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FINAL REPORT

Landscaping/Restoration Plan

Smelter and Refinery
Decommissioning/Demolition
Thompson, Manitoba

Prepared for: Vale Canada Ltd.

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1.0 INTRODUCTION

On November 17, 2010, Vale Canada Ltd. (Vale) announced the plan to permanently close its smelting and refining operations in Thompson, Manitoba by January 1, 2015. In order to prepare for the successful transition to a mine/mill operation, Vale must develop a detailed plan for the decommissioning of the Smelter, Refinery and related infrastructure. Vale retained Conestoga-Rovers & Associates (CRA) to develop the overall decommissioning plan for the Thompson Smelter and Refinery. The following document presents the landscape and restoration goals after the demolition of the Smelter and Refinery have been completed. The location of the Vale Thompson Mine (Site) is shown on Figure 1.1. The layout of the Smelter, Refinery and South Yard are shown on Figure 1.2.

Vale is in the process of developing two projects that have the potential to significantly impact the decommissioning of the Thompson Smelter and Refinery. The two concurrent projects are the Copper Arsenic Ponds and the construction of the Concentrate Load Out Facility (Concurrent Projects). These projects may require portions of the Refinery and/or Smelter to remain intact for several years after January 1, 2015.

1.1 PURPOSE

The purpose of this Landscaping/Restoration Plan (LRP) is to provide Vale with the required conceptual interim landscape and restoration plan for the Vale Thompson Manitoba Smelter/Refinery complex following demolition of the Smelter and Refinery structures. The final landscaping and restoration will be completed when the Vale Thompson Manitoba Facility (Facility) operations (mining, milling etc.) completely cease. The overall objectives and goals of the LRP are to return the Smelter, Refinery and South Yard to an interim useable condition, manage storm water, and allow the final overall landscaping/restoration to be implemented once the Vale Thompson mining operations have ceased and all structures located at the Facility have been demolished and closed in accordance with the approved Thompson Mine Closure Plan (AMEC 2003 and 2008)¹. In addition during the interim restoration/landscaping, the slag pile will be graded, capped, and storm water controls will be implemented as part of this LRP.

¹ Thompson Mine Closure Plan prepared by AMEC Earth & Environmental Limited. May 2003 and December 2008 update.

1.2 BACKGROUND

Demolition of both the Smelter and Refinery will commence once operations in these buildings have ceased and ramp down, shut down procedures have been completed. In accordance with the Thompson Mine Closure Plan (AMEC 2003 and 2008), all above grade concrete foundations will be fractured and removed. At or below grade concrete foundations will be fractured for drainage, covered, and the ground surface will be graded accordingly to provide for surface drainage.

Clean brick and concrete/cinderblock will be pulverized on Site with heavy equipment to an aggregate size that allows the material to be used as machine-compacted backfill in sub grade structures and other excavations or low areas. The crushed material will be staged in the south yard and portions of the demolished Smelter and Refinery complex. This material will be used as fill in the final grading work for these areas of the Site.

1.3 REPORT ORGANIZATION

This report is organized as follows:

- Section 1.0 presents the introduction
- Section 2.0 presents a summary of the landscape and restoration plan
- Section 3.0 presents restoration requirements and objectives
- Section 4.0 presents a summary of existing conditions
- Section 5.0 presents conceptual restoration plan
- Section 6.0 presents restoration chronology and sequencing
- Section 7.0 presents post restoration monitoring requirements

2.0 SUMMARY OF RESTORATION

Inert fill material generated during the Smelter/Refinery demolition activities will be managed within this area of the Site. The fill material will be graded to maintain accessibility to this portion of the property. The existing Site roadways to the north and west of the Smelter and north and east of the Refinery will be maintained. The roadways surrounding the South Yard will also be maintained. The existing storm water sewers along these roadways will be kept and maintained. Inert fill material generated during the Smelter/Refinery will be graded to provide a large uniform surface within the foot print of the former buildings and structures. The perimeter of the area will be sloped toward existing drainage infrastructure, roadways and storm water sewers. The overall maximum height of the area will increase by approximately one metre above the existing grade. A detailed topographic survey of this area of the Site should be completed prior to closure and demolition of the Smelter and Refinery. The topographic survey plan can be used to develop a detailed grading plan.

The South Yard will be cleared of any stockpiled material. All existing storm water drainage features, access roads, and storm water sewers will be maintained in this area of the Site.

The Slag Pile will be graded, capped and a final vegetative cover will be installed. All existing storm water drainage features, access roads and storm water sewers will be maintained in this area of the Site. A topographic survey, geotechnical investigation, and a chemical stability evaluation should be completed for the Slag Pile. A detailed Cap Design, Final Grading Plan and Erosion and Sediment Control Plan will be developed in support of the Slag Pile restoration.

3.0 RESTORATION REQUIREMENTS AND OBJECTIVES

The following are the restoration requirements and objectives for the LRP:

- Complete final demolition activities and leave the Site in an interim restoration condition ready for final landscaping and habitat restoration once the Facility is closed.
- Regrade and cap the Slag Pile in accordance with the Thompson Mine Closure Plans (AMEC 2003 and 2008). Establish a final vegetative cover on the Slag Pile to promote slope stability and storm water drainage.
- Allow for continued access to former Smelter/Refinery areas. Vale may use these areas for outdoor storage or future projects.
- Use inert crushed building material generated during Smelter/Refinery demolition as fill material in these areas. Grade these areas to promote proper drainage and maintain storm water quality.
- Control storm water runoff from the former Smelter and Refinery areas and ensure that storm water leaving these areas does not negatively effect final mine effluent quality.

4.0 EXISTING SITE CONDITIONS

4.1 SMELTER DESCRIPTION

The Vale Thompson Smelter Complex is a large steel frame structure with transite siding. It was constructed in the early 1960s and has been in operation since that time. The Smelter Complex has approximate dimensions of 206 metres (m) by 236 m (675 feet [ft] by 775 ft). The Smelter Complex has six levels; a concrete floor slab and foundation wall and has an approximate height of 40 m (130 ft). The brick stack has a bottom diameter of approximately 17 m (55 ft), a top inside diameter of approximately 12 m (40 ft) and is 155 m (505 ft) in height.

