

**MAJOR PROJECT ASSESSMENT:
Joe White Maltings Pty Ltd
Malting Plant and Packing Facility,
Minto**



Director-General's
Environmental Assessment Report
Prepared by Campbelltown City Council

Section 75I of the
Environmental Planning and Assessment Act 1979

February 2009

Cover photo: Aerial view of the site and surrounding area

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EXECUTIVE SUMMARY

Joe White Maltings Pty Ltd (JWM) proposes to establish a new malting plant and grain packing facility at Minto in the Campbelltown Local Government Area. The site is located within the Minto industrial area and is adjacent to the Main Southern Railway. The site is surrounded by existing light manufacturing, warehousing and other allied industrial land uses, such as a pharmaceuticals manufacturer, storage and warehousing establishment, intermodal shipping terminal and light steel and metal fabricators. The nearest residences are approximately 400 metres to the east of the site.

The full development cost is valued at \$79 million and would contain the following major items of plant: grain receival and packing facilities; office building and car parking; workshop, cleaning bins, four germination vessels, steeping vessels, malt and barley storage silos, analysis bins, drying kiln, switch room and substation. The malting plant would receive approximately 130,000 tonnes of raw barley per annum by rail (approximately 500 tonnes per day). The plant will out load approximately 110,000 tonnes of malt by rail per annum. The export packing plant would receive approximately 140,000 tonnes of grain to be stored and packed into containers at the plant for rail dispatch.

The development would employ approximately 20 operational staff and an average of 50 construction staff. The development would use substantial quantities of water, electricity and natural gas to operate the plant.

The proposal constitutes a 'major project' under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and consequently the Minister for Planning is the approval authority for the project.

During the exhibition period the Department of Planning received 7 submissions on the proposal, including 5 from public authorities and 2 from nearby land owners. Submissions from public authorities raised issues in relation to odour control, air pollution, access to the site by rail and road, servicing and fire safety. Nearby owners raised issue with the potential odour and gas emissions from the plant's operation and the supply of electricity to the plant and surrounds.

The key issues associated with the project include odour emissions, the emission of oxides of nitrogen and the project's visual impacts.

The Council has assessed the merits of the project and is satisfied that the impacts of the project can be managed to ensure an acceptable level of environmental performance.

In addition, the Council's assessment recognises the significance and need for the project in terms of promoting development of this scale near to existing rail facilities in order to minimise use of local roads for transport and providing for the development of employment lands, generating jobs closer to home.

The Council is satisfied that the project has significant social and economic benefits for the south western Sydney community, that any impacts from the project can be adequately managed and that the project is therefore in the public interest.

Consequently, the Council recommends that the malting and packing plant project be approved, subject to conditions.

1. PROPOSED PROJECT

1.1 Project Description

Joe White Maltings Pty. Ltd. (JWM) proposes to construct and operate a malting and packing plant at Minto, within the Campbelltown Local Government Area. The application site is located at Minto, which is approximately 5km north of Campbelltown, situated in Sydney's south western suburbs (refer to Figure 1). This location is approximately 50km from Port Botany and has access to the Main Southern Railway line via an approved rail siding connecting through the adjoining property. The site has access to the Hume Highway/F5 Freeway, which is located approximately 7km away via industrial areas and along arterial status roads.

The legal description of the site is Lot 201 DP 813362, Stonny Batter Road, Minto. It has an area of approximately 2.6 hectares and is situated within an industrial area. The property adjoins industrial uses and the railway line, which runs along its western boundary (refer to Figure 2). Immediately adjacent to the site to the north is the Macarthur Intermodal Shipping Terminal (MIST), through which rail access is proposed and to the south is an existing pharmaceutical manufacturing business. The site fronts Stonny Batter Road, which is accessed from Pembroke Road.

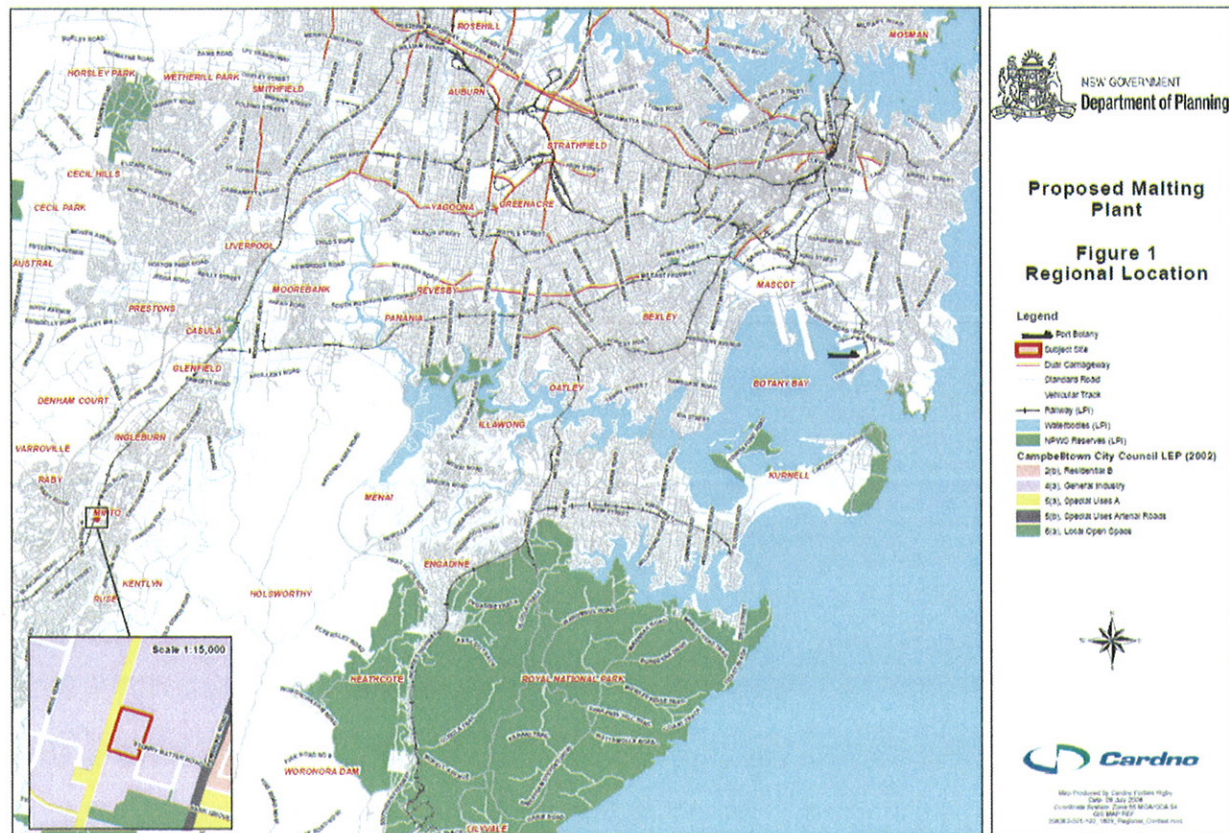


Figure 1: Regional Context (source: Cardno EA page 15)



Figure 2: Aerial photograph of the site and surrounding land uses (source: Department of Lands)

The major components of the project are summarised in Table 1, and depicted in Figures 3 and 4. The project and processes that would be undertaken at the site are described in full within Joe White Malting's Environmental Assessment (EA) prepared by Cardno Pty. Ltd., which is attached as Appendix F.

