



Preliminary Design Report

TO: PHEASANT RUMP NAKOTA NATION ATTN: DARREN SVEDAHL, PHEASANT RUMP NAKOTA NATION	PROJECT: #2782 DATE: 17 AUGUST 2021
RE: PRELIMINARY DESIGN FOR THE PHEASANT RUMP NAKOTA NATION WASTE TRANSFER STATION	

PURPOSE OF THE PRELIMINARY DESIGN AGREEMENT

The following information is provided to establish the design guidelines to be used in the design and specifications for the new Pheasant Rump Nakota Nation (PRNN) Waste Transfer Station. Following approval from PRNN and Indigenous Services Canada (ISC) of this preliminary design any changes to the final design guidelines will have to be addressed with proper change orders reflecting impact to both price and schedule. The function of this preliminary design report and the above process is to help both parties remember what is and is not included in the design of this transfer station within the scope of this project.

PROJECT DESCRIPTION

PINTER & Associates Ltd. (PINTER) has been retained by PRNN to provide engineering services for design and construction of a Pheasant Rump Nakota Nation Transfer Station. Transfer stations offer a range of benefits. Consolidating waste from multiple collection vehicles and agencies at an established transfer station—then hauling it via large transport containers—is more economical than hauling the waste directly to a landfill truck by truck. Transfer stations let solid waste managers screen loads, separate recyclables, and ensure that no hazardous waste or other undesirable materials enter the waste stream.

A transfer station is far more than a simple shed where waste gets dumped for a few hours before a trailer or rail car carries it away. There are several things a solid waste manager should keep in mind to ensure that their facility runs as efficiently as possible to best serve the community.

The objectives of this project and preliminary design to be met include:

1. A new solid waste transfer station that better meets your community's needs.
2. Provide a secure facility difficult to vandalize.
3. Provide a simple, safe, and effective facility for the transfer of waste.
4. Utilize on-site First Nation personnel as an integral part of the team for the design, construction, and operation of the facility.

The deliverables for this project include the pre-design, design, review, tender, construction, construction quality assurance/quality control (QA/QC), as built reporting for a new solid waste transfer station, and post-construction services.

Specific deliverables and components for this pre-design include drawings and descriptions of the following:

- Layout based on current and future needs
- Retaining walls
- Roads
- Guardrails
- Recycling areas
- Security
- Bins
- Equipment Recommendations
- Shelter(s)
- Cost estimate (Class C) to Construct

The following sections present the design criteria and preliminary design for this project.

TRANSFER STATION PRELIMINARY DESIGN

The following transfer station design has been prepared in accordance with the PWC/ISC Technical services standards for drawings, ISC AutoCAD standard manual, and the ISC Design Guidance for Small Scale Transfer Stations Manual. The guidelines consider best engineering and industry practices, correspondence with Pheasant Rump Nakota Nation, observations made during site visits to the existing temporary Pheasant Rump Nakota Nation Transfer Station and potential construction locations for the new transfer station, a review of the PRNN Solid Waste Management Feasibility (SWMF) Study, and a review of other relevant anecdotal information. The conceptual design has been developed using information gathered on the site through a geotechnical investigation and topographical survey.

Facility Size and Location

- The transfer station is to be sited on legal land location NW-19-08-05W2M.
- The proposed site extents are approximately 110 metres (m) by 130 m. These extents do not include the right of way or Highway 605 west of the Site or the grid road located north of the Site.
- The transfer station is designed based on population data and projections from the 2019 PRNN Solid Waste Management Feasibility Study (SWMFS). It will be sized for the projected 2046 (25 year) on reserve population of 222 people at an expected 1.77% population growth rate. The year 2046 was not listed in the SWMF Study; however, using the methodology from the SWMF Study, the 2046 on-reserve population is projected to be 222.

- The Pheasant Rump Transfer Station shall be open 2 to 4 days per week and an attendant will be on site during operating hours.
- Using the methodology presented in the SWMF Study, the stated waste generation assumption of 2.0 kilograms per person per day (without diversion) would indicate a total solid waste generation of approximately 2.5 tonnes/week by 2046.
- Waste from the transfer station will be picked up once per week and hauled by a contracted hauler to the Redcoat Waste Resource Authority (RWRA) Landfill, located approximately 56 kilometers(km) north of Pheasant Rump near Kipling, Saskatchewan (SK). The distance hauled in a single round-trip to the RWRA Landfill is approximately 112 km.
- The proposed transfer station facility is to be located within Pheasant Rump Nakota Nation lands, approximately 600 m north from the community centre to aid in preventing vandalism and trespassing.
- The facility is at least 300 m from any schools, hospitals, food establishments, or residences. Siting considers municipal zoning bylaws and local bylaws.
- Site size includes space for transfer buildings, waste and recycling diversion, composting, and the capability to expand for further diversion development and 25-year population growth projections.
- Sufficient space for on-site roads to allow for efficient vehicle routing, queuing of collection vehicles, and parking for trailers and site staff are incorporated.

General Site Layout

- A geotechnical investigation and topographical survey of the site assisted in the development of site extents and a site layout. It would be beneficial to utilize natural topography to aid in the construction of ramps, elevated platforms, etc.; however, the area to be used for the proposed transfer station is relatively flat, with slight relief to the east.
- Geotechnical considerations are used to assess building and retaining wall structure support. The preliminary design has been finalized based on the data collected during the geotechnical investigation and topographical survey.
- The general site layout consists of a gated entrance, an attendant shack, access roads, a grade separated bin area for domestic waste, a similar area for recyclables, white metals and oversized items, a tire storage area, hazardous waste material storage area, and security fencing and lighting.
- Active areas such as the tip area, storage areas, etc. will be at least 5 m from all property lines.

Road Design and Site Access

- For adequate site access, the facility will require access roads and ramps.
- Roads will have all weather surfaces.
- Two-way traffic roads will be at least 7.0 m in width (not including shoulders) and one-way traffic roads will be at least 6 m.
- All roads will feature a 20 m minimum turning radius.
- Ditches will be incorporated into the overall site drainage system.
- The area in front of the bin area will have sufficient room for turning and backing up large vehicles.
- There will be room for queuing on site.

Attendant Shack Design

- An attendant shack will be located on the north site near the gate.
- The building will be approximately 2.4 m wide and 2.4 m long.
- There will be windows facing the site entrance, the MSW bins area and the south of the transfer station.
- The building will have access to power for heating in winter and other basic conveniences.

Bin Area (Municipal Solid Waste)

- The bin area is located in the north portion of the site.
- The current preliminary design allows for four 6-yd bins.
- The bins will act as a direct dump location and will be hauled off site when at capacity.
- The design will allow for roll off bin sizes that are up to 1.8 m long by 1.5 m wide (6-yd bins).
- The direct dump platform will be elevated near the top of bins.
- A retaining wall will be installed along the front of the bins.
- There will be a bumper railing along the top of the retaining wall to protect the retaining wall and roll-off bin.
- The bins will sit on a lower lay down area that will be accessible via transport trucks.
- Signage will be posted at each bin to ensure the proper materials are disposed of in the proper location.

- Along the western edge of the site is a shed for temporary disposal of household hazardous wastes. This area will include a concrete containment pad with a small roll off bin for batteries, a canopy or small structure for paint cans and materials, and an area for used oil disposal in a double walled tank
- The household hazardous waste drop-off facility will be designed in accordance Saskatchewan and ISC Hazardous Materials Storage guidance. It will include an impermeable base, secondary containment, security, prominent identification, and emergency response equipment.
- Should the household hazardous waste facility store waste for a continuous period of more than 365 days, or if more than 10 tonnes is stored at any time, approval is required.

Roll Off Bin Area (Oversize and Recyclables)

- The recyclable roll-off bin area is located in the south portion of the site and is approximately 20 m by 15 m in total size.
- The current preliminary design allows for one roll off bin for oversized items.
- The design will allow for two 6-yd bin sizes that are up to 1.8 m long by 1.5 m wide (6-yd bins).
- The direct dump platform will be elevated near the top of bins.
- A retaining wall will be installed along the front of the bins.
- There will be a bumper railing along the top of the retaining wall to protect the retaining wall and roll-off bin.
- The bins will sit on a lower lay down area that will be accessible via transport trucks.
- Signage will be posted at each bin to ensure the proper materials are disposed of in the proper location.
- These bins would be used for segregated recyclable materials and any oversized items.
- Segregated materials designated for each roll off bin will be discussed with the Client. Potential materials include:
 - Paper and cardboard
 - Plastics
 - Tires
 - White metal
 - Glass
 - Scrap metals
 - Furniture

Utilities

- The transfer station attendance shack and site lighting will require power.
- Security cameras and lightening will be installed on-site.
- It may be possible to run power from the line supplying the oil and gas wells located on the property directly adjacent to the north of the site. The power could be run to a transformer near the attendance shack building on the eastside of the site. Single phase power could be run underground, across to the site to the attendant shack.
- Options for power will be discussed with the Client throughout the draft design stage.

Site Security

- The site will be enclosed by a 6 to 8-foot perimeter fence using chain link topped with barbed wire.
- At the gate, there will be a camera to monitor the premises.
- The site will have proper lighting in place to increase visibility
- The site will have an entrance sign with site name, emergency contact numbers, a list of prohibited wastes, tipping fees when applicable, traffic direction, hours of operation, and any necessary rules and procedures.
- The site will be equipped with fire prevention equipment (fire extinguishers), spill response equipment, adequate lighting, secure fencing, and other safety measures as seen fit.
- The site will also have a trailer shelter for the site attendant equipped with electricity.

Operations and Equipment

- The site will require a full-time attendant during operating hours. The attendant will be responsible for monitoring the gate and directing vehicles to the correct locations. The attendant will record and supervise transfer station activities.
- The site will require an equipment operator to maintain the aesthetics of the transfer station, move waste as necessary, and manage snow during winter timeframes.
- Based on the findings of the SWMF Study, it is believed that Pheasant Rump Nakota Nation possesses the necessary equipment to operate the transfer station. If it is recognized that additional equipment is necessary, the client will be notified immediately.

PROJECT UPDATE

A site has been selected for the primary transfer station and approved by the PMT. The geotechnical investigation, topographical survey, site familiarization, and desktop reconnaissance for the site have been completed. The preliminary design has been submitted here within.

Conceptual drawings of all 3 discussed options are provided in Appendix A. Option 1 was the preferred choice based on our initial meeting; therefore, additional drawings have been provided for option 1 in Appendix B.

PINTER has and will continue to supply the necessary resources to ensure the project is still completed within the fiscal year. A new project schedule has been developed with tasks being fast-tracked or completed simultaneously when possible. An updated project schedule is provided in Appendix C.

A design package including tender documents and specifications will be prepared immediately following approval of the conceptual design.

CLOSURE

Please contact PINTER at (306) 244-1710 if there are any questions or comments related to this Preliminary Design Report. This document summarizes the Pheasant Rump Waste Transfer Station Design Guidelines. By signing below, the Client and the Consultant agree to the design guidelines as described in this document.

Consultant's Signature



Bennet Awume, M.Sc., P. Eng.
Project Engineer

Client's Signature

Darren Svedahl, on behalf of Pheasant Rump Chief and Council
Project Manager

ATTACHMENTS

- Appendix A – Conceptual Drawings
- Appendix B – Option 1 Preliminary Drawings
- Appendix C – Updated Schedule
- Appendix D – Class C Cost Estimate

file: H:\2) Projects\2782 Pheasant Rump Transfer Station Design and Construction\2782-1 Pre-Design Phase\Preliminary Design Report\2782 Preliminary Design Draft Report-17Aug21.docx



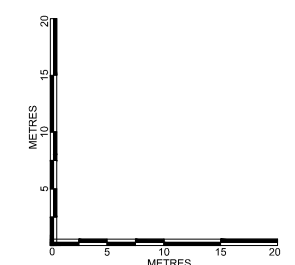
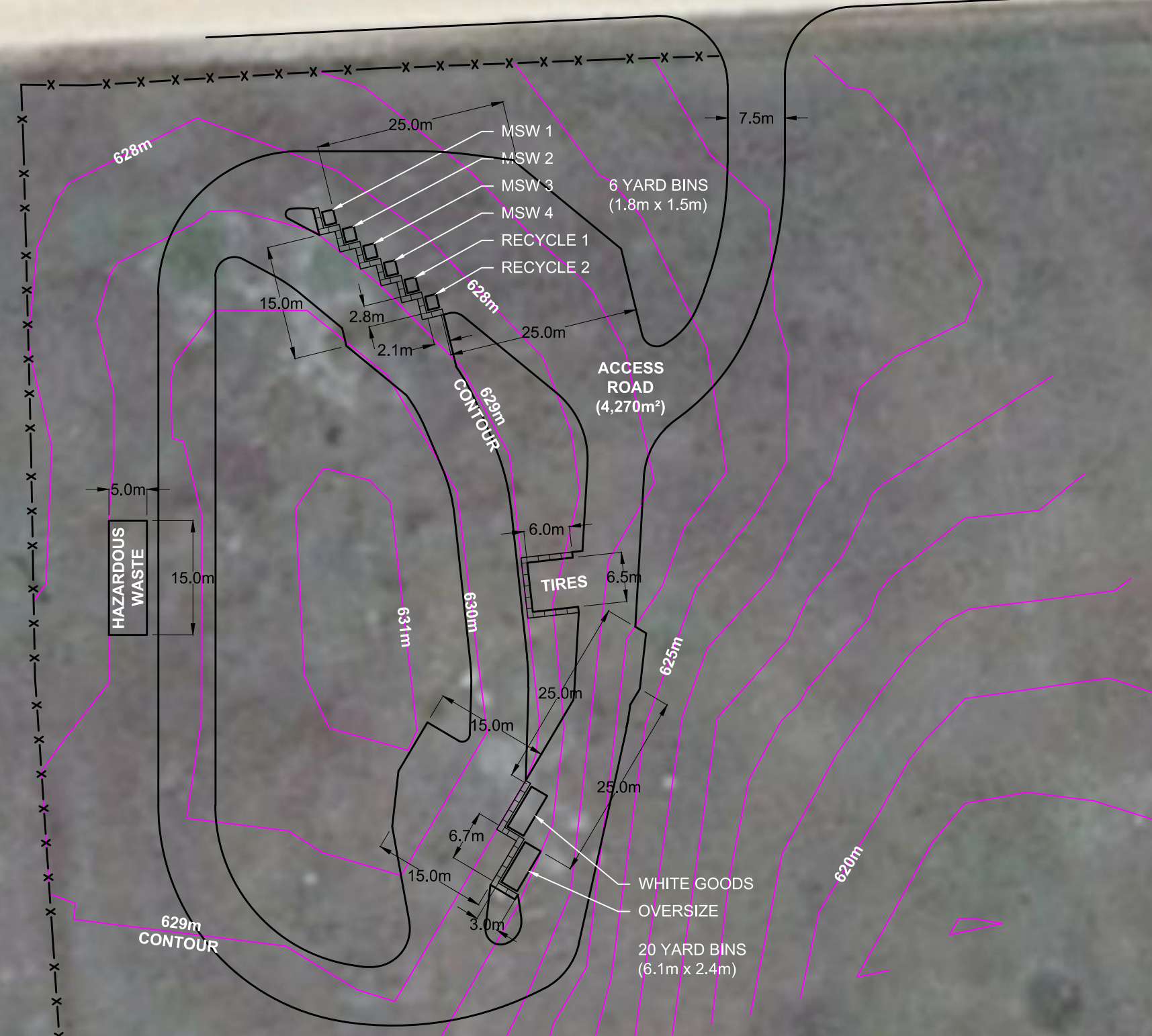
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Appendix A

Conceptual Drawings



- NOTES:**
1. ORIENT TOP OF BAYS @ ~ 629m CONTOUR.
 2. HAZARDOUS WASTE IS A LEAN-TO SHELTER WITH BASE @ ~ 629m CONTOUR.
 3. THE DRAWING SCALE BASED ON (17 x 11 INCHES) PAPER SIZE.



PINTER & ASSOCIATES LTD.
 710 48th ST E
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 306.244-1710
 pintermain@pinter.ca

PLAN DESCRIPTION/REVISION	DATE	
2	ISSUE FOR REVIEW	9 JULY 2021
1	ISSUE FOR REVIEW	8 JULY 2021
0	ISSUE FOR REVIEW	7 JULY 2021

SEAL:

CERTIFICATION OF AUTHORIZATION:

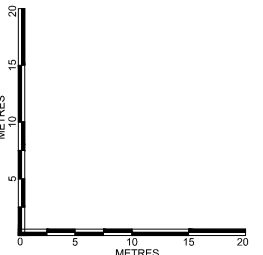
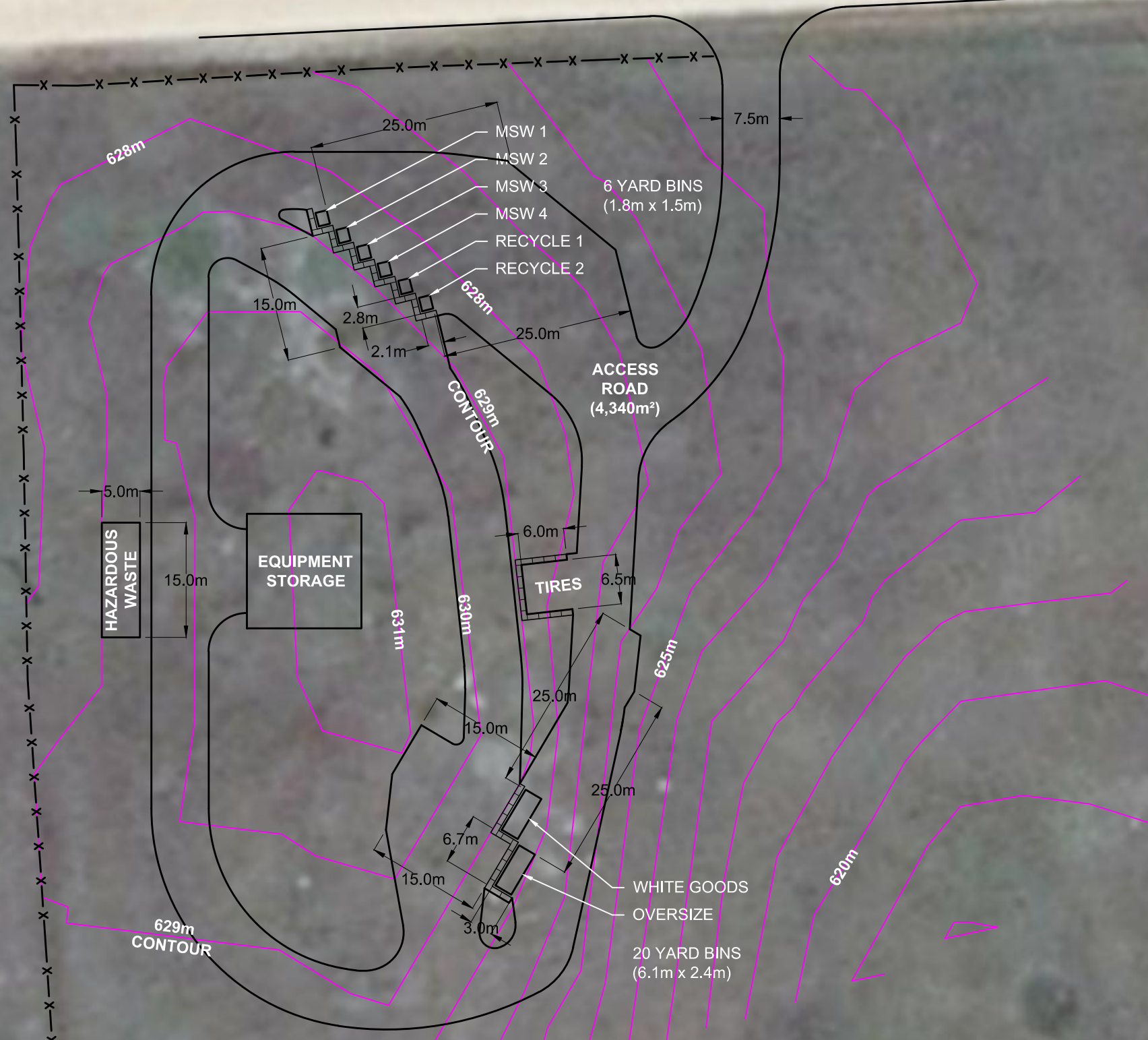
LEGEND:
 EXISTING FENCE - APPROXIMATE LOCATION —X—X—

PROJECT TITLE: PHEASANT RUMP TRANSFER STATION		PROJECT NO. 2782-1
DRAWING TITLE: OPTION #1 OVERALL SITE LAYOUT		SCALE: 1:750
DRAWN BY: NA	APPROVED BY: PETER ZRYMAK, P.ENG.	DWG-1
		REVISION: 1



NOTES:

1. ORIENT TOP OF BAYS @ ~ 629m CONTOUR.
2. HAZARDOUS WASTE IS A LEAN-TO SHELTER WITH BASE @ ~ 629m CONTOUR.
3. THE DRAWING SCALE BASED ON (17 x 11 INCHES) PAPER SIZE.



