

# Stormwater Management Strategy

## South Wurruk Development Plan

### Clients

Jelaryl Pty. Ltd., Barry Hollonds, Park Ridge Investments Pty. Ltd. and Pearsondale Heights Pty. Ltd.

### Issued

21/04/2022

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## Revision Table

REV	DESCRIPTION	DATE	AUTHORISED
A	Draft	28/04/2016	CC
B	Updated to remove figures with proposed layouts as requested by Council	04/07/2016	CC
C	Updated subdivision layout plan	09/08/2019	CC
D	WLRB assets location shifted, RWT included - DRAFT	16/04/2021	CC
E	WLRB NE removed, rainwater tanks added, water balance model included	29/04/2021	CC
F	Addition of stormwater harvesting system and removal of wetlands	30/09/2021	CC
G	Relocation of SBRB SE	23/03/2022	CC
H	Amendments to address Council comments	21/04/2022	CC

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## Glossary of terms

Alphabetical list of terms and abbreviations used in report

AHD	Australian Height Datum A common national surface level datum approximately corresponding to mean sea level.
AEP	Annual Exceedance Probability. Probability of a flood event occurring in any year
Authorities	Organisations responsible for the supply and management of sewer, water, gas, electricity and telecommunications, roads and transport
BPEMG	Best Practice Environmental Management Guidelines
BWCo	Beveridge Williams & Co Pty Ltd
CMA	West Gippsland Catchment Management Authority
Client	Jelaryl Pty. Ltd., Barry Hollonds, Park Ridge Investments Pty. Ltd. and Pearsondale Heights Pty. Ltd.
Council	Wellington Shire Council
IDM	Infrastructure Design Manual
LSIO	Land Subject to Inundation Overlay
NTWL	Normal Top Water Level
$Q_{20\%}$	Storm water flow generated from 20% AEP storm event
$Q_{1\%}$	Storm water flow generated from 1% AEP storm event
$Q_{gap}$	Flow difference between $Q_{20\%}$ and $Q_{1\%}$ storm event
SBRB	Sediment Basin/Retention Basin
WSUD	Water Sensitive Urban Design

## 1 INTRODUCTION

Beveridge Williams has been commissioned by a consortium of clients to prepare a Stormwater Management Strategy (SWMS) for a South Wurruk Development Plan, based on the **Sale, Wurruk and Longford Structure Plan** (August 2010). The total site area is approximately 146 ha and as stated in the Structure Plan, '*opportunity exists for establishment of urban residential and some rural residential development to form a complete neighbourhood that is integrated with the existing urban area and local facilities*'. It is intended to subdivide the land to form 1,256 lots.

This SWMS report is intended to provide a conceptual drainage strategy for the development plan. The strategy aims to retain post-development stormwater runoff to pre-development level, to meet stormwater quality Best Practice Environmental Management Guidelines (BPEMG) to the satisfaction of West Gippsland Catchment Management Authority (WGCMA), Wellington Shire Council (WSC) and other relevant authorities.

### 1.1 Site Overview

The proposed development plan is located in Wurruk, 1.3km west of Sale and predominantly bound by Settlement Road on the south east and Princes Highway on the north. There are currently two existing residential areas adjacent to the subject site, Sovereign Estate to the west and Park Ridge Estate on the eastern side. There is also an existing heritage site (Kilmany Park Heritage Estate) in the southern west corner of the development plan area. Refer to Figure 1 for the location plan and Figure 2 for the Site Analysis Plan.

The overall site is largely characterised by paddocks with scattered trees and plantings, and some flood prone land area to the south. There are some existing water bodies surrounding the site as shown in Figure 2.

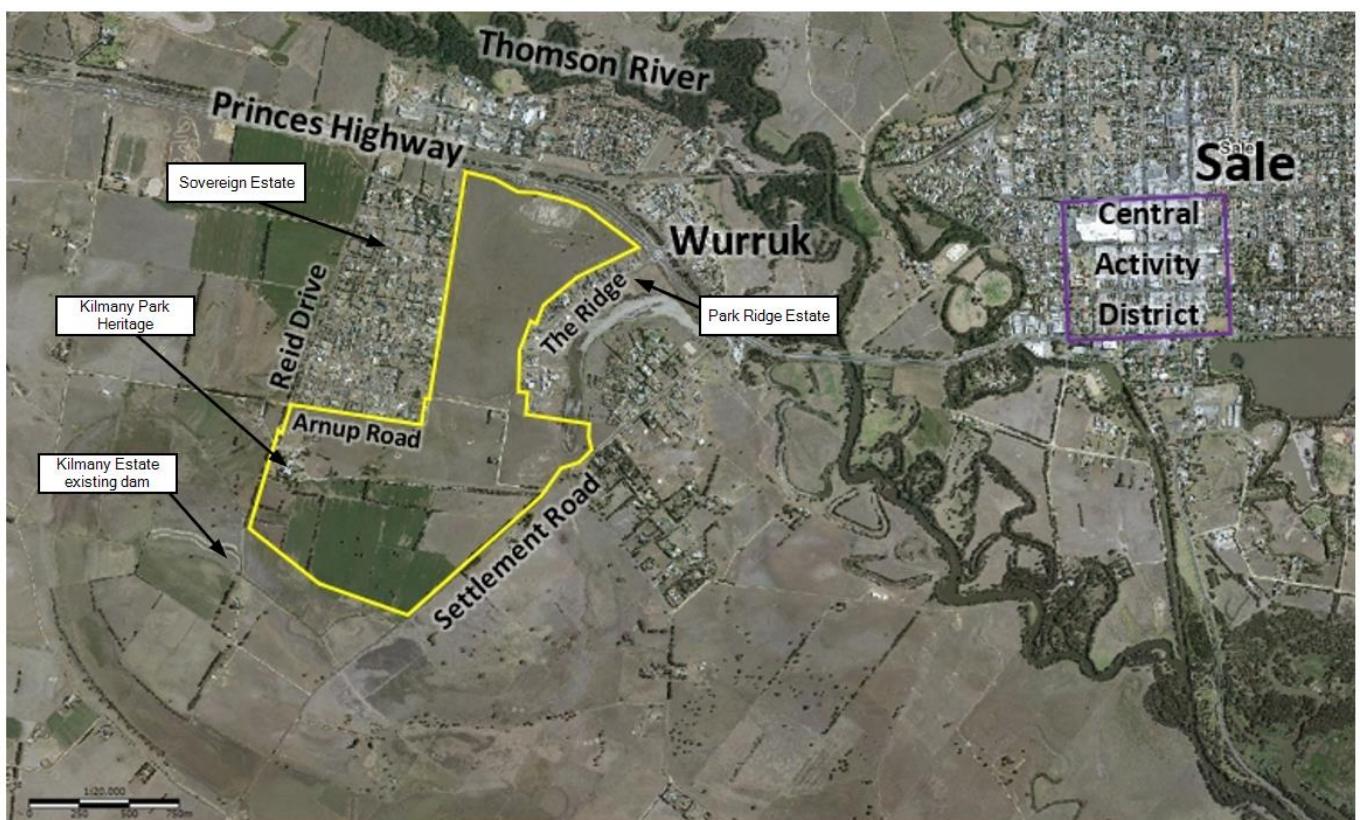


Figure 1: Site Aerial Plan (Not to Scale) (Source: NearMap)

The subject site is currently zoned Low Density Residential, however the Sale, Wurruk and Longford Structure Plan highlights for some higher density residential development to the northern half of the site.

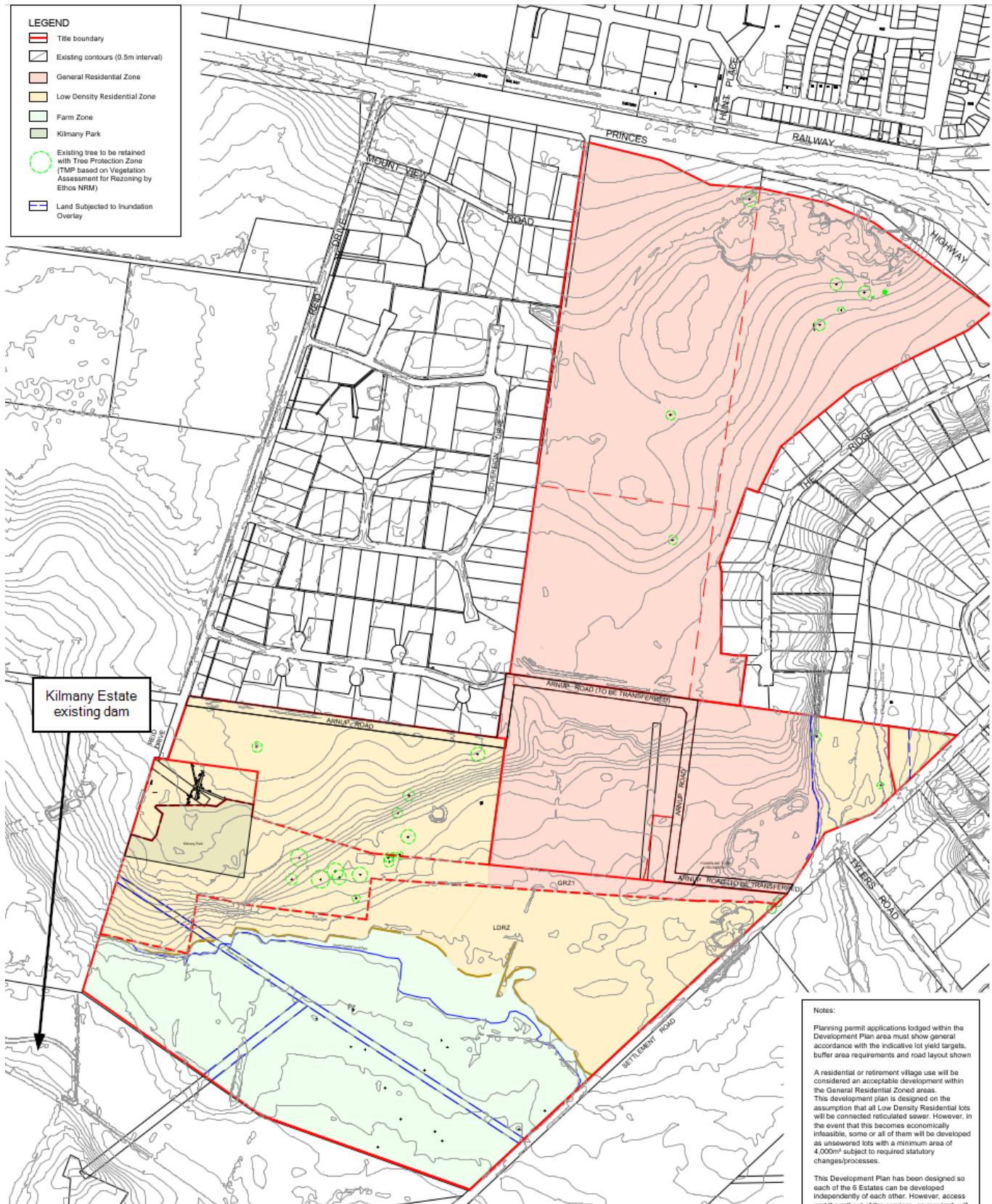


Figure 2: Site Analysis Plan (Not to Scale)

## 1.2 Topography

The overall subject site has varying topographical features throughout the area with plateaus and steep escarpments. The contours generally fall from north to south direction (Refer to Figure 3 below for Site Topography Plan).

On the northern part, a ridgeline extends through the centre of the site with several high points across the site. The land around this consists of undulating terrain, with areas of steep gradient as well as some flat open spaces further towards the middle section of the site.

The southern part of the site is much flatter with some low points and drainage basins, falling towards to the floodplains area further to the south, where the land is covered by a Land Subject to Inundation Overlay (LSIO).

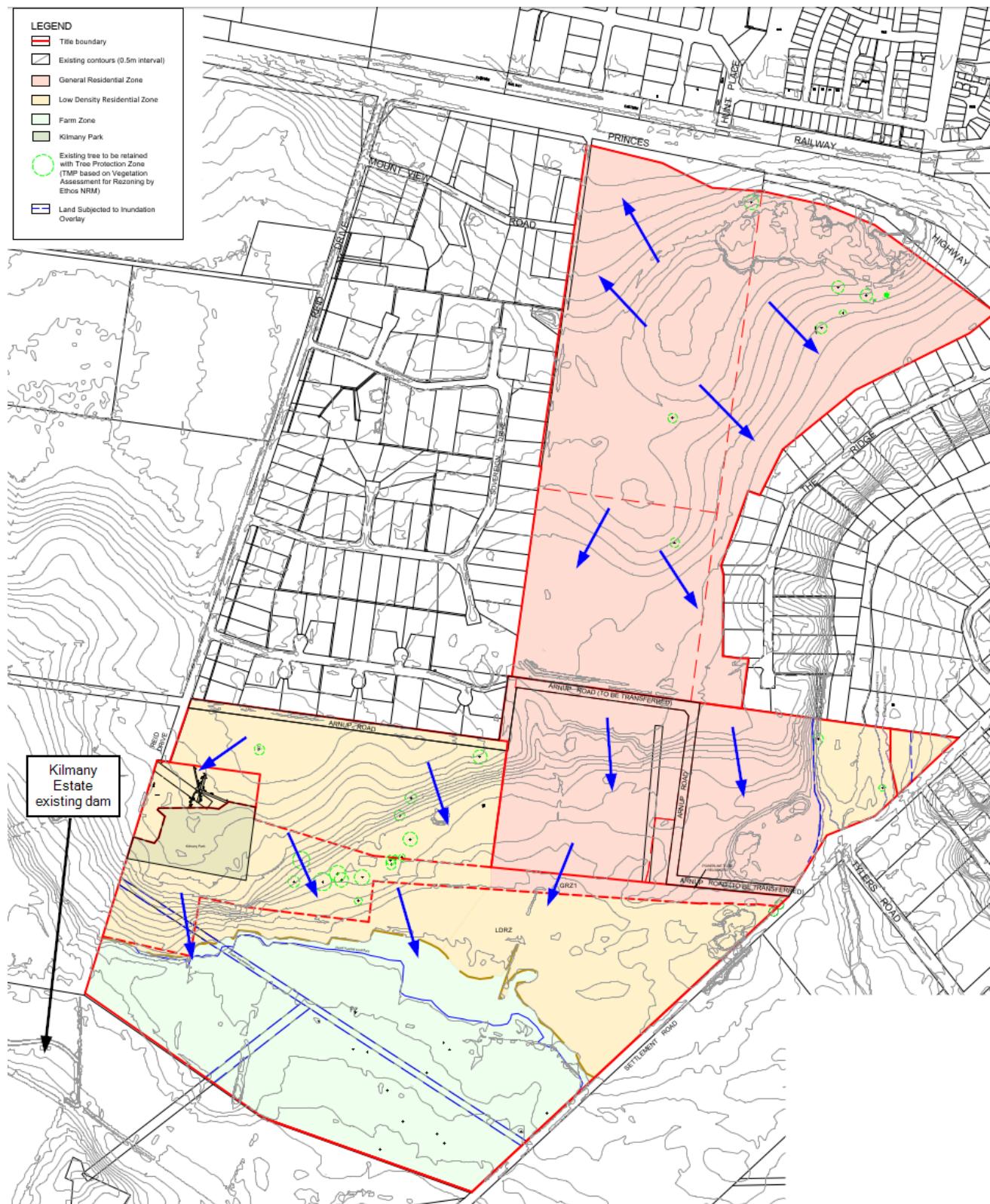


Figure 3: Site Topography Plan (Not to Scale)

### 1.3 Surface Water & Drainage

As previously mentioned, the site topographical map shows a series of highpoints that form a major ridge line through the middle of the northern part of the subject site. This resulting in two opposing drainage paths on either side of the ridge line. Surface drainage water on the western part of the ridgeline flows towards northwest direction while on the eastern part of the ridgeline flows towards east and south east directions (Refer to Figure 3 above).

Surface water on the middle part of the site generally flows in a southern direction where the low points are located. Drainage water on the southern part (south of Kilmany Park Mansion) generally runs towards to the south, where the floodplain (LSIO) area is located.

## 2 DESIGN INTENT

### 2.1 Proposed Development

The proposed indicative residential development plan, with total area of approximately 146 ha is to form 1,256 lots. This will comprise of standard (540m<sup>2</sup> net lot average), general (600-1,000m<sup>2</sup>) and low (>2,000m<sup>2</sup>) residential density lots (Refer to Figure 4 below and Appendix A). The standard and general lots are predominantly located on the northern and eastern half of the site. The low density lots are located in the south-western portion of the site.

This preliminary development layout will also include an oval and a few reserve and drainage reserve areas. The proposed road network will be designed to minimise traffic flow whilst maintaining simple and direct access for local residents.

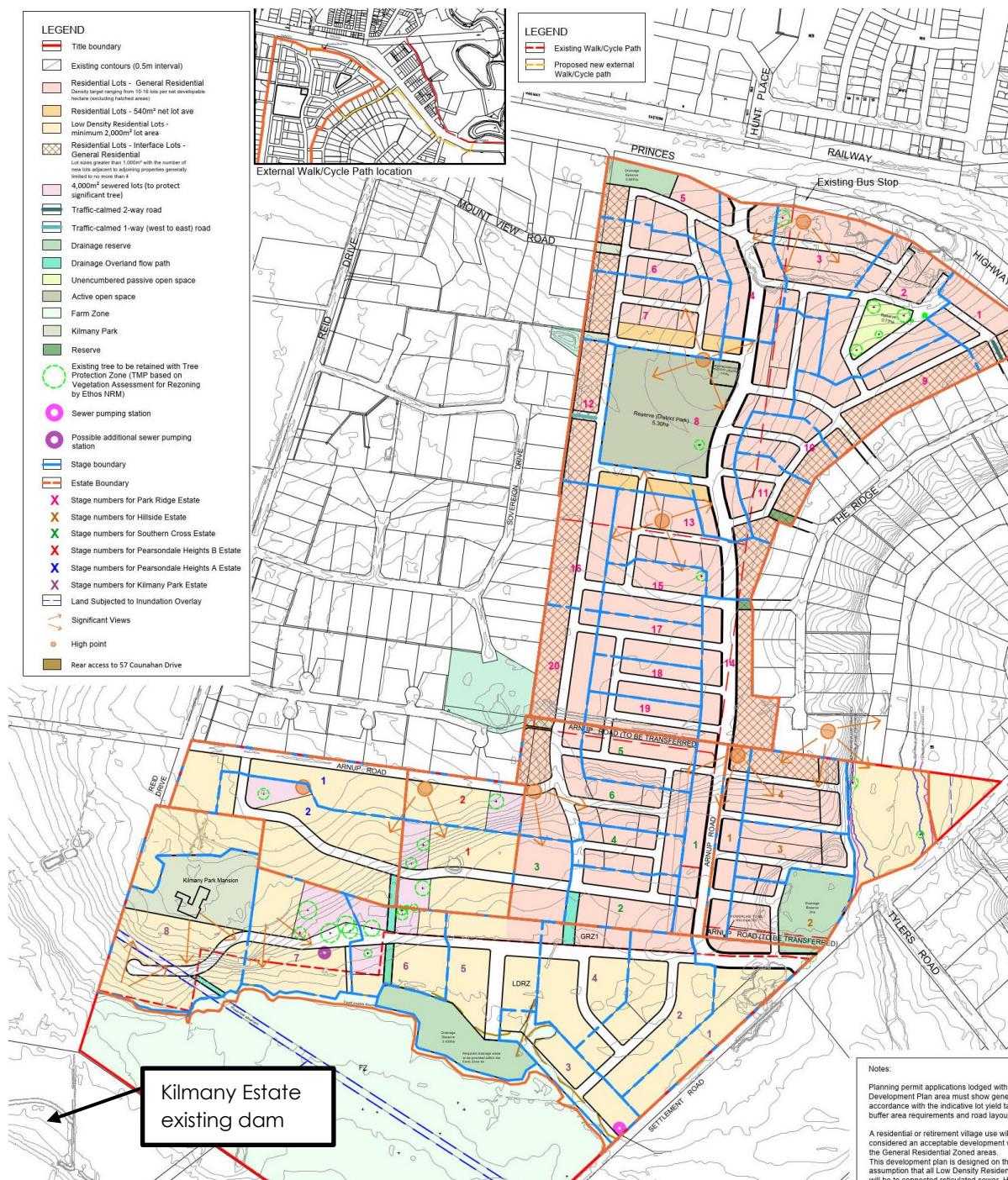


Figure 4: Indicative Subdivision Plan (Not to Scale)

## 2.2 Proposed Stormwater Management Strategy

The main objectives of this SWMS are to satisfy the requirements from Council and CMA, which include the following:

- Controlling the rate of the 1% AEP stormwater runoff for the post development peak flows to pre-development levels
- Providing stormwater treatment to meet the best practice management guidelines
- Ensuring there is no increased stormwater volume on the downstream lagoon and pumping costs, and a review of the proposed stormwater quality infrastructure to ensure the impacts of increase volume are addressed, as per the updated South Wurruk Stormwater Plan 2016

For stormwater quantity management, it is proposed to indicatively provide 3 stormwater detention basins throughout the subject site. Each of these basins will be located on the lowest point of each of the designated sub-catchment within the site.

For stormwater quality management, it is proposed to provide 3 sediment basins located within the stormwater retardation basins, rainwater storage tanks on each property, as well as benefits from the proposed stormwater harvesting scheme improving stormwater treatment results.

Details of both stormwater quantity and quality management are discussed in Sections 5 and 6.

Assessment of stormwater volume impact from the development was undertaken through a water balance model and this is further discussed in Section 7. A stormwater harvesting and re-use scheme is proposed for directing additional runoff volumes to neighbouring farm properties to reduce the impact on southern properties already experiencing flooding impacts.

### 3 HYDROLOGY

For the hydrology and overall catchment assessment of the proposed development sites, a runoff routing model was developed using the RORB program to determine the design flows for the pre-developed and post-developed scenarios. The internal flows of the site have been assessed for both the pre- and post-development conditions.

#### 3.1 RORB Modelling

The pre-developed catchment of the site, including the contributing external catchment, was produced as shown in Figure 5. The corresponding catchments and fraction imperviousness are shown in Table 1. The post-developed catchment plan of the site, including the contributing external catchment, was produced as shown in Figure 6. The corresponding catchments and fraction imperviousness are as per Table 2.

Both pre- and post-developed catchments were updated from previous revisions to include the flow discharging from the lagoon. This was to produce a more accurate representation of the combined flows discharging from the lagoon and proposed development and ensure there were no negative impacts on downstream landowners.

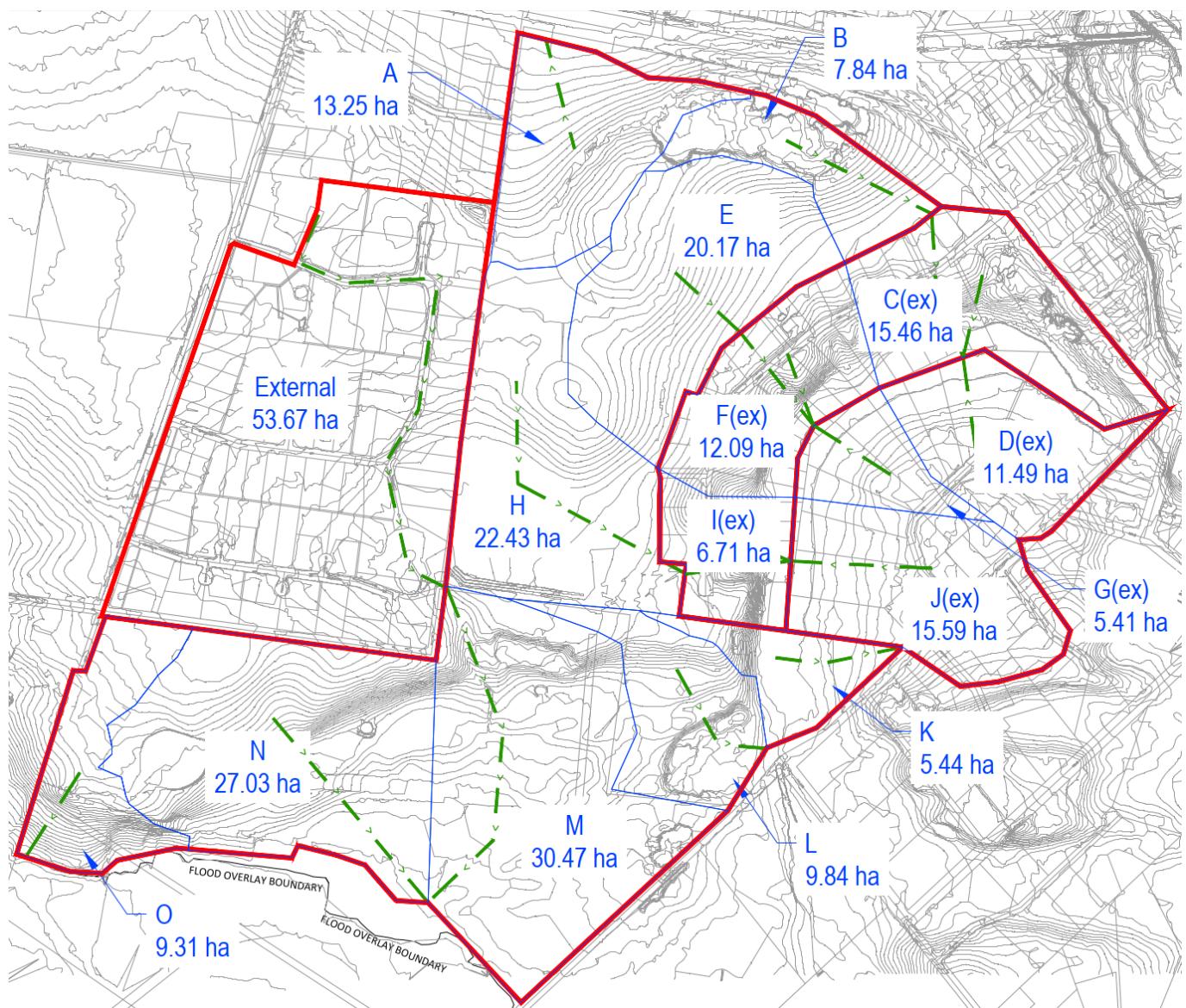


Figure 5: Pre-Developed Catchment Plan (Not to Scale)

**Table 1: Pre-Developed Catchment Plan – Fraction Imperviousness**

CATCHMENT	FRACTION IMPERVIOUSNESS
A – B	0.1
C(ex) – D(ex)	0.15
E	0.1
F(ex) – G(ex)	0.15
H	0.1
I(ex) – J(ex)	0.15
K – O	0.1
External	0.3

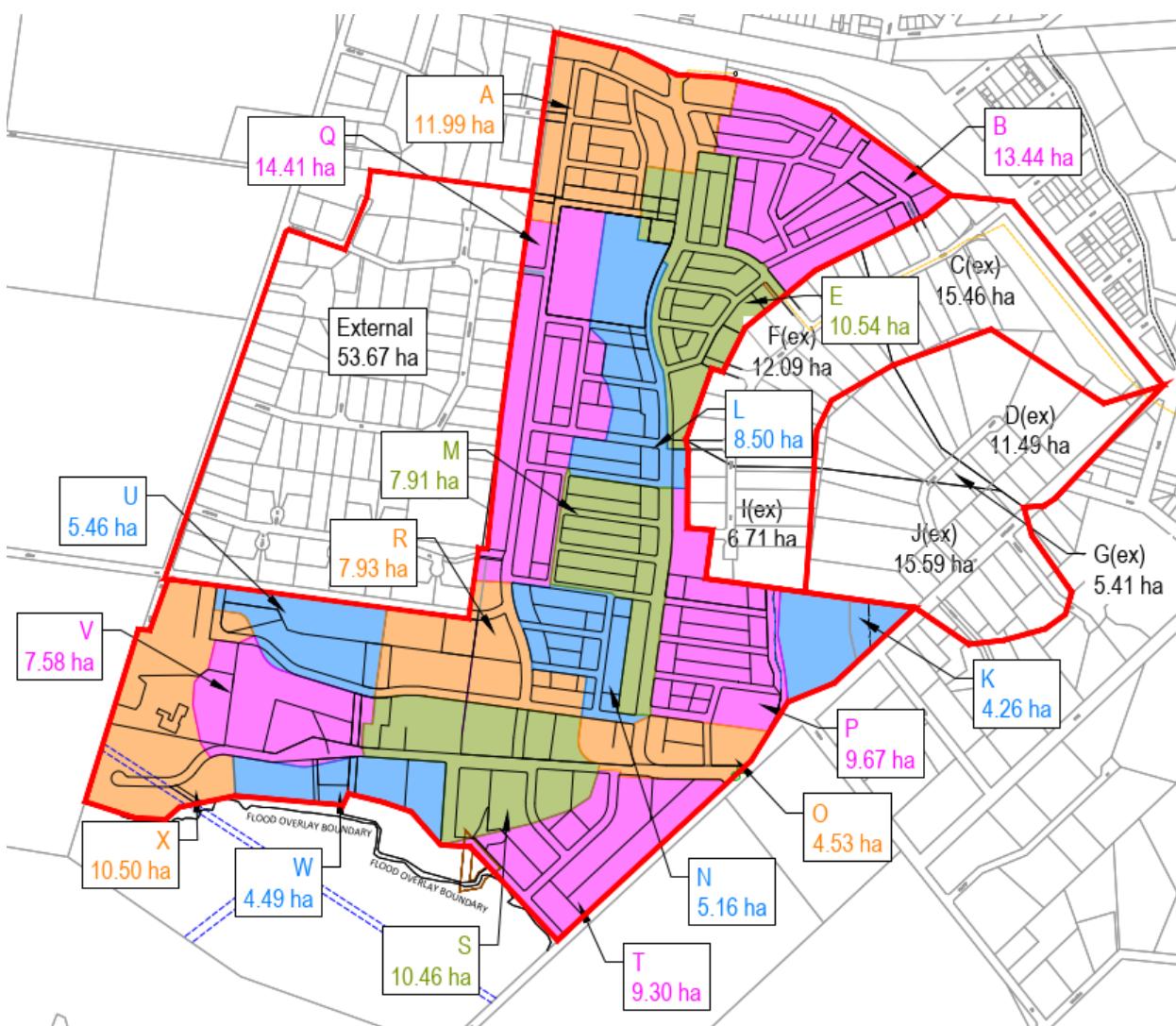


Figure 6: Post-Developed Catchment Plan (Not to Scale)

**Table 2: Post-Developed Catchment Plan – Fraction Imperviousness**

CATCHMENT	FRACTION IMPERVIOUSNESS
A – B	0.6
C(ex) – D(ex)	0.15
E	0.6
F(ex) – G(ex)	0.15
I(ex) – J(ex)	0.15
K	0.15
L – P	0.6
Q - R	0.6
S	0.5
T – X	0.3

The Rational Method was utilised to determine the existing flow conditions for the 1% AEP storm event. This is provided in Appendix B. This peak flow was then used to calibrate the RORB model using ARR2016, Ensemble Method. The temporal patterns, IDF data and losses were obtained from the ARR Data Hub website. The parameters for the RORB model are outlined in Table 2.

**Table 3: RORB Input Parameters**

PARAMETER	PRE-DEVELOPED	POST-DEVELOPED
$k_c$	2.14	2.72
$d_{av}$	0.92 km	1.17 km
$m$	0.8	0.8
IL	19.00 mm	19.00 mm
CL	3.00 mm/hr	3.00 mm/hr

The results of the 1% and 20% AEP pre-developed flow from the RORB model are shown in Table 3, and the results are provided in Appendix C.

**Table 4: Pre-developed peak flows for varying AEP ( $\text{m}^3/\text{s}$ )**

	OUTFALL NW (CATCH A)	OUTFALL LAGOON (CATCH B-G, I-K)	OUTFALL SE (CATCH B-L)	OUTFALL SOUTH (CATCH M-O, EXTERNAL)	TOTAL FLOW
18% AEP flow (6 hr storm event) (Temporal Pattern 8)	0.37 $\text{m}^3/\text{s}$	1.62 $\text{m}^3/\text{s}$	1.75 $\text{m}^3/\text{s}$	2.66 $\text{m}^3/\text{s}$	4.00 $\text{m}^3/\text{s}$
1% AEP flow (2hr storm event) (Temporal Pattern 25)	1.40 $\text{m}^3/\text{s}$	5.44 $\text{m}^3/\text{s}$	5.71 $\text{m}^3/\text{s}$	9.43 $\text{m}^3/\text{s}$	14.54 $\text{m}^3/\text{s}$

The results of the 1% and 20% AEP post-developed flow from the RORB model are shown in Table 4, and the results are provided in Appendix D.

**Table 5: Post-developed peak flows for varying AEP - undetained ( $\text{m}^3/\text{s}$ )**

	OUTFALL NW (CATCH A)	OUTFALL LAGOON (CATCH B-G, I-K)	OUTFALL RB SE (CATCH L-P)	OUTFALL SE (CATCH B-G, I-P)	OUTFALL SOUTH (CATCH Q-X, EXTERNAL)	TOTAL FLOW
18% AEP flow (1.5 hr storm event) (Temporal Pattern 9)	1.25 $\text{m}^3/\text{s}$	0.96 $\text{m}^3/\text{s}$	3.46 $\text{m}^3/\text{s}$	3.72 $\text{m}^3/\text{s}$	5.32 $\text{m}^3/\text{s}$	10.20 $\text{m}^3/\text{s}$
1% AEP flow (1 hr storm event) (Temporal Pattern 23)	2.62 $\text{m}^3/\text{s}$	3.66 $\text{m}^3/\text{s}$	7.56 $\text{m}^3/\text{s}$	8.42 $\text{m}^3/\text{s}$	15.87 $\text{m}^3/\text{s}$	26.31 $\text{m}^3/\text{s}$

### 3.2 Sub-surface Drainage (20% AEP)

The Legal Point of Discharges for the subject site will be to existing open channel on the east, existing floodplain area on the south and existing drainage system on the north-western corner (Refer to Figure 6).

The subsurface drainage networks for the development will convey all pipe flows to these discharge points, via the proposed water quality treatment facilities located within the proposed retarding basins throughout the site. The pipe networks will be adequately sized to convey the 20% AEP flows through the network.

### 3.3 Subject Site Overland Flow

The  $Q_{gap}$  post-developed overland flow from the proposed site will be discharged to the future development site to the east and south via the proposed subdivisional roads (Refer to Figure 7).

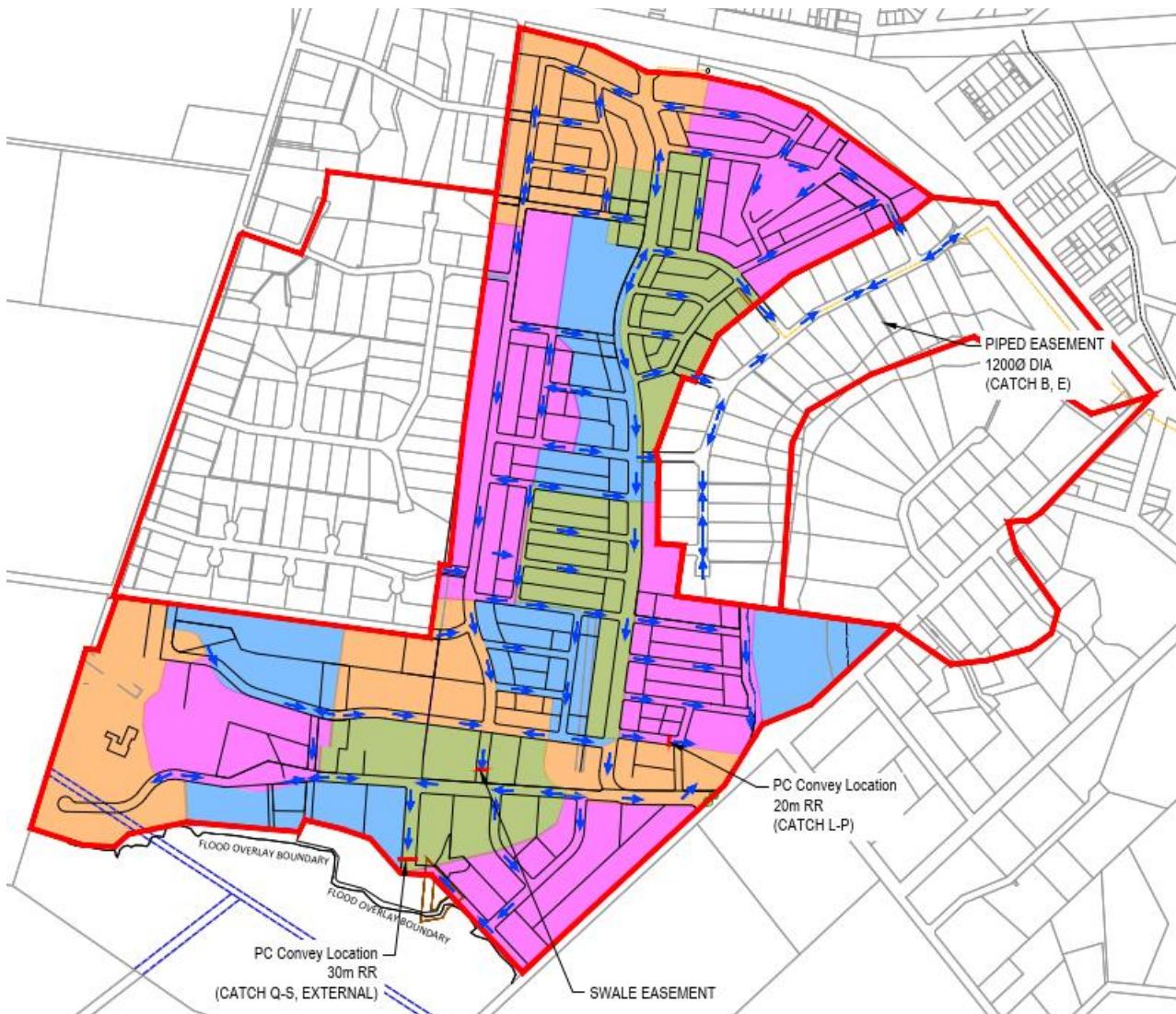


Figure 7: PC Convey Locations (Not to Scale)

Gap flow, which is the difference between the 1% AEP and 20% AEP post developed flows, was determined using the RORB calculations provided in Appendix D. The results are shown in Table 6.

**Table 6: Peak flows within critical road reserves for varying AEP ( $\text{m}^3/\text{s}$ )**

	20M RR (CATCH L-P)	30M RR (CATCH Q-S, EXTERNAL)	SWALE 2 (CATCH Q-R, EXTERNAL)
18% AEP flow (1.5 hr storm event) (Temporal Pattern 9)	2.05 $\text{m}^3/\text{s}$	3.72 $\text{m}^3/\text{s}$	4.53 $\text{m}^3/\text{s}$
1% AEP flow (1 hr storm event) (Temporal Pattern 23)	4.58 $\text{m}^3/\text{s}$	11.67 $\text{m}^3/\text{s}$	12.73 $\text{m}^3/\text{s}$
Gap Flow	2.53 $\text{m}^3/\text{s}$	7.95 $\text{m}^3/\text{s}$	8.20 $\text{m}^3/\text{s}$

The gap flow in the road reserve of 20m width, Catchment L-P (location shown in Figure 7), is expected to be 2.53  $\text{m}^3/\text{s}$ .

The  $Q_{gap}$  overland flows through the site achieves 146mm freeboard with a minimum nature strip grade of 1 in 14. This is shown in a PC Convey check that was done for the site and is shown in Figure 8 and Appendix F. Therefore, a minimum 5 mm high batter is required at the front of lots.

The average velocity ( $V_{av}$ ) of 0.94 m/s x average depth ( $D_{av}$ ) of 0.20 m is 0.19 m<sup>2</sup>/s, which is less than 0.35 m<sup>2</sup>/s. The average depth of 0.20 m is less than 0.30 m. The gap flow is therefore within WGCMA flood safety criteria.

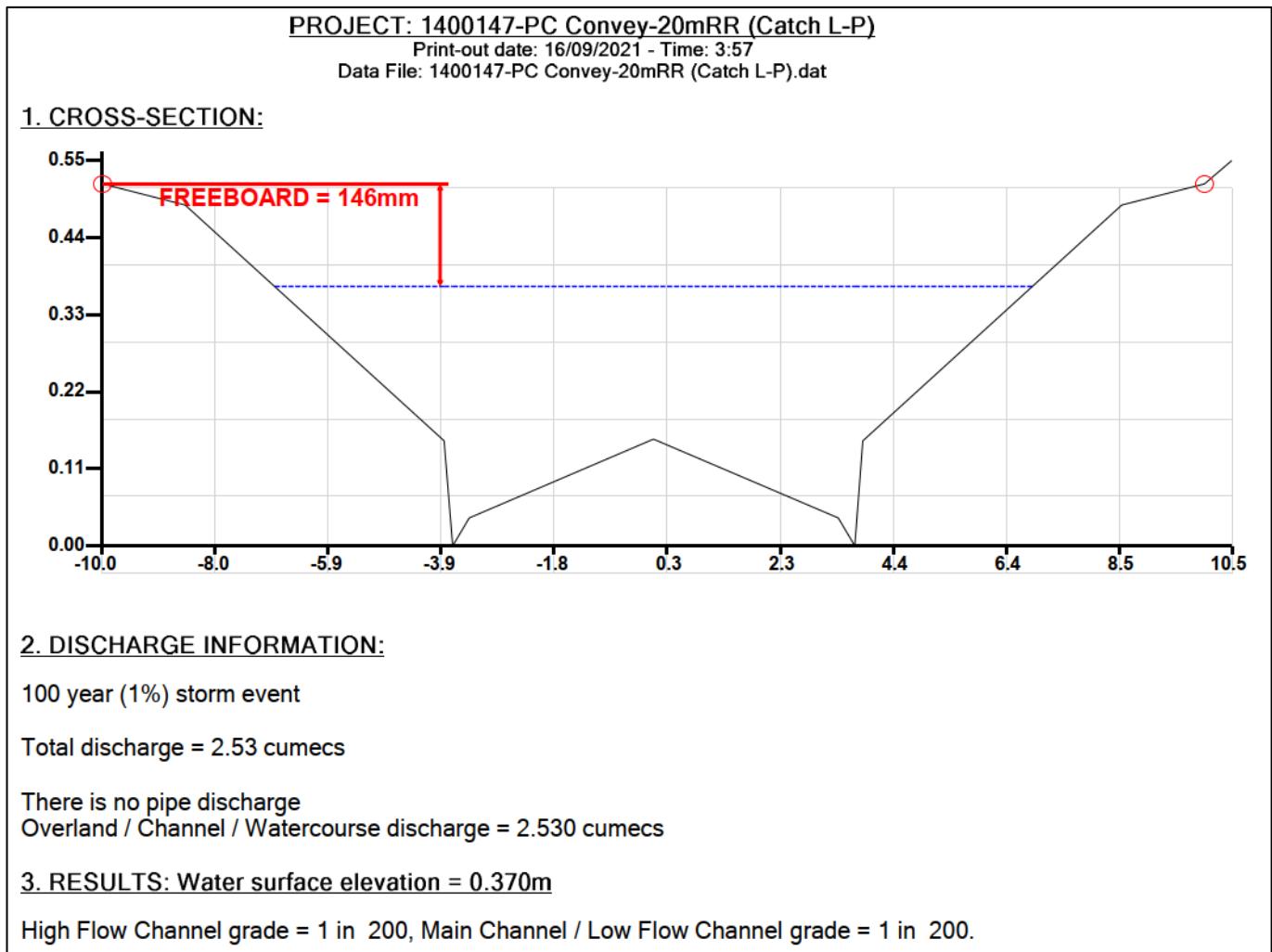


Figure 8: PC Convey Assessment for 20m Road Reserve (Not to Scale)

The flow in the road reserve of 30 m width, Catchment Q-S, External (location shown in Figure 7), is conservatively assumed to be 11.67 m<sup>3</sup>/s. This is the 1% AEP flow. This is because the overland flow upstream is conveyed via swales, and it is not confirmed whether the piped network will discharge into the swales located upstream or continue to be piped. This will be confirmed at Functional Design.

Due to the large flows being conveyed within the road reserve, and the road reserve being located within the low-density development, a 13 m wide swale was included to ensure lots achieve freeboard. The swale was designed as per the swale properties outlined in Table 7, and the nature strip grade to achieve freeboard was 1 in 20. This is shown in a PC Convey check that was done for the site and is shown in Figure 9 and Appendix F. The location of the swale is not fixed and can be placed on either side of the road, or alternatively within a median splitting the road into a dual carriageway. There will be a handful of driveways that will be crossing the swale on one side, which will have culverts sized to convey the 20% AEP flow underneath. The indicative sizing for each crossover is 1500 mm W x 750 mm box culvert. If for structural or cover reasons the culverts cannot be built, then an alternative of potentially splitting the road with a central swale may be looked at. The exact arrangement of the road reserve will be determined from further engineering design and considerations during the stage design.

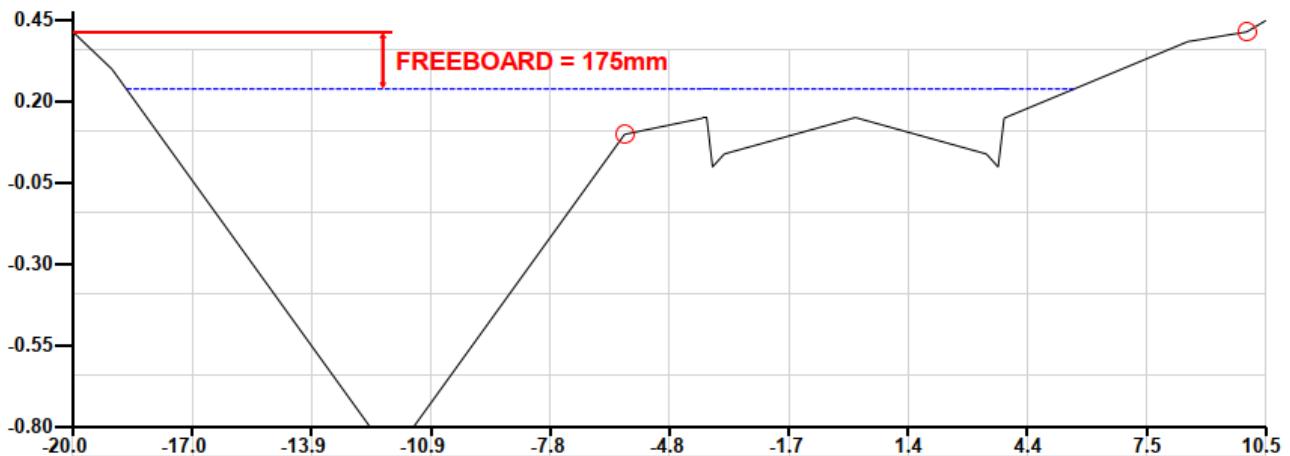
The maximum depth within the road reserve component is 0.24 m, therefore the average depth is less than 0.30 m. The flow within the road reserve is therefore within WGCMA flood safety criteria.

