



March 22, 2024

MTE File No.: 54543-100

Development Services
City of London
300 Dufferin Avenue
London, ON N6A 4L9

RE: 1105 Wellington Road (White Oaks Mall) Functional Servicing Report

Introduction

This report has been prepared to support master plan for 1105 Wellington Road (White Oaks Mall).

Pre-Development Conditions

The subject lands are located within the 'Dingman Creek - Thames River' watershed. The existing property is made up of parking and a commercial building (White Oaks Mall) and drains south towards Jalna Boulevard.

Post Development Conditions

The Site plan is approximately 18.0ha in size. The master site plan consists of a mix of existing and proposed buildings and parking. The existing areas consist of a large commercial building (White Oaks Mall), park lots, landscaped areas. The proposed area is made up of a mix of residential high rises and commercial spaces (See attached for proposed 'Master Plan').

The 'Master Plan consists of 5 phases as listed below:

- Phase I - Two (2) tower residential high-rise (30 & 32 Storeys)
- Phase II A - Three (3) tower residential high-rise (20, 22 & 27 Storeys)
- Phase II B - Three (3) commercial sites and a park
- Phase III - Two (2) single tower residential high-rise
- Phase IV - Mixed-use with three (3) tower residential high-rise and commercial

Existing Servicing Infrastructure

Sanitary

There are existing sanitary sewers fronting the proposed site on Wellington Road, Jalna Boulevard, and a servicing easement at the southeast corner of the site.

- Wellington Road – Existing 300mmØ concrete sanitary sewer on the east side of Wellington Road
- Bradely Avenue - Existing 375mmØ concrete sanitary sewer located in the servicing easement on the southeast corner of the site.
- Jalna Boulevard - Existing 600mmØ concrete sanitary sewer on Jalna Boulevard

Water

There are existing watermains fronting the proposed site on Wellington Road, Bradley Avenue and Jalna Boulevard.

- Wellington Road – Existing 400mmØ PVC watermain on the west side of Wellington Road
- Bradely Avenue - Existing 300mmØ Ductile Iron watermain on the north side of Bradley Ave
- Jalna Boulevard - Existing 200mmØ Ductile Iron watermain on the east side of Jalna Ave

Storm

There are existing storm trunk sewers located in an easement at the southeast entrance of White Oaks Mall and along Bradley Avenue servicing the existing site.

- Servicing Easement - Existing 2250mmØ Concrete trunk storm sewer on the southeast corner of White Oaks Mall property
- Bradely Avenue - Existing 1200mmØ Concrete trunk storm sewer on the north side of Bradley Ave

Sanitary Servicing

It is proposed that the re-developed site will connect existing sanitary sewers at multiple locations along Jalna Boulevard, Wellington Road and existing internal infrastructure. A downstream capacity analysis has been completed down to the trunk sanitary sewer on Jalna Boulevard to confirm that there is adequate capacity within the downstream sewers to accommodate the increased flow rate resulting from the proposed re-development.

Flows from the site are directed to trunk sanitary sewer on Jalna Boulevard either through a direct connection or connection to the Wellington Road sanitary sewer, directed through the mall property, through an easement extending from Piers Place, then west on Piers Crescent to the 600mm trunk sewer on Jalna Boulevard. Based on information provided by the city, the sanitary sewershed was estimated and peak flows tabulated for each sewer run. Estimated sewershed boundaries and contributing areas are illustrated on the attached figures. Record drawings used to compile information have been noted on the design sheet prepared by MTE along with any assumptions made to estimate sanitary flows.

The proposed development consists of approximately 2135 high density units, 800sq.m of restaurants and 300sq.m of commercial property as shown on the attached master plan. The total population is 5887 people using current City of London standards and Ontario Building Code (OBC) requirements (See chart below).

		Sewage Design Flow			
Description	Floor Area (m ²)	Reference	Rate	Daily Flow (L/day)	Equivalent Pop. (based on C.o.L. flow 230 L/cap/day)
Phase I		C.O.L. Design Specifications	1.6 people/ unit	-	894
Phase II A		C.O.L. Design Specifications	1.6 people/ unit	-	981
Resturant (Phase II B)	800	OBC 8.2.1.3.B	190L/day/1.0sq.m and 75L/ employee 8hr shift (assumed 10 employees)	152,750	664
Commercial Space (Phase II B)	300	OBC 8.2.1.3.B	5L/day/1.0sq.m	1,500	7
Phase III		C.O.L. Design Specifications	1.6 people/ unit	-	453
Phase IV		C.O.L. Design Specifications	1.6 people/ unit	-	1,088
Existing White Oaks Mall				-	1,800
				Total=	5887

A capacity analysis for existing conditions and additional population based on the 'Master Plan' was prepared, the design sheets shows that the existing sewers are designed with sufficient capacity to convey the expected flow from the future development.

Water Supply Servicing

The proposed development consists of approximately 2135 high density units, 800sq.m of restaurants and 300sq.m of commercial property as shown on the attached master plan. The total population is 5887 people using current City of London standards and Ontario Building Code (OBC) requirements (See Sanitary Servicing for calculations).

Using the average daily domestic demand of 255 L/cap/day, this population and commercial/office areas generate an average water demand of 17.4 L/s. With the existing flow rate of 5.3L/s, based on the existing population of 1800 people, there will be an increase in demand of 12.1L/s.

A water service will be provided for each apartment development, where required by the OBC and City of London standards, a looped service connection will be provided to supply domestic and fire protection. The proposed developments will be provided with a sprinkler system for fire suppression, each connection will be sized to accommodate the sprinkler demand as well as domestic water demand for each development as required. The proposed commercial plazas are proposed to connect to the existing internal watermain network, individually metered connections will be provided for each building. Existing hydrants on Jalna Boulevard, Bradley Avenue, and Wellington Road along with the hydrants located with the existing site will be utilized to supply fire protection. Confirmation of any additional hydrants required will be confirmed during the detailed design for each phase of the development.

A water supply model based on the existing water supply network and the proposed connections has been prepared based on the Master Plan information. The proposed Century Plaza development has also been included in the model based on the information from *Water Servicing Brief 1067-1071 Wellington Road, Century Plaza Redevelopment, SPC20-054* by MTE, dated November 2022. Water demand for 1073 Wellington Road is based on the flow

meter data with the average water consumption of 39 m³/month. The proposed development has a light hazard occupancy classification, therefore, for modelling purposes the required sprinkler flow for fire protection used in the model was 750 gpm (47.3 l/s) per NFPA 13 Table 11.2.2.1. Required sprinkler flow will need to be verified by the development's mechanical engineer once the information is available.

WaterCAD water supply modeling outputs confirm that the existing water supply network and the proposed connections provide adequate fire protection. Furthermore, City of London pressure, flow velocity, and water age requirements are met at all nodes and in all pipes.

Stormwater Management Considerations

Criteria

The stormwater management design criteria for the subject site, as established by the City of London are as follows:

- Ensure on-site controls are designed to reduce/match existing peak flows from the 2-year through 100-year return period storms.
- Implementation of water balance controls per Dingman Creek Stormwater Servicing Study.
- Implementation of water quality controls per Dingman Creek Stormwater Servicing Study.

Quantity Controls

The site is a tributary to existing storm trunk sewers located in a servicing easement at the southeast entrance of White Oaks Mall and along Bradley Avenue servicing the existing with an existing design runoff coefficient of 0.70 and 0.90 respectively per City of London as-constructed drawing No. 9336 and 7800.

During detailed design, for each stage of the development, the composite runoff coefficient will be calculated for the proposed development, if the proposed coefficient exceeds the design, on-site storage will be implemented to attenuate flow from the 2 through 100-year events to design levels.

Water Balance

If a review of the pre-development vs the post-development conditions shows a reduction to the pervious area additional infiltration is recommended as per the Dingman Creek Stormwater Servicing Study. Based on the existing conditions, there may be insufficient opportunities to capture run-off and provide active infiltration in LID features to mitigate post-development infiltration deficiencies. It is recommended that passive infiltration measures such as increased topsoil thickness and directing runoff to grassed areas be utilized to decrease runoff and promote infiltration in the post-development condition.

Quality Controls

Quality controls are required for the proposed development as per section 7.1.1 – Water Quality Targets of the 'Dingman Creek Stormwater Servicing Study' and City of London Design Standards. Due to existing conditions the proposed development is not likely compatible with LID infiltration controls to provide quality controls, a mixture between passive controls, as described in the 'Water Balance' sections, and a conventional OGS in line with the storm sewer

outlet are recommended for the proposed development and should be sized as part of the detailed design for the site.

Conclusion

Based on the foregoing analysis, it is concluded that:

- i. The existing downstream sanitary sewer is adequately designed to service the proposed development.
- ii. There is an increase of 12.1L/s require for provide fire protection and domestic water supply and a total of 17.4L/s for the entire development. Based on the WaterCAD model, the existing water supply network and proposed water supply connections can provide adequate fire protection and satisfy all of the City of London water supply requirements.
- iii. Passive infiltration measures are recommended to minimize water balance changes.
- iv. Quality controls are recommended to be achieve through a mixture of passive infiltration and conventional OGS.

Should you have questions or comments, please do not hesitate to contact the undersigned.

Respectfully Submitted,

Regards,

MTE Consultants Inc.



Derrick Rice, P.Eng.

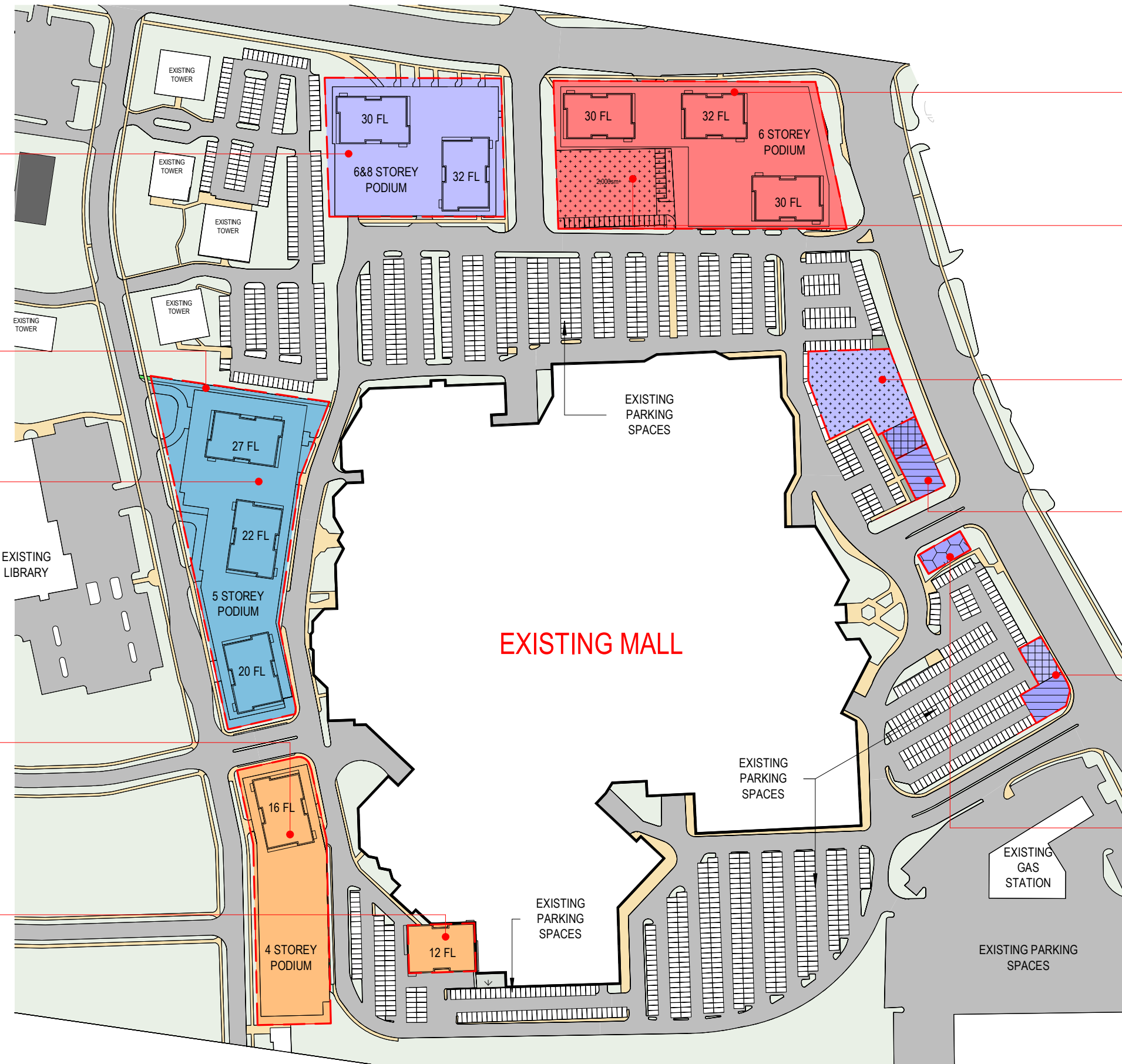
Project Manager
519-204-6510 ext. 2265
drice@mte85.com

Attach:

- Master Plan Sketch – Option 1
- Existing Sanitary Drainage Figure
- Preliminary Sanitary Sewer Servicing Figure
- Proposed Sanitary Drainage Figure
- Existing Sanitary Sewer Design Sheet
- Master Plan Sanitary Sewer Design Sheet
- Water Demand Table

- City of London As-built Sanitary Drainage, Storm Drainage, and External Plan & Profile Drawings

- Preliminary 'Wellington Gateway and Municipal Infrastructure Improvements – Phase 4'
Plan and Profile Drawings
- WaterCAD Results



Master Plan Legend

Colour	Name	Phase	No.Of Units	Description
[Yellow]				Existing Sidewalk
[Light Green]				Existing Grass
[Grey]				Asphalt
[Blue]	A	PHASE I (2025-2030)	559	Residential Property=7,100sm 6 & 8 Storeys Podium 2 Towers: 30&32 Storeys
[Light Blue]	B	PHASE II A (2030-2035)	613	Residential Property=10,320sm 5 Storeys Podium 3 Towers:27,22&20 Storeys
[Orange]	C	PHASE III: (2050-2055)	183	Residential Property=5,610sm 5 Storeys Podium 1 Towers:16 Storeys
[Light Orange]	D	PHASE III: (2050-2055)	100	Residential Property=920sm 1 Tower:12 Storeys
[Blue with grid]	E	PHASE II B: (2025-2030)		Restaurant Pad = 400sm Patio = 300sm
[Blue with hexagon]	F	PHASE II B: (2025-2030)		Commercial Pad = 300sm
[Blue with grid]	G	PHASE II B: (2025-2030)		Restaurant Pad = 400sm Patio = 300sm
[Blue with dots]	H	PHASE II B: (2025-2030)		Urban Park = 2,050sm
[Red with dots]	J	PHASE IV: (2060-2065)		Urban Park = 2,200sm
[Red]	K	PHASE IV: (2060-2065)	680	Residential Property=9,120sm 6 Storeys Podium 3 Towers: 30, 30&32 Storeys

