Attachment 3B – Proposed Activities

Works Approval Application

Platinum Blasting Services Pty Ltd

15 May 2025

→ **The Power of Commitment**

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1. Introduction

GHD Pty Ltd (GHD) acts on behalf of Blue Diamond Australia Pty Ltd (BDA), the proponent of a proposed Ammonium Nitrate Facility (ANF), in preparing this Works Approval application for DWER. The ANF will be operated by Platinum Blasting Services Pty Ltd (PBA) on behalf of BDA, who will be the applicant for this Works Approval application.

The ANF project is commercially referred to as 'Project Terra'. It is proposed to be a 12 ha site (located within an overall 48-ha lease area) located across Lots 11 and 12 on Plan 18559 within the Oakajee Strategic Industrial Area (Oakajee SIA), 20 kilometres north of Geraldton in Western Australia.

Oakajee SIA has been selected as the location of the proposed ANF because of its strategic Mid-West location and future development potential as a hub for heavy industry projects. Oakajee SIA is owned and managed by DevelopmentWA (DevWA), the State Government's development agency.

At the time of writing, the Oakajee SIA remains undeveloped, making Project Terra the first industrial facility development in the SIA that is not only submitted but capable of development imminently. The proposed ANF consists of two core components which are:

– An ammonium nitrate emulsion manufacturing plant with an initial production capacity of up to 40,000 tonnes per year; and,
– An ammonium nitrate storage faciality with a capacity of up to 13,500 tonnes per year.

The purpose of the ANF is to produce ammonium nitrate emulsion, which is used as a blasting agent in mining operations. Platinum Blasting Services will manage and operate the facility on behalf of BDA.

A Works Approval and Licence will be required for the ANF as it will be a Prescribed Premises under Schedule 1 of the *Environmental Protection Regulations 1987*, with the ANF being categorised under the following Prescribed Premises activity and design capacity threshold:

Category Number	Description	Category Production or Design Capacity	Proposed Design Capacity
33	Chemical blending or mixing: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that causes or is likely to cause a discharge of waste into the environment.	500 tonnes or more per year	40,000 tonnes per year

2. Proposed activities

2.1 AN handling

Ammonium nitrate (AN) will arrive on site in 1.2 t bulka bags which are unloaded into pre-determined stack positions under dome shelters (Figure 1). The AN in the bulka bags is in granulated form (approx. 1 mm diam) (Figure 1; Appendix A) which ensures minimal dust emissions when it is debagged and augered.

Once AN arrives and is stored on site it will be either:

1. Debagged (Figure 2; Appendix A) and augered (via an enclosed auger) into the ANE plant and processes into Ammonium Nitrate Emulson (ANE) (Figure 3; Appendix A)
2. Loaded in the bags onto trucks for immediate transport to mine sites
3. Debagged into a hopper and augered (via an enclosed auger) into delivery trucks for immediate transport to mine sites (Figure 4; Appendix A); or

4. Debagged into a hopper and augered into shipping containers (Figure 5; Appendix A) for storage in the AN Container Stack area (Figure 1) of the site and eventual transport to mine sites.

During debagging and augering operations, there is invariably some minimal spillage of AN onto the concrete pads where the debagging and augering stations are located. However, this AN spillage is minor (estimated at 100 to 150 kg/week), and any AN spillage is swept up and placed into plastic IBCs (intermediate bulk containers), where it is dissolved in water and will be donated to local farmers for use as liquid fertilizer.

Photos provide in Appendix A are taken from an existing ANE facility located in Queensland operated by Platinum Blasting Services Pty Ltd.

