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University of Alberta Properties Trust

West 240

Water Planning Report

January, 2026

DRAFT

Water Planning Report

UAPT West 240

January 5, 2025

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Contents

1.0	Introduction	5
2.0	Topography	6
3.0	Proposed Staging	6
4.0	Zoning	6
5.0	Water Demands	7
6.0	Results	8

Appendices

Appendix A – Hydraulic Model Flex Tables

Appendix B – Figures: Overall Area and Topography Map
Proposed Staging Plan

1.0 Introduction

This Water Planning Report (WPR) was prepared by Arcadis on behalf of the University of Alberta Properties Trust (UAPT) in support of the Neighbourhood Area Structure Plan (NASP) submission by B&A Studios under separate cover. This report outlines the servicing scheme for the development of the West 240 Development Site.

The area of analysis is bounded by 122nd Street and 62nd Avenue. It consists of RS, RSM, RMh23, and MU lots respectively. There is an existing 300mm water service running through 122nd Street to the east of the site, and notably, no existing water line located within 62nd Avenue to the north.

This report will utilize the “Reverse Boundary Condition” methodology for analysis and review by EPCOR.

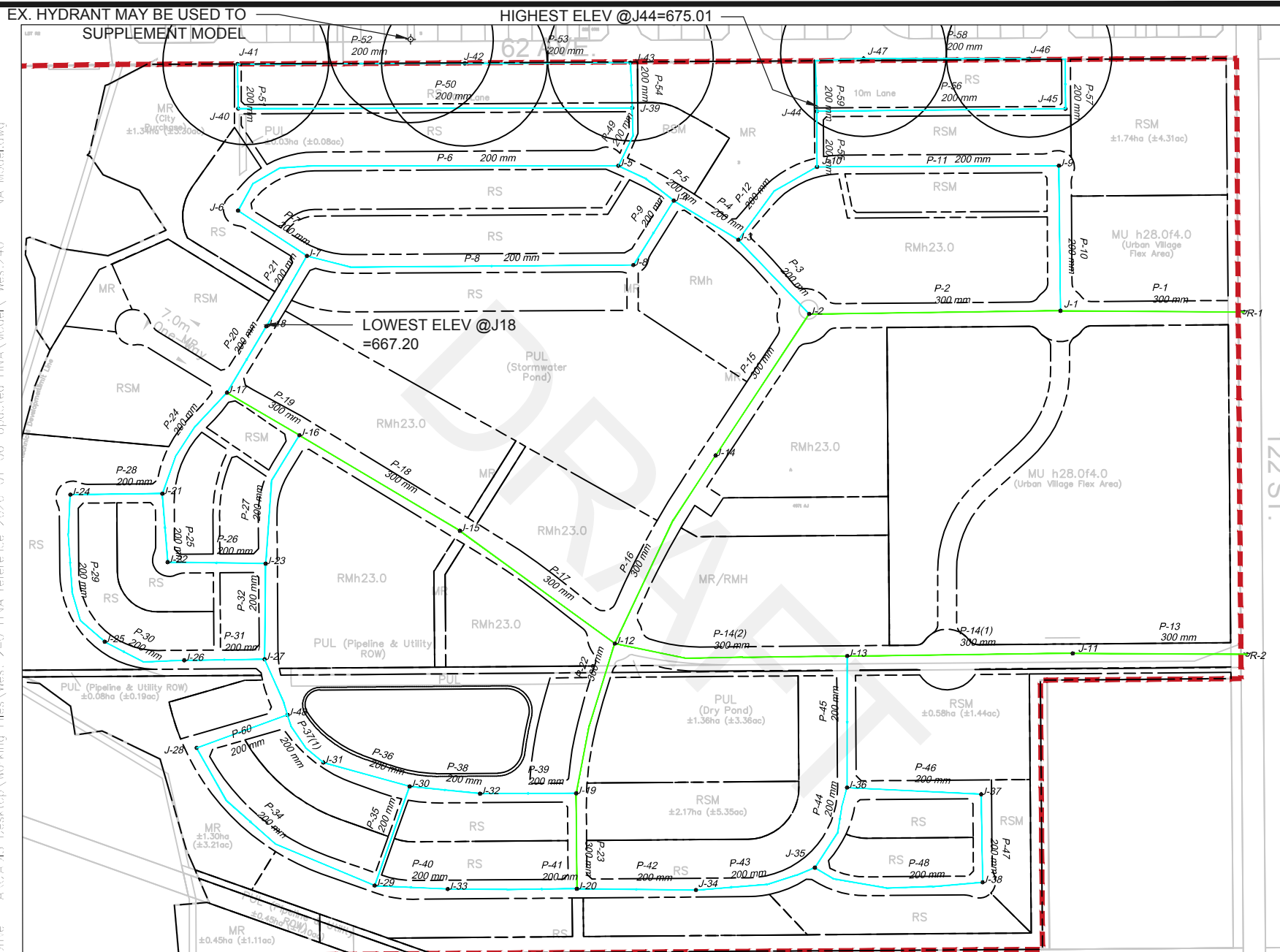
Table 1.1 summarizes the calculated minimum hydraulic grade lines at each boundary respective of the criteria outlined by EPCOR for each scenario.

