

Special Council Meeting

Agenda for Tuesday 17 April 2018



**city of
kalamunda**

NOTICE OF MEETING SPECIAL COUNCIL MEETING

Dear Councillors

Notice is hereby given that a Special Meeting of Council will be held in the Council Chambers, Administration Centre, 2 Railway Road, Kalamunda on **Tuesday 17 April 2018 at 6.30pm.**


Rhonda Hardy
Chief Executive Officer
13 April 2018



Core Values

- Service:** We deliver excellent service by actively engaging and listening to each other.
- Respect:** We trust and respect each other by valuing our differences, communicating openly and showing integrity in all we do.
- Diversity:** We challenge ourselves by keeping our minds open and looking for all possibilities and opportunities.
- Ethics:** We provide honest, open, equitable and responsive leadership by demonstrating high standards of ethical behaviour.

Aspirational Values

- Creativity:** We create and innovate to improve all we do.
- Courage:** We make brave decisions and take calculated risks to lead us to a bold and bright future.
- Prosperity:** We will ensure our District has a robust economy through a mixture of industrial, commercial, service and home based enterprises
- Harmony:** We will retain our natural assets in balance with our built environment

Our simple guiding principle will be to ensure everything we do will make Kalamunda socially, environmentally and economically sustainable.

www.kalamunda.wa.gov.au

**city of
kalamunda**

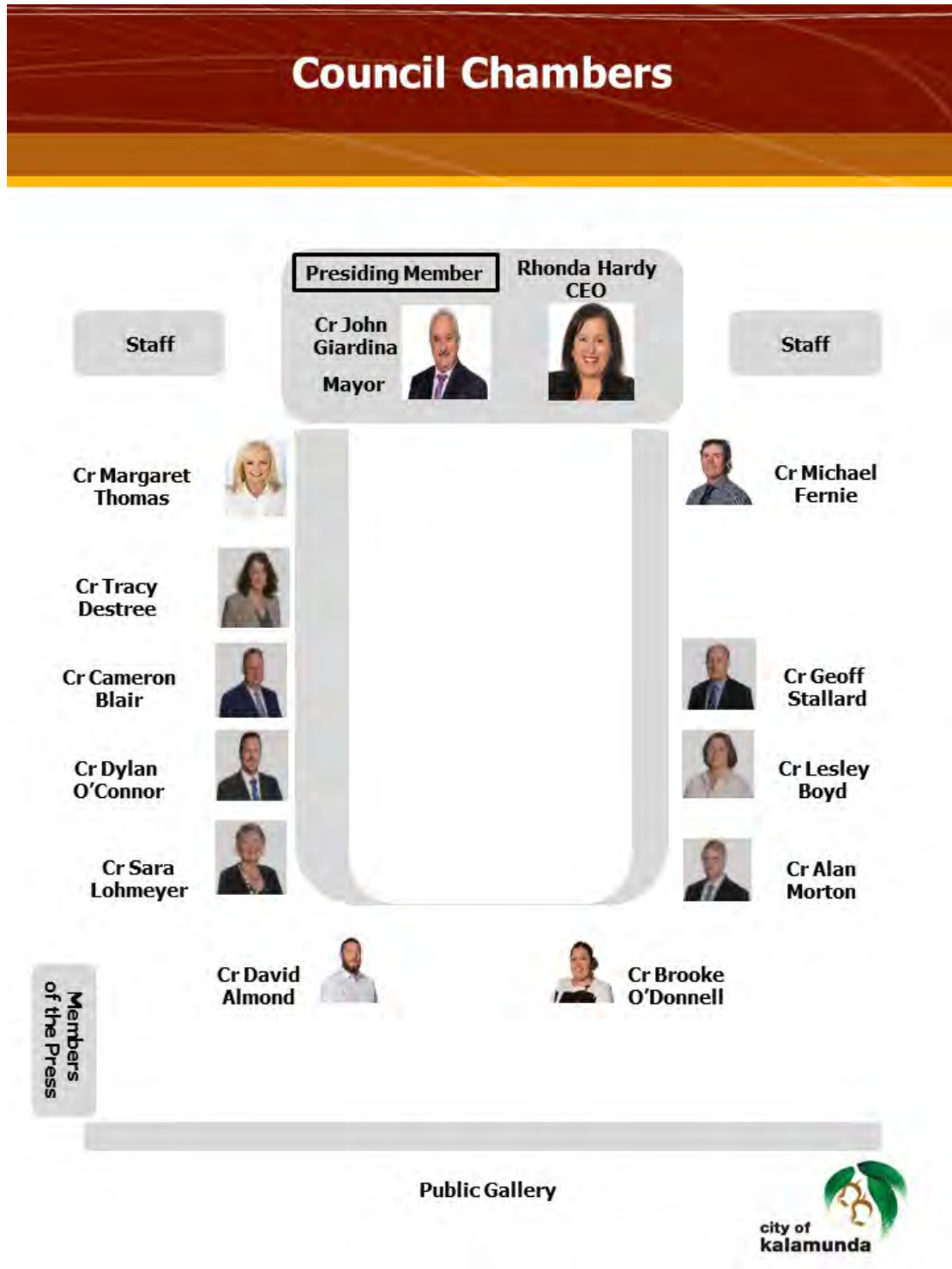


INFORMATION FOR THE PUBLIC ATTENDING COUNCIL MEETINGS

Welcome to this evening's meeting. The following information is provided on the meeting and matters which may affect members of the public.

If you have any queries related to procedural matters, please contact a member of staff.

Council Chambers – Seating Layout



Special Council Meetings – Procedures

1. Council Meetings are open to the public, except for Confidential Items listed on the Agenda.
2. Members of the public who are unfamiliar with meeting proceedings are invited to seek advice prior to the meeting from a City Staff Member.
3. Members of the public are able to ask questions at a Special Council Meeting during Public Question Time on matters relating to the functions of this meeting.
4. To facilitate the smooth running of the meeting, silence is to be observed in the public gallery at all times except for Public Question Time.
5. All other arrangements are in general accordance with Council's Standing Orders, the Policies and decision of the City or Council.

Acknowledgement of Traditional Owners

We wish to acknowledge the traditional custodians of the land we are meeting on, the Whadjuk Noongar people. We wish to acknowledge their Elders' past, present and future and respect their continuing culture and the contribution they make to the life of this City and this Region.

Emergency Procedures

Please view the position of the Exits, Fire Extinguishers and Outdoor Assembly Area as displayed on the wall of Council Chambers.

In case of an emergency follow the instructions given by City Personnel.

We ask that you do not move your vehicle as this could potentially block access for emergency services vehicles.

Please remain at the assembly point until advised it is safe to leave.

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1. Official Opening
2. Attendance, Apologies and Leave of Absence Previously Approved
3. Public Question Time
- 3.1. Public Question Time

A period of not less than 15 minutes is provided to allow questions from the gallery on matters relating to the functions of this meeting. For the purposes of Minuting, these questions and answers will be summarised.

4. Petitions/Deputations
5. Announcements by the Member Presiding Without Discussion
6. Matters for Which the Meeting may be Closed
7. Disclosure of Interest
- 7.1. Disclosure of Financial and Proximity Interests
 - a. Members must disclose the nature of their interest in matter to be discussed at the meeting. (Section 5.56 of the *Local Government Act 1995*.)
 - b. Employees must disclose the nature of their interest in reports or advice when giving the report or advice to the meeting. (Section 5.70 of the *Local Government Act 1995*.)
- 7.2. Disclosure of Interest Affecting Impartiality
 - a. Members and staff must disclose their interest in matters to be discussed at the meeting in respect of which the member or employee had given or will give advice.

8. Reports to Council

8.1. Development Services Reports

8.1.1. Application to Amend Development Approval – Place of Worship – Lot 36 (831) Welshpool Road East, Wattle Grove

Declaration of financial / conflict of interests to be recorded prior to dealing with each item.

Previous Items	OCM 118/2014, OCM 184/2016, OCM 171/2017, OCM 235/2017
Directorate	Development Services
Business Unit	Approval Services
File Reference	WL-10/831
Applicant	St Peters Jacobite Syrian Church Perth Inc.
Owner	St Peters Jacobite Syrian Church Perth Inc.
Attachments	<ol style="list-style-type: none">1. Development Approval granted at OCM 184/2016 [8.1.1.1]2. Revised plan for modifications to Welshpool Road East [8.1.1.2]3. Main Roads WA approved Lines and Signs Drawings [8.1.1.3]4. Bus Embayment Plan approved by the Public Transport Authority [8.1.1.4]5. Original Arborist's report dated 25 August 2016 [8.1.1.5]6. Arborist review of amended plans dated 1 December 2017 [8.1.1.6]7. Site photographs [8.1.1.7]

EXECUTIVE SUMMARY

1. On 28 November 2016, the Council resolved to approve an application for a place of worship at Lot 36 (831) Welshpool Road East, Wattle Grove (OCM 184/2016). A component of this application included a 95m long slip lane within the west-bound portion of the Welshpool Road East Regional Reserve, which would have resulted in the removal of up to 13 existing trees, depending on the extent of root damage during earth/road works. A copy of this development approval is provided in Attachment [8.2.1.1].
2. During, and since, September 2017 the City received a significant number of enquiries from the community regarding the subject place of worship and concern about the potential removal of lemon scented gum trees adjacent to the subject site. The community driven "Save the Trees" campaign attracted significant public interest, which led to the Council, and the City's officers, reconsidering options regarding the existing approval and access arrangements, with a view of reducing the number of trees requiring removal.

3. The Council is requested to consider amendments to the development approval issued on 28 November 2016 by amending conditions (n), (o), (p) and (q), and the associated plans for modifications to Welshpool Road East. See the details section of this report for specific changes to these conditions.
4. It is recommended that the application to amend the development approval for the place of worship at Lot 36 (831) Welshpool Road East, Wattle Grove, be approved subject to the following amendments (summarised):
 - a) Replacement of the previously approved plans (Attachment [8.2.1.1]) with the new engineering design drawings (Attachment [8.2.1.2]), Main Roads WA (MRWA) approved lines and signs drawings (Attachment [8.2.1.3]), and the Public Transport Authority (PTA) approved bus stop drawings (Attachment [8.2.1.4]).
 - b) Amending conditions (n), (o), (p) and (q) to reference the new engineering design, MRWA approved lines and signs and PTA approved bus stop drawings, along with the addition of a requirement to monitor the health of trees during works.
 - c) New conditions (r) and (s) to address requirements from MRWA Lines and Signs approval.

BACKGROUND

5. Land Details:

Land Area:	1.0453ha (10,450m ²)
Local Planning Scheme Zone:	Rural Composite
Metropolitan Regional Scheme Zone:	Rural

6. The subject site has a frontage of 115m to Welshpool Road East. The surrounding area is zoned Special Rural and Rural Composite. The approved place of worship building has now been substantially completed on the site see Attachment [8.2.1.7] for recent photographs.
7. The subject site has access from Welshpool Road East via an access way which shares reciprocal rights of access with the neighbouring lots 34 (851) and 38 (855) Welshpool Road East.
8. The section of Welshpool Road East adjacent to the subject lot is identified under the Metropolitan Region Scheme (MRS) as being a Category 2 'Other Regional Road' reserve, which is under the control of MRWA and the Western Australian Planning Commission (WAPC).
9. The subject site requires controlled vehicle access from/egress to Welshpool Road East, which is an 80kph dual carriageway road that is also a heavy vehicle route. Access to, and egress from, the development is to utilise an existing vehicle crossover that was originally constructed as part of the three (3) lot subdivision. The crossover is located such that an existing bus embayment acts as an informal left slip lane, with access to the lots limited via

a left-in only turning movement. Similarly, egress is limited to a left-out only turning movement. Right turning movements to the subject site currently require motorists to undertake a 'U-turn' movement at the median break located approximately 100m to the east of the crossover.

10. Locality Plan:



11. On 10 June 2015, the Minister for Planning approved Scheme Amendment No. 61 which included the additional use of Place of Worship under Schedule 2 of the Scheme. The Council had previously endorsed this amendment at its Ordinary Meeting held 25 August 2014 (OCM 118/2014).
12. On 28 November 2016, the Council resolved to approve an application for a place of worship at Lot 36 (831) Welshpool Road East, Wattle Grove (OCM 184/2016). A component of this application included a 95m long slip lane within the west-bound portion of the Welshpool Road East Regional Reserve, which would have resulted in the removal of up to 13 existing trees, depending on the extent of root damage during earth/road works. A copy of this approval is provided in Attachment [8.2.1.1].
13. While the development has now been substantially completed, the modifications to Welshpool Road East are pending further investigation into the retention of existing trees within the road reserve.
14. During, and since, September 2017 the City received a significant number of enquiries from the community regarding the subject place of worship and concern about the potential removal of lemon scented gum trees adjacent to the subject site. The community driven "Save the Trees" campaign attracted significant public interest, which led to the Council, and the City's officers, reconsidering options regarding the existing approval and access arrangements, with a view of reducing the number of trees being removed.

15. At the Ordinary Council Meeting held on 26 September 2017, the following resolution was passed (OCM 171/2017):

"That Council:

- 1. Request the CEO to continue negotiation with the Main Roads and the Applicant, of the proposed development at Lot 36 Welshpool Road, to seek an alternative option to those outlined in Condition n) of City of Kalamunda Planning Approval (OCM 184/2016) of November 2016 as attached.*
- 2. Encourage the applicant to resubmit a development application for Council consideration.*
- 3. Require the CEO to forbid any employee or staff member of the City of Kalamunda from removing, or assisting in the removal, or entering into a contract for the removal of any lemon scented gum trees in front of or adjacent to Lot 36 Welshpool Road other than for an emergency, or as subsequently approved in writing by the City."*

16. The City, MRWA and the applicant met in October 2017 to address how the approved design could be modified to mitigate the removal of trees. In working through the constraints and opportunities, a revised design was prepared that shortened the eastbound slip lane to 66m and the west-bound slip lane to 75m. The revised design also provided an allowance for the bus embayment to be included within the shortened westbound slip lane.

17. In November 2017, the applicant submitted a draft design report and civil drawings which reflected the agreed modifications noted above. These revised drawings have been reviewed and supported by MRWA and the PTA. The Arborist initially engaged to review the impact of the original design was re-engaged by the applicant to review the impact arising from the most recent changes in design. The revised design requires that only one (1) tree be removed, refer to the tree marked in red on drawing numbered C02/Rev I in Attachment [8.2.1.2]). There may be a possibility of other trees requiring removal dependent on whether the root zones are destabilised because of earthworks required as part of road construction activity. A decision in relation to the extent of this impact will be subject to the Arborist's review during the earthworks phase of the works. A copy of the Arborist's original report is presented as Attachment [8.2.1.5], and the reviewed report dated 1 December 2017 is presented as Attachment [8.2.1.6].

18. As a separate but related matter, Council resolved to pass a notice of motion on the 28 November 2017 (OCM 235/2017), which required the following:

"That Council:

- 1. Request the Chief Executive Officer to undertake an investigation on how the City can establish heritage status of the trees along Welshpool East so they are kept as an entry statement for the City.*

2. *Request the Chief Executive Officer to bring back a process and costings for undertaking this investigation so it can be listed for budget consideration."*

Subsequent to the above notice of motion, the State Heritage Council resolved at its meeting on 8 December 2017 that the trees do not have sufficient cultural heritage significance at the State level to be included in the State Register of Heritage Places. Although the State Heritage Council did not list the trees on the State Register of Heritage Places, the City has options available for providing the trees local heritage status under the City's Municipal Heritage Inventory and Heritage List under Local Planning Scheme No. 3.

19. Subsequent to the abovementioned resolution OCM 235/2017, the Council recently considered the heritage status of the lemon scented gum trees on Welshpool Road east on 27 February 2018 (OCM 12/2018), where it was resolved to (summarised):
- Note the decision of the Heritage Council to not include the subject trees in the State Register of Heritage Places;
 - List the subject trees within the Municipal Heritage Inventory; and
 - Designate a heritage area and prepare a corresponding local planning policy in order to provide special planning control to protect the trees and acknowledge their heritage significance.

This matter is currently being progressed by the City and it is anticipated that the matter will be returned to Council for consideration during the second half of 2018.

DETAILS

20. Council is requested to consider amendments to the development approval issued 28 November 2016 by amending conditions (n), (o), (p) and (q), and the associated plans for road modifications to Welshpool Road East. The proposed modifications to these conditions are relatively minor given that the detail is in the revised design in the corresponding attachments. Two (2) new conditions (r) and (s) are also proposed to address requirements from MRWA Lines and Signs approvals. In this regard, the recommended changes (specific changes represented with bold text) are as follows:

	Existing Condition	Proposed Condition
(n)	<i>Prior to the commencement of the place of worship use, the following modifications shall be undertaken to Welshpool Road East by the applicant/owner at its cost to the satisfaction of the Shire of Kalamunda:</i>	<i>Prior to the commencement of the place of worship use, the following modifications shall be undertaken to Welshpool Road East by the applicant/owner at its cost to the satisfaction of the City of Kalamunda:</i>
	(i) Provision of a right slip lane from Welshpool Road East heading east to facilitate 'U-Turn'	(i) Provision of a right slip lane from Welshpool Road East heading east to

	<p>manoeuvres constructed in accordance with Drawing No. C02 Rev E (Attachment 5).</p> <p>(ii) Provision of a left slip lane from Welshpool Road East heading west to facilitate turning manoeuvres into the access road servicing the proposed place of worship development constructed in accordance with the Drawing No. C04 Rev A (Attachment 1).</p> <p>(iii) Provision of a "No U-Turn" sign in accordance with Main Roads Western Australia requirements to be posted in the median adjacent to the Welshpool Road East right slip lane turning right into Lewis Road.</p>	<p>facilitate 'U-Turn' manoeuvres constructed in accordance with Drawing No. C02 Rev I (Attachment [8.2.1.2]).</p> <p>(ii) Provision of a left slip lane from Welshpool Road East heading west to facilitate turning manoeuvres into the access road servicing the proposed place of worship development constructed in accordance with the Drawing No. C07 Rev G (Attachment [8.2.1.2]).</p> <p>(iii) Provision of lines and signs in accordance with Main Roads WA conditions and drawing approval (Attachment [8.2.1.3]).</p> <p>(iv) Provision of an upgraded bus stop facility adjacent to the new left slip lane and associated pathway connection from the bus stop to the crossover servicing the development in accordance with the Public Transport Authority approval (Attachment [8.2.1.4]).</p>
(o)	In regard to the condition requiring modifications to Welshpool Road East, the applicant/owner shall be responsible for engaging a	In regard to the condition requiring modifications to Welshpool Road East, the applicant/owner shall be responsible for engaging a

	<p>qualified contractor to remove trees 5, 7, 8, 9, 10, 13, 14, 15, 19 and 20, and if required, trees 1, 2 and 4 as identified in Drawing Nos. C02 Rev E and C04 Rev A (Attachment 5). The applicant/owner shall be responsible for the cost of removing these trees and any claims that may arise from the removal of these trees to the satisfaction of the Shire of Kalamunda.</p>	<p>qualified contractor to remove the tree as identified in red on Drawing No. C02 Rev I (Attachment [8.2.1.2]). The applicant/owner shall be responsible for the cost of removing this tree and any claims that may arise from the removal of this tree to the satisfaction of the City of Kalamunda.</p>
(p)	<p>Upon the practical completion of the required road modifications to Welshpool Road East, the applicant/owner shall submit a new arborist's report to the Shire of Kalamunda detailing the condition of all remaining trees 1-4, 6, 11, 12, 16 – 18 and 19, as identified in Drawing Nos. C02 Rev E and C04 Rev A (Attachment 5). Should any tree works and/or removal be required, the applicant/owner shall be responsible for engaging a qualified contractor to undertake these works, the costs of any works and any claims that may arise from the works.</p>	<p>In consideration of the trees in the Welshpool Road East road reserve directly impacted by the required road modifications to Welshpool Road East inclusive of all ancillary works including but not limited to the reduction in the extent of existing wire rope, bus stop, stormwater drainage and pathway (except for the tree marked for removal on Drawing C02 Rev I), the applicant/owner shall:</p> <ul style="list-style-type: none"> (i) Engage a suitably qualified Arborist to identify/assess all required pruning and submit a report for review/approval by the City of Kalamunda prior to undertaking pruning of any trees; (ii) Engage a suitably qualified Arborist to identify/assess during the road and ancillary works excavation phases of the proposed works the impact (if any) on the tree root zone to determine whether or not the health and/or structural stability of

		<p>the trees will be compromised, in liaison with the City, and in support of any decision made whether or not to remove any tree. This process and related justification/decision shall be recorded for each tree that is assessed, and this is to be presented in a report that is certified by the Arborist as a true and correct record of action taken;</p> <p>(iii) Prior to practical completion of the required road modifications to Welshpool Road East, submit an Arborist's Report to the City of Kalamunda detailing the actions taken (if any) in relation to (ii) above and any ongoing management of the remaining trees for the City of Kalamunda.</p> <p>Should any tree works and/or removal be required, the applicant/owner shall be responsible for engaging a qualified contractor to undertake these works, and the costs of any works and any claims that may arise from the works.</p>
(q)	Upon practical completion of the required road modifications required in the conditions above, the applicant shall provide replacement trees for the existing trees removed along Welshpool Road East as part of the road modifications in consultation with,	Upon practical completion of the road modifications required in the conditions above, the applicant shall provide replacement trees for any existing trees removed along Welshpool Road East as part of the road modifications in consultation with, and to the

	and to the satisfaction of the Shire of Kalamunda.	satisfaction of the City of Kalamunda.
(r)	New condition	<p>In regard to the condition requiring modifications to Welshpool Road East, the applicant/owner shall be responsible for:</p> <ul style="list-style-type: none"> (i) Maintaining the site of the road modification works in a safe condition for all road users and may require the appropriate use of temporary signing and pavement marking until the permanent signs and pavement marking is installed by Main Roads WA; (ii) Completing and submitting all necessary payments, forms and any notifications required to complete the works including but not necessarily limited to purchase orders or cheques, provision of service agreements and site availability forms and notifications, available from Main Roads WA; (iii) Carrying out spotting during road and ancillary works in accordance with Main Roads WA standard requirements for line marking; and (iv) Immediately upon practical completion of the road and ancillary works, removing any redundant pavement markings. Refer to Main Roads Specification 604 Clause 36;

		to the satisfaction of the City of Kalamunda, and on the advice of Main Road WA.
(s)	New condition	Prior to the commencement of the place of worship use the applicant/owner is required to pay the full cost of the Main Roads WA approval and installation of permanent signing and pavement marking in relation to the condition requiring modifications to Welshpool Road East.