The process of malting barley can be summarised in five key steps, which are given below.

Step 1. Steeping

Steeping involves immersing barley in water to initiate the germination process and clean the barley. The duration of the steeping process varies and depends on the barley and customer requirements. Generally, steeping takes 24 hours to complete.

Step 2. Germination

The germination process takes about 4 days to complete. Additional water may be added to the grain to increase moisture content up to 45 – 46%. Again, this will depend on customer requirements. This part of the process may involve 1 or 2 water additions per day by a spray system. The germination process also involves pushing air through the grain. Further development of the root system occurs during this period.

Step 3. Kilning

The kilning process takes approximately twenty hours. Kilning stops the germination process and dries the grain by reducing the moisture content of the grain to approximately 4%. The germinated barley now referred to as malt and is a stable product (i.e. chemical/physical changes are no longer occurring) and is therefore able to be stored. Heat for the kiln would be supplied through a natural gas burner system that has been specially developed for drying grain by companies in Sweden and Germany. The kilning process also produces flavour and colour to the malted grain that provides different characters to beer styles.

Step 4. Analysis

Fully enclosed chain conveyors transfer malt from the kiln to the malt analysis bins before final cleaning. At this stage, a chemical analysis is undertaken to determine the specification of the finished malt. Four analysis bins would be located at the plant, with each bin holding one batch of malt to avoid tainting the different batches.

Step 5. Final Cleaning Process

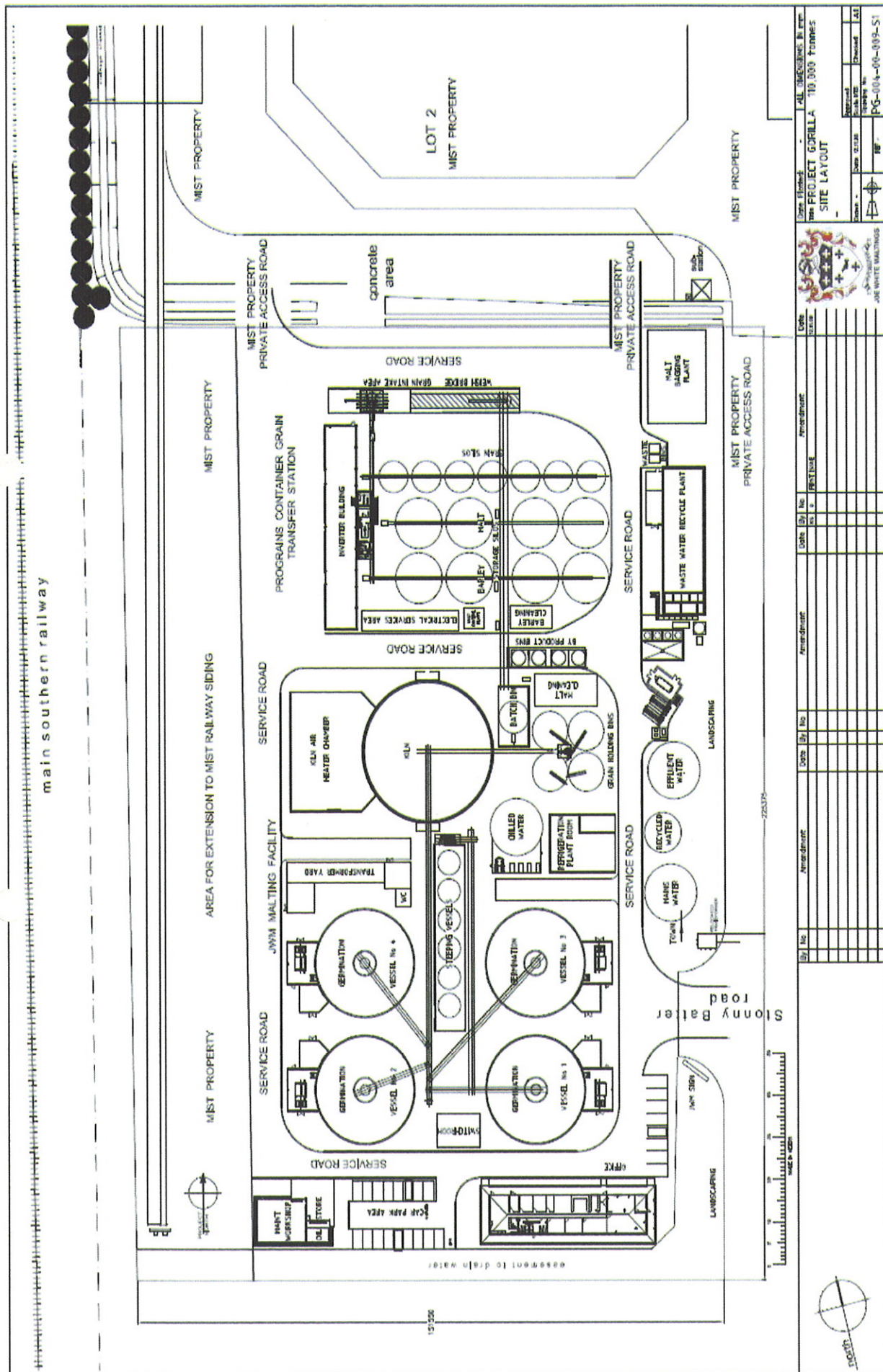
The cleaning process is mechanical and involves the removal of rootlets, dust, loose husks, woven grain, undersized grain, oversized grain, foreign seeds and husks. The removed "malt by-products" constitute approximately 2% of the total batch by weight. This by-product is stored and then sold to feed millers for stock feed.

The process as detailed above, has influenced the design of the structures and layout of the proposed plant, to ensure that energy use is minimised and that efficiencies in grain transport, capacities and other support infrastructure (such as water supply) are maximised. The proposed plant has been extensively modelled on an existing plant established in 1998 by JWM that is located at Forrestfield in Perth's eastern suburbs. The plant layout, capacity and appearance of the development are similar.