Note on the North end of the West 240 development there are two proposed RS zones areas bordering 62nd Avenue. These lots will be serviced through the 10m rear lanes and it is proposed that both have fire coverage through hydrants to be constructed along 62nd Avenue in the boulevard. See **Figure 1.0** for the proposed servicing and hydrant coverage detail.

Table 1.1: Boundary Conditions Summary

SCENARIO	R1	R2	OBSERVED PRESSURE (KPA)
PHD	703.70	703.70	Highest Node J44 Observed at 280 kPa
ADD	723.50	723.50	Lowest Node J18 Observed at 550 kPa
MDD	703.80	703.80	Minimum Pressure Observed at J44 280 kPa
MDD + 100 l/s	689.40	689.40	Weakest Node J-44 @ 140 kPa
MDD + 180 l/s	687.00	687.00	Weakest Node J-10 @140kPa
MDD + 300 l/s	685.00	685.00	Weakest Node J-1 @ 140 kPa

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1 : 5000



Legend

- Stage Boundary
- Water Demand Boundary
- Reservoir & Number
- Junction Node & Number
- 200mm Pipe & Number
- 300mm Pipe & Number

Figure 1.0
Consumption Boundary
& Water Network
West 240

Date: December 2025



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Active Scenario: Base
FlexTable: Junction Table

Label	Elevation (m)
J-1	670.7
J-2	669.0
J-3	669.9
J-4	670.2
J-5	670.7
J-6	667.9
J-7	667.3
J-8	669.7
J-9	671.2
J-10	672.7
J-11	669.9
J-12	669.2
J-13	669.0
J-14	668.3
J-15	667.5
J-16	668.5
J-17	667.7
J-18	667.2
J-19	668.1
J-20	669.1
J-21	668.5
J-22	669.0
J-23	668.7
J-24	668.9
J-25	668.9
J-26	669.3
J-27	669.0
J-28	668.7
J-29	668.6
J-30	668.4
J-31	668.4
J-32	668.1
J-33	669.0
J-34	670.1
J-35	669.4
J-36	668.3
J-37	669.2
J-38	670.6
J-39	672.1
J-40	668.1
J-41	667.7
J-42	669.4
J-43	674.1
J-44	675.0
J-45	671.8
J-46	671.2
J-47	674.3

2.0 Topography

The site is currently used for agriculture and farming research and is relatively flat with localized ridges and depressions where two natural marshes appear to have historically been. The elevations within the proposed project site range from 663.50m to 678.50m and are located in the uplands of the Whitemud Creek side slopes. General site topography slopes from east to west with the lowest point being the northwest corner. A portion of the drainage flows to a tree stand in the northeast corner where it appears to dissipate through transpiration. Topography and pre-development flows are as shown in **Figure 1.2.** within **Appendix B.**

3.0 Proposed Staging

The preliminary staging of the development will provide multiple accesses to the site, supporting emergency and maintenance services for residents. It is proposed that area surrounding the north west SWMF (1) will be constructed with the first three stages of development to ensure management of storm flows until the south SWMF is constructed. This facility and surrounding infrastructure may be constructed in phases with interim portions sized to service the first stages of development.

Please refer to **Figure 1.5** within **Appendix B** for more detail on the construction staging. The proposed staging and development of the site is subject to market demands and may be further revised as the subdivision develops.

4.0 Zoning

As per the NASP prepared by B&A, the land is proposed to consist of a mix of residential, commercial, and community uses. A combination of low, medium and high-density residential sites are proposed, featuring both street oriented and multifamily residential, will provide many options for future residents and contribute to the completeness of the site.

Other features of the proposed site plan will include:

- A mixed-use village centre;
- Two storm water management facilities;
- Mixed-use/income development intended to provide commercial and residential services;
- A potential school site;
- MR park space as required under the MGA; and,
- Retained ER wherever required.

Refer to the **Development Concept** figure by B&A within section **6.0: Results.**

5.0 Water Demands

The current City of Edmonton Design and Construction Standards for water distribution systems has been used for design criteria of this hydraulic network analysis.

- Average Day Demand (ADD) 220 L/c/d
- Maximum Day Demand (MDD) 330 L/c/d
- Peak Hour demand (PHD) 660 L/c/d

Table 5.1 shows the peak hour and maximum day demands used in the model, based on the zoning and consumption boundaries shown in **Figure 1.0**.

