

Swan and Canning Rivers Management Act 2006

PART 5

DETERMINATION OF DEVELOPMENT APPLICATION

FILE NUMBER : SRT5719
APPLICANT : City of Gosnells
APPLICANT'S ADDRESS : Attn: Paul McAllister, Project Manager
PO Box 662
GOSNELLS WA 6990
LANDOWNER : Western Australian Planning Commission
LAND DESCRIPTION : Parks & Recreation reserve – Lot 901 on Plan 54943
Kenwick Link, Beckenham
DEVELOPMENT : Construction of an emergency operation centre for the
State Emergency Service & Bush Fire Brigade
VALID FORM 1 RECEIVED : 27 October 2014
DETERMINATION : **APPROVAL WITH CONDITIONS**

The application to commence development in accordance with the information received on 27 October 2014 is APPROVED subject to the following conditions:

1. Approval to implement this decision is valid for two (2) years from the date of the approval. If the development has not been substantially commenced within this period, a new approval will be required before commencing or completing the development.

Prior to commencement of works

2. Prior to commencement of works, the applicant shall submit and have approved a request to modify the *Geomorphic Wetlands Swan Coastal Plain* dataset to clarify the wetland mapping within Lot 901 on Plan 54943 Kenwick Link, Beckenham (see *Advice Note 3*).
3. The applicant shall notify the Swan River Trust in writing thirty (30) days prior to the proposed commencement of works.
4. Prior to commencement of works, the 500 year ARI flood modelling is to be updated and the finished floor level of the facility amended accordingly to the satisfaction of the Swan River Trust on advice from the Department of Water (see *Advice Note 4*).
5. Prior to commencement of works, a Construction Environmental Management Plan shall be prepared to the satisfaction of the Swan River Trust (see *Advice Note 5*).
6. The development, including the wash down bay, shall be connected to the reticulated sewerage system prior to occupation to the satisfaction of the Swan

River Trust on advice from the Water Corporation and City of Gosnells Health Services (see *Advice Note 6*).

7. Prior to commencement of works, a Stormwater Drainage Management Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the City of Gosnells Technical Services (see *Advice Note 7*).
8. Prior to commencement of works, a Lighting Plan shall be prepared to the satisfaction of the Swan River Trust (see *Advice Note 8*).
9. Prior to commencement of works, a Weed Management Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the City of Gosnells Parks and Environmental Operations (see *Advice Note 9*).
10. Prior to commencement of works, a Landscaping Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the City of Gosnells Parks and Environmental Operations (see *Advice Note 10*).
11. Prior to commencement of works, final design plans for the facility shall be prepared to reflect the plans approved under *Conditions 4, 6, 7, 8 & 10* to the satisfaction of the Swan River Trust (see *Advice Note 11*).
12. Prior to any fill and/or top soil being brought onto the site, the applicant shall demonstrate that all material is certified clean (as defined by the Department of Environment Regulation's Landfill Waste Classification and Waste Definitions 1996), uncontaminated, and free from rubble, weeds and disease.

During construction

13. All works shall be undertaken in accordance with the Construction Environmental Management Plan approved under *Condition 5*.
14. The applicant shall implement the plans approved under *Conditions 7, 8, 9 & 10* prior to occupation of the facility to the satisfaction of the Swan River Trust.

Ongoing

15. The applicant shall maintain the works approved under *Conditions 6, 7 & 10* for the life of the facility to the satisfaction of the Swan River Trust.

ADVICE TO APPLICANT

1. The applicant should ensure that all personnel associated with the project are thoroughly briefed on the Swan River Trust conditions of approval.
2. The plans required under *Conditions 5, 6, 7, 8, 9, 10 & 11* are to be submitted to the Swan River Trust a minimum of 30 days prior to the commencement of works.
3. The Department of Parks and Wildlife (DPaW) notes that Lot 901 is within an area identified as Conservation category palusplain wetland (seasonally waterlogged flat) UFI 14901. While DPaW acknowledges that the wetland site boundary is unlikely to retain values commensurate with its Conservation category, the hydrological function may remain. It is expected that onsite information regarding

vegetation, hydrology and photographs be provided to support the request to modify the *Geomorphic Wetlands Swan Coastal Plain* mapping layer, which will also determine further advice from DPaW on the need to protect the vegetation that has re-established around the perimeter of the proposed development site. The proposed site is also partially within a regional ecological linkage.

4. The Department of Water notes that the hydraulic model used to calculate the 500 year ARI flood event at the project site needs to be calibrated to use 155m³/s for the 100 year ARI flow and 3.64m AHD as the 100 year ARI flood level.
5. The Construction Environmental Management Plan required under *Condition 5* should be site and project specific, identify the environmental risks associated with the works and ensure appropriate measures are taken to manage these risks. The plan will need to address, but not be limited to, the following details:
 - a. works methods;
 - b. machinery/equipment;
 - c. transport and handling of materials;
 - d. vegetation protection;
 - e. stockpiling of soils;
 - f. excavation;
 - g. any proposed dewatering;
 - h. storage and bunding of materials, equipment, and chemicals;
 - i. any temporary fencing/restriction of public access;
 - j. any onsite refuelling, bunding and spill response;
 - k. suitable provisions for the management of erosion;
 - l. measures to be taken to prevent runoff, any debris, building material, or other deleterious matter from leaving the construction site;
 - m. waste management, including the site being maintained in a clean and tidy state;
 - n. complaints and incidents; and
 - o. approximate programme of works.
6. If it is determined that a private pumping station is necessary, details will need to be provided on the system's:
 - a. emergency storage capacity;
 - b. regular maintenance schedule; and
 - c. contingency plan to be implemented in the event that the pump station fails, including details on the alarm system and emergency response procedure to contain spillages and protect the sensitive environmental receptors.
7. Consistent with the *Decision process for stormwater management in WA* (DoW, 2009) treatment of stormwater from a 1:1 year ARI rainfall event should occur as high in the catchment and as close to the source as possible (i.e. before runoff leaves the site). Dedicated treatment areas and systems are therefore required. The current design provides little or no detention or settlement capacity or plants of a species and density to be effective at the removal of nutrients, particulates or hydrocarbons. Details on the management of runoff from Horley Drive are also required. As previously advised, the use of *Axonopus compressus* (Broadleaf carpet grass) is not considered appropriate, particularly within the buffer of the

wetland. This grass is regarded as an environmental weed in Queensland and New South Wales and is considered potentially risky in the context of its potential spread. The treatment of the swale must contribute to the ecology of the wetland and as such the use of endemic vegetation is recommended. To improve water filtration processes and mitigate any potential impacts to the water quality of the Canning River, it is appropriate for the wetland to which stormwater from the development is being discharged also be revegetated wherever possible. The stormwater design is required to be endorsed prior to the lodgement of a Building Licence.

8. The Lighting Plan required under *Condition 8* should include details on the lighting form, location, direction, illumination, timing and efficiency. The lighting should have minimal spill to the surrounding reserve or upward to the sky to ensure no adverse ecological consequences.
9. The Weed Management Plan required under *Condition 9* should be site and project specific and will need to address, but not be limited to, the following details:
 - a. initial (i.e. for construction of the facility) and ongoing weed management commitments;
 - b. maps identifying the areas to be treated, the types of weeds, and what methods are to be used where;
 - c. who is conducting the weed management – if it is a contractor, provide a written statement explaining how the contractor will be supervised during the course of the operation;
 - d. what chemicals will be used where – herbicide application should be in accordance with technical data/labelled directions and applied by suitably qualified practitioners; and
 - e. targeted removal of *Echium plantagineum* (Paterson's Curse) which is a Declared Plant by the Department of Agriculture and Food.
10. The Landscaping Plan required under *Condition 10* should reflect the approved Stormwater Drainage Plan, Weed Management Plan, provide suitable stabilisation of the fill batters, screen the building and associated infrastructure, and provide a demonstrated ecological benefit. The plan should be site and project specific and will need to address, but not be limited to, the following details:
 - a. work schedule and site preparation details;
 - b. planting methods;
 - c. any chemicals to be used, including fertilisers;
 - d. any temporary fencing to assist with establishment;
 - e. any watering or irrigation requirements;
 - f. ongoing monitoring and reporting, including performance indicators/criteria;
 - g. maintenance and infill planting; and
 - h. roles and responsibilities.

The plan is required to be endorsed prior to the lodgement of a Building Licence.

11. Consistent with the vegetation assessment for the site, the applicant is to reassess the need to remove the two Tuarts and section of vegetation surrounding the wetland as highlighted in yellow on Appendix 1. This may require a slight remodelling of the carpark and variation to the siting of the building footprint.

12. The applicant is advised of the need to apply for a Building Permit from the City of Gosnells Building Services prior to the commencement of works. In this regard, you are advised:
- to consider the requirements of the Building Code of Australia and the *Building Act 2011*, including the requirements for access to buildings for people with disabilities (AS1428.1) and the requirements for sanitary conveniences (Table F2.3/2.4 and AS1428.1);
 - that due to the nature of foundation materials, footing and slab details a site report from a structural engineer is required to be submitted with the Building Permit application;
 - that detailed drawings are to be submitted with the Building Permit application identifying means of access from car parking areas to the entrance of the building and throughout the building; and
 - that a Department of Fire and Emergency Services assessment is required prior to approval of a Building Permit application.
13. The applicant is advised that an Occupancy Permit is to be applied for and issued by the Local Authority prior to occupation of the building or part thereof. For a new building, a Certificate of Construction Compliance (BA17) is to be provided with the application for it to be valid.
14. The applicant is advised of the following to minimise the noise impacts of the development works:
- all development works must be carried out in accordance with Control of Noise Practices set out in section 6 of AS2436-1981;
 - development works are permitted only between 0700 hours and 1900 hours on any day which is not a Sunday or public holiday, unless given written approval by the City of Gosnells Health Services; and
 - development works must comply in all respects with the *Environmental Protection (Noise) Regulations 1997*.
15. The use of the approved buildings should comply in all respects with the *Health (Public Buildings) Regulations 1992*.
16. Clearing within Bush Forever area 224 – Canning River Regional Park and Adjacent Bushland, Riverton to Langford, may require a clearing permit from the Department of Environment Regulation (DER). DER should be contacted for further advice on this matter.



Albert Jacob MLA
MINISTER FOR ENVIRONMENT; HERITAGE

Date: 22/4/2015

FILE No. : SRT5719

TRUST MEETING : 10 March 2015

SWAN RIVER TRUST REPORT

PROPOSAL : Construction of an emergency operation centre for the State
Emergency Service & Bush Fire Brigade

COST : \$2,500,000

LOCATION : Lot 901 on Plan 54943 Kenwick Link, Beckenham

APPLICANT : City of Gosnells (Paul McAllister, Project Manager)

OWNER : Western Australian Planning Commission

LOCAL GOVERNMENT : City of Gosnells

MRS CLASS'N : Parks and Recreation reservation

LA CLASS'N : Waterways, Parks and Recreation reservation

DECISION TYPE : Part 5, *Swan and Canning Rivers Management Act 2006* –
Ministerial Determination

VALID : 27 October 2014

ATTACHMENTS

1. Location map
2. Site Plan A.01 (Rev. P02) dated 02-05-2014
3. Building plan Sk. 01 dated 11-03-2014
4. City of Gosnells, Statutory Planning, referral comments
5. Department of Parks and Wildlife referral comments
6. Department of Planning referral comments
7. Department of Water referral comments
8. Western Australian Planning Commission referral comments
9. City of Gosnells, Statutory Planning, additional comments
10. Subdivision Plan P12013-SUB001 (Rev. A) dated 10.12.12
11. Horley Road Reconstruction plan E1425-14-600-3 (Rev. 3)
12. Elevation plan A.03 (Rev. P02)
13. Demolition Plan E13025-001-DP1 (Rev. A) dated 23.10.14
14. Planting Plan E13025-001-PP (Rev. 0) dated 04/11/2014
15. Earthwork Layout E13025-001-EW1 (Rev. D) dated 07.10.14
16. Pre & Post Catchment Plan and Calculations E13025-001-
CP1 & 2 (Rev. A) dated 28.07.14
17. Drainage Layout E13025-001-DL1 (Rev. A) dated 28.07.14
18. Wastewater Disposal Method E13025-001-WW1 (Rev. B)
dated 07.10.14

RECOMMENDATION : **APPROVAL WITH CONDITIONS**

REPORT

1.0 INTRODUCTION

- 1.1 The Swan River Trust (the Trust) has received an application from the City of Gosnells (the Applicant) for the construction of an emergency operation centre for the State Emergency Service (SES) and Bush Fire Brigade (BFB) at Lot 901 on Plan 54943 Kenwick Link, Beckenham (**Attachment 1, 2 & 3**). The Western Australian Planning Commission (WAPC), as the owners of Lot 901, recommended this site to the City of Gosnells (the City).
- 1.2 The facility is proposed approximately 250m from the Canning River, within a 400m wide foreshore reserve, directly adjacent to a wetland. The building site itself is already largely cleared. Due to the low lying and clay nature of the site considerable fill is to be imported. It is proposed to discharge stormwater from the facility to the adjacent wetland.
- 1.3 Currently Lot 901 is reserved under the Metropolitan Region Scheme (MRS) for Parks & Recreation purposes, and is within a Conservation category palusplain wetland and Bush Forever area.
- 1.4 The works are located entirely within the Trust's Development Control Area (DCA). Therefore the application is being processed pursuant to Part 5 of the *Swan and Canning Rivers Management Act 2006*. The Trust will provide a recommendation on the proposal to the Minister for Environment.

2.0 CONSULTATIONS

City of Gosnells

- 2.1 The City's Statutory Planning branch recommended that the application be approved and provided recommended conditions and advice notes, as well as comments from the City's Environmental Officer.
- 2.2 The City's full comments are at **Attachment 4**.

Department of Parks and Wildlife

- 2.3 The Department of Parks and Wildlife (DPaW) noted that Lot 901 is within an area identified as Conservation category palusplain wetland (seasonally waterlogged flat) UFI 14901. The wetland was largely cleared prior to 1965 and appears to have been utilised for agricultural/horticultural activities. An area of the wetland directly south of the proposed building site appears to have been shallowly excavated during 2003, and this is where stormwater from the facility is proposed to be directed.
- 2.4 DPaW acknowledged that the current wetland site boundary is unlikely to retain values commensurate with its Conservation category, however, the hydrological function may remain. The proponent will need to submit a request to modify the *Geomorphic Wetlands Swan Coastal Plain* dataset to clarify the wetland mapping within Lot 901. Onsite information regarding vegetation, hydrology and photographs to support the request are to be provided, which will also determine further advice from DPaW on the need to protect the vegetation that has re-established around the perimeter of the proposed development site. The proposed site is also partially within a regional ecological linkage.
- 2.5 DPaW noted that the wastewater and stormwater management systems associated with the proposed development have the potential to impact on the water quality of the Canning River. Consideration should therefore be given to revegetating the 'wetland' area where stormwater will be directed as this may

improve water filtration processes and mitigate any potential impact to the water quality of the Canning River.

- 2.6 DPaW recommended that flora species suited to palusplain wetland conditions be selected for revegetation at the site.
- 2.7 DPaW's full comments are at **Attachment 5**.

Department of Planning

- 2.8 The Department of Planning, Policy Development & Review branch, noted that the proposed site of the emergency operation centre is within Bush Forever area 224 – Canning River Regional Park and Adjacent Bushland, Riverton to Langford, and therefore a clearing permit from the Department of Environment Regulation (DER) will be required for any clearing. The site is also reserved as Parks and Recreation under the MRS and has a site implementation category of 'Bush Forever reserves – existing or proposed' in State Planning Policy 2.8 – *Bushland Policy for the Perth Metropolitan Region* (SPP2.8).
- 2.9 Policy Development & Review noted that Lot 901 is classified as a Conservation Category Wetland (CCW), and although a large part of the site is fundamentally devoid of vegetation the wetland function may still exist. SPP2.8 supports a general presumption against clearing of bushland, or other degrading activities, for areas containing the environmental values identified in Appendix 2 (ix) b, which includes CCWs. A reclassification of the wetland or approval from DPaW's Wetlands branch to construct on the wetland would be required before Policy Development & Review would support this proposal.
- 2.10 The Department of Planning's full comments are at **Attachment 6**.

Department of Water

- 2.11 The Department of Water (DoW) in carrying out its role in floodplain management note that the site is affected by flooding during major events with the 100 year ARI flood level estimated to be approximately 3.64m AHD. Based on DoW's floodplain development strategy for the area, the proposed development is considered acceptable however a minimum habitable floor level of 4.14m AHD is recommended to ensure adequate flood protection against a 100 year ARI flood event.
- 2.12 As the proposed facility is considered critical infrastructure during periods of emergency, DoW recommended that it should have a higher level of flood protection (at least a 500 year ARI event). Ensuring access to the facility is not affected during major events may also require additional consideration.
- 2.13 DoW's full comments are at **Attachment 7**.

