



XAVIER  
KNIGHT

18 May 2026

Attn: Cameron Gray  
c/o: Willowtree Planning  
Suite 404, Level 4, 165 Walker Street  
North Sydney NSW 2060  
Australia

## Civil Engineering Statement – Response to Council RFIs

24,26 & 28 Middle Harbour Road, Lindfield

Dear Cameron,

The Proponent has received feedback dated 23<sup>rd</sup> of April 2026 from Ku-ring-gai Council following the submission of the Xavier Knight's civil engineering documentation as part of the EIS submission for the SSD (SSD-82548708).

Response to these outstanding matters from Xavier Knight have been provided below.

No.	Key Assessment Issue	Response
<b>Civil Plans</b>		
1	Approval from Council's Engineers within the Operations Department is required for the realign/divert Council's existing pit and pipe system. At this stage there is no approval for the works to discharge stormwater and/or realign Council's trunk drainage system.  - The submitted plans do not identify the location or extent of the proposed drainage easement, only the proposed pipeline alignment. (Not Resolved)	Refer to <b>Appendix A</b> of this statement for revised civil engineering plan C03003 showing the extent of a 2.2m wide dedicated easement over the proposed drainage diversion. The width of the easement has been determined in accordance with KDCP Part 24R.2.
2	Council's Operations Team have advised that the proposed trunk drainage diversion/re-alignment cannot be supported given that this design has several deviancies which is considered unacceptable and non-compliant.  Council's Operations Team has previously advised that the proposed trunk drainage diversion/realignment is not supported due to multiple design deviations. (Not resolved)  <u>Key outstanding issues include:</u>	Refer to <b>Appendix A</b> of this statement for revised civil engineering plan C03003 showing 90 degree bends have been replaced with 2 x 45 degree changes in directions.  Refer to <b>Appendix A</b> of this statement for revised civil engineering plan C03003 showing the extent of a 2.2m wide dedicated easement over the proposed drainage diversion. The width of the

No.	Key Assessment Issue	Response
	<ul style="list-style-type: none"> <li>- In the proposal, 90-degree system direction change was proposed. Council does not endorse this type of design. Modification is required to the 90-degree pits.</li> <li>- No details of easement over the proposed drainage system. The width of the easement shall be depicted in accordance with Part 24R.2 of the KDCP.</li> <li>- It is unclear the distance between the proposed building and drainage system. Council requires the proposed building will not be located within "zone of influence" of Council drainage system.</li> <li>- The data provide in "Integrated Water Management Plan" (page 39) "pit 1.4 floods", which indicate that the system could not convey 5% storm event. The detailed calculation is required.</li> <li>- The connections between OSD and Trunk drainage system in the proposal was not clear. Does the OSD have a 1200 mm pipe connection with 1200 mm trunk drainage? Clarification is sought.</li> </ul>	<p>easement has been determined in accordance with KDCP Part 24R.2.</p> <p>Refer to <b>Appendix A</b> of this statement for revised civil engineering plan C03003 which marks the proposed offset from the site boundary and building line. As the shoring wall will transfer building loads into the underlying bedrock, the shoring system will not impose any load on the proposed stormwater arrangement.</p> <p>This is a misinterpretation of the DRAINS data table in Appendix B of the Integrated Water Management Report dated 04.03.2026. For the row with Pit 1.4 information, the label 'FLOOD.S' refers to the connecting modelling node for the 'Flood Storage Tank' which forms part of the 1% AEP stormwater management system. Columns 30 and 31 of the results table show that for Pit 1.4 the peak water levels for the 5% and 1% AEP events are RL81.83 and RL82.25 respectively. These levels are lower than the proposed pit grate level of RL82.92. As such no flooding or surcharging occurs at Pit 1.4</p> <p>Refer to <b>Appendix A</b> of this statement for revised civil engineering plan C03003 showing the 300mm diameter connection from the OSD outlet to the proposed diversion pipe.</p>
3	<p>The proposal seeks to discharge the stormwater runoff created by the new development into Council's existing trunk drainage system which is located within the site. This trunk drainage system traverses diagonally through the property. The applicant has indicated that they wish to realign/divert Council's existing pit and pipe system to cater for the proposal. This cannot be supported in its current format as it is a major burden to Council's infrastructure and long-term</p>	<p>Refer to CCTV footage dated 04.06.2025 of the existing stormwater assets. The footage shows the section traversing the proposed development site is heavily impacted by accumulation of silts, debris and damage from tree roots. The 1200mm pipe size has been selected as it is able to cater for the combined upstream flows from the 450mm and 525mm pipes, while also providing improved capacity to remove runoff</p>