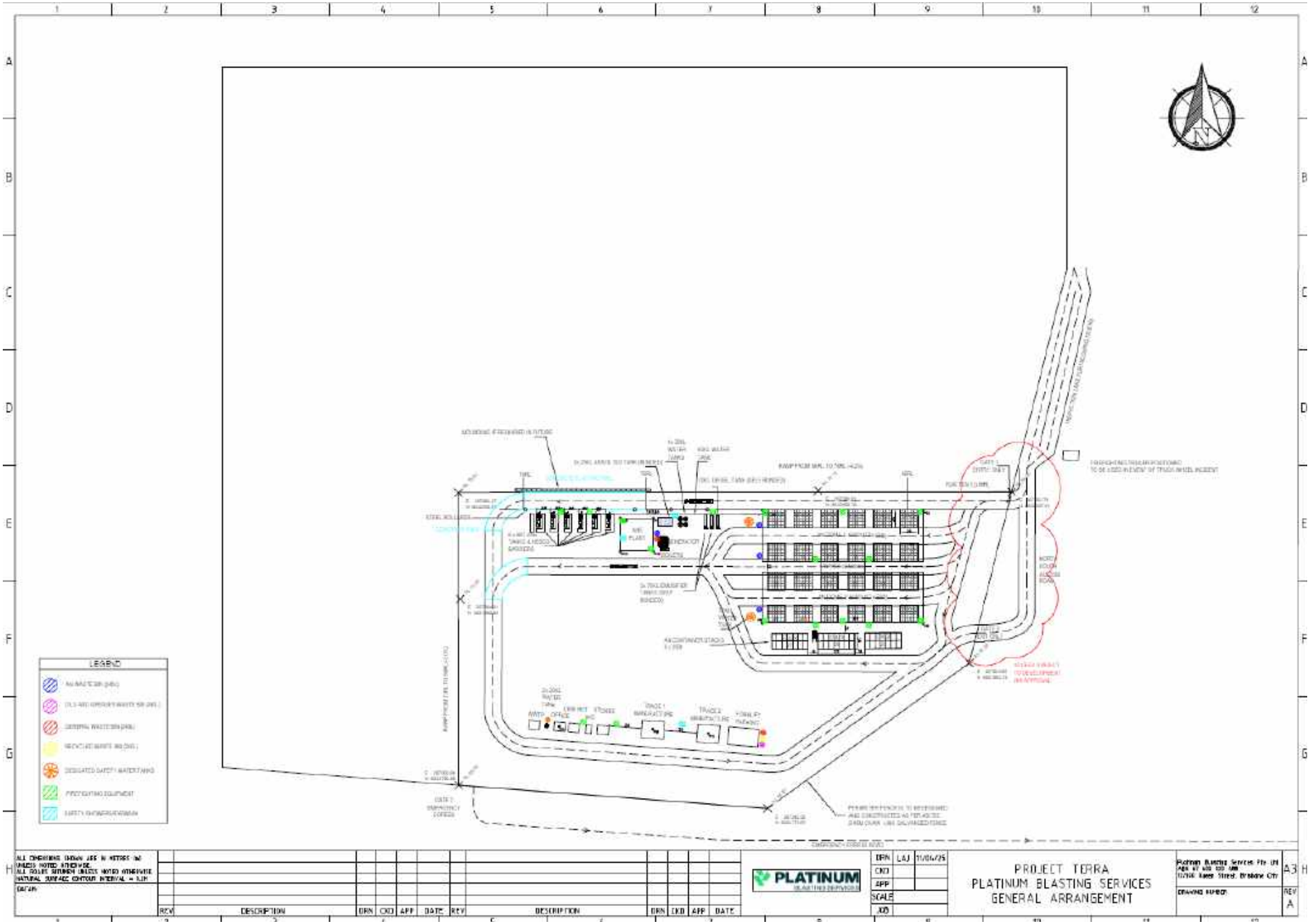

Figure 1 Site layout

2.2 Plant Description

Project Terra comprises of an emulsion manufacturing plant, storage facility and supporting infrastructure.

The manufacturing plant will have initial capacity to produce up to 40,000 tonnes of ammonium nitrate emulsion (ANE) per year, with the potential for production to increase up to 80,000 tonnes per year over the initial five years of operation. The storage facility will house up to 13,500 tonnes of ammonium nitrate (AN).

