Strandherd Limited Partnership

FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

IN SUPPORT OF THE SITE PLAN APPLICATION

4175 Strandherd Drive, City of Ottawa

Our File: 263560

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Submitted by
Dillon Consulting Limited

8395 Jane Street, Suite 100
Vaughan, ON L4K 5Y2
P: 905.326.1404
E: gdiluca@dillon.ca

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1.0 Executive Summary

Dillon Consulting Ltd. ("Dillon") has been retained by Strandherd Limited Partnership, CHP Management LP ("Client") to prepare this Functional Servicing and Stormwater Management Report in support of the Site Plan Approval Submission of the proposed greenfield development of the lands at 4175 Strandherd Drive in the City of Ottawa.

The subject site consists of Block 3 of the Citi Gate 416 Corporate Campus Development and has an area of **5.27 ha.** The site has been used for agricultural purposes, and it is currently a greenfield with no evidence of previous development.

The site is bound by Systemhouse Street to the north, Strandherd Drive to the east, a commercial development to the south (car dealership), and the O'Keefe Drain corridor to the west. The purpose of the development is the construction of ten commercial retail buildings, all single-storey and without basements. The commercial buildings will have a total floor area of approximately **1.15 ha,** which will include retail and restaurant uses. The development will include drive aisles, entrances and parking areas. The development includes three proposed entrances, two from Strandherd Drive, one of which will be fully signalized, and one entrance from Systemhouse Street.

This report demonstrates that the proposed development can be serviced through the utilization of both existing and new infrastructure without any adverse impact on the municipal services of the surrounding areas. The storm sewer and stormwater management design, the sanitary sewer servicing and the water servicing proposed for the site conform with the design requirements of the approved Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1) prepared by Novatech, dated January 2015, and is in general conformance with City of Ottawa design criteria. The servicing strategy is summarized as follows:

Water Servicing:

There are existing municipal watermains available in the adjacent streets to the sites area. There is an existing 400 mmø watermain on Strandherd Drive and an existing 250 mmø watermain on Systemhouse Street. It is proposed, as per the Citi Gate 416 Corporate Campus Detailed Servicing and Storm management Report (Phase 1), that the subject site will be serviced by connecting a proposed 200 mmø watermain internal to the site to the existing 250 mmø watermain on Systemhouse Street to the north, and to an existing 200 mmø stub which has been provided near the east property line of the site along the Strandherd Drive, which connects to the existing 400 mmø watermain on that street.

The proposed 200 mmø on site watermain will form a loop to which all proposed buildings and the six proposed hydrants within the site will connect. The six proposed hydrants will provide coverage for the site. There are also two existing hydrants on the south boulevard of Systemhouse Street, and there are four existing hydrants on the boulevard on the east side of Strandherd Drive.

The domestic water demands were calculated following MECP Design Guidelines for Drinking-Water Systems average values for commercial use. Peaking factors for domestic commercial water flows follow City of Ottawa's Sewer Design Guideline value of 1.5 times the average flows. Fire flows were calculated using the FUS 2020 calculations.

Watermain modelling was completed with EPANET. The modelling confirmed the proposed watermain system will have adequate flow and pressure to service the proposed development under all applicable conditions including max day, peak hour, and max day + fire flow. No external upgrades or retrofits are required on the existing surrounding watermain network to service the proposed development.

Sanitary Servicing:

The proposed sanitary serving of the site is designed to conform to the requirements of the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1) in terms of location of site service connection and allowable discharge rate to the municipal sanitary sewers.

The proposed sanitary service connection from the site will connect to the existing 375 mmø municipal sanitary sewer in Systemhouse Street.

The allowable design sanitary flows from the site are 4.58 L/s (not including infiltration) and **6.06 L/s,** including infiltration flows, as per in Appendix B – Sanitary Sewer Design Sheets of the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1). The total site flows calculated using flow rates for retail and restaurant uses as per Appendix 4-A of the Sewer Design Guideline, City of Ottawa, Infrastructure Services Department, are a total of **3.87 L/s**, including infiltration flows, which is less than the allowable flows and thus meeting the requirements.

Stormwater Servicing:

Post-development stormwater flows are to be controlled to allowable release rates which has been established in the Citi Gate 416 Corporate Campus Detailed Servicing and Stormwater Management Report (Novatech, 2014).

The on-site water quantity requirements will be achieved by rooftop storage, in-sewer underground storage, and parking lot surface storage in combination with a 170mm orifice plate control, at the downstream side of MH1, in order to attenuate storm run-off to the required level.

A Stormceptor STC 9000 Oil Grit Separator (OGS) quality control unit will be provided downstream of MH9, in order to achieve the minimum 80% TSS removal quality control criteria.

2.0 Introduction

2.1 Purpose

This Functional Servicing and Stormwater Management Report has been prepared in support of Site Plan Approval application being submitted for the subject lands at 4175 Strandherd Drive, which consist of Block 3 of the approved Citi Gate 416 Corporate Campus Development in the City of Ottawa.

The purpose of this Report is to demonstrate thar the sites storm, sanitary, water and stormwater management servicing design are in conformance with the requirements of the approved Citi Gate 416 Corporate Campus Development, and City of Ottawa design guidelines.

This Report is also intended to meet the requirements of development approval under the Planning Act, which in turn satisfies the conditions for the Municipal Class Environment Assessment process for the storm and sanitary sewers, stormwater management, water distribution and road servicing for the subject lands.

2.2 Background

Dillon Consulting Ltd. ("Dillon") has been retained by Strandherd Limited Partnership, CHP Management LP ("Client") to prepare this Functional Servicing and Stormwater Management Report in support of the Site Plan Approval Submission of the proposed greenfield development of the lands at 4175 Strandherd Drive in the City of Ottawa.

The subject site consists of Block 3 of the Citi Gate 416 Corporate Campus Development and has an area of **5.27 ha** (including the road widening). The site has been used for agricultural purposes, and it is currently a greenfield with no evidence of previous development.

The site is bound by Systemhouse Street to the north, Strandherd Drive to the east, a commercial development to the south (car dealership), and the O'Keefe Drain corridor to the west. The proposed development includes the construction of ten commercial retail buildings, all single-storey without basements. The commercial buildings will have a total floor area of approximately **1.15 ha** which will include retail and restaurant uses. The development will include drive aisles, entrances and parking areas. The development includes three proposed entrances, two from Strandherd Drive, one of which will be fully signalized, and one entrance from Systemhouse Street.

Table 1 below lists the total floor areas per proposed building and the approximate floor area of each building per type of proposed use, that is retail/commercial or restaurant use.

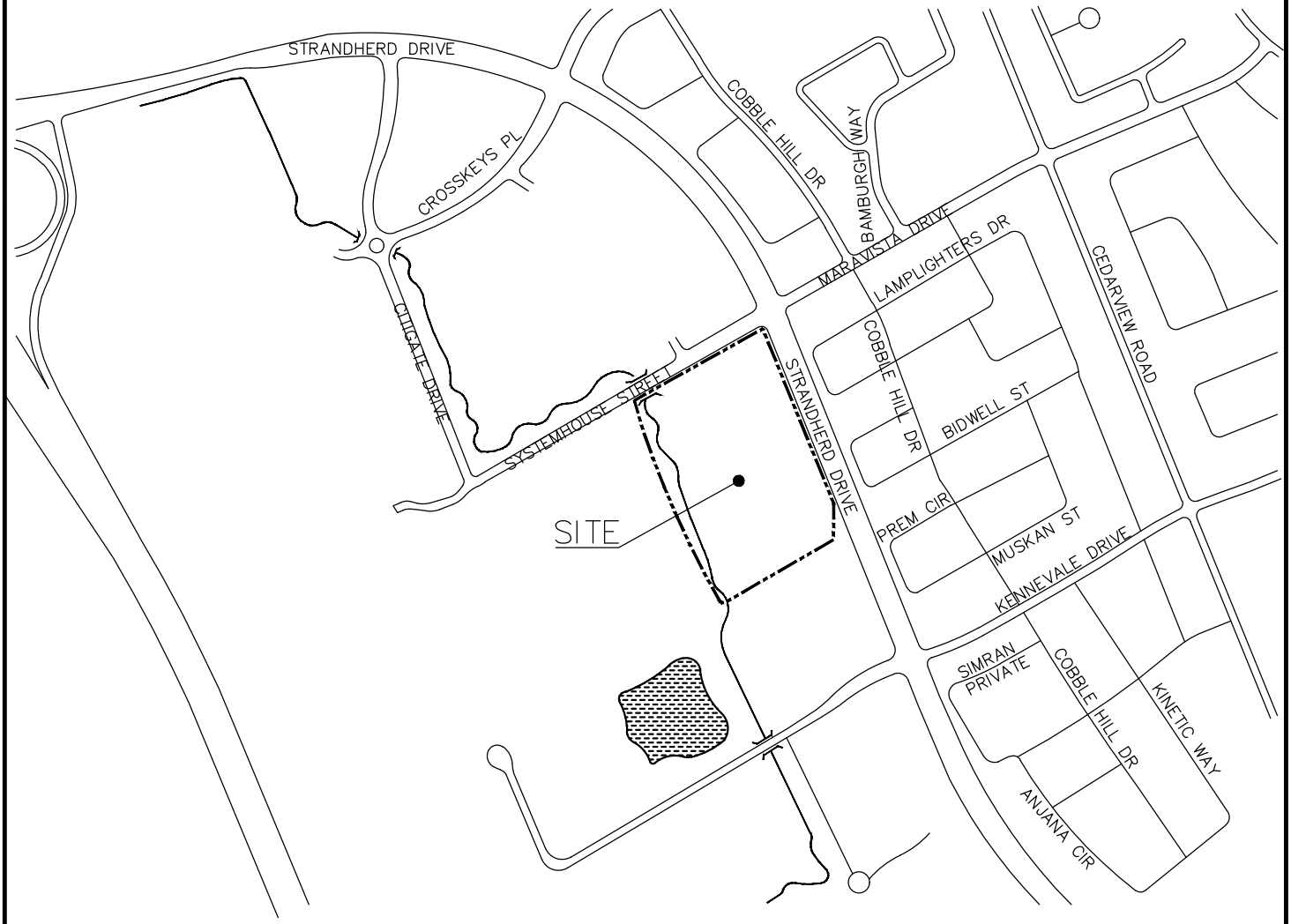
Table 1: Proposed Building Floor Areas and Uses

