Beebyn-W11 PROJECT

WORKS APPROVAL APPLICATION

ATTACHMENT 3B

ACTIVITY DETAIL

Revision: 0

Date: May 2024

[redacted]

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1.0 PROJECT OVERVIEW

1.1 Location

Fenix Beebyn Pty Ltd (Fenix Beebyn) is proposing to develop the Beebyn-W11 Iron Ore Project (the Project), approximately 600 km north-east of Perth and 85 km south-west of Meekatharra in the Mid-West Region of Western Australia. Fenix Beebyn is a wholly owned subsidiary of Fenix Resources Pty Ltd. The site is accessed from Cue via the Beringarra-Cue Road and Wilgie Mia Road. The location of the Beebyn-W11 Project is shown in Figure 1.1.

1.2 Ownership

Fenix already owns and operates the Iron Ridge Project, approximately 20 km to the west of the Beebyn-W11 deposit. The project is located on an existing mining lease – M51/869 – held by Sinosteel Midwest Corporation Ltd (SMC). Development of the Project will be undertaken by Fenix Beebyn under an agreement with SMC. Miscellaneous Licence L20/92 (assessment pending), to be held by Fenix Beebyn Pty Ltd, will connect the Beebyn-W11 project to the Iron Ridge Project. Table 1.1 provides ownership and company details.

Table 1.1: Ownership and company details.

Tenement details			
Tenement	**Holder**	**Granted date**	**Expiry date**
M51/869	Sinosteel Midwest Corporation Limited	03/06/2015	02/06/2036
L20/92	Fenix Beebyn Pty Ltd	Pending	Pending
Proponent Details			
Company name	Fenix Beebyn Pty Ltd		

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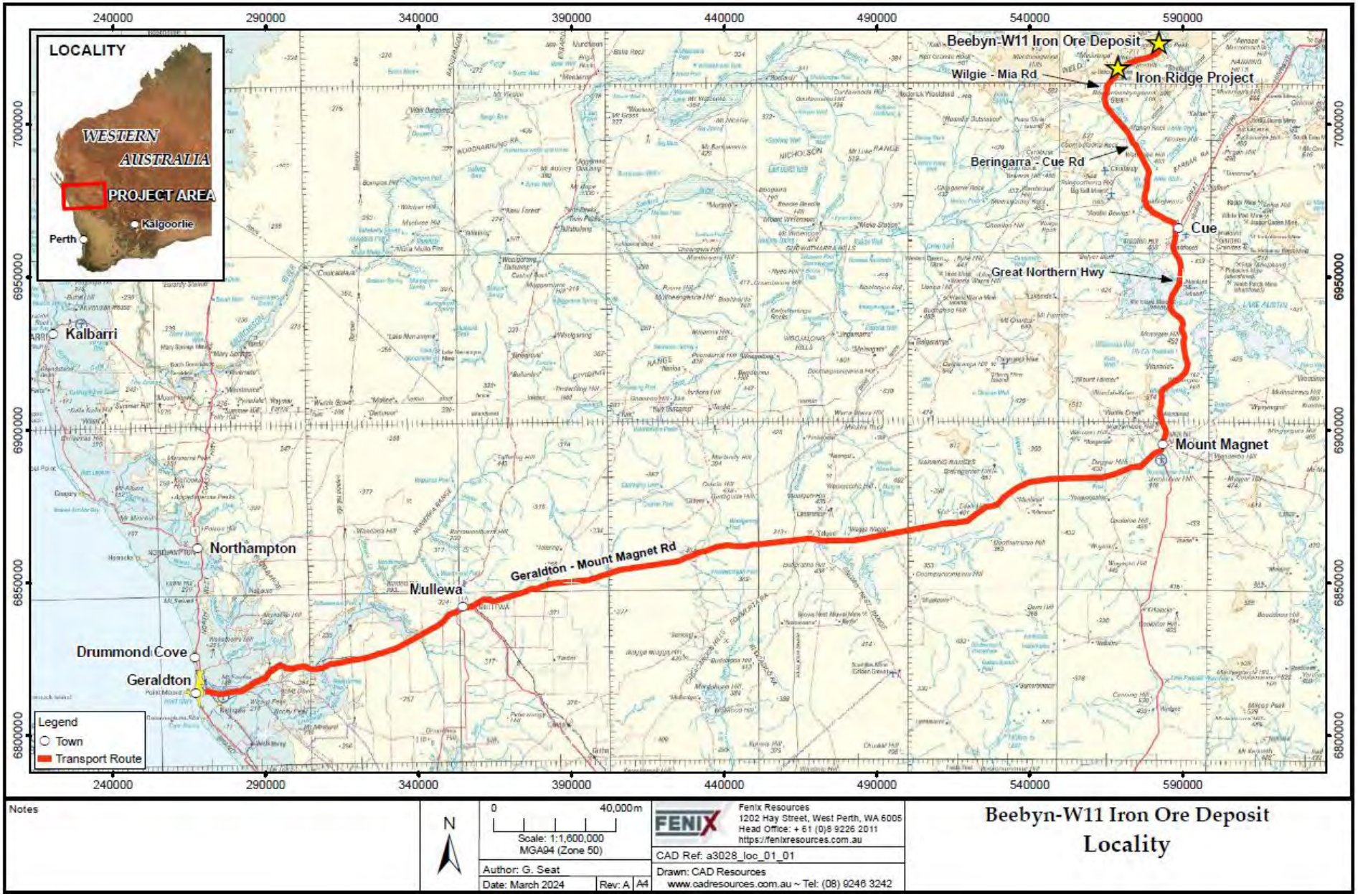