The ANE plant is located to the northern extent of the site and will be contained within a steel shed approximately 30 x 30 metres in size and located on a concrete slab. Supporting equipment including generators, boilers and bunded storage tanks are located to the east of the plant. To the west of the plant are four 90 tonne ANE tanks with HESCO barriers. Firewater tanks are located throughout the site.

Ammonium nitrate bagged product will be stored in stacks under two large dome structures with concrete foundations, as well as an unsealed hardstand area. Waste water treatment plant, office, crib hut, W/C, stores and trace manufacturers are located to the southwest corner of the site. The facility is serviced by a 15-metre-wide two-lane unsealed road which follows the permitter of the site.

During standard manufacturing operations the facility will operate from Monday to Friday between 6.30am and 5.00pm, with up to six personnel on site at any one time overseeing facility operations. During normal operations, only the northern (IN) and southern (OUT) access lanes are utilised.

During import operations, when bulk AN feedstock is delivered to site, all access lanes within the facility are utilised to ease in product offloading processes. During this time, the facility will be operational for a 48-hour period so as to minimise any disruption to the normal operation of the facility. Import operations will only occur approximately six times per year.

Access and egress to the Site is proposed via two access points located along the eastern end of the site. The access points connect to a proposed north-south access road that will extend north, connecting onto the central access road which is currently being built as part of Main Roads WA (MRWA) North West Coastal Highway upgrades which are due for completion in late 2025.

It is understood that DevWA are currently developing a road network design for the Oakajee SIA with respect to an outer ring road. Logically, access roads to / from the Project Terra site should align with future road network plans for the wider Oakajee SIA. However, due to the infancy of the outer ring road design, it is anticipated that site access connection will be subject to further negotiations and approval from DevWA.

A full description of the ANE plant components and operations is provided in Appendix A (note: some of the tank dimensions (i.e., ANSOL tanks) stated will be different to actually proposed to be installed).

2.3 Process Description

The ANE process involves creating a stable mixture of ammonium nitrate, water, and oil. The emulsification process involves the use of an emulsifier to help stabilise the ammonium nitrate solution (AN and water mixture) when it is mixed with an oil. The emulsifier prevents the oil and water from separating. The resultant product is a viscous, stable emulsion that is stable and water resistant, making it ideal for use in dry and wet conditions. A simplified production process of ammonium nitrate emulsion is depicted in Figure 2 below.

ANE is primarily utilized in blasting activities to prevent explosives in blast holes from deteriorating due to water in the holes or surrounding strata. This maximizes the energy efficiency of the blast and minimizes the production of blast fumes (Nitrous oxide), thereby reducing the potential environmental and community impacts.