No.	Key Assessment Issue	Response
	<p data-bbox="544 394 1023 454">maintenance, ongoing system failure, deficient pipe sizing etc of the trunk drainage system.</p> <ul data-bbox="544 495 1023 853" style="list-style-type: none"> <li data-bbox="544 495 1023 752">- The applicant proposes increasing the pipe size from 900 mm to 1200 mm. However, the upstream inflows comprise 525 mm and 450 mm pipes, with the downstream connection reverting to a 900 mm pipe. According to the response the downstream and upstream pipe is in good condition, but no supporting reports or any CCTV videos has been provided.</li> <li data-bbox="544 792 1023 853">- No longsections for the drainage drawings have been submitted.</li> </ul>	<p data-bbox="1054 394 1463 454">from the surface which now be instead conveyed by the underground system. Our DRAINS model is able to demonstrate that the connection between the 1200mm pipe and the existing 900mm pipe does not result in any additional ponding or surcharging at the point of connection and there is no impact to upstream or downstream hydraulic performance during the 5% and 1% AEP storm events.</p> <p data-bbox="1054 792 1463 1021">Longitudinal sections with Hydraulic Grade Line analysis have been provided in Section 3.8 of the Integrated Water Management Plan report. A detailed longitudinal section will be prepared as part of the Design Development phase of the project.</p>
4	<p data-bbox="544 1032 1023 1323">A footpath design is to be provided along the site's frontage and is to be designed in accordance with Council drawing 2003-004 Rev. 'B'. A footpath longitudinal section will also need to show the extent of cut/fill, existing services and existing street tree locations. The project arborist will need to endorse the civil plans. All redundant driveway crossings are to be shown to be removed</p> <ul data-bbox="544 1364 1023 1890" style="list-style-type: none"> <li data-bbox="544 1364 1023 1559">- The proposal indicates retaining existing levels on the nature strip for the existing footpath as per the response; however, as an SSD reconstruction of the existing footpath in front of the property in consultation with the project arborist will be required.</li> <li data-bbox="544 1599 1023 1727">- There is no long section provided for the driveway within the submitted drawing set, and the proposed driveway levels may impact the existing footpath and surrounding street trees.</li> <li data-bbox="544 1767 1023 1890">- Insufficient detail has been provided to demonstrate compliance with Council's footpath and driveway design requirements. (Not resolved)</li> </ul>	<p data-bbox="1054 1032 1463 1256">It is requested that these items relating to works external to the development site is to be completed as a Condition of Consent. Public domain documentation will be prepared for a separate Section 138 application as part of the Detailed Design phase of the project.</p>
<b>Water Management</b>		

No.	Key Assessment Issue	Response
	No water balance model has been submitted to reduce the site runoff days by 50% which would satisfy Council's streamflow objectives under Part 24C.3 of the Ku-ring-gai DCP. (Not resolved)	Refer to <b>Appendix B</b> of this statement for a water balance calculation of the proposed development which demonstrates a reduction in runoff by 51%.

We trust that the information provided in this statement is sufficient for your requirements at this stage. However, should you have any questions or need further assistance from us in this regard, please don't hesitate to contact us.