Table 5.1: Water Demand

JUNCTION/ZONE	Area (Ha)	Units /Hectare	NO. OF UNITS	Persons/ Unit	POPULATION	MAX DAY DEMAND (l/s)	PEAK HOUR DEMAND (l/s)	AVERAGE DAY DEMAND (l/s)
J-1 MU	1.27				0	0.29	0.29	0.29
J-2 RM	2.04	90.00	184	1.80	331	1.26	2.53	0.84
J-3 RSM	1.07	45.00	48	2.80	135	0.52	1.03	0.34
J-4 RSM	0.42	45.00	19	2.80	53	0.20	0.40	0.13
J-5 RS	2.12	25.00	53	2.80	149	0.57	1.14	0.38
J-6				2.80	0	0.00	0.00	0.00
J-7 RS	2.65	25.00	66	2.80	186	0.71	1.42	0.47
J-8				2.80	0	0.00	0.00	0.00
J-9 RSM	1.74	45.00	78	2.80	219	0.84	1.68	0.56
J-10 RSM	1.42	45.00	64	2.80	179	0.68	1.37	0.46
J-11 MU	8.90			2.80	0	2.06	2.06	2.06
J-12				2.80	0	0.00	0.00	0.00
J-13				2.80	0	0.00	0.00	0.00
J-14 RS+RM	0.73 / 4.15			1.80	764	2.92	5.84	1.95
J-15 RM	1.75	90.00	158	1.80	284	1.08	2.17	0.72
J-16 RM	3.56	90.00	320	1.80	577	2.20	4.41	1.47
J-17 RM	1.13	90.00	102	1.80	183	0.70	1.40	0.47
J-18 RSM	0.66	45.00	30	2.80	83	0.32	0.64	0.21
J-19 RSM	4.07	45.00	183	2.80	513	1.96	3.92	1.31
J-20 RS	1.79	25.00	45	2.80	125	0.48	0.96	0.32
J-21 RSM	0.60	45.00	27	2.80	76	0.29	0.58	0.19
J-22 RS	0.62	25.00	16	2.80	43	0.17	0.33	0.11
J-23 RS	0.29	25.00	7	2.80	20	0.08	0.16	0.05
J-24 RS	1.24	25.00	31	2.80	87	0.33	0.66	0.22
J-25 RS	0.84	25.00	21	2.80	59	0.22	0.45	0.15
J-26			0	2.80	0	0.00	0.00	0.00
J-27 RS	0.25	25.00	6	2.80	18	0.07	0.13	0.04
J-28 RS	0.59	25.00	15	2.80	41	0.16	0.32	0.11
J-29 RS	0.24	25.00	6	2.80	17	0.06	0.13	0.04
J-30 RS	0.93	25.00	23	2.80	65	0.25	0.50	0.17
J-31 RS	0.44	25.00	11	2.80	31	0.12	0.24	0.08
J-32 RS	0.46	25.00	12	2.80	32	0.12	0.25	0.08
J-33 RS	0.51	25.00	13	2.80	36	0.14	0.27	0.09
J-34 RS	1.41	25.00	35	2.80	99	0.38	0.75	0.25
J-35 RS	0.19	25.00	5	2.80	13	0.05	0.10	0.03
J-36 RS	0.29	25.00	7	2.80	20	0.08	0.16	0.05
J-37 RSM	1.28	45.00	58	2.80	161	0.62	1.23	0.41
J-38 RS	1.07	25.00	27	2.80	75	0.29	0.57	0.19
J-39 RS			0	2.80	0	0.00	0.00	0.00
J-40 RS	1.27	25.00	32	2.80	89	0.34	0.68	0.23
J-41 RS			0	2.80	0	0.00	0.00	0.00
J-42 RS			0	2.80	0	0.00	0.00	0.00
J-43 RS			0	2.80	0	0.00	0.00	0.00
J-44 RS			0	2.80	0	0.00	0.00	0.00
J-45 RS	0.81	25.00	20	2.80	57	0.22	0.43	0.14
J-46 RS			0	2.80	0	0.00	0.00	0.00
J-47 RS			0	2.80	0	0.00	0.00	0.00
Total					4352	18.68	35.31	13.14

6.0 Results

As outlined in **Figure 1.0**, the pipe layout and diameter for each scenario provide adequate coverage for the development. Refer to Table 1.1 for the HGL summary.