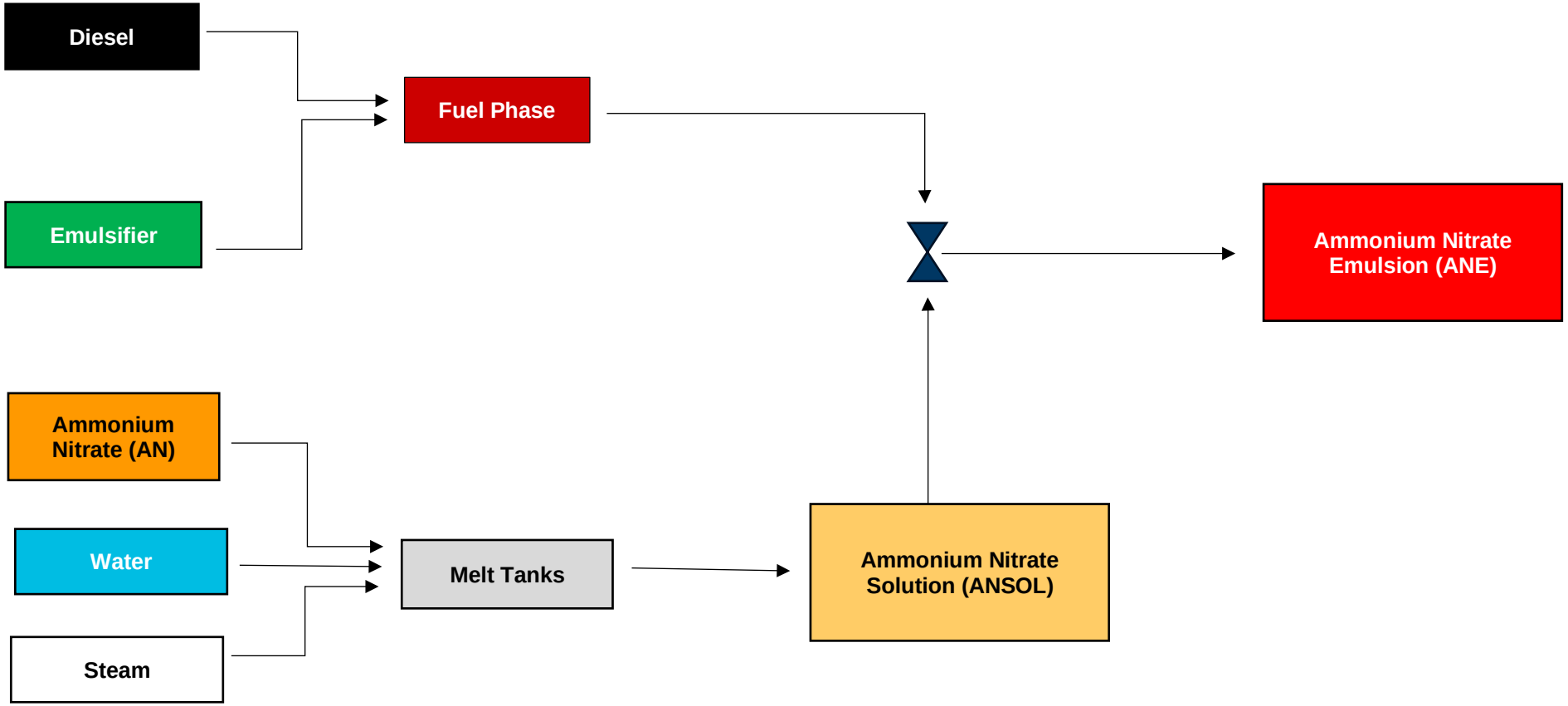

Figure 2 Process flow diagram for ANE production

2.4 Materials through-put

Table 1 shows the materials through-put on the site.

Table 1 Material volumes through-put on the site

Material	Annual volume/mass
Inputs	
Ammonium nitrate (AN)	50,000 tonnes/year
Diesel – ANE production Diesel – Steam boilers Diesel – generator Diesel – forklifts	1,600,000 L/year 650,000 L/year 157,000 L/year -
Emulsifier	2,500 tonnes/year
Water	1,300,000 L/year
Outputs	
Ammonium nitrate emulsion (ANE)	40,000 tonnes/year

2.5 Key infrastructure and equipment

Key infrastructure and equipment on the site are listed in Table 2. Specific details about the ANE plant is provided in Appendix A.

Table 2 Key infrastructure and equipment

Infrastructure and equipment	Quantity	Size/design capacity	Total design capacity
AN storage facility			
AN dome shelter storage*	2	6,000 tonnes	12,000 tonnes
AN container storage*	78	20 tonnes	1,500 tonnes
Hopper and auger	1	-	-
Diesel powered forklifts	3	13.5 tonnes	-
ANE manufacturing plant			
ANE Plant Shed (20 m x 30 m)	1	-	-
Hopper and auger[1]	1	-	-
ANSOL melt tanks[1]	3	25,000 L	75,000 L
Fuel phase tank[1]	1	6,000 L	6,000 L
Diesel bulk storage tank*	1	70,000 L	70,000 L
Day time diesel tank[2]	1	2,500 L	2,500 L
Emulsifier storage tank	2	70,000 L	140,000 L
ANE storage tanks[2]	6	46,000 L (60 tonnes)	280,000 L (360 tonnes)
Diesel fired steam boilers	3	500 kW	1500 kW
Diesel powered generator	1	400 kVA	400 kVA
Water tanks	2 4 2	50,000 L 30,000 L 20,000 L	100,000 L 120,000 L 40,000 L
General facilities			