A
30 & 32 STOREYS
PHASE I:
(2025-2030)

B
27,22& 20 STOREYS
PHASE II A:
(2030-2035)

C
16 STOREY
PHASE III:
(2050-2055)

D
12 STOREY
PHASE III:
(2050-2055)

K
30 & 32 STOREYS
PHASE IV:
(2060-2065)

J
URBAN PARK
PHASE IV:
(2060-2065)

H
URBAN PARK
PHASE IIB:
(2025-2030)

G
RESTAURANT &
PATIO
PHASE IIB:
(2025-2030)

E
RESTAURANT &
PATIO
PHASE IIB:
(2025-2030)

F
COMMERCIAL PAD

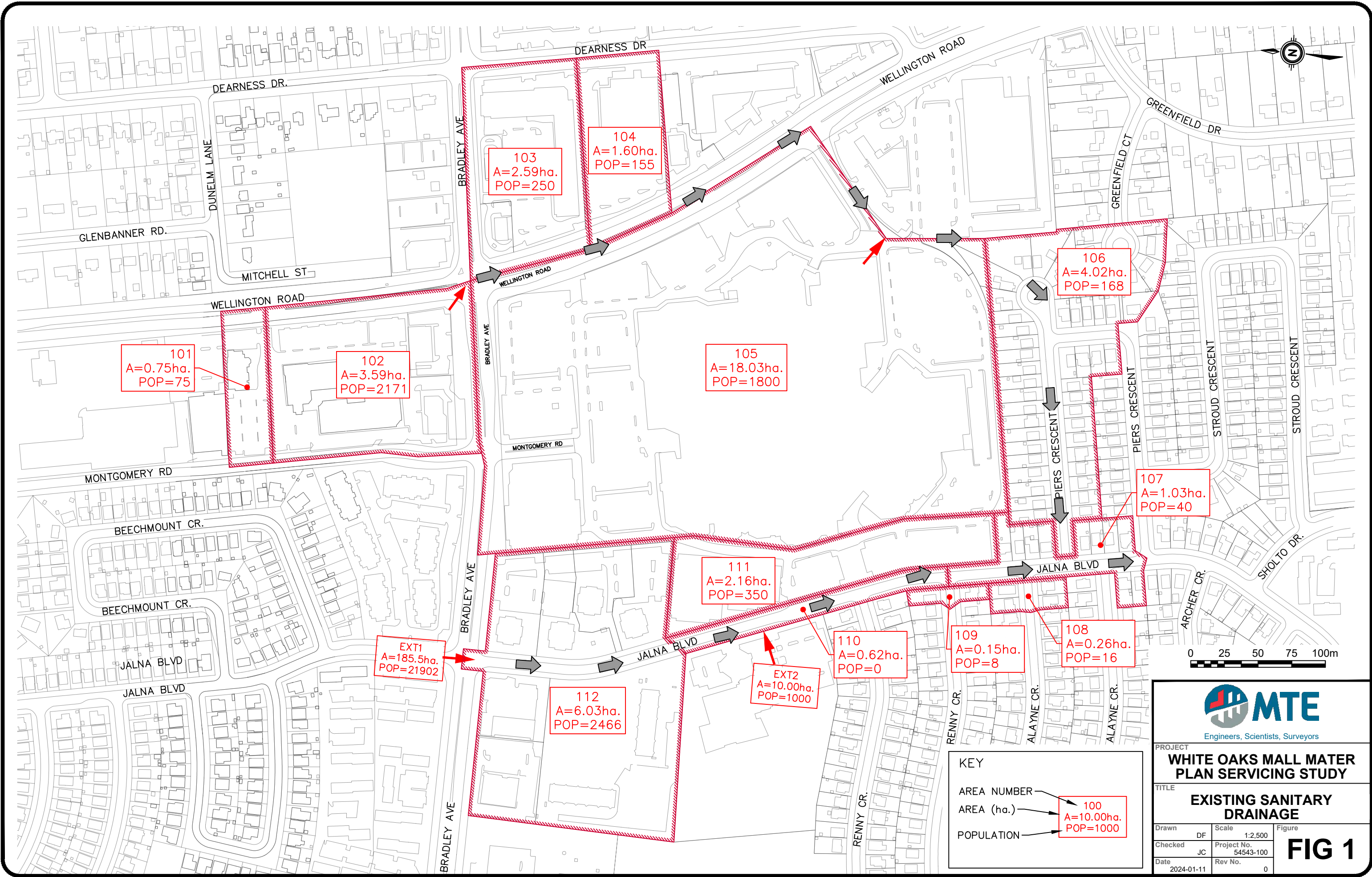
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Scale : As indicated

23-026

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KEY

AREA NUMBER	100
AREA (ha.)	A=10.00ha.
POPULATION	POP=1000

MTE
Engineers, Scientists, Surveyors

PROJECT
WHITE OAKS MALL WATER PLAN SERVICING STUDY

TITLE
EXISTING SANITARY DRAINAGE

Drawn	DF	Scale	1:2,500	Figure
Checked	JC	Project No.	54543-100	FIG 1
Date	2024-01-11	Rev No.	0	

LEGEND

- PROPOSED BUILDING BOUNDARY
- PROPOSED SANITARY SEWER
- EX. 200 SAN EXISTING SANITARY SEWER

PROPOSED CONNECTION TO BE COORDINATED WITH THE CITY OF LONDON BRT PROJECTS

RESTAURANT & PATIO

RESTAURANT & PATIO

COMMERCIAL PAD

URBAN PARK

WHITE OAKS MALL

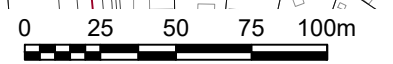
30FL
6 STOREY PODIUM

32FL
6&8 STOREY PODIUM

27FL 22FL 20FL
5 STOREY PODIUM

12FL
4 STOREY PODIUM

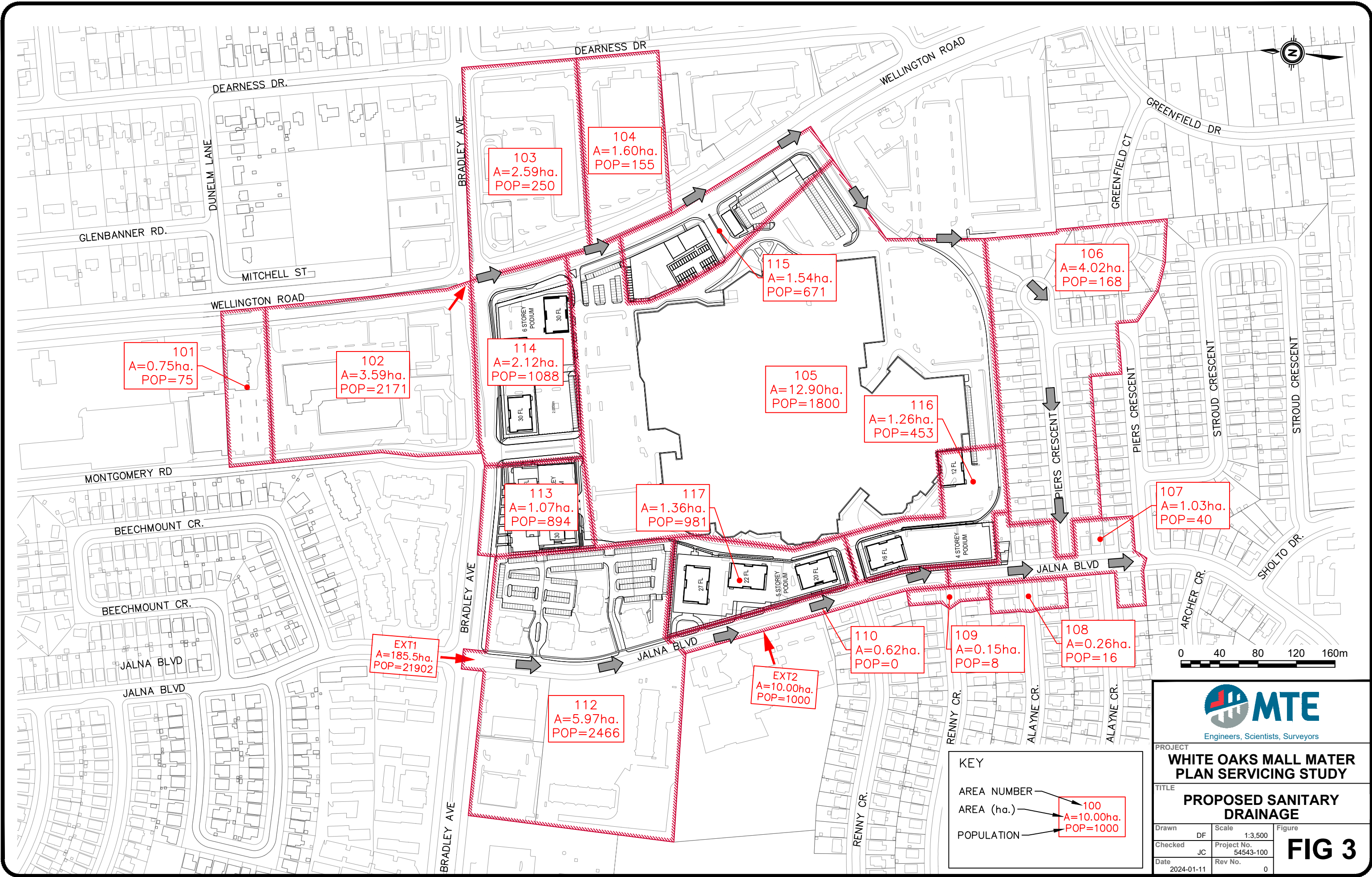
16FL



PROJECT
WHITE OAKS MALL WATER PLAN SERVICING STUDY

TITLE
PRELIMINARY SANITARY SEWER SERVICING

Drawn	DF	Scale	1:2,500	Figure
Checked	JC	Project No.	54543-100	FIG 2
Date	2024-01-11	Rev No.	0	



KEY

AREA NUMBER → 100

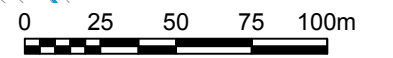
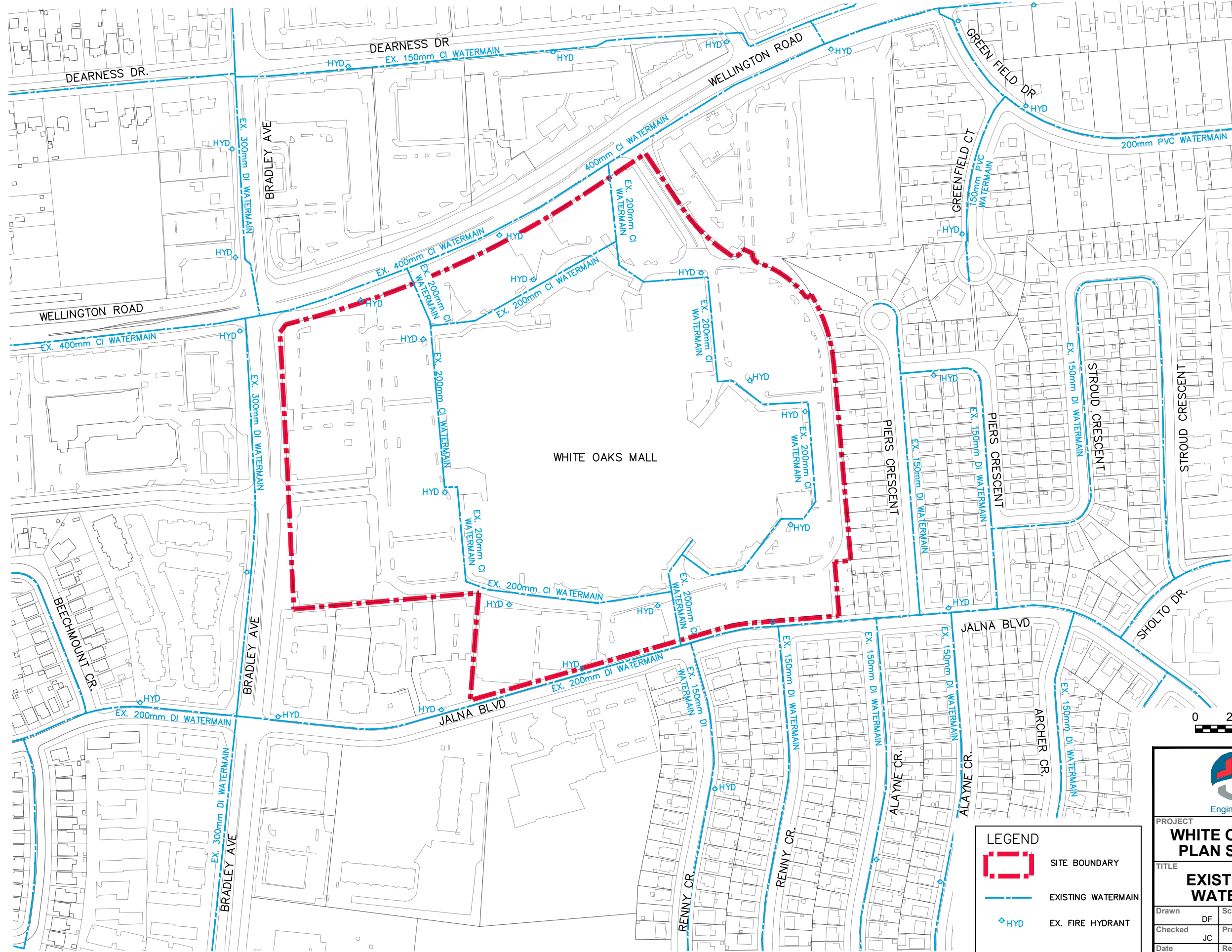
AREA (ha.) → A=10.00ha.

