



9 July 2008

Our ref: DHB/07108

Director-General
NSW Department of Planning
23 – 33 Bridge Street,
SYDNEY NSW 2000

Attn: Ms Megan Webb

Dear Sir,

re: MP 08_0085 Goodman Fielder Production Facility

Reference is made to your email correspondence dated 7 July 2008 requesting comments in reply to the submissions to the exhibition of the Environmental Assessment. We reply as follows.

Matters Raised by Department of Planning

1. Odour

The trade waste system developed for the site will discharge to sewer and will be treated before hand as described in the EA. Under Section 129 of the POEO Act, businesses which are licensed by the DECC must not cause or permit the emission of nay offensive odour from the premises. The need to comply with this provision will ensure that all odour emissions are controlled. The air quality report included in the EA is contained in Attachment 1.

2. Landscape Plan

Attachment 2 contains revised landscape drawings L01/04 Issue C, L02/04 Issue C, L03/04 Issue C and L04/04 Issue C providing information on the temporary treatment of the Stage 2 development area which is to be the subject of a separate application. The area will be hydromulched and maintained as such until future expansion occurs. This has been noted on the plans with specification notes added to L04.

3. Construction Environmental Management Plan

Hansen Yunken has revised the CEMP which is contained in Attachment 3.

Matters Raised by Sydney Water

1. Trade Waste

Section 3.5 of the EA acknowledges that the trade waste will be treated on site to the level required by Sydney Water. This will be determined during the detailed design stage for the trade waste facility in the negotiations for a trade waste agreement.

Matters Raised by Penrith City Council

1. Driveway Grades

Long Sections of the driveways indicating grades are contained in the attached drawings prepared by Buckton Lysenko (Attachment 4). Buckton Lysenko advises that the design complies with the relevant standards.

2. Proposed Drainage System

The stormwater drawings have been amended to ensure that the infrastructure for this development is not within the public street (Attachment 5). Consequently the private stormwater line will not be within a public road reserve. Advice received from Buckton Lysenko is that the street drainage system does not have the capacity to accommodate the planned stormwater discharge from the site. Consequently additional infrastructure has been provided and is not located within a public road reserve.

3. Height of Building Pad

The height of the building pad in relation to Templar Road has been constructed in accordance with the project approval for the Stage 1 earthworks. It is not possible without significant additional earthworks to properly address Council's present concerns. Earthwork levels were determined following considerable design effort at project application stage to achieve an overall balance of cut and fill over the whole site and other adjoining sites. It is noted that the view down Templar Road would be well removed from any view to the east along Lockwood Road with the retaining wall to the east being screened by the proposed building and proposed landscaping.

It is not considered appropriate that the issue of the Pad levels are re-addressed by a condition of consent as suggested by the Council. These levels are set by the project approval and it is not necessary to address these for one Pad out of context with the overall site approval.

4. Location of Fire Water Tank

The fire water tank is in its preferred location for access by tenders. Landscape mounding to the front of the sprinkler tank has been noted as providing a screening function. This has been supplemented with large screening shrub planting to the tank surrounds to provide a form of visual buffer from the street. These changes have been noted on the amended landscape drawings contained in Attachment 2. It is considered that this will provide sufficient screen planting and a condition of consent requiring further discussion with the Council prior to the issue of a construction certificate is not considered necessary.

5. Fencing

A fencing plan is contained in Attachment 6. It shows fencing located behind the landscaped setback as suggested by the Council. Diplomat style fencing is similar to pool palisade fencing and thus will satisfy Councils requirements.

6. Car Parking

The adequacy of the proposed car parking is discussed in the traffic report accompanying the EA and is provided to meet the specific needs of the production facility. Parking spaces for 125 vehicles are provided which satisfy the RTA parking guidelines but fall short of Council guidelines. If additional parking is required in the future for another user of the building, there is the potential to provide such spaces in the area currently proposed for oil storage tanks and the trade waste facility. These facilities would be redundant to a subsequent user. This area is identified in the drawing contained in Attachment 7. Additional parking opportunities are available to the south of the area identified for Stage 2 of the development.

7. Landscaping

The level of landscaping, particularly along the Templar and Lockwood Rd frontages has been reviewed and increased (Attachment 2). The proposed landscaping has been supplemented with extra tree planting and screen shrub planting to provide a greater landscape buffer between the warehouse and streetscape. A wider selection of plants has also been chosen.

It is considered that the landscaping proposed would be suitable for the site and its use. There is not reason for a condition requiring any further landscaping to be provided to Council's satisfaction.

8. Sustainability Initiatives

Proposed sustainability initiatives are discussed in Section 3.7 of the EA. Further elaboration on sustainability measures developed during the detailed design phase is contained in Attachment 8.

Should you require any further information, please contact the undersigned on 9211 4099.

Yours faithfully,
BBC Consulting Planners



Daniel Brindle
Director

Goodman Fielder Erskine Park
Production Facility

Response to Submissions –
Attachment 1

14 May, 2008

Nader Zreik
Hansen Yuncken
Level 4, 1 Rosebery Avenue
ROSEBERY NSW 2018
AUSTRALIA

Our Reference: 0084170L02-FINAL.DOC

Dear Nader,

RE: GOODMAN FIELDER – AIR QUALITY ASSESSMENT



1. INTRODUCTION

This air quality assessment has been prepared to accompany the Lenore Drive Erskine Park Project Application and Concept Plan at Lenore Drive, Erskine Park. This assessment addresses development and operation of Site Area E within the Development Plan.

The overall project site has an area of approximately 38 ha, located in the CSR Limited's land holdings adjacent to Lenore Drive. It is located within the land area addressed as 2 - 60 Lenore Drive and is a part of the Erskine Park Employment Area.

Construction work on Site Area E (53,910m²) will include earthworks and the construction and operation of the food manufacturing facilities which are to include goods receipt and dispatch, production, offices, warehousing, R&D facilities, amenities, bulk oil tank farm, LPG pilot plant, tanker washing bays, weigh bridges, trade waste facility and car park (for 125). The building footprint on the site will cover 13,990m². The site is located within the Penrith Local Government Area.

Site Area E is bound by Lockwood Road to the north and Templar Road to the west, the overall project site is bound by a Sydney Water pipeline to the south and by an approved industrial site to the east.

2. SITE SUMMARY

2.1 RECEPTORS

Surrounding residences are located to the north within the residential area of Erskine Park, approximately 890m from the proposed production facility and 830m from the closest earthworks area. The Emmaus Retirement Village 'future' residences are located approximately 820m south of Site Area E, beyond the water supply pipeline. Further south on Bakers Lane are the Emmaus Catholic College, Trinity Catholic Primary School and Mamre Christian College. Other existing residential receivers are composed of a few isolated properties located north of and fronting Lenore Drive, approximately 250 metres from the site.

2.2 BACKGROUND CONCENTRATIONS

Background air quality is a measure of the existing air quality in the absence of the project activity. In the context of this assessment, 'background air quality' is used to describe sources (natural or man made) other than the site. It is important to consider background air quality when considering cumulative impacts on sensitive receptors in the area.