Kind regards,  
Duncan Marshall



CIVIL GROUP LEADER & PRINCIPAL  
BE (Civil)(Hons) MIEAust CPEng NER
















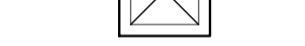


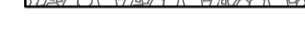


**APPENDIX A**

Civil Engineering Plan C03003

---



**LEGEND**

-  SITE BOUNDARY LIMIT OF WORKS
-  Ex E EXISTING ELECTRICAL LINE
-  Ex G EXISTING GAS LINE
-  Ex T EXISTING TELECOMMUNICATION LINE
-  Ex S EXISTING SEWER LINE
-  Ex W EXISTING WATER LINE
-  Ex E-OH EXISTING OVERHEAD POWER LINE
-  OUTLINE OF LEVEL BELOW
-  Ex SW EXISTING STORMWATER PIPE CONTRACTOR TO CONFIRM LEVELS & LOCATION ON SITE PRIOR TO COMMENCEMENT OF WORKS
-  PROPOSED Ø150mm RCP STORMWATER PIPE @ MIN. 1% GRADE U.N.O.
-  PROPOSED STORMWATER LINE OVER STRUCTURE
-  RM STORMWATER RISING MAIN PIPE
-  GRATED TRENCH DRAIN
-  GRATED INLET PIT
-  SEALED JUNCTION PIT
-  VD O VERTICAL DROPPER
-  IO O INSPECTION OPENING
-  ROCK LINED PERVIOUS SWALE REFER TO DRAWING C09001 FOR DETAILS
-  EXISTING TREES TO REMAIN REFER TO ARBORIST REPORT
-  EXISTING TREES TO BE REMOVED REFER TO ARBORIST REPORT
-  PROPOSED TREES REFER TO ARBORIST REPORT

**NOTES:**

1. ALL EXISTING UTILITY & SERVICES INFORMATION TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS
2. ALL EXISTING STORMWATER PITS & PIPES LOCATION TO BE CONFIRMED BY DETAILED SURVEY PRIOR TO DETAILED DESIGN STAGE
3. ALL STORMWATER GRATED ACCESS LIDS TO BE HEEL SAFE
4. ALL STORMWATER PIT LIDS TO MEET REQUIREMENTS OF AS3996 AS SPECIFIED IN DRAWING C0001
5. ALL OUTDOOR AREAS TO BE GRADED AT MIN. 1% GRADE TO INLET PITS REFER TO DRAWING C03002 FOR FLOOD STORAGE TANK DETAILS
6. REFER TO DRAWING C05301 FOR ON-SITE DETENTION (OSD) TANK DETAILS
7. REFER TO FLOOD IMPACT ASSESSMENT REPORT FOR PROPOSED FLOOD MITIGATION STRATEGY DETAILS
8. PROVIDE OCEANGUARD OR APPROVED EQUIVALENT GROSS POLLUTANT TRAPS IN ALL TRUNK DRAINAGE INLET PITS

