED ALIGNMENT. CONTRACTOR SHALL DETERMINE ACTUAL LOCATION OF SLURRY PIPE IN FIELD.
3. REMOVE ALL MATERIALS FROM INSIDE SLURRY TOWER , PIPE, AND ASSOCIATED EQUIPMENT PRIOR TO TRANSPORTING FROM DEPOSITION SITE. PLACE REMOVED MATERIALS ON ADJACENT SLAG PILE.
4. CONCRETE SLURRY PIPE ANCHORS TO BE LEFT IN PLACE AND COVERED WITH SURROUNDING SOIL UNLESS DIRECTED OTHERWISE.
5. DEMOLISH WALKWAY ACCESS TO SLURRY TOWER. DEADMAN CONCRETE ANCHORS FOR GUY WIRES SHALL HAVE SLAG BACKFILL PLACED AROUND THEM AT A MINIMUM 2H:1V SLOPE.

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- EXISTING UNDERGROUND ELECTRICAL LINE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING CULVERT / DRAIN PIPE DISCHARGE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING HEADWALL
- EXISTING INLET (INSTALLED IN 2017)
- EXISTING DRAINAGE DITCH
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- EXISTING FACILITY (TO BE DEMOLISHED)

0 120 240
1" = 120' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**DEMOLITION PLAN - NORTH SITE AREA**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 10 of 25 IAR-210 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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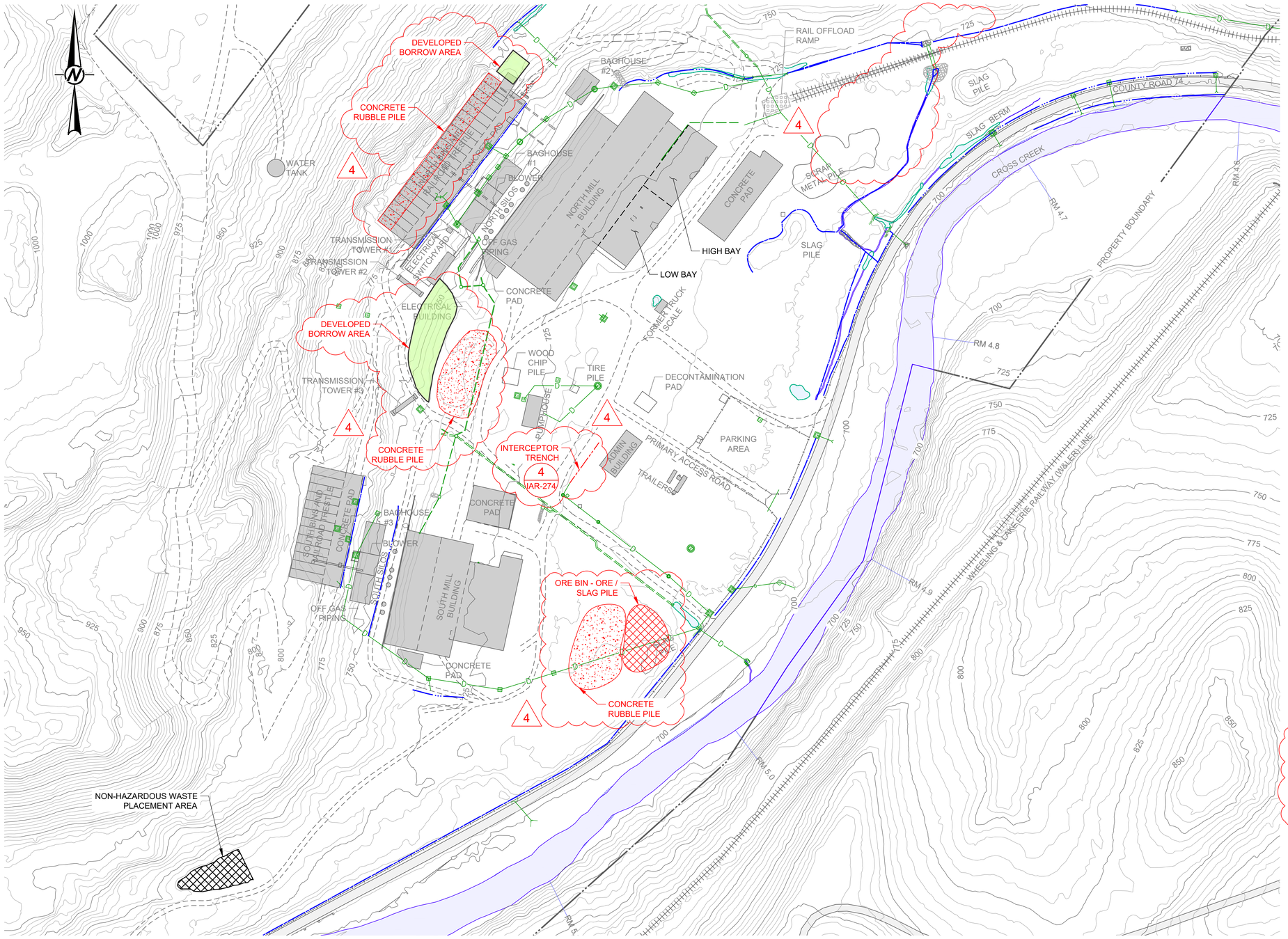


**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING COUNTY ROAD (PAVED)
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING CULVERT / DRAIN PIPE DISCHARGE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING HEADWALL
- EXISTING INLET (INSTALLED IN 2017)
- EXISTING DRAINAGE DITCH
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- NON-HAZARDOUS WASTE PLACEMENT AREA
- CONCRETE RUBBLE PILE AS-BUILT
- DEVELOPED BORROW AREA AS-BUILT
- ORE BIN - ORE /SLAG PILE AS-BUILT
- INTERCEPTOR TRENCH AS-BUILT