21. The application that was approved by Council on 28 November 2016 incorporated the following key elements:
- a) A single storey place of worship building with a wall height of 4.81m and floor area of 433m². The place of worship building is comprised of a foyer, seating area, alter and four (4) store rooms;
 - b) A separate meeting room, office, kitchen and toilet building with a wall height of 2.4m and a floor area of 86.3m²;
 - c) All buildings are proposed to be finished with white coloured walls, light brown/beige openings, and orange coloured steel roof; and
 - d) Vehicle access via an existing constructed access road and crossover, and 80 car parking bays including two (2) bays for persons with disabilities.

Refer to Attachment [8.2.1.1] for development approval and plans.

22. The site plan (Attachment [8.2.1.1]) also indicates a stage 2 of the development, including the development of a rectory, bell tower and administration hall, however these works are yet to be proposed as part of a separate formal application for development approval.

23. The applicant submits that the operation of the place of worship is as follows:
- a) To take place wholly on Sunday;
 - b) To take place between the hours of 8:00am to 12:00pm;
 - c) That Special events may be held mostly on weekends, these events include weddings, baptisms, funerals and other celebratory events relating to church activities; and
 - d) The maximum number of parishioners is 275.

STATUTORY AND LEGAL CONSIDERATIONS

Planning and Development (Local Planning Schemes) Regulations 2015

24. Under Schedule 2, Part 9, Clause 77 (1) of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Regulations), an owner may request that a development approval be amended to delete or modify any condition to which the approval is subject.
25. In considering an application referred to above, the City may determine the application by:
 - a) approving the application without conditions; or
 - b) approving the application with conditions; or
 - c) refusing the application.
26. Should the Council resolve to refuse to amend the development approval, Clause 76 of the Regulations enables the applicant or owner to apply to the State Administrative Tribunal for a review (appeal) of the decision.
27. Clause 67 of the Regulations includes a number of matters that the Council is required to have due regard to in considering the subject application, including but not limited to:
 - The effect of the proposal on the cultural heritage significance of the area in which the development is located;
 - The compatibility of the development within its setting;
 - The amenity of the locality, environmental impacts, character and social impacts of the development;
 - The likely effect of the development on the natural environment and any means that are proposed to protect or to mitigate impacts on the natural environment;
 - Whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved;
 - The suitability of the land for the development taking into account the possible risk to human health or safety;
 - The adequacy of the proposed means of access to and egress from the site and arrangements for the manoeuvring and parking of vehicles;
 - The amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and probably effect on traffic flow and safety;
 - Any submissions received on the application and the comments or submissions received from any authority consulted; and
 - Any other planning consideration the local government considers appropriate.

Local Planning Scheme No. 3

28. Clause 4.2.2 (Objectives of Zones - Rural Zones) of the Scheme stipulates that the objective for the Rural Composite zone is as follows:

"To provide for small semi-rural lots that can accommodate a limited range of rural and low scale commercial land uses in a manner that will not adversely affect the landscape and environmental qualities of the land and are appropriate to the area."

29. The following additional use is listed for the subject site in Schedule 2 of the Scheme:

A 50	Lot 36 (831) Welshpool Road East, Wattle Grove	Place of Worship	<ol style="list-style-type: none">1. The use is not permitted unless the Council has granted planning approval after giving notice in accordance with Clause 9.4 (Advertise) ("A").2. The applicant/landowner shall prepare and implement a traffic management plan.
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POLICY CONSIDERATIONS

30. On 19 December 2017, Council resolved to adopt Local Planning Policy P-DEV 55 – Places of Worship (P-DEV 55) for the purposes of public advertising.
31. The policy was written for the purposes of providing guidance for the location, appropriateness, and scale of developments of new places of worship in the City. Given that the decision to approve the place of worship at the subject site was made in November 2016, prior to P-DEV 55 being initiated for advertising, and is yet to be finally adopted, it is given limited regard in this planning assessment. This is particularly relevant in the context of the works having been substantially commenced and the modifications relating primarily to access and egress infrastructure.

COMMUNITY ENGAGEMENT REQUIREMENTS

32. It is acknowledged that the origin of the request for amendments to the development approval was in response to significant public interest in retaining the lemon scented gum trees in the road reserve for Welshpool Road East. The application was not re-advertised given the nature of the applicants request is purely technical and the amendments to the plan represent the minimum acceptable reduction of the length and width of the slip lanes to achieve an appropriate outcome from a traffic safety perspective.
33. Comprehensive community notification will be undertaken following Council's consideration of this matter, including but not limited to letters to key community stakeholders, media release, social media release and website update.

Internal Referrals

34. The City has been working closely with the applicant and Main Roads WA to ensure that the amendments to the slip lanes are appropriately assessed before the Council reconsiders them. With the assistance from the City's Asset Services, the following summary is provided in relation to the modifications to Welshpool Road East from a traffic safety and access perspective:
- a) As a consequence of the development and increased traffic movements arising from the proposed [Place of Worship] use, upgrade of turning movements to service the development was required, this was also supported by MRWA.
 - b) The application of Austroads Guidelines results in the requirement for two slip lanes some 100m in length (i.e.: a left slip lane into the crossover and a right slip within the Welshpool Road East median directly linked to the median break located immediately to the east of the crossover). The required length is driven by the posted speed limit of 80kph on Welshpool Road East.
 - c) Austroads Guidelines also recommends that if a bus stop is to be co-located with a left slip lane then the required bus embayment length is to be added onto the slip lane length.
 - d) These design requirements were addressed as part of the initial approval and included reducing the length of the recently installed wire rope safety barrier installed as part of the 2015/2016 BlackSpot Program.
 - e) It was also noted that some 13 trees (i.e.: Lemon Scented Gums) would need to be removed along with the possibility of other trees needing to be removed dependent on whether the root zone is destabilised as a result of earthworks. A decision in relation to the extent of this impact to the root zone is subject to the Arborist's review during the earthworks phase of the work. This direction was supported through an Arborist Report that considered the impact of the proposed works on the trees in the area within which the slip lanes are proposed to be constructed.

A meeting with representation from the City, MRWA and the proponent was held on 4 October 2017 to address how the approved design could be modified to mitigate removal of trees. In working through the constraints of the site and reviewing Austroads Guidelines, a revised design that shortened the left slip lane to 66m and the right slip lane to 75m was prepared. This would also to allow for the bus stop be co-located within the shortened left slip lane.

As a consequence of the review undertaken the following comment in relation to the design review are noted:

- a) Support for co-location of the bus stop within the left slip lane was received from the PTA on the condition that the bus stop be upgraded to reflect current standards.
- b) The revised design reduces the length of the wire rope safety barrier needing to be removed, and now also accommodates stormwater disposal. One of the two existing stormwater gullies is proposed to be relocated to the new kerb alignment with a piped extension so that it continues to discharge into the existing pipe network servicing the site. The other is proposed for relocation to a position closer to the crossover

- that services the development, with its discharge redirected into the adjacent open drain by way of a new access chamber connection.
- c) The revised design was prepared by David Wills and Associates on behalf of the proponent. The drawings were reviewed and approved having regard to the requirements agreed to between the parties at the 4 October 2017 meeting.
 - d) The Arborist initially engaged to review the impact of the original design was re-commissioned to review of the impact arising from the changes in design, with only one (1) tree requiring removal. This tree is located within the area to be developed to form the right slip lane. In addition, some pruning of overhead branches of other trees will be required to accommodate vehicle movement requirements for the left slip lane. There may be a possibility of other trees requiring removal dependent on whether the root zone is destabilised as a result of earthworks to be undertaken as part of road construction. A decision in relation to the extent of this impact will be subject to the Arborist's review during the earthworks phase of the work. Until works are commenced this cannot be known as the location of roots cannot be determined at this time. Notes for reference purposes the Arborist Report dated 25 August 2016 (Attachment [8.2.1.5]) and the Arborist's Review dated 1 December 2017 (Attachment [8.2.1.6]).
 - e) A Design Report in support of the overall proposal associated with the installation of the left and right slip lanes was prepared.
 - f) A Road Safety Audit of the overall design was undertaken with responses noted against all corrective actions arising.
 - g) The implementation of the left and right slip lanes inclusive of associated wire rope safety barrier and stormwater related works as per the "revised" engineering design drawings in accordance with Attachment [8.2.1.2] is supported.
 - h) Implementation of the MRWA's approved lines and signs drawings is supported in accordance with Attachment [8.2.1.3].
 - i) Implementation of the PTA approved bus stop upgrade drawings is supported in accordance with Attachment [8.2.1.4].
 - j) Hand rails at each crossing point on the connecting footpath between the bus stops on Welshpool Road East will be installed by the City immediately following completion of the proposed works by the Developer, with the cost of these works to be covered through the City's Operations and Parks Maintenance Budgets.
 - k) Selective pruning of the Welshpool Road East median trees to clear branches from around the existing street lights to improve the lighting at night will be undertaken by the City immediately following completion of the proposed works by the applicant, with the cost of these works to be covered through the City's Operations and Parks Maintenance Budgets.
 - l) The cost of lines and signs implementation by MRWA on completion of road construction related works, sweeping of the road areas to be line marked and spotting of all new line marking by the Applicant is to be borne by the Applicant.
 - m) In addressing the lines and signs approval received from MRWA, additional line marking within the median break utilised by the new right slip lane is required. This, along with a further "No U-turn" sign and arrows marked on the carriageway, is focused on stopping westbound vehicles on Welshpool Road East from utilising the median break as a U-

turn facility. The City will monitor this situation following completion of right slip lane works to determine whether further works are required to reinforce this restriction in the future. Should further works be required then this will be promoted as part of future capital works budget consideration by Council.

External Referrals

35. Main Roads WA (MRWA) Lines and Signs Approval
In addressing upgrades within the City's road network there is a requirement to ensure any road related line marking and signs posted are reviewed and approved by MRWA, who have responsibility for this aspect of the overall road network with Western Australia. This ensures consistency across all roads in the best interest of all road users.
36. Line and signs drawings were prepared and forwarded to the City for subsequent liaison with MRWA along with the Road Safety Audit undertaken by an independent third party engaged by the City. These drawings are provided in Attachment [8.2.1.3].
37. The MRWA assessment required a number of iterations. Ultimately, MRWA's approval was received.
38. In review of the corrective actions arising from the Road Safety Audit it was also recommended that:
- a) The footpath connection through the median island that connects the two bus stops either side of Welshpool Road East have hand rails provided at each crossing point to increase the visibility of the pedestrian facilities provided; and
 - b) Undertake selective pruning of the median trees to clear branches from around the existing street lights to improve the lighting at night.

However, both the above recommendations are not considered to be the Applicant's responsibility and will be scheduled for implementation by the City following completion of the proposed works by the Applicant.

39. Public Transport Authority (PTA)
The bus stop design was independently approved by the PTA. It is noted that the design also includes allowance for pathway access between the bus stop and the proposed development. These drawings are provided Attachment [8.2.1.4].

FINANCIAL CONSIDERATIONS

40. The Road Safety Audit that was prepared in relation to the modifications to Welshpool Road East included recommended corrective actions that the City will need to action as outlined in Point 38 of this report, with the cost of these works being covered by the City's Operations and Parks Maintenance Budgets.

41. The lines and signs approval from MRWA in relation to additional line marking within the median break utilised by the new right slip lane may result in further works being required to reinforce this restriction in the future. Should further works be required then this will be proposed as part of future capital works budget consideration by Council.

STRATEGIC COMMUNITY PLAN

Strategic Planning Alignment

42. *Kalamunda Advancing Strategic Community Plan to 2027*

Priority 1: Kalamunda Cares and Interacts

Objective 1.1 - To be a community that advocates, facilities and provides quality lifestyles choices.

Strategy 1.1.3 - Facilitate opportunity to pursue learning.

Priority 2: Kalamunda Clean and Green

Objective 2.1 - To protect and enhance the environmental values of the City.

Strategy 2.1.1 - Enhance our bushland, natural areas, waterways and reserves.

Priority 3: Kalamunda Develops

Objective 3.1 - To plan for sustainable population growth.

Strategy 3.1.1 - Plan for diverse and sustainable housing, community facilities and industrial development to meet changing social and economic needs.

Priority 4: Kalamunda Leads

Objective 4.2 - To proactively engage and partner for the benefit of community.

Strategy 4.2.1 - Actively engage with the community in innovative ways.

SUSTAINABILITY

Social Implications

43. The proposal would facilitate services to current users in the City and located outside the City to congregate and commune with religious leaders to meet the religious needs of the community.
44. The community has demonstrated clearly that the lemon scented gums are valued as a significant community asset. This will be addressed through listing the avenue of trees in the City's Municipal Heritage Inventory and ultimately in the Scheme Heritage List.

Economic Implications

45. Nil.

Environmental Implications

46. In respect to vegetation on Welshpool Road East, the recommended road modifications will result in the certain removal of one (1) tree. Depending on the extent of root damage during earth/road works, there is potential for additional trees requiring removal or pruning. The extent of which these works is unknown at this stage as the nature of underground root patterns will only become apparent during excavation and road works. In this regard, conditions have been recommended in this report to require the applicant to engage a suitably qualified Arborist to identify/assess the impact on the tree root zone during road and ancillary works excavation phase to determine whether the health and/or structural stability of the trees will be compromised, in liaison with the City.
47. The revised plans have reduced the impact on trees to the greatest extent possible, without inappropriately compromising the safety and functionality of access to the subject site. This balance means that there is an expectation that at least one (1) tree will be removed.

RISK MANAGEMENT CONSIDERATIONS

48.	Risk: The amendments to the slip lane will result in traffic safety issues for vehicles entering the site off Welshpool Road East.		
	Likelihood	Consequence	Rating
	Unlikely	Moderate	Low
	Action/Strategy		
	Ensure that the amended design drawings adequately address safety recommendations from the road safety audit, the City's Assets Services, MRWA and the PTA.		
	Risk: The amendments to the slip lanes will still result in the removal of some trees.		
	Likelihood	Consequence	Rating
	Likely	Significant	High
	Action/Strategy		
	Ensure that the revised planning conditions provide for a suitably qualified arborist to identify and assess the impacts on the trees during road and ancillary works and make recommendations to minimise the impact on the trees.		

OFFICER COMMENT

49. This application seeks to amend the approval issued by the Council at its Ordinary Meeting on 28 November 2016. This process commenced in response to a significant number of enquiries from the community regarding the subject place of worship and concern about the potential removal of lemon scented gum trees adjacent to the subject site. The community driven "Save the Trees" campaign attracted significant public interest, which led to the Council, and the City's officers, reconsidering options regarding the existing approval and access arrangements, with a view of reducing the number of trees being removed/impacted.

50. The amended engineering design drawings have undergone a thorough review process, being subject to a Road Safety Audit, reviewed by the City's Assets Services, MRWA, and the PTA. It is considered that this process has modified the engineering design to the greatest extent possible, without inappropriately compromising the safety and functionality of access to the subject site. This has been balanced against and minimising the extent of the impact on trees within the Welshpool Road East road reserve.
51. It is recommended that the application to amend the development approval for the place of worship at Lot 36 (831) Welshpool Road East, Wattle Grove, be approved subject to the following amendments (summarised):
- a) Replacement of the previously approved plans (Attachment [8.2.1.1]) with the new engineering design, lines and signs, and bus stop drawings as provided in Attachments [8.2.1.2], [8.2.1.3] and [8.2.1.4];
 - b) Amending conditions (n), (o), (p) and (q) to reference the new engineering, lines and signs, and bus stop design drawings and requirements; and
 - c) New conditions (r) and (s) to address requirements from Main Roads WA Lines and Signs approval.

Voting Requirements: Simple Majority

RECOMMENDATION

That Council:

1. Pursuant to Schedule 2, Part 9, Clause 77 (1) (b) and (c) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, amend the development approval for the place of worship at Lot 36 (831) Welshpool Road East, Wattle Grove, dated 28 November 2018, as follows:
 - a) Replace the previously approved plans relating to modifications to Welshpool Road East (Attachment 8.2.1.1) with new engineering drawings (C02 Rev I and C07 Rev G), Main Roads WA Lines and Signs drawings (C08 Rev E and C09 Rev E), and bus stop design drawings (001, Rev 07, 002 Rev 07, 003, and 570-02-d01 A1-01 Rev A) as provided in Attachments 8.2.1.2, 8.2.1.3 and 8.2.1.4 respectively.
 - b) Amending condition (n) to read as follows:

(n) Prior to the commencement of the place of worship use, the following modifications shall be undertaken to Welshpool Road East by the applicant/owner at its cost to the satisfaction of the City of Kalamunda:

 - (i) Provision of a right slip lane from Welshpool Road East heading east to facilitate 'U-Turn' manoeuvres constructed in accordance with Drawing No. C02 Rev I (Attachment 8.2.1.2).*
 - (ii) Provision of a left slip lane from Welshpool Road East heading west to facilitate turning manoeuvres into the access road servicing the proposed place of worship development constructed in accordance with the Drawing No. C07 Rev G (Attachment 8.2.1.2).*
 - (iii) Provision of lines and signs in accordance with Main Roads WA conditions and drawing approval (Attachment 8.2.1.3).*

- (iv) Provision of an upgraded bus stop facility adjacent to the new left slip lane and associated pathway connection from the bus stop to the crossover servicing the development in accordance with the Public Transport Authority approval (Attachment 8.2.1.4).*

c) Amending condition (o) to read as follows:

- (o) In regard to the condition requiring modifications to Welshpool Road East, the applicant/owner shall be responsible for engaging a qualified contractor to remove the tree identified in red on Drawing No. C02 Rev I (Attachment 8.2.1.2). The applicant/owner shall be responsible for the cost of removing this tree and any claims that may arise from the removal of this tree to the satisfaction of the City of Kalamunda.*

d) Amending condition (p) to read as follows:

- (p) In consideration of the trees in the Welshpool Road East road reserve directly impacted by the required road modifications to Welshpool Road East inclusive of all ancillary works including but not limited to the reduction in the extent of existing wire rope, bus stop, stormwater drainage and pathway (except for the tree marked for removal on Drawing C02 Rev I in Attachment 8.2.1.2), the applicant/owner shall:*
 - (i) Engage a suitably qualified Arborist to identify/assess all required pruning and submit a report for review/approval by the City of Kalamunda prior to undertaking pruning of any trees;*
 - (ii) Engage a suitably qualified Arborist to identify/assess during the road and ancillary works excavation phases of the proposed works the impact (if any) on the tree root zone to determine whether the health and/or structural stability of the trees will be compromised, in liaison with the City, and in support of any decision made whether to remove any tree. This process and related justification/decision shall be recorded for each tree that is assessed, and this is to be presented in a report that is certified by the Arborist as a true and correct record of action taken;*
 - (iii) Prior to practical completion of the required road modifications to Welshpool Road East, submit an Arborist's Report to the City of Kalamunda detailing the actions taken (if any) in relation to (ii) above and any ongoing management of the remaining trees for the City of Kalamunda.*

Should any tree works and/or removal be required, the applicant/owner shall be responsible for engaging a qualified contractor to undertake these works, and the costs of any works and any claims that may arise from the works.

e) Amending condition (q) to read as follows:

- (q) Upon practical completion of the road modifications required in the conditions above, the applicant shall provide replacement trees for any existing trees removed along Welshpool Road East as part of the road modifications in consultation with, and to the satisfaction of the City of Kalamunda.*

f) Inserting new conditions (r) and (s) as follows:

(r) In regard to the condition requiring modifications to Welshpool Road East, the applicant/owner shall be responsible for:

- (i) Maintaining the site of the road modification works in a safe condition for all road users and may require the appropriate use of temporary signing and pavement marking until the permanent signs and pavement marking is installed by Main Roads WA;*
- (ii) Completing and submitting all necessary payments, forms and any notifications required to complete the works including but not necessarily limited to purchase orders or cheques, provision of service agreements and site availability forms and notifications, available from Main Roads WA;*
- (iii) Carrying out spotting during road and ancillary works in accordance with Main Roads WA standard requirements for line marking; and*
- (iv) Immediately upon practical completion of the road and ancillary works, removing any redundant pavement markings. Refer to Main Roads Specification 604 Clause 36;*

to the satisfaction of the City of Kalamunda, and on the advice of Main Road WA.

(s) Prior to the commencement of the place of worship use the applicant/owner is required to pay the full cost of the Main Roads WA approval and installation of permanent signing and pavement marking in relation to the condition requiring modifications to Welshpool Road East.

Enquiries: Chris Lodge – 9257 9807
Ref: WL-10/831 & DA15/0585

6 DECEMBER 2016



MILANKOV DESIGNS & PROJECT MANAGEMENT
SUITE 6 / 5 HASLER ROAD
OSBORNE PARK WA 6017

Dear Sir/Madam,

Proposed Place of Worship – Lot 36 (831) Welshpool Road East, Wattle Grove


Please be advised that Council at its Ordinary Meeting on 28 November 2016 considered your application for a place of worship at the above property and resolved to APPROVE your application subject to conditions and advice given on the attached Notice of Determination.

If the development subject of this approval is not substantially commenced within a period of two (2) years or such other period as specified in the approval after the date of the determination, the approval shall lapse and be of no further effect.

If you are not satisfied with any of the conditions imposed, a right of review (appeal) exists against the decision to the State Administrative Tribunal. Appeal rights exist for 28 days after the date of this letter. Appeal forms can be obtained at the State Administrative Tribunal.

Should you wish to discuss the matter further, please contact Chris Lodge in the Shire's Planning Services on 9257 9807.