**PIPE NOTE:**

ALL PIPES ARE Ø150mm uPVC @ MIN. 1% GRADE & STRAPPED UNDERNEATH THE BASEMENT SLAB

**SERVICES LINES NOTE:**

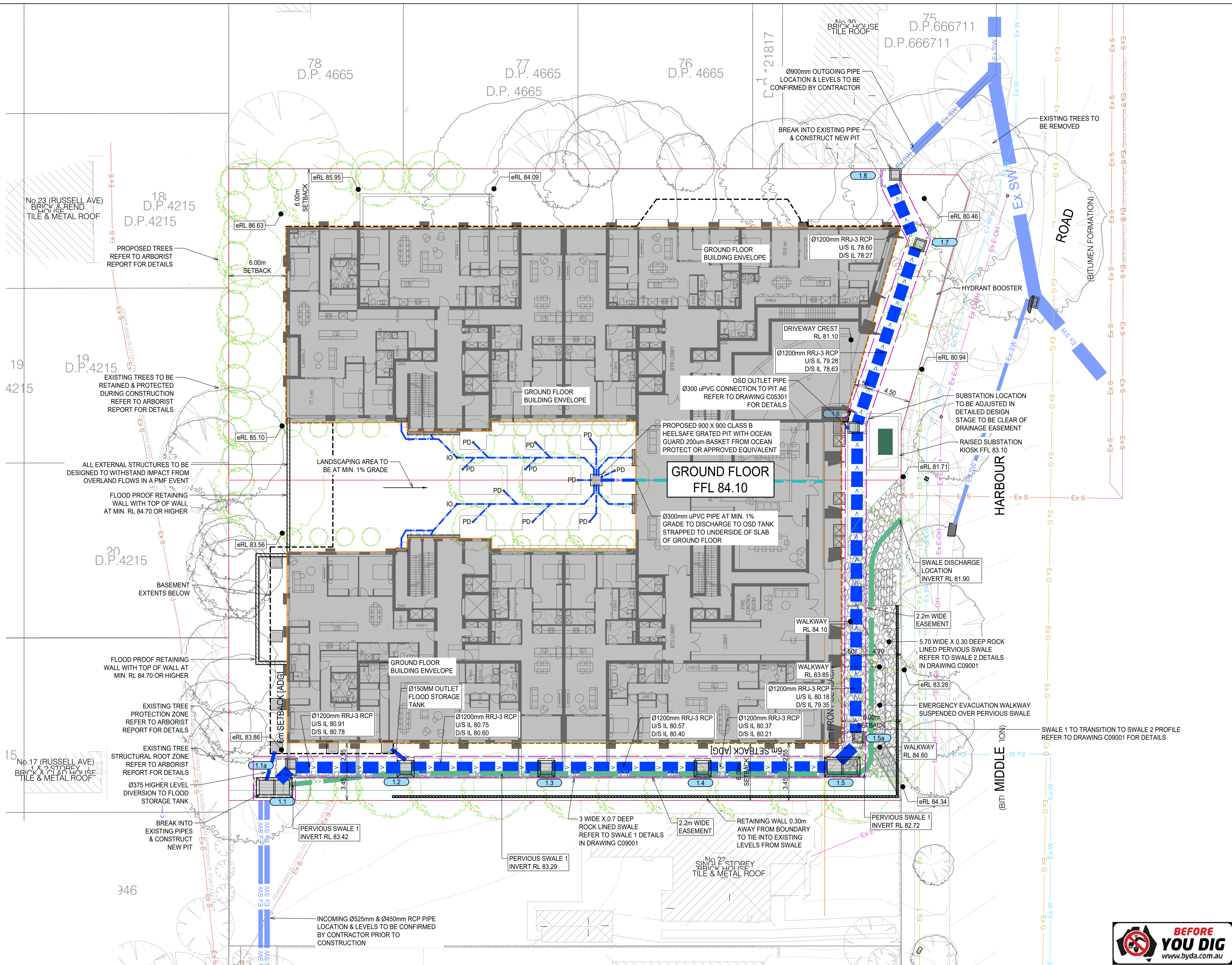
ALL SERVICES LINES ARE INDICATIVE AND TO BE CONFIRMED BY OTHERS PRIOR TO CONSTRUCTIONS

**SURVEYOR NOTE:**

POTHOLING OR SCANNING SURVEY NEEDED.

**PRINTING NOTE:**

THIS DRAWING TO BE PRINTED IN COLOUR.



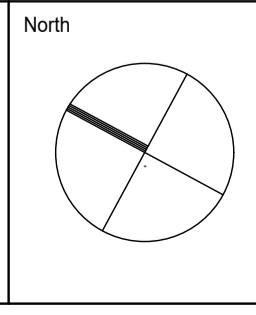
A1 ..... 2 4 6 8 10 12 14 16 18 20 1:200

Rev	Description	Eng	Draft	Date
5	ISSUE FOR SSSA RFI RESPONSE	EL	EL	18.05.2026
4	ISSUE FOR SSSA RFI RESPONSE	DM	DM	02.03.2026
3	ISSUE FOR SSSA RFI RESPONSE	AH	AH	12.12.2025
2	ISSUE FOR SSSA RFI RESPONSE	AH	AH	01.12.2025
1	ISSUE FOR DEVELOPMENT APPLICATION	AH	AH	07.05.2025



T : 02 8810 5800 E : info@xavierknight.com.au  
 A : Level 7, 210 Clarence Street, Sydney NSW 2000  
 xavierknight.com.au

This drawing is copyright and is the property of XAVIER KNIGHT CONSULTING ENGINEERS Pty. Ltd. and must not be used without authorisation.