4

0 120 240
1" = 120' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
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| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**NON-HAZARDOUS WASTE PLACEMENT AREA**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 11 of 25 IAR-215 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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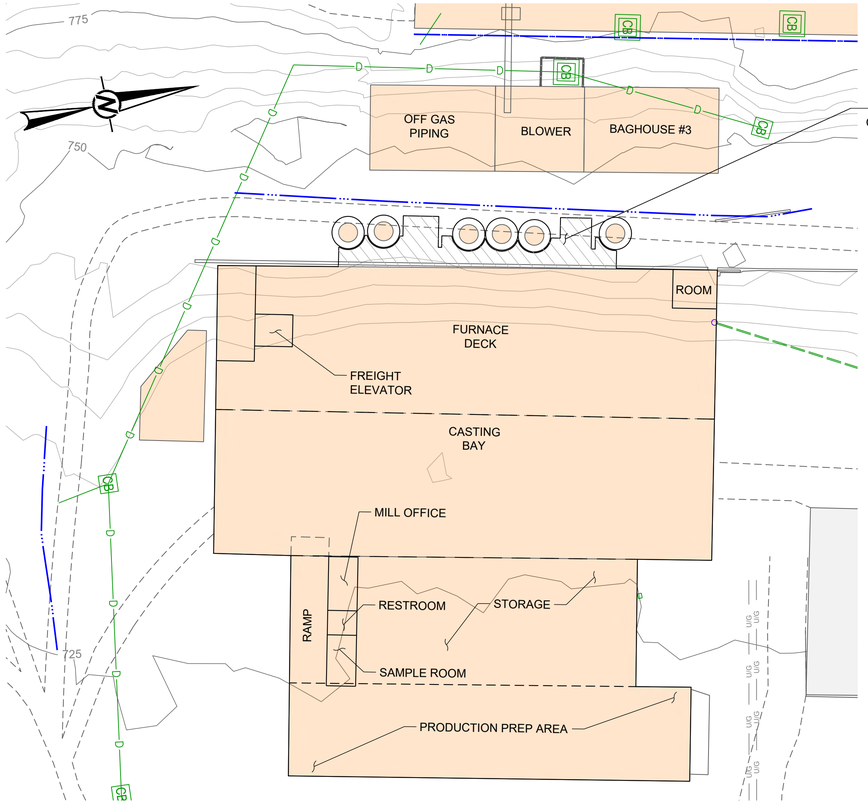
**NOTES**

1. QUANTITIES AND DIMENSIONS PROVIDED ARE APPROXIMATE.
2. DEMOLISH TOP SLAB. CRACK BOTTOM SLAB TO FACILITATE DRAINAGE, BACKFILL WITH CRUSHED CONCRETE TO 1-FT. BELOW GROUND SURFACE. BACKFILL UPPER 1-FT. WITH CLEAN GRAVEL OR SOIL TO CREATE A SMOOTH SURFACE.
3. REMOVE SUMP PUMP (ON GROUND LEVEL) AND BACKFILL WITH CRUSHED CONCRETE OR EQUIVALENT.
4. DEMOLISH ALL CONCRETE PEDESTALS DOWN TO ADJACENT SLAB ELEVATION.
5. PROTECT EXISTING STORMWATER DRAINAGE FEATURES.

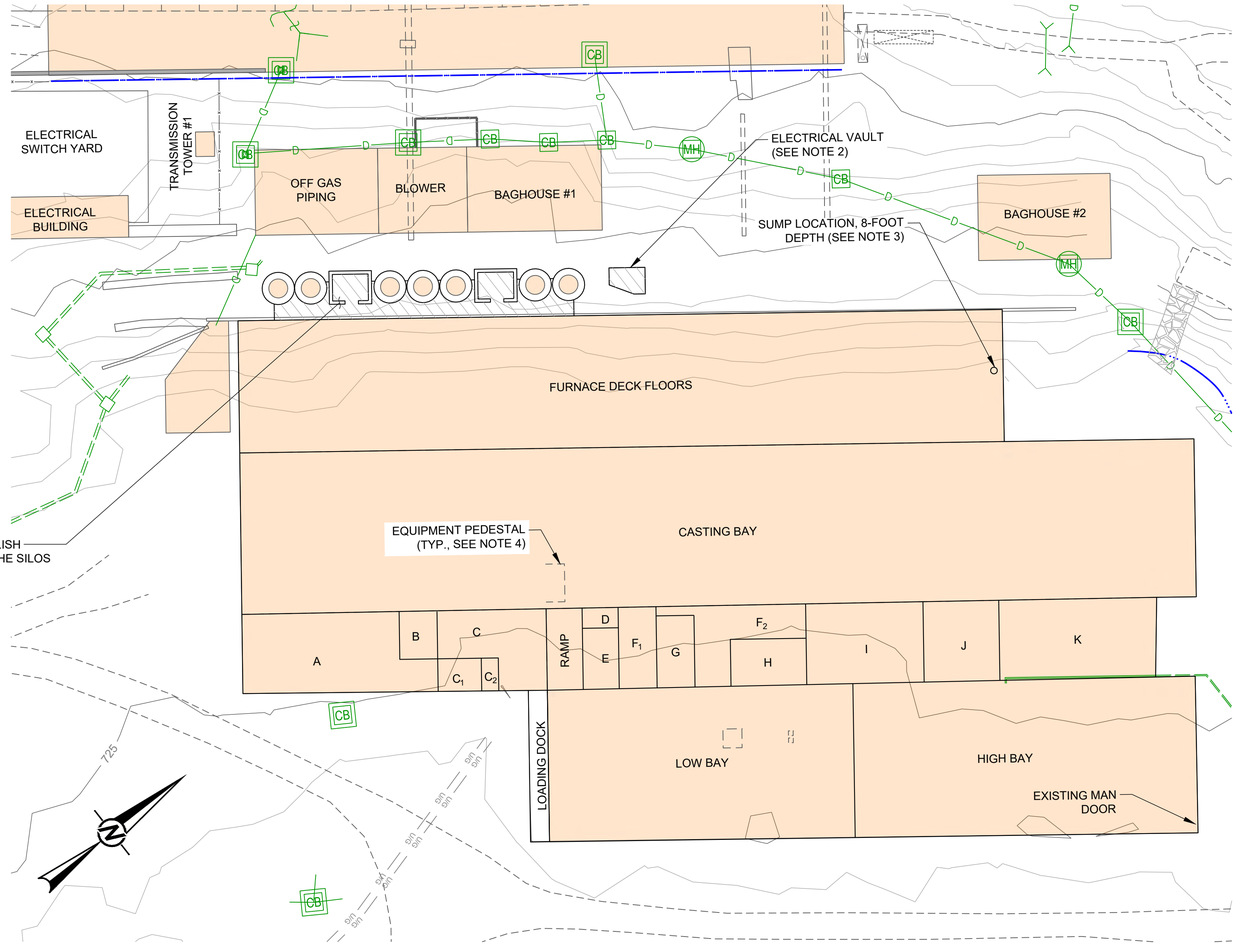
**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING FACILITY
- EXISTING DRAINAGE DITCH
- EXISTING UNDERGROUND ELECTRICAL LINE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING INLET (INSTALLED IN 2017)