**PROJECT: 1400147-PC Convey-30mRR with Swale**

Print-out date: 06/04/2022 - Time: 12:51

Data File: 1400147-PC Convey-30mRR with Swale.dat

**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 11.67 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 11.67 cumecs

**3. RESULTS: Water surface elevation = 0.240m**

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

Figure 9: PC Convey Assessment for 30m Road Reserve (Not to Scale)

The flow in the Swale (Catchment Q-R, External – location shown in Figure 7), is conservatively assumed to be 12.73 m<sup>3</sup>/s. This is the 1% AEP flow, as it is not confirmed whether the External catchment will discharge directly into the swales or low flow will be conveyed in the underground drainage network. This will be confirmed at Functional Design.

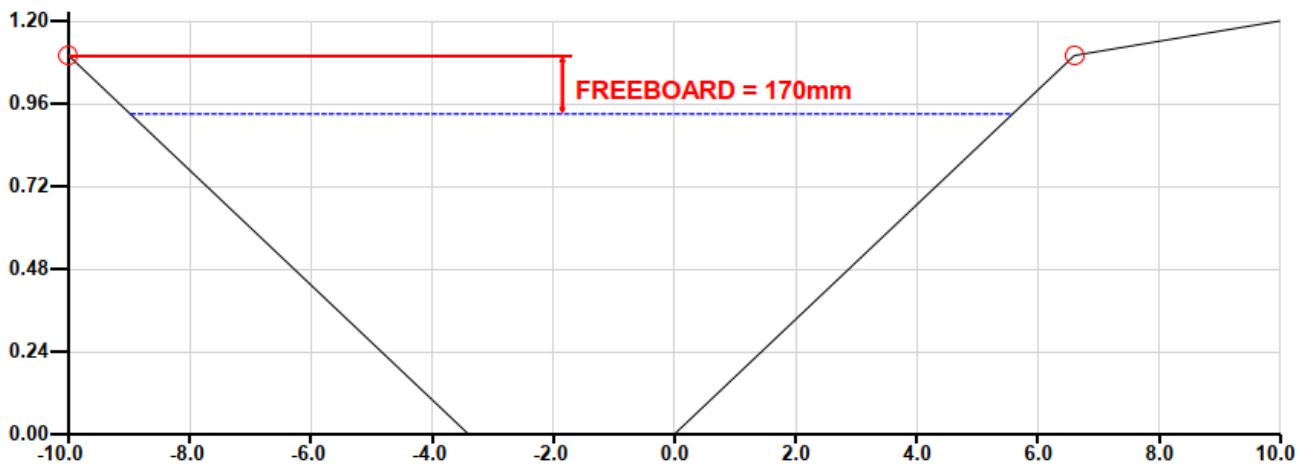
The overland flow achieves 170mm freeboard with a swale that has a depth of 1.1 m and top width of 14.6 m. The overall drainage reserve width is also 20 m to allow for maintenance access adjacent to the swale. This is shown in a PC Convey check that was done for the site and is shown in Figure 10 and Appendix F. The swale properties are provided in Table 7.

**PROJECT: 1400147-PC Convey-Swale**

**Comment**

Print-out date: 05/04/2022 - Time: 5:12  
Data File: 1400147-PC Convey-Swale.dat

**1. CROSS-SECTION:**



**2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 12.73 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 12.73 cumecs

**3. RESULTS: Water surface elevation = 0.930m**

High Flow Channel grade = 1 in 160, Main Channel / Low Flow Channel grade = 1 in 160.

Figure 10: PC Convey Assessment for Swale 2 (Not to Scale)

The swale within drainage reserve / easement has been sized accordingly to convey the gap flow with 170 mm freeboard. The swale within the road reserve has been sized to convey the gap flow with 175 mm freeboard. Their properties are shown in Table 7.

**Table 7: Swale properties**

	DEPTH	SIDE SLOPE	CHANNEL BED SLOPE	TOP WIDTH	BASE WIDTH	FREEBOARD
30m RR Swale	0.9 m	1 in 6	1 in 200	11.5 m	1.1 m	0.175 m
Swale	1.1 m	1 in 6	1 in 160	16.6 m	3.40 m	0.17 m

Catchment B & E discharge through The Ridge Estate, which is located east of the proposed development. An easement is located within Lot 30 to convey the overland flow from The Ridge, which also includes the flow from Catchment B & E within the proposed development. The design plans and location of the easement are shown in Figure 11 and Figure 12, and the design plans are included in Appendix G.

The flow that is to be conveyed with the easement is combined flow from Catchment B and Catchment E, which is 4.66 m<sup>3</sup>/s. This can be conveyed completely within a 1200 dia. drainage pipe with a grade of 1 in 30. 1 in 30 is the existing slope within Lot 30. Inlet pits at the low point (CH305.79) will be adequately sized to capture the gap flow.

The current drain is a 450 dia. RCP, which will need to be replaced and upgraded to the required 1200 dia. RCP. The pipe will also require an easement for maintenance purposes, which will be 2 m as per the Infrastructure Design Manual (IDM).

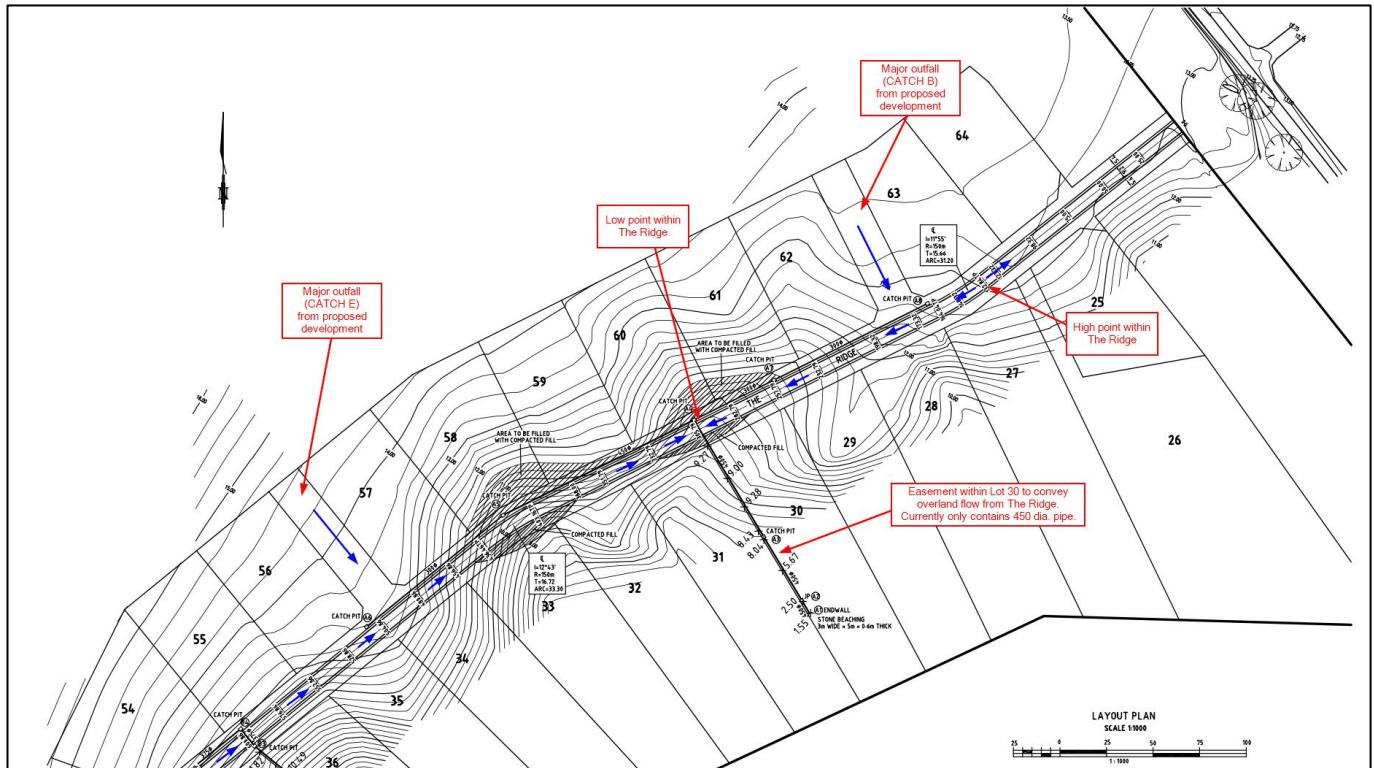


Figure 11: The Ridge Estate located east of proposed development (1 of 2) (Not to Scale)

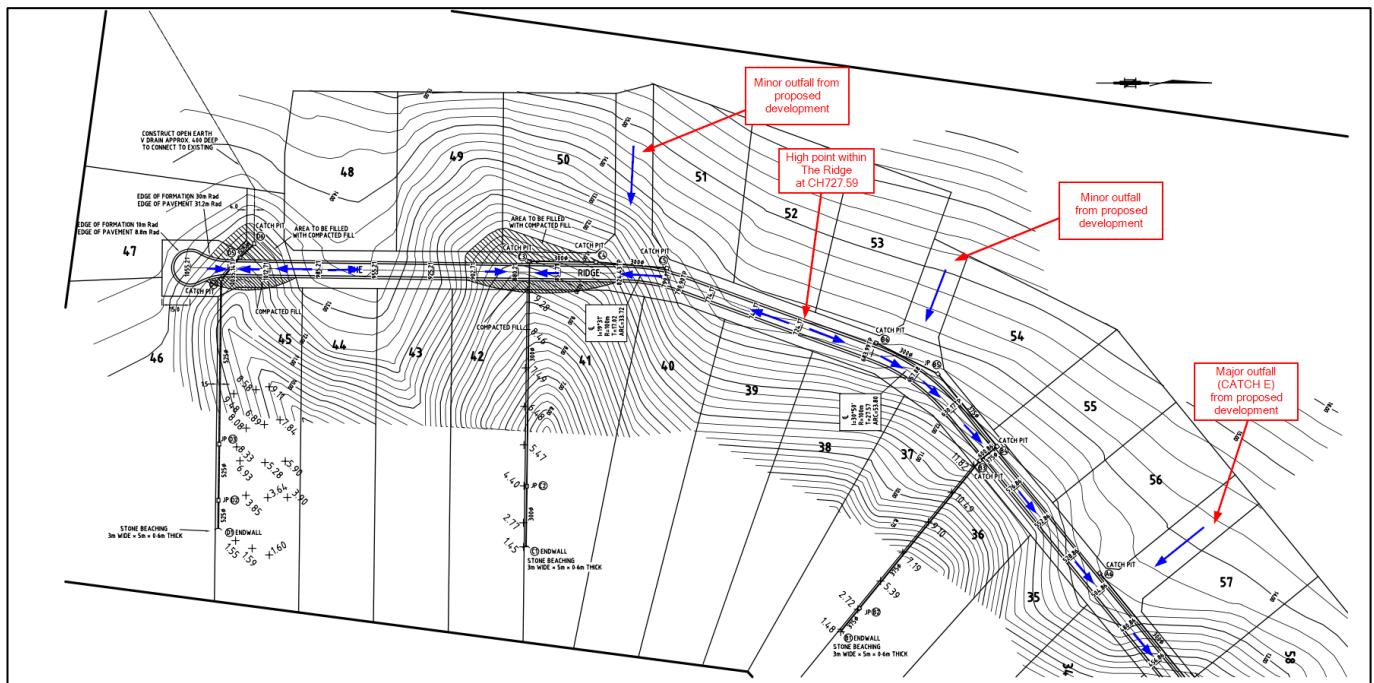


Figure 12: The Ridge Estate located east of proposed development (2 of 2) (Not to Scale)

### 3.4 Sizing of Detention Storage

The sizing of the sediment basin retarding basins (SBRB's) has been governed by the storage required to retard the flows back to predeveloped. Each of the SBRB's have been sized with 1 in 6 batter slopes to the NTWL. The detained

peak flows are provided in Table 8, and the indicative retarding basin properties of the SBRB's have been provided in Table 9. The indicative locations are shown in Figure 13.

**Table 8: Detained peak flows for varying AEP (m<sup>3</sup>/s)**

	OUTFALL NW (CATCH A)	OUTFALL LAGOON (CATCH B-G, I-K)	OUTFALL SE (CATCH B-G, I-P)	OUTFALL SOUTH (CATCH Q-X, EXTERNAL)	TOTAL FLOW
18% AEP flow (4.5 hr storm event) (Temporal Pattern 5)	0.27 m <sup>3</sup> /s	1.34 m <sup>3</sup> /s	1.89 m <sup>3</sup> /s	1.96 m <sup>3</sup> /s	3.99 m <sup>3</sup> /s
1% AEP flow (2 hr storm event) (Temporal Pattern 28)	0.95 m <sup>3</sup> /s	4.70 m <sup>3</sup> /s	5.86 m <sup>3</sup> /s	7.53 m <sup>3</sup> /s	13.65 m <sup>3</sup> /s

**Table 9: Indicative Retarding Basin properties of SBRB's**

LOCATION	STORAGE REQ'D (1% AEP FLOOD LEVEL)	SURFACE AREA (TOP OF BANK)	DEPTH (TOP OF BANK)	BATTER SLOPES	OUTFALL ARRANGEMENT
SBRB NW	2,670 m <sup>3</sup>	3,510 m <sup>2</sup>	1.2 m	1 in 6	2 x 525mm Ø pipe (subject to detail design)
SBRB SE	14,700 m <sup>3</sup>	14,220 m <sup>2</sup>	1.8 m	1 in 6	2 x 525mm Ø pipe (subject to detail design)
SBRB South	27,000 m <sup>3</sup>	18,570 m <sup>2</sup>	1.7 m	1 in 6	2 x 900mm (W) x 2100mm (H) BC (subject to detail design)
<b>TOTAL</b>	<b>44,370 m<sup>3</sup></b>				

The above peak flows and detention storage volumes results indicate that the 1% AEP post development peak flows can be detained to the pre-development level by providing a total detention storage of 43,370 m<sup>3</sup>.

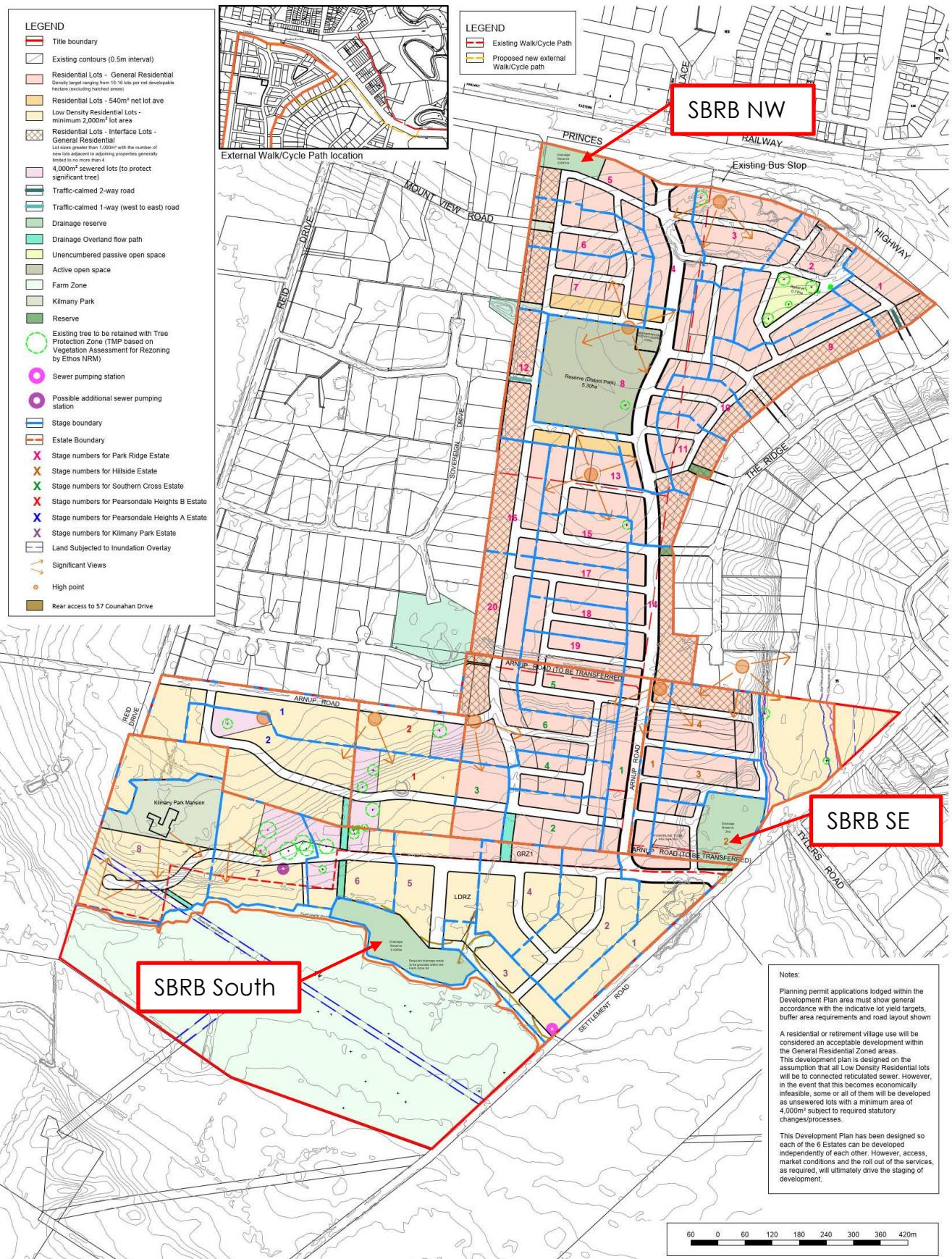


Figure 13: Location of SBRB's (Not to Scale)

## 4 STORMWATER QUALITY MANAGEMENT

Stormwater quality treatment objects requires all developments to provide minimum best-practice water quality treatment. The current standard according to the Urban Stormwater Best Practice Environmental Management Guidelines (BPEMG) are:

- 70% removal of the Total Gross Pollutant Load (Litter);
- 80% removal of Total Suspended Solids (TSS);
- 45% removal of Total Phosphorous (TP); and
- 45% removal of Total Nitrogen (TN).

Stormwater quality modelling was conducted using MUSIC (Model for Urban Stormwater Improvement Conceptualisation) for the proposed development site.

The layout of the MUSIC Model is shown in Figure 14 below and results of the MUSIC model are shown in Table 10. The proposed treatment will be 3 sedimentation basins located within the base of retarding basins, 2-kL rainwater tanks installed at each lot for re-use, as well as utilizing the existing 40 ML Kilmaney Park dam as part of a stormwater harvesting system to irrigate surrounding farm land. The proposed stormwater harvesting scheme (Section 5.2) will receive flows from the SBRB South and is included in the model to assess the benefit to the overall treatment train.

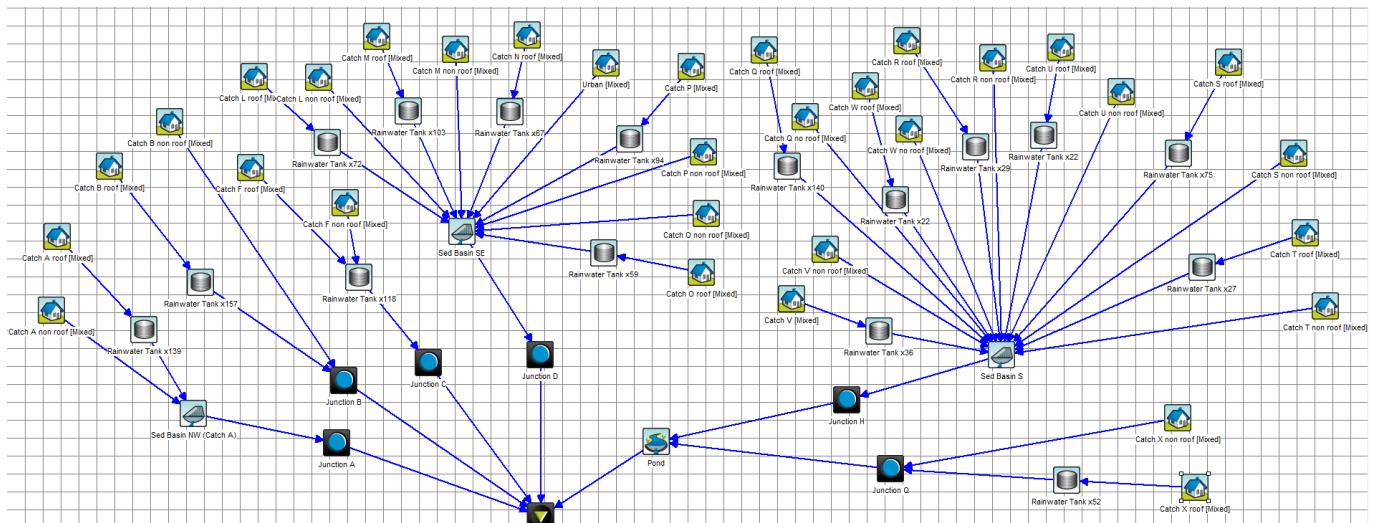


Figure 14: MUSIC Model Layout

**Table 10: MUSIC Model Results**

SITE TREATMENT	% REMOVAL	BPEMG TARGET % REMOVAL
Total Suspended Solids	86.2	80
Total Phosphorous	70.9	45
Total Nitrogen	49.5	45
Gross Pollutants	96.3	70

As shown in Table 10, the proposed treatment train can meet the best practice BPEMG standard. Details of the sedimentation basins are shown in Table 11. Location of the sediment basins are shown in the previous Figure 13.

**Table 11: Indicative Sediment Basin Properties of SBRB's**

LOCATION	SEDIMENTATION BASIN AREA	TOTAL DRAINAGE RESERVE AREA
SBRB NW	200 m <sup>2</sup>	6,900 m <sup>2</sup>
SBRB SE	400 m <sup>2</sup>	20,000 m <sup>2</sup>
SBRB South	200 m <sup>2</sup>	24,300 m <sup>2</sup>
<b>TOTAL</b>	<b>800 m<sup>2</sup></b>	<b>51,200 m<sup>2</sup></b>

A total drainage reserve area of approximately 51,200 m<sup>2</sup> for the proposed SBRB's, and 2-kL rainwater tanks for each Lot will be required to provide stormwater treatment for the development site, as well as the conversion of the existing dam to the south-west into a stormwater harvesting and irrigation treatment as supplementary treatment. Please note the drainage reserve area is dictated by the retarding basin storage volume required.

The design of the sedimentation basins will be in accordance with the specific technical details contained in the design and construction sections within the WSUD Technical Manual. The detailed designs of these WSUD assets have not yet been completed and these will be submitted to Council and CMA during the detailed design phase of the project.

## 5 STORMWATER VOLUME/WATER BALANCE ASSESSMENT

A Water Balance model was undertaken to assess the increase in the volume of runoff to the existing dam located to the external south of proposed SBRB south. This was to ensure that no increase in the volume offsite as the downstream receiving waterway is constrained by a levee downstream of Bristows Lane.

### 5.1 Water Balance

A MUSIC model was created using the proposed development site (excluding Catchment A which discharges to the NW), and 2-kL rainwater tanks provided for each Lot within those catchments. Rainfall data for this catchment was available from 1954-2010. The period 1991-2000 was chosen as this was the period that had a 10-year average closest to the total average of 1954-2010 (ensuring that no excessively wet / dry period were selected).

The re-use requirements of the lots were:

- New residential ( $>735 \text{ m}^2$ ) = 0.275 kL/house/day
- New residential (350 – 735 m<sup>2</sup>) = 0.22 kL/house/day

(Source: DELWP IWMS Preliminary Assessment Method\_Oct 15)

The results of the flux files are shown in Table 12. The calculations are provided in Appendix H.

**Table 12: Flux calculations for Development Site**

LOCATION	PRE-DEVELOPED	POST-DEVELOPED
Rainfall	77.6 ML/year	328 ML/year
Water usage	-	66.3 ML/year
Volume discharging from site	77.6 ML/year	261.7 ML/year
<b>Difference post-developed volume to pre-developed volume</b>		<b>184.1 ML/year</b>

As shown in Table 12, the increase in rainwater volume discharging to the south is 184.1 ML/year. In order to ensure no negative impacts on the downstream landowners, this excess volume will be potentially diverted to the existing dam located adjacent to the Kilmany Park Heritage site and be pumped and used for irrigation. The location of the existing dam is shown in Figure 15.



Figure 15: Existing dam located adjacent to Kilmany Park Heritage site

## 5.2 Stormwater Harvesting System

Kilmany Park is a working dairy farm that utilises significant amounts of water irrigating a 56 hectare laser graded area on the west side of Reid Drive and paddocks on the south side of the development plan area. It also supplies numerous cattle troughs spread across the overall farm. The proposed development plan will only lead the loss of a small part of the farm to residential lots.

The current sources of irrigation supply for the farm are:

- stormwater runoff from farmland within the development plan area the adjoining estates to its west. This stormwater is presently collected and directed to a 40ML reuse dam to the south of Kilmany Park via open channels in the southern portion of the farm adjacent to Settlement Road. The location and nature of this dam can be seen in **Figures 16 & 17**;
- water taken from the Thomson River under a 555 ML/year right. This water is pumped to a dam at the southwest corner of Reid Drive and the Princes Highway via a 250mm pipe running through existing easements. This dam and the pumping station that feeds water to the series of irrigation channels running through the 56 hectares of laser graded paddocks can be seen in **Figures 18 & 19**. The pumping station at the Thomson River that feeds the Kilmany Park Farm can be seen in **Figure 20**; and,
- a 422.4 ML/year groundwater licence.

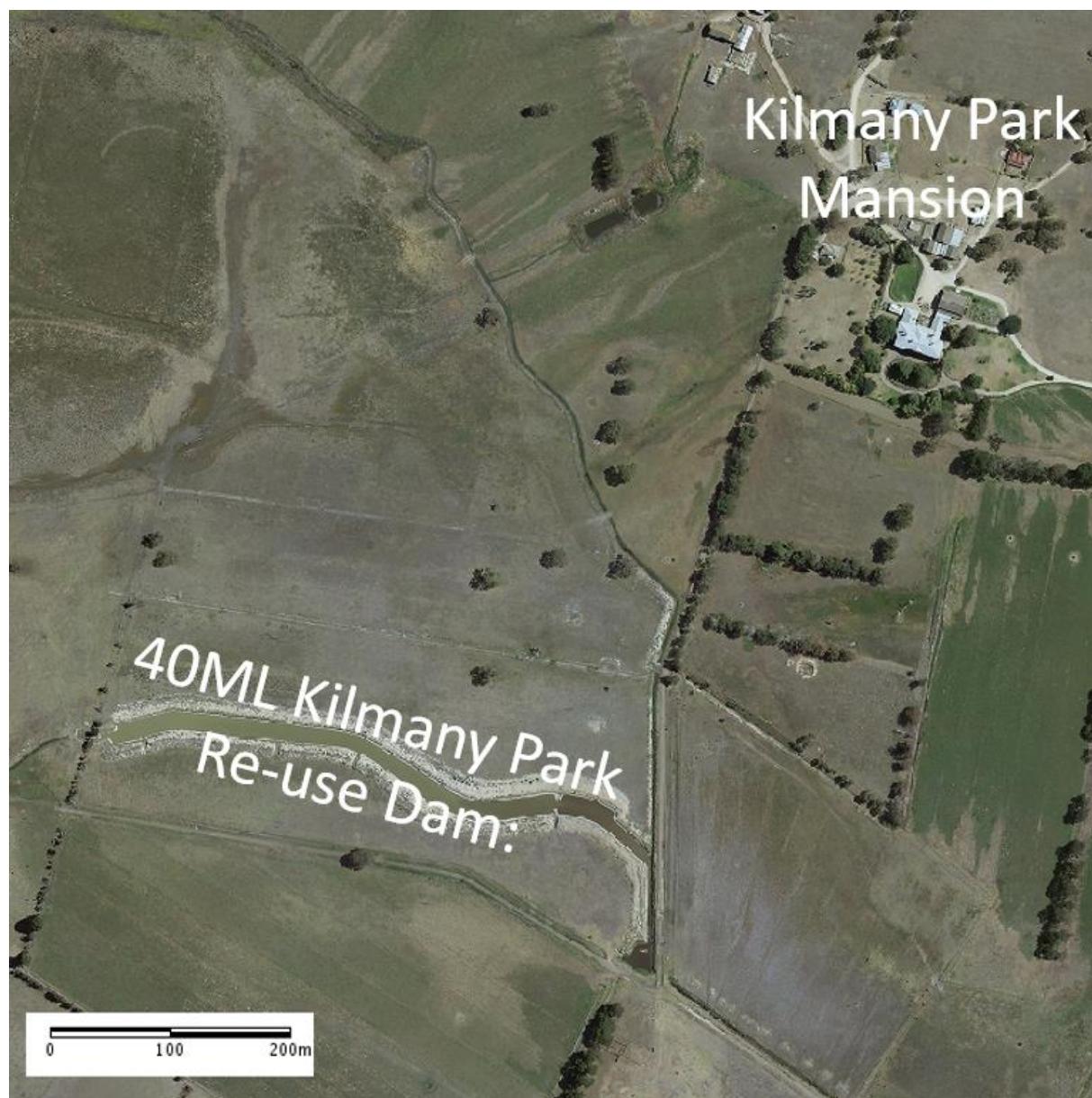


Figure 16: Aerial photo showing the location of the existing farm re-use dam located to the south of the Kilmany Park Mansion



Figure 17: Photo showing the existing southern Kilmany Park reuse dam to the south of the Kilmany Park Mansion and the pumping system that presently sends water to sprinkle irrigators in the southern portion of the farm

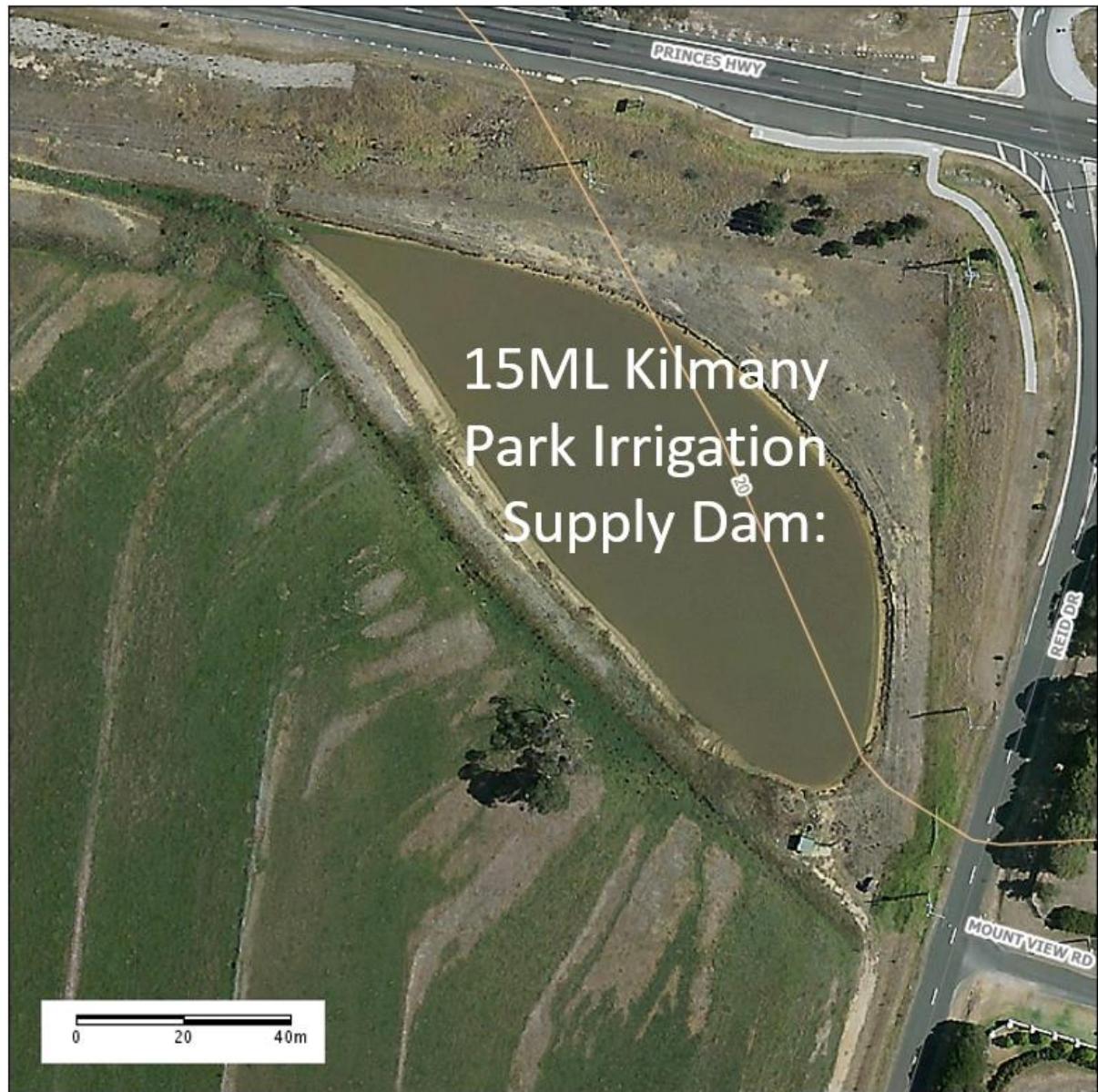


Figure 18: Aerial photo showing the location of the existing farm re-use dam located at the southwest corner of Reid Drive and the Princes Highway



Figure 19: Photo showing the the existing farm re-use dam located at the southwest corner of Reid Drive and the Princes Highway and the pumping station that sends water from it to the irrigation channels



Figure 20: Photo of the pumping station at the Thomson River via which the 550ML water right allows the pumping of water to Kilmany Park Farm via a 250mm underground pipe



Figure 21: Photo of the connection of the existing 250mm transfer pipe to the pumping station at the Thompson River

In order to ensure that there are no negative impacts on the downstream landowners as a result of the proposed development, the excess 184.1ML/year volume created by it will be diverted to the existing reuse dam located to the south of the Kilmany Park Homestead via existing channels in the southern portion of the farm. From there it will be pumped north to allow its use for irrigation across both the 56 hectare site on the west side of Reid Drive that is used for grazing as part of the Kilmany Park dairy farm and other parts of the farm.

This outcome has the potential to reduce the amount of water extracted from the Thomson River under the 555ML water license, allowing that water to be returned as environmental flow. It will also be feasible for excess water from the estate to be returned to the Thomson River through the irrigation pipe if there is excess by modifying it to allow water to flow back to the river via a gravity feed. The alignment along which water will be pumped between the southern reuse dam and the dam at the southwest corner of the Princes Highway and Reid Drive is shown in **Figure 22**.

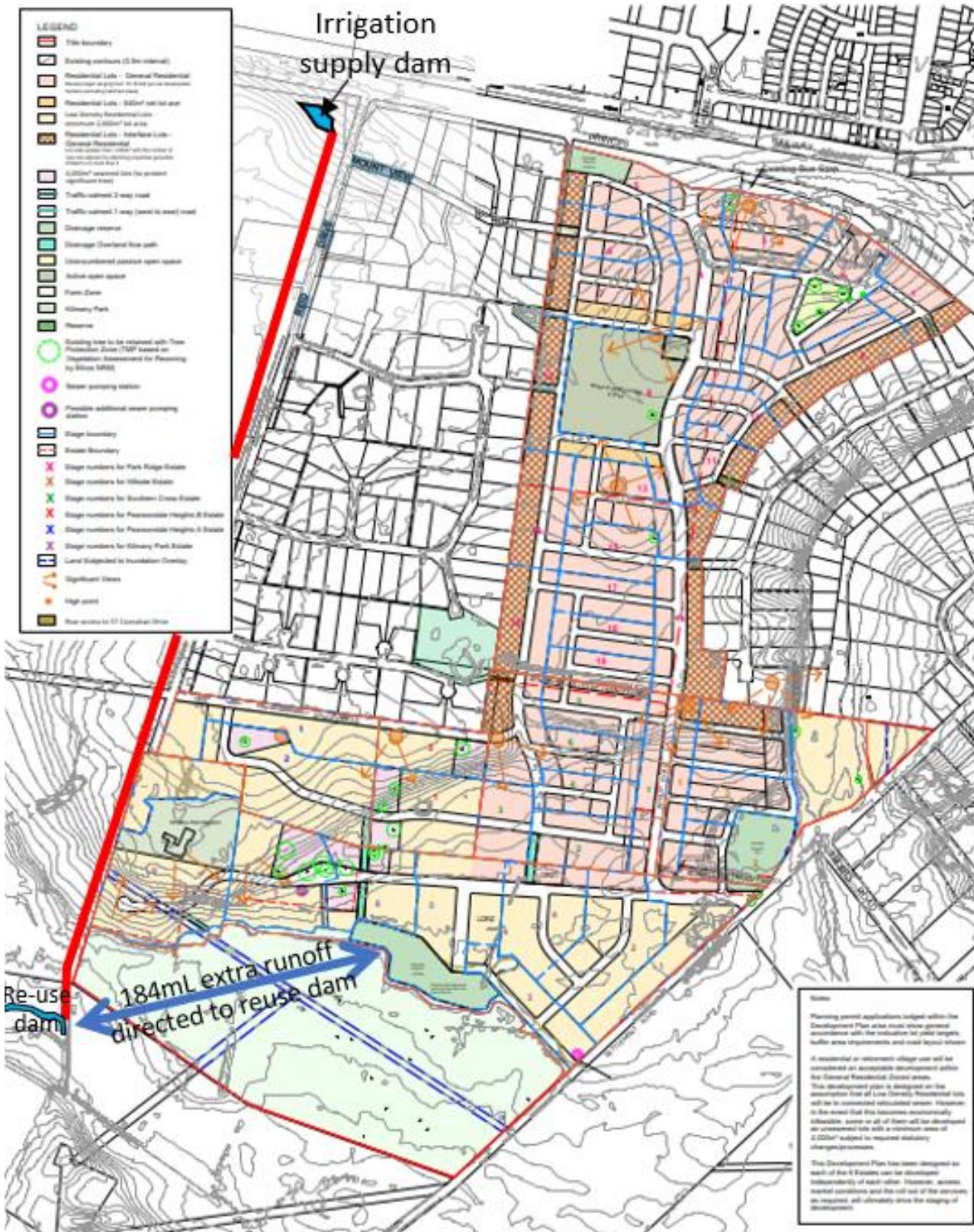


Figure 22: Map showing how stormwater will be directed from the southern retarding basin to the existing southern re-use dam and then pumped north to allow irrigation on the Kilmany Park dairy farm

**Figure 23** shows how the full stormwater harvesting system will operate with respect to the location of floodplains, irrigated paddocks, adjoining developments and the existing infrastructure on the Thomson River.

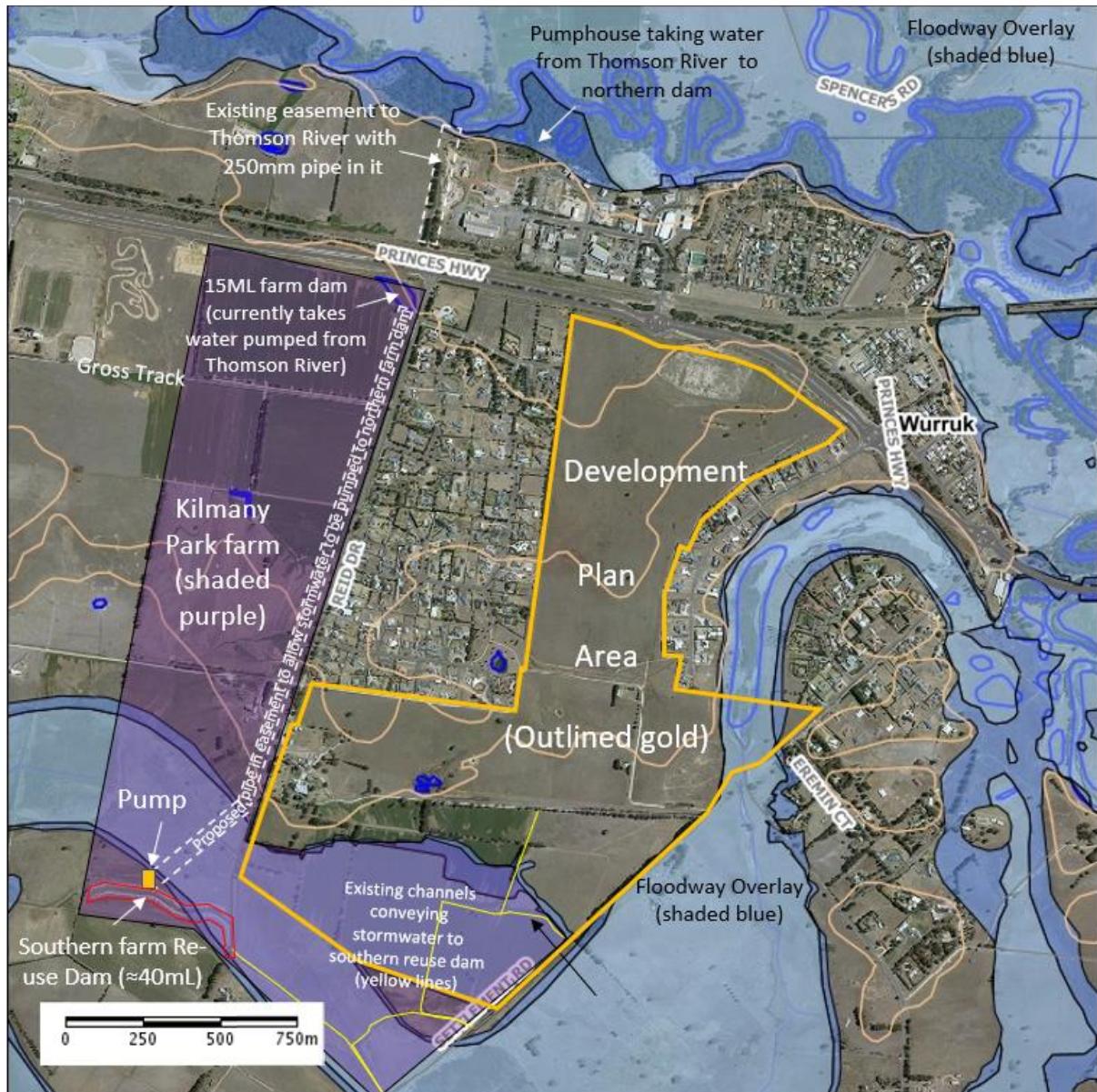


Figure 23: Map showing how the stormwater harvesting system will operate within the existing irrigation system on the Kilmany Park dairy farm

Discussions were also had with Council regarding the potential integrated water management benefits to the proposed sports fields if the harvested stormwater is used for irrigation there as well. However, Council expressed that they do not wish to implement a stormwater re-use scheme for the fields, and to exclude them from any stormwater harvesting scheme. Hence, all of the excess runoff will be used by the Kilmany Park farm.

The following works will be required to facilitate this stormwater harvesting system:

- The pump at the southern reuse dam be modified and relocated the location shown in **Figure 23**;
- 2 kilometres of pipe be laid along the alignment shown in **Figure 23** to allow water to be pumped between the 40ML reuse dam and the 15ML dam at the southwest corner of Reid Drive and Princes Highway;
- Modifications be made to the supply pipe from the Thomson River to allow it to also act as an outlet pipe to take excess flow back to the river when storage is at capacity on the Kilmany Park farm.

These materials and works will become an item in the Developer Contribution Plan to ensure fair distribution of costs amongst the estates benefitting from the capacity to harvest and reuse excess stormwater.

The result of the modifications to the irrigation system to allow the use of the excess runoff from the proposed development plan area will be:

- A reduction in the amount of water pumped from the Thomson River under licence by an average of 184 ML/year; and,
- Prevention of external properties to the south of the development plan area from being negatively impacted by additional stormwater outfall volumes from the proposed development; and,
- A reduction in the extent of stormwater treatment required in Council assets.

To ensure that the proposed Stormwater Re-use System is operational in perpetuity, it is understood that a Section 173 agreement will be required through any permit granted for the Kilmany Park Estate. This agreement will require that the southern re-use dam and all related stormwater re-use infrastructure as set out in this strategy must be maintained to the satisfaction of Council in perpetuity.

Any infrastructure to direct stormwater to the proposed re-use dam will be designed in such a manner that in the event that re-use dam is no longer required or is unable to take additional stormwater flows, stormwater is directed through the SRRB South basin to existing overland flow paths in accordance with the pre-developed rate of flow, planning scheme provisions and EPA's BPEMG. Operation and management of this stormwater infrastructure will be subject to design and a section 173 agreement.

## 6 CONCLUSION

This report has provided a drainage management strategy for the proposed South Wurruk Development Plan. The strategy provides a methodology for the management of stormwater on the subject site, which would result in:

- Construction of drainage assets to meet the likely requirements of West Gippsland CMA and Council, including 1% AEP capacity road reserves and underground drainage for the 20% AEP storm event as required;
- Volumes of stormwater detention requirements of 45,780 m<sup>3</sup> will be required to detain the proposed development site. This volume will be contained within the proposed 3 retarding basins located throughout the site, to cater for the designated sub-catchment areas;
- Stormwater quality treatment system required to meet BPMEG standard will be 3 sedimentation basins, 2-kL rainwater tanks to service each Lot, and a stormwater harvesting scheme including a 40 ML storage to irrigate neighbouring farm land. The sediment basins will be located within the proposed retarding basins;
- Installation of a pump & irrigation to remove the excess volume that is discharged into the existing dam (located to the external south of proposed SBRB south), to negate any negative impacts to native flora and fauna and neihbouring properties with additional volume runoff generated by future development.

The above strategy can be implemented and all WGCMA and Council's development requirements can be achieved, with no net effect on the downstream properties.