POPULATION → POP=1000


PROJECT
WHITE OAKS MALL WATER PLAN SERVICING STUDY

TITLE
PROPOSED SANITARY DRAINAGE

Drawn	DF	Scale	1:3,500	Figure
Checked	JC	Project No.	54543-100	FIG 3
Date	2024-01-11	Rev No.	0	



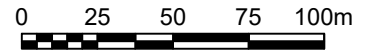
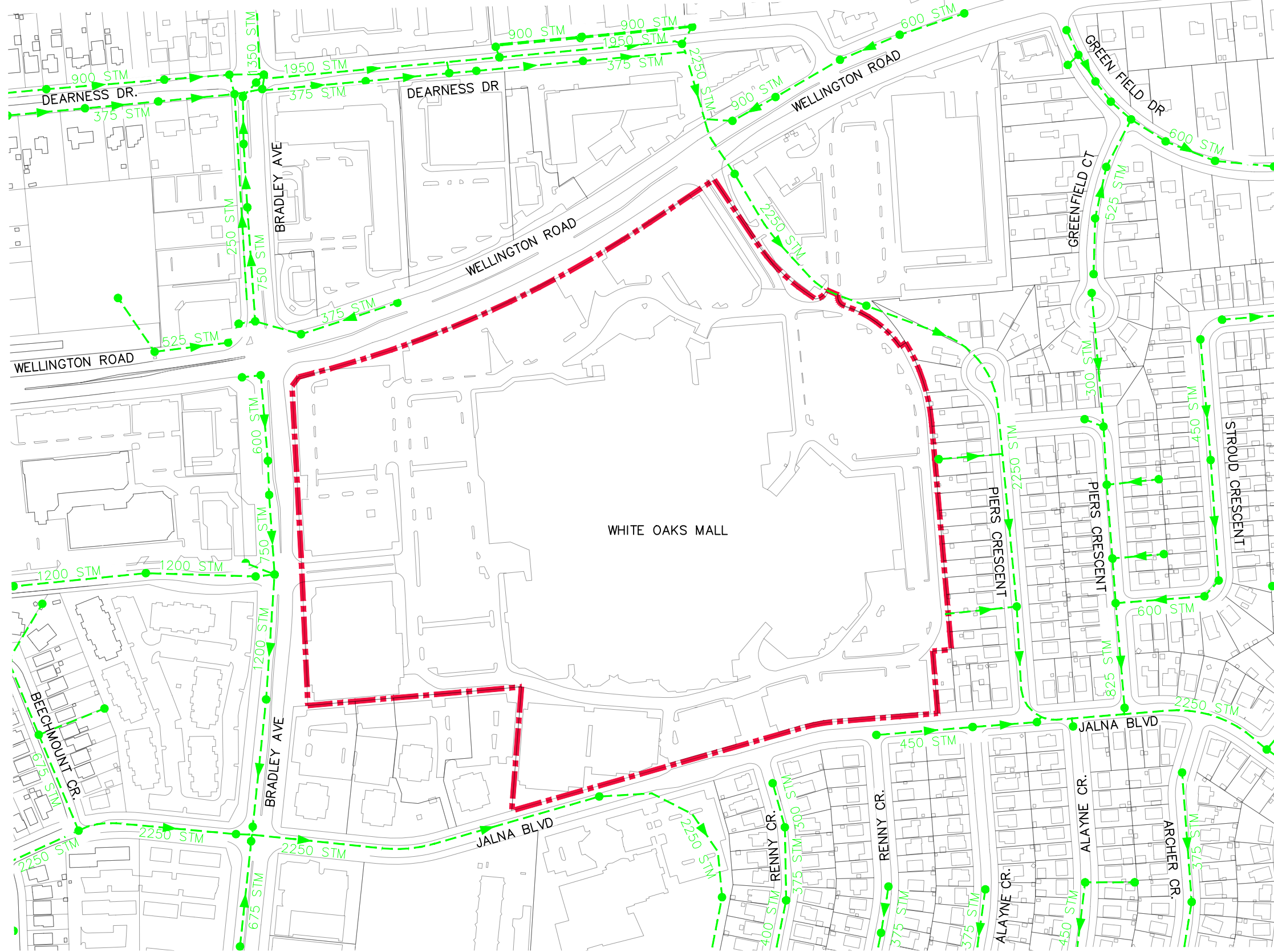
LEGEND	
	SITE BOUNDARY
	EXISTING WATERMAIN
	EX. FIRE HYDRANT




MTE
Engineers, Scientists, Surveyors

PROJECT		WHITE OAKS MALL WATER PLAN SERVICING STUDY	
TITLE		EXISTING CONDITIONS WATERMAIN LAYOUT	
Drawn	DF	Scale	1:2,500
Checked	JC	Project No.	54543-100
Date	2024-01-11	Rev No.	0

Figure
FIG 4



LEGEND	
	SITE BOUNDARY
	EXISTING STORM SEWER
	EX. STORM MANHOLE



MTE
Engineers, Scientists, Surveyors

PROJECT		WHITE OAKS MALL WATER PLAN SERVICING STUDY	
TITLE		EXISTING CONDITIONS STORM SEWER LAYOUT	
Drawn	DF	Scale	1:2,500
Checked	JC	Project No.	54543-100
Date	2024-01-11	Rev No.	0
			FIG 5



MTE Consultants
123 St. George St., London, Ontario N6A 3A1

DATE: March 22, 2024
JOB NO.: 54543-100

Client: White Oaks Shopping Centre
Project: White Oaks Mall ZBA
Location: London, ON

Water Demand Calculation

Proposed Building	Approximate Elevation (mASL)	Node	Commercial			Medium-Density Residential			High-Density Residential			Demand Summary		
			Area (m ²)	Equivalent Population	Avg. Day Demand (l/s)	Units	Population	Avg. Day Demand (l/s)	Units	Population	Avg. Day Demand (l/s)	Avg. Day (l/s)	Max Day (l/s)	Max Hour (l/s)
A (30 & 32 Storeys)	265	J-60, J-61							559	894	2.64	2.64	9.23	20.58
B (27, 22 & 20 Storeys)	263.5	J-58, J-59							613	981	2.90	2.90	10.13	22.58
C (16 Storey)	264	J-71							183	293	0.86	0.86	3.03	6.75
D (12 Storey)	263.5	J-54							100	160	0.47	0.47	1.65	3.68
E (Restaurant & Patio)	263.5	J-72	400	332	0.98							0.98	3.43	7.64
F (Commercial Pad)	264	J-74	300	7	0.02							0.02	0.07	0.16
G (Restaurant & Patio)	264.5	J-65	400	332	0.98							0.98	3.43	7.64
K (30 & 32 Storeys)	266	J-62, J-63							680	1088	3.21	3.21	11.24	25.05
Existing Mall	263-265	J-6, J-10, ..., J-68 (13 Junctions Total)		1800	5.31							5.31	18.59	41.44
Future Century Plaza Buildings C,D, E	268	J-79, J-77	855	17	0.05	15	36	0.11	620	992	2.93	3.08	10.79	24.06
1096 Jalna Boulevard		1096-A, 1096-B, ..., 1096-F				145	348	1.03				1.03	3.61	8.03
1073 Wellington Road*		J-82										0.02	0.05	0.12
Total				2488						3416		17.37	60.81	135.52

City of London Design Specifications and Requirments Manual

Average Domestic Flow = **255 l/cap/day or 0.003 l/cap/s**
 Max Day Factor = 3.5
 Peak Hour Factor = 7.8
 Medium-Density = 2.4 ppu
 High-Density = 1.6 ppu

Restaurant area equivalent population calculated per OBC 8.2.1.3.B table **190 l/day/1.0m²**
 and **75 l/employee 8hr shift**
 Commercial area equivalent population calculated per OBC 8.2.1.3.B table **5 l/day/1.0m²**

Note*: Average Day Demand based on average monthly water consumption of 39 m³/month. Data from the City of London, based on the last 2 years

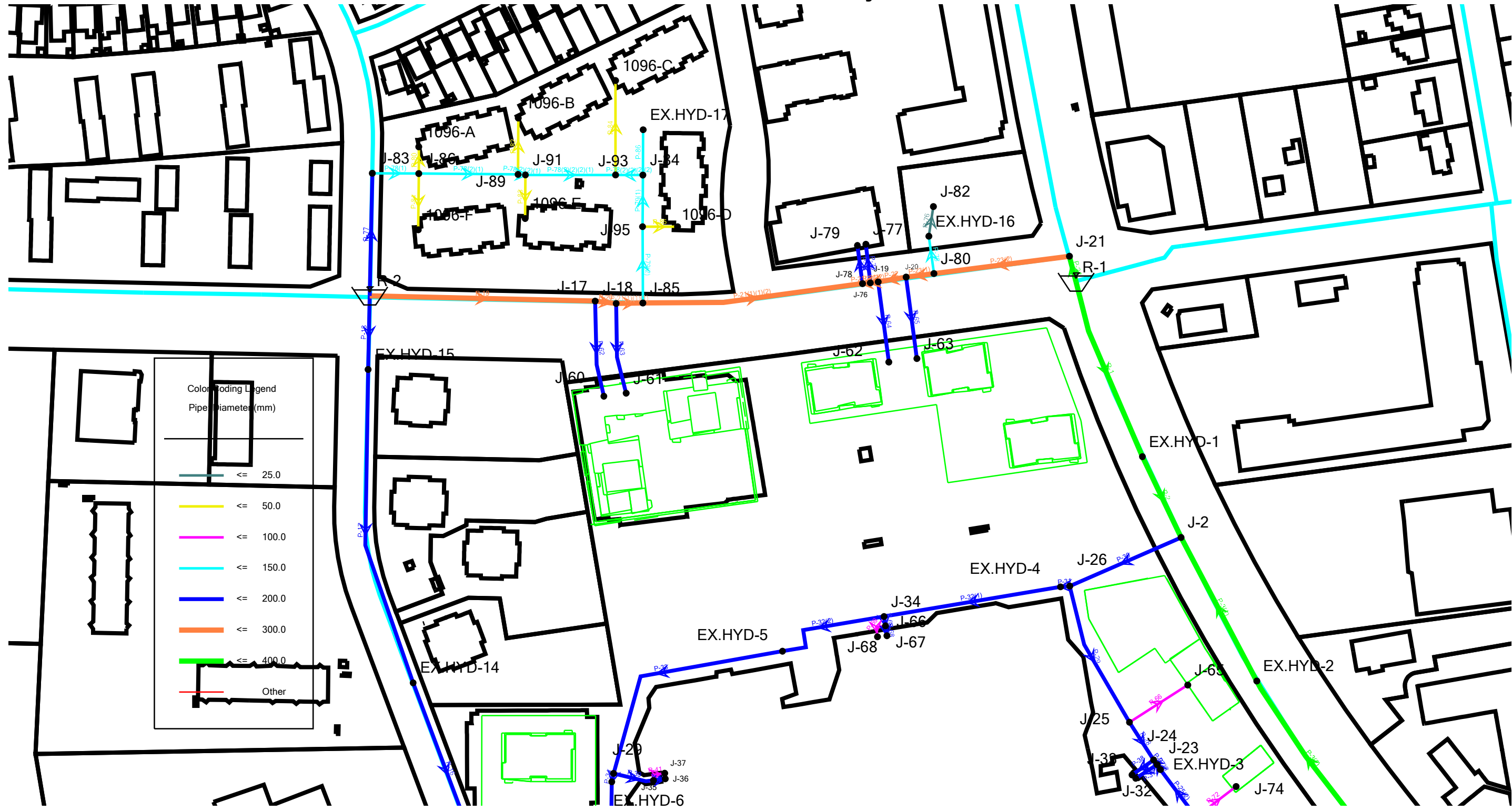
Boundary Condition Information from City of London