Yours faithfully,


Andrew Fowler-Tutt
Manager Approval Services

Encl. *Notice of Determination*
 Approved Plans

- 2 -

Shire of Kalamunda

2 Railway Road, KALAMUNDA WA 6076

Postal Address

PO Box 42, KALAMUNDA WA 6926

Tel: (08) 9257 9999

Fax: (08) 9293 2715

Email: kala.shire@kalamunda.wa.gov.au

NOTICE OF DETERMINATION ON APPLICATION FOR PLANNING APPROVAL

PLANNING AND DEVELOPMENT ACT 2005

ADDRESS:	831 Welshpool Road East, Wattle Grove	LOT NO.	36
TITLE VOL NO.		FOLIO	
APPLICATION DATE	27 October 2015	RECEIVED ON	6 November 2015
DESCRIPTION OF PROPOSAL:	Place of Worship		

The application for approval to undertake development in accordance with the plans attached thereto is:



Granted subject to the following conditions:



Refused for the following reason(s):

CONDITIONS OF APPROVAL:

- a) The development shall be carried out only in accordance with the terms of the application as approved herein, and any approved plan.
- b) Any external lighting shall be positioned and designed so as not to significantly adversely affect the amenity of impacted residents in close proximity to the subject site, to the satisfaction of the Shire of Kalamunda.
- c) Prior to the lodgement of a building permit application, the applicant/owner shall engage a suitably qualified person to prepare a Bushfire Attack Level assessment in relation to the proposed place of worship development.
- d) Where the BAL indicates a rating of 12.5 or above the applicant shall prepare a Bushfire Management Plan to with relevant provisions implemented during development works, in accordance with the Western Australian Planning Commission's Planning for Bushfire Risk Management Guidelines to the specification and satisfaction of the Shire of Kalamunda.
- e) A separate development application including plans and a description of all signs for the proposal (including signs painted on buildings) shall be submitted to and approved by the Shire of Kalamunda, prior to the erection of any signage.

- 3 -

- f) Any modifications to the existing crossover shall be designed and constructed to the specification and satisfaction of Shire of Kalamunda.
- g) Prior to commencement of the place of worship use 80 car parking spaces shall be, suitably constructed, sealed, kerbed, line marked, drained and maintained to the satisfaction of the Shire of Kalamunda.
- h) All vehicle access ways shall be suitably constructed, sealed, kerbed, line marked and drained to the satisfaction of the Shire of Kalamunda, prior to the commencement of the place of worship use.
- i) Prior to the commencement of the Place of Worship, a landscaping and irrigation plan, including a 5m landscaping strip to the road frontages for the subject site is to be submitted to, and approved by, the Shire of Kalamunda.
- j) Landscaping and irrigation of the development site and adjoining road verge adjacent to the proposed development 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 Shire of Kalamunda.
- k) Measures being taken to ensure the identification and protection of any vegetation on the site worthy of retention prior to commencement of any development works to the satisfaction of the Shire of Kalamunda.
- l) Storm water runoff generated from the proposed development shall be contained on site.
- m) Prior to the lodgement of a building permit application, a geotechnical report is to be submitted to the Shire of Kalamunda detailing site conditions, particularly in respect to soil and groundwater and storm water disposal by soakage (Clearance, quantity, soil permeability and location and size of soak wells).
- n) Prior to the commencement of the place of worship use, the following modifications shall be undertaken to Welshpool Road East by the applicant/owner at its cost to the satisfaction of the Shire of Kalamunda:
 - i. Provision of a right slip lane from Welshpool Road East heading east to facilitate 'U-Turn' manoeuvres constructed in accordance with Drawing No. C02 Rev E (Attachment 5).
 - ii. Provision of a left slip lane from Welshpool Road East heading west to facilitate turning manoeuvres into the access road servicing the proposed place of worship development constructed in accordance with the Drawing No. C04 Rev A (Attachment 1).
 - iii. Provision of a "No U-Turn" sign in accordance with Main Roads Western Australia requirements to be posted in the median adjacent to the Welshpool Road East right slip lane turning right into Lewis Road.
- o) In regard to the condition requiring modifications to Welshpool Road East, the applicant/owner shall be responsible for engaging a qualified contractor to remove trees 5, 7, 8, 9, 10, 13, 14, 15, 19 and 20, and if required, trees 1, 2 and 4 as identified in Drawing Nos. C02 Rev E and C04 Rev A (Attachment 5). The applicant/owner shall be responsible for the cost of removing these trees and any claims that may arise from the removal of these trees to the satisfaction of the Shire of Kalamunda.

- 4 -

- p) Upon the practical completion of the required road modifications to Welshpool Road East, the applicant/owner shall submit a new arborist's report to the Shire of Kalamunda detailing the condition of all remaining trees 14, 6, 11, 12, 16 – 18 and 19, as identified in Drawing Nos. C02 Rev E and C04 Rev A (Attachment 5). Should any tree works and/or removal be required, the applicant/owner shall be responsible for engaging a qualified contractor to undertake these works, the costs of any works and any claims that may arise from the works.
- q) Upon practical completion of the required road modifications required in the conditions above, the applicant shall provide replacement trees for the existing trees removed along Welshpool Road East as part of the road modifications in consultation with, and to the satisfaction of the Shire of Kalamunda.

In addition to the conditions, the applicant is to have regard to the following:

- a) The development shall be carried out only in accordance with the terms of the application as approved herein, and any approved plan.
- b) All development must comply with the provisions of Council's Local Planning Scheme No 3, Health Regulations, Building Code of Australia, and all other relevant Acts, Regulations and Local Laws.
- c) Prior to construction on site the applicant is required to obtain a building permit from the Shire's Building Services.
- d) The applicant is advised that all drainage is required to utilise and comply with water sensitive urban design principles/guidelines.
- e) The applicant is reminded of their obligations to comply with the "Land development sites and impacts on air quality: a guideline for the prevention of dust and smoke pollution from land development sites in Western Australia", prepared by the Department of Environment.
- f) In regard to the landscaping plan required, the following details are to be included:
 - Specie type(s) (botanical names)
 - Pot size(s).
 - Quantities.
 - Planting preparation and protection such as staking.
 - Details of mulch and reticulation.

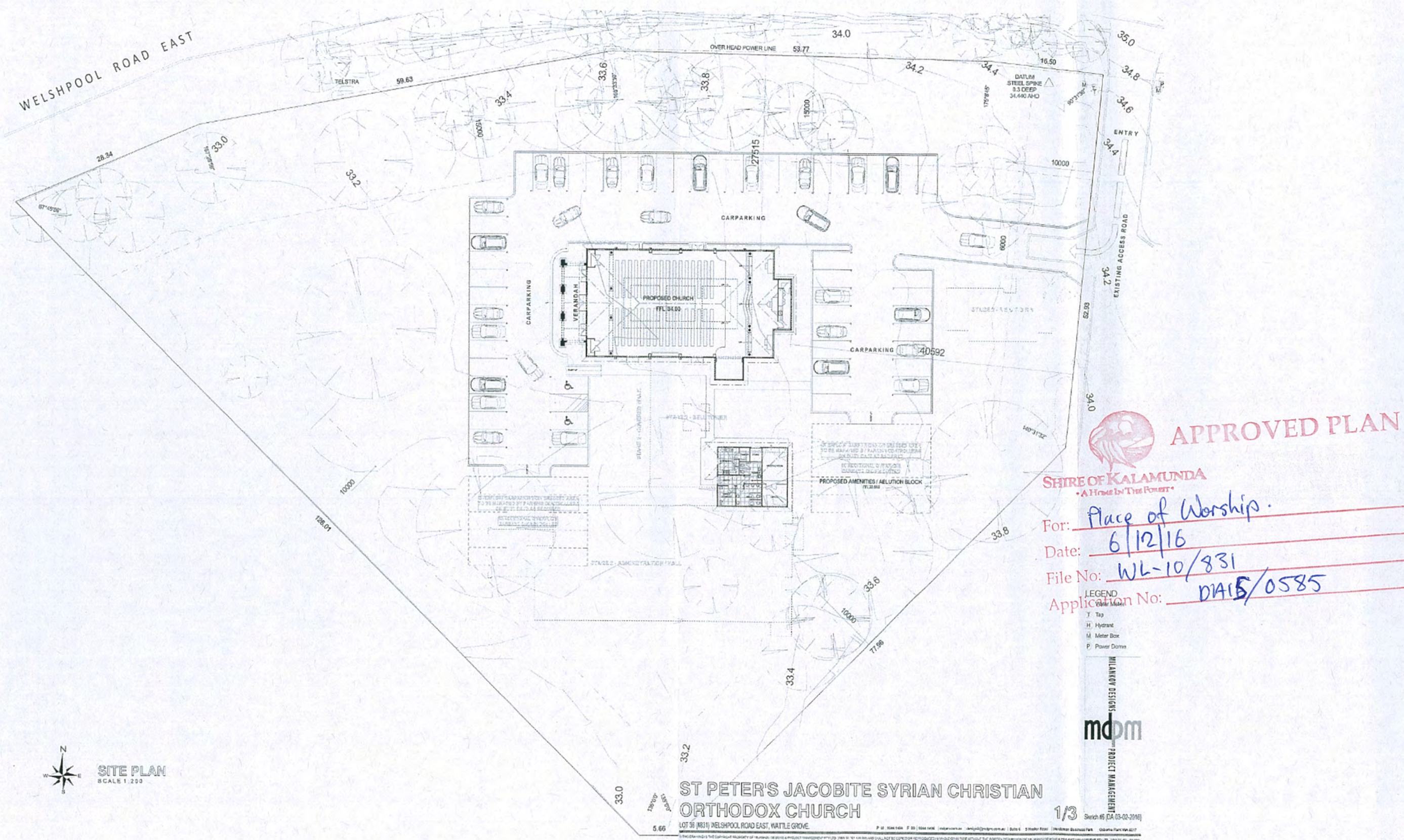
I hereby sign this approval for the application dated 27 October 2015 for a place of worship for and on behalf of the Shire of Kalamunda.



 Andrew Fowler-Tutt
Manager Approval Services

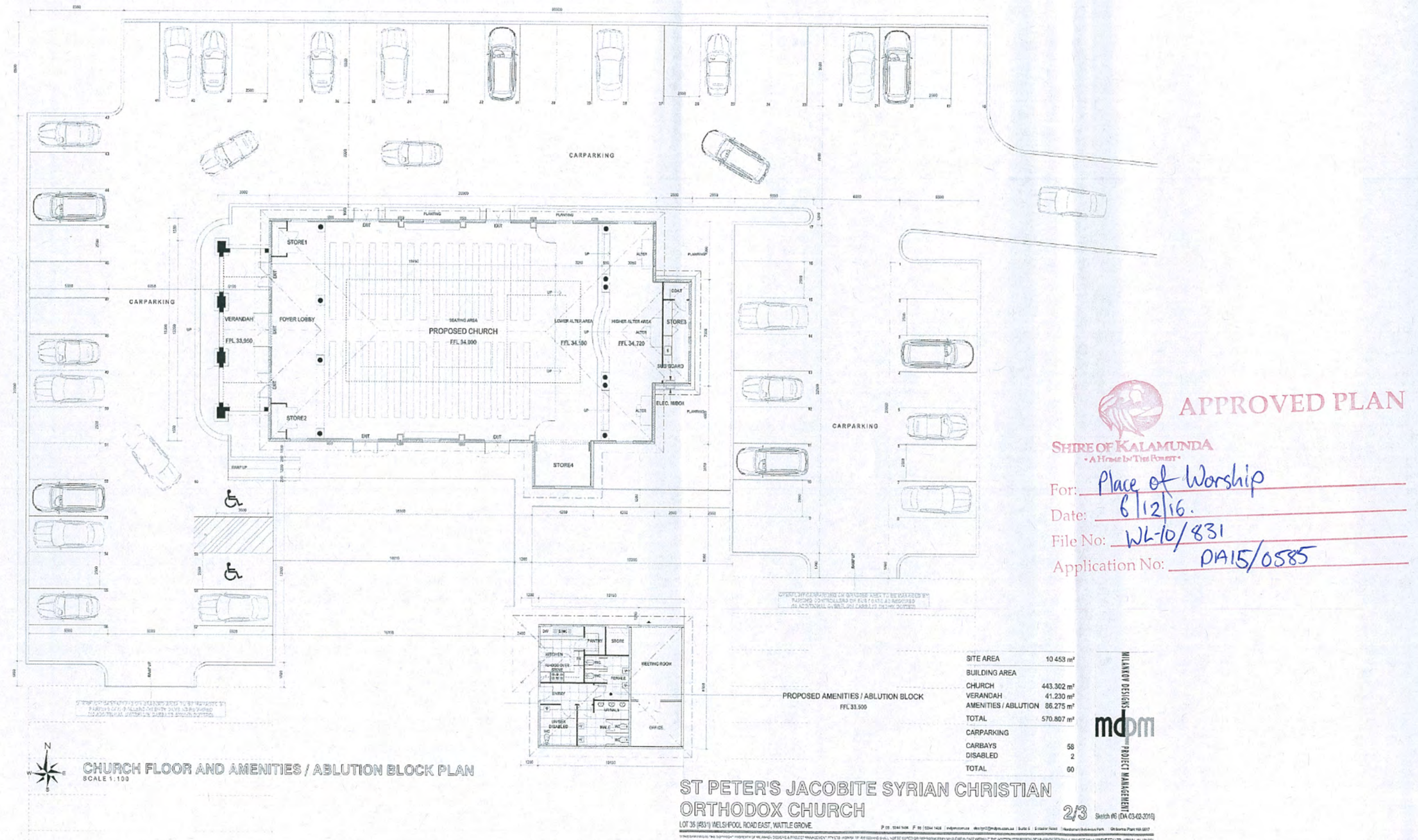
Dated 6.12.16

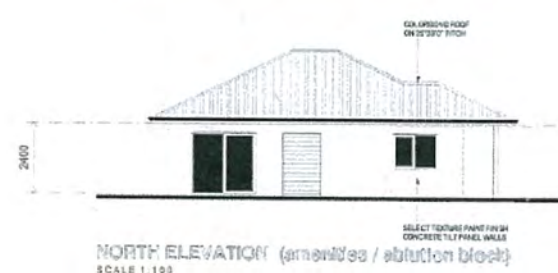
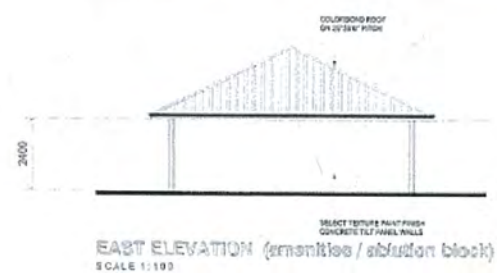
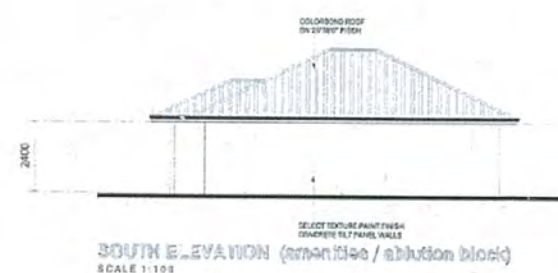
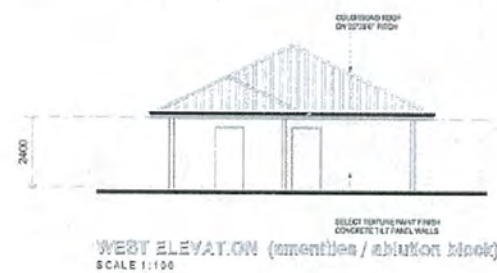
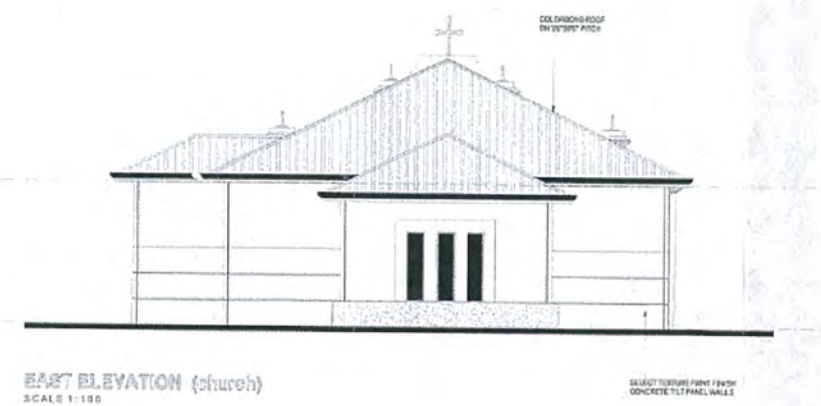
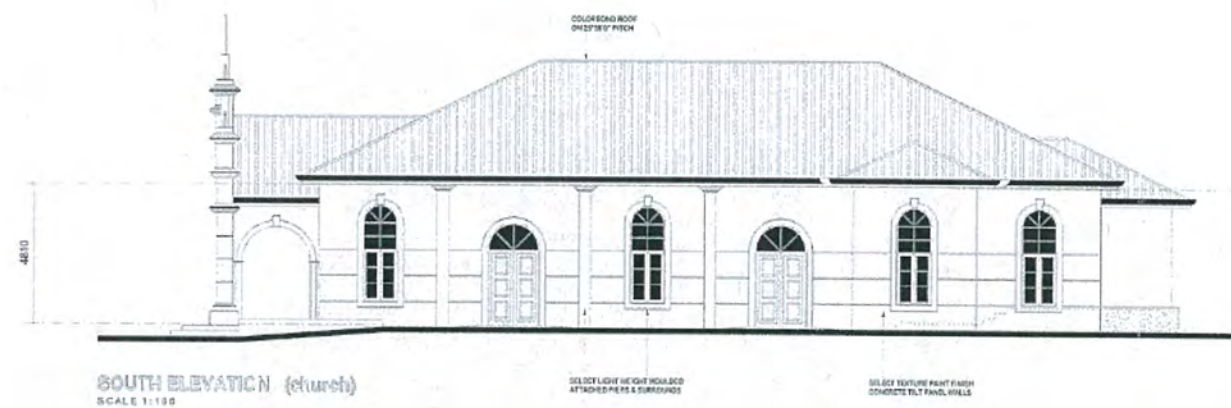
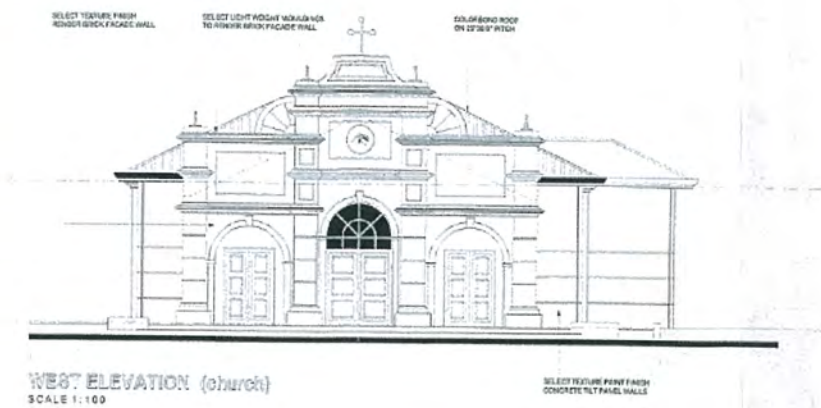
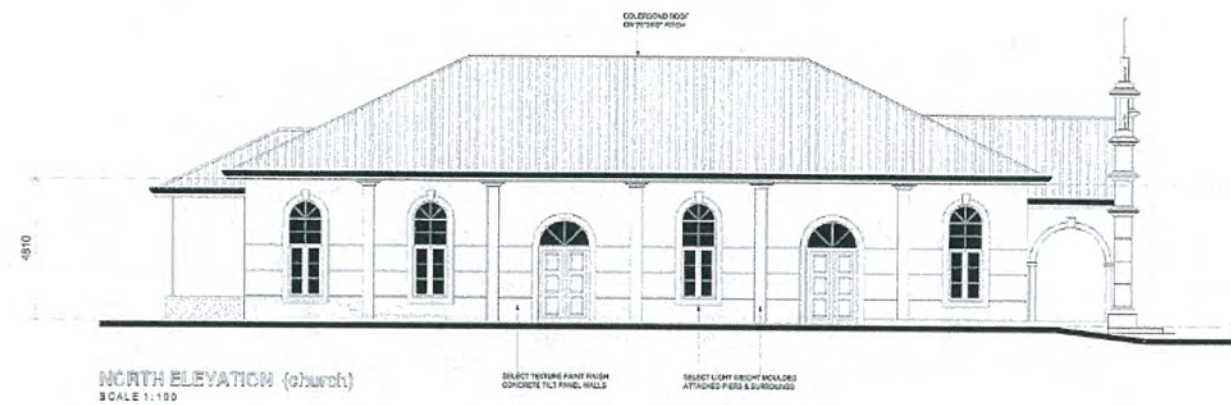
Site Plan



Attachment 2

Proposed Place of Worship – Lot 36 (831) Welshpool Road East, Wattle Grove

Floor Plan and Parking Layout

Attachment 3Proposed Place of Worship – Lot 36 (831) Welshpool Road East, Wattle Grove
ElevationsST PETER'S JACOBITE SYRIAN CHRISTIAN
ORTHODOX CHURCH

LOT 36 (831) WELSHPOOL ROAD EAST, WATTLE GROVE.