A desktop review of the National Pollutant Inventory (NPI) of reported emissions from fixed and mobile sources in the vicinity of the site was undertaken to obtain an indication of existing industries in the project area. No facilities within the Erskine Park area (postcode 2759) report emissions to air under the NPI reporting scheme.

A NSW Department of Environment and Climate Change (DECC) monitoring station is located approximately 5km north of the site at St Marys. This monitoring station measures ambient concentrations of Ozone (O₃), Nitrogen Dioxide (NO₂) and Particulate Matter less than 10 microns in aerodynamic diameter (PM₁₀).

For the 2006 calendar year (the latest available annual data) the average of 1 hour concentrations of NO₂ was 36.1 µg/m³. The NSW DECC criterion for 1 hour averages of NO₂ is 246 µg/m³. As such the annual average ambient concentrations of NO₂ in the region are 14.7% of the criteria.

Similarly, for particulate matter less than 10 microns (PM₁₀) the annual 24 hour average is 19.5 µg/m³ and the NSW DECC criteria is 50 µg/m³. The average ambient PM₁₀ concentrations recorded in the area are 39% of the criteria.

The M7 Western Sydney Orbital road has recently been completed 2.5km east of the subject site parallel to Wallgrove Road, Eastern Creek. The M7 Motorway intersects with Old Wallgrove Road to the north-east of the site and Elizabeth Drive to the south-east.

2.3 PREVAILING WIND CONDITIONS

As no weather observation station is located at Erskine Park, wind observations are based on review of observation data taken from the Bureau of Meteorology Parramatta North (Mason's Drive) Observation Station. It is anticipated that the wind regime presented in this section would be broadly representative of that of Erskine Park, given the proximity of the Parramatta Observation Station (~20 km east of the Site).

From October to April the wind regime is characterized by morning onshore northwest to south-westerly winds with significant contributions from the south, which shift to established offshore north-east to south-east sea breezes during the afternoon.

Between May and September, the wind regime is characterised by significant onshore contributions (north-west to south-west) as well as contributions from the south and south-east. The strongest prevailing wind contributions are from on-shore sea-breezes, particularly during summer months. However, given that the subject site is located approximately 20 km west (inland) of the Parramatta recording station; it is likely that these contributions will not be as pronounced because of the greater distance from the coast.

3. LEGISLATION

The primary air quality legislation of relevance to the proposed development is the Protection of the Environment Operations Act 1997 (POEO Act). The POEO Act is the major legislation governing environment protection in NSW. Standards of concentration are prescribed by the POEO (Clean Air) Act (2002) and it is an offence under the Act for emissions of air contaminants to exceed these levels. These limits are in stack emission limits and the maximum emissions permissible for an industrial source anywhere in NSW. The emissions limits vary depending on whether an individual site is classified as a scheduled premise or a non-scheduled premise.

Goodman Fielder are currently in discussions with the NSW DECC as to whether the proposed Erskine Park facility will be classified as a scheduled premise.

The emission concentration limits for particulate matter are 20mg/m³ for scheduled premises (as outlined in Schedule 4 of the Act) and 100mg/m³ for non-scheduled premises (as outlined in Schedule 6 of the Act).

Under Section 129 of the POEO Act, businesses which are licensed by the DECC must not cause or permit the emission of any offensive odour from the premises.

4. POTENTIAL IMPACTS

4.1 CONSTRUCTION

Emissions to the atmosphere from construction activities are primarily particulate matter. Particulate emissions from the site may occur during the construction phase from construction equipment, earthworks and unsealed exposed surfaces. Dust generating activities may include road construction, building construction and truck movements.

Potential impacts from particulate matter during short term construction activities are often nuisance related rather than health related.

Combustion emissions of carbon monoxide, carbon dioxide, particulate matter and nitrogen oxides will also occur from trucks and vehicles exhausts onsite.

ERM understand that the major earthworks associated with the construction of this facility are complete. As such, potential impacts to air quality from remaining building construction are anticipated to be negligible.

4.2 OPERATION

4.2.1 Emissions from Manufacturing Activities

Detailed design of the process to be undertaken at the site, and therefore the mitigation techniques to be employed are at preliminary design stage. To enable an understanding of the activities at site, this assessment has relied upon discussions with personnel at the Goodman Fielder facility located in Mascot,

which amongst other processes, manufactures liquid groceries in the same manner to be employed at Site E.

The proposed Goodman Fielder operations on this site will include:

- Production of Liquid Groceries;
- Production of Dry Mix;
- Site utilities; HVAC and boiler; and
- Bulk tank facility

The liquid groceries plant entails the processing and packing of mayonnaise, salad dressings, vinegar and table sauces.

A gas fired boiler, up to 5MW, is proposed for the site, and an area has been allocated in the preliminary site design for a second gas fired boiler.

The bulk tank facility will be a storage facility to distribute vegetable oils manufactured in Melbourne and Brisbane to its NSW customers. The bulk tank facility is not considered a significant source of emissions to atmosphere and is therefore not considered further in this assessment.

Emissions to atmosphere from this facility are anticipated to consist of particulate matter from processing and ingredients preparation, and combustion gases from the boiler.

4.2.2 *Liquid Groceries*

Within the liquid groceries manufacturing process, three activities have been identified as potential sources of emissions to atmosphere;

- Dust collection system servicing the pre-mixing/micro ingredients area and the processing room.
- Pneumatic conveyor system for transferring sugar and salt.
- Dedicated exhausts for various process operations (mixing vessels, process tanks *etc.*)

The **dust collection system** will service the pre-mixing/micro ingredients area and the processing room. The pre-mixing/micro ingredients area is the location

where starches, sugars, salts *etc* are weighed. The processing room is the location where dry ingredients are mixed with liquid ingredients.

These areas will be fully enclosed and have extraction hoods located above process areas to capture particulate matter generated. Detailed design of the ducting and mitigation equipment is not available at this stage. The existing liquid groceries process at the Goodman Fielder Mascot facility uses a DC Volks filter unit to minimise emissions of particulate matter. The discharge point at Mascot has a licence limit of 250 mg/m³ and exhaust sampling and analysis is undertaken annually. The most recent sampling and analysis undertaken in 2007 recorded a concentration of less than 1 mg/m³.

Detailed design criteria for this discharge have not yet been provided to the design engineers, the intention is for similar dust mitigation equipment to be used at Erskine Park to ensure that regulatory discharge criteria are met.

A **pneumatic conveyor system** may be employed at the Erskine facility for the transfer of sugar and salt. The inclusion of this activity is still under consideration. If a conveyor system were to be installed particulate emissions may be generated through conveyor transfer points. This activity will have an associated dust collection hood and discharge designed to meet regulatory discharge criteria.

The manufacturing facility will be in a temperature/humidity controlled environment and will have **dedicated exhausts** for various processing operations. For example, following regular hot water cleaning, where a build up of moisture is evident within the facility, the exhausts will be used to vent moisture and reduce humidity in the processing area. In addition processing tanks (*eg* kettles used for rehydrating garlic, onions and gherkins) may be vented to atmosphere during processing operations. Mitigation equipment is not proposed for these exhausts other than ensuring exhausts vent vertically from the roof of the facility.