Pressure Zone/District	Boundary Condition
Low Level Gravity Based System	301.8m

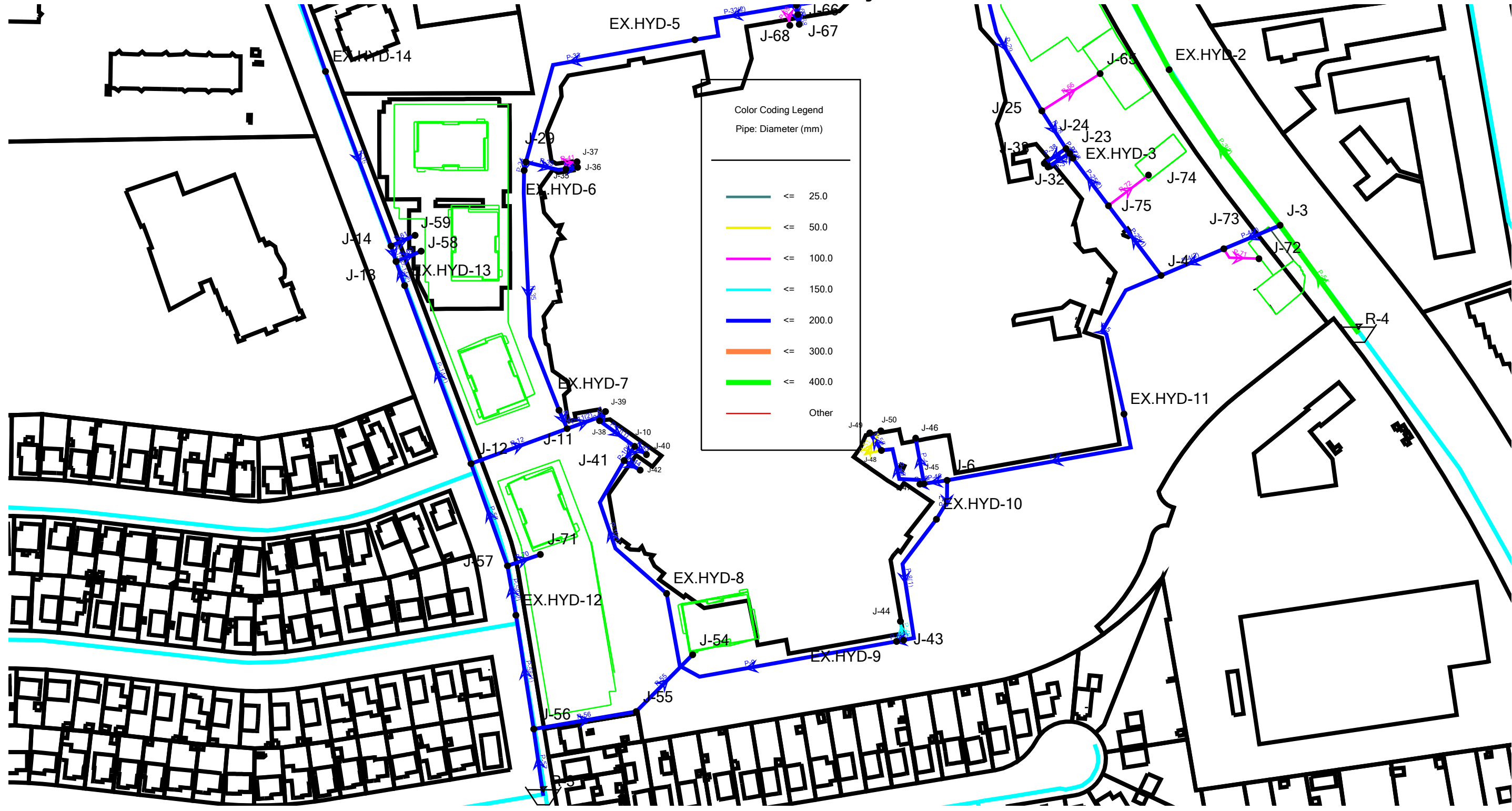
Scenario: Maximum Day + Fire Flow



Scenario: Maximum Day + Fire Flow



Scenario: Maximum Day + Fire Flow



Average Day Demand Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
1096-A	266.00	0.17	301.79	350	(N/A)
1096-B	266.00	0.17	301.78	350	(N/A)
1096-C	266.00	0.17	301.77	350	(N/A)
1096-D	266.00	0.17	301.79	350	(N/A)
1096-E	266.00	0.17	301.79	350	(N/A)
1096-F	266.00	0.17	301.78	350	(N/A)
EX.HYD-1	265.50	0.00	301.80	355	(N/A)
EX.HYD-2	265.00	0.00	301.80	360	(N/A)
EX.HYD-3	264.50	0.00	301.79	365	(N/A)
EX.HYD-4	265.00	0.00	301.79	360	(N/A)
EX.HYD-5	264.50	0.00	301.79	365	(N/A)
EX.HYD-6	264.50	0.00	301.79	365	(N/A)
EX.HYD-7	264.50	0.00	301.79	365	(N/A)
EX.HYD-8	264.00	0.00	301.79	370	(N/A)
EX.HYD-9	263.00	0.00	301.79	380	(N/A)
EX.HYD-10	263.00	0.00	301.79	380	(N/A)
EX.HYD-11	263.50	0.00	301.79	375	(N/A)
EX.HYD-12	264.00	0.00	301.79	370	(N/A)
EX.HYD-13	263.50	0.00	301.79	375	(N/A)
EX.HYD-14	264.00	0.00	301.79	370	(N/A)
EX.HYD-15	264.00	0.00	301.80	370	(N/A)
EX.HYD-16	267.00	0.00	301.80	341	(N/A)
EX.HYD-17	266.00	0.00	301.80	350	(N/A)
J-2	265.00	0.00	301.80	360	(N/A)
J-3	263.50	0.00	301.80	375	(N/A)
J-4	263.50	0.00	301.79	375	(N/A)
J-6	263.50	0.00	301.79	375	(N/A)
J-10	265.00	0.00	301.79	360	(N/A)
J-11	264.50	0.00	301.79	365	(N/A)
J-12	264.50	0.00	301.79	365	(N/A)
J-13	263.50	0.00	301.79	375	(N/A)
J-14	263.50	0.00	301.79	375	(N/A)
J-17	265.00	0.00	301.80	360	(N/A)
J-18	265.00	0.00	301.80	360	(N/A)
J-19	266.00	0.00	301.80	350	(N/A)
J-20	266.00	0.00	301.80	350	(N/A)
J-21	266.00	0.00	301.80	350	(N/A)
J-23	264.50	0.00	301.79	365	(N/A)

Average Day Demand Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-24	264.50	0.00	301.79	365	(N/A)
J-25	264.50	0.00	301.79	365	(N/A)
J-26	265.00	0.00	301.79	360	(N/A)
J-29	264.50	0.00	301.79	365	(N/A)
J-32	264.50	0.41	301.79	365	(N/A)
J-33	264.50	0.41	301.79	365	(N/A)
J-34	265.00	0.00	301.79	360	(N/A)
J-35	264.50	0.00	301.79	365	(N/A)
J-36	264.50	0.41	301.79	365	(N/A)
J-37	264.50	0.41	301.79	365	(N/A)
J-38	265.00	0.00	301.79	360	(N/A)
J-39	265.00	0.41	301.79	360	(N/A)
J-40	265.00	0.41	301.79	360	(N/A)
J-41	265.00	0.00	301.79	360	(N/A)
J-42	265.00	0.41	301.79	360	(N/A)
J-43	263.00	0.00	301.79	380	(N/A)
J-44	263.00	0.41	301.79	380	(N/A)
J-45	264.00	0.00	301.79	370	(N/A)
J-46	264.00	0.41	301.79	370	(N/A)
J-47	264.00	0.00	301.79	370	(N/A)
J-48	264.00	0.00	301.79	370	(N/A)
J-49	264.00	0.51	301.79	370	(N/A)
J-50	264.00	0.31	301.75	369	(N/A)
J-54	263.50	0.47	301.80	375	(N/A)
J-55	263.00	0.00	301.80	380	(N/A)
J-56	263.00	0.00	301.80	380	(N/A)
J-57	264.00	0.00	301.79	370	(N/A)
J-58	263.50	1.45	301.79	375	(N/A)
J-59	263.50	1.45	301.79	375	(N/A)
J-60	265.00	1.32	301.80	360	(N/A)
J-61	265.00	1.32	301.80	360	(N/A)
J-62	266.00	1.61	301.80	350	(N/A)
J-63	266.00	1.60	301.80	350	(N/A)
J-65	264.50	0.98	301.78	365	(N/A)
J-66	265.00	0.00	301.79	360	(N/A)
J-67	265.00	0.41	301.79	360	(N/A)
J-68	265.00	0.41	301.79	360	(N/A)
J-71	264.00	0.86	301.79	370	(N/A)

Average Day Demand Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-72	263.50	0.98	301.79	375	(N/A)
J-73	263.50	0.00	301.80	375	(N/A)
J-74	264.00	0.02	301.79	370	(N/A)
J-75	264.10	0.00	301.79	369	(N/A)
J-76	266.00	0.00	301.80	350	(N/A)
J-77	268.00	1.54	301.80	331	(N/A)
J-78	266.00	0.00	301.80	350	(N/A)
J-79	268.00	1.54	301.80	331	(N/A)
J-80	266.00	0.00	301.80	350	(N/A)
J-82	267.00	0.01	301.80	341	(N/A)
J-83	266.00	0.00	301.80	350	(N/A)
J-84	266.00	0.00	301.80	350	(N/A)
J-85	265.10	0.00	301.80	359	(N/A)
J-86	266.00	0.00	301.80	350	(N/A)
J-89	266.00	0.00	301.80	350	(N/A)
J-91	266.00	0.00	301.80	350	(N/A)
J-93	266.00	0.00	301.80	350	(N/A)
J-95	266.00	0.00	301.80	350	(N/A)

Average Day Demand Scenario

Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-51	23	J-48	J-50	50.0	100.0	0.31	0.16	(N/A)
P-66	37	J-25	J-65	100.0	100.0	0.98	0.12	(N/A)
P-71	21	J-72	J-73	100.0	100.0	-0.98	0.12	(N/A)
P-4(1)	33	J-3	J-73	200.0	110.0	3.44	0.11	(N/A)
P-57	36	R-3	J-56	200.0	110.0	3.15	0.10	(N/A)
P-30	65	J-26	J-2	200.0	110.0	-2.94	0.09	(N/A)
P-80	14	J-86	1096-A	50.0	100.0	0.17	0.09	(N/A)
P-81	30	J-86	1096-F	50.0	100.0	0.17	0.09	(N/A)
P-82	30	J-89	1096-B	50.0	100.0	0.17	0.09	(N/A)
P-83	23	J-91	1096-E	50.0	100.0	0.17	0.09	(N/A)
P-84	50	J-93	1096-C	50.0	100.0	0.17	0.09	(N/A)
P-85	19	J-95	1096-D	50.0	100.0	0.17	0.09	(N/A)
P-58(1)	61	J-56	EX.HYD-12	200.0	110.0	2.68	0.09	(N/A)
P-58(2)	27	EX.HYD-12	J-57	200.0	110.0	2.68	0.09	(N/A)
P-4(2)	36	J-73	J-4	200.0	110.0	2.46	0.08	(N/A)
P-23(2)	73	J-80	J-21	300.0	120.0	-5.01	0.07	(N/A)
P-23(1)	15	J-20	J-80	300.0	120.0	-4.99	0.07	(N/A)
P-16	99	J-14	EX.HYD-14	200.0	110.0	-2.00	0.06	(N/A)
P-17	171	EX.HYD-14	EX.HYD-15	200.0	110.0	-2.00	0.06	(N/A)
P-18	39	EX.HYD-15	R-2	200.0	110.0	-2.00	0.06	(N/A)
P-31	5	J-26	EX.HYD-4	200.0	110.0	1.90	0.06	(N/A)
P-32(1)	95	EX.HYD-4	J-34	200.0	110.0	1.90	0.06	(N/A)
P-19	120	R-2	J-17	300.0	120.0	4.13	0.06	(N/A)
P-59	58	J-57	J-12	200.0	110.0	1.82	0.06	(N/A)
P-5	92	J-4	EX.HYD-11	200.0	110.0	1.69	0.05	(N/A)
P-6	118	EX.HYD-11	J-6	200.0	110.0	1.69	0.05	(N/A)
P-41	9	J-35	J-37	100.0	100.0	0.41	0.05	(N/A)
P-69	10	J-66	J-68	100.0	100.0	0.41	0.05	(N/A)
P-64	43	J-19	J-62	200.0	110.0	1.61	0.05	(N/A)
P-65	44	J-20	J-63	200.0	110.0	1.60	0.05	(N/A)
P-73	31	J-76	J-77	200.0	110.0	1.54	0.05	(N/A)
P-74	31	J-78	J-79	200.0	110.0	1.54	0.05	(N/A)
P-22	15	J-19	J-20	300.0	120.0	-3.39	0.05	(N/A)
P-78(1)	25	J-83	J-86	150.0	100.0	0.85	0.05	(N/A)
P-60	14	J-13	J-58	200.0	110.0	1.45	0.05	(N/A)
P-61	14	J-14	J-59	200.0	110.0	1.45	0.05	(N/A)
P-62	51	J-17	J-60	200.0	110.0	1.32	0.04	(N/A)
P-63	48	J-18	J-61	200.0	110.0	1.32	0.04	(N/A)

Average Day Demand Scenario

Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-24	14	J-21	R-1	400.0	120.0	-5.01	0.04	(N/A)
P-20	11	J-17	J-18	300.0	120.0	2.81	0.04	(N/A)
P-46	12	J-6	J-45	200.0	110.0	1.23	0.04	(N/A)
P-11(2)	19	J-38	J-11	200.0	110.0	-1.18	0.04	(N/A)
P-33	130	EX.HYD-5	J-29	200.0	110.0	1.08	0.03	(N/A)
P-32(2)	66	J-34	EX.HYD-5	200.0	110.0	1.08	0.03	(N/A)
P-29	80	J-25	J-26	200.0	110.0	-1.04	0.03	(N/A)
P-76	16	EX.HYD-16	J-82	25.0	100.0	0.01	0.03	(N/A)
P-54	71	J-3	R-4	400.0	120.0	-3.79	0.03	(N/A)
P-12	54	J-11	J-12	200.0	110.0	-0.92	0.03	(N/A)
P-14(1)	101	J-12	EX.HYD-13	200.0	110.0	0.90	0.03	(N/A)
P-14(2)	14	EX.HYD-13	J-13	200.0	110.0	0.90	0.03	(N/A)
P-78(2)(1)	53	J-86	J-89	150.0	100.0	0.50	0.03	(N/A)
P-70	19	J-57	J-71	200.0	110.0	0.86	0.03	(N/A)
P-77	65	R-2	J-83	200.0	110.0	0.85	0.03	(N/A)
P-39	22	J-29	J-35	200.0	110.0	0.82	0.03	(N/A)
P-48	2	J-45	J-47	200.0	110.0	0.82	0.03	(N/A)
P-49	35	J-47	J-48	200.0	110.0	0.82	0.03	(N/A)
P-67	5	J-34	J-66	200.0	110.0	0.82	0.03	(N/A)
P-21(2)	4	J-76	J-19	300.0	120.0	-1.78	0.03	(N/A)
P-25(1)	47	J-4	J-75	200.0	110.0	0.78	0.02	(N/A)
P-11(1)	23	J-10	J-38	200.0	110.0	-0.77	0.02	(N/A)
P-26	3	EX.HYD-3	J-23	200.0	110.0	0.76	0.02	(N/A)
P-25(2)	32	J-75	EX.HYD-3	200.0	110.0	0.76	0.02	(N/A)
P-45	10	J-43	J-44	150.0	100.0	0.41	0.02	(N/A)
P-21(1)(1)(1)	14	J-18	J-85	300.0	120.0	1.49	0.02	(N/A)
P-1	100	R-1	EX.HYD-1	400.0	120.0	2.60	0.02	(N/A)
P-2	48	EX.HYD-1	J-2	400.0	120.0	2.60	0.02	(N/A)
P-78(2)(2)(1)	4	J-89	J-91	150.0	100.0	0.33	0.02	(N/A)
P-21(1)(1)(2)	118	J-85	J-78	300.0	120.0	1.30	0.02	(N/A)
P-15	9	J-13	J-14	200.0	110.0	-0.55	0.02	(N/A)
P-50	11	J-48	J-49	200.0	110.0	0.51	0.02	(N/A)
P-55	43	J-54	J-55	200.0	110.0	-0.47	0.01	(N/A)
P-56	55	J-55	J-56	200.0	110.0	-0.47	0.01	(N/A)
P-7	22	J-6	EX.HYD-10	200.0	110.0	0.46	0.01	(N/A)
P-8(1)	75	EX.HYD-10	J-43	200.0	110.0	0.46	0.01	(N/A)
P-37	14	J-23	J-32	200.0	110.0	0.41	0.01	(N/A)
P-38	14	J-24	J-33	200.0	110.0	0.41	0.01	(N/A)