Figure 1.1: Beebyn-W11 Iron Ore Project regional location and transport route.

1.3 Project Activities

The project will involve mining of approximately 3.9 million tonnes of high-grade iron ore over a four year period, commencing in late 2024. Iron ore will be crushed on site using a semi-mobile crushing plant, then trucked to Geraldton for export to overseas customers. Two prescribed activities will be undertaken to facilitate the operation, as outlined in Table 1.2.

Table 1.2: Prescribed activities associated with the project.

Category	Description	Design Capacity	Proposed output
5	Processing or beneficiation of metallic or non-metallic ore (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed *50 000 tonnes or more per year*	2 million tonnes per annum (Mtpa)	1.5 Mtpa
6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore. *50 000 tonnes or more per year*	520,000 tonnes per annum (tpa)	520,00 tpa

The workforce will operate on a fly-in, fly-out (FIFO) roster and will be accommodated at Fenix's existing Iron Ridge facility, approximately 20 km to the west of the proposed Beebyn-W11 mine site.

The mining operation will extend below the water table and will therefore require dewatering. It is anticipated that most of the dewater produced will be used for dust suppression and domestic purposes within the project area. The groundwater is fresh to brackish and is suitable as livestock drinking water.

Bulk fuel will be stored in three 100,000 litre tanks at a purpose-built fuel storage facility adjacent to the mine workshops and administration facility. This "fuel farm" will supply the generators and mining equipment. Portable double skinned self-bunded tanks will be used, with a concrete apron installed at the main fuel farm for fuel transfer activities. Power for the mining operation will be supplied by a number of portable generators located nearby the fuel storage facility.