<p>710 48th ST E SASKATOON SK S7K 5B4 306.244-1710 pintermain@pinter.ca</p>			SEAL:	CERTIFICATION OF AUTHORIZATION:	LEGEND:	PROJECT TITLE:	PROJECT NO.:
						PHEASANT RUMP TRANSFER STATION	2782-1
						OPTION #3 OVERALL SITE LAYOUT	SCALE: 1:750
						DRAWN BY: NA APPROVED BY: PETER ZRYMAK, P.ENG.	DRAWING NO.: DWG-3 REVISION: 0

Appendix B
Option 1 Preliminary Drawings

SITE LOCATION

ISSUED FOR REVIEW



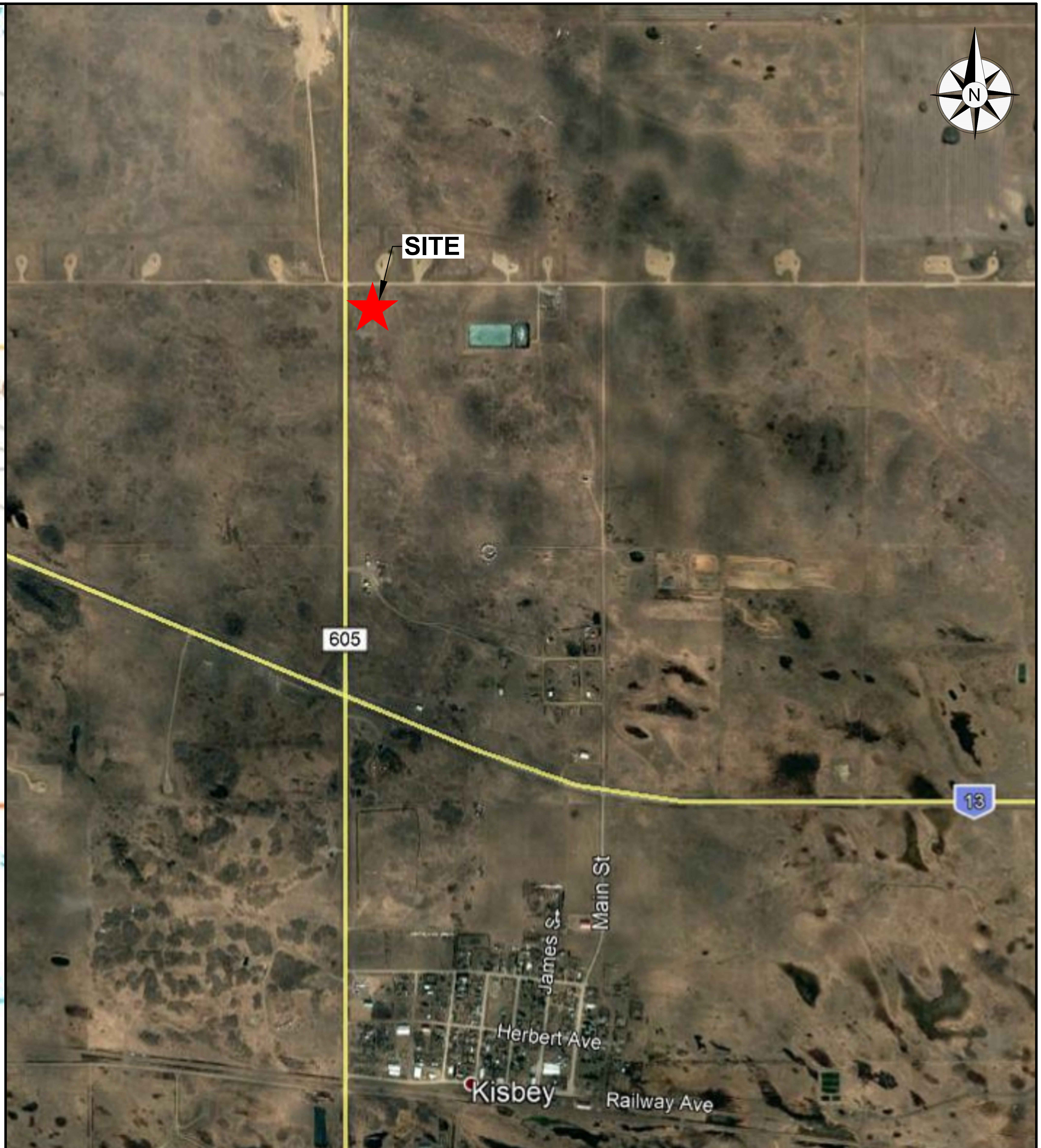
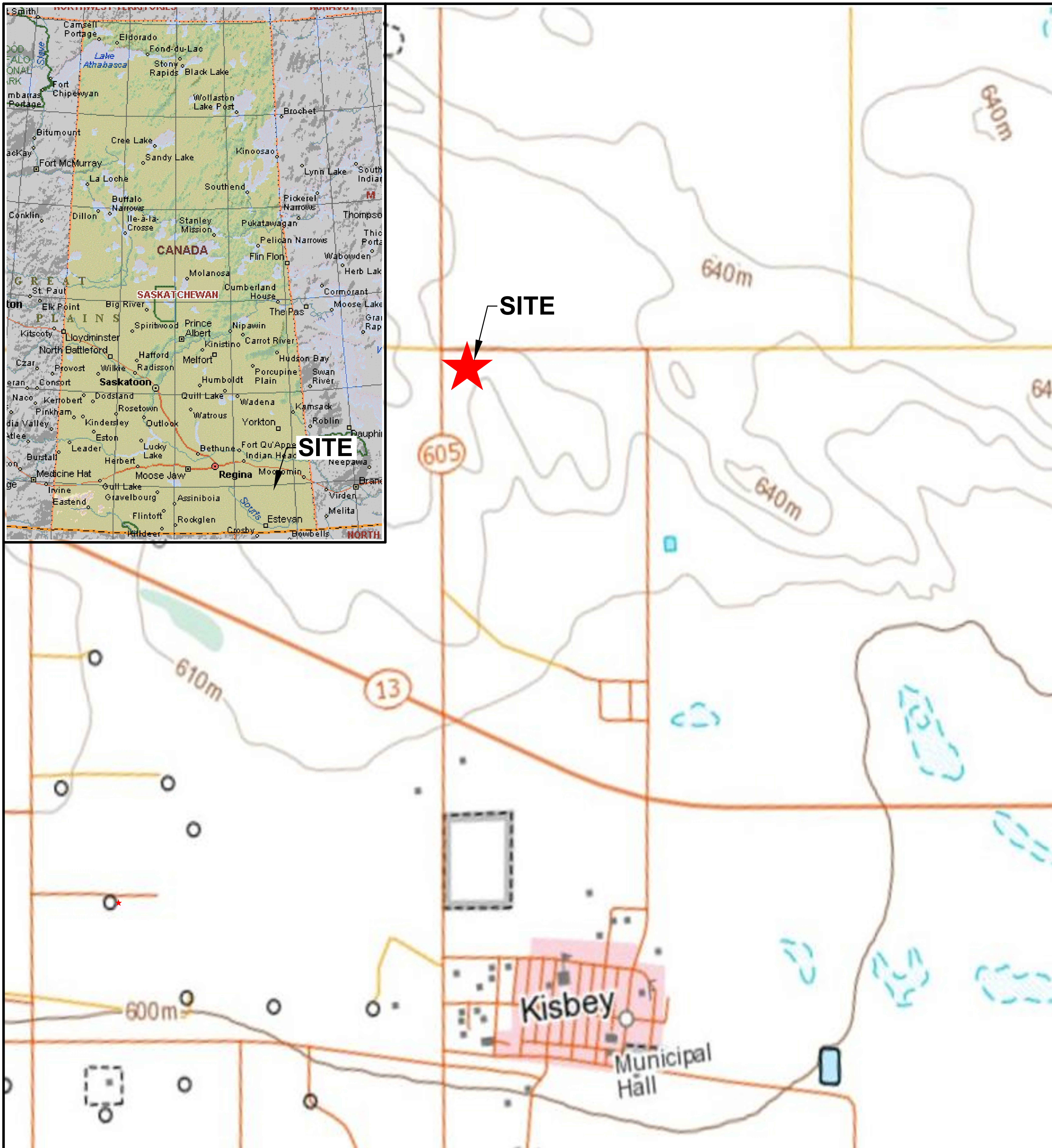
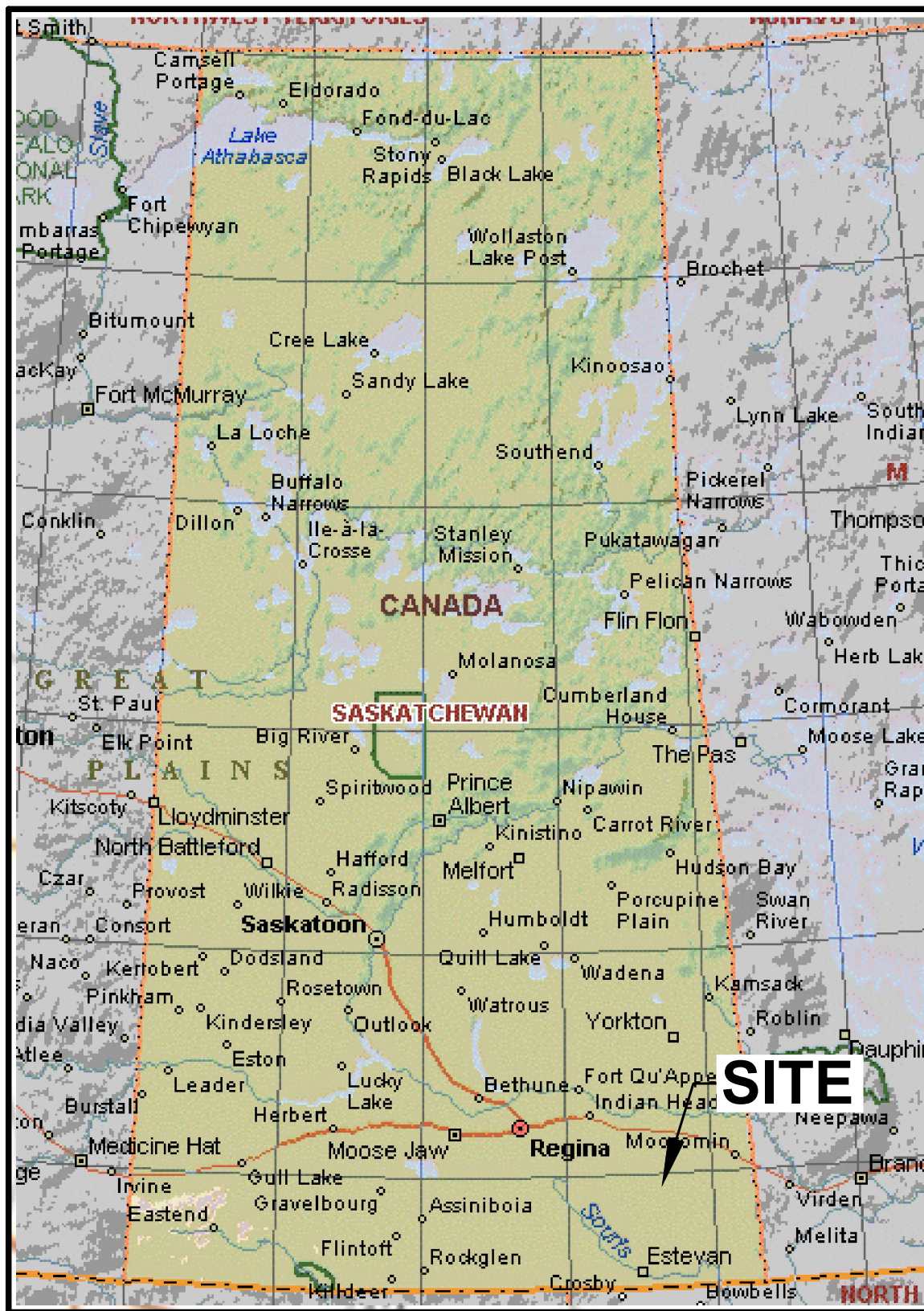
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LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
SITE LOCATION	S-1



710A-48TH STREET EAST
SASKATOON SK S7K 5B4
306.244.1710
pintermain@pinter.ca

- NOTES:
1. IMAGE SOURCE FROM GOOGLE EARTH 2021
IMAGE DATED 2015 (ACCESSED AUGUST 2021).
 2. MAP FROM NATURAL RESOURCES CANADA
GEOGRATIS.
 3. THIS DRAWING IS PREPARED FOR ILLUSTRATIVE
PURPOSES ONLY.
 4. THE DRAWING SCALE BASED ON 34" x 22" PAPER SIZE.

ISSUED FOR REVIEW	DATE	BY
ISSUED FOR REVIEW	06 AUGUST 2021	PETER ZRYMIAK
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND	
SITE- APPROXIMATE LOCATION	★

NOT TO SCALE	FILE: H:12 PROJECTS\92782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS
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S-1 SITE LOCATION
DATE: 06 AUGUST 2021
PROJECT: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: DRAWN BY: NA
CHECKED BY: CHECKED BY: BA, PZ

GENERAL LAYOUT

ISSUED FOR REVIEW

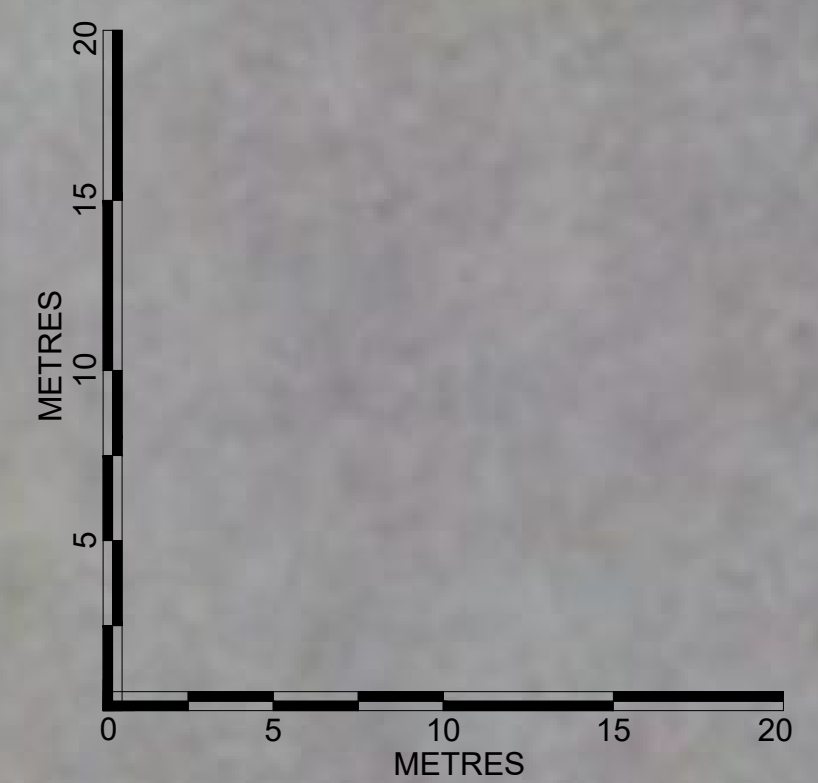
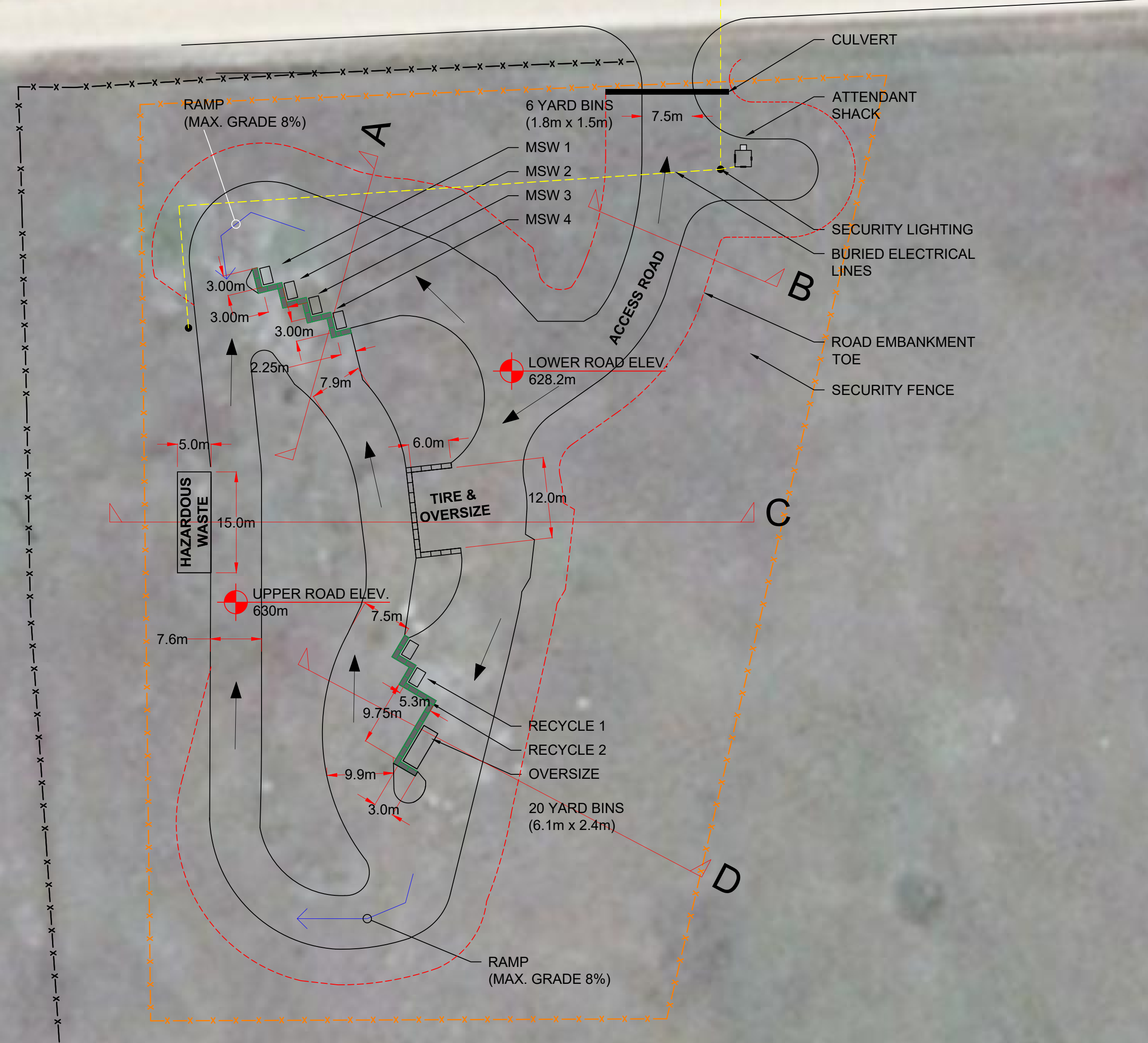


710 A- 48th Street East
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LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
OVERALL SITE LAYOUT	GL-1
TOPOGRAPHIC LAYOUT	GL-2
PROPOSED SITE CROSS SECTIONS	GL-3

OIL FIELD



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- NOTES:**
1. THIS DRAWING IS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY.
 2. THIS IS NOT A LEGAL SURVEY.
 3. ALL MEASUREMENTS ARE IN METRES.

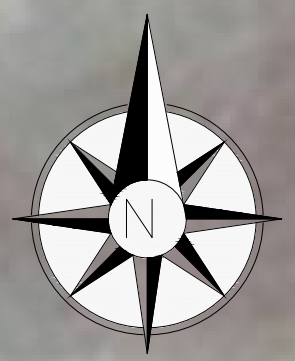
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0 ISSUED FOR REVIEW	04 AUGUST 2021	BENNET AWUME

LEGEND

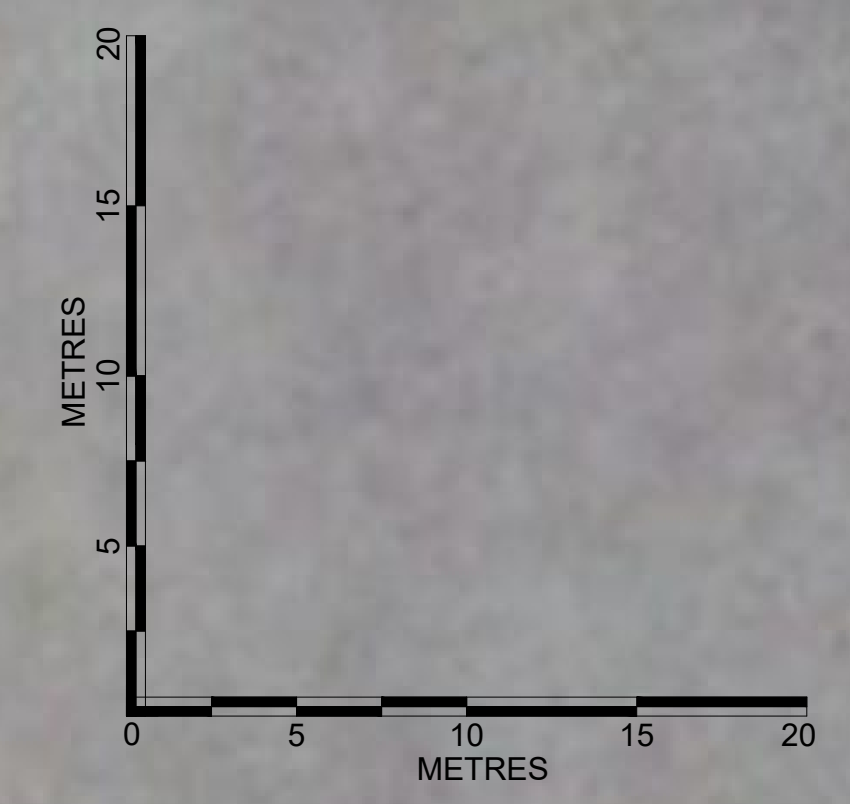
- TRAFFIC DIRECTIONS
- - - - - EXISTING FENCE
- - - - - NEW FENCE
- - - - - SCREENING FENCE
- SLOPE %
- GUARD RAIL
- HAND RAIL

SCALE: 1: 500
 FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

GL-1
OVERALL SITE LAYOUT
 DATE: 12 AUGUST 2021
 FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
 DRAWN BY: NA, TL
 CHECKED BY: BA, PZ



OIL FIELD



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PLAN DESCRIPTION / REVISION	DATE	BY
1 REVISED RETAINING WALL	11 AUGUST 2021	BENNET AWUME
0 ISSUED FOR REVIEW	04 AUGUST 2021	BENNET AWUME

LEGEND

- - - - - EXISTING FENCE
- - - - - NEW FENCE
- - - - - SCREENING FENCE

SCALE: 1: 500

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

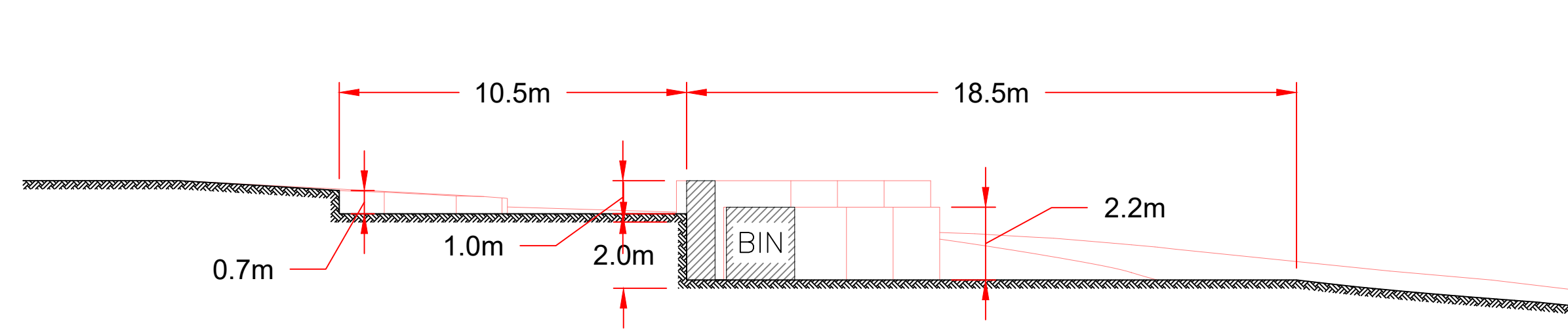
GL-2
TOPOGRAPHIC LAYOUT

DATE:
12 AUGUST 2021

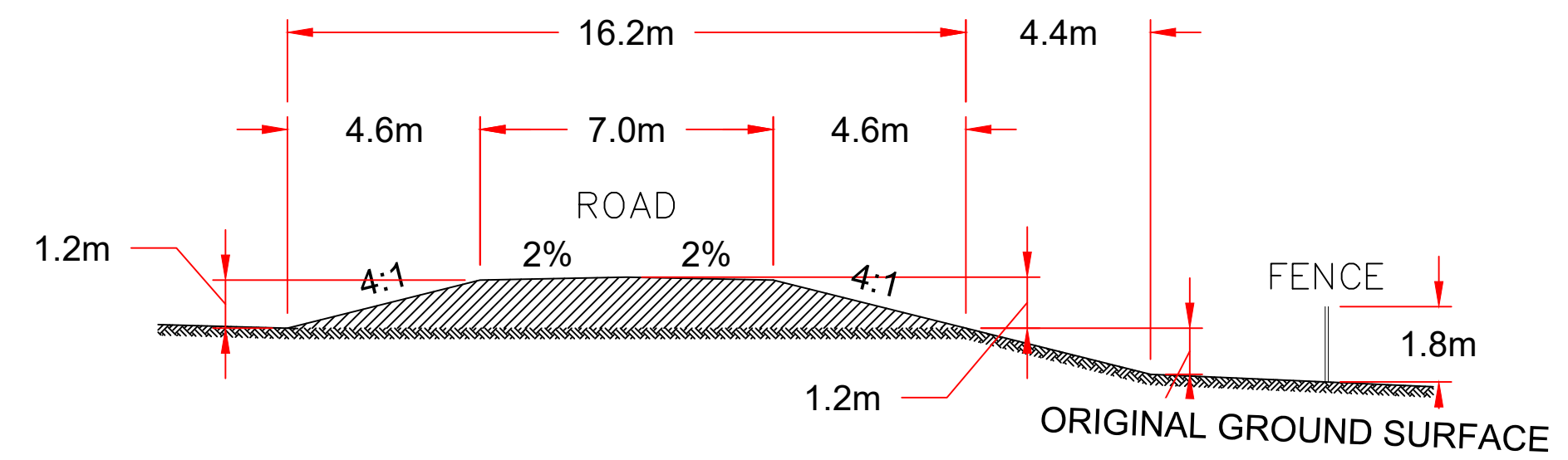
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2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY:
DRAWN BY: NA, TL

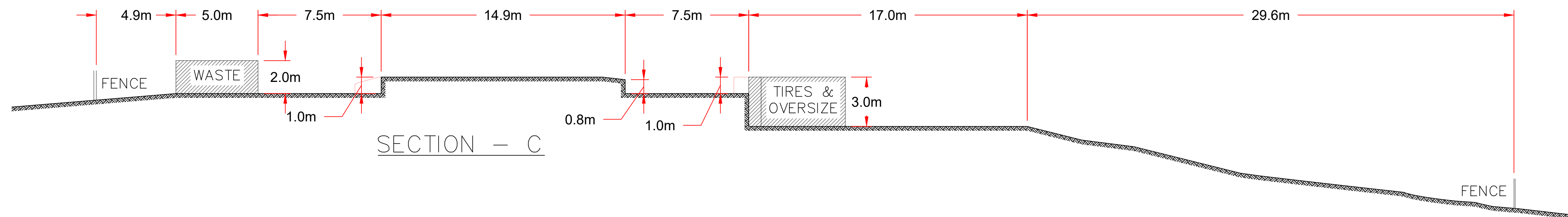
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CHECKED BY: BA, PZ