Average Day Demand Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-40	6	J-35	J-36	200.0	110.0	0.41	0.01	(N/A)
P-42	6	J-38	J-39	200.0	110.0	0.41	0.01	(N/A)
P-43	8	J-10	J-40	200.0	110.0	0.41	0.01	(N/A)
P-44	10	J-41	J-42	200.0	110.0	0.41	0.01	(N/A)
P-47	25	J-45	J-46	200.0	110.0	0.41	0.01	(N/A)
P-68	5	J-66	J-67	200.0	110.0	0.41	0.01	(N/A)
P-10(2)	9	J-41	J-10	200.0	110.0	-0.36	0.01	(N/A)
P-27	3	J-23	J-24	200.0	110.0	0.35	0.01	(N/A)
P-79(2)	41	J-95	J-85	150.0	100.0	-0.19	0.01	(N/A)
P-78(2)(2)(2)(1)	48	J-91	J-93	150.0	100.0	0.16	0.01	(N/A)
P-34	5	J-29	EX.HYD-6	200.0	110.0	0.26	0.01	(N/A)
P-35	131	EX.HYD-6	EX.HYD-7	200.0	110.0	0.26	0.01	(N/A)
P-36	11	EX.HYD-7	J-11	200.0	110.0	0.26	0.01	(N/A)
P-21(1)(2)	4	J-78	J-76	300.0	120.0	-0.24	0.00	(N/A)
P-3(1)	86	J-2	EX.HYD-2	400.0	120.0	-0.34	0.00	(N/A)
P-3(2)	102	EX.HYD-2	J-3	400.0	120.0	-0.34	0.00	(N/A)
P-72	27	J-74	J-75	100.0	100.0	-0.02	0.00	(N/A)
P-28	24	J-24	J-25	200.0	110.0	-0.06	0.00	(N/A)
P-9	158	EX.HYD-9	EX.HYD-8	200.0	110.0	0.05	0.00	(N/A)
P-10(1)	88	EX.HYD-8	J-41	200.0	110.0	0.05	0.00	(N/A)
P-8(2)	4	J-43	EX.HYD-9	200.0	110.0	0.05	0.00	(N/A)
P-75	20	J-80	EX.HYD-16	150.0	100.0	0.01	0.00	(N/A)
P-78(2)(2)(2)(2)	15	J-93	J-84	150.0	100.0	-0.01	0.00	(N/A)
P-79(1)	28	J-84	J-95	150.0	100.0	-0.01	0.00	(N/A)
P-86	24	J-84	EX.HYD-17	150.0	100.0	0.00	0.00	(N/A)

Max Day Demand + Fire Flow Scenario
Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
1096-A	266.00	0.60	301.71	350	(N/A)
1096-B	266.00	0.60	301.62	349	(N/A)
1096-C	266.00	0.60	301.52	348	(N/A)
1096-D	266.00	0.60	301.68	349	(N/A)
1096-E	266.00	0.60	301.66	349	(N/A)
1096-F	266.00	0.60	301.63	349	(N/A)
EX.HYD-1	265.50	0.00	301.80	355	(N/A)
EX.HYD-2	265.00	0.00	301.80	360	(N/A)
EX.HYD-3	264.50	0.00	301.73	364	(N/A)
EX.HYD-4	265.00	0.00	301.73	360	(N/A)
EX.HYD-5	264.50	0.00	301.68	364	(N/A)
EX.HYD-6	264.50	0.00	301.67	364	(N/A)
EX.HYD-7	264.50	0.00	301.66	364	(N/A)
EX.HYD-8	264.00	0.00	301.66	369	(N/A)
EX.HYD-9	263.00	0.00	301.66	378	(N/A)
EX.HYD-10	263.00	0.00	301.66	378	(N/A)
EX.HYD-11	263.50	0.00	301.70	374	(N/A)
EX.HYD-12	264.00	0.00	301.71	369	(N/A)
EX.HYD-13	263.50	0.00	301.66	373	(N/A)
EX.HYD-14	264.00	0.00	301.70	369	(N/A)
EX.HYD-15	264.00	0.00	301.78	370	(N/A)
EX.HYD-16	267.00	0.00	301.78	340	(N/A)
EX.HYD-17	266.00	0.00	301.77	350	(N/A)
J-2	265.00	0.00	301.80	360	(N/A)
J-3	263.50	0.00	301.80	375	(N/A)
J-4	263.50	0.00	301.73	374	(N/A)
J-6	263.50	0.00	301.66	373	(N/A)
J-10	265.00	0.00	301.66	359	(N/A)
J-11	264.50	0.00	301.66	364	(N/A)
J-12	264.50	0.00	301.67	364	(N/A)
J-13	263.50	0.00	301.66	373	(N/A)
J-14	263.50	0.00	301.66	373	(N/A)
J-17	265.00	0.00	301.78	360	(N/A)
J-18	265.00	0.00	301.77	360	(N/A)
J-19	266.00	0.00	301.77	350	(N/A)
J-20	266.00	0.00	301.77	350	(N/A)
J-21	266.00	0.00	301.80	350	(N/A)
J-23	264.50	0.00	301.73	364	(N/A)

Max Day Demand + Fire Flow Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-24	264.50	0.00	301.73	364	(N/A)
J-25	264.50	0.00	301.73	364	(N/A)
J-26	265.00	0.00	301.74	360	(N/A)
J-29	264.50	0.00	301.67	364	(N/A)
J-32	264.50	1.43	301.72	364	(N/A)
J-33	264.50	1.43	301.72	364	(N/A)
J-34	265.00	0.00	301.69	359	(N/A)
J-35	264.50	0.00	301.66	364	(N/A)
J-36	264.50	1.43	301.66	364	(N/A)
J-37	264.50	1.43	301.66	364	(N/A)
J-38	265.00	0.00	301.66	359	(N/A)
J-39	265.00	1.43	301.66	359	(N/A)
J-40	265.00	1.43	301.66	359	(N/A)
J-41	265.00	0.00	301.66	359	(N/A)
J-42	265.00	1.43	301.66	359	(N/A)
J-43	263.00	0.00	301.66	378	(N/A)
J-44	263.00	1.43	301.66	378	(N/A)
J-45	264.00	0.00	301.66	369	(N/A)
J-46	264.00	1.43	301.66	369	(N/A)
J-47	264.00	0.00	301.66	369	(N/A)
J-48	264.00	0.00	301.66	369	(N/A)
J-49	264.00	1.78	301.66	369	(N/A)
J-50	264.00	1.09	301.31	365	(N/A)
J-54	263.50	1.65	301.76	374	(N/A)
J-55	263.00	0.00	301.76	379	(N/A)
J-56	263.00	0.00	301.76	379	(N/A)
J-57	264.00	0.00	301.69	369	(N/A)
J-58	263.50	5.07	301.65	373	(N/A)
J-59	263.50	5.07	301.65	373	(N/A)
J-60	265.00	4.62	301.76	360	(N/A)
J-61	265.00	4.62	301.76	360	(N/A)
J-62	266.00	5.64	301.76	350	(N/A)
J-63	266.00	5.60	301.76	350	(N/A)
J-65	264.50	3.43	301.57	363	(N/A)
J-66	265.00	0.00	301.69	359	(N/A)
J-67	265.00	1.43	301.69	359	(N/A)
J-68	265.00	1.43	301.69	359	(N/A)
J-71	264.00	3.01	301.69	369	(N/A)

Max Day Demand + Fire Flow Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-72	263.50	3.43	301.66	374	(N/A)
J-73	263.50	0.00	301.76	374	(N/A)
J-74	264.00	0.07	301.73	369	(N/A)
J-75	264.10	0.00	301.73	368	(N/A)
J-76	266.00	0.00	301.77	350	(N/A)
J-77	268.00	5.40	301.76	330	(N/A)
J-78	266.00	0.00	301.77	350	(N/A)
J-79	268.00	5.40	301.76	330	(N/A)
J-80	266.00	0.00	301.78	350	(N/A)
J-82	267.00	0.05	301.75	340	(N/A)
J-83	266.00	0.00	301.79	350	(N/A)
J-84	266.00	0.00	301.77	350	(N/A)
J-85	265.10	0.00	301.77	359	(N/A)
J-86	266.00	0.00	301.78	350	(N/A)
J-89	266.00	0.00	301.77	350	(N/A)
J-91	266.00	0.00	301.77	350	(N/A)
J-93	266.00	0.00	301.77	350	(N/A)
J-95	266.00	0.00	301.77	350	(N/A)

Max Day Demand + Fire Flow Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-51	23	J-48	J-50	50.0	100.0	1.09	0.55	(N/A)
P-66	37	J-25	J-65	100.0	100.0	3.43	0.44	(N/A)
P-71	21	J-72	J-73	100.0	100.0	-3.43	0.44	(N/A)
P-4(1)	33	J-3	J-73	200.0	110.0	12.06	0.38	(N/A)
P-57	36	R-3	J-56	200.0	110.0	11.04	0.35	(N/A)
P-30	65	J-26	J-2	200.0	110.0	-10.30	0.33	(N/A)
P-80	14	J-86	1096-A	50.0	100.0	0.60	0.31	(N/A)
P-81	30	J-86	1096-F	50.0	100.0	0.60	0.31	(N/A)
P-82	30	J-89	1096-B	50.0	100.0	0.60	0.31	(N/A)
P-83	23	J-91	1096-E	50.0	100.0	0.60	0.31	(N/A)
P-84	50	J-93	1096-C	50.0	100.0	0.60	0.31	(N/A)
P-85	19	J-95	1096-D	50.0	100.0	0.60	0.31	(N/A)
P-58(1)	61	J-56	EX.HYD-12	200.0	110.0	9.39	0.30	(N/A)
P-58(2)	27	EX.HYD-12	J-57	200.0	110.0	9.39	0.30	(N/A)
P-4(2)	36	J-73	J-4	200.0	110.0	8.63	0.27	(N/A)
P-23(2)	73	J-80	J-21	300.0	120.0	-17.52	0.25	(N/A)
P-23(1)	15	J-20	J-80	300.0	120.0	-17.47	0.25	(N/A)
P-16	99	J-14	EX.HYD-14	200.0	110.0	-7.00	0.22	(N/A)
P-17	171	EX.HYD-14	EX.HYD-15	200.0	110.0	-7.00	0.22	(N/A)
P-18	39	EX.HYD-15	R-2	200.0	110.0	-7.00	0.22	(N/A)
P-31	5	J-26	EX.HYD-4	200.0	110.0	6.66	0.21	(N/A)
P-32(1)	95	EX.HYD-4	J-34	200.0	110.0	6.66	0.21	(N/A)
P-19	120	R-2	J-17	300.0	120.0	14.45	0.20	(N/A)
P-59	58	J-57	J-12	200.0	110.0	6.38	0.20	(N/A)
P-5	92	J-4	EX.HYD-11	200.0	110.0	5.90	0.19	(N/A)
P-6	118	EX.HYD-11	J-6	200.0	110.0	5.90	0.19	(N/A)
P-41	9	J-35	J-37	100.0	100.0	1.43	0.18	(N/A)
P-69	10	J-66	J-68	100.0	100.0	1.43	0.18	(N/A)
P-64	43	J-19	J-62	200.0	110.0	5.64	0.18	(N/A)
P-65	44	J-20	J-63	200.0	110.0	5.60	0.18	(N/A)
P-73	31	J-76	J-77	200.0	110.0	5.40	0.17	(N/A)
P-74	31	J-78	J-79	200.0	110.0	5.40	0.17	(N/A)
P-22	15	J-19	J-20	300.0	120.0	-11.87	0.17	(N/A)
P-78(1)	25	J-83	J-86	150.0	100.0	2.96	0.17	(N/A)
P-60	14	J-13	J-58	200.0	110.0	5.07	0.16	(N/A)
P-61	14	J-14	J-59	200.0	110.0	5.07	0.16	(N/A)
P-62	51	J-17	J-60	200.0	110.0	4.62	0.15	(N/A)
P-63	48	J-18	J-61	200.0	110.0	4.62	0.15	(N/A)

Max Day Demand + Fire Flow Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-24	14	J-21	R-1	400.0	120.0	-17.52	0.14	(N/A)
P-20	11	J-17	J-18	300.0	120.0	9.83	0.14	(N/A)
P-46	12	J-6	J-45	200.0	110.0	4.30	0.14	(N/A)
P-11(2)	19	J-38	J-11	200.0	110.0	-4.14	0.13	(N/A)
P-33	130	EX.HYD-5	J-29	200.0	110.0	3.79	0.12	(N/A)
P-32(2)	66	J-34	EX.HYD-5	200.0	110.0	3.79	0.12	(N/A)
P-29	80	J-25	J-26	200.0	110.0	-3.64	0.12	(N/A)
P-76	16	EX.HYD-16	J-82	25.0	100.0	0.05	0.11	(N/A)
P-54	71	J-3	R-4	400.0	120.0	-13.26	0.11	(N/A)
P-12	54	J-11	J-12	200.0	110.0	-3.23	0.10	(N/A)
P-14(1)	101	J-12	EX.HYD-13	200.0	110.0	3.15	0.10	(N/A)
P-14(2)	14	EX.HYD-13	J-13	200.0	110.0	3.15	0.10	(N/A)
P-78(2)(1)	53	J-86	J-89	150.0	100.0	1.76	0.10	(N/A)
P-70	19	J-57	J-71	200.0	110.0	3.01	0.10	(N/A)
P-77	65	R-2	J-83	200.0	110.0	2.96	0.09	(N/A)
P-39	22	J-29	J-35	200.0	110.0	2.87	0.09	(N/A)
P-48	2	J-45	J-47	200.0	110.0	2.87	0.09	(N/A)
P-49	35	J-47	J-48	200.0	110.0	2.87	0.09	(N/A)
P-67	5	J-34	J-66	200.0	110.0	2.87	0.09	(N/A)
P-21(2)	4	J-76	J-19	300.0	120.0	-6.24	0.09	(N/A)
P-25(1)	47	J-4	J-75	200.0	110.0	2.73	0.09	(N/A)
P-11(1)	23	J-10	J-38	200.0	110.0	-2.71	0.09	(N/A)
P-26	3	EX.HYD-3	J-23	200.0	110.0	2.66	0.08	(N/A)
P-25(2)	32	J-75	EX.HYD-3	200.0	110.0	2.66	0.08	(N/A)
P-45	10	J-43	J-44	150.0	100.0	1.43	0.08	(N/A)
P-21(1)(1)(1)	14	J-18	J-85	300.0	120.0	5.21	0.07	(N/A)
P-1	100	R-1	EX.HYD-1	400.0	120.0	9.09	0.07	(N/A)
P-2	48	EX.HYD-1	J-2	400.0	120.0	9.09	0.07	(N/A)
P-78(2)(2)(1)	4	J-89	J-91	150.0	100.0	1.16	0.07	(N/A)
P-21(1)(1)(2)	118	J-85	J-78	300.0	120.0	4.56	0.06	(N/A)
P-15	9	J-13	J-14	200.0	110.0	-1.92	0.06	(N/A)
P-50	11	J-48	J-49	200.0	110.0	1.78	0.06	(N/A)
P-55	43	J-54	J-55	200.0	110.0	-1.65	0.05	(N/A)
P-56	55	J-55	J-56	200.0	110.0	-1.65	0.05	(N/A)
P-7	22	J-6	EX.HYD-10	200.0	110.0	1.60	0.05	(N/A)
P-8(1)	75	EX.HYD-10	J-43	200.0	110.0	1.60	0.05	(N/A)
P-37	14	J-23	J-32	200.0	110.0	1.43	0.05	(N/A)
P-38	14	J-24	J-33	200.0	110.0	1.43	0.05	(N/A)