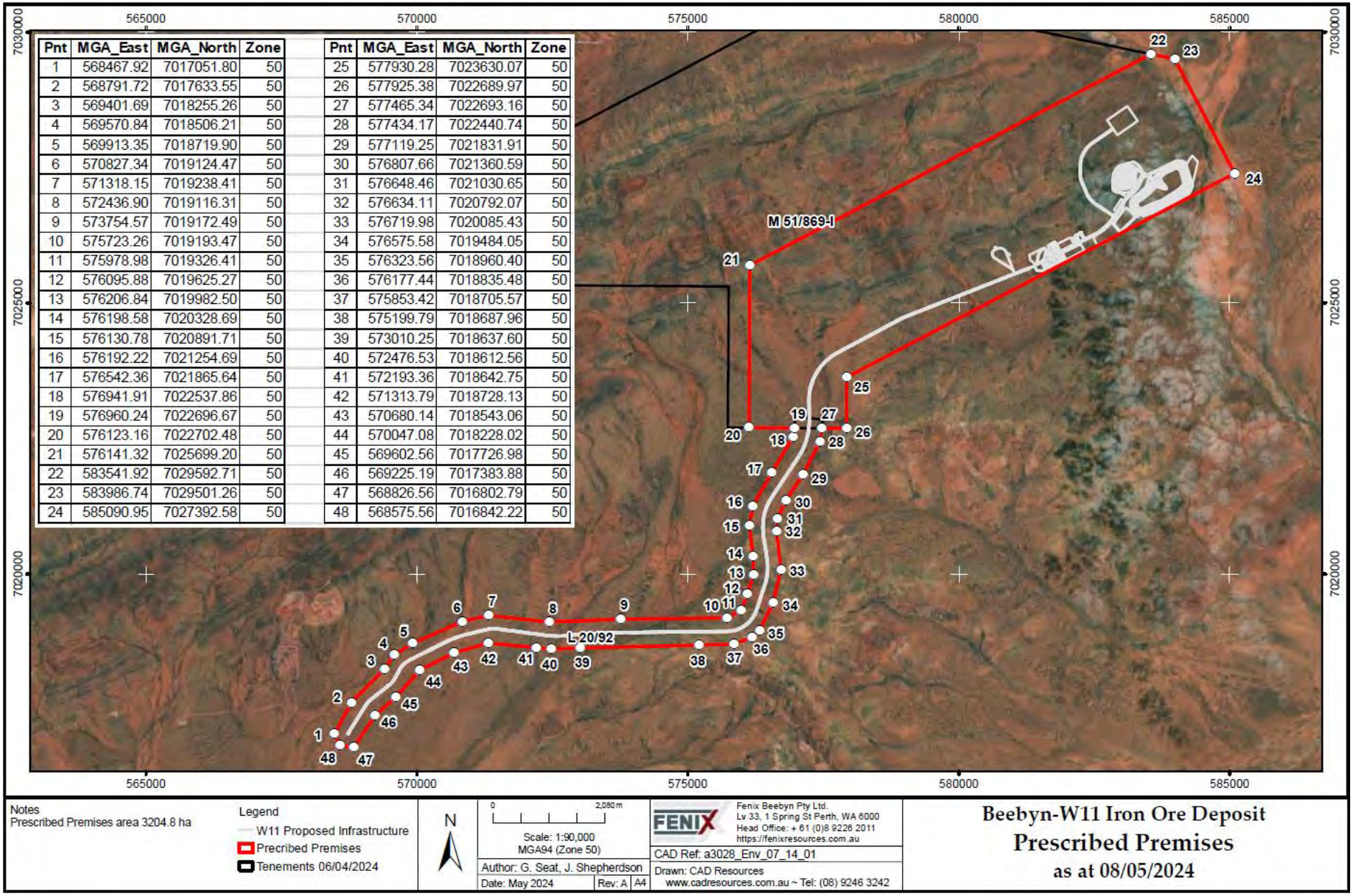
Domestic waste from the operation will be collected on site and transferred to the Cue landfill for disposal, under an agreement with the Shire of Cue.

A Mining Proposal for the project was submitted in May 2024 and is currently under assessment by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS).

A Clearing Permit application has also been lodged with the Native Vegetation Assessment Branch of DEMIRS.

Groundwater Licence GWL165387(5) is in place for the project, held by Sinosteel Midwest Corporation Ltd, for use by Fenix under the mining agreement. The licence allows for an annual extraction of 200,000 kL, which is sufficient for the construction phase of the operation. An application for increase to 520,000 kL will be submitted to DWER prior to the operation reaching full production. L20/92 will be added to the groundwater licence.

Figure 1.2 provides the proposed Prescribed Premises Boundary, being the perimeter of L20/92 and a portion of M51/869. Figure 1.3 shows the proposed site layout, including the locations of each of the prescribed activities described in this Works Approval application.



Pnt	MGA_East	MGA_North	Zone
1	568467.92	7017051.80	50
2	568791.72	7017633.55	50
3	569401.69	7018255.26	50
4	569570.84	7018506.21	50
5	569913.35	7018719.90	50
6	570827.34	7019124.47	50
7	571318.15	7019238.41	50
8	572436.90	7019116.31	50
9	573754.57	7019172.49	50
10	575723.26	7019193.47	50
11	575978.98	7019326.41	50
12	576095.88	7019625.27	50
13	576206.84	7019982.50	50
14	576198.58	7020328.69	50
15	576130.78	7020891.71	50
16	576192.22	7021254.69	50
17	576542.36	7021865.64	50
18	576941.91	7022537.86	50
19	576960.24	7022696.67	50
20	576123.16	7022702.48	50
21	576141.32	7025699.20	50
22	583541.92	7029592.71	50
23	583986.74	7029501.26	50
24	585090.95	7027392.58	50

