



MANILDRA GROUP
100% AUSTRALIAN OWNED

Site & Safety Information for Contractors & Visitors – July 23



Shoalhaven Starches – Main Site

“No job is so important that we cannot take time to perform our work safely and with proper regard for our own health and the health and safety of others.”

John Honan - Managing Director

Site Golden Rules

We will care for all people on site including ourselves by obeying the following golden rules:

- **Always work in a safe manner, never deliberately endanger yourself or others.**
- **You must always present yourself fit for work.**
- **Never interfere with a safety device, interlock, or guard or allow others to do so.**
- **Always follow the safe isolation of plant and equipment using the lockout / tagout procedures.**
- **Always comply with permit to work, confined space and working at height systems and procedures and never deviate from safe systems of work without authorisation.**
- **Always respect each other as bullying and harassment will not be tolerated**
- **Always wear the Personal Protective Equipment provided to you.**

**Non-compliance with the Manildra Group golden rules is
Considered a serious safety breach.**

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Site & Safety Information

Welcome

This booklet aims to provide you with the necessary information to enable you to work at The Manildra Group's Shoalhaven Starches Factory in Bomaderry in a safe and responsible manner. Information regarding accessing the site, working on the site, facilities and the induction process is also covered.

Our new contractor portal is [online](https://www.manildra.com.au/contractor-information/) with access to a copy of this booklet and will be a future home for access to digital permits.

www.manildra.com.au/contractor-information/



The Manildra Group Shoalhaven Starches Site is currently undergoing a significant expansion. The expansion allows our family-owned agri-business to process more grain from local NSW farmers – to then export around the world. We are relying on the support of contracting companies who are helping us to feed the world.

It is our expectation for everyone at our site to work in a safe manner – we want and need every person to go home to their families at the end of the day in the same condition they came in. Your support – working in the factory and keeping yourself and colleagues safe – is appreciated. Please read this booklet, and work according to the parameters outlined.

Shoalhaven Starches Management Team

36 Bolong Rd, Bomaderry NSW 2541

P: +61 2 4423 8200



MANILDRA GROUP
100% AUSTRALIAN OWNED



Group Safety, Quality and Environmental Policy

The Manildra Group of Companies (Manildra Group) is a leading Australian Owned Company with a diverse range of wheat, flour, gluten, starch, glucose, ethanol, stockfeed, sugar and premix products for both the domestic and export markets.

The Manildra Group is committed to implementing world class Safety, Quality and Environmental (SQ&E) Management Systems with the objective to provide high quality products and a safe and sustainable working environment.

Your Responsibilities

When working at a Manildra site you have a responsibility to follow the safety, environment and quality standards. It is your responsibility to know, understand and follow all of the requirements.

It is Manildra's responsibility to ensure you are aware of the requirements and of any changes to them

No job is so important that we cannot take time to perform our work safely and with proper regard for our own health, and the health and safety of others. At Manildra we employ safe systems of work to ensure all employees adopt a duty or care to avoid harm.

- Our goal is zero harm.
- Report all injuries
- Report all unsafe acts and people in unsafe situations
- Report all unsafe equipment
- Report all near misses

The Site Golden Rules are inside the front cover.

Before you come to site

Before coming to our site to undertake work, you will need to action several items. An active purchase order (PO) is necessary for any contractor to visit the site to perform works (Not including delivery drivers, visitors or sales people).

Inductions

The below is a list of current inductions which you may require prior to coming to site. These inductions are online inductions and can be completed on a PC or a phone. **Your Manildra site contact will be able to organize the relevant inductions to be sent to you.**

- Main Site Induction
- Rail Induction
- Vehicle Induction – required if you intend on bringing a vehicle onto the site.
- Farm Induction
- Papermill Induction
- **Site Specific Construction Inductions** – Depending on where you are working there may be a site specific induction required BEFORE coming to site to work -
 - Gluten Dryer 8, RD9 and Cationic Starch Plant
 - North Packing Plant
 - CoGeneration Plant

Ethanol plant, main site and Site Specific inductions **may require an INDUCTION STICKER** to be attached to your hardhat to identify that you have completed your inductions. Stickers are available at the safety house. Please confirm with your person in charge



If you are working in one of the dedicated construction sites, you or your company must request a site induction link for relevant inductions from your site contact – **you must not work in the factory, or the construction sites without a current induction.**



Parking

Visitors, Contractors and Employees are asked to park in the “Northern Carpark” in designated spots.

GPS Address – 167 Bolong Road, Bomaderry. Shared with the BOC Gas Plant Entrance



North Carpark – Entrance from Bolong Road

From here, walk to the designated location.

When you are leaving the car park, you are able to exit the car park, turn left onto Bolong Road, **and use the U-Turn bay in front of the Manildra Maintenance Building** in order to head back to the highway.

Visitors, workers and employees are strongly encouraged to use this carpark rather than parking on the side roads and laneways around the factory’s neighbours (on railway St etc.)

Accessing the Site

If you are new to the site – you can visit the “Safety House” to obtain a swipe card. A swipe card is required to enter the site to undertake work.

Safety House / WHS & HR Department

The “Safety House” is the on-site building for all safety related issues. The safety department manages contractor inductions, swipe card issues and any site safety related issues.

GPS Address – 34 Bolong Road, Bomaderry. Next to the Cleary Bros Site

Phone: 02) 44238 398

Email: nowra.safety@manildra.com.au



Swipe Cards

If you are new to the site – you can visit the “Safety House” to obtain a swipe card.



The swipe card has your photo on it, as well as your details. You are expected to carry this swipe card on your person when on site.

The swipe card is used to open the PA & Vehicle gates on the site – subject to induction training.