Western Australian Planning Commission

- 2.14 The WAPC, as the owners of the land on which this facility is proposed, support the proposal and do not require any specific conditions be imposed other than the building should be an appropriate colour green.
- 2.15 The WAPC identified and recommended this site to the City when it was seeking a site initially for the BFB. The site was proposed as it would consolidate a number of "public or semi-public" uses in one location (i.e. the Western Power substation and South East Regional Centre for Urban Landcare (SERCUL) works depot), providing additional after-hours surveillance to a relatively remote area that suffers some antisocial activity. The location of the BFB facility would also provide an onsite fire response capacity to the Beckenham Regional Open Space and

eastern side of the Canning River Regional Park. Its location close to the Kenwick Link/Roe Highway interchange allows fast response to bush fires in the region.

- 2.16 It is the intention of the WAPC to initiate an amendment to the MRS to transfer the Western Power substation, SERCUL works depot and this site, east of Horley Road to the "Public Purposes Special Uses" reservation as the current Parks and Recreation reservation is considered inappropriate.
- 2.17 The WAPC's full comments are at **Attachment 8**.

3.0 REQUEST FOR FURTHER INFORMATION

- 3.1 As a result of the comments received from the referral agencies during the consultation process, further information and clarification was requested from the Applicant. The request was made on 12 August 2014 and a response received on 27 October 2014. The additional information submitted was forwarded to the relevant referral agencies for comment. It was considered that the application should not progress until the identified issues were resolved. All comments have now been received, and although there are still some remaining issues with the proposal which may require design changes, the Applicant has requested that the application be progressed.
- 3.2 Further comments from the referral agencies on the additional information are outlined below.

City of Gosnells

- 3.3 The City's Statutory Planning branch was referred updated drawings of the earthworks, drainage and wastewater disposal details, the geotechnical investigation for the site, details relating to the redirection of Horley Road, and the vegetation assessment report.
- 3.4 The City's additional comments are at **Attachment 9**.

Department of Parks and Wildlife

- 3.5 DPaW was referred updated drawings of the earthworks, pre/post catchment calculations, drainage and wastewater disposal details, the geotechnical investigation for the site, and the vegetation assessment report.
- 3.6 DPaW noted its support of the retention of as many Tuart and Marri trees as possible as a future resource for breeding and feeding of Black Cockatoos.
- 3.7 It was reiterated that any approval of this application should be on the basis of a wetland reclassification to modify the mapping layer as a prerequisite to site development.

Department of Water

- 3.8 DoW was referred updated drawings of the drainage design, pre/post catchment calculations and wastewater disposal details, modelling of a 500 year ARI flood event, and the geotechnical investigation for the site.
- 3.9 DoW noted that the hydraulic model used to calculate the 500 year ARI flood event needed to be calibrated to use 155m³/s for the 100 year ARI flow at the site and 3.64m AHD as the 100 year ARI flood level at the site.

4.0 PUBLIC COMMENT – SUBMISSIONS ON DRAFT REPORT

- 4.1 In accordance with the requirements of Part 5 of the *Swan and Canning Rivers Management Act 2006* a copy of the draft report and proposed recommendation

has been provided to the applicant, the local government and other consultant agencies. A copy was also published on the Trust website for a period of three (3) weeks between 23 March 2015 and 15 April 2015 with an invitation for public submissions.

- 4.2 One (1) submission was received from the Department of Planning, Policy Development & Review branch, confirming its previous advice.

5.0 RELEVANT POLICIES AND PLANS

- ◆ State Planning Policy 2.10 – *Swan-Canning River System*
- ◆ SRT/EA1 – *Conservation, Land Use and Landscape Preservation*
- ◆ SRT/E3 – *Flood Prone Land*
- ◆ SRT/DE5 – *On-site Wastewater Management Systems and Industrial Wastewater*

6.0 ENVIRONMENTAL AND PLANNING CONSIDERATIONS

- ◆ Parks & Recreation reservation
- ◆ Design & Lighting
- ◆ Visual amenity
- ◆ Vegetation protection
- ◆ Environmental protection
- ◆ Stormwater management
- ◆ Wastewater management
- ◆ Flood protection
- ◆ Geomorphic Wetland
- ◆ Bush Forever area

7.0 DISCUSSION

Parks & Recreation reservation

- 7.1 State Planning Policy 2.10 – *Swan-Canning River System* (SPP2.10) states that land adjacent to the river should be available for public access, recreation and conservation of the river. Furthermore, it indicates that development on or adjacent to the river should be pertinent to the river, enhance the public's use and enjoyment of the river experience, and maintain or improve the long term health, amenity and landscape values of the river.
- 7.2 The subject site is adjacent to the Canning River Regional Park and within the Hester Park Regional area, for which the Department of Planning and City are currently developing a Master Plan to guide revitalisation. It is unclear how this facility relates to the strategic plans for the area, however the foreshore reserve is over 400m wide and the facility proposed to be 250m from the river.
- 7.3 The land required for the proposed facility (1.5963 ha) was excised from Lot 901 through Subdivision Approval 147301 by the WAPC on 23 April 2013 (**Attachment 10**). As previously noted, the WAPC identified and recommended this site to the City. When referred the subdivision application for comment, Trust officers questioned the appropriateness of the proposed use of an area reserved for Parks and Recreation purposes under the MRS, and wholly within Bush Forever area 224 and the Trust's DCA, for a facility that is not pertinent to the river. It is now clear that WAPC intends to amend the MRS to transfer the land east of Horley Road, including the site of the subject facility, to the "Public Purposes Special Uses" reservation as it considers the current Parks and Recreation reservation to be inappropriate.

- 7.4 The subdivision approval conditioned the upgrading of Horley Road, the suitable management of stormwater, provision of a geotechnical report, and servicing of the site with mains water and underground electricity.
- 7.5 On 29 April 2014 the land required for the proposed facility excised from Lot 901 was transferred from the WAPC to the State of Western Australia with a management order to the City.
- 7.6 The WAPC also surrendered the management order over Horley Road on 29 April 2014 so it could be rededicated as a public road. The City will carry out upgrade works to Horley Road and its connection to Kenwick Link, in accordance with design discussions between the City and Main Roads WA (**Attachment 11**). The land to be rededicated to Horley Road is currently cleared.

Design & Lighting

- 7.7 SPP2.10 states that development should maintain and enhance the quality and setting of the river.
- 7.8 The proposed facility consists of two wings of vehicle 'hangars', each with five roller doors, and a central office area (**Attachment 3**). The building is bounded by hardstand (3,622m²), including a wash down bay, 30 staff car parking bays and six visitor car parking bays (**Attachment 2**). Another 15 overflow car parking bays are provided in areas to be mulched, and gates allow access to a large grassed area for further overflow parking.
- 7.9 Details on any external lighting have not been provided. For ecological reasons new lighting should have minimal spill on the surrounding landscape or upward to the sky. This can be addressed through a Lighting Plan.
- 7.10 The Applicant has stated that the development has adequate bushfire protection as the area surrounding the facility will primarily remain cleared and the proposed landscaping consists of wetland species which will not contribute to any bushfire risks. Ongoing management will therefore not be required.

Visual amenity

- 7.11 Trust policy *Conservation, Land Use and Landscape Preservation* (SRT/EA1) states that the design, materials and colour scheme of development adjacent to the river and foreshores should complement and protect the character and landscape setting of the river.
- 7.12 Colorbond sheeting is to be used for the two vehicle 'hangars' and ExoTec façade panelling for the office area, both with Colorbond roofs. The wall to the courtyard is to be rendered brickwork. The Elevation plan at **Attachment 12** depicts the proposed colours and finishes, which are to be dark earth colours and greens to harmonise with the riverine environment.
- 7.13 The site is to be used for an industrial type purpose and the building design is a direct result of this use. However, it is also single storey and landscaping around the perimeter of the facility will screen the development from the areas of the river foreshore the public may use. It is therefore expected that the facility will not greatly impact on the amenity of the reserve.

Vegetation protection

- 7.14 SPP2.10 promotes the protection and re-establishment of wetlands, tributaries and bushland associated with the river.
- 7.15 Seven mature existing *Eucalyptus Gomphocephala* (Tuart) and a section of the vegetation surrounding the wetland is proposed to be removed to facilitate the

construction of the facility, as depicted in **Attachment 13**. The Tuarts are the only trees in an otherwise large cleared area. The removed trees are to be mulched and reused onsite.

- 7.16 A vegetation assessment, prepared for the site by ENV Australia Ltd dated 10 October 2013, stated that no trees within the site, including the Tuarts, are considered to represent Black Cockatoo breeding trees. However, it is possible the Eucalyptus trees may represent night roosting habitat for Black Cockatoo species.
- 7.17 The vegetation assessment noted the site as being highly modified with multiple disturbances and areas of partial rehabilitation, which involved the planting of non-endemic Eucalyptus species. The majority of the site is considered to be 'Completely Degraded' with numerous weed species dominating, however there are areas in 'Good' vegetation condition. The vegetation assessment report recommended that impacts on vegetation considered to be in 'Good' condition be kept to a minimum and impacts to the wetland and surrounding vegetation (at least a 5-10m buffer) be avoided. As a result, the Applicant should reassess the need to remove the two Tuarts and section of vegetation surrounding the wetland as highlighted in yellow on Appendix 1. This may require a slight remodelling of the carpark and variation to the siting of the building footprint.
- 7.18 A Planting Plan (**Attachment 14**) has been prepared for the site. The car park entry will consist of formalised endemic planting with organic mulch. Ground covers and grasses are proposed, with feature trees to provide shade to the entry path and front of the building. To the north of the entry area, shade trees will line the driveway with re-vegetative planting behind. The existing swale is to be revegetated, while the existing vegetation on the northern site boundary is to remain undisturbed. The overflow car bays internal of the building's fence will be mulched. Shade trees will be planted at minimum one tree per three car bays. The additional overflow car bays will be unirrigated turf.
- 7.19 The Applicant has committed to producing an ongoing Weed Management Plan for the area, which can be reiterated through a condition of approval. Twelve species of introduced flora were recorded at the site, including *Echium plantagineum* (Paterson's Curse) which is a Declared Plant by the Department of Agriculture and Food.

Environmental protection

- 7.20 Trust policy SRT/EA1 promotes the protection and restoration of waterways.
- 7.21 The Applicant is aware that this project will require the preparation of a Construction Environmental Management Plan (CEMP) to identify the environmental risks associated with the works and ensure appropriate measures are taken to manage these risks. This plan is yet to be provided and therefore should be made a condition of approval.
- 7.22 The Applicant has advised that excavation volumes are not expected to approach 100m³ as the site will in general be filled, and it is therefore also not anticipated that dewatering will be required as construction will be during the summer months. This can be confirmed through the CEMP.
- 7.23 To achieve the required finished floor level, 6,201m³ of fill will need to be imported (**Attachment 15**). Natural ground level at the site ranges from approximately 1.5m to 3.5m AHD. The finished floor level of the building is to be 4.19m AHD, therefore up to 2.69m high of fill will be needed in some areas. Given the significant quantity of fill, it is considered reasonable to condition that it be certified clean and uncontaminated.

- 7.24 The fill will be battered at a slope of 1:6. Currently stabilisation of the battering has not been proposed. However given the sensitive surrounding environment, particularly the wetland to the south of the facility, it is considered reasonable that the slope be suitably protected against potential erosion.
- 7.25 Once operating, a 44 gallon drum of diesel fuel is to be stored within the 'heavy store room' of the facility, and given the size of the drum no mitigation measures are being proposed. No vehicle or equipment maintenance will be conducted at the facility.

Stormwater management

- 7.26 SPP2.10 states that land use changes and development should not result in water quality degradation of the river but should, if possible, improve the situation.
- 7.27 Stormwater runoff from the site will be a combination of roof runoff (1,443m²) and runoff from the hardstand areas (3,622m²). It is proposed to direct the stormwater to existing wetland areas, in keeping with the existing drainage conditions (**Attachment 16**). The site is generally a low permeability clayey material at shallow depth making it unsuitable for stormwater disposal using infiltration systems. The Applicant has advised that the receiving wetland has sufficient capacity to receive the stormwater from the post-development site. To ensure that any potential water quality impacts to the Canning River from the development are mitigated, it is considered appropriate for the receiving wetland to be revegetated wherever possible.
- 7.28 The runoff from the hardstand areas is proposed to be treated by means of a swale before being discharged to the wetland as shown at **Attachment 17**. Currently the southern swale is proposed only to be grassed with *Axonopus compressus* (Broadleaf carpet grass), however this is a weed species and will not provide for sufficient treatment prior to discharge to the wetland. The hardstand to the north of the site will be directed to an existing swale, which is proposed to be planted with *Ficinia nodosa* (Knobby Club Rush), *Juncus kraussii* (Sea Rush), *Juncus pallidus* (Pale Rush) at a density of 1 per 4m², and *Melaleuca lateritia* (Robin Redbreast Bush), *Viminaria juncea* (Swish Bush) at a density of 1 per 8m². Generally, design guidelines recommend 8-12 plants per m², depending on the species, to be effective at nutrient removal. The proposed planting densities will therefore need to be updated accordingly.
- 7.29 Consistent with the *Decision process for stormwater management in WA* (DoW, 2009) treatment of stormwater from a 1:1 year ARI rainfall event should occur as high in the catchment and as close to the source as possible (i.e. before runoff leaves the site). Dedicated treatment areas and systems which have a detention, settlement capacity, and plants of a species and density to be effective at the removal of nutrient, particulates, and hydrocarbons in the water, is therefore required. The treatment of the swale must also contribute to the ecology of the wetland and as such endemic species should be used. It is considered necessary for a Stormwater Management Plan (SMP) to be prepared and implemented for this project.
- 7.30 It is unclear how stormwater runoff from the access roads, including Horley Drive, is being managed. Further details can be sought as part of the SMP.

Wastewater management

- 7.31 Trust policy *On-site Wastewater Management Systems and Industrial Wastewater* (SRT/DE5) indicates that all development in the vicinity of the river system should be connected to the reticulated sewerage system. In areas that are not sewered,

onsite wastewater systems may be approved provided that site conditions are suitable.

- 7.32 The Applicant has proposed to use an Aquarius O-3 8KLC Aerobic Treatment Unit (ATU) to treat an estimated 7,100 L/day of wastewater from the facility. The manufacturer advertises that the system treats the wastewater to <1mg/L total phosphorus (TP) and <10mg/L total nitrogen (TN). This effectiveness is only assured if regular maintenance is conducted. For comparison, the Trust's Healthy Rivers Action Plan identifies a short-term nutrient concentration target in catchment tributaries of 2.0mg/L TN and 0.2mg/L TP and a long-term target of 1.0mg/L TN and 0.1mg/L TP.
- 7.33 The treated water is proposed to be discharged to a surface irrigation disposal area, planted with *Eucalyptus rudis* (Flooded Gum), *Melaleuca preissiana* (Stout Paperbark), *Melaleuca raphiophylla* (Swamp Paperbark) at a density of 1 per 34m² and *Melaleuca lateritia* (Robin Redbreast Bush) at a density of 1 per 13m². The irrigation area is approximately 100m from the wetland at the site and will be fenced off. Due to the clay nature of the site, the Applicant will excavate the irrigation area to a depth of 0.5m and backfill with coarse sand. The phosphorus retention index (PRI) of the backfill will be 20. The proposed wastewater system is shown at **Attachment 18**. For the onsite disposal of effluent, the Trust expects that any irrigation area be planted with high nutrient absorption species at an appropriate density to improve the quality of the water being discharged. As discussed above, general design guidelines recommend 8-12 plants per m², depending on the species.
- 7.34 Drainage from the wash down facility is proposed to be contained within the wash down area, so that no runoff, including during rain events, will be directed to the main stormwater system. Wastewater from the wash down facility will be passed through an oil and water separator then be treated by the ATU, due to the potential contamination of dieback on the fire trucks. The ATU will treat any dieback using ozone as a disinfectant. The ozone will be pumped into the wastewater in the final stage of treatment to sterilise the pathogen prior to discharge to the irrigation area. According to Water Quality Protection Note 68 'Mechanical equipment wash down' (DoW, September 2013), treated vehicle wash down water should be recycled, reused, exported for disposal at an approved facility or discharged to sewer.
- 7.35 For the onsite disposal of effluent, the Trust requires that a 2.0m vertical separation be achieved between the base of the system and highest known level of groundwater to allow for microbial action. Presumably in an effort to achieve this separation the effluent irrigation area is proposed to be elevated more than 1.0m to 5.1m AHD using imported fill. Test pit logs taken on 30 August 2013 showed groundwater at 2.9m AHD, less than 0.7m below natural ground level, where the irrigation area is being proposed. However, the Applicant has noted that during winter the site is boggy and details on the highest winter groundwater levels have not been provided. It is therefore unclear as to the actual vertical separation the irrigation system is achieving and if the irrigation area needs to be entirely inverted 2.0m above natural ground level, which is aesthetically undesirable.
- 7.36 The Applicant is installing mains water and underground electricity to service the facility, run along the edge of Horley Road and under Kenwick Link and Wimbledon Street. The nearest sewer to this point is approximately 120m northwest along the edge of Wimbledon Street. The invert of the connection is 1.49m AHD. The Applicant has advised that while the level of the facility is being lifted enough to service the building, connecting to the sewer line would result in portions of the connection being above Horley Road level. It is unclear if

consideration has been given to design alternatives, including the installation of a private pumping station.