Table 1: Major components of the project

Aspect	Description
Project Summary	Construct and operate a malting plant and grain packing facility
Malting plant	The malting plant would possess the ability to receive up to 130,000 tonnes of raw barley per year by rail (approximately 500 tonnes per day). The plant would out load approximately 110,000 tonnes of finished malt per year. All raw and finished product deliveries and dispatch from the site would be made utilising the adjacent Main Southern Railway.

Aspect	Description
	A water recycling plant would also operate at the site that would recover approximately 75% of water for reuse on the site.
Grain transfer/ packing facility	A grain transfer station is included within the Part 3A application. Professional Grain Services, which is a subsidiary of ABB Grain would operate the grain transfer station. In addition to receiving 130,000 tonnes per year of malting barley for the malting plant, the packing facility within the grain transfer station would receive approximately 140,000 tonnes per year of other grains. These include wheat and barley, triticale oats and pulses (peas, lentils, lupins) on behalf of grain exporters (other than ABB Grain) from inland New South Wales transported from country storage areas in purpose-built containers primarily by rail. The transfer, loading and storage of purpose built shipping containers would be undertaken in conjunction with the existing Macarthur Intermodal Shipping Terminal located on the adjacent property.
Associated structures	Several structures would be located on the site as part of the malting and grain packing operation. These are: • Grain silos • Container grain transfer station • Office building and car parking • Workshop • Cleaning bins • Four germination vessels • Steeping vessels • Malt and barley storage silos • Analysis bins • Drying kiln • Switch room and substation • Water treatment and recycle plant. Silos are proposed to be finished in galvanised steel, while the packing plant, the germination and kiln buildings, workshop and cleaning plant will be of Colorbond cladding on a steel frame with Colorbond roofing. The maximum elevation of a structure at the plant would be 32.3 metres above finished ground level (equivalent height of approximately 11 storeys).
Transport	The vast majority of raw and treated product would arrive and leave the site via the existing heavy rail siding adjacent to the subject site. The grain and malt would arrive and be dispatched within shipping containers and be unloaded utilising materials handling equipment located at the adjoining Macarthur Intermodal Shipping Terminal. Up to 68 vehicle movements per day are predicted to be generated by the plant and includes access for staff, contractors, visitors and certain by-product removal from the site by trucks.
Hours of operation	24 hours a day, 7 days per week.
Production capacity	Up to 110,000 tonnes of malted barley per year. Up to 140,000 tonnes of other grain received/transferred to and from the site per year.
Capital value	\$79 million
Jobs	Construction - 50 Operation - 20
Construction duration	Approximately 22 months



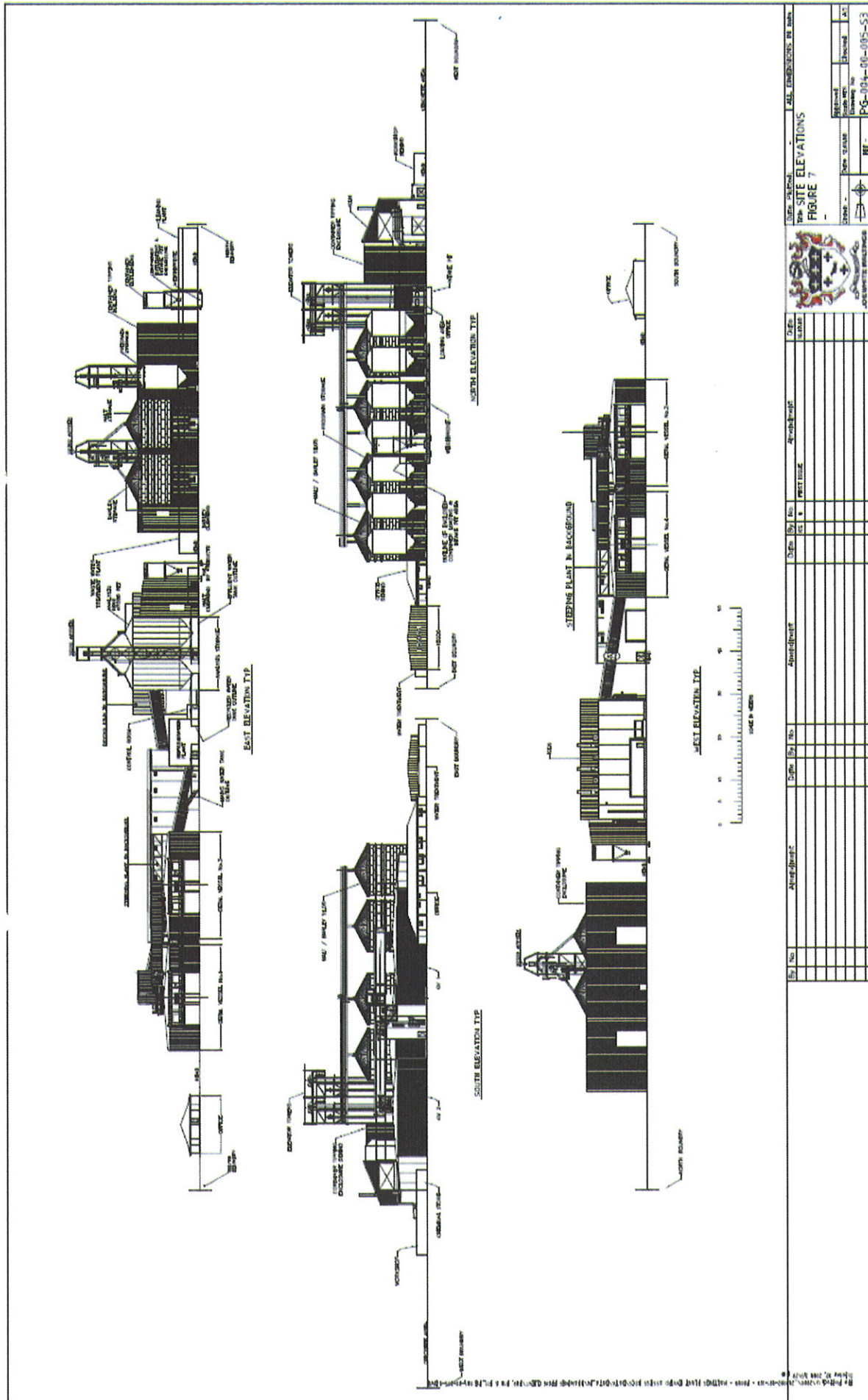


Figure 4: Proposed elevations plan (source: Cardno EA page 26)

1.2 Project Setting

The project site is located at Minto, which is approximately 5km north of Campbelltown, situated in Sydney's south western suburbs. This location is approximately 50km from Port Botany and has access to the Main Southern Railway line via an approved rail siding connecting through the adjoining shipping terminal site. The site has access to the Hume Highway/F5 Freeway, which is located approximately 7km away. The links to the highway are predominately via industrial areas and along arterial status roads.