Pnt	MGA_East	MGA_North	Zone
25	577930.28	7023630.07	50
26	577925.38	7022689.97	50
27	577465.34	7022693.16	50
28	577434.17	7022440.74	50
29	577119.25	7021831.91	50
30	576807.66	7021360.59	50
31	576648.46	7021030.65	50
32	576634.11	7020792.07	50
33	576719.98	7020085.43	50
34	576575.58	7019484.05	50
35	576323.56	7018960.40	50
36	576177.44	7018835.48	50
37	575853.42	7018705.57	50
38	575199.79	7018687.96	50
39	573010.25	7018637.60	50
40	572476.53	7018612.56	50
41	572193.36	7018642.75	50
42	571313.79	7018728.13	50
43	570680.14	7018543.06	50
44	570047.08	7018228.02	50
45	569602.56	7017726.98	50
46	569225.19	7017383.88	50
47	568826.56	7016802.79	50
48	568575.56	7016842.22	50

Figure 1.2: Beebyn-W11 Project prescribed premises boundary.

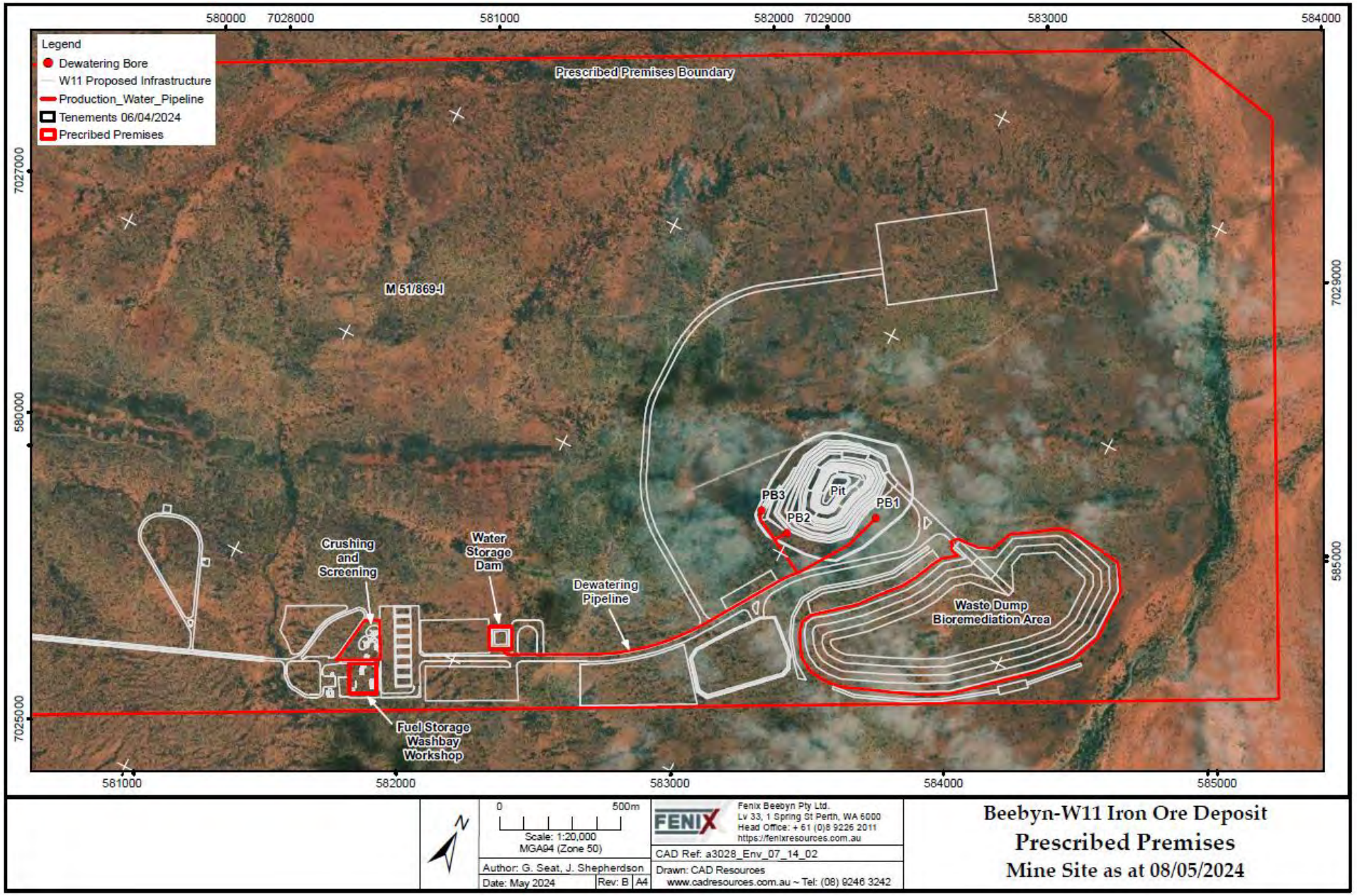


Figure 1.3: Proposed site layout and prescribed activity locations.