- 7.37 Given the site conditions – high groundwater level, clay soils, and proximity to environmentally sensitive areas – it is considered that onsite treatment of wastewater is not appropriate and it is therefore necessary for the facility and wash down bay to be connected to the reticulated sewerage system. Further investigation will be needed as to the specifics of the connection, which can be addressed through a condition of approval.

Flood protection

- 7.38 Trust policy *Flood Prone Land* (SRT/E3) aims to minimise river pollution during major flood events and ensure that applicants are aware of flooding issues when contemplating development on the floodplain.
- 7.39 The 100 year ARI flood has been modelled by DoW at the site to be 3.64m AHD. As the proposed facility is to be located partially within the 100 year ARI flood fringe of the Canning River, the floor level of the building is proposed to be elevated to 4.19m AHD to provide sufficient clearance.
- 7.40 However, as the proposed facility is considered critical infrastructure during periods of emergency, DoW recommended that it should have a higher level of flood protection (at least a 500 year ARI event). Ensuring access to the facility is not affected during major events was also encouraged.
- 7.41 The Applicant subsequently modelled the 500 year flood which showed a maximum level of 3.66m AHD at the site. However, on review DoW noted that the hydraulic model used to calculate the 500 year ARI flood event needed to be calibrated to use 155m³/s for the 100 year ARI flow at the site and 3.64m AHD as the 100 year ARI flood level at the site. The corrected modelling for the 500 year flood event may have implications for the minimum floor levels of the building. This matter will need to be resolved thorough a condition of approval prior to works commencing onsite, and any plans updated accordingly.

Geomorphic Wetland

- 7.42 SPP2.10 promotes the protection and re-establishment of wetlands, tributaries and bushland associated with the river.
- 7.43 Lot 901 is within Conservation category palusplain wetland (seasonally waterlogged flat) UFI 14901. However, as the portion of the site where the facility is proposed to be located has already been cleared, DPaW acknowledged that the wetland site boundary is unlikely to retain values commensurate with its Conservation category, although the hydrological function may remain. DPaW has not objected to this application being progressed on the basis that any approval be conditional to a wetland reclassification to modify the wetland boundary mapping layer as a prerequisite to site development. The Applicant has already been made aware of this requirement and is progressing with works to reclassify the required portion of the site. Nevertheless, this requirement should be reiterated through a condition of approval.

Bush Forever area

- 7.44 SPP2.10 promotes the protection and re-establishment of wetlands, tributaries and bushland associated with the river.
- 7.45 Lot 901 is within Bush Forever area 224 – Canning River Regional Park and Adjacent Bushland, Riverton to Langford. Although the site is primarily cleared, up to seven mature endemic *Eucalyptus Gomphocephala* (Tuart) and a section of

the vegetation surrounding the wetland is proposed to be removed as part of this project. Given the building design and orientation, the removal of at least five of the trees is unavoidable. However, as discussed above, the Applicant should reassess the need to remove the two Tuarts and section of vegetation surrounding the wetland as highlighted in yellow on Appendix 1, all of which are on the periphery of the building footprint. A clearing permit from DER may also be required for any clearing. The Applicant can be advised of this requirement.

Conclusion

- 7.46 The siting of the proposed facility is not ideal, both in terms of it being within the foreshore reserve and not pertinent to the river and the site conditions making construction difficult. However, the facility is broadly in the public interest and benefit, and has the ability to positively contribute to the reserve through revegetation/landscaping and weed management.
- 7.47 There are still unresolved issues relating to the management of stormwater from the facility, as well as confirmation that the building will be protected during major flood events and will not impact on a Conservation category wetland. However, it is considered that there are options available to address these issues. As the solutions may require design changes to the facility, it is reasonable to require that these issues be resolved prior to commencement of work onsite. The Applicant has already been provided feedback and made aware that further information will be necessary before construction on the facility can start.

7.0 RECOMMENDATION – APPROVAL WITH CONDITIONS

That the Trust advises the Minister for Environment that it recommends approval of the proposed construction of an emergency operation centre for State Emergency Service and Bush Fire Brigade at Lot 901 on Plan 54943 Kenwick Link, Beckenham, as described in the valid application received by the Trust on 27 October 2014, subject to the following conditions:

1. Approval to implement this decision is valid for two (2) years from the date of the approval. If the development has not been substantially commenced within this period, a new approval will be required before commencing or completing the development.

Prior to commencement of works

2. Prior to commencement of works, the applicant shall submit and have approved a request to modify the *Geomorphic Wetlands Swan Coastal Plain* dataset to clarify the wetland mapping within Lot 901 on Plan 54943 Kenwick Link, Beckenham (see *Advice Note 3*).
3. The applicant shall notify the Swan River Trust in writing thirty (30) days prior to the proposed commencement of works.
4. Prior to commencement of works, the 500 year ARI flood modelling is to be updated and the finished floor level of the facility amended accordingly to the satisfaction of the Swan River Trust on advice from the Department of Water (see *Advice Note 4*).
5. Prior to commencement of works, a Construction Environmental Management Plan shall be prepared to the satisfaction of the Swan River Trust (see *Advice Note 5*).
6. The development, including the wash down bay, shall be connected to the reticulated sewerage system prior to occupation to the satisfaction of the Swan River Trust on advice from the Water Corporation and City of Gosnells Health Services (see *Advice Note 6*).

7. Prior to commencement of works, a Stormwater Drainage Management Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the City of Gosnells Technical Services (see *Advice Note 7*).
8. Prior to commencement of works, a Lighting Plan shall be prepared to the satisfaction of the Swan River Trust (see *Advice Note 8*).
9. Prior to commencement of works, a Weed Management Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the City of Gosnells Parks and Environmental Operations (see *Advice Note 9*).
10. Prior to commencement of works, a Landscaping Plan shall be prepared to the satisfaction of the Swan River Trust on advice from the City of Gosnells Parks and Environmental Operations (see *Advice Note 10*).
11. Prior to commencement of works, final design plans for the facility shall be prepared to reflect the plans approved under *Conditions 4, 6, 7, 8 & 10* to the satisfaction of the Swan River Trust (see *Advice Note 11*).
12. Prior to any fill and/or top soil being brought onto the site, the applicant shall demonstrate that all material is certified clean (as defined by the Department of Environment Regulation's Landfill Waste Classification and Waste Definitions 1996), uncontaminated, and free from rubble, weeds and disease.

During construction

13. All works shall be undertaken in accordance with the Construction Environmental Management Plan approved under *Condition 5*.
14. The applicant shall implement the plans approved under *Conditions 7, 8, 9 & 10* prior to occupation of the facility to the satisfaction of the Swan River Trust.

Ongoing

15. The applicant shall maintain the works approved under *Conditions 6, 7 & 10* for the life of the facility to the satisfaction of the Swan River Trust.

ADVICE TO APPLICANT

1. The applicant should ensure that all personnel associated with the project are thoroughly briefed on the Swan River Trust conditions of approval.
2. The plans required under *Conditions 5, 6, 7, 8, 9, 10 & 11* are to be submitted to the Swan River Trust a minimum of 30 days prior to the commencement of works.
3. The Department of Parks and Wildlife (DPaW) notes that Lot 901 is within an area identified as Conservation category palusplain wetland (seasonally waterlogged flat) UFI 14901. While DPaW acknowledges that the wetland site boundary is unlikely to retain values commensurate with its Conservation category, the hydrological function may remain. It is expected that onsite information regarding vegetation, hydrology and photographs be provided to support the request to modify the *Geomorphic Wetlands Swan Coastal Plain* mapping layer, which will also determine further advice from DPaW on the need to protect the vegetation that has re-established around the perimeter of the proposed development site. The proposed site is also partially within a regional ecological linkage.

4. The Department of Water notes that the hydraulic model used to calculate the 500 year ARI flood event at the project site needs to be calibrated to use 155m³/s for the 100 year ARI flow and 3.64m AHD as the 100 year ARI flood level.
5. The Construction Environmental Management Plan required under *Condition 5* should be site and project specific, identify the environmental risks associated with the works and ensure appropriate measures are taken to manage these risks. The plan will need to address, but not be limited to, the following details:
 - a. works methods;
 - b. machinery/equipment;
 - c. transport and handling of materials;
 - d. vegetation protection;
 - e. stockpiling of soils;
 - f. excavation;
 - g. any proposed dewatering;
 - h. storage and bunding of materials, equipment, and chemicals;
 - i. any temporary fencing/restriction of public access;
 - j. any onsite refuelling, bunding and spill response;
 - k. suitable provisions for the management of erosion;
 - l. measures to be taken to prevent runoff, any debris, building material, or other deleterious matter from leaving the construction site;
 - m. waste management, including the site being maintained in a clean and tidy state;
 - n. complaints and incidents; and
 - o. approximate programme of works.
6. If it is determined that a private pumping station is necessary, details will need to be provided on the system's:
 - a. emergency storage capacity;
 - b. regular maintenance schedule; and
 - c. contingency plan to be implemented in the event that the pump station fails, including details on the alarm system and emergency response procedure to contain spillages and protect the sensitive environmental receptors.
7. Consistent with the *Decision process for stormwater management in WA* (DoW, 2009) treatment of stormwater from a 1:1 year ARI rainfall event should occur as high in the catchment and as close to the source as possible (i.e. before runoff leaves the site). Dedicated treatment areas and systems are therefore required. The current design provides little or no detention or settlement capacity or plants of a species and density to be effective at the removal of nutrients, particulates or hydrocarbons. Details on the management of runoff from Horley Drive are also required. As previously advised, the use of *Axonopus compressus* (Broadleaf carpet grass) is not considered appropriate, particularly within the buffer of the wetland. This grass is regarded as an environmental weed in Queensland and New South Wales and is considered potentially risky in the context of its potential spread. The treatment of the swale must contribute to the ecology of the wetland and as such the use of endemic vegetation is recommended. To improve water filtration processes and mitigate any potential impacts to the water quality of the Canning River, it is appropriate for the wetland to which stormwater from the development is being discharged also be revegetated wherever possible. The stormwater design is required to be endorsed prior to the lodgement of a Building Licence.

8. The Lighting Plan required under *Condition 8* should include details on the lighting form, location, direction, illumination, timing and efficiency. The lighting should have minimal spill to the surrounding reserve or upward to the sky to ensure no adverse ecological consequences.
9. The Weed Management Plan required under *Condition 9* should be site and project specific and will need to address, but not be limited to, the following details:
 - a. initial (i.e. for construction of the facility) and ongoing weed management commitments;
 - b. maps identifying the areas to be treated, the types of weeds, and what methods are to be used where;
 - c. who is conducting the weed management – if it is a contractor, provide a written statement explaining how the contractor will be supervised during the course of the operation;
 - d. what chemicals will be used where – herbicide application should be in accordance with technical data/labelled directions and applied by suitably qualified practitioners; and
 - e. targeted removal of *Echium plantagineum* (Paterson's Curse) which is a Declared Plant by the Department of Agriculture and Food.
10. The Landscaping Plan required under *Condition 10* should reflect the approved Stormwater Drainage Plan, Weed Management Plan, provide suitable stabilisation of the fill batters, screen the building and associated infrastructure, and provide a demonstrated ecological benefit. The plan should be site and project specific and will need to address, but not be limited to, the following details:
 - a. work schedule and site preparation details;
 - b. planting methods;
 - c. any chemicals to be used, including fertilisers;
 - d. any temporary fencing to assist with establishment;
 - e. any watering or irrigation requirements;
 - f. ongoing monitoring and reporting, including performance indicators/criteria;
 - g. maintenance and infill planting; and
 - h. roles and responsibilities.

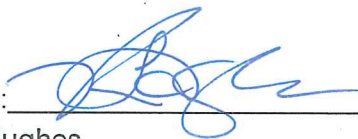
The plan is required to be endorsed prior to the lodgement of a Building Licence.

11. Consistent with the vegetation assessment for the site, the applicant is to reassess the need to remove the two Tuarts and section of vegetation surrounding the wetland as highlighted in yellow on Appendix 1. This may require a slight remodelling of the carpark and variation to the siting of the building footprint.
12. The applicant is advised of the need to apply for a Building Permit from the City of Gosnells Building Services prior to the commencement of works. In this regard, you are advised:
 - to consider the requirements of the Building Code of Australia and the *Building Act 2011*, including the requirements for access to buildings for people with disabilities (AS1428.1) and the requirements for sanitary conveniences (Table F2.3/2.4 and AS1428.1);
 - that due to the nature of foundation materials, footing and slab details a site report from a structural engineer is required to be submitted with the Building Permit application;

- that detailed drawings are to be submitted with the Building Permit application identifying means of access from car parking areas to the entrance of the building and throughout the building; and
 - that a Department of Fire and Emergency Services assessment is required prior to approval of a Building Permit application.
13. The applicant is advised that an Occupancy Permit is to be applied for and issued by the Local Authority prior to occupation of the building or part thereof. For a new building, a Certificate of Construction Compliance (BA17) is to be provided with the application for it to be valid.
14. The applicant is advised of the following to minimise the noise impacts of the development works:
- all development works must be carried out in accordance with Control of Noise Practices set out in section 6 of AS2436-1981;
 - development works are permitted only between 0700 hours and 1900 hours on any day which is not a Sunday or public holiday, unless given written approval by the City of Gosnells Health Services; and
 - development works must comply in all respects with the *Environmental Protection (Noise) Regulations 1997*.
15. The use of the approved buildings should comply in all respects with the *Health (Public Buildings) Regulations 1992*.
16. Clearing within Bush Forever area 224 – Canning River Regional Park and Adjacent Bushland, Riverton to Langford, may require a clearing permit from the Department of Environment Regulation (DER). DER should be contacted for further advice on this matter.

FINAL REPORT ENDORSED

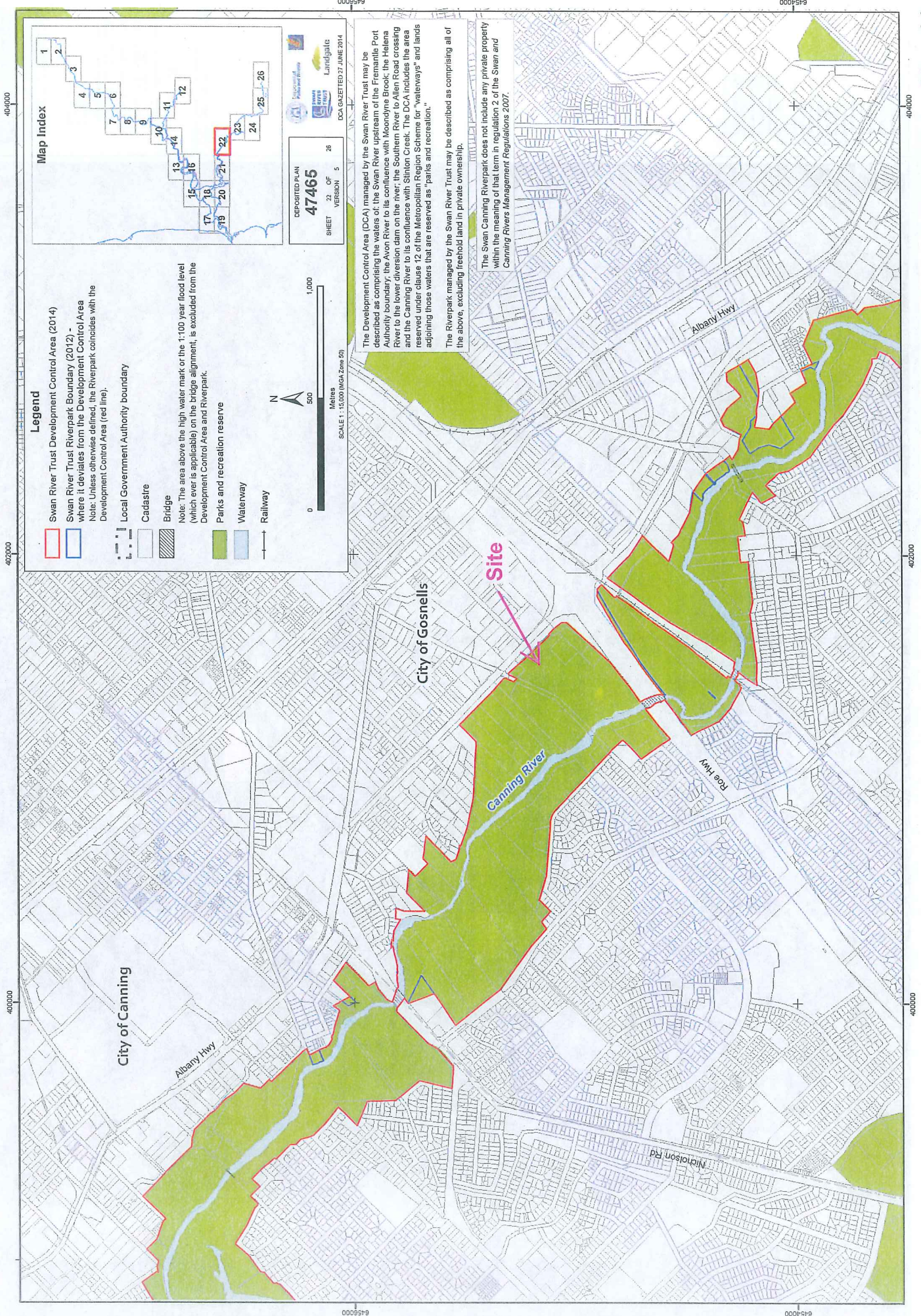
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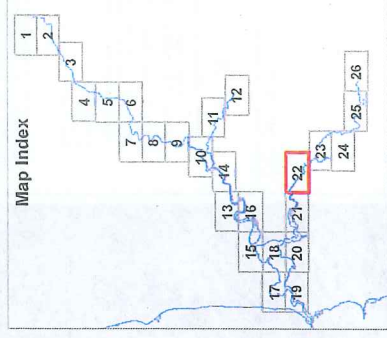
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17/4/15