The Smelter Complex includes the following additional infrastructure:

- The flux system and conveyors
- Materials receiving building
- VBN building
- Oil storage building
- Warehouse 1-A
- Refractory storage building
- Smelter substation
- Oil storage tanks
- Copper pond No. 3
- Water storage tank (to remain after decommissioning)
- The main electrical substation (to remain after decommissioning)

The flux system is a concrete and steel structure 54 m (176 ft) long by 18 m (58 ft) wide. It has a concrete slab foundation 7 m (23 ft) below grade and rises 8 m (25 ft) above grade. The steel framed encased conveyor system that connects the flux system with the smelter is 96 m (314 ft) long and rises to 27 m (89 ft) above the ground.

4.2 REFINERY DESCRIPTION

The Refinery is a large steel frame structure with transite siding that was constructed in the early 1960s and has been in operation since. The building has approximate dimensions of 358 m by 99 m (1,175 feet by 325 feet). It has four levels, a concrete floor

slab with a 1.2 m (4 feet) high concrete foundation wall and has an approximate maximum height of 27 m (90 feet). The Refinery complex includes the following additional infrastructure:

- Scrap wash
- Stripping floor and mandrel plant
- Sulphur anode slimes filters
- Tank house
- Purification
- Shear shed
- Cold storage
- Soda ash storage
- Refinery office/administration building
- Hydrogen sulphide (H₂S) analyzer building
- Sulphur dioxide (SO₂) building
- Chlorine building
- Copper/arsenic pond no. 4

The Refinery complex processes anodes received from the Vale Thompson Smelter and produces plated nickel, cobalt hydrate and copper cake.

4.3 SOUTH YARD CURRENT CONDITIONS

The South Yard is located in the area south of the Smelter and the Refinery. The boundaries of the South Yard are presented on Figure 1.2 – Smelter and Refinery Complexes. CRA completed inspections of the South Yard during the decommissioning planning activities for the Smelter and the Refinery. The following is a listing of the buildings/facilities that are present in the South Yard:

- H₂S analyzer building
- E Copper/arsenic ponds Nos. 3 and 4
- Warehouse 1-A
- Refractory storage warehouse
- Salt storage building

- Chlorine building
- Miscellaneous storage structures and out buildings

4.4 SLAG PILE

Slag is generated from smelting operations. The slag solids are delivered to the Slag Pile via a pipeline and trestle and the water carrying the solids drain into a ditch.

The Slag Pile is located immediately west of the Smelter Complex and was estimated to be approximately 1,100,000 square metres (m²) or 11,840,000 square feet (sq ft) in area in 2008 (AMEC 2008).

4.5 STORM WATER DRAINAGE

Currently storm water, which accumulates on roof tops of the Smelter and Refinery and paved surfaces surrounding the buildings, is directed to the existing sewer located to the west, north and east of each of these buildings. Storm water within the South Yard infiltrates into the ground surface or is directed to the drainage ditches to the south and west of this area. The storm sewers to the west and north of the Smelter and the north and east of the Refinery will remain online to continue to service the Facility following demolition of the Smelter and Refinery. The drainage ditches to the south and west of the South Yard will be maintained.

5.0 RESTORATION PLAN

The interim restoration plan for the Smelter/Refinery was developed to insure that this area of the Site is properly graded and accessible. The existing Site roadways to the north and west of the Smelter and north and east of the Refinery will be maintained. The roadways surrounding the South Yard will also be maintained. The existing storm water sewers along these roadways will be kept and maintained intact. Inert material generated during the demolition of the Smelter/Refinery will be used as fill material for all grading activities completed within the Smelter/Refinery Complex. This material will be graded to provide a large uniform surface within the foot print of the former buildings and structures. The overall maximum height of the area will increase by approximately one metre above the existing grade. The perimeter of the area will be sloped toward existing drainage ditches, roadways and storm water sewers. A conceptual grading plan has been developed by CRA and is provided as Figure 5.1.

A detailed topographic survey of the Smelter/Refinery, South Yard and the Slag pile should be completed prior to shut down. The topographic map will be used to develop a final grading plan for each of these areas and will allow Vale to determine the final amount of fill and any import materials that may be needed to complete the restoration.

5.1 REFINERY AND SMELTER BUILDING AREAS

The existing Refinery and Smelter structures will be demolished and the land in this area will be cleared of debris. The demolition will be completed as per Province of Manitoba Standard Construction Specifications for Demolition and Removal of Existing Concrete Structures (Specification 1020 M). The existing building footprints are mostly at-grade with the existing topography of the surrounding area and would require minimal backfilling for areas with lower depressions. At or below grade concrete foundations will be fractured for drainage, covered with inert fill, and the ground surface will be graded to provide surface drainage.

The demolished material (concrete and cinder blocks) from the existing buildings will be inspected and in some cases sampled to determine if the material is suitable to be crushed and reused as granular fill for the proposed grading on the Site. It is estimated that approximately 30,000 m³ of material could be reused for the proposed Site grading. The proposed grading plan will use the entire amount of crushed inert fill material generated from the demolition of the Smelter and Refinery. The reused material will be stockpiled on Site prior to grading as per Province of Manitoba Standard Construction Specifications for Stockpiling Aggregate (Specification 600).

Existing drainage patterns on Site will be maintained as much as possible. Roof drainage pipes from the buildings will be capped underground and abandoned in-place. Additional sections of the storm water sewer system that receive roof drainage before the pipe outlets into the main line off-Site will also be capped and abandoned in-place. The sections of the storm water sewer system bordering the disturbed area will be investigated for any damage, and be repaired (if necessary) and maintained during the completion of restoration/landscaping construction activities. Sanitary sewer, process sewer, and water lines within the demolished structure footprints will also be capped and abandoned in place. Grassed swales will be constructed south and east of the existing building footprints to convey surface water runoff to the storm sewer system. Surface water runoff to the north and west will be conveyed through the existing storm sewer system. Storm sewer layout and proposed utility removals are shown on Figure 5.2.

5.2 SLAG PILE RESTORATION

CRA has developed a conceptual plan to regrade, cap, and install a vegetated cover on the Slag Pile. In order to develop a detailed design to cap the Slag Pile, a topographic survey, geotechnical investigation, and a chemical stability evaluation of the Slag Pile should be completed. A detailed Cap design, Final Grading Plan and Erosion and Sediment Control Plan will be developed in support of the Slag Pile restoration.