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Appendix A

Hydraulic Model Flex Tables

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Active Scenario: ADD
FlexTable: Junction Table

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)
J-1	670.7	0.29	723.5	517
J-2	669.0	0.84	723.5	533
J-3	669.9	0.34	723.5	525
J-4	670.2	0.13	723.5	521
J-5	670.7	0.38	723.5	517
J-6	667.9	0.00	723.5	544
J-7	667.3	0.47	723.5	550
J-8	669.7	0.00	723.5	526
J-9	671.2	0.56	723.5	512
J-10	672.7	0.46	723.5	497
J-11	669.9	2.06	723.5	524
J-12	669.2	0.00	723.5	531
J-13	669.0	0.00	723.5	534
J-14	668.3	1.95	723.5	541
J-15	667.5	0.72	723.5	548
J-16	668.5	1.47	723.5	539
J-17	667.7	0.47	723.5	546
J-18	667.2	0.21	723.5	551
J-19	668.1	1.31	723.5	542
J-20	669.1	0.32	723.5	532
J-21	668.5	0.19	723.5	539
J-22	669.0	0.11	723.5	533
J-23	668.7	0.05	723.5	536
J-24	668.9	0.22	723.5	534
J-25	668.9	0.15	723.5	534
J-26	669.3	0.00	723.5	530
J-27	669.0	0.04	723.5	534
J-28	668.7	0.11	723.5	536
J-29	668.6	0.04	723.5	537
J-30	668.4	0.17	723.5	539
J-31	668.4	0.08	723.5	539
J-32	668.1	0.08	723.5	542
J-33	669.0	0.09	723.5	533
J-34	670.1	0.25	723.5	523
J-35	669.4	0.03	723.5	529
J-36	668.3	0.05	723.5	540
J-37	669.2	0.41	723.5	531
J-38	670.6	0.19	723.5	517
J-39	672.1	0.00	723.5	503
J-40	668.1	0.23	723.5	542
J-41	667.7	0.00	723.5	546
J-42	669.4	0.00	723.5	529
J-43	674.1	0.00	723.5	483
J-44	675.0	0.00	723.5	474
J-45	671.8	0.14	723.5	506
J-46	671.2	0.00	723.5	512
J-47	674.3	0.00	723.5	482

Active Scenario: MDD
FlexTable: Junction Table

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)
J-1	670.7	0.29	703.8	324
J-2	669.0	1.26	703.8	340
J-3	669.9	0.52	703.8	332
J-4	670.2	0.20	703.8	328
J-5	670.7	0.57	703.8	324
J-6	667.9	0.00	703.8	351
J-7	667.3	0.71	703.8	357
J-8	669.7	0.00	703.8	333
J-9	671.2	0.84	703.8	319
J-10	672.7	0.68	703.8	304
J-11	669.9	2.06	703.8	332
J-12	669.2	0.00	703.8	338
J-13	669.0	0.00	703.8	341
J-14	668.3	2.92	703.8	348
J-15	667.5	1.08	703.8	355
J-16	668.5	2.20	703.8	346
J-17	667.7	0.70	703.8	353
J-18	667.2	0.32	703.8	358
J-19	668.1	1.96	703.8	349
J-20	669.1	0.48	703.8	339
J-21	668.5	0.29	703.8	346
J-22	669.0	0.17	703.8	340
J-23	668.7	0.08	703.8	343
J-24	668.9	0.33	703.8	341
J-25	668.9	0.22	703.8	341
J-26	669.3	0.00	703.8	337
J-27	669.0	0.07	703.8	341
J-28	668.7	0.16	703.8	343
J-29	668.6	0.06	703.8	344
J-30	668.4	0.25	703.8	346
J-31	668.4	0.12	703.8	346
J-32	668.1	0.12	703.8	349
J-33	669.0	0.14	703.8	340
J-34	670.1	0.38	703.8	330
J-35	669.4	0.05	703.8	336
J-36	668.3	0.08	703.8	347
J-37	669.2	0.62	703.8	338
J-38	670.6	0.29	703.8	324
J-39	672.1	0.00	703.8	310
J-40	668.1	0.34	703.8	349
J-41	667.7	0.00	703.8	353
J-42	669.4	0.00	703.8	336
J-43	674.1	0.00	703.8	290
J-44	675.0	0.00	703.8	281
J-45	671.8	0.22	703.8	313
J-46	671.2	0.00	703.8	319
J-47	674.3	0.00	703.8	289