4.2.3 *Dry Mix*

The design of the dry mix process is at a very preliminary stage. This process is anticipated to include a dry material handling operation, potentially including pneumatic conveying to/from storage silos, blending of dry ingredients, and a transfer and packaging.

It is anticipated that the detailed design process will include dust hoods or collection systems for dry material handling, transfer and mixing activities.

Discharges from this process will be designed to meet regulatory discharge criteria.

4.2.4 Site utilities; HVAC and boiler

Process steam is required for the liquid groceries and temperature/humidity controlled environment within the process. This is anticipated to be provided by one 5MW gas fired boiler, the preliminary design includes provision of an area for a second gas fired boiler. Detailed design will include determination of boiler capacity and selection of vendor for provision of package boiler. Detailed design of dispersion characteristics of the boiler (*eg* exhaust height, exit velocity, discharge limits) are not available at the time of this assessment, however the boiler vendor will be required to ensure the discharge is designed to meet regulatory discharge criteria.

5. SUMMARY

Details of the process to be undertaken at the site, and therefore the mitigation techniques to be employed are at preliminary design stage. Nonetheless this assessment has used discussion with project process engineers and an existing similar facility (with respect to the liquid groceries process) to provide an indication of the anticipated emissions and mitigation measures to be employed.

It is anticipated that Goodman Fielder's activities are unlikely to have a significant impacts to local air quality for the following reasons:

- Whilst detailed design information of process emissions sources, mitigation and discharges is not currently available – they have been identified and detailed design will be undertaken with the requirement to meet regulatory criteria.
- Impacts to local air quality from a similar operation (liquid groceries) operated by Goodman Fielder in Mascot are not considered significant. One discharge at the Mascot facility is licensed and required to be monitored annually. The results of the most recent monitoring indicate a concentration of particulate matter less than 1 mg/m³ compared to a licence limit of 250 mg/m³.
- The nearest sensitive receptors to the development are approximately 250 metres north of the site boundary this area is zoned as industrial land use.

The main residential area is located approximately 800 metres north of the site;

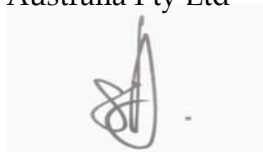
- The existing background concentrations of particulate matter and nitrogen dioxide are well below the NSW DECC criteria; and
- The majority of the earthworks associated with the construction have been completed.

Proposed activity at the Goodman Fielder site is anticipated to not represent a significant impact to local air quality from manufacturing operations.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd



Hilary Newstead
Environmental Consultant

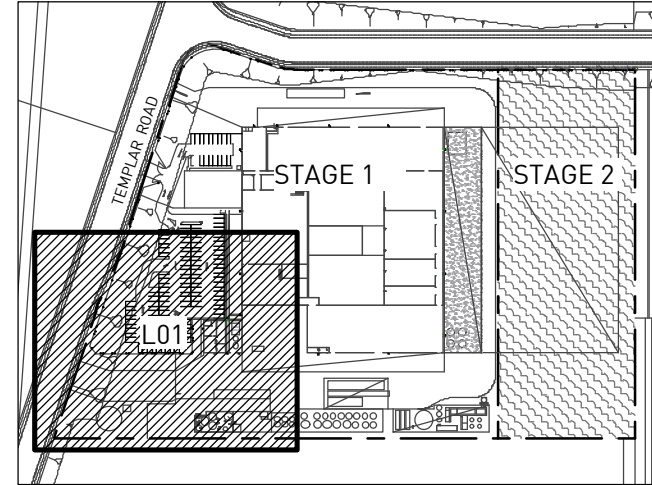
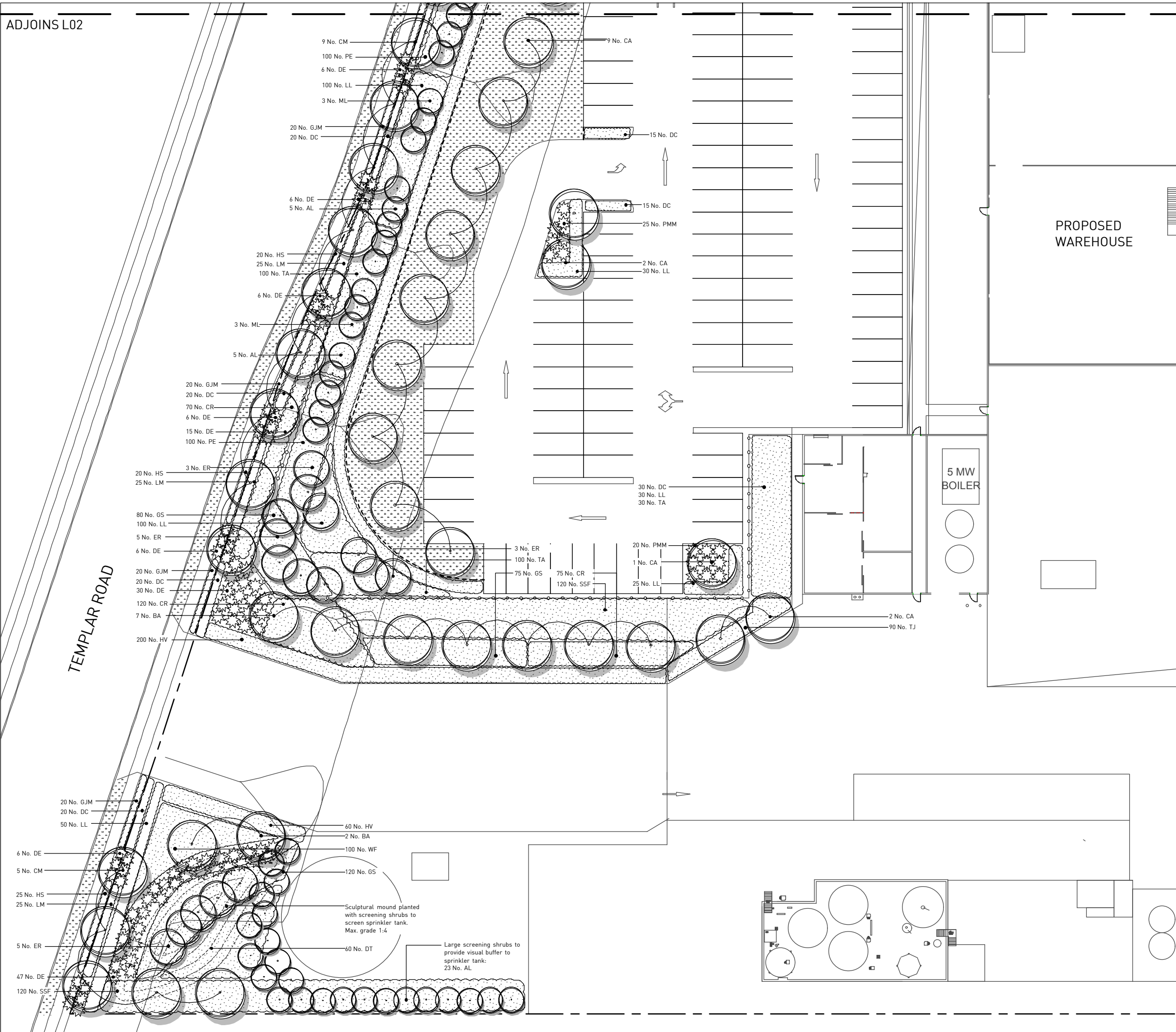