Building	Total Floor Area (Ha)	Retail /Commercial Floor Area (Ha)	Restaurant Floor Area (Ha)
CRU1	0.2776	0.2637	0.0139
CRU2	0.1592	0.1592	0.0000
CRU3	0.1915	0.1915	0.0000
CRU4	0.1230	0.1230	0.0000
CRU5	0.0196	0.0000	0.0196
CRU6	0.1258	0.0564	0.0694
CRU7	0.0961	0.0333	0.0628
CRU8	0.0409	0.0000	0.0409
CRU9	0.0751	0.0000	0.0751
CRU10	0.0464	0.0000	0.0464
TOTAL	**1.1552**	**0.8271**	**0.3281**

2.3 Study Parameters

The background documents listed below have been considered in the grading and servicing design for the proposed site and preparation of this Functional Servicing Report:

- Sewer Design Guideline, City of Ottawa, Infrastructure Services Department, December 2025;
- Water Distribution Design Guideline, City of Ottawa, Infrastructure and Water Services Department, December 8, 2025;
- City of Ottawa Plan and Profiles;
- Fire Underwriters Survey, 2020;
- Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1), by Novatech, October 1, 2014;
- Site Plan, Prepared by Hobin Architecture, August 2026.
- Topographic Survey, Block 3, Registered Plan 4M-1538, Citty of Ottawa, by Annis, O'Sullivan, Vollebekk LTD, July 3, 2026;
- Geotechnical Investigation, Proposed Commercial development, 4175 Strandherd Drive, Ottawa, Ontario, by Paterson Group, dated November 24, 2025.



DILLON | COUNTERPOINT LAND DEVELOPMENT
8395 Jane St., Suite 100, Vaughan, ON L4K 5Y2 Phone 905.326.1404 Fax 905.326.1405

KEY PLAN

LOCATION

4175 STRANDHERD RETAIL - CHOICE REIT

DESIGNED BY: G.R	DATE: AUG. 2026
CHECKED BY: G.M	PROJECT No. FIG: 1
DRAWING BY: J.Y.S	
CHECKED BY: R.H	FIGURE No. 263560
SCALE: N.TS	

3.0 WATERMAIN SERVICING

3.1 Existing Water Servicing

The site is currently a greenfield and therefore does not have existing water use. There are existing municipal watermains available in the municipal streets adjacent to the site. There is an existing 400 mmø watermain on Strandherd Drive, and an existing 250 mmø watermain on Systemhouse Street. An existing 200 mmø water service stub is currently installed to the property line of the site along Strandherd Drive. This existing water service stub will be used as one of the proposed water service connections to the site. There are existing hydrants within the municipal right-of-way ("ROW") adjacent to the site which may be used for firefighting. Four hydrants are available on Strandherd Drive east boulevard, opposite to the site, and two on Systemhouse Street south boulevard, next to the site.

3.2 Proposed Water Servicing

It is proposed, as per the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1), that the subject site will be service by connecting the proposed 200 mmø watermain internal to the site to the existing 250 mmø watermain on Systemhouse Street to the north, and to the existing 200 mmø water service stub from Strandherd Drive, which connects to the existing 400 mmø watermain.

The proposed 200 mmø on site watermain will form a loop to which all proposed buildings and the six proposed hydrants will connect. The six proposed hydrants will provide coverage for the site.

3.3 Water Demand

The domestic water demands were calculated following Table 3-2: *Typical Water demands for selected Commercial and Institutional Users* of the MECP Design Guidelines for Drinking-Water Systems. The average values for commercial use (Shopping Centres) of 5 liters/m^2/day was used to calculate water demand instead of the 2.5 liters/m^2/day in the City of Ottawa Water Distribution Design Guidelines because it provides for a more conservative result. Fire flow demands were estimated using the Fire Underwriters Survey. Maximum Day + Fire Flow governs the water demand for the proposed development. Refer to **Appendix B** for detailed water service calculations.

2 below shows the result of the calculations of commercial domestic average, maximum day and maximum hour demands, the required Fire Flow, and Max Day + Fire Flow per building (CRU's 1 to 10), and total site demands.

Table 2: Water Demands

Building	Building Area* (m^2)	Average Daily Demand (L/s)	Maximum Day Demand (L/s)	Maximum Hour Demand (L/s)	Fire Flow (L/s)	Max Day Flow + Fire Flow (L/s)	Max Day Flow + Fire Flow (L/min)	Max Day Flow + Fire Flow (GPM)
CRU 1	2,647	0.15	0.23	0.41	75.70	75.93	4,555.8	1,203.6
CRU 2	1,592	0.09	0.14	0.25	66.67	66.80	4,008.3	1,059.0
CRU 3	1,915	0.11	0.17	0.30	66.67	66.83	4,010.0	1,059.4
CRU 4	1,230	0.07	0.11	0.19	50.00	50.11	3,006.4	794.3
CRU 5	196	0.01	0.02	0.03	33.33	33.35	2,001.0	528.7
CRU 6	1,258	0.07	0.11	0.20	50.00	50.11	3,006.6	794.3
CRU 7	961	0.06	0.08	0.15	50.00	50.08	3,005.0	793.9
CRU 8	409	0.02	0.04	0.06	33.33	33.37	2,002.1	529.0
CRU 9	751	0.04	0.07	0.12	50.00	50.07	3,003.9	793.6
CRU 10	464	0.03	0.04	0.07	33.33	33.37	2,002.4	529.0
TOTAL SITE	**11,423**	**0.66**	**0.99**	**1.78**	**75.70**	**76.69**	**4,601.5**	**1,215.7**

The total demand is the greater of Maximum Day + Fire Flow or the Peak Hour Demand. Based on Fire Flow requirements, Maximum Day + Fire Flow governs the water demand for the proposed development**.** The maximum day + fire flow **is 4,601.5 L/min.**

As per City of Ottawa Water Distribution Design Guidelines the design objectives, the water pressure and demand objectives, will be the following:

In general conformity with the MOE Guideline, all new development additions to the public water distribution system shall be designed so that, on a continuous basis, the minimum and maximum water pressures as well as flow rates conform to the following objectives:

- The desired range of system pressures should be approximately 350 to 480 kPa (50 to 0 70 psi) and not less than 275 kPa (40 psi) during normal operating conditions.
- Where fire flow has been provided; during periods of maximum day and fire flow demand the residual pressure at any point of the distribution system shall not be less than 140 kPa (20 psi).

- In accordance with the Ontario Code and Guide of Plumbing the maximum pressure at any point in the distribution system in occupied areas outside of the public right-of-way shall not exceed 552 kPa (80 psi).
- The maximum pressure at any point in the distribution system in unoccupied areas shall not exceed 552 kPa (80 psi).
- Feedermains, which have been provided primarily for the purpose of redundancy, shall meet, at a minimum, the basic day plus fire flow demand.