Sign-On / SwipedOn

When you come to site – **every day** you are required to sign in to the plant. The tool we use is called “Swipedon” – **it is important to sign in as this is our record for site attendance in the event of an evacuation**



To sign into the plant, you can

- Sign into the iPad at the entrance of the construction sites (if an iPad is available)
- Sign into the safety house iPad or the admin building / engineering office iPad
- Use the following QR code and scan with your phone



Manildra maintains the right to reject contractor time sheets which are submitted, if the workers who claim to be on site have not completed their swipedon login

Drugs & Alcohol

- Zero (0.00) Blood Alcohol on site. A 0.00 BAC limit means you cannot have any alcohol at all in your blood for working on site.
- Drugs & Alcohol are not permitted on site
- Site random Drug & Alcohol testing is in place for all workers, visitors and contractors
- If you are taking prescription medication, please ensure your employer and/or your supervisor are aware.
- The consequences of breaching this policy will be dealt with under the Company Disciplinary Procedure.



GMP Policy

The Manildra Shoalhaven Starches site primary function is that of FOOD MANUFACTURING. We must all work together to ensure that the following principles are observed in the plant

- No eating or drinking outside of crib rooms (for the factory)
- Remove jewelry (includes studs)
- Hair nets and beard nets must be worn in production areas at all times.
- Remove pens from top pockets
- Wash hands after meal breaks
- Report broken glass immediately
- Report pest and rodent activity
- No smoking except in designated areas
- **Keep your area clean and tidy**

Site Tidiness and Cleanliness - Housekeeping

Any work which is undertaken in and around the plant is expected to be done in a tidy and clean way at all times. Poor housekeeping can lead to a dangerous area (trip hazards etc.)

- High standards of housekeeping is the responsibility of all workers to ensure:
- Access and egress is maintained at all times, especially to emergency safety equipment including fire extinguishers, eyewash stations, emergency showers, first aid and emergency exits/assembly areas;
- The absence of combustible materials from work areas;
- The absence of trip or slip hazards and obstacles in travel paths; and
- Safe storage of materials and supplies.
- As a minimum, at the end of a work day, the site shall be fully cleaned and free from debris, with remaining in-use materials/equipment neatly stacked and secured, prior to leaving the site.

If you need a bin and cannot find one, please ask your Person In Charge.

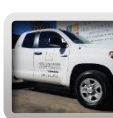


Site Access for Light Vehicles (Gates etc.)

Vehicle Requirements for the Factory

If you are bringing a vehicle into the site / factory (not the carpark) – Then you must complete the “Vehicle Access Induction” and adhere to the following compliance rules

- Vehicle must be roadworthy and registered
- Driver must hold a current driver's licence
- Vehicle must have a Flashing Light and be in working order
- Vehicle must be fitted with a UHF Radio and be in working order. A Two Way Radio is to be used to communicate with Forklifts and other vehicles. Announce your intentions at blind spots, access roads and Stillage Corner.
- Vehicle must display their company Logo in large format
- Vehicle must have a working Fire Extinguisher and First Aid Kit
- Speed limit on site is strictly 10 kph
- Tailgating other vehicles through gates is forbidden
- Mobile phone usage is prohibited unless a handsfree unit is fitted
- All heavy vehicles must have a working reversing alarm fitted
- Vehicles are not to be parked in the NO PARKING zones.
- Contractor vehicles are to unload and remove the vehicle from site. There is NO PARKING on site at any time unless prior approval has been gained from the Manildra Contact.



- Manildra Shoalhaven Starches is not responsible for any damage caused to any vehicle on site
- Only ONE vehicle is allowed on site per access card – i.e. – don't let a single access card allow multiple vehicles on site through the gate.

HEAVY VEHICLES

- All heavy vehicles that require road registration working on Manildra sites must be road registered.
- All heavy vehicles that require road registration working on Manildra sites must be driven by a licenced driver.

Gate 13 – Main Entry

Gate 13 is the main entry gate for heavy transport via weighbridge to the site, Do Not obstruct this entry.

GPS Address – 26 Bolong Road, Bomaderry. Next to the Cleary Bros Site



On entry, Contractor Light Vehicles must use the immediate **left** after entering through Gate 13. This road is two way and has NO PARKING signs that must be obeyed. Parking in this area will obstruct the Heavy Vehicles and Container Forklifts.

- Speed limit of 10 km/hr. must be followed and the Two Way Radio must be on channel 39 to communicate with other vehicles, small forklifts and Large Container Forklifts.
- No Tailgating is allowed through Gate 13.
- **Gate 13** is used to access DDG Dryers and Internal Packer Yard and the Boiler House. The road to these areas uses 2 different Radio Channels;
 - Radio Channel 39 is used for the roadway to DDG Dryers and Internal packer Yard.
 - Radio Channel 30 is used in the boiler house area.
- Follow all STOP signs on these roadways.
- Only proceed on these roadways when approved by Container Forks and other Heavy Vehicles.

Gate 9 – Pneumatic Tanker Truck Loading

Gate 9 is used to access Packer Bulk Loadout area and is Bulk Tanker Access only, unless prior approval gained from Manildra Contact – this is not a regular entrance into the site.

GPS Address – 160 Bolong Road, Bomaderry.



- **Gate 9** is used to access Packer Bulk Loadout area and is Bulk Tanker Access only, unless prior approval gained from Manildra Contact.
- 2 hours prior notification is required for all Bulk Tankers by contacting **44238246**
- Endeavour Energy have right of entry 24 hours, 7 days a week
- Rail Movements have right of way when operational
- Exit of Manildra Shoalhaven site for Bulk Tankers is via **Gate 13**

Gate 7 – Entry & Exit

Gate 7 is the access gate for the starch plant. Main Starch is Exit only unless previously approved by a Manildra Shoalhaven Contact.

GPS Address – 160 Bolong Road, Bomaderry.