### BEVERIDGE WILLIAMS & CO PTY LTD

Prepared by

Jacqueline Woodlock  
Water Resources Engineer

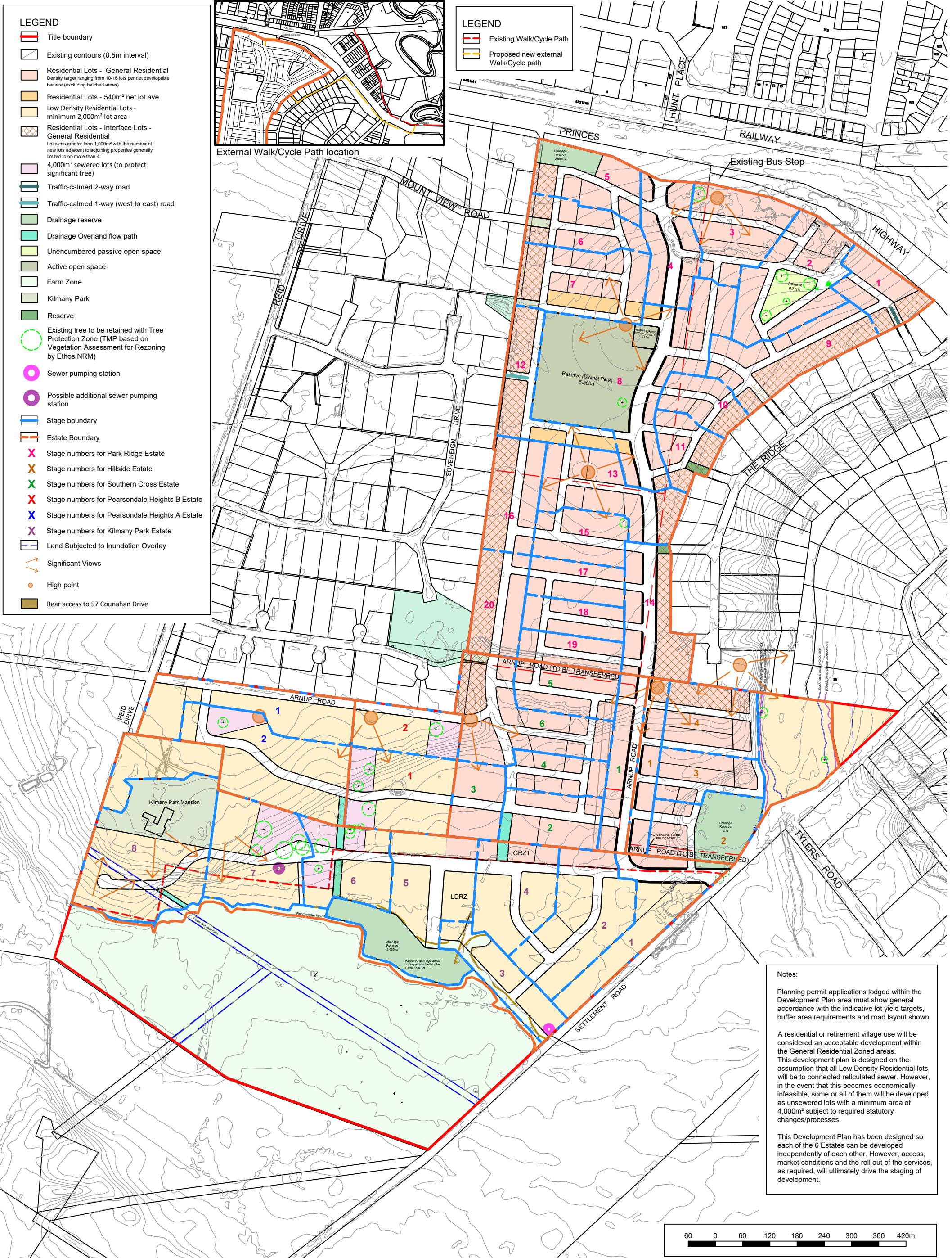
Reviewed by

Aram Manjikian  
Water Resources Engineering Manager

Approved for issue by

Chris Curnow  
Project Manager

## **APPENDIX A: INDICATIVE SUBDIVISION PLAN**



## Development Plan

Wurruk Growth Area

Jelaryl, Barry Hollonds, Pearnsdale Heights, and Park Ridge Investment



Melbourne ph : 03 9524 8888  
www.beveridgewilliams.com.au

05	13.10.21	Amendments as per Council comments	MJ	WEB	Date: 13.04.22
06	19.10.21	Amendments as per Council comments	MJ	WEB	Version No: 09
07	15.03.22	Amendments as per Council comments	MJ	WEB	Job No: 1400147
08	18.03.22	Amendments as per Council comments	MJ	WEB	Scale (A1): 1:3750
09	13.04.22	Amendments as per Council comments	WEB	WEB	(A3): 1:7500
Version	Date	Description	Drafted	Approved	

**APPENDIX B: RATIONAL METHOD CALCULATION**

Client:	Goldmate	Date:	10/02/2015
Project:	2175 Smiths Lane & 2125 Thompson Road, Clyde North (WEST)		
Subject:	PRE-DEVELOPMENT FLOW CALCULATIONS		
Job No:	1800297	By:	AH

Location :

ARI Year :

Coefficients						
a	b	c	d	e	f	g
3.88505	-0.64157	-0.01684	0.00598	-0.00016	0.00020	-0.00007

INPUT      1                  2                  3                  4A

5A                  6

Catchment	Area ha	Catchment Category	Catchment Type (For $f_p$ )	Calculated Tc	Manual Input Tc	Selected Tc	Selected $f_p$	Weighted $f_p$	Calculated C <sub>100</sub>	Manual Input C	Selected C <sub>100</sub>	Ae	SAe	I <sub>100</sub>	Q <sub>100</sub>
				mins	mins	mins						ha	ha	mm/hr	m <sup>3</sup> /s
Site Catchment	266.380	RURAL1	Rural - Environmental	66.17		66.17	0.15	0.150	0.331		0.331	88.28	88.284	45.70	11.207
TOTAL	266.380	RURAL1		66.17		66.17		0.150	0.331				88.284	45.70	11.207

Tc Calculated using :

$$t_c = 0.76 \times A^{0.38}$$

Weighted Frac Imperv using :

$$f = \sum \left( f_{area\_1} \times \frac{A_{area\_1}}{A_{total}} \right) + \left( f_{area\_2} \times \frac{A_{area\_2}}{A_{total}} \right)$$

Equation 5.4 AR&R

[Go to Fraction Impervious Table](#)

Directions:

- 1 Enter longest length of Catchment
- 2 Enter average slope of Catchment (Metre/Metre)
- 3 Choose surface type of catchment from drop down list (See n value table)

C10 Calculated using :

$$\begin{aligned} C_{10} &= Q_1 + Q_0 1.33 (I_{10} - 2.5) \\ C_{10} &= 0.9 \times f + C_{10} \times (1-f) \end{aligned}$$

Equation 14.11 and 14.12 AR&R

Q Calculated using :

$$Q = \frac{A_e \times i}{360}$$

Rational Method

- 4 Enter Area of Catchment (Ha)
- 5 Choose Catchment category to determine fraction impervious
- 6 Sum effective areas of catchments to determine Q

## **APPENDIX C: PRE-DEVELOPED RORB RESULTS**

# RORBWin Batch Run Summary

Program version 6.45 (last updated 20th March 2019)  
Copyright Monash University and Hydrology and Risk Consulting

Date run: 26 Apr 2021 10:32

Catchment file : K:\Jobs\Data\1400147 - Wurruk rezoning application\Wat\Models\RORB\Pre Dev\SWMS REV E\1400147-RORB-PreDev\_SWMS REV E.catg  
Rainfall location: User defined  
Temporal pattern : ARR2016 point temporal patterns  
Spatial pattern : Uniform  
Areal Red. Fact. : Based on ARR 2016 (Book 2 Chapter 4)  
Loss factors : Constant with ARI

Parameters: kc = 2.14 m = 0.80

Loss parameters	Initial loss (mm)	Cont. loss (mm/h)
	19.00	3.00

## Peak Description

- 01 Calculated hydrograph, Catch B
- 02 Calculated hydrograph, Catch E
- 03 Calculated hydrograph, Catch H
- 04 Calculated hydrograph, Lagoon outfall (Catch B-K)
- 05 Calculated hydrograph, Catch L
- 06 Calculated hydrograph, SE corner site discharge
- 07 Special storage : Ex. U/S RB - Outflow
- 08 Special storage : Ex. U/S RB - Inflow
- 09 Calculated hydrograph, Catch M-N, External
- 10 Calculated hydrograph, Catch M-O, External (South)
- 11 Calculated hydrograph, Catch A
- 12 Calculated hydrograph, Entire Site

Run	Duration	AEP	TPat	Rain(mm)	ARF	Peak0001	Peak0002	Peak0003	Peak0004	Peak0005
Peak0006	Peak0007	Peak0008	Peak0009	Peak0010	Peak0011	Peak0012				

1	10 min	20%	1	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	2	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	3	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	4	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	5	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	6	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	7	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	8	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	9	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
1	10 min	20%	10	11.60	0.94	0.0091	0.0596	0.0166	0.0697	0.0143
0.0724	0.7543	2.0702	0.2239	0.2334	0.0271	0.2819	0.0596	0.0166	0.0697	0.0143
2	15 min	20%	1	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.1487	2.2360	0.2868	0.3007	0.0376	0.3670	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	2	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.1442	2.1761	0.2869	0.3008	0.0376	0.3671	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	3	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.1648	2.3723	0.2873	0.3012	0.0376	0.3676	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	4	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.2945	2.6761	0.3005	0.3144	0.0376	0.3807	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	5	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.1519	2.2501	0.2870	0.3009	0.0376	0.3672	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	6	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.1806	2.5377	0.2881	0.3020	0.0376	0.3683	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	7	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.2945	2.6761	0.3005	0.3144	0.0376	0.3807	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	8	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.2945	2.6761	0.3005	0.3144	0.0376	0.3807	0.0827	0.0232	0.0956	0.0199
2	15 min	20%	9	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.2945	2.6761	0.3005	0.3144	0.0376	0.3807	0.0827	0.0232	0.0956	0.0199

2	15 min	20%	10	14.30	0.95	0.0126	0.0827	0.0232	0.0956	0.0199
0.0994	1.2945	2.6761	0.3005	0.3144	0.0376	0.3807				
3	20 min	20%	1	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.4043	2.4376	0.3514	0.3696	0.0460	0.4494				
3	20 min	20%	2	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.4341	2.4555	0.3413	0.3587	0.0460	0.4392				
3	20 min	20%	3	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.4766	2.4826	0.3497	0.3676	0.0460	0.4476				
3	20 min	20%	4	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.6233	3.0939	0.3517	0.3682	0.0460	0.4496				
3	20 min	20%	5	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.4160	2.4037	0.3511	0.3693	0.0460	0.4491				
3	20 min	20%	6	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.5373	2.8909	0.3433	0.3598	0.0460	0.4412				
3	20 min	20%	7	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.6571	3.1385	0.3565	0.3732	0.0460	0.4544				
3	20 min	20%	8	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.5320	2.8543	0.3434	0.3599	0.0460	0.4413				
3	20 min	20%	9	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.5198	2.7909	0.3443	0.3610	0.0460	0.4422				
3	20 min	20%	10	16.30	0.96	0.0155	0.1008	0.0284	0.1160	0.0243
0.1207	1.6571	3.1385	0.3565	0.3732	0.0460	0.4544				
4	25 min	20%	1	17.80	0.96	0.0176	0.1149	0.0325	0.1318	0.0277
0.1372	1.7619	3.0142	0.3978	0.4183	0.0524	0.5094				
4	25 min	20%	2	17.80	0.96	0.0176	0.1149	0.0325	0.1207	0.0277
0.1259	1.6206	2.9245	0.3982	0.4186	0.0524	0.5065				
4	25 min	20%	3	17.80	0.96	0.0176	0.1149	0.0325	0.1293	0.0277
0.1346	1.5943	2.7701	0.4005	0.4209	0.0524	0.5111				
4	25 min	20%	4	17.80	0.96	0.0176	0.1149	0.0325	0.1318	0.0277
0.1372	1.6877	2.7409	0.3997	0.4201	0.0524	0.5113				
4	25 min	20%	5	17.80	0.96	0.0176	0.1149	0.0325	0.1318	0.0277
0.1372	1.6771	2.6958	0.4000	0.4204	0.0524	0.5116				
4	25 min	20%	6	17.80	0.96	0.0176	0.1149	0.0325	0.1318	0.0277
0.1372	1.7187	2.8762	0.3986	0.4190	0.0524	0.5101				
4	25 min	20%	7	17.80	0.96	0.0176	0.1149	0.0325	0.1206	0.0277
0.1258	1.6462	2.9468	0.3989	0.4193	0.0524	0.5076				
4	25 min	20%	8	17.80	0.96	0.0176	0.1149	0.0325	0.1270	0.0277
0.1322	1.5889	2.7823	0.4004	0.4208	0.0524	0.5100				

4	25 min	20%	9	17.80	0.96	0.0176	0.1149	0.0325	0.1318	0.0277
0.1372	1.8035	3.2925	0.3930	0.4134	0.0524	0.5045	0.1149	0.0325	0.1318	0.0277
4	25 min	20%	10	17.80	0.96	0.0176	0.1149	0.0325	0.1318	0.0277
0.1372	1.6376	2.6645	0.4004	0.4208	0.0524	0.5119	0.1272	0.0361	0.1459	0.0307
5	30 min	20%	1	19.10	0.97	0.0196	0.1272	0.0361	0.1459	0.0307
0.1518	1.9573	3.3086	0.4409	0.4632	0.0581	0.5645	0.1040	0.0298	0.1276	0.0253
5	30 min	20%	2	19.10	0.97	0.0161	0.1040	0.0298	0.1276	0.0253
0.1326	1.7118	2.5262	0.4076	0.4283	0.0477	0.5161	0.1272	0.0361	0.1350	0.0307
5	30 min	20%	3	19.10	0.97	0.0196	0.1272	0.0361	0.1350	0.0307
0.1407	1.6692	2.5567	0.4304	0.4542	0.0581	0.5511	0.1272	0.0361	0.1459	0.0307
5	30 min	20%	4	19.10	0.97	0.0196	0.1272	0.0361	0.1459	0.0307
0.1518	1.8419	2.8579	0.4428	0.4657	0.0581	0.5665	0.1272	0.0361	0.1459	0.0307
5	30 min	20%	5	19.10	0.97	0.0196	0.1272	0.0361	0.1459	0.0307
0.1518	1.8493	2.8792	0.4427	0.4654	0.0581	0.5663	0.1272	0.0361	0.1347	0.0307
5	30 min	20%	6	19.10	0.97	0.0196	0.1272	0.0361	0.1347	0.0307
0.1405	1.8399	3.1230	0.4407	0.4648	0.0581	0.5621	0.1272	0.0361	0.1459	0.0307
5	30 min	20%	7	19.10	0.97	0.0196	0.1272	0.0361	0.1459	0.0307
0.1518	1.8821	3.0046	0.4423	0.4647	0.0581	0.5660	0.1183	0.0335	0.1314	0.0285
5	30 min	20%	8	19.10	0.97	0.0182	0.1183	0.0335	0.1314	0.0285
0.1370	1.9015	3.2773	0.4302	0.4529	0.0540	0.5471	0.1272	0.0361	0.1459	0.0307
5	30 min	20%	9	19.10	0.97	0.0196	0.1272	0.0361	0.1459	0.0307
0.1518	2.0283	3.5505	0.4410	0.4634	0.0581	0.5647	0.1272	0.0361	0.1459	0.0307
5	30 min	20%	10	19.10	0.97	0.0196	0.1272	0.0361	0.1459	0.0307
0.1518	2.0918	3.7170	0.4472	0.4695	0.0581	0.5708	0.1272	0.0361	0.1459	0.0307
6	45 min	20%	1	22.00	0.97	0.0493	0.2834	0.0934	0.3264	0.0756
0.3410	2.4378	3.0175	0.8025	0.8770	0.1379	1.1451	0.2811	0.0932	0.3253	0.0753
6	45 min	20%	2	22.00	0.97	0.0491	0.2811	0.0932	0.3253	0.0753
0.3398	2.5432	3.0898	0.8198	0.8959	0.1371	1.1630	0.2643	0.0864	0.3048	0.0701
6	45 min	20%	3	22.00	0.97	0.0456	0.2643	0.0864	0.3048	0.0701
0.3184	1.9530	2.2846	0.7715	0.8430	0.1281	1.0975	0.3383	0.1032	0.3391	0.0857
6	45 min	20%	4	22.00	0.97	0.0552	0.3383	0.1032	0.3391	0.0857
0.3545	2.6594	3.3752	0.8286	0.9065	0.1594	1.1940	0.2761	0.0915	0.3267	0.0724
6	45 min	20%	5	22.00	0.97	0.0477	0.2761	0.0915	0.3267	0.0724
0.3413	2.7702	3.8054	0.8179	0.8907	0.1313	1.1552	0.3443	0.1037	0.3479	0.0865
6	45 min	20%	6	22.00	0.97	0.0556	0.3443	0.1037	0.3479	0.0865
0.3635	2.9073	3.6387	0.8488	0.9276	0.1613	1.2162	0.2946	0.0943	0.3264	0.0771
6	45 min	20%	7	22.00	0.97	0.0500	0.2946	0.0943	0.3264	0.0771
0.3409	2.7154	3.6105	0.8305	0.9018	0.1416	1.1736				

6	45 min	20%	8	22.00	0.97	0.0455	0.2628	0.0862	0.3048	0.0698
0.3184	2.0979	2.9718	0.7648	0.8342	0.1275	1.0870				
6	45 min	20%	9	22.00	0.97	0.0499	0.2927	0.0942	0.3265	0.0769
0.3410	3.0060	4.0810	0.8370	0.9086	0.1410	1.1795				
6	45 min	20%	10	22.00	0.97	0.0545	0.3268	0.1023	0.3345	0.0843
0.3497	2.7212	3.4870	0.8372	0.9133	0.1556	1.2019				
7	1 hour	20%	1	24.20	0.98	0.0747	0.3939	0.1458	0.4894	0.1119
0.5125	2.1584	2.3950	1.1232	1.2468	0.1965	1.7017				
7	1 hour	20%	2	24.20	0.98	0.0763	0.4259	0.1458	0.4791	0.1164
0.5018	2.4815	3.0080	1.1449	1.2661	0.2104	1.7109				
7	1 hour	20%	3	24.20	0.98	0.0758	0.4197	0.1472	0.4920	0.1140
0.5151	2.2771	2.4143	1.1291	1.2553	0.2041	1.7064				
7	1 hour	20%	4	24.20	0.98	0.0793	0.4162	0.1544	0.5153	0.1191
0.5394	2.8948	3.5704	1.2035	1.3354	0.2101	1.8050				
7	1 hour	20%	5	24.20	0.98	0.0837	0.4674	0.1598	0.5297	0.1277
0.5541	3.1575	3.3351	1.2358	1.3613	0.2308	1.8326				
7	1 hour	20%	6	24.20	0.98	0.0753	0.4060	0.1477	0.5120	0.1141
0.5356	3.1191	4.0055	1.1888	1.3099	0.2041	1.7706				
7	1 hour	20%	7	24.20	0.98	0.0811	0.4321	0.1567	0.5295	0.1226
0.5541	3.0492	3.6457	1.2379	1.3633	0.2185	1.8310				
7	1 hour	20%	8	24.20	0.98	0.0799	0.4349	0.1538	0.5102	0.1213
0.5340	2.3737	2.7624	1.1801	1.2986	0.2174	1.7627				
7	1 hour	20%	9	24.20	0.98	0.1041	0.6542	0.1935	0.6033	0.1624
0.6316	4.9928	7.2442	1.4335	1.5745	0.3040	2.0888				
7	1 hour	20%	10	24.20	0.98	0.0959	0.5691	0.1806	0.5780	0.1481
0.6042	4.3567	5.6634	1.3362	1.4829	0.2725	1.9802				
8	1.5 hour	20%	1	27.60	0.98	0.0890	0.4258	0.1894	0.7373	0.1293
0.7728	2.0941	2.5544	1.4403	1.5808	0.2241	2.2320				
8	1.5 hour	20%	2	27.60	0.98	0.1054	0.5221	0.2120	0.7335	0.1553
0.7695	2.4979	3.4933	1.3877	1.5319	0.2693	2.3000				
8	1.5 hour	20%	3	27.60	0.98	0.1090	0.5527	0.2150	0.7137	0.1625
0.7482	2.5012	3.1900	1.4923	1.6620	0.2846	2.3625				
8	1.5 hour	20%	4	27.60	0.98	0.1304	0.6452	0.2570	0.8521	0.1940
0.8926	2.9259	3.1186	1.8220	2.0307	0.3378	2.8462				
8	1.5 hour	20%	5	27.60	0.98	0.0877	0.3744	0.1884	0.7465	0.1223
0.7827	2.9302	3.4617	1.4077	1.5465	0.1942	2.2316				
8	1.5 hour	20%	6	27.60	0.98	0.1254	0.6150	0.2476	0.8176	0.1863
0.8569	2.6407	2.7284	1.7337	1.9338	0.3234	2.7241				

8	1.5 hour	20%	7	27.60	0.98	0.0934	0.3935	0.1936	0.7477	0.1339
0.7834	2.8707	3.7699	1.4543	1.6022	0.2211	2.2825				
8	1.5 hour	20%	8	27.60	0.98	0.1289	0.6354	0.2549	0.8446	0.1915
0.8847	2.6861	3.2560	1.7691	1.9748	0.3326	2.7842				
8	1.5 hour	20%	9	27.60	0.98	0.1435	0.7978	0.2769	0.9027	0.2171
0.9450	4.9097	5.3701	1.9647	2.2033	0.3869	3.0349				
8	1.5 hour	20%	10	27.60	0.98	0.1609	0.9606	0.3079	0.9567	0.2450
1.0014	6.3643	7.8327	2.1100	2.3546	0.4465	3.2456				
9	2 hour	20%	1	30.30	0.98	0.1104	0.4540	0.2339	0.8823	0.1562
0.9264	1.6906	2.3717	1.5952	1.7779	0.2543	2.6580				
9	2 hour	20%	2	30.30	0.98	0.0930	0.3414	0.2062	0.8393	0.1279
0.8812	1.6065	2.3165	1.4287	1.5698	0.2021	2.4128				
9	2 hour	20%	3	30.30	0.98	0.1068	0.4459	0.2271	0.9133	0.1506
0.9574	1.6982	1.7300	1.6467	1.8092	0.2473	2.6150				
9	2 hour	20%	4	30.30	0.98	0.1327	0.5814	0.2735	1.0158	0.1908
1.0653	2.3720	2.5257	1.9661	2.1727	0.3171	3.0778				
9	2 hour	20%	5	30.30	0.98	0.1663	0.8758	0.3303	1.1041	0.2461
1.1566	3.8263	4.4480	2.2577	2.5182	0.4381	3.5839				
9	2 hour	20%	6	30.30	0.98	0.1387	0.6709	0.2839	0.9893	0.2018
1.0380	2.6727	3.2279	1.8854	2.0984	0.3492	3.0712				
9	2 hour	20%	7	30.30	0.98	0.1240	0.5652	0.2580	1.0073	0.1791
1.0561	2.2774	2.6045	1.8733	2.0633	0.3033	2.9460				
9	2 hour	20%	8	30.30	0.98	0.1478	0.6912	0.2961	1.0429	0.2172
1.0933	2.7020	2.9273	2.0251	2.2692	0.3715	3.2032				
9	2 hour	20%	9	30.30	0.98	0.1394	0.6569	0.2928	1.0994	0.1998
1.1520	3.4199	3.5135	2.1418	2.3655	0.3343	3.3366				
9	2 hour	20%	10	30.30	0.98	0.1568	0.7081	0.3205	1.1268	0.2270
1.1808	3.4775	3.7113	2.2261	2.5001	0.3796	3.5454				
10	3 hour	20%	1	34.50	0.98	0.1162	0.4929	0.2560	1.0017	0.1608
1.0507	1.9385	2.3307	1.6536	1.8365	0.2613	2.8995				
10	3 hour	20%	2	34.50	0.98	0.0922	0.3285	0.2122	1.0133	0.1254
1.0850	1.6008	1.8818	1.4499	1.5791	0.1932	2.5667				
10	3 hour	20%	3	34.50	0.98	0.0917	0.4014	0.2210	1.0889	0.1285
1.1456	1.7553	2.1447	1.5132	1.6598	0.2171	2.7591				
10	3 hour	20%	4	34.50	0.98	0.1022	0.4709	0.2322	1.1201	0.1414
1.1863	2.2619	2.8440	1.6392	1.7971	0.2381	2.8075				
10	3 hour	20%	5	34.50	0.98	0.1287	0.5001	0.2793	1.2198	0.1807
1.2747	1.5879	1.6235	1.9087	2.0851	0.2905	3.2349				

10	3 hour	20%	6	34.50	0.98	0.1363	0.5323	0.2932	1.2228	0.1908
1.2885	1.7663	1.8602	1.9321	2.1262	0.3068	3.3340				
10	3 hour	20%	7	34.50	0.98	0.1033	0.3436	0.2403	1.1093	0.1383
1.1634	1.2083	1.5445	1.5715	1.7196	0.2096	2.9199				
10	3 hour	20%	8	34.50	0.98	0.1345	0.6941	0.2666	1.1857	0.2015
1.2603	3.0490	3.5729	2.0185	2.2223	0.3551	3.0474				
10	3 hour	20%	9	34.50	0.98	0.1801	0.7508	0.3794	1.5084	0.2552
1.5876	2.8809	2.8863	2.5125	2.8091	0.4133	4.0735				
10	3 hour	20%	10	34.50	0.98	0.1592	0.6386	0.3419	1.4239	0.2222
1.4977	2.2693	2.4370	2.3555	2.6080	0.3533	3.8325				
11	4.5 hour	20%	1	39.70	0.99	0.0926	0.2953	0.2227	1.1560	0.1210
1.2375	0.9540	1.2607	1.4169	1.5418	0.1822	2.8146				
11	4.5 hour	20%	2	39.70	0.99	0.1252	0.4323	0.2956	1.3345	0.1694
1.4082	1.4164	1.6093	1.8264	1.9993	0.2619	3.4055				
11	4.5 hour	20%	3	39.70	0.99	0.1067	0.3833	0.2604	1.2858	0.1403
1.3675	1.5868	1.7698	1.6083	1.7473	0.2220	3.1616				
11	4.5 hour	20%	4	39.70	0.99	0.1108	0.3887	0.2496	1.2483	0.1506
1.3272	1.2874	1.5007	1.6118	1.7742	0.2337	3.0258				
11	4.5 hour	20%	5	39.70	0.99	0.1248	0.3883	0.3041	1.3766	0.1624
1.4628	1.2892	1.6121	1.8260	1.9967	0.2409	3.6644				
11	4.5 hour	20%	6	39.70	0.99	0.1638	0.6542	0.3668	1.5192	0.2264
1.5955	2.3896	2.6742	2.1779	2.3874	0.3648	4.0788				
11	4.5 hour	20%	7	39.70	0.99	0.1431	0.4613	0.3416	1.4806	0.1883
1.5539	1.5389	1.7843	2.0590	2.2594	0.2824	3.9769				
11	4.5 hour	20%	8	39.70	0.99	0.1099	0.3197	0.2707	1.3322	0.1410
1.4102	1.0022	1.0466	1.6537	1.7979	0.2044	3.3124				
11	4.5 hour	20%	9	39.70	0.99	0.1597	0.5485	0.3767	1.6937	0.2145
1.7798	1.6786	1.7917	2.3634	2.5840	0.3314	4.3888				
11	4.5 hour	20%	10	39.70	0.99	0.1927	0.7453	0.4194	1.7349	0.2687
1.8249	2.4314	2.6037	2.6557	2.9113	0.4304	4.6525				
12	6 hour	20%	1	44.00	0.99	0.1077	0.3860	0.2630	1.3177	0.1415
1.3972	1.6011	1.8012	1.6209	1.7609	0.2238	3.1942				
12	6 hour	20%	2	44.00	0.99	0.1025	0.3943	0.2410	0.9714	0.1386
1.0226	1.4100	1.6678	1.4589	1.6092	0.2236	2.6812				
12	6 hour	20%	3	44.00	0.99	0.0770	0.2280	0.2008	1.0130	0.0972
1.1014	0.9363	1.0533	1.1495	1.2490	0.1408	2.4790				
12	6 hour	20%	4	44.00	0.99	0.1024	0.3485	0.2367	1.1450	0.1361
1.2442	1.5933	1.8725	1.5406	1.6855	0.2095	2.7899				

12	6 hour	20%	5	44.00	0.99	0.0929	0.2897	0.2336	1.2638	0.1201
1.3731	0.9510	1.2043	1.4116	1.5312	0.1765	2.9441				
12	6 hour	20%	6	44.00	0.99	0.1112	0.3511	0.2729	1.4724	0.1458
1.5786	1.3230	1.5886	1.6845	1.8293	0.2156	3.3692				
12	6 hour	20%	7	44.00	0.99	0.1001	0.3523	0.2535	1.3700	0.1327
1.4752	1.2148	1.2718	1.5062	1.6342	0.2097	3.1795				
12	6 hour	20%	8	44.00	0.99	0.1674	0.6634	0.3624	1.6175	0.2330
1.7519	2.4331	2.7297	2.3955	2.6605	0.3705	3.9953				
12	6 hour	20%	9	44.00	0.99	0.1906	0.6528	0.4418	1.8403	0.2547
1.9356	2.1290	2.4324	2.6927	2.9680	0.3877	4.9746				
12	6 hour	20%	10	44.00	0.99	0.2070	0.7939	0.4619	1.9370	0.2851
2.0282	2.8184	2.9880	2.7962	3.0527	0.4541	5.1507				
13	9 hour	20%	1	51.10	0.99	0.0904	0.3926	0.2017	0.8677	0.1301
0.9055	1.3532	1.4020	1.3384	1.4600	0.2169	2.2675				
13	9 hour	20%	2	51.10	0.99	0.0823	0.3487	0.2080	0.9066	0.1160
0.9625	1.1940	1.3812	1.2111	1.3227	0.1934	2.3781				
13	9 hour	20%	3	51.10	0.99	0.0954	0.3096	0.2416	1.2164	0.1223
1.3250	1.1168	1.3648	1.3604	1.4756	0.1852	2.9429				
13	9 hour	20%	4	51.10	0.99	0.1281	0.4217	0.3059	1.4653	0.1690
1.5579	1.4830	1.6038	1.8558	2.0355	0.2534	3.5231				
13	9 hour	20%	5	51.10	0.99	0.1019	0.3260	0.2501	1.1700	0.1335
1.2280	0.9931	1.0101	1.4611	1.6039	0.2011	2.8939				
13	9 hour	20%	6	51.10	0.99	0.1197	0.3689	0.3047	1.5530	0.1556
1.6567	1.1177	1.1239	1.7827	1.9313	0.2307	3.7392				
13	9 hour	20%	7	51.10	0.99	0.1028	0.3953	0.2446	1.0790	0.1411
1.1328	1.3551	1.4255	1.4856	1.6147	0.2256	2.8306				
13	9 hour	20%	8	51.10	0.99	0.1654	0.5218	0.4149	2.0885	0.2161
2.2415	1.5509	1.6307	2.4715	2.6829	0.3250	5.0154				
13	9 hour	20%	9	51.10	0.99	0.1566	0.4820	0.3940	1.8486	0.2021
1.9931	1.6999	1.7621	2.2359	2.4483	0.2996	4.6471				
13	9 hour	20%	10	51.10	0.99	0.1725	0.6013	0.4123	1.9099	0.2257
1.9917	1.8811	1.9224	2.5059	2.7413	0.3490	4.6973				
14	12 hour	20%	1	57.00	0.99	0.0824	0.2877	0.1917	0.9800	0.1107
1.0386	0.9291	0.9846	1.1547	1.2615	0.1710	2.2811				
14	12 hour	20%	2	57.00	0.99	0.1137	0.4935	0.2604	1.2734	0.1618
1.3501	1.6313	1.6295	1.7855	1.9450	0.2710	3.0323				
14	12 hour	20%	3	57.00	0.99	0.0489	0.1915	0.1192	0.5142	0.0660
0.5371	0.6450	0.7797	0.7888	0.8602	0.1063	1.3751				

14	12 hour	20%	4	57.00	0.99	0.0900	0.2918	0.2158	1.0615	0.1193
1.1274	0.9034	0.9111	1.3255	1.4324	0.1802	2.6500				
14	12 hour	20%	5	57.00	0.99	0.1069	0.3436	0.2664	1.4600	0.1408
1.5632	1.0901	1.1862	1.5810	1.7115	0.2114	3.3393				
14	12 hour	20%	6	57.00	0.99	0.0462	0.1431	0.1273	0.7245	0.0590
0.7803	0.5454	0.5789	0.7499	0.8057	0.0894	1.6577				
14	12 hour	20%	7	57.00	0.99	0.1041	0.3395	0.2506	1.3896	0.1360
1.4913	1.1765	1.2623	1.5583	1.7006	0.2011	3.1071				
14	12 hour	20%	8	57.00	0.99	0.1322	0.4225	0.3160	1.6821	0.1746
1.8095	1.3513	1.4402	1.8797	2.0663	0.2629	3.8575				
14	12 hour	20%	9	57.00	0.99	0.1872	0.6105	0.4607	2.2099	0.2474
2.3228	1.8996	2.0006	2.6634	2.8880	0.3736	5.5049				
14	12 hour	20%	10	57.00	0.99	0.1499	0.4965	0.3586	1.4801	0.1993
1.5363	1.7366	1.9622	2.1164	2.3326	0.3040	4.0264				
15	18 hour	20%	1	66.50	1.00	0.0534	0.1798	0.1355	0.7599	0.0686
0.8221	0.5612	0.6520	0.8734	0.9428	0.1047	1.8024				
15	18 hour	20%	2	66.50	1.00	0.1095	0.3917	0.2448	1.2068	0.1497
1.3047	1.2968	1.2998	1.6769	1.8439	0.2341	2.9833				
15	18 hour	20%	3	66.50	1.00	0.0512	0.1690	0.1210	0.6025	0.0673
0.6312	0.9139	0.9366	0.9664	1.0365	0.0994	1.6582				
15	18 hour	20%	4	66.50	1.00	0.0542	0.1659	0.1432	0.8143	0.0694
0.8699	0.5504	0.6024	0.8594	0.9238	0.1010	1.8503				
15	18 hour	20%	5	66.50	1.00	0.0608	0.2119	0.1463	0.7247	0.0829
0.7557	0.7804	1.0427	0.9864	1.0781	0.1286	1.7455				
15	18 hour	20%	6	66.50	1.00	0.0466	0.1623	0.1116	0.6022	0.0633
0.6321	0.5406	0.5922	0.7457	0.8065	0.0980	1.4549				
15	18 hour	20%	7	66.50	1.00	0.0417	0.1183	0.1100	0.6005	0.0522
0.6425	0.4092	0.4249	0.6671	0.7202	0.0752	1.4219				
15	18 hour	20%	8	66.50	1.00	0.0818	0.2591	0.2199	1.0986	0.1051
1.2000	0.8385	0.9031	1.2748	1.3744	0.1581	2.7165				
15	18 hour	20%	9	66.50	1.00	0.0559	0.1528	0.1544	0.8214	0.0691
0.8905	0.5012	0.5174	0.8717	0.9411	0.0984	1.9300				
15	18 hour	20%	10	66.50	1.00	0.1703	0.5957	0.3903	2.0724	0.2309
2.1683	1.6944	1.7210	2.3691	2.6244	0.3581	4.8454				
16	24 hour	20%	1	73.90	1.00	0.0485	0.1639	0.1227	0.6017	0.0637
0.6504	0.5745	0.6936	0.7657	0.8320	0.0948	1.5186				
16	24 hour	20%	2	73.90	1.00	0.0461	0.1649	0.1172	0.6997	0.0615
0.7511	0.5711	0.6480	0.7768	0.8349	0.0973	1.5643				



Run,      Representative hydrograph  
2      dur15min\_aep20tp7.out  
Run,      Representative hydrograph  
3      dur20min\_aep20tp5.out  
Run,      Representative hydrograph  
4      dur25min\_aep20tp6.out  
Run,      Representative hydrograph  
5      dur30min\_aep20tp9.out  
Run,      Representative hydrograph  
6      dur45min\_aep20tp7.out  
Run,      Representative hydrograph  
7      dur1hour\_aep20tp4.out  
Run,      Representative hydrograph  
8      dur1\_5hour\_aep20tp6.out  
Run,      Representative hydrograph  
9      dur2hour\_aep20tp4.out  
Run,      Representative hydrograph  
10     dur3hour\_aep20tp8.out  
Run,      Representative hydrograph  
11     dur4\_5hour\_aep20tp5.out  
Run,      Representative hydrograph  
12     dur6hour\_aep20tp1.out  
Run,      Representative hydrograph  
13     dur9hour\_aep20tp4.out  
Run,      Representative hydrograph  
14     dur12hour\_aep20tp7.out  
Run,      Representative hydrograph  
15     dur18hour\_aep20tp4.out  
Run,      Representative hydrograph  
16     dur24hour\_aep20tp10.out  
Run,      Representative hydrograph  
17     dur30hour\_aep20tp1.out

Elapsed Run Time (hh:mm:ss) = 00:00:04

RORBWin Batch Run Summary

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Program version 6.45 (last updated 20th March 2019)

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Date run: 26 Apr 2021 10:21

Catchment file : K:\Jobs Data\1400147 - Wurruk rezoning application\\_Wat\Models\RORB\Pre Dev\SWMS REV E\1400147-RORB-PreDev\_SWMS REV E.catg

Rainfall location: User defined

Temporal pattern : ARR2016 point temporal patterns

Spatial pattern : Uniform

Areal Red. Fact. : Based on ARR 2016 (Book 2 Chapter 4)

Loss factors : Constant with ARI

Parameters: kc = 2.14 m = 0.80

Loss parameters	Initial loss (mm)	Cont. loss (mm/h)
	19.00	3.00

Peak Description

- 01 Calculated hydrograph, Catch B
- 02 Calculated hydrograph, Catch E
- 03 Calculated hydrograph, Catch H
- 04 Calculated hydrograph, Lagoon outfall (Catch B-K)
- 05 Calculated hydrograph, Catch L
- 06 Calculated hydrograph, SE corner site discharge
- 07 Special storage : Ex. U/S RB - Outflow
- 08 Special storage : Ex. U/S RB - Inflow
- 09 Calculated hydrograph, Catch M-N, External
- 10 Calculated hydrograph, Catch M-O, External (South)
- 11 Calculated hydrograph, Catch A
- 12 Calculated hydrograph, Entire Site

Run	Duration		AEP	TPat	Rain(mm)	ARF	Peak001	Peak002	Peak003	Peak004	Peak005	Peak006
Peak007	Peak008	Peak009	Peak0010	Peak0011	Peak0012							
1	10 min		1%	21	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
4.9898	7.5393	1.3892	1.5282	0.2993	2.0308							
1	10 min		1%	22	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
4.9500	6.9791	1.3676	1.5066	0.2993	2.0138							
1	10 min		1%	23	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
5.0194	7.5707	1.3933	1.5323	0.2993	2.0349							
1	10 min		1%	24	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
5.0194	7.5707	1.3933	1.5323	0.2993	2.0349							
1	10 min		1%	25	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
4.9015	7.3433	1.3735	1.5125	0.2993	2.0161							
1	10 min		1%	26	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
5.0194	7.5707	1.3933	1.5323	0.2993	2.0349							
1	10 min		1%	27	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
4.9311	7.1792	1.4156	1.5546	0.2993	2.0598							
1	10 min		1%	28	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
5.0194	7.5707	1.3933	1.5323	0.2993	2.0349							
1	10 min		1%	29	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
5.0194	7.5707	1.3933	1.5323	0.2993	2.0349							
1	10 min		1%	30	25.10	0.94	0.1025	0.6441	0.1904	0.5946	0.1599	0.6224
5.0194	7.5707	1.3933	1.5323	0.2993	2.0349							
2	15 min		1%	21	30.80	0.95	0.2119	1.2161	0.4022	1.2345	0.3249	1.2932
7.4725	9.5587	2.6953	2.9991	0.5920	4.1525							
2	15 min		1%	22	30.80	0.95	0.2120	1.2179	0.4023	1.2345	0.3251	1.2932
7.9536	10.5836	2.7134	3.0175	0.5926	4.1596							
2	15 min		1%	23	30.80	0.95	0.2151	1.2654	0.4057	1.2348	0.3315	1.2938
8.1489	10.0031	2.7198	3.0319	0.6084	4.1732							
2	15 min		1%	24	30.80	0.95	0.2147	1.2604	0.4053	1.2347	0.3309	1.2937
8.4057	10.5101	2.7515	3.0627	0.6068	4.2012							
2	15 min		1%	25	30.80	0.95	0.2191	1.3253	0.4109	1.2355	0.3393	1.2938
8.7068	9.8853	2.7572	3.0791	0.6280	4.2063							
2	15 min		1%	26	30.80	0.95	0.2144	1.2531	0.4048	1.2346	0.3299	1.2937
8.3660	10.5758	2.7512	3.0612	0.6044	4.2002							
2	15 min		1%	27	30.80	0.95	0.2144	1.2531	0.4048	1.2346	0.3299	1.2937
8.3660	10.5758	2.7512	3.0612	0.6044	4.2002							

2	15 min		1%	28	30.80	0.95	0.2153	1.2692	0.4060	1.2349	0.3318	1.2938
8.3970	10.4295	2.7487	3.0614	0.6097	4.1991							
2	15 min		1%	29	30.80	0.95	0.2271	1.4000	0.4242	1.2661	0.3530	1.3258
9.2039	11.8427	2.7422	3.0782	0.6571	4.1993							
2	15 min		1%	30	30.80	0.95	0.2271	1.4000	0.4242	1.2661	0.3530	1.3258
9.3679	12.2858	2.7632	3.0993	0.6571	4.2203							
3	20 min		1%	21	35.00	0.95	0.2908	1.5499	0.5616	1.7531	0.4397	1.8359
9.4527	10.1912	3.7676	4.2397	0.7834	5.8958							
3	20 min		1%	22	35.00	0.95	0.2880	1.5153	0.5583	1.7521	0.4341	1.8354
8.9427	10.1341	3.7384	4.2027	0.7704	5.8685							
3	20 min		1%	23	35.00	0.95	0.2895	1.5309	0.5599	1.7528	0.4370	1.8359
9.4419	10.1265	3.7654	4.2335	0.7770	5.8917							
3	20 min		1%	24	35.00	0.95	0.3160	1.8597	0.5965	1.7838	0.4868	1.8696
10.8902	12.2710	3.8598	4.3055	0.8935	5.9974							
3	20 min		1%	25	35.00	0.95	0.3065	1.7196	0.5850	1.7847	0.4680	1.8682
9.8494	13.0347	3.7960	4.2635	0.8469	5.9355							
3	20 min		1%	26	35.00	0.95	0.2951	1.6588	0.5673	1.7552	0.4477	1.8371
10.2615	12.3979	3.7886	4.2721	0.8022	5.9088							
3	20 min		1%	27	35.00	0.95	0.3066	1.7207	0.5851	1.7847	0.4681	1.8682
9.8250	12.9599	3.7963	4.2642	0.8472	5.9367							
3	20 min		1%	28	35.00	0.95	0.3058	1.7086	0.5841	1.7849	0.4665	1.8682
9.9395	13.4593	3.7964	4.2649	0.8432	5.9317							
3	20 min		1%	29	35.00	0.95	0.3133	1.8218	0.5928	1.7844	0.4818	1.8696
11.0491	13.4601	3.8819	4.3216	0.8811	6.0125							
3	20 min		1%	30	35.00	0.95	0.3132	1.8206	0.5927	1.7844	0.4817	1.8696
11.0413	13.4698	3.8812	4.3207	0.8807	6.0118							
4	25 min		1%	21	38.40	0.96	0.3655	1.9391	0.7101	2.2238	0.5496	2.3274
10.7197	11.4728	4.6696	5.2492	0.9714	7.4003							
4	25 min		1%	22	38.40	0.96	0.3433	1.7708	0.6786	2.1882	0.5094	2.2938
9.1990	9.9523	4.5794	5.1293	0.8825	7.2581							
4	25 min		1%	23	38.40	0.96	0.3728	1.9992	0.7194	2.2224	0.5641	2.3277
10.6119	11.8477	4.6767	5.2777	1.0067	7.4099							
4	25 min		1%	24	38.40	0.96	0.3542	1.8106	0.6924	2.1883	0.5308	2.2915
8.6100	9.3813	4.5771	5.1344	0.9333	7.2734							
4	25 min		1%	25	38.40	0.96	0.3601	1.8783	0.6999	2.1894	0.5417	2.2916
9.4206	10.3815	4.6022	5.1749	0.9590	7.3101							

4	25 min		1%	26	38.40	0.96	0.3583	1.9480	0.7017	2.2054	0.5358	2.3096
10.5995	11.7538	4.6624	5.2221	0.9474	7.3798							
4	25 min		1%	27	38.40	0.96	0.3450	1.8988	0.6815	2.1903	0.5197	2.2957
10.0943	12.3903	4.6247	5.1852	0.9386	7.3103							
4	25 min		1%	28	38.40	0.96	0.3621	1.9702	0.7062	2.2075	0.5430	2.3110
10.8035	11.2890	4.6754	5.2455	0.9551	7.3970							
4	25 min		1%	29	38.40	0.96	0.3886	2.1622	0.7432	2.2557	0.5923	2.3647
12.3918	16.8372	4.7788	5.3854	1.0692	7.4872							
4	25 min		1%	30	38.40	0.96	0.3840	2.1486	0.7336	2.2221	0.5859	2.3302
11.3391	13.9378	4.7278	5.3398	1.0593	7.4480							
5	30 min		1%	21	41.20	0.96	0.4085	2.1030	0.8071	2.5898	0.6063	2.7128
10.2443	10.6875	5.3719	6.0122	1.0502	8.5472							
5	30 min		1%	22	41.20	0.96	0.3854	1.9265	0.7778	2.5697	0.5698	2.6934
10.3932	12.3961	5.2574	5.9436	0.9992	8.3160							
5	30 min		1%	23	41.20	0.96	0.3778	1.8841	0.7645	2.5536	0.5605	2.6772
9.7211	11.4891	5.2252	5.8954	0.9806	8.2386							
5	30 min		1%	24	41.20	0.96	0.3881	1.9920	0.7778	2.5658	0.5821	2.6890
9.9537	11.2316	5.2521	5.9425	1.0259	8.3217							
5	30 min		1%	25	41.20	0.96	0.4053	2.1323	0.8032	2.5913	0.6000	2.7133
10.4818	11.6625	5.3811	6.0508	1.0631	8.5548							
5	30 min		1%	26	41.20	0.96	0.4146	2.1852	0.8151	2.5902	0.6177	2.7148
11.0433	11.3910	5.4130	6.0514	1.0766	8.6006							
5	30 min		1%	27	41.20	0.96	0.3952	2.0334	0.7905	2.5898	0.5819	2.7120
10.1579	10.9843	5.2529	5.9644	1.0327	8.4035							
5	30 min		1%	28	41.20	0.96	0.3975	2.0826	0.7855	2.5903	0.5985	2.7135
10.7946	12.0852	5.2882	5.9929	1.0601	8.3980							
5	30 min		1%	29	41.20	0.96	0.4325	2.2422	0.8416	2.6245	0.6498	2.7521
12.7888	13.4601	5.5226	6.2024	1.1470	8.7443							
5	30 min		1%	30	41.20	0.96	0.4414	2.3602	0.8528	2.6259	0.6679	2.7515
12.0524	13.9041	5.4944	6.2003	1.1907	8.7388							
6	45 min		1%	21	47.60	0.96	0.5202	2.5901	1.0354	3.4757	0.7752	3.6431
11.6645	12.3357	6.9873	7.8753	1.3521	11.0425							
6	45 min		1%	22	47.60	0.96	0.5025	2.5086	1.0122	3.5109	0.7345	3.6778
12.6276	13.4172	6.9055	7.7022	1.2925	10.7567							
6	45 min		1%	23	47.60	0.96	0.4944	2.1793	1.0179	3.4765	0.7119	3.6486
8.2853	8.7810	6.6125	7.4643	1.1825	10.7174							