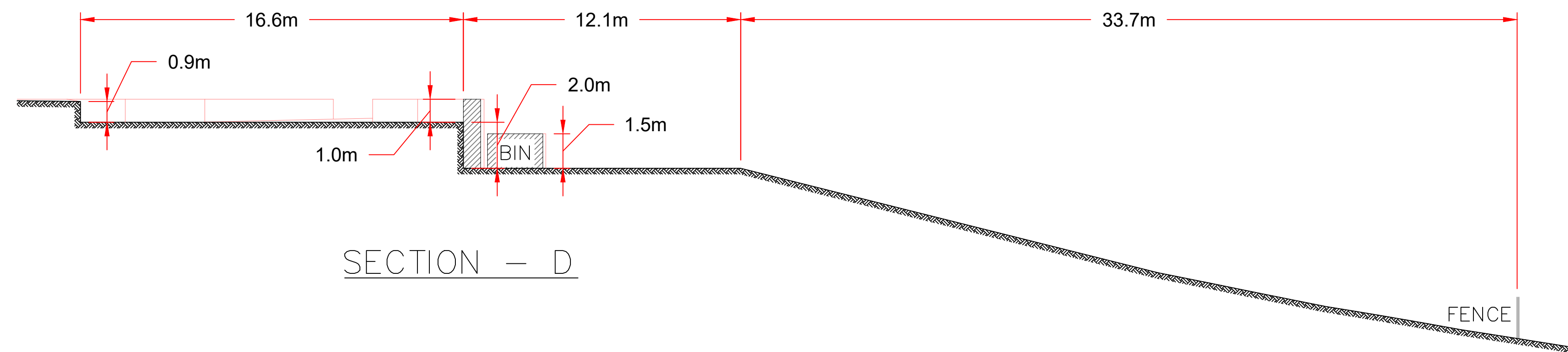
SECTION - A



SECTION - B



SECTION - C



SECTION - D

NOTES:

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ISSUED FOR REVIEW	DATE	BY
ISSUED FOR REVIEW	04 AUGUST 2021	BENNET AWUME
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND

SCALE: N.T.S

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

GL-3
PROPOSED SITE CROSS SECTIONS

DATE: 04 AUGUST 2021
FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: NA, TL
CHECKED BY: BA, PZ

RETAINING WALLS

ISSUED FOR REVIEW



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LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
RETAINING WALL – LOCATIONS	RW-0
RETAINING WALL LAYOUT	RW-1
RETAINING WALL – SECTION & DETAILS	RW-2
TIRE RECYCLING AREA DETAILS	RW-3

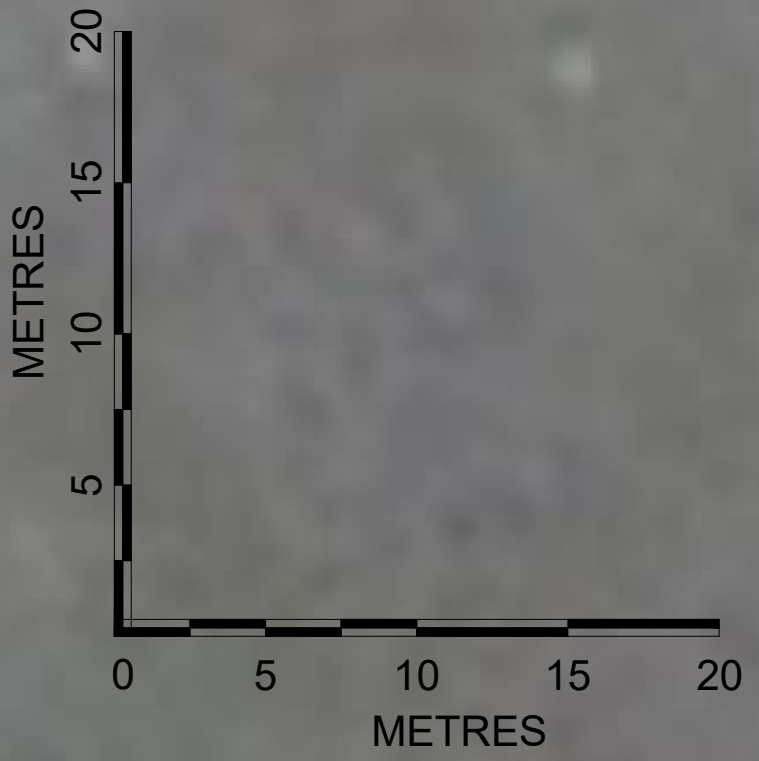


HAZARDOUS WASTE

RETAINING WALL
DOMESTIC WASTE
ROLL OF AREA
(SEE RW-1 AND
RW-2 FOR DETAILS)

TIRE AND OVER SIZE RECYCLING AREA
(SEE RW-3 FOR DETAILS)

RETAINING WALL
RECYCLING ROLL
OF AREA
(SEE RW-1 AND
RW-2 FOR DETAILS)



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- NOTES:**
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 3. THE DRAWING SCALE IS BASED ON 36 X 24 INCHES PAPER SIZE. ALL MEASUREMENTS ARE IN METRES.

PLAN DESCRIPTION / REVISION	DATE	BY
ISSUED FOR REVIEW	11 AUGUST 2021	PETER ZRYMIAK
ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK

SCALE: 1: 250
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DRAWING TITLE RW-0 RETAINING WALL- LOCATIONS
DATE 5 AUGUST 2021
FILE NAME 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: DRAWN BY: TL
CHECKED BY: CHECKED BY: KM, PZ



DOMESTIC WASTE ROLL-OFF AREA

ALTERNATE COURSES OF THE CONC
BLOCKS SHALL BE OFFSET BY $\frac{1}{2}$ A
BLOCK WIDTH. $\frac{1}{2}$ SIZED BLOCKS SHALL
BE USED IN ALTERNATE LAYERS AT THE
ENDS TO CREATE AN EVEN EDGE.

200mm THK x 1500mm
WIDE x 2500mm LONG
CONCRETE PAD, FOR
DETAIL SEE C-1

EACH PAD WILL BE
SLOPED 1% AWAY FROM
RETAINING WALL

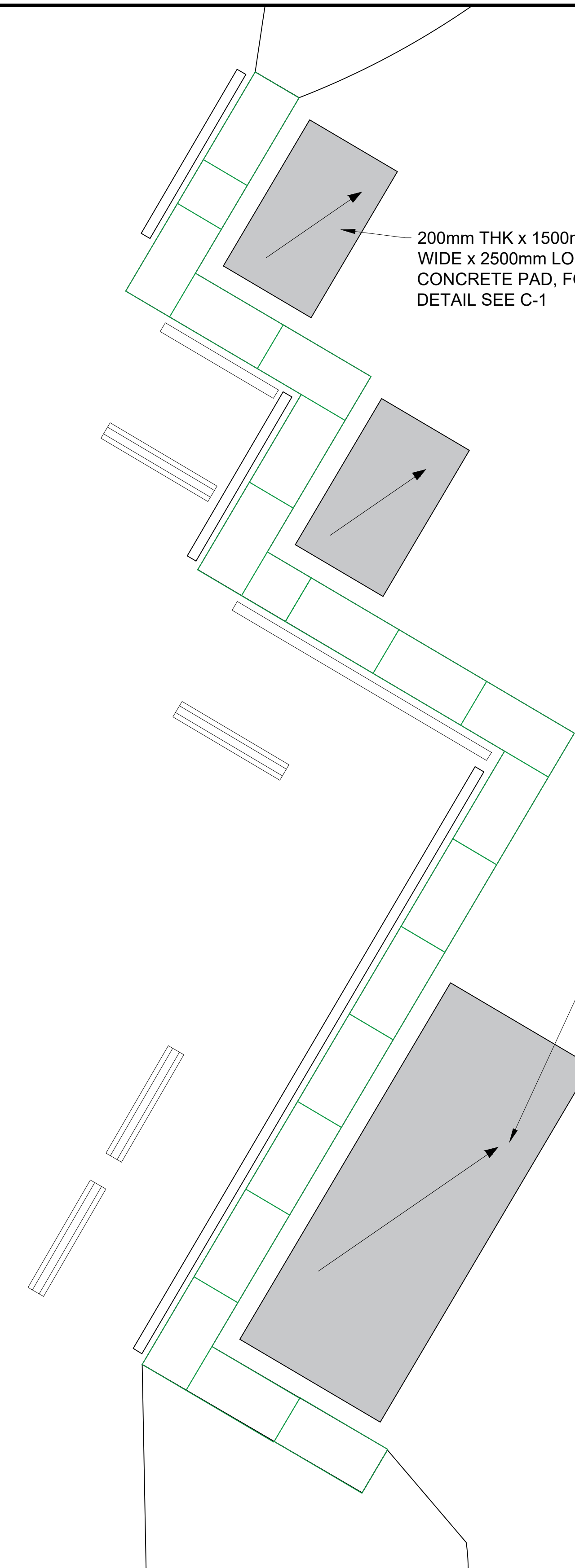
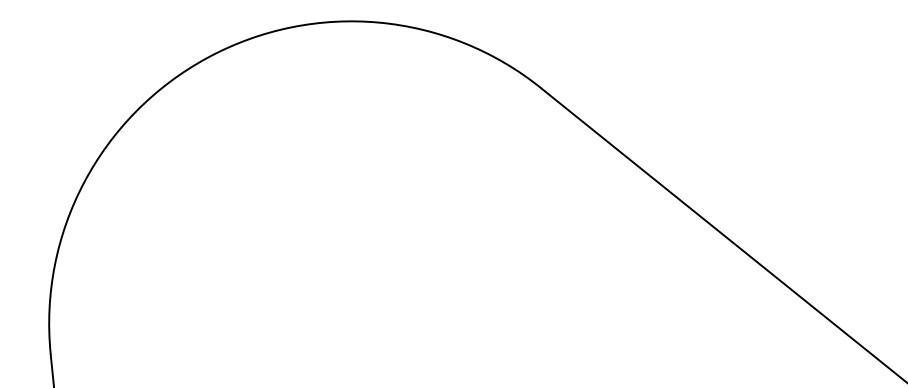
CONCRETE FOR INTERLOCKING
CONCRETE BLOCKS SHALL HAVE A
MIN. 28-DAY COMPRESSIVE STRENGTH
OF 28 MPa, AND AIR ENTRAINMENT
VALUE BETWEEN 4.5% AND 7.5%

HAND RAIL, SEE B-3 FOR DETAILS

150mm THK GUARD
RAIL. 600mm HIGH,
SEE B-3

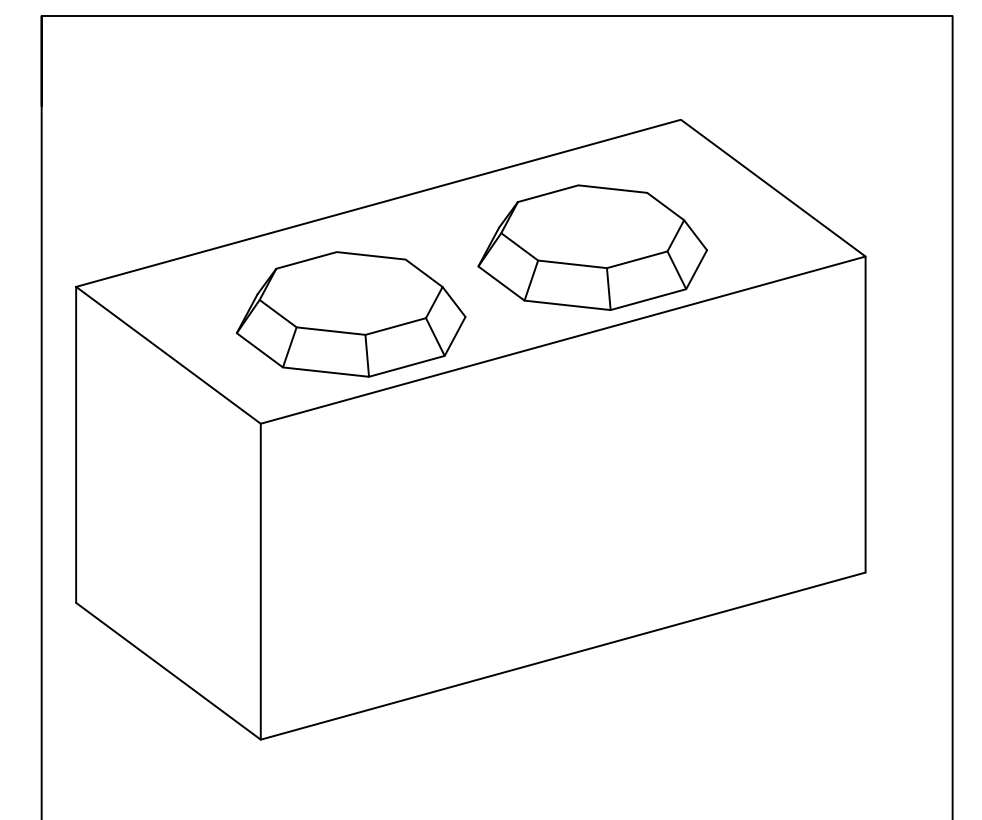
750mm WIDE x 750mm HIGH x
1500mm LONG INTERLOCKING
CONC BLOCKS (MAX 4
BLOCKS HIGH), SEE
OCTA-BLOC DETAIL

PARKING STOP, SEE
B-2 FOR DETAILS



RECYCLING ROLL-OFF AREA

200mm THK x 2400mm
WIDE x 6100mm LONG
CONCRETE PAD, FOR
DETAIL SEE C-1

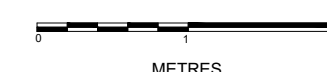


OCTA-BLOC DETAIL OR EQUIVALENT

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PLAN DESCRIPTION / REVISION	DATE	BY
2 ISSUED FOR REVIEW	11 AUGUST 2021	PETER ZRYMIAK
1 ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK



SCALE: 1:50

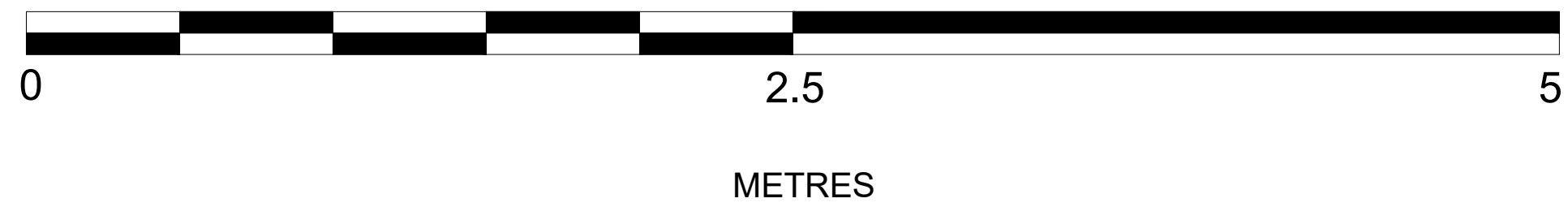
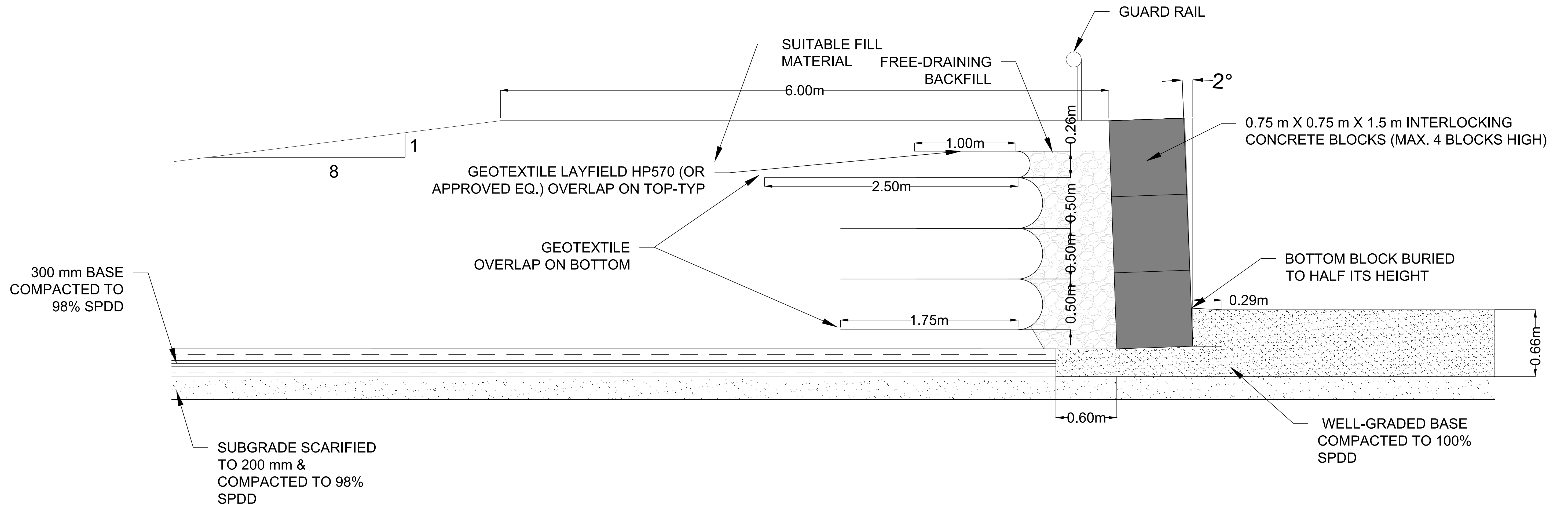
FILE: H:12) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION
DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE:
RW-1
RETAINING WALL LAYOUT

DATE:
05 AUGUST 2021
FILENAME:
2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY:
DRAWN BY: TL

CHECKED BY:
CHECKED BY: KM, PZ



PINTER
& ASSOCIATES LTD

710A-48TH STREET EAST
SASKATOON SK S7K 5B4
TREATY 6 TERRITORY, CANADA
306.244.1710
pintermain@pinter.ca

- NOTES:**
- THIS DRAWING IS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY.
 - THIS IS NOT A LEGAL SURVEY.
 - THE DRAWING SCALE IS BASED ON 36 X 24 INCHES PAPER SIZE. ALL MEASUREMENTS ARE IN METRES.

PLAN DESCRIPTION / REVISION	DATE	BY
2 ADJUST DRAWING SCALE	12 AUGUST 2021	THOMAS LI
1 ISSUED FOR REVIEW	5 AUGUST 2021	PETER ZRYMIAK

LEGEND

SCALE: 1: 20

FILE: H:\12 PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE:
RW-2
RETAINING WALL SECTION & DETAILS

DATE:
05 AUGUST 2021

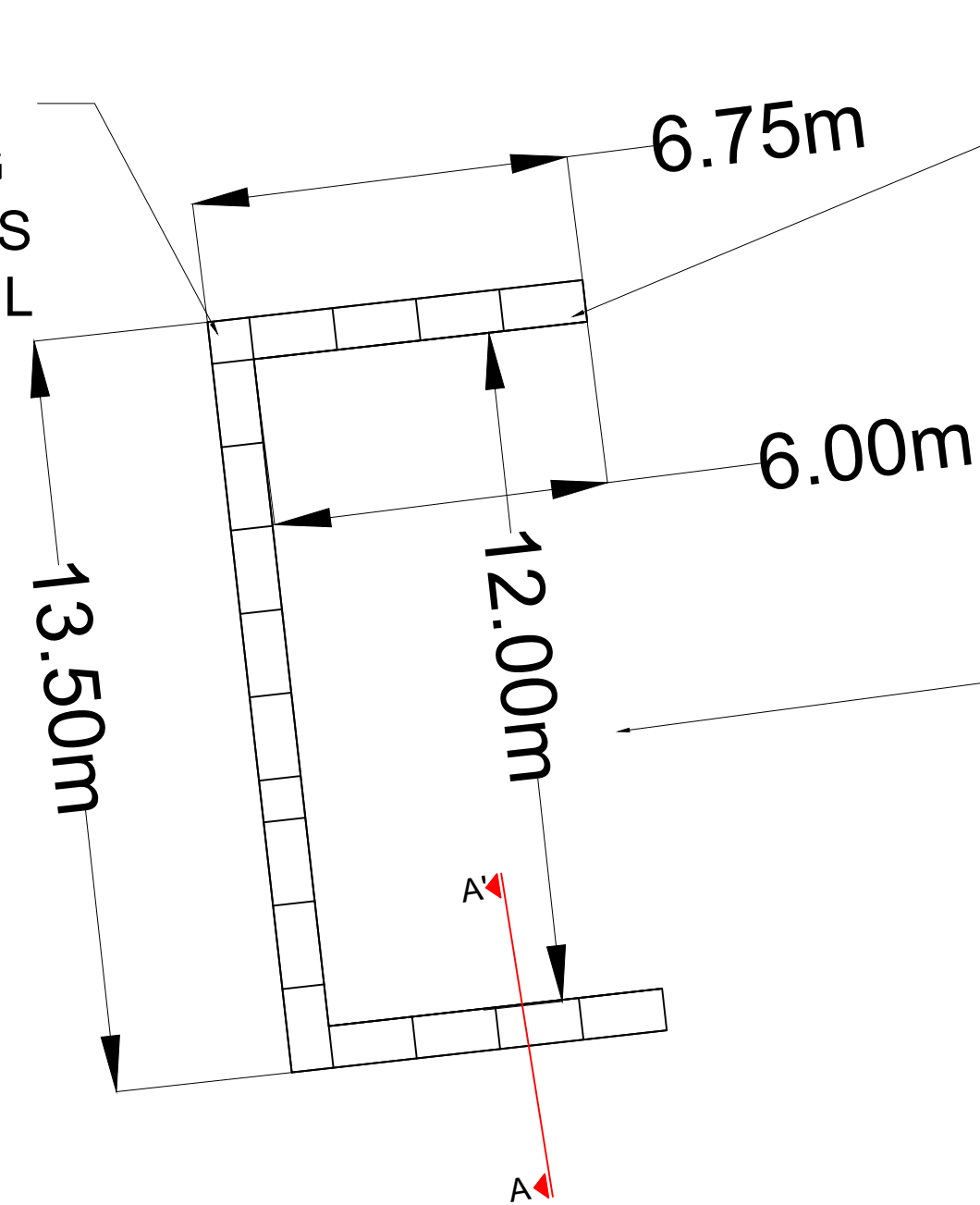
FILENAME:
2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY:
DRAWN BY: TL

CHECKED BY:
CHECKED BY: KM, PZ

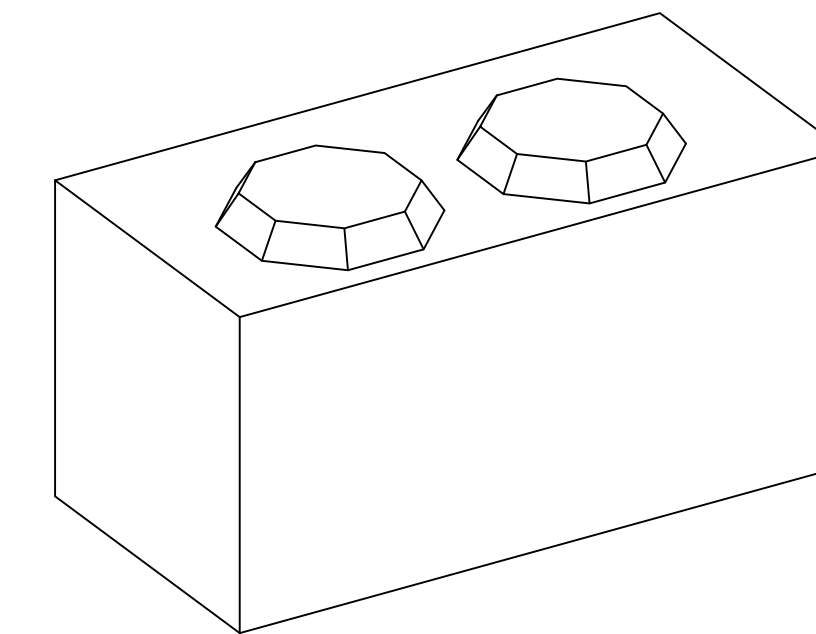


750mm WIDE x 750mm HIGH x 1500mm LONG INTERLOCKING CONC BLOCKS (MAX 2 BLOCKS HIGH), SEE OCTA-BLOC DETAIL



ALTERNATE COURSES OF THE CONC BLOCKS SHALL BE OFFSET BY $\frac{1}{2}$ A BLOCK WIDTH. $\frac{1}{2}$ SIZED BLOCKS SHALL BE USED IN ALTERNATE LAYERS AT THE ENDS TO CREATE AN EVEN EDGE.