Infrastructure and equipment	Quantity	Size/design capacity	Total design capacity
Wastewater treatment plant	1	<500 L/day	< 500 L/day
Office, crib hut, W/C, stores, and x2 trace manufacturers	-	-	-
Surface water management infrastructure – refer to Attachment 8D			

[1]Inside ANE Plant/Shed Area, [2]Dangerous goods storage

2.6 Surface water management

Refer to Surface Water Management Plan in Attachment 8D.

A small on-site wastewater treatment plan (WTTP) will be installed on the site to treat wastewater generated from staff facilities (office, toilets, breakroom). The WWTP will be sized to treat approximately 300 L per day based on a maximum of 10 staff, assuming a wastewater allowance of 30 L/person/day, with treated wastewater being discharged to ground. The design of the systems is still pending.

The installed WTTP and discharge will not be a Prescribed Premise activity and will be covered under the local Shire regulation or the Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974 to be assessed in the Development Application.

2.7 Waste management

A detailed Waste Management Plan for the proposed ANF has been developed and is included in Attachment 8C.

The primary source of waste from the ANF is expected to be the empty AN bulka bags. The empty bags are compacted in a baling machine and the bales are disposed through the National Big Bag Scheme. This is a federally funded recycling scheme which must demonstrate all waste collected is 100% recycled and then the recycled products are 100% recyclable.

Approximately 62 tonnes of waste AN bags will go to recycling (20,800 bags @ 3 kg per bag). Other forms of waste that could be generated on the site (but not quantified) are outlined in Table 4. Wastes generated at the ANF will be handled in accordance with the Waste Management Plan (refer to Attachment 8C).

Table 3 Anticipated waste streams to be produced and managed at the ANF

Waste type	Materials
Hazardous wastes	Spills and leakages: – Ammonium nitrate (AN) – Ammonium nitrate emulsion (ANE) – Diesel – Emulsifier Batteries, flammable liquids (hydrocarbons and fuels), fluorescent tubes, gas cylinders, cleaning chemicals, pesticides, herbicides, paint, solvents, waste oil, oil filters
Non-hazardous waste	Polypropylene bulka bags, packaging waste (cardboard), scrap metal, wooden pallets, mixed recyclables, food waste, office and packaging waste (paper & cardboard), wastewater and biosolids from staff facilities

2.8 Project development and operations

The proposed project development timeline is outlined in Table 5. The proposed site operations are outlined in Table 6.

Table 4 Project development timeline

Phase	Commencement/completion
Construction	Q2 2025
Commissioning	Q3 2025
Operation	Q4 2025

Table 5 Site operations

Phase	Timing	Staff	Vehicle movements/day (light and heavy)
Standard Operations	6:30 AM to 5:30 PM (Mon to Fri)	6	10 to 16
Non-standard Operations (20 - 30 days/year)	24-hours	10	65 to 71