6	45 min		1%	24	47.60	0.96	0.4830	2.2962	0.9950	3.4031	0.7027	3.5722
8.8154	9.7961	6.4429	7.2761	1.	2111	10.4753						
6	45 min		1%	25	47.60	0.96	0.4662	2.0425	0.9531	3.4107	0.6751	3.5744
7.9690	9.5657	6.4154	7.1522	1.	1300	10.2120						
6	45 min		1%	26	47.60	0.96	0.5175	2.5559	1.0466	3.4719	0.7545	3.6364
10.0382	10.4962	6.8099	7.7309	1.	3189	10.9893						
6	45 min		1%	27	47.60	0.96	0.4839	2.2183	1.0015	3.4605	0.7037	3.6292
8.9126	9.2418	6.6836	7.5037	1.	1989	10.6352						
6	45 min		1%	28	47.60	0.96	0.4976	2.3010	0.9996	3.4363	0.7295	3.6021
8.5578	8.7881	6.6869	7.4818	1.	2432	10.5464						
6	45 min		1%	29	47.60	0.96	0.5299	2.7120	1.0621	3.5163	0.7943	3.6821
12.7891	13.3426	7.1196	8.0531	1.	3983	11.2980						
6	45 min		1%	30	47.60	0.96	0.5466	2.7688	1.0849	3.4762	0.8090	3.6453
12.1864	13.5674	7.0234	7.8804	1.	3969	11.3028						
7	1 hour		1%	21	52.30	0.97	0.6247	3.1500	1.2536	4.1751	0.9166	4.3763
13.4186	14.0523	8.2593	9.2358	1.	5992	13.1292						
7	1 hour		1%	22	52.30	0.97	0.4562	1.8925	1.0022	3.9668	0.6331	4.1666
8.5171	9.1816	6.5698	7.2450	1.	0327	10.8633						
7	1 hour		1%	23	52.30	0.97	0.5503	2.6707	1.0940	4.1062	0.8153	4.3094
10.9041	11.5891	7.4841	8.3118	1.	4104	11.7511						
7	1 hour		1%	24	52.30	0.97	0.5170	2.1618	1.0866	3.9957	0.7332	4.1911
7.8166	8.5555	7.1139	7.9329	1.	1959	11.5123						
7	1 hour		1%	25	52.30	0.97	0.5202	2.2886	1.1011	3.9328	0.7497	4.1304
8.8153	9.8399	7.1760	8.0299	1.	2555	11.7470						
7	1 hour		1%	26	52.30	0.97	0.5395	2.3392	1.1273	3.9243	0.7715	4.1198
9.1690	11.2821	6.9167	7.7941	1.	2773	11.7502						
7	1 hour		1%	27	52.30	0.97	0.5224	2.4115	1.0902	4.0758	0.7660	4.2773
9.4302	10.1330	7.3511	8.1589	1.	3046	11.6609						
7	1 hour		1%	28	52.30	0.97	0.5741	2.5919	1.1848	4.0916	0.8248	4.2868
8.9281	9.6167	7.6591	8.6415	1.	3890	12.3859						
7	1 hour		1%	29	52.30	0.97	0.5494	2.3906	1.1556	4.0892	0.7871	4.2930
8.2063	8.4546	7.5257	8.4313	1.	3191	12.1825						
7	1 hour		1%	30	52.30	0.97	0.6168	3.0739	1.2392	4.2092	0.9044	4.4113
13.1128	14.1225	8.3038	9.2628	1.	5664	13.0071						
8	1.5 hour		1%	21	59.30	0.97	0.4855	2.2491	1.1229	4.8193	0.6889	5.0653
9.0241	9.5726	6.9510	7.6267	1.	1677	12.4142						

8	1.5 hour		1%	22	59.30	0.97	0.6288	2.5036	1.3377	5.0099	0.8887	5.2581
7.7467	7.8940	8.6139	9.5618	23	59.30	0.97	0.5193	1.9523	1.1367	4.7804	0.7159	5.0220
8	1.5 hour		1%	24	59.30	0.97	0.5709	2.3375	1.2276	4.6652	0.8044	4.8976
7.0377	7.2896	7.2391	8.0389	25	59.30	0.97	0.4386	2.2271	0.9357	4.4785	0.6436	4.7336
8	1.5 hour		1%	26	59.30	0.97	0.5852	2.4182	1.2638	5.0206	0.8277	5.2762
8.3633	8.6443	7.6713	8.5348	27	59.30	0.97	0.5928	2.2960	1.2845	4.9552	0.8231	5.2059
9.5667	9.8472	6.0923	6.7730	28	59.30	0.97	0.5977	2.3662	1.2796	4.9029	0.8381	5.1415
8	1.5 hour		1%	29	59.30	0.97	0.5854	2.8127	1.2089	5.0556	0.8601	5.3091
7.7280	9.0502	8.1197	8.9784	30	59.30	0.97	0.6990	3.1593	1.4311	5.0132	1.0180	5.2566
8	1.5 hour		1%	31	64.70	0.97	0.4815	2.2456	1.1167	5.2028	0.6905	5.5060
12.8205	14.0871	9.3942	10.5182	32	64.70	0.97	0.5440	2.1760	1.1950	5.3200	0.7567	5.6328
9	2 hour		1%	33	64.70	0.97	0.4709	2.4180	1.1176	4.6497	0.7063	4.9277
8.8528	9.3913	6.8998	7.5664	34	64.70	0.97	0.5399	2.1226	1.2017	5.1653	0.7500	5.4648
9	2 hour		1%	35	64.70	0.97	0.6099	2.4697	1.3357	5.4398	0.8532	5.7118
9.6068	10.4801	7.7623	8.5555	36	64.70	0.97	0.4795	1.5739	1.1179	5.0720	0.6379	5.3547
9	2 hour		1%	37	64.70	0.97	0.5921	2.0666	1.3282	5.4143	0.8051	5.6978
12.2826	12.8208	6.2582	7.0749	38	64.70	0.97	0.5119	2.6216	1.1667	5.4227	0.7620	5.7106
9	2 hour		1%	39	64.70	0.97	0.6141	2.4143	1.3465	5.6141	0.8591	5.8920
8.4199	9.6300	7.2857	8.1127	40	64.70	0.97						
9	2 hour		1%	41	64.70	0.97						
8.3217	8.6865	8.5344	9.4320	42	64.70	0.97						
9	2 hour		1%	43	64.70	0.97						
5.7467	6.3944	6.7758	7.4505	44	64.70	0.97						
9	2 hour		1%	45	64.70	0.97						
7.0243	7.2454	8.1960	9.0827	46	64.70	0.97						
9	2 hour		1%	47	64.70	0.97						
11.9050	14.1067	7.3013	8.0528	48	64.70	0.97						
9	2 hour		1%	49	64.70	0.97						
7.4707	7.6881	8.6495	9.5444	50	64.70	0.97						
				51	64.70	0.97						

9	2 hour		1%	30	64.70	0.97	0.7044	2.7527	1.5136	5.6517	0.9838	5.9381
8.5533	8.7069	9.5070	10.6291	1	5695	15.8154						
10	3 hour		1%	21	73.00	0.97	0.6994	2.6237	1.5226	6.4079	0.9710	6.7543
7.7355	7.8151	9.2970	10.4009	1	5430	16.5786						
10	3 hour		1%	22	73.00	0.97	0.4651	1.5775	1.0545	4.6739	0.6283	4.9473
5.1398	5.3321	6.5088	7.1950	0	9646	11.6204						
10	3 hour		1%	23	73.00	0.97	0.3747	1.1903	0.9519	4.4488	0.4804	4.7325
4.6140	5.0064	5.3874	5.8807	0	7226	11.2070						
10	3 hour		1%	24	73.00	0.97	0.4360	1.5208	0.9937	4.7098	0.5927	5.0186
4.5111	4.5570	6.1183	6.6842	0	9175	11.4226						
10	3 hour		1%	25	73.00	0.97	0.4760	1.5847	1.1473	5.2702	0.6265	5.6406
5.2533	5.9710	6.4249	7.1007	0	9496	13.1993						
10	3 hour		1%	26	73.00	0.97	0.5277	2.1409	1.2248	6.0361	0.7291	6.4362
7.3227	7.3722	7.4626	8.2789	1	1613	14.4501						
10	3 hour		1%	27	73.00	0.97	0.4603	1.5271	1.1235	5.2438	0.6062	5.5130
5.1498	5.5913	6.5108	7.0923	0	9175	13.3341						
10	3 hour		1%	28	73.00	0.97	0.4965	1.7061	1.1866	5.8290	0.6585	6.2186
5.0690	5.3867	7.1259	7.8232	1	0185	13.8253						
10	3 hour		1%	29	73.00	0.97	0.4826	1.6936	1.1459	5.0284	0.6432	5.2894
5.6466	5.7886	6.4332	7.1420	0	9928	13.0376						
10	3 hour		1%	30	73.00	0.97	0.6422	2.5764	1.4479	6.6516	0.8902	7.0159
9.1427	10.0632	9.2160	10.1518	1	4630	16.4677						
11	4.5 hour		1%	21	82.50	0.98	0.2790	0.9434	0.7517	3.7497	0.3541	4.1003
3.8946	3.9879	3.9291	4.2909	0	5433	8.9024						
11	4.5 hour		1%	22	82.50	0.98	0.4466	1.4407	1.1052	5.3079	0.5801	5.6824
5.2270	5.8967	6.0213	6.6391	0	8694	12.8871						
11	4.5 hour		1%	23	82.50	0.98	0.3191	1.3921	0.7465	4.0481	0.4612	4.3581
5.3381	5.7961	4.6069	5.0666	0	7713	9.0340						
11	4.5 hour		1%	24	82.50	0.98	0.4364	1.6853	0.9351	4.0282	0.6118	4.2594
5.2791	5.7249	6.0330	6.7369	0	9820	10.0511						
11	4.5 hour		1%	25	82.50	0.98	0.3131	0.9887	0.8404	4.5616	0.3996	4.9046
3.1880	3.2788	4.5217	4.9268	0	5949	10.3387						
11	4.5 hour		1%	26	82.50	0.98	0.4223	1.6087	1.0039	5.5575	0.5892	5.9865
4.8393	5.1566	6.0677	6.6541	0	9409	12.4214						
11	4.5 hour		1%	27	82.50	0.98	0.4855	1.6324	1.1715	5.3378	0.6420	5.5991
5.3922	5.3988	6.7860	7.4795	0	9755	13.5161						

11	4. 5 hour		1%	28	82. 50	0. 98	0. 3973	1. 4721	0. 9423	5. 1428	0. 5381	5. 5569
4. 8918	4. 9779	5. 7253	6. 2791	29	82. 50	0. 98	0. 6126	2. 0464	1. 4750	6. 6784	0. 7992	7. 0884
11	4. 5 hour		1%	30	82. 50	0. 98	0. 5486	1. 8246	1. 3542	6. 4817	0. 7081	6. 9402
6. 2786	6. 5533	8. 7146	9. 5495	1. 2263	16. 8451							
11	4. 5 hour		1%	21	90. 10	0. 98	0. 6746	2. 4305	1. 5658	7. 1250	0. 9016	7. 5044
5. 7371	6. 3146	7. 5441	8. 2835	1. 0443	15. 8401							
12	6 hour		1%	22	90. 10	0. 98	0. 4203	1. 5079	0. 9991	4. 6822	0. 5678	4. 9455
7. 3909	7. 8016	9. 4465	10. 4172	1. 3981	17. 1356							
12	6 hour		1%	23	90. 10	0. 98	0. 4568	1. 6582	1. 1001	4. 4714	0. 6134	4. 6930
5. 0071	5. 3219	6. 0767	6. 6544	0. 8877	11. 3933							
12	6 hour		1%	24	90. 10	0. 98	0. 3554	1. 2395	0. 7954	3. 4854	0. 4841	3. 6995
5. 4460	5. 5407	6. 0290	6. 7165	0. 9608	12. 1076							
12	6 hour		1%	25	90. 10	0. 98	0. 3689	1. 1890	0. 8560	3. 8961	0. 4910	4. 1130
4. 0858	4. 0985	4. 9714	5. 5060	0. 7504	8. 6641							
12	6 hour		1%	26	90. 10	0. 98	0. 4559	2. 0642	1. 0301	3. 9076	0. 6625	4. 1164
3. 6451	4. 0355	5. 2274	5. 7531	0. 7410	9. 6397							
12	6 hour		1%	27	90. 10	0. 98	0. 2912	0. 8675	0. 7672	4. 2150	0. 3697	4. 5282
7. 4250	8. 0922	6. 0460	6. 7506	1. 1191	10. 7094							
12	6 hour		1%	28	90. 10	0. 98	0. 3745	1. 1276	0. 9018	4. 6585	0. 4871	4. 9923
2. 6331	2. 6677	4. 1890	4. 5670	0. 5389	9. 3565							
12	6 hour		1%	29	90. 10	0. 98	0. 2995	0. 9278	0. 7323	3. 9886	0. 3857	4. 3110
3. 4636	3. 6125	5. 2907	5. 7970	0. 7164	10. 5352							
12	6 hour		1%	30	90. 10	0. 98	0. 4449	1. 4358	1. 0991	5. 9784	0. 5869	6. 4057
2. 8140	2. 8792	4. 3368	4. 7316	0. 5603	8. 8246							
12	6 hour		1%	21	102. 00	0. 99	0. 2148	0. 6232	0. 5966	3. 1426	0. 2660	3. 4086
4. 0789	4. 2409	6. 4183	7. 0080	0. 8881	13. 2983							
13	9 hour		1%	22	102. 00	0. 99	0. 2549	0. 8565	0. 5865	3. 1702	0. 3425	3. 3886
2. 1896	2. 3630	3. 0861	3. 3550	0. 3810	7. 1445							
13	9 hour		1%	23	102. 00	0. 99	0. 4672	1. 9399	1. 1156	5. 0960	0. 6641	5. 4180
2. 4792	2. 4998	3. 6034	3. 9759	0. 5238	7. 0874							
13	9 hour		1%	24	102. 00	0. 99	0. 3061	0. 9403	0. 7258	4. 1206	0. 4021	4. 4367
6. 0260	6. 1526	6. 9853	7. 5970	1. 0902	12. 7140							
13	9 hour		1%	25	102. 00	0. 99	0. 4628	1. 8291	0. 9892	4. 4413	0. 6511	4. 6561
5. 6715	6. 1612	6. 4202	7. 1758	1. 0529	10. 6995							

13	9 hour		1%	26	102.00	0.99	0.2312	0.7416	0.6218	3.2762	0.2978	3.4907
2.2739	2.3687	3.3840	3.6777	0.4505	7.4824							
13	9 hour		1%	27	102.00	0.99	0.3610	1.1209	0.8998	4.1138	0.4701	4.4435
3.1219	3.1716	5.0502	5.5471	0.7009	10.1646							
13	9 hour		1%	28	102.00	0.99	0.3360	0.9588	0.8873	4.4167	0.4235	4.7261
2.9282	3.0683	4.8212	5.2532	0.6124	10.4969							
13	9 hour		1%	29	102.00	0.99	0.3955	1.3057	1.0224	5.5397	0.5231	5.9189
3.8244	3.8757	5.7346	6.2283	0.7948	12.4758							
13	9 hour		1%	30	102.00	0.99	0.5601	2.0427	1.3150	6.1385	0.7573	6.3940
6.3114	6.4695	7.5192	8.3696	1.1886	14.9625							
14	12 hour		1%	21	112.00	0.99	0.4159	1.2391	1.0414	5.2318	0.5320	5.6526
3.6781	3.7480	5.9381	6.4817	0.7708	12.1084							
14	12 hour		1%	22	112.00	0.99	0.3318	1.0189	0.8490	3.9302	0.4253	4.1931
3.5005	3.6860	4.7856	5.2259	0.6235	9.7959							
14	12 hour		1%	23	112.00	0.99	0.2061	0.6872	0.5133	2.8683	0.2705	3.0679
2.4484	2.6200	3.0306	3.3126	0.4065	6.3432							
14	12 hour		1%	24	112.00	0.99	0.2728	0.8570	0.6617	3.7214	0.3572	4.0039
2.5244	2.5490	3.9415	4.3142	0.5274	8.2340							
14	12 hour		1%	25	112.00	0.99	0.5476	1.9424	1.2960	5.9008	0.7365	6.1357
5.7081	5.7754	7.4063	8.2249	1.1461	14.3148							
14	12 hour		1%	26	112.00	0.99	0.2144	0.6008	0.5932	3.1557	0.2660	3.4163
1.8126	1.8743	3.1340	3.3913	0.3812	7.1737							
14	12 hour		1%	27	112.00	0.99	0.2936	0.8426	0.7322	3.7500	0.3754	4.0690
2.4108	2.4417	4.2156	4.5991	0.5438	8.7311							
14	12 hour		1%	28	112.00	0.99	0.4458	1.4882	1.0698	5.7472	0.5826	6.1181
4.5151	4.5964	6.3841	6.9903	0.8591	12.9430							
14	12 hour		1%	29	112.00	0.99	0.2416	0.6928	0.6295	3.4403	0.3058	3.6914
1.9856	2.0020	3.4646	3.7769	0.4424	7.6964							
14	12 hour		1%	30	112.00	0.99	0.3259	1.0549	0.7483	3.4216	0.4363	3.6259
3.4619	3.5823	4.6325	5.1015	0.6609	8.5534							
15	18 hour		1%	21	127.00	0.99	0.1227	0.3766	0.3287	1.7891	0.1586	1.9195
1.3336	1.3770	1.8563	2.0244	0.2374	3.9449							
15	18 hour		1%	22	127.00	0.99	0.1746	0.4971	0.4457	2.4668	0.2241	2.6658
1.4669	1.5021	2.5315	2.7601	0.3243	5.5721							
15	18 hour		1%	23	127.00	0.99	0.1827	0.5341	0.4737	2.6014	0.2324	2.8064
1.5408	1.5561	2.6316	2.8710	0.3388	5.8230							

15	18 hour		1%	24	127.00	0.99	0.2533	0.7903	0.6780	3.6474	0.3305	3.8656
2. 2024	2. 2272	3. 7207	4. 0228	0.4944	8.2632							
15	18 hour		1%	25	127.00	0.99	0.2814	0.8344	0.7107	3.7446	0.3614	4.0014
2. 2711	2. 2800	3. 9991	4. 3737	0.5299	8.2636							
15	18 hour		1%	26	127.00	0.99	0.1366	0.4746	0.3478	2.0096	0.1854	2.1499
1. 3282	1. 4177	2. 0742	2. 2455	0.2871	4.2715							
15	18 hour		1%	27	127.00	0.99	0.2546	0.7144	0.6912	3.8114	0.3227	4.1204
1. 9819	2. 0093	3. 7066	4. 0128	0.4617	8.5571							
15	18 hour		1%	28	127.00	0.99	0.2336	0.7002	0.5822	2.5380	0.3013	2.6661
2. 7454	2. 9053	3. 4467	3. 7551	0.4378	6.5990							
15	18 hour		1%	29	127.00	0.99	0.1962	0.5889	0.4719	2.4648	0.2560	2.6640
1. 7642	1. 8661	2. 8064	3. 0734	0.3777	5.5456							
15	18 hour		1%	30	127.00	0.99	0.1777	0.4770	0.4805	2.6417	0.2203	2.8339
1. 3725	1. 3913	2. 6053	2. 8247	0.3119	5.8151							
16	24 hour		1%	21	139.00	1.00	0.1862	0.5112	0.5091	2.8030	0.2291	3.0022
1. 4618	1. 4707	2. 7406	2. 9661	0.3276	6.2049							
16	24 hour		1%	22	139.00	1.00	0.1234	0.3739	0.3419	1.8428	0.1550	1.9939
1. 2308	1. 2778	1. 8490	1. 9969	0.2248	4.2015							
16	24 hour		1%	23	139.00	1.00	0.2205	0.7248	0.5712	2.9615	0.2802	3.1094
2. 2315	2. 3168	3. 2715	3. 5403	0.4340	6.8817							
16	24 hour		1%	24	139.00	1.00	0.2013	0.6697	0.4993	2.5697	0.2684	2.7971
1. 9380	1. 9777	2. 8053	3. 0877	0.4093	6.1286							
16	24 hour		1%	25	139.00	1.00	0.2436	0.7593	0.6205	3.0123	0.3086	3.1360
2. 5957	2. 7150	3. 5856	3. 8942	0.4391	7.2724							
16	24 hour		1%	26	139.00	1.00	0.2091	0.5972	0.5419	2.8798	0.2635	3.0612
1. 8825	1. 9571	3. 0602	3. 3242	0.3753	6.4425							
16	24 hour		1%	27	139.00	1.00	0.2207	0.7870	0.5555	3.0767	0.2994	3.2564
2. 4029	2. 4915	3. 1743	3. 4197	0.4670	6.7477							
16	24 hour		1%	28	139.00	1.00	0.1063	0.3502	0.2869	1.6015	0.1428	1.7197
1. 3680	1. 4508	1. 6679	1. 8224	0.2175	3.4918							
16	24 hour		1%	29	139.00	1.00	0.2038	0.6917	0.5178	2.6545	0.2678	2.8820
2. 2872	2. 4095	2. 8458	3. 0825	0.4098	6.2539							
16	24 hour		1%	30	139.00	1.00	0.2155	0.7599	0.5378	2.7122	0.2923	2.8866
2. 3221	2. 4113	2. 9917	3. 3157	0.4542	6.4642							
17	30 hour		1%	21	148.00	1.00	0.1188	0.3362	0.3302	1.8137	0.1446	1.9584
1. 0372	1. 0554	1. 7966	1. 9364	0.2096	4.0945							

17	30 hour		1%	22	148.00	1.00	0.2171	0.6387	0.5499	3.3041	0.2779	3.5281
1.8081	1.8314	3.1112	3.3980	0.4059	6.8797							
17	30 hour		1%	23	148.00	1.00	0.1492	0.4921	0.3577	2.0544	0.1975	2.1778
1.5446	1.5834	2.0873	2.3004	0.2998	4.1919							
17	30 hour		1%	24	148.00	1.00	0.1407	0.4340	0.3751	2.1958	0.1826	2.3532
1.2605	1.2804	2.0033	2.1956	0.2713	4.7146							
17	30 hour		1%	25	148.00	1.00	0.2480	0.7556	0.6125	3.2050	0.3214	3.3565
2.1888	2.2190	3.6848	4.0212	0.4752	7.3237							
17	30 hour		1%	26	148.00	1.00	0.1050	0.3066	0.2818	1.5432	0.1286	1.6367
1.1167	1.1406	1.6467	1.7707	0.1821	3.5760							
17	30 hour		1%	27	148.00	1.00	0.0913	0.2603	0.2497	1.2999	0.1129	1.4128
0.9015	0.9347	1.3686	1.4811	0.1599	3.0537							
17	30 hour		1%	28	148.00	1.00	0.0941	0.2576	0.2513	1.4325	0.1179	1.5295
0.7475	0.7502	1.4024	1.5208	0.1682	3.0360							
17	30 hour		1%	29	148.00	1.00	0.1568	0.4025	0.4278	2.2569	0.1926	2.4422
1.2181	1.2435	2.3253	2.5139	0.2689	5.2251							
17	30 hour		1%	30	148.00	1.00	0.0984	0.2768	0.2678	1.4685	0.1231	1.5684
0.8161	0.8209	1.4645	1.5895	0.1772	3.2182							

Run, Representative hydrograph

1 dur10min\_aep1tp26.out

Run, Representative hydrograph

2 dur15min\_aep1tp26.out

Run, Representative hydrograph

3 dur20min\_aep1tp25.out

Run, Representative hydrograph

4 dur25min\_aep1tp28.out

Run, Representative hydrograph

5 dur30min\_aep1tp21.out

Run, Representative hydrograph

6 dur45min\_aep1tp22.out

Run, Representative hydrograph

7 dur1hour\_aep1tp23.out

Run, Representative hydrograph

8 dur1\_5hour\_aep1tp26.out

Run, Representative hydrograph

9 dur2hour\_aep1tp28.out

Run, Representative hydrograph  
10 dur3hour\_aep1tp27.out  
Run, Representative hydrograph  
11 dur4\_5hour\_aep1tp26.out  
Run, Representative hydrograph  
12 dur6hour\_aep1tp26.out  
Run, Representative hydrograph  
13 dur9hour\_aep1tp28.out  
Run, Representative hydrograph  
14 dur12hour\_aep1tp27.out  
Run, Representative hydrograph  
15 dur18hour\_aep1tp23.out  
Run, Representative hydrograph  
16 dur24hour\_aep1tp26.out  
Run, Representative hydrograph  
17 dur30hour\_aep1tp23.out

Elapsed Run Time (hh:mm:ss) = 00:00:06

**APPENDIX D: POST-DEVELOPED RORB RESULTS (NO RB)**

## RORBWin Batch Run Summary

Program version 6.45 (last updated 20th March 2019)  
Copyright Monash University and Hydrology and Risk Consulting

Date run: 26 Apr 2021 17:51

Catchment file : K:\Jobs\Data\1400147 - Wurruk rezoning application\Wat\Models\RORB\Post Dev\SWMS REV E\NoRB\1400147-RORB-PostDev-NoRB\_SWMS REV E.catg  
Rainfall location: User defined  
Temporal pattern : ARR2016 point temporal patterns  
Spatial pattern : Uniform  
Areal Red. Fact. : Based on ARR 2016 (Book 2 Chapter 4)  
Loss factors : Constant with ARI

Parameters: kc = 2.63 m = 0.80

Loss parameters	Initial loss (mm)	Cont. loss (mm/h)
	19.00	3.00

### Peak Description

- |    |                        |                                  |
|----|------------------------|----------------------------------|
| 01 | Special storage :      | Ex. U/S RB - Outflow             |
| 02 | Special storage :      | Ex. U/S RB - Inflow              |
| 03 | Calculated hydrograph, | External                         |
| 04 | Calculated hydrograph, | 20m RR PC Convey (Catch R)       |
| 05 | Calculated hydrograph, | OverlandFlowEasement(CatchS)     |
| 06 | Calculated hydrograph, | 30m RR PC Convey (Catch S)       |
| 07 | Calculated hydrograph, | Catch Q-W, External              |
| 08 | Calculated hydrograph, | Catch X                          |
| 09 | Calculated hydrograph, | Outfall I S(Catch Q-X, External) |
| 10 | Calculated hydrograph, | Catch B                          |
| 11 | Calculated hydrograph, | Catch E                          |
| 12 | Calculated hydrograph, | Outfall Lagoon(Catch B-G, I-K)   |
| 13 | Calculated hydrograph, | 20m RR PC Convey (Catch P)       |
| 14 | Calculated hydrograph, | Outfall I RB SE(Catch L-P)       |
| 15 | Calculated hydrograph, | Outfall I SE (Catch B-G, I-P)    |

16 Calculated hydrograph, Outfall NW - Catch A  
 17 Calculated hydrograph, Entire Catchment

Run Peak0006	Duration Peak0007	AEP Peak0008	TPat Peak0009	Rain(mm) Peak0010	ARF Peak0011	Peak0001 Peak0012	Peak0002 Peak0013	Peak0003 Peak0014	Peak0004 Peak0015	Peak0005 Peak0016	
Peak0017											
1 1.1163	10 min 1.7280	20% 0.5733	20% 2.2672	1 0.5579	11.60 0.8009	0.94 0.1481	0.7472 1.4672	2.0507 2.4089	0.7472 2.4402	1.2450 0.9171	1.3453 5.6245
1 1.1024	10 min 1.7343	20% 0.5733	20% 2.2735	2 0.5420	11.60 0.7445	0.94 0.1482	0.7472 1.3948	2.0507 2.3239	0.7472 2.3553	1.2195 0.8515	1.3076 5.4803
1 1.1012	10 min 1.7348	20% 0.5733	20% 2.2739	3 0.5406	11.60 0.7397	0.94 0.1482	0.7472 1.3889	2.0507 2.3170	0.7472 2.3484	1.2179 0.8461	1.3043 5.4684
1 1.0801	10 min 1.7420	20% 0.5733	20% 2.2812	4 0.5171	11.60 0.7187	0.94 0.1483	0.7472 1.2859	2.0507 2.1923	0.7472 2.2237	1.1918 0.8261	1.2492 5.2594
1 1.1067	10 min 1.7327	20% 0.5733	20% 2.2719	5 0.5465	11.60 0.7611	0.94 0.1481	0.7472 1.4163	2.0507 2.3492	0.7472 2.3806	1.2249 0.8709	1.3190 5.5234
1 1.0800	10 min 1.7420	20% 0.5733	20% 2.2812	6 0.5170	11.60 0.7189	0.94 0.1483	0.7472 1.2856	2.0507 2.1919	0.7472 2.2233	1.1917 0.8262	1.2490 5.2587
1 1.1433	10 min 1.7097	20% 0.5733	20% 2.2489	7 0.5936	11.60 0.9066	0.94 0.1500	0.7472 1.6084	2.0507 2.5804	0.7472 2.6117	1.3080 1.0396	1.4264 5.9002
1 1.0802	10 min 1.7420	20% 0.5733	20% 2.2811	8 0.5172	11.60 0.7186	0.94 0.1483	0.7472 1.2864	2.0507 2.1930	0.7472 2.2243	1.1919 0.8259	1.2494 5.2605
1 1.1268	10 min 1.7236	20% 0.5733	20% 2.2627	9 0.5698	11.60 0.8432	0.94 0.1481	0.7472 1.5213	2.0507 2.4713	0.7472 2.5026	1.2679 0.9662	1.3738 5.7315
1 1.1292	10 min 1.7134	20% 0.5733	20% 2.2525	10 0.5761	11.60 0.8663	0.94 0.1481	0.7472 1.5500	2.0507 2.5029	0.7472 2.5343	1.2802 0.9930	1.3887 5.7798
2 1.4174	15 min 2.1425	20% 0.7191	20% 2.6129	1 0.6115	14.30 0.9266	0.95 0.1973	1.1384 1.6133	2.2232 2.5345	1.1384 2.5542	1.6384 1.0633	1.5524 5.9290

2	15 min	20%	2	14.30	0.95	1.1328	2.1632	1.1328	1.6100	1.5222
1.3959	2.1160	0.7180	2.5541	0.5885	0.8426	0.1974	1.5145	2.4323	2.4520	0.9655
2	15 min	20%	3	14.30	0.95	1.1499	2.3555	1.1499	1.6367	1.5139
1.3843	2.1642	0.7186	2.7077	0.5964	0.7869	0.1974	1.4186	2.3088	2.3512	0.9017
2	15 min	20%	4	14.30	0.95	1.2785	2.6548	1.2785	1.8480	1.6927
1.5010	2.2938	0.7397	2.9694	0.6807	0.9128	0.1989	1.6829	2.8638	2.9062	1.0498
2	15 min	20%	5	14.30	0.95	1.1395	2.2358	1.1395	1.6572	1.5930
1.4377	2.1532	0.7192	2.6304	0.6323	1.0024	0.1992	1.7137	2.6551	2.6748	1.1513
2	15 min	20%	6	14.30	0.95	1.1666	2.5174	1.1666	1.7078	1.5882
1.4371	2.2385	0.7056	2.8801	0.6541	0.9629	0.1990	1.6244	2.7166	2.7590	1.1066
2	15 min	20%	7	14.30	0.95	1.2785	2.6548	1.2785	1.8634	1.7170
1.5148	2.2910	0.7397	2.9666	0.6948	0.9111	0.1988	1.7446	2.9411	2.9836	1.0400
2	15 min	20%	8	14.30	0.95	1.2785	2.6548	1.2785	1.8351	1.6722
1.4895	2.2966	0.7397	2.9722	0.6683	0.9362	0.1989	1.6298	2.7961	2.8385	1.0762
2	15 min	20%	9	14.30	0.95	1.2785	2.6548	1.2785	1.8927	1.7632
1.5401	2.2827	0.7397	2.9583	0.7218	1.0027	0.1986	1.8648	3.0888	3.1312	1.1473
2	15 min	20%	10	14.30	0.95	1.2785	2.6548	1.2785	1.9261	1.8315
1.5629	2.2576	0.7397	2.9332	0.7528	1.1105	0.1987	2.0045	3.2545	3.2968	1.2724
3	20 min	20%	1	16.30	0.96	1.3974	2.4115	1.3974	1.9629	1.9052
1.7061	2.4071	0.8247	2.9769	0.6724	0.8855	0.2355	1.6811	2.7940	2.8178	1.0122
3	20 min	20%	2	16.30	0.96	1.4244	2.4422	1.4244	1.9249	1.7914
1.6337	2.4464	0.8218	2.9169	0.6390	0.7754	0.2376	1.5069	2.5325	2.5563	0.8902
3	20 min	20%	3	16.30	0.96	1.4673	2.4697	1.4673	1.9741	1.8642
1.6807	2.4777	0.8396	2.9423	0.6461	0.8073	0.2376	1.5524	2.5925	2.6163	0.9221
3	20 min	20%	4	16.30	0.96	1.6088	3.0699	1.6088	2.2181	1.9511

1.7529	2.7011	0.8540	3.4681	0.7502	1.0253	0.2366	1.7663	3.0316	3.0826	1.1780	7.5561
3	20 min		20%	5	16.30	0.96	1.4090	2.3786	1.4090	2.0626	2.0180
1.8008	2.4814	0.8278	2.9124	0.7786	1.2221	0.2391	2.1289	3.3525	3.3762	1.4025	7.6911
3	20 min		20%	6	16.30	0.96	1.5239	2.8698	1.5239	2.1401	1.9336
1.7456	2.6340	0.8425	3.3124	0.7614	1.1423	0.2387	1.9433	3.1243	3.1753	1.3122	7.4858
3	20 min		20%	7	16.30	0.96	1.6433	3.1142	1.6433	2.2808	2.0182
1.7963	2.7218	0.8662	3.4984	0.7804	1.0952	0.2377	1.8827	3.2397	3.2907	1.2588	7.8680
3	20 min		20%	8	16.30	0.96	1.5187	2.8340	1.5187	2.1046	1.8856
1.7142	2.6195	0.8440	3.2776	0.7272	1.0141	0.2368	1.7791	2.8848	2.9358	1.1634	7.1482
3	20 min		20%	9	16.30	0.96	1.5093	2.7720	1.5093	2.1172	1.9357
1.7483	2.6061	0.8453	3.2298	0.7537	1.1553	0.2388	1.9733	3.0814	3.1324	1.3270	7.3325
3	20 min		20%	10	16.30	0.96	1.6433	3.1142	1.6433	2.2960	2.0429
1.8133	2.7257	0.8662	3.5023	0.7962	1.0807	0.2385	1.9437	3.3234	3.3744	1.2417	8.0036
4	25 min		20%	1	17.80	0.96	1.7509	2.9956	1.7509	2.3217	2.1627
1.9174	2.8370	0.9408	3.4716	0.7265	0.8815	0.2660	1.6240	2.6674	2.7251	1.0088	7.0741
4	25 min		20%	2	17.80	0.96	1.6167	2.8972	1.6167	2.3557	2.1468
1.8980	2.5809	0.8908	3.4662	0.7161	0.8448	0.2541	1.6553	2.7481	2.7776	0.9640	7.2078
4	25 min		20%	3	17.80	0.96	1.5891	2.7425	1.5891	2.3278	2.1791
1.9281	2.6757	0.9100	3.3787	0.7166	0.8844	0.2635	1.7084	2.8323	2.8586	1.0099	7.2472
4	25 min		20%	4	17.80	0.96	1.6791	2.7275	1.6791	2.2702	2.2247
1.9684	2.8012	0.9320	3.3004	0.7333	1.0032	0.2660	1.8539	3.0158	3.0427	1.1479	7.3874
4	25 min		20%	5	17.80	0.96	1.6688	2.6833	1.6688	2.3153	2.2552
1.9975	2.8158	0.9298	3.2925	0.7646	1.0714	0.2679	1.9695	3.2078	3.2347	1.2265	7.6845
4	25 min		20%	6	17.80	0.96	1.7089	2.8602	1.7089	2.2520	2.1449
1.9019	2.7935	0.9375	3.3587	0.6987	0.8044	0.2662	1.5494	2.5491	2.5760	0.9187	6.6747

4 1. 9459	25 min 2. 6282	0. 8878 3. 5027	20% 0. 7750	7 0. 7750	17. 80 1. 0301	0. 96 0. 2559	1. 6129 1. 8636	2. 9195 3. 1766	1. 6129 3. 2071	2. 3982 1. 1832	2. 1868 7. 7856
4 1. 9643	25 min 2. 7029	0. 9087 3. 3864	20% 0. 7595	8 0. 7595	17. 80 0. 9621	0. 96 0. 2628	1. 5838 1. 8611	2. 7547 3. 1281	1. 5838 3. 1537	2. 3707 1. 0987	2. 2170 7. 6387
4 2. 0012	25 min 2. 9840	0. 9346 3. 7676	20% 0. 8325	9 1. 1781	17. 80 0. 2674	0. 96 2. 0336	1. 7901 3. 3515	3. 2682 3. 4092	1. 7901 1. 3525	2. 4557 8. 2635	2. 2479
4 2. 0470	25 min 2. 8017	0. 9210 3. 2639	20% 0. 8353	10 1. 2689	17. 80 0. 2679	0. 96 2. 2460	1. 6303 3. 5766	2. 6367 3. 6034	1. 6303 1. 4552	2. 4238 8. 3225	2. 3168
5 2. 1296	30 min 3. 0958	1. 0245 3. 7915	20% 0. 7828	1 0. 9853	19. 10 0. 2912	0. 97 1. 7501	1. 9464 2. 9391	3. 2883 3. 0029	1. 9464 1. 1291	2. 5598 7. 7622	2. 4391
5 2. 0034	30 min 2. 6787	0. 7154 3. 2079	20% 0. 7095	2 0. 8877	19. 10 0. 2792	0. 97 1. 6867	1. 7010 2. 8509	2. 5130 2. 8622	1. 7010 1. 0196	2. 3613 6. 6315	2. 2105
5 1. 9457	30 min 2. 7423	0. 7289 3. 2163	20% 0. 6658	3 0. 7114	19. 10 0. 2801	0. 97 1. 4223	1. 6251 2. 3606	2. 5358 2. 3875	1. 6251 0. 8107	2. 3617 6. 4145	2. 1820
5 2. 1674	30 min 3. 0268	1. 0058 3. 5731	20% 0. 7778	4 1. 0034	19. 10 0. 2934	0. 97 1. 8981	1. 8345 3. 1108	2. 8385 3. 1405	1. 8345 1. 1470	2. 6085 7. 8605	2. 4695
5 2. 1940	30 min 3. 0557	1. 0076 3. 5544	20% 0. 8022	5 1. 0928	19. 10 0. 2932	0. 97 2. 0152	1. 8414 3. 2577	2. 8662 3. 2874	1. 8414 1. 2507	2. 6311 8. 0926	2. 4991
5 2. 1103	30 min 2. 8706	0. 9756 3. 7454	20% 0. 7723	6 0. 9090	19. 10 0. 2813	0. 97 1. 7825	1. 8192 2. 9628	3. 0933 2. 9920	1. 8192 1. 0372	2. 6395 7. 7746	2. 4017
5 2. 1861	30 min 3. 0804	1. 0142 3. 6276	20% 0. 7928	7 1. 0547	19. 10 0. 2931	0. 97 1. 9655	1. 8731 3. 2052	2. 9901 3. 2349	1. 8731 1. 2065	2. 5874 7. 9342	2. 4912
5 2. 1039	30 min 2. 8741	0. 9533 3. 8274	20% 0. 8062	8 0. 9929	19. 10 0. 2788	0. 97 1. 8998	1. 8824 3. 1223	3. 2481 3. 1594	1. 8824 1. 1343	2. 6803 8. 1211	2. 3891
5 2. 2269	30 min 3. 2661	1. 0216 4. 0883	20% 0. 8783	9 1. 1594	19. 10 0. 2947	0. 97 2. 0647	2. 0148 3. 4062	3. 5253 3. 4697	2. 0148 1. 3301	2. 7060 8. 6717	2. 5278

5 2.2857	30 min 3.3336	1.0243	20% 4.2314	10 0.9222	19.10 1.3015	0.97 0.2944	2.0787 2.2298	3.6892 3.7355	2.0787 3.7990	2.8107 1.4947	2.6137 9.2455
6 2.7843	45 min 3.6066	0.7241	20% 4.0892	1 0.7134	22.00 0.7247	0.97 0.4715	2.4231 1.4064	3.0006 2.3118	2.4231 2.3824	3.2352 0.8311	3.1440 7.0413
6 2.8652	45 min 3.7001	0.8718	20% 4.1561	2 0.7345	22.00 0.7927	0.97 0.4702	2.5239 1.5231	3.0759 2.4898	2.5239 2.5629	3.3343 0.9052	3.2176 7.1495
6 2.6274	45 min 3.4074	0.7057	20% 3.8376	3 0.6838	22.00 0.8332	0.97 0.4579	1.9489 1.5540	2.2628 2.6183	1.9489 2.6290	2.6050 0.9544	2.7369 6.4687
6 2.7472	45 min 3.6613	0.8675	20% 4.2424	4 0.7147	22.00 0.7314	0.97 0.4747	2.6448 1.4135	3.3558 2.2858	2.6448 2.3821	3.4036 0.8346	3.2104 7.4591
6 3.0869	45 min 3.8674	1.1229	20% 4.5023	5 0.9052	22.00 1.0879	0.97 0.4697	2.7600 2.0387	3.7860 3.3235	2.7600 3.3731	3.6123 1.2440	3.5447 8.9460
6 2.9281	45 min 3.9115	0.9408	20% 4.4637	6 0.7809	22.00 0.8127	0.97 0.4882	2.8894 1.5854	3.6168 2.5717	2.8894 2.6666	3.7377 0.9270	3.4426 8.0573
6 3.1102	45 min 3.9519	1.0037	20% 4.4075	7 0.8749	22.00 0.9983	0.97 0.4749	2.6841 1.9753	3.5810 3.3012	2.6841 3.3591	3.7047 1.1427	3.6307 8.7715
6 2.7822	45 min 3.5951	0.7505	20% 3.9300	8 0.8137	22.00 1.0770	0.97 0.4591	2.0926 1.9439	2.9495 3.1299	2.0926 3.1604	2.8222 1.2339	2.9634 7.8023
6 3.3083	45 min 4.1858	1.2321	20% 4.7028	9 1.0319	22.00 1.3862	0.97 0.4761	2.9738 2.6020	4.0438 4.2987	2.9738 4.3578	4.1676 1.5853	3.8930 10.6460
6 3.1064	45 min 4.0292	1.0412	20% 4.4087	10 0.8967	22.00 1.1735	0.97 0.4747	2.7140 2.1176	3.4750 3.6121	2.7140 3.6555	3.5515 1.3475	3.6344 8.9846
7 2.9017	1 hour 3.7581	0.6158	20% 4.0590	1 0.6355	24.20 0.8125	0.98 0.6194	2.1520 1.5569	2.3855 2.5936	2.1520 2.5936	2.8040 0.9282	2.9794 6.3520
7	1 hour		20%	2	24.20	0.98	2.4419	2.9986	2.4419	3.1979	3.2601

3.0051	3.8866	0.7752	4.4983	0.6588	0.7252	0.6084	1.3898	2.3362	2.3364	0.8313	7.3643
7	1 hour	20%		3	24.20	0.98	2.2737	2.4097	2.2737	2.9359	3.1214
3.0100	4.0017	0.5545	4.4409	0.6075	0.7987	0.6246	1.4738	2.4148	2.4148	0.9142	6.8380
7	1 hour	20%		4	24.20	0.98	2.8869	3.5375	2.8869	3.7628	3.8173
3.6162	4.6595	1.0820	5.0427	0.8579	1.0278	0.6417	2.0014	3.3210	3.3632	1.1731	8.7265
7	1 hour	20%		5	24.20	0.98	3.1469	3.3312	3.1469	4.0558	3.9995
3.6110	4.7475	0.7293	5.2664	0.7914	0.7229	0.6532	1.4495	2.4105	2.5392	0.8238	8.6015
7	1 hour	20%		6	24.20	0.98	3.1142	3.9683	3.1142	4.1902	4.2077
3.6972	4.6918	1.2392	4.9254	0.9234	1.0667	0.6390	2.0565	3.3738	3.4351	1.2180	9.2964
7	1 hour	20%		7	24.20	0.98	3.0278	3.6231	3.0278	4.0400	4.2171
3.8345	4.8385	0.8858	5.2755	0.8874	1.0313	0.6563	1.9533	3.2355	3.3074	1.1789	8.7748
7	1 hour	20%		8	24.20	0.98	2.3716	2.7423	2.3716	3.1010	3.3983
3.3455	4.3602	0.6929	4.7572	0.7302	0.8375	0.6399	1.5958	2.6341	2.6596	0.9570	7.2676
7	1 hour	20%		9	24.20	0.98	4.9470	7.2011	4.9470	6.5980	6.0786
4.7375	6.0267	2.0741	7.5545	1.2872	1.5616	0.6988	2.9991	5.0023	5.2260	1.7837	14.5642
7	1 hour	20%		10	24.20	0.98	4.3412	5.6282	4.3412	5.5312	5.4369
4.4124	5.6232	1.3438	6.4348	1.1588	1.3351	0.6854	2.6284	4.3875	4.5521	1.5231	12.5100
8	1.5 hour	20%		1	27.60	0.98	2.0877	2.5366	2.0877	2.7592	2.8938
2.9734	3.8471	0.6401	4.1884	0.7023	0.8005	0.8494	1.5524	2.5935	2.5972	0.9140	6.5718
8	1.5 hour	20%		2	27.60	0.98	2.4788	3.4733	2.4788	3.3156	3.1973
2.7778	3.5990	0.9338	4.2236	0.8649	1.0301	0.8427	1.9477	3.2091	3.2327	1.1776	8.4519
8	1.5 hour	20%		3	27.60	0.98	2.4899	3.1723	2.4899	3.0943	3.0471
2.6516	3.5109	0.8545	4.1879	0.7272	0.8654	0.8310	1.6618	2.7332	2.7544	0.9883	7.1939
8	1.5 hour	20%		4	27.60	0.98	2.9232	3.1152	2.9232	3.7415	3.9965
4.0508	5.3615	0.6736	6.0350	0.7322	0.6398	0.9360	1.2775	2.0960	2.3459	0.7288	9.1097

8 3. 5437	1. 5 hour 4. 4770	0. 9703	20% 4. 7615	5 0. 8747	27. 60 1. 0581	0. 98 0. 8620	2. 9153 2. 0330	3. 4452 3. 3945	2. 9153 3. 4218	3. 8681 1. 2088	3. 8190 8. 4528
8 3. 6111	1. 5 hour 4. 6903	0. 6242	20% 5. 2551	6 0. 6375	27. 60 0. 5722	0. 98 0. 9043	2. 6379 1. 1333	2. 7205 1. 8681	2. 6379 2. 1177	3. 3533 0. 6543	3. 6039 8. 0115
8 3. 2113	1. 5 hour 4. 0191	1. 0047	20% 4. 4103	7 0. 8454	27. 60 0. 8839	0. 98 0. 8635	2. 8556 1. 7710	3. 7480 2. 9530	2. 8556 3. 0410	3. 7227 1. 0072	3. 5042 8. 4585
8 3. 6717	1. 5 hour 5. 0588	0. 9274	20% 5. 8961	8 0. 7988	27. 60 0. 9037	0. 98 0. 9223	2. 6832 1. 7871	3. 2435 2. 9858	2. 6832 3. 0330	3. 3826 1. 0307	3. 5571 8. 9370
8 5. 0515	1. 5 hour 6. 5279	1. 3311	20% 7. 0280	9 1. 0118	27. 60 1. 0890	0. 98 0. 9626	4. 8907 2. 0532	5. 3396 3. 4608	4. 8907 3. 7217	6. 1074 1. 2456	5. 8307 11. 9079
8 5. 7594	1. 5 hour 7. 0838	2. 2043	20% 8. 3462	10 1. 2691	27. 60 1. 5652	0. 98 0. 9953	6. 3120 2. 9701	7. 7979 4. 9263	6. 3120 5. 2383	7. 9488 1. 7888	7. 3551 15. 3734
9 2. 2153	2 hour 2. 9655	0. 7918	20% 3. 3911	1 0. 6585	30. 30 0. 7719	0. 98 0. 9801	1. 6810 1. 5064	2. 3477 2. 4957	1. 6810 2. 5108	2. 2867 0. 8808	2. 2646 6. 4341
9 2. 0718	2 hour 2. 6347	0. 6528	20% 3. 0184	2 0. 6875	30. 30 0. 8302	0. 98 0. 9463	1. 6002 1. 5738	2. 2971 2. 6185	1. 6002 2. 6185	2. 1690 0. 9482	2. 2053 6. 3777
9 2. 6208	2 hour 3. 4098	0. 4041	20% 3. 7113	3 0. 5845	30. 30 0. 7908	0. 98 1. 0093	1. 6980 1. 4871	1. 7296 2. 4702	1. 6980 2. 4702	2. 1806 0. 9044	2. 4135 5. 5774
9 3. 3663	2 hour 4. 3288	0. 6455	20% 4. 6709	4 0. 5720	30. 30 0. 7811	0. 98 1. 0986	2. 3683 1. 4214	2. 5208 2. 3102	2. 3683 2. 3102	3. 0040 0. 8946	3. 2243 7. 0877
9 4. 2936	2 hour 5. 7818	1. 0548	20% 6. 7405	5 0. 8436	30. 30 0. 8974	0. 98 1. 1533	3. 8098 1. 7166	4. 4325 2. 8175	3. 8098 3. 2037	4. 8189 1. 0249	4. 6810 10. 9691
9 3. 0332	2 hour 4. 0651	0. 7393	20% 4. 7589	6 0. 6160	30. 30 0. 6591	0. 98 1. 0547	2. 6556 1. 2649	3. 2168 2. 0793	2. 6556 2. 5502	3. 3927 0. 7527	3. 3683 8. 0619
9 3. 1447	2 hour 4. 0928	0. 7577	20% 4. 6625	7 0. 5787	30. 30 0. 6285	0. 98 1. 0808	2. 2720 1. 2148	2. 5865 2. 0192	2. 2720 2. 0527	2. 9077 0. 7175	3. 0813 7. 0505