- This entry is used for Chemical Deliveries, contractor items Drop Off and Light Vehicle Exit.
- Do not park in this area, unless approved by the Manildra Shoalhaven Contact, to prevent the area being blocked.
- Notify Starch Control Room (44238216)



Gate 5 – Entry & Exit

Gate 5 is the access gate for the glucose and ethanol plant.

GPS Address – 180 Bolong Road, Bomaderry.



- Ethanol and Glucose. The gate and driveway are ONE WAY ONLY for all Heavy and Light Vehicles
- Ethanol UHF Ch28 – Phone #44238229
- Glucose UHF Ch29 – Phone #44238235
- Import Grain Vehicles have right of way when operating in this area
- Parking is time limited for Ethanol Tankers awaiting loads
- Transport and delivery of Chemicals is high risk and safe distances should be always maintained
- Ensure all Liquid Starch loading transport vehicles do not hinder access to the driveway.
- There is NO Parking for Contractor light vehicles in this area unless prior approval from Manildra Shoalhaven contact
- All unloading/loading activities of light vehicles is time limited to prevent hindering driveway access
- Light vehicles must not enter the loadout area and only travel on the approved driveway access

Dairy Farmers / Maintenance – Entry & Exit

The “Old Dairy Farmers” Entrance is now the access and carpark for the QA Department, The Maintenance Department and the Eastern Site Container Yard.

Address – 220 Bolong Road, Bomaderry, NSW, 2541



This entry is used for

- **U-Turn bay from the North Carpark**
- Access and parking at the Maintenance Department
- Access and parking at the QA department
- Access to the eastern container yard

Do not park in this area, unless approved by the Manildra Shoalhaven Contact, to prevent the area being blocked or drive against the direction arrows



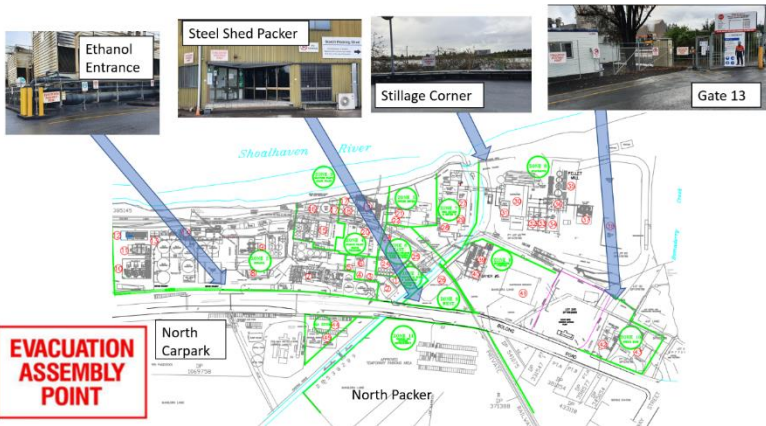
Site Evacuation

There are various reasons why the site may need to be evacuated. The most obvious is fire. The factory has a dedicated on-site Fire-crew (on shift in production areas)

The pre-evacuation alarm starts with the **beeping sound**. There are flashing lights which are in certain parts of the factory (high noise areas etc.). Stop what you are doing and listen for instructions on the PA or from Manildra Operators.



This pre-evacuation alarm is either cancelled (for a false alarm) or **an evacuation alarm is triggered**. This is a “whooping” sound – accompanied by an **“EVACUATE NOW”** voice over. **Stop what you are doing and proceed to the nearest evacuation assembly point**. You will receive further instructions from there on.



Excerpt from Site Induction

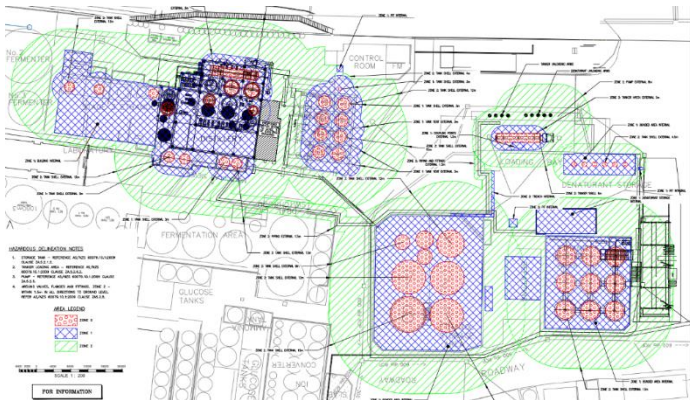
Site Hazards

Hazardous / Explosive Areas (Zoned Areas)

The site has areas which have the potential for explosive atmospheres – here are some general notes.

- **Biogas** is generated at the Wastewater treatment plant. Biogas is a flammable and explosive gas – and burnt on site in boilers to generate steam
- **Natural Gas** is supplied to the factory – Natural gas is burnt in the boilers to generate steam, it is also burnt in the inlet of the flash dryers (Starch & Gluten Dryers – The Cogeneration Plant has a high pressure gas main feeding the plant, which is an underground pipe in the plant property
- **Flour Dust, Starch Dust, Gluten Dust and Gemspray Dextrose dust** are all explosive in the right atmosphere conditions. A general rule is that if you cannot see more than 3m in front of you, evacuate the building and inform your supervisor or a Person In Charge.
- There are **hazardous areas** in the **ethanol plant** where **mobile phones and other electronics are not allowed**. This is due to the potential explosion risks in this area (due to potential ethanol vapor). There are mobile phone lockers provided for workers in this area.

If you have any questions about these areas please ask your Person In Charge. You must consider the hazard of explosion as a part of any hot works in the plant.



Hazardous / Inert Atmospheres

The site has areas which have the potential for hazardous & inert atmospheres – here are some general notes.