GRAVEL WITH SLOPED 1% AWAY FROM RETAINING WALL

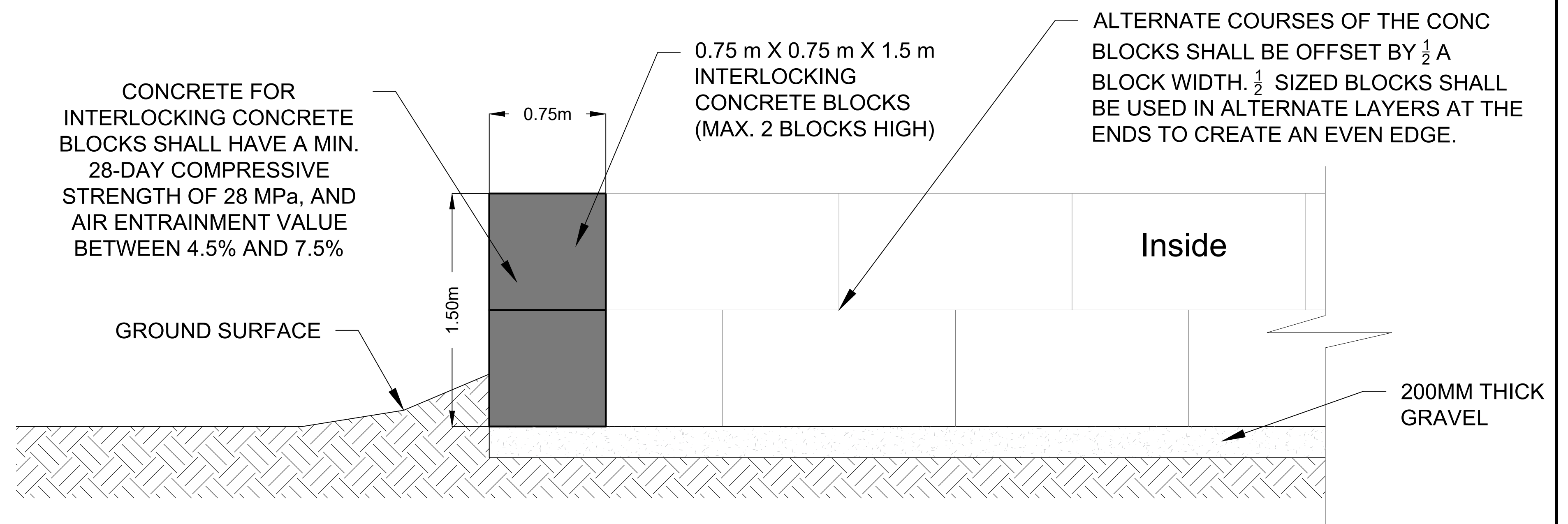


OCTA-BLOC DETAIL OR EQUIVALENT

TIRE RECYCLING AREA

BLOCK COUNT: 59
1/2 BLOCK COUNT: 6

CONCRETE FOR INTERLOCKING CONCRETE BLOCKS SHALL HAVE A MIN. 28-DAY COMPRESSIVE STRENGTH OF 28 MPa, AND AIR ENTRAINMENT VALUE BETWEEN 4.5% AND 7.5%



CROSS SECTION A-A'

Escale: 1:20



710A-48TH STREET EAST
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LEGEND

PLAN DESCRIPTION / REVISION	DATE	BY
2 ADJUST DRAWING SCALE	12 AUGUST 2021	THOMAS LI
1 ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK

SCALE: 1: 125

FILE: H:\2\ PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE:
RW-3

TIRE RECYCLING AREA DETAILS

DATE: 05 AUGUST 2021
FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY: TL

CHECKED BY: KM, PZ

ROAD & GRADING

ISSUED FOR REVIEW



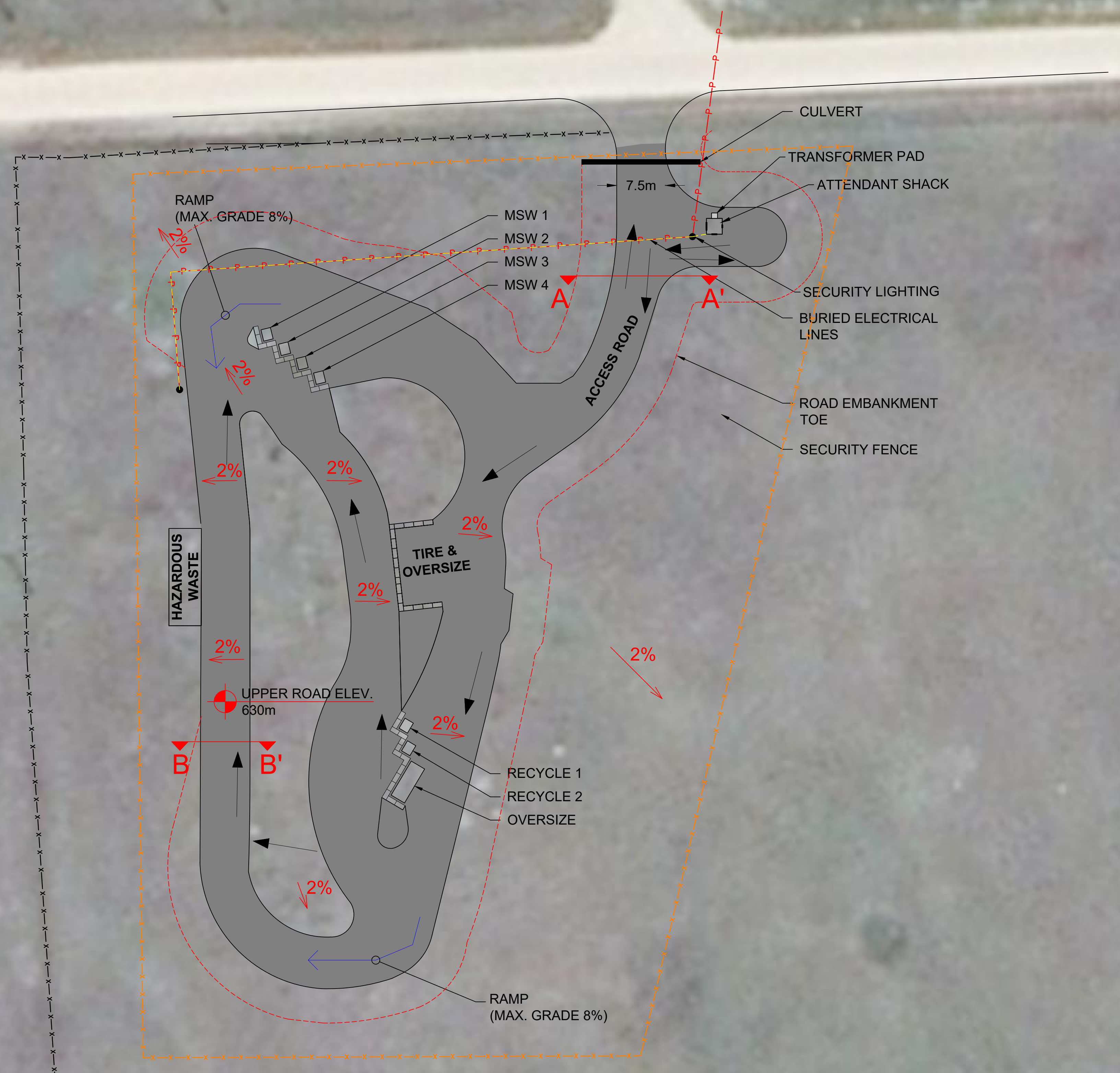
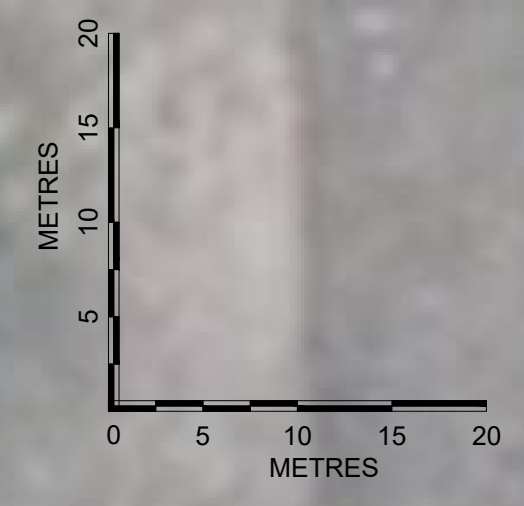
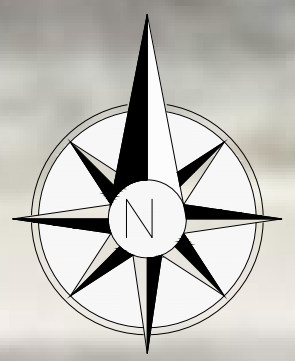
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LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
ROAD & GRADING – LOCATIONS	R-1
TYPICAL ROAD CROSS SECTION	R-2



- NOTES:**
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ISSUED FOR REVIEW	DATE	BY
ISSUED FOR REVIEW	06 AUGUST 2021	BENNET AWUME
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND

TRAFFIC DIRECTIONS →

EXISTING FENCE -x-x-

NEW FENCE -x-x-x-

SCALE: 1: 400

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE

R- 1
ROAD & GRADING LOCATIONS

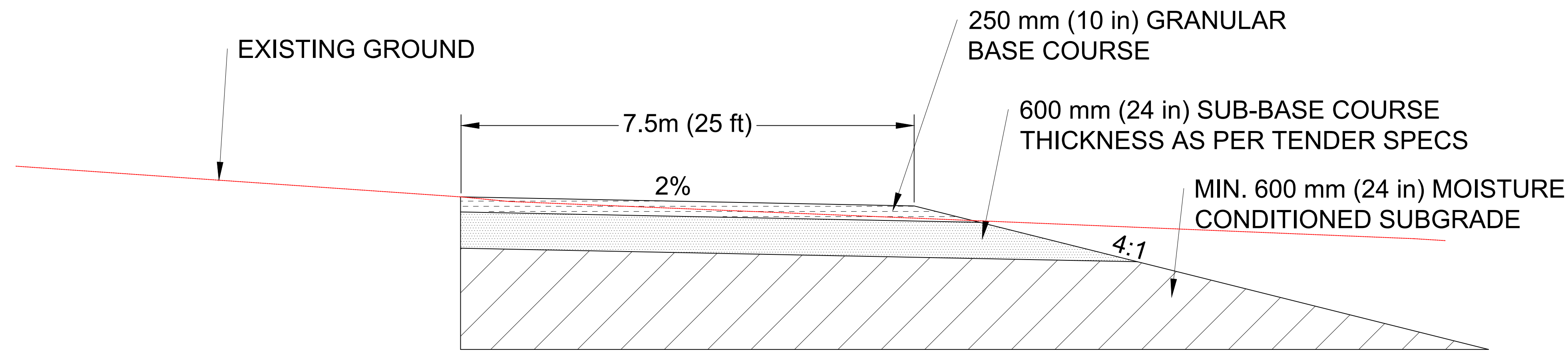
DATE: 06 AUGUST 2021

FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

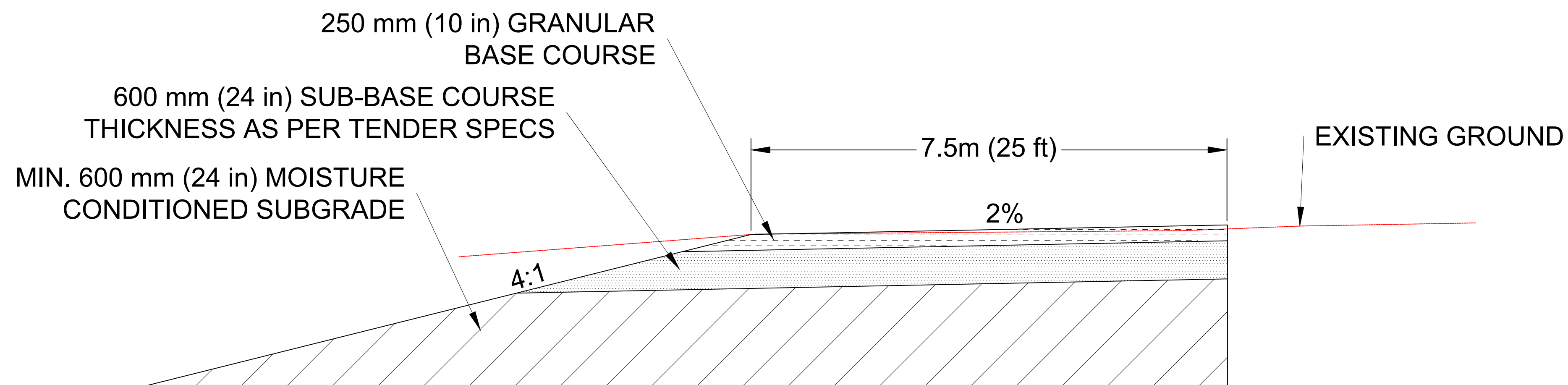
DRAWN BY: NA, TL

CHECKED BY: BA, PZ

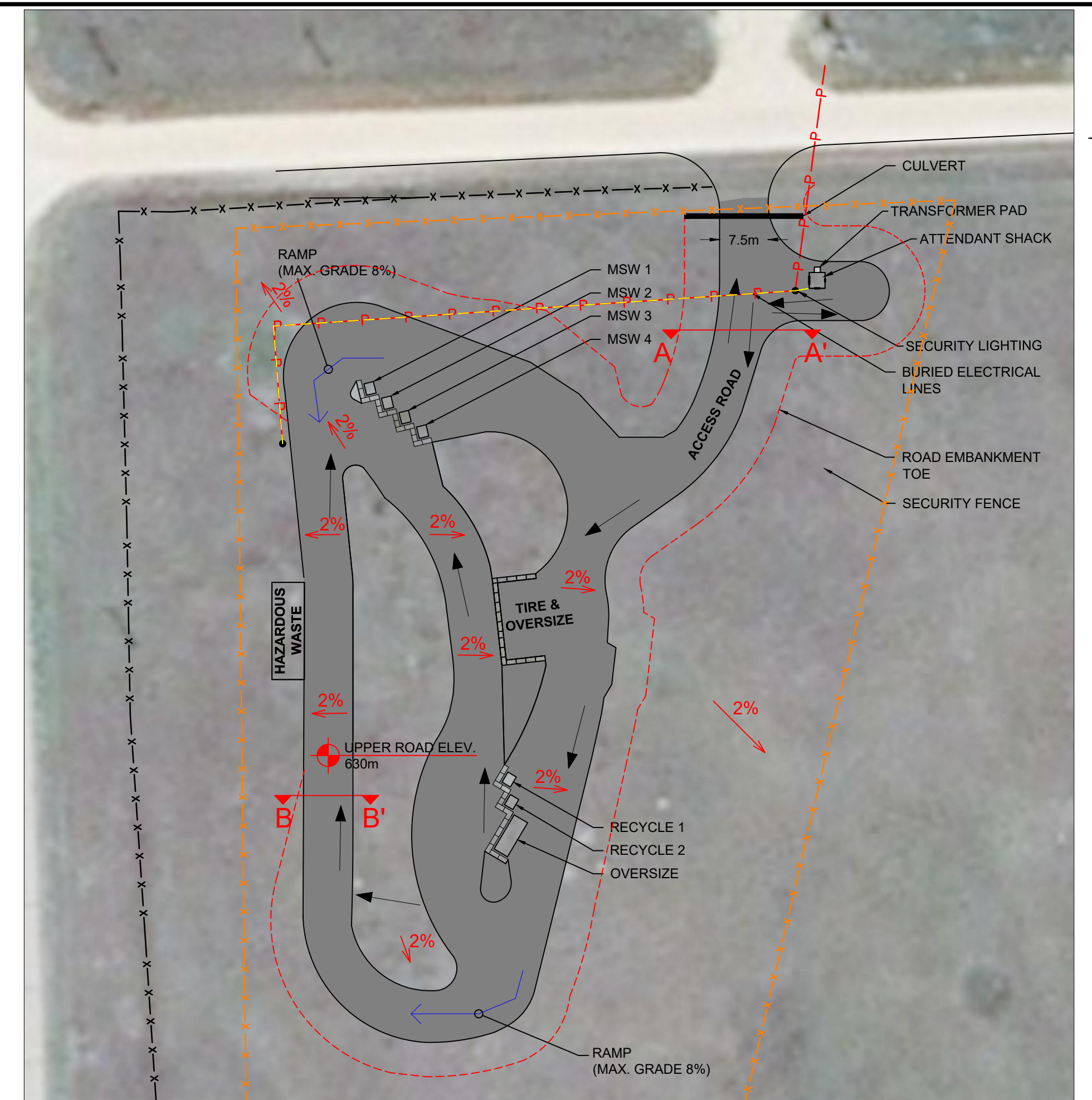
710A-48TH STREET EAST
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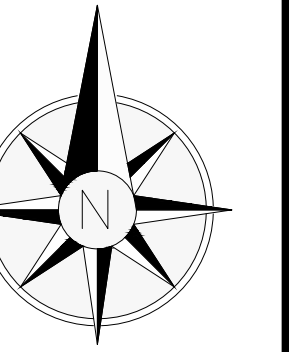
ROAD CROSS SECTION A-A'



ROAD CROSS SECTION B-B'



ROAD & GRADING LOCATIONS



NOTES:

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ISSUED FOR REVIEW	DATE	BY
ISSUED FOR REVIEW	06 AUGUST 2021	BENNET AWUME
PLAN DESCRIPTION / REVISION	DATE	BY

ASSUMPTIONS

AVERAGE DAILY TRAFFIC (ADT): 360
 AVERAGE DAILY TRUCK TRAFFIC (ADTT): 18
 CBR OF SUBGRADE: 20

BASE MATERIAL: SANDY GRAVEL
 SUB-BASE MATERIAL: SILTY CLAY

NOT TO SCALE

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

R-2

TYPICAL ROAD CROSS SECTION

DATE: 06 AUGUST 2021
 FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
 DRAWN BY: NA, TL
 CHECKED BY: BA, PZ

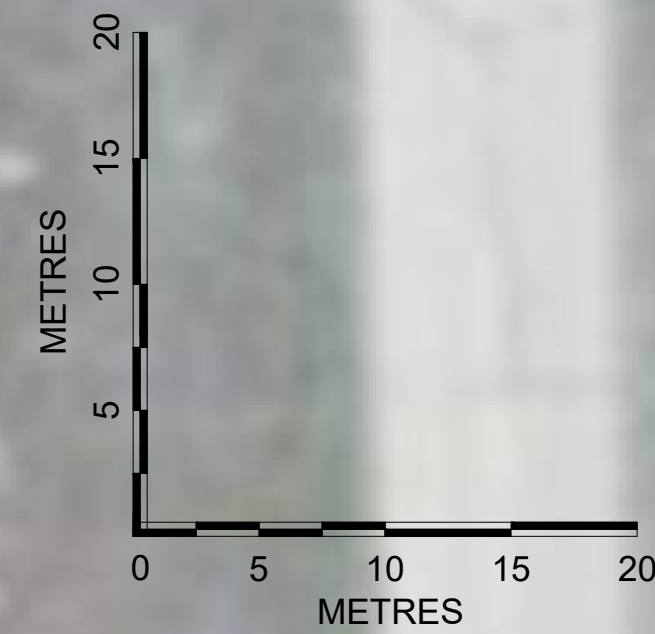
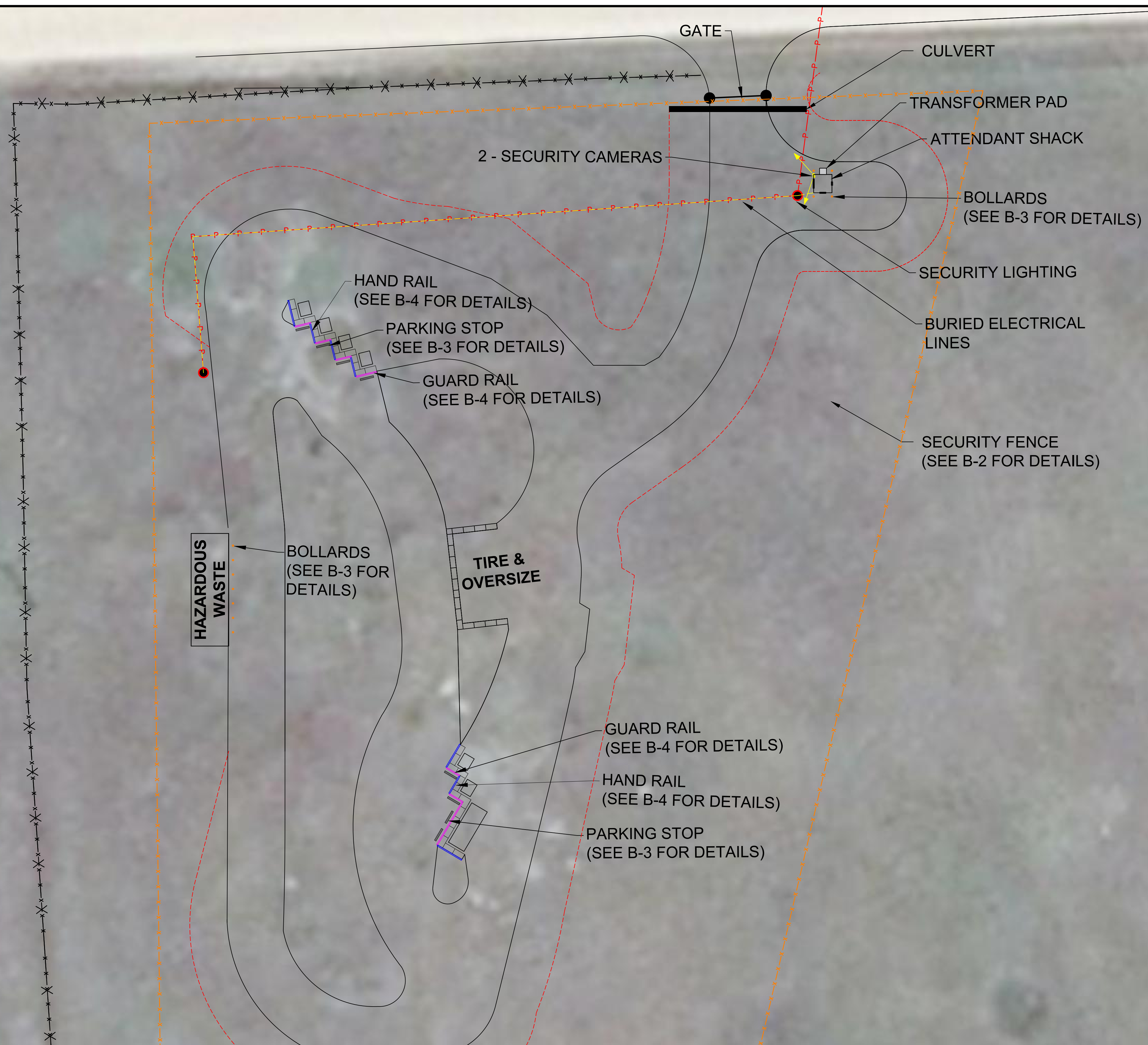
BARRIERS

ISSUED FOR REVIEW



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LIST OF PROJECT DRAWINGS	
NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
BARRIERS & SECURITY	B-1
FENCE DETAILS	B-2
PARKING STOP & BOLLARD DETAILS	B-3
HAND & GUARD RAILS DETAIL	B-4



- NOTES:**
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 3. ALL MEASUREMENTS ARE IN METRES.
 4. THE DRAWING SCALE BASED ON 34" x 22" PAPER SIZE.