Two water meters in chamber have been included in the design of the water servicing of the site, one per each of the water connections to the municipal distribution system as per City of Ottawa's standard drawing W32.1. Each water meter will include a check valve to isolate the water within the site. The chambers will be type R-3 with 3.00 m X 2.40 m internal dimensions. Meter sizing and installation are to be provided by the City.

3.4 Watermain Modelling

Watermain modeling has been performed as requested by the City to evaluate the available pressures in the watermain system. The watermain analysis utilized EPANET to evaluate the capacity of the surrounding water infrastructure and available pressures. The model was run based on the average day, peak hour and maximum day + fire flow demands for the proposed development. The model analyzed max day + fire flow demand scenarios during fire flow conditions at proposed Building CRU1 to CRU10.

The model was set up with boundary conditions locations (i.e., pumps) as follows:

1. One connection at the existing 400 mm ø watermain along Strandherd Drive
2. One connection at the existing 250 mm ø watermain along Systemhouse Street

The characteristics of the supply/connection points were established based on the boundary conditions received from the City staff on July 23, 2026. These boundary conditions have been included in **Appendix B**. The results of the water distribution modeling are summarized in **Tables 3** to **4** below:

Table 3: Proposed Conditions Residual Pressures During Non-Fire Flow Scenarios

Scenario	Highest Pressure			Satisfies Pressure Requirements?
	Pressure (m H_2O)	Pressure (psi)	Pressure (kPa)	
Max. Day	53.68	76.33	526.29	Yes
Peak Hour	53.49	76.00	524.42	Yes
Scenario	**Lowest Pressure**			**Satisfies Pressure Requirements?**
	Pressure (m H_2O)	**Pressure (psi)**	**Pressure (kPa)**	
Max. Day	52.23	74.27	512.07	Yes
Peak Hour	52.04	74.00	510.21	Yes

Table 4: Proposed Conditions Residual Pressures During Fire Flow Scenarios

Fire Flow Location	Max. Day + Fire Flow (L/s)	Max. Velocity (m/s)	Lowest Pressure			Satisfies Fire Flow Requirements?
			Pressure (m H_2O)	Pressure (psi)	Pressure (kPa)	
CRU1	75.93	2.42	46.51	66.14	455.99	Yes
CRU2	66.80	2.13	48.08	68.37	471.38	Yes
CRU3	66.83	2.13	47.12	67.00	461.97	Yes
CRU4	50.11	2.84	48.78	69.36	478.25	Yes
CRU5	33.35	1.89	49.35	70.17	483.83	Yes
CRU6	50.11	1.60	49.89	70.94	489.13	Yes
CRU7	50.08	2.84	43.07	61.24	422.26	Yes
CRU8	33.37	1.90	47.31	67.27	463.83	Yes
CRU9	50.07	2.84	39.10	55.60	383.34	Yes
CRU10	33.37	1.89	49.59	70.52	486.19	Yes

Refer to **Appendix B** for the details and full model outputs. As per the City of Ottawa standards, required pressure ranges are outlined as follows:

- Preferred design pressure during normal operating conditions is within 345 kPa to 552 kPa
- Minimum pressure under non-fire conditions shall not be below 275 kPa
- Minimum pressure under max day + fire flow conditions is 140 kPa

As seen from **Table 3** and **Table 4** above, adequate pressure is available in the existing system to service the proposed development and maintain pressures within the required range.

The proposed watermain system will therefore have adequate flow and pressure to service the proposed development under fire flow conditions. The proposed water distribution system for the development shall adequately provide max day + fire flow demand, while maintaining a residual pressure of over 140 kPa, as per the City of Ottawa criteria. Therefore, no external upgrades or retrofits are required on the existing surrounding watermain network to service the proposed development.

4.0 SANITARY SERVICING

4.1 Existing Sanitary Servicing

The site is currently a greenfield and therefore it generates no existing sanitary sewer demand. There are existing municipal sanitary sewers available in the municipal ROWs adjacent to the site. There is an existing 375 mmø sanitary sewer on Systemhouse Street and a 525 mmø sanitary sewer on Strandherd Drive.

4.2 Proposed Sanitary Servicing

The proposed sanitary serving of the site is designed to conform to the requirements of the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1). The proposed sanitary service connection from the site will be to the north of the site where the proposed 250 mmø sanitary sewer pipe from the site will connect to the existing 375 mmø in Systemhouse Street.

All buildings on the site will connect to proposed 250 mmø sanitary sewers which will convey the flows to the outlet connection from the site.

The allowable design sanitary flows from the site are 4.58 L/s (not including infiltration) and **6.06 L/s,** including infiltration flows, as per the sanitary design sheet in Appendix B – Sanitary Sewer Design Sheets of the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1).

The average sanitary flow rates from the proposed buildings were calculated based on the daily sewage flow rates for different types of building uses listed in Appendix 4-A of the Sewer Design Guideline, City of Ottawa, Infrastructure Services Department. A retail/commercial daily volume of 5 L/day per square meter of floor area was used for retail stores, and 125 L/seat/day was used for restaurant floor areas, with an estimated assignment of one restaurant seat every 5 square meters of restaurant area. The peaking factor used is 1.50 for commercial contribution as per Figure 4.3 of the City of Ottawa's Sewer Design Guideline. The infiltration allowance used in the flow calculations is 0.33 L/s/ha of effective gross area, also as per Figure 4.3 of the Sewer design Guideline. The total flows generated from the site based on actual proposed building areas and on estimated proposed retail and restaurant uses is a total of **3.87 L/s**, including infiltration flows, which is less than the allowable flows **6.06 L/s**, and thus meeting the requirements.

Table 5 below presents the proposed design flows calculated for each building and the site totals.

Table 5: Proposed Building/Site Sanitary Flows

Building	Gross Area for Infiltration(Ha)	Retail /Commercial Floor Area (Ha)	Restaurant Floor Area (Ha)	Average Building Flows (litres/s)	Peak Building Flows (litres/s)	Infiltration (litres/s)	Total Flows (litres/s)
CRU1	1.015	0.2515	0.0132	0.184	0.276	0.335	0.611
CRU2	0.523	0.1592	0.0000	0.092	0.138	0.173	0.311
CRU3	0.488	0.1915	0.0000	0.111	0.166	0.161	0.327
CRU4	0.513	0.1230	0.0000	0.071	0.107	0.169	0.276
CRU5	0.238	0.0000	0.0196	0.057	0.085	0.079	0.164
CRU6	0.508	0.0564	0.0694	0.233	0.350	0.168	0.518
CRU7	0.489	0.0333	0.0628	0.201	0.301	0.161	0.463
CRU8	0.580	0.0000	0.0409	0.118	0.178	0.191	0.369
CRU9	0.377	0.0000	0.0751	0.217	0.326	0.124	0.450
CRU10	0.542	0.0000	0.0464	0.134	0.201	0.179	0.380
TOTAL	**5.273**	**0.8149**	**0.3274**	**1.42**	**2.13**	**1.74**	**3.87**

Please refer to **Appendix C** for the Sewer Design Sheet and to drawing **SW-SAN** for the sanitary drainage plan.

5.0 STORMWATER MANAGEMENT

5.1 Existing Conditions

The site is currently a greenfield with no stormwater service connections to municipal sewers and draining to the O'Keefe municipal drain on the west side of the property overland and through existing swales. A storm outlet has been designed and constructed as part of the Citi Gate 416 Corporate Campus development works. The existing structures which have been built include an outlet headwall in the O'Keefe Drain land, an OGS unit withing the site upstream of the headwall, and a 864 mm x 1346 mm elliptical storm pipe to serve as the point of discharge of the proposed stormwater services of the site.

5.2 Proposed Storm Servicing

The design of the stormwater servicing and stormwater management follows City of Ottawa design Guideline as well as specific requirements of individual tenant's lease agreements.

The site will be serviced by storm sewers network designed to convey the 2-year storm event calculated as per the City of Ottawa IDF curves. Different pipe sizes ranging from PVC 250 mmø pipe for catch basin leads to 864mm x 1346 mm elliptical reinforced concrete pipes are proposed. Stormwater will be captured by catch basins and roof drains and transported to the existing outlet pipes at the southwest corner of the site. Full 100-year storm capture by the proposed catch basins is provided. The provision of sufficient stormwater storage volume is proposed to eliminate major storm overland flows.