Active Scenario: PHD
FlexTable: Junction Table

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)
J-1	670.7	0.29	703.6	322
J-2	669.0	2.53	703.6	339
J-3	669.9	1.03	703.6	330
J-4	670.2	0.40	703.6	326
J-5	670.7	1.14	703.6	322
J-6	667.9	0.00	703.6	349
J-7	667.3	1.42	703.6	355
J-8	669.7	0.00	703.6	331
J-9	671.2	1.68	703.6	317
J-10	672.7	1.37	703.6	302
J-11	669.9	2.06	703.6	330
J-12	669.2	0.00	703.6	336
J-13	669.0	0.00	703.6	339
J-14	668.3	5.84	703.6	346
J-15	667.5	2.17	703.6	353
J-16	668.5	4.41	703.6	344
J-17	667.7	1.40	703.6	351
J-18	667.2	0.64	703.6	356
J-19	668.1	3.92	703.6	347
J-20	669.1	0.96	703.6	337
J-21	668.5	0.58	703.6	344
J-22	669.0	0.33	703.6	338
J-23	668.7	0.16	703.6	341
J-24	668.9	0.66	703.6	339
J-25	668.9	0.45	703.6	339
J-26	669.3	0.00	703.6	335
J-27	669.0	0.13	703.6	339
J-28	668.7	0.32	703.6	341
J-29	668.6	0.13	703.6	342
J-30	668.4	0.50	703.6	344
J-31	668.4	0.24	703.6	344
J-32	668.1	0.25	703.6	347
J-33	669.0	0.27	703.6	338
J-34	670.1	0.75	703.6	328
J-35	669.4	0.10	703.6	334
J-36	668.3	0.16	703.6	346
J-37	669.2	1.23	703.6	337
J-38	670.6	0.57	703.6	323
J-39	672.1	0.00	703.6	308
J-40	668.1	0.68	703.6	347
J-41	667.7	0.00	703.6	351
J-42	669.4	0.00	703.6	334
J-43	674.1	0.00	703.6	288
J-44	675.0	0.00	703.6	280
J-45	671.8	0.43	703.6	311
J-46	671.2	0.00	703.6	317
J-47	674.3	0.00	703.6	287

Active Scenario: MDD+100L/S

Fire Flow Node FlexTable: Fire Flow Results Table

Label	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)
J-1	False	100.00	15.73	182
J-2	False	100.00	12.44	199
J-3	False	100.00	8.43	190
J-4	False	100.00	8.93	186
J-5	False	100.00	9.49	182
J-6	False	100.00	9.41	209
J-7	False	100.00	10.41	215
J-8	False	100.00	8.96	191
J-9	False	100.00	8.99	177
J-10	False	100.00	6.89	163
J-11	False	100.00	25.20	190
J-12	False	100.00	12.60	196
J-13	False	100.00	15.58	199
J-14	False	100.00	14.93	206
J-15	False	100.00	12.92	213
J-16	False	100.00	13.76	204
J-17	False	100.00	12.08	211
J-18	False	100.00	10.76	216
J-19	False	100.00	14.45	207
J-20	False	100.00	13.08	197
J-21	False	100.00	11.91	204
J-22	False	100.00	11.84	198
J-23	False	100.00	11.79	201
J-24	False	100.00	12.04	199
J-25	False	100.00	12.02	199
J-26	False	100.00	11.89	195
J-27	False	100.00	11.94	199
J-28	False	100.00	12.21	201
J-29	False	100.00	12.27	202
J-30	False	100.00	12.44	204
J-31	False	100.00	12.18	204
J-32	False	100.00	12.45	207
J-33	False	100.00	12.48	198
J-34	False	100.00	13.77	187
J-35	False	100.00	14.28	193
J-36	False	100.00	14.66	205
J-37	False	100.00	15.14	196
J-38	False	100.00	14.72	181
J-39	False	100.00	8.92	168
J-40	False	100.00	9.26	206
J-41	False	100.00	8.92	210
J-42	False	100.00	8.92	193
J-43	False	100.00	8.92	148
J-44	False	100.00	4.98	140
J-45	False	100.00	5.23	171
J-46	False	100.00	5.01	177
J-47	False	100.00	5.00	147
Pressure (kPa)				
183				
200				

Active Scenario: MDD+100L/S

Fire Flow Node FlexTable: Fire Flow Results Table

Pressure (kPa)
191
187
183
210
216
192
178
163
191
197
200
207
214
205
212
217
208
198
205
200
202
200
200
196
200
202
203
205
205
208
199
189
195
207
198
183
169
208
212
195
149
140
172
178
148

Active Scenario: MDD+180L/S

Fire Flow Node FlexTable: Fire Flow Results Table

Label	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)	Pressure (kPa)
J-3	(N/A)	180.00	(N/A)	(N/A)	167
J-4	(N/A)	180.00	(N/A)	(N/A)	164
J-9	(N/A)	180.00	(N/A)	(N/A)	155
J-10	(N/A)	180.00	(N/A)	(N/A)	140
J-14	(N/A)	180.00	(N/A)	(N/A)	183
J-18	(N/A)	180.00	(N/A)	(N/A)	194
J-19	(N/A)	180.00	(N/A)	(N/A)	184
J-21	(N/A)	180.00	(N/A)	(N/A)	181
J-37	(N/A)	180.00	(N/A)	(N/A)	174