Appendix A

Materials Handling Photos

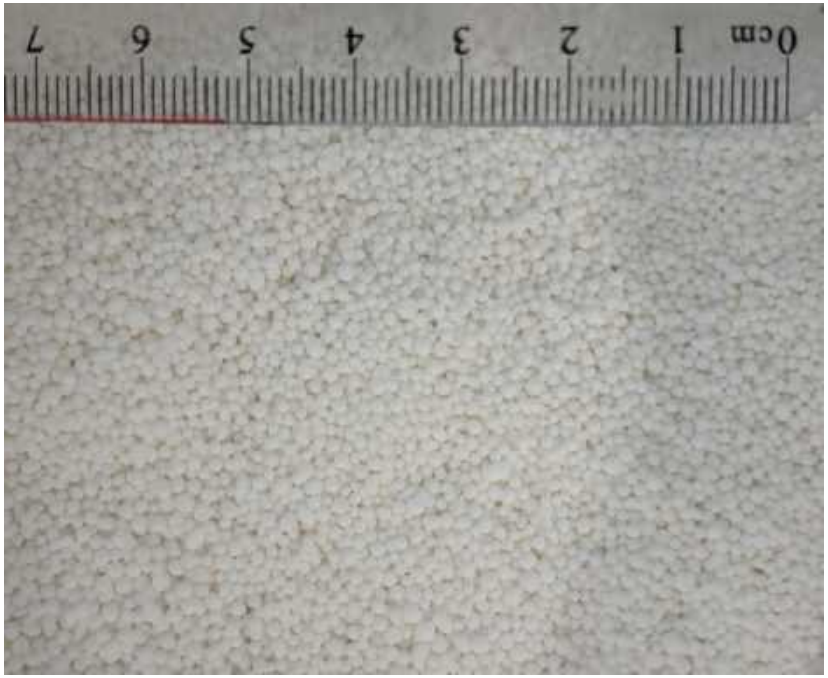

Figure 1 Granulated ammonium nitrate as it arrives on site in bulka bags

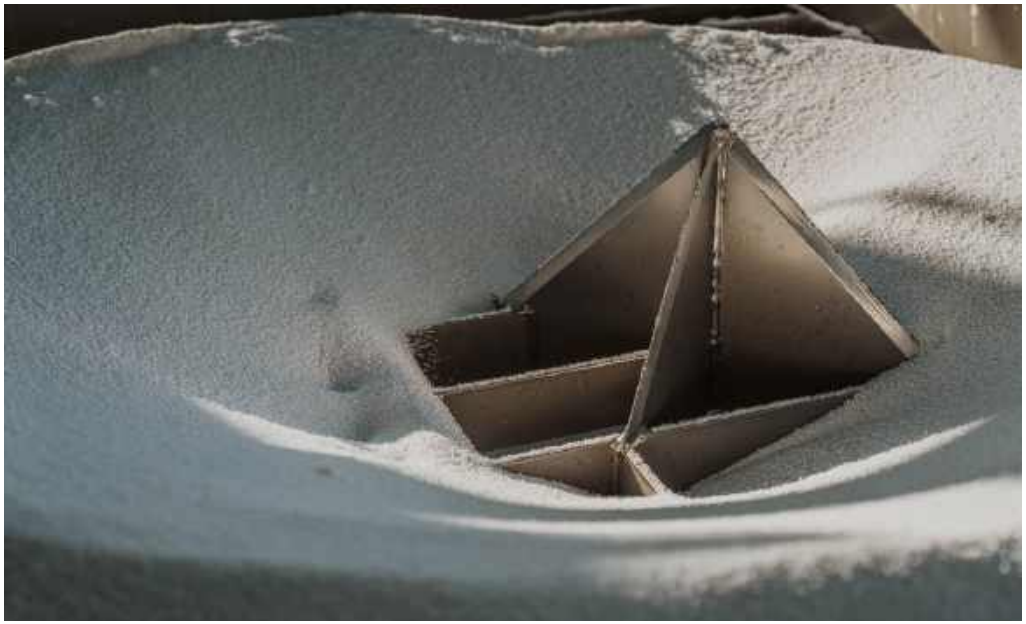

Figure 2 AN being debaggd into a hopper

Figure 3 *AN being debagged into a hopper where it is augered into the ANE plant*

Figure 4 AN being augered into a transport truck for delivery

Figure 5 AN loading station where AN is augered into shipping containers for transport to mine sites. This type of loading station will be located between the two dome shelter storage areas.

Figure 6 AN loaded container being transported to container storage area location on a site

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