Max Day Demand + Fire Flow Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-40	6	J-35	J-36	200.0	110.0	1.43	0.05	(N/A)
P-42	6	J-38	J-39	200.0	110.0	1.43	0.05	(N/A)
P-43	8	J-10	J-40	200.0	110.0	1.43	0.05	(N/A)
P-44	10	J-41	J-42	200.0	110.0	1.43	0.05	(N/A)
P-47	25	J-45	J-46	200.0	110.0	1.43	0.05	(N/A)
P-68	5	J-66	J-67	200.0	110.0	1.43	0.05	(N/A)
P-10(2)	9	J-41	J-10	200.0	110.0	-1.27	0.04	(N/A)
P-27	3	J-23	J-24	200.0	110.0	1.22	0.04	(N/A)
P-79(2)	41	J-95	J-85	150.0	100.0	-0.65	0.04	(N/A)
P-78(2)(2)(2)(1)	48	J-91	J-93	150.0	100.0	0.55	0.03	(N/A)
P-34	5	J-29	EX.HYD-6	200.0	110.0	0.92	0.03	(N/A)
P-35	131	EX.HYD-6	EX.HYD-7	200.0	110.0	0.92	0.03	(N/A)
P-36	11	EX.HYD-7	J-11	200.0	110.0	0.92	0.03	(N/A)
P-21(1)(2)	4	J-78	J-76	300.0	120.0	-0.84	0.01	(N/A)
P-3(1)	86	J-2	EX.HYD-2	400.0	120.0	-1.21	0.01	(N/A)
P-3(2)	102	EX.HYD-2	J-3	400.0	120.0	-1.21	0.01	(N/A)
P-72	27	J-74	J-75	100.0	100.0	-0.07	0.01	(N/A)
P-28	24	J-24	J-25	200.0	110.0	-0.21	0.01	(N/A)
P-9	158	EX.HYD-9	EX.HYD-8	200.0	110.0	0.16	0.01	(N/A)
P-10(1)	88	EX.HYD-8	J-41	200.0	110.0	0.16	0.01	(N/A)
P-8(2)	4	J-43	EX.HYD-9	200.0	110.0	0.16	0.01	(N/A)
P-75	20	J-80	EX.HYD-16	150.0	100.0	0.05	0.00	(N/A)
P-78(2)(2)(2)(2)	15	J-93	J-84	150.0	100.0	-0.05	0.00	(N/A)
P-79(1)	28	J-84	J-95	150.0	100.0	-0.05	0.00	(N/A)
P-86	24	J-84	EX.HYD-17	150.0	100.0	0.00	0.00	(N/A)

Max Day Demand + Fire Flow Scenario
Fire Flow Report - Time: 0.00 hours

Label	Satisfies Fire Flow Constraints?	Flow (Total Needed) (L/s)	Fire Flow (Available) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)	Demand (L/s)	Velocity of Maximum Pipe (m/s)	Pipe w/ Maximum Velocity
1096-A	True	0.70	4.11	4.71	318	0.60	2.40	P-80
1096-B	True	0.70	4.11	4.71	284	0.60	2.40	P-82
1096-C	True	0.70	4.11	4.71	239	0.60	2.40	P-84
1096-D	True	0.70	4.11	4.71	309	0.60	2.40	P-85
1096-E	True	0.70	4.11	4.71	299	0.60	2.40	P-83
1096-F	True	0.70	4.11	4.71	284	0.60	2.40	P-81
EX.HYD-1	True	76.00	300.00	300.00	349	0.00	1.54	P-1
EX.HYD-2	True	76.00	300.00	300.00	352	0.00	1.38	P-54
EX.HYD-3	True	76.00	137.84	137.84	315	0.00	2.40	P-25(1)
EX.HYD-4	True	76.00	87.55	87.55	344	0.00	2.40	P-31
EX.HYD-5	True	76.00	123.71	123.71	290	0.00	2.40	P-32(1)
EX.HYD-6	True	76.00	132.51	132.51	278	0.00	2.40	P-36
EX.HYD-7	True	76.00	104.28	104.28	327	0.00	2.40	P-36
EX.HYD-8	True	76.00	113.59	113.59	293	0.00	2.40	P-11(2)
EX.HYD-9	True	76.00	139.93	139.93	252	0.00	2.40	P-6
EX.HYD-10	True	76.00	125.16	125.16	279	0.00	2.40	P-6
EX.HYD-11	True	76.00	102.24	102.24	326	0.00	2.40	P-5
EX.HYD-12	True	76.00	118.23	118.23	335	0.00	2.40	P-57
EX.HYD-13	True	76.00	118.59	118.59	312	0.00	2.40	P-14(1)
EX.HYD-14	True	76.00	131.38	131.38	293	0.00	2.40	P-18
EX.HYD-15	True	76.00	88.99	88.99	356	0.00	2.40	P-18
EX.HYD-16	False	76.00	42.36	42.36	327	0.00	2.40	P-75
EX.HYD-17	True	31.67	42.41	42.41	317	0.00	2.40	P-86
J-2	True	47.32	300.00	300.00	353	0.00	1.35	P-2
J-3	True	47.32	300.00	300.00	370	0.00	1.69	P-54
J-4	True	47.32	116.92	116.92	350	0.00	2.40	P-4(1)
J-6	True	47.32	121.44	121.44	282	0.00	2.40	P-6
J-10	True	47.32	98.59	98.59	316	0.00	2.40	P-11(2)
J-11	True	47.32	136.20	136.20	311	0.00	2.40	P-12
J-12	True	47.32	167.21	167.21	302	0.00	2.40	P-57
J-13	True	47.32	121.68	121.68	307	0.00	2.40	P-14(2)
J-14	True	47.32	123.66	123.66	304	0.00	2.40	P-14(2)
J-17	True	47.32	275.87	275.87	337	0.00	2.40	P-19
J-18	True	47.32	284.99	284.99	335	0.00	2.40	P-19
J-19	True	47.32	250.15	250.15	330	0.00	2.40	P-23(2)
J-20	True	47.32	240.05	240.05	333	0.00	2.40	P-23(2)

Max Day Demand + Fire Flow Scenario
Fire Flow Report - Time: 0.00 hours

Label	Satisfies Fire Flow Constraints?	Flow (Total Needed) (L/s)	Fire Flow (Available) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)	Demand (L/s)	Velocity of Maximum Pipe (m/s)	Pipe w/ Maximum Velocity
J-21	True	47.32	300.00	300.00	348	0.00	2.37	P-24
J-23	True	47.32	139.49	139.49	313	0.00	2.40	P-25(1)
J-24	True	47.32	141.14	141.14	312	0.00	2.40	P-25(1)
J-25	True	47.32	134.92	134.92	317	0.00	2.40	P-29
J-26	True	47.32	121.92	121.92	336	0.00	2.40	P-30
J-29	True	47.32	133.59	133.59	276	0.00	2.40	P-36
J-32	True	48.75	73.96	75.40	342	1.43	2.40	P-37
J-33	True	48.75	73.96	75.40	342	1.43	2.40	P-38
J-34	True	47.32	109.89	109.89	308	0.00	2.40	P-32(1)
J-35	True	47.32	72.53	72.53	325	0.00	2.40	P-39
J-36	True	48.75	72.53	73.96	323	1.43	2.40	P-39
J-37	True	1.54	17.41	18.85	351	1.43	2.40	P-41
J-38	True	47.32	94.70	94.70	325	0.00	2.40	P-11(2)
J-39	True	48.75	73.96	75.40	334	1.43	2.40	P-42
J-40	True	48.75	73.96	75.40	330	1.43	2.40	P-43
J-41	True	47.32	100.09	100.09	313	0.00	2.40	P-11(2)
J-42	True	48.75	73.96	75.40	327	1.43	2.40	P-44
J-43	True	47.32	139.16	139.16	254	0.00	2.40	P-6
J-44	True	32.98	40.98	42.41	356	1.43	2.40	P-45
J-45	True	47.32	71.09	71.09	327	0.00	2.40	P-46
J-46	True	48.75	71.09	72.53	319	1.43	2.40	P-46
J-47	True	47.32	71.09	71.09	327	0.00	2.40	P-46
J-48	True	47.32	71.09	71.09	314	0.00	2.40	P-46
J-49	True	49.10	71.09	72.88	310	1.78	2.40	P-46
J-50	True	1.19	3.63	4.71	317	1.09	2.40	P-51
J-54	True	48.96	73.75	75.40	330	1.65	2.40	P-56
J-55	True	47.32	73.75	73.75	350	0.00	2.40	P-56
J-56	True	47.32	92.31	92.31	367	0.00	2.40	P-57
J-57	True	47.32	130.44	130.44	326	0.00	2.40	P-57
J-58	True	52.39	70.32	75.40	341	5.07	2.40	P-60
J-59	True	52.39	70.32	75.40	341	5.07	2.40	P-61
J-60	True	51.94	70.78	75.40	339	4.62	2.40	P-62
J-61	True	51.94	70.78	75.40	340	4.62	2.40	P-63
J-62	True	52.95	69.76	75.40	332	5.64	2.40	P-64
J-63	True	52.92	69.80	75.40	332	5.60	2.40	P-65
J-65	True	4.43	15.42	18.85	326	3.43	2.40	P-66

Max Day Demand + Fire Flow Scenario
Fire Flow Report - Time: 0.00 hours

Label	Satisfies Fire Flow Constraints?	Flow (Total Needed) (L/s)	Fire Flow (Available) (L/s)	Flow (Total Available) (L/s)	Pressure (Calculated Residual) (kPa)	Demand (L/s)	Velocity of Maximum Pipe (m/s)	Pipe w/ Maximum Velocity
J-66	True	47.32	72.53	72.53	332	0.00	2.40	P-67
J-67	True	48.75	72.53	73.96	331	1.43	2.40	P-67
J-68	True	1.54	17.41	18.85	346	1.43	2.40	P-69
J-71	True	50.33	72.39	75.40	346	3.01	2.40	P-70
J-72	True	3.53	15.42	18.85	353	3.43	2.40	P-71
J-73	True	47.32	95.57	95.57	362	0.00	2.40	P-4(1)
J-74	True	0.17	18.78	18.85	341	0.07	2.40	P-72
J-75	True	47.32	122.72	122.72	331	0.00	2.40	P-25(1)
J-76	True	47.32	252.93	252.93	329	0.00	2.40	P-23(2)
J-77	True	52.72	70.00	75.40	317	5.40	2.40	P-73
J-78	True	47.32	255.69	255.69	329	0.00	2.40	P-23(2)
J-79	True	52.72	70.00	75.40	317	5.40	2.40	P-74
J-80	True	47.32	229.82	229.82	336	0.00	2.40	P-23(2)
J-82	True	0.15	1.13	1.18	261	0.05	2.40	P-76
J-83	True	47.32	89.95	89.95	326	0.00	2.40	P-77
J-84	True	47.32	67.60	67.60	308	0.00	2.40	P-79(2)
J-85	True	47.32	297.14	297.14	331	0.00	2.40	P-19
J-86	True	47.32	57.64	57.64	327	0.00	2.40	P-78(1)
J-89	True	47.32	72.85	72.85	296	0.00	2.40	P-78(1)
J-91	True	47.32	74.10	74.10	294	0.00	2.40	P-78(1)
J-93	True	47.32	71.94	71.94	299	0.00	2.40	P-79(2)
J-95	True	47.32	59.78	59.78	324	0.00	2.40	P-79(2)

Peak Hour Demand Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
1096-A	266.00	1.34	301.41	347	(N/A)
1096-B	266.00	1.34	301.03	343	(N/A)
1096-C	266.00	1.34	300.58	338	(N/A)
1096-D	266.00	1.34	301.27	345	(N/A)
1096-E	266.00	1.34	301.18	344	(N/A)
1096-F	266.00	1.34	301.07	343	(N/A)
EX.HYD-1	265.50	0.00	301.79	355	(N/A)
EX.HYD-2	265.00	0.00	301.79	360	(N/A)
EX.HYD-3	264.50	0.00	301.47	362	(N/A)
EX.HYD-4	265.00	0.00	301.51	357	(N/A)
EX.HYD-5	264.50	0.00	301.29	360	(N/A)
EX.HYD-6	264.50	0.00	301.21	359	(N/A)
EX.HYD-7	264.50	0.00	301.20	359	(N/A)
EX.HYD-8	264.00	0.00	301.18	364	(N/A)
EX.HYD-9	263.00	0.00	301.18	374	(N/A)
EX.HYD-10	263.00	0.00	301.19	374	(N/A)
EX.HYD-11	263.50	0.00	301.36	371	(N/A)
EX.HYD-12	264.00	0.00	301.42	366	(N/A)
EX.HYD-13	263.50	0.00	301.18	369	(N/A)
EX.HYD-14	264.00	0.00	301.37	366	(N/A)
EX.HYD-15	264.00	0.00	301.72	369	(N/A)
EX.HYD-16	267.00	0.00	301.70	340	(N/A)
EX.HYD-17	266.00	0.00	301.68	349	(N/A)
J-2	265.00	0.00	301.79	360	(N/A)
J-3	263.50	0.00	301.79	375	(N/A)
J-4	263.50	0.00	301.50	372	(N/A)
J-6	263.50	0.00	301.19	369	(N/A)
J-10	265.00	0.00	301.18	354	(N/A)
J-11	264.50	0.00	301.20	359	(N/A)
J-12	264.50	0.00	301.23	359	(N/A)
J-13	263.50	0.00	301.17	369	(N/A)
J-14	263.50	0.00	301.17	369	(N/A)
J-17	265.00	0.00	301.69	359	(N/A)
J-18	265.00	0.00	301.69	359	(N/A)
J-19	266.00	0.00	301.67	349	(N/A)
J-20	266.00	0.00	301.68	349	(N/A)
J-21	266.00	0.00	301.80	350	(N/A)
J-23	264.50	0.00	301.47	362	(N/A)