Conceptually, the Slag Pile closure will include the following:

1. Remove the slag delivery system (piping and trestle)
2. Re-grade the Slag Pile for stability and to minimize erosion
3. Install a vegetated cap (assumed thickness of 300 mm)
4. Install storm water drainage control measures

An approved seed or sod mix will be placed to allow for vegetation to grow. The seed or sod mix will be designed according to the Province of Manitoba Standard Construction Specifications for Grading and Landscaping.

5.3 EROSION AND SEDIMENT CONTROL MEASURES

The purpose of erosion and sediment controls is to minimize the potential release of pollutants, and specifically sediments, directly or indirectly into downstream receiving waters. To achieve this objective, typical erosion and sediment controls will be utilized during construction and will be developed as part of the Erosion and Sediment Control Plan. Typical erosion and sediment control drawings are included in Appendix A of this report. All erosion and sediment control measures will be implemented prior to and during land disturbing activities and will be maintained throughout the duration of restoration/landscaping construction activities.

Erosion and sediment controls to be implemented during construction activities will include, at a minimum, minimizing Site disturbance, silt fence, inlet filters, and vegetative cover. A row of perimeter silt fencing or fibre rolls will be placed around the work area to eliminate migration of sediment during construction. All disturbed areas will be vegetated with approved non-invasive native species of grasses. The seed or sod mix will be designed according to the Province of Manitoba Standard Construction Specifications for Grading and Landscaping.

Modifications will be made to the Erosion and Sediment Control Plan as required to minimize erosion, prevent sediment migration and ensure acceptable discharge water quality is maintained.

6.0 GENERAL RESTORATION CHRONOLOGY AND SEQUENCE OF WORK

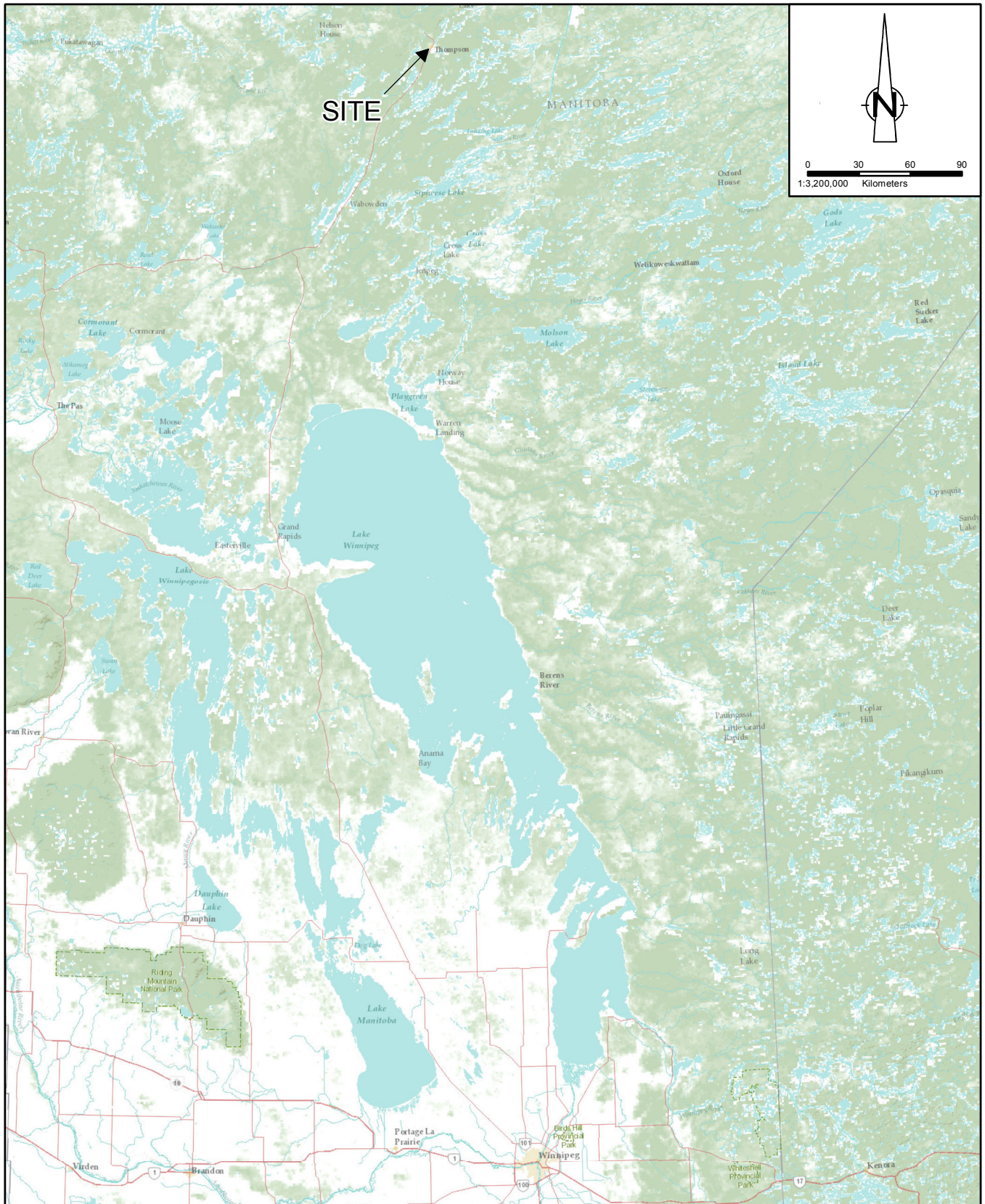
The following tasks sequence of work will be followed:

1. Complete a detailed topographic survey of the Refinery/Smelter, South Yard and Slag Pile
2. Develop a Final Grading Plan for the Refinery/Smelter, South Yard and a final cap design for the Slag Pile
3. Develop an Erosion and Sediment Control Plan
4. Inspect and flush Smelter/Refinery sewers line to be retained
5. Install erosion and sediment control structures pursuant to the approved Erosion and Sediment Control Plan
6. Decommissioning and demolition of existing structures
7. Crush inert material and stockpile on Site. Remove unsuitable material from Site
8. Cap proposed storm water sewer pipes and abandon in place
9. Grade to proposed topography using crushed inert material
10. Construct Slag Pile cap
11. Monitoring

7.0 MONITORING PLAN

During construction activities, visual monitoring should be conducted bi-weekly and within 24 hours of any rainfall event of 12 mm or more. During the construction period, monitoring shall consist of visual observation for the effectiveness of the sediment and erosion controls and sediment migration off Site. These sediment control measures shall be inspected to ensure that they have been properly installed and continue to function as designed. The controls shall be maintained and accumulated sediments removed once their capture capacity has been decreased by one-third. The outlets shall also be inspected for signs of sediment migration off Site. In the event that sediments have migrated off Site, additional sediment controls shall be implemented as necessary to ensure that no additional sediment escapes from the Site and any sediment that has migrated off Site shall be removed.