The roof drainage from five buildings (CRU2, CRU3, CRU4, CRU6 and CRU7) will be fully controlled to attenuate flows up to the 100-year storm, while the roof drainage from the CRU1 will be partially controlled due to some proposed sloped roofs. The stormwater quantity control will be achieved by the installation of underground Greenstorm modular unit tanks for stormwater quantity storage, which will be complemented with pipe and structure storage (manholes and catch basins), and the use of surface storage, for quantity control. One orifice plate at the inlet of proposed manhole MH1 will provide flow restriction to achieve the required stormwater release rates in conformance to the maximum release rate requirements provide in the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1).

As per the tenant's lease agreement provisions for CRU 1, recessed loading dock areas will not be allowed to pond during any storm event up to the 100-year storm. To achieve this objective and due to grading constraints, the CRU1 and CRU 2 recessed loading dock areas will have the storm flows pumped into the

storm sewer system of the site, specifically into manhole MH 20. Further details of the pump design will be provided by the mechanical engineer at the building permit stage.

Please refer to the **Site Servicing Plan SW-S** for the storm servicing network layout and to **Appendix D** for the Storm Sewer Design Sheet.

5.2.1 Allowable Release Rates

Target allowable release rates and required unit storage volumes for Block 3 were established in the Citi Gate 416 Corporate Campus Detailed Servicing and Stormwater Management Report (Novatech, 2014) and are presented in **Table 6** for the subject development. The total allowable release rate will be allocated between the uncontrolled and controlled drainage areas within the proposed stormwater management plan.

Table 6: Allowable Release Rates for O'Keefe Drain

Design Storm Event	Release Rate (L/s/ha)	Allowable Release Rate (L/s)	On-Site Storage Target (m^3/ha)
2-Year	20	106	179
5-Year	35	186	232
10-Year	45	239	267
25-Year	64	339	310
50-Year	75	398	333
100-Year	126	668	351

5.2.2 Minor System (Storm Sewers)

Storm servicing for the site is provided via a dual-drainage design, combining minor and major drainage infrastructure to manage stormwater runoff effectively. The minor system conveys runoff from frequent, low-intensity storm events through a network of catch basins and underground storm sewers. For high-intensity storm events that exceed the capacity of the minor system, the major system safely stores and conveys overland runoff through defined surface and underground drainage systems, supplemented by dedicated parking lot storage sags. To analyze the interaction between surface storage and pipe hydraulics during these extreme events, the site's dual-drainage performance was evaluated using a hydrodynamic model.

Minor System Design Criteria

Peak minor system design flows were calculated using the Rational Method in accordance with the City of Ottawa's Sewer Design Guidelines:

$$\mathbf{Q = 2.78\ C\ I\ A}$$

Where:

- **Q** = Peak runoff rate (L/s)
- **C** = Runoff coefficient, defined by C = 0.70 (%Imp.) + 0.20
- **I** = Rainfall intensity (mm/hr), derived from City of Ottawa 2-year IDF parameters:
    - $I_{2yr} = 732.951 / (T_c(\text{min}) + 6.199)^{0.8140}$
- **A** = Tributary catchment area (ha)

The storm sewer design adheres to specific pipe and flow constraints to ensure proper hydraulic performance across the site. A minimum sewer pipe diameter of 250-mm is maintained, with full-flow velocities designed within the required range of 0.8 m/s to 3.0 m/s. The internal storm sewer network is sized to convey the 2-year storm event under free-flow conditions. A runoff coefficient of 0.9 has been applied to the majority of the site for storm sewer pipe sizing. For HGL modeling, a runoff coefficient of 1.0 has been applied across the entire site for all design storm events from the 2-year to the 100-year storm, representing a conservative approach.

5.2.3 Major System (Overland Flow)

Runoff from storm events exceeding the 2-year design event is captured and stored within the minor system, utilizing the integrated underground storage network and, to a lesser extent, surface ponding areas to attenuate peak discharges. Hydraulic modeling confirms that the major system effectively controls overland runoff under extreme conditions, with the maximum surface ponding depth remaining under 0.30 m across the site during the critical 100-year plus 20% stress test scenario. Furthermore, the stormwater management design fully satisfies the building lease criteria, achieving a drawdown time of less than 30 minutes during the 25-year storm event to ensure rapid surface clearance across all active parking and driving areas.

Major System (Overland Flow) Criteria

In accordance with the City of Ottawa Sewer Design Guidelines, the major drainage system is designed to provide on-site storage for post-development runoff exceeding allowable target release rates for all

storms up to and including the 100-year event, with zero surface ponding permitted during 2-year storm events. Under 100-year flow conditions, maximum dynamic depths (static ponding plus dynamic flow) are limited to 0.35 m in roadways and parking areas, while ensuring the product of velocity and depth (V x d) does not exceed 0.60 m^2/s. Rooftop storage areas are strictly limited to a maximum ponding depth of 0.15 m.

In addition to municipal guidelines, the design incorporates supplementary performance criteria outlined in the building lease agreements. These site-specific targets for areas adjacent to CRU1 include maintaining no surface ponding up to the 5-year storm event in applicable areas, restricting 25-year event drawdown times to a maximum of 30 minutes, capping 100-year ponding depths at 0.30 m where possible, and prohibiting above-ground storage within recessed loading dock ramps.

The overall performance of the major system was evaluated using a hydraulic model. The analysis confirmed that maximum flow depths remain below 0.30 m across the site, 25-year drawdown times meet the required 30-minute threshold, and floodwaters will not touch building envelopes or lowest openings during the critical stress test scenario (100-year storm event plus 20% rainfall intensity).

5.2.4 Stormwater Modelling

The hydrologic and hydraulic evaluation of the post-development minor and major stormwater networks was performed using InfoWorks ICM Ultimate utilizing dynamic wave routing.

Software Rationale

InfoWorks ICM Ultimate was selected over PCSWMM to leverage its advanced 1D hydraulic engine, superior numerical stability, and enhanced capabilities in simulating complex subsurface networks. Given the site's storage strategy, InfoWorks ICM Ultimate provides greater precision in modeling dynamic pipe surcharging, head-dependent orifice flows, backwater effects, and exact underground chamber storage utilization without numerical instability or artificial volume loss. In particular, overland flow capture rates at catch basins are more accurately represented using InfoWorks' advanced inlet nodes and custom head-discharge curves.

Quantity Control and Storage Optimization

Rather than utilizing individual Inlet Control Devices (ICDs) at each catch basin, the stormwater management strategy relies on a centralized control structure. Post-development outflows are restricted to the target allowable release rates using a single 170-mm diameter orifice located upstream of the outlet Manhole 1. Excess minor system runoff is attenuated upstream within the underground pipe network and an underground Greenstorm storage chamber array.

By utilizing the hydrodynamic capabilities of InfoWorks ICM, the design team was able to refine the required storage volume and substantiate the use of three (3) underground storage chambers. The model confirmed that the 170-mm orifice and optimized three chamber storage array provides sufficient attenuation to maintain peak site discharges below allowable target rates while preventing adverse surface surcharging during design events.

Alignment with City of Ottawa Criteria

In accordance with the City of Ottawa Sewer Design Guidelines, the use of advanced hydrodynamic modeling software is permitted for evaluating dual-drainage performance, provided all input parameters adhere to municipal standards. The InfoWorks ICM model was configured using City-approved rainfall distributions (3-hour Chicago Storm Distribution), standard Horton infiltration parameters, and standard depression storage allowances, ensuring full compliance with City criteria and HGL clearance requirements.

5.2.5 InfoWorks ICM Model Parameters

Design Storms

The model utilizes the following design storms based on the City of Ottawa's IDF data presented in the City of Ottawa Sewer Design Guidelines (2025).

- 2-year, 3-hour, Chicago Storm Distribution
- 5-year, 3-hour, Chicago Storm Distribution
- 25-year, 3-hour, Chicago Storm Distribution
- 100-year, 3-hour, Chicago Storm Distribution

Subcatchment Areas / Runoff Coefficients

Post-development subcatchments were delineated based on proposed site grading, surface high and low points, and catchment boundaries tributary to each individual inlet structure and storage node across the site. Runoff coefficients applied in the hydrologic modeling conform strictly to the standard values specified in the City of Ottawa Sewer Design Guidelines.