P 08 9444 1434 F 08 9444 1436 | www.mdm.com.au | dm@mdm.com.au | Suite 8, 1100-1102 Road 1, Northcote Business Park, Northcote Park VIC 3070

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**APPROVED PLAN**SHIRE OF KALAMUNDA
"A Home by The Forest"

For: Place of Worship

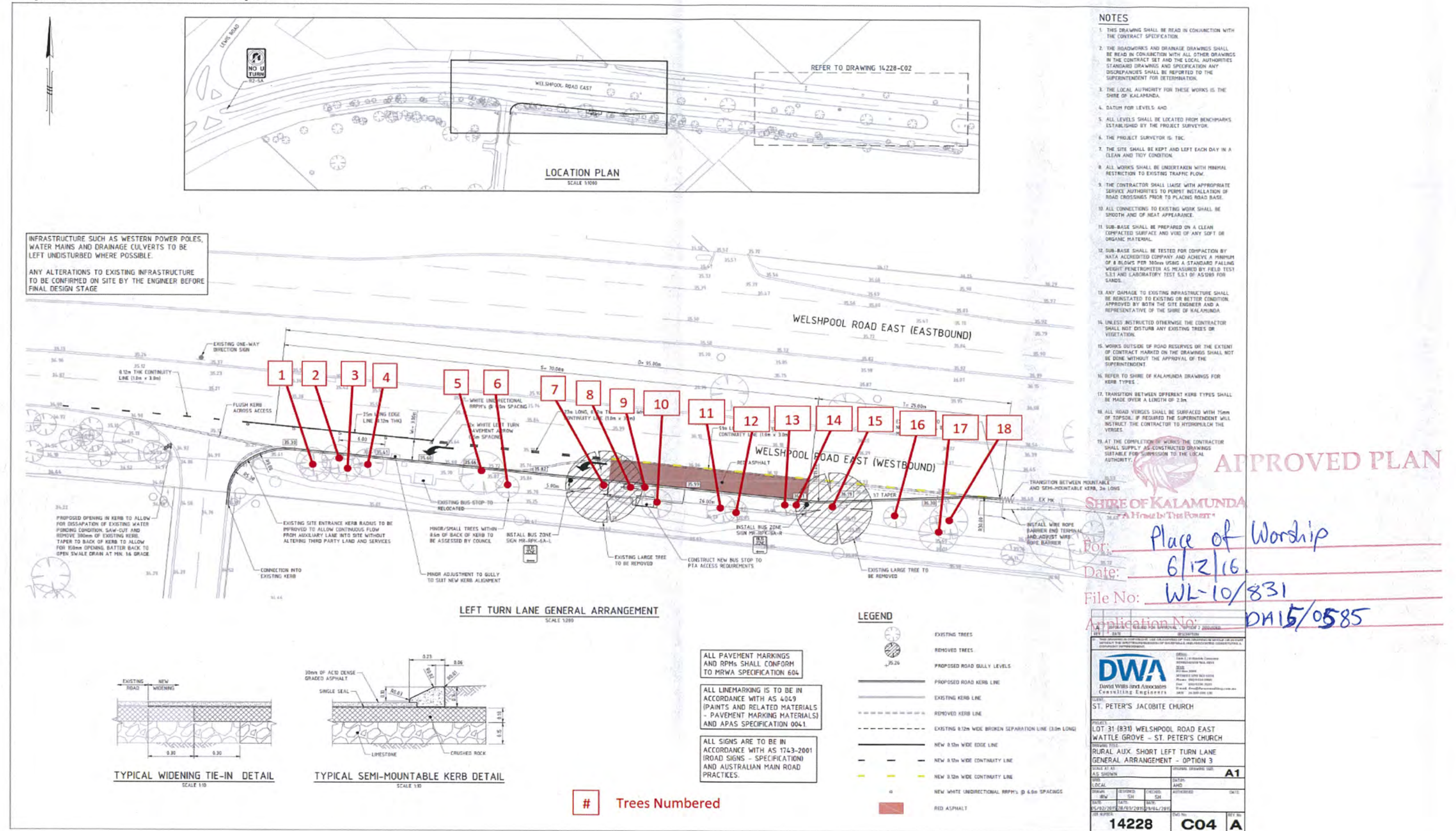
Date: 6/12/16

File No: WL-10/831

Application No: PA15/0585

MDPM
PROJECT MANAGEMENT

3/3 Sketch 28 (DA 03-02-2016)

Attachment 5**Proposed Place of Worship - Lot 36 (831) Welshpool Road East, Wattle Grove**
Proposed Modifications to Welshpool Road East





APPROVED PLAN

SHIRE OF KALAMUNDA
"A Home by The River"

D&I Services Committee
Minutes – 14 November 2016

53

For: Place of Worship
Date: 6/12/16
File No: WL-10/831
Application No: DA15/0585

Attachment 4

Proposed Place of Worship – Lot 36 (831) Welshpool Road East, Wattle Grove
Artist's Impression of Proposed Development



Shire of Kalamunda



APPROVED PLAN

SHIRE OF KALAMUNDA
"All Heart for The Region"

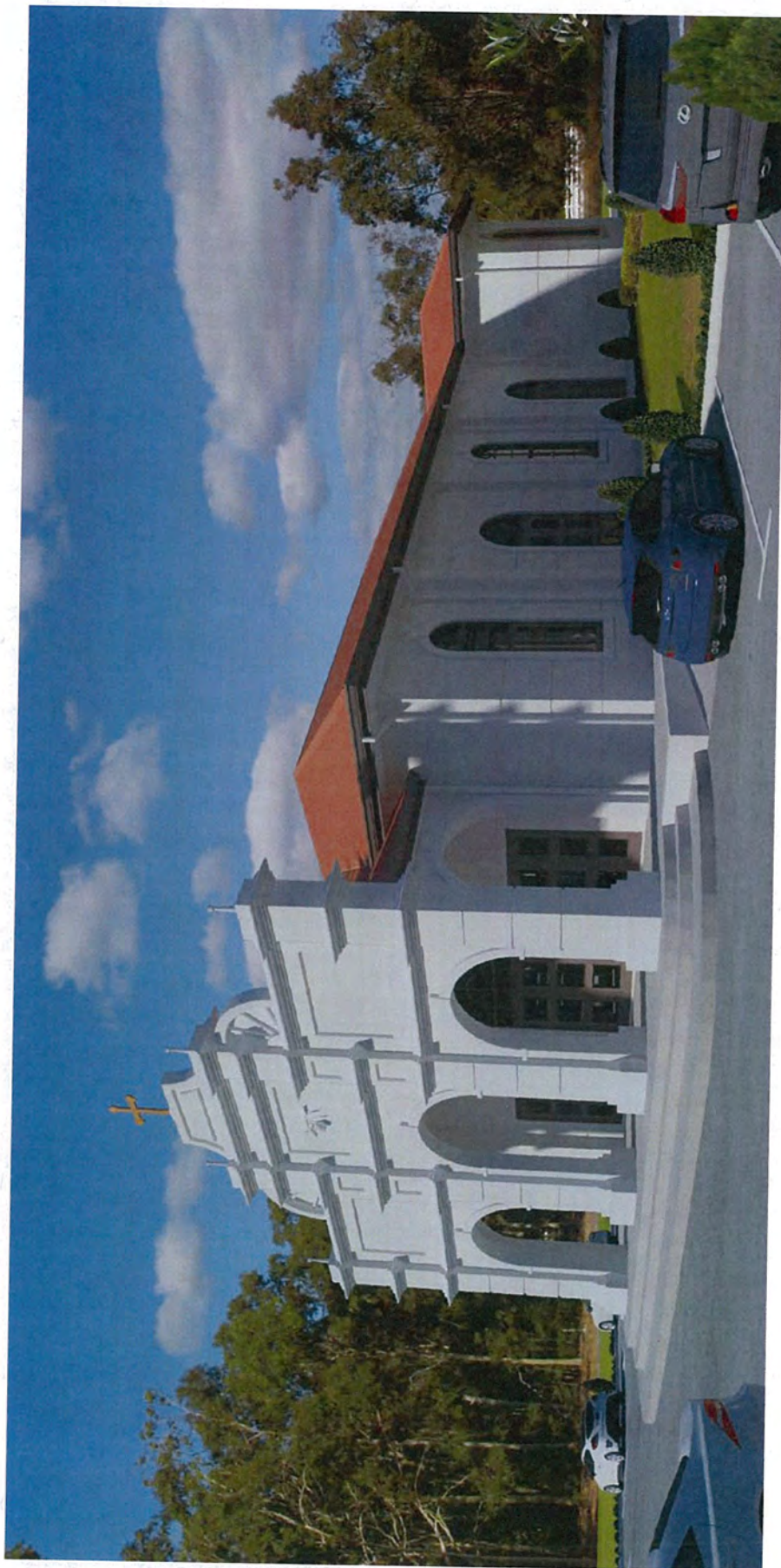
For: Place of Worship

Date: 6/12/16.

File No: WL-10/831

Application No: DPA15/0585

Shire of Kalamunda



APPROVED PLAN

SHIRE OF KALAMUNDA
"A Head for Your Future"

For: Place of Worship

Date: 6/12/16.

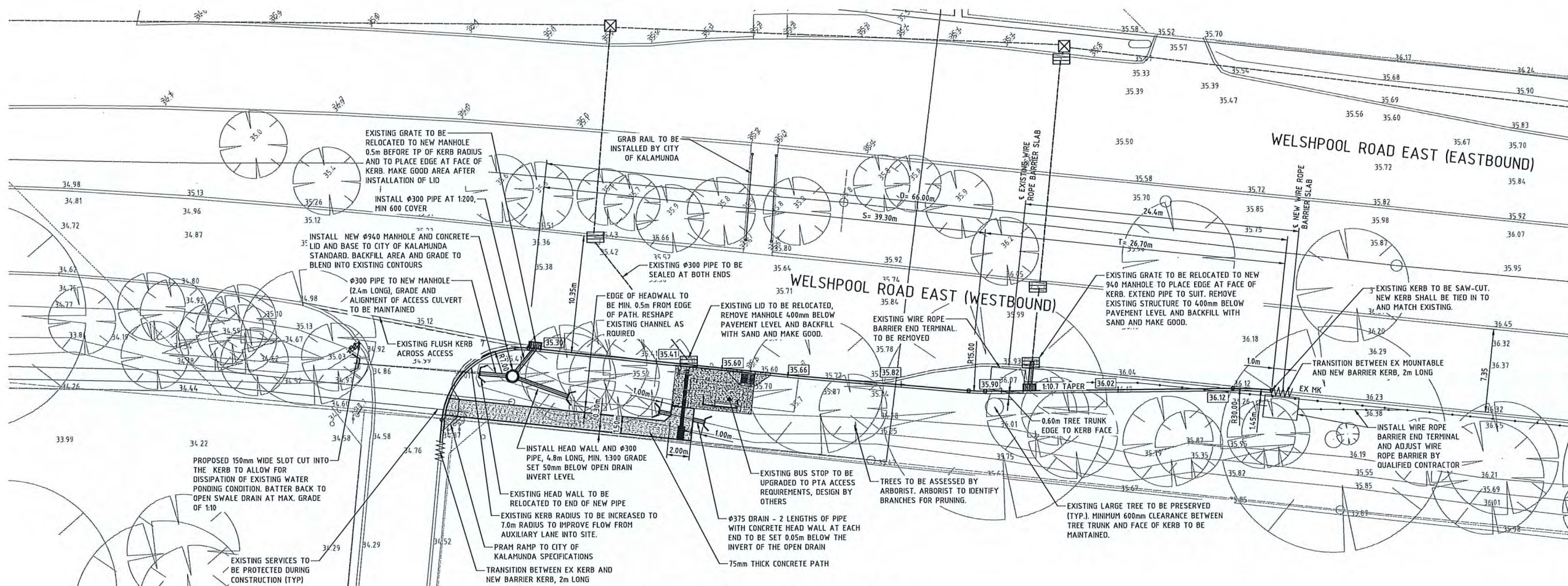
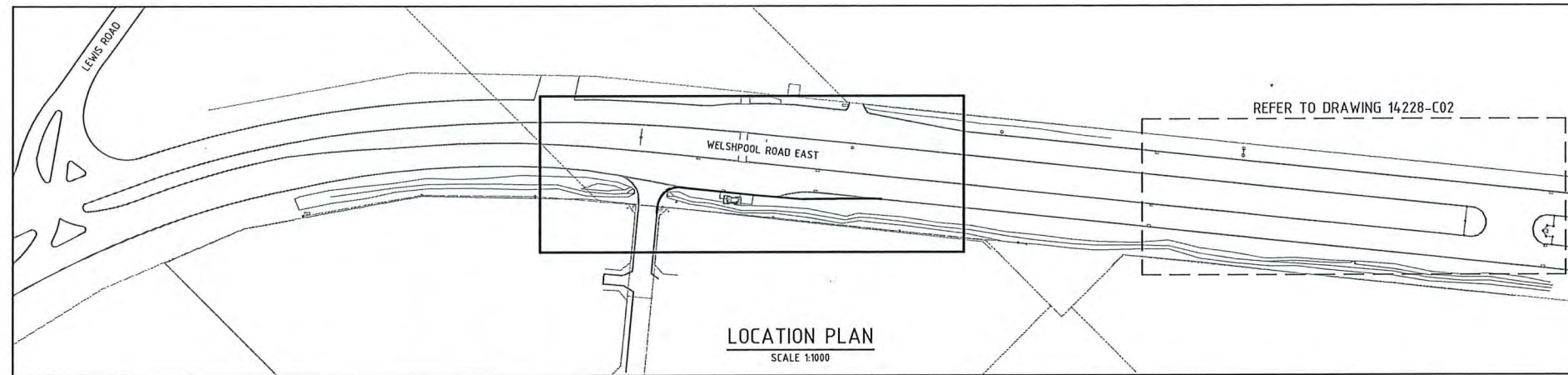
File No: WL-10/831

Application No: PA16/0585

Shire of Kalamunda

NOTES

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
- THE ROADWORKS AND DRAINAGE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THE CONTRACT SET AND THE CITY OF KALAMUNDA STANDARD DRAWINGS AND SPECIFICATION ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT FOR DETERMINATION.
- THE LOCAL AUTHORITY FOR THESE WORKS IS THE CITY OF KALAMUNDA.
- DATUM FOR LEVELS: AHD
- ALL LEVELS SHALL BE LOCATED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR.
- THE PROJECT SURVEYOR IS: LAND SURVEYORS - PERTH.
- THE SITE SHALL BE KEPT AND LEFT EACH DAY IN A CLEAN AND TIDY CONDITION.
- ALL WORKS SHALL BE UNDERTAKEN WITH MINIMAL RESTRICTION TO EXISTING TRAFFIC FLOW.
- THE CONTRACTOR SHALL LIAISE WITH APPROPRIATE SERVICE AUTHORITIES TO PERMIT INSTALLATION OF ROAD CROSSINGS PRIOR TO PLACING ROAD BASE.
- ALL CONNECTIONS TO EXISTING WORK SHALL BE SMOOTH AND OF NEAT APPEARANCE.
- SUB-BASE SHALL BE PREPARED ON A CLEAN COMPACTED SURFACE AND VOID OF ANY SOFT OR ORGANIC MATERIAL.
- SUB-BASE SHALL BE TESTED FOR COMPACTION BY NATA ACCREDITED COMPANY AND ACHIEVE A MINIMUM OF 8 BLOWS PER 300mm USING A STANDARD FALLING WEIGHT PENETROMETER AS MEASURED BY FIELD TEST 5.3.1 AND LABORATORY TEST 5.3.1 OF AS 1289 FOR SANDS.
- ANY DAMAGE TO EXISTING INFRASTRUCTURE SHALL BE REINSTATED TO EXISTING OR BETTER CONDITION, APPROVED BY BOTH THE SITE ENGINEER AND A REPRESENTATIVE OF THE CITY OF KALAMUNDA.
- WORKS OUTSIDE OF ROAD RESERVES OR THE EXTENT OF CONTRACT MARKED ON THE DRAWINGS SHALL NOT BE DONE WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
- REFER TO CITY OF KALAMUNDA DRAWINGS FOR KERB TYPES.
- TRANSITION BETWEEN DIFFERENT KERB TYPES SHALL BE MADE OVER A LENGTH OF 2.0m.
- ALL ROAD VERGES SHALL BE SURFACED WITH 75mm OF TOPSOIL. IF REQUIRED THE SUPERINTENDENT WILL INSTRUCT THE CONTRACTOR TO HYDROMULCH THE VERGES.
- AT THE COMPLETION OF WORKS THE CONTRACTOR SHALL SUPPLY AS-CONSTRUCTED DRAWINGS SUITABLE FOR SUBMISSION TO THE CITY OF KALAMUNDA.
- ARBORIST TO REVIEW ALL OVERHANGING BRANCHES AND THEIR IMPACT ON TRAFFIC.
- PRUNING OF BRANCHES AND ROOT PROTECTION DURING CONSTRUCTION TO BE UNDERTAKEN WITH STRICT SUPERVISION OF ARBORIST.
- UNLESS INSTRUCTED OTHERWISE THE CONTRACTOR SHALL NOT DISTURB ANY EXISTING TREES OR VEGETATION.

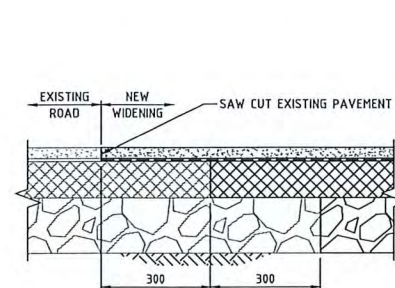


LEFT TURN LANE GENERAL ARRANGEMENT

SCALE 1:200

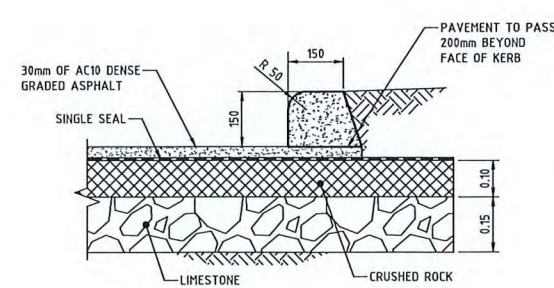
LEGEND

	EXISTING TREES
	PROPOSED ROAD GULLY LEVELS
	PROPOSED ROAD KERB LINE (BX-1)
	EXISTING KERB LINE
	REMOVED KERB LINE
	EXISTING UNDERGROUND HIGH VOLTAGE CONDUIT
	EXISTING UNDERGROUND LOW VOLTAGE CONDUIT
	EXISTING COMMUNICATION CONDUIT
	EXISTING WATER MAIN
	EXISTING 300mm STORMWATER PIPE
	EXISTING 525mm STORMWATER PIPE
	EXISTING 600mm STORMWATER PIPE



TYPICAL WIDENING TIE-IN DETAIL

SCALE 1:10



TYPICAL BARRIER KERB (BX-1) DETAIL

SCALE 1:10

ARBORIST TO IDENTIFY TREE BRANCHES FOR PRUNING AND TO SUPERVISE PRUNING OF BRANCHES AND PROTECTION OF TREE ROOTS DURING CONSTRUCTION

ALL PAVEMENT MARKINGS AND RPMs SHALL CONFORM TO MRWA SPECIFICATION 604

ALL LINEMARKING IS TO BE IN ACCORDANCE WITH AS 4049 (PAINTS AND RELATED MATERIALS - PAVEMENT MARKING MATERIALS) AND APAS SPECIFICATION 0041.

ALL SIGNS ARE TO BE IN ACCORDANCE WITH AS 1743-2001 (ROAD SIGNS - SPECIFICATION) AND AUSTRALIAN MAIN ROAD PRACTICES.