2.0 PRESCRIBED ACTIVITY DETAIL

2.1 Crushing and screening

The crushing and screening plant will be a semi-mobile plant consisting of a number of modularised components linked with conveyor systems.

The plant will have a nominal capacity of 2 Mtpa on a double shift operation and will produce two iron ore product specifications concurrently. Product 1 will be a lump product with a nominal sizing of between 8 mm and 40 mm. Product 2 will be a fines product with a nominal sizing of minus 8 mm. It is anticipated that the final product from the plant will have a nominal lump to fines ratio of 40:60.

Crushing will be via a two-stage process consisting of a primary crusher unit and a secondary crusher unit. The primary crusher (jaw crusher) will be fed with ROM ore by a front end loader and will crush the material to approximately 150 mm. A scalping screen may be installed ahead of the primary crusher to allow sized material from the mining operation to bypass it. Material from the primary crusher station will pass to the secondary crusher (cone crusher or impactor) and screening circuit. This will be a closed circuit operation where the screening and crushing configuration will be such that the iron ore can only exit the circuit once it has achieved either of the two product specifications. From there it will pass to an elevated stacker arrangement for deposition onto the product stockpiles. Each of the product streams will be sampled for confirmation of compliance with the specifications, and analysis of its chemical composition.

The plant will be operated on a 24 hour per day, 7 days per week basis with daily, weekly and monthly schedule maintenance breaks.

Dust suppression throughout the plant will be managed with water misting sprays at suitable locations within the plant (generally conveyor belt loading and discharge points). Conveyor belt loading points will be fitted with skirting seals and dust box covers as required. Conveyor belt head pulleys will be fitted with head chutes as required. Dust suppression around the plant site in general will be managed with mobile water carts.

The plant will be designed to minimise noise and vibration.

Figure 2.1 shows the general arrangement of the crushing and screening plant.