Under post-development conditions, the site is predominantly impervious, consisting primarily of commercial building roofs, asphalt parking lots, drive aisles, and concrete walkways. Pervious surfaces are limited to select landscaped areas, which are largely situated along the site perimeter within uncontrolled drainage zones discharging overland toward adjacent right-of-ways or the receiving watercourse. Refer to **Appendix D** for detail. Refer to the **Post-Development SWM Drainage Plan SW-SWM**

Depression Storage

Standard default values from the City of Ottawa Sewer Design Guidelines were applied to define depression storage across the site:

- Impervious Area Depression Storage: 1.57 mm
- Pervious Area Depression Storage: 4.67 mm

Inlet Capture and Quantity Control Structure

Rather than utilizing individual Inlet Control Devices (ICDs) at each catch basin, surface flow capture into the pipe network was modeled using InfoWorks' advanced inlet nodes and head-discharge curves. Primary quantity control for the site is provided by a single 170-mm diameter orifice plate located upstream of the outlet manhole, restricting total site discharge to the previously defined allowable release rates in **Table 7** or less.

Surface Storage Curves and Overland Flow Routing

Surface ponding volumes at parking lot sags were calculated directly from the proposed Grading Plans and represented in the model using depth-area storage curves.

Downstream Boundary Condition (Minor System)

The designated minor system outlet for the Subject Site is the O'Keefe Municipal Drain, located at the southwest corner of the property. To evaluate system performance, the InfoWorks ICM model was run assuming free-flowing outlet conditions at the outlet.

5.2.6 Minor System

Runoff across the site is captured by proposed catch basins and conveyed through the on-site storm sewer network. Rather than utilizing individual Inlet Control Devices (ICDs) at each catch basin, surface inflows to the storm sewer were modeled using InfoWorks ICM's advanced inlet nodes and head-discharge curves based on the physical characteristics and ponding depths at each catch basin low point.

Primary flow control is provided downstream by a single 170-mm diameter orifice located upstream of the outlet Manhole 1, which restricts total minor system outflows to allowable target release rates. Excess runoff is attenuated upstream through a combination of underground pipe storage, three Greenstorm storage chamber array, and managed surface ponding within parking lot sags.

5.2.7 Major System

The major system was evaluated using InfoWorks ICM Ultimate to ensure that overland flow depths and velocities comply with City of Ottawa standards and site-specific lease criteria. A complete summary of modeled ponding depths at each inlet node for the 2-year, 5-year, 100-year, and stress test events is provided in **Appendix D**.

Through the hydraulic performance of the downstream 170-mm control orifice, underground pipe storage, and the optimized three Greenstorm storage chamber array, minor system runoff is attenuated effectively. As a result, maximum static and dynamic surface ponding depths across the site remain under 0.30 m for all design events, including the critical 100-year storm and the 100-year plus 20% stress test scenario. Furthermore, all storm events up to and including the 25-year event will be fully contained within the underground stormwater management system, with no surface ponding occurring across the site.

Underground storage within the minor pipe network and Greenstorm storage tanks, along with surface storage at catch basin low points, are represented in the InfoWorks ICM model using storage nodes and custom depth-area relationships. These storage curves define the depth-volume characteristics across the site to calculate precise stage-storage relationships during dynamic rainfall simulations.

The modeling results demonstrate that the proposed underground storage infrastructure provides sufficient capacity to ensure zero surface ponding across the site during frequent events (up to the 2-year storm, and 5-year where applicable per lease criteria). An expanded summary table detailing peak ponding depths at each low point across all design events (including the 100-year plus 20% stress test scenario) is provided in **Appendix D**. Based on these results, the proposed stormwater management system successfully attenuates peak flows for the 2 to 100-year storm events through the 170-mm orifice and GreenStorm chamber array, ensuring that post-development flows are maintained at or below the allowable release rates. Furthermore, the development is not anticipated to experience adverse flooding under the severe 100-year + 20% stress-test event. **Table 8** summarizes the peak flows from the development.

Table 7: Peak Flow Summary (L/s)

Description	2-Year	5-Year	25-Year	100-year
Outlet flow to Minor System	43	48.3	66.3	70.8
Uncontrolled Areas flow (Rational)	63	85.4	118.7	146.4
Total Flow from the Site	**106**	**133.7**	**185**	**217.2**
Allowable	**106**	**186**	**339**	**668**

5.2.8 Stormwater Temperature Mitigation

The *CitiGate 416 Corporate Campus Detailed Servicing and Stormwater Management Report* (Novatech, 2015) states that "the O'Keefe Drain has been designated as 'cool-water fish habitat' ... To ensure that the O'Keefe Drain remains a hospitable fish environment, any increase in the water temperature in the drain should be kept to a minimum". As the stormwater outlet for the Subject Site discharges to the O'Keefe Drain, temperature mitigation practices have been incorporated into the site design.

Surface ponding on asphalt parking lots is susceptible to solar radiation and temperature increases. The proposed stormwater management strategy minimizes thermal gains by utilizing sub-surface attenuation within the Greenstorm underground storage tanks and pipe network prior to discharging through the 170-mm control orifice.

Thermal impacts to the receiving watercourse will be mitigated through the following design measures:

- **Underground Capture**: Runoff from frequent and small storm events (up to 25-year event where applicable) is captured and attenuated underground within the storm sewer network and Greenstorm storage tanks, eliminating surface ponding during small and high frequent events.
- **No Open Water Facilities**: No surface wet ponds, retention basins, or open water features are proposed for the development.
- **Rapid Surface Drawdown**: During larger storm events, surface ponding within parking lot sags is rapidly evacuated, maintaining no ponding during 25-year storm events.
- **Light/White Roofs**: CRU buildings proposed for rooftop detention storage will utilize light coloured or white roof technologies to minimize the effects of thermal absorption while the roof storage volume draws down.

5.3 Water Quality

The water quality treatment for the site is addressed by an existing OGS unit Stormceptor 9000 that has been provided just upstream of the site's storm outlet to the O'Keefe Drain on the southwest of the site. The OGS unit has been selected to provide 80% TSS removal for the contributing area of the site (Block 3) in Section 8.5.1 of the Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1). Please refer to the **Site Servicing Plan SW-S** and to **Appendix D** for an excerpt of the supplier model selection calculation.

6.0 Erosion and Sediment Control

During construction, erosion and sediment control will be implemented on site. This will be achieved through methods such as installation of a silt fence around the perimeter of the site, placement of mud mats at site access points to municipal roadways and the use of sediment control barriers at catch basins located in proximity to the site. All controls must be inspected regularly as per pre-determined schedule and any damage detected must be repaired promptly.

The erosion and sediment control measures proposed during construction will be designed, constructed, and maintained on-site in accordance with the City of Ottawa requirements including the Site Alteration By-Law and applicable guidelines. Further site-specific erosion and sediment control measures may be considered and adapted during construction.

7.0 Conclusions

This Report demonstrates that the proposed development can be serviced through the utilization of both existing and new infrastructure meeting without any adverse impact to the municipal services of the surrounding areas and meeting all the requirements stated in the approved Citi Gate 416 Corporate Campus Detailed Servicing and Storm Management Report (Phase 1), prepared by Novatech, for the design of the Citi Gate 416 Corporate Campus subdivision.

We trust this report sufficiently addresses the site servicing requirements and allows for the approval of the proposed re-zoning and draft plan of subdivision application for the subject site. Should there be any questions or comments, please feel free to contact the undersigned.

Sincerely,

Dillon Consulting Inc.