REV	DATE	DESCRIPTION
G	30/09/2018	STORMWATER SYSTEM REVIEWED AS PER SITE MEETING
F	12/12/17	MODIFICATION TO EX STORMWATER SYSTEM
E	30/11/17	EXISTING SERVICES ADDED, MINOR AMENDMENTS
D	22/11/17	PIT REFERENCE DRAWINGS ADDED
C	22/11/17	BUS STOP REVISED
B	15/11/17	REVISED TO LOCAL AUTHORITY COMMENTS
A	09/11/17	ISSUED FOR APPROVAL

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E-mail: dwa@dwaconsulting.com.au
ABN: 34 900 458 130

CLIENT: ST. PETER'S JACOBITE CHURCH

PROJECT: LOT 31 (831) WELSHPOOL ROAD EAST
WATTLE GROVE - ST. PETER'S CHURCH

DRAWING TITLE: RURAL AUX. SHORT LEFT TURN LANE
GENERAL ARRANGEMENT - OPTION 5

SCALE AT A1 AS SHOWN ORIGINAL DRAWING SIZE **A1**

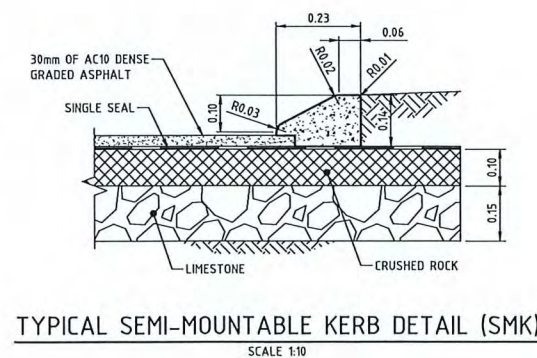
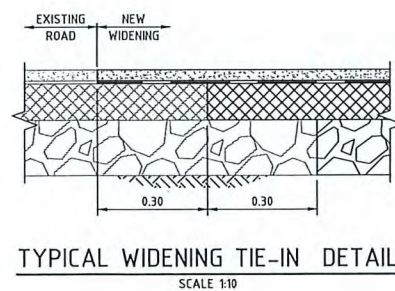
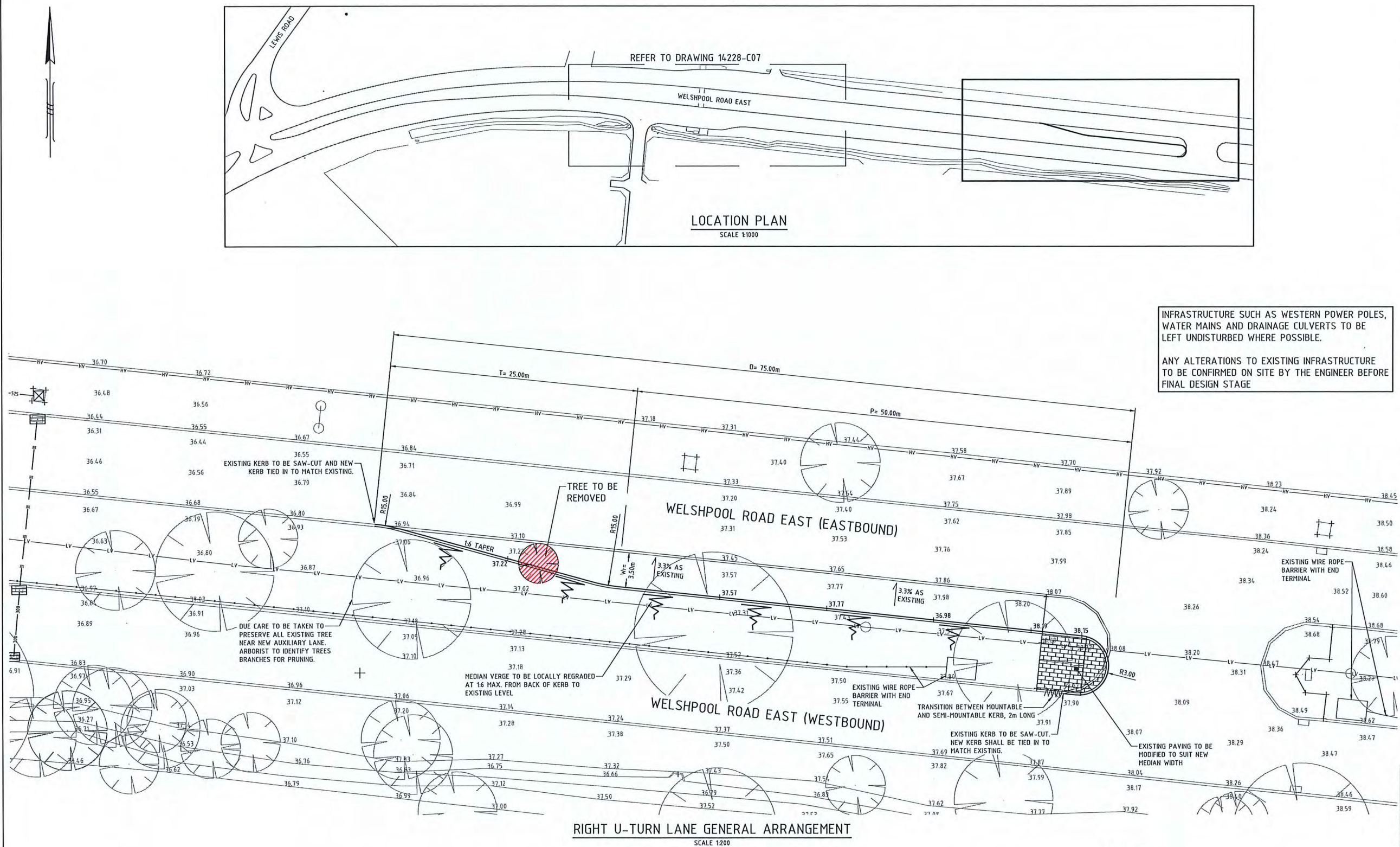
GRD	LOCAL	DESIGNED	CHECKED	AUTHORISED	DATE
BD	BD	BD	BD	<i>D. Wills</i>	
DATE:	DATE:	DATE:	DATE:	DATE:	DATE:
08/11/2017	08/11/2017	08/11/2017	08/11/2017	08/11/2017	08/11/2017
JOB NUMBER:	DWG No:	REV No:			
14228	C07	G			

NOTES

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE CONTRACT SPECIFICATION.
- THE ROADWORKS AND DRAINAGE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS IN THE CONTRACT SET AND THE CITY OF KALAMUNDA STANDARD DRAWINGS AND SPECIFICATION ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT FOR DETERMINATION.
- THE LOCAL AUTHORITY FOR THESE WORKS IS THE CITY OF KALAMUNDA.
- DATUM FOR LEVELS: AHD
- ALL LEVELS SHALL BE LOCATED FROM BENCHMARKS ESTABLISHED BY THE PROJECT SURVEYOR.
- THE PROJECT SURVEYOR IS: LAND SURVEYORS - PERTH.
- THE SITE SHALL BE KEPT AND LEFT EACH DAY IN A CLEAN AND TIDY CONDITION.
- ALL WORKS SHALL BE UNDERTAKEN WITH MINIMAL RESTRICTION TO EXISTING TRAFFIC FLOW.
- THE CONTRACTOR SHALL LIAISE WITH APPROPRIATE SERVICE AUTHORITIES TO PERMIT INSTALLATION OF ROAD CROSSINGS PRIOR TO PLACING ROAD BASE.
- ALL CONNECTIONS TO EXISTING WORK SHALL BE SMOOTH AND OF NEAT APPEARANCE.
- SUB-BASE SHALL BE PREPARED ON A CLEAN COMPACTED SURFACE AND VOID OF ANY SOFT OR ORGANIC MATERIAL.
- SUB-BASE SHALL BE TESTED FOR COMPACTION BY NATA ACCREDITED COMPANY AND ACHIEVE A MINIMUM OF 8 BLOWS PER 300mm USING A STANDARD FALLING WEIGHT PENETROMETER AS MEASURED BY FIELD TEST 5.3.1 AND LABORATORY TEST 5.5.1 OF AS 1289 FOR SANDS.
- ANY DAMAGE TO EXISTING INFRASTRUCTURE SHALL BE REINSTATED TO EXISTING OR BETTER CONDITION, APPROVED BY BOTH THE SITE ENGINEER AND A REPRESENTATIVE OF THE CITY OF KALAMUNDA.
- WORKS OUTSIDE OF ROAD RESERVES OR THE EXTENT OF CONTRACT MARKED ON THE DRAWINGS SHALL NOT BE DONE WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
- REFER TO CITY OF KALAMUNDA DRAWINGS FOR KERB TYPES.
- TRANSITION BETWEEN DIFFERENT KERB TYPES SHALL BE MADE OVER A LENGTH OF 2.0m.
- ALL ROAD VERGES SHALL BE SURFACED WITH 75mm OF TOPSOIL. IF REQUIRED THE SUPERINTENDENT WILL INSTRUCT THE CONTRACTOR TO HYDROMULCH THE VERGES.
- AT THE COMPLETION OF WORKS THE CONTRACTOR SHALL SUPPLY AS-CONSTRUCTED DRAWINGS SUITABLE FOR SUBMISSION TO THE CITY OF KALAMUNDA.
- ARBORIST TO REVIEW ALL OVERHANGING BRANCHES AND THEIR IMPACT ON TRAFFIC.
- PRUNING OF BRANCHES AND ROOT PROTECTION DURING CONSTRUCTION TO BE UNDERTAKEN WITH STRICT SUPERVISION OF ARBORIST.
- UNLESS INSTRUCTED OTHERWISE THE CONTRACTOR SHALL NOT DISTURB ANY EXISTING TREES OR VEGETATION.

INFRASTRUCTURE SUCH AS WESTERN POWER POLES, WATER MAINS AND DRAINAGE CULVERTS TO BE LEFT UNDISTURBED WHERE POSSIBLE.

ANY ALTERATIONS TO EXISTING INFRASTRUCTURE TO BE CONFIRMED ON SITE BY THE ENGINEER BEFORE FINAL DESIGN STAGE



ARBORIST TO IDENTIFY TREE BRANCHES FOR PRUNING

ARBORIST TO SUPERVISE PRUNING OF BRANCHES AND PROTECTION OF TREE ROOTS DURING CONSTRUCTION

ALL PAVEMENT MARKINGS AND RPMs SHALL CONFORM TO MRWA SPECIFICATION 604

ALL LINEMARKING IS TO BE IN ACCORDANCE WITH AS 4049 (PAINTS AND RELATED MATERIALS - PAVEMENT MARKING MATERIALS) AND APAS SPECIFICATION 0041.

ALL SIGNS ARE TO BE IN ACCORDANCE WITH AS 1743-2001 (ROAD SIGNS - SPECIFICATION) AND AUSTRALIAN MAIN ROAD PRACTICES.

LEGEND

- EXISTING TREES
- REMOVED TREES
- PROPOSED ROAD GULLY LEVELS
- PROPOSED ROAD KERB LINE (SMK)
- EXISTING KERB LINE
- REMOVED KERB LINE
- EXISTING UNDERGROUND HIGH VOLTAGE CONDUIT
- EXISTING UNDERGROUND LOW VOLTAGE CONDUIT
- EXISTING 300mm STORMWATER PIPE
- EXISTING 525mm STORMWATER PIPE

REV	DATE	DESCRIPTION
I	12/12/2017	EX. STORMWATER NETWORK ADDED
H	30/11/2017	REVISED AS PER CLIENTS REQUEST, EX. SERVICES ADDED
G	15/11/17	REVISED TO LOCAL AUTHORITY COMMENTS
F	09/11/17	REVISED TO LOCAL AUTHORITY COMMENTS
E	28/06/2015	REVISED TO LOCAL AUTHORITY COMMENTS
D	22/06/2015	REVISED TO TRAFFIC CONSULTANTS COMMENTS
C	29/04/2015	ROAD MARKINGS AND SIGNAGE TO MAIN ROADS SPEC
B	16/02/2015	LOCATION PLAN EXTENDED TO SHOW LEWIS ROAD
A	09/02/2015	ISSUED FOR APPROVAL

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E-mail: dwa@dwaconsulting.com.au
ABN: 34 900 498 130

CLIENT:
ST. PETER'S JACOBITE CHURCH

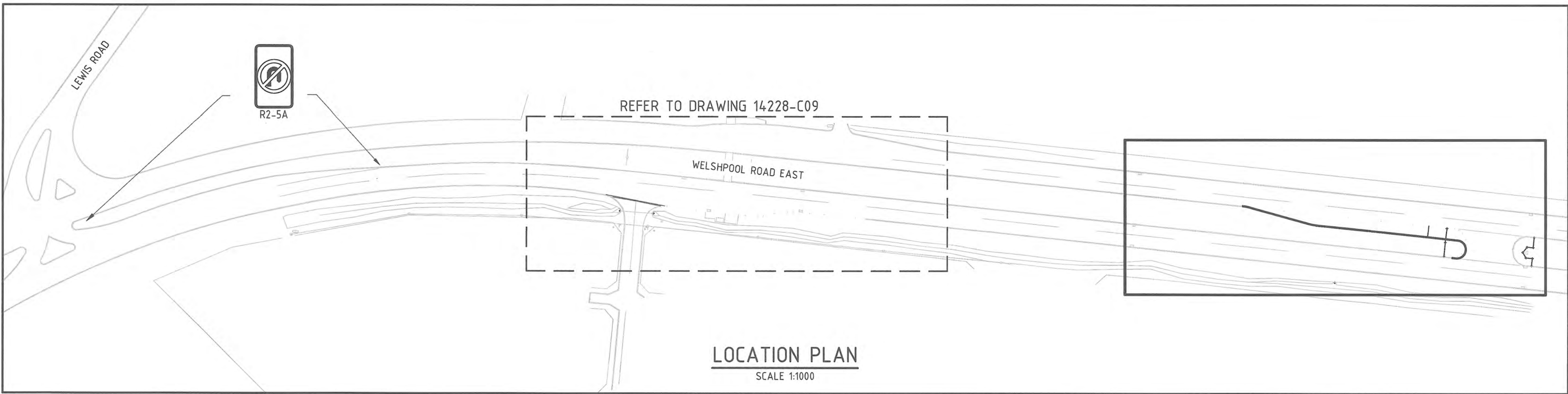
PROJECT:
LOT 31 (831) WELSHPOOL ROAD EAST
WATTLE GROVE - ST. PETER'S CHURCH

DRAWING TITLE:
RIGHT U-TURN GENERAL ARRANGEMENT

SCALE AT AS SHOWN
ORIGINAL DRAWING SIZE: **A1**

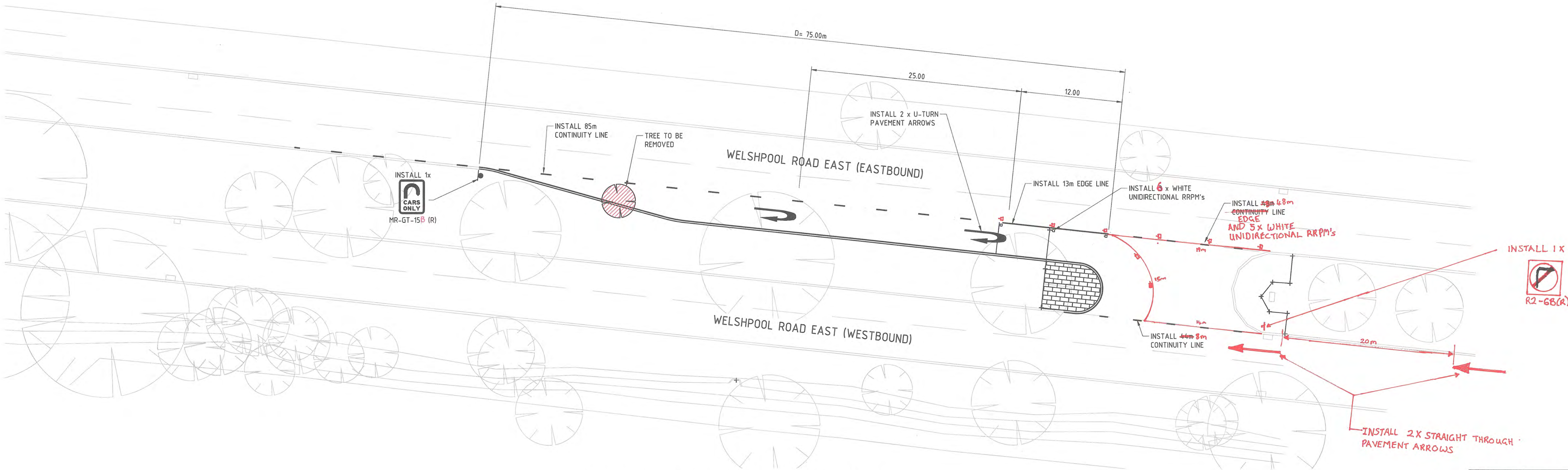
GRID LOCAL
DRAWN: IRVY
DESIGNED: SH
CHECKED: SH
AUTHORISED: **D. Wills**
DATE: 05/02/2015
DATE: 28/01/2015
DATE: 29/04/2015
DATE: 29/04/2015
JOB NUMBER: 14228
DWG No: **C02**
REV No: **I**





TRAFFIC SIGNS AND
PAVEMENT MARKING
APPROVED

A/TSC: Gabriela Zamfirescu
Date: 28/3/2018
MRWA File: 03/6810-02
WR No: 33083
Main Roads Western Australia

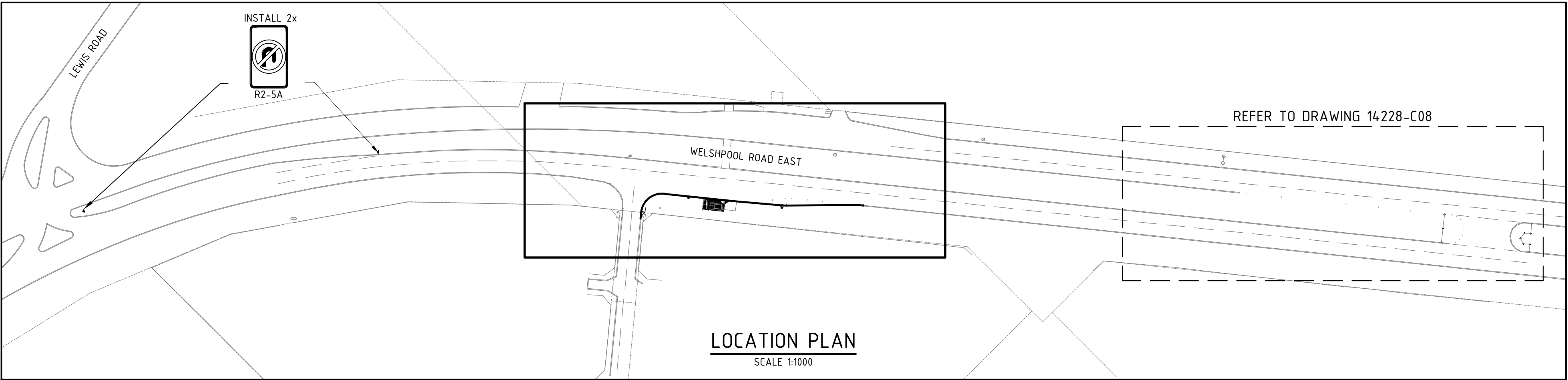


RIGHT U-TURN LANE GENERAL ARRANGEMENT
SCALE 1:250

LEGEND

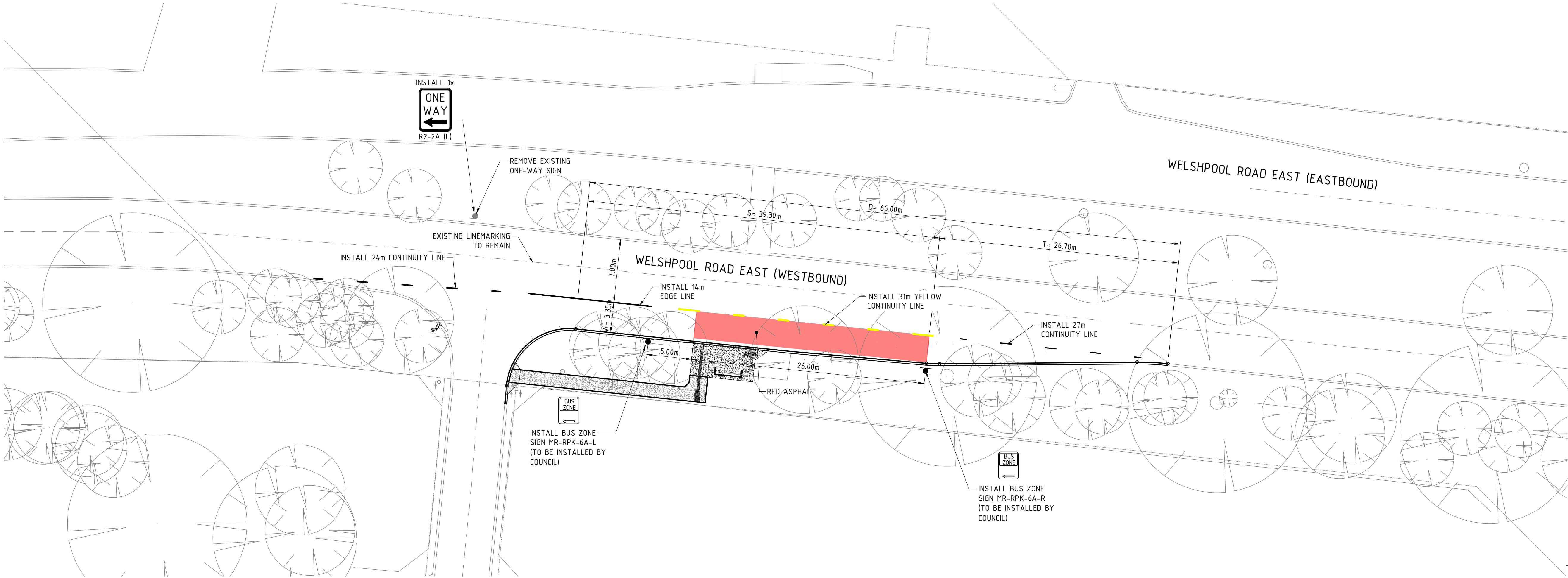
- EXISTING TREES
- REMOVED TREES
- NEW 0.12m WIDE SEPARATION LINE
- NEW 0.12m WIDE CONTINUITY LINE
- NEW WHITE UNIDIRECTIONAL RRPM's @ 6.0m SPACINGS

D	06/02/2018	REVISED TO MRWA REQUIREMENTS
C	12/12/2017	EX TREES SHOWN
B	30/11/2017	REVISED AS PER CLIENT'S REQUEST
A	15/11/2017	ISSUED FOR APPROVAL
REV	DATE	DESCRIPTION
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<div><div>DWA David Wills and Associates Consulting Engineers</div><div>Office: Unit 1/9 Shields Crescent BOORAGOON WA 6154 Mail: PO Box 3084 MYAREE LPO WA 6154 Phone (08) 9424 0900 Fax (08) 9530 3133 E-mail dwa@dwaconsulting.com.au ABN 34 900 498 130</div></div>		
CLIENT: ST. PETER'S JACOBITE CHURCH		
PROJECT: LOT 31 (831) WELSHPOOL ROAD EAST WATTLE GROVE - ST. PETER'S CHURCH		
DRAWING TITLE: RIGHT U-TURN LINEMARKING		
SCALE AT A1: AS SHOWN		ORIGINAL DRAWING SIZE: A1
GRID: LOCAL		DATE: AHD
DRAWN: DA	DESIGNED: BD	CHECKED: BD
DATE: 13/11/2017	DATE: 13/11/2017	DATE: 13/11/2017
JOB NUMBER: 14228		DWG No: C08
		REV No: 4



TRAFFIC SIGNS AND
PAVEMENT MARKING
APPROVED

ATSC.....*Gabriela Zamfirescu*.....
28/3/2018
03/6/2018-02
33088
Main Roads Western Australia



LEFT TURN LANE LINEMARKING
SCALE 1:250

LEGEND

- EXISTING TREES
- NEW 0.12m WIDE EDGE LINE
- NEW 0.12m WIDE CONTINUITY LINE
- NEW 0.15m WIDE YELLOW CONTINUITY LINE
- RED ASPHALT

E	12/06/2018	REVISED TO MRWA REQUIREMENTS
D	06/02/2018	REVISED TO MRWA REQUIREMENTS
C	12/12/2017	EX TREES SHOWN
B	22/11/17	BUS STOP REVISED
A	15/11/17	ISSUED FOR APPROVAL

REV DATE DESCRIPTION
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ABN 34 900 498 130