Construction inspections should be conducted until the landscape and restoration work has been completed.



Source: ESRI Topographic Basemap, Accessed 2012; Coordinate System: NAD 1983 UTM Zone 14N

figure 1.1

**SITE LOCATION MAP
VALE-MANITOBA OPERATIONS
Thompson, Manitoba**



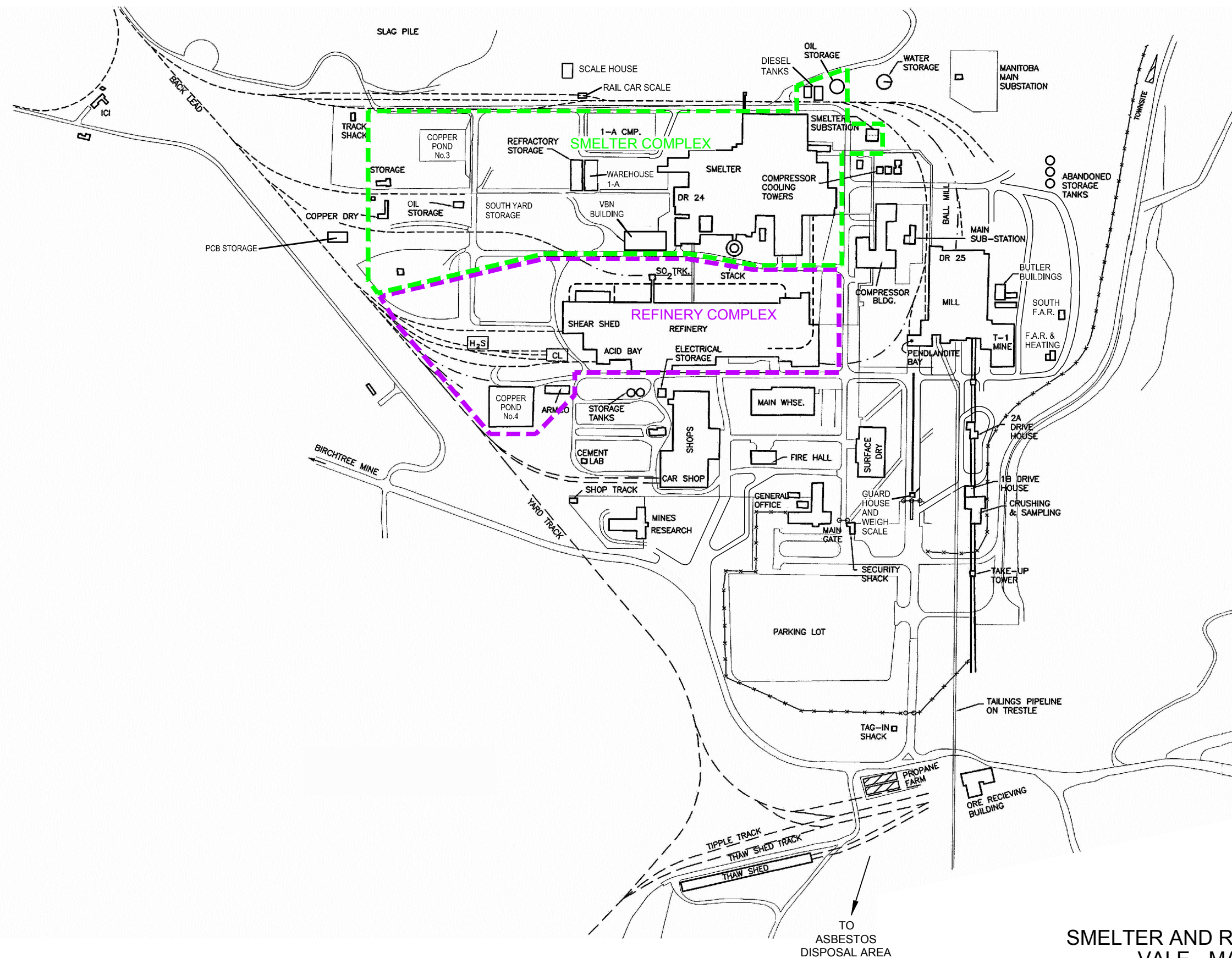
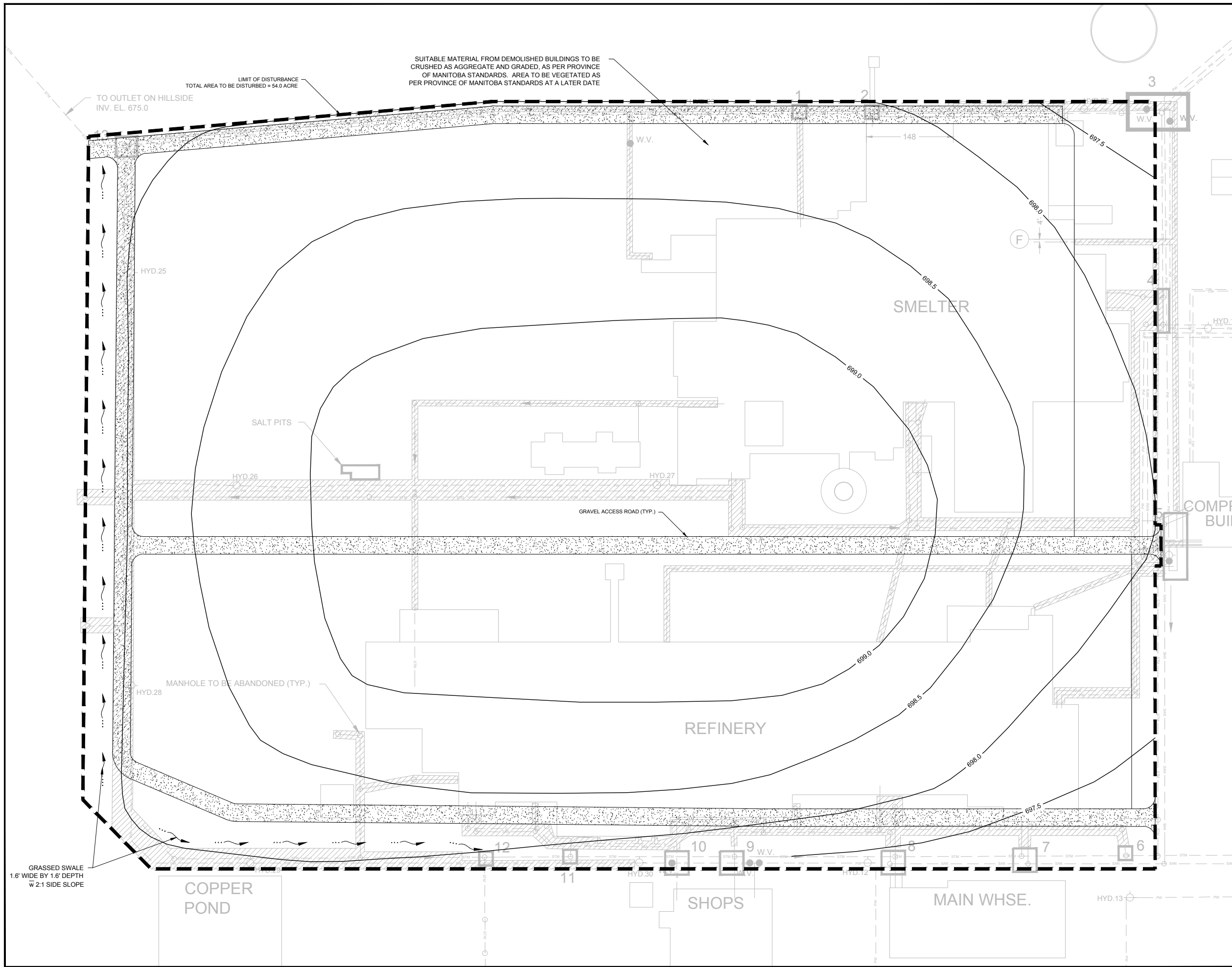