Project  
**RESIDENTIAL DEVELOPMENT**  
 24, 26 & 28 MIDDLE HARBOUR ROAD, LINDFIELD

Sheet Subject  
**CIVIL WORKS PLAN - GROUND FLOOR**

Scale at A1	Drawn	Approved
1:200	AH	FC
Job No	Drawing No	Revision
250213	C03003	5



NOT TO BE USED FOR CONSTRUCTION

**DEVELOPMENT APPLICATION**

**APPENDIX B**

Water Balance Calculation

---



Project Name:	MHR
Project address:	24, 26 and 28 Middle Harbour Road
Closest weather station	MACQUARIE PARK (WILLANDRA VILLAGE)

Catchment area	4,757	m <sup>2</sup>
Roof Area	2,000	m <sup>2</sup>
Roof runoff coefficient	1.00	
Landscaping area	1,897	m <sup>2</sup>
Landscaping runoff coefficient	0.75	
RWT Volume	5.0	kL
Initial Tank Volume	5.0	kL

Month	Source			Infiltration	Irrigation Re-Use					Receiving		Combined Reduction	
	Decile 1 Rainfall (mm)	Total Rainfall (kL)	Roof Catchment Runoff (kL)	Landscaping Infiltration (kL)	Irrigation Rate (mm/week)	Irrigation Demand (kL)	Initial Tank Volume (kL)	Available Water (kL)	To Irrigation	Potable Water to achieve demand (kL)	Excess Runoff (kL)		Excess to Tank (kL)
Jan	29.6	140.8	59.2	14.0	20	164.4	5.0	64.2	64.2	100.2	0.0	0.0	78.2
Feb	30.4	144.6	60.8	14.4	15	123.3	0.0	60.8	60.8	62.5	0.0	0.0	75.2
Mar	47.7	226.9	95.4	22.6	10	82.2	0.0	95.4	82.2	0.0	13.2	5.0	104.8
Apr	17.4	82.8	34.8	8.3	5	41.1	5.0	39.8	39.8	1.3	0.0	0.0	48.1
May	8.8	41.9	17.6	4.2	5	41.1	0.0	17.6	17.6	23.5	0.0	0.0	21.8
Jun	30.1	143.2	60.2	14.3	5	41.1	0.0	60.2	41.1	0.0	19.1	5.0	55.4
Jul	5.7	27.1	11.4	2.7	5	41.1	5.0	16.4	16.4	24.7	0.0	0.0	19.1
Aug	6.9	32.8	13.8	3.3	15	123.3	0.0	13.8	13.8	109.5	0.0	0.0	17.1
Sep	5	23.8	10.0	2.4	20	164.4	0.0	10.0	10.0	154.4	0.0	0.0	12.4
Oct	13.8	65.6	27.6	6.5	20	164.4	0.0	27.6	27.6	136.8	0.0	0.0	34.1
Nov	24.1	114.6	48.2	11.4	20	164.4	0.0	48.2	48.2	116.2	0.0	0.0	59.6
Dec	23.1	109.9	46.2	11.0	25	205.5	0.0	46.2	46.2	159.3	0.0	0.0	57.2
<b>TOTAL</b>		<b>1154.0</b>	<b>485.2</b>	<b>115.1</b>		<b>1356.4</b>	<b>15.0</b>	<b>500.2</b>	<b>467.9</b>	<b>888.5</b>	<b>32.3</b>	<b>10.0</b>	<b>583.0</b>
										<b>66%</b> Potable Water Reliance			<b>51%</b> Total Reduction