CLIENT:
ST. PETER'S JACOBITE CHURCH

PROJECT:
**LOT 31 (831) WELSHPOOL ROAD EAST
WATTLE GROVE - ST. PETER'S CHURCH**

DRAWING TITLE:
**RURAL AUX. SHORT LEFT TURN LANE
LINEMARKING PLAN**

SCALE AT AS SHOWN		ORIGINAL DRAWING SIZE: A1	
GRID: LOCAL		DATUM: AHD	
DRAWN: BD	DESIGNED: BD	CHECKED: BD	AUTHORISED: <i>D. Mills</i> DATE: 09/11/2017
DATE: 13/11/2017	DATE: 13/11/2017	DATE: 13/11/2017	David Wills 401/401 Grandpik Rd Aus 0100
JOB NUMBER:	DWG No:	REV No:	

14228

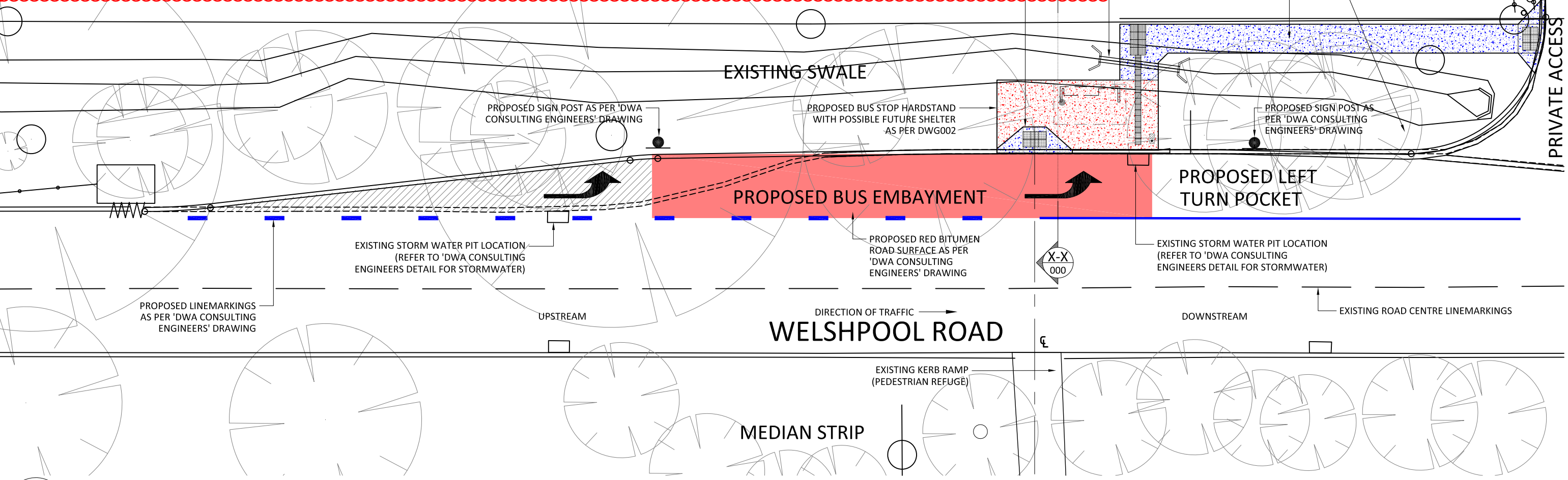
C09

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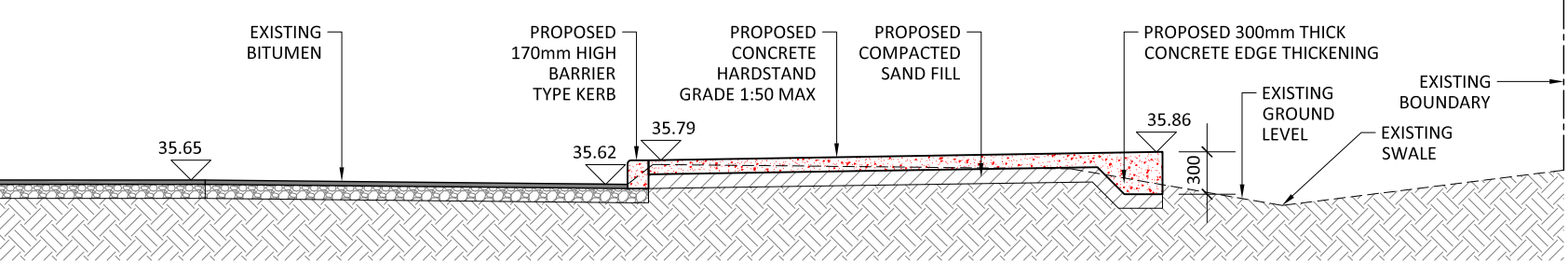
PTA Approval for hardstand only - All civils to be confirmed by MRWA and contractor

NOTE: PTA need to remove post and need 5 days notice prior to commencement to arrange temporary location and notifications - contact

Transperth.ServiceDisruptions@pta.wa.gov.au



LOCATION PLAN - OVERALL PROPOSED
SCALE 1:200



SECTION X-X
002 SCALE 1:50

NOTE:
FOR STORMWATER PIT LOCATIONS REFER TO 'DWA CONSULTING ENGINEERS' DRAWING

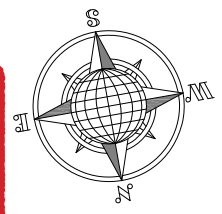
NOTE:
REFER ALSO TO 'DWA CONSULTING ENGINEER'S DRAWINGS

SURVEY NOTE:
TAKEN FROM BACKGROUND DRAWING PRODUCED BY 'DWA CONSULTING ENGINEERS'

NOTES:
-ALL SETOUTS FROM CORNER OF EXISTING DRAINAGE GRATE

-PROPOSED CONCRETE HARDSTAND
-PROPOSED CONCRETE CONNECTING PATH

10.00 -EXISTING LEVEL
10.17 -PROPOSED LEVEL



A3 SHEET	NOTE: This is an AutoCAD generated drawing and should not be scaled from.	REV.	DATE	DESCRIPTION	INT.
		07	22.12.2017	EXISTING - UPDATED STORMWATER NOTES	NC
		06	20.11.2017	EXISTING - UPDATED HARDSTAND DIMENSIONS	NC
		05	16.11.2017	EXISTING - UPDATED TO COUNCIL COMMENTS	LY
		04	09.11.2017	EXISTING - UPDATED TO NEW CIVIL DESIGN	NC
		03	13.09.2017	EXISTING - UPDATED TO RETAIN EXISTING TREE	NC
		02	11.09.2017	EXISTING - UPDATED KERB RAMP LOCATION	NC
		01	28.08.2017	EXISTING - ISSUED FOR COMMENT	NC

DOCUMENTED BY

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Western Australia 6000
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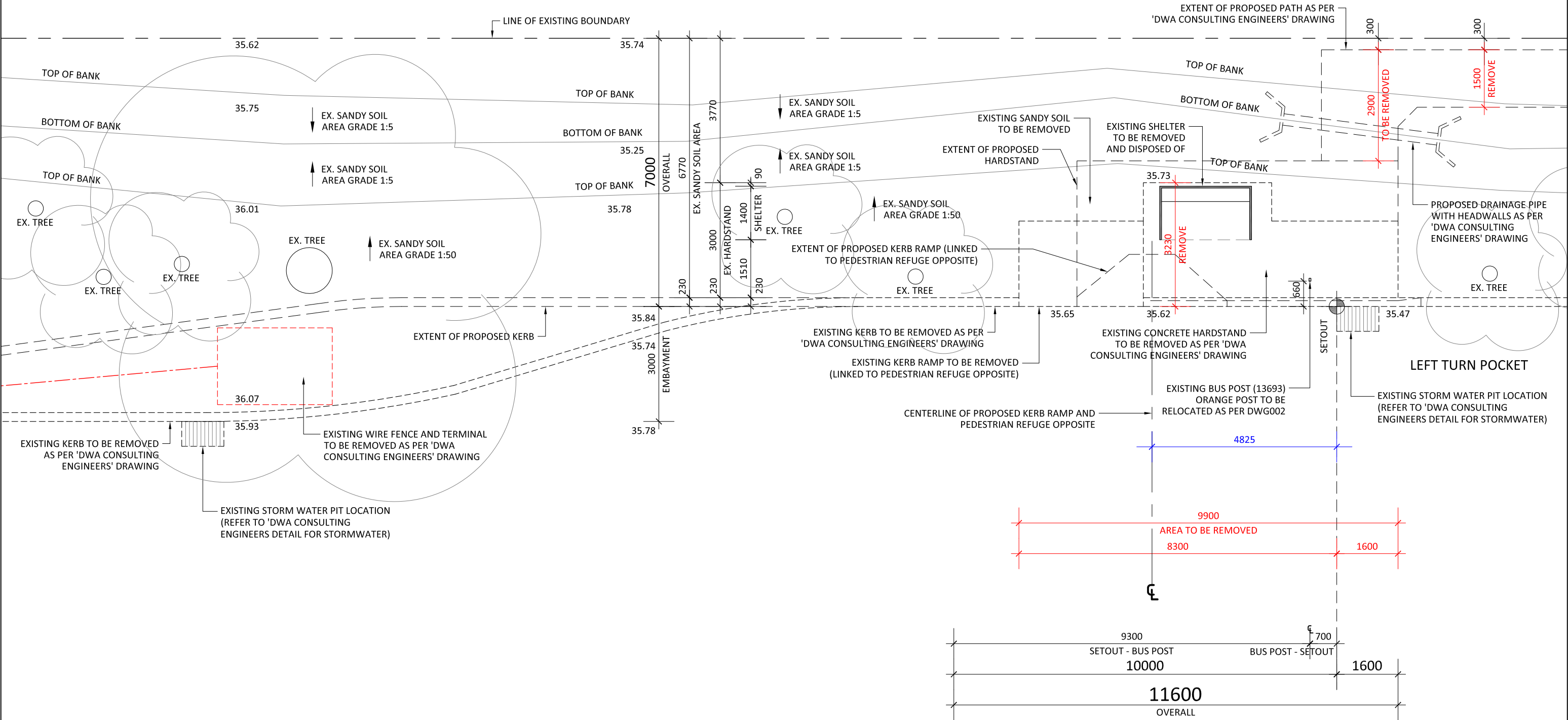
CLIENT		DRAWN	CHECKED	DRAWING No
		NC	JP	
		DATE	SCALE	
PROJECT	Bus Stop Accessibility Works Program	22.12.2017	1:200 (A3)	000
		JOB No.	REV No.	
DRAWING TITLE	Bus Stop 13693 on Welshpool Road before Lewis Road, WATTLE GROVE	910/10	07	43



Special Council Meeting - 17 April 2018

-CONTRACTORS ARE TO IDENTIFY ANY SERVICES, BOTH VISIBLE AND UNDERGROUND, WHICH MAY BE IMPACTED UPON BY THE WORKS. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ANY SERVICES BEFORE CONSTRUCTION BEGINS.
-CONTRACTORS ARE RESPONSIBLE FOR IDENTIFYING AND OBTAINING ALL PERMITS THAT ARE NECESSARY IN ORDER FOR THE WORK TO PROCEED.
-WHERE SECTIONS OF LOCAL GOVERNMENT FOOTPATH ARE TO BE REPLACED WITHIN THE SCOPE OF WORKS, CONTRACTORS MUST OBTAIN AND FOLLOW ANY RELEVANT LOCAL GOVERNMENT STANDARD DETAILS.

Attachment 8.1.1.4



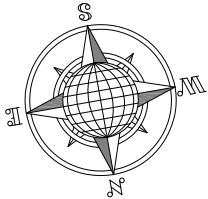
EXISTING/ DEMOLITION WORKS
SCALE 1:100

NOTES:
-ALL SETOUTS FROM CORNER OF EXISTING DRAINAGE GRATE

-PROPOSED CONCRETE HARDSTAND
-PROPOSED CONCRETE CONNECTING PATH

10.00 -EXISTING LEVEL
10.17 -PROPOSED LEVEL

SURVEY NOTE:
TAKEN FROM BACKGROUND
DRAWING PRODUCED BY
'DWA CONSULTING ENGINEERS'

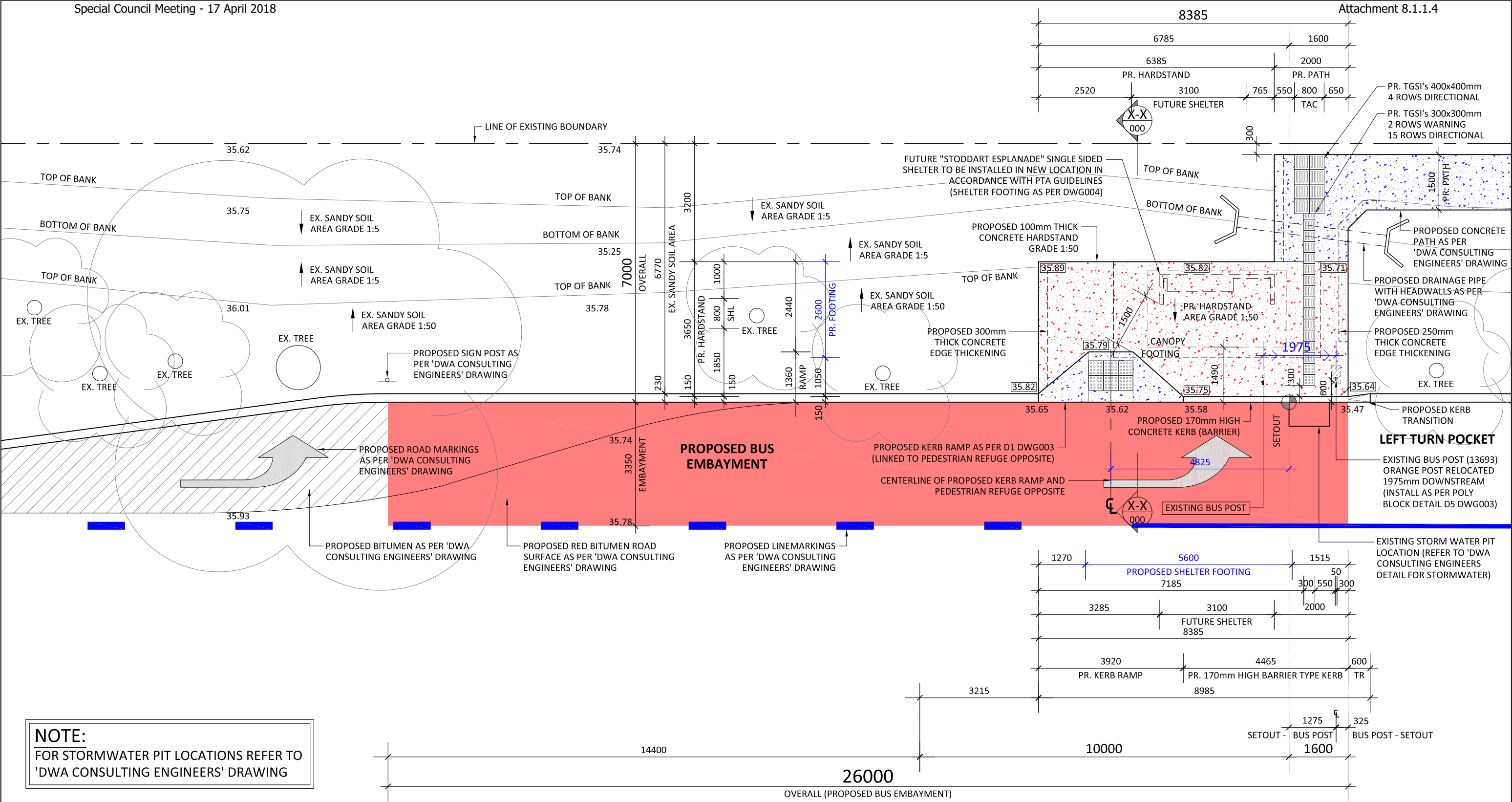


A3 SHEET	NOTE: This is an AutoCAD generated drawing and should not be scaled from.	07	22.12.2017	EXISTING - UPDATED STORMWATER NOTES	NC
		06	20.11.2017	EXISTING - UPDATED HARDSTAND DIMENSIONS	NC
		05	16.11.2017	EXISTING - UPDATED TO COUNCIL COMMENTS	LY
		04	09.11.2017	EXISTING - UPDATED TO NEW CIVIL DESIGN	NC
		03	13.09.2017	EXISTING - UPDATED TO RETAIN EXISTING TREE	NC
		02	11.09.2017	EXISTING - UPDATED KER RAMP LOCATION	NC
		01	28.08.2017	EXISTING - ISSUED FOR COMMENT	NC
REV.	DATE	DESCRIPTION			INT.

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Email: info@JPBD.com.au

CLIENT	 <div>Government of Western Australia Public Transport Authority</div>	DRAWN NC	CHECKED JP	DRAWING No 001 44
PROJECT	Bus Stop Accessibility Works Program	DATE 22.12.2017	SCALE 1:100 (A3)	
DRAWING TITLE	Bus Stop 13693 on Welshpool Road before Lewis Road, WATTLE GROVE	JOB No. 910/10	REV No. 07	



NOTE:
FOR STORMWATER PIT LOCATIONS REFER TO
'DWA CONSULTING ENGINEERS' DRAWING

SURVEY NOTE:
TAKEN FROM BACKGROUND
DRAWING PRODUCED BY 'DWA
CONSULTING ENGINEERS'

PROPOSED WORKS
SCALE 1:100

NOTES:
-ALL SETOUTS FROM CORNER OF EXISTING DRAINAGE GRATE

-PROPOSED CONCRETE HARDSTAND
 -PROPOSED CONCRETE CONNECTING PATH

10.00 -EXISTING LEVEL
10.17 -PROPOSED LEVEL

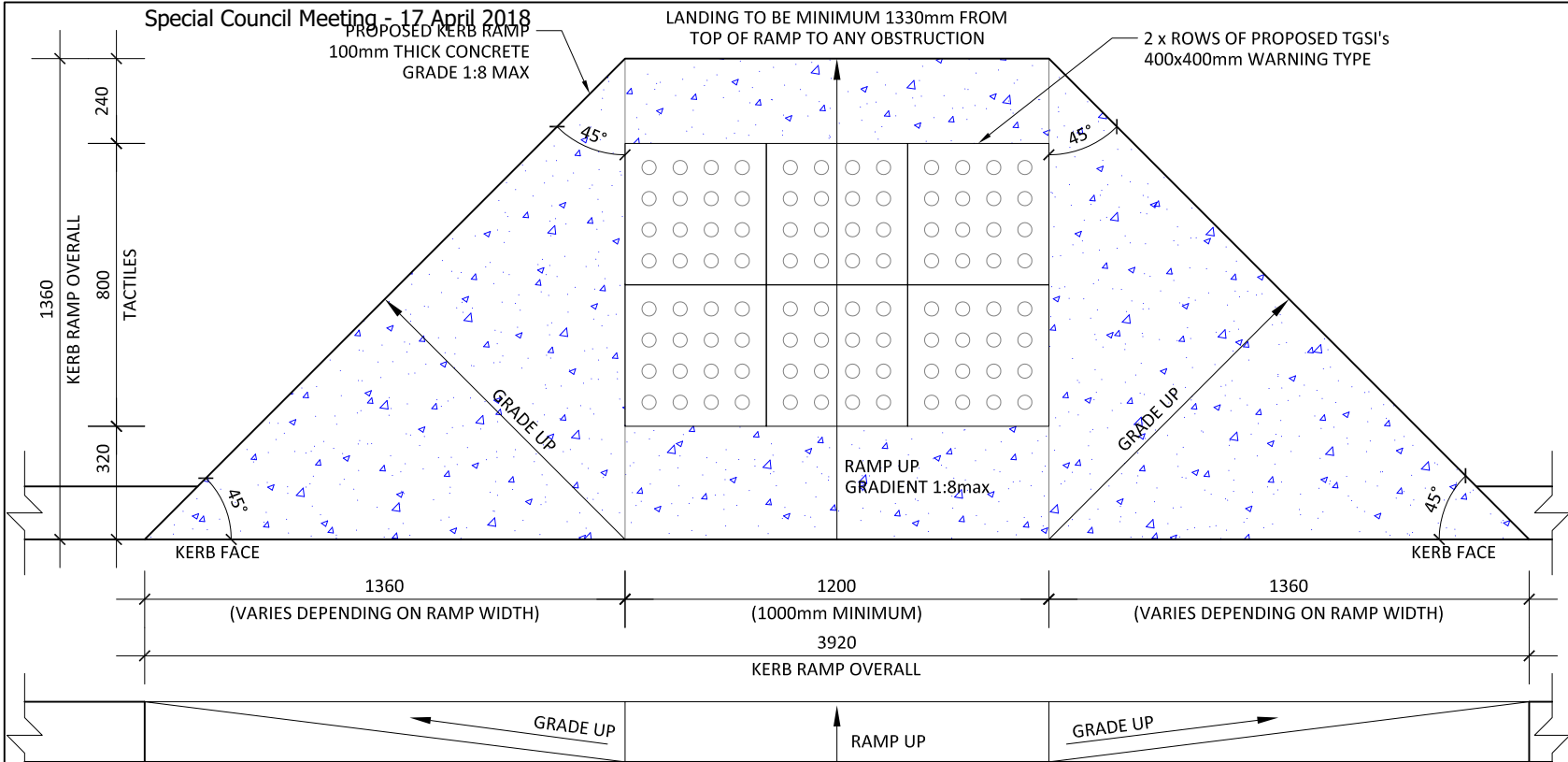
A3 SHEET	NOTE: This is an AutoCAD generated drawing and should not be scaled from.	07	22.12.2017	PROPOSED - UPDATED STORMWATER NOTES	NC
		06	20.11.2017	PROPOSED - UPDATED HARDSTAND DIMENSIONS	NC
		05	16.11.2017	PROPOSED - UPDATED TO COUNCIL COMMENTS	LY
		04	09.11.2017	PROPOSED - UPDATED TO NEW CIVIL DESIGN	NC
		03	13.09.2017	PROPOSED - UPDATED TO RETAIN EXISTING TREE	NC
		02	11.09.2017	PROPOSED - UPDATED KERB RAMP LOCATION	NC
		01	28.08.2017	PROPOSED - ISSUED FOR COMMENT	NC
		REV.	DATE	DESCRIPTION	INT.