Travis Hughes
Senior Environmental Consultant

Goodman Fielder Erskine Park
Production Facility

Response to Submissions –
Attachment 2

ADJOINS L02



KEYPLAN

LEGEND

- Site boundary
- Tree planting. Refer plant schedule L04
- Shrub / groundcover planting. Refer plant schedule L04
- Turf
- Paving by others
- Timber edge
- Security fence by others
- Hydromulch to Stage 2 area. Refer specification notes

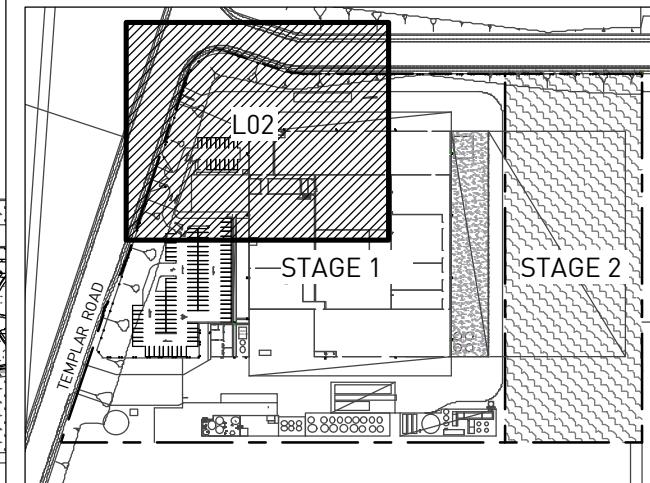
CARPARK ENTRY AMENDED	NB	7/7/08	C
CLIENT ISSUE	NB	10/4/08	B
PURPOSE OF ISSUE	NB	3/4/08	A
	REVIEW	DATE	ISSUE

Site E - Goodman Fielder
Erskine Park

CLIENT	Goodman Fielder
PROJECT ADDRESS	Lenore Drive
LOCATION	Erskine Park
DRAWING TITLE	Landscape Plan
ORIGINAL MEDIA SIZE	A1
PLOT TIME	07.07.08
STATUS	C









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08_017 L01 / 04



KEYPLAN

LEGEND

-  Site boundary
-  Tree planting.
Refer plant schedule L04
-  Shrub / groundcover planting.
Refer plant schedule L04
-  Turf
-  Paving by others
-  Timber edge
-  Security fence by others
-  Hydromulch to Stage 2 area.
Refer specification notes



TEMPLAR ROAD

ADJOINS L03

PROPOSED WAREHOUSE

ADJOINS L01

PLANTING AMENDED	NB	7/7/08	C
CARPARK ENTRY AMENDED	NB	10/4/08	B
CLIENT ISSUE	NB	3/4/08	A
PURPOSE OF ISSUE	REVIEW	DATE	ISSUE

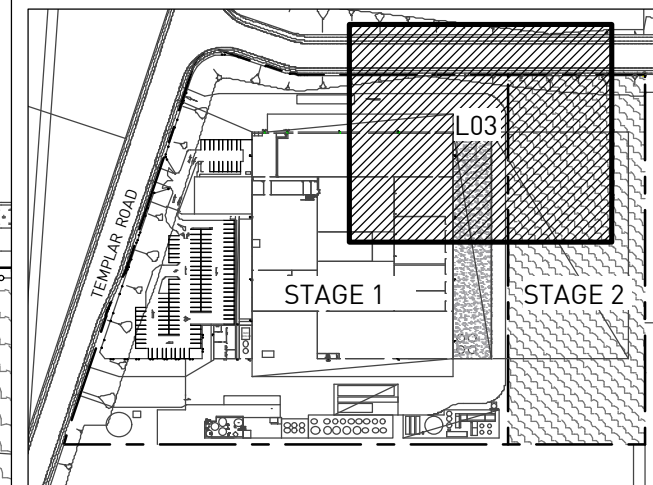
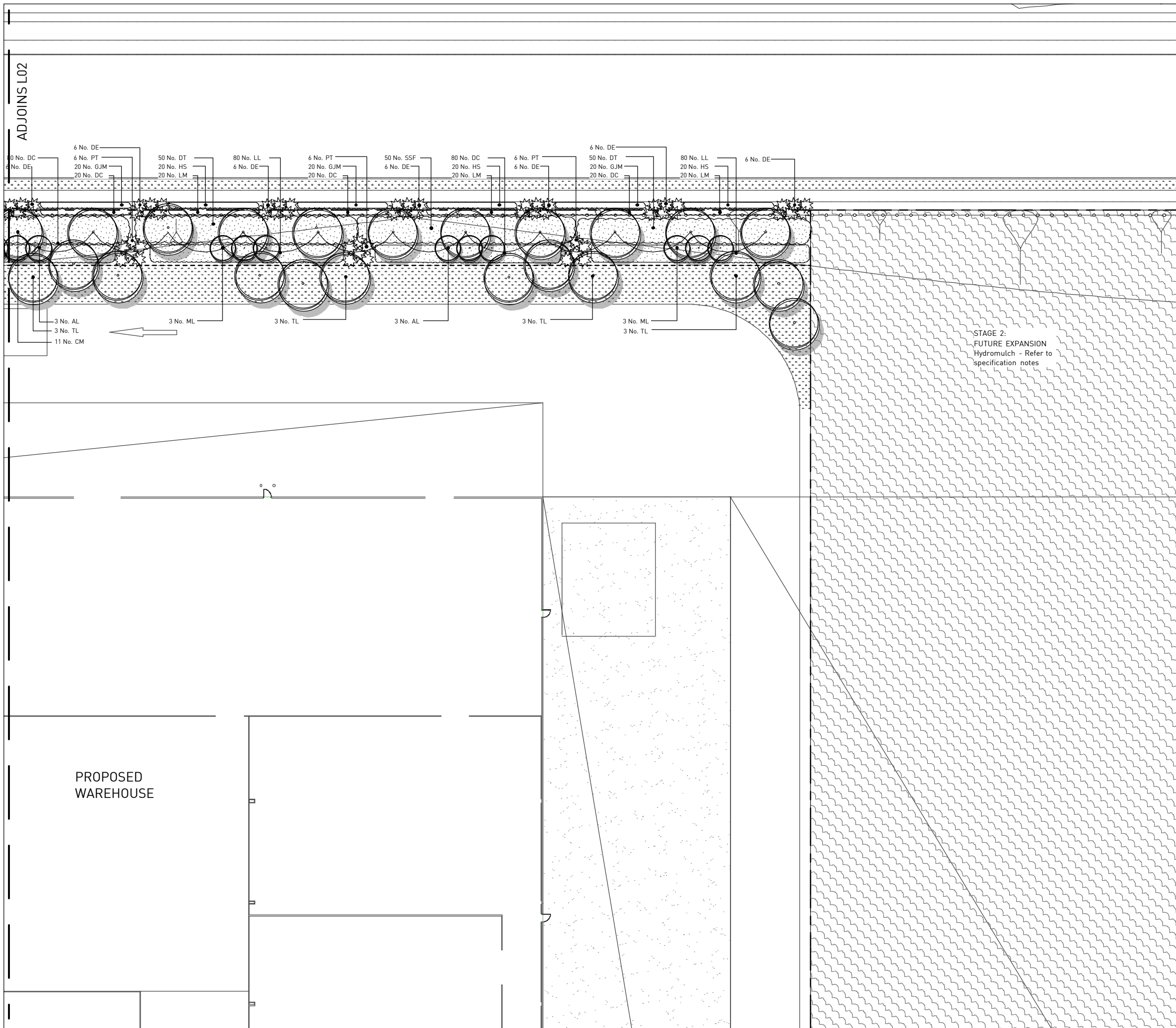
Site E - Goodman Fielder
Erskine Park