The site is located within the Minto industrial precinct and is surrounded by a variety of warehousing and light industrial land uses such as a pharmaceuticals manufacturing business, a variety of warehousing and distributions operations, steel and metal products fabricators and other industrial service businesses. A Council owned park is located approximately 250 metres to the south of the site, while residential premises are located approximately 400 metres at the closest point to the east.

The site has good access to transport infrastructure (rail and road) as well as services such as water, electricity and natural gas.

The site has previously been used as a timber storage and house roof truss manufacturing business. The site is presently not being utilised, however contains an existing series of shedding and outbuildings as well as extensive paved and sealed areas that would be removed from the property under the proposal.

An easement to drain water runs along the site's southern boundary, while some servicing and access easements burden the site to the north. A recently approved subdivision has been made to afford the location of new railway sidings along the site's western boundary (adjacent to the Main Southern Railway), that would remain under the ownership of the adjoining shipping terminal, although would be utilised by the malting and grain packing plant. The sidings were granted development consent by Campbelltown City Council in May 2007.

1.3 Project Need

Australia is one of the world's largest exporters of malt barley. This puts Australia in prime position to meet the increasing Asian demand for malt barley and benefit from increasing exports. Due to suitable site availability and export infrastructure, NSW is considered by the proponent to be an ideal location from which increased exports can occur.

The Minto location enables the proponent to take maximum advantage of the existing intermodal infrastructure, especially the ability to reduce road freight impacts, costs and inefficiencies by utilising rail, with access to an excess of containers available for storage and export on the adjacent MIST site. The development thus represents an opportunity to better utilise the existing Macarthur Intermodal Shipping Terminal (MIST) facility. Access to rail services via the rail sidings on the adjacent property allows for grain receipt as well as access to Port Botany for export deliveries. The operators of MIST have received approval to extend spur lines to service the subject site by rail, however, have indicated this approved construction would only take place if proven viable. The proponent has also detailed that the plant's construction and operation has the potential to increase the profitability of barley growers within NSW and may also lead to the establishment of new growers throughout the western parts of the state.

An extensive evaluation has been undertaken by the proponent and its parent company in order to consider the subject location against other sites both within NSW and elsewhere, especially Victoria. The proposal is for an integrated operation that will combine both a malt manufacturing plant and a grain receipt and packing plant, so that the packing plant can be utilised for the barley receipt for the malting operation and also the malt out loading function. This optimises efficiency and throughput from the facility.

Comparison of alternative options at other locations has been undertaken by the applicant and is detailed in the Environmental Assessment accompanying the Major Project application. Briefly, this involved a mix of logistics and complexities for the raw material inputs and the dispatch of finished

products to port. On a cost basis, the site at Minto provides the best logistical solution according to the proponent.

The development represents opportunities to value add to the NSW barley industry, which is currently limited to exporting barley in an unprocessed form.

The subject site is considered to be an under utilised but highly accessible industrially zoned property that is well separated from residential areas and other environmental constraints. It has access to services required for the malting process and would provide local employment opportunities.

2. STATUTORY CONTEXT

2.1 Major Project

The proposal is classified as a major project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), because it is development for the purpose of a cereal processing industry with a capital value of more than \$30 million, and therefore triggers the criteria in Clause 3 of Schedule 1 of *State Environmental Planning Policy (Major Projects) 2005*.

Consequently, the Minister for Planning is the approval authority for the project.

2.2 Permissibility

Under Section 75J of the EP&A Act, the Minister cannot approve the carrying out of a project that would be wholly prohibited under an environmental planning instrument.

The project site is zoned 4(a) - General Industry Zone pursuant to Clause 12 of Campbelltown (Urban Area) Local Environmental Plan 2002. Development for the purposes of an 'industry' and 'storage establishment' are permissible with development consent in this zone.

2.3 Exhibition and Notification

Under Section 75(3) of the EP&A Act, the Director-General is required to make the Environmental Assessment (EA) of a project publicly available for at least 30 days.

After accepting the EA for the project, the Department:

- made it publicly available from 20 November until 19 December 2008:
 - on the Department's website,
 - at the Department's Information Centre,
 - at the Nature Conservation Council's Sydney office, and
 - at the Campbelltown City Council administration centre;
- notified landowners in the vicinity of the site about the exhibition period by letter;
- notified relevant State government authorities and Campbelltown City Council by letter; and
- advertised the exhibition in the Campbelltown Macarthur Advertiser and the Macarthur Chronicle newspapers.

This satisfies the requirements in Section 75H(3) of the EP&A Act.

During the assessment process the Department also made a number of documents available for download on the Department's website. These documents included the:

- project application;
- Director-General's environmental assessment requirements;
- An external link to the EA; and
- The applicant's responses to issues raised in submissions.

2.4 Environmental Planning Instruments

Under Section 75I of the EP&A Act, the Director-General's report is to include a copy of or reference to the provisions of any:

- *State Environmental Planning Policy (SEPP)* that substantially govern the carrying out of the project; and
- environmental planning instrument that would (but for Part 3A) substantially govern the carrying out of the project and that have been taken into consideration in the environmental assessment of the project.

The Council has considered the project against the relevant provisions of several environmental planning instruments (including *State Environmental Planning Policy (Major Projects) 2005*, *State Environmental Planning Policy (Infrastructure) 2007*, *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*, *Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment* and *Campbelltown (Urban Area) Local Environmental Plan 2002*).

The Council is satisfied that, subject to the implementation of the recommended conditions of approval, the proposal is generally consistent with the objectives and provisions of these instruments (see Appendix C).

2.5 Objects of the Environmental Planning and Assessment Act 1979

The Minister is required to consider the objects of the EP&A Act when he makes decisions under the Act. The objects of most relevance to the Minister's decision on whether or not to approve this project are those under Section 5(a)(i), (ii), (iii), (vi) and (vii).

'The objects of this Act are:

- (a) to encourage:
 - (i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,
 - (ii) the promotion and co-ordination of the orderly and economic use and development of land,
 - (iii) the protection, provision and co-ordination of communication and utility services, and
 - (vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and
 - (vii) ecologically sustainable development, and
- (b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and
- (c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.'