- There are **hazardous areas** in the **ethanol** plant around the fermenters. **The process generates Carbon Dioxide (CO₂)** which can escape to atmosphere. CO₂ is heavier than air, so will sink to the ground. There is the potential for this odourless, colourless gas to engulf someone – leading to asphyxiation. In these parts of the plant, ventilators are worn by workers to be able to breathe in the event of a leak
- **Nitrogen gas is generated on site** – nitrogen is used to remove oxygen from the heads of the ethanol storage tanks. Nitrogen is not toxic since about 78% of the air we breathe contains this gas. However, it is harmful and it has NO SMELL. It can cause suffocation by replacing the oxygen in a confined area. Its presence will give false readings when using certain gas detectors. Altair 5x site Gas detectors will register an alarm of low oxygen in a Nitrogen environment.

Dangerous Goods and Hazardous Chemicals

The site has many dangerous chemicals which are used for various functions.

- Chemicals are used in the site for process modification (additives to product), sanitation & cleaning, water quality improvement and several other reasons.
- Some examples of hazardous chemicals used on site every day are Sodium Hypochlorite (Bleach), Hydrochloric Acid, Sulfuric Acid, Nitric Acid, Sodium Hydroxide (Caustic), Chlorine Dioxide, Acetic Anhydride.
- There are SDS (safety data sheets) around the storage depots for the chemicals. **A table of chemical reactions is at the end of this book**
- Do not work on or with any chemicals unless you have had some chemical awareness training.
- **If working around a chemical pipe or storage, please familiarize yourself with and test the safety shower for that area, test any hoses and confirm the spill kit locations**
- If a chemical comes in contact with you - be sure to clean / wash at the safety shower, then report to your supervisor or the person in charge.



Noise

There are parts of the site where the sound level is greater than 100dB(A). **Exposure to hazardous noise at work is a major cause of hearing loss for workers in several industry sectors across NSW.**

The acceptable level of noise that any worker can be exposed to in the workplace is 85 decibels (dB) averaged over an eight-hour period (referred to as dB(A)). All noise above this level is considered hazardous noise.

A good rule of thumb is: If you have to raise your voice to be heard, the noise level is likely to be 85 dB(A) or more.

It's important to know that noise doesn't have to be painful to be doing damage to the human ear.

Exposure to hazardous noise can cause temporary or permanent NIHL and tinnitus (ringing in the ears). Hazardous noise damages the hair cells in the inner ear – and, once they are destroyed, they never grow back.

Some very loud noises, such as explosive powered nail guns, firearms, stamping presses and forges, can damage your hearing instantly. This is known as acoustic trauma.



Trains

The site has regular train movements in and out of the factory areas. The train delivers product (wheat/flour) to site and takes our finished goods away in shipping containers.

- Trains are hazardous. They take a long time to stop, and the driver may not see you. Trains have right of way (pedestrians and vehicles must give way)
- DO NOT cross the rail line in front or rear of the train when it is in motion.
- If the train is STOPPED, you must allow yourself at least **20 metres room if going around on either end.**
- **YOU MUST NOT** go over or under the Rail Wagons at any time. **This is a dismissible offence.**
- **Always** get the attention of the train driver and/or shunters prior to crossing the rail.

Pedestrians must stay on walkways and observe the train warning systems which are:

- Blue flashing lights along the rail lines.
- Audible ringing bells.

Always follow instructions from shunters or rail personnel.

Rail Corridor Risks

Working in the rail corridor inherits a number of risks, including;

- Collision between train and workers
- Collision between train and other wagons/locomotives or motor vehicle
- Overrun limit of authority leading to collision
- Electrocutation
- Slips, Trips and Falls
- Derailment



Excerpt from Rail Safety Training



Pedestrians must not cross the red painted lines next to the rail lines if there is a train on the rail.

(ie, you cannot be in between the red line and the train shared area)

Plant and Equipment

The Shoalhaven Starches site is a manufacturing facility. There are many different processes and plant required to facilitate the production.

- The site has many types of equipment - motors, pumps, gearboxes, high speed machines, decanters, centrifuges, fans and screw conveyors which all have the potential to cause bodily harm. There are guards installed to prevent harm during normal operations. There are maintenance and installation work which may require the machine to be isolated correctly to prevent injury – see section “Personal Locks (Red Locks) / Isolation”
- Trucks, Cranes, EWP’s, B-Doubles and Scissor lifts are in use regularly in the site for projects and maintenance works. Be mindful of these movements around the site.

Forklifts & Reach Stackers

The site has regular forklift movements – in the plant areas, and in the container yard areas. Forklifts on site are 1.6T all the way up to **32T**.

- Forklifts & Reach Stackers have right of way (**pedestrians must give way, and stay on the defined pathways**)
- Get the drivers attention if you are in the area
- Pedestrians, contractors and visitors are not to enter the packaging operations without approval from the packing plant supervisors
- Forklifts pose a high risk to pedestrians. It can be hard for the driver to see you
- Do not walk through container yard or under containers being moved by forklifts
- If you are using a forklift, your license must be up to date. You must have approval for access on the forklifts (provided by the safety team)
- **Do not leave** a forklift running and leave it (3m rule)
- **Do not share** your access card with another worker to start a production forklift as you will then be responsible for that unit.



Site Map – Aerial -





nearn

Tue May 30 2023

Imagery © 2023 Nearmap, HERE

20 m

A large version of
this map, and the
future digital map
available here



- ZONE 9.
- 44. STARCH DRYER #5.
- 45. SUBSTATION 13.
- 46. DRYER CONSTRUCTION ZONE.
- ZONE 10.
- 47. NORTH PACKER CONSTRUCTION ZONE.
- ZONE 11.
- 48. GAS FACILITY.
- 49. QA OFFICE.
- 50. CAR PARK.
- ZONE 12.
- 51. OHS.
- 52. ENGINEERING OFFICE.



- FIRST AID KIT.
- EVACUATION ASSEMBLY POINTS.
- PROJECTS UNDER CONSTRUCTION.
- WALKWAYS.