CLIENT	Goodman Fielder
PROJECT ADDRESS	Lenore Drive
LOCATION	Erskine Park
DRAWING TITLE	Landscape Plan
ORIGINAL MEDIA SIZE	A1
PLOT TIME	07.07.08
STATUS	C

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






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KEYPLAN

LEGEND

-  Site boundary
-  Tree planting.
Refer plant schedule L04
-  Shrub / groundcover planting.
Refer plant schedule L04
-  Turf
-  Paving by others
-  Timber edge
-  Security fence by others
-  Hydromulch to Stage 2 area.
Refer specification notes

STAGE 2:
FUTURE EXPANSION
Hydromulch - Refer to
specification notes

PROPOSED
WAREHOUSE

PLANTING AMENDED	NB	7/7/08	C
CARPARK ENTRY AMENDED	NB	10/4/08	B
CLIENT ISSUE	NB	3/4/08	A
PURPOSE OF ISSUE	REVIEW	DATE	ISSUE

Site E - Goodman Fielder
Erskine Park

CLIENT	Goodman Fielder
PROJECT ADDRESS	Lenore Drive
LOCATION	Erskine Park
DRAWING TITLE	Landscape Plan
ORIGINAL MEDIA SIZE	A1
PLOT TIME	07.07.08
STATUS	C

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08_017 L03 / 04



SPECIFICATION NOTES

SERVICES

Before landscape work is commenced the Landscape Contractor is to establish the position of all service lines and ensure tree planting is carried out at least 3 metres away from these services. Service lids, vents and hydrants shall be left exposed and not covered by any landscape finishes (turfing, paving, garden beds etc.) Finish adjoining surfaces flush with pit lids.

PLANTING MIXTURE

Shall be homogenous blend of soil and additives in the following proportions:
Imported Topsoil 50%
Compost 30%
D/W Sand 20%

MULCH

APPLICATION: Place mulch to the required depth, (refer to drawings) clear of plant stems, and rake to an even surface finishing 25mm below adjoining levels. Ensure mulch is watered in and tamped down during installation.

MULCH TYPE:

Brush chippings and leaf litter: approved vegetative material (which may include leaf matter and tree loppings from Eucalyptus, Tristania, Pinus or other suitable species, but not privet, camphor laurel, coral tree, poplar, willow, or noxious weeds), processed through a chipper to pieces not larger than 75x50x15mm.

Hardwood chip: 25mm size brown hardwood chips from purpose grown hardwood plantations.

Decomposed granite gravel: Uniform size or graded material in size range 5mm to 20mm, uniform colour and plasticity. Pink to light brown colour.

COMPOST

Shall be "Mixed Compost" as available from Dapto Sands and Supersols Pty Ltd. Tel: 042 613 864 or an approved equal. Shall be well rotted vegetative material or animal manure, or other approved material, free from harmful chemicals, grass and weed growth and with neutral pH. Provide a certificate of proof of pH upon request.

Shall be "Spent Mushroom Compost". Typical of the compost used throughout the mushroom industry with neutral pH value free from grass and weed growth. Provide a certificate of proof of pH value of compost upon request.

PLANT MATERIAL

All plants supplied are to conform with those species listed in the Plant Schedule on the drawings. Generally plants shall be vigorous, well established, hardened off, of good form consistent with species or variety, not soft or forced, free from disease or insect pests with large healthy root systems and no evidence of having been restricted or damaged. Trees shall have a leading shoot. Immediately reject dried out, damaged or unhealthy plant material before planting. All stock is to be container grown for a minimum of six (6) months prior to delivery to site.

FERTILISER

MASS PLANTING AREAS: Fertiliser shall be 'Nutricote' or approved equivalent in granule form intended for slow release of plant nutrients over a period of approximately nine months. Thoroughly mix fertiliser with planting mixture at the recommended rate, prior to installing plants.

TURF: Shall be Shirleys No. 17 or approved equal thoroughly mixed into the topsoil prior to placing turf.

TREES IN GRASS AND SUPER ADVANCED TREES: Pellets shall be in the form intended to uniformly release plant food elements for a period of approximately nine months equal to Shirleys Kokei pellets, analysis 6.3:1.8:2.9. Kokei pellets shall be placed at the time of planting to the base of the plant, 50mm minimum from the root ball at a rate of two pellets per 300mm of top growth to a maximum of 8 pellets per tree.

STAKING AND TYING

Stakes shall be straight hardwood, free from knots and twists, pointed at one end and sized according to size of plants to be staked.

a. 5-15 litre size plant 1x(1200x25x25mm)

b. 35-75 litre size plant 2x(1500x38x38mm)

c. 100-greater than 200litre 3x(1800x50x50mm)

Ties shall be 50mm wide hessian webbing or approved equivalent nailed or stapled to stake. Drive stakes a minimum one third of their length, avoiding damage to the root system, on the windward side of the plant.

TURF

Obtain turf from a specialist grower of cultivated turf. turf shall be of even thickness, free from weeds and other foreign matter; lay in stretcher pattern with joints staggered and close butted. Water immediately after laying.

TURF TYPE: Greenlees Park Couch

LANDSCAPE MAINTENANCE PROGRAM

Maintenance shall mean the care and maintenance of the landscape works by accepted horticultural practice as rectifying any defects that become apparent in the landscape works under normal use. This shall include, but shall not be limited to, watering, mowing, fertilising, reseeding, returfing, weeding, pest and disease control, staking and tying, replanting, cultivation, pruning, aerating, renovating, top dressing, maintaining the site in a neat and tidy condition as follows:-

GENERAL

The landscape contractor shall maintain the landscape works for the term of the maintenance (or Plant establishment) period to the satisfaction of the council. The landscape contractor shall attend to the site on a weekly basis. The maintenance period shall commence at practical completion and continue for a period of twenty six (26) weeks.

WATERING

Grass, trees and garden areas shall be watered regularly so as to ensure continuous healthy growth.

RUBBISH REMOVAL

During the term of the maintenance period the landscape contractor shall remove rubbish that may occur and reoccur throughout the maintenance period. This work shall be carried out regularly so that at weekly intervals the area may be observed in a completely clean and tidy condition.