Rod Hughes
General Manager



Map Index



DEPOSITED PLAN
47465
SHEET 22 OF 26
VERSION 5

SCALE 1:15,000 (MGA Zone 50)



Legend

- Swan River Trust Development Control Area (2014)
- Swan River Trust Riverpark Boundary (2012) - where it deviates from the Development Control Area
- Note: Unless otherwise defined, the Riverpark coincides with the Development Control Area (red line).
- Local Government Authority boundary
- Cadasire
- Bridge
- Note: The area above the high water mark or the 1:100 year flood level (which ever is applicable) on the bridge alignment, is excluded from the Development Control Area and Riverpark.
- Parks and recreation reserve
- Waterway
- Railway

The Development Control Area (DCA) managed by the Swan River Trust may be described as comprising the waters of, the Swan River upstream of the Fremantle Port Authority boundary; the Avon River to its confluence with Moodyne Brook; the Helena River to the lower diversion dam on the river; the Southern River to Allen Road crossing and the Canning River to its confluence with Slinnon Creek. The DCA includes the area reserved under clause 12 of the Metropolitan Region Scheme for "waterways" and lands adjoining those waters that are reserved as "parks and recreation."

The Riverpark managed by the Swan River Trust may be described as comprising all of the above, excluding freehold land in private ownership.

The Swan Canning Riverpark does not include any private property within the meaning of that term in regulation 2 of the Swan and Canning Rivers Management Regulations 2007.

Attachment 2: Site Plan



NO.	DATE	BY	CHK	DESCRIPTION
1	12/22/2011	EL	EC	ISSUED FOR PERMITS
2	01/25/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
3	02/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
4	03/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
5	04/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
6	05/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
7	06/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
8	07/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
9	08/22/2012	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
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83	10/22/2018	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
84	11/22/2018	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
85	12/22/2018	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
86	01/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
87	02/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
88	03/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
89	04/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
90	05/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
91	06/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
92	07/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
93	08/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
94	09/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
95	10/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
96	11/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
97	12/22/2019	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
98	01/22/2020	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
99	02/22/2020	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK
100	03/22/2020	EL	EC	REVISED TO ADDITIONAL OVERFLOW CARPARK

HOLTON CONNOR ARCHITECTS PLANNERS
 100-1000 WEST STREET
 SUITE 1000
 VANCOUVER, BC V6E 2E6
 TEL: 604-273-1111
 FAX: 604-273-1112
 WWW.HOLTONCONNOR.COM

GODSELLS EMERGENCY OPERATIONS CENTRE

SITE PLAN

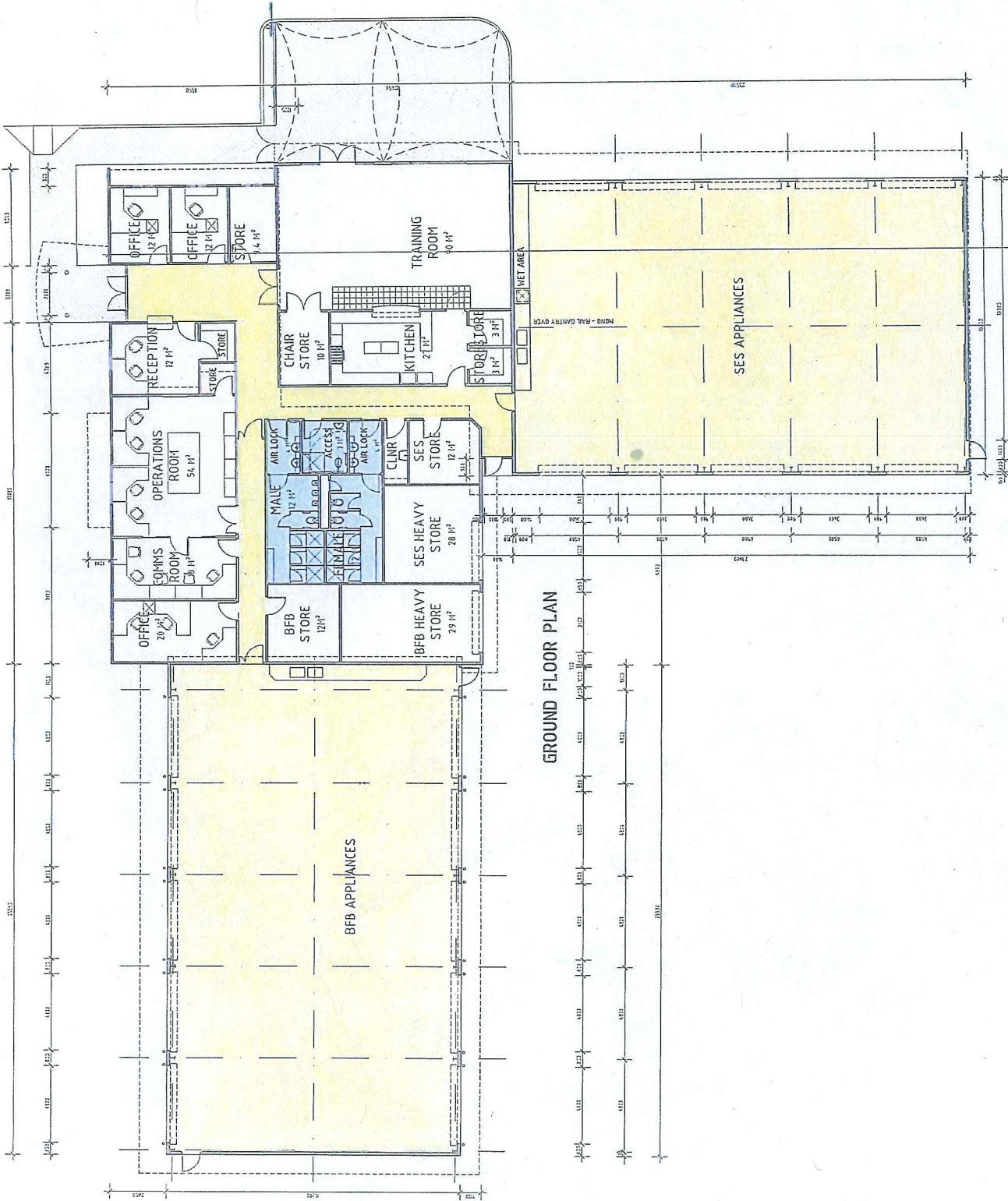
PROJECT NO.	10000
CLIENT	BC TRANSIT
DATE	12/22/2017
SCALE	1:100
PROJECT NO.	10000
CLIENT	BC TRANSIT
DATE	12/22/2017
SCALE	1:100

Lot 3
1.1473h

Lot 1
1.5963ha

PROVIDER CONSULTING TO BE COORDINATED WITH LIAISON (SOLV)

PROVIDER CONSULTING TO BE COORDINATED WITH LIAISON (SOLV)



2120 Albany Highway Gosnells WA 6110
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ABN 18 374 412 891

28 July 2014

Swan River Trust
PO Box 6829
EAST PERTH WA 6892

Our Reference: 310398
Application No: DA14/00145
Enquiries: Jamie Trees
(08) 9397 3172

Dear Sir/Madam

**Planning Development Application - 901L Kenwick Link, Beckenham -
Emergency Services Building**

The City has considered the application received on 18 June 2014 for the above. The City recommends that the application be approved and provides the following conditions and advice notes. Background commentary is also provided for information and guidance purposes.

1. RECOMMENDED CONDITIONS

1.1 Conditions to be satisfied prior to lodgement of a Building Permit application:

1. A geotechnical report is to be submitted, detailing site conditions with respect to soil, groundwater and stormwater disposal, to the satisfaction of the City.
2. The applicant shall submit a drainage design, prescribing a functional drainage system, including detailed engineering drawings, and necessary technical information to demonstrate functionality of the design. The design is to be endorsed prior to the lodgement of a Building Permit application and thereafter implemented to the satisfaction of the City of Gosnells.
3. The proposed hardstand area is to be paved, sealed and drained to the City's satisfaction.
4. A landscape plan for the development site and the adjoining road verge(s) is to be submitted in accordance with the City's Local Planning Policy LPP 4.5 - Development - Landscaping, and approved by the City, prior to the lodgement of a Building Permit application.

1.2 Condition(s) to be satisfied prior to the commencement of use/occupancy of building(s):

5. All cut and fill is to be retained within the property boundaries by retaining walls designed by a structural engineer and constructed of masonry or a similar approved material.

6. Development is required to achieve a minimum fill level equal to 500mm above the 1 in 100 year flood plain level.
7. An approved Aerobic Treatment Unit for on-site effluent disposal is to be installed to the satisfaction of the City's Health Service.
8. Satisfactory arrangements being made with the City for the disposal of industrial wastewater.
9. Landscaping and irrigation of the development site and adjoining road verges is to be installed prior to occupying the proposed development, and thereafter maintained, in accordance with the approved landscaping plan to the satisfaction of the Manager Parks and Environmental Operations.
10. Measures being undertaken to identify and protect vegetation on the site worthy of retention prior to the commencement of works.
11. Preparation of a revegetation and weed management plan for the balance of the site including the existing swale and existing cleared areas that are proposed to be revegetated.

2. RECOMMENDED ADVICE NOTES

2.1 Advice Note(s):

1. In relation to Condition 4, tall tree planting and other landscaping is required to screen views of the facility from Roe Highway and Kenwick Link. Consideration to be given to landscaping on Horley Road and the area to the south and east of the carpark.
2. In relation to Condition 7:
 - i) Attention is drawn to the requirements of the Health Act 1911 (as amended) and the requirements of the City's Health Service.
 - ii) Please note that the prescribed Treatment of Sewage application and the required fee is to accompany the Building Permit application.
3. You are advised of the need to apply for a Building Permit from the City's Building Services Branch prior to the commencement of work. In this regard, your attention is drawn to the requirements of the Building Code of Australia and the Building Act 2011.
4. Due to the nature of foundation materials, footing and slab details and a site report from a structural engineer are required to be submitted with the Building Permit application.
5. Your attention is drawn to the requirements for access to buildings for people with disabilities in accordance with the Building Code of Australia and AS1428.1. Detailed drawings are to be submitted with the Building Permit application identifying means of access from carparking areas to the entrance of the building and throughout the building, as required by AS1428.1.
6. An Occupancy Permit is to be applied for and issued by the Local Authority (Permit Authority) prior to occupation of the building or part thereof. For a new

building, a Certificate of Construction Compliance (BA17) is to be provided with the application for it to be valid. For an existing building, a Certificate of Building Compliance (BA18) is to be provided with the application for it to be valid.

7. Your attention is drawn to requirements for sanitary conveniences to be provided in accordance with the Building Code of Australia, Table F2.3/2.4 and AS1428.1. For further details please contact the City's Building Services Branch.
8. Department of Fire and Emergency Services assessment is required prior to approval of a Building Permit application.
9. Your attention is drawn to the following to minimise the impact of development works:
 - i) All development works must be carried out in accordance with Control of Noise Practices set out in section 6 of AS2436-1981. For further details please contact the Department of Environment Regulation.
 - ii) Development work shall only be permitted between 0700 hours and 1900 hours on any day which is not a Sunday or public holiday, without the written approval of the City's Health Service.
 - iii) Development work shall comply in all respects with the Environmental Protection (Noise) Regulations 1997.
10. The use of the approved buildings should comply in all respects with the Health (Public Buildings) Regulations 1992.
11. Horley Road intersects with Kenwick Link which is the management responsibility of MRWA. Liaison with MRWA is required for the design and construction of the intersection. Horley Road itself needs to be designed and constructed to the City's standards with appropriate turning radii at the proposed facilities driveway link. A turning circle at the southern end (terminating point) is required.

3. COMMENTS FROM CITY'S ENVIRONMENTAL OFFICER

Landscaping

This section states that ground covers and grasses are proposed, with feature trees providing shade to the entry path and front of building. It is noted that no grasses are specified in associated plant lists. Clarification on this point is required and whether turf is the intention?

The proposed surface irrigation disposal area is proposed to be planted with Banksia and Hakea spp. This is at odds with the surface irrigation area being the final stage of disposal, and treatment, for a system that receives waste water that is potentially infected with Dieback. In this regard, it has not been demonstrated how the ATU will treat dieback infected waste water. The plan for the wastewater disposal method indicates the need for the disposal area to be planted with high nutrient absorption species. The proposal to plant Proteacea species in this area is at odds with the need for plants to potentially assimilate nutrients as many Proteaceae species are not very tolerant to nutrients.

Paragraph 3 states that the overflow carpark area is to be mulched whilst also stating that it will have unirrigated turf to the ground surface. Please clarify. If the area is to be mulched a weed management programme along with a strategy for the maintenance of the mulch will need to be implemented.

Stormwater

More certainty is required with the maintenance of the site's hydrology and that the receiving wetland has the capacity receive stormwater run-off from the site.

This section states that stormwater from paved areas will be treated by means of a grassed swale to treat hydrocarbons. A petrol and oil separator should be used as the primary treatment system for hydrocarbons on the site and should not be reliant on a vegetated swale. The proposed swale should be planted using endemic rush and sedge species capable of assimilating nutrients. It is also preferable that the swale be replaced by a rain garden structure with a submerged zone to ensure maximum potential assimilation of nutrients and to buffer plants against summer drought conditions thereby reducing the water demand for landscaped areas.

Wastewater

It is unclear how an ATU would treat dieback infected waste water. Clarification required on how this water effectively sterilises for *Phytophthora* species.

Management of the balance of the Site

Acknowledgement of the requirement to manage the balance of the site should be indicated. Specific direction on the management of the balance of the site/lot will be required in the form of a management plan which should cover, but not be limited to: revegetation of areas outside the areas covered by formal landscaping; weed management; fire management.

If you have any queries, please contact **Jamie Trees** on (08) 9397 3172. Please quote the above application number in all correspondence.

Yours faithfully



Tim Price
Acting Manager Planning Implementation



Government of Western Australia
Department of Parks and Wildlife
Regional & Fire Management Services Division

Your ref: SRT5719
Our ref: 36581
Enquiries: David Lodwick
Phone: 9442 0336
Email: david.lodwick@dpaw.wa.gov.au

Swan River Trust
PO Box 6829
EAST PERTH
WA 6892

Dear Sir

PART 5 – PROPOSED CONSTRUCTION OF EMERGENCY OPERATION CENTRE FOR GOSNELLS STATE EMERGENCY SERVICE AND BUSHFIRE BRIGADE – LOT 901 KENWICK LINK BECKENHAM

Reference is made to your correspondence dated 16 June 2014. The Department of Parks and Wildlife provides the following comments.

The proposal is to construct an emergency services building and associated infrastructure within Lot 901 Kenwick Link Beckenham (Figure 1). The approximate site boundary is illustrated in Figure 1 in red (the building envelope is a smaller area within the site boundary). An electricity compound is located to the south-east of the proposed site.

Lot 901 was completely cleared prior to 1965 and appeared to have been utilised for agricultural/horticultural activities (Landgate 2014, Figure 2). The Canning River is located approximately 250 metres south-west of the proposed site.

Wetland Values

Lot 901 is located adjacent to the Canning River and within an area identified in the *Geomorphic Wetlands Swan Coastal Plain* dataset as Conservation category palusplain wetland (seasonally waterlogged flat) (UFI 14901). An area of the palusplain wetland directly south of the proposed site appears to have been shallowly excavated during 2003 (Landgate 2014). While the development application does not acknowledge that the entire proposed site is located within palusplain wetland it does refer to a 'wetland', which is assumed to be the shallowly excavated area as evident in Figure 3.