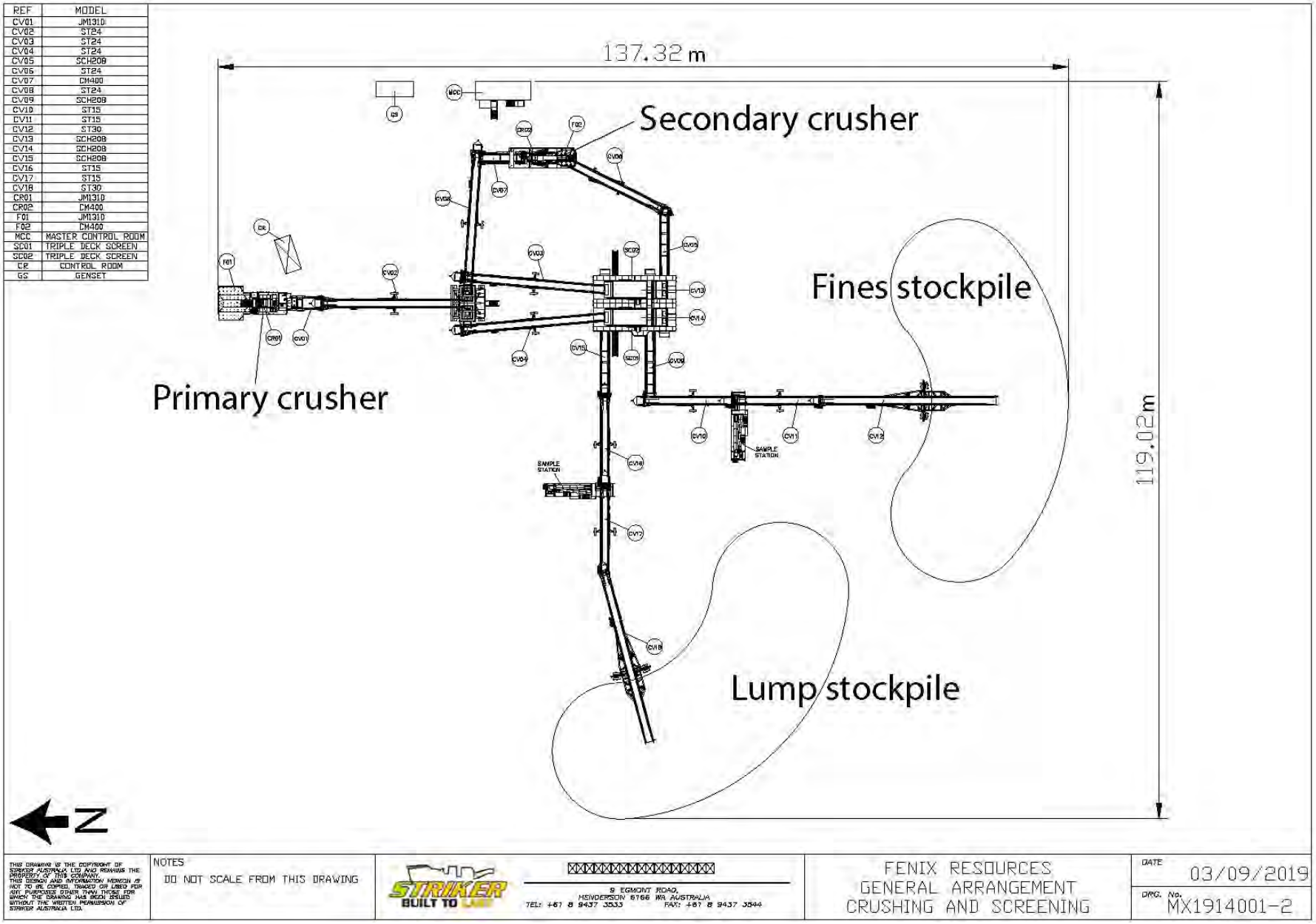


Figure 2.1: General arrangement of the semi-mobile crushing plant.

2.2 Mine Dewatering

Three dewatering bores will be installed within the ultimate pit limits on advice from hydrogeology consultants, pending the results of a site investigation. The bores will be licensed in accordance with State requirements and powered by a portable diesel generator. The dewatering bores will be operated to draw the local water table down and keep it below the advancing pit floor. Dewatering may also occur directly from the pit via in-pit sumps and will utilise the indicative pipe network shown in Figure 1.3. Dewater will be pumped to a "turkey's nest" water storage dam with a capacity of 25,000 m^3 for reuse as dust suppression around the mine site, and within the crushing and screening works. The design of the dam is shown in Figure 2.2 and Figure 2.3.

A portion of this water will be treated by reverse osmosis (RO) to produce potable water and diverted to the administration facilities for domestic use. A water monitoring program will be conducted to confirm the ongoing quality of the potable water. Brine waste from the RO treatment will be returned to the water storage dam.

Laboratory analysis results demonstrate that the groundwater is fresh to slightly brackish quality (refer to Attachment 6A).

Table 2.1 provides the project water balance for the operation. For the duration of the project, water demand (dust suppression, crushing plant and domestic use) plus the annual evaporation is expected to be greater than the pit dewatering requirement. With average annual rainfall included, the total input marginally exceeds the demand, however, based on experience at the nearby Iron Ridge Project, it is anticipated that the pit dewatering requirement will be achieved with no requirement for discharge to the environment.

Table 2.1: Projected water balance

Year	Demand (kL)					Input (kL)			
	Annual Evaporation	Water Cart	Site Usage Non Potable (offices & W/shop)	Crushing Plant	Total	Dewatering of Groundwater Inflows	Dewatering of Mining Activities	Annual rainfall	Total
1	52,467	182,500	2,920	6,936	244,823	210,240	3,652	34,799	248,691
2	104,935	365,000	5,840	13,872	489,647	441,504	7,304	69,597	518,405
3	104,935	365,000	5,840	13,872	489,647	441,504	7,304	69,597	518,405