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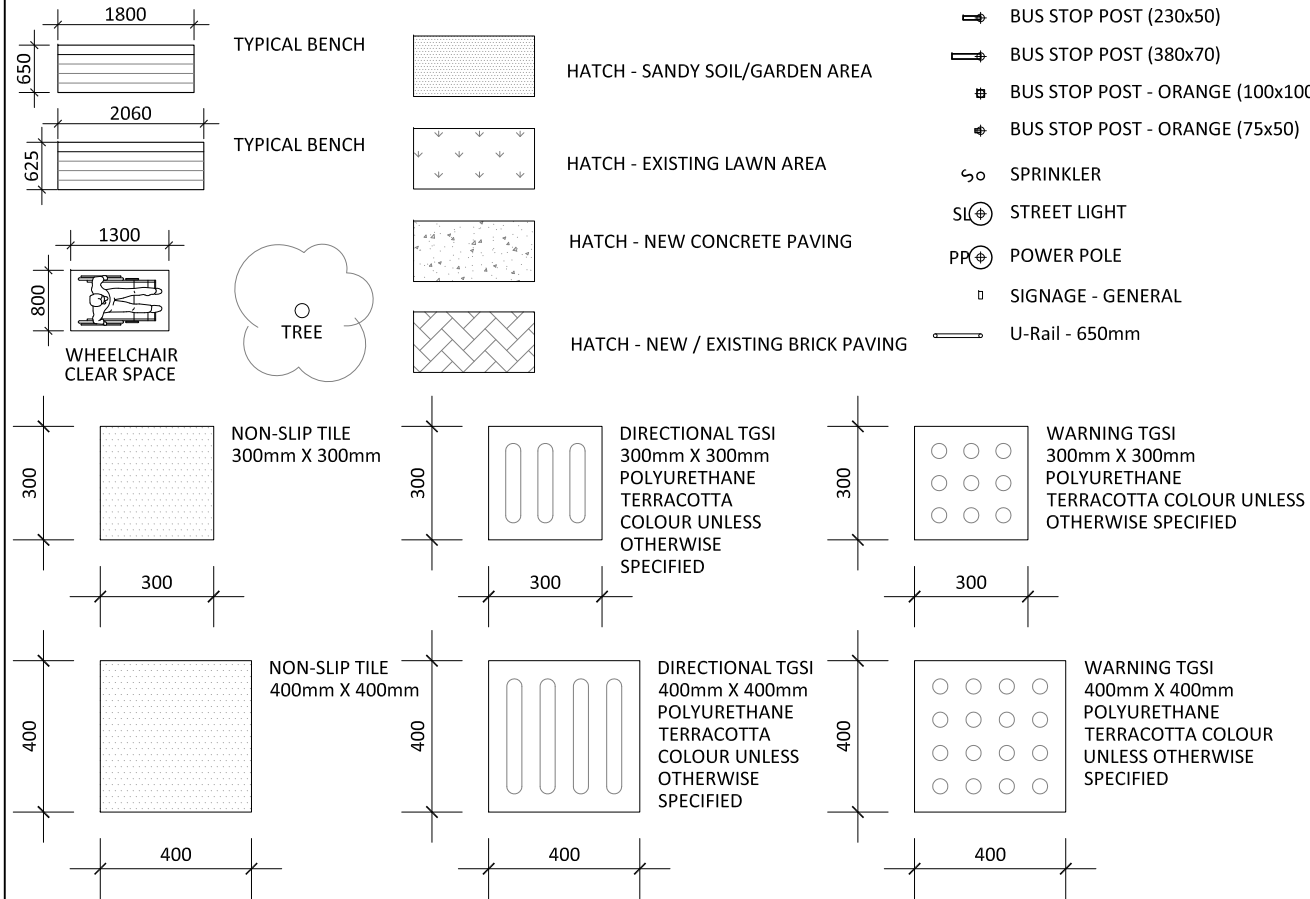
CLIENT	 Government of Western Australia Public Transport Authority		DRAWN	CHECKED	DRAWING No 002 45
PROJECT	Bus Stop Accessibility Works Program		NC	JP	
DRAWING TITLE	Bus Stop 13693 on Welshpool Road before Lewis Road, WATTLE GROVE		DATE 22.12.2017	SCALE 1:100 (A3)	
			JOB No. 910/10	REV No. 07	



D1 DISABLED KERB RAMP DETAIL

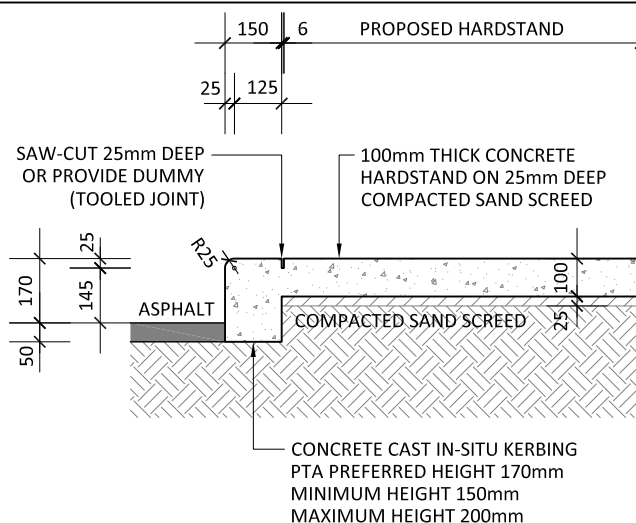
003 SCALE 1:20

DRAWING LEGEND



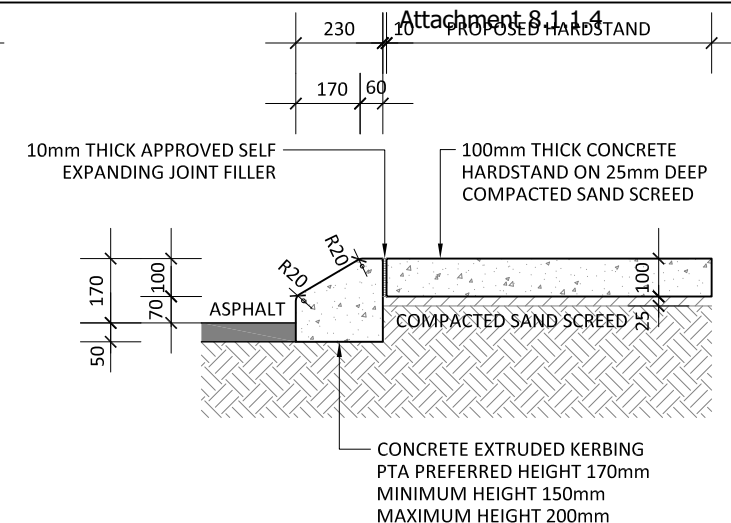
GENERAL NOTES:

- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PUBLIC TRANSPORT AUTHORITY'S DESIGN CRITERIA, AS SET OUT IN: PUBLIC TRANSPORT BUS STOP LAYOUT POLICY
- ALL WORKS ARE TO COMPLY WITH THE STANDARDS AND REQUIREMENTS AS SET OUT IN THE DISABILITY STANDARDS FOR ACCESSIBLE PUBLIC TRANSPORT 2002 AND THE AUSTRALIAN STANDARDS AS 1428.2 & AS 1428.4
- ALL DIMENSIONS ARE IN MILLIMETRES
- ALL DIMENSIONS ARE TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE PUBLIC TRANSPORT AUTHORITY'S PROJECT COORDINATOR IMMEDIATELY, BEFORE THE COMMENCEMENT OF ANY WORKS
- ALL CONCRETE WORKS ARE TO COMPLY WITH THE AUSTRALIAN STANDARD AS 1379, OF 1997
- BROOM FINISH TO ALL NEW TRAFFICABLE CONCRETE SURFACES (ASIDE FROM KERBS), ACROSS THE DIRECTION OF TRAVEL TO PROVIDE A NON-SLIP SURFACE FINISH
- EXISTING BUS STOP POSTS ARE TO BE RETAINED AND RELOCATED AS SHOWN ON THE DRAWINGS, WHERE APPLICABLE. WHERE NO BUS STOP POSTS EXIST, A NEW BUS STOP POST IS TO BE INSTALLED. NEW BUS STOP POSTS ARE TO BE OF TYPE AS SPECIFIED BY THE PUBLIC TRANSPORT AUTHORITY'S PROJECT COORDINATOR. INSTALLATION IS AS DIRECTED BY PUBLIC TRANSPORT BUS STOP LAYOUT POLICY



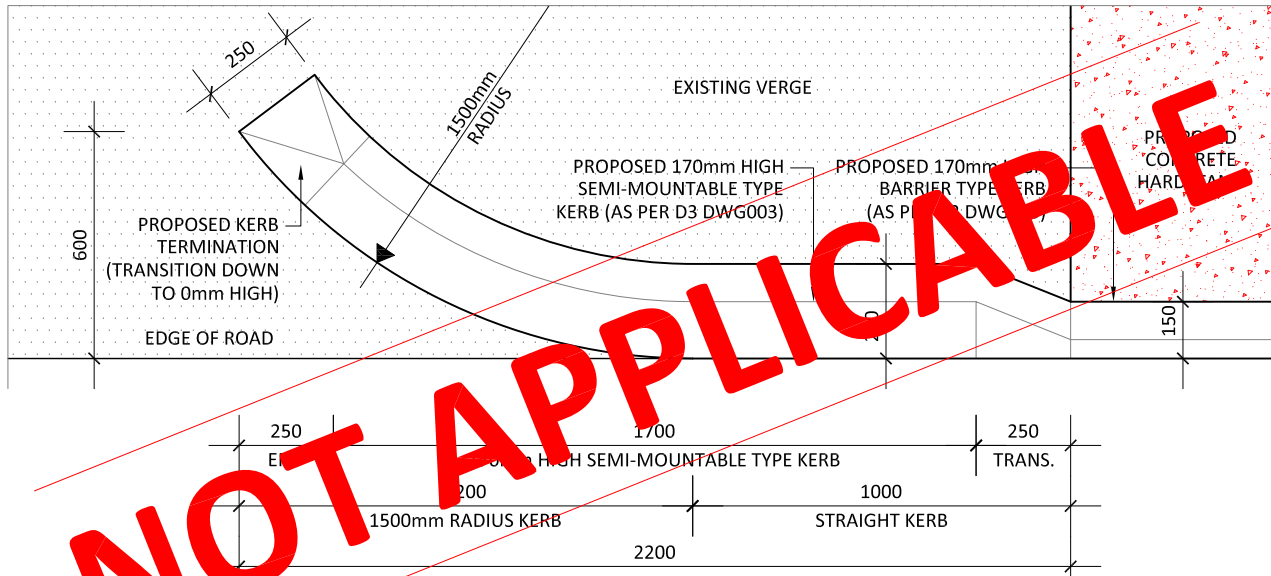
D2 BARRIER TYPE KERB DETAIL

003 SCALE 1:20



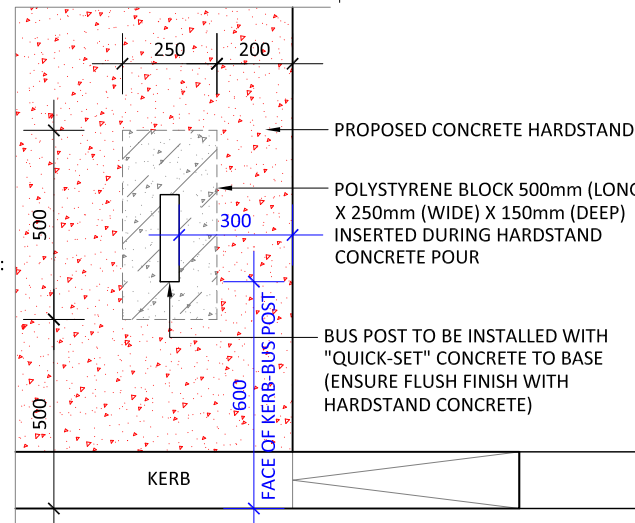
D3 SEMI-MOUNTABLE KERB DETAIL

003 SCALE 1:20





D4 KERB TERMINATION DETAIL

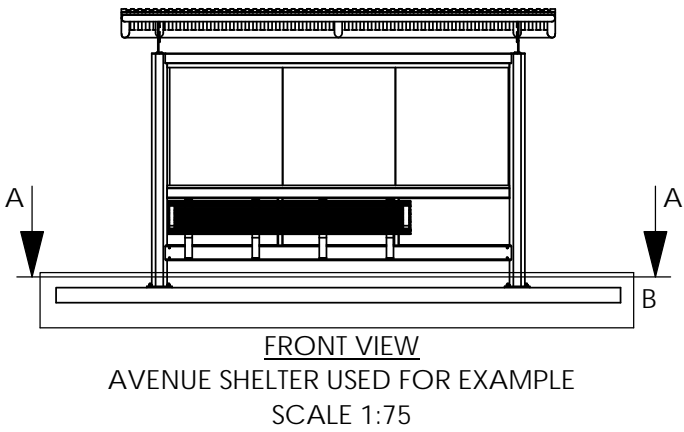
003 SCALE 1:20



D5 POLY BLOCK DETAIL

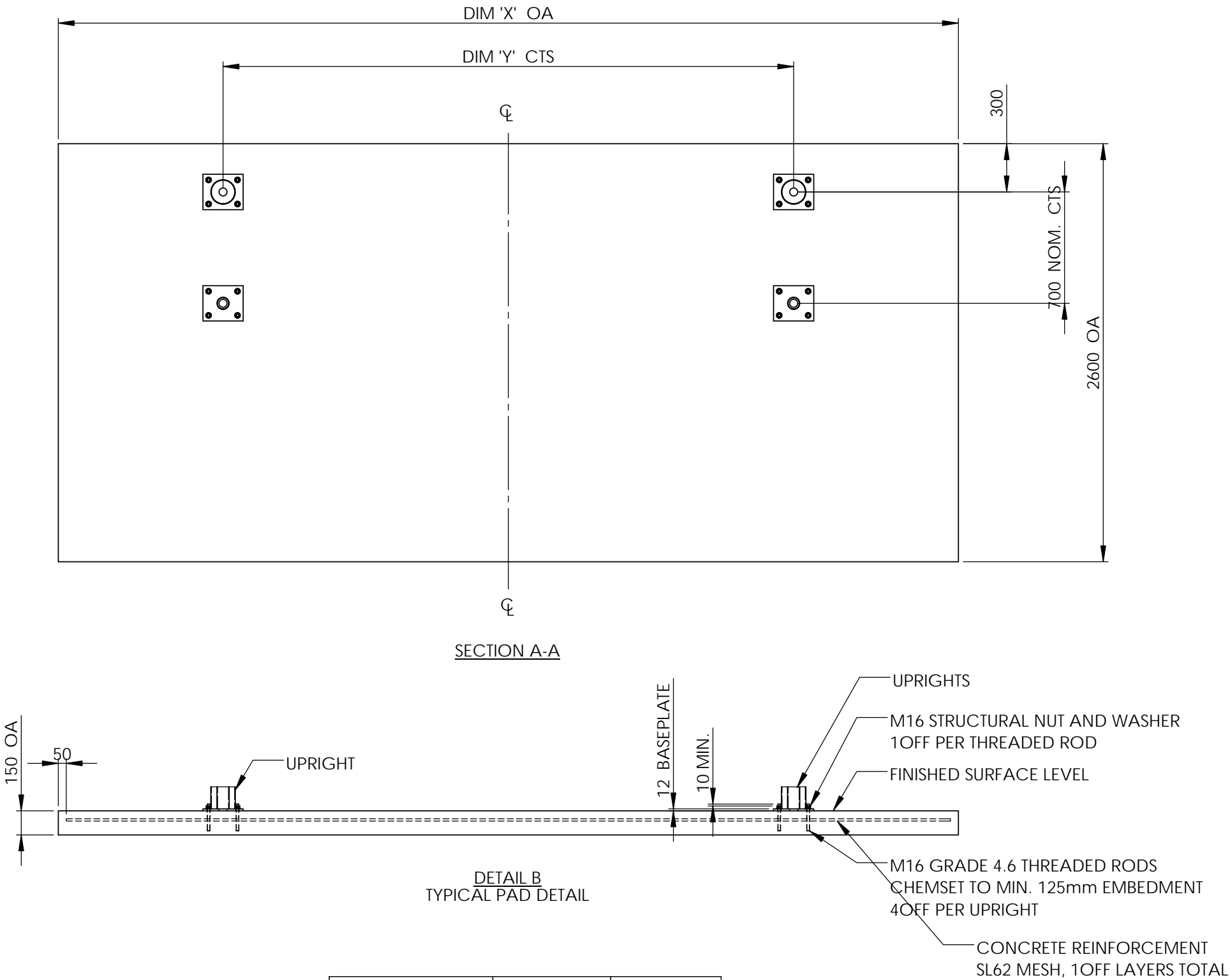
003 SCALE 1:20

A3 SHEET	NOTE: This is an AutoCAD generated drawing and should not be scaled from.				DOCUMENTED BY					CLIENT	 Government of Western Australia Public Transport Authority	DRAWN	CHECKED	DRAWING No
						J. Prestipino Building Designs Pty. Ltd.	NC	JP						
						320 Lord Street								
						Perth								
						Western Australia 6000								
						Telephone: (08) 9422 1888								
						Facsimile: (08) 9422 1818								
					Email: info@JPBD.com.au									
									PROJECT		Bus Stop Accessibility Works Program	DATE	SCALE	003
											22.12.2017	1:20 (A3)		
									DRAWING TITLE		Generic Details Drawing	JOB No.	REV No.	46
											910/10			
													</	



GENERAL NOTE:

1. THE FOUNDATION HAS BEEN DESIGNED FOR WIND REGIONS 'A' FOR TERRAIN CATEGORY '2' AS DEFINED IN AS/NZS 1170.2: 2011 - STRUCTURAL DESIGN ACTIONS - WIND ACTIONS. TOPOGRAPHIC AND SHIELDING FACTORS EQUAL TO 1.0 ONLY HAVE BEEN CONSIDERED. MORE SEVERE WIND CONDITIONS WILL REQUIRE A SEPARATE DESIGN NOT DETAILED ON THIS DRAWING.
2. CONCRETE
ANY EXPOSED SURFACE/S:
fc = 32MPa < 50km FROM COAST
NO EXPOSED SURFACES:
fc = 25MPa > 1km FROM COAST
fc = 32MPa < 1km FROM COAST
SLUMP = 80mm
MAXIMUM AGGREGATE SIZE = 20mm
MINIMUM CONCRETE DENSITY = 2400kg/m^2
3. COVER TO REINFORCEMENT
SURFACES IN CONTACT WITH GROUND- ANY CLIMATIC ZONE:
= 30mm - WITH DAMP-PROOF MEMBRANE*
= 50mm - NO DAMP-PROOF MEMBRANE*
EXPOSED SURFACES:
= 65mm < 1km FROM COAST - ANY CLIMATIC ZONE
= 60mm < 1km TO 50km FROM COAST - ANY CLIMATIC ZONE
 > 50km FROM COAST - INDUSTRIAL OR ANY CLIMATIC ZONE
 > 50km FROM COAST - NON-INDUSTRIAL AND TROPICAL CLIMATIC ZONE
= 30mm - OTHER LOCATIONS NOT NOTED ABOVE
*DAMP-PROOF MEMBRANE SEPARATING CONCRETE AND GROUND
4. THE FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING CAPACITY OF 100KPa. ALL FOOTINGS SHOULD BE FOUNDED 100mm MINIMUM. THE FOUNDATION MATERIAL SHALL BE ORIGINAL UNDISTURBED DENSE SAND OR FIRM CLAY. UNIFORMLY COMPACT ANY BACK FILLING AROUND FOOTINGS AND FINISH SURFACE TO AN EVEN GRADE.
5. ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH AS3600: 2009.



SHELTER	DIM X (mm)	DIM Y (mm)
AVENUE	5600	3550
ESPLANADE	5600	3000

PROVIDED FOR INFORMATION ONLY

KEY:
OA = OVERALL
CTS = DIMENSION TO CENTRES
TYP = TYPICAL
NOM. = NOMINAL
CL = CENTRELINE
MIN = MINIMUM

			CAD GENERATED DRAWING DIMENSIONS IN MILLIMETRES DO NOT SCALE	MATERIAL: CONCRETE	DRAWING TYPE: CONSTRUCTION	<div><div></div><div>STODDART</div><div>INFRASTRUCTURE</div></div> <div>Suite 27, 574 Plummer St Port Melbourne, VIC 3207</div> <div>T: 1300 557 654 W: stoddartinfrastructure.com.au</div>	DRAWING TITLE: PTA SHELTER FOOTINGS STANDARD DESIGN	REV: A	STD: ISO
				FINISH: -	QUOTE/PROJECT NO: -			ISSUE: 1	SCALE: 1:30
A1	SBJ	AS DRAWN		REVISED BY: -	DATE: -		DRAWING NO: 570-01-d01 A1-01	SHEET: 01	SIZE: A3
REV	BY	DESCRIPTION							



August 25, 2016

Beaver Tree Services Aust. Pty. Ltd.
21 Cartwright Drive
Forrestdale, WA 6112

Attention: Belinda Hendry
Cc: Mathew Samuel, Reji (St Peter's Jacobite Syrian Church Perth Inc.)
RE: Preliminary Assessment of Trees adjacent 831 Welshpool Road East, Wattle Grove

Dear Belinda,

Further to your request, the following is a brief summary of my assessment of the identified trees adjacent to 831 Welshpool Road East, Wattle Grove.

Should you have any queries regarding the findings of this report, or if I can be of any further assistance in the management of the identified trees, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read "JRM", with a stylized flourish at the end.