The palusplain wetland vegetation within Lot 901 and adjacent to the Canning River was largely cleared prior to 1965. An area of remnant palusplain wetland vegetation is located approximately 200 metres north-east of the proposed site. It is noted that regeneration of vegetation has occurred south of the proposed site from 2009. However, it is not known whether the regeneration comprises wetland vegetation (Figure 3). It is acknowledged that the site boundary is unlikely to retain values commensurate with Conservation category, however, the hydrological function may remain and final advice assumes that the proponent provides on-site information regarding vegetation, hydrology and photographs to support a request to modify the mapping layer, which will also determine further advice on the need to protect the vegetation that has re-established around the perimeter of the proposed development site. If the re-established vegetation is wetland vegetation as supported by current hydrology on Lot 901, the advice on how this should be protected will be determined by an assessment of other remaining values at the site.

Lot 901 is located within Bush Forever Site No. 224 Canning River Regional Park and adjacent bushland, Riverton to Langford and is reserved as 'Parks and Recreation' in the Metropolitan

Swan Region
Cnr Australia II Drive and Hackett Drive, Crawley WA 6009
Locked Bag 104, Bentley Delivery Centre, Western Australia 6983
Phone: (08) 9422 0300 Fax (08) 9386 6399 Email: david.lodwick@dpaw.wa.gov.au
www.dpaw.wa.gov.au

Region Scheme. The proposed site is partly within a regional ecological linkage. A regional ecological linkage is also located south of the proposed site, associated with the Canning River.

Potential impacts

The proposed site has been largely cleared over the long-term and it is acknowledged that any clearing associated with the development is minimal. The wastewater and stormwater management systems associated with the proposed development does have the potential to impact the water quality of the Canning River which Swan River Trust may provide comment on.

It is noted that stormwater will be directed 'to the existing wetland, in keeping with the existing conditions'. It is assumed that the 'wetland' being referred to is the shallowly excavated area directly south of the proposed site. This area is approximately 200 metres from the Canning River and there is the potential for contaminated water from the 'wetland' area to flow via surface or groundwater into the Canning River. If the area of recently regenerated vegetation comprises wetland species it should be managed accordingly and any potential impacts appropriately mitigated.

Clearing of Native Vegetation

The clearing of native vegetation in Western Australia is prohibited, unless the clearing is authorized by a clearing permit obtained from the Department of Environment Regulation (DER), or is of a kind that is exempt in accordance with Schedule 6 of the *Environmental Protection Act 1986* or *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. Due to the site's Bush Forever classification, the area is environmentally sensitive, therefore exemptions do not apply. The proponent should contact DER's Native Vegetation Conservation Branch regarding the requirements of a clearing permit.

Recommendations

It is noted that some of the flora species identified for revegetation are not generally found in palusplain wetland areas. For example *Banksia menziesii*, *Nuytsia floribunda* and *Eucalyptus todtiana* are generally found in more dryland areas. It is recommended that flora species suited to palusplain wetland conditions are selected for revegetation. The remnant area of palusplain wetland vegetation located approximately 200 metres north-east of the proposed site is likely to retain representative wetland vegetation to assist in the selection of appropriate flora species. It is recommended that consideration be given to revegetating the 'wetland' area south of the proposed site where stormwater will be directed. Increasing the vegetation within this area may improve water filtration processes and mitigate any potential impacts to the water quality of the Canning River.

It is further recommended that the proponent submit a request to modify the *Geomorphic Wetlands Swan Coastal Plain* dataset to clarify the wetland mapping within Lot 901. Requests should be in accordance with *Protocol for proposing modification to the Geomorphic Wetlands Swan Coastal Plain dataset* and *A methodology for the evaluation of specific wetland types on the Swan Coastal Plain, Western Australia* available at <http://www.dpaw.wa.gov.au/management/wetlands/publications-and-links>.

Please contact David Lodwick on 9442 0336 or at david.lodwick@dpaw.wa.gov.au should you have any queries regarding this advice.

Yours faithfully



Stefan de Haan
REGIONAL MANAGER

30 July 2014

enc



Government of Western Australia
Department of Planning

Your ref: SRT5719
Our ref: 805/1/2/40P224
Enquiries: Rachel Williams
Telephone: (08) 6551 9095

26/06/2014

Gabrielle Shepherd
Swan River Trust
PO Box 6829
East Perth WA 6892

Dear Ms Shepherd

Part 5 – Proposed Construction of Emergency Operation Centre for Gosnells State Emergency Service and Bush Fire Brigade – Lot 901 Kenwick Link, Beckenham

Thank you for providing the above proposal to Policy Development & Review for comment.

The proposed site of the emergency operation centre is within Bush Forever area 224 – Canning River Regional Park and Adjacent Bushland, Riverton to Langford. This site is reserved as Parks and Recreation on the MRS, and has a site implementation category as ‘Bush Forever reserves – existing or proposed’ in State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region (SPP2.8).

The proposed location is heavily degraded; however from aerial photography, it looks like a number of mature trees are within the footprint area. A clearing permit from the Department of Environment Regulation will be required for any clearing. From the documentation provided, the proponent is proposing to undertake revegetation at the site which would be supported.

Lot 901 is classified as a Conservation Category Wetland (CCW). Although a large part of the site is fundamentally devoid of vegetation, the wetland function may still exist. SPP2.8 supports a general presumption against clearing of bushland, or other degrading activities, for areas containing the environmental values identified in Appendix 2 (ix) b, which includes Conservation Category Wetlands. A reclassification of the wetland or approval from the Department of Parks and Wildlife (DPaW) Wetlands branch to construct on the wetland would be required before Policy Development & Review support this proposal.

Please note that this is Policy Development & Review’s response to Bush Forever and does not reflect comments of other branches of the Department of Planning (DoP) or a formal position of the Western Australian Planning Commission (WAPC), which may need to be consulted on this proposal.

Should you require any additional information or clarification, please contact Rachel Williams on 6551 9095.

Yours sincerely



Loretta van Gasselt
Manager Policy Development & Review



Government of Western Australia
Department of Water



looking after all our water needs

Your ref: SRT5719
File ref: RF36-15
SRS: 36765
Enquiries: Bree Lyons
Tel: 6250 8035



Swan River Trust
PO Box 6829
EAST PERTH WA 6892

Attention: Rod Hughes

Dear Sir/Madam,

Re: Part 5 – Proposed Construction of Emergency Operation Centre for Gosnells State Emergency Service and Bushfire Brigade – Lot 901 Kenwick Link, Beckenham

Thank you for the above referral dated 16 June 2014. The Department of Water (DoW) in carrying out its role in floodplain management provides advice and recommends guidelines for development on floodplains with the object of minimising flood risk and damage. Therefore the DoW would like to provide the following advice:

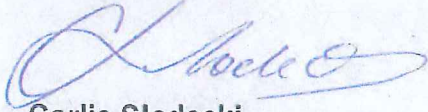
The Canning River Flood Study shows that general area is affected by flooding during major events with the 100 year ARI flood level estimated to be ~3.64 m AHD. (refer to attached plan).

Based on our floodplain development strategy for the area, proposed development (i.e. filling, building, etc) is considered acceptable with regard to major flooding. However, a minimum habitable floor level of 4.14 m AHD is recommended to ensure adequate flood protection against the 100 year ARI flood event.

As the proposal is considered critical infrastructure during periods of emergency, it is recommended that it should have a higher level of flood protection (at least 500 year ARI). The Department currently does not have information on expected flood levels for events larger than the 100 year ARI event. Furthermore, ensuring access to the centre is not affected during major events may also require additional consideration.

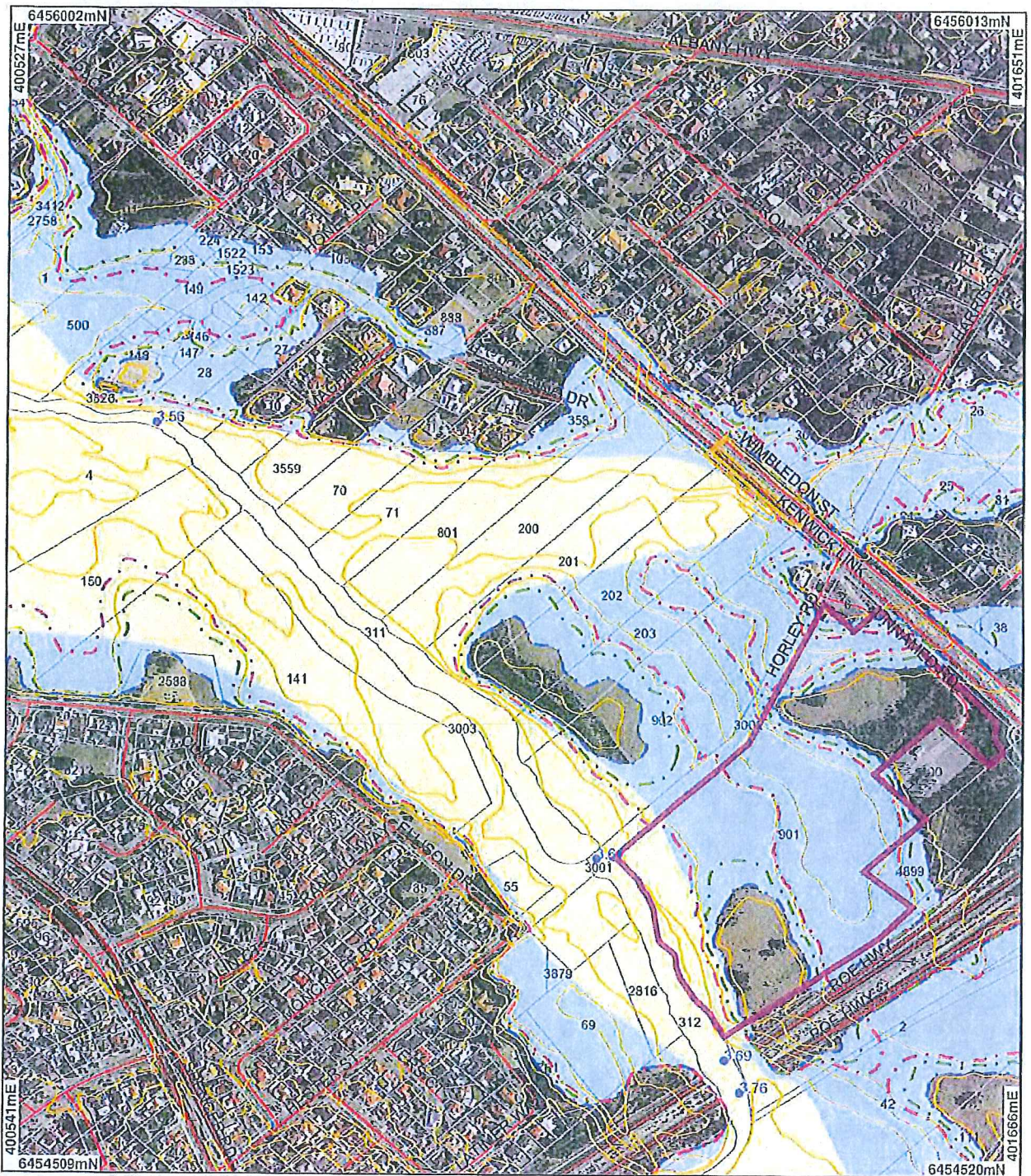
If you would like more information regarding this matter, please contact Briony Lyons on 6250 8035 or briony.lyons@water.wa.gov.au.

Yours sincerely,



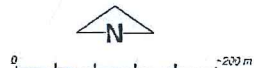
Carlie Slodecki
Senior Natural Resource Management Officer
Land Use Planning
Swan Avon Region

8 July 2014



LEGEND

- Local Government Authorities - DLI
- Road Centrelines - Landgate
- Cadastre for labelling - DLI
- FPM 100 Year ARI Floodway and Flood Fringe Areas - DoW
- (cont)
- Floodway
- Flood Fringe
- Cadastre - DLI
- FPM Extent of Flooding - DoW
- Extent of 100yr ARI Flooding
- Extent of 50yr ARI Flooding
- Extent of 25yr ARI Flooding
- Extent of 10yr ARI Flooding (cont)
- Extent of Study
- Overbank Flow
- FPM Flood Level Points (m AHD) - DoW
- WtW Surface Water Sites, Stream Gauging - DoW
- Topographic Contours, Metropolitan Area - DLI (cont)



Scale 1:6902
 (Approximate when reproduced at A1)
 Geocentric Datum Australia 1994
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Prepared by: rogers
 Prepared for:
 Date: 3 07/2014 3.00.15 PM

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.

Attachment 8: Western Australian Planning Commission referral comments



Government of Western Australia
Department of Planning



Your ref: SRT5719
Our ref: DP/12/01044/1
Enquiries: Tim Hillyard Ph: 65519044
Email: tim.hillyard@planning.wa.gov.au

Mr Rod Hughes
General Manager
Swan River Trust
PO Box 6829
EAST PERTH WA 6892

Dear Mr Hughes,

PART 5 – PROPOSED CONSTRUCTION OF EMERGENCY OPERATION CENTRE FOR GOSNELLS STATE EMERGENCY SERVICE AND BUSH FIRE BRIGADE – LOT 901 KENWICK LINK, BECKENHAM

I refer to your letter dated 16 June 2014 seeking comment on the above proposal.

The Department of Planning on behalf of the Western Australian Planning Commission (WAPC) supports the proposal and does not require any specific conditions be imposed other than the building should be an appropriate colour green. The proposals for effluent disposal and the treatment and discharge of drainage water into the "constructed" wetland system to the south of the proposed development, which includes drainage from the Roe Highway, is acknowledged and also supported.

For the information of the Swan River Trust the WAPC identified and recommended this site to the City of Gosnells when they were seeking a site initially for the Bush Fire Brigade. The site was proposed as it would consolidate a number of "public or semi-public" uses in one location ie the Western Power Sub-station and SERCUL works depot, providing additional after hours surveillance to a relatively remote area that does suffer some anti-social activity.

In addition, the location of the Bush Fire Brigade facility would provide an onsite fast fire response capacity to the Beckenham Regional Open Space and eastern side of the Canning River Regional Park. Its location close to the Kenwick Link/Roe Highway interchange also provides regional road fast response to bush fires in the region.

It is the intention of the WAPC to initiate an amendment to the Metropolitan Region Scheme to transfer the SERCUL depot, Western Power substation and SES/BFB facility site, east of Horley Road to the "Public Purposes Special Uses" reservation as the current Parks and Recreation reservation is considered inappropriate.

Yours sincerely

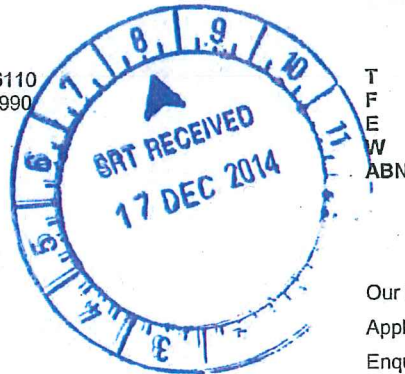

Tim Hillyard
Property Services Manager
& Secretary WAPC

24 June 2014

2120 Albany Highway Gosnells WA 6110
Mail to: PO Box 662 Gosnells WA 6990

15 December 2014

Swan River Trust
PO Box 6829
EAST PERTH WA 6892



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E council@gosnells.wa.gov.au
W www.gosnells.wa.gov.au
ABN 18 374 412 891

Our Reference: 310398
Application No: DA14/00145
Enquiries: Jamie Trees
(08) 9397 3172

Dear Sir/Madam

**Planning Development Application - 901L Kenwick Link, Beckenham -
Emergency Services Building**

Further to your correspondence received on 6 November 2014, the City provides the following comments in respect of the additional information.

1. Provide treatment for stormwater runoff before it leaves the site. Dedicated treatment areas required for the minor events with larger events bypassing the treatment area.
2. Landscape works to be guided by the City's Technical Services and Urban Regeneration branches. A Landscape plan detailing methods and site preparation for the revegetation and landscaping works is required.
3. The applicant is advised to address the need for reclassification of the wetland for construction.
4. Request for Weed Management Plan to be considered as a Condition of development approval is supported
5. Information provided indicates that the swale, grassed with broadleaf carpet grass *Axonopus compressus*, serves as a conduit only, delivering car park runoff directly to the reconstructed wetland to the south of Lot 901, with no detention or settlement capacity to provide for the removal of nutrients or particulates. This is not considered acceptable. Further the use of this grass is not considered appropriate within the previously revegetated edge of the reconstructed wetland. It is regarded as an environmental weed in Queensland and New South Wales and is considered potentially risky in the context of its potential spread. The treatment of the swale must contribute to the ecology of the wetland and, as such the use of native vegetation is recommended.

In the event of approval, please see below the recommended conditions.