DRA P LIAN	P.C.	SHOALHAVEN STARCHES.BOMADERRY.NSW.		SHT SIZE
	CHKD A.T.	DATE 21/08/22	DWG TITLE	A3
	APPD	DATE	OVERALL PLANT SITE VIEW. BUILDING NUMBERS.	REV.
	SCALE 1:2500(A3)	PROJECT No. 7314A	DWG No. MN7314-001	P02

First Aid ...

GD6 Wete...

Laboratory

Switch Ya...





Working on Site.

There are 6 categories of contractors on our site. The requirements increase as we progress through the list -

- Delivery and Transport Drivers
- Special cases – visitors, sales people etc.
- Operations support (Cleaners, QA testers etc.)
- Maintenance Workers & Contractors
- Construction and Projects workers and Contractors
- Working in the ethanol plant

The requirement for each category is stipulated by the Person In Charge.

The site has significant construction works underway – and many of the risks of the site are shared with the construction works.

All workers will act immediately on reasonable safety instructions or directions provided by Manildra management, supervisors or person's-in-charge

Mandatory PPE (Personal Protective Equipment)

The minimum PPE required for site access for EVERYONE is:

- Safety work boots / steel cap
- Eye Protection
- Long Trousers
- Hi Vis Safety Vest or clothing.
- Hard Hats are mandatory everywhere in site.
- Note - Shorts, singlets and thongs are not permitted on site.
- Some works will require additional PPE in addition to this list (welding masks, harness etc.)



Security

Manildra Group reserves the right to

- Video recording (surveillance cameras on site) in all areas on site
- Search vehicles, toolboxes, bags and/or containers of any description when entering or leaving the site.

By entering our premises, you are agreeing to these conditions.



Smoking

Smoking on site in non-smoking areas is forbidden – this includes vaping

There is a dedicated smoking area – please discuss with your Person In Charge for location.

If you are found on site smoking, you may be instantly removed from site, and asked to re-complete you site inductions – at the discretion of Manildra management



Amenities

Due to the current expansion on site, the amenities around site change regularly for contractors.

There are dedicated contractor amenities – please discuss with the Person in Charge for locations.

Environmental

Please note the following

- Report all spills immediately to your Person In Charge or manager– **NO MATTER HOW SMALL.**
- All workers on site are responsible for performing their duties in an environmentally safe and responsible manner
- Dispose of all rubbish in the appropriate bin. If you cannot find a bin, ask a supervisor. **Please do not leave rubbish in the plant.**

Mobile Phones

Mobile phones are allowed in most areas on the site – these are the rules for mobile phones in the site.

- There are **hazardous areas** in the **ethanol** plant where mobile phones are not allowed. This is due to the potential explosion risks in this area. There are mobile phone lockers provided for workers in this area.
- Do not take any photos on site of the production process without permission from a Manildra Manager
- Do not walk and talk on your mobile phone in the plant – please stop to have the conversion. The factory walkways require your full attention when walking around
- Posting any photos or videos from inside the factory to social media is not authorized without permission from a Manildra manager.



Safe System of Work

All work at Shoalhaven Starches is done under a safe system that includes:

- an Authority to Work Permit system. Below, items in **GREEN** require a specific permit for that task. Permits are provided by the Person In Charge
- the use of a Safe Work Method Statement (SWMS)
- an Isolation and Locking system
- rules for performing high risk work

You must follow the safe system of work.

- The FENCED construction sites will also have a dedicated “Construction Health, Safety & Environmental Management Plan” – (CHSEMP) This is a site specific safety document – available at the sign in area in the site or with the construction supervisor

Electrical Safety

An electrical risk is something that can cause death, serious injury or shock. It can be direct or indirect contact. **The use of battery powered equipment is encouraged on our site to help mitigate the risk of 240v leads and electric shock.**

For working on site:

- **Use battery tools where possible**
- Ensure your equipment leads are tagged and tested
- **A Portable Electrical Equipment Permit is required for 240v leads, welders and other 240v items to be provided by the person in charge**
- Report any electrical issues to your supervisor
- **If Required - Extension leads MUST**
 - be regularly inspected, tagged and tested
 - hung on insulated hooks (on timber, plastic) and not draped on metal or over edges, or go through water on the ground
 - not be connected to another extension lead

The site has overhead 33kW powerlines, as well as 11kV powerlines underground. Any work within 3 metres of the 33kV Overhead Powerlines must consider the risks (cranes, EWP's + trucks are all at risk in these areas) Any digging, trenching or penetrations into the ground must consider the risk of underground power.



SafeWork NSW



Managing electrical risks in the workplace

Working in the vicinity of overhead and underground electric lines (SWA)

Hot Work

As per the section on Hazardous Areas, there are zones in the factory which have the potential for fire or explosion.

Hot work is undertaken in the factory for maintenance and projects work – in the form of welding, grinding, oxy cutting, steel works etc.

- A **“hot work permit” is required** for welding, grinding, oxy cutting or naked flames at Manildra unless it is in a Designated Hot work Zone. **To be provided by the person in charge**
- You must control a 15 metre radius around the point where the Hot Work is to be undertaken, including the space above and below that area.
- **No Hot Work is allowed** in Hazardous Areas (ethanol/distillery/dusty environments) **without strict controls and approval from Manildra management**
- **See section “Hazardous / Explosive Areas (Zoned Areas)” earlier in this document**
- You must have a **fire extinguisher** - Dry Chemical Powder Extinguisher as extinguisher for Hot Works (DCP class A,B,E)
- You must familiarize yourself with the **local fire hose reels** and sprinklers (if applicable)



Fire Hose Reels

There are many hoses around the site – cleaning and washdown is the common use. The fire hose reels are not to be used for this function.

- The site fire hose reels are linked to the site fire system. If the system detects that a fire hose reel is being used, then the site wide fire alarm activates.
- I.e. – the **ONLY** use for the site fire hose reels is to fight a fire.