With respect to ecologically sustainable development (ESD), the EP&A Act adopts the definition in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD 'requires the effective integration of economic and environmental considerations in decision-making processes' and that ESD 'can be achieved through' the implementation of the principles and programs including the precautionary principle, the principle of inter-generational equity, the principle of conservation of biological diversity and ecological integrity, and the principle of improved valuation, pricing and incentive mechanisms. In applying the precautionary principle, public decisions should be guided by careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment and an assessment of the risk-weighted consequences of various options.

The Council has fully considered the objects of the EP&A Act, including the encouragement of ESD, in its assessment of the project application.

The assessment integrates all significant economic and environmental considerations and seeks to avoid any potential serious or irreversible damage to the environment and nearby land users.

Joe White Maltings Pty. Ltd. has also considered a number of alternatives to the proposed project (including the alternative of not proceeding), and considered the project in the light of the principles of ESD.

2.6 Statement of Compliance

Under Section 75I of the EP&A Act, the Director-General's report is required to include a statement relating to compliance with the environmental assessment requirements with respect to the project.

The Council is satisfied that the environmental assessment requirements have been complied with.

3. ISSUES RAISED IN SUBMISSIONS

During the exhibition period, the Department received a total of seven submissions on the project:

- five from public authorities (NSW Roads and Traffic Authority, Sydney Water, NSW Fire Brigades, RailCorp and Department of Environment and Climate Change); and
- two submissions from nearby land owners.

A summary of the issues raised in submissions is provided below. A full copy of these submissions is attached in Appendix E.

3.1 Public Authorities

The DECC is able to support the proposal subject to the Department of Planning adopting the draft Statement of Commitments detailed in the EA subject to amendments relating to air quality, water and noise management.

The RTA required that the swept path for large vehicles entering the site be in accordance with Austroads standards, that all vehicles enter and exit the property in a forward direction and that car parking areas shall be designed in accordance with relevant Australian Standards.

The NSW Fire Brigades expects that the development will comply with the requirements of the Building Code of Australia and relevant Australian Standards and that the property's reticulated water main will incorporate the installation of fire hydrants across the entire site.

Sydney Water acknowledged previous consultations undertaken with the proponent regarding the servicing of the site and will make further assessment as to the proposal's impact on the water and sewerage reticulation infrastructure at the time an application is made for a certificate pursuant to Section 73 of the *Sydney Water Act 1994*.

RailCorp noted previous comments made on the proposal during the initial consultation phase and made further comments on points raised in the EA, including rail access, stormwater capture and disposal and floodlighting adjacent to the Main Southern Railway.

The Council has undertaken the Project Assessment and subsequently did not make a written submission on the proposal. The Council's issues in relation to the development are discussed in further detail in Part 4 of this report.

3.2 Other Submissions

Submissions from nearby land owners raised the following concerns:

- the development's potential impact on air quality via its emission of nitrous oxides and odour;
- the control of vermin at the site; and
- the development's potential impact on electricity supply in the area.

3.3 Response to Submissions

Joe White Maltings Pty. Ltd. has provided responses to the issues raised in submissions (see Appendix D), as well as a revised Statement of Commitments for the project. These have been made publicly available on the Department of Planning's website.

The Council has considered the issues raised in submissions, and the proponent's responses to these issues, in its assessment of the project.

4. ASSESSMENT

4.1 Odour

The proposed project would emit odour from the germination and kilning process that dries the malted barley with hot air. A portion of the hot air is ultimately vented to the atmosphere and would carry the dried barley scent, forming an odour source.

The applicant describes the odour generated at the existing JWM plants as similar to a 'fresh cut lawn and a grassy smell' and no complaints have been received to date in relation to odour from the operation of existing plants (source: EA page 69). Enquiries with the relevant Government Agency in Western Australia confirm that no complaints regarding the Forrestfield plant's operation are recorded.

An initial odour impact assessment was undertaken on the applicant's behalf, pursuant to the Director-General's requirements for the project. Following receipt of a submission in objection to the application, in part based on its potential odour impact and the affect this may have on the production processes of a nearby business, the proponent undertook a more detailed study regarding the plant's potential to create an odour nuisance. The odour impact assessment is contained within Volume 2 of the EA (see Appendix F) and the further submissions and detailed assessment undertaken following receipt of the submission are detailed in the applicant's responses to submissions, contained within Appendix D.

Briefly, the report and supplementary findings detail the existing odour situation at JWM's Forrestfield WA plant and potential odour sources of the proposed plant at Minto. Further, representatives of the proponent visited the nearby manufacturer that made the submission in order to better gauge the extent of the potential issues. Following that meeting and completion of the more intensive odour impact assessment, it became evident that the potential effects of the proposed plant on the objecting business were difficult to determine as there are a number of variable factors that must be considered, including (but not limited to) existing development, the use of diesel locomotives on the adjoining Main Southern Railway and the task of measuring any effects that may result from the subject plant's operation.

In addition, the odour impact assessment and subsequent additional information on that matter were forwarded to the Department of Environment and Climate Change (DECC) for comment. The Department has not raised objection to the proposal on the grounds of an offensive odour being released during the plant's operation and also has noted the exit velocities of gases from proposed exhaust stacks. The DECC requires that the plant shall not be permitted to release an offensive odour, pursuant to Section 129 of the *Protection of the Environment Operations Act 1997*.

Upon completion of additional odour modelling and assessment, including sampling the near identical plant in Forrestfield WA, the proponent's expert concludes "*there is unlikely to be any perceptible effect at the odour concentrations likely to occur due to JWM operations*". It was further concluded that the JWM agricultural processing plant (owing to the types of organic chemicals emitted that may effect flavour and odour production) is unlikely to have any more significant impact on the objecting business's production than existing land uses in the area.

Having regard to the results of odour assessment modeling and the DECC's recommended condition of approval requiring compliance with Section 129 of the *Protection of the Environment Operations Act 1997*, the Council is satisfied that odour is not likely to detrimentally impact on the locality as a result of the plant's operation.

4.2 Air Quality

The emission of oxides of nitrogen was identified as an issue that was required to be assessed as part of the EA via the Director-General's requirements. The process of drying germinated barley utilises a kiln that heats air to dehydrate the product. It is proposed to install and operate a kiln that utilises natural gas to generate heat for this process. Alternatives to using natural gas to provide energy for heating at the site are an oil-fired heater or coal-fired heater. For environmental and economic viability reasons, these options are not considered to be satisfactory by the proponent.

The combustion of natural gas generates oxides of nitrogen. An assessment of impacts that this nitrous oxide generation may have on the local environment and in a cumulative sense was to be assessed by the applicant in accordance with the Director-General's and DECC requirements. The DECC have goals for new developments that have the potential to generate NO_x gases throughout Sydney, which were mentioned in the Department's adequacy assessment and comments on the preliminary environmental assessment prepared by the proponent.