Peak Hour Demand Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-24	264.50	0.00	301.47	362	(N/A)
J-25	264.50	0.00	301.47	362	(N/A)
J-26	265.00	0.00	301.52	357	(N/A)
J-29	264.50	0.00	301.21	359	(N/A)
J-32	264.50	3.20	301.47	362	(N/A)
J-33	264.50	3.20	301.47	362	(N/A)
J-34	265.00	0.00	301.33	356	(N/A)
J-35	264.50	0.00	301.20	359	(N/A)
J-36	264.50	3.20	301.20	359	(N/A)
J-37	264.50	3.20	301.16	359	(N/A)
J-38	265.00	0.00	301.19	354	(N/A)
J-39	265.00	3.20	301.18	354	(N/A)
J-40	265.00	3.20	301.18	354	(N/A)
J-41	265.00	0.00	301.18	354	(N/A)
J-42	265.00	3.20	301.18	354	(N/A)
J-43	263.00	0.00	301.18	374	(N/A)
J-44	263.00	3.20	301.17	374	(N/A)
J-45	264.00	0.00	301.18	364	(N/A)
J-46	264.00	3.20	301.18	364	(N/A)
J-47	264.00	0.00	301.18	364	(N/A)
J-48	264.00	0.00	301.16	364	(N/A)
J-49	264.00	3.98	301.16	364	(N/A)
J-50	264.00	2.42	299.66	349	(N/A)
J-54	263.50	3.67	301.62	373	(N/A)
J-55	263.00	0.00	301.62	378	(N/A)
J-56	263.00	0.00	301.63	378	(N/A)
J-57	264.00	0.00	301.32	365	(N/A)
J-58	263.50	11.31	301.16	369	(N/A)
J-59	263.50	11.31	301.16	369	(N/A)
J-60	265.00	10.30	301.64	359	(N/A)
J-61	265.00	10.30	301.64	359	(N/A)
J-62	266.00	12.56	301.61	349	(N/A)
J-63	266.00	12.48	301.62	349	(N/A)
J-65	264.50	7.64	300.78	355	(N/A)
J-66	265.00	0.00	301.33	356	(N/A)
J-67	265.00	3.20	301.33	356	(N/A)
J-68	265.00	3.20	301.29	355	(N/A)
J-71	264.00	6.71	301.32	365	(N/A)

Peak Hour Demand Scenario

Junction Table - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-72	263.50	7.64	301.20	369	(N/A)
J-73	263.50	0.00	301.61	373	(N/A)
J-74	264.00	0.16	301.48	367	(N/A)
J-75	264.10	0.00	301.48	366	(N/A)
J-76	266.00	0.00	301.67	349	(N/A)
J-77	268.00	12.03	301.63	329	(N/A)
J-78	266.00	0.00	301.67	349	(N/A)
J-79	268.00	12.03	301.63	329	(N/A)
J-80	266.00	0.00	301.70	349	(N/A)
J-82	267.00	0.12	301.59	339	(N/A)
J-83	266.00	0.00	301.77	350	(N/A)
J-84	266.00	0.00	301.68	349	(N/A)
J-85	265.10	0.00	301.68	358	(N/A)
J-86	266.00	0.00	301.72	350	(N/A)
J-89	266.00	0.00	301.68	349	(N/A)
J-91	266.00	0.00	301.68	349	(N/A)
J-93	266.00	0.00	301.68	349	(N/A)
J-95	266.00	0.00	301.68	349	(N/A)

Peak Hour Demand Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-51	23	J-48	J-50	50.0	100.0	2.42	1.23	(N/A)
P-66	37	J-25	J-65	100.0	100.0	7.64	0.97	(N/A)
P-71	21	J-72	J-73	100.0	100.0	-7.64	0.97	(N/A)
P-4(1)	33	J-3	J-73	200.0	110.0	26.87	0.86	(N/A)
P-57	36	R-3	J-56	200.0	110.0	24.59	0.78	(N/A)
P-30	65	J-26	J-2	200.0	110.0	-22.96	0.73	(N/A)
P-80	14	J-86	1096-A	50.0	100.0	1.34	0.68	(N/A)
P-81	30	J-86	1096-F	50.0	100.0	1.34	0.68	(N/A)
P-82	30	J-89	1096-B	50.0	100.0	1.34	0.68	(N/A)
P-83	23	J-91	1096-E	50.0	100.0	1.34	0.68	(N/A)
P-84	50	J-93	1096-C	50.0	100.0	1.34	0.68	(N/A)
P-85	19	J-95	1096-D	50.0	100.0	1.34	0.68	(N/A)
P-58(1)	61	J-56	EX.HYD-12	200.0	110.0	20.93	0.67	(N/A)
P-58(2)	27	EX.HYD-12	J-57	200.0	110.0	20.93	0.67	(N/A)
P-4(2)	36	J-73	J-4	200.0	110.0	19.23	0.61	(N/A)
P-23(2)	73	J-80	J-21	300.0	120.0	-39.05	0.55	(N/A)
P-23(1)	15	J-20	J-80	300.0	120.0	-38.93	0.55	(N/A)
P-16	99	J-14	EX.HYD-14	200.0	110.0	-15.59	0.50	(N/A)
P-17	171	EX.HYD-14	EX.HYD-15	200.0	110.0	-15.59	0.50	(N/A)
P-18	39	EX.HYD-15	R-2	200.0	110.0	-15.59	0.50	(N/A)
P-31	5	J-26	EX.HYD-4	200.0	110.0	14.84	0.47	(N/A)
P-32(1)	95	EX.HYD-4	J-34	200.0	110.0	14.84	0.47	(N/A)
P-19	120	R-2	J-17	300.0	120.0	32.20	0.46	(N/A)
P-59	58	J-57	J-12	200.0	110.0	14.22	0.45	(N/A)
P-5	92	J-4	EX.HYD-11	200.0	110.0	13.15	0.42	(N/A)
P-6	118	EX.HYD-11	J-6	200.0	110.0	13.15	0.42	(N/A)
P-41	9	J-35	J-37	100.0	100.0	3.20	0.41	(N/A)
P-69	10	J-66	J-68	100.0	100.0	3.20	0.41	(N/A)
P-64	43	J-19	J-62	200.0	110.0	12.56	0.40	(N/A)
P-65	44	J-20	J-63	200.0	110.0	12.48	0.40	(N/A)
P-73	31	J-76	J-77	200.0	110.0	12.03	0.38	(N/A)
P-74	31	J-78	J-79	200.0	110.0	12.03	0.38	(N/A)
P-22	15	J-19	J-20	300.0	120.0	-26.45	0.37	(N/A)
P-78(1)	25	J-83	J-86	150.0	100.0	6.59	0.37	(N/A)
P-60	14	J-13	J-58	200.0	110.0	11.31	0.36	(N/A)
P-61	14	J-14	J-59	200.0	110.0	11.31	0.36	(N/A)
P-62	51	J-17	J-60	200.0	110.0	10.30	0.33	(N/A)
P-63	48	J-18	J-61	200.0	110.0	10.30	0.33	(N/A)

Peak Hour Demand Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-24	14	J-21	R-1	400.0	120.0	-39.05	0.31	(N/A)
P-20	11	J-17	J-18	300.0	120.0	21.90	0.31	(N/A)
P-46	12	J-6	J-45	200.0	110.0	9.59	0.31	(N/A)
P-11(2)	19	J-38	J-11	200.0	110.0	-9.24	0.29	(N/A)
P-33	130	EX.HYD-5	J-29	200.0	110.0	8.44	0.27	(N/A)
P-32(2)	66	J-34	EX.HYD-5	200.0	110.0	8.44	0.27	(N/A)
P-29	80	J-25	J-26	200.0	110.0	-8.12	0.26	(N/A)
P-76	16	EX.HYD-16	J-82	25.0	100.0	0.12	0.24	(N/A)
P-54	71	J-3	R-4	400.0	120.0	-29.56	0.24	(N/A)
P-12	54	J-11	J-12	200.0	110.0	-7.19	0.23	(N/A)
P-14(1)	101	J-12	EX.HYD-13	200.0	110.0	7.03	0.22	(N/A)
P-14(2)	14	EX.HYD-13	J-13	200.0	110.0	7.03	0.22	(N/A)
P-78(2)(1)	53	J-86	J-89	150.0	100.0	3.91	0.22	(N/A)
P-70	19	J-57	J-71	200.0	110.0	6.71	0.21	(N/A)
P-77	65	R-2	J-83	200.0	110.0	6.59	0.21	(N/A)
P-39	22	J-29	J-35	200.0	110.0	6.40	0.20	(N/A)
P-48	2	J-45	J-47	200.0	110.0	6.40	0.20	(N/A)
P-49	35	J-47	J-48	200.0	110.0	6.40	0.20	(N/A)
P-67	5	J-34	J-66	200.0	110.0	6.40	0.20	(N/A)
P-21(2)	4	J-76	J-19	300.0	120.0	-13.90	0.20	(N/A)
P-25(1)	47	J-4	J-75	200.0	110.0	6.07	0.19	(N/A)
P-11(1)	23	J-10	J-38	200.0	110.0	-6.04	0.19	(N/A)
P-26	3	EX.HYD-3	J-23	200.0	110.0	5.92	0.19	(N/A)
P-25(2)	32	J-75	EX.HYD-3	200.0	110.0	5.92	0.19	(N/A)
P-45	10	J-43	J-44	150.0	100.0	3.20	0.18	(N/A)
P-21(1)(1)(1)	14	J-18	J-85	300.0	120.0	11.60	0.16	(N/A)
P-1	100	R-1	EX.HYD-1	400.0	120.0	20.27	0.16	(N/A)
P-2	48	EX.HYD-1	J-2	400.0	120.0	20.27	0.16	(N/A)
P-78(2)(2)(1)	4	J-89	J-91	150.0	100.0	2.57	0.15	(N/A)
P-21(1)(1)(2)	118	J-85	J-78	300.0	120.0	10.16	0.14	(N/A)
P-15	9	J-13	J-14	200.0	110.0	-4.28	0.14	(N/A)
P-50	11	J-48	J-49	200.0	110.0	3.98	0.13	(N/A)
P-55	43	J-54	J-55	200.0	110.0	-3.67	0.12	(N/A)
P-56	55	J-55	J-56	200.0	110.0	-3.67	0.12	(N/A)
P-7	22	J-6	EX.HYD-10	200.0	110.0	3.56	0.11	(N/A)
P-8(1)	75	EX.HYD-10	J-43	200.0	110.0	3.56	0.11	(N/A)
P-37	14	J-23	J-32	200.0	110.0	3.20	0.10	(N/A)
P-38	14	J-24	J-33	200.0	110.0	3.20	0.10	(N/A)

Peak Hour Demand Scenario
Pipe Table - Time: 0.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-40	6	J-35	J-36	200.0	110.0	3.20	0.10	(N/A)
P-42	6	J-38	J-39	200.0	110.0	3.20	0.10	(N/A)
P-43	8	J-10	J-40	200.0	110.0	3.20	0.10	(N/A)
P-44	10	J-41	J-42	200.0	110.0	3.20	0.10	(N/A)
P-47	25	J-45	J-46	200.0	110.0	3.20	0.10	(N/A)
P-68	5	J-66	J-67	200.0	110.0	3.20	0.10	(N/A)
P-10(2)	9	J-41	J-10	200.0	110.0	-2.84	0.09	(N/A)
P-27	3	J-23	J-24	200.0	110.0	2.72	0.09	(N/A)
P-79(2)	41	J-95	J-85	150.0	100.0	-1.44	0.08	(N/A)
P-78(2)(2)(2)(1)	48	J-91	J-93	150.0	100.0	1.24	0.07	(N/A)
P-34	5	J-29	EX.HYD-6	200.0	110.0	2.04	0.07	(N/A)
P-35	131	EX.HYD-6	EX.HYD-7	200.0	110.0	2.04	0.07	(N/A)
P-36	11	EX.HYD-7	J-11	200.0	110.0	2.04	0.07	(N/A)
P-21(1)(2)	4	J-78	J-76	300.0	120.0	-1.87	0.03	(N/A)
P-3(1)	86	J-2	EX.HYD-2	400.0	120.0	-2.69	0.02	(N/A)
P-3(2)	102	EX.HYD-2	J-3	400.0	120.0	-2.69	0.02	(N/A)
P-72	27	J-74	J-75	100.0	100.0	-0.16	0.02	(N/A)
P-28	24	J-24	J-25	200.0	110.0	-0.48	0.02	(N/A)
P-9	158	EX.HYD-9	EX.HYD-8	200.0	110.0	0.36	0.01	(N/A)
P-10(1)	88	EX.HYD-8	J-41	200.0	110.0	0.36	0.01	(N/A)
P-8(2)	4	J-43	EX.HYD-9	200.0	110.0	0.36	0.01	(N/A)
P-75	20	J-80	EX.HYD-16	150.0	100.0	0.12	0.01	(N/A)
P-78(2)(2)(2)(2)	15	J-93	J-84	150.0	100.0	-0.10	0.01	(N/A)
P-79(1)	28	J-84	J-95	150.0	100.0	-0.10	0.01	(N/A)
P-86	24	J-84	EX.HYD-17	150.0	100.0	0.00	0.00	(N/A)