SOUTH MILL BUILDING
SCALE 1" = 40'

CONTRACTOR TO DEMOLISH CONCRETE DECK BETWEEN THE SILOS AND BUILDING.




NORTH MILL BUILDING
SCALE 1" = 40'

**NORTH MILL BUILDING KEY**

A. MAINTENANCE SHOP
B. TOOL ROOM
C. PARTS & STOCK STORAGE
$C_1$ 2 STORY OFFICE
$C_2$ 1 STORY ROOM
D. 2 STORY ROOMS, RESTROOM (Above) OFFICE (Below)
E. SAMPLE PREP ROOM
$F_1$ OPEN YARD AREA
G. TOTE BOX STORAGE
$F_2$ OPEN YARD L SHAPED AREA
H. COOLING WATER PUMPS
I. ELECTRICAL EQUIPMENT ROOM
J. CAST TURNOVER
K. COMPRESSOR ROOM

0 40 80
1" = 40' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**INTERIOR PLAN - NORTH AND SOUTH MILL BUILDINGS**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 12 of 25 IAR-220 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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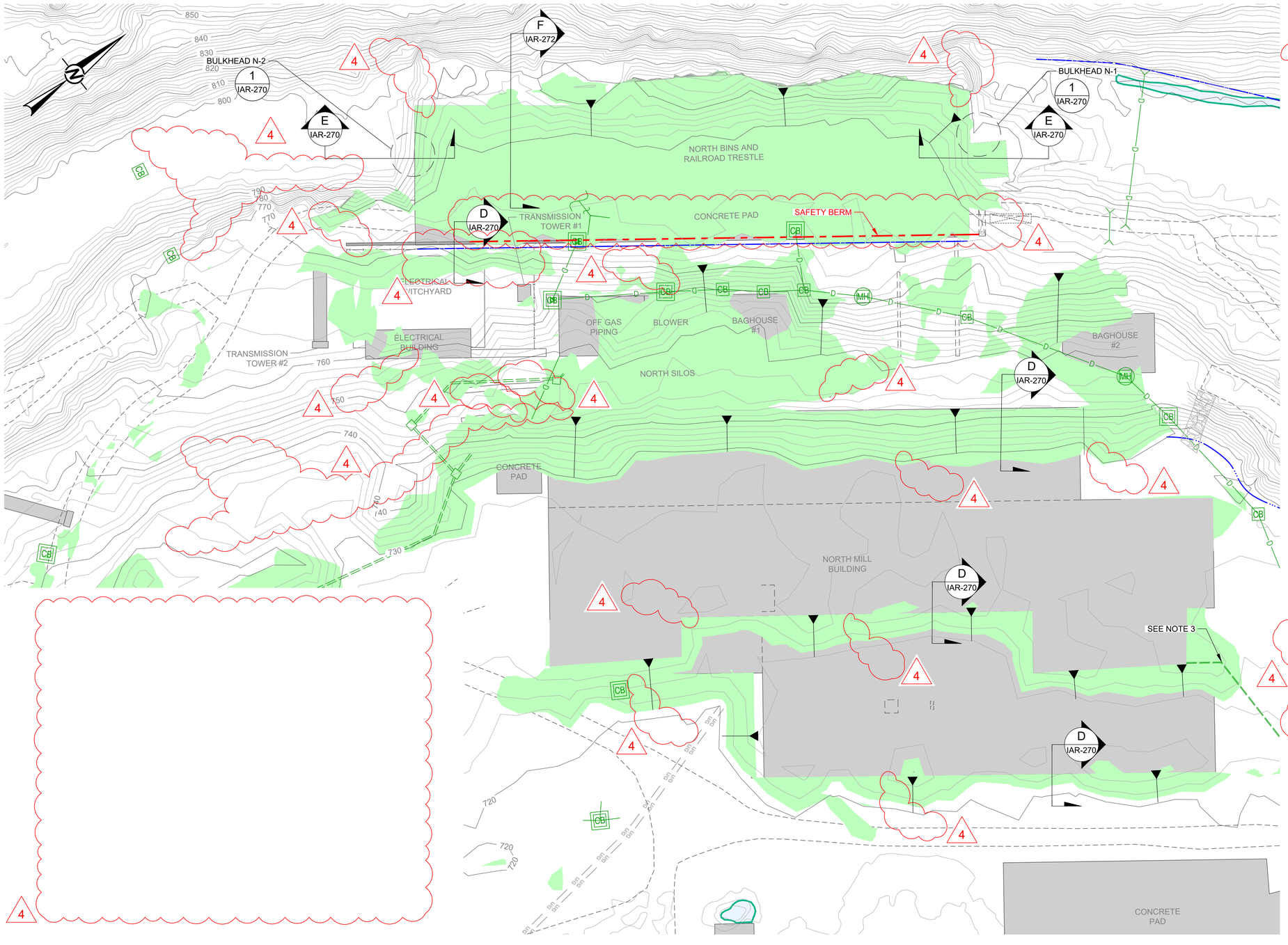


**NOTES**

1. ALL BACKFILL AREA SLOPES SHALL BE 2H:1V.
3. LEAVE UNDERGROUND PORTION OF DRAINAGE PIPE IN PLACE AND CAP WITH FITTING OF SAME MATERIAL.