Gherard Rouby, P.Eng.
Associate
416-797-7313
grouby@dillon.ca

Reza Kazemi, M.A.Sc., P.Eng.
Associate
416-732-8504
rkazemi@dillon.ca

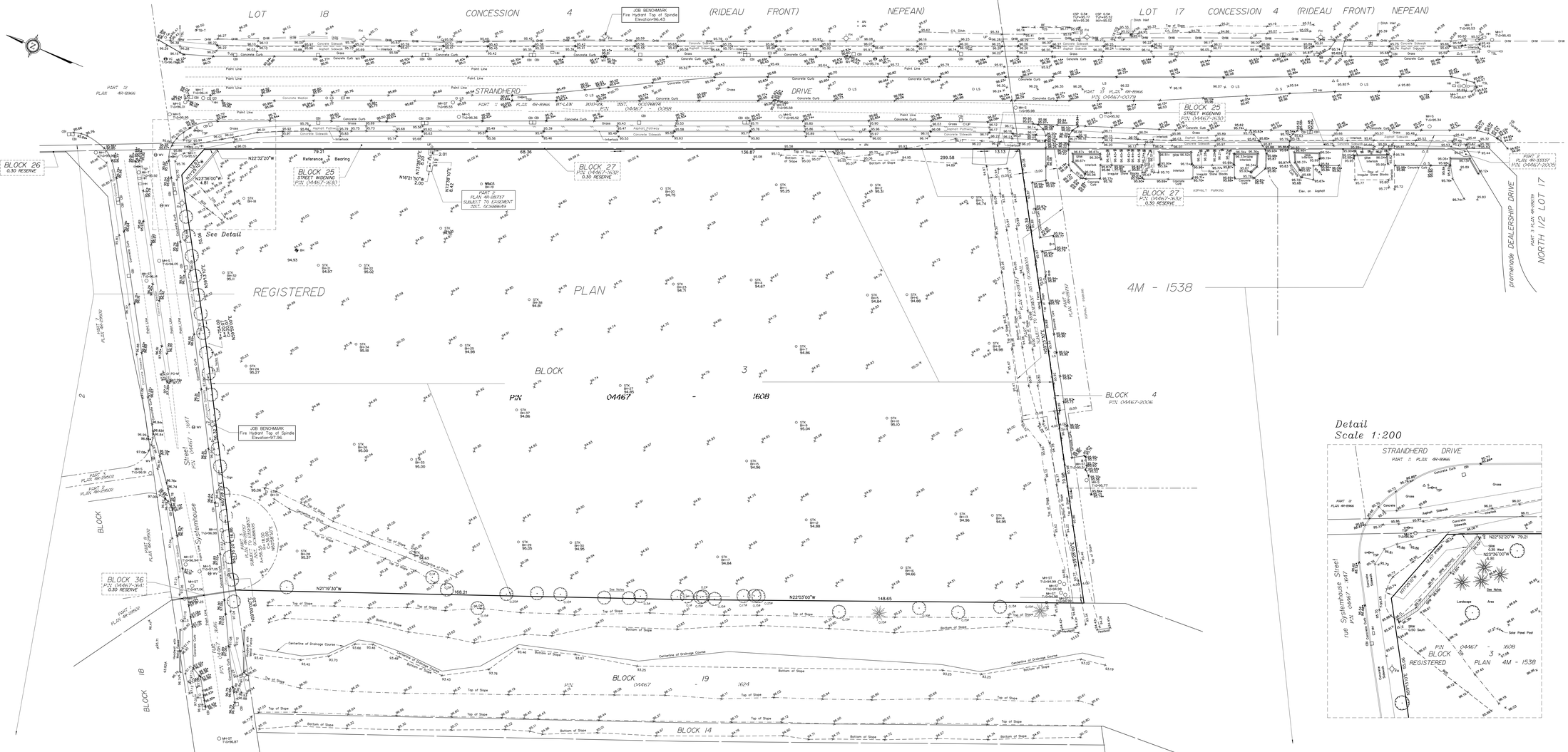
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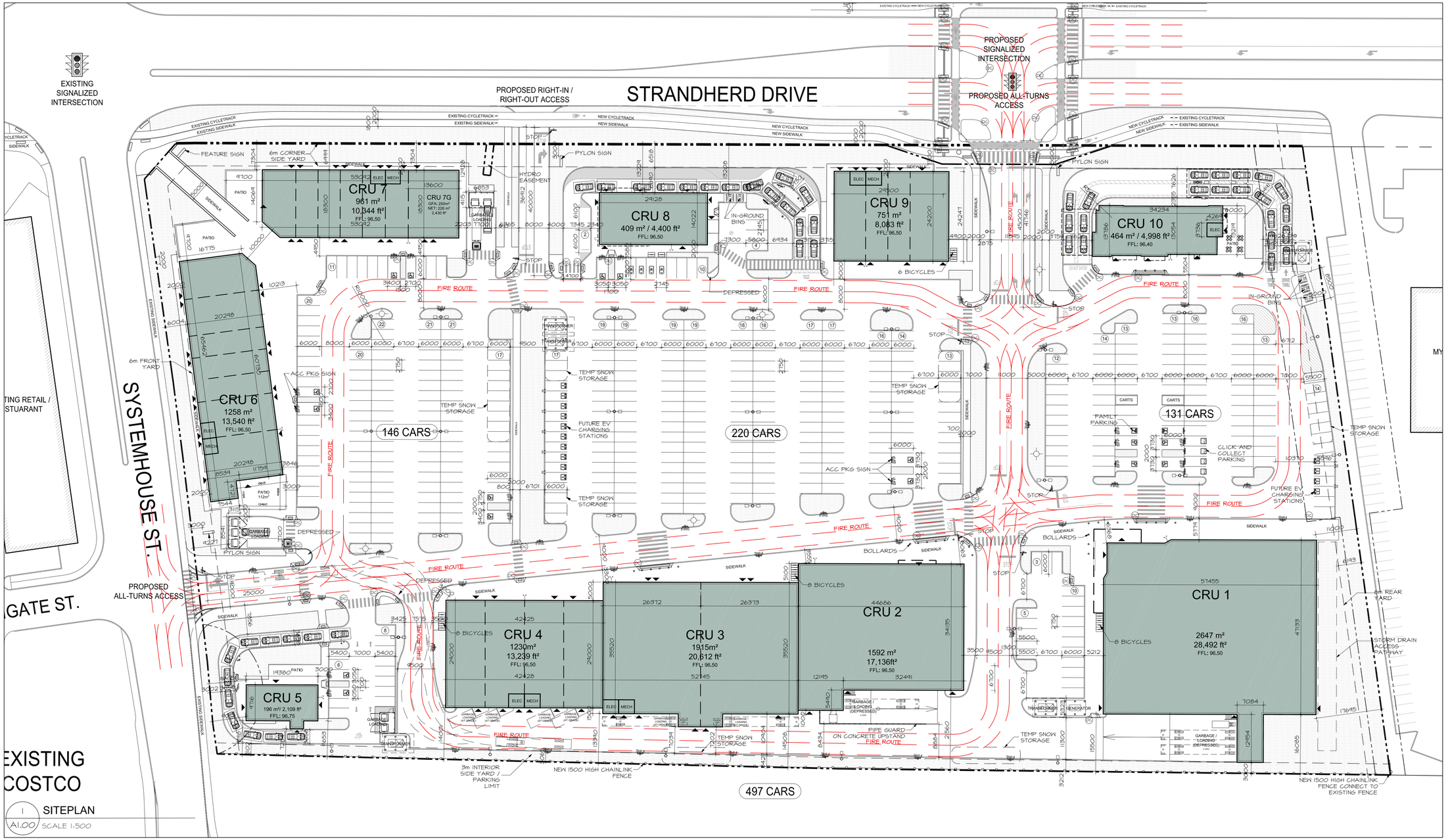
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Appendix A

Background

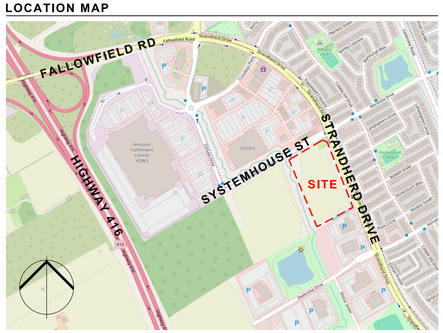
- Site Plan, Prepared by Hobin Architecture
- Topographic Survey, Block 3, registered Plan 4M-1538, Citty of Ottawa, by Annis, O'Sullivan, Vollebekk LTD, July 3, 2026.
- General Services Plans, Citi Gate 416 Corporate Campus, Novatech.


LOT 18 CONCESSION 4 (RIDEAU FRONT) NEPEAN
LOT 17 CONCESSION 4 (RIDEAU FRONT) NEPEAN
JOB BENCHMARK Fire Hydrant Top of Spindle Elevation=96.43
STRANDHERD DRIVE
PART 2 PLAN 4R-29966
PART 1 PLAN 4R-29966
PART 3 PLAN 4R-29966
PART 4 PLAN 4R-29966
PART 5 PLAN 4R-29966
PART 6 PLAN 4R-29966
PART 7 PLAN 4R-29966
PART 8 PLAN 4R-29966
PART 9 PLAN 4R-29966
PART 10 PLAN 4R-29966
PART 11 PLAN 4R-29966
PART 12 PLAN 4R-29966
PART



SITEPLAN
A1.00 SCALE 1:500

LOCATION MAP



SURVEY INFORMATION

LEGAL DESCRIPTION:
Blocks 3 and Part of Block 27
registered Plan 4M-1538
City of Ottawa

PREPARED BY Annis, O'Sullivan, Vollebekk Ltd
FIELD WORK COMPLETED ON February 5, 2015

NOTE:
NOTE: REFER TO LANDSCAPE PLAN FOR EXTERIOR FINISHES, PLANTING & SITE FURNITURE. REFER TO SITE SERVICING AND GRADING PLAN FOR RELEVANT INFO.