9 3. 7617	2 hour 4. 9212	0. 6392	20% 5. 5604	8 0. 6466	30. 30 0. 6006	0. 98 1. 0909	2. 6986 1. 1907	2. 9235 1. 9508	2. 6986 2. 2981	3. 4398 0. 6845	3. 6536 8. 5429
9 4. 4909	2 hour 5. 8433	0. 8150	20% 6. 4114	9 0. 8422	30. 30 0. 7939	0. 98 1. 1584	3. 4163 1. 5612	3. 5118 2. 5849	3. 4163 2. 6662	4. 3666 0. 9054	4. 6685 9. 9017
9 4. 1657	2 hour 5. 4385	0. 7924	20% 6. 1212	10 0. 8738	30. 30 0. 9604	0. 98 1. 1769	3. 4669 1. 7608	3. 6979 2. 9755	3. 4669 3. 0296	4. 4745 1. 0997	4. 4499 9. 3864
10 2. 4292	3 hour 2. 9730	0. 4808	20% 3. 4047	1 0. 5826	34. 50 0. 6389	0. 98 1. 0437	1. 9310 1. 2590	2. 3244 2. 0913	1. 9310 2. 2627	2. 4825 0. 7286	2. 3321 6. 2190
10 2. 4192	3 hour 3. 1472	0. 3750	20% 3. 3779	2 0. 4670	34. 50 0. 4041	0. 98 1. 0945	1. 5945 0. 7901	1. 8785 1. 2956	1. 5945 1. 4238	2. 1109 0. 4614	2. 3573 4. 9994
10 2. 9647	3 hour 3. 7756	0. 4182	20% 4. 0354	3 0. 7430	34. 50 0. 7287	0. 98 1. 1584	1. 7466 1. 5008	2. 1401 2. 5442	1. 7466 2. 6096	2. 6432 0. 8291	2. 7103 7. 0718
10 3. 3314	3 hour 4. 3636	0. 6683	20% 4. 6271	4 0. 6588	34. 50 0. 6003	0. 98 1. 1776	2. 2643 1. 2310	2. 8315 2. 0468	2. 2643 2. 1312	2. 8962 0. 6830	3. 3693 6. 9519
10 2. 5051	3 hour 3. 2785	0. 3645	20% 3. 5549	5 0. 4180	34. 50 0. 3539	0. 98 1. 2510	1. 5884 0. 7144	1. 6220 1. 1912	1. 5884 1. 8254	2. 0397 0. 4031	2. 2855 5. 7620
10 2. 4429	3 hour 3. 3227	0. 4255	20% 3. 6452	6 0. 4462	34. 50 0. 3915	0. 98 1. 2545	1. 7646 0. 7944	1. 8595 1. 3343	1. 7646 2. 1178	2. 2622 0. 4458	2. 4431 6. 2088
10 2. 0146	3 hour 2. 6691	0. 3289	20% 2. 9742	7 0. 4028	34. 50 0. 3685	0. 98 1. 1599	1. 2093 0. 7441	1. 5414 1. 2304	1. 2093 1. 6563	1. 5689 0. 4196	1. 7789 4. 4117
10 4. 3429	3 hour 5. 7825	0. 9082	20% 6. 1707	8 0. 8111	34. 50 0. 8565	0. 98 1. 2150	3. 0522 1. 6793	3. 5540 2. 7561	3. 0522 2. 8657	3. 9118 0. 9769	4. 4826 9. 2944
10 4. 0342	3 hour 5. 2291	0. 6530	20% 5. 7386	9 0. 6782	34. 50 0. 5933	0. 98 1. 4669	2. 8810 1. 2288	2. 8890 2. 0588	2. 8810 2. 4736	3. 6542 0. 6746	4. 0862 8. 8869
10	3 hour		20%	10	34. 50	0. 98	2. 2709	2. 4348	2. 2709	2. 8905	3. 2385

3. 5648	4. 6203	0. 5078	4. 9811	0. 5637	0. 5046	1. 4301	1. 0108	1. 6696	1. 9913	0. 5749	7. 4708
11 1. 5349	4. 5 hour 1. 9708	20% 0. 2753	20% 2. 1418	1 0. 3384	39. 70 0. 2941	0. 99 1. 1449	0. 9543 0. 5939	1. 2557 0. 9790	0. 9543 1. 6088	1. 2394 0. 3348	1. 3852 3. 8938
11 2. 1457	4. 5 hour 2. 7927	20% 0. 3736	20% 3. 0482	2 0. 3542	39. 70 0. 3423	0. 99 1. 2450	1. 4162 0. 6446	1. 6023 1. 0510	1. 4162 1. 8502	1. 8058 0. 3913	1. 9198 5. 2223
11 2. 0786	4. 5 hour 2. 8335	20% 0. 4803	20% 3. 0476	3 0. 5878	39. 70 0. 6166	0. 99 1. 2665	1. 5848 1. 2263	1. 7586 2. 0360	1. 5848 2. 0748	2. 0980 0. 7028	2. 1287 5. 4658
11 1. 9815	4. 5 hour 2. 5548	20% 0. 3599	20% 2. 7678	4 0. 3837	39. 70 0. 3791	0. 99 1. 2297	1. 2845 0. 7556	1. 4962 1. 2481	1. 2845 1. 7508	1. 6661 0. 4321	1. 8574 4. 8091
11 1. 9033	4. 5 hour 2. 4360	20% 0. 3789	20% 2. 7109	5 0. 4664	39. 70 0. 4277	0. 99 1. 3412	1. 2849 0. 8786	1. 6060 1. 4758	1. 2849 2. 2729	1. 6783 0. 4888	1. 8017 5. 3759
11 2. 7730	4. 5 hour 3. 7733	20% 0. 5229	20% 4. 2751	6 0. 5516	39. 70 0. 5509	0. 99 1. 3847	2. 3839 1. 0995	2. 6706 1. 8336	2. 3839 2. 9450	3. 0403 0. 6278	3. 0156 7. 8478
11 2. 2638	4. 5 hour 2. 8755	20% 0. 4329	20% 3. 2699	7 0. 3920	39. 70 0. 3767	0. 99 1. 4031	1. 5355 0. 7278	1. 7794 1. 1769	1. 5355 2. 3077	1. 9832 0. 4299	2. 0629 6. 0075
11 1. 6193	4. 5 hour 2. 0858	20% 0. 2197	20% 2. 2792	8 0. 2829	39. 70 0. 2719	0. 99 1. 2926	1. 0028 0. 5305	1. 0463 0. 8754	1. 0028 1. 9219	1. 3025 0. 3103	1. 4799 4. 3790
11 2. 6174	4. 5 hour 3. 4659	20% 0. 3511	20% 3. 8142	9 0. 4408	39. 70 0. 3780	0. 99 1. 6004	1. 6788 0. 7556	1. 7898 1. 2522	1. 6788 2. 3159	2. 1576 0. 4306	2. 3936 6. 5425
11 3. 3137	4. 5 hour 4. 5566	20% 0. 5020	20% 5. 0586	10 0. 5984	39. 70 0. 5373	0. 99 1. 5967	2. 4285 1. 0811	2. 6018 1. 7969	2. 4285 2. 7531	3. 1036 0. 6119	3. 3329 8. 4237
12 2. 1016	6 hour 2. 8617	20% 0. 4857	20% 3. 0754	1 0. 5910	44. 00 0. 6195	0. 99 1. 2831	1. 5995 1. 2324	1. 7900 2. 0461	1. 5995 2. 0861	2. 1152 0. 7062	2. 1507 5. 5173
12 2. 0920	6 hour 2. 6709	20% 0. 3838	20% 2. 9249	2 0. 4790	44. 00 0. 4898	0. 99 0. 9036	1. 4035 0. 9788	1. 6660 1. 6234	1. 4035 1. 6437	1. 9010 0. 5582	1. 9771 4. 8541

12 1.5012	6 hour 1. 9375	0.2187	20% 2. 1319	3 0.2793	44.00 0.2344	0.99 0.9606	0.9369 0.4775	1.0501 0.7962	0.9369 1.5300	1.2237 0.2667	1.3798 3.3861
12 2.2490	6 hour 2. 9001	0.3605	20% 3. 0866	4 0.4021	44.00 0.3938	0.99 1.0966	1.5872 0.7834	1.8694 1.3061	1.5872 1.8189	2.0581 0.4488	2.2010 4.6614
12 1.5062	6 hour 1. 9902	0.2489	20% 2. 1931	5 0.3380	44.00 0.3451	0.99 1.1988	0.9507 0.6849	1.2002 1.1323	0.9507 1.8630	1.2401 0.3934	1.3519 3.9846
12 1.8443	6 hour 2. 3704	0.3544	20% 2. 5549	6 0.3467	44.00 0.3385	0.99 1.3702	1.3235 0.6651	1.5832 1.0939	1.3235 1.8622	1.7015 0.3860	1.8519 4.3671
12 1.8788	6 hour 2. 4011	0.2575	20% 2. 6200	7 0.3190	44.00 0.2762	0.99 1.2746	1.2140 0.5570	1.2712 0.9213	1.2140 1.8527	1.5682 0.3144	1.7091 4.3069
12 3.3757	6 hour 4. 2251	0.5205	20% 4. 6384	8 0.5750	44.00 0.5617	0.99 1.5029	2.4273 1.1175	2.7255 1.8629	2.4273 2.4614	3.0989 0.6402	3.1794 7.7400
12 3.1549	6 hour 4. 0303	0.5711	20% 4. 6014	9 0.5330	44.00 0.5035	0.99 1.6753	2.1254 0.9782	2.4267 1.5889	2.1254 2.7283	2.7328 0.5744	2.8339 7.9041
12 3.3940	6 hour 4. 7877	0.6238	20% 5. 3257	10 0.6470	44.00 0.6125	0.99 1.7231	2.8134 1.2339	2.9855 2.0658	2.8134 3.3399	3.5629 0.6977	3.7344 9.3633
13 1.8792	9 hour 2. 5646	0.2601	20% 2. 8213	1 0.3528	51.10 0.3013	0.99 0.8829	1.3529 0.6168	1.4025 1.0265	1.3529 1.4151	1.7475 0.3428	1.8824 4.5792
13 1.8905	9 hour 2. 4763	0.3404	20% 2. 6369	2 0.3353	51.10 0.2749	0.99 0.9293	1.1962 0.5525	1.3755 0.9390	1.1962 1.3502	1.5566 0.3137	1.7901 4.1825
13 1.7379	9 hour 2. 1556	0.2969	20% 2. 2523	3 0.3105	51.10 0.3211	0.99 1.0950	1.1111 0.6186	1.3613 1.0088	1.1111 1.7982	1.4586 0.3666	1.4698 4.1137
13 2.1520	9 hour 2. 7201	0.3624	20% 3. 0825	4 0.3699	51.10 0.3414	0.99 1.3128	1.4803 0.6729	1.6007 1.0976	1.4803 1.8930	1.9002 0.3892	1.9852 5.3647
13 1.6719	9 hour 2. 1675	0.2041	20% 2. 3550	5 0.2807	51.10 0.2248	0.99 1.0487	0.9936 0.4548	1.0095 0.7560	0.9936 1.6612	1.2941 0.2559	1.4799 4.2671

13 1. 8398	9 hour 2. 4020	0. 2205	20% 2. 6225	6 0. 3096	51. 10 0. 2470	0. 99 1. 4034	1. 1180 0. 5066	1. 1243 0. 8408	1. 1180 2. 0143	1. 4510 0. 2809	1. 6511 4. 9177
13 1. 8493	9 hour 2. 5396	0. 2764	20% 2. 8160	7 0. 3488	51. 10 0. 3060	0. 99 0. 9576	1. 3540 0. 6206	1. 4248 1. 0303	1. 3540 1. 6639	1. 7461 0. 3484	1. 8619 4. 8282
13 2. 5907	9 hour 3. 3372	0. 3255	20% 3. 6104	8 0. 4113	51. 10 0. 3463	0. 99 1. 8596	1. 5520 0. 6972	1. 6291 1. 1570	1. 5520 2. 5696	1. 9891 0. 3944	2. 2709 6. 3600
13 2. 4396	9 hour 3. 1209	0. 3630	20% 3. 3978	9 0. 4303	51. 10 0. 3762	0. 99 1. 6111	1. 7001 0. 7818	1. 7638 1. 3156	1. 7001 2. 5268	2. 1919 0. 4277	2. 3547 6. 1972
13 2. 9473	9 hour 3. 9001	0. 3621	20% 4. 2608	10 0. 4889	51. 10 0. 4038	0. 99 1. 6545	1. 8814 0. 8304	1. 9234 1. 3826	1. 8814 2. 2651	2. 4197 0. 4592	2. 7437 6. 9835
14 1. 4296	12 hour 1. 8930	0. 2252	20% 2. 0449	1 0. 2626	57. 00 0. 2209	0. 99 0. 9342	0. 9303 0. 4356	0. 9813 0. 7317	0. 9303 1. 4578	1. 2159 0. 2521	1. 3582 3. 7373
14 2. 6610	12 hour 3. 4760	0. 3748	20% 3. 7519	2 0. 4362	57. 00 0. 3489	0. 99 1. 2548	1. 6330 0. 7277	1. 6323 1. 2227	1. 6330 1. 6587	2. 1083 0. 3966	2. 4462 5. 8071
14 0. 9705	12 hour 1. 3473	0. 1594	20% 1. 5013	3 0. 2837	57. 00 0. 2684	0. 99 0. 5762	0. 6441 0. 5451	0. 7793 0. 9101	0. 6441 0. 9571	0. 8737 0. 3056	0. 9599 2. 6625
14 1. 4938	12 hour 1. 9479	0. 1832	20% 2. 1311	4 0. 2568	57. 00 0. 2053	0. 99 1. 0024	0. 9037 0. 4180	0. 9113 0. 6914	0. 9037 1. 4730	1. 1789 0. 2336	1. 3251 3. 8378
14 1. 6295	12 hour 2. 1766	0. 2554	20% 2. 3747	5 0. 2972	57. 00 0. 2626	0. 99 1. 3091	1. 0905 0. 5113	1. 1834 0. 8445	1. 0905 1. 8672	1. 4159 0. 2996	1. 5515 4. 4375
14 0. 9345	12 hour 1. 2030	0. 1221	20% 1. 2991	6 0. 1698	57. 00 0. 1417	0. 99 0. 6940	0. 5457 0. 2840	0. 5788 0. 4663	0. 5457 1. 0600	0. 7265 0. 1613	0. 8251 2. 2428
14 1. 7217	12 hour 2. 1933	0. 2585	20% 2. 4519	7 0. 3046	57. 00 0. 2741	0. 99 1. 2616	1. 1751 0. 5501	1. 2610 0. 9116	1. 1751 1. 8286	1. 5185 0. 3122	1. 6013 4. 4729
14	12 hour		20%	8	57. 00	0. 99	1. 3498	1. 4384	1. 3498	1. 7381	1. 8590

2. 1618	2. 7511	0. 3202	2. 9336	0. 3465	0. 3094	1. 4703	0. 6139	1. 0037	2. 1505	0. 3525	5. 1751
14	12 hour	20%		9	57. 00	0. 99	1. 8981	1. 9986	1. 8981	2. 4319	2. 6115
2. 7708	3. 7470	0. 4357	4. 1827	0. 4843	0. 4191	1. 8699	0. 8350	1. 3679	2. 7466	0. 4775	7. 4069
14	12 hour	20%		10	57. 00	0. 99	1. 7316	1. 9561	1. 7316	2. 2118	2. 2250
2. 5507	3. 1695	0. 4755	3. 4382	0. 4094	0. 4121	1. 2792	0. 7927	1. 2825	2. 1013	0. 4705	6. 0100
15	18 hour	20%		1	66. 50	1. 00	0. 5608	0. 6520	0. 5608	0. 7445	0. 8651
1. 0205	1. 2894	0. 1264	1. 3880	0. 1771	0. 1383	0. 7899	0. 2844	0. 4733	1. 1594	0. 1574	2. 4139
15	18 hour	20%		2	66. 50	1. 00	1. 2996	1. 3032	1. 2996	1. 6554	1. 9339
2. 2930	2. 9579	0. 2939	3. 1723	0. 3780	0. 3376	1. 2508	0. 6804	1. 1255	1. 5779	0. 3844	5. 0246
15	18 hour	20%		3	66. 50	1. 00	0. 9148	0. 9379	0. 9148	1. 1790	1. 3158
1. 4672	1. 9350	0. 1677	2. 1027	0. 2534	0. 2123	0. 7260	0. 4288	0. 7102	0. 9200	0. 2417	3. 2296
15	18 hour	20%		4	66. 50	1. 00	0. 5505	0. 6031	0. 5505	0. 7442	0. 8446
0. 9181	1. 2171	0. 1138	1. 3254	0. 1779	0. 1419	0. 7658	0. 2956	0. 4939	1. 1250	0. 1613	2. 5164
15	18 hour	20%		5	66. 50	1. 00	0. 7819	1. 0394	0. 7819	1. 0515	1. 2798
1. 5245	1. 9181	0. 2445	2. 0189	0. 2559	0. 2074	0. 7566	0. 4008	0. 6817	1. 1458	0. 2368	3. 3764
15	18 hour	20%		6	66. 50	1. 00	0. 5405	0. 5921	0. 5405	0. 7262	0. 8116
0. 8826	1. 1700	0. 1144	1. 2844	0. 1704	0. 1410	0. 6209	0. 2880	0. 4792	0. 8929	0. 1604	2. 3377
15	18 hour	20%		7	66. 50	1. 00	0. 4093	0. 4253	0. 4093	0. 5574	0. 6394
0. 7156	0. 9273	0. 0801	1. 0074	0. 1505	0. 1151	0. 5931	0. 2438	0. 4110	0. 9596	0. 1306	2. 0933
15	18 hour	20%		8	66. 50	1. 00	0. 8373	0. 9022	0. 8373	1. 0990	1. 1971
1. 2907	1. 7295	0. 1927	1. 9222	0. 2390	0. 2041	0. 9940	0. 4079	0. 6711	1. 4601	0. 2325	3. 6148
15	18 hour	20%		9	66. 50	1. 00	0. 5014	0. 5175	0. 5014	0. 6721	0. 7608
0. 8584	1. 1143	0. 1012	1. 2155	0. 1596	0. 1280	0. 7550	0. 2610	0. 4332	1. 1882	0. 1457	2. 5494
15	18 hour	20%		10	66. 50	1. 00	1. 6966	1. 7237	1. 6966	2. 1975	2. 5432
2. 9163	3. 7852	0. 3146	4. 0940	0. 4685	0. 3600	1. 7544	0. 7510	1. 2552	2. 2768	0. 4091	6. 7742

16 0.9109	24 hour 1. 1964	0. 1462	20% 1. 3351	1 0. 1845	73. 90 0. 1757	1. 00 0. 5962	0. 5738 0. 3474	0. 6928 0. 5741	0. 5738 0. 5741	0. 7850 1. 0475	0. 2003 2. 5698	0. 8606
16 1. 0069	24 hour 1. 2901	0. 1435	20% 1. 4279	2 0. 2771	73. 90 0. 2185	1. 00 0. 7570	0. 5719 0. 4562	0. 6466 0. 7643	0. 5719 0. 7643	0. 7921 1. 0631	0. 2483 2. 5310	0. 9037
16 1. 3738	24 hour 1. 6362	0. 2436	20% 1. 6750	3 0. 2263	73. 90 0. 2241	1. 00 0. 8106	0. 7535 0. 4347	1. 0353 0. 7137	0. 7535 1. 3053	1. 0060 0. 2559	1. 1275 3. 1717	
16 0. 7915	24 hour 1. 0466	0. 0933	20% 1. 1399	4 0. 1563	73. 90 0. 1271	1. 00 0. 5108	0. 4712 0. 2623	0. 5178 0. 4382	0. 4712 0. 8714	0. 6420 0. 1445	0. 7306 2. 1558	
16 0. 5655	24 hour 0. 7257	0. 0739	20% 0. 7872	5 0. 1294	73. 90 0. 1033	1. 00 0. 3920	0. 3117 0. 2111	0. 3208 0. 3494	0. 3117 0. 6292	0. 4322 0. 1175	0. 4964 1. 5179	
16 0. 5336	24 hour 0. 6584	0. 0728	20% 0. 7195	6 0. 1203	73. 90 0. 0972	1. 00 0. 3821	0. 2759 0. 1979	0. 3484 0. 3278	0. 2759 0. 6199	0. 4056 0. 1105	0. 4512 1. 3900	
16 1. 5844	24 hour 2. 0203	0. 2115	20% 2. 1660	7 0. 2638	73. 90 0. 2267	1. 00 0. 9585	0. 8604 0. 4490	0. 9871 0. 7375	0. 8604 1. 3557	1. 1347 0. 2585	1. 3274 3. 7361	
16 1. 3768	24 hour 1. 8271	0. 1669	20% 1. 9940	8 0. 2536	73. 90 0. 2086	1. 00 0. 9579	0. 8618 0. 4309	0. 9090 0. 7187	0. 8618 1. 2646	1. 1413 0. 2371	1. 2834 3. 3641	
16 1. 3504	24 hour 1. 8026	0. 2071	20% 2. 0097	9 0. 2442	73. 90 0. 2112	1. 00 1. 1730	0. 9067 0. 4175	0. 9369 0. 6837	0. 9067 1. 7794	1. 1733 0. 2407	1. 2636 4. 0298	
16 0. 8756	24 hour 1. 1614	0. 1158	20% 1. 2772	10 0. 1691	73. 90 0. 1403	1. 00 0. 7061	0. 5315 0. 2855	0. 5820 0. 4733	0. 5315 1. 0592	0. 7159 0. 1597	0. 8039 2. 4961	
17 0. 9577	30 hour 1. 3014	0. 1546	20% 1. 4560	1 0. 2019	79. 80 0. 1744	1. 00 0. 6741	0. 6248 0. 3505	0. 7178 0. 5774	0. 6248 0. 9248	0. 8483 0. 1986	0. 9220 2. 4973	
17 0. 8264	30 hour 1. 0656	0. 0982	20% 1. 1510	2 0. 1811	79. 80 0. 1393	1. 00 0. 7579	0. 4697 0. 2885	0. 4698 0. 4808	0. 4697 1. 0956	0. 6098 0. 1583	0. 7013 2. 2073	
17 1. 0642	30 hour 1. 3954	0. 1312	20% 1. 5266	3 0. 1985	79. 80 0. 1627	1. 00 0. 8338	0. 6279 0. 3325	0. 6697 0. 5523	0. 6279 1. 1497	0. 8441 0. 1851	0. 9546 2. 8614	

17 0.4344	30 hour 0.5620	20% 0.0506	0.6126	4 0.0971	79.80 0.0710	1.00 0.3354	0.2430 0.1493	0.2606 0.2501	0.2430 0.5532	0.3402 0.0808	0.3872 1.1911
17 1.3292	30 hour 1.7838	20% 0.1934	1.9772	5 0.2483	79.80 0.2137	1.00 0.8999	0.8886 0.4313	0.9354 0.7128	0.8886 1.1289	1.1640 0.2433	1.2698 3.3495
17 0.5465	30 hour 0.7062	20% 0.0649	0.7711	6 0.1113	79.80 0.0912	1.00 0.4081	0.3127 0.1851	0.3257 0.3068	0.3127 0.7001	0.4328 0.1039	0.4909 1.5751
17 0.8708	30 hour 1.2177	20% 0.1581	1.3758	7 0.1772	79.80 0.1690	1.00 0.6213	0.6287 0.3335	0.7268 0.5470	0.6287 0.8361	0.8338 0.1927	0.8948 2.3786
17 0.7141	30 hour 0.9203	20% 0.0833	1.0036	8 0.1367	79.80 0.1092	1.00 0.6454	0.4030 0.2230	0.4151 0.3696	0.4030 0.9800	0.5493 0.1243	0.6256 2.0388
17 0.6313	30 hour 0.8372	20% 0.0856	0.9228	9 0.1299	79.80 0.1062	1.00 0.5189	0.3774 0.2157	0.4218 0.3566	0.3774 0.8004	0.5185 0.1208	0.5793 1.6014
17 1.0132	30 hour 1.2894	20% 0.1142	1.3854	10 0.1782	79.80 0.1336	1.00 0.7743	0.5401 0.2788	0.5415 0.4668	0.5401 1.1134	0.7272 0.1518	0.8535 2.6507

Run, Representative hydrograph  
 1 dur10min\_aep20tp5.out  
 Run, Representative hydrograph  
 2 dur15min\_aep20tp8.out  
 Run, Representative hydrograph  
 3 dur20min\_aep20tp6.out  
 Run, Representative hydrograph  
 4 dur25min\_aep20tp8.out  
 Run, Representative hydrograph  
 5 dur30min\_aep20tp7.out  
 Run, Representative hydrograph  
 6 dur45min\_aep20tp6.out  
 Run, Representative hydrograph  
 7 dur1hour\_aep20tp4.out  
 Run, Representative hydrograph  
 8 dur1\_5hour\_aep20tp7.out

Run,      Representative hydrograph  
9      dur2hour\_aep20tp6.out  
Run,      Representative hydrograph  
10     dur3hour\_aep20tp4.out  
Run,      Representative hydrograph  
11     dur4\_5hour\_aep20tp3.out  
Run,      Representative hydrograph  
12     dur6hour\_aep20tp2.out  
Run,      Representative hydrograph  
13     dur9hour\_aep20tp6.out  
Run,      Representative hydrograph  
14     dur12hour\_aep20tp7.out  
Run,      Representative hydrograph  
15     dur18hour\_aep20tp3.out  
Run,      Representative hydrograph  
16     dur24hour\_aep20tp1.out  
Run,      Representative hydrograph  
17     dur30hour\_aep20tp7.out

Elapsed Run Time (hh:mm:ss) = 00:00:05

# RORBWin Batch Run Summary

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Program version 6.45 (last updated 20th March 2019)

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Date run: 26 Apr 2021 17:50

Catchment file : K:\Jobs Data\1400147 - Wurruk rezoning application\\_Wat\Models\RORB\Post Dev\SWMS REV E\NoRB\1400147-RORB-PostDev-NoRB\_SWMS REV E.catg

Rainfall location: User defined

Temporal pattern : ARR2016 point temporal patterns

Spatial pattern : Uniform

Areal Red. Fact. : Based on ARR 2016 (Book 2 Chapter 4)

Loss factors : Constant with ARI

Parameters: kc = 2.63 m = 0.80

Loss parameters	Initial loss (mm)	Cont. loss (mm/h)
	19.00	3.00

## Peak Description

- 01 Special storage : Ex. U/S RB - Outflow
- 02 Special storage : Ex. U/S RB - Inflow
- 03 Calculated hydrograph, External
- 04 Calculated hydrograph, 20m RR PC Convey (Catch R)
- 05 Calculated hydrograph, OverlandFlowEasement(CatchS)
- 06 Calculated hydrograph, 30m RR PC Convey (Catch S)
- 07 Calculated hydrograph, Catch Q-W, External
- 08 Calculated hydrograph, Catch X
- 09 Calculated hydrograph, Outfall S(Catch Q-X, External)
- 10 Calculated hydrograph, Catch B
- 11 Calculated hydrograph, Catch E
- 12 Calculated hydrograph, Outfall Lagoon(Catch B-G, I-K)
- 13 Calculated hydrograph, 20m RR PC Convey (Catch P)

14 Calculated hydrograph, Outfall RB SE(Catch L-P)  
 15 Calculated hydrograph, Outfall SE (Catch B-G, I-P)  
 16 Calculated hydrograph, Outfall NW - Catch A  
 17 Calculated hydrograph, Entire Catchment

Run	Duration	AEP	TPat	Rain(mm)	ARF	Peak0001	Peak0002	Peak0003	Peak0004	Peak0005	Peak0006
Peak0007	Peak0008	Peak0009	Peak0010	Peak0011	Peak0012	Peak0013	Peak0014	Peak0015	Peak0016	Peak0017	
1	10 min	1%	21	25.10	0.94	4.9273	7.4912	4.9273	6.9035	6.1745	4.8994
6.4102	2.0698	8.0729	1.5124	1.9370	0.7031	3.6130	6.1753	6.3951	2.2263	16.5475	
1	10 min	1%	22	25.10	0.94	4.8939	6.9400	4.8939	6.7998	5.9968	4.7927
6.2227	2.0552	7.6449	1.4730	1.9942	0.7035	3.4493	5.9503	6.1701	2.2909	15.7611	
1	10 min	1%	23	25.10	0.94	4.9572	7.5224	4.9572	6.9857	6.2425	4.9452
6.4285	2.0784	8.0972	1.5404	1.9070	0.7026	3.7311	6.3366	6.5563	2.1773	16.8308	
1	10 min	1%	24	25.10	0.94	4.9572	7.5224	4.9572	7.1768	6.4052	5.0575
6.4287	2.0784	8.0975	1.6434	2.2292	0.7015	4.1785	6.9309	7.1505	2.5496	17.7976	
1	10 min	1%	25	25.10	0.94	4.8410	7.2974	4.8410	6.7966	6.0714	4.8354
6.3267	2.0501	7.9226	1.5011	1.9552	0.7033	3.5659	6.1104	6.3301	2.2456	16.2930	
1	10 min	1%	26	25.10	0.94	4.9572	7.5224	4.9572	7.0888	6.3306	5.0054
6.4267	2.0784	8.0955	1.5960	2.0798	0.7017	3.9716	6.6579	6.8776	2.3767	17.3497	
1	10 min	1%	27	25.10	0.94	4.9038	7.1364	4.9038	6.8072	6.2748	4.9694
6.2784	2.0561	7.7939	1.4877	1.9726	0.7033	3.5122	6.0370	6.2568	2.2665	16.0479	
1	10 min	1%	28	25.10	0.94	4.9572	7.5224	4.9572	7.1578	6.3891	5.0446
6.4230	2.0784	8.0918	1.6331	2.1967	0.7016	4.1332	6.8708	7.0904	2.5120	17.6942	
1	10 min	1%	29	25.10	0.94	4.9572	7.5224	4.9572	7.2909	6.5020	5.1059
6.3683	2.0784	8.0371	1.7077	2.4156	0.7033	4.4365	7.2673	7.4869	2.7655	18.2895	
1	10 min	1%	30	25.10	0.94	4.9572	7.5224	4.9572	7.1923	6.4183	5.0629
6.4171	2.0784	8.0859	1.6517	2.2558	0.7014	4.2147	6.9784	7.1981	2.5804	17.8644	
2	15 min	1%	21	30.80	0.95	7.4524	9.4974	7.4524	9.3887	9.7034	7.7386
9.7326	2.3505	10.6494	1.8190	2.2196	1.2544	4.3272	7.2499	7.5810	2.5338	20.7641	
2	15 min	1%	22	30.80	0.95	7.9263	10.5033	7.9263	9.9407	9.9829	7.8902
9.7806	2.8245	11.3447	1.8909	2.4423	1.2533	4.6411	7.6828	8.0126	2.7919	22.1491	
2	15 min	1%	23	30.80	0.95	8.1134	9.9223	8.1134	10.2374	9.8105	7.8094
9.8683	2.8498	10.8318	1.7885	2.3362	1.2547	4.4061	7.2412	7.5404	2.6709	21.0432	
2	15 min	1%	24	30.80	0.95	8.3057	10.4228	8.3057	10.5524	10.1962	8.0674
10.0703	3.0263	11.2304	1.9353	2.7664	1.2526	5.0159	8.0824	8.3848	3.1688	22.7841	
2	15 min	1%	25	30.80	0.95	8.6497	9.7807	8.6497	11.0424	9.8689	7.9021

10. 1478	3. 1721	11. 4466	1. 9193	2. 5525	1. 2539	4. 5917	7. 3314	7. 5897	2. 9248	21. 2769		
2	15 min		1%	26	30. 80	0. 95	8. 3301	10. 4891	8. 3301	10. 6434	10. 3796	8. 1749
10. 1126	3. 0095	11. 2291	2. 0401	3. 0494	1. 2544	5. 4214	8. 6360	8. 9431	3. 4962	23. 6684		
2	15 min		1%	27	30. 80	0. 95	8. 3301	10. 4891	8. 3301	10. 5019	10. 1480	8. 0281
9. 9999	3. 0095	11. 2906	1. 8937	2. 6006	1. 2535	4. 8010	7. 8143	8. 1216	2. 9764	22. 3885		
2	15 min		1%	28	30. 80	0. 95	8. 3597	10. 3416	8. 3597	10. 6167	10. 1486	8. 0416
10. 0757	3. 0466	11. 1576	1. 9044	2. 7108	1. 2529	4. 9224	7. 9332	8. 2298	3. 1049	22. 4923		
2	15 min		1%	29	30. 80	0. 95	9. 1212	11. 7800	9. 1212	11. 9888	10. 2229	8. 0734
10. 3988	3. 3500	12. 7771	2. 1987	2. 6719	1. 2732	5. 2301	8. 9091	9. 3510	3. 0711	25. 1479		
2	15 min		1%	30	30. 80	0. 95	9. 2748	12. 2171	9. 2748	12. 2529	10. 4753	8. 2144
10. 5161	3. 3729	13. 0604	2. 2497	2. 8714	1. 2691	5. 4869	9. 1461	9. 5880	3. 2808	25. 9292		
3	20 min		1%	21	35. 00	0. 95	9. 4009	10. 1661	9. 4009	11. 9970	11. 5472	9. 7325
12. 8360	2. 8222	13. 4882	2. 0816	2. 4928	1. 6925	4. 5934	7. 6047	8. 0793	2. 8533	23. 8297		
3	20 min		1%	22	35. 00	0. 95	8. 9046	10. 0599	8. 9046	11. 2917	10. 9848	9. 6375
12. 7671	2. 5939	13. 6060	1. 9551	2. 4479	1. 6920	4. 6286	7. 6651	7. 9730	2. 7985	22. 0393		
3	20 min		1%	23	35. 00	0. 95	9. 3930	10. 0446	9. 3930	12. 0104	11. 4490	9. 7848
12. 8706	2. 8410	13. 5078	2. 1005	2. 6839	1. 6912	4. 8918	7. 9160	8. 2184	3. 0736	23. 9224		
3	20 min		1%	24	35. 00	0. 95	10. 8324	12. 1556	10. 8324	13. 6011	12. 9766	10. 3270
13. 1883	3. 6371	14. 7434	2. 2545	2. 7512	1. 7131	5. 0972	8. 2453	8. 6379	3. 1480	25. 9389		
3	20 min		1%	25	35. 00	0. 95	9. 8270	12. 9505	9. 8270	12. 3129	12. 9761	10. 3170
12. 9368	3. 2034	14. 2810	2. 3018	2. 8946	1. 7138	5. 5561	9. 2318	9. 7098	3. 3066	27. 2974		
3	20 min		1%	26	35. 00	0. 95	10. 1878	12. 3423	10. 1878	13. 2319	12. 5140	10. 1815
12. 9302	3. 1843	14. 4934	2. 3597	2. 8220	1. 6948	5. 4736	9. 2955	9. 8083	3. 2396	27. 4315		
3	20 min		1%	27	35. 00	0. 95	9. 8028	12. 8767	9. 8028	12. 2831	12. 9536	10. 3075
12. 9402	3. 1778	14. 2355	2. 2957	2. 8791	1. 7139	5. 5321	9. 1956	9. 6730	3. 2887	27. 1972		
3	20 min		1%	28	35. 00	0. 95	9. 9228	13. 3702	9. 9228	12. 5730	13. 0968	10. 3589
12. 8966	3. 3279	14. 5663	2. 3207	2. 9535	1. 7105	5. 6288	9. 3072	9. 7918	3. 3750	27. 7332		
3	20 min		1%	29	35. 00	0. 95	11. 0118	13. 3482	11. 0118	13. 7888	13. 4289	10. 6020
13. 2871	3. 9291	14. 4613	2. 2736	3. 1080	1. 7144	5. 6948	9. 2023	9. 6185	3. 5582	27. 4598		
3	20 min		1%	30	35. 00	0. 95	10. 9969	13. 3580	10. 9969	13. 8042	13. 4820	10. 6419
13. 3251	3. 9264	14. 4915	2. 2923	3. 2120	1. 7137	5. 8424	9. 4061	9. 8230	3. 6786	27. 7971		
4	25 min		1%	21	38. 40	0. 96	10. 6686	11. 4437	10. 6686	13. 5163	13. 0489	11. 4528
14. 9046	2. 7807	15. 9537	2. 3145	2. 4484	2. 0840	4. 8243	8. 0443	8. 6456	2. 7966	27. 3011		
4	25 min		1%	22	38. 40	0. 96	9. 1414	9. 9230	9. 1414	11. 7392	12. 5391	11. 2531
14. 0852	2. 8263	15. 4632	2. 0730	2. 6360	2. 0598	4. 7562	7. 7461	8. 2019	3. 0202	24. 1391		
4	25 min		1%	23	38. 40	0. 96	10. 5497	11. 8077	10. 5497	13. 3087	13. 6287	11. 4216

15. 2210	2. 8497	16. 3290	2. 2094	2. 4065	2. 0819	4. 7691	7. 9380	8. 4976	2. 7438	26. 3825		
4	25 min		1%	24	38. 40	0. 96	8. 5865	9. 3610	8. 5865	10. 9610	11. 4309	10. 7631
14. 0850	2. 1419	15. 4389	1. 9880	2. 0870	2. 0602	3. 9146	6. 4564	6. 8544	2. 3868	24. 4775		
4	25 min		1%	25	38. 40	0. 96	9. 3832	10. 3528	9. 3832	11. 9570	12. 1110	10. 9805
14. 5026	2. 2747	15. 5693	2. 1152	2. 1350	2. 0601	4. 2845	7. 0275	7. 5882	2. 4320	25. 5894		
4	25 min		1%	26	38. 40	0. 96	10. 5616	11. 6781	10. 5616	13. 3032	13. 5116	11. 6233
14. 7105	2. 8236	15. 7911	2. 2715	2. 6357	2. 0645	5. 1203	8. 5532	8. 9867	3. 0092	26. 5262		
4	25 min		1%	27	38. 40	0. 96	10. 0699	12. 3258	10. 0699	12. 9800	13. 7320	11. 7139
14. 4778	2. 9945	15. 6042	2. 3341	2. 7444	2. 0635	5. 4392	9. 1971	9. 6995	3. 1302	27. 2225		
4	25 min		1%	28	38. 40	0. 96	10. 7568	11. 2106	10. 7568	13. 5705	13. 3570	11. 5520
14. 7891	2. 8718	16. 0034	2. 3031	2. 5243	2. 0645	4. 8475	8. 0137	8. 5543	2. 8834	27. 1803		
4	25 min		1%	29	38. 40	0. 96	12. 3614	16. 7081	12. 3614	15. 3264	16. 2275	12. 7575
15. 8070	4. 3734	17. 8164	2. 7759	3. 7439	2. 1046	6. 9621	11. 3791	11. 9693	4. 2834	34. 0691		
4	25 min		1%	30	38. 40	0. 96	11. 3119	13. 8541	11. 3119	14. 0516	14. 9846	12. 1151
15. 6293	3. 3378	16. 8257	2. 4059	2. 9227	2. 0859	5. 5914	9. 1378	9. 6917	3. 3388	29. 0611		
5	30 min		1%	21	41. 20	0. 96	10. 2296	10. 6587	10. 2296	12. 8742	13. 9087	12. 6069
15. 8984	2. 7943	17. 8114	2. 2492	2. 3614	2. 3938	4. 5487	7. 6272	8. 1240	2. 7007	27. 9002		
5	30 min		1%	22	41. 20	0. 96	10. 3664	12. 3231	10. 3664	13. 0056	13. 5874	12. 0134
15. 5536	2. 9230	16. 5489	2. 2565	2. 7611	2. 3737	5. 3657	8. 9691	9. 4364	3. 1521	26. 4960		
5	30 min		1%	23	41. 20	0. 96	9. 7047	11. 4369	9. 7047	12. 1991	13. 1555	11. 8766
15. 3095	2. 7655	16. 3331	2. 1921	2. 5326	2. 3692	5. 0349	8. 4894	8. 9592	2. 8922	25. 4755		
5	30 min		1%	24	41. 20	0. 96	9. 9289	11. 1730	9. 9289	12. 5086	13. 0423	11. 8871
15. 6903	2. 6196	16. 9170	2. 1631	2. 5267	2. 3733	4. 9929	8. 4287	8. 8630	2. 8823	25. 1817		
5	30 min		1%	25	41. 20	0. 96	10. 4326	11. 6367	10. 4326	13. 3523	14. 4413	12. 8715
16. 2980	3. 0466	17. 9363	2. 3182	2. 7685	2. 3926	5. 1251	8. 6881	9. 2244	3. 1722	28. 1322		
5	30 min		1%	26	41. 20	0. 96	11. 0158	11. 3424	11. 0158	13. 8687	14. 4510	12. 8774
16. 2816	2. 5762	18. 1221	2. 3837	2. 4379	2. 3961	4. 8237	8. 0237	8. 5189	2. 7801	29. 2321		
5	30 min		1%	27	41. 20	0. 96	10. 1196	10. 9117	10. 1196	12. 7802	13. 1884	12. 1056
15. 7465	2. 7547	17. 1175	2. 1864	2. 4997	2. 3932	4. 8208	8. 0263	8. 4122	2. 8548	25. 8298		
5	30 min		1%	28	41. 20	0. 96	10. 7524	11. 9977	10. 7524	13. 5292	13. 7810	12. 3667
16. 3341	3. 1132	17. 7440	2. 2766	2. 7293	2. 3933	5. 1874	8. 5935	8. 9920	3. 1193	26. 6892		
5	30 min		1%	29	41. 20	0. 96	12. 7301	13. 4345	12. 7301	16. 0150	15. 3012	13. 4029
17. 5709	3. 6953	18. 4373	2. 6467	2. 9914	2. 4195	5. 6420	9. 4992	10. 1916	3. 4221	31. 3735		
5	30 min		1%	30	41. 20	0. 96	11. 9867	13. 8537	11. 9867	15. 1964	15. 6663	13. 1377
17. 5023	3. 0262	18. 6751	2. 5495	2. 8393	2. 4183	5. 5802	9. 1984	9. 8596	3. 2386	30. 8850		
6	45 min		1%	21	47. 60	0. 96	11. 6323	12. 3161	11. 6323	14. 5908	14. 9075	14. 2889

18.8446	2.9229	20.1255	2.4691	2.4585	3.1404	4.9077	8.1730	8.9800	2.8015	31.4641		
6	45 min		1%	22	47.60	0.96	12.5846	13.3331	12.5846	15.7784	15.8205	14.6305
19.0158	3.2853	20.3201	2.6203	2.8856	3.1539	5.5001	9.0388	9.7817	3.2979	31.5988		
6	45 min		1%	23	47.60	0.96	8.2692	8.7394	8.2692	10.3929	11.3065	11.5247
15.1208	2.4503	16.6011	1.8717	2.2736	3.1354	4.3189	7.2176	7.4722	2.5988	24.7450		
6	45 min		1%	24	47.60	0.96	8.7880	9.7720	8.7880	11.0998	10.9306	10.9104
14.6612	2.5272	16.6321	1.9977	2.2336	3.0847	4.2614	7.0811	7.3599	2.5519	26.2053		
6	45 min		1%	25	47.60	0.96	7.9403	9.4992	7.9403	10.0137	9.9172	10.7767
14.3670	2.3674	16.1230	1.8084	2.2097	3.0827	4.2592	7.1072	7.4103	2.5242	23.9231		
6	45 min		1%	26	47.60	0.96	10.0270	10.4872	10.0270	12.6394	13.4702	13.2428
17.7473	2.1556	19.8691	2.2639	2.0871	3.1345	4.1844	6.9200	7.8796	2.3779	30.1266		
6	45 min		1%	27	47.60	0.96	8.9031	9.1738	8.9031	11.2428	12.2676	12.5307
16.2359	2.4245	17.5826	2.0094	2.1527	3.1213	4.1229	6.8396	7.1237	2.4593	25.5211		
6	45 min		1%	28	47.60	0.96	8.5565	8.7867	8.5565	10.8533	11.9764	12.5562
16.3142	1.8942	17.9646	2.0313	1.8500	3.1029	3.6425	6.0468	6.7072	2.1103	26.6721		
6	45 min		1%	29	47.60	0.96	12.7501	13.2700	12.7501	15.9334	16.3554	15.1360
20.1838	3.1061	21.7607	2.6235	2.7593	3.1623	5.3365	8.9512	9.7294	3.1533	32.5053		
6	45 min		1%	30	47.60	0.96	12.1470	13.5328	12.1470	15.2724	15.1862	14.5055
18.6405	2.8676	21.4021	2.5941	2.6891	3.1427	5.2472	8.6328	9.5651	3.0680	34.0351		
7	1 hour		1%	21	52.30	0.97	13.3928	13.9983	13.3928	16.7121	17.7070	16.6915
21.4980	3.2415	23.8460	2.8308	2.7928	3.7206	5.4161	9.0945	10.1840	3.1889	37.0517		
7	1 hour		1%	22	52.30	0.97	8.4713	9.1059	8.4713	10.7823	11.3021	11.0320
14.1917	2.5400	15.4255	1.8788	2.1739	3.5505	4.1361	6.8451	7.1134	2.4844	22.3598		
7	1 hour		1%	23	52.30	0.97	10.8804	11.5704	10.8804	13.6777	14.4062	14.2787
18.8587	2.3962	20.2629	2.3633	2.3025	3.6591	4.5824	7.5601	8.4218	2.6239	31.0742		
7	1 hour		1%	24	52.30	0.97	7.8081	8.5310	7.8081	9.7633	10.6344	11.0227
14.5121	2.0529	15.8238	1.7440	1.8994	3.5791	3.5612	5.8675	6.2714	2.1723	23.4712		
7	1 hour		1%	25	52.30	0.97	8.7780	9.8096	8.7780	10.9976	11.8133	11.2465
14.5178	2.4031	15.6664	1.8612	1.9518	3.5289	3.7799	6.2603	7.4909	2.2280	24.8188		
7	1 hour		1%	26	52.30	0.97	9.1234	11.2269	9.1234	11.4995	11.9502	10.3663
13.9324	2.6797	15.7984	1.9454	2.2826	3.5172	4.1559	6.7275	8.2901	2.6186	26.6372		
7	1 hour		1%	27	52.30	0.97	9.4186	10.1183	9.4186	11.9533	12.7565	13.1581
17.1364	2.1850	19.3214	2.2028	2.0189	3.6248	4.0193	6.5939	7.4767	2.3002	29.0982		
7	1 hour		1%	28	52.30	0.97	8.9203	9.6039	8.9203	11.3355	12.1258	12.7804
17.4083	2.3502	19.4717	2.1432	1.9118	3.6421	3.7958	6.2315	7.4145	2.1784	29.0647		
7	1 hour		1%	29	52.30	0.97	8.1872	8.4438	8.1872	10.3212	10.9553	11.8033