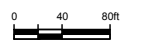
figure 1.2
SMELTER AND REFINERY COMPLEXES
VALE - MANITOBA OPERATIONS
Thompson, Manitoba
















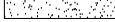
SOURCE: AMEC EARTH & ENVIRONMENTAL LIMITED, 2003 MINE CLOSURE PLAN,
 THOMPSON PLANT, SITE PLAN.



NO.	Revision	Date	Initial



 APPR.

LEGEND

-  STORM SEWER
-  SANITARY SEWER
-  ACID SEWER (PROCESS SEWER)
-  POTABLE WATER
-  RAW WATER (PROCESS WATER)
-  COOLING WATER
-  HYDRANT
-  WATER VALVE
-  ABANDONED IN PLACE
-  CAP LOCATION
-  PROPOSED CONTOUR
-  PROPOSED LIMIT OF DISTURBANCE
-  PROPOSED GRAVEL ACCESS ROAD
-  PROPOSED GRASSED SWALE

SCALE VERIFICATION
 THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

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DRAWING STATUS

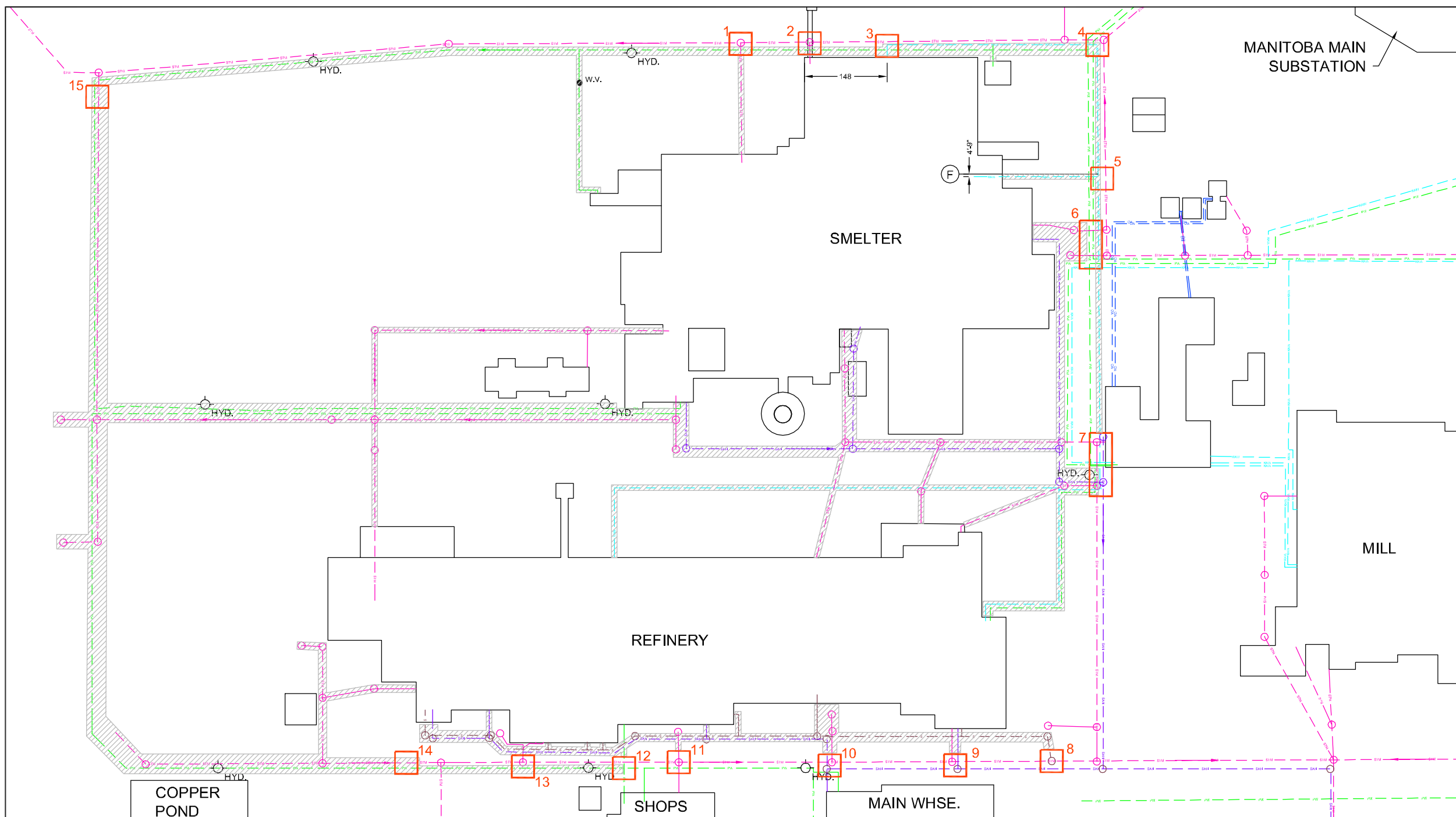
Status	Date	Initial

VALE THOMPSON MINE SITE
THOMPSON, MANITOBA
 UTILITY DECOMMISSIONING
CONCEPTUAL GRADING PLAN


CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: D.BERRINGER	Reviewed By: C.HUNTER	Date: OCTOBER 2012
Scale: APPR. 1"=80'	Project N ^o : 75756-14	Report N ^o : 013
		Drawing N ^o : figure 5.1