PROJECT INFORMATION

CITY OF OTTAWA

OFFICIAL PLAN:	SUBURBAN TRANSECT, MIXED INDUSTRIAL, ARTERIAL RD
ZONING:	IP[3033] H(18) INDUSTRIAL PARK
ADDRESS:	4175 STRANDHEARD DRIVE, OTTAWA
SITE AREA:	52,733 M²

ZONING INFORMATION

ZONING	REQUIRED	PROVIDED
PERMITTED USES:	Retail, Retail Food Store Restaurant, Etc	Retail Retail Food Store Restaurant, Etc
MINIMUM LOT WIDTH	No Minimum	00.0m
MINUMUM LOT AREA	750m²	52,733 m²
MIN FRONT YARD (SYSTEM HOUSE)	6.0m	6.0m
MIN CORNER SIDE YARD (STRANDHERD):	6.0m	7.0m
MIN INTERIOR SIDE YARD (WEST)	3.0m	3.0m
MIN REAR YARD (SOUTH)	6.0m	11.0m
LOT COVERAGE	55% (max)	22%
FLOOR SPACE INDEX (FSI)	FSI 2 (max)	FSI 0.22
MAXIMUM HEIGHT	18.0m	9.6m
PARKING REQUIRED:	3.6 / 100m2 410	 497
BICYCLE PARKING:	1/500m2 23 SPACES	 30 SPACES

BUILDING AREA:

	USE	GFA
CRU 1	GROCERY	2647.0 m²
CRU 2	DRUGSTORE	1592.0 m²
CRU 3	RETAIL / ATHLETIC FACILITY	1915.0 m²
CRU 4	RETAIL	1230.0 m²
CRU 5	DRIVE-THROUGH	196.0 m²
CRU 6	RETAIL / RESTAURANT	1258.0 m²
CRU 7	RETAIL / RESTAURANT	961.0 m²
CRU 8	DRIVE-THROUGH	409.0 m²
CRU 9	RETAIL / RESTAURANT	751.0 m²
CRU 10	DRIVE-THROUGH	464.0 m²
PROJECT TOTAL:		**11,423.0 m²**

DRAWING LEGEND

- PROPERTY LINE
- ACCESIBLE PARKING
- EV CHARGING
- FAMILY PARKING
- DEPRESSED CURB
- ENTRANCE
- FIRE HYDRANT
- UTILITY POLE
- EXISTING SIGN
- LIGHT STANDARD
- WATER VALVE
- MAN HOLE
- CATCH BASIN/CATCH BASIN INLET
- CHAIN LINK FENCE WITH GATE
- SIAMESE CONNECTION
- EXTERIOR HOSE BIB
- PHASING LINE
- FIRE ROUTE SIGN
- BARRIER FREE PARKING SIGN
- BICYCLE PARKING

SCALE BAR - 1 : 500

ft 0 20 40 60 80 100 120 140 160 180 200 220
m 0 10 20 30 40 50 60 70

2025/09/26
A1.00_4175 Strandherd_ChoiceREIT.dwg

Choice Properties REIT

PROJECT TEAM

OWNER
CHOICE REIT
700-22 St Clair Avenue E, Toronto
Vincent Raso
T 416.628.7771

ARCHITECTURE
HOBIN ARCHITECTURE
63 Pamilla Street, Ottawa ON
Doug van den Ham
T 613.238.7200 EXT.115

CIVIL ENGINEERING
NAME
Address
Contact Name
T 000.000.0000

SURVEYOR
ANNIS, O'SULLIVAN, VOLLEBEKK LTD
14 Concourse Gate, Suite 500, Ottawa, ON
Ed Herweyer
T 613.727.0850

LANDSCAPE ARCHITECTURE
CSW LANDSCAPE ARCHITECTS LTD
502-319 McRae Ave, Otttawa, ON
Jerry Corush
T 613.729.4536

TRANSPORTATION ENGINEERING
NAME
Address
Contact Name
T 000.000.0000

ENVIRONMENTAL ENGINEERING
FIRM NAME
Contact Person
T 000.000.0000

GEOTECHNICAL ENGINEERING
FIRM NAME
Contact Person
T 000.000.0000

July 29, 2026 - Siteplan Coord

no.	date	revision
8	FEB 06, 2026	REVISED CRU 4, 5, 8, 9
7	FEB 02, 2026	ISSUED FOR SITEPLAN APPLICATION
6	DEC 19, 2025	ISSUED FOR COORDINATION
5	DEC 15, 2025	ISSUED FOR CLIENT REVIEW
4	DEC 2, 2025	ISSUED FOR CLIENT REVIEW
3	NOV 26, 2025	ISSUED FOR CLIENT REVIEW
2	NOV 13, 2025	ISSUED FOR CLIENT REVIEW
1	SEPT 26, 2025	ISSUED FOR COORDINATION

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or omissions to the architect.

All contractors must comply with all pertinent codes and by-laws.

Do not scale drawings.

This drawing may not be used for construction until signed.

Copyright reserved.

STAMP

Hobin Architecture Incorporated
63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7200
F: 613-235-2005
E: mail@hobinarc.com
hobinarc.com

HOBIN ARCHITECTURE

PROJECT/LOCATION:
CHOICE REIT
4175 STRANDHERD RETAIL
4175 STRANDHERD DRIVE, OTTAWA

DRAWING TITLE:
SITE PLAN

DRAWN BY:	DATE:	SCALE:
DV	SEPT 2025	1:500

PROJECT: 2511

DRAWING NO.: A1.00

REVISION NO.:

LEGEND:

- PROPOSED BARRIER CURB
- PROPOSED MULTI-USE ASPHALT PATHWAY
- PROPOSED CONCRETE SIDEWALK
- PHASE LINE
- 150mmØ WM — PROPOSED WATERMAIN AND DIAMETER
- VVB / HYD — PROPOSED VALVE & VALVE BOX LOCATION
- PROPOSED HYDRANT & LEAD
- T/F=103.15, 11°, 22°, 45° — PROPOSED TOP OF FLANGE
- PROPOSED BEND AND THRUSTBLOCK
- PROPOSED WATERMAIN CROSS
- PROPOSED WATERMAIN TEE
- MH — PROPOSED SANITARY MH & SEWER WITH DIRECTION OF FLOW
- STM — PROPOSED STORM MH & SEWER WITH DIRECTION OF FLOW
- PROPOSED CATCH BASIN LEAD
- 2-2 — PROPOSED CURB INLET CATCH BASIN
- PROPOSED CONCRETE BOX CULVERT
- 300 — PROPOSED CONCRETE BOX MH
- CAP — PROPOSED SANITARY/STORM/WATERMAIN CAP
- VMH — PROPOSED VORTECHNICS MH
- 600 — PROPOSED CONCRETE HEADWALL
- 7-1 — PROPOSED DITCH INLET CATCH BASIN
- PROPOSED STREETLIGHT
- TP-P100 — PATERSON GROUP INC. TEST PIT LOCATION (TP-P100 TO TP-P110; REPORT NO. PG2789-1R DATED NOV 1, 2012)
- TP-P1 — PATERSON GROUP INC. TEST PIT LOCATION (TP-P1 TO TP-P15, REPORT NO. PG2449-1R DATED NOV 1, 2012)
- BH-J1 — JOHN D PATERSON & ASSOCIATES BOREHOLE LOCATION (BH-J1 TO BH-J9; REPORT NO. G7892 DATED AUGUST 25, 2000)
- TP-J1 — JOHN D PATERSON & ASSOCIATES TEST PIT LOCATION (TP-J1 TO 48, 52 TO 57, 61 TO 85; REPORT NO. G7892 DATED AUGUST 25, 2000)
- 138.28 — ORIGINAL GROUND ELEVATION
- BR=96.30 — TOP OF ROCK ELEVATION (BEDROCK)
- I-BR=95.02 — TOP OF ROCK ELEVATION (INFERRED BEDROCK)
- I-BR/BLD=98.28 — TOP OF ROCK ELEVATION (INFERRED BEDROCK/BOULDER)