Similarly to the abovementioned odour impact, a detailed assessment was undertaken on the applicant's behalf and subsequently further detail was prepared following receipt of a submission on the project raising concern with the potential for nitrous oxides to adversely impact on a nearby land use. The air quality impact assessment is contained within Volume 2 of the EA (see Appendix F) and the further submissions and detailed assessment undertaken following receipt of the submission are detailed in the applicant's responses to submissions, contained within Appendix D.

The applicant's EA concludes that nitrous oxide emissions from the proposed malting plant would be very localised having regard to the fact that the ambient NO_x environment is already subject to heavy road, rail and other business operations. The report concludes, *"it is very unlikely that the gas burners would result in any exceedences of the NO₂ air quality goals at any sensitive receptors"*. The applicant's EA notes that the proposed nitrous oxide emissions from the site are compliant with relevant State Government criteria, even when combined with existing emissions in the area. Further, the DECC has not raised objection to the equipment proposed to be installed and the likely emissions from the plant and would contain further detailed requirements in an Environment Protection Licence that would be issued for the site's use.

Therefore, subject to the recommended conditions of approval supplied by the Council and the DECC, monitoring of nitrous oxide emissions from the plant and the incorporation of 'best practice' equipment purchase and operation, the Council is satisfied that the project's impacts on air quality are not likely to significantly or detrimentally impact on the environment nor significantly contribute to a worsening of the existing NO_x concentration within the locality.

4.3 Visual Impacts

The proposed plant would have a highest point almost 33 metres above finished ground level. This is significantly higher than other buildings within the general vicinity of the proposed plant site. The height and scale of the project would be a significant feature in the locality, with the magnitude of the plant's built form potentially amplified by the use of reflective galvanised steel finishes for parts of the plant's construction. The plant's potential visual impact was raised by the Council as a matter for consideration during the preliminary environmental assessment preparation phase and in pre-application consultation discussions.

The plant would be located on a site that is essentially in a valley, surrounded at higher levels by residential land uses and transport routes. Grain storage silos and associated gantries across the site are proposed to be finished in galvanised steel that can become reflective depending on the angle of the sun and other prevailing atmospheric conditions, as well as the geographical positioning of receptors.

A visual impact analysis forms part of the proponent's EA and contains photographs of the site from various locations throughout the area, with the plant superimposed on the images to detail the scale and bulk of the malting plant in relation to surrounding buildings.

The results illustrate that the plant would be highly visible from the St Andrews and Bow Bowling residential areas along Campbelltown Road, which is located to the north west of the site. The plant towers above the nearest large industrial building, which has an approved height of 13 metres above ground level.

Figure 5 below is an aerial photograph of a similar recently constructed plant located at Forrestfield in WA. The photograph illustrates the mix of reflective and non reflective materials that are in use at this site, and as similarly proposed for the plant in Minto.



Figure 5: Aerial photograph of existing plant in Forrestfield WA (source: Cardno EA page 35)

It is acknowledged that certain portions of the plant would be finished in neutrally toned and non-reflective Colorbond steel and that reflective stainless steel or galvanised finish metals would tarnish over time. However, it is recommended that certain galvanised portions of the plant, such as the elevated grain storage silos be finished in a painted material to reduce the presence of the development on the landscape and minimise its dominance of views throughout the valley in which it would be situated. A recommended condition of approval requires that elevated grain storage silos are finished in a non-reflective and neutrally toned material.

Should the development be finished in materials as detailed above, the Council considers that the plant is not likely to have a detrimental impact on its immediate surroundings nor would it be incompatibly out of character with the locality. Although it is likely the plant will have a significant presence on the landscape of the district, owing to the shape and spread of structures across the site and the colouration of finished buildings and structures, its construction at the subject site, within an existing industrially developed area is considered to be acceptable.

4.4 Soil and Water

Construction

A Soil and Water Management Plan has been submitted by the applicant and is contained within Volume 2 of the EA, located at Appendix F to this report.

Briefly, prior to any disturbance of the site, the JWM construction contractor would construct flow diversion banks at the upstream boundary of the property to prevent clean runoff from entering the disturbed site and mobilising sediment to the downstream stormwater system. These diversion banks

discharge to Council's stormwater easements and open channels at the northern and southern boundaries of the site via a level spreader to ensure avoidance of erosive flow conditions. Control of runoff from the disturbed area would be via a series of diversion banks with low gradients to reduce flow velocity and encourage settlement of suspended particles. These diversion banks would terminate with level spreaders upstream of sediment fences at the downstream boundary of the site to trap sediment. Maintenance of sediment fences will continue throughout the demolition and construction phase to ensure optimal performance at all times.

A recommended condition of approval that requires the implementation of sediment and erosion control measures during construction has been included as part of the Council's assessment. Having regard to the submitted information and the aforementioned condition, the Council is satisfied that sediment and erosion control measures proposed at the site are adequate.

Water Cycle Management

Water is a critical component of the malting process. The process uses water for its steeping and germination phases. Water use is also used for washing production vessels and surrounds to maintain hygiene standards. With its usage rates of approximately 2.4kL per tonne of malt produced, the proponent claims that the plant would rank as the world's best practice in comparison with other malting companies around the world.

An integral feature of the water cycle management plan for the site is the implementation of a state-of-the-art waste water treatment plant. This proposed Membrane Bio Reactor (MBR) with a Reverse Osmosis (RO) system plans to re-capture around 75% of available plant process water.

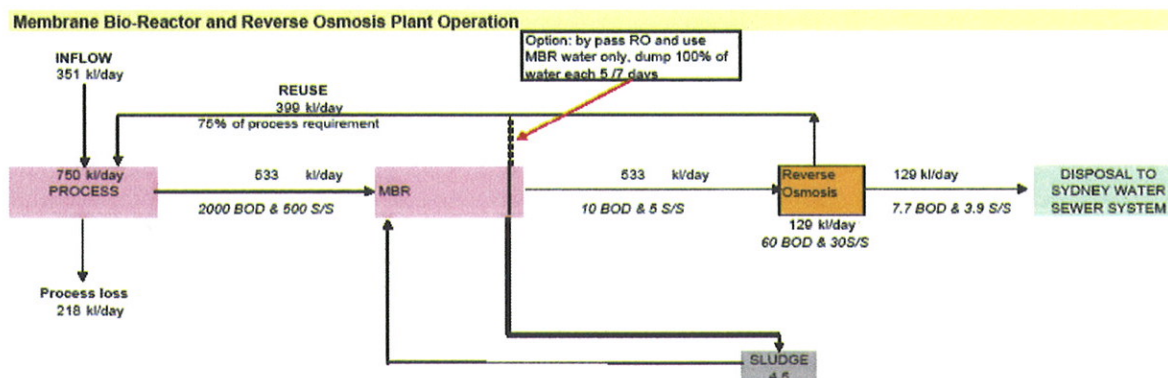


Figure 6: Schematic diagram of the water management system proposed (source: Cardno EA page 75)

Figure 6 is a schematic diagram of the water balance for the MBR and RO plant and indicates the potential recycled volume of water from the process. The plant's steeping and germination process would normally require around 750kL of water each day. This water is proposed to come from recycled water from the treatment plant (400kL) with fresh water from the Sydney Water system for the balance of 350kL.