15. 7983	1. 8076	17. 5557	1. 9168	1. 6948	3. 6497	3. 4292	5. 6956	6. 6708	1. 9296	26. 0828		
7	1 hour		1%	30	52. 30	0. 97	13. 1269	14. 0789	13. 1269	16. 4103	17. 7741	16. 8569
21. 7208	3. 2700	23. 8386	2. 8292	2. 8261	3. 7410	5. 5307	9. 0121	9. 9269	3. 2235	36. 6526		
8	1. 5 hour		1%	21	59. 30	0. 97	9. 0212	9. 5583	9. 0212	11. 3181	12. 4873	12. 3504
16. 0809	2. 0335	17. 6105	2. 0201	1. 9115	4. 2459	3. 8088	6. 2657	6. 9103	2. 1782	26. 4989		
8	1. 5 hour		1%	22	59. 30	0. 97	7. 7478	7. 8914	7. 7478	9. 7914	10. 8236	11. 7670
15. 5632	1. 6090	17. 0132	1. 8718	1. 5752	4. 3920	3. 1758	5. 2449	7. 2884	1. 7935	26. 0478		
8	1. 5 hour		1%	23	59. 30	0. 97	7. 0231	7. 2651	7. 0231	8. 8922	9. 8063	9. 9321
12. 8898	1. 6462	13. 8776	1. 6384	1. 5545	4. 2123	3. 1350	5. 1926	5. 8687	1. 7705	20. 7513		
8	1. 5 hour		1%	24	59. 30	0. 97	8. 3532	8. 6230	8. 3532	10. 4380	11. 1858	10. 7041
14. 2414	1. 9245	15. 7656	1. 8081	1. 7187	4. 1118	3. 3911	5. 6716	8. 1047	1. 9611	25. 7683		
8	1. 5 hour		1%	25	59. 30	0. 97	9. 5647	9. 8369	9. 5647	12. 0508	13. 3210	12. 6875
16. 7223	2. 5186	18. 4254	2. 1746	2. 2052	3. 9647	4. 1764	7. 0464	7. 4432	2. 5254	27. 8012		
8	1. 5 hour		1%	26	59. 30	0. 97	8. 2224	8. 4968	8. 2224	10. 4167	11. 2505	12. 2287
16. 0845	1. 9156	17. 7762	1. 9726	1. 6945	4. 4109	3. 4159	5. 6580	6. 8797	1. 9294	26. 5852		
8	1. 5 hour		1%	27	59. 30	0. 97	7. 4203	7. 8586	7. 4203	9. 3974	10. 2535	10. 9256
14. 3371	1. 6391	15. 8144	1. 7692	1. 5687	4. 3618	3. 1265	5. 1520	6. 7697	1. 7873	24. 3126		
8	1. 5 hour		1%	28	59. 30	0. 97	7. 7077	9. 0218	7. 7077	9. 8182	10. 5075	10. 6108
14. 0397	2. 0703	16. 1099	1. 8442	1. 7968	4. 3198	3. 4370	5. 5946	7. 4536	2. 0516	25. 6152		
8	1. 5 hour		1%	29	59. 30	0. 97	11. 5254	11. 6863	11. 5254	14. 4263	15. 7358	15. 1811
19. 3976	2. 6666	21. 7679	2. 4712	2. 3212	4. 4299	4. 7125	7. 7854	8. 7749	2. 6424	33. 1852		
8	1. 5 hour		1%	30	59. 30	0. 97	12. 8055	14. 0381	12. 8055	15. 8540	17. 1276	16. 4196
21. 3106	3. 0429	22. 8308	2. 5682	2. 7810	4. 4022	5. 3234	8. 7591	9. 9179	3. 1766	34. 7519		
9	2 hour		1%	21	64. 70	0. 97	8. 8491	9. 3764	8. 8491	11. 1059	12. 2656	12. 2012
15. 9578	1. 9929	17. 4564	1. 9919	1. 8738	4. 5483	3. 7356	6. 1453	6. 8055	2. 1351	26. 2040		
9	2 hour		1%	22	64. 70	0. 97	9. 5901	10. 4411	9. 5901	12. 0223	12. 9282	12. 5731
16. 1657	2. 2904	17. 4156	2. 0835	2. 1557	4. 6503	4. 2582	6. 9979	7. 4947	2. 4579	25. 7436		
9	2 hour		1%	23	64. 70	0. 97	12. 2398	12. 7376	12. 2398	15. 3367	15. 2798	13. 8387
18. 2963	3. 1784	19. 4913	2. 5372	2. 7244	4. 0587	5. 2247	8. 7785	9. 4917	3. 1134	30. 7699		
9	2 hour		1%	24	64. 70	0. 97	8. 3841	9. 5600	8. 3841	10. 5983	10. 3245	9. 5787
12. 3069	2. 6396	13. 5195	1. 8298	2. 2128	4. 5128	4. 2213	6. 9414	8. 0624	2. 5283	23. 6632		
9	2 hour		1%	25	64. 70	0. 97	8. 3153	8. 6697	8. 3153	10. 4309	11. 3271	11. 5726
15. 3035	1. 9164	16. 7671	1. 8786	1. 7277	4. 7411	3. 3968	5. 6168	7. 7417	1. 9701	26. 3712		
9	2 hour		1%	26	64. 70	0. 97	5. 7424	6. 3778	5. 7424	7. 2461	7. 8726	7. 7336
10. 3482	1. 3912	11. 2712	1. 3377	1. 2797	4. 4239	2. 4902	4. 0822	6. 1358	1. 4600	17. 5969		
9	2 hour		1%	27	64. 70	0. 97	7. 0113	7. 2380	7. 0113	8. 8028	9. 4149	9. 8921

12. 7788	1. 6319	13. 8415	1. 5715	1. 4470	4. 7134	2. 9025	4. 8313	6. 9871	1. 6484	22. 1035		
9	2 hour		1%	28	64. 70	0. 97	11. 8623	13. 9987	11. 8623	14. 5217	14. 5705	12. 2792
15. 3871	3. 9908	16. 7125	2. 2022	2. 7647	4. 7029	4. 8495	7. 9234	9. 0441	3. 1710	28. 2697		
9	2 hour		1%	29	64. 70	0. 97	7. 4702	7. 6858	7. 4702	9. 4669	10. 4568	11. 5396
15. 1210	1. 5772	16. 5886	1. 7983	1. 5348	4. 8897	3. 1033	5. 1196	7. 0025	1. 7472	25. 0816		
9	2 hour		1%	30	64. 70	0. 97	8. 5510	8. 7055	8. 5510	10. 8185	11. 8232	12. 8285
17. 0868	1. 7738	18. 7985	2. 0472	1. 7349	4. 9057	3. 5196	5. 8362	7. 9591	1. 9747	28. 7323		
10	3 hour		1%	21	73. 00	0. 97	7. 7402	7. 8116	7. 7402	9. 8187	10. 9974	12. 2719
16. 1104	1. 6155	17. 5544	1. 9054	1. 5595	5. 4913	3. 1746	5. 2904	8. 2898	1. 7758	27. 5979		
10	3 hour		1%	22	73. 00	0. 97	5. 1421	5. 3068	5. 1421	6. 5633	7. 6358	7. 5926
10. 0820	1. 3244	10. 8797	1. 3038	1. 4354	4. 1034	2. 7851	4. 5812	5. 9411	1. 6384	16. 8411		
10	3 hour		1%	23	73. 00	0. 97	4. 6035	4. 9985	4. 6035	6. 2397	6. 3107	7. 0753
9. 0436	0. 9387	9. 7080	1. 3530	1. 3487	3. 7891	2. 7462	4. 6262	5. 8599	1. 5354	14. 8108		
10	3 hour		1%	24	73. 00	0. 97	4. 5119	4. 5587	4. 5119	5. 7319	6. 3443	6. 9324
9. 1966	0. 9121	10. 1087	1. 1626	1. 1186	4. 0829	2. 3063	3. 9007	5. 7652	1. 2726	16. 7141		
10	3 hour		1%	25	73. 00	0. 97	5. 2471	5. 9359	5. 2471	6. 6167	7. 3216	7. 2496
9. 4546	1. 6015	9. 9268	1. 1918	1. 2987	4. 4988	2. 4798	4. 0116	7. 8318	1. 4834	18. 9249		
10	3 hour		1%	26	73. 00	0. 97	7. 3251	7. 3783	7. 3251	9. 2736	10. 5319	10. 8356
14. 4989	1. 4818	15. 8992	1. 7435	1. 4767	5. 2090	3. 0393	5. 0657	6. 9760	1. 6795	23. 8123		
10	3 hour		1%	27	73. 00	0. 97	5. 1394	5. 5807	5. 1394	6. 4786	6. 6744	6. 5908
8. 7873	1. 1850	9. 9723	1. 1603	1. 1219	4. 4630	2. 2089	3. 6338	7. 5123	1. 2793	18. 7640		
10	3 hour		1%	28	73. 00	0. 97	5. 0694	5. 3782	5. 0694	6. 4368	7. 2095	7. 6539
10. 1652	1. 1081	11. 0862	1. 2617	1. 0652	5. 0379	2. 1556	3. 5917	6. 4893	1. 2129	18. 0516		
10	3 hour		1%	29	73. 00	0. 97	5. 6443	5. 7913	5. 6443	7. 1244	7. 9098	7. 4701
10. 2487	1. 3063	11. 2282	1. 2932	1. 1627	4. 2813	2. 3942	4. 0256	7. 8155	1. 3228	20. 3664		
10	3 hour		1%	30	73. 00	0. 97	9. 1199	10. 0401	9. 1199	11. 4321	11. 7060	13. 3419
16. 9736	2. 1822	17. 9792	1. 9250	1. 9970	5. 7085	3. 8942	6. 3947	7. 3140	2. 2785	26. 5962		
11	4. 5 hour		1%	21	82. 50	0. 98	3. 8925	3. 9891	3. 8925	4. 9595	5. 4432	5. 5069
7. 0041	0. 8412	7. 7275	0. 9586	0. 8327	3. 1962	1. 6636	2. 7535	4. 8823	0. 9488	11. 7145		
11	4. 5 hour		1%	22	82. 50	0. 98	5. 2104	5. 8770	5. 2104	6. 5604	6. 7691	7. 4775
9. 5089	1. 4444	9. 9583	1. 1415	1. 1826	4. 4669	2. 2370	3. 5776	7. 6684	1. 3511	17. 6916		
11	4. 5 hour		1%	23	82. 50	0. 98	5. 3211	5. 7862	5. 3211	6. 7316	6. 8330	7. 6949
9. 8115	1. 1921	10. 4352	1. 2132	1. 1443	3. 5401	2. 2812	3. 7535	5. 0810	1. 3039	15. 2437		
11	4. 5 hour		1%	24	82. 50	0. 98	5. 2743	5. 7124	5. 2743	6. 6770	7. 6338	8. 2107
10. 5999	1. 3903	11. 3078	1. 2693	1. 1694	3. 5943	2. 3267	3. 8794	5. 2248	1. 3330	17. 6223		
11	4. 5 hour		1%	25	82. 50	0. 98	3. 1890	3. 2646	3. 1890	4. 0673	4. 5608	4. 6071

5. 8771	0. 7717	6. 4653	0. 7986	0. 7197	3. 8458	1. 4480	2. 3947	5. 4869	0. 8198	11. 4271		
11	4. 5 hour		1%	26	82. 50	0. 98	4. 8432	5. 1467	4. 8432	6. 1516	7. 0378	7. 5971
9. 9710	1. 1370	10. 7882	1. 2005	1. 0368	4. 6881	2. 0327	3. 3816	6. 5130	1. 1824	17. 0357		
11	4. 5 hour		1%	27	82. 50	0. 98	5. 3846	5. 3879	5. 3846	6. 8124	7. 7741	7. 9306
10. 2971	1. 3493	11. 1561	1. 2584	1. 0837	4. 4174	2. 2630	3. 8263	6. 8658	1. 2377	19. 2537		
11	4. 5 hour		1%	28	82. 50	0. 98	4. 8905	4. 9808	4. 8905	6. 1841	6. 9162	6. 6874
9. 0929	1. 1219	9. 9520	1. 1358	1. 0038	4. 2911	2. 0705	3. 4776	6. 1165	1. 1419	16. 9405		
11	4. 5 hour		1%	29	82. 50	0. 98	6. 2739	6. 5474	6. 2739	7. 9398	8. 4943	8. 9522
12. 1353	1. 3851	13. 5205	1. 5005	1. 3115	5. 6439	2. 6167	4. 3034	8. 0665	1. 4941	23. 0810		
11	4. 5 hour		1%	30	82. 50	0. 98	5. 7432	6. 2932	5. 7432	7. 2823	8. 4676	8. 8080
11. 5897	1. 4882	12. 4653	1. 3861	1. 2621	5. 4488	2. 4134	4. 0459	8. 6637	1. 4414	20. 8501		
12	6 hour		1%	21	90. 10	0. 98	7. 3975	7. 7933	7. 3975	9. 3838	10. 6443	11. 7808
15. 4809	1. 5046	16. 8864	1. 8016	1. 5554	5. 8440	3. 1125	5. 1753	7. 7963	1. 7722	26. 3437		
12	6 hour		1%	22	90. 10	0. 98	4. 9998	5. 3161	4. 9998	6. 3115	6. 6890	6. 5843
8. 8397	1. 0225	9. 8622	1. 1489	1. 0698	4. 0169	2. 1401	3. 5611	6. 0426	1. 2190	17. 1238		
12	6 hour		1%	23	90. 10	0. 98	5. 4535	5. 5573	5. 4535	6. 8877	7. 6924	7. 3838
10. 0220	1. 3927	10. 8816	1. 2580	1. 1192	3. 6359	2. 3126	3. 9220	7. 0922	1. 2727	19. 2465		
12	6 hour		1%	24	90. 10	0. 98	4. 0858	4. 1035	4. 0858	5. 2370	5. 9061	5. 7301
7. 7109	1. 0602	8. 3648	1. 0555	1. 1863	3. 0882	2. 3020	3. 7892	4. 8308	1. 3541	13. 1690		
12	6 hour		1%	25	90. 10	0. 98	3. 6321	4. 0275	3. 6321	4. 9067	4. 8142	5. 4433
7. 1225	0. 9884	7. 7949	1. 0617	1. 0387	3. 4593	2. 1223	3. 5712	4. 8715	1. 1822	13. 3752		
12	6 hour		1%	26	90. 10	0. 98	7. 4070	8. 0800	7. 4070	9. 2717	10. 3158	9. 6936
13. 0831	2. 0391	14. 0367	1. 6418	1. 6107	3. 1683	3. 1875	5. 2903	6. 8441	1. 8365	22. 1646		
12	6 hour		1%	27	90. 10	0. 98	2. 6331	2. 6684	2. 6331	3. 3553	3. 6976	4. 0185
5. 2181	0. 5447	5. 7294	0. 6817	0. 7218	3. 4766	1. 3578	2. 2025	4. 8910	0. 8252	11. 0050		
12	6 hour		1%	28	90. 10	0. 98	3. 4613	3. 6094	3. 4613	4. 3991	4. 7251	5. 3501
6. 9113	0. 7754	7. 5582	0. 8482	0. 7350	3. 9636	1. 4676	2. 4089	5. 3313	0. 8373	13. 2226		
12	6 hour		1%	29	90. 10	0. 98	2. 8154	2. 8750	2. 8154	3. 5895	4. 0427	4. 3810
5. 7739	0. 6367	6. 2859	0. 7162	0. 5976	3. 3738	1. 1907	1. 9857	4. 9751	0. 6820	10. 4520		
12	6 hour		1%	30	90. 10	0. 98	4. 0824	4. 2383	4. 0824	5. 1896	5. 8219	6. 6119
8. 6605	0. 8378	9. 4982	1. 0396	0. 8583	4. 9467	1. 7287	2. 8702	6. 5652	0. 9775	16. 3097		
13	9 hour		1%	21	102. 00	0. 99	2. 1876	2. 3619	2. 1876	2. 8071	2. 9166	3. 3955
4. 3031	0. 4522	4. 6171	0. 5667	0. 4558	2. 5725	0. 9447	1. 5735	3. 9164	0. 5182	8. 4020		
13	9 hour		1%	22	102. 00	0. 99	2. 4821	2. 5026	2. 4821	3. 1818	3. 6398	3. 9688
5. 2158	0. 5151	5. 6705	0. 6473	0. 5189	2. 7484	1. 0692	1. 7802	3. 7469	0. 5901	9. 8361		
13	9 hour		1%	23	102. 00	0. 99	6. 0290	6. 1568	6. 0290	7. 6510	8. 6843	9. 3363

12. 3825	1. 1593	13. 5417	1. 4769	1. 2168	4. 4895	2. 4964	4. 1521	5. 7906	1. 3842	20. 7165		
13	9 hour		1%	24	102.00	0. 99	2. 7062	2. 7426	2. 7062	3. 4547	3. 7969	4. 3139
5. 5853	0. 5955	6. 1681	0. 6917	0. 5835	3. 4696	1. 1581	1. 8959	4. 9242	0. 6648	10. 8154		
13	9 hour		1%	25	102.00	0. 99	5. 6845	6. 1412	5. 6845	7. 2790	8. 7349	9. 8563
12. 7268	1. 4362	13. 5813	1. 4804	1. 2365	3. 8910	2. 3880	4. 0533	5. 7380	1. 4120	20. 5788		
13	9 hour		1%	26	102.00	0. 99	2. 2733	2. 3683	2. 2733	2. 9096	3. 1768	3. 3861
4. 5365	0. 4559	4. 9924	0. 5777	0. 4913	2. 6910	0. 9949	1. 6549	3. 8346	0. 5592	9. 0872		
13	9 hour		1%	27	102.00	0. 99	3. 1245	3. 1711	3. 1245	3. 9966	4. 4855	5. 1855
6. 7435	0. 6574	7. 3214	0. 8185	0. 6492	3. 3996	1. 3170	2. 1956	5. 0737	0. 7391	13. 1212		
13	9 hour		1%	28	102.00	0. 99	2. 9241	3. 0638	2. 9241	3. 7006	3. 9109	4. 6004
5. 8843	0. 6495	6. 3066	0. 7022	0. 6283	3. 6134	1. 2442	2. 0456	5. 3109	0. 7161	12. 2054		
13	9 hour		1%	29	102.00	0. 99	3. 8258	3. 8775	3. 8258	4. 8756	5. 4374	6. 0350
7. 9616	0. 7600	8. 7216	0. 9657	0. 7875	4. 5008	1. 6094	2. 6703	6. 2841	0. 8959	15. 1785		
13	9 hour		1%	30	102.00	0. 99	6. 3154	6. 4755	6. 3154	8. 0288	9. 0598	9. 5951
12. 7907	1. 1843	13. 9749	1. 5319	1. 2948	4. 9815	2. 6753	4. 4609	7. 9627	1. 4724	23. 4100		
14	12 hour		1%	21	112.00	0. 99	3. 6777	3. 7477	3. 6777	4. 6767	5. 1406	5. 5990
7. 4477	0. 7603	8. 2080	0. 9161	0. 7620	4. 3292	1. 5432	2. 5499	5. 8069	0. 8674	14. 1112		
14	12 hour		1%	22	112.00	0. 99	3. 4952	3. 6802	3. 4952	4. 4134	4. 6206	4. 8674
6. 3110	0. 8145	7. 1255	0. 8023	0. 7492	3. 2521	1. 4786	2. 4186	4. 8554	0. 8541	12. 8350		
14	12 hour		1%	23	112.00	0. 99	2. 4470	2. 6199	2. 4470	3. 1021	3. 2374	3. 6286
4. 5668	0. 4884	4. 9411	0. 6079	0. 4977	2. 5195	0. 9911	1. 6386	3. 4113	0. 5672	7. 6322		
14	12 hour		1%	24	112.00	0. 99	2. 5250	2. 5491	2. 5250	3. 2318	3. 5420	4. 0241
5. 2985	0. 5351	5. 8335	0. 6555	0. 5436	3. 1590	1. 0879	1. 7884	4. 5264	0. 6192	9. 4827		
14	12 hour		1%	25	112.00	0. 99	5. 7151	5. 7846	5. 7151	7. 2975	8. 4123	9. 2455
12. 1398	1. 1564	13. 1553	1. 4387	1. 1606	4. 7801	2. 4241	4. 0609	7. 5669	1. 3189	22. 0411		
14	12 hour		1%	26	112.00	0. 99	1. 8125	1. 8745	1. 8125	2. 3278	2. 5948	2. 7334
3. 6448	0. 3652	3. 9914	0. 4709	0. 3944	2. 6018	0. 8045	1. 3441	3. 8993	0. 4488	8. 3395		
14	12 hour		1%	27	112.00	0. 99	2. 4119	2. 4432	2. 4119	3. 0899	3. 4898	3. 8925
5. 0459	0. 4678	5. 5105	0. 6290	0. 5080	3. 2547	1. 0369	1. 7189	4. 4742	0. 5780	10. 5086		
14	12 hour		1%	28	112.00	0. 99	4. 5176	4. 6020	4. 5176	5. 7664	6. 6360	7. 1230
9. 4083	0. 8843	10. 2251	1. 1277	0. 9288	4. 7489	1. 9285	3. 2286	6. 2135	1. 0559	16. 4160		
14	12 hour		1%	29	112.00	0. 99	1. 9866	2. 0032	1. 9866	2. 5506	2. 8632	3. 2027
4. 1972	0. 3935	4. 5772	0. 5259	0. 4195	2. 8656	0. 8606	1. 4310	3. 9839	0. 4772	9. 0307		
14	12 hour		1%	30	112.00	0. 99	3. 4596	3. 5800	3. 4596	4. 3912	4. 7951	5. 0553
6. 7371	0. 7603	7. 4974	0. 8333	0. 7304	2. 9532	1. 4643	2. 4095	4. 2359	0. 8319	11. 7416		
15	18 hour		1%	21	127.00	0. 99	1. 3344	1. 3781	1. 3344	1. 7282	1. 9169	2. 1016

2. 7837	0. 2573	3. 0410	0. 3700	0. 2862	1. 5706	0. 5920	0. 9853	2. 2324	0. 3254	4. 7676		
15	18 hour		1%	22	127.00	0.99	1. 4677	1. 5031	1. 4677	1. 8536	2. 0563	2. 3620
3. 0446	0. 2876	3. 3242	0. 3918	0. 3166	2. 1758	0. 6457	1. 0719	2. 9550	0. 3602	6. 4253		
15	18 hour		1%	23	127.00	0.99	1. 5416	1. 5570	1. 5416	1. 9897	2. 2341	2. 5393
3. 3172	0. 3061	3. 6233	0. 4189	0. 3320	2. 1780	0. 6792	1. 1239	2. 9620	0. 3777	6. 9606		
15	18 hour		1%	24	127.00	0.99	2. 2038	2. 2288	2. 2038	2. 8355	3. 2129	3. 6870
4. 8050	0. 4340	5. 2390	0. 5917	0. 4664	2. 9867	0. 9559	1. 5883	4. 0914	0. 5305	9. 2038		
15	18 hour		1%	25	127.00	0.99	2. 2735	2. 2827	2. 2735	2. 9276	3. 3379	3. 8713
5. 0213	0. 4506	5. 4475	0. 6174	0. 4757	3. 0960	0. 9820	1. 6360	4. 1856	0. 5409	10. 1740		
15	18 hour		1%	26	127.00	0.99	1. 3263	1. 4158	1. 3263	1. 8142	1. 9657	2. 3273
2. 9605	0. 3007	3. 1756	0. 4431	0. 3666	1. 7966	0. 7536	1. 2541	2. 4107	0. 4170	5. 1329		
15	18 hour		1%	27	127.00	0.99	1. 9835	2. 0111	1. 9835	2. 5625	2. 9256	3. 3539
4. 3629	0. 3839	4. 7468	0. 5395	0. 4273	3. 2040	0. 8797	1. 4642	4. 4864	0. 4859	9. 1137		
15	18 hour		1%	28	127.00	0.99	2. 7376	2. 8978	2. 7376	3. 4197	3. 4515	4. 1368
5. 1865	0. 6615	5. 5062	0. 6660	0. 5901	2. 2997	1. 1439	1. 8645	2. 9954	0. 6735	9. 0171		
15	18 hour		1%	29	127.00	0.99	1. 7630	1. 8645	1. 7630	2. 2616	2. 4115	2. 8797
3. 6472	0. 3839	3. 9100	0. 4435	0. 3960	2. 0491	0. 7962	1. 3149	2. 9408	0. 4509	6. 9139		
15	18 hour		1%	30	127.00	0.99	1. 3730	1. 3918	1. 3730	1. 7738	1. 9805	2. 2658
2. 9365	0. 2709	3. 1968	0. 3734	0. 2982	2. 1902	0. 6123	1. 0187	3. 0478	0. 3392	6. 5734		
16	24 hour		1%	21	139.00	1.00	1. 4630	1. 4720	1. 4630	1. 8909	2. 1382	2. 4311
3. 1664	0. 2813	3. 4438	0. 4013	0. 3152	2. 3129	0. 6489	1. 0797	3. 2293	0. 3585	6. 7868		
16	24 hour		1%	22	139.00	1.00	1. 2305	1. 2777	1. 2305	1. 5893	1. 7374	1. 8129
2. 4358	0. 2509	2. 6867	0. 3886	0. 3087	1. 5667	0. 6425	1. 0740	2. 2694	0. 3509	5. 0368		
16	24 hour		1%	23	139.00	1.00	2. 2309	2. 3163	2. 2309	2. 8554	3. 1329	3. 3687
4. 5045	0. 4671	4. 9717	0. 5675	0. 4804	2. 4727	0. 9698	1. 6045	3. 3152	0. 5470	8. 4440		
16	24 hour		1%	24	139.00	1.00	1. 9390	1. 9788	1. 9390	2. 4948	2. 8131	3. 1875
4. 1741	0. 4359	4. 5601	0. 5178	0. 4110	2. 1952	0. 8448	1. 4016	2. 9476	0. 4674	7. 7851		
16	24 hour		1%	25	139.00	1.00	2. 5917	2. 7116	2. 5917	3. 2839	3. 4684	3. 4679
4. 7702	0. 5820	5. 3522	0. 6120	0. 5567	2. 4968	1. 1064	1. 8156	3. 3240	0. 6344	8. 8927		
16	24 hour		1%	26	139.00	1.00	1. 8813	1. 9557	1. 8813	2. 4092	2. 6192	2. 8001
3. 7581	0. 4194	4. 1775	0. 4785	0. 4109	2. 3985	0. 8221	1. 3510	3. 1991	0. 4680	7. 3020		
16	24 hour		1%	27	139.00	1.00	2. 4030	2. 4917	2. 4030	3. 0784	3. 4144	3. 6860
4. 9124	0. 4911	5. 4035	0. 6133	0. 5165	2. 5497	1. 0505	1. 7431	3. 3081	0. 5879	9. 0679		
16	24 hour		1%	28	139.00	1.00	1. 3666	1. 4494	1. 3666	1. 7998	1. 9345	1. 9943
2. 6911	0. 3005	2. 9916	0. 3935	0. 3297	1. 3664	0. 6713	1. 1113	1. 9526	0. 3752	4. 7236		
16	24 hour		1%	29	139.00	1.00	2. 2853	2. 4075	2. 2853	2. 9136	3. 1234	3. 1519

4. 3135	0. 4948	4. 8083	0. 5574	0. 4992	2. 2133	1. 0011	1. 6504	3. 3773	0. 5686	8. 7543		
16	24 hour		1%	30	139. 00	1. 00	2. 3222	2. 4125	2. 3222	3. 0012	3. 3689	3. 5698
4. 7542	0. 4725	5. 2026	0. 6062	0. 5251	2. 2346	1. 0740	1. 7936	3. 4562	0. 5975	9. 0814		
17	30 hour		1%	21	148. 00	1. 00	1. 0372	1. 0555	1. 0372	1. 3463	1. 4883	1. 6603
2. 1836	0. 2137	2. 3974	0. 2872	0. 2323	1. 5559	0. 4731	0. 7825	2. 1863	0. 2644	4. 5068		
17	30 hour		1%	22	148. 00	1. 00	1. 8092	1. 8326	1. 8092	2. 3326	2. 6312	2. 9826
3. 8977	0. 3543	4. 2519	0. 4900	0. 3875	2. 7177	0. 7963	1. 3226	3. 5231	0. 4408	8. 0990		
17	30 hour		1%	23	148. 00	1. 00	1. 5448	1. 5836	1. 5448	1. 9921	2. 2016	2. 3901
3. 1706	0. 3125	3. 4831	0. 4087	0. 3400	1. 7362	0. 6923	1. 1475	2. 3105	0. 3869	6. 1805		
17	30 hour		1%	24	148. 00	1. 00	1. 2610	1. 2809	1. 2610	1. 6340	1. 8194	2. 0622
2. 7028	0. 2552	2. 9581	0. 3497	0. 2780	1. 8583	0. 5664	0. 9379	2. 4809	0. 3163	5. 4754		
17	30 hour		1%	25	148. 00	1. 00	2. 1910	2. 2213	2. 1910	2. 8608	3. 2691	3. 8278
4. 9450	0. 4196	5. 3647	0. 6398	0. 4793	2. 7555	0. 9959	1. 6604	3. 9402	0. 5447	9. 8496		
17	30 hour		1%	26	148. 00	1. 00	1. 1171	1. 1411	1. 1171	1. 4777	1. 6607	1. 8761
2. 4432	0. 2223	2. 6655	0. 3388	0. 2628	1. 4462	0. 5424	0. 9025	1. 8980	0. 2989	4. 5905		
17	30 hour		1%	27	148. 00	1. 00	0. 9006	0. 9339	0. 9006	1. 1718	1. 2615	1. 3356
1. 7893	0. 1957	1. 9850	0. 2446	0. 2123	1. 1365	0. 4261	0. 7025	1. 7299	0. 2418	3. 7008		
17	30 hour		1%	28	148. 00	1. 00	0. 7481	0. 7508	0. 7481	0. 9849	1. 1216	1. 3105
1. 6876	0. 1468	1. 8308	0. 2258	0. 1730	1. 2333	0. 3535	0. 5879	1. 7089	0. 1970	3. 7068		
17	30 hour		1%	29	148. 00	1. 00	1. 2185	1. 2441	1. 2185	1. 5794	1. 7611	1. 9628
2. 5808	0. 2442	2. 8250	0. 3344	0. 2684	1. 9081	0. 5494	0. 9106	2. 7362	0. 3053	5. 7027		
17	30 hour		1%	30	148. 00	1. 00	0. 8170	0. 8219	0. 8170	1. 0745	1. 2277	1. 4180
1. 8314	0. 1551	1. 9865	0. 2425	0. 1885	1. 2552	0. 3876	0. 6439	1. 7956	0. 2144	3. 9964		

Run, Representative hydrograph

1 dur10min\_aep1tp26.out

Run, Representative hydrograph

2 dur15min\_aep1tp28.out

Run, Representative hydrograph

3 dur20min\_aep1tp25.out

Run, Representative hydrograph

4 dur25min\_aep1tp28.out

Run, Representative hydrograph

5 dur30min\_aep1tp21.out

Run, Representative hydrograph

6 dur45min\_aep1tp26.out

Run, Representative hydrograph

```
7      dur1hour_aep1tp28.out
Run,    Representative hydrograph
8      dur1_5hour_aep1tp21.out
Run,    Representative hydrograph
9      dur2hour_aep1tp21.out
Run,    Representative hydrograph
10     dur3hour_aep1tp25.out
Run,    Representative hydrograph
11     dur4_5hour_aep1tp24.out
Run,    Representative hydrograph
12     dur6hour_aep1tp30.out
Run,    Representative hydrograph
13     dur9hour_aep1tp27.out
Run,    Representative hydrograph
14     dur12hour_aep1tp30.out
Run,    Representative hydrograph
15     dur18hour_aep1tp23.out
Run,    Representative hydrograph
16     dur24hour_aep1tp23.out
Run,    Representative hydrograph
17     dur30hour_aep1tp24.out
```

Elapsed Run Time (hh:mm:ss) = 00:00:04

**APPENDIX E: POST-DEVELOPED RORB RESULTS (WITH RB)**

# RORBWin Batch Run Summary

Program version 6.45 (last updated 20th March 2019)  
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Date run: 26 Apr 2021 17:51

Catchment file : K:\Jobs\Data\1400147 - Wurruk rezoning application\Wat\Models\RORB\Post Dev\SWMS REV E\RORB\1400147-RORB-PostDev-RB\_SWMS REV E.catg

Rainfall location: User defined

Temporal pattern : ARR2016 point temporal patterns

Spatial pattern : Uniform

Areal Red. Fact. : Based on ARR 2016 (Book 2 Chapter 4)

Loss factors : Constant with ARI

Parameters: kc = 2.63 m = 0.80

Loss parameters	Initial loss (mm)	Cont. loss (mm/h)
	19.00	3.00

## Peak Description

- 01 Calculated hydrograph, Catch B
- 02 Calculated hydrograph, Outfall Lagoon (Catch B-C, I)
- 03 Calculated hydrograph, Outfall Lagoon(Catch B-G, I-K)
- 04 Calculated hydrograph, 20m RR PC Convey (Catch P)
- 05 Special storage : RB SE - Outflow
- 06 Special storage : RB SE - Inflow
- 07 Calculated hydrograph, Outfall SE (Catch B-G, I-P)
- 08 Special storage : Ex. U/S RB - Outflow
- 09 Special storage : Ex. U/S RB - Inflow
- 10 Special storage : RB South - Outflow
- 11 Special storage : RB South - Inflow
- 12 Calculated hydrograph, Outfall S(Catch Q-X, External)
- 13 Special storage : RB NW - Outflow
- 14 Special storage : RB NW - Inflow
- 15 Calculated hydrograph, Entire Catchment

Run	Duration	AEP	TPat	Rain(mm)	ARF	Peak0001	Peak0002	Peak0003	Peak0004	Peak0005
Peak0006	Peak0007	Peak0008	Peak0009	Peak0010	Peak0011	Peak0012	Peak0013	Peak0014	Peak0015	
1	10 min	20%	1	11.60	0.94	0.5579	0.2028	0.1481	1.4672	0.1047
2.4089	0.2143	0.7472	2.0507	0.1466	1.7280	0.5766	0.1446	0.9171	0.6690	
1	10 min	20%	2	11.60	0.94	0.5420	0.2038	0.1482	1.3948	0.1047
2.3239	0.2144	0.7472	2.0507	0.1465	1.7343	0.5770	0.1448	0.8515	0.6771	
1	10 min	20%	3	11.60	0.94	0.5406	0.2039	0.1482	1.3889	0.1048
2.3170	0.2144	0.7472	2.0507	0.1465	1.7348	0.5770	0.1448	0.8461	0.6780	
1	10 min	20%	4	11.60	0.94	0.5171	0.2052	0.1483	1.2859	0.1047
2.1923	0.2145	0.7472	2.0507	0.1464	1.7420	0.5777	0.1451	0.8261	0.6939	
1	10 min	20%	5	11.60	0.94	0.5465	0.2034	0.1481	1.4163	0.1047
2.3492	0.2143	0.7472	2.0507	0.1465	1.7327	0.5769	0.1447	0.8709	0.6743	
1	10 min	20%	6	11.60	0.94	0.5170	0.2052	0.1483	1.2856	0.1047
2.1919	0.2145	0.7472	2.0507	0.1464	1.7420	0.5777	0.1451	0.8262	0.6940	
1	10 min	20%	7	11.60	0.94	0.5936	0.2039	0.1500	1.6084	0.1080
2.5804	0.2174	0.7472	2.0507	0.1483	1.7097	0.5765	0.1483	1.0396	0.6600	
1	10 min	20%	8	11.60	0.94	0.5172	0.2052	0.1483	1.2864	0.1047
2.1930	0.2145	0.7472	2.0507	0.1464	1.7420	0.5777	0.1451	0.8259	0.6938	
1	10 min	20%	9	11.60	0.94	0.5698	0.2022	0.1481	1.5213	0.1049
2.4713	0.2144	0.7472	2.0507	0.1473	1.7236	0.5765	0.1445	0.9662	0.6640	
1	10 min	20%	10	11.60	0.94	0.5761	0.2019	0.1481	1.5500	0.1049
2.5029	0.2145	0.7472	2.0507	0.1473	1.7134	0.5765	0.1448	0.9930	0.6612	
2	15 min	20%	1	14.30	0.95	0.6115	0.2782	0.1973	1.6133	0.1515
2.5345	0.2888	1.1384	2.2232	0.2024	2.1425	0.7274	0.2020	1.0633	0.8189	
2	15 min	20%	2	14.30	0.95	0.5885	0.2801	0.1974	1.5145	0.1514
2.4323	0.2888	1.1328	2.1632	0.2014	2.1160	0.7274	0.2005	0.9655	0.8320	
2	15 min	20%	3	14.30	0.95	0.5964	0.2791	0.1974	1.4186	0.1514
2.3088	0.2889	1.1499	2.3555	0.2016	2.1642	0.7269	0.2005	0.9017	0.8285	
2	15 min	20%	4	14.30	0.95	0.6807	0.2751	0.1989	1.6829	0.1546
2.8638	0.2924	1.2785	2.6548	0.2138	2.2938	0.7453	0.2080	1.0498	0.9059	
2	15 min	20%	5	14.30	0.95	0.6323	0.2799	0.1992	1.7137	0.1548
2.6551	0.2926	1.1395	2.2358	0.2040	2.1532	0.7272	0.2070	1.1513	0.8131	
2	15 min	20%	6	14.30	0.95	0.6541	0.2777	0.1990	1.6244	0.1547
2.7166	0.2924	1.1666	2.5174	0.2049	2.2385	0.7118	0.2077	1.1066	0.8901	
2	15 min	20%	7	14.30	0.95	0.6948	0.2738	0.1988	1.7446	0.1546
2.9411	0.2923	1.2785	2.6548	0.2139	2.2910	0.7449	0.2080	1.0400	0.8957	
2	15 min	20%	8	14.30	0.95	0.6683	0.2762	0.1989	1.6298	0.1545

2. 7961	0. 2923	1. 2785	2. 6548	0. 2138	2. 2966	0. 7456	0. 2077	1. 0762	0. 9144	
2	15	min	20%	9	14. 30	0. 95	0. 7218	0. 2720	0. 1986	1. 8648
3. 0888	0. 2919	1. 2785	2. 6548	0. 2141	2. 2827	0. 7442	0. 2083	1. 1473	0. 8756	0. 1542
2	15	min	20%	10	14. 30	0. 95	0. 7528	0. 2706	0. 1987	2. 0045
3. 2545	0. 2924	1. 2785	2. 6548	0. 2152	2. 2576	0. 7439	0. 2090	1. 2724	0. 8543	0. 1547
3	20	min	20%	1	16. 30	0. 96	0. 6724	0. 3408	0. 2355	1. 6811
2. 7940	0. 3487	1. 3974	2. 4115	0. 2581	2. 4071	0. 8397	0. 2430	1. 0122	1. 0180	
3	20	min	20%	2	16. 30	0. 96	0. 6390	0. 3425	0. 2376	1. 5069
2. 5325	0. 3526	1. 4244	2. 4422	0. 2535	2. 4464	0. 8359	0. 2448	0. 8902	1. 0208	
3	20	min	20%	3	16. 30	0. 96	0. 6461	0. 3417	0. 2376	1. 5524
2. 5925	0. 3526	1. 4673	2. 4697	0. 2590	2. 4777	0. 8536	0. 2452	0. 9221	1. 0319	
3	20	min	20%	4	16. 30	0. 96	0. 7502	0. 3315	0. 2366	1. 7663
3. 0316	0. 3519	1. 6088	3. 0699	0. 2637	2. 7011	0. 8616	0. 2510	1. 1780	1. 0768	
3	20	min	20%	5	16. 30	0. 96	0. 7786	0. 3389	0. 2391	2. 1289
3. 3525	0. 3562	1. 4090	2. 3786	0. 2624	2. 4814	0. 8400	0. 2541	1. 4025	0. 9605	
3	20	min	20%	6	16. 30	0. 96	0. 7614	0. 3344	0. 2387	1. 9433
3. 1243	0. 3560	1. 5239	2. 8698	0. 2594	2. 6340	0. 8506	0. 2561	1. 3122	0. 9980	
3	20	min	20%	7	16. 30	0. 96	0. 7804	0. 3310	0. 2377	1. 8827
3. 2397	0. 3542	1. 6433	3. 1142	0. 2677	2. 7218	0. 8732	0. 2550	1. 2588	1. 0768	
3	20	min	20%	8	16. 30	0. 96	0. 7272	0. 3334	0. 2368	1. 7791
2. 8848	0. 3522	1. 5187	2. 8340	0. 2576	2. 6195	0. 8528	0. 2499	1. 1634	0. 9831	
3	20	min	20%	9	16. 30	0. 96	0. 7537	0. 3351	0. 2388	1. 9733
3. 0814	0. 3561	1. 5093	2. 7720	0. 2594	2. 6061	0. 8540	0. 2558	1. 3270	0. 9560	
3	20	min	20%	10	16. 30	0. 96	0. 7962	0. 3310	0. 2385	1. 9437
3. 3234	0. 3559	1. 6433	3. 1142	0. 2684	2. 7257	0. 8729	0. 2573	1. 2417	1. 0711	
4	25	min	20%	1	17. 80	0. 96	0. 7265	0. 3809	0. 2660	1. 6240
2. 6674	0. 3970	1. 7509	2. 9956	0. 3107	2. 8370	0. 9546	0. 2753	1. 0088	1. 1422	
4	25	min	20%	2	17. 80	0. 96	0. 7161	0. 3685	0. 2541	1. 6553
2. 7481	0. 3834	1. 6167	2. 8972	0. 3105	2. 5809	0. 9126	0. 2769	0. 9640	1. 1774	
4	25	min	20%	3	17. 80	0. 96	0. 7166	0. 3851	0. 2635	1. 7084
2. 8323	0. 3938	1. 5891	2. 7425	0. 3131	2. 6757	0. 9289	0. 2778	1. 0099	1. 1644	
4	25	min	20%	4	17. 80	0. 96	0. 7333	0. 3811	0. 2660	1. 8539
3. 0158	0. 3968	1. 6791	2. 7275	0. 3135	2. 8012	0. 9463	0. 2790	1. 1479	1. 1310	
4	25	min	20%	5	17. 80	0. 96	0. 7646	0. 3827	0. 2679	1. 9695
3. 2078	0. 4004	1. 6688	2. 6833	0. 3165	2. 8158	0. 9438	0. 2836	1. 2265	1. 1248	
4	25	min	20%	6	17. 80	0. 96	0. 6987	0. 3851	0. 2662	1. 5494
2. 5491	0. 3969	1. 7089	2. 8602	0. 3123	2. 7935	0. 9533	0. 2751	0. 9187	1. 1672	
4	25	min	20%	7	17. 80	0. 96	0. 7750	0. 3674	0. 2559	1. 8636

3.1766	0.3872	1.6129	2.9195	0.3141	2.6282	0.9083	0.2836	1.1832	1.1646		
4	25 min		20%	8	17.80	0.96	0.7595	0.3808	0.2628	1.8611	0.2266
3.1281	0.3946	1.5838	2.7547	0.3158	2.7029	0.9267	0.2836	1.0987	1.1541		
4	25 min		20%	9	17.80	0.96	0.8325	0.3751	0.2674	2.0336	0.2269
3.3515	0.4001	1.7901	3.2682	0.3140	2.9840	0.9435	0.2836	1.3525	1.1550		
4	25 min		20%	10	17.80	0.96	0.8353	0.3804	0.2679	2.2460	0.2270
3.5766	0.4004	1.6303	2.6367	0.3184	2.8017	0.9347	0.2836	1.4552	1.0892		
5	30 min		20%	1	19.10	0.97	0.7828	0.4167	0.2912	1.7501	0.2474
2.9391	0.4353	1.9464	3.2883	0.3702	3.0958	1.0396	0.2836	1.1291	1.2393		
5	30 min		20%	2	19.10	0.97	0.7095	0.4082	0.2792	1.6867	0.2467
2.8509	0.4216	1.7010	2.5130	0.3529	2.6787	0.7308	0.2836	1.0196	0.9559		
5	30 min		20%	3	19.10	0.97	0.6658	0.4144	0.2801	1.4223	0.2463
2.3606	0.4219	1.6251	2.5358	0.3516	2.7423	0.7561	0.2836	0.8107	1.0785		
5	30 min		20%	4	19.10	0.97	0.7778	0.4255	0.2934	1.8981	0.2517
3.1108	0.4387	1.8345	2.8385	0.3765	3.0268	1.0238	0.2836	1.1470	1.2622		
5	30 min		20%	5	19.10	0.97	0.8022	0.4224	0.2932	2.0152	0.2519
3.2577	0.4387	1.8414	2.8662	0.3766	3.0557	1.0242	0.2836	1.2507	1.2434		
5	30 min		20%	6	19.10	0.97	0.7723	0.4101	0.2813	1.7825	0.2514
2.9628	0.4252	1.8192	3.0933	0.3729	2.8706	0.9985	0.2836	1.0372	1.2896		
5	30 min		20%	7	19.10	0.97	0.7928	0.4214	0.2931	1.9655	0.2518
3.2052	0.4386	1.8731	2.9901	0.3764	3.0804	1.0302	0.2836	1.2065	1.2470		
5	30 min		20%	8	19.10	0.97	0.8062	0.4012	0.2788	1.8998	0.2478
3.1223	0.4212	1.8824	3.2481	0.3681	2.8741	0.9774	0.2836	1.1343	1.2716		
5	30 min		20%	9	19.10	0.97	0.8783	0.4152	0.2947	2.0647	0.2558
3.4062	0.4422	2.0148	3.5253	0.3790	3.2661	1.0323	0.2836	1.3301	1.2629		
5	30 min		20%	10	19.10	0.97	0.9222	0.4123	0.2944	2.2298	0.2563
3.7355	0.4423	2.0787	3.6892	0.3877	3.3336	1.0335	0.2836	1.4947	1.3143		
6	45 min		20%	1	22.00	0.97	0.7134	0.7189	0.4715	1.4064	0.2836
2.3118	0.6875	2.4231	3.0006	0.6664	3.6066	0.7779	0.2836	0.8311	1.4107		
6	45 min		20%	2	22.00	0.97	0.7345	0.7137	0.4702	1.5231	0.2836
2.4898	0.6864	2.5239	3.0759	0.6853	3.7001	0.8954	0.2836	0.9052	1.4275		
6	45 min		20%	3	22.00	0.97	0.6838	0.6894	0.4579	1.5540	0.2836
2.6183	0.6708	1.9489	2.2628	0.6585	3.4074	0.7254	0.2836	0.9544	1.3840		
6	45 min		20%	4	22.00	0.97	0.7147	0.7586	0.4747	1.4135	0.2836
2.2858	0.6874	2.6448	3.3558	0.6647	3.6613	0.9391	0.2836	0.8346	1.4964		
6	45 min		20%	5	22.00	0.97	0.9052	0.6940	0.4697	2.0387	0.2836
3.3235	0.6879	2.7600	3.7860	0.6895	3.8674	1.1418	0.2870	1.2440	1.4362		
6	45 min		20%	6	22.00	0.97	0.7809	0.7818	0.4882	1.5854	0.2836