REPLACEMENTS

The landscape contractor shall replace all plants that are missing, unhealthy or dead at the Landscape Contractor's cost. Replacements shall be of the same size, quality and species as the plant that has failed unless otherwise directed by the Landscape Architect. Replacements shall be made on a continuing basis not exceeding two (2) weeks after the plant has died or is seen to be missing.

STAKES AND TIES

The landscape contractor shall replace or adjust plant stakes, and tree guards as necessary or as directed by the Landscape Architect. Remove stakes and ties at the end of the maintenance period if so directed.

PRUNING

Trees and shrubs shall be pruned as directed by the Landscape Architect. Pruning will be directed at the maintenance of the dense foliage or miscellaneous pruning and beneficial to the condition of the plants. Any damaged growth shall be pruned. All pruned material shall be removed from the site.

MULCHED SURFACES

All mulched surfaces shall be maintained in a clean and tidy condition and be reinstated if necessary to ensure that a depth of 75mm is maintained. Ensure mulch is kept clear of plant stems at all times.

PEST AND DISEASE CONTROL

The landscape contractor shall spray against insect and fungus infestation with all spraying to be carried out in accordance with the manufacturer's directions. Report all instances of pests and diseases (immediately that they are detected) to the Landscape Architect.

GRASS AND TURF AREAS

The landscape contractor shall maintain all grass and turf areas by watering, weeding, reseeding, rolling, mowing, trimming or other operations as necessary. Seed and turf species shall be the same as the original specified mixture. Grass and turf areas shall be sprayed with approved selective herbicide against broad leaved weeds as required by the Landscape Architect and in accordance with the manufacturer's directions. Grass and turf areas shall be fertilised once a year in autumn with "Dynamic Lifter" for lawns at a rate of 20kg per 100m². Fertiliser shall be watered in immediately after application. Irregularities in the grass and turf shall be watered in immediately after application. Grass and turf areas shall be kept mown to maintain a healthy and vigorous sward. Mowing height: 30-50mm.

WEED ERADICATION

Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide (eg. 'Roundup') in any of its registered formulae, at the recommended maximum rate. Regularly remove by hand, weed growth that may occur or recur throughout grassed, planted and mulched areas. Remove weed growth from an area 750mm diameter around the base of trees in grassed areas. Continue eradication throughout the course of the works and during the maintenance period.

SOIL SUBSIDENCE

Any soil subsidence or erosion which may occur after the soil filling and preparation operations shall be made good by the landscape contractor at no cost to the client.

HYDROMULCH TO STAGE 2 SPECIFICATION NOTES

SITE PREPARATION

Where possible, prior to topsoiling, the areas should be deep ripped. After topsoiling, all areas to be seeded shall be scarified to provide a reasonably firm but friable seed bed, free of weed or plant growth, large stones or other debris, and the whole left ready for hydromulching.

APPLICATION RATES

The required areas shall be treated by the Contractor with the following:

a) Certified Seed - Minimum 56 Kg per hectare. The seed mix will vary according to the season, soil condition and client requirement

b) Fertilizer - 250 kg to 400 kg per hectare. Selection will depend on soil analysis results and client requirement

c) Wood Fibre - Defibrated pinus radiata dyed green. 2.5 tonnes per ha.

d) Binder - Anionic Bitumen Emulsion or Polymer Binder. Anionic Bitumen Emulsion 50/50 bitumen water 1,000-2,000 litres per hectare. Polymer binder maximum 250 litres per hectare.

Note: The seed and fertilizer application rates are a representative sample only of the minimum quantities that should be applied per hectare.

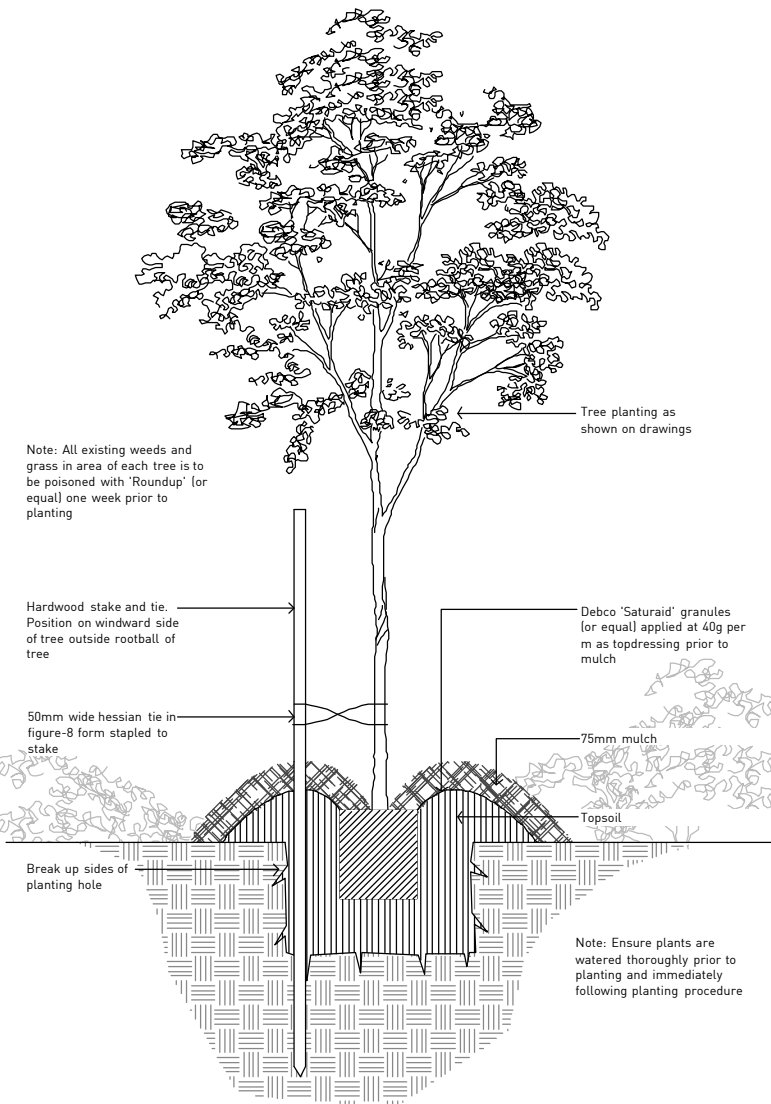
OPERATION

Seed, fertilizer, wook-fibre mulch, water and binder (where required) shall be thoroughly mixed together with water to provide a slurry and then applied under pressure on to the area to be treated by means of hydromulching equipment specifically designed for this purpose and by operators trained in the use of this equipment.

AFTER CARE MAINTENANCE

Where possible, adequate water to ensure a continuous vigorous and healthy growth of grass shall be applied regularly. A great deal will depend on natural rainfall, but as a general guide, 25mm of water should be applied to all seeded areas weekly. It is important that the wood fibre mulch be kept moist until germination occurs. After that, sufficient watering must be kept up until a healthy sward of grass is achieved.