The same water recycling facility is installed and operating successfully at JWM's Forrestfield WA plant. Given the homogeneity of the malting process, JWM anticipate that comparable results will be achieved at Minto as for Perth. Water minimisation in the process is under constant review, with grain water uptake monitored each season. Traditional malting in Australia has seen two "soaks" of the grain in the initial steeping part of the process. This is the greatest use of water in the process. Through process design and careful selection of barley, JWM uses only one "soak", which saves a considerable volume of water. This technique is reviewed each season upon the review of the barley quality.

From the water treatment plant, approximately 130kL would enter the Sydney Water sewerage system as effluent. Organic sludge waste from the treatment process would be disposed off-site by appropriately licensed contractors.

The proponent has discussed the water and water re-use system and targets with Sydney Water. Sydney Water has accepted the water balance demonstrated in Figure 7 and has issued a Project Feasibility Letter for the malting plant. The letter can be found in Volume 2 of the EA, located at Appendix F to this report. In addition, Sydney Water has also provided the Department with a formal response to the application and notes that further additional work would be undertaken to assess the project's viability at the time an application is made for a certificate pursuant to Section 73 of the *Sydney Water Act 1994*.

Surface Water

The site presently drains by sheet flow from existing hardstand areas, generally to the south west and north west corners of the site. A piped system draining roof areas of buildings currently on the site and some surface areas connects to an existing 900mm diameter Council pipeline located within the easement at the northern boundary of the site. This existing Council pipeline discharges to an open channel draining in a northerly direction at the boundary of the adjoining MIST site, where it connects to twin box culverts under the Main Southern Railway.

The stormwater system proposed in this application would incorporate kerb and gutter to the edge of all pavements, coupled with a formal pit and pipe network sized to cater for site flows and flows from upstream catchments. The proposed stormwater system has two main outlets, replicating the existing flow regime. The northern portion of the site would connect to the 900mm diameter Council pipe within the easement. The southern catchment would connect to the 900mm diameter culvert under the railway. As this pipe is approximately 60 metres south of the site, JWM would construct a new pipe and use Council's existing drainage easement to connect the subject site to Council's system under the rail reserve.

Having two available connection points to drain water from the site provides flexibility to refine the drainage strategy to better suit downstream system capacity. Following formal feedback from Council regarding available downstream capacity. The design of finished surface levels for the site would take advantage of spare system capacity by ensuring direction of proportionally more flow to the north or south system as appropriate.

RailCorp have issued a formal submission on the proposal (See Appendix E of this report) that details its requirements regarding the construction and alteration of stormwater infrastructure within its rail reserve. The preparation of a detailed stormwater management plan finalised in conjunction with the Council and RailCorp would ensure that surface water that traverses the site is adequately captured and disposed of from the property.

Having regard to the above discussion, the Council considers that water management on the site has effectively been planned for, both during construction and operation of the plant. Relevant recommended conditions of approval would lead to ensuring that water use is managed in the most sustainable manner possible, without increasing the risk of harm to the environment following the project's completion.

4.5 Noise

The proposal is unlikely to generate significant and adverse levels of noise during its operation. A noise impact assessment report has been prepared as part of the EA and is located in Volume 2 (see Appendix F of this report). The main sources of noise from the plant during its operation are the germination vessel blower, refrigeration pumps, kiln motors, water treatment pumps, forklift and associated vehicle movements, container stacking and train shunting. These noise sources are largely screened by existing buildings from the nearest residential receptor, approximately 400 metres to the east of the site.

Construction noise and vibration have also been considered as part of the EA. Sources of noise and vibration during construction of the plant include rock sawing, vibration roller use and vessel fabrication.

The applicant's relevant report concludes:

"Noise and vibration emissions from the proposed malting facility at Stonny Batter Road, Minto has been assessed with respect to site specific noise and vibration criteria in accordance with DECC guidelines. Based on levels of a similar facility, the noise from the facility is predicted to comply with the noise criteria at all times. In addition, noise from rail and road transport accessing the site will have negligible noise impact.

No sleep disturbance is predicted from short term noises.

Potential noise and vibration from construction has been assessed based on likely construction equipment, it has been determined that these activities will comply with the applicable criteria. Accordingly no adverse impact is predicted at surrounding receivers"

Noise and its potential impact on sensitive receivers nearby was also considered in depth by the DECC. Following its assessment of the submitted material, the DECC have made recommendations regarding the inclusion of certain conditions. The additions relate to noise levels and boundaries and define the times against which noise levels are to be contained.

The Council is satisfied that noise would be appropriately managed during construction and operation of the plant.

4.6 Other Impacts

Table 2 below details other matters for consideration as part of the project's assessment.

Table 2: Other Impacts

Issue	Assessment	Recommendation
Traffic and transport	- The development would utilise the existing and proposed future rail spur lines that are constructed as part of the adjoining intermodal shipping terminal. Approximately 500 tonnes of grain per day would arrive and depart the site by rail. - Heavy vehicle traffic to and from the site is not considered to be of a significant volume likely to affect the road network in the area. 26 car parking spaces have been provided on site for the use of staff and contractors. - The Council is satisfied that the traffic and transport impacts of the project would be minimal and would be effectively managed by appropriate recommended conditions of approval.	- The Council has recommended conditions of approval to ensure that the proponent liaises with RailCorp regarding rail access to the plant. - The Council has recommended a condition of approval requiring that satisfactory arrangements are in place at all times of the plant's operation to ensure that rail access is available for goods receipt and dispatch. - The Council has recommended a condition of approval that requires the proponent to prepare a traffic management plan in the event that the rail delivery and despatch of grain at the site becomes temporarily unavailable.
Greenhouse Gas	- Scope 1, 2 and 3 emissions relating to the development have been assessed and quantified. - The project would generate the equivalent of 28,597 t CO₂ per year through Scope 1 and 2 emissions. - This equates to approximately 0.26 t CO₂-e per tonne of malt produced on-site. - Best practice measures relating to the combustion of natural gas and electricity consumption have been utilised in the plant's development. - Reliance on rail transport significantly reduces greenhouse gas emissions in comparison to reliance on road-based transportation of goods to and from the site.	A recommended condition of approval requires the proponent to ensure that the plant is run with continued best practice principles in order to maintain the reduced level of gas emissions from the site throughout its operation.