ISSUED FOR REVIEW	DATE	BY
ISSUED FOR REVIEW	06 AUGUST 2021	BENNET AWUME
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND

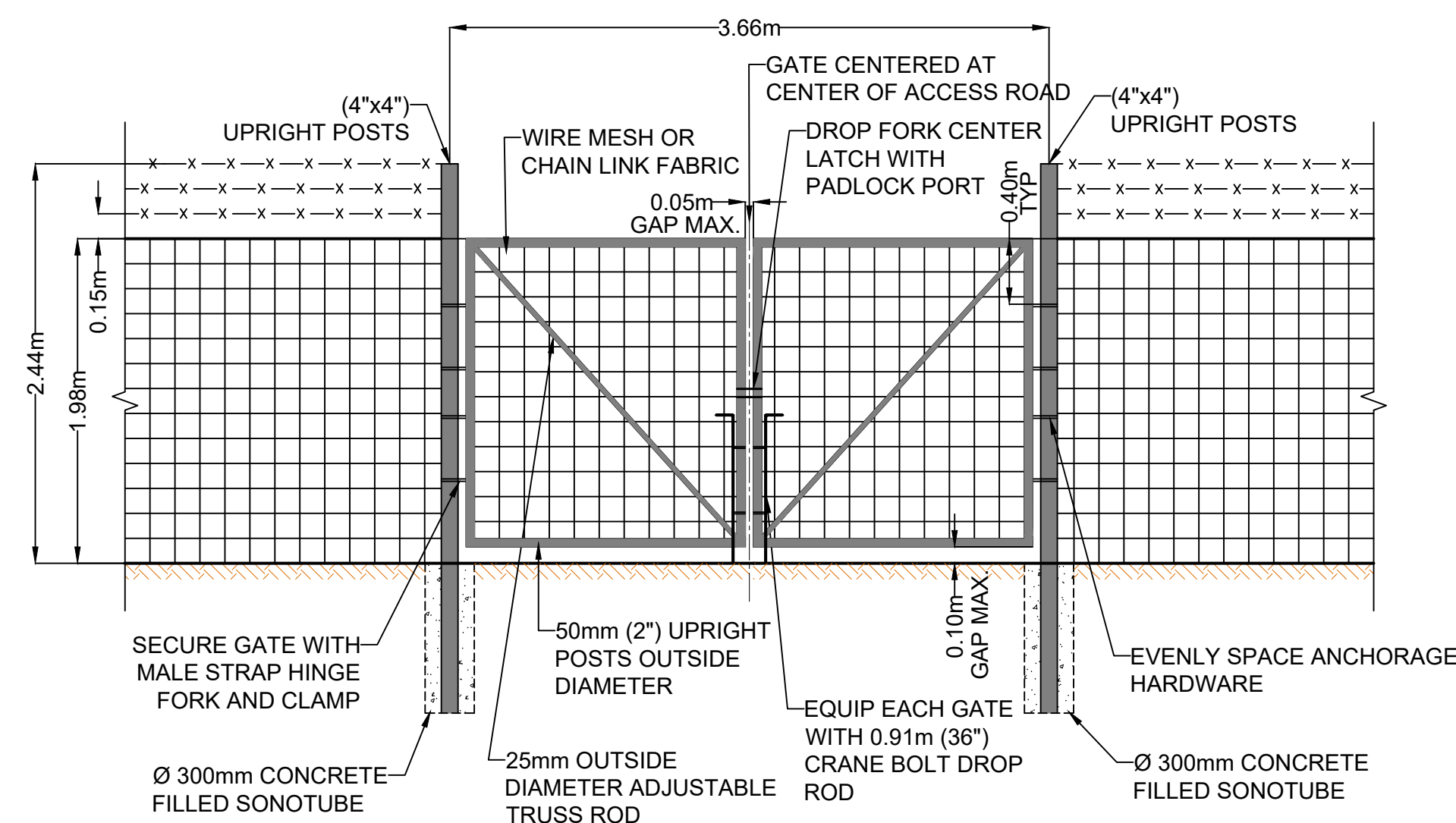
EXISTING FENCE	-x-x-
NEW FENCE	-x-x-
BURIED ELECTRICAL LINES	-p-p-

SCALE: 1: 300

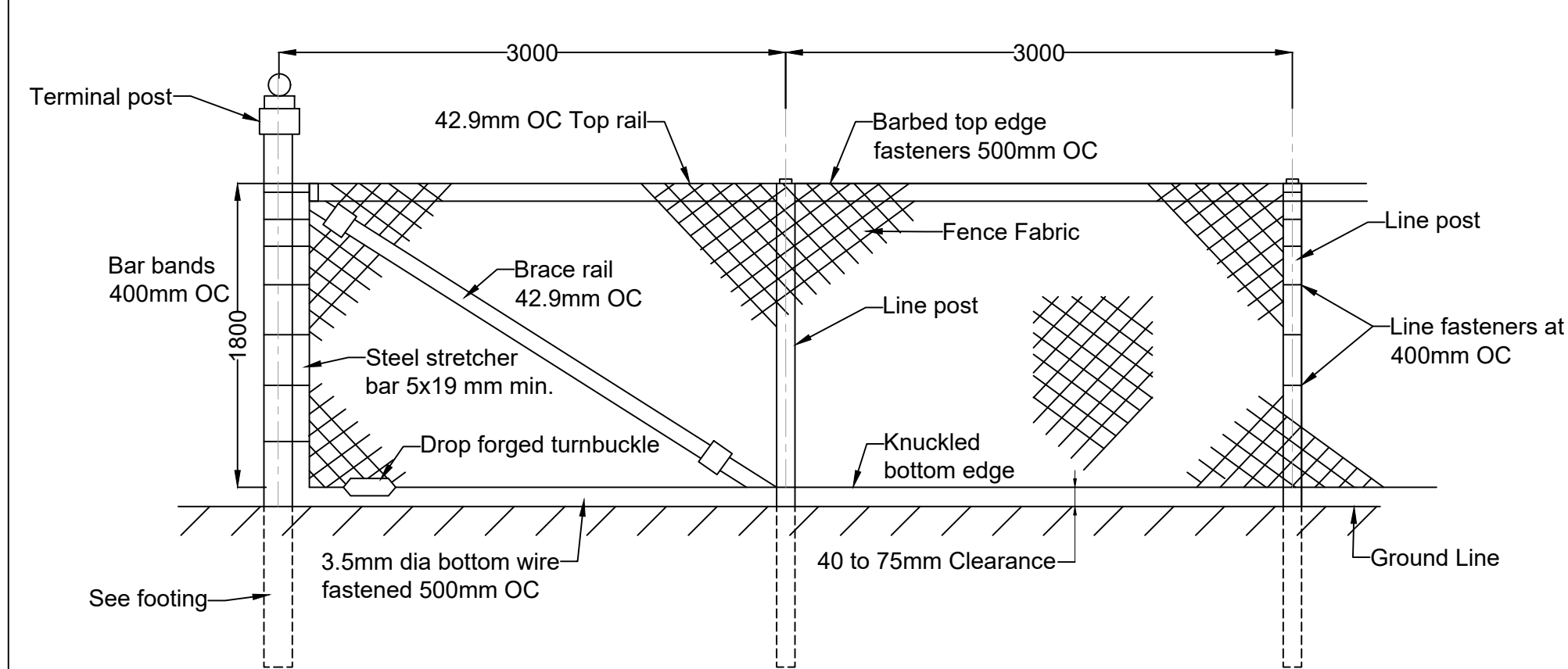
FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

B-1
BARRIERS & SECURITY
DATE: 06 AUGUST 2021
FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: NA, TL
CHECKED BY: BA, PZ

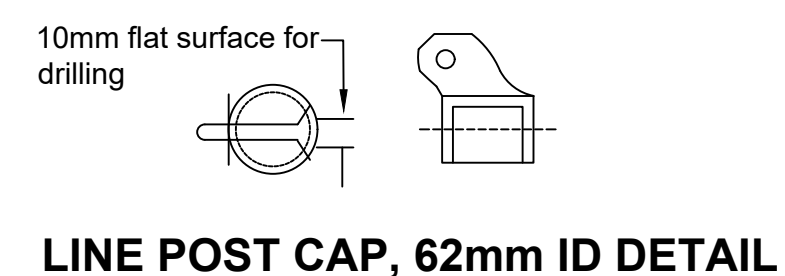
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DUAL SWING VEHICLE ACCESS GATE DETAIL



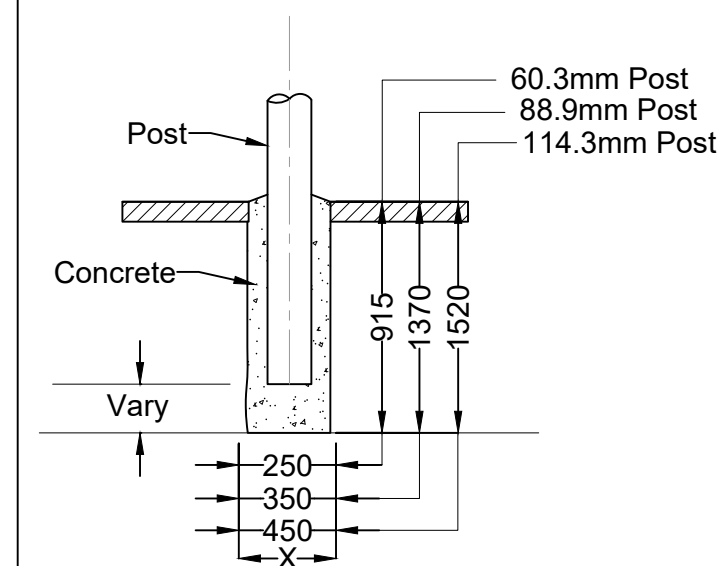
CHAIN LINK FENCE WITH TOP RAIL



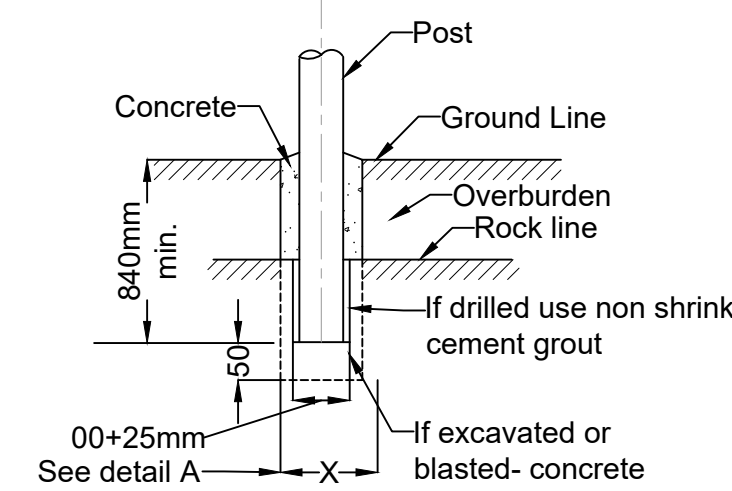
POST type	POST DETAILS			Sleeves 00 mm
	00 mm	Post length Standard m	Retaining walls m	
Line post	60.3	2.6	2.0	88.9
End, corner, or straining post	88.9	2.9	2.3	114.3

A) All dimensions are in millimetres unless otherwise shown.

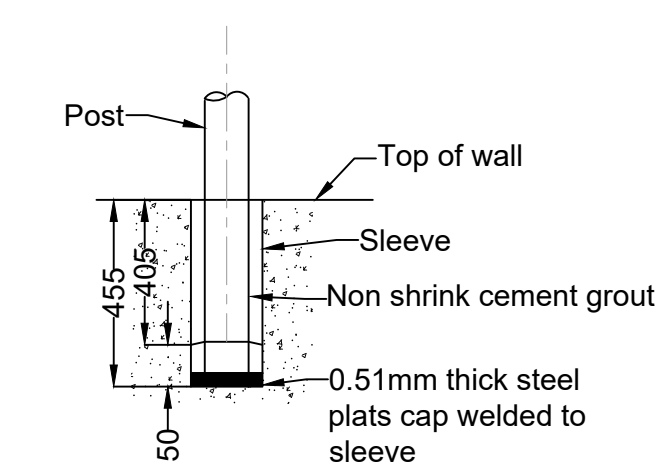
**FENCE, CHAIN LINK
INSTALLATION - ROADWAY**



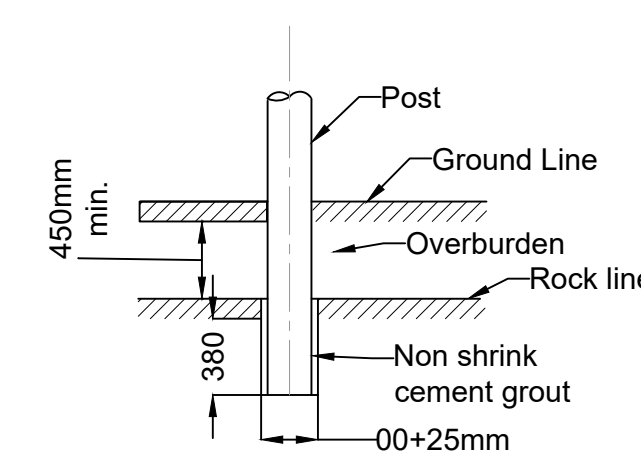
**FOOTING DETAIL A
IN EARTH**



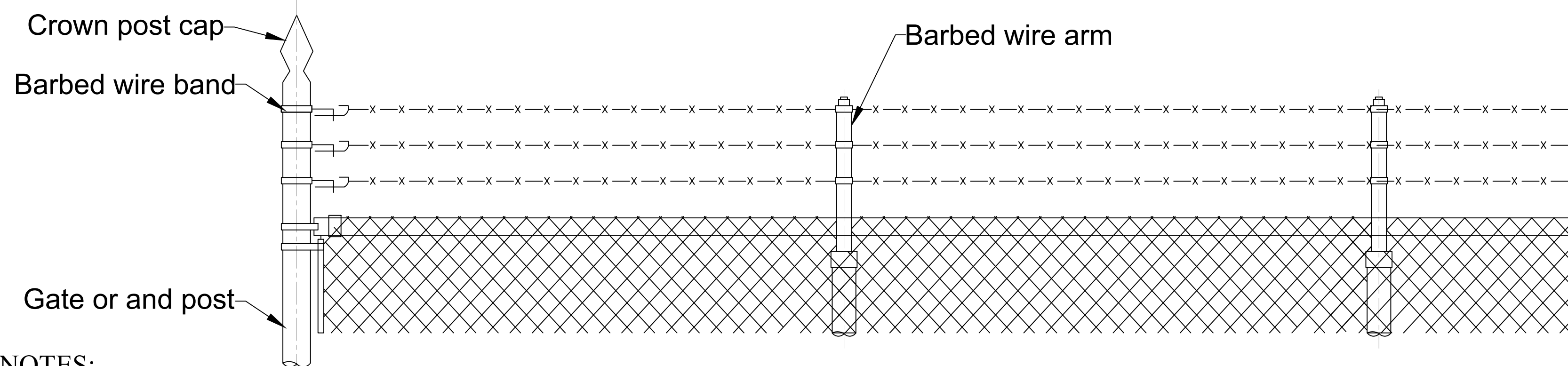
**FOOTING DETAIL B IN SHALE, LOOSE OR
FRIABLE ROCK OR SOLID ROCK WITH
MORE THAN 450mm OVERBURDEN**



**FOOTING DETAIL C
ON RETAINING WALL**

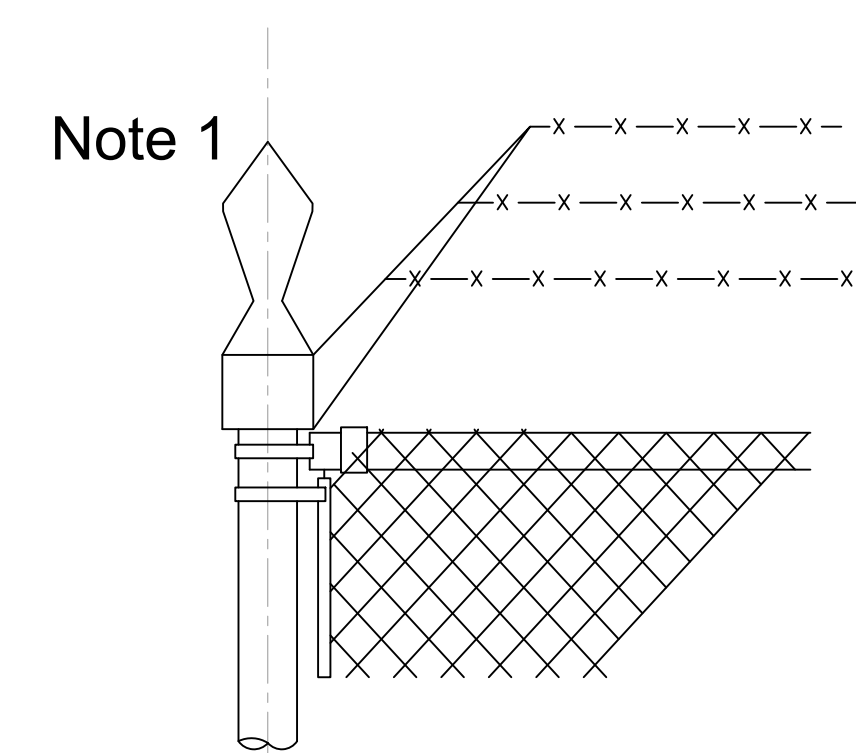


**FOOTING DETAIL D
IN SOLID ROCK
LESS THAN 450mm
OVERBURDEN**

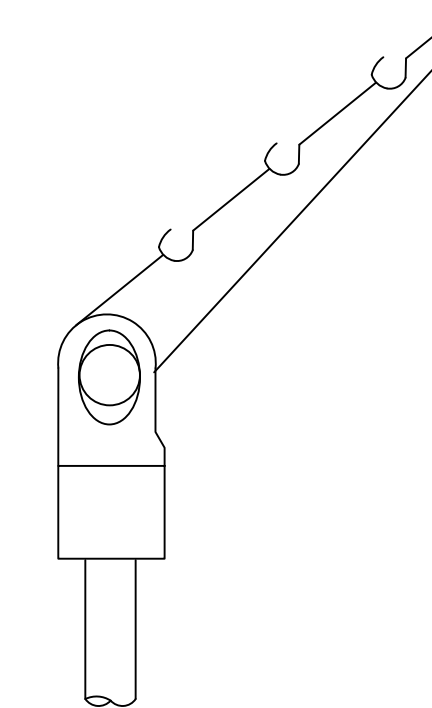


NOTES:

- Gate and end posts shall be lengthened when barbed wire is specified, except when barbed wire arms are used.
- A. All dimensions are in millimetres unless otherwise shown.



**CORNER AND STRAINING POST
WITH BARBED WIRE
ARM**



**LINE POST WITH BARBED WIRE
ARM**

**FENCE, CHAIN LINK
COMPONENT - BARBED WIRE**



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NOTE:
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LEGEND

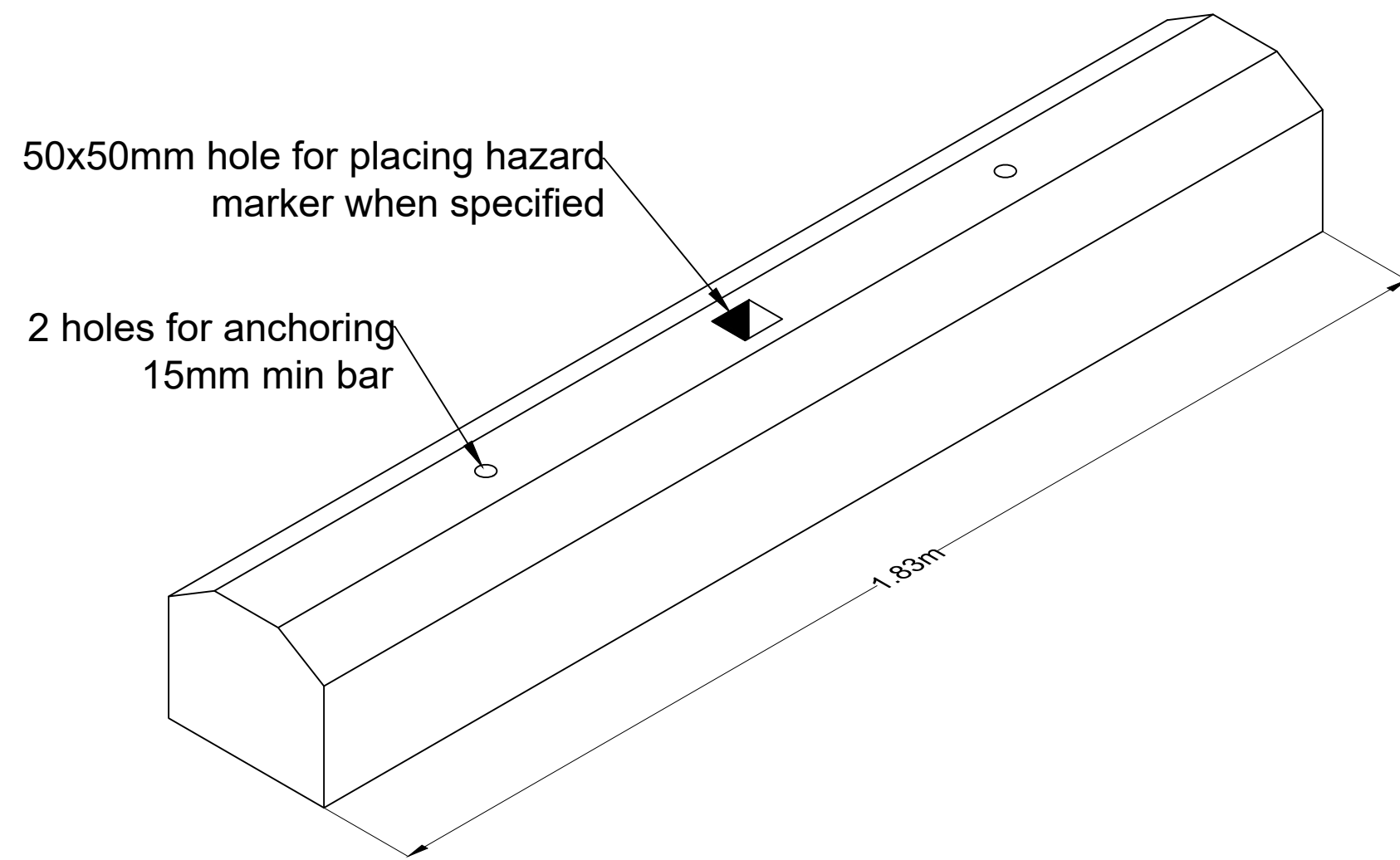
ISSUED FOR REVIEW	DATE	BY
ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK
PLAN DESCRIPTION / REVISION	DATE	BY