JASON ROYAL

Dip. Arboriculture (UK)
Tech. Arbor A

Preliminary Assessment of Identified Trees adjacent to 831 Welshpool Road East

Prepared For

Beaver Tree Services

Prepared By



Contents

1.	Particulars to this Assessment_____	Page	1
2.	Scope of Works_____	Page	2
3.	Assessment Methodology Applied_____	Pages	3 - 4
4.	General Comments on the Trees_____	Page	5
5.	Potential Impact from Proposed Works_____	Pages	6 - 7
6.	Opinion and Considerations_____	Page	8

Attachments to the Report

Attachment 1; Table of Comments on the Trees

Attachment 2; Company Information & Disclaimer

1. Particulars to the Assessment

1.1 Terms Used

The following terms have been used in this report:

'Trees'	meaning the trees that are the subject of this report
'AS 4970'	meaning Australian Standards guideline 4970 (2009); Protection of trees on development sites
'AS 4373'	meaning Australian Standards guideline 4373 (2007); Pruning of amenity trees
'TPZ'	meaning Tree Protection Zone; the area where the majority of the given Tree's root mass is considered likely to be found. Any works undertaken in this area have the potential to have an impact to the given Tree's future health
'SRZ'	meaning the Tree's 'Structural Root Zone'; the area where the majority of the given Tree's larger diameter roots are likely to be found that are providing its in-ground stability and support. Any works undertaken in this area have the potential to have an impact to not only the given Tree's future health but also its-ground stability as well
'Slip Road'	meaning the proposed slip road off Welshpool Road east into the property known as Lot 31 (821) Welshpool Road East
'Plan'	meaning plan provided showing an aerial of the Slip Road in relation to the Trees and the proposed layout; DWA drawing 14228-C04-A

1.2 Limitations and Particulars of this Assessment

The information and opinions provided in this document are based on the findings from the visual observations of the Trees on the Site during the inspections undertaken August 15, 2016.

All observations of all of the Trees were undertaken from ground level.

No exploratory excavations were undertaken as part of this particular assessment to verify the actual root spread of any given Tree.

As such the allocation of TPZ for each Tree has at this stage been based on AS 4970 guidelines, with some amendments being made for the physical size and canopy dimensions of the Tree, its condition, the known root zone morphology of its given species in the sort of soil profile considered to be typical to this area of Western Australia.

2. Scope of Works

At the request of Beavers Tree Services, I have been commissioned to undertake an inspection of a number of trees found adjacent to 831 Welshpool Road East, Wattle Grove.

The purpose of the inspection was to:

- Undertake an inspection of the Trees in the identified area,
- Provide comment on the current condition of each tree; species, height, DBH, canopy spread, health and structural condition, and any comments pertinent to the identified tree
- Provide an opinion on the potential impact to each Tree based on the Plan provided in the context of what is proposed.

3. Tree Assessment Methodology

3.1 Methodology of the Assessment

All of the Trees at this Site were assessed in the course of this assessment in accordance with 'visual tree assessment'¹ ("VTA") methods and principles.

The VTA method is based on the sciences of tree biology, physiology, tree structure, and tree bio-mechanics.

It is a method widely used by arborists worldwide to identify visible signs on trees that indicate any health or potential structural issues that in turn could increase the risks associated with the given tree. There are many variables that require consideration as part of this process including the structure of the given tree, its health condition, known natural species traits, environmental factors such as direction of prevailing (and storm) winds and how they would affect the subject tree and the occurrence of potential targets (people, structures etc.) within its projected fall zone.

3.2 Health Condition

The overall health of each Tree was adjudged from an inspection of its leaf, overall percentage of leaf mass present in the canopy of the Tree, and the presence (or absence) of any pest or disease factor that could have an effect on the overall health of the Tree.

3.3 Structural Condition

The structural integrity of each Tree was determined from a visual inspection of its main stem, primary (and secondary) branch unions to determine the presence of any areas considered to be a structural 'defect' or 'imperfection' such as unions with included bark, swelling, or noticeable splitting at them.

Symptoms of decay, growth patterns and defects are identified and assessed as to their potential to cause whole tree, part tree or branch failure, and where considered necessary further investigation by way of the use of sounding techniques was utilised to determine the presence and general extent of any areas of cavity or associated decay within a tree's main stem structure.

The Tree's root plate area was also inspected to identify any visible signs of root plate, movement, cracking or heave from which a determination of the in-ground stability of the Tree can be ascertained. It is however important to note that there are limitations in verifying the in-ground stability of a tree based on a 'one-off' cursory visual observation; particularly in a forest type habitat where ground cover and leaf litter prevent or limit visual observations, and particularly if the inspection is undertaken during a period of 'fine' weather with little to no wind; as was the case over the period of this assessment.

¹

Field Guide for Visual Tree Assessment (VTA); The Body Language of Trees, A Handbook for Failure Analysis; C Matlack, H Breloer

3. Tree Assessment Methodology

3.4 Known Species Traits

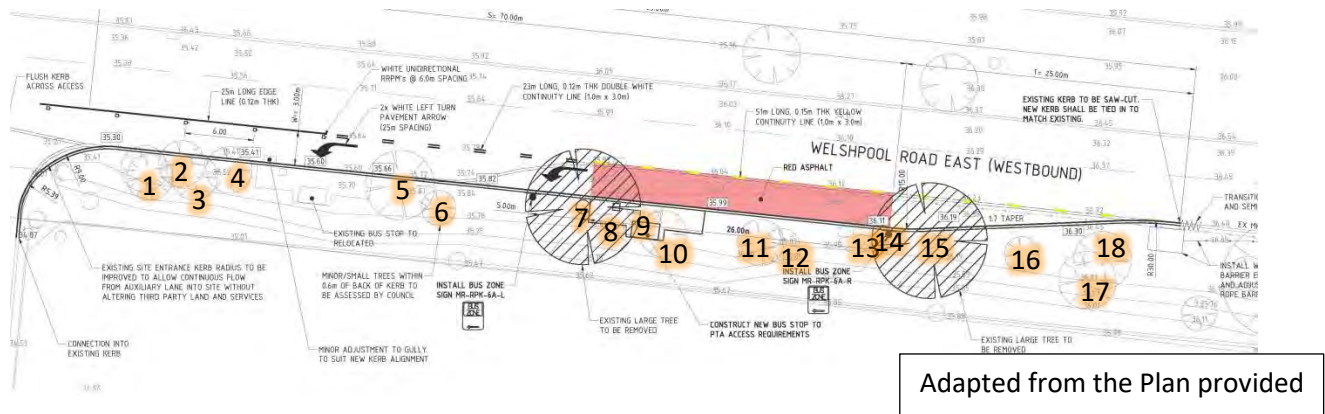
Species suitability for use in an urban area and if the identified specimen is of a species that can be subject to the sudden branch failure phenomenon or is known to be potentially problematic in terms of self-sowing (weed) issues, was also considered as part of the assessment process.

With regards to any future development the known natural species traits of the given tree and its ability to cope with disturbances to its root zone that typically occur as part of a development process, as well as its ability to cope with the new parameters that are commonly created by an urban development (i.e. decreased soil oxygen due to compaction, increased un-seasonal watering from irrigation, increased pollution, increased radiated heat/light from urban infrastructure (roads, walls, buildings etc.) are all also taken into consideration. The known root zone morphology of the species was taken into consideration when allocating the recommended TPZ for each of the identified trees. Note: Whilst some reference and acknowledgment is given to the guidelines set down in AS 4970, the TPZ for each Tree has been based on the known typical root zone morphology for specimens of their species, the condition of the given Tree, and the known tolerance to root zone disturbance of the given species.

4. General Comments on the Trees

18 individual Trees were identified in the specified area adjacent to the Slip Road varying in size, age and condition.

The Trees have been numbered on a copy of the Plan below.



All of the Trees were identified as Lemon Scented Gum (*Corymbia citriodora*).

Trees #7 and #15 were considered to be mature trees; possibly in the order of 50-60 years old.

The other Trees were considered to be younger with most considered to be around the 15-30 years old, and possibly self-sown from the larger older Trees.

The majority of the Trees showed good health based on the condition and volume of leaf mass present. One Tree did show some indications of a declining health and looks to be associated with a canker (fungal) issue. Otherwise I could see no visible evidence of any other pest or disease pathogen that could have a major impact to their health at the time of my inspection, and any other tree health/vitality issues noted were considered to be associated with environmental factors i.e. poor successive seasonal rainfalls, changes to environment and soil chemistry as a result.

The majority of the Trees also showed to have (what is considered to be) typical structural forms for specimens of their given species. Whilst a number of the Trees showed to have what are considered to be 'structural defects' such as bi-furcated unions with signs of swelling and included bark (which are considered to potentially have an increased likelihood for failure than other forms of branch unions) for the most part any structural defect or imperfections were not considered to be of any major concern at this time. All of the Trees looked to be remaining root stable at the time of inspection.

Disturbance to a section of kerb was noted adjacent to Tree #5, and looks to be typical to disturbance caused from pressure being exerted from behind and assumed to be from the expansion of the main stem of this Tree as part of its natural growth processes. It was also observed that the distance between the back of kerb and the edge of the main stem of this Tree is less than one metre.

It was also noted that some excavation works looks to have recently occurred near to Trees #7 - #10 as part of road barrier and kerbing upgrades along Welshpool Road East. As such some (if not all) of these Trees may have already suffered an extent of root zone disturbance and possibly damage and loss of root mass.

Attachment 1 of this report provides further information on the condition of each of the Trees.

5. Potential Impact from Proposed Works

5.1 Impact to Root Zones

Based on the Plan provided, impact to Trees #1 - #6 looks likely to be minimal given there looks to be no change proposed to the current alignment of the existing kerb. However, the works may have some impact to the root zone of these Trees depending on final alignment of any new kerbing installed, and what excavations (if any) may need to occur in this area to achieve the proposed design.

Installation of the Slip Lane is considered likely to have some impact to the TPZ and the SRZ of the majority of the other Trees identified in this report (i.e. Trees #7 - #10); particularly Trees #7, #9 and #15 as the proposed new kerb line looks likely to be within 1 metre of their main stem as can be seen in the images below.



It does however remain difficult to say exactly what the potential impact will be to each of these Trees without being able to undertake exploratory excavations to verify the full extent (number/size) of roots that will need to be removed from each Tree to accommodate the proposed works.

However there is at this time considered a high probability that some (if not all) of the Trees will be impacted; possibly to the extent where the retention of some becomes questionable as a result particularly to Trees #7, #9 and #15.

The location of the proposed Bus Stop is also likely to impact on the root zones of Trees #8, #9, and #10 and looks to probably require their removal to enable its installation.

5. Potential Impact from Proposed Works

5.2 Canopy Works

The majority of the Trees do not appear to require any canopy works as part of the proposed works to provide the typically required clearances over a road carriageway.

A large section of the canopy of Trees #7 and #15 will however likely be required to be removed to provide the (typically required) clearances over the carriageway; indicated on the images below.



However, removal of this extent of canopy from these Trees this is not anticipated to have any adverse effect to their future health or structural integrity if undertaken to AS 4373 guidelines.

6. Opinion and Considerations

At this stage, based on the findings to date the proposed design does not appear to allow successful retention of (at least some of) the Trees given the anticipated impact to their root zone; particularly Trees #7, #9 and #15 given the proposed proximity of the Slip Lane to their main stem and anticipated loss of root mass from those Trees.

If the Trees are required to be retained then a review of the design of the Slip Lane is recommended to be undertaken, with any future design considerations to be subject to the findings of exploratory excavations along the proposed Slip Lane alignment to verify the number and size of any roots that are present from each Tree that may require removal.

Should larger diameter roots be encountered that would require removal to accommodate the proposed design then either:

1. The design of the Slip Lane would need to be reviewed so that it could accommodate the Tree and its roots; or
2. If other site design criteria do not allow for alterations to the design then the retention of the given Tree is considered unlikely to be achievable.

Consideration also needs to be given to the extent of future growth of the Trees as they continue to mature; particularly with regards to the expansion of their main stem as it is that process that is considered likely to have the potential to cause issues of disturbance to road pavement infrastructure; possibly within a 10-15 year period; if not sooner depending on actual proximity of the road pavement infrastructure to the main stem of the Trees.

Providing a greater degree of separation between the Trees and the road pavement is generally seen as the best strategy to adopt to prevent this sort of disturbance from occurring.

A review of the location of the proposed Bus Stop to determine if it could be relocated to avoid impact to Trees #8, #9, #10 is also required if these Trees are desired to be retained. However, if other site design criteria require the Bus Stop to be located its current proposed location then removal of these Trees will be required.

Any changes to or upgrades to drainage or other services that may require excavation near to the Trees also needs to be considered and detailed further.

*Beaver Tree Services Aust. Pty. Ltd.; Preliminary Assessment of Trees
Adjacent to 831 Welshpool Road East, Wattle Grove*

August 2016

Attachments to this Report

Attachment 1; Table of Comments on the Trees

Attachment 2; Company Information & Disclaimer

*Beaver Tree Services Aust. Pty. Ltd.; Preliminary Assessment of Trees
Adjacent to 831 Welshpool Road East, Wattle Grove*

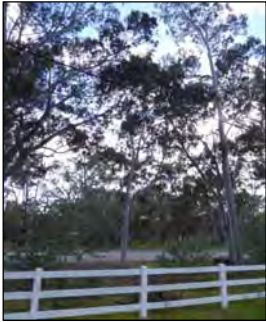


August 2016

Attachment 1; Table of Comments on the Trees

Tree No	Species	Height (metres)	DBH (cm)	Health Condition	Structural Condition	Image	Tree Comments	TPZ/SRZ (metres RADIUS)	
								TPZ	SRZ
1	Lemon Scented Gum (<i>Corymbia citriodora</i>)	22	38, 38, 20	Excellent	Acceptable		Three trees in close proximity that effectively form the one canopy.	3.4	2.2
2	Lemon Scented Gum (<i>Corymbia citriodora</i>)	20	40	Excellent	Acceptable		Canopy is one sided (north) due to proximity and influence of Trees #1 and #3 but not of any concerns unless those Trees are removed	3.6	2.3
3	Lemon Scented Gum (<i>Corymbia citriodora</i>)	14	31	Excellent	Acceptable		Section of its canopy noted to be rubbing against Tree #4	2.8	2.0
4	Lemon Scented Gum (<i>Corymbia citriodora</i>)	22	43	Excellent	Good		Section of the canopy of Tree #3 noted to be rubbing against it causing bark wound. Ok at this time but may cause issues longer term	3.9	2.3
5	Lemon Scented Gum (<i>Corymbia citriodora</i>)	19	50	Good	Good		Canopy looks to be slightly sparse but leaf condition ok. Section of kerb nearby noted to be lifted	4.5	2.5

Tree No	Species	Height (metres)	DBH (cm)	Health Condition	Structural Condition	Image	Tree Comments	TPZ/SRZ (metres RADIUS)	
								TPZ	SRZ
6	Lemon Scented Gum (<i>Corymbia citriodora</i>)	15	27	Poor	Good		Canopy condition suggests it has fairly limited life span remaining; looks to be a canker (fungal) issue	2.4	1.9
7	Lemon Scented Gum (<i>Corymbia citriodora</i>)	23	100	Excellent	Good		Large mature tree. Some weight loading noted in sections of its canopy over the Road	9.0	3.3
8	Lemon Scented Gum (<i>Corymbia citriodora</i>)	14	35	Excellent	Good		Bark wound noted on main stem but not of any major concerns at this time with its structural integrity	3.2	2.1
9	Lemon Scented Gum (<i>Corymbia citriodora</i>)	14	26	Excellent	Good		Good specimen	2.3	1.9
10	Lemon Scented Gum (<i>Corymbia citriodora</i>)	22	44	Excellent	Good		Good specimen	4.0	2.3

Tree No	Species	Height (metres)	DBH (cm)	Health Condition	Structural Condition	Image	Tree Comments	TPZ/SRZ (metres RADIUS)	
								TPZ	SRZ
11	Lemon Scented Gum (<i>Corymbia citriodora</i>)	16	36	Good	Good		Canopy looks to be slightly sparse but leaf condition ok.	3.2	2.2
12	Lemon Scented Gum (<i>Corymbia citriodora</i>)	11	20	Excellent	Acceptable		Main stem bi-furcates. Union looks to be ok at this time but may cause issues longer term.	1.8	1.7
13	Lemon Scented Gum (<i>Corymbia citriodora</i>)	15	22	Excellent	Acceptable		Ok specimen. Canopy is one sided (west) due to proximity and influence of Tree #15. Ok at this time but its structure may cause issues longer term	2.0	1.8
14	Lemon Scented Gum (<i>Corymbia citriodora</i>)	16	31	Excellent	Acceptable		Ok specimen. Canopy is one sided (west) due to proximity and influence of Tree #15. Ok at this time but its structure may cause issues longer term	2.8	2.0
15	Lemon Scented Gum (<i>Corymbia citriodora</i>)	23	116	Excellent	Good		Large mature tree. Bark wound noted on its main stem (new); typical to that caused by impact from mechanical machinery or the like. Large section of its canopy would need to be removed to provide typically required clearances over proposed slip road.	10.4	3.5

Tree No	Species	Height (metres)	DBH (cm)	Health Condition	Structural Condition	Image	Tree Comments	TPZ/SRZ (metres RADIUS)	
								TPZ	SRZ
16	Lemon Scented Gum (<i>Corymbia citriodora</i>)	13	26	Excellent	Good		Good specimen	2.3	1.9
17	Lemon Scented Gum (<i>Corymbia citriodora</i>)	22	47	Excellent	Good		Good specimen	4.2	2.4
18	Lemon Scented Gum (<i>Corymbia citriodora</i>)	21	40	Excellent	Acceptable		Reasonably good specimen. Canopy is one sided (north) due to proximity and influence of adjacent Trees	3.6	2.3

Attachment 2; Company Information & Disclaimer

Company Name:



A.C.N.:

107 194 061

A.B.N.:

66 566 369 687

Insurance Details:

General Liability;	QBE	\$20 million
Professional Indemnity;	Vero	\$5 million
Personal Protection;	Macquarie, Asteron	

Office/Contact Details

Postal Address:	PO Box 1025, Balcatta WA 6914
Physical Office Address:	4c/5 Mumford Place, Balcatta
Ph:	(08) 9240 7555
Fax:	(08) 9240 7522

Consultant Details

Consultant Contact:

Jason Royal

Dip. Arboriculture (UK)
Tech. Arbor A



J. Royal; 172723



Arboriculture Australia™

Member No. 1254



Registered User
Lic. No. 1743

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Mobile: 0409 105 745

Email: jason@arborlogic.com.au

Disclaimer

This Report has been provided in good faith and based upon the material information provided by the Client to Arbor logic, and/or based on the visual inspection of the tree(s) at the time this advice was prepared.

The contents of this Report should be read in full, and at no time shall any part of the Report be referred to unless taken in full context with the remainder of the document.

The contents of this Report may not be reissued to another party or published in part or full without Arbor logic's written permission.

Arbor logic does not accept liability arising out of loss or damage that results from: -

- Material information not being provided by the Client to Arbor logic at the time this advice was prepared.
- The provision of misleading or incorrect information by the Client or any other party to Arbor logic upon which this advice was prepared.
- This advice being used by the Client or any other party in circumstances or situations other than the specific subject of this advice.
- Failure by the Client to follow this advice.
- The action(s) or inaction(s) of the Client or any other party that gives rise to the loss of, or damage to, the tree(s) that are the subject of this advice.

It is also important to take into consideration that all trees are living organisms and as such there are many variables that can affect their health and structural properties that remain beyond the scope of reasonable management practices or the advice provided in this Report based on the visual inspection of the tree(s).

As such a degree of risk will still remain with any given tree(s) despite the adoption of any best management practices or recommendations made in this Report.



December 1, 2017

St Peter's Jacobite Syrian Church Perth Inc.
Cnr Melvista Ave & Stone Road
Nedlands WA 6009

Attention: Reji Paul

RE: Assessment of impact to Trees adjacent 831 Welshpool Road East, Wattle Grove

Dear Reji,

Further to your request, and my review of the changes to the proposed development, the following is a brief of the potential issues that may impact the identified trees adjacent to 831 Welshpool Road East, Wattle Grove.

This document should be read in conjunction with the original report provided on the identified Trees; dated August 2016.

The same numbering of the Trees has been used in this document for the purposes of reference.

Based on my review of Plans provided (DWG 14228 C07 C and 14228 C09 B) there are a number of aspects of the proposed design that require further details and clarification.

These aspects will also require further on-site investigation works by way of exploratory excavation to verify the presence (or absence) of any roots from the Trees in the identified locations, from which any potential impact can be better ascertained.

Aspects that require further clarifications and investigation include:

1. New side entry pit could impact the root zone of Tree #1. Further are details required regarding its design; physical size, width and depth of excavation required to install.
2. Construction of concrete footpath adjacent Trees #1 - #4 could impact their root zone. Further are details required regarding its design; physical size, width and depth of any excavation required to install, or extent of fill required to install.
3. 300Ø drain with concrete head wall could impact the root zone of Tree #4. Further are details required regarding its design and width and depth of excavation required to install.
4. Bus Stop upgrades could impact the root zone of Trees #4 and/or #5. Further are details required regarding its design and extent of any works required to install.
5. Construction of the slip lane could impact the root zone of Trees #7-#12. Further are details required regarding the depth of any excavation (box-out) required as part of its construction.

6. Trees are not shown on DWG 14228 C09 B.

However installation of bus zone signs looks to have the potential to impact the root zone of Trees #2, #3 and/or #7. Further are details required regarding any footings and excavations required for their installation.

7. 300Ø pipe with concrete head wall could impact the root zone of Trees #13, #14. Further are details required regarding its design and width and depth of excavation required to install.
8. New side entry pit could impact the root zone of Trees #12, #13 and possibly #14. Further are details required regarding its design and width and depth of excavation required to install.
9. Wire rope end terminal barrier could impact the root zone of Trees #13, #14 and possibly #15. Further are details required regarding its design and width and depth of excavation required to install.

At this point in time canopy works for the Trees look likely to be similar as to any recommendations made in the previous report.

Should you have any queries regarding the findings of this report, or if I can be of any further assistance in the management of the identified trees, please do not hesitate to contact me.

Yours sincerely



JASON ROYAL

Dip. Arboriculture (UK)
Tech. Arbor A





9. Meeting Closed to the Public
10. Closure