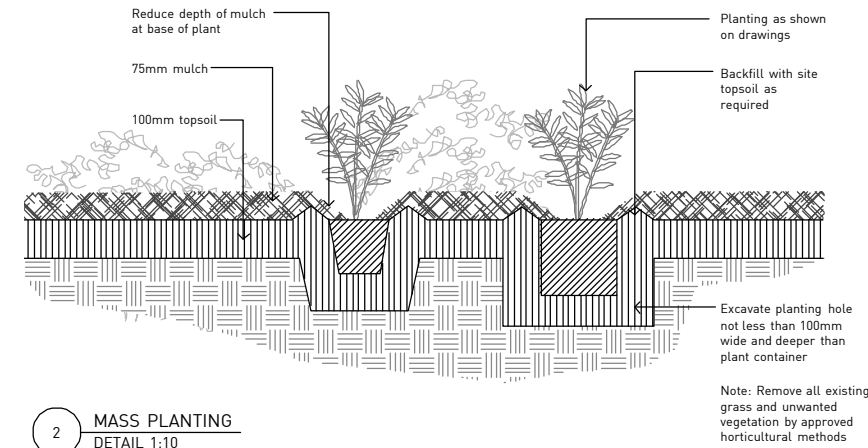
Six weeks after germination, sulphate of ammonia should be applied by hand or mechanical spreader and well watered into the grass, or it may be applied in solution. After the grass has reached a height of 20mm to 300mm it shall be done by tractor-drawn equipment and clippings shall not be collected.



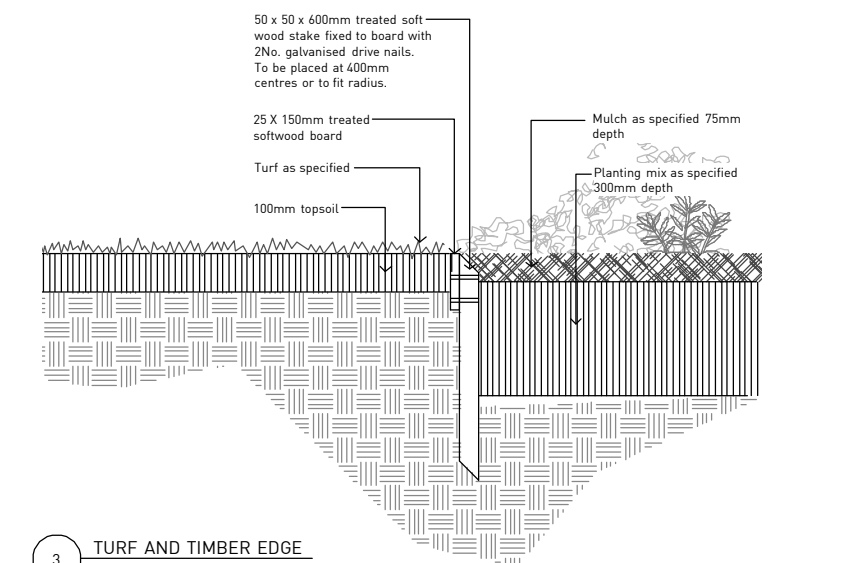
1 TREE PLANTING
DETAIL 1:10

PLANT SCHEDULE

Symbol	Botanical Name	Common Name	Height	Pot Size	Density	Quantity
TREES						
BA	Brachychiton acerifolius	Flame Tree	8m	100L	As shown	9
CA	Cupaniopsis anarcardioides	Tuckeroo	5m	100L	As shown	37
CM	Corymbia maculata	Spotted Gum	30m	35L	As shown	45
ER	Elaeocarpus reticulatus	Blueberry Ash	8m	35L	As shown	22
TL	Tristaniopsis laurina	Water Gum	6m	35L	As shown	18
SHRUBS						
AL	Acacia linifolia	Flax Wattle	5m	200mm	As shown	65
CR	Correa reflexa	Correa	1m	200mm	2/m ²	425
DE	Doryanthes excelsa	Gymea Lily	2m	200mm	1/m ²	280
DT	Dodonaea triquetra	Hop Bush	3m	200mm	1/m ²	220
GS	Grevillea 'Superb'	Grevillea	1m	200mm	2/m ²	465
HI	Hebe 'Inspiration'	Hebe	1m	150mm	3/m ²	80
ML	Melaleuca linearifolia	Snow in Summer	5m	200mm	As shown	18
PT	Phormium tenax	Flax	2m	200mm	1/m ²	99
SSF	Syzygium 'Southern Form'	Lily Pilly	3m	200mm	1/m ²	400
WF	Westringia fruticosa	Native Rosemary	2m	200mm	1/m ²	100
GROUNDCOVERS AND NATIVE GRASSES						
DC	Dianella caerulea	Paroo Lily	1m	150mm	3/m ²	645
GJM	Grevillea junipera 'Molongo'	Grevillea	←1m	150mm	3/m ²	250
HS	Hibbertia scandens	Guinea Flower	←1m	150mm	3/m ²	485
HV	Hardenbergia violacea	Native Sarspatilla	←1m	150mm	3/m ²	340
LL	Lomandra longifolia	Mat Rush	1m	150mm	3/m ²	795
LM	Liriope muscari	Turf Lily	1m	150mm	3/m ²	295
PMM	Phormium 'Maori Maiden'	Red Flax	1m	150mm	3/m ²	45
PE	Poa 'Eskdale'	Tussock Grass	1m	150mm	3/m ²	280
TA	Themeda australis	Kangaroo Grass	1m	150mm	3/m ²	460
TJ	Trachelospermum jasminoides	Star Jasmine	←1m	150mm	3/m ²	390



2 MASS PLANTING
DETAIL 1:10



3 TURF AND TIMBER EDGE
DETAIL 1:10

PLANTING AMENDED	NB	7/7/08	C
CARPARK ENTRY AMENDED	NB	10/4/08	B
CLIENT ISSUE	NB	3/4/08	A
PURPOSE OF ISSUE	REVIEW	DATE	ISSUE

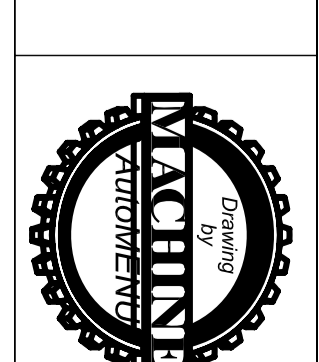
Site E - Goodman Fielder Erskine Park

CLIENT	Goodman Fielder
PROJECT ADDRESS	Lenore Drive
LOCATION	Erskine Park
DRAWING TITLE	Landscape Details
ORIGINAL MEDIA SIZE	A1
PLOT TIME	07.07.08
STATUS	C

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ARCHITECT	GOODMAN FIELDER															
ENGINEER	BUCKTON LYSENKO															
PAVING	GOODMAN FIELDER															
LANDSCAPE ARCHITECT	GOODMAN FIELDER															
CONTRACT MANAGER	GOODMAN FIELDER															
CONTRACT SUPERVISOR	GOODMAN FIELDER															
CONTRACT ADMINISTRATOR	GOODMAN FIELDER															
CONTRACT SUPERVISOR	GOODMAN FIELDER															
CONTRACT ADMINISTRATOR	GOODMAN FIELDER															