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- DEMOLISHED FACILITY
- JURISDICTIONAL WETLAND
- EXISTING DRAINAGE DITCH
- EXISTING UNDERGROUND ELECTRICAL LINE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING INLET (INSTALLED IN 2017)
- SLOPE SYMBOL
- PERMANENT FENCE
- GRADING
- SAFETY BERM AS-BUILT
- BACKFILL AREA AS-BUILT

0 40 80
1" = 40' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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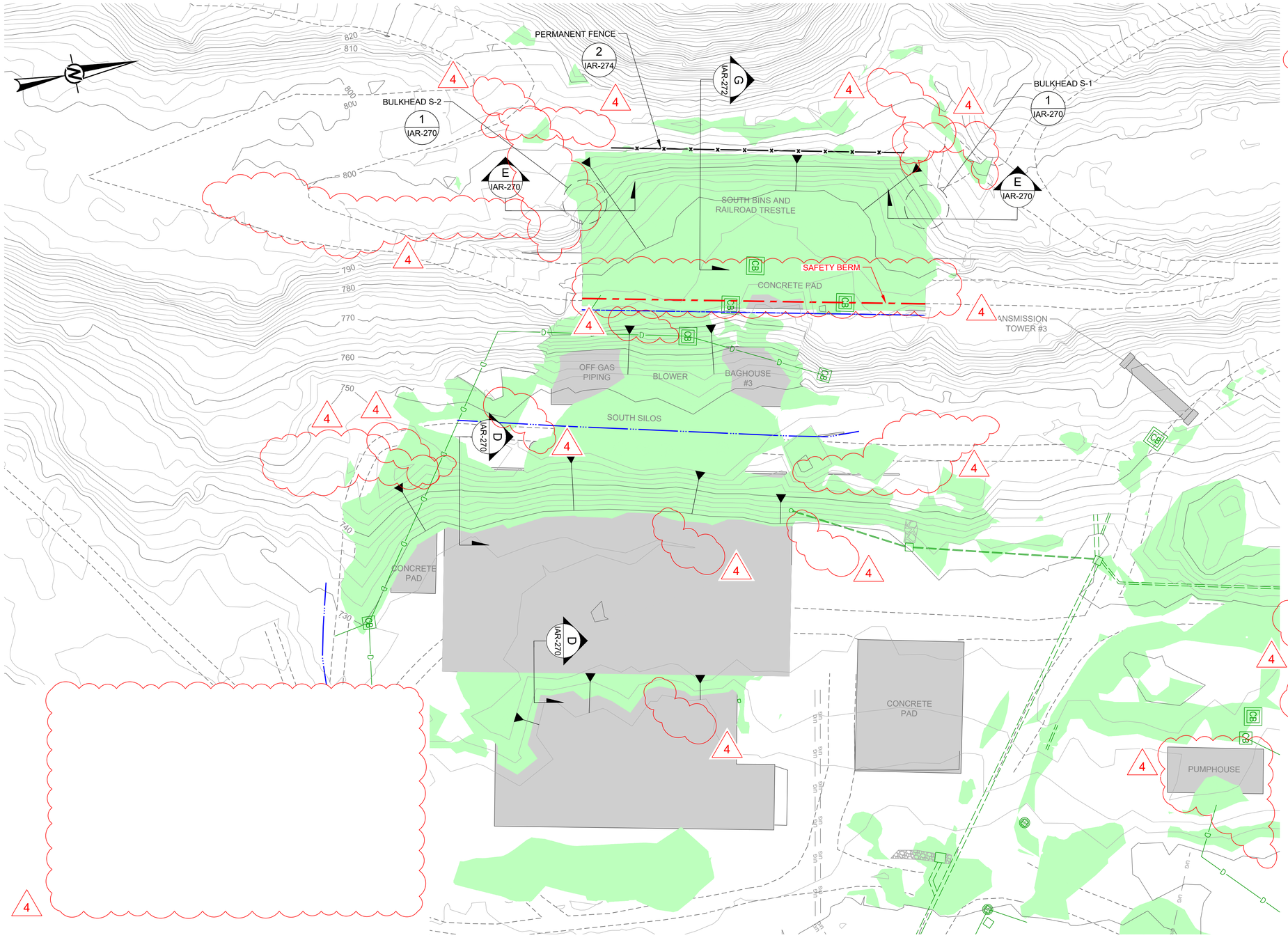
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**BACKFILL AND FENCING PLAN - NORTH MILL BUILDING AREA**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 13 of 25 IAR-230 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in




**NOTES**

1. ALL BACKFILL AREA SLOPES SHALL BE 2H:1V.

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- DEMOLISHED FACILITY
- EXISTING DRAINAGE DITCH
- EXISTING UNDERGROUND ELECTRICAL LINE
- EXISTING UNDERGROUND DRAINAGE PIPE
- EXISTING UNDERGROUND DRAINAGE PIPE (INSTALLED IN 2017)
- EXISTING MANHOLE (UNVERIFIED)
- EXISTING MANHOLE (VERIFIED)
- EXISTING CATCH BASIN (UNVERIFIED)
- EXISTING CATCH BASIN (VERIFIED)
- EXISTING INLET (INSTALLED IN 2017)
- SLOPE SYMBOL
- PERMANENT FENCE
- GRADING
- SAFETY BERM AS-BUILT
- BACKFILL AREA AS-BUILT