REFER TO DRAWING 109203-CG-NTB FOR NOTES AND TABLES

JOCKVALE ROAD
STRANDHERD DRIVE
MARAVISTA DRIVE
SYSTEMHOUSE STREET
FALLOWFIELD ROAD
NORTEL DRIVE
CROSSKEY PLACE
FUTURE CROSSKEY PLACE
LIMITS OF CONSTRUCTION
EXISTING O'KEEFE DRAIN (TO BE RELOCATED)
EXISTING O'KEEFE DRAIN
O'KEEFE DRAIN BLOCK 19
O'KEEFE DRAIN BLOCK 18
O'KEEFE DRAIN BLOCK 17
TEMPORARY CUL-DE-SAC
TEMPORARY SWALE
FUTURE CURB
REFER TO DRAWING 109203-CG-RB FOR ROUNDABOUT DETAILS
HEADWALL REFER TO DWG 109203-PD1 FOR DETAILS
HEADWALL REFER TO DWG 109203-PD2 FOR DETAILS
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 14
BLOCK 15
BLOCK 16
BLOCK 17
FUTURE DEVELOPMENT (BY OTHERS)
FUTURE DEVELOPMENT (BY OWNER)
FUTURE NORTEL DRIVE
SEE DRAWING No. 109203-CG-GP2

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

CITI GATE 416 CORPORATE CAMPUS
REGIONAL THE REGIONAL GROUP

No.	REVISION	DATE	BY
8.	RE-ISSUED FOR CONSTRUCTION	SEPT 26/14	MER
7.	ISSUED FOR CONSTRUCTION	SEPT 03/14	MER
6.	ISSUED FOR SWM APPROVAL	AUG 10/14	MER
5.	ISSUED FOR MOE PIPE APPROVALS	JUL 23/14	MER
4.	RE - ISSUED FOR TENDER	JUL 18/14	MER
3.	ISSUED FOR TENDER - PHASE 1	JUN 27/14	MER
2.	REV. PER CITY COMMENTS / ISS. FOR MOE APPROVAL	JUN 27/14	MER
1.	ISSUED FOR CITY REVIEW	MAR 31/14	MER

SCALE 1:1000 (1:1000 0 10 20 30 40)

DESIGN: CH
CHECKED: MER
DRAWN: CH/BET
CHECKED: MER
APPROVED: JGR

LICENSED PROFESSIONAL ENGINEER M.E. RIDDELL 100400125 PROVINCE OF ONTARIO
REGISTERED PROFESSIONAL ENGINEER J.G. RIDDELL PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
CITI GATE 416 CORPORATE CAMPUS

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 109203-00
REV # 7
DRAWING No. 109203-CG-GP1

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LEGEND:

- PROPOSED BARRIER CURB
- PROPOSED MULTI-USE ASPHALT PATHWAY
- PROPOSED CONCRETE SIDEWALK
- PHASE LINE
- 150mmØ WM — PROPOSED WATERMAIN AND DIAMETER
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- PROPOSED WATERMAIN TEE
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- CBMH — PROPOSED STORM MH & SEWER WITH DIRECTION OF FLOW
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REFER TO DRAWING 109203-CG-NTB FOR NOTES AND TABLES

SEE DRAWING No. 109203-CG-GP1

FUTURE DEVELOPMENT (BY OTHERS)

BLOCK 3

BLOCK 4

BLOCK 5

BLOCK 6

BLOCK 7

BLOCK 8

BLOCK 9

BLOCK 10

BLOCK 11

BLOCK 12

STORMWATER MANAGEMENT BLOCK

SEDIMENT MANAGEMENT AREA

NORTEL DRIVE

FUTURE CROSSKEY PLACE

TEMPORARY CUL-DE-SAC

FUTURE CURB

TEMPORARY SWALE

O'KEEFE DRAIN

EXISTING O'KEEFE DRAIN (TO BE RELOCATED)

O'KEEFE DRAIN

DEALERSHIP STREET

PHILSAR STREET

PRIVATE STORM

O'KEEFE DRIVE

STRANDHERD DRIVE

KENNEVALE DRIVE

LIMITS OF CONSTRUCTION

EXISITING CITY OF OTTAWA SNOW STORAGE FACILITY

REFER TO DRAWING 109203-CG-GR2 FOR SWALE DETAILS

REFER TO 109203-CG-PS FOR SANITARY LIFT STATION DETAILS

HEADWALL REFER TO DWG 109203-PD4 FOR DETAILS

HEADWALL REFER TO DWG 109203-PD4 FOR DETAILS

HW-1 AS PER OPSD 804.030

HW-2 HEADWALL AS PER OPSD 804.030

HW-3

HW-4

HW-5

HW-6

HW-7

13.6m-1353 X 864mm ELIP. STM @ 0.20%

4.2m-1521 X 972mm ELIP. STM @ 0.72%

4.2m-900mmØ STM @ 0.20%

12.6m-900mmØ STM @ 0.20%

15.9m-1500mmØ STM @ 0.10%

10.1m-1500mmØ STM @ 0.10%

31.7m-675mmØ STM @ 0.15%

14.2m-1350mmØ STM @ 0.20%

8.7m-900mmØ STM @ 0.10%

4.5m-1350mmØ STM @ 0.10%

4.5m-300mmØ SAN @ 0.20%

6.0m-250mmØ SAN @ 0.24%

119.6m-1350mmØ STM @ 0.20%

120.0m-450mmØ SAN @ 0.14%

250mmØ TEMP. CULVERT L=20.7m INV.N=93.36 INV.S=93.40 (C/W RODENT GRATE)

200mmØ WM

250mmØ WM

250X250 TEE

250X250 CROSS

T/F=96.09

T/F=96.07

T/F=95.64

88.4m-1350mmØ STM @ 0.20%

95.3m-675mmØ STM @ 0.15%

84.9m-450mmØ SAN @ 0.14%

56.4m-450mmØ SAN @ 0.14%

104.6m-375mmØ STM @ 0.26%

98.7m-450mmØ SAN @ 0.20%

83.5m-300mmØ STM @ 0.34%

76.3m-450mmØ SAN @ 0.24%

32.4m-450mmØ SAN @ 0.60%

17.3m-200mmØ SAN @ 1.00%

304.9m-1353 X 864mm ELIP. STM @ 0.10% (OPTION B - 900mm x 1800mm BOX SUBSTITUTE)

PRIVATE 9.6m-825mmØ STM @ 0.10%

PRIVATE 6.0m-750mmØ STM @ 0.10%

2X - 750mmØ TEMP. CSP CULVERT L=10.0m INV.N=92.44 INV.S=92.32

EX. 6.2m-1650mmØ CSP CULVERT INV.N=91.87 INV.S=91.80

EX. 6.2m-1800mmØ CSP CULVERT INV.N=92.53 INV.S=92.44

7.7m-825mmØ STM @ 0.10%

CAP

VVB

200mmØ WM

14.3m - 200mmØ SAN @ 1.00% 200mmØ WM

18.5m-525mmØ STM @ 0.37%

23.5m-525mmØ STM @ 0.37%

6.0m-825mmØ STM @ 0.10%

6.0m-1200mm X 1200mm BOX STM @ 0.11%

8.1m-1200mm X 1200mm BOX STM @ 0.20%

5.4m-1200mmØ STM @ 0.10%

20.3m-1353 X 864mm ELIP. STM @ 0.20%

39.6m-1200mm X 1200mm BOX STM @ 0.11%

20.9m-450mmØ STM @ -7.51%

40.2m-1500mmØ STM @ 0.05%

36.7m-1500mmØ STM @ 0.05%

25.4m-4800mm x 1800mm CONC. BOX CULVERT (SN117360) INV.N=91.90 INV.S=91.88

FUTURE 250mmØ PVC CULVERT L=10.6m INV.N=92.71 INV.S=92.70

TP-P1 TP-P2 TP-P3 TP-P4 TP-P5 TP-P6 TP-P7 TP-P8 TP-P9 TP-P10 TP-P11 TP-P12 TP-P13 TP-P14 TP-P15 TP-P100 TP-P101 TP-P102 TP-P103 TP-P104 TP-P105 TP-P106 TP-P107 TP-P108 TP-P109 TP-J1 TP-J2 TP-J3 TP-J4 TP-J5 TP-J6 TP-J7 TP-J8 TP-J9 TP-J10 TP-J11 TP-J12 TP-J13 TP-J14 TP-J15 TP-J16 TP-J17 TP-J18 TP-J19 TP-J20 TP-J21 TP-J22 TP-J23 TP-J24 TP-J25 TP-J26 TP-J27 TP-J28 TP-J29 TP-J30 TP-J31 TP-J32 TP-J33 TP-J34 TP-J35 TP-J36 TP-J37 TP-J38 TP-J39 TP-J40 TP-J41 TP-J42 TP-J43 TP-J44 TP-J45 TP-J46 TP-J47 TP-J48 TP-J52 TP-J53 TP-J54 TP-J55 TP-J56 TP-J57 TP-J61 TP-J62 TP-J63 TP-J64 TP-J65 TP-J66 TP-J67 TP-J68 TP-J69 TP-J70 TP-J71 TP-