2. 5717	0. 7097	2. 8894	3. 6168	0. 6918	3. 9115	1. 0013	0. 2836	0. 9270	1. 5461		
6	45 min		20%	7	22. 00	0. 97	0. 8749	0. 7257	0. 4749	1. 9753	0. 2836
3. 3012	0. 6998	2. 6841	3. 5810	0. 7005	3. 9519	1. 0334	0. 3009	1. 1427	1. 4522		
6	45 min		20%	8	22. 00	0. 97	0. 8137	0. 6888	0. 4591	1. 9439	0. 2836
3. 1299	0. 6768	2. 0926	2. 9495	0. 6596	3. 5951	0. 7780	0. 2836	1. 2339	1. 3938		
6	45 min		20%	9	22. 00	0. 97	1. 0319	0. 7167	0. 4761	2. 6020	0. 2836
4. 2987	0. 7060	2. 9738	4. 0438	0. 7187	4. 1858	1. 2559	0. 3248	1. 5853	1. 5750		
6	45 min		20%	10	22. 00	0. 97	0. 8967	0. 7326	0. 4747	2. 1176	0. 2836
3. 6121	0. 7003	2. 7140	3. 4750	0. 6946	4. 0292	1. 0653	0. 3085	1. 3475	1. 4460		
7	1 hour		20%	1	24. 20	0. 98	0. 6355	0. 8538	0. 6194	1. 5569	0. 2836
2. 5936	0. 9018	2. 1520	2. 3855	0. 9244	3. 7581	0. 9245	0. 2836	0. 9282	1. 8100		
7	1 hour		20%	2	24. 20	0. 98	0. 6588	0. 8864	0. 6084	1. 3898	0. 2848
2. 3362	0. 8906	2. 4419	2. 9986	0. 9301	3. 8866	0. 9303	0. 2836	0. 8313	1. 8014		
7	1 hour		20%	3	24. 20	0. 98	0. 6075	0. 8888	0. 6246	1. 4738	0. 2914
2. 4148	0. 9067	2. 2737	2. 4097	0. 9345	4. 0017	0. 9345	0. 2858	0. 9142	1. 8298		
7	1 hour		20%	4	24. 20	0. 98	0. 8579	0. 9182	0. 6417	2. 0014	0. 3159
3. 3210	0. 9253	2. 8869	3. 5375	1. 0107	4. 6595	1. 1071	0. 3584	1. 1731	1. 9342		
7	1 hour		20%	5	24. 20	0. 98	0. 7914	0. 9902	0. 6532	1. 4495	0. 3058
2. 4105	0. 9368	3. 1469	3. 3312	1. 0167	4. 7475	1. 0168	0. 3456	0. 8238	1. 9433		
7	1 hour		20%	6	24. 20	0. 98	0. 9234	0. 9064	0. 6390	2. 0565	0. 3123
3. 3738	0. 9226	3. 1142	3. 9683	0. 9924	4. 6918	1. 2674	0. 3594	1. 2180	1. 9141		
7	1 hour		20%	7	24. 20	0. 98	0. 8874	0. 9649	0. 6563	1. 9533	0. 3198
3. 2355	0. 9399	3. 0278	3. 6231	1. 0342	4. 8385	1. 0342	0. 3711	1. 1789	1. 9703		
7	1 hour		20%	8	24. 20	0. 98	0. 7302	0. 9411	0. 6399	1. 5958	0. 3053
2. 6341	0. 9235	2. 3716	2. 7423	0. 9858	4. 3602	0. 9858	0. 3286	0. 9570	1. 9035		
7	1 hour		20%	9	24. 20	0. 98	1. 2872	1. 1546	0. 6988	2. 9991	0. 3252
5. 0023	0. 9824	4. 9470	7. 2011	1. 1347	6. 0267	2. 0973	0. 4134	1. 7837	2. 4297		
7	1 hour		20%	10	24. 20	0. 98	1. 1588	1. 0980	0. 6854	2. 6284	0. 3294
4. 3875	0. 9690	4. 3412	5. 6282	1. 0882	5. 6232	1. 4072	0. 4195	1. 5231	2. 0600		
8	1. 5 hour		20%	1	27. 60	0. 98	0. 7023	0. 9374	0. 8494	1. 5524	0. 3943
2. 5935	1. 1330	2. 0877	2. 5366	1. 3121	3. 8471	1. 3130	0. 3168	0. 9140	2. 5735		
8	1. 5 hour		20%	2	27. 60	0. 98	0. 8649	0. 9742	0. 8427	1. 9477	0. 3599
3. 2091	1. 1263	2. 4788	3. 4733	1. 2503	3. 5990	1. 5605	0. 2836	1. 1776	2. 4496		
8	1. 5 hour		20%	3	27. 60	0. 98	0. 7272	1. 0412	0. 8310	1. 6618	0. 3738
2. 7332	1. 1146	2. 4899	3. 1723	1. 3117	3. 5109	1. 3664	0. 2836	0. 9883	2. 4734		
8	1. 5 hour		20%	4	27. 60	0. 98	0. 7322	1. 2663	0. 9360	1. 2775	0. 4413
2. 0960	1. 2196	2. 9232	3. 1152	1. 5224	5. 3615	1. 5225	0. 4057	0. 7288	2. 8435		
8	1. 5 hour		20%	5	27. 60	0. 98	0. 8747	0. 8886	0. 8620	2. 0330	0. 3963

3. 3945	1. 1456	2. 9153	3. 4452	1. 3085	4. 4770	1. 3722	0. 3452	1. 2088	2. 6023		
8	1. 5 hour		20%	6	27. 60	0. 98	0. 6375	1. 1880	0. 9043	1. 1333	0. 4131
1. 8681	1. 1879	2. 6379	2. 7205	1. 4410	4. 6903	1. 4410	0. 3447	0. 6543	2. 7138		
8	1. 5 hour		20%	7	27. 60	0. 98	0. 8454	0. 9059	0. 8635	1. 7710	0. 4009
2. 9530	1. 1471	2. 8556	3. 7480	1. 3273	4. 0191	1. 3277	0. 3036	1. 0072	2. 6136		
8	1. 5 hour		20%	8	27. 60	0. 98	0. 7988	1. 2407	0. 9223	1. 7871	0. 4308
2. 9858	1. 2059	2. 6832	3. 2435	1. 4944	5. 0588	1. 4945	0. 4041	1. 0307	2. 8050		
8	1. 5 hour		20%	9	27. 60	0. 98	1. 0118	1. 4056	0. 9626	2. 0532	0. 4533
3. 4608	1. 2462	4. 8907	5. 3396	1. 5791	6. 5279	1. 5793	0. 4608	1. 2456	2. 9068		
8	1. 5 hour		20%	10	27. 60	0. 98	1. 2691	1. 5410	0. 9953	2. 9701	0. 4599
4. 9263	1. 2789	6. 3120	7. 7979	1. 6527	7. 0838	2. 2618	0. 4899	1. 7888	3. 0041		
9	2 hour		20%	1	30. 30	0. 98	0. 6585	0. 9106	0. 9801	1. 5064	0. 4283
2. 4957	1. 2929	1. 6810	2. 3477	1. 4897	2. 9655	1. 5310	0. 2836	0. 8808	2. 9104		
9	2 hour		20%	2	30. 30	0. 98	0. 6875	0. 7585	0. 9463	1. 5738	0. 4163
2. 6185	1. 2644	1. 6002	2. 2971	1. 3783	2. 6347	1. 4546	0. 2836	0. 9482	2. 7815		
9	2 hour		20%	3	30. 30	0. 98	0. 5845	0. 9524	1. 0093	1. 4871	0. 4517
2. 4702	1. 3405	1. 6980	1. 7296	1. 5414	3. 4098	1. 5556	0. 2836	0. 9044	3. 0505		
9	2 hour		20%	4	30. 30	0. 98	0. 5720	1. 1680	1. 0986	1. 4214	0. 4944
2. 3102	1. 4420	2. 3683	2. 5208	1. 7530	4. 3288	1. 7539	0. 3507	0. 8946	3. 3286		
9	2 hour		20%	5	30. 30	0. 98	0. 8436	1. 5109	1. 1533	1. 7166	0. 5101
2. 8175	1. 4945	3. 8098	4. 4325	1. 9017	5. 7818	1. 9019	0. 4189	1. 0249	3. 4840		
9	2 hour		20%	6	30. 30	0. 98	0. 6160	1. 1915	1. 0547	1. 2649	0. 4604
2. 0793	1. 3736	2. 6556	3. 2168	1. 6455	4. 0651	1. 6457	0. 2836	0. 7527	3. 1668		
9	2 hour		20%	7	30. 30	0. 98	0. 5787	1. 1210	1. 0808	1. 2148	0. 4811
2. 0192	1. 4252	2. 2720	2. 5865	1. 7091	4. 0928	1. 7115	0. 3395	0. 7175	3. 2824		
9	2 hour		20%	8	30. 30	0. 98	0. 6466	1. 2777	1. 0909	1. 1907	0. 4753
1. 9508	1. 4158	2. 6986	2. 9235	1. 6843	4. 9212	1. 6850	0. 3563	0. 6845	3. 2352		
9	2 hour		20%	9	30. 30	0. 98	0. 8422	1. 2901	1. 1584	1. 5612	0. 5269
2. 5849	1. 5228	3. 4163	3. 5118	1. 9015	5. 8433	1. 9024	0. 4490	0. 9054	3. 5116		
9	2 hour		20%	10	30. 30	0. 98	0. 8738	1. 3933	1. 1769	1. 7608	0. 5397
2. 9755	1. 5433	3. 4669	3. 6979	1. 9573	5. 4385	1. 9576	0. 4652	1. 0997	3. 5792		
10	3 hour		20%	1	34. 50	0. 98	0. 5826	0. 8637	1. 0437	1. 2590	0. 4447
2. 0913	1. 3903	1. 9310	2. 3244	1. 5896	2. 9730	1. 5896	0. 2836	0. 7286	3. 1645		
10	3 hour		20%	2	34. 50	0. 98	0. 4670	0. 7821	1. 0945	0. 7901	0. 4372
1. 2956	1. 4867	1. 5945	1. 8785	1. 4654	3. 1472	1. 5530	0. 2836	0. 4614	3. 1160		
10	3 hour		20%	3	34. 50	0. 98	0. 7430	0. 9274	1. 1584	1. 5008	0. 4731
2. 5442	1. 5973	1. 7466	2. 1401	1. 5849	3. 7756	1. 7365	0. 3226	0. 8291	3. 5126		
10	3 hour		20%	4	34. 50	0. 98	0. 6588	0. 9711	1. 1776	1. 2310	0. 4773

2.0468	1.6206	2.2643	2.8315	1.6485	4.3636	1.7519	0.3278	0.6830	3.5733		
10	3 hour		20%	5	34.50	0.98	0.4180	1.0049	1.2510	0.7144	0.5073
1.1912	1.6676	1.5884	1.6220	1.8648	3.2785	1.9158	0.2836	0.4031	3.7798		
10	3 hour		20%	6	34.50	0.98	0.4462	1.0330	1.2545	0.7944	0.5229
1.3343	1.6764	1.7646	1.8595	1.8646	3.3227	1.8646	0.2836	0.4458	3.7410		
10	3 hour		20%	7	34.50	0.98	0.4028	0.7674	1.1599	0.7441	0.4773
1.2304	1.5744	1.2093	1.5414	1.6204	2.6691	1.7651	0.2836	0.4196	3.4428		
10	3 hour		20%	8	34.50	0.98	0.8111	1.2934	1.2150	1.6793	0.5033
2.7561	1.6350	3.0522	3.5540	1.8565	5.7825	2.0049	0.4362	0.9769	3.5730		
10	3 hour		20%	9	34.50	0.98	0.6782	1.3743	1.4669	1.2288	0.5803
2.0588	1.8976	2.8810	2.8890	2.2285	5.2291	2.2534	0.4133	0.6746	4.2826		
10	3 hour		20%	10	34.50	0.98	0.5637	1.2428	1.4301	1.0108	0.5851
1.6696	1.8872	2.2709	2.4348	2.1927	4.6203	2.2557	0.3844	0.5749	4.2360		
11	4.5 hour		20%	1	39.70	0.99	0.3384	0.6361	1.1449	0.5939	0.4509
0.9790	1.5857	0.9543	1.2557	1.5237	1.9708	1.6398	0.2224	0.3348	3.4103		
11	4.5 hour		20%	2	39.70	0.99	0.3542	0.8429	1.2450	0.6446	0.4876
1.0510	1.6840	1.4162	1.6023	1.8506	2.7927	1.9312	0.2784	0.3913	3.7797		
11	4.5 hour		20%	3	39.70	0.99	0.5878	0.7677	1.2665	1.2263	0.5015
2.0360	1.7486	1.5848	1.7586	1.7053	2.8335	1.8354	0.2836	0.7028	3.7318		
11	4.5 hour		20%	4	39.70	0.99	0.3837	0.7894	1.2297	0.7556	0.4837
1.2481	1.7033	1.2845	1.4962	1.6913	2.5548	1.8316	0.2685	0.4321	3.6627		
11	4.5 hour		20%	5	39.70	0.99	0.4664	0.7995	1.3412	0.8786	0.5462
1.4758	1.8606	1.2849	1.6060	1.8324	2.4360	1.9951	0.2672	0.4888	4.0159		
11	4.5 hour		20%	6	39.70	0.99	0.5516	1.1168	1.3847	1.0995	0.5849
1.8336	1.8833	2.3839	2.6706	2.0772	3.7733	2.0772	0.2836	0.6278	4.2265		
11	4.5 hour		20%	7	39.70	0.99	0.3920	0.9205	1.4031	0.7278	0.5728
1.1769	1.9157	1.5355	1.7794	2.0070	2.8755	2.0849	0.2836	0.4299	4.1938		
11	4.5 hour		20%	8	39.70	0.99	0.2829	0.7028	1.2926	0.5305	0.5126
0.8754	1.7965	1.0028	1.0463	1.7327	2.0858	1.8822	0.2404	0.3103	3.8449		
11	4.5 hour		20%	9	39.70	0.99	0.4408	1.0936	1.6004	0.7556	0.6202
1.2522	2.1673	1.6788	1.7898	2.3180	3.4659	2.4251	0.2935	0.4306	4.7243		
11	4.5 hour		20%	10	39.70	0.99	0.5984	1.3360	1.5967	1.0811	0.6252
1.7969	2.1132	2.4285	2.6018	2.4736	4.5566	2.4736	0.3528	0.6119	4.7813		
12	6 hour		20%	1	44.00	0.99	0.5910	0.7725	1.2831	1.2324	0.5054
2.0461	1.7740	1.5995	1.7900	1.7181	2.8617	1.8516	0.2836	0.7062	3.7618		
12	6 hour		20%	2	44.00	0.99	0.4790	0.7235	0.9036	0.9788	0.3944
1.6234	1.2232	1.4035	1.6660	1.4746	2.6709	1.4816	0.2836	0.5582	2.8604		
12	6 hour		20%	3	44.00	0.99	0.2793	0.5414	0.9606	0.4775	0.4303

0.7962	1.3909	0.9369	1.0501	1.2870	1.9375	1.4181	0.2147	0.2667	2.9674		
12	6 hour		20%	4	44.00	0.99	0.4021	0.7470	1.0966	0.7834	0.4628
1.3061	1.5341	1.5872	1.8694	1.4602	2.9001	1.5080	0.2740	0.4488	3.1588		
12	6 hour		20%	5	44.00	0.99	0.3380	0.6390	1.1988	0.6849	0.4738
1.1323	1.6649	0.9507	1.2002	1.5066	1.9902	1.6462	0.2250	0.3934	3.4870		
12	6 hour		20%	6	44.00	0.99	0.3467	0.7466	1.3702	0.6651	0.5129
1.0939	1.8749	1.3235	1.5832	1.7640	2.3704	1.9102	0.2588	0.3860	3.9145		
12	6 hour		20%	7	44.00	0.99	0.3190	0.7274	1.2746	0.5570	0.4958
0.9213	1.7695	1.2140	1.2712	1.6124	2.4011	1.7814	0.2532	0.3144	3.7451		
12	6 hour		20%	8	44.00	0.99	0.5750	1.2074	1.5029	1.1175	0.5647
1.8629	1.9925	2.4273	2.7255	2.2152	4.2251	2.2556	0.3342	0.6402	4.2525		
12	6 hour		20%	9	44.00	0.99	0.5330	1.2271	1.6753	0.9782	0.6634
1.5889	2.2645	2.1254	2.4267	2.6018	4.0303	2.6155	0.3381	0.5744	5.0704		
12	6 hour		20%	10	44.00	0.99	0.6470	1.3914	1.7231	1.2339	0.6808
2.0658	2.3202	2.8134	2.9855	2.6976	4.7877	2.6976	0.3558	0.6977	5.2540		
13	9 hour		20%	1	51.10	0.99	0.3528	0.7293	0.8829	0.6168	0.3297
1.0265	1.1665	1.3529	1.4025	1.1705	2.5646	1.1786	0.2411	0.3428	2.4691		
13	9 hour		20%	2	51.10	0.99	0.3353	0.7316	0.9293	0.5525	0.3460
0.9390	1.2706	1.1962	1.3755	1.2140	2.4763	1.2544	0.2591	0.3137	2.5696		
13	9 hour		20%	3	51.10	0.99	0.3105	0.6107	1.0950	0.6186	0.4679
1.0088	1.5629	1.1111	1.3613	1.5051	2.1556	1.6013	0.2128	0.3666	3.3002		
13	9 hour		20%	4	51.10	0.99	0.3699	0.8301	1.3128	0.6729	0.5090
1.0976	1.7808	1.4803	1.6007	1.8621	2.7201	1.9366	0.2836	0.3892	3.8371		
13	9 hour		20%	5	51.10	0.99	0.2807	0.6686	1.0487	0.4548	0.4601
0.7560	1.4941	0.9936	1.0095	1.5754	2.1675	1.6567	0.2288	0.2559	3.2737		
13	9 hour		20%	6	51.10	0.99	0.3096	0.7627	1.4034	0.5066	0.5564
0.8408	1.9329	1.1180	1.1243	1.9044	2.4020	2.0449	0.2559	0.2809	4.2045		
13	9 hour		20%	7	51.10	0.99	0.3488	0.7262	0.9576	0.6206	0.4062
1.0303	1.3061	1.3540	1.4248	1.5404	2.5396	1.5671	0.2349	0.3484	3.0241		
13	9 hour		20%	8	51.10	0.99	0.4113	1.0456	1.8596	0.6972	0.6582
1.1570	2.5177	1.5520	1.6291	2.5418	3.3372	2.7638	0.2887	0.3944	5.4004		
13	9 hour		20%	9	51.10	0.99	0.4303	0.9641	1.6111	0.7818	0.6426
1.3156	2.2537	1.7001	1.7638	2.2457	3.1209	2.3999	0.2836	0.4277	4.8215		
13	9 hour		20%	10	51.10	0.99	0.4889	1.0916	1.6545	0.8304	0.6304
1.3826	2.2775	1.8814	1.9234	2.4761	3.9001	2.6842	0.3127	0.4592	5.0455		
14	12 hour		20%	1	57.00	0.99	0.2626	0.5804	0.9342	0.4356	0.3430
0.7317	1.2772	0.9303	0.9813	1.2299	1.8930	1.3296	0.2005	0.2521	2.7518		
14	12 hour		20%	2	57.00	0.99	0.4362	0.9525	1.2548	0.7277	0.4517

1.2227	1.6720	1.6330	1.6323	1.6783	3.4760	1.7708	0.2836	0.3966	3.5987		
14	12 hour		20%	3	57.00	0.99	0.2837	0.4062	0.5762	0.5451	0.2836
0.9101	0.8354	0.6441	0.7793	0.7960	1.3473	0.8177	0.1642	0.3056	1.7026		
14	12 hour		20%	4	57.00	0.99	0.2568	0.6083	1.0024	0.4180	0.4095
0.6914	1.3877	0.9037	0.9113	1.4523	1.9479	1.5304	0.2103	0.2336	3.0813		
14	12 hour		20%	5	57.00	0.99	0.2972	0.7047	1.3091	0.5113	0.4940
0.8445	1.8030	1.0905	1.1834	1.6864	2.1766	1.8535	0.2352	0.2996	3.8331		
14	12 hour		20%	6	57.00	0.99	0.1698	0.3548	0.6940	0.2840	0.3036
0.4663	0.9776	0.5457	0.5788	0.9183	1.2030	0.9953	0.1368	0.1613	2.0929		
14	12 hour		20%	7	57.00	0.99	0.3046	0.6810	1.2616	0.5501	0.4909
0.9116	1.7465	1.1751	1.2610	1.6462	2.1933	1.7612	0.2386	0.3122	3.6543		
14	12 hour		20%	8	57.00	0.99	0.3465	0.8529	1.4703	0.6139	0.5564
1.0037	2.0268	1.3498	1.4384	1.9991	2.7511	2.1304	0.2836	0.3525	4.3792		
14	12 hour		20%	9	57.00	0.99	0.4843	1.1718	1.8699	0.8350	0.6890
1.3679	2.4982	1.8981	1.9986	2.7725	3.7470	2.8625	0.3071	0.4775	5.6355		
14	12 hour		20%	10	57.00	0.99	0.4094	0.9612	1.2792	0.7927	0.5594
1.2825	1.7858	1.7316	1.9561	1.9976	3.1695	2.1046	0.2836	0.4705	4.0329		
15	18 hour		20%	1	66.50	1.00	0.1771	0.4142	0.7899	0.2844	0.2836
0.4733	1.0734	0.5608	0.6520	0.9865	1.2894	1.0633	0.1518	0.1574	2.2659		
15	18 hour		20%	2	66.50	1.00	0.3780	0.8928	1.2508	0.6804	0.4874
1.1255	1.7381	1.2996	1.3032	1.7159	2.9579	1.7358	0.2836	0.3844	3.6601		
15	18 hour		20%	3	66.50	1.00	0.2534	0.4846	0.7260	0.4288	0.2836
0.7102	1.0096	0.9148	0.9379	1.0638	1.9350	1.1015	0.2066	0.2417	2.1465		
15	18 hour		20%	4	66.50	1.00	0.1779	0.3734	0.7658	0.2956	0.3002
0.4939	1.0660	0.5505	0.6031	1.0015	1.2171	1.0692	0.1398	0.1613	2.2437		
15	18 hour		20%	5	66.50	1.00	0.2559	0.5352	0.7566	0.4008	0.2836
0.6817	1.0402	0.7819	1.0394	1.0472	1.9181	1.0821	0.2052	0.2368	2.2497		
15	18 hour		20%	6	66.50	1.00	0.1704	0.3684	0.6209	0.2880	0.2836
0.4792	0.9045	0.5405	0.5921	0.8623	1.1700	0.9014	0.1375	0.1604	1.9103		
15	18 hour		20%	7	66.50	1.00	0.1505	0.2948	0.5931	0.2438	0.2836
0.4110	0.8767	0.4093	0.4253	0.8040	0.9273	0.8785	0.1170	0.1306	1.8659		
15	18 hour		20%	8	66.50	1.00	0.2390	0.5394	0.9940	0.4079	0.4447
0.6711	1.4386	0.8373	0.9022	1.4423	1.7295	1.5160	0.1882	0.2325	3.1425		
15	18 hour		20%	9	66.50	1.00	0.1596	0.3659	0.7550	0.2610	0.3716
0.4332	1.1266	0.5014	0.5175	1.0339	1.1143	1.1352	0.1378	0.1457	2.3996		
15	18 hour		20%	10	66.50	1.00	0.4685	1.1261	1.7544	0.7510	0.6549
1.2552	2.4093	1.6966	1.7237	2.4767	3.7852	2.5857	0.2836	0.4091	5.2785		
16	24 hour		20%	1	73.90	1.00	0.1845	0.3592	0.5962	0.3474	0.2836

0.5741	0.8617	0.5738	0.6928	0.8766	1.1964	0.9004	0.1364	0.2003	1.8613		
16	24 hour		20%	2	73.90	1.00	0.2771	0.4625	0.7570	0.4562	0.2926
0.7643	1.0406	0.5719	0.6466	0.8508	1.2901	0.9317	0.1842	0.2483	2.0710		
16	24 hour		20%	3	73.90	1.00	0.2263	0.5037	0.8106	0.4347	0.3048
0.7137	1.1154	0.7535	1.0353	1.0872	1.6362	1.1957	0.1791	0.2559	2.3758		
16	24 hour		20%	4	73.90	1.00	0.1563	0.3086	0.5108	0.2623	0.2836
0.4382	0.7944	0.4712	0.5178	0.7777	1.0466	0.8069	0.1195	0.1445	1.7047		
16	24 hour		20%	5	73.90	1.00	0.1294	0.2212	0.3920	0.2111	0.2469
0.3494	0.6385	0.3117	0.3208	0.6035	0.7257	0.6382	0.0950	0.1175	1.3636		
16	24 hour		20%	6	73.90	1.00	0.1203	0.2025	0.3821	0.1979	0.2373
0.3278	0.6193	0.2759	0.3484	0.5607	0.6584	0.6009	0.0903	0.1105	1.3048		
16	24 hour		20%	7	73.90	1.00	0.2638	0.6403	0.9585	0.4490	0.3419
0.7375	1.3004	0.8604	0.9871	1.2727	2.0203	1.4183	0.2148	0.2585	2.6898		
16	24 hour		20%	8	73.90	1.00	0.2536	0.5332	0.9579	0.4309	0.3447
0.7187	1.3026	0.8618	0.9090	1.3270	1.8271	1.4434	0.1848	0.2371	2.7300		
16	24 hour		20%	9	73.90	1.00	0.2442	0.5962	1.1730	0.4175	0.4722
0.6837	1.6452	0.9067	0.9369	1.5469	1.8026	1.7540	0.2075	0.2407	3.5265		
16	24 hour		20%	10	73.90	1.00	0.1691	0.3627	0.7061	0.2855	0.2836
0.4733	0.9897	0.5315	0.5820	0.9939	1.1614	1.0600	0.1372	0.1597	2.1767		
17	30 hour		20%	1	79.80	1.00	0.2019	0.3678	0.6741	0.3505	0.2836
0.5774	0.9577	0.6248	0.7178	0.8139	1.3014	0.8268	0.1500	0.1986	1.8890		
17	30 hour		20%	2	79.80	1.00	0.1811	0.3812	0.7579	0.2885	0.2836
0.4808	1.0415	0.4697	0.4698	0.8751	1.0656	0.9380	0.1384	0.1583	2.0943		
17	30 hour		20%	3	79.80	1.00	0.1985	0.4265	0.8338	0.3325	0.3326
0.5523	1.1664	0.6279	0.6697	1.0374	1.3954	1.0858	0.1574	0.1851	2.3712		
17	30 hour		20%	4	79.80	1.00	0.0971	0.1644	0.3354	0.1493	0.2207
0.2501	0.5499	0.2430	0.2606	0.4939	0.5620	0.5293	0.0781	0.0808	1.1508		
17	30 hour		20%	5	79.80	1.00	0.2483	0.4944	0.8999	0.4313	0.2999
0.7128	1.1997	0.8886	0.9354	1.1198	1.7838	1.1315	0.1818	0.2433	2.4328		
17	30 hour		20%	6	79.80	1.00	0.1113	0.2203	0.4081	0.1851	0.2489
0.3068	0.6422	0.3127	0.3257	0.6024	0.7062	0.6673	0.0964	0.1039	1.4059		
17	30 hour		20%	7	79.80	1.00	0.1772	0.3286	0.6213	0.3335	0.2836
0.5470	0.9049	0.6287	0.7268	0.8684	1.2177	0.8824	0.1250	0.1927	1.8856		
17	30 hour		20%	8	79.80	1.00	0.1367	0.2944	0.6454	0.2230	0.2836
0.3696	0.9290	0.4030	0.4151	0.8494	0.9203	0.9189	0.1164	0.1243	1.9630		
17	30 hour		20%	9	79.80	1.00	0.1299	0.2412	0.5189	0.2157	0.2629
0.3566	0.7819	0.3774	0.4218	0.6475	0.8372	0.7149	0.0956	0.1208	1.5905		
17	30 hour		20%	10	79.80	1.00	0.1782	0.4244	0.7743	0.2788	0.2843

0.4668	1.0585	0.5401	0.5415	0.9883	1.2894	1.0843	0.1483	0.1518	2.1629
Run,	Representative hydrograph								
1	dur10min_aep20tp2.out								
Run,	Representative hydrograph								
2	dur15min_aep20tp9.out								
Run,	Representative hydrograph								
3	dur20min_aep20tp2.out								
Run,	Representative hydrograph								
4	dur25min_aep20tp9.out								
Run,	Representative hydrograph								
5	dur30min_aep20tp4.out								
Run,	Representative hydrograph								
6	dur45min_aep20tp10.out								
Run,	Representative hydrograph								
7	dur1hour_aep20tp4.out								
Run,	Representative hydrograph								
8	dur1_5hour_aep20tp6.out								
Run,	Representative hydrograph								
9	dur2hour_aep20tp7.out								
Run,	Representative hydrograph								
10	dur3hour_aep20tp4.out								
Run,	Representative hydrograph								
11	dur4_5hour_aep20tp5.out								
Run,	Representative hydrograph								
12	dur6hour_aep20tp1.out								
Run,	Representative hydrograph								
13	dur9hour_aep20tp4.out								
Run,	Representative hydrograph								
14	dur12hour_aep20tp7.out								
Run,	Representative hydrograph								
15	dur18hour_aep20tp1.out								
Run,	Representative hydrograph								
16	dur24hour_aep20tp10.out								
Run,	Representative hydrograph								
17	dur30hour_aep20tp8.out								

Elapsed Run Time (hh:mm:ss) = 00:00:04

RORBWin Batch Run Summary  
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Program version 6.42 (last updated 19th Dec 2018)  
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Date run: 16 Mar 2022 23:29

Catchment file : K:\Jobs Data\1400147 - Wurruk rezoning application\\_Wat\Models\RORB\Post Dev\SWMS REV G\1400147-RORB-PostDev-RB\_SWMS REV G.catg

Rainfall location: User defined

Temporal pattern : ARR2016 point temporal patterns

Spatial pattern : Uniform

Areal Red. Fact. : Based on ARR 2016 (Book 2 Chapter 4)

Loss factors : Constant with ARI

Parameters: kc = 2.72 m = 0.80

Loss parameters	Initial loss (mm)	Cont. loss (mm/h)
	19.00	3.00

Peak Description

- 01 Calculated hydrograph, Catch B
- 02 Calculated hydrograph, Catch E
- 03 Calculated hydrograph, OutfallLagoon(Catch B-G,I-K)
- 04 Calculated hydrograph, 20m RR PC Convey (Catch P)
- 05 Special storage : RB SE - Outflow
- 06 Special storage : RB SE - Inflow
- 07 Calculated hydrograph, Outfall SE (Catch B-G, I-P)
- 08 Calculated hydrograph, Catch Q-R (20m RR)
- 09 Special storage : Ex. U/S RB - Outflow
- 10 Special storage : Ex. U/S RB - Inflow
- 11 Calculated hydrograph, Catch Q-R, External (Swale2)
- 12 Calculated hydrograph, Catch Q-S, External (30m RR)
- 13 Special storage : RB South - Outflow
- 14 Special storage : RB South - Inflow
- 15 Calculated hydrograph, Catch X
- 16 Calculated hydrograph, Outfall S(Catch Q-X,External)
- 17 Special storage : RB NW - Outflow
- 18 Special storage : RB NW - Inflow
- 19 Calculated hydrograph, Entire Catchment

Run	Duration	AEP	TPat	Rain(mm)	ARF	Peak0001	Peak0002	Peak0003	Peak0004	Peak0005	Peak0006	Peak0007	
Peak0008	Peak0009	Peak0010	Peak0011	Peak0012	Peak0013	Peak0014	Peak0015	Peak0016	Peak0017	Peak0018	Peak0019		
1	10 min		1%	21	25.10	0.94	1.5117	1.9362	0.7025	3.6121	0.3651	6.1735	0.9861

2.7589	4.9245	7.4889	4.2142	3.3616	1.0349	4.9911	2.0692	2.0819	0.4615	2.2254	2.3985		
1	10 min		1%	22	25.10	0.94	1.4723	1.9933	0.7029	3.4486	0.3650	5.9488	0.9865
2.7011	4.8915	6.9382	4.1337	3.2994	1.0143	4.7822	2.0546	2.0694	0.4596	2.2899	2.3425		
1	10 min		1%	23	25.10	0.94	1.5396	1.9067	0.7020	3.7301	0.3647	6.3345	0.9856
2.8018	4.9543	7.5202	4.2674	3.3893	1.0397	5.0043	2.0778	2.0901	0.4626	2.1769	2.3930		
1	10 min		1%	24	25.10	0.94	1.6425	2.2287	0.7009	4.1770	0.3649	6.9280	0.9845
2.9534	4.9543	7.5202	4.4081	3.4525	1.0437	5.0072	2.0778	2.0885	0.4661	2.5491	2.3560		
1	10 min		1%	25	25.10	0.94	1.5004	1.9544	0.7027	3.5651	0.3651	6.1087	0.9863
2.7420	4.8383	7.2952	4.1546	3.3195	1.0193	4.9124	2.0495	2.0625	0.4610	2.2447	2.3361		
1	10 min		1%	26	25.10	0.94	1.5951	2.0794	0.7011	3.9703	0.3647	6.6554	0.9847
2.8832	4.9543	7.5202	4.3432	3.4228	1.0405	5.0011	2.0778	2.0891	0.4642	2.3762	2.3722		
1	10 min		1%	27	25.10	0.94	1.4870	1.9717	0.7028	3.5114	0.3650	6.0353	0.9864
2.7234	4.9033	7.1344	4.2500	3.4105	1.0451	4.8518	2.0555	2.0693	0.4606	2.2655	2.3326		
1	10 min		1%	28	25.10	0.94	1.6323	2.1962	0.7010	4.1318	0.3647	6.8680	0.9846
2.9386	4.9543	7.5202	4.3942	3.4455	1.0417	4.9998	2.0778	2.0886	0.4664	2.5115	2.3591		
1	10 min		1%	29	25.10	0.94	1.7067	2.4149	0.7028	4.4347	0.3706	7.2640	0.9864
3.0486	4.9543	7.5202	4.4934	3.4862	1.0474	4.9549	2.0778	2.0885	0.4732	2.7647	2.3410		
1	10 min		1%	30	25.10	0.94	1.6508	2.2553	0.7009	4.2132	0.3652	6.9755	0.9845
2.9654	4.9543	7.5202	4.4195	3.4564	1.0438	4.9979	2.0778	2.0885	0.4665	2.5799	2.3534		
2	15 min		1%	21	30.80	0.95	1.8182	2.2193	1.2534	4.3261	0.6149	7.2478	1.6527
3.3003	7.4513	9.4945	6.6205	5.4018	1.9836	6.5114	2.3505	2.4233	0.6790	2.5334	3.7871		
2	15 min		1%	22	30.80	0.95	1.8899	2.4418	1.2523	4.6397	0.6154	7.6802	1.6523
3.4086	7.9249	10.4996	6.8100	5.4977	1.9960	6.7854	2.8244	2.8878	0.6828	2.7913	3.8001		
2	15 min		1%	23	30.80	0.95	1.7876	2.3357	1.2537	4.4047	0.6150	7.2386	1.6536
3.2263	8.1117	9.9186	6.8564	5.5025	1.9952	6.7746	2.8496	2.9052	0.6816	2.6704	3.7982		
2	15 min		1%	24	30.80	0.95	1.9342	2.7656	1.2516	5.0139	0.6157	8.0787	1.6524
3.4390	8.3039	10.4188	7.0765	5.6536	2.0243	6.7601	3.0262	3.0763	0.6873	3.1679	3.8236		
2	15 min		1%	25	30.80	0.95	1.9186	2.5517	1.2528	4.5899	0.6150	7.3281	1.6528
3.5226	8.6472	9.7765	7.1280	5.6501	2.0267	7.1393	3.1717	3.2101	0.6844	2.9239	3.8816		
2	15 min		1%	26	30.80	0.95	2.0389	3.0484	1.2534	5.4191	0.6206	8.6316	1.6586
3.6003	8.3284	10.4852	7.1641	5.7153	2.0347	6.6825	3.0093	3.0596	0.6939	3.4950	3.8387		
2	15 min		1%	27	30.80	0.95	1.8927	2.5999	1.2525	4.7992	0.6156	7.8111	1.6531
3.3834	8.3284	10.4852	7.0354	5.6261	2.0259	6.7298	3.0093	3.0633	0.6854	2.9756	3.8270		
2	15 min		1%	28	30.80	0.95	1.9033	2.7100	1.2519	4.9204	0.6154	7.9297	1.6522
3.4129	8.3580	10.3375	7.0800	5.6490	2.0248	6.8115	3.0464	3.0954	0.6864	3.1040	3.8245		
2	15 min		1%	29	30.80	0.95	2.1977	2.6707	1.2721	5.2288	0.6211	8.9065	1.6778
4.0033	9.1174	11.7770	7.2562	5.6721	2.0195	7.8667	3.3491	3.3698	0.6919	3.0698	3.8416		
2	15 min		1%	30	30.80	0.95	2.2486	2.8708	1.2680	5.4853	0.6170	9.1429	1.6704
4.0575	9.2708	12.2138	7.3835	5.7402	2.0408	8.0593	3.3720	3.3907	0.6890	3.2802	3.8545		
3	20 min		1%	21	35.00	0.95	2.0808	2.4922	1.6910	4.5917	0.7514	7.6038	2.2383
3.7958	9.3984	10.1648	8.8880	7.1831	2.8444	8.4284	2.8220	2.8706	0.7915	2.8525	5.1607		
3	20 min		1%	22	35.00	0.95	1.9544	2.4474	1.6906	4.6270	0.7501	7.6623	2.2373
3.5765	8.9027	10.0564	8.6987	7.0872	2.8341	8.5294	2.5940	2.8341	0.7854	2.7979	5.1502		
3	20 min		1%	23	35.00	0.95	2.0997	2.6831	1.6899	4.8899	0.7515	7.9125	2.2373
3.8499	9.3908	10.0408	8.9190	7.2086	2.8453	8.4367	2.8408	2.8909	0.7925	3.0727	5.1616		
3	20 min		1%	24	35.00	0.95	2.2537	2.7506	1.7117	5.0955	0.7548	8.2423	2.2595

4.1083	10.8300	12.1510	9.1565	7.2866	2.8529	9.1178	3.6367	3.7060	0.8084	3.1472	5.1843		
3	20 min		1%	25	35.00	0.95	2.3007	2.8941	1.7125	5.5545	0.7582	9.2288	2.2657
4.1565	9.8258	12.9465	8.9356	7.1943	2.8261	8.5763	3.2035	3.3023	0.8119	3.3060	5.1772		
3	20 min		1%	26	35.00	0.95	2.3586	2.8209	1.6934	5.4724	0.7579	9.2932	2.2461
4.3029	10.1843	12.3396	9.2119	7.3394	2.8519	8.7630	3.1837	3.2134	0.8100	3.2384	5.1793		
3	20 min		1%	27	35.00	0.95	2.2946	2.8786	1.7126	5.5305	0.7582	9.1927	2.2658
4.1455	9.8016	12.8728	8.9311	7.1925	2.8261	8.5492	3.1778	3.2771	0.8117	3.2882	5.1769		
3	20 min		1%	28	35.00	0.95	2.3196	2.9530	1.7092	5.6271	0.7548	9.3042	2.2591
4.1822	9.9215	13.3660	8.9704	7.2049	2.8262	8.7630	3.3279	3.4262	0.8092	3.3744	5.1708		
3	20 min		1%	29	35.00	0.95	2.2728	3.1071	1.7131	5.6927	0.7593	9.1985	2.2660
4.1768	11.0096	13.3431	9.3267	7.4125	2.8901	8.9602	3.9288	3.9984	0.8171	3.5573	5.2359		
3	20 min		1%	30	35.00	0.95	2.2914	3.2111	1.7123	5.8401	0.7593	9.4020	2.2653
4.2236	10.9946	13.3528	9.3505	7.4314	2.8907	8.9484	3.9262	3.9946	0.8181	3.6776	5.2367		
4	25 min		1%	21	38.40	0.96	2.3137	2.4480	2.0822	4.8238	0.8483	8.0435	2.7409
4.1815	10.6663	11.4423	10.3507	8.4265	3.5013	9.9399	2.7807	3.5013	0.8744	2.7961	6.3430		
4	25 min		1%	22	38.40	0.96	2.0721	2.6352	2.0581	4.7543	0.8419	7.7450	2.7122
3.7969	9.1388	9.9216	9.6348	8.2241	3.5171	10.0700	2.8261	3.5171	0.8493	3.0193	6.3331		
4	25 min		1%	23	38.40	0.96	2.2085	2.4062	2.0803	4.7683	0.8453	7.9365	2.7335
3.9683	10.5469	11.8058	10.3655	8.4295	3.5161	10.1863	2.8496	3.5161	0.8703	2.7435	6.3409		
4	25 min		1%	24	38.40	0.96	1.9875	2.0865	2.0585	3.9133	0.8404	6.4539	2.7116
3.5345	8.5855	9.3600	9.5373	8.0294	3.4835	10.0896	2.1416	3.4835	0.8500	2.3862	6.3017		
4	25 min		1%	25	38.40	0.96	2.1145	2.1348	2.0583	4.2841	0.8429	7.0270	2.7121
3.7861	9.3815	10.3514	9.8829	8.1953	3.4843	10.0557	2.2745	3.4843	0.8598	2.4318	6.2943		
4	25 min		1%	26	38.40	0.96	2.2708	2.6353	2.0628	5.1190	0.8473	8.5507	2.7205
4.1295	10.5599	11.6747	10.2576	8.3805	3.4970	9.9094	2.8237	3.4970	0.8692	3.0088	6.3281		
4	25 min		1%	27	38.40	0.96	2.3330	2.7441	2.0619	5.4379	0.8479	9.1947	2.7195
4.2495	10.0690	12.3229	10.0330	8.3793	3.5142	9.9684	2.9940	3.5142	0.8704	3.1299	6.3402		
4	25 min		1%	28	38.40	0.96	2.3023	2.5239	2.0627	4.8462	0.8451	8.0113	2.7175
4.1657	10.7547	11.2071	10.3353	8.4114	3.4986	9.8648	2.8717	3.4986	0.8696	2.8829	6.3198		
4	25 min		1%	29	38.40	0.96	2.7744	3.7430	2.1029	6.9596	0.8570	11.3746	2.7667
4.9687	12.3600	16.7025	11.0620	8.8842	3.5891	10.5878	4.3734	4.4829	0.9079	4.2824	6.4665		
4	25 min		1%	30	38.40	0.96	2.4048	2.9222	2.0842	5.5900	0.8519	9.1353	2.7424
4.3220	11.3106	13.8504	10.6195	8.6365	3.5580	10.4044	3.3377	3.5580	0.8898	3.3382	6.3968		
5	30 min		1%	21	41.20	0.96	2.2486	2.3608	2.3920	4.5481	0.9109	7.6262	3.1315
4.0159	10.2287	10.6572	10.9281	9.2401	4.1085	11.3993	2.7942	4.1085	0.9158	2.7001	7.3541		
5	30 min		1%	22	41.20	0.96	2.2555	2.7607	2.3717	5.3643	0.9087	8.9665	3.1085
4.0876	10.3644	12.3196	10.5761	9.1393	4.0256	11.2570	2.9231	4.0256	0.9083	3.1517	7.2594		
5	30 min		1%	23	41.20	0.96	2.1912	2.5323	2.3673	5.0339	0.9046	8.4874	3.1015
3.9890	9.7038	11.4343	10.3494	9.0274	4.0251	11.1914	2.7651	4.0251	0.9004	2.8912	7.2562		
5	30 min		1%	24	41.20	0.96	2.1624	2.5264	2.3714	4.9917	0.9090	8.4265	3.1080
3.9325	9.9276	11.1702	10.5416	9.1187	4.0314	11.1439	2.6191	4.0314	0.9093	2.8819	7.2623		
5	30 min		1%	25	41.20	0.96	2.3173	2.7677	2.3908	5.1243	0.9128	8.6866	3.1308
4.2299	10.4319	11.6349	11.0389	9.4511	4.1242	11.4694	3.0464	4.1242	0.9210	3.1712	7.3693		
5	30 min		1%	26	41.20	0.96	2.3830	2.4377	2.3942	4.8228	0.9128	8.0221	3.1341
4.2743	11.0143	11.3400	11.3051	9.3581	4.1146	11.3838	2.5760	4.1146	0.9249	2.7798	7.3636		
5	30 min		1%	27	41.20	0.96	2.1857	2.4993	2.3912	4.8195	0.9100	8.0239	3.1286