NO	Revision	Date	Initial

MANITOBA MAIN SUBSTATION

SMELTER

REFINERY

MILL

SHOPS

MAIN WHSE.

COPPER POND

0 50 100M
APPR.

LEGEND

- STORM SEWER
- SANITARY SEWER
- ACID SEWER (PROCESS SEWER)
- POTABLE WATER
- RAW WATER (PROCESS WATER)
- COOLING WATER
- HYD.
- W.V.
- SERVICE LINE TO BE REMOVED
- EXCAVATION PIT

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

EXCAVATION PIT	CAP ITEM	PIPE DIAMETER
1	STORM SEWER	24" Ø
2	STORM SEWER	12" Ø
3	RAW WATER (PROCESS WATER)	20" Ø
4	POTABLE WATER	14" Ø
5	RAW WATER (PROCESS WATER)	24" Ø
6	STORM WATER	18" Ø
		18" Ø
7	POTABLE WATER	6" Ø
	RAW WATER (PROCESS WATER)	30" Ø
	SANITARY SEWER	10" Ø
	STORM SEWER	10" Ø
		18" Ø

EXCAVATION PIT	CAP ITEM	PIPE DIAMETER
8	ACID SEWER (PROCESS SEWER)	18" Ø
9	SANITARY SEWER	6" Ø
	STORM SEWER	12" Ø
10	SANITARY SEWER	8" Ø
	STORM SEWER	18" Ø
11	STORM SEWER	18" Ø
12	POTABLE WATER	8" Ø
13	STORM SEWER	18" Ø
14	STORM SEWER	24" Ø
15	STORM SEWER	24" Ø

VALE THOMPSON MINE SITE

THOMPSON, MANITOBA

UTILITY DECOMMISSIONING
SUBSURFACE WATER & SEWER CAP LAYOUT

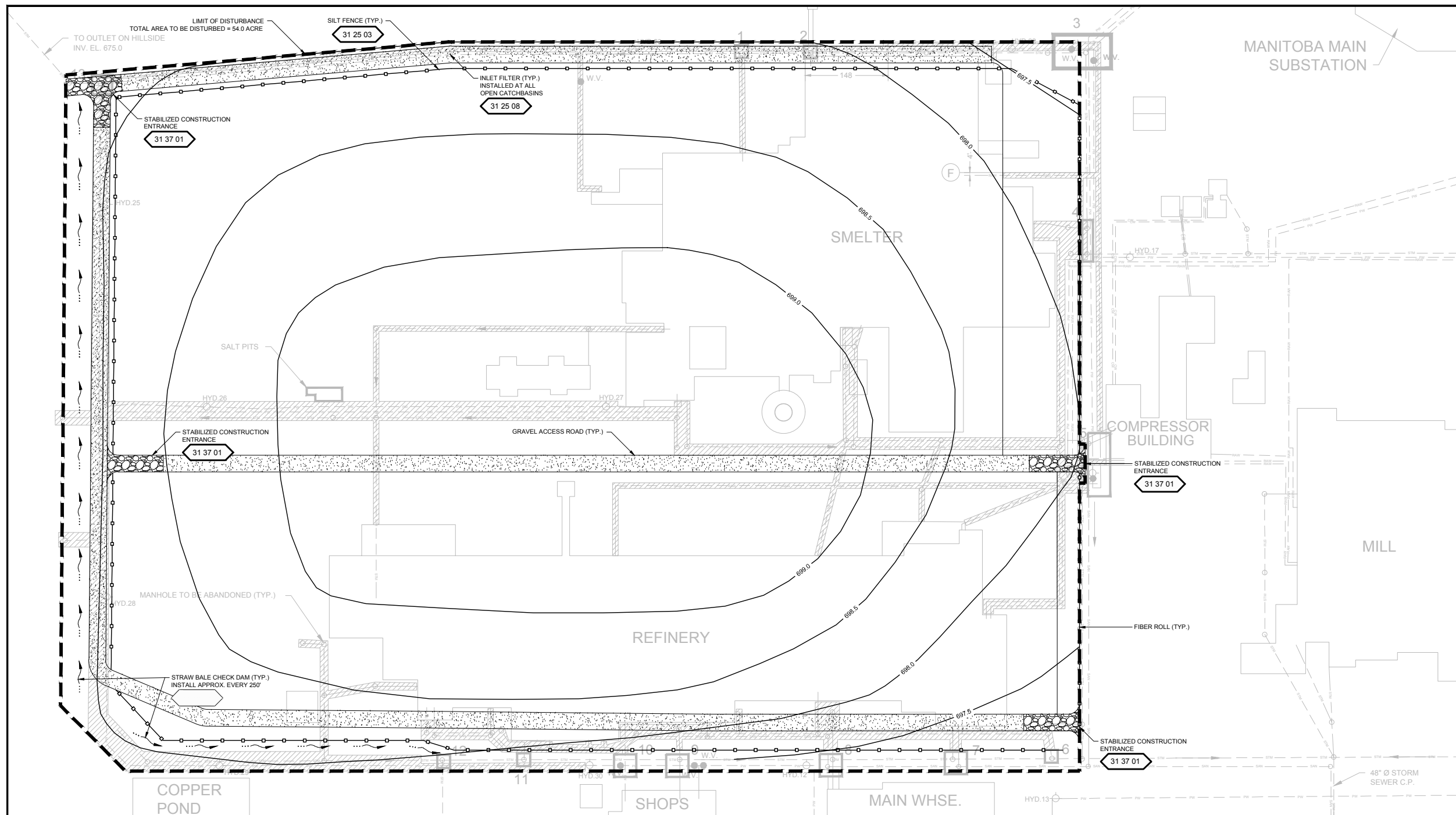
CONESTOGA-ROVERS & ASSOCIATES

Source References


Project Manager: D.BERRINGER	Reviewed By: D.BERRINGER	Date: OCTOBER 2012
Scale: APPR. 1"=100'	Project N°: 75756-14	Report N°: 013
		Drawing N°: FIG. 5.2

APPENDIX A

DRAWINGS OF TYPICAL EROSION AND
SEDIMENT CONTROL FEATURES



NO.	Revision	Date	Initial



 0 50 100m
 APPR.