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Active Scenario: MDD+300L/S

Fire Flow Node FlexTable: Fire Flow Results Table

Label	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)
J-1	(N/A)	300.00	(N/A)	(N/A)
J-2	(N/A)	300.00	(N/A)	(N/A)
J-11	(N/A)	300.00	(N/A)	(N/A)
J-14	(N/A)	300.00	(N/A)	(N/A)
J-15	(N/A)	300.00	(N/A)	(N/A)
J-16	(N/A)	300.00	(N/A)	(N/A)
J-17	(N/A)	300.00	(N/A)	(N/A)
Pressure (kPa)				
140				
156				
148				
164				
171				
162				
169				

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Active Scenario: PHD

FlexTable: Pipe Table

Label	Start Node	Stop Node	Length (m)	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)
P-1	R-1	J-1	167	300	PVC	120.0	20.60	0.291	0.400
P-2	J-1	J-2	228	300	PVC	120.0	14.92	0.211	0.220
P-3	J-2	J-3	93	200	PVC	120.0	3.71	0.118	0.121
P-4	J-3	J-4	68	200	PVC	120.0	4.58	0.146	0.177
P-5	J-4	J-5	60	200	PVC	120.0	2.73	0.087	0.069
P-6	J-5	J-6	336	200	PVC	120.0	0.91	0.029	0.009
P-7	J-6	J-7	85	200	PVC	120.0	0.91	0.029	0.009
P-8	J-7	J-8	297	200	PVC	120.0	-1.46	0.046	0.021
P-9	J-8	J-4	69	200	PVC	120.0	-1.46	0.046	0.022
P-10	J-1	J-9	131	200	PVC	120.0	5.38	0.171	0.240
P-11	J-9	J-10	219	200	PVC	120.0	3.70	0.118	0.120
P-12	J-10	J-3	99	200	PVC	120.0	1.90	0.061	0.035
P-13	R-2	J-11	158	300	PVC	120.0	18.60	0.263	0.331
P-14 (1)	J-11	J-13	166	300	PVC	120.0	16.54	0.234	0.266
P-14 (2)	J-13	J-12	250	300	PVC	120.0	11.58	0.164	0.138
P-15	J-2	J-14	154	300	PVC	120.0	8.68	0.123	0.081
P-16	J-14	J-12	194	300	PVC	120.0	2.84	0.040	0.010
P-17	J-12	J-15	173	300	PVC	120.0	7.82	0.111	0.066
P-18	J-15	J-16	160	300	PVC	120.0	5.65	0.080	0.036
P-19	J-16	J-17	85	300	PVC	120.0	1.45	0.020	0.003
P-20	J-17	J-18	70	200	PVC	120.0	-0.30	0.010	0.001
P-21	J-18	J-7	74	200	PVC	120.0	-0.94	0.030	0.010
P-22	J-12	J-19	159	300	PVC	120.0	6.60	0.093	0.049
P-23	J-19	J-20	85	300	PVC	120.0	0.64	0.009	0.001
P-24	J-17	J-21	105	200	PVC	120.0	0.35	0.011	0.001
P-25	J-21	J-22	71	200	PVC	120.0	-0.31	0.010	0.001
P-26	J-22	J-23	85	200	PVC	120.0	-0.64	0.020	0.005
P-27	J-23	J-16	129	200	PVC	120.0	0.21	0.007	0.001
P-28	J-21	J-24	85	200	PVC	120.0	0.09	0.003	0.000
P-29	J-24	J-25	131	200	PVC	120.0	-0.57	0.018	0.004
P-30	J-25	J-26	84	200	PVC	120.0	-1.02	0.033	0.011
P-31	J-26	J-27	86	200	PVC	120.0	-0.12	0.004	0.000
P-32	J-27	J-23	88	200	PVC	120.0	1.01	0.032	0.010
P-33	J-26	J-28	126	200	PVC	120.0	-0.90	0.029	0.009
P-34	J-28	J-29	159	200	PVC	120.0	-1.22	0.039	0.015
P-35	J-29	J-30	87	200	PVC	120.0	0.22	0.007	0.001
P-36	J-30	J-31	87	200	PVC	120.0	1.50	0.048	0.022
P-37	J-31	J-27	92	200	PVC	120.0	1.26	0.040	0.017
P-38	J-30	J-32	63	200	PVC	120.0	-1.79	0.057	0.031
P-39	J-32	J-19	80	200	PVC	120.0	-2.04	0.065	0.040
P-40	J-29	J-33	62	200	PVC	120.0	-1.57	0.050	0.024
P-41	J-33	J-20	107	200	PVC	120.0	-1.84	0.059	0.033
P-42	J-20	J-34	120	200	PVC	120.0	-2.16	0.069	0.044
P-43	J-34	J-35	152	200	PVC	120.0	-2.91	0.093	0.077
P-44	J-35	J-36	125	200	PVC	120.0	-2.44	0.078	0.055
P-45	J-36	J-13	88	200	PVC	120.0	-4.97	0.158	0.207
P-46	J-36	J-37	89	200	PVC	120.0	2.36	0.075	0.052
P-47	J-37	J-38	137	200	PVC	120.0	1.13	0.036	0.014
P-48	J-38	J-35	129	200	PVC	120.0	0.56	0.018	0.003
P-49	J-5	J-39	51	200	PVC	120.0	0.68	0.022	0.006