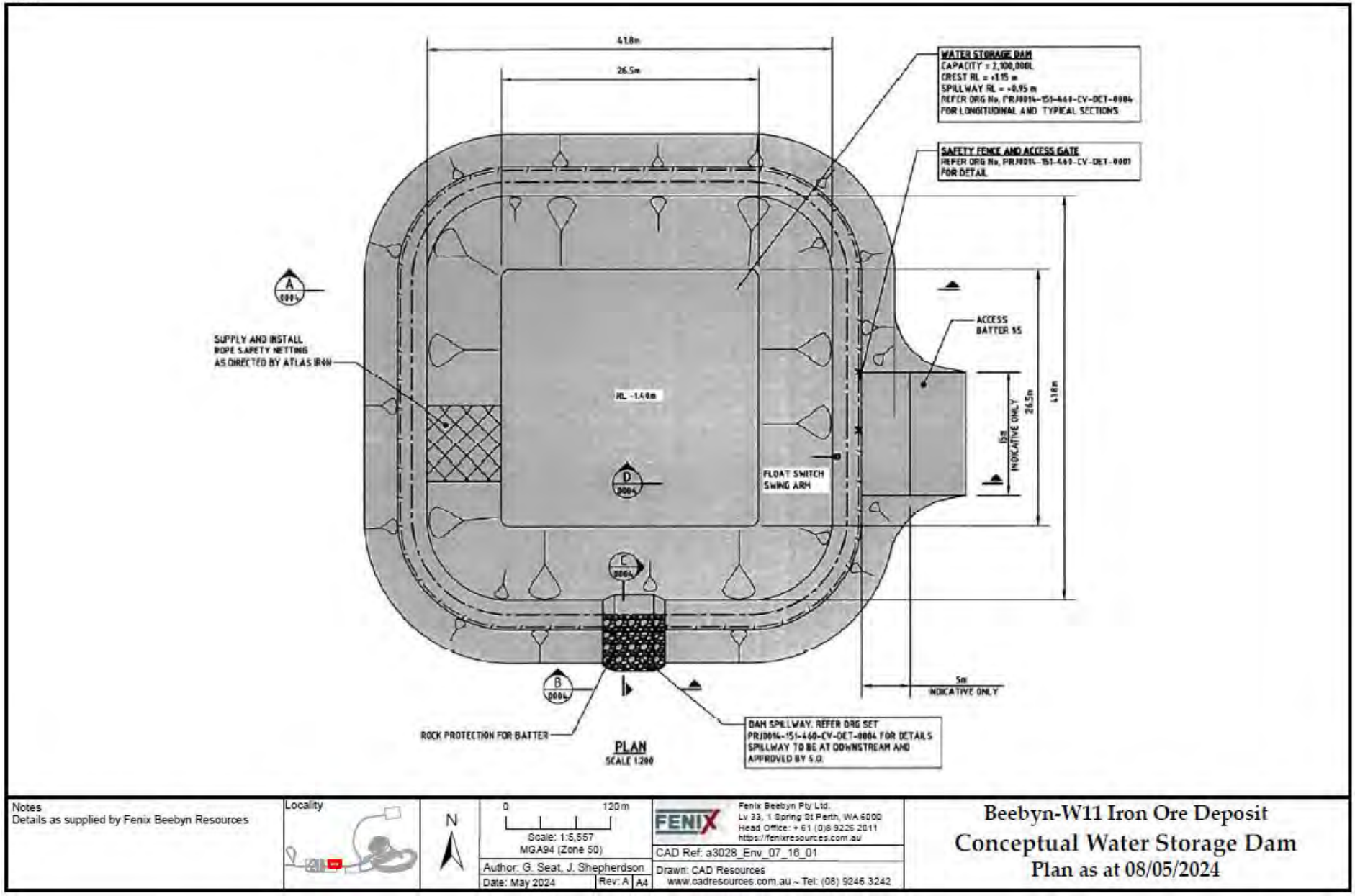


Figure 2.2: Water storage dam design.