LEGEND

- STORM SEWER
- SANITARY SEWER
- ACID SEWER (PROCESS SEWER)
- POTABLE WATER
- RAW WATER (PROCESS WATER)
- COOLING WATER
- HYD.24 HYDRANT
- W.V. WATER VALVE
- ▨ ABANDONED IN PLACE
- CAP LOCATION
- 698.0 — PROPOSED CONTOUR
- ○ ○ PROPOSED SILT FENCE
- PROPOSED LIMIT OF DISTURBANCE
- ▨ PROPOSED GRAVEL ACCESS ROAD
- ▨ PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED GRASSED SWALE

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.




Approved

 Status Date Initial

DRAWING STATUS

NO.	Revision	Date	Initial

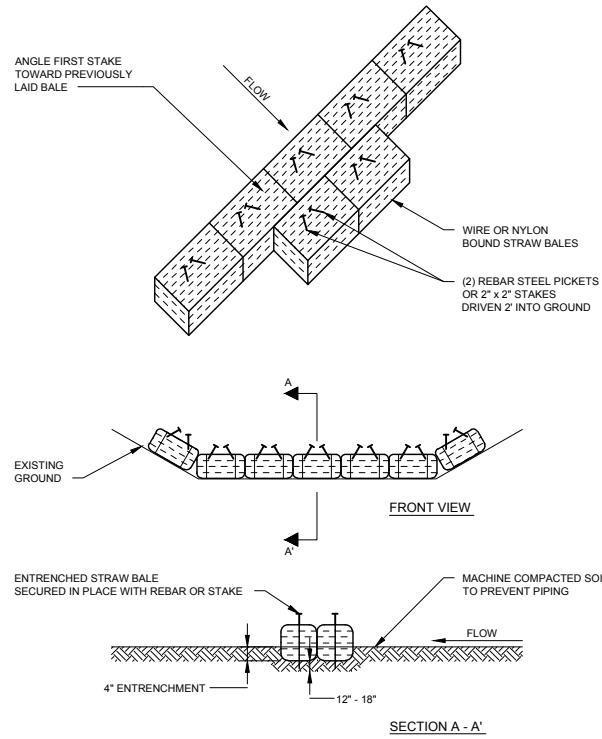
VALE THOMPSON MINE SITE
THOMPSON, MANITOBA
UTILITY DECOMMISSIONING
PRELIMINARY EROSION AND
SEDIMENT CONTROL PLAN


CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: D.BERRINGER	Reviewed By: C.HUNTER	Date: OCTOBER 2012
Scale: APPR. 1"=100'	Project N°: 75756-14	Report N°: 013
		Drawing N°: figure A.1

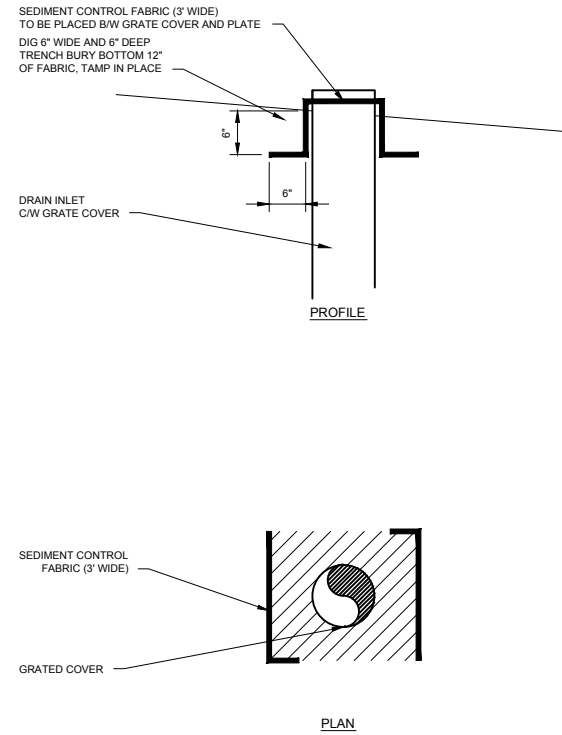
- SEDIMENTATION AND EROSION NOTES :**
- EROSION AND SEDIMENT CONTROL (ESC) MEASURES WILL BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING THE CONSTRUCTION PHASES UNTIL ESTABLISHMENT OF VEGETATION, TO PREVENT ENTRY OF SEDIMENT INTO ANY WATERCOURSE AND OFFSITE.
 - ALL ACTIVITIES, INCLUDING MAINTENANCE PROCEDURES, WILL BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO ANY WATERCOURSE. VEHICULAR REFUELING AND MAINTENANCE WILL BE CONDUCTED IN THE DESIGNATED FUELING ZONE AND ALL FUEL STORAGE ON SITE WILL HAVE SECONDARY CONTAINMENT.
 - ALL DISTURBED VEGETATED AREAS INTENDED TO REMAIN AS VEGETATED AREAS WILL BE STABILIZED AND RESTORED WITH NATIVE/NON-INVASIVE SPECIES UPON COMPLETION OF THE WORK IN ACCORDANCE WITH THE SPECIFICATIONS.
 - THE EROSION AND SEDIMENT CONTROL STRATEGIES OUTLINED ON THE PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO MINIMIZE SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREAS. IF THE PRESCRIBED MEASURES ON THE PLANS ARE NOT EFFECTIVE IN PREVENTING THE RELEASE OF A DELETERIOUS SUBSTANCE, THEN ALTERNATIVE MEASURES SHOULD BE IMPLEMENTED IMMEDIATELY TO MINIMIZE POTENTIAL ECOLOGICAL IMPACTS. LOCAL CONSERVATION AUTHORITY ENFORCEMENT OFFICER SHOULD BE IMMEDIATELY CONTACTED. (LIST PHONE NUMBER ON EMERGENCY CONTACT LIST).
 - ALL EROSION AND SEDIMENT CONTROLS WILL BE MONITORED ON A WEEKLY BASIS BY THE SUBCONTRACTOR AND THE CONSULTANTS SITE INSPECTOR, PARTICULARLY AFTER PRECIPITATION AND RAIN EVENTS. ANY NECESSARY REPAIRS WILL BE COMPLETED WITHIN 48 HOURS.
 - THE SUBCONTRACTOR SHALL MONITOR THE WEATHER SEVERAL DAYS IN ADVANCE TO ENSURE THAT WORKS ARE CONDUCTED DURING FAVOURABLE WEATHER CONDITIONS. SHOULD AN UNEXPECTED STORM ARISE, PROTECT THE SITE TO ENSURE NO DISCHARGE OF DELETERIOUS MATERIALS OFF-SITE.
 - DO NOT BLOCK ACCESS TO ALL SETBACK AREAS, EASEMENTS, AND LEASED AREAS.
 - THE SUBCONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF EXCESS UNSUITABLE FILL MATERIAL, IN ACCORDANCE WITH ALL LOCAL, PROVINCIAL AND FEDERAL REGULATIONS.
 - ALL EXISTING SITE VEGETATION IS TO REMAIN. ONLY VEGETATION IN AREAS CRITICAL TO CONDUCTING THE CONSTRUCTION WORKS MAY BE REMOVED.
 - ALL TEMPORARY STOCKPILES SHALL BE PROTECTED BY INSTALLING AND MAINTAINING SILT FENCING AROUND THE PERIMETER. SHOULD ANY STOCKPILED AREA REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS, PROTECT BY TEMPORARY SEEDING.
 - PROTECT ALL EXISTING CATCHBASINS, MANHOLES, CLEANOUTS AND OTHER DRAINAGE ACCESS STRUCTURES BY DOUBLE WRAPPING GEOTEXTILE AROUND THE GRATES. MAINTAIN BY REMOVING ACCUMULATED SEDIMENTS AND DEBRIS AND REPLACING THE GEOTEXTILE AS REQUIRED. AFTER STABLE CONDITIONS ARE ACHIEVED, REMOVE GEOTEXTILE AND DEBRIS AND DISPOSE OFF-SITE.
 - THIS PLAN SHALL BE USED IN CONJUNCTION WITH THE ENVIRONMENTAL MANAGEMENT PLAN (EMP) TO PREVENT DEGRADATION OF ADJACENT WATERWAYS DURING CONSTRUCTION.