0 40 80
1" = 40' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
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| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**BACKFILL AND FENCING PLAN - SOUTH MILL BUILDING AREA**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 14 of 25 IAR-240 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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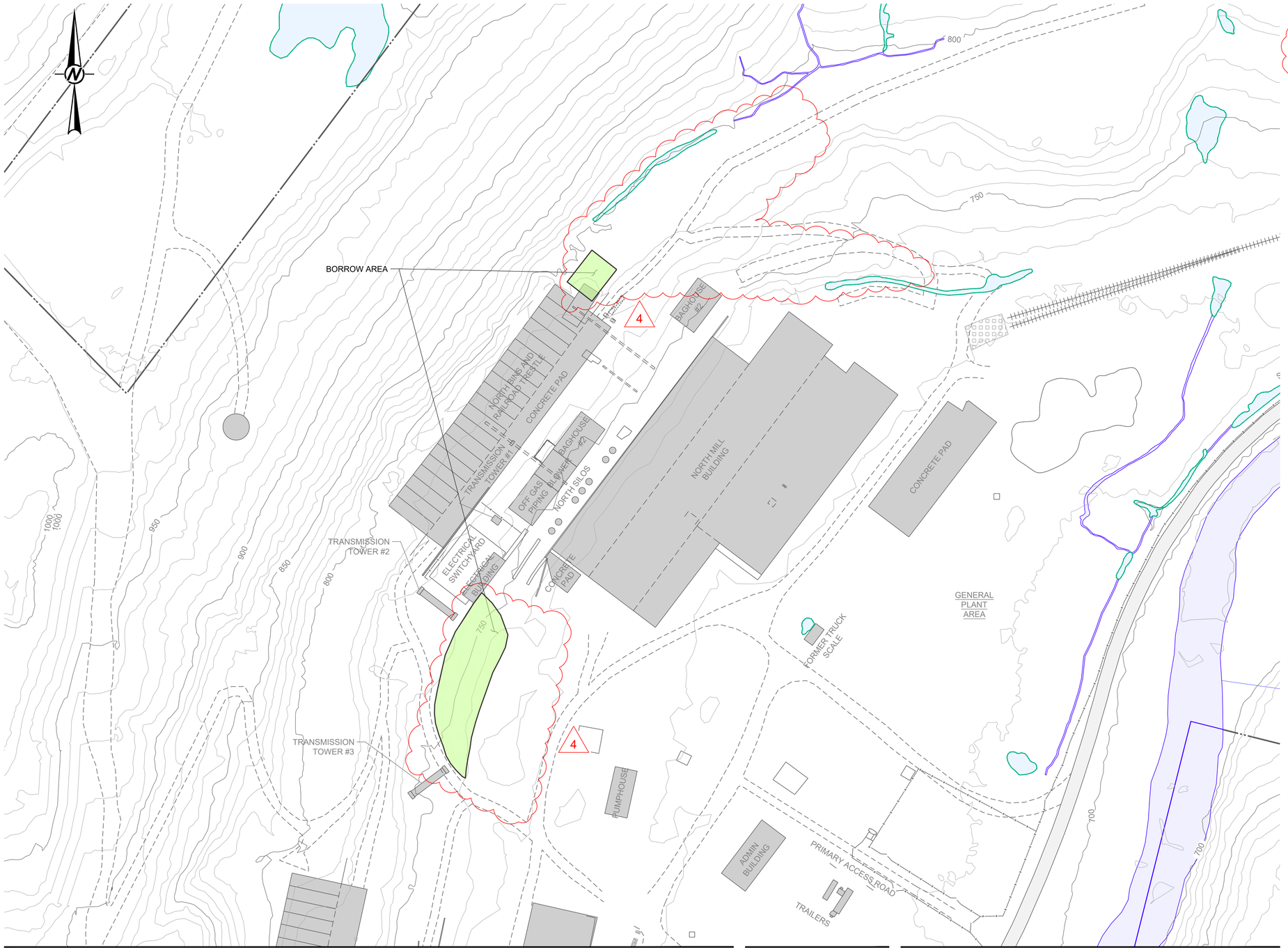


**NOTES**

4

**LEGEND**

- EXISTING ON-SITE ACCESS ROAD
- EXISTING RAILROAD
- EXISTING FENCE
- EXISTING FACILITY
- JURISDICTIONAL WETLAND
- JURISDICTIONAL TRIBUTARY
- BORROW AREA
- PROPOSED BORROW AREA GRADING