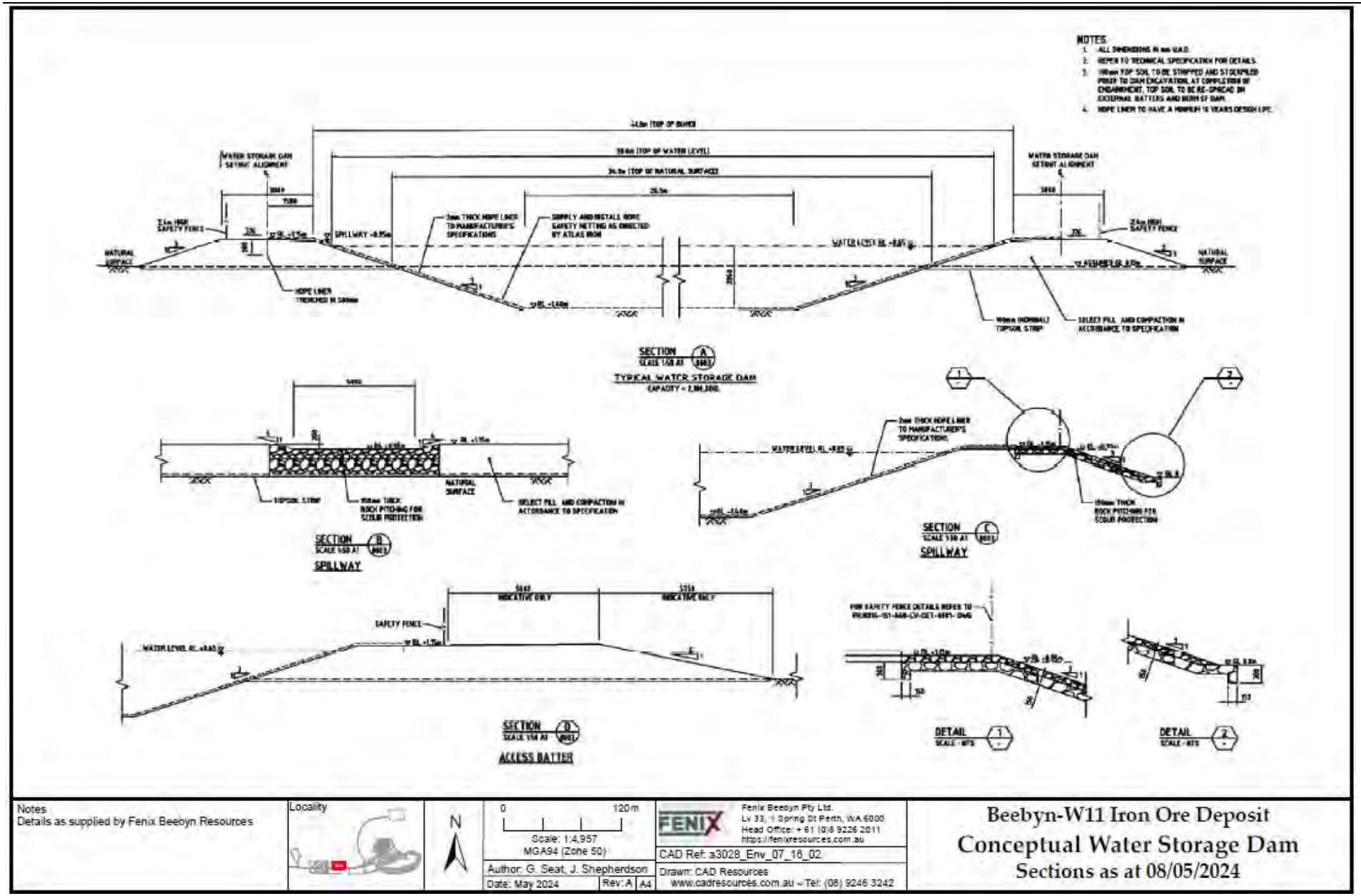


Figure 2.3: Water storage dam design.

3.0 OTHER ACTIVITY DETAIL

3.1 Bioremediation facility

The bioremediation facility will be located on the waste dump. It will initially consist of an approximate 20 m x 20 m prepared pad surrounded by 0.5 m bund walls and divided into two cells. Additional cells will be added as required.

Hydrocarbon-contaminated soil will be placed in the cells, progressively filling them from the rear. When a cell is full it will be closed, the material will be spread to an even thickness of approximately 300 mm and scarified, then bioremediation treatment will commence. This will involve application of a commercially available bioremediation solution containing hydrocarbon-consuming bacteria. Periodic application of water and additional scarification will be undertaken as required.

Composite sampling of treated cells will be undertaken at three-monthly intervals. Hydrocarbon levels will be compared to the Class 1 Landfill criteria listed in Landfill Waste Classification and Waste Definitions 1996 (As amended December 2019) (DWER 2019). Target hydrocarbon levels are:

- $C_6 – C_9$ 2800 mg/kg
- $C_{16} – C_{35}$ 450 mg/kg

When these levels have been achieved the material will be removed for disposal within the waste dump.