Tags

There are 2 Kinds of Tags at Manildra – these can be obtained from your Person In Charge as required

Out of Service Tags

- Out of Service Tag To prevent damage to materials, plant or personnel if equipment is operated
- It must not be used as an information tag
- No one must attempt to operate equipment with an Out of Service tag attached (unless authorised)
- Anyone can place an Out of Service Tag on faulty equipment.
- *Example: A pump has a failed (seized) motor. A maintenance fitter puts an out of service tag on the pump while obtaining the parts to repair*

Information Tags

- Used to convey information about hazards and controls
- Used on barricades i.e. Why the barricade is there (Falling objects)
- Duration the barricade or control will be in place
- Contact Mobile phone Number
- *Example: Danger Tape has been erected around an EWP lift zone, an information tag must be added to provide information to anyone in the area who may need access to the area*



Barricades

There are 2 Kinds of barricading tape used regularly.

Caution Barricades

- If entry to the caution zone is required you must stop, assess the hazards, and then proceed with caution – An information tag is required.
- *Example: A crane is being used at the end of a designated footpath, the caution tape is put up to pause people and make them aware of the crane in an area. An information tag is required to be filled in and attached to the tape*



Danger Barricades

- If placing danger tape, you must attach an information tag. You must remove the tape at the end of the job.
- For access through a danger barricade you must first read the information tag and make contact with the Barricade Owner.
- Entry into the Danger Zone may be denied to non-essential people by the Barricade Owner.
- If allowed entry, the entering individual must review and sign onto the SWMS or risk assessment prior to entry to perform work. They must follow controls and wear appropriate PPE.
- *Example: A leak has been identified on a Sodium Hypochlorite pipe into a walkway, danger tape has been placed around the area the leak affects to prevent people walking into that area while waiting for a repair. An information tag is required to be filled in and attached to the tape. Workers coming to fix the leak must sign on to the SWMS*



Working at Heights

There are many scenarios which require working at heights in and around the factory - **Where there is the potential for a person or object to fall from a height greater than 2 metres no work is to be carried out without fall protection or fall arrest systems in place (High risk work)**

If working at heights, you must be trained and develop a safe system of work that considers the falls hierarchy of risk control Falls Hierarchy of Risk Control (Start with number 1 and work down)

1. Work on ground if possible
2. Work on solid Construction
3. Work on temporary construction
4. Work positioning systems (static lines etc.)
5. Fall Arrest Systems (Personal energy absorber, lanyard etc.)
6. Fall restraint systems (fixed length lanyard, retractable devices)



Manildra policy for working at Heights is available from the safety department. Document MG-OHS-0003

Delivery and Transport Drivers

- Transport Drivers must have their side rails up when walking on the top of a tanker.
- Harness and working at heights training as required.
- For delivery and transport drivers / workers unloading flatbed trucks (Steel, Pipes, Equipment, Parts, Product etc)
 - Stay on the ground as much as possible by
 - Pre-configuring the load (pre sling the load)
 - Attach restraints from the ground
 - If the vehicle has side fall protection systems (removable handrails or restraint systems, they must be utilised)



Ladders (Erection and Working)

Many incidents occur using ladders.

- A **“Working at Heights” permit is required for ladder use to be provided by the person in charge**
- Extension or single ladders should only be used as a means of access to or egress from a work area.
- They should only be used as a working platform for light work of short duration that can be carried out safely on the ladder in full compliance with this document.
- Consider whether an elevating work platform, scaffolding, a mobile step platform, or a platform ladder would be safer and more efficient

Scaffold (Erection and Working)

- A **“Working at Heights” permit is required for scaffold erection & dismantle to be provided by the person in charge**
- Working at heights policy and procedure must be followed on site.
- All scaffolding is erected, **altered and dismantled by Competent Persons.**
- To modify a scaffold once erected, please discuss with the Person In Charge
- Personnel using a scaffold must inspect the Scaff tag to:
 - Determine the duty of the scaffold (light, medium, heavy)
 - Ensure it is currently safe to use (i.e., displaying the green insert).
 - Determine if it has been inspected within 30 days.
- If no Scaff tag is present, then entry onto or use of the scaffold is not permitted.
- Handover certificate must be provided to the Person In Charge
- Inspection reports must be provided to the Person In Charge

MEWP (Mobile Elevated Work Platforms)

- A **“Working at Heights” permit is required for MEWP use to be provided by the person in charge**
- Mobile Elevating Work Platforms (MEWPs) include **scissor lifts, cherry pickers and boom lifts.**
- Workers operating the MEWP shall be trained (yellow card) and instructed in safe operating procedures for the equipment, as well as the safe use of any required fall-arrest or fall-restraint equipment and emergency rescue procedures
- All MEWPs shall be inspected before each use and this pre-start check shall be documented and kept with this equipment – i.e. log book to be filled in daily (checks, correct serial #, no faults, 3 months safety check etc.)
- All operators using a boom type MEWP over 11 meters must hold a WP high risk work license.
- Do Not leave the confines of the platform Edge Protection unless the platform has been fully lowered to ground level

Cherry Pickers and Boom Lift Setup Requirements

- Logbook filled in daily
- Ground Conditions considered suitable for task
- Danger Tape to be erected in lift area – as per danger tape requirements (information tag etc.)
- Rescue plan must
 - be provided and practical – i.e. calling 000 is not an adequate rescue plan.
 - A rescue plan must stipulate how a worker is brought to the ground if required. In most cases, this requires a ‘person on watch’ on the ground, but this can also be covered by another worker in the vicinity who has constant communication with the person in the basket. The person on the ground must be able to operate ground controls
- Persons working in Cherry Pickers and Boom lifts shall wear a properly anchored safety harness.
- You may not exit a boom lift basket at height without Manildra management approval



Cranes

Due to the ongoing construction in the plant, cranes are on site regularly. Manildra owns 2 towers cranes on the site.