Issue	Assessment	Recommendation
	The Council is satisfied that the potential greenhouse gas of the project would be effectively managed by appropriate recommended condition of approval.	
Hazards	- Certain hazards may arise from the operation of the plant - The applicant has undertaken a Preliminary Hazard Assessment in accordance with Director-General's requirements and SEPP 33. - Certain dangerous goods would be stored on-site including LP Gas, ammonia, natural gas and grain dust. - Based on the screening thresholds contained in SEPP 33, the development is not considered to be hazardous or potentially hazardous industry or storage. - The Department's Major Hazards Unit has not raised issue with the application. - The Council is satisfied that the potential hazard impact of the project would be minimal and would be effectively managed by appropriate recommended conditions of approval.	- NSW Fire Brigades have provided comment on the development, requiring a network of hydrants to be installed at the property to assist in fire control. - The Council has recommended conditions of approval to ensure hazards from the plant are appropriately managed and reported.
Landscaping	- Landscaping potential at the site is limited, having regard to the non-permeable nature of much of its proposed ground finish and the proponent's requirement to reduce the presence of birds in the vicinity that may be attracted by grain. - Landscaping and tree planting is proposed along the front boundary of the site, where it aligns with Stonny Batter Road. - Subject to appropriate planting across the site where possible, the Council is satisfied that landscaping proposed at the site is appropriate.	The Council has recommended a condition of approval that requires the embellishment of plantings within the front setback of the development to enhance the appearance of the development when viewed from Stonny Batter Road. The recommended condition also requires the use of low water demand and locally indigenous species.
Vermin Control	- Certain vermin, such as mice, rats and birds are likely to be attracted to the site. - The proponent intends to control vermin in order to preserve hygiene and quality control standards for goods produced and stored at the site. - As the site would be an export facility, the plant is required to comply with standards developed and enforced by the Australian Quarantine Inspection Service. - The potential impact of vermin was raised in a submission made by a nearby land owner. - A vermin management and control plan has been prepared by the applicant as part of the application and embellished following receipt of the submission. The plan is located in Appendix D of this report. - The Council is satisfied that an adequate vermin control plan would be instituted	The Council has recommended a condition of approval requiring the installation and proper maintenance of vermin control techniques at the site in accordance with the proponents Vermin Control Plan.

Issue	Assessment	Recommendation
	on the premises in order to minimise any potential negative impacts of the plant's operation on neighbouring properties.	
Utilities	• The plant would use significant quantities of natural gas and fresh water during its operation. • The proponent has been engaged in detailed discussions with Sydney Water and Alinta Gas regarding servicing of the site. • The results of the work undertaken to date illustrate that site can be adequately serviced by those suppliers. • The plant's impact on electricity supply was raised as a matter of concern in a submission from a nearby land owner. • The applicant has provided a response to the submission, which is located in Appendix D of this report. The response indicates that the plant's operation would not jeopardise the supply of electricity in the locality as there are various means that may be employed by Integral Energy to ensure that supplies of electricity in the area remain at sufficient capacity. • The Council is satisfied that the project can be adequately serviced.	• The Council has recommended conditions of approval requiring the proponent to liaise with relevant utility providers with regard to the proper servicing of the development.
Waste	• The plant is not likely to generate significant amounts of solid waste during its operation. • Solid waste that would be generated include sludge from the wastewater treatment plant and relatively small amounts of grain spoilage. • Solid waste would be stored on-site until collection by licensed contractors. • Liquid waste is primarily remaining water from the steepage and germination process that cannot be treated in the plant's recycling plant. This would be disposed of via Sydney Water's sewerage system, subject to a trade waste agreement. • A demolition and construction waste management plan would be completed upon award of a tender for the plant's construction. • The Council is satisfied that waste would be appropriately captured and treated and that 'best practice' principles with regard to waste minimisation would be instituted at the plant.	• The Council has recommended conditions of approval relating to waste storage and collection. • The Council has recommended a condition of approval regarding the completion of a demolition and construction waste management plan to be completed prior to the issue of a Construction Certificate for the development.

5. RECOMMENDED CONDITIONS

The Council has prepared recommended conditions of approval for the project (see Appendix B), and summarised these conditions in Appendix A. These conditions are required to:

- prevent, minimise, and/or offset adverse impacts of the project;
- set standards and performance measures for acceptable environmental performance;
- ensure regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

The Council has provided the draft conditions of approval for the project to relevant government authorities for comment, and has incorporated these comments into the conditions of approval where appropriate.

Joe White Maltings Pty. Ltd. has reviewed the recommended conditions.

6. CONCLUSION

The Council has assessed the EA and submissions on the project in accordance with the requirements of the *Environmental Planning and Assessment Regulation 2000*.

This assessment shows the key issues relate to odour emissions, the emission of oxides of nitrogen and the project's visual impacts. Other issues include soil and water management, noise generation, greenhouse gas emissions, traffic, hazards, waste management and utility provision.

The Council has assessed these concerns in detail, having regard to the objects of the EP&A Act and the principles of ecologically sustainable development. The Council is satisfied that the project would not lead to unacceptable environmental impacts.

The implementation of best practice control and monitoring of odour and nitrous oxide emissions would manage the air quality impacts of the development. The alteration of material and colour finishing for silos at the site would minimise the development's visual impact at its location. The appropriate planning and implementation of design solutions would ensure that water traversing the site would not inappropriately impact on the site itself and neighbouring properties.

The Council is satisfied that the proposed mitigation measures detailed throughout the applicant's EA and the proponent's Statement of Commitments, as well as the recommended conditions of approval would reduce the impacts of the project to acceptable levels.

The project would generate social and economic benefits, with a capital investment value of \$90 million, employment creation during construction and operation and export opportunities for the state and nation. It will see the redevelopment of an underutilised site of limited existing amenity and will enable the extension and utilisation of a rail facility, which has existing approvals without any significant detrimental impacts on the built or natural environment.

Consequently, The Council believes the project is in the public interest and should be approved subject to conditions.

7. RECOMMENDATION

It is RECOMMENDED that the Minister:

- consider the findings and recommendations of this report;
- approve the project application, subject to conditions, under section 75J of the Environmental Planning and Assessment Act 1979; and
- sign the attached project approval (see Appendix B).



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Campbelltown City Council



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Director Planning and Environment
Campbelltown City Council