NOT TO SCALE
FILE: H-12) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION
DESIGN & CONSTRUCTION\2782 DRAWINGS

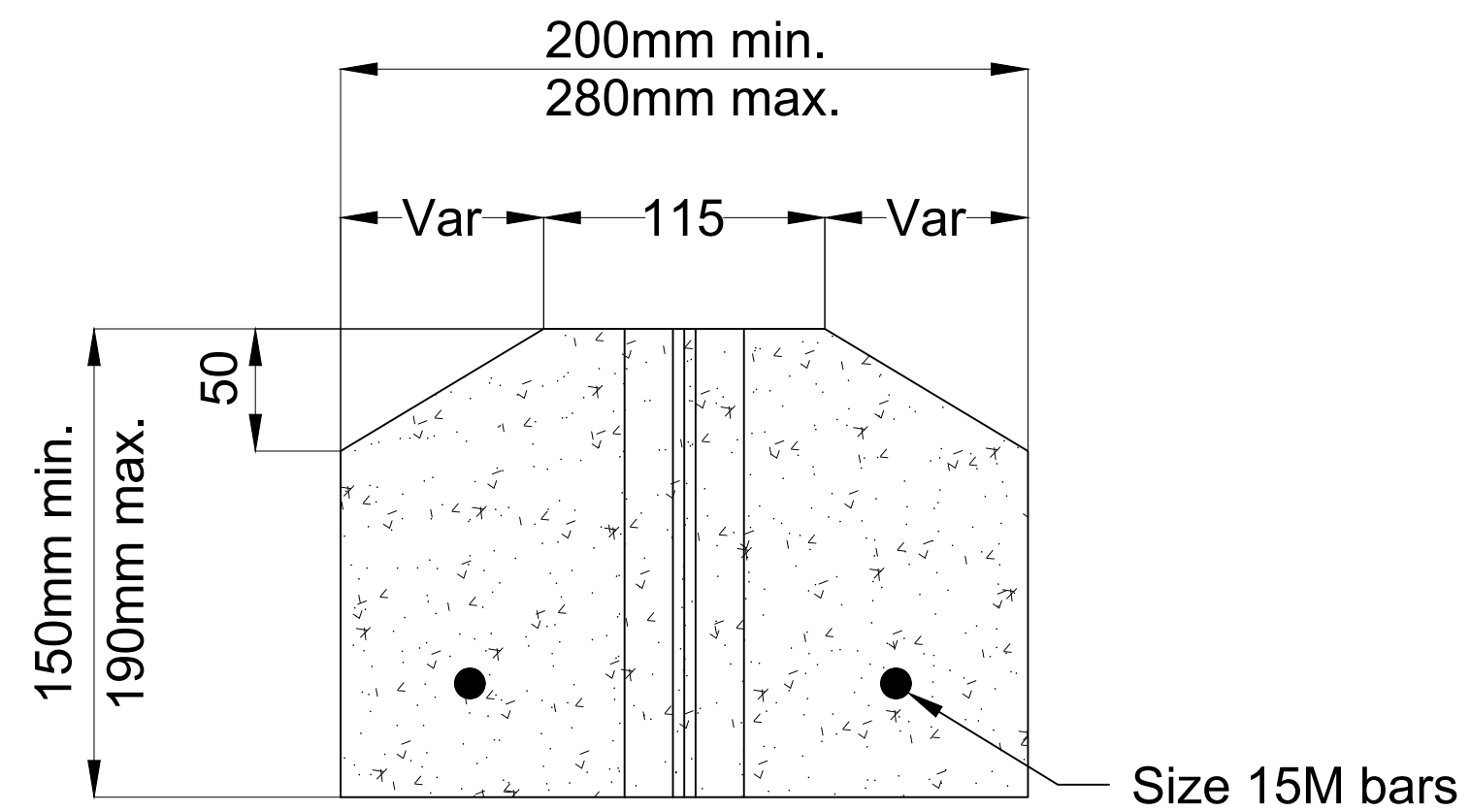
**B-2
FENCE & GATE DETAILS**

05 AUGUST 2021
2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY: NA
CHECKED BY: BA, PZ



**PARKING STOP
ISOMETRIC VIEW**

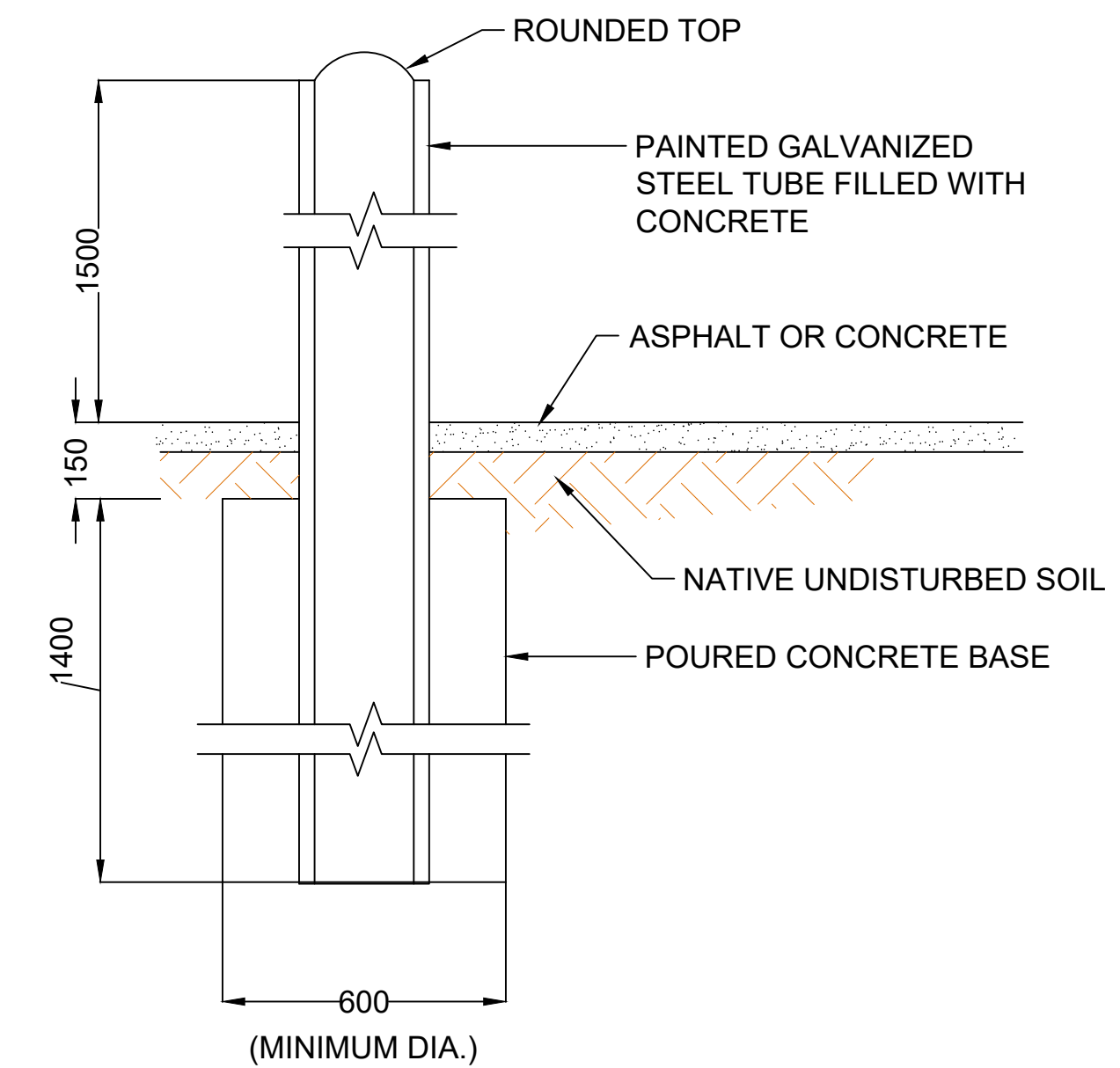


**PARKING STOP
SECTION**

NOTES:

- A. Class of concrete shall be C2 according to CSA A23.1.
- B. All dimensions are in millimetres unless otherwise shown.

BOLLARD DETAIL



NOTES:

1. FOR INTERIOR APPLICATIONS USE ASTM-A53 PIPE DN150 STD. WEIGHT (168mm O.D. x 7.11mm THICK WALLS, YIELD STRENGTH 205 MPa MINIMUM)
FOR EXTERIOR APPLICATIONS USE ASTM-A53 PIPE DN200 STD. WEIGHT (219mm O.D. x 8.18mm THICK WALLS, YIELD STRENGTH 205 MPa MINIMUM)
2. CONCRETE FOR FOUNDATIONS AND FILLING OF TUBE, TO BE C-2 EXPOSURE CLASS, 32 MPa MINIMUM STRENGTH AT 28 DAYS. 5 - 8% AIR ENTRAINMENT. MEET SULPHATE RESISTANCE EXPOSURE CLASSIFICATION WHEN SPECIFIED ELSEWHERE IN THE DRAWINGS OR SPECIFICATIONS. VIBRATE AND CONSOLIDATE CONCRETE IN PLACE.
3. HOT DIP GALVINIZE PIPE AFTER SECTIONS HAVE BEEN CUT TO LENGTH, AS PER CAN/CSA G164-M92 (R2003), MINIMUM 610 G/SQUARE METRE OF ZINC COVERAGE.
FOR ADDITIONAL FINISHES REFER TO ARCHITECTURAL DRAWINGS SPECIFIC TO PROJECT. PRIME AND FINISH PAINT YELLOW.
4. DESIGN LOADS:
NBC 2010/2015/OBC 2012 - VEHICLE GUARD RAILS CLAUSE 4.1.5.15 LOAD = 22 kN.
5 TONNE FORKLIFT IMPACT @ 20% OF TOTAL MASS = 20 kN.
CHBDC, CSA S6-14, TL-1 VEHICULAR COLLISION LOAD = 25 kN.
LOADS APPLIED @ 500mm ABOVE GROUND SURFACE
5. LATERAL DESIGN SOIL PRESSURE 65 kPa. FOR SERVICE IMPACT UNDER VEHICLE COLLISION LOAD (25 kN) SOME BOLLARDOUT OF PLUMBNESS MAY BE NOTICED DUE TO SOIL MOVEMENT. BOLLARD MAY REQUIRE REPLACEMENT AFTER SUCH OCCURANCES.
6. AT DOOR OPENING, SET INSIDE FACE OF BOLLARD @ 25mm (1") INSIDE OF CLEAR DOOR OPENING WIDTH TO PROTECT DOOR JAMB.
7. SUPPLY AND INSTALL HIGH DENSITY POLYETHYLENE UV RESISTANT BOLLARD SLEEVES (POST GUARD) ON ALL BOLLARDS. EACH SLEEVE TO BE YELLOW AND HAVE TWO REFLECTIVE STRIPES (RED). CONTRACTOR TO COORDINATE SIZING WITH BOLLARD SIZE. SLEEVE TO BE FASTENED (STAINLESS STEEL SCREWS)
* TO GALVINIZED PIPE AT BOTTOM.



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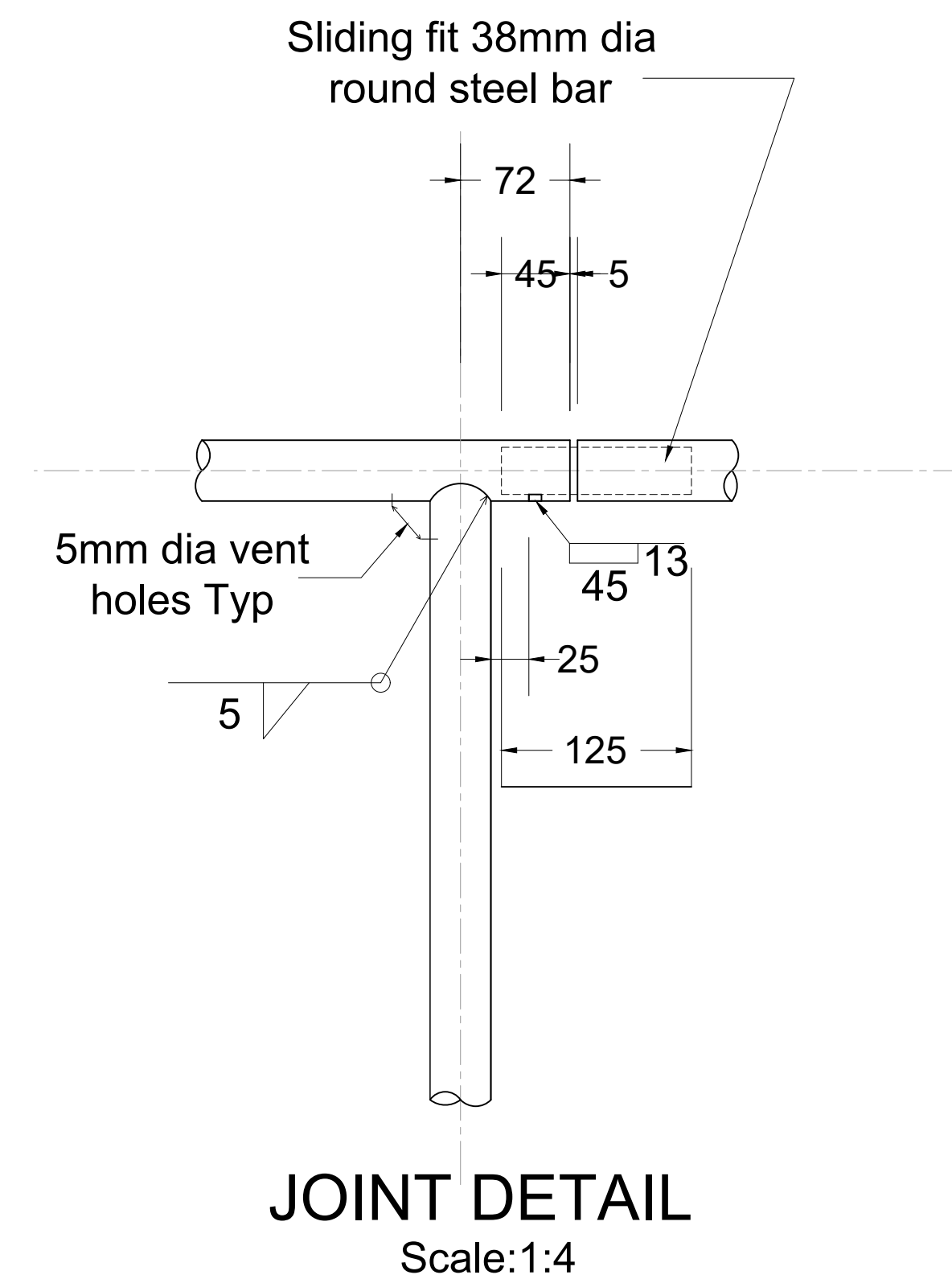
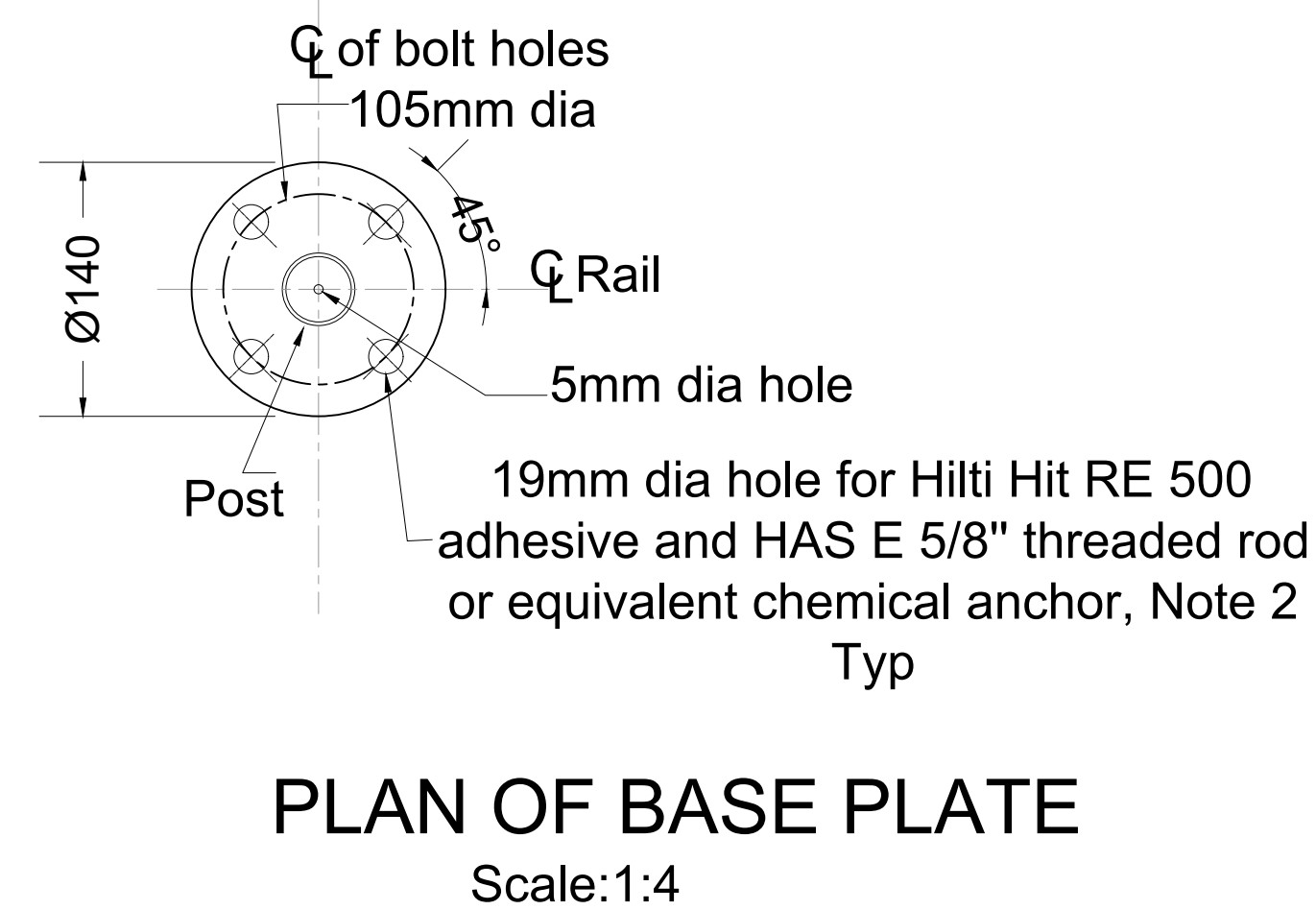
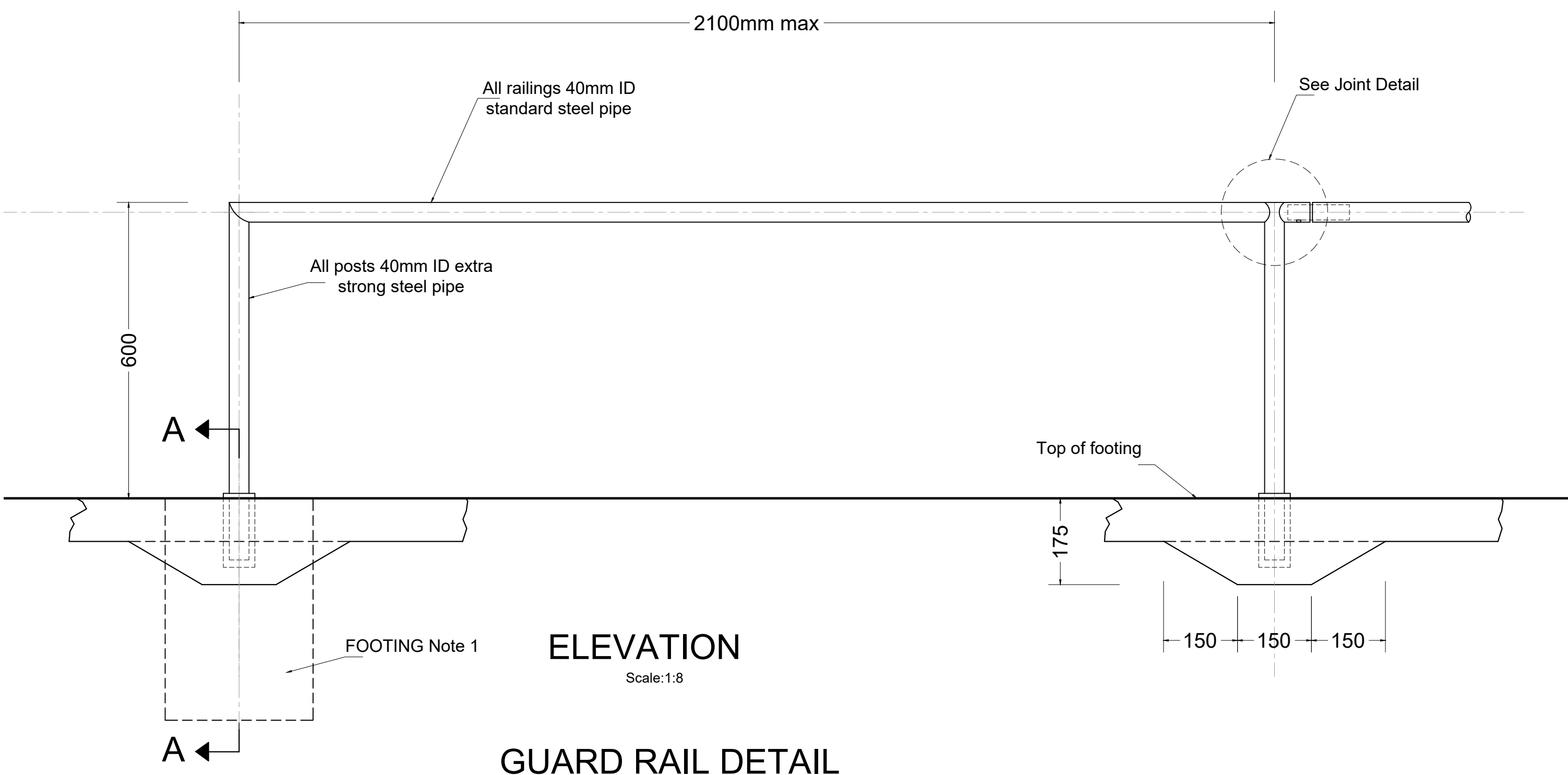
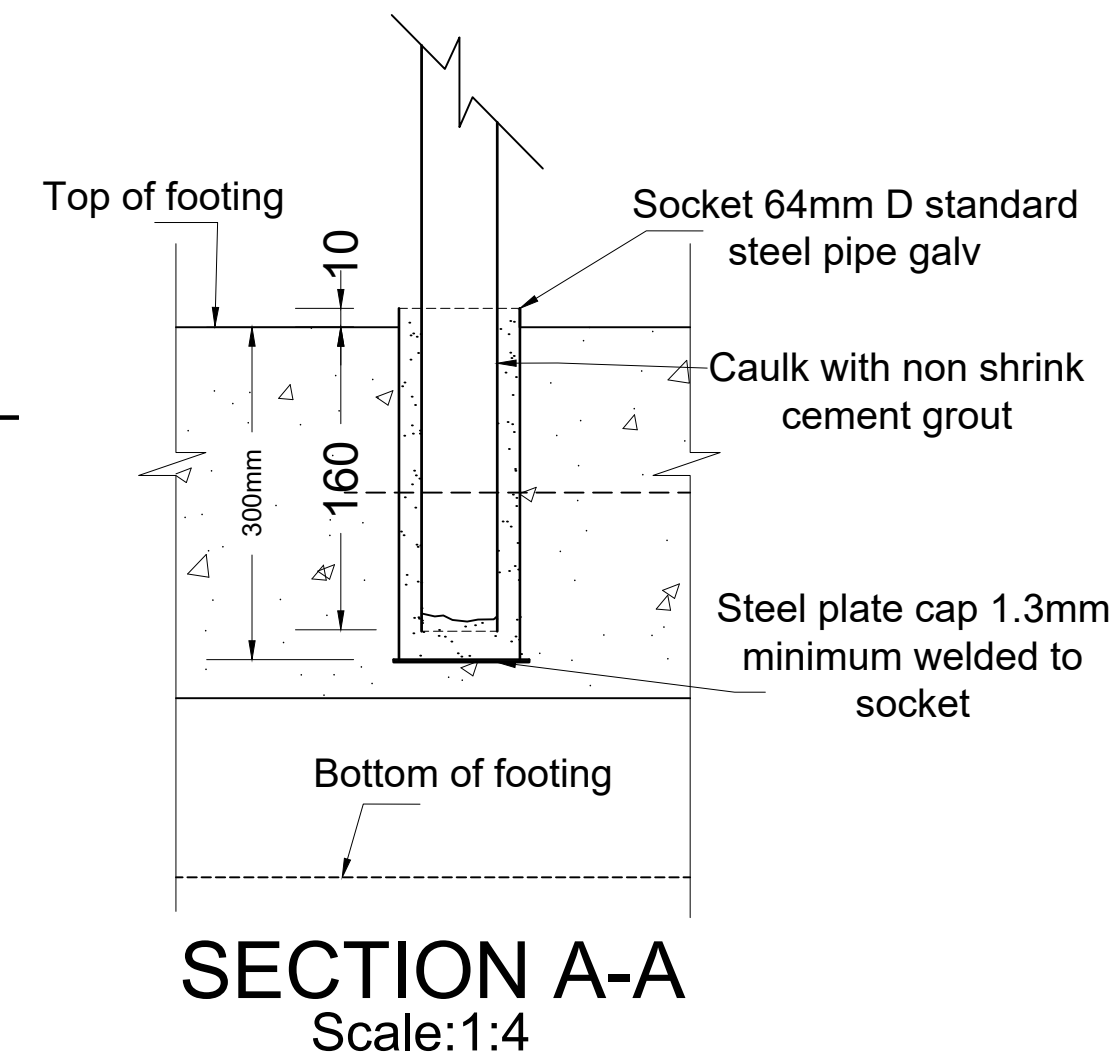
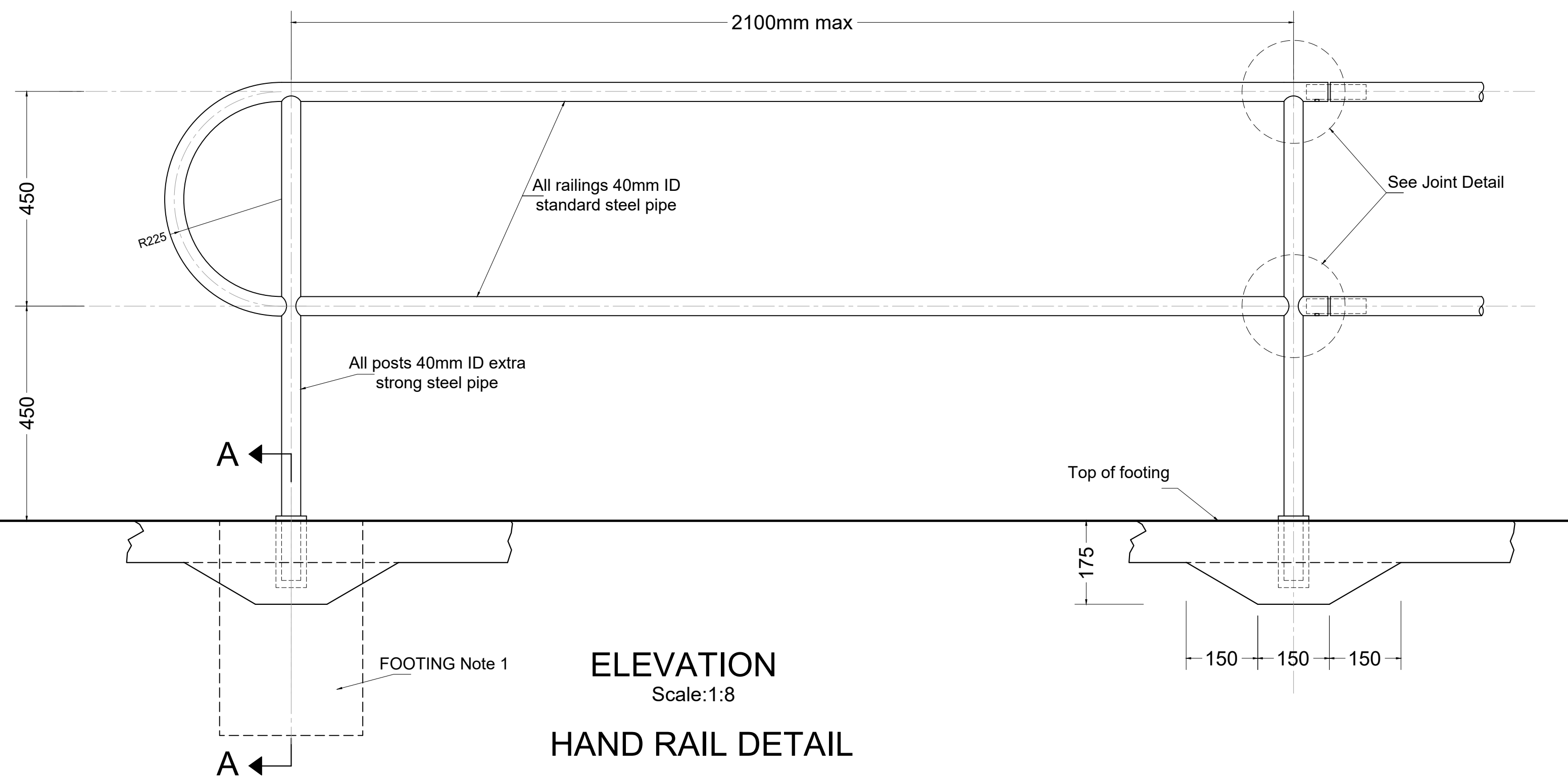
NOTE:
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ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND

NOT TO SCALE
FILE: H:\2\ PROJECTS\2782 PHEASANT RUMP TRANSFER STATION
DESIGN & CONSTRUCTION\2782 DRAWINGS

B-3
PARKING STOP & BOLLARD DETAIL
DATE: 05 AUGUST 2021
FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: NA
CHECKED BY: BA, PZ



NOTES:

1. When sidewalk is not specified, posts shall be set in centre of 300mm dia. x 450mm deep or 300 x 300 x 375mm deep concrete footings.
2. Anchors shall be installed according to manufacturer's specifications
- A. Concrete shall have a nominal minimum 28-Day compressive strength of 20MPa.
- B. Posts and railings shall be hot dip galvanized according to CSA G164 after fabrication.
- C. Posts shall be vertical. All exposed corners shall be ground smooth,
- D. Welding shall be according to CSA W59.
- E. All joints shall be shop welded.
- F. Pipe shall be according to ASTM A 53.
- G. A difference in elevation between the adjacent ground level and top of footing shall not exceed 600mm.
- H. All dimensions are in millimetres unless otherwise shown.

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LEGEND

ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK
PLAN DESCRIPTION / REVISION	DATE	BY

SCALE: AS SHOWN

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE:

B-4
HAND & GUARD RAILS

DATE:
05 AUGUST 2021

FILENAME:
2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY:

DRAWN BY: NA

CHECKED BY:

CHECKED BY: BA, PZ

HAZARDOUS WASTE BUILDING ISSUED FOR REVIEW

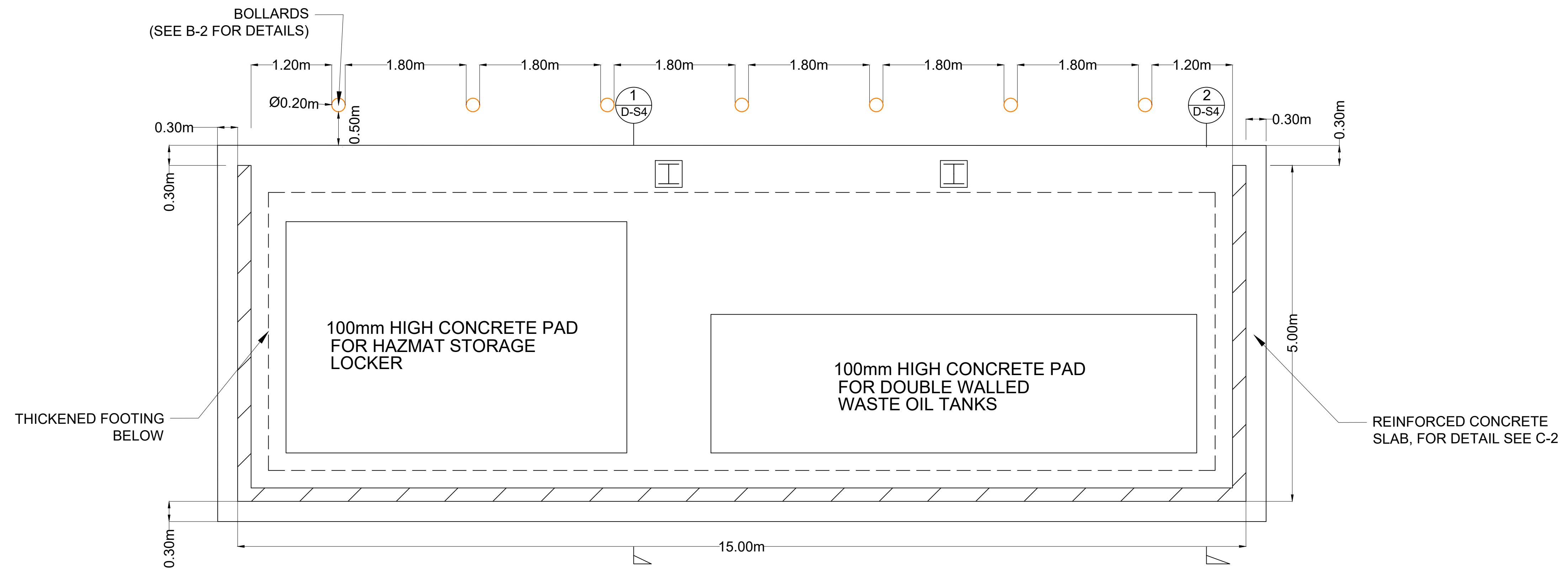


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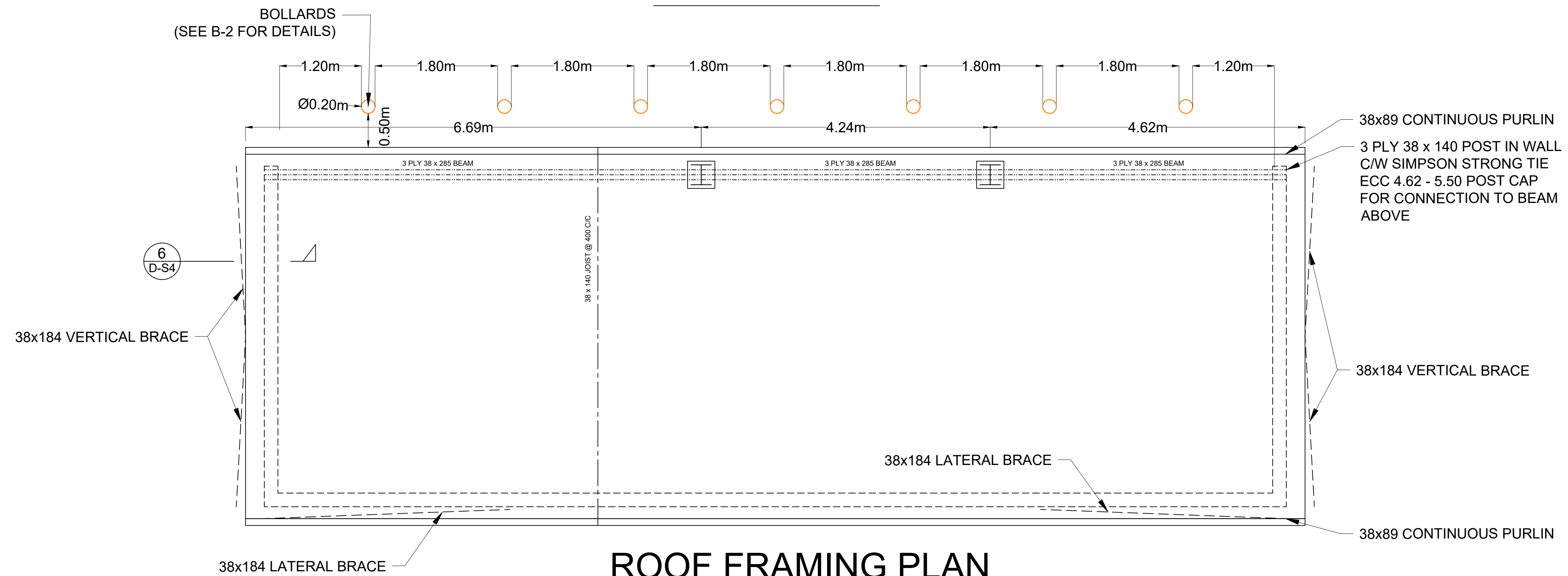
710 A- 48th Street East
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LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
HAZARDOUS WASTE BUILDING DESIGN	HW-1
HAZARDOUS WASTE BUILDING DETAILS	HW-2



FLOOR PLAN

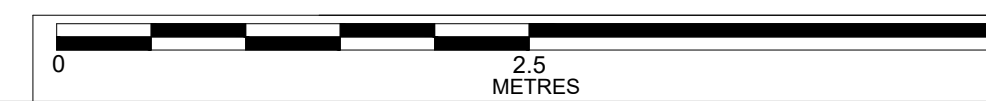


ROOF FRAMING PLAN

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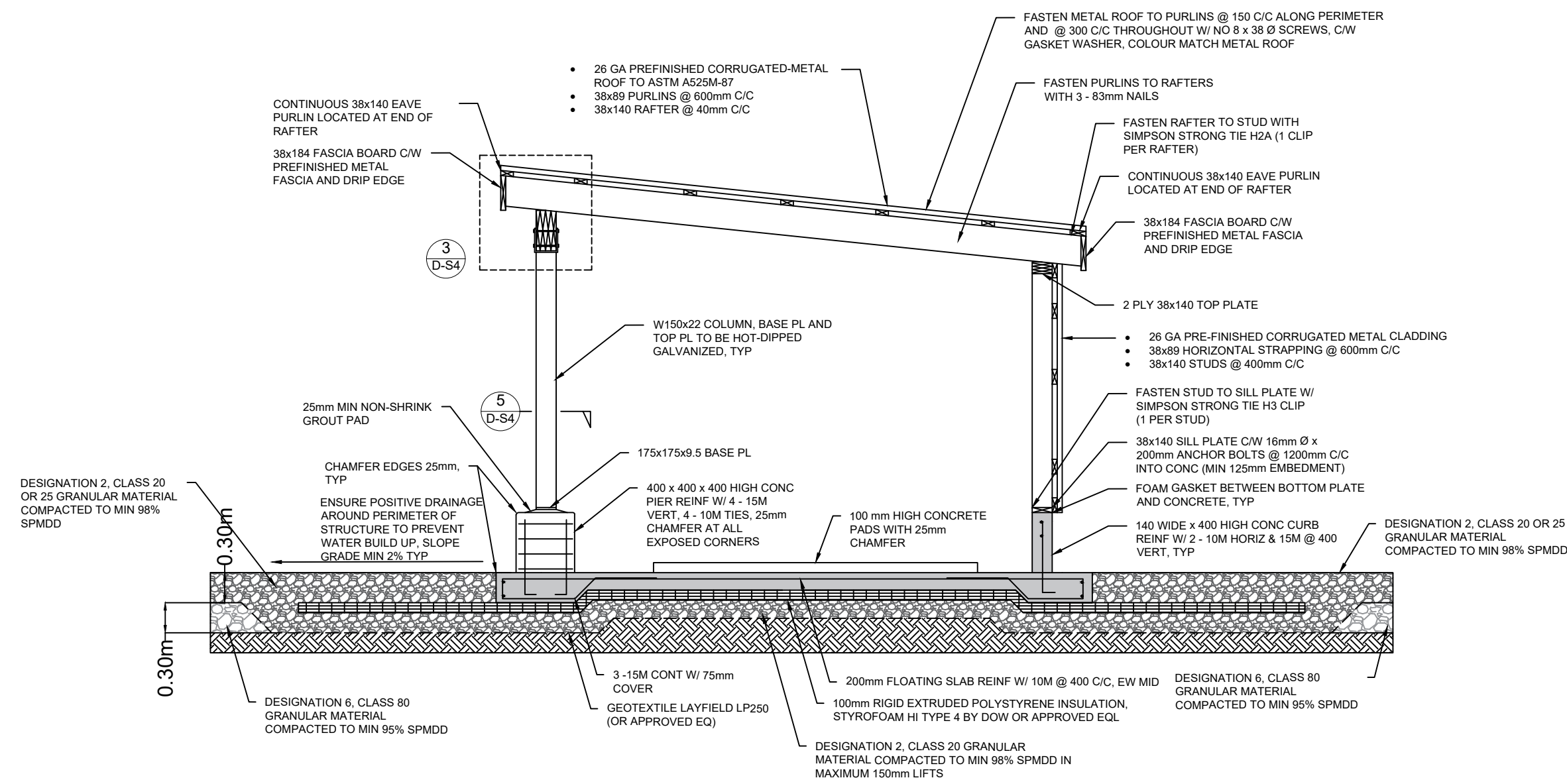
PLAN DESCRIPTION / REVISION	DATE	BY
ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK



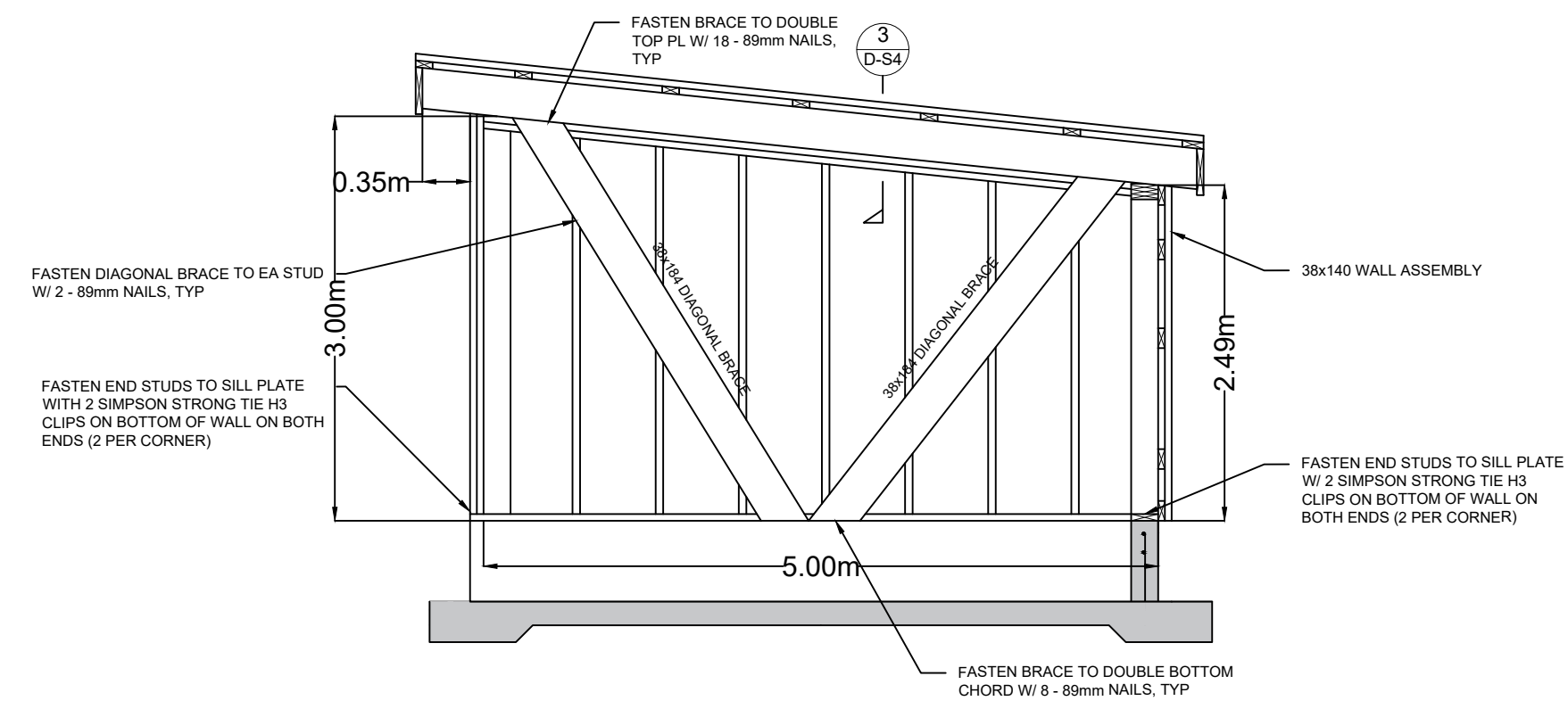
SCALE: 1: 40

FILE: H:12) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

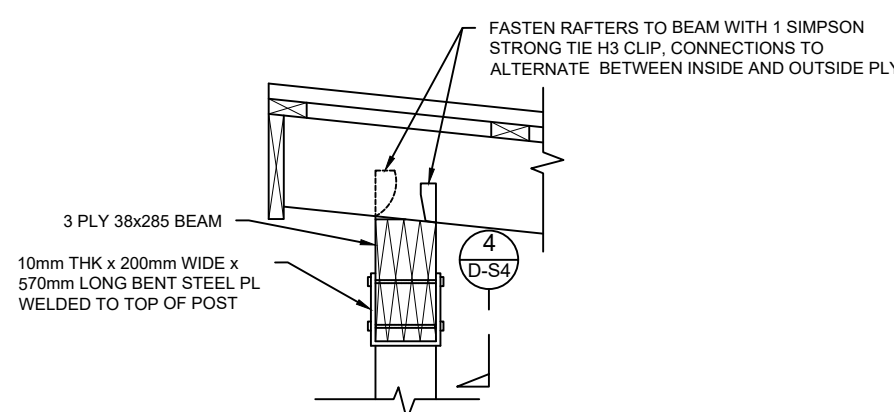
DRAWING TITLE: HW-1 HAZARDOUS WASTE BUILDING DESIGN
DATE: 05 AUGUST 2021
FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: DRAWN BY: NA
CHECKED BY: CHECKED BY: BA, PZ



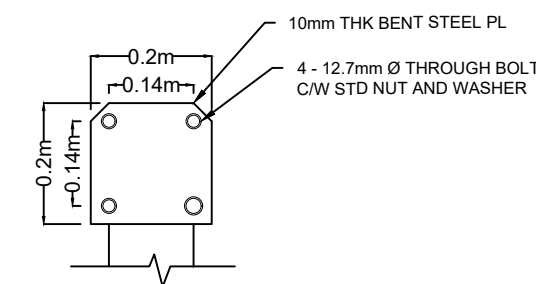
1 BUILDING SECTION



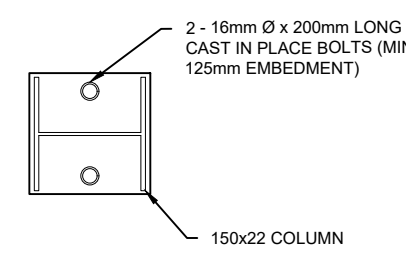
2 SECTION AT LATERAL WALL BRACING



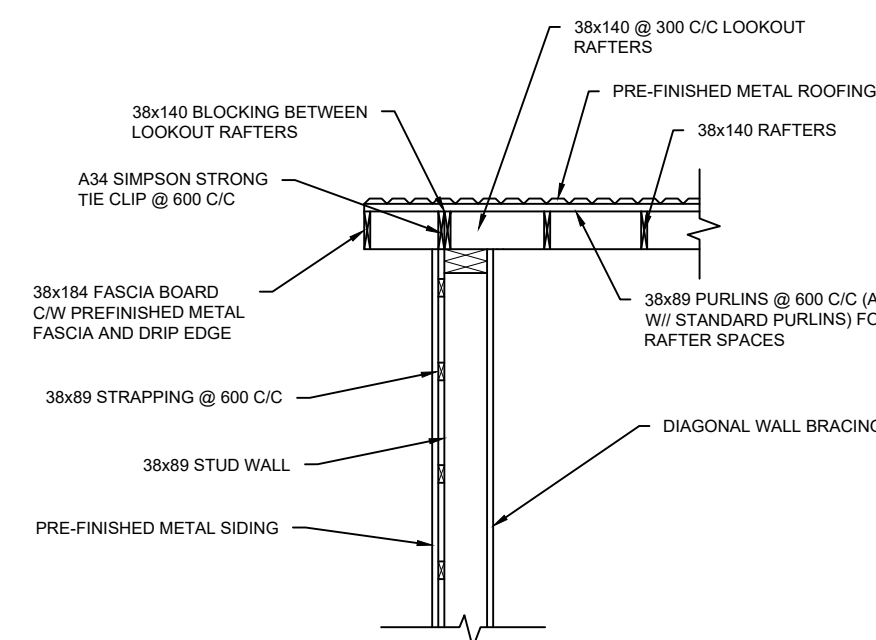
3 BEAM CONNECTION DETAIL



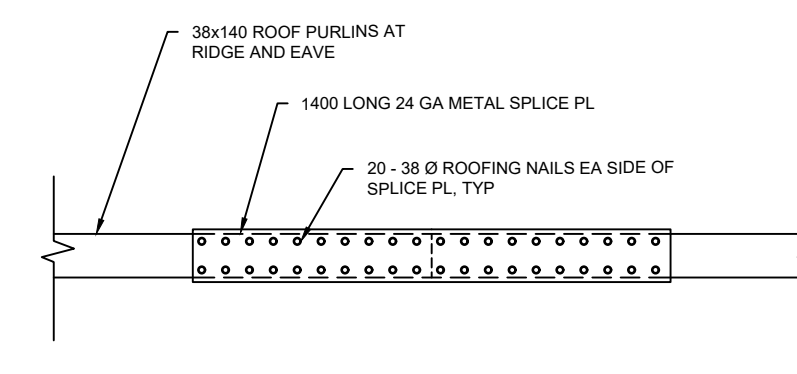
4 BEAM CONNECTION ELEVATION



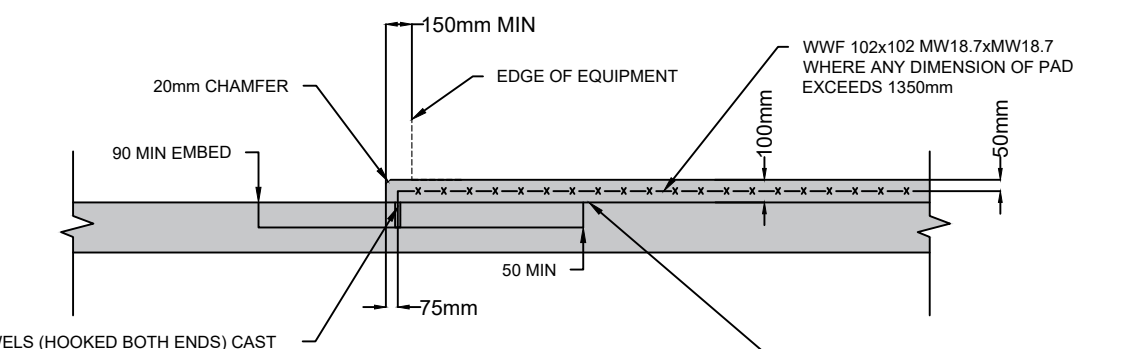
5 BASE PLATE DETAIL



6 SECTION AT END WALL



7 BASE PLATE DETAIL



8 TYPICAL HOUSEKEEPING PAD

- NOTES:**
1. THE DRAWING SCALE BASED ON 34" x 22" PAPER SIZE.
 2. THIS DRAWING IS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY.
 3. THIS IS NOT A LEGAL SURVEY.
 4. ALL MEASUREMENTS ARE IN METRES.