- All cranes shall be operated within their Rated Capacity and design classification. An initial estimate is to be conducted by a competent Person to establish the weight of the lift. Where practical and reasonable the load should be less than 75% of the Rated Capacity of the crane.
- Ground conditions below the crane outriggers must be considered for all crane operations on the site.
- Consider the overhead powerlines for all crane lifts
- The dogman and crane operator must be suitably licensed
- Mobile cranes are to be kept 5 meters away from the tower crane structure and load at all times. The ATWs and JSEA for mobile cranes are to highlight interactions with other mobile equipment.
- Complex lift permits and special considerations are made for lifts exceeding 75% of the rated capacity of the crane, or for dual lifts.
- **Lift zone must be barricaded off for pedestrian access (i.e. people cannot walk under a load) in accordance with the above section “Barricades”. The crane MUST not lift a load over workers**
- **A “Lift Study” permit is required for crane use to be approved by the person in charge – to be filled in by the contractor.**



SafeWork NSW



Managing the risks of plant
in the workplace



Moving plant on construction
sites code of practice

Rail Corridor

The site has a rail line which delivers product and shipping containers to site and takes away full shipping containers.

Prior to working within 3m of the rail corridor (setting up a crane, working etc.) – a “Rail Yard Access Authority” must be completed – i.e. Rail Permit.

These permits to be provided by the person in charge – must also be signed off by the Site Transport Controller Prior to work.



Excavation, Trenching and Penetrations

All workers must effectively manage hazards associated with excavation and trenching activities and for work activities where penetrations are made through walls, ceilings or floors (Ground).

Due to the age of the factory, there are many services underground, and these are not always documented on our underground services diagram – see section “Electrical Safety”

An Excavation and Trenching Permit (FMSA240) must be completed:

- before commencing any mechanical excavation on a brownfield site; or
- before commencing excavation/trenching to a depth of 300mm or more on any site (greenfield or brownfield unless approved by an engineering manager); or
- before a worker can enter any excavation or trench with a depth of 1.5 meters or more, or where there is a risk of engulfment due to poor ground conditions.
- where practicable, vacuum excavation is the preferred method for excavating or trenching on brownfield sites (pressure setting must not exceed 2000 psi).

An “Excavation permit” is required for these conditions to be provided by the person in charge – to be filled in by the contractor.

Openings and Holes

- Holes, penetrations and openings through which a person could fall should be made safe immediately after being formed.
- If a cover is used as a control measure, it must be made of a material that is strong enough to prevent persons or objects falling through and must be securely fixed to prevent any dislodgement or accidental removal. In this scenario a sign is to be displayed as shown >

Confined Space

There are many confined spaces at Manildra Energy. **Work in confined spaces is considered a high-risk task. You must be trained to work in confined spaces and hold in-date qualifications.**

Documentation required to enter a confined space are:

- ATW Permit
- Confined Space Permit / Confined Space Risk Assessment
- Confined Space Entry Procedure and Rescue Plan
- Entry & Exit Log
- Confined Space Atmospheric Testing Sheet (See section gas monitoring)
- Confined Space Determination



A Confined space permit is required to work in these areas



Portable Gas Monitors

Portable gas monitors are used whenever working in the distillery (hazardous area), in certain areas around the fermenters (carbon dioxide risk) or when work is to be undertaken in a confined space.

There are 5 different types of gas monitors shared across the site. Manidra will supply calibrated gas monitors to you (availability to be confirmed prior) – **it is very important to discuss the application for the gas monitors with your person in charge.** Some gas monitors measure LEL but not CO₂ – so are not able to protect the user against carbon dioxide.

Ensure that each gas monitor is 'bump tested' prior to every use.



Shoalhaven Starches have a set of Industrial Scientific Radius BZ1 Area Gas Monitors for use in the distillery during major project works. These units have loud audible alarms and different coloured strobes in the event of an alarm – there are 9 units which wirelessly communicate together to create a gas monitor 'net' to protect workers

Shoalhaven Starches Site Control Room Phone List

Control Room	Plant Areas in Control / Responsibility	Control Room Phone Number
Rail Crew	<ul style="list-style-type: none"> Rain Movements in & Out Flour & Grain Tipping 	Rail Leading Hand 0437 376 629
Flour Mill	<ul style="list-style-type: none"> Wheat Storage Flour Mill A, B, C 	Miller 0418 725 335
Main Starch Plant	<ul style="list-style-type: none"> Flour Storage Silos Starch Plant Flour > Gluten + A Starch Funkens, Dough Mixers, Gluten Dryers - GD1, RD2, GD3, GD4, RD5, GD6. Starch Dryer SD1 Starch Refining SDA's, SDC's, Clarifiers, Hydrocyclones 1,2,3, Fiber Screens, Starch / effluent decanters 	Main Starch 44238 216 GD6 – 401 Lower Ground Floor - 266
"New Starch" Control Room	<ul style="list-style-type: none"> Reaction Tanks 1-8 Starch Dryers SD3, SD4, Gem spray / Spray Dryer 	44238 247
Glucose	<ul style="list-style-type: none"> Jet Cooking > All Glucose Product River Cooling 	44238 235
Ethanol Control Room	<ul style="list-style-type: none"> Cooking conversion, Dextrin MVR Evaporator, Fermentation, Beer, Rectification, Sieves. Distillery + Beverage Grade Distillery Ethanol Storage + Loadout Ethanol Cooling Towers 	44238 229
Stillage Control Room	<ul style="list-style-type: none"> Stillage Decanters DDG Dryers Stillage MVR Evaporators Gluten Dryer 7 Future – Ring Dryer 9 	44238 250
Starch Dryer 5 Control Station (In Stillage Control Room)	<ul style="list-style-type: none"> Starch Dryer 5 Reaction Tanks 9,0,11,12 (Resistant starch liquid production) Future – Cationic Starch 	Downstairs – 44238 484 Peeler Floor – 483 Downstairs – 44238 484 Peeler Floor - 483
Pellet Mill	<ul style="list-style-type: none"> Pellet Mill Pellet + Loose DDG Loading Container Loading 	44238 252
Boilerhouse	<ul style="list-style-type: none"> Boilers 1,2,3,4,5,6,7 + Condensate Recovery + Treatment Fuel (Coal, Gas) + Ash RO Water Treatment Plant 	44238 221
WWTP + Farm	<ul style="list-style-type: none"> Waste / Pond management WWTP / RO Units for Water Recovery Biogas Production + Transfer 	Farm 1- 0412 510 292 Farm 3 – 0407 064 888