NOTES:
1. INSTALL SECOND ROW OF STRAW BALES IN BOTTOM OF SWALE ONLY.

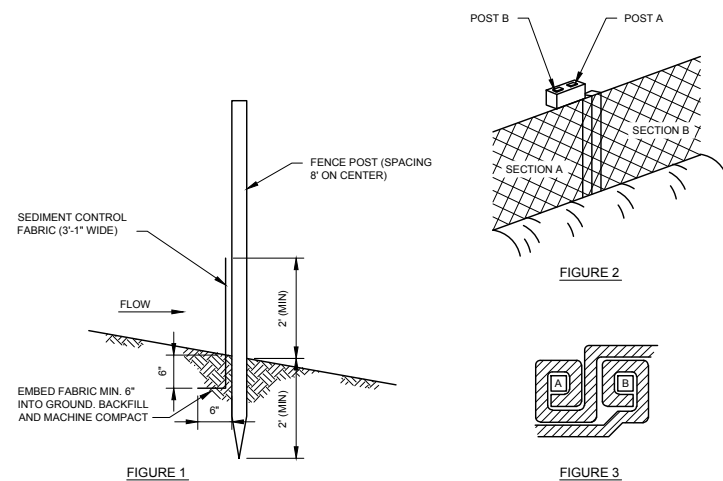
STRAW BALE CHECK DAM

31 25 02



INLET FILTER

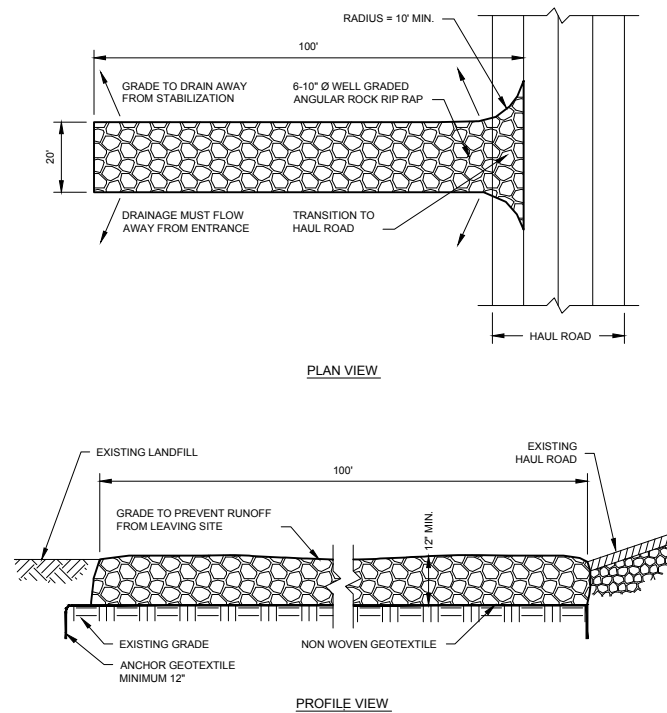
31 25 08



INSTALLATION SEQUENCE:
1. DIG A 6\"/>

SILT FENCE

31 25 03



STABILIZED CONSTRUCTION ENTRANCE

31 37 01

No.	Revision	Date	Initial

SCALE VERIFICATION			
THIS BAR MEASURES 1\"/>			

Approved			

DRAWING STATUS			

VALE THOMPSON MINE SITE THOMPSON, MANITOBA			
UTILITY DECOMMISSIONING			
PRELIMINARY EROSION AND SEDIMENT CONTROL DETAILS			

CRA CONESTOGA-ROVERS & ASSOCIATES			
Source Reference:			
Project Manager: D.BERRINGER	Reviewed By: C.HUNTER	Date: OCTOBER 2012	
Scale: N.T.S.	Project N°: 75756-14	Report N°: 013	Drawing N°: figure A.2