0 80 160
1" = 80' FEET

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**BORROW AREA PLAN**

| PROJECT NO. | PHASE | REV. | SHEET |
|---|---|---|---|
| 1239330905 | 300 | 4 | 15 of 25 IAR-250 |

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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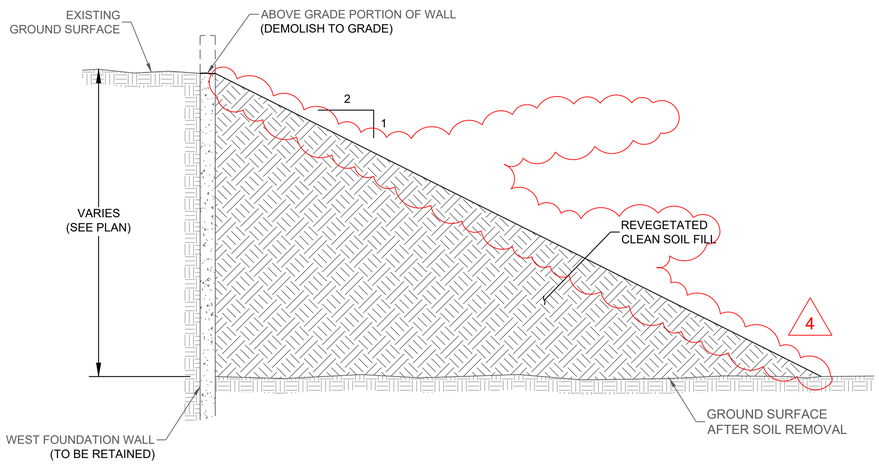
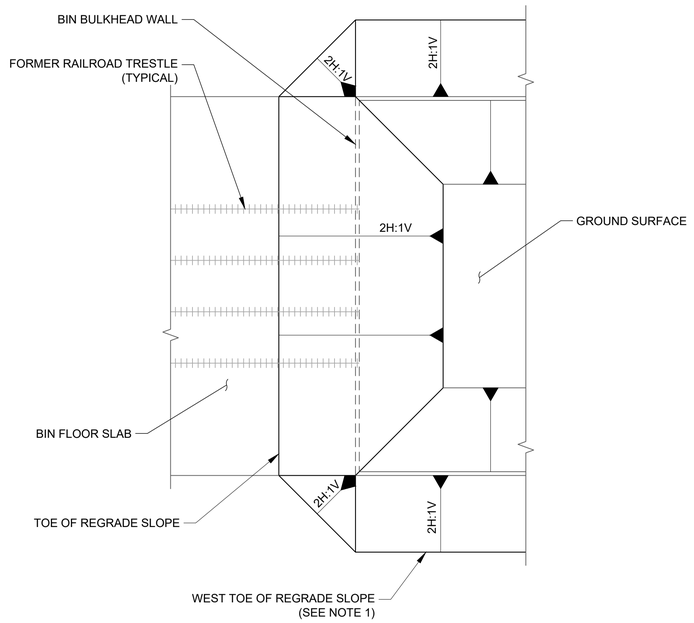
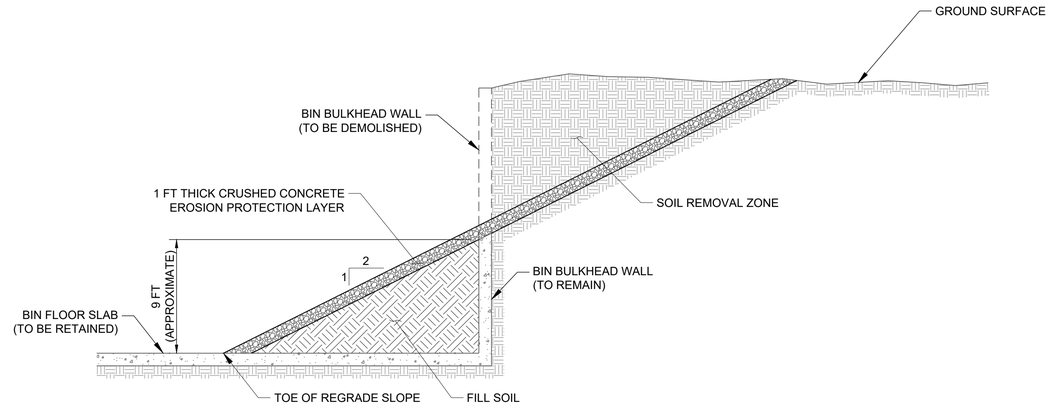



SCALE NTS D MILL BUILDINGS BACKFILL - TYPICAL SECTION
IAR-230 IAR-240




SCALE NTS 1 BIN BULKHEAD REGRADE - TYPICAL PLAN
IAR-230 IAR-240




SCALE NTS E BIN BULKHEAD DEMOLITION - TYPICAL SECTION
IAR-230 IAR-240

**NOTES**

1. AT WEST END OF BULKHEAD IN NORTH BIN AREA, CONSTRUCT TOE OF SLOPE AS SHOWN OR TIE INTO ADJACENT HILLSIDE TO PROVIDE POSITIVE DRAINAGE AT ALL LOCATIONS.