Starch Packing	<ul style="list-style-type: none"> • Starch Collection and Transfer System • Silo 9 Truck Loadout + Bulk Packer • Silo 18 Packer (25kg + Bulk) • Silo 19 Bulk Packer 	44238 397
Gluten Packing	<ul style="list-style-type: none"> • Gluten Collection and Transfer System • Gluten 25kg Auto Packer • Gluten Bulk Bag Packer 	44238 246

Key Contact Phone List

Contact	Plant Areas in Control / Responsibility	Phone Number
Site Managers		
Tertius Jones	<ul style="list-style-type: none"> • Site Manager 	44238 200
Kane Livingstone	<ul style="list-style-type: none"> • Operations Manager 	
Ben George	<ul style="list-style-type: none"> • Packing and Logistics Manager 	
Paul Whisson	<ul style="list-style-type: none"> • Engineering Manager 	
Aaron Ticehurst	<ul style="list-style-type: none"> • Capital Engineering Manager 	
Michelle East	<ul style="list-style-type: none"> • HR/Safety Manager 	
John Studdert	<ul style="list-style-type: none"> • Compliance Manager 	
Site Safety Contacts		
Tony Barton	<ul style="list-style-type: none"> • Site Fire Services 	44238 398
Brett Ballard	<ul style="list-style-type: none"> • WHS Manager 	
John Patton	<ul style="list-style-type: none"> • Construction Site Safety Coordinator 	
Greg Anderson	<ul style="list-style-type: none"> • WHS Coordinator 	
Jason White	<ul style="list-style-type: none"> • WHS Coordinator 	

Appendix - Train Timetable

See below the train timetable for inbound and outbound trains
(i.e., trains which cross Bolong Road at the times below)

	Outbound	Inbound	Outbound	Inbound
Sunday	00:30hrs	03:00hrs	10:30hrs	16:00hrs
Monday	00:30hrs	03:00hrs	10:30hrs	15:00hrs
Tuesday	00:30hrs	03:00hrs	10:30hrs	15:00hrs
Wednesday	00:30hrs	03:00hrs	10:30hrs	15:00hrs
Thursday	00:30hrs	03:00hrs	10:30hrs	15:00hrs
Friday	00:30hrs	03:00hrs	10:30hrs	15:00hrs
Saturday	00:30hrs	03:00hrs	10:30hrs	16:00hrs

OTHER PLANT AREAS (OFF MAIN SITE)

Appendix - The Farm (WWTP)

The Shoalhaven Starches plant recycles all liquid effluent (waste) through the environmental farm or waste water treatment plant (WWTP).

It is located at 20 Hanigans Lane Bolong NSW 2540 Australia approximately 1.5 km east of the main site (access via Bolong Road)

- The farm has a security gate and multiple entrances
- The farm has an induction specific for working on site.
- Prior to access (if you are new to the site) please contact the farm manager / supervisor
- The farm manager can be contacted on
 - Igor Ciugureanu – 0419 697 135
 - Farm 1 – 0412 510 292
 - Farm 3 – 0407 064 888



WWTP Ponds

Appendix - The Papermill Site (WWTP)

The Manildra Group acquired the old "Shoalhaven Paper" site in 2016. The site is used for

- **Maintenance Stores + Workshop – 02) 44238 249**
- **Projects Stores + Workshops**
- **Product Inventory and warehousing**
- **Administration, Finance, Accounting and IT Support**

Located at 340 Bolong Road, Bomaderry NSW 2541 Australia approximately 2 km east of the main site (access via Bolong Road). (02) 4423 8488

- An induction is required to be completed to work on site
- The site access gate will not work without an access card, and a current site induction for the access card holder
- Instructions (phone numbers) are available at the gate for access for delivery drivers etc who are not site inducted.



Appendix - Chemical Reaction Table

Chemical	Hypo (Sodium Hypochlorite) NaOCl	Caustic (Sodium Hydroxide) NaOH	Hydrochloric Acid HCl	Sulphuric Acid H2SO4
Other names	Bleach	Drain cleaner		
Manidra Uses	Sanitizer	CIP solution	Starch modification	Starch modification
Hypo (Sodium Hypochlorite) NaOCl	OK	Caustic will stabilise Hypo	Chlorine Gas - Do Not Mix	Chlorine Gas - Do Not Mix
Caustic (Sodium Hydroxide) NaOH	Caustic will stabilise Hypo	OK	Extreme Exothermic Reaction. Hydrogen Gas. Makes water and salt	Extreme Exothermic Reaction. Hydrogen Gas. Makes water and salt
Hydrochloric Acid HCl	Chlorine Gas - Do Not Mix	Extreme Exothermic Reaction. Hydrogen Gas. Makes water and salt	OK	OK
Sulphuric Acid H2SO4	Chlorine Gas - Do Not Mix	Extreme Exothermic Reaction. Hydrogen Gas. Makes water and salt	OK	OK
Nitric Acid	Chlorine Gas - and sodium nitrate crystals	Exothermic Reaction.		





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