1. RECOMMENDED CONDITIONS

1.1 Conditions to be satisfied prior to lodgement of a Building Permit application:

1. A geotechnical report is to be submitted, detailing site conditions with respect to soil, groundwater and stormwater disposal, to the satisfaction of the City.
2. The applicant shall submit a drainage design, prescribing a functional drainage system, including detailed engineering drawings, and necessary technical information to demonstrate functionality of the design. The design is to be endorsed prior to the lodgement of a Building Permit application and thereafter implemented to the satisfaction of the City of Gosnells.
3. The proposed hardstand area is to be paved, sealed and drained to the City's satisfaction.
4. A landscape plan for the development site and the adjoining road verge(s) is to be submitted in accordance with the City's Local Planning Policy LPP 4.5 - Development - Landscaping, and approved by the City, prior to the lodgement of a Building Permit application.

1.2 Condition(s) to be satisfied prior to the commencement of use/occupancy of building(s):

5. All cut and fill is to be retained within the property boundaries by retaining walls designed by a structural engineer and constructed of masonry or a similar approved material.
6. Development is required to achieve a minimum fill level equal to 500mm above the 1 in 100 year flood plain level.
7. An approved Aerobic Treatment Unit for on-site effluent disposal is to be installed to the satisfaction of the City's Health Service.
8. Satisfactory arrangements being made with the City for the disposal of industrial wastewater.
9. Landscaping and irrigation of the development site and adjoining road verges is to be installed prior to occupying the proposed development, and thereafter maintained, in accordance with the approved landscaping plan to the satisfaction of the Manager Parks and Environmental Operations.
10. Measures being undertaken to identify and protect vegetation on the site worthy of retention prior to the commencement of works.
11. Preparation of a revegetation and weed management plan for the balance of the site including the existing swale and existing cleared areas that are proposed to be revegetated.

2. RECOMMENDED ADVICE NOTES

2.1 Advice Note(s):

1. In relation to Condition 4, tall tree planting and other landscaping is required to screen views of the facility from Roe Highway and Kenwick Link. Consideration to be given to landscaping on Horley Road and the area to the south and east of the carpark.
2. In relation to Condition 7:

- i) Attention is drawn to the requirements of the Health Act 1911 (as amended) and the requirements of the City's Health Service.
 - ii) Please note that the prescribed Treatment of Sewage application and the required fee is to accompany the Building Permit application.
3. You are advised of the need to apply for a Building Permit from the City's Building Services Branch prior to the commencement of work. In this regard, your attention is drawn to the requirements of the Building Code of Australia and the Building Act 2011.
4. Due to the nature of foundation materials, footing and slab details and a site report from a structural engineer are required to be submitted with the Building Permit application.
5. Your attention is drawn to the requirements for access to buildings for people with disabilities in accordance with the Building Code of Australia and AS1428.1. Detailed drawings are to be submitted with the Building Permit application identifying means of access from carparking areas to the entrance of the building and throughout the building, as required by AS1428.1.
6. An Occupancy Permit is to be applied for and issued by the Local Authority (Permit Authority) prior to occupation of the building or part thereof. For a new building, a Certificate of Construction Compliance (BA17) is to be provided with the application for it to be valid. For an existing building, a Certificate of Building Compliance (BA18) is to be provided with the application for it to be valid.
7. Your attention is drawn to requirements for sanitary conveniences to be provided in accordance with the Building Code of Australia, Table F2.3/2.4 and AS1428.1. For further details please contact the City's Building Services Branch.
8. Department of Fire and Emergency Services assessment is required prior to approval of a Building Permit application.
9. Your attention is drawn to the following to minimise the impact of development works:
 - i) All development works must be carried out in accordance with Control of Noise Practices set out in section 6 of AS2436-1981. For further details please contact the Department of Environment Regulation.
 - ii) Development work shall only be permitted between 0700 hours and 1900 hours on any day which is not a Sunday or public holiday, without the written approval of the City's Health Service.
 - iii) Development work shall comply in all respects with the Environmental Protection (Noise) Regulations 1997.
10. The use of the approved buildings should comply in all respects with the Health (Public Buildings) Regulations 1992.

11. Horley Road intersects with Kenwick Link which is the management responsibility of MRWA. Liaison with MRWA is required for the design and construction of the intersection. Horley Road itself needs to be designed and constructed to the City's standards with appropriate turning radii at the proposed facilities driveway link. A turning circle at the southern end (terminating point) is required.

3. COMMENTS FROM CITY'S ENVIRONMENTAL OFFICER

Landscaping

This section states that ground covers and grasses are proposed, with feature trees providing shade to the entry path and front of building. It is noted that no grasses are specified in associated plant lists. Clarification on this point is required and whether turf is the intention?

The proposed surface irrigation disposal area is proposed to be planted with *Banksia* and *Hakea* spp. This is at odds with the surface irrigation area being the final stage of disposal, and treatment, for a system that receives waste water that is potentially infected with Dieback. In this regard, it has not been demonstrated how the ATU will treat dieback infected waste water. The plan for the wastewater disposal method indicates the need for the disposal area to be planted with high nutrient absorption species. The proposal to plant Proteacea species in this area is at odds with the need for plants to potentially assimilate nutrients as many Proteaceae species are not very tolerant to nutrients.

Paragraph 3 states that the overflow carpark area is to be mulched whilst also stating that it will have unirrigated turf to the ground surface. Please clarify. If the area is to be mulched a weed management programme along with a strategy for the maintenance of the mulch will need to be implemented.

Stormwater

More certainty is required with the maintenance of the site's hydrology and that the receiving wetland has the capacity receive stormwater run-off from the site.

This section states that stormwater from paved areas will be treated by means of a grassed swale to treat hydrocarbons. A petrol and oil separator should be used as the primary treatment system for hydrocarbons on the site and should not be reliant on a vegetated swale. The proposed swale should be planted using endemic rush and sedge species capable of assimilating nutrients. It is also preferable that the swale be replaced by a rain garden structure with a submerged zone to ensure maximum potential assimilation of nutrients and to buffer plants against summer drought conditions thereby reducing the water demand for landscaped areas.

Wastewater

It is unclear how an ATU would treat dieback infected waste water. Clarification required on how this water effectively sterilises for *Phytophthora* species.

Management of the balance of the Site

Acknowledgement of the requirement to manage the balance of the site should be indicated. Specific direction on the management of the balance of the site/lot will be required in the form of a management plan which should cover, but not be limited to: revegetation of areas outside the areas covered by formal landscaping; weed management; fire management.

If you have any queries, please contact **Jamie Trees** on (08) 9397 3172. Please quote the above application number in all correspondence.

Yours faithfully



Tim Price
Coordinator Planning Implementation



DEPARTMENT OF PLANNING	
DATE	FILE
11 JAN 2013	1473-01

LEGEND	
	Application Area
	Existing Boundaries
	Proposed Boundaries
	Contours
	Existing Structures (to be retained)
	Existing Vegetation
	Existing Waterbodies



SUBDIVISION PLAN

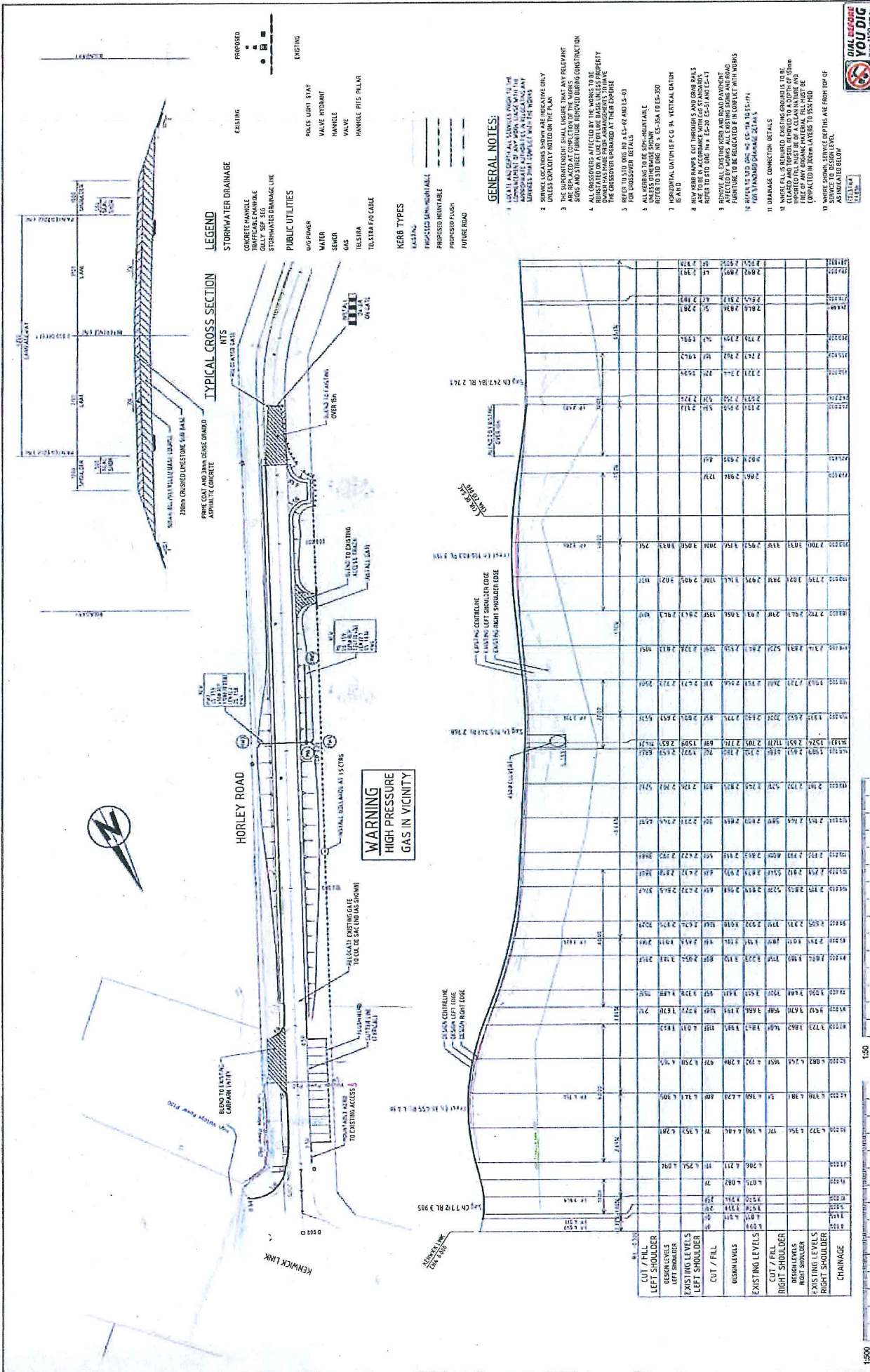
Lot 901 Kenwick Link



DATE: 10/12/12 SCALE: 1:1000
 DESIGNED: SR CHECKED: DM
 DRAWN: SR APPROVED: DM
 LOCAL AUTHORITY: CITY OF COGHELLS
 PROJECT PHASE: PLAN NUMBER: P12Q13-SUB001
 KEY: S O N A

ATTACHMENT 10

Attachment 11: Horley Road Reconstruction Plan - part of subdivision approval



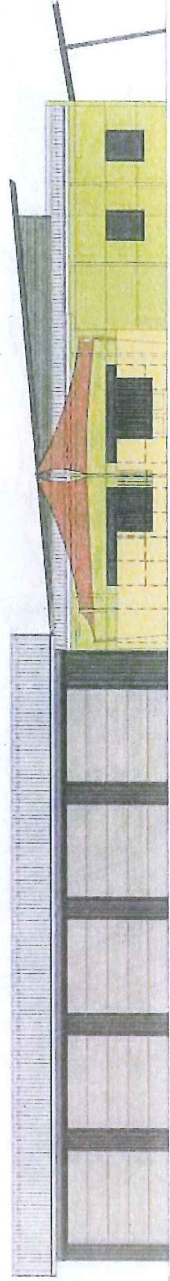
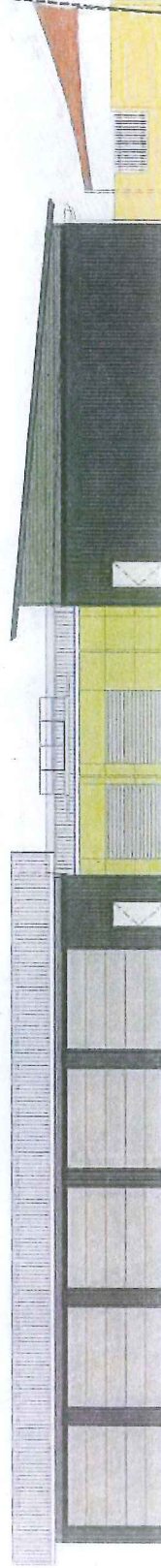
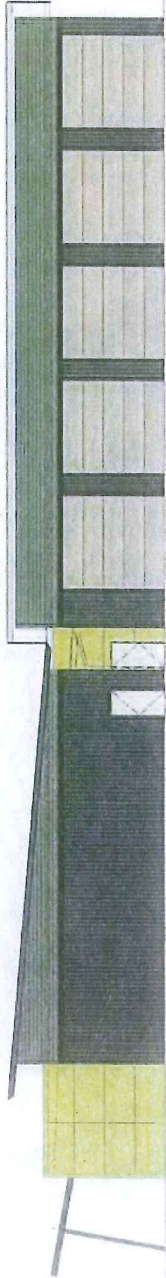
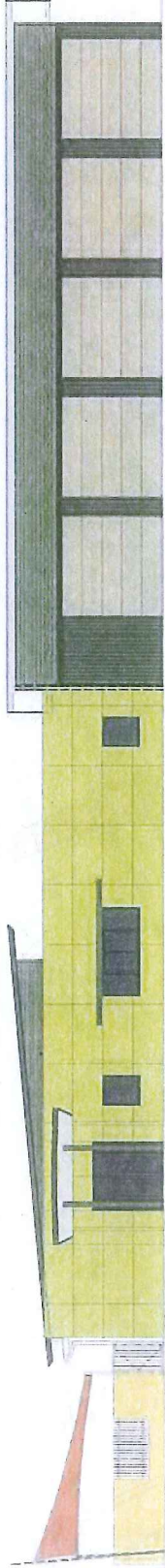
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2	11/11/11
3	11/11/11
4	11/11/11
5	11/11/11

CITY - GOSNELLS		TECHNICAL SERVICES	
210 Albany Highway Gosnells WA 6070		Telephone: 9437 1111 www.technicalservices.com.au	

PROJECT	HORLEY ROAD RECONSTRUCTION
LOCATION	HUNTINGDALE
SCALE	AS SHOWN
DATE	30/03/11
DESIGNER	...
CHECKED	...
DATE	11/11/11
JOB NUMBER	...