Active Scenario: PHD

FlexTable: Pipe Table

Label	Start Node	Stop Node	Length (m)	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)
P-50	J-39	J-40	353	200	PVC	120.0	0.36	0.011	0.001
P-51	J-40	J-41	46	200	PVC	120.0	-0.32	0.010	0.002
P-52	J-41	J-42	202	200	PVC	120.0	-0.32	0.010	0.001
P-53	J-42	J-43	150	200	PVC	120.0	-0.32	0.010	0.001
P-54	J-43	J-39	45	200	PVC	120.0	-0.32	0.010	0.000
P-55	J-10	J-44	50	200	PVC	120.0	0.43	0.014	0.003
P-56	J-44	J-45	225	200	PVC	120.0	0.23	0.007	0.001
P-57	J-45	J-46	78	200	PVC	120.0	-0.20	0.006	0.001
P-58	J-46	J-47	150	200	PVC	120.0	-0.20	0.006	0.000
P-59	J-47	J-44	90	200	PVC	120.0	-0.20	0.006	0.000

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Active Scenario: MDD+300L/S

Fire Flow Node FlexTable: Fire Flow Results Table

Label	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)
J-1	(N/A)	300.00	(N/A)	(N/A)
J-2	(N/A)	300.00	(N/A)	(N/A)
J-11	(N/A)	300.00	(N/A)	(N/A)
J-14	(N/A)	300.00	(N/A)	(N/A)
J-15	(N/A)	300.00	(N/A)	(N/A)
J-16	(N/A)	300.00	(N/A)	(N/A)
J-17	(N/A)	300.00	(N/A)	(N/A)
Pressure (kPa)				
140				
156				
148				
164				
171				
162				
169				

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Active Scenario: PHD

FlexTable: Pipe Table

Label	Start Node	Stop Node	Length (m)	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)
P-1	R-1	J-1	167	300	PVC	120.0	20.60	0.291	0.400
P-2	J-1	J-2	228	300	PVC	120.0	14.92	0.211	0.220
P-3	J-2	J-3	93	200	PVC	120.0	3.71	0.118	0.121
P-4	J-3	J-4	68	200	PVC	120.0	4.58	0.146	0.177
P-5	J-4	J-5	60	200	PVC	120.0	2.73	0.087	0.069
P-6	J-5	J-6	336	200	PVC	120.0	0.91	0.029	0.009
P-7	J-6	J-7	85	200	PVC	120.0	0.91	0.029	0.009
P-8	J-7	J-8	297	200	PVC	120.0	-1.46	0.046	0.021
P-9	J-8	J-4	69	200	PVC	120.0	-1.46	0.046	0.022
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P-11	J-9	J-10	219	200	PVC	120.0	3.70	0.118	0.120
P-12	J-10	J-3	99	200	PVC	120.0	1.90	0.061	0.035
P-13	R-2	J-11	158	300	PVC	120.0	18.60	0.263	0.331
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P-21	J-18	J-7	74	200	PVC	120.0	-0.94	0.030	0.010
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P-23	J-19	J-20	85	300	PVC	120.0	0.64	0.009	0.001
P-24	J-17	J-21	105	200	PVC	120.0	0.35	0.011	0.001
P-25	J-21	J-22	71	200	PVC	120.0	-0.31	0.010	0.001
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P-48	J-38	J-35	129	200	PVC	120.0	0.56	0.018	0.003
P-49	J-5	J-39	51	200	PVC	120.0	0.68	0.022	0.006

Active Scenario: PHD

FlexTable: Pipe Table

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P-52	J-41	J-42	202	200	PVC	120.0	-0.32	0.010	0.001
P-53	J-42	J-43	150	200	PVC	120.0	-0.32	0.010	0.001
P-54	J-43	J-39	45	200	PVC	120.0	-0.32	0.010	0.000
P-55	J-10	J-44	50	200	PVC	120.0	0.43	0.014	0.003
P-56	J-44	J-45	225	200	PVC	120.0	0.23	0.007	0.001
P-57	J-45	J-46	78	200	PVC	120.0	-0.20	0.006	0.001
P-58	J-46	J-47	150	200	PVC	120.0	-0.20	0.006	0.000
P-59	J-47	J-44	90	200	PVC	120.0	-0.20	0.006	0.000

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Appendix B

Overall Area and Topography Map / Proposed Staging Plan

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1 : 4000



- Legend**
- PROPERTY BOUNDARY
 - NATURAL GRADE BREAK
 - TOP OF SLOPE
 - 10.5m SETBACK
 - 25m SETBACK
 - EXISTING CONTOURS PER SURVEY XXXX
 - EXISTING ELEVATION
 - PROPOSED ELEVATION