3.9730	10.1176	10.9083	10.5365	9.1640	4.0452	11.2257	2.7547	4.0452	0.9105	2.8543	7.2873		
5	30 min		1%	28	41.20	0.96	2.2758	2.7287	2.3914	5.1858	0.9123	8.5905	3.1302
4.1488	10.7503	11.9936	10.9629	9.3339	4.0576	11.1561	3.1133	4.0577	0.9208	3.1187	7.3069		
5	30 min		1%	29	41.20	0.96	2.6457	2.9907	2.4176	5.6413	0.9203	9.4980	3.1615
4.8044	12.7273	13.4331	12.2046	9.8628	4.1533	11.5882	3.6951	4.1533	0.9461	3.4213	7.4447		
5	30 min		1%	30	41.20	0.96	2.5484	2.8390	2.4163	5.5792	0.9171	9.1966	3.1558
4.5817	11.9835	13.8512	11.9747	9.7511	4.1252	11.6829	3.0260	4.1252	0.9423	3.2382	7.4018		
6	45 min		1%	21	47.60	0.96	2.4684	2.4583	3.1378	4.9072	1.0368	8.1719	4.0294
4.3537	11.6306	12.3150	12.8032	11.2042	5.4092	13.8127	2.9225	5.4092	1.0135	2.8013	9.5885		
6	45 min		1%	22	47.60	0.96	2.6194	2.8850	3.1515	5.4986	1.0353	9.0380	4.0525
4.7356	12.5824	13.3291	12.9362	11.5673	5.3763	13.9640	3.2853	5.3763	1.0128	3.2973	9.5853		
6	45 min		1%	23	47.60	0.96	1.8714	2.2731	3.1330	4.3174	1.0223	7.2148	4.0257
3.1944	8.2682	8.7374	10.0800	9.7399	5.3226	12.8124	2.4501	5.3226	0.9513	2.5983	9.5169		
6	45 min		1%	24	47.60	0.96	1.9973	2.2331	3.0824	4.2602	1.0164	7.0787	3.9684
3.3779	8.7866	9.7707	9.7736	9.1151	5.1823	12.8754	2.5272	5.1823	0.9424	2.5514	9.3260		
6	45 min		1%	25	47.60	0.96	1.8081	2.2093	3.0802	4.2580	1.0127	7.1049	3.9629
3.1930	7.9388	9.4961	9.4446	9.4570	5.1667	12.4683	2.3675	5.1667	0.9421	2.5238	9.3112		
6	45 min		1%	26	47.60	0.96	2.2634	2.0869	3.1319	4.1841	1.0288	6.9194	4.0207
3.9080	10.0262	10.4866	11.5134	10.6090	5.3244	13.6358	2.1554	5.3244	0.9852	2.3778	9.4983		
6	45 min		1%	27	47.60	0.96	2.0089	2.1523	3.1189	4.1217	1.0249	6.8375	4.0115
3.5683	8.9024	9.1707	10.7538	10.4840	5.2829	13.4529	2.4245	5.2829	0.9752	2.4589	9.4573		
6	45 min		1%	28	47.60	0.96	2.0309	1.8498	3.1006	3.6418	1.0246	6.0455	3.9933
3.4980	8.5562	8.7864	10.9099	10.3624	5.2667	13.5565	1.8943	5.2669	0.9777	2.1101	9.4164		
6	45 min		1%	29	47.60	0.96	2.6226	2.7588	3.1597	5.3360	1.0419	8.9503	4.0587
4.7082	12.7482	13.2665	13.6128	11.7936	5.4859	14.3969	3.1061	5.4859	1.0318	3.1528	9.6877		
6	45 min		1%	30	47.60	0.96	2.5933	2.6887	3.1403	5.2463	1.0365	8.6312	4.0370
4.5249	12.1450	13.5310	13.0265	11.0227	5.3977	13.9706	2.8677	5.3977	1.0174	3.0676	9.5739		
7	1 hour		1%	21	52.30	0.97	2.8301	2.7924	3.7176	5.4157	1.1285	9.0937	4.7064
4.9712	13.3915	13.9957	14.5926	13.0602	6.4590	16.1448	3.2415	6.4594	1.1758	3.1884	11.3187		
7	1 hour		1%	22	52.30	0.97	1.8781	2.1735	3.5479	4.1348	1.0729	6.8428	4.5186
3.4192	8.4693	9.1025	9.3674	9.4691	5.7669	12.0538	2.5399	5.7690	0.9305	2.4840	10.5328		
7	1 hour		1%	23	52.30	0.97	2.3627	2.3023	3.6563	4.5819	1.1011	7.5592	4.6310
4.1296	10.8792	11.5694	12.7319	11.6742	6.1794	14.4646	2.3962	6.1794	1.0235	2.6237	11.0006		
7	1 hour		1%	24	52.30	0.97	1.7438	1.8990	3.5764	3.5600	1.0860	5.8652	4.5436
2.9847	7.8076	8.5298	9.7421	9.7509	5.9285	12.6238	2.0526	5.9287	0.9651	2.1718	10.6999		
7	1 hour		1%	25	52.30	0.97	1.8607	1.9515	3.5265	3.7791	1.0801	6.2588	4.4906
3.1789	8.7762	9.8082	10.0061	9.2526	5.8430	11.8367	2.4028	5.8430	0.9528	2.2276	10.5794		
7	1 hour		1%	26	52.30	0.97	1.9449	2.2818	3.5146	4.1547	1.0738	6.7254	4.4708
3.2934	9.1210	11.2243	9.8171	8.4647	5.7014	11.6589	2.6797	5.7014	0.9371	2.6177	10.4287		
7	1 hour		1%	27	52.30	0.97	2.2023	2.0188	3.6221	4.0190	1.0980	6.5934	4.6005
3.7960	9.4180	10.1175	11.5163	11.0250	6.1118	13.9202	2.1849	6.1123	1.0066	2.3000	10.9141		
7	1 hour		1%	28	52.30	0.97	2.1428	1.9117	3.6391	3.7955	1.1078	6.2310	4.6220
3.6269	8.9199	9.6032	11.2449	11.1062	6.1748	14.8454	2.3499	6.1752	1.0251	2.1783	10.9896		
7	1 hour		1%	29	52.30	0.97	1.9166	1.6948	3.6470	3.4290	1.1023	5.6953	4.6216
3.2022	8.1864	8.4433	10.2811	10.6159	6.0966	14.3503	1.8075	6.0966	1.0047	1.9296	10.9314		
7	1 hour		1%	30	52.30	0.97	2.8285	2.8258	3.7378	5.5299	1.1314	9.0107	4.7315

4.9846	13.1260	14.0768	14.5725	13.3183	6.5044	16.3904	3.2697	6.5046	1.2048	3.2231	11.3896		
8	1.5 hour		1%	21	59.30	0.97	2.0198	1.9114	4.2428	3.8085	1.1550	6.2651	5.3317
3.5098	9.0209	9.5574	10.6622	10.2998	6.5553	12.7905	2.0335	7.0022	0.9602	2.1780	12.2357		
8	1.5 hour		1%	22	59.30	0.97	1.8716	1.5751	4.3890	3.1757	1.1900	5.2446	5.4897
3.1362	7.7477	7.8911	10.4129	10.7704	7.2376	14.5484	1.6090	7.2376	1.0464	1.7934	12.9946		
8	1.5 hour		1%	23	59.30	0.97	1.6381	1.5544	4.2092	3.1347	1.1465	5.1920	5.2972
2.8467	7.0223	7.2639	8.5824	8.9224	6.5568	11.8711	1.6461	6.8262	0.9538	1.7704	12.3200		
8	1.5 hour		1%	24	59.30	0.97	1.8078	1.7185	4.1089	3.3909	1.1505	5.6711	5.1671
3.1222	8.3525	8.6219	9.5127	8.7807	6.4522	11.5965	1.9244	6.4522	0.9490	1.9609	12.0009		
8	1.5 hour		1%	25	59.30	0.97	2.1741	2.2046	3.9623	4.1757	1.1065	7.0452	5.0279
3.8171	9.5644	9.8362	11.0108	10.1045	5.7051	12.2859	2.5184	6.3465	0.9477	2.5247	11.5077		
8	1.5 hour		1%	26	59.30	0.97	1.9723	1.6944	4.4077	3.4158	1.1848	5.6577	5.5063
3.3289	8.2220	8.4964	10.7231	11.1385	7.2280	14.4639	1.9155	7.2363	1.0416	1.9293	12.9925		
8	1.5 hour		1%	27	59.30	0.97	1.7689	1.5686	4.3586	3.1263	1.1806	5.1515	5.4458
2.9666	7.4198	7.8580	9.7302	10.1905	7.0696	13.2585	1.6390	7.0696	1.0141	1.7872	12.8320		
8	1.5 hour		1%	28	59.30	0.97	1.8439	1.7965	4.3165	3.4365	1.1789	5.5934	5.4083
3.0656	7.7066	9.0203	9.6348	9.6354	6.9522	13.4184	2.0703	6.9545	1.0113	2.0513	12.6903		
8	1.5 hour		1%	29	59.30	0.97	2.4706	2.3212	4.4268	4.7122	1.1789	7.7850	5.5275
4.3399	11.5247	11.6859	13.2722	12.3338	7.1018	15.2400	2.6667	7.3803	1.0509	2.6423	12.8989		
8	1.5 hour		1%	30	59.30	0.97	2.5675	2.7805	4.3987	5.3221	1.1991	8.7566	5.4935
4.5631	12.8045	14.0357	14.5646	13.1784	7.6703	16.4165	3.0427	7.6703	1.2056	3.1761	13.2779		
9	2 hour		1%	21	64.70	0.97	1.9915	1.8737	4.5454	3.7352	1.1700	6.1447	5.6988
3.4518	8.8487	9.3756	10.5764	10.2556	6.6158	12.7020	1.9928	6.9909	0.9589	2.1350	13.1288		
9	2 hour		1%	22	64.70	0.97	2.0830	2.1555	4.6470	4.2575	1.1887	6.9969	5.8100
3.7027	9.5893	10.4393	10.8234	10.9230	7.1169	13.8864	2.2904	7.3979	1.0146	2.4577	13.4579		
9	2 hour		1%	23	64.70	0.97	2.5363	2.7239	4.0570	5.2242	1.1519	8.7776	5.1695
4.5693	12.2375	12.7338	12.4870	10.7150	5.3946	12.8161	3.1784	6.4930	0.9787	3.1128	11.8963		
9	2 hour		1%	24	64.70	0.97	1.8291	2.2124	4.5100	4.2201	1.1738	6.9392	5.6510
3.3302	8.3826	9.5569	8.2131	7.8749	6.6614	10.8730	2.6394	7.0178	0.9314	2.5279	13.1273		
9	2 hour		1%	25	64.70	0.97	1.8783	1.7276	4.7377	3.3963	1.2223	5.6166	5.8946
3.2104	8.3149	8.6688	10.2510	10.3740	7.7615	13.2747	1.9163	7.7826	1.0167	1.9699	14.0290		
9	2 hour		1%	26	64.70	0.97	1.3375	1.2795	4.4215	2.4898	1.1711	4.0815	5.5558
2.2546	5.7421	6.3770	6.9870	6.8039	6.4368	9.1144	1.3912	6.9207	0.8571	1.4598	12.8528		
9	2 hour		1%	27	64.70	0.97	1.5713	1.4469	4.7103	2.9022	1.2149	4.8307	5.8522
2.6685	7.0106	7.2375	8.6900	9.3036	7.4074	12.1820	1.6318	7.4074	0.9743	1.6483	13.6851		
9	2 hour		1%	28	64.70	0.97	2.2015	2.7637	4.6997	4.8474	1.1979	7.9221	5.8621
3.9144	11.8602	13.9939	11.0315	10.1820	7.0272	12.5745	3.9906	7.5275	0.9466	3.1699	13.5913		
9	2 hour		1%	29	64.70	0.97	1.7980	1.5348	4.8861	3.1032	1.2355	5.1194	6.0533
3.0351	7.4700	7.6855	10.1646	10.7084	8.0893	14.0846	1.5771	8.0954	1.0315	1.7471	14.4245		
9	2 hour		1%	30	64.70	0.97	2.0469	1.7349	4.9022	3.5194	1.2457	5.8359	6.0562
3.4538	8.5507	8.7053	11.3365	11.9659	8.4284	15.7335	1.7738	8.4288	1.1024	1.9747	14.6912		
10	3 hour		1%	21	73.00	0.97	1.9052	1.5594	5.4877	3.1747	1.2969	5.2904	6.7262
3.2054	7.7402	7.8112	10.7644	11.1758	8.9205	15.0142	1.6155	8.9633	1.0531	1.7758	16.1989		
10	3 hour		1%	22	73.00	0.97	1.3037	1.4352	4.1010	2.7845	1.1266	4.5802	5.1721
2.2687	5.1421	5.3056	6.6656	6.5888	5.9702	8.9388	1.3243	6.0146	0.8492	1.6382	11.5598		
10	3 hour		1%	23	73.00	0.97	1.3526	1.3486	3.7878	2.7460	1.1324	4.6256	4.9202

4.155	4.6030	4.9981	5.9853	6.1836	5.1969	7.6276	0.9388	5.4900	0.7185	1.5354	10.9381	
10	3 hour	1%	24	73.00	0.97	1.1622	1.1186	4.0812	2.3061	1.1124	3.9004	5.1390
2.0744	4.5119	4.5586	6.1292	6.4228	5.8321	8.6870	0.9121	5.9302	0.8008	1.2726	11.4447	
10	3 hour	1%	25	73.00	0.97	1.1916	1.2985	4.4969	2.4793	1.1959	4.0107	5.6849
2.0488	5.2467	5.9342	6.4073	5.8642	6.0712	7.8289	1.6013	6.4523	0.7653	1.4831	12.5130	
10	3 hour	1%	26	73.00	0.97	1.7433	1.4767	5.2059	3.0393	1.2546	5.0656	6.4587
2.9808	7.3250	7.3784	9.6381	9.9423	7.2725	12.1745	1.4818	8.2083	0.9686	1.6795	14.6379	
10	3 hour	1%	27	73.00	0.97	1.1601	1.1217	4.4616	2.2086	1.2019	3.6332	5.6563
1.9634	5.1388	5.5801	5.7434	6.0529	6.1282	7.8032	1.1850	6.6187	0.7935	1.2792	12.5364	
10	3 hour	1%	28	73.00	0.97	1.2617	1.0652	5.0352	2.1554	1.2351	3.5914	6.2649
2.0934	5.0693	5.3777	6.8658	7.4117	7.0403	9.9228	1.1081	7.5242	0.8912	1.2129	14.2657	
10	3 hour	1%	29	73.00	0.97	1.2930	1.1627	4.2795	2.3940	1.1989	4.0253	5.4567
2.2326	5.6441	5.7913	6.8802	6.4577	5.9645	8.6074	1.3062	6.1205	0.7879	1.3228	12.0219	
10	3 hour	1%	30	73.00	0.97	1.9249	1.9967	5.7048	3.8936	1.3091	6.3936	6.9785
3.3430	9.1187	10.0388	11.5379	11.4523	9.2465	14.8902	2.1821	9.8343	1.0730	2.2782	16.6818	
11	4.5 hour	1%	21	82.50	0.98	0.9585	0.8326	3.1954	1.6634	1.0705	2.7532	4.1794
1.6446	3.8923	3.9890	4.6404	4.8931	3.9612	6.2736	0.8412	4.3237	0.6000	0.9488	8.9139	
11	4.5 hour	1%	22	82.50	0.98	1.1412	1.1824	4.4655	2.2366	1.1922	3.5768	5.6564
1.9324	5.2095	5.8760	6.5233	6.0536	5.7431	8.0851	1.4443	6.1928	0.7195	1.3508	12.3703	
11	4.5 hour	1%	23	82.50	0.98	1.2130	1.1443	3.5385	2.2810	1.0872	3.7531	4.5430
2.0974	5.3204	5.7857	6.6399	6.3516	4.4957	8.4136	1.1921	4.9596	0.7364	1.3038	9.6834	
11	4.5 hour	1%	24	82.50	0.98	1.2693	1.1692	3.5923	2.3264	1.0484	3.8787	4.5753
2.1244	5.2742	5.7117	7.3105	7.5209	5.4878	9.9101	1.3901	5.7098	0.8499	1.3329	10.5033	
11	4.5 hour	1%	25	82.50	0.98	0.7985	0.7197	3.8449	1.4478	1.1227	2.3945	4.9519
1.3642	3.1890	3.2639	3.9199	4.3561	4.7014	5.8124	0.7717	5.2248	0.6048	0.8197	10.6017	
11	4.5 hour	1%	26	82.50	0.98	1.2004	1.0367	4.6868	2.0324	1.2119	3.3817	5.8974
2.0256	4.8432	5.1461	6.7383	6.8165	5.9506	9.1808	1.1370	6.4569	0.8036	1.1823	12.8089	
11	4.5 hour	1%	27	82.50	0.98	1.2582	1.0837	4.4161	2.2629	1.2229	3.8262	5.5830
2.1842	5.3845	5.3881	6.9464	7.5545	6.4655	9.7005	1.3492	6.8413	0.8335	1.2374	12.9847	
11	4.5 hour	1%	28	82.50	0.98	1.1356	1.0038	4.2903	2.0705	1.1761	3.4775	5.4605
1.9601	4.8904	4.9808	6.0963	6.2622	5.5684	7.7138	1.1218	5.9421	0.7514	1.1419	11.6667	
11	4.5 hour	1%	29	82.50	0.98	1.5004	1.3114	5.6410	2.6165	1.3300	4.3031	6.9477
2.5060	6.2736	6.5470	8.0136	8.7047	8.5831	11.4643	1.3851	8.6959	0.9784	1.4940	16.2770	
11	4.5 hour	1%	30	82.50	0.98	1.3860	1.2619	5.4462	2.4129	1.3176	4.0460	6.7547
2.3827	5.7433	6.2921	7.8558	7.8102	7.4780	9.9171	1.4881	8.2035	0.8693	1.4412	15.3245	
12	6 hour	1%	21	90.10	0.98	1.8014	1.5553	5.8414	3.1122	1.3476	5.1746	7.1645
3.0734	7.3976	7.7928	10.3031	10.8938	9.5419	13.6090	1.5047	9.9078	1.0307	1.7721	17.2063	
12	6 hour	1%	22	90.10	0.98	1.1487	1.0697	4.0152	2.1399	1.1021	3.5607	5.0792
1.9465	4.9993	5.3158	5.8562	6.1720	5.7130	7.8959	1.0225	5.9925	0.7757	1.2189	11.4461	
12	6 hour	1%	23	90.10	0.98	1.2578	1.1192	3.6350	2.3125	1.1665	3.9217	4.7556
2.1693	5.4533	5.5574	6.7782	6.0083	5.3636	8.5634	1.3925	5.4204	0.7497	1.2727	10.6200	
12	6 hour	1%	24	90.10	0.98	1.0553	1.1861	3.0869	2.3015	1.0342	3.7883	3.9795
1.8672	4.0857	4.1036	5.0730	5.2895	4.4709	7.1319	1.0601	4.5618	0.7083	1.3539	8.8100	
12	6 hour	1%	25	90.10	0.98	1.0614	1.0386	3.4576	2.1221	1.0237	3.5709	4.4252
1.8916	3.6315	4.0270	4.7585	5.4031	4.9687	7.0558	0.9882	5.1544	0.7012	1.1822	9.7544	
12	6 hour	1%	26	90.10	0.98	1.6415	1.6105	3.1666	3.1870	1.0801	5.2894	4.1454

2.8953	7.4061	8.0791	8.9233	7.6406	5.1019	10.6054	2.0388	5.1019	0.8490	1.8363	9.5786	
12	6 hour	1%	27	90.10	0.98	0.6816	0.7216	3.4761	1.3574	1.0858	2.2018	4.5603
1.2063	2.6330	2.6684	3.4876	3.8759	4.3523	5.0012	0.5446	4.7749	0.5386	0.8250	9.7060	
12	6 hour	1%	28	90.10	0.98	0.8481	0.7350	3.9621	1.4675	1.0883	2.4087	5.0336
1.4130	3.4611	3.6092	4.6867	5.1041	5.1854	6.6653	0.7753	5.5586	0.6699	0.8373	10.8828	
12	6 hour	1%	29	90.10	0.98	0.7161	0.5976	3.3730	1.1907	1.0404	1.9857	4.3822
1.1928	2.8154	2.8748	3.8878	4.2910	4.3584	5.5137	0.6367	4.6458	0.5696	0.6819	9.3163	
12	6 hour	1%	30	90.10	0.98	1.0395	0.8583	4.9455	1.7286	1.2527	2.8700	6.1933
1.7145	4.0825	4.2381	5.7839	6.4876	6.4531	8.5362	0.8377	6.9969	0.7837	0.9775	13.5773	
13	9 hour	1%	21	102.00	0.99	0.5667	0.4558	2.5725	0.9447	0.9646	1.5736	3.5231
0.9585	2.1875	2.3618	2.9284	3.1945	3.2011	4.1022	0.4522	3.5890	0.4007	0.5182	7.4980	
13	9 hour	1%	22	102.00	0.99	0.6473	0.5189	2.7467	1.0692	0.8954	1.7802	3.6122
1.0794	2.4822	2.5027	3.5095	3.7089	3.6472	4.9558	0.5151	3.8183	0.5085	0.5901	7.5956	
13	9 hour	1%	23	102.00	0.99	1.4767	1.2168	4.4861	2.4964	1.1597	4.1520	5.6302
2.4899	6.0290	6.1568	8.2580	8.0391	6.6078	11.0852	1.1593	6.8449	0.8757	1.3842	12.3714	
13	9 hour	1%	24	102.00	0.99	0.6916	0.5834	3.4684	1.1580	1.0405	1.8958	4.5073
1.1340	2.7061	2.7425	3.7864	4.2834	4.3335	5.5548	0.5955	4.7015	0.5890	0.6648	9.6225	
13	9 hour	1%	25	102.00	0.99	1.4803	1.2363	3.8883	2.3882	1.0932	4.0536	4.8901
2.5189	5.6849	6.1402	8.5904	8.4984	6.0961	11.3689	1.4362	6.0961	0.8761	1.4118	11.0712	
13	9 hour	1%	26	102.00	0.99	0.5776	0.4913	2.6905	0.9949	0.9378	1.6548	3.6213
0.9650	2.2732	2.3682	3.0163	3.2273	3.5752	4.2814	0.4559	3.9574	0.4238	0.5592	7.9513	
13	9 hour	1%	27	102.00	0.99	0.8185	0.6492	3.3981	1.3170	1.0873	2.1956	4.4855
1.3518	3.1246	3.1710	4.5217	5.1124	4.8507	6.6704	0.6574	5.1170	0.6377	0.7391	9.8399	
13	9 hour	1%	28	102.00	0.99	0.7022	0.6282	3.6127	1.2440	1.1330	2.0454	4.7457
1.1669	2.9239	3.0636	3.9769	4.3927	4.7173	5.6767	0.6495	5.0897	0.5985	0.7160	10.2689	
13	9 hour	1%	29	102.00	0.99	0.9657	0.7875	4.5001	1.6094	1.2252	2.6703	5.7254
1.6117	3.8257	3.8775	5.3083	5.6061	5.8847	7.5327	0.7600	6.4874	0.6936	0.8959	12.8242	
13	9 hour	1%	30	102.00	0.99	1.5316	1.2949	4.9799	2.6753	1.3118	4.4609	6.2288
2.6243	6.3154	6.4756	8.5229	8.0333	7.7666	11.2288	1.1843	7.8376	0.8777	1.4724	14.7011	
14	12 hour	1%	21	112.00	0.99	0.9160	0.7620	4.3272	1.5432	1.1740	2.5498	5.5011
1.5227	3.6776	3.7476	4.9613	5.5609	5.8154	7.1346	0.7603	6.1931	0.7223	0.8674	12.2265	
14	12 hour	1%	22	112.00	0.99	0.8022	0.7491	3.2512	1.4785	1.0524	2.4183	4.3036
1.3622	3.4949	3.6798	4.1447	4.8295	4.4654	6.0047	0.8144	4.7368	0.6142	0.8540	9.3556	
14	12 hour	1%	23	112.00	0.99	0.6079	0.4977	2.5185	0.9910	0.8458	1.6384	3.3482
1.0219	2.4469	2.6198	3.1272	3.4795	3.1437	4.4178	0.4884	3.3851	0.4469	0.5672	7.0145	
14	12 hour	1%	24	112.00	0.99	0.6555	0.5436	3.1578	1.0879	0.9783	1.7884	4.1339
1.0730	2.5250	2.5490	3.5296	3.9373	3.9139	5.2117	0.5350	4.2730	0.5346	0.6191	8.7986	
14	12 hour	1%	25	112.00	0.99	1.4385	1.1607	4.7787	2.4242	1.2944	4.0610	5.9957
2.4507	5.7153	5.7849	8.1297	7.9783	7.3168	10.8727	1.1563	7.3583	0.8704	1.3190	14.0461	
14	12 hour	1%	26	112.00	0.99	0.4709	0.3944	2.6016	0.8044	0.9406	1.3440	3.5422
0.7841	1.8125	1.8744	2.4464	2.7371	3.2876	3.4722	0.3652	3.5539	0.3883	0.4488	7.4837	
14	12 hour	1%	27	112.00	0.99	0.6290	0.5080	3.2533	1.0368	0.9884	1.7188	4.2417
1.0413	2.4119	2.4432	3.3842	3.8916	4.2545	5.0451	0.4678	4.5057	0.5391	0.5780	9.1868	
14	12 hour	1%	28	112.00	0.99	1.1276	0.9289	4.7474	1.9285	1.2059	3.2287	5.9533
1.9236	4.5176	4.6021	6.2984	6.7024	6.4482	8.3257	0.8843	6.9052	0.7792	1.0560	13.2615	
14	12 hour	1%	29	112.00	0.99	0.5259	0.4195	2.8651	0.8606	0.9752	1.4310	3.8067

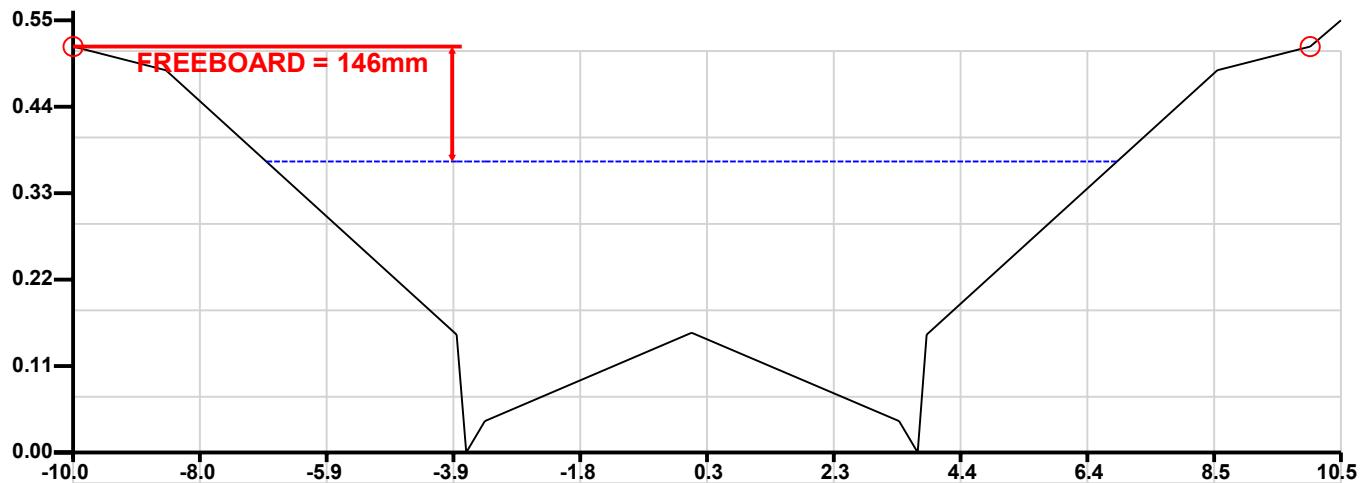
0.8689	1.9866	2.0032	2.8162	3.0993	3.6360	4.0938	0.3935	3.9068	0.4441	0.4772	8.0395		
14	12 hour		1%	30	112.00	0.99	0.8332	0.7303	2.9521	1.4643	1.0160	2.4093	3.7987
1.4036	3.4595	3.5798	4.4513	5.1386	4.2589	6.4787	0.7602	4.2827	0.6307	0.8318	8.4932		
15	18 hour		1%	21	127.00	0.99	0.3700	0.2862	1.5699	0.5920	0.6362	0.9854	2.1661
0.6120	1.3344	1.3781	1.8167	1.9444	1.9943	2.5639	0.2573	2.1702	0.2836	0.3254	4.5722		
15	18 hour		1%	22	127.00	0.99	0.3918	0.3166	2.1751	0.6456	0.7604	1.0719	2.9355
0.6443	1.4677	1.5031	2.0673	2.4057	2.6612	3.0883	0.2876	2.8637	0.3141	0.3602	6.0905		
15	18 hour		1%	23	127.00	0.99	0.4189	0.3320	2.1775	0.6792	0.8214	1.1239	2.9989
0.6909	1.5416	1.5570	2.2200	2.4767	2.8100	3.2546	0.3061	2.9887	0.2936	0.3777	6.2811		
15	18 hour		1%	24	127.00	0.99	0.5917	0.4664	2.9864	0.9559	0.9437	1.5884	3.9301
0.9757	2.2039	2.2289	3.2234	3.6170	3.9078	4.7350	0.4340	4.2013	0.4629	0.5305	8.5039		
15	18 hour		1%	25	127.00	0.99	0.6174	0.4758	3.0952	0.9820	0.9886	1.6360	4.0839
1.0160	2.2735	2.2828	3.3690	3.8262	3.8127	4.9762	0.4506	4.2389	0.5041	0.5409	8.3997		
15	18 hour		1%	26	127.00	0.99	0.4430	0.3666	1.7963	0.7536	0.6770	1.2541	2.4447
0.7487	1.3262	1.4157	2.0046	2.3420	2.2398	2.9754	0.3007	2.4207	0.2836	0.4170	4.9717		
15	18 hour		1%	27	127.00	0.99	0.5395	0.4273	3.2033	0.8797	0.9796	1.4642	4.1828
0.8947	1.9835	2.0111	2.9247	3.2747	3.9088	4.2398	0.3839	4.2435	0.4586	0.4859	8.8652		
15	18 hour		1%	28	127.00	0.99	0.6673	0.5901	2.2985	1.1437	0.8110	1.8642	3.1005
1.0991	2.7372	2.8974	3.4873	4.0743	3.1783	5.1241	0.6615	3.2823	0.5147	0.6734	6.6624		
15	18 hour		1%	29	127.00	0.99	0.4435	0.3959	2.0489	0.7961	0.8064	1.3148	2.8553
0.7486	1.7628	1.8644	2.4646	2.9392	2.5930	3.7068	0.3839	2.8329	0.3529	0.4509	5.9718		
15	18 hour		1%	30	127.00	0.99	0.3734	0.2982	2.1900	0.6123	0.8212	1.0187	3.0111
0.6174	1.3730	1.3918	1.9747	2.2826	2.7411	2.9533	0.2709	3.0014	0.2963	0.3392	6.2108		
16	24 hour		1%	21	139.00	1.00	0.4013	0.3152	2.3128	0.6489	0.8540	1.0797	3.1668
0.6621	1.4630	1.4720	2.1270	2.3820	2.9210	3.1172	0.2813	3.1878	0.3320	0.3585	6.6083		
16	24 hour		1%	22	139.00	1.00	0.3886	0.3088	1.5664	0.6425	0.6575	1.0741	2.2239
0.6546	1.2305	1.2776	1.6164	1.7409	2.0420	2.2427	0.2509	2.2098	0.2698	0.3509	4.6747		
16	24 hour		1%	23	139.00	1.00	0.5675	0.4804	2.4724	0.9698	0.8316	1.6045	3.2568
0.9489	2.2308	2.3162	2.9936	3.0998	3.3345	4.2355	0.4671	3.5264	0.3799	0.5469	7.0938		
16	24 hour		1%	24	139.00	1.00	0.5177	0.4110	2.1940	0.8448	0.7776	1.4016	2.9716
0.8581	1.9390	1.9788	2.7878	3.0346	3.0506	4.0212	0.4358	3.2017	0.3639	0.4674	6.4920		
16	24 hour		1%	25	139.00	1.00	0.6119	0.5567	2.4962	1.1063	0.8706	1.8154	3.2906
1.0339	2.5915	2.7114	3.1342	3.4941	3.5428	4.2679	0.5820	3.7185	0.4195	0.6343	7.2473		
16	24 hour		1%	26	139.00	1.00	0.4785	0.4109	2.3980	0.8220	0.8400	1.3509	3.2370
0.7972	1.8812	1.9556	2.4886	2.8333	3.1123	3.5512	0.4193	3.3366	0.3728	0.4680	6.6745		
16	24 hour		1%	27	139.00	1.00	0.6132	0.5165	2.5494	1.0504	0.8398	1.7431	3.3654
1.0287	2.4029	2.4917	3.2651	3.3412	3.4062	4.5675	0.4911	3.5306	0.4071	0.5878	7.1205		
16	24 hour		1%	28	139.00	1.00	0.3935	0.3297	1.3663	0.6713	0.5826	1.1113	1.9490
0.6615	1.3665	1.4493	1.7381	1.8972	1.7381	2.3816	0.3005	1.9034	0.2774	0.3752	3.9962		
16	24 hour		1%	29	139.00	1.00	0.5573	0.4992	2.2127	1.0010	0.8621	1.6503	3.0748
0.9428	2.2852	2.4074	2.8440	2.7210	3.0688	3.8825	0.4948	3.1107	0.3296	0.5686	6.4690		
16	24 hour		1%	30	139.00	1.00	0.6061	0.5251	2.2345	1.0740	0.8488	1.7935	3.0699
1.0308	2.3222	2.4125	3.1837	3.1606	3.1325	4.3450	0.4725	3.2626	0.3954	0.5975	6.6660		
17	30 hour		1%	21	148.00	1.00	0.2872	0.2323	1.5555	0.4731	0.6394	0.7825	2.1949
0.4745	1.0372	1.0555	1.4563	1.5973	1.9567	2.1206	0.2137	2.1001	0.2361	0.2644	4.5309		
17	30 hour		1%	22	148.00	1.00	0.4900	0.3875	2.7174	0.7963	0.9110	1.3226	3.6284



15  
Run, Representative hydrograph  
16  
Run, Representative hydrograph  
17

Elapsed Run Time (hh:mm:ss) = 00:01:32

## **APPENDIX F: PC CONVEY RESULTS**

1. CROSS-SECTION:2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 2.53 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 2.530 cumecs

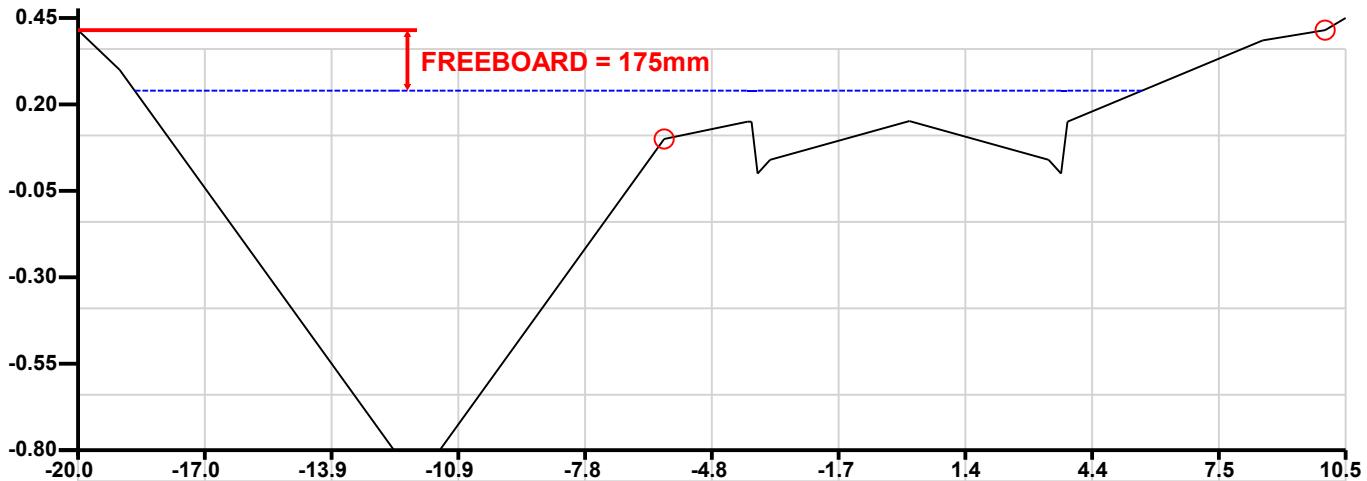
3. RESULTS: Water surface elevation = 0.370m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	2.66	0.00	2.66
D(Max) = Max. Depth (m):	0.00	0.37	0.00	0.37
D(Ave) = Ave. Depth (m):	0.00	0.20	0.00	0.20
V = Ave. Velocity (m/s):	0.00	0.94	0.00	0.94
D(Max) x V (cumecs/m):	0.00	0.35	0.00	0.35
D(Ave) x V (cumecs/m):	0.00	0.19	0.00	0.19
Froude Number:	0.00	0.67	0.00	0.67
Area (m <sup>2</sup> ):	0.00	2.81	0.00	2.81
Wetted Perimeter (m):	0.00	13.90	0.00	13.90
Flow Width (m):	0.00	13.75	0.00	13.75
Hydraulic Radius (m):	0.00	0.20	0.00	0.20
Composite Manning's n:	0.000	0.026	0.000	0.026
Split Flow?	-	-	-	No

4. CROSS-SECTION DATA:

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.000	0.516	-8.500	0.486	0.013
2	-8.500	0.486	-3.800	0.150	0.035
3	-3.800	0.150	-3.650	0.000	0.013
4	-3.650	0.000	-3.350	0.040	0.013
5	-3.350	0.040	0.000	0.152	0.015
6	0.000	0.152	3.350	0.040	0.015
7	3.350	0.040	3.650	0.000	0.013
8	3.650	0.000	3.800	0.150	0.013
9	3.800	0.150	8.500	0.486	0.035
10	8.500	0.486	10.000	0.516	0.013
11	10.000	0.516	10.500	0.550	0.035

1. CROSS-SECTION:2. DISCHARGE INFORMATION:

100 year (1%) storm event

Total discharge = 11.67 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 11.67 cumecs

3. RESULTS: Water surface elevation = 0.240m

High Flow Channel grade = 1 in 200, Main Channel / Low Flow Channel grade = 1 in 200.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	10.73	1.11	0.00	11.85
D(Max) = Max. Depth (m):	1.04	0.24	0.00	1.04
D(Ave) = Ave. Depth (m):	0.59	0.13	0.00	0.59
V = Ave. Velocity (m/s):	1.42	0.76	0.00	1.31
D(Max) x V (cumecs/m):	1.47	0.18	0.00	1.36
D(Ave) x V (cumecs/m):	0.84	0.10	0.00	0.78
Froude Number:	0.59	0.68	0.00	0.63
Area (m^2):	7.57	1.47	0.00	9.04
Wetted Perimeter (m):	12.90	11.64	0.00	24.54
Flow Width (m):	12.74	11.50	0.00	24.24
Hydraulic Radius (m):	0.59	0.13	0.00	0.37
Composite Manning's n:	0.035	0.023	0.000	0.030
Split Flow?	-	-	-	No

4. CROSS-SECTION DATA:

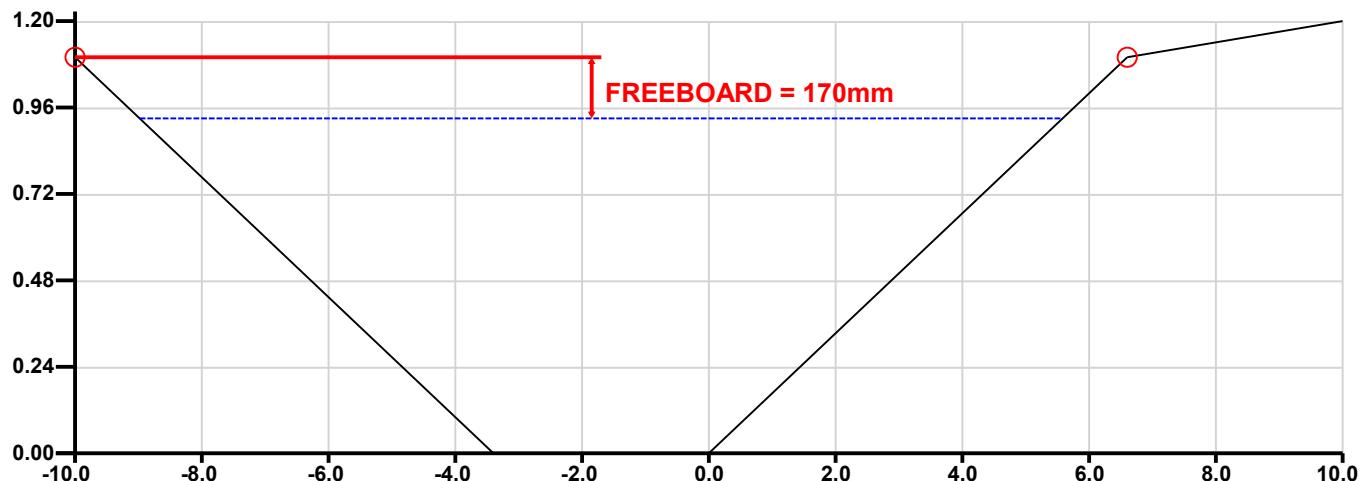
SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-20.000	0.415	-19.000	0.300	0.035
2	-19.000	0.300	-12.400	-0.800	0.035
3	-12.400	-0.800	-11.300	-0.800	0.035
4	-11.300	-0.800	-5.900	0.100	0.035
5	-5.900	0.100	-3.900	0.150	0.035
6	-3.900	0.150	-3.800	0.150	0.013
7	-3.800	0.150	-3.650	0.000	0.013
8	-3.650	0.000	-3.350	0.040	0.013
9	-3.350	0.040	0.000	0.152	0.015
10	0.000	0.152	3.350	0.040	0.015
11	3.350	0.040	3.650	0.000	0.013
12	3.650	0.000	3.800	0.150	0.013

4. CROSS-SECTION DATA: (continued)

<u>SEGMENT NO.</u>	LEFT HAND POINT		RIGHT HAND POINT		<u>MANNING'S N</u>
	<u>CHAINAGE (m)</u>	<u>R.L. (m)</u>	<u>CHAINAGE (m)</u>	<u>R.L. (m)</u>	
13	3.800	0.150	8.500	0.385	0.035
14	8.500	0.385	10.000	0.415	0.013
15	10.000	0.415	10.500	0.450	0.035

**PROJECT: 1400147-PC Convey-Swale****Comment**

Print-out date: 05/04/2022 - Time: 5:12  
 Data File: 1400147-PC Convey-Swale.dat

**1. CROSS-SECTION:****2. DISCHARGE INFORMATION:**

100 year (1%) storm event

Total discharge = 12.73 cumecs

There is no pipe discharge

Overland / Channel / Watercourse discharge = 12.73 cumecs

**3. RESULTS: Water surface elevation = 0.930m**

High Flow Channel grade = 1 in 160, Main Channel / Low Flow Channel grade = 1 in 160.

	LEFT OVERBANK	MAIN CHANNEL	RIGHT OVERBANK	TOTAL CROSS-SECTION
Discharge (cumecs):	0.00	12.93	0.00	12.93
D(Max) = Max. Depth (m):	0.00	0.93	0.00	0.93
D(Ave) = Ave. Depth (m):	0.00	0.57	0.00	0.57
V = Ave. Velocity (m/s):	0.00	1.55	0.00	1.55
D(Max) x V (cumecs/m):	0.00	1.44	0.00	1.44
D(Ave) x V (cumecs/m):	0.00	0.89	0.00	0.89
Froude Number:	0.00	0.65	0.00	0.65
Area (m^2):	0.00	8.35	0.00	8.35
Wetted Perimeter (m):	0.00	14.71	0.00	14.71
Flow Width (m):	0.00	14.56	0.00	14.56
Hydraulic Radius (m):	0.00	0.57	0.00	0.57
Composite Manning's n:	0.000	0.035	0.000	0.035
Split Flow?	-	-	-	No

**4. CROSS-SECTION DATA:**

SEGMENT NO.	LEFT HAND POINT		RIGHT HAND POINT		MANNING'S N
	CHAINAGE (m)	R.L. (m)	CHAINAGE (m)	R.L. (m)	
1	-10.000	1.100	-3.400	0.000	0.035
2	-3.400	0.000	0.000	0.000	0.035
3	0.000	0.000	6.600	1.100	0.035
4	6.600	1.100	10.000	1.200	0.035

## APPENDIX G: FLUX FILE RESULTS

Total [ML/yr]	Jan-91 7.010	Jan-92 3.918	Jan-93 7.607	Jan-94 7.607	Jan-95 7.138	Jan-96 7.199	Jan-97 5.421	Jan-98 2.890	Jan-99 7.169	Jan-00 7.328	Average for Jan [ML/yr] <b>6.329</b>
Total [ML/yr]	Feb-91 5.115	Feb-92 6.085	Feb-93 6.871	Feb-94 6.871	Feb-95 5.149	Feb-96 4.847	Feb-97 3.283	Feb-98 5.789	Feb-99 6.871	Feb-00 1.186	Average for Feb [ML/yr] <b>5.207</b>
Total [ML/yr]	Mar-91 5.853	Mar-92 6.225	Mar-93 7.386	Mar-94 7.607	Mar-95 5.872	Mar-96 6.134	Mar-97 5.755	Mar-98 2.208	Mar-99 5.593	Mar-00 0.004	Average for Mar [ML/yr] <b>5.264</b>
Total [ML/yr]	Apr-91 6.300	Apr-92 5.861	Apr-93 4.436	Apr-94 6.897	Apr-95 6.894	Apr-96 7.361	Apr-97 2.029	Apr-98 5.178	Apr-99 4.863	Apr-00 4.457	Average for Apr [ML/yr] <b>5.428</b>
Total [ML/yr]	May-91 6.519	May-92 7.446	May-93 5.412	May-94 5.867	May-95 7.353	May-96 5.858	May-97 6.812	May-98 3.319	May-99 5.584	May-00 4.614	Average for May [ML/yr] <b>5.878</b>
Total [ML/yr]	Jun-91 6.871	Jun-92 7.361	Jun-93 6.066	Jun-94 4.833	Jun-95 7.361	Jun-96 4.769	Jun-97 5.287	Jun-98 6.490	Jun-99 5.424	Jun-00 4.440	Average for Jun [ML/yr] <b>5.890</b>
Total [ML/yr]	Jul-91 7.607	Jul-92 7.361	Jul-93 6.949	Jul-94 2.995	Jul-95 7.607	Jul-96 7.607	Jul-97 4.846	Jul-98 7.607	Jul-99 3.505	Jul-00 6.239	Average for Jul [ML/yr] <b>6.232</b>
Total [ML/yr]	Aug-91 7.607	Aug-92 7.607	Aug-93 6.655	Aug-94 2.995	Aug-95 7.607	Aug-96 7.607	Aug-97 5.798	Aug-98 7.057	Aug-99 4.908	Aug-00 5.473	Average for Aug [ML/yr] <b>6.331</b>
Total [ML/yr]	Sep-91 7.361	Sep-92 7.361	Sep-93 7.361	Sep-94 6.214	Sep-95 6.214	Sep-96 7.361	Sep-97 6.009	Sep-98 6.730	Sep-99 3.866	Sep-00 7.302	Average for Sep [ML/yr] <b>6.578</b>
Total [ML/yr]	Oct-91 7.607	Oct-92 7.607	Oct-93 7.607	Oct-94 7.119	Oct-95 7.119	Oct-96 4.344	Oct-97 5.090	Oct-98 7.607	Oct-99 6.981	Oct-00 7.607	Average for Oct [ML/yr] <b>6.869</b>
Total [ML/yr]	Nov-91 5.518	Nov-92 7.361	Nov-93 7.361	Nov-94 7.361	Nov-95 7.361	Nov-96 6.210	Nov-97 6.068	Nov-98 7.361	Nov-99 5.264	Nov-00 5.575	Average for Nov [ML/yr] <b>6.544</b>
Total [ML/yr]	Dec-91 5.491	Dec-92 7.607	Dec-93 5.856	Dec-94 7.070	Dec-95 7.607	Dec-96 5.587	Dec-97 5.690	Dec-98 6.969	Dec-99 5.727	Dec-00 2.973	Average for Dec [ML/yr] <b>6.058</b>

Post-dev water usage [ML/yr]= 66.278  
 Post-dev rainwater falling (from Post Dev MUSIC model - discharge south & SE) [ML/yr]= 328.000  
 Post-Dev rainwater discharged into lagoon [ML/yr] = 261.722

Pre-dev rainwater discharged into lagoon (from Pre Dev MUSIC model) [ML/yr] = 77.600

Post-dev excess rainwater discharge into lagoon [ML/yr] = 184.122