PLAN NO	E14,25-14-600-3
SHEET NO	A1
DRAWN	...
CHECKED	...
DATE	11/11/11

Attachment 12: Elevation plan - proposed colours and finishes



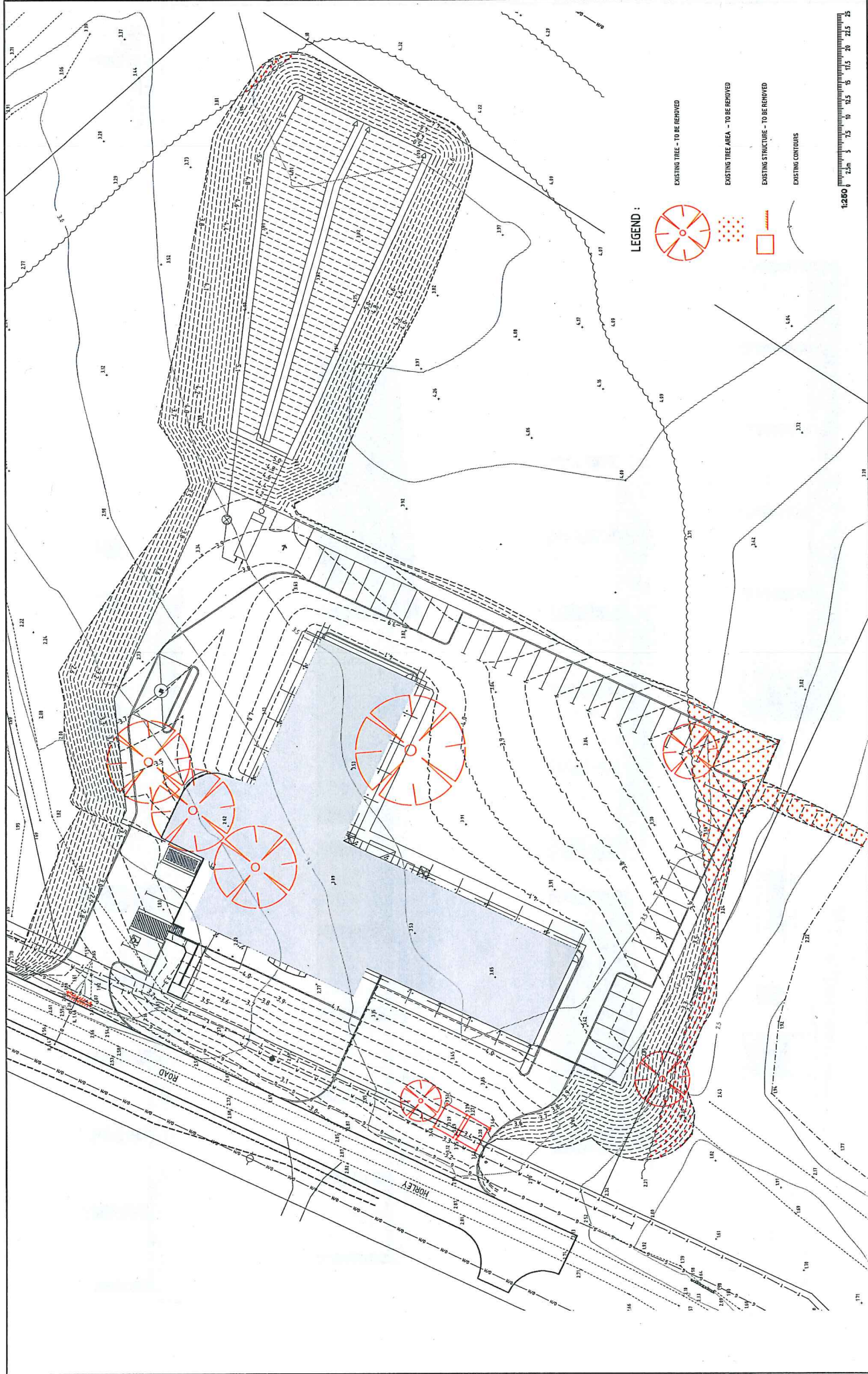
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2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	
6	REVISION	
7	REVISION	
8	REVISION	
9	REVISION	
10	REVISION	

HOLTON CONNOR ARCHITECTS PLANNERS
14 DONOVAN STREET
MELBOURNE VIC 3000
TEL: 03 9412 1234
WWW.HCARCHITECTS.COM.AU

CONTRACT NO. 12345678
PROJECT NO. 98765432
DATE: 12/01/2024
DRAWN BY: J. SMITH
CHECKED BY: M. JONES
SCALE: 1:100

NO.	DESCRIPTION	DATE
1	REVISION	
2	REVISION	
3	REVISION	
4	REVISION	
5	REVISION	
6	REVISION	
7	REVISION	
8	REVISION	
9	REVISION	
10	REVISION	

A.03 P02



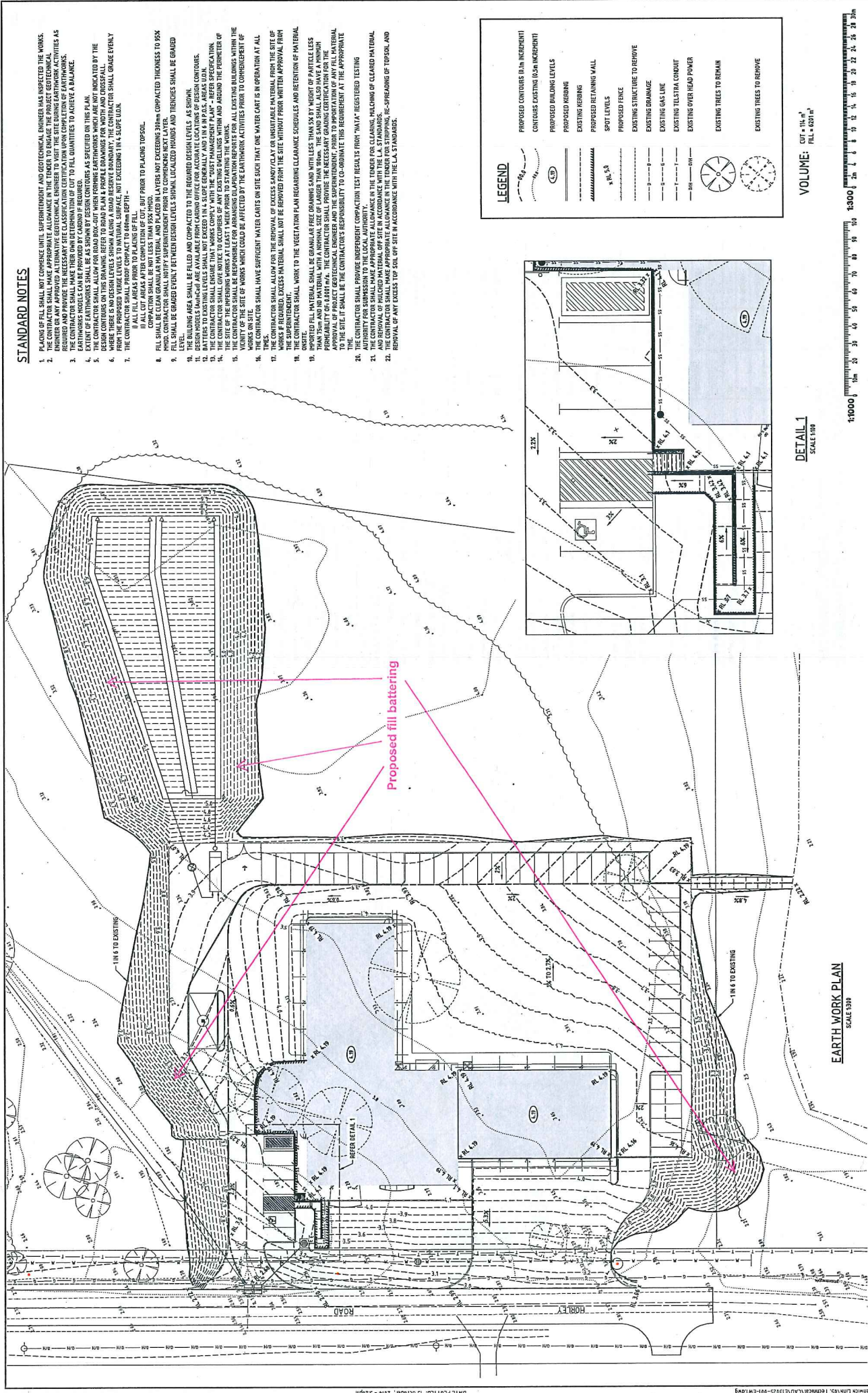
LEGEND :

- EXISTING TREE - TO BE REMOVED
- EXISTING TREE AREA - TO BE REMOVED
- EXISTING STRUCTURE - TO BE REMOVED
- EXISTING CONTOURS

1:250 2.5m 3 7.5 10 12.5 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250

<p>Cardno Shaping the Future</p> <p>Cardno (NSW) Pty Ltd 11 Harvest Terrace, PO Box 155, West Park NSW 2145 Australia 6152 South West Regional Office Unit 1, 19 Parkside Drive, West Wyalong NSW 2622 Australia Phone (08) 7931 5444 Fax (08) 7932 6371</p>		<p>CITY OF GOSNELLS</p> <p>LOT 907 KENWICK LINK GOSNELLS</p>		<p>NOT FOR CONSTRUCTION</p> <p>DATE: 23.10.14 DRAWN: A.H.D. CHECKED: A.S. SHOWN SCALE: A1</p>	
<p>© Cardno Limited. All Rights Reserved. This document is prepared by Cardno Limited solely for the benefit of and on behalf of the client in accordance with the terms and conditions of the contract. It is not to be used for any other purpose without the prior written consent of Cardno Limited.</p>		<p>DEMOLITION PLAN</p>		<p>E13025-001-DP1</p>	
<p>DATE PLOTTED: 26 October, 2014 - 4:23pm</p>	<p>DATE: 23.10.14</p>	<p>PROJECT: RJD</p>	<p>DATE: 23.10.14</p>	<p>PROJECT: RJD</p>	<p>DATE: 24.10.14</p>
<p>INITIAL ISSUE</p>	<p>DATE: 23.10.14</p>	<p>PROJECT: RJD</p>	<p>DATE: 24.10.14</p>	<p>PROJECT: RJD</p>	<p>DATE: 24.10.14</p>
<p>INITIAL ISSUE</p>	<p>DATE: 23.10.14</p>	<p>PROJECT: RJD</p>	<p>DATE: 24.10.14</p>	<p>PROJECT: RJD</p>	<p>DATE: 24.10.14</p>

ON A ORIGINAL



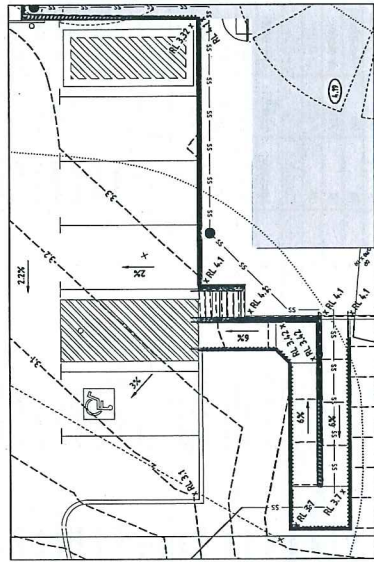
STANDARD NOTES

1. PLACING OF FILL SHALL NOT EXCEED UNTIL SUPERVISOR AND GEOLOGICAL ENGINEER HAS INSPECTED THE WORKS.
2. THE CONTRACTOR SHALL NOTIFY THE SUPERVISOR AND GEOLOGICAL ENGINEER OF ANY REQUIRED EARTHWORK ACTIVITIES AS REQUIRED BY ANY APPROVED ALTERNATIVE ENGINEER TO VISIT THE SITE DURING EARTHWORK ACTIVITIES AS REQUIRED.
3. THE CONTRACTOR SHALL PROVIDE THE NECESSARY SITE CLASSIFICATION CERTIFICATION UPON COMPLETION OF EARTHWORKS.
4. THE CONTRACTOR SHALL MAINTAIN THE NECESSARY SLOPE RATES THROUGHOUT THE CONSTRUCTION PERIOD TO ACHIEVE A BALANCE.
5. THE EXTENT OF EARTHWORKS SHALL BE AS SHOWN BY DESIGN CONTOURS AS SPECIFIED ON THE PLAN.
6. THE CONTRACTOR SHALL ALLOW FOR ROAD BOX-OUT WHEN FORMING EARTHWORKS WHICH ARE NOT INDICATED BY THE PLAN.
7. WHERE THERE IS A NECESSARY SLOPE ALONG A ROAD RESERVE BOUNDARY, THE CONTRACTOR SHALL GRADE EVENLY FROM THE PROPOSED VERGE LEVELS TO NATURAL SURFACE, NOT EXCEEDING IN A SLOPE UDN.
8. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES TO A MINIMUM DEPTH OF 600mm.
9. ALL CUT AREAS AFTER COMPLETION OF CUT, BUT PRIOR TO PLACING TOPSOIL, SHALL BE COVERED WITH A MINIMUM OF 100mm OF TOPSOIL.
10. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
11. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
12. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
13. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
14. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
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17. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
18. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
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21. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.
22. ALL CUT AREAS SHALL BE NOT LESS THAN 50mm OF TOPSOIL.

LEGEND

- PROPOSED CONTOURS (1m INCREMENT)
- CONTOURS EXISTING (0.5m INCREMENT)
- PROPOSED BUILDING LEVELS
- PROPOSED KERBING
- EXISTING KERBING
- PROPOSED RETAINING WALL
- SPOT LEVELS
- PROPOSED FENCE
- EXISTING STRUCTURE TO REMOVE
- EXISTING DRAINAGE
- EXISTING GAS LINE
- EXISTING TELESTRAL CONDUIT
- EXISTING OVER HEAD POWER
- EXISTING TREES TO REMAIN
- EXISTING TREES TO REMOVE

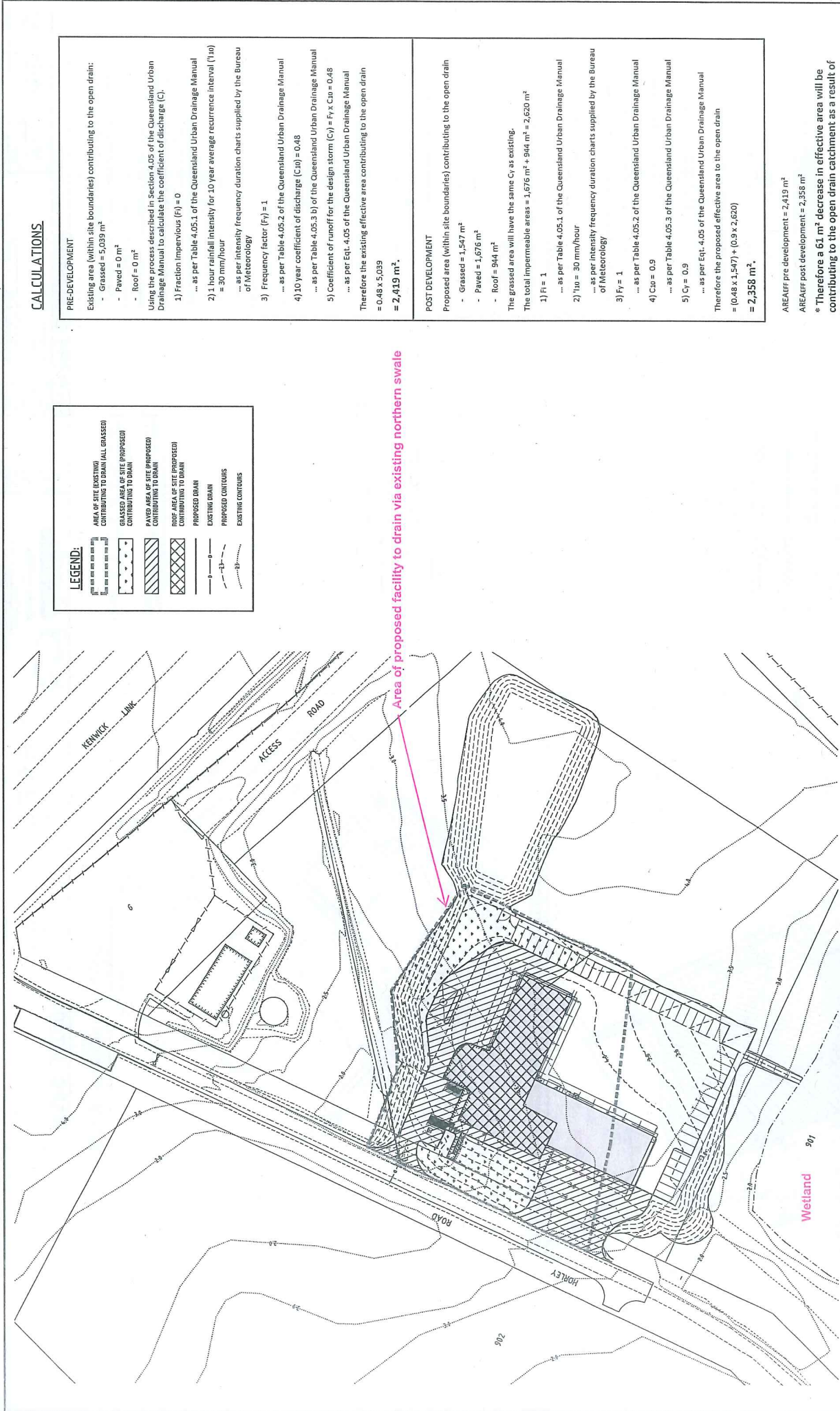
DETAIL 1
SCALE 1:100



VOLUME: CUT = 114 m³
FILL = 620 m³



<p>WAPC 147301</p> <p>EARTH WORK PLAN SCALE 1:100</p>		<p>CITY OF GOSNELLS</p> <p>LOT 901 KENWICK LINK GOSNELLS</p> <p>EARTHWORK LAYOUT</p>	<p>NOT FOR CONSTRUCTION</p> <p>DATE: 21.05.14 DRAWN: A.H.D. CHECKED: A.S. SHOWN SCALE: A3</p> <p>PROJECT NO: E13025-001-EW1 REV: D</p>
<p>DATE: 21.05.14 DRAWN: J.Y.J. CHECKED: R.J.D.</p>	<p>DATE: 21.05.14 DRAWN: J.Y.J. CHECKED: P.H.</p>	<p>DATE: 21.05.14 DRAWN: J.Y.J. CHECKED: R.J.D.</p>	<p>DATE: 21.05.14 DRAWN: J.Y.J. CHECKED: R.J.D.</p>
<p>Cardno Shaping the Future</p> <p>11 Heron Way, PO Box 43, Merry Park Western Australia 6172 Phone: (08) 9422 2222 Fax: (08) 9422 2271</p>			



Area of proposed facility to drain via existing northern swale

OPEN DRAIN PRE/POST CATCHMENT CHARACTERISTICS (WITHIN SITE BOUNDARY)