WEST 240
NEIGHBOURHOOD
DESIGN REPORT

Figure 1.2
Existing Site
Topography



FILE NO. E0-145328

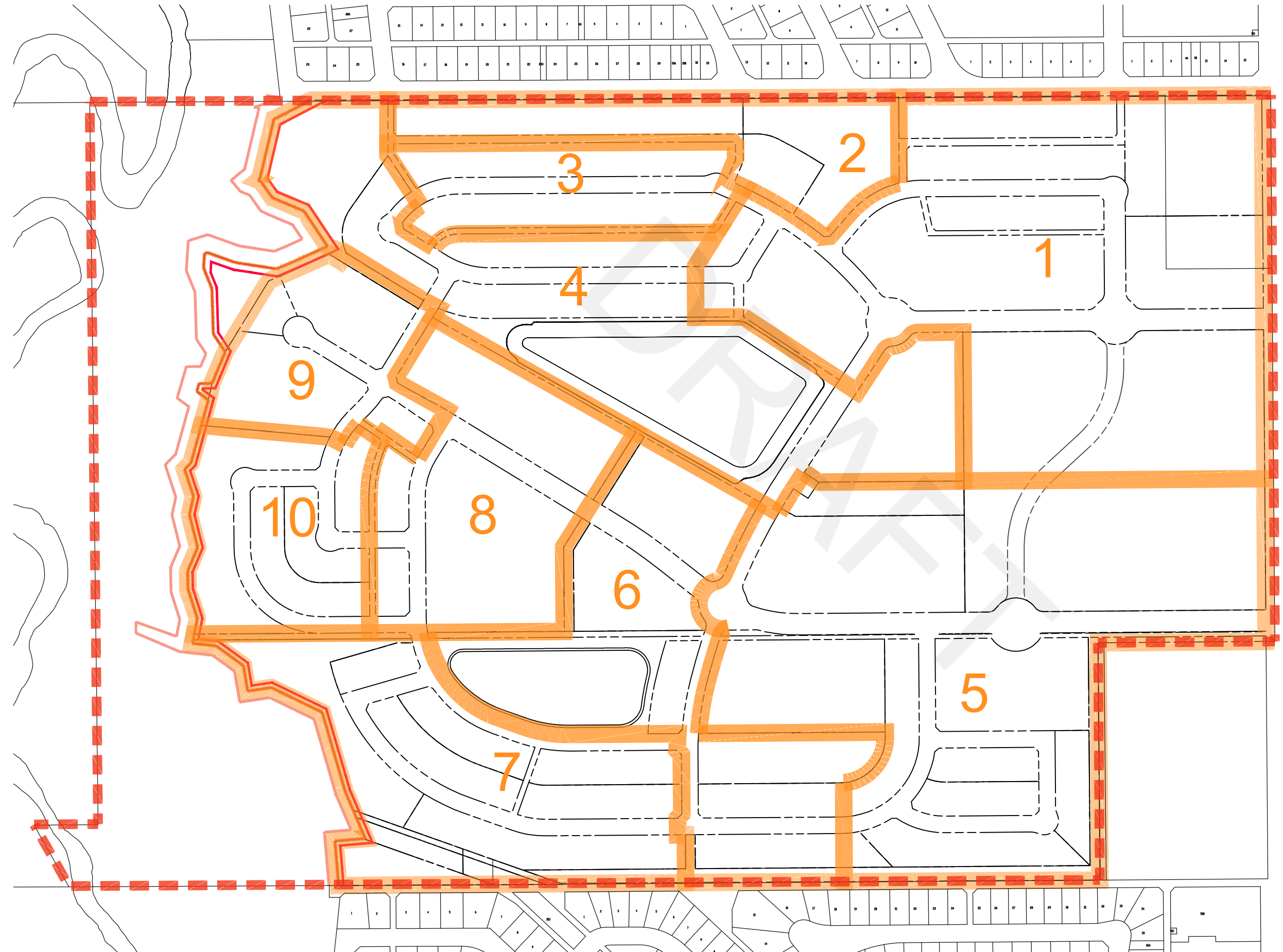
1 : 4000



LEGEND

- PROPERTY BOUNDARY
- PROPOSED STAGING
- TOP OF SLOPE
- URBAN DEVELOPMENT LINE (UDL)
- BUILDING LIMIT LINE

NOTE:
STAGING SEQUENCE SUBJECT TO
CHANGE PENDING MARKET
CONDITIONS



WEST 240

NEIGHBOURHOOD
DESIGN REPORT

Figure 1.5

PROPOSED
STAGING PLAN



FILE NO. E0-145328