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
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| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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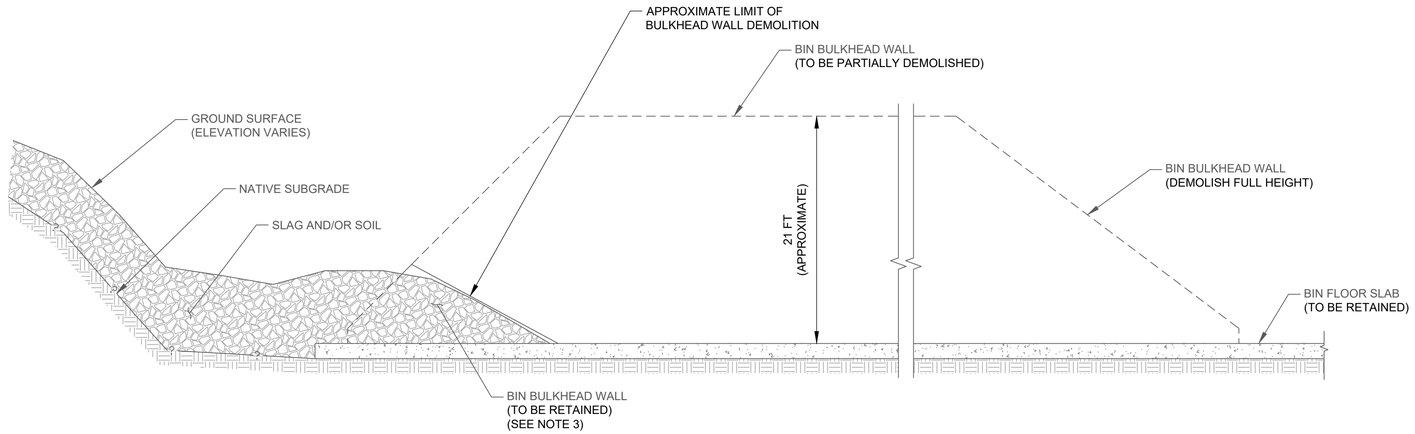
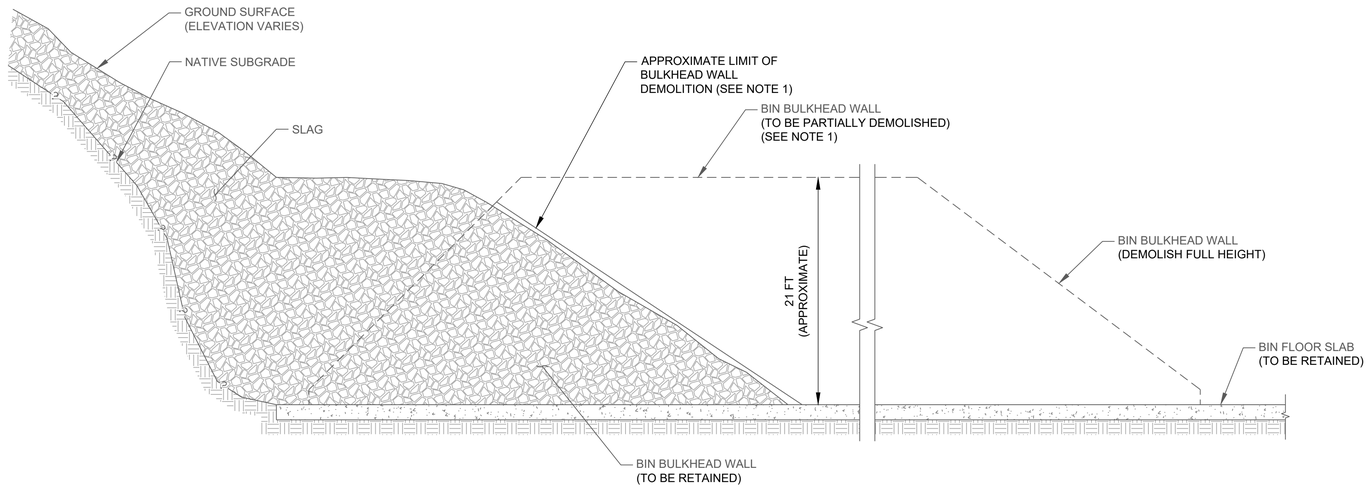
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**DEMOLITION DETAILS**

PROJECT NO. 1239330905 | PHASE 300 | REV. 4 | 17 of 25 | SHEET IAR-270




SCALE NTS F IAR-230 NORTH BINS WALL DEMOLITION - TYPICAL SECTION




SCALE NTS G IAR-240 SOUTH BINS WALL DEMOLITION - TYPICAL SECTION

**NOTES**

1. IN SOUTH BINS, DEMOLISH RAILROAD SUPPORT STRUCTURES THAT EXTEND ABOVE SLAG (SEE NOTE 2).
2. IN SOUTH BINS, REMOVE BIN SIDEWALLS BELOW EXISTING SLAG SURFACE ONLY TO EXTENT POSSIBLE WITHOUT EXCAVATING, REGRADING, OR OTHERWISE MOVING SLAG. REMAINING SIDEWALLS SHALL NOT EXTEND ABOVE SLAG SURFACE.
3. IN NORTH BINS, DEMOLISH RAILROAD SUPPORT STRUCTURES AND BIN SIDEWALLS COMPLETELY DOWN TO BASE SLAB, EXCEPT WHERE SIDEWALLS ARE BURIED IN NATIVE HILLSIDE SOIL, DEMOLISH ONLY TO EXISTING SOIL GRADE. DO NOT DEMOLISH BASE SLAB. IF ≤30 CY OF SOIL REMAINS IN BACK OF A BIN, REMOVE IT AND COMPLETE SIDEWALL REMOVAL DOWN TO GRADE (TO BE DETERMINED BY CONSTRUCTION MANAGER).

| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
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| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

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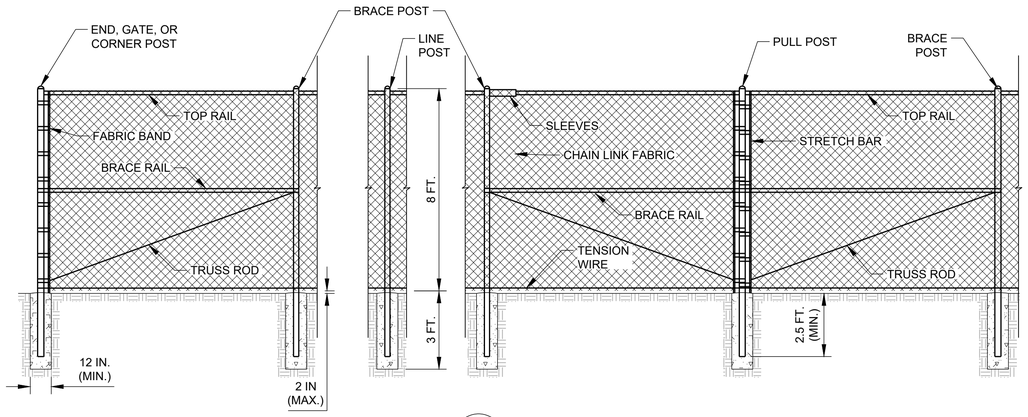
PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**DEMOLITION DETAILS (2 OF 2)**

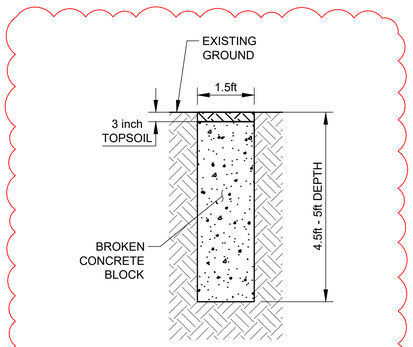
PROJECT NO. 1239330905 | PHASE 300 | REV. 4 | 18 of 25 | SHEET IAR-272