CALCULATIONS

PRE-DEVELOPMENT

Existing area (within site boundaries) contributing to the open drain:
 - Grassed = 5,039 m²
 - Paved = 0 m²
 - Roof = 0 m²

Using the process described in Section 4.05 of the Queensland Urban Drainage Manual to calculate the coefficient of discharge (C):

1) Fraction Impervious (Fi) = 0
 ... as per Table 4.05.1 of the Queensland Urban Drainage Manual
 = 30 mm/hour
 ... as per intensity frequency duration charts supplied by the Bureau of Meteorology

3) Frequency factor (Fv) = 1
 ... as per Table 4.05.2 of the Queensland Urban Drainage Manual

4) 10 year coefficient of discharge (C10) = 0.48
 ... as per Table 4.05.3 b) of the Queensland Urban Drainage Manual

5) Coefficient of runoff for the design storm (Cv) = Fi x C10 = 0.48
 ... as per Eqn. 4.05 of the Queensland Urban Drainage Manual

Therefore the existing effective area contributing to the open drain
 = 0.48 x 5,039
 = **2,419 m².**

POST DEVELOPMENT

Proposed area (within site boundaries) contributing to the open drain:
 - Grassed = 1,547 m²
 - Paved = 1,676 m²
 - Roof = 944 m²

The grassed area will have the same Cv as existing.
 The total impermeable areas = 1,676 m² + 944 m² = 2,620 m²

1) Fi = 1
 ... as per Table 4.05.1 of the Queensland Urban Drainage Manual

2) I10 = 30 mm/hour
 ... as per intensity frequency duration charts supplied by the Bureau of Meteorology

3) Fv = 1
 ... as per Table 4.05.2 of the Queensland Urban Drainage Manual

4) C10 = 0.9
 ... as per Table 4.05.3 of the Queensland Urban Drainage Manual

5) Cv = 0.9
 ... as per Eqn. 4.05 of the Queensland Urban Drainage Manual

Therefore the proposed effective area to the open drain
 = (0.48 x 1,547) + (0.9 x 2,620)
 = **2,358 m².**

AREA EFF pre development = 2,419 m²

AREA EFF post development = 2,358 m²

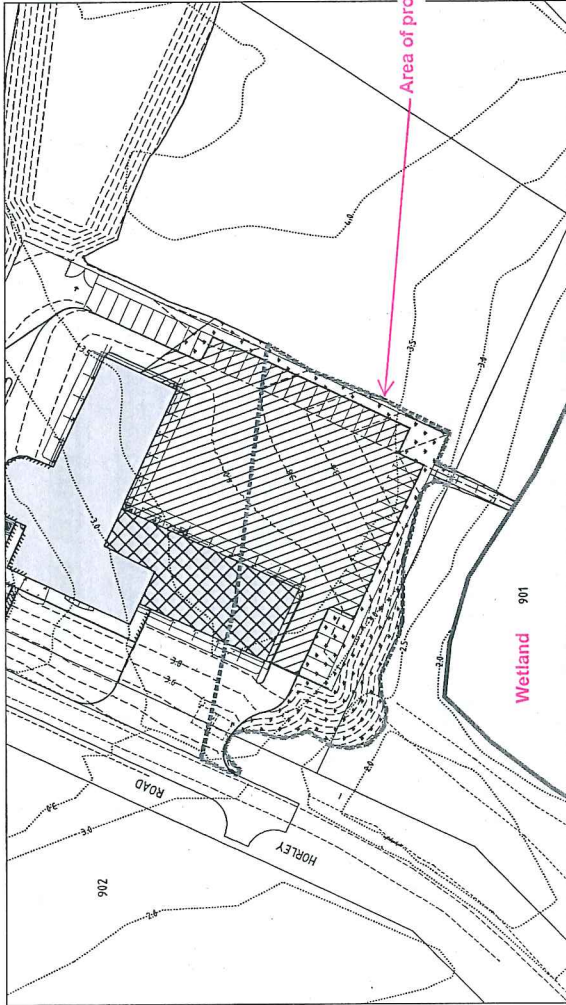
Therefore a 61 m² decrease in effective area will be contributing to the open drain catchment as a result of the development.

LEGEND:

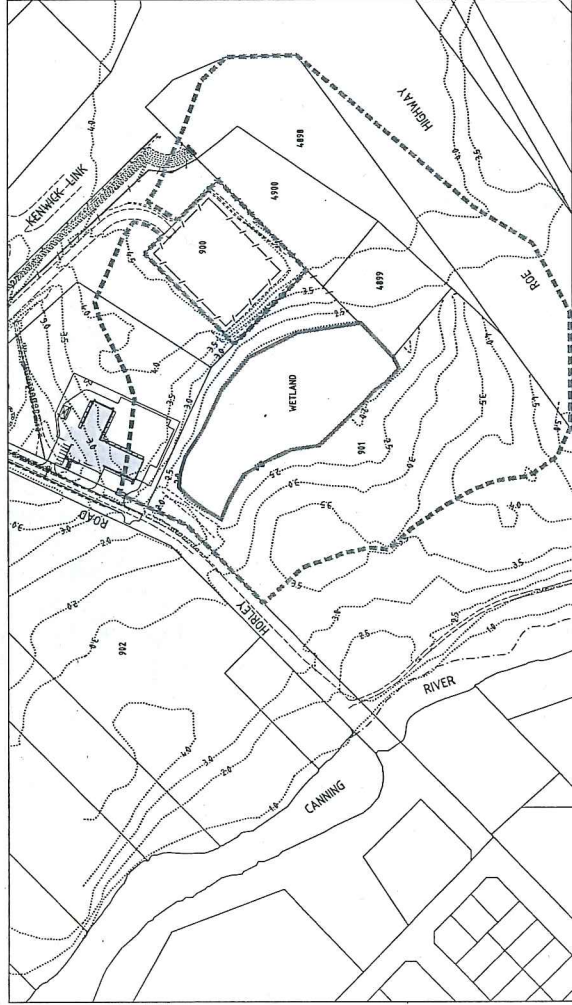
- AREA OF SITE (EXISTING) CONTRIBUTING TO DRAIN (ALL GRASSED)
- GRASSED AREA OF SITE (PROPOSED) CONTRIBUTING TO DRAIN
- PAVED AREA OF SITE (PROPOSED) CONTRIBUTING TO DRAIN
- ROOF AREA OF SITE (PROPOSED) CONTRIBUTING TO DRAIN
- PROPOSED DRAIN
- EXISTING DRAIN
- PROPOSED CONTOURS
- EXISTING CONTOURS

1:600 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46

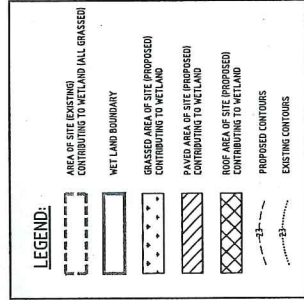
<p>WAPC 147301</p> <p>© Cardno Limited All Rights Reserved. This document is produced by Cardno Limited solely for the use of the client. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party, arising out of any use of this document.</p>		<p>Cardno Shaping the Future</p> <p>Cardno Pty Ltd Level 11, 107 Pitt Street, Sydney, New South Wales 1512 Phone: 61 2 9139 5100 Fax: 61 2 9139 5666 Unit 2, 89 Danks Street, Port Pirie, South Australia 5209 Phone: 61 8 325 5217 Fax: 61 8 325 5217</p>	<p>CITY OF GOSNELLS</p> <p>LOT 901 KENWICK LINK GOSNELLS</p>	<p>NOT FOR CONSTRUCTION</p> <p>DATE: 28.07.14 DRAWN: A.H.D. CHECKED: A.S. SHOWN SCALE: A1</p>
<p>1:600</p>		<p>DATE: 28.07.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14</p>	<p>OPEN DRAIN PRE & POST CATCHMENT PLAN AND CALCULATIONS</p>	<p>E13025-001-CP1</p>
<p>DATE: 28.07.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14</p>	<p>DATE: 28.07.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14</p>	<p>DATE: 28.07.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14</p>	<p>DATE: 28.07.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14</p>	<p>DATE: 28.07.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14 DRAWN: J.Y. CHECKED: R.J.D. DATE: 15.10.14</p>



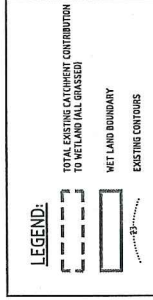
WETLAND PRE/POST CATCHMENT CHARACTERISTICS WITHIN SITE BOUNDARY
SCALE 1:500



WETLAND EXISTING TOTAL CATCHMENT
SCALE 1:2000



Area of proposed facility to drain via new southern swale



CALCULATIONS

PRE-DEVELOPMENT
Existing area (within site boundaries) contributing to the wetland:
- Grassed = 2,325 m²
- Paved = 0 m²
- Roof = 0 m²

Using the process described in Section 4.05 of the Queensland Urban Drainage Manual to calculate the coefficient of discharge (C):

- 1) Fraction impervious (Fi) = 0
... as per Table 4.05.1 of the Queensland Urban Drainage Manual
= 30 mm/hour
... as per intensity/frequency duration charts supplied by the Bureau of Meteorology
- 2) Frequency factor (Fy) = 1
... as per Table 4.05.2 of the Queensland Urban Drainage Manual
4) 10 year coefficient of discharge (C10) = 0.48
... as per Table 4.05.3 b) of the Queensland Urban Drainage Manual
5) Coefficient of runoff for the design storm (Cy) = Fy x C10 = 0.48
... as per Eqn. 4.05 of the Queensland Urban Drainage Manual
Therefore the existing effective area contributing to the wetland
= 0.48 x 2,325
= **1,116 m².**

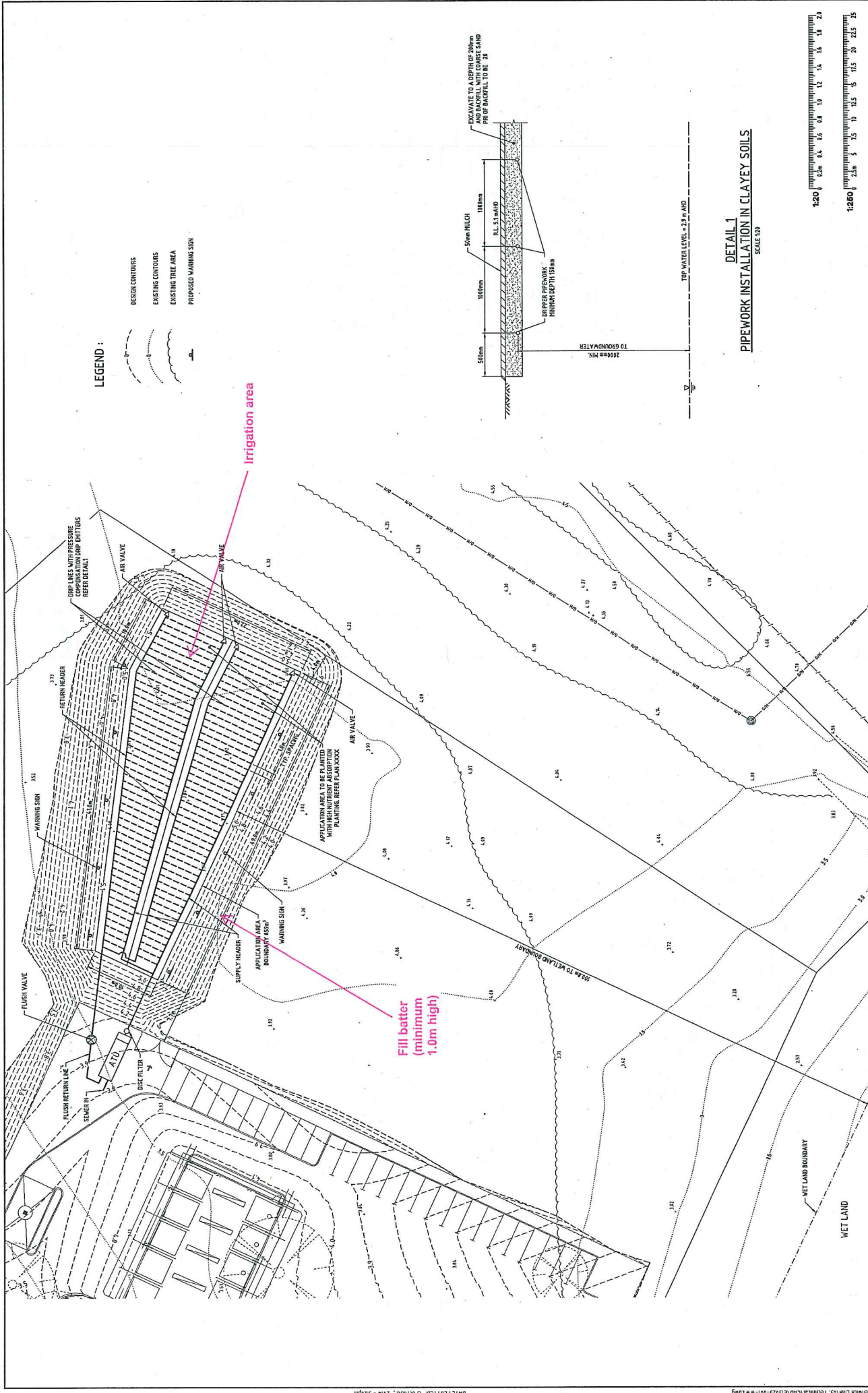
POST DEVELOPMENT
Proposed area (within site boundaries) contributing to the wetland
- Grassed = 808 m²
- Paved = 1,946 m²
- Roof = 499 m²

The grassed area will have the same Cy as existing.
The total impermeable areas = 1,946 m² + 499 m² = 2,445 m²

- 1) Fi = 1
... as per Table 4.05.1 of the Queensland Urban Drainage Manual
- 2) I10 = 30 mm/hour
... as per intensity/frequency duration charts supplied by the Bureau of Meteorology
- 3) Fy = 1
... as per Table 4.05.2 of the Queensland Urban Drainage Manual
- 4) C10 = 0.9
... as per Table 4.05.3 of the Queensland Urban Drainage Manual
- 5) Cy = 0.9
... as per Eqn. 4.05 of the Queensland Urban Drainage Manual
Therefore the proposed effective area to the wetland
= (0.48 x 808) + (0.9 x 2,445)
= **2,201 m².**

AREAFF pre development = 1,116 m²
AREAFF post development = 2,201 m²
Therefore a 1,085 m² increase in effective area will be contributing to the open drain catchment as a result of the development.
However from 1 m LIDAR contours, the existing total catchment contributing to the wetland is estimated at 107,000m², all grassed.
AREAFF (Total) pre development = 107,000 x 0.48 = 51,360 m²
AREAFF (Total) post development = 51,360 + 1,085 = 52,445 m²
* The total increase in effective area contributing to the wetland is 2.1%, which is not considered excessive.

<p>Cardno Pty Ltd 11 Harvest Terrace, 7th Floor, Level 7, West Perth, Western Australia 6001 Unit 2, 22 Deane Street, Perth, Western Australia 6000 Phone: 08 9437 1234 Fax: 08 9437 2321</p>		<p>CITY OF GOSNELLS LOT 901 KENWICK LINK GOSNELLS</p>		<p>NOT FOR CONSTRUCTION DATE: 28.07.14 DRAWN: A.H.D. CHECKED: J.A.S. SHOWN SCALE: AS SHOWN</p>	
<p>WAPC 147301</p>		<p>WETLAND PRE & POST CATCHMENT PLAN AND CALCULATIONS</p>		<p>E13025-001-CP2</p>	
NO.	DATE	BY	APP.	DESCRIPTION	
1	28.07.14	J. BAKER	J.D.	INITIAL ISSUE	
2					



NO.	REV.	DATE	BY	CHKD.	DESCRIPTION
1					DESIGN LAYOUT
2					AMENDED LAYOUT
3					INITIAL ISSUE
4					FOR CONSTRUCTION

PROJECT NO.	E13025-001-WW1
CLIENT	CITY OF GOSNELLS
PROJECT NAME	LOT 901 KENWICK LINK
PROJECT ADDRESS	GOSNELLS
PROJECT TYPE	WASTEWATER DISPOSAL METHOD
DATE	21.05.14
BY	RJD
CHKD.	RJD
DATE	21.05.14
PROJECT NO.	E13025-001-WW1
CLIENT	CITY OF GOSNELLS
PROJECT NAME	LOT 901 KENWICK LINK
PROJECT ADDRESS	GOSNELLS
PROJECT TYPE	WASTEWATER DISPOSAL METHOD
DATE	21.05.14
BY	RJD
CHKD.	RJD
DATE	21.05.14

PROJECT NO.	E13025-001-WW1
CLIENT	CITY OF GOSNELLS
PROJECT NAME	LOT 901 KENWICK LINK
PROJECT ADDRESS	GOSNELLS
PROJECT TYPE	WASTEWATER DISPOSAL METHOD
DATE	21.05.14
BY	RJD
CHKD.	RJD
DATE	21.05.14

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