ISSUED FOR REVIEW	05 AUGUST 2021	PETER ZRYMIAK
PLAN DESCRIPTION / REVISION	DATE	BY



SCALE: 1: 50

FILE: H:12) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE	HW-2 HAZARDOUS WASTE BUILDING DETAILS
DATE	05 AUGUST 2021
FILE NAME	2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY:	DRAWN BY: NA
CHECKED BY:	CHECKED BY: BA, PZ

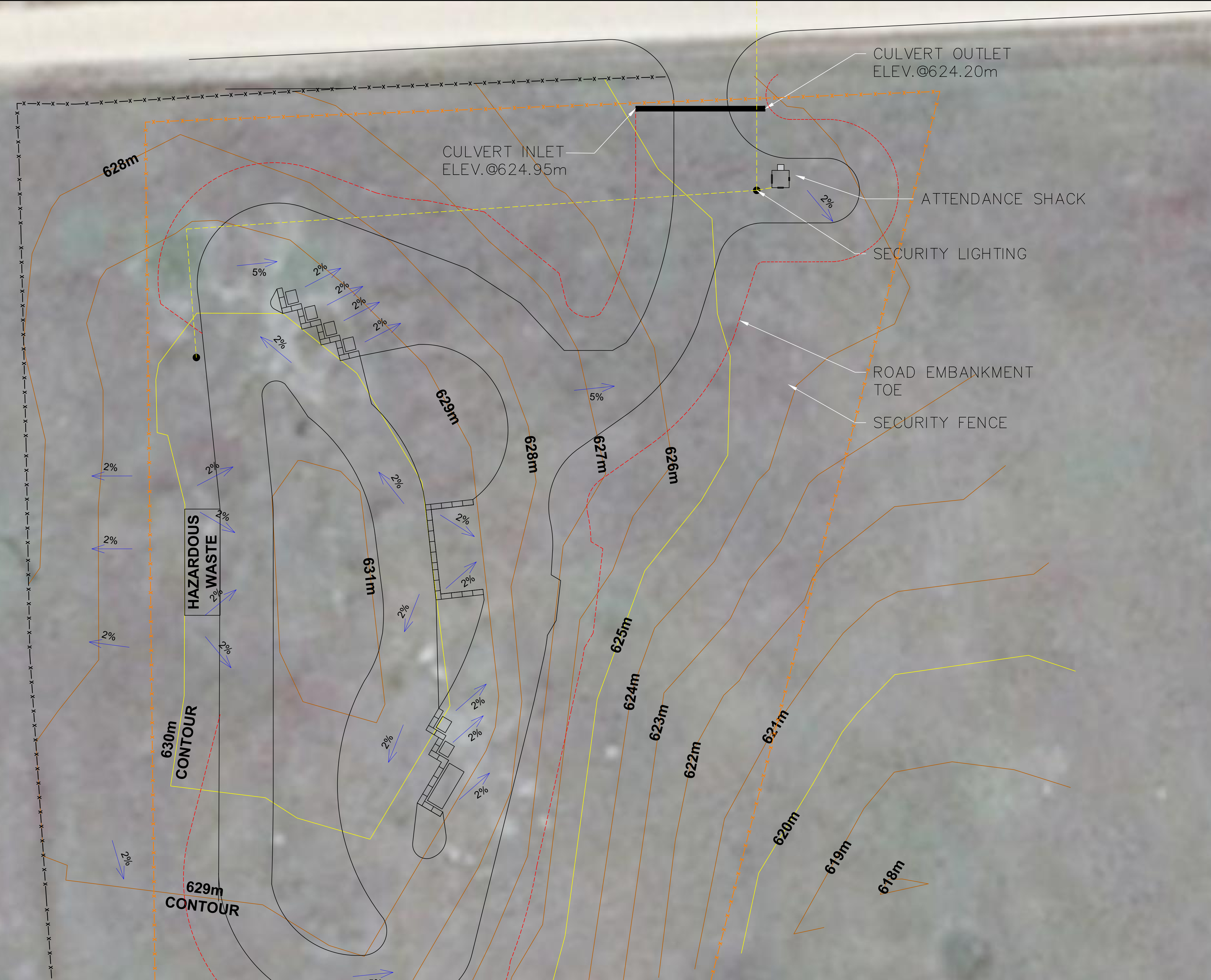
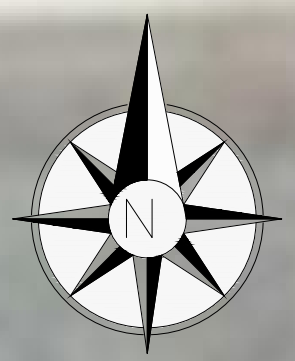
SURFACE WATER DRAINAGE ISSUED FOR REVIEW



710 A- 48th Street East
SASKATOON, SK S7K 5B4
306.244.1710
pintermain@pinter.ca

LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
SURFACE WATER DRAINAGE	SW-1



- NOTES:**
1. THIS DRAWING IS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY.
 2. THIS IS NOT A LEGAL SURVEY.
 3. ALL MEASUREMENTS ARE IN METRES.

ISSUED FOR REVIEW	05 AUGUST 2021	BENNET AWUME
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND

- - - - - EXISTING FENCE
- - - - - NEW FENCE
- - - - - SCREENING FENCE

SCALE: 1: 300

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

DRAWING TITLE
SW-1
SURFACE WATER DRAINAGE

DATE: 05 AUGUST 2021
 FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY: TL
 CHECKED BY: BA, PZ

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 TREATY 6 TERRITORY, CANADA
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UTILITIES

ISSUED FOR REVIEW

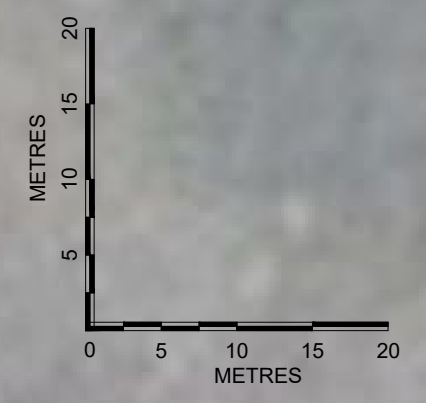
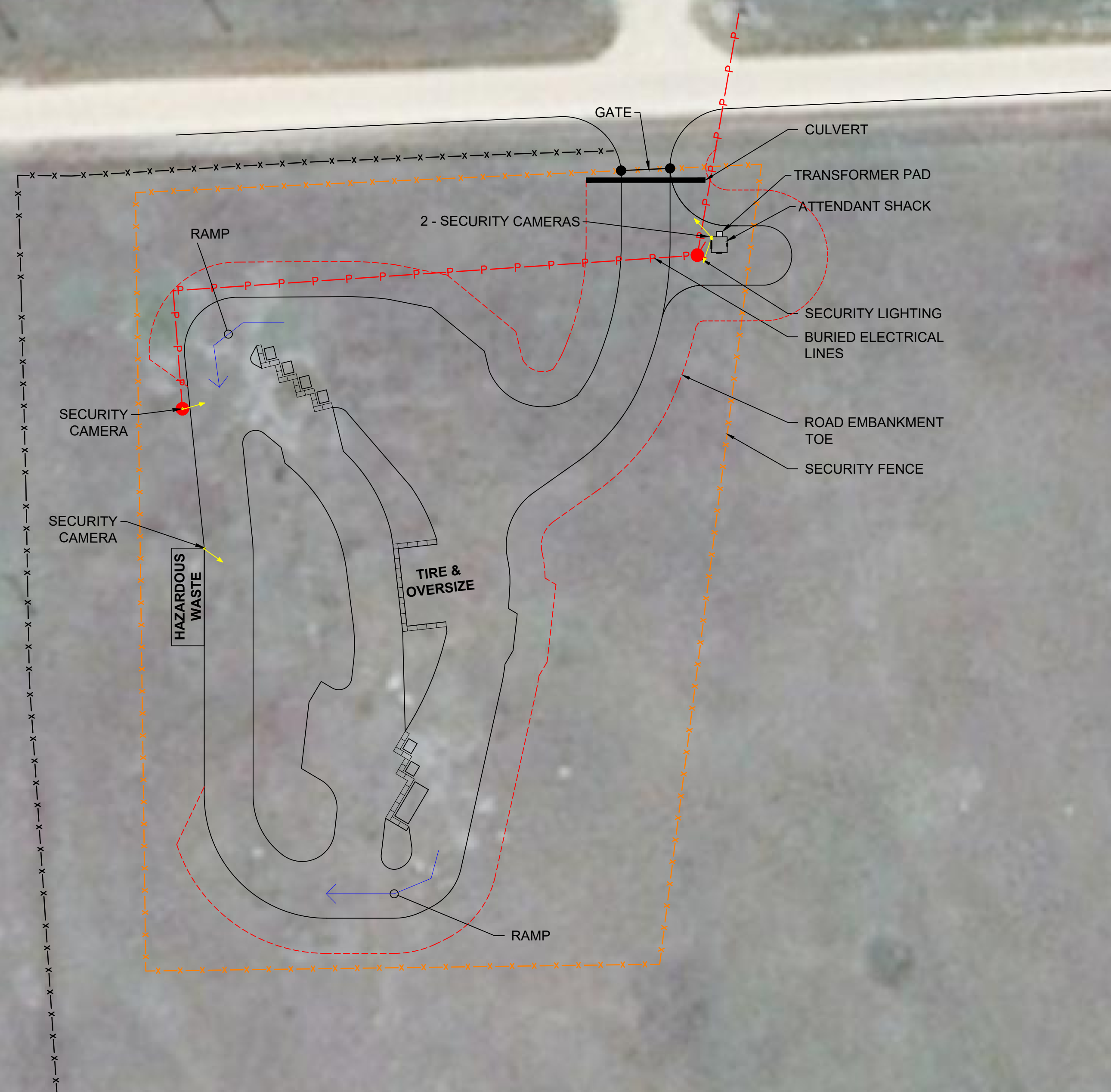


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LIST OF PROJECT DRAWINGS

NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
UTILITIES PLAN	U-1

OIL FIELD



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- NOTES:**
1. THIS DRAWING IS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY.
 2. THIS IS NOT A LEGAL SURVEY.
 3. ALL MEASUREMENTS ARE IN METRES.

ISSUED FOR REVIEW	06 AUGUST 2021	BENNET AWUME
PLAN DESCRIPTION / REVISION	DATE	BY

LEGEND

EXISTING FENCE	----
NEW FENCE	- - - - -
BURIED ELECTRICAL LINES	- P - P - P -

SCALE: 1: 500

FILE: H:\2) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION DESIGN & CONSTRUCTION\2782 DRAWINGS

U-1
UTILITIES PLAN
DATE: 06 AUGUST 2021
FILENAME: 2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.
DRAWN BY: NA, TL
CHECKED BY: BA, PZ

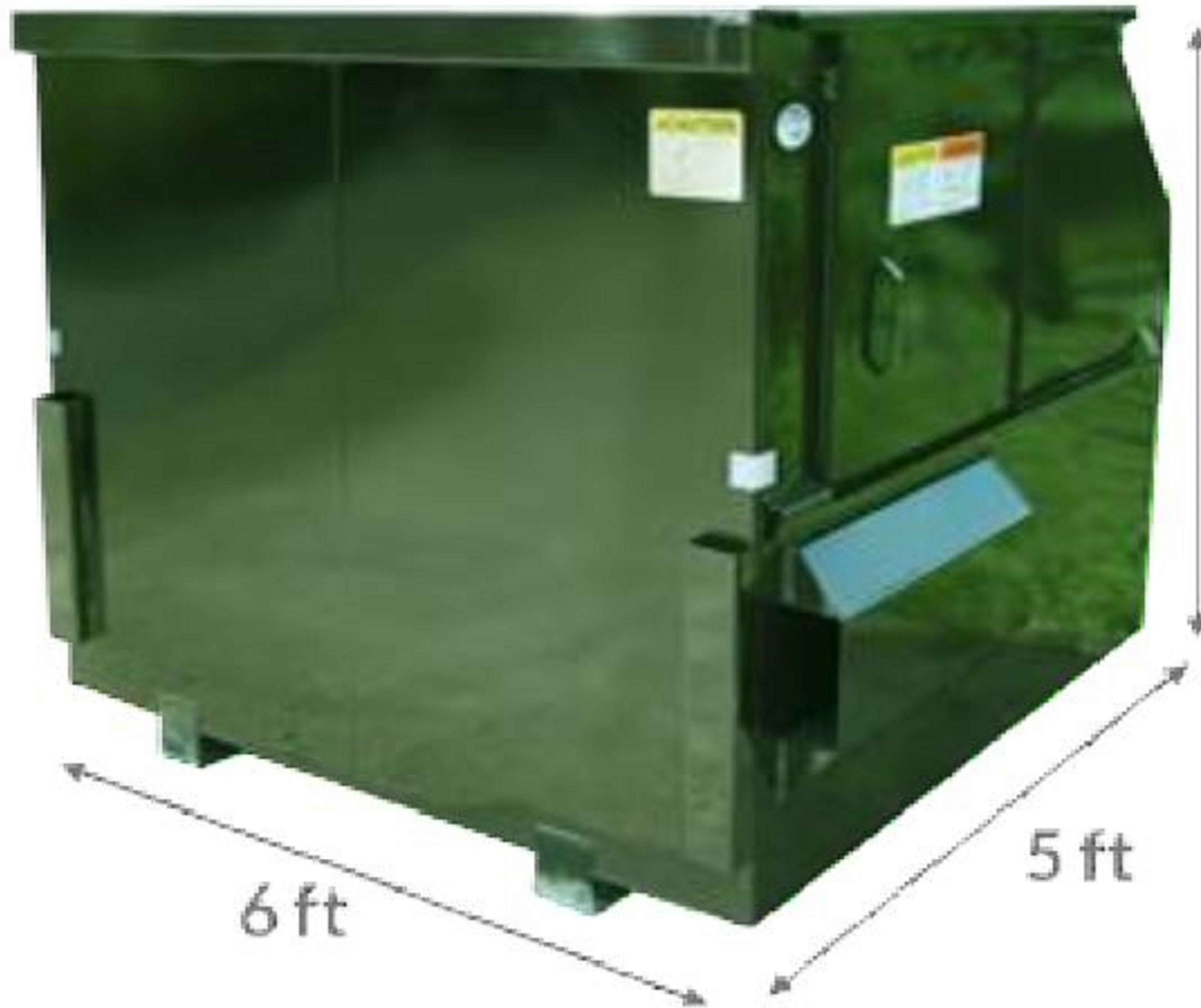
BINS

ISSUED FOR REVIEW



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LIST OF PROJECT DRAWINGS	
NAME OF DRAWINGS	FIGURE NO.
SECTION COVER	000
BIN DETAILS	BIN-1



710A-48TH STREET EAST
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NOTE:

THIS DRAWING IS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY.

PLAN DESCRIPTION / REVISION	DATE	BY
ISSUED FOR REVIEW	06 AUGUST 2021	PETER ZRYMIAK

LEGEND

NOT TO SCALE

FILE: H:12) PROJECTS\2782 PHEASANT RUMP TRANSFER STATION
DESIGN & CONSTRUCTION\2782 DRAWINGS

**BIN-1
BIN DETAILS**

06 AUGUST 2021
2782 TRANSFER STATION DESIGN & CONSTRUCTION, PHEASANT RUMP, SK.

DRAWN BY: NA

CHECKED BY: BA, PZ



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Appendix C
Updated Schedule



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Appendix D
Cost Estimate

2782 - PRNN Transfer Station Capital Cost Estimate

Option 1

Item #	Line Item Name	Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization	1	Unit	\$ 20,000.00	\$ 20,000
2	Topsoil Stripping/Stockpiling	3,080	m ³	\$ 5.00	\$ 15,400
3	Site Grading (Cut)	13,300	m ³	\$ 6.00	\$ 79,800
4	Site Grading (Fill)	2,000	m ³	\$ 6.50	\$ 13,000
5	Roadway Subgrade Preparation	4,300	m ²	\$ 4.00	\$ 17,200
6	Roadway Surfacing	4,300	m ²	\$ 4.00	\$ 17,200
7	Bin Pads	200	m ²	\$ 4.00	\$ 800
8	Aggregate Supply	2,500	tonnes	\$ 45.00	\$ 112,500
9	Retaining Walls	60	m	\$ 2,500.00	\$ 150,000
10	Hazardous Waste Building	1	LS	\$ 100,000.00	\$ 100,000
11	Culverts	40	m	\$ 300.00	\$ 12,000
12	Fencing	400	m	\$ 50.00	\$ 20,000
13	Topsoil Placement/Seeding	2,600	m ²	\$ 2.50	\$ 6,500
14	6 yd Bins	6	Each	\$ 2,500.00	\$ 15,000
15	30 yd Bins	1	Each	\$ 9,500.00	\$ 9,500
16	HW Storage Containers	1	LS	\$ 12,000.00	\$ 12,000
17	Security system	1	LS	\$ 20,000.00	\$ 20,000
18	Lighting	1	LS	\$ 15,000.00	\$ 15,000
19	Power to site	1	LS	\$ 70,000.00	\$ 70,000
20	Attendants shack	1	LS	\$ 30,000.00	\$ 30,000
21	Gate	1	LS	\$ 20,000.00	\$ 20,000
22	Signs	1	LS	\$ 15,000.00	\$ 15,000
23	Litter fencing	1	LS	\$ 20,000.00	\$ 20,000
Subtotal					\$ 790,900
25	Contingency	15	%		\$ 118,635
Subtotal					\$ 118,635
TOTAL					\$ 909,535

2782 - PRNN Transfer Station Capital Cost Estimate

Option 2

Item #	Line Item Name	Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization	1	Unit	\$ 20,000.00	\$ 20,000
2	Topsoil Stripping/Stockpiling	3,080	m ³	\$ 5.00	\$ 15,400
3	Site Grading (Cut)	13,300	m ³	\$ 6.00	\$ 79,800
4	Site Grading (Fill)	2,000	m ³	\$ 6.50	\$ 13,000
5	Roadway Subgrade Preparation	4,300	m ²	\$ 4.00	\$ 17,200
6	Roadway Surfacing	4,300	m ²	\$ 4.00	\$ 17,200
7	Bin Pads	200	m ²	\$ 4.00	\$ 800
8	Aggregate Supply	2,500	tonnes	\$ 45.00	\$ 112,500
9	Retaining Walls	60	m	\$ 2,500.00	\$ 150,000
10	Hazardous Waste Building	1	LS	\$ 100,000.00	\$ 100,000
11	Culverts	40	m	\$ 300.00	\$ 12,000
12	Fencing	400	m	\$ 50.00	\$ 20,000
13	Topsoil Placement/Seeding	2,600	m ²	\$ 2.50	\$ 6,500
14	6 yd Bins	2	Each	\$ 2,500.00	\$ 5,000
15	20 yd Bins	2	Each	\$ 8,500.00	\$ 17,000
16	30 yd Bins	1	Each	\$ 9,500.00	\$ 9,500
17	HW Storage Containers	1	LS	\$ 12,000.00	\$ 12,000
18	Security system	1	LS	\$ 20,000.00	\$ 20,000
19	Lighting	1	LS	\$ 15,000.00	\$ 15,000
20	Power to site	1	LS	\$ 70,000.00	\$ 70,000
21	Attendants shack	1	LS	\$ 30,000.00	\$ 30,000
22	Gate	1	LS	\$ 20,000.00	\$ 20,000
23	Signs	1	LS	\$ 15,000.00	\$ 15,000
24	Litter fencing	1	LS	\$ 20,000.00	\$ 20,000
Subtotal					\$ 797,900
25	Contingency	15	%		\$ 119,685
Subtotal					\$ 119,685
TOTAL					\$ 917,585

2782 - PRNN Transfer Station Capital Cost Estimate

Option 3

Item #	Line Item Name	Quantity	Unit	Unit Price	Amount
1	Mobilization/Demobilization	1	Unit	\$ 20,000.00	\$ 20,000
2	Topsoil Stripping/Stockpiling	3,080	m ³	\$ 5.00	\$ 15,400
3	Site Grading (Cut)	13,300	m ³	\$ 6.00	\$ 79,800
4	Site Grading (Fill)	2,000	m ³	\$ 6.50	\$ 13,000
5	Roadway Subgrade Preparation	4,300	m ²	\$ 4.00	\$ 17,200
6	Roadway Surfacing	4,300	m ²	\$ 4.00	\$ 17,200
7	Bin Pads	200	m ²	\$ 4.00	\$ 800
8	Aggregate Supply	2,500	tonnes	\$ 45.00	\$ 112,500
9	Retaining Walls	60	m	\$ 2,500.00	\$ 150,000
10	Hazardous Waste Building	1	LS	\$ 100,000.00	\$ 100,000
11	Culverts	40	m	\$ 300.00	\$ 12,000
12	Fencing	400	m	\$ 50.00	\$ 20,000
12	Topsoil Placement/Seeding	2,600	m ²	\$ 2.50	\$ 6,500
12	6 yd Bins	6	Each	\$ 2,500.00	\$ 15,000
15	20 yd Bins	2	Each	\$ 2,800.00	\$ 5,600
16	Equipment Storage Building	1	LS	\$ 650,000.00	\$ 650,000
17	HW Storage Containers	1	LS	\$ 12,000.00	\$ 12,000
18	Security system	1	LS	\$ 20,000.00	\$ 20,000
19	Lighting	1	LS	\$ 15,000.00	\$ 15,000
20	Power to site	1	LS	\$ 70,000.00	\$ 70,000
21	Attendants shack	1	LS	\$ 30,000.00	\$ 30,000
22	Gate	1	LS	\$ 20,000.00	\$ 20,000
23	Signs	1	LS	\$ 15,000.00	\$ 15,000
24	Litter fencing	1	LS	\$ 20,000.00	\$ 20,000
Subtotal					\$ 1,382,000
25	Contingency	15	%		\$ 207,300
Subtotal					\$ 207,300
TOTAL					\$ 1,644,300