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

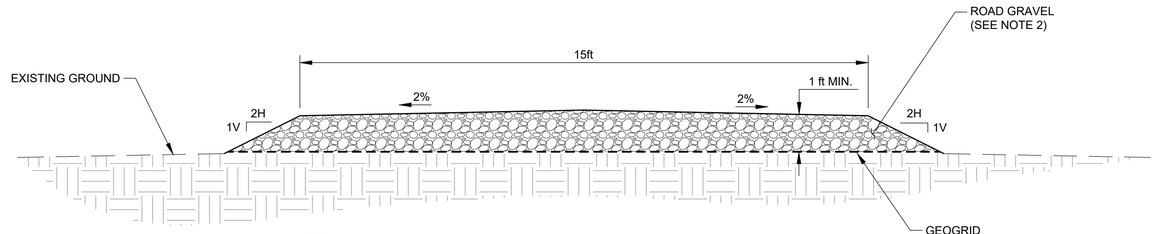



SCALE NTS 2 IAR-230 IAR-240 IAR-260 PERMANENT FENCE

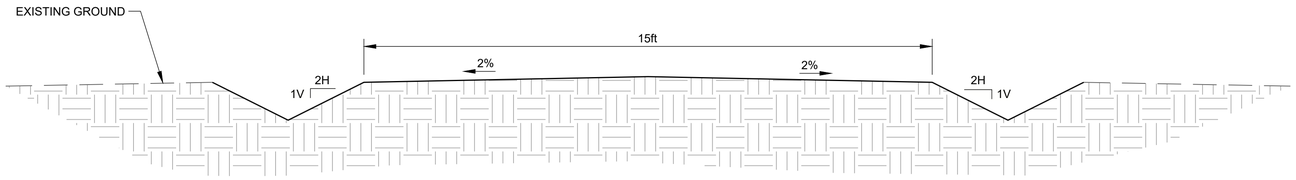



SCALE NTS 4 IAR-215 INTERCEPTOR TRENCH

4




H1 -- ROAD SECTION - GRAVEL PLACEMENT - TYP.



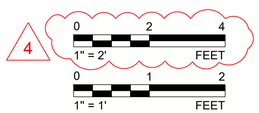

H2 -- ROAD SECTION - GRADING ONLY - TYP.

SCALE NTS H IAR-165 ROAD SECTIONS

**NOTES**

1. PERMANENT FENCE DETAIL IS ILLUSTRATIVE AND SHALL NOT LIMIT HARDWARE DESIGN OR SELECTION.
2. AT EACH END OF GRAVEL SECTION, TAPER GRAVEL THICKNESS TO PROVIDE SMOOTH, EVEN TRANSITION INTO ADJACENT ROAD SECTION.
3. SCREEN MESH OPENINGS SHALL NOT EXCEED 2.38 MM FOR WOVEN WIRE OR PERFORATED PLATE SCREENS, OR 1.75 MM FOR PROFILE WIRE SCREENS, WITH A MINIMUM 27 PERCENT OPEN AREA. SCREEN MESH MATERIAL SHALL BE CORROSION RESISTANT AND SUFFICIENTLY DURABLE TO WITHSTAND THE RIGORS OF THE INSTALLATION SITE. NO GAPS GREATER THAN 2.38 MM SHALL EXIST IN ANY TYPE OF SCREEN MESH OR AT POINTS OF MESH ATTACHMENT.
4. STEEL BOX SHALL BE FABRICATED FROM 1/16-INCH-THICK OR HEAVIER PLATE AND SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
5. LATERAL DIMENSIONS OF CONCRETE BLOCK TO BE DETERMINED BY CONTRACTOR. REINFORCE AS NECESSARY TO ALLOW REPEATED LIFTING WITHOUT DAMAGE. SUBMIT DESIGN DRAWINGS FOR BLOCK FOR APPROVAL PRIOR TO FABRICATION.
6. TOTAL WIDTH OF DISTURBED AREA, INCLUDING ROADWAY, SHOULDER SLOPES, DRAINAGE DITCHES, AND CONSTRUCTION ACCESS, SHALL NOT EXCEED 40 FEET. IN SOME LOCATIONS, THE ALLOWABLE WIDTH MAY BE LESS THAN THIS VALUE TO LIMIT TREE REMOVAL, AS IDENTIFIED BY THE CONSTRUCTION MANAGER.

4




| REV. | YYYY-MM-DD | DESCRIPTION | DESIGNED | PREPARED | REVIEWED | APPROVED |
|---|---|---|---|---|---|---|
| 4 | 2023-07-17 | AS-BUILT | KMD | REDMOND | VMN | RSA |
| 3 | 2019-12-10 | SEE ADDENDUM 8 | VMN | VMN | FSS | JW |
| 2 | 2019-07-16 | SEE ADDENDUM 7 | VMN | VMN | FSS | JW |
| 1 | 2019-05-21 | SEE ADDENDUM 3 | VMN | VMN | FSS | JW |
| 0 | 2019-04-10 | ISSUED FOR BID | VMN | VMN | FSS | JW |

SEAL

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PROJECT
STAGE 2 INTERIM ACTION - DEMOLITION
FORMER SATRALLOY SITE

TITLE
**MISCELLANEOUS DETAILS**

PROJECT NO. 1239330905 | PHASE 300 | REV. 4 | 19 of 25 | SHEET IAR-274

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1in

Path: \\redmond.golder.gds\data\geomatics\Freeport\Former_Satralloy\99_PROJECTS\1239330905_Satralloy\300_Stage2InterimActionDesign\02_PRODUCTION\DWG\ | Last Edited By: kdapolito Date: 2023-07-17 Time:11:44:41 PM | Printed By: KDaPolito Date: 2023-07-31 Time:7:51:40 AM

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