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1. PRELIMINARY PERSON BARRING
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3. PRELIMINARY PERSON BARRING
4. PRELIMINARY PERSON BARRING
5. PRELIMINARY PERSON BARRING

NOTE: ANY DRAWINGS ISSUED FROM THIS REGISTER SHALL NOT BE USED FOR CONTRACT PURPOSES

Revision	Description	Issued	By	Date
1-1	ISSUED FOR 3-1 APPROVAL	4.8	TKL	20.08.2015
1-2	ISSUED FOR 3-1 APPROVAL	4.8	TKL	20.08.2015
1-3	ISSUED FOR 3-1 APPROVAL	4.8	TKL	20.08.2015
1-4	ISSUED FOR 3-1 APPROVAL	4.8	TKL	20.08.2015
1-5	ISSUED FOR 3-1 APPROVAL	4.8	TKL	20.08.2015

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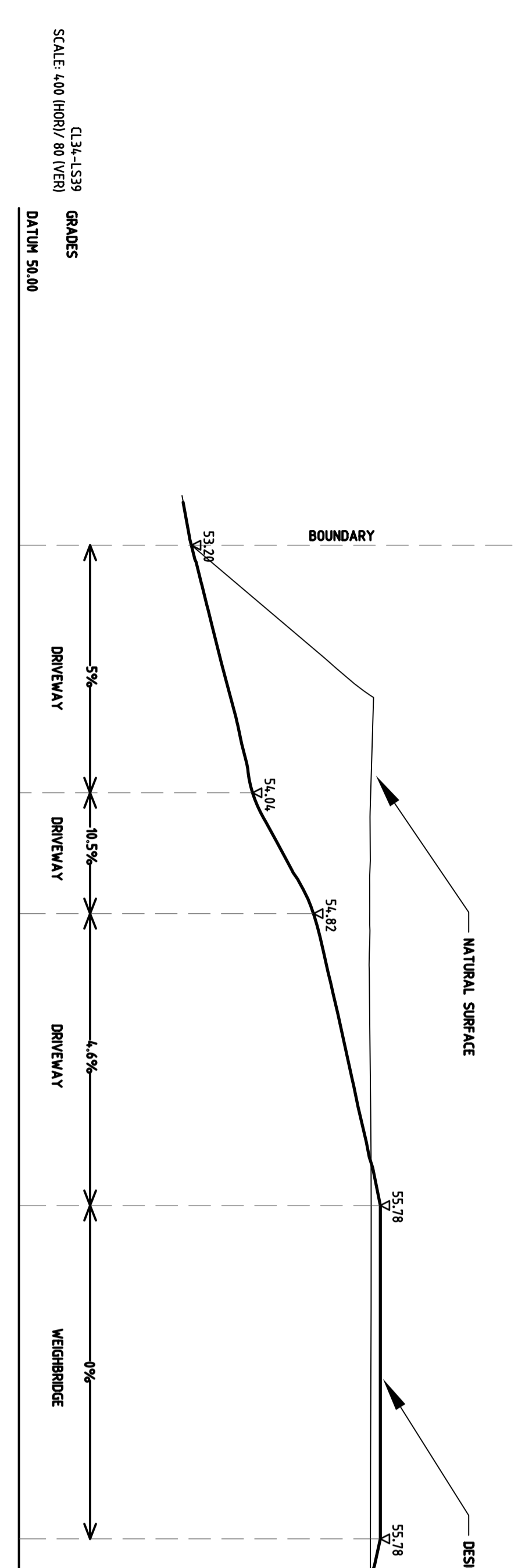
PROJECT

TEMPULAR ROAD - ERSKINE PARK
 SITE E - SITE PLAN

DESIGNER | **DATE** | **CAD FILE PATH**

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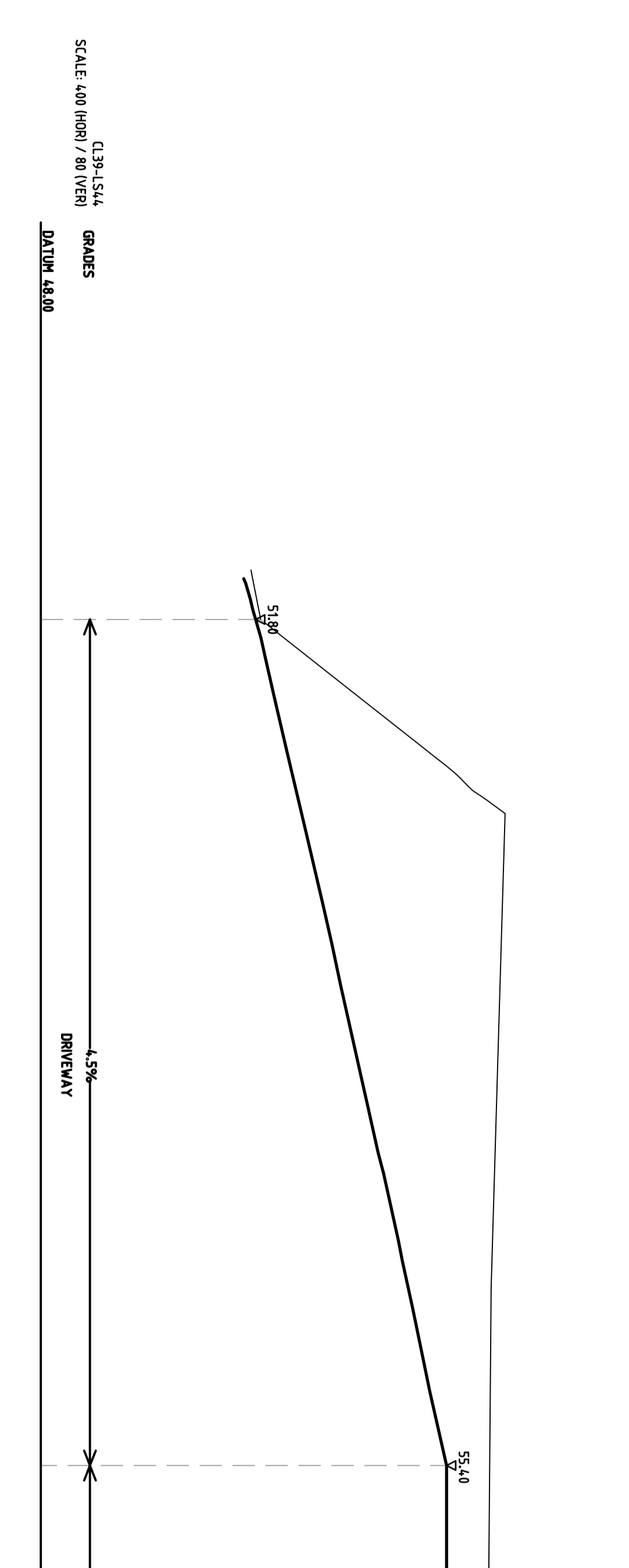
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SECTION A
25067DA03



SECTION B
25067DA03



SECTION C
25067DA03