Water Age Analysis

Junction Table - Time: 336.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
1096-A	266.00	0.17	301.79	350	0.919
1096-B	266.00	0.17	301.78	350	1.436
1096-C	266.00	0.17	301.77	350	4.209
1096-D	266.00	0.17	301.79	350	2.038
1096-E	266.00	0.17	301.79	350	1.536
1096-F	266.00	0.17	301.78	350	0.919
EX.HYD-1	265.50	0.00	301.80	355	1.340
EX.HYD-2	265.00	0.00	301.80	360	10.978
EX.HYD-3	264.50	0.00	301.79	365	1.770
EX.HYD-4	265.00	0.00	301.79	360	4.353
EX.HYD-5	264.50	0.00	301.79	365	5.319
EX.HYD-6	264.50	0.00	301.79	365	6.523
EX.HYD-7	264.50	0.00	301.79	365	10.877
EX.HYD-8	264.00	0.00	301.79	370	34.517
EX.HYD-9	263.00	0.00	301.79	380	4.566
EX.HYD-10	263.00	0.00	301.79	380	2.396
EX.HYD-11	263.50	0.00	301.79	375	1.359
EX.HYD-12	264.00	0.00	301.79	370	0.300
EX.HYD-13	263.50	0.00	301.79	375	1.657
EX.HYD-14	264.00	0.00	301.79	370	0.919
EX.HYD-15	264.00	0.00	301.80	370	0.171
EX.HYD-16	267.00	0.00	301.80	341	6.950
EX.HYD-17	266.00	0.00	301.80	350	336.011
J-2	265.00	0.00	301.80	360	4.061
J-3	263.50	0.00	301.80	375	0.655
J-4	263.50	0.00	301.79	375	0.884
J-6	263.50	0.00	301.79	375	1.968
J-10	265.00	0.00	301.79	360	3.814
J-11	264.50	0.00	301.79	365	3.415
J-12	264.50	0.00	301.79	365	0.676
J-13	263.50	0.00	301.79	375	1.676
J-14	263.50	0.00	301.79	375	1.352
J-17	265.00	0.00	301.80	360	0.572
J-18	265.00	0.00	301.80	360	0.672
J-19	266.00	0.00	301.80	350	0.585
J-20	266.00	0.00	301.80	350	0.485
J-21	266.00	0.00	301.80	350	0.100
J-23	264.50	0.00	301.79	365	1.870

Water Age Analysis

Junction Table - Time: 336.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-24	264.50	0.00	301.79	365	2.919
J-25	264.50	0.00	301.79	365	4.923
J-26	265.00	0.00	301.79	360	4.253
J-29	264.50	0.00	301.79	365	6.371
J-32	264.50	0.41	301.79	365	2.160
J-33	264.50	0.41	301.79	365	3.216
J-34	265.00	0.00	301.79	360	4.790
J-35	264.50	0.00	301.79	365	6.602
J-36	264.50	0.41	301.79	365	6.737
J-37	264.50	0.41	301.79	365	6.702
J-38	265.00	0.00	301.79	360	3.553
J-39	265.00	0.41	301.79	360	3.677
J-40	265.00	0.41	301.79	360	3.977
J-41	265.00	0.00	301.79	360	9.332
J-42	265.00	0.41	301.79	360	9.544
J-43	263.00	0.00	301.79	380	3.840
J-44	263.00	0.41	301.79	380	3.961
J-45	264.00	0.00	301.79	370	2.068
J-46	264.00	0.41	301.79	370	2.592
J-47	264.00	0.00	301.79	370	2.168
J-48	264.00	0.00	301.79	370	2.540
J-49	264.00	0.51	301.79	370	2.732
J-50	264.00	0.31	301.75	369	2.640
J-54	263.50	0.47	301.80	375	1.921
J-55	263.00	0.00	301.80	380	1.128
J-56	263.00	0.00	301.80	380	0.100
J-57	264.00	0.00	301.79	370	0.400
J-58	263.50	1.45	301.79	375	1.776
J-59	263.50	1.45	301.79	375	1.452
J-60	265.00	1.32	301.80	360	0.910
J-61	265.00	1.32	301.80	360	0.992
J-62	266.00	1.61	301.80	350	0.819
J-63	266.00	1.60	301.80	350	0.724
J-65	264.50	0.98	301.78	365	5.023
J-66	265.00	0.00	301.79	360	4.890
J-67	265.00	0.41	301.79	360	5.003
J-68	265.00	0.41	301.79	360	4.990
J-71	264.00	0.86	301.79	370	0.588

Water Age Analysis

Junction Table - Time: 336.00 hours

Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Age (Calculated) (hours)
J-72	263.50	0.98	301.79	375	0.855
J-73	263.50	0.00	301.80	375	0.755
J-74	264.00	0.02	301.79	370	4.335
J-75	264.10	0.00	301.79	369	1.406
J-76	266.00	0.00	301.80	350	0.685
J-77	268.00	1.54	301.80	331	0.858
J-78	266.00	0.00	301.80	350	2.384
J-79	268.00	1.54	301.80	331	2.557
J-80	266.00	0.00	301.80	350	0.385
J-82	267.00	0.01	301.80	341	7.095
J-83	266.00	0.00	301.80	350	0.675
J-84	266.00	0.00	301.80	350	12.053
J-85	265.10	0.00	301.80	359	0.860
J-86	266.00	0.00	301.80	350	0.819
J-89	266.00	0.00	301.80	350	1.336
J-91	266.00	0.00	301.80	350	1.436
J-93	266.00	0.00	301.80	350	4.049
J-95	266.00	0.00	301.80	350	1.938

Water Age Analysis

Pipe Table - Time: 336.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	
P-51	23	J-48	J-50	50.0	100.0	0.31	0.16	2.540
P-66	37	J-25	J-65	100.0	100.0	0.98	0.12	4.923
P-71	21	J-72	J-73	100.0	100.0	-0.98	0.12	0.755
P-4(1)	33	J-3	J-73	200.0	110.0	3.44	0.11	0.655
P-57	36	R-3	J-56	200.0	110.0	3.15	0.10	0.000
P-30	65	J-26	J-2	200.0	110.0	-2.94	0.09	4.109
P-80	14	J-86	1096-A	50.0	100.0	0.17	0.09	0.819
P-81	30	J-86	1096-F	50.0	100.0	0.17	0.09	0.819
P-82	30	J-89	1096-B	50.0	100.0	0.17	0.09	1.336
P-83	23	J-91	1096-E	50.0	100.0	0.17	0.09	1.436
P-84	50	J-93	1096-C	50.0	100.0	0.17	0.09	4.087
P-85	19	J-95	1096-D	50.0	100.0	0.17	0.09	1.938
P-58(1)	61	J-56	EX.HYD-12	200.0	110.0	2.68	0.09	0.150
P-58(2)	27	EX.HYD-12	J-57	200.0	110.0	2.68	0.09	0.300
P-4(2)	36	J-73	J-4	200.0	110.0	2.46	0.08	0.777
P-23(2)	73	J-80	J-21	300.0	120.0	-5.01	0.07	0.195
P-23(1)	15	J-20	J-80	300.0	120.0	-4.99	0.07	0.385
P-16	99	J-14	EX.HYD-14	200.0	110.0	-2.00	0.06	1.088
P-17	171	EX.HYD-14	EX.HYD-15	200.0	110.0	-2.00	0.06	0.497
P-18	39	EX.HYD-15	R-2	200.0	110.0	-2.00	0.06	0.042
P-31	5	J-26	EX.HYD-4	200.0	110.0	1.90	0.06	4.253
P-32(1)	95	EX.HYD-4	J-34	200.0	110.0	1.90	0.06	4.524
P-19	120	R-2	J-17	300.0	120.0	4.13	0.06	0.238
P-59	58	J-57	J-12	200.0	110.0	1.82	0.06	0.491
P-5	92	J-4	EX.HYD-11	200.0	110.0	1.69	0.05	1.073
P-6	118	EX.HYD-11	J-6	200.0	110.0	1.69	0.05	1.614
P-41	9	J-35	J-37	100.0	100.0	0.41	0.05	6.602
P-69	10	J-66	J-68	100.0	100.0	0.41	0.05	4.890
P-64	43	J-19	J-62	200.0	110.0	1.61	0.05	0.657
P-65	44	J-20	J-63	200.0	110.0	1.60	0.05	0.560
P-73	31	J-76	J-77	200.0	110.0	1.54	0.05	0.727
P-74	31	J-78	J-79	200.0	110.0	1.54	0.05	2.427
P-22	15	J-19	J-20	300.0	120.0	-3.39	0.05	0.485
P-78(1)	25	J-83	J-86	150.0	100.0	0.85	0.05	0.705
P-60	14	J-13	J-58	200.0	110.0	1.45	0.05	1.676
P-61	14	J-14	J-59	200.0	110.0	1.45	0.05	1.352
P-62	51	J-17	J-60	200.0	110.0	1.32	0.04	0.694
P-63	48	J-18	J-61	200.0	110.0	1.32	0.04	0.784

Water Age Analysis

Pipe Table - Time: 336.00 hours

Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-24	14	J-21	R-1	400.0	120.0	-5.01	0.04	0.000
P-20	11	J-17	J-18	300.0	120.0	2.81	0.04	0.572
P-46	12	J-6	J-45	200.0	110.0	1.23	0.04	1.968
P-11(2)	19	J-38	J-11	200.0	110.0	-1.18	0.04	3.442
P-33	130	EX.HYD-5	J-29	200.0	110.0	1.08	0.03	5.796
P-32(2)	66	J-34	EX.HYD-5	200.0	110.0	1.08	0.03	5.006
P-29	80	J-25	J-26	200.0	110.0	-1.04	0.03	4.539
P-76	16	EX.HYD-16	J-82	25.0	100.0	0.01	0.03	6.981
P-54	71	J-3	R-4	400.0	120.0	-3.79	0.03	0.279
P-12	54	J-11	J-12	200.0	110.0	-0.92	0.03	0.886
P-14(1)	101	J-12	EX.HYD-13	200.0	110.0	0.90	0.03	1.118
P-14(2)	14	EX.HYD-13	J-13	200.0	110.0	0.90	0.03	1.681
P-78(2)(1)	53	J-86	J-89	150.0	100.0	0.50	0.03	1.029
P-70	19	J-57	J-71	200.0	110.0	0.86	0.03	0.446
P-77	65	R-2	J-83	200.0	110.0	0.85	0.03	0.289
P-39	22	J-29	J-35	200.0	110.0	0.82	0.03	6.441
P-48	2	J-45	J-47	200.0	110.0	0.82	0.03	2.068
P-49	35	J-47	J-48	200.0	110.0	0.82	0.03	2.307
P-67	5	J-34	J-66	200.0	110.0	0.82	0.03	4.790
P-21(2)	4	J-76	J-19	300.0	120.0	-1.78	0.03	0.585
P-25(1)	47	J-4	J-75	200.0	110.0	0.78	0.02	1.096
P-11(1)	23	J-10	J-38	200.0	110.0	-0.77	0.02	3.638
P-26	3	EX.HYD-3	J-23	200.0	110.0	0.76	0.02	1.770
P-25(2)	32	J-75	EX.HYD-3	200.0	110.0	0.76	0.02	1.541
P-45	10	J-43	J-44	150.0	100.0	0.41	0.02	3.857
P-21(1)(1)(1)	14	J-18	J-85	300.0	120.0	1.49	0.02	0.718
P-1	100	R-1	EX.HYD-1	400.0	120.0	2.60	0.02	0.621
P-2	48	EX.HYD-1	J-2	400.0	120.0	2.60	0.02	1.613
P-78(2)(2)(1)	4	J-89	J-91	150.0	100.0	0.33	0.02	1.336
P-21(1)(1)(2)	118	J-85	J-78	300.0	120.0	1.30	0.02	1.697
P-15	9	J-13	J-14	200.0	110.0	-0.55	0.02	1.380
P-50	11	J-48	J-49	200.0	110.0	0.51	0.02	2.588
P-55	43	J-54	J-55	200.0	110.0	-0.47	0.01	1.475
P-56	55	J-55	J-56	200.0	110.0	-0.47	0.01	0.565
P-7	22	J-6	EX.HYD-10	200.0	110.0	0.46	0.01	2.134
P-8(1)	75	EX.HYD-10	J-43	200.0	110.0	0.46	0.01	3.068
P-37	14	J-23	J-32	200.0	110.0	0.41	0.01	1.966
P-38	14	J-24	J-33	200.0	110.0	0.41	0.01	3.018

Water Age Analysis
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Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Age (Calculated) (hours)
P-40	6	J-35	J-36	200.0	110.0	0.41	0.01	6.628
P-42	6	J-38	J-39	200.0	110.0	0.41	0.01	3.572
P-43	8	J-10	J-40	200.0	110.0	0.41	0.01	3.853
P-44	10	J-41	J-42	200.0	110.0	0.41	0.01	9.391
P-47	25	J-45	J-46	200.0	110.0	0.41	0.01	2.282
P-68	5	J-66	J-67	200.0	110.0	0.41	0.01	4.901
P-10(2)	9	J-41	J-10	200.0	110.0	-0.36	0.01	3.881
P-27	3	J-23	J-24	200.0	110.0	0.35	0.01	1.870
P-79(2)	41	J-95	J-85	150.0	100.0	-0.19	0.01	1.349
P-78(2)(2)(2)(1)	48	J-91	J-93	150.0	100.0	0.16	0.01	2.131
P-34	5	J-29	EX.HYD-6	200.0	110.0	0.26	0.01	6.405
P-35	131	EX.HYD-6	EX.HYD-7	200.0	110.0	0.26	0.01	8.650
P-36	11	EX.HYD-7	J-11	200.0	110.0	0.26	0.01	11.009
P-21(1)(2)	4	J-78	J-76	300.0	120.0	-0.24	0.00	0.810
P-3(1)	86	J-2	EX.HYD-2	400.0	120.0	-0.34	0.00	15.306
P-3(2)	102	EX.HYD-2	J-3	400.0	120.0	-0.34	0.00	5.767
P-72	27	J-74	J-75	100.0	100.0	-0.02	0.00	2.821
P-28	24	J-24	J-25	200.0	110.0	-0.06	0.00	6.575
P-9	158	EX.HYD-9	EX.HYD-8	200.0	110.0	0.05	0.00	19.492
P-10(1)	88	EX.HYD-8	J-41	200.0	110.0	0.05	0.00	42.824
P-8(2)	4	J-43	EX.HYD-9	200.0	110.0	0.05	0.00	4.154
P-75	20	J-80	EX.HYD-16	150.0	100.0	0.01	0.00	3.618
P-78(2)(2)(2)(2)	15	J-93	J-84	150.0	100.0	-0.01	0.00	14.684
P-79(1)	28	J-84	J-95	150.0	100.0	-0.01	0.00	6.945
P-86	24	J-84	EX.HYD-17	150.0	100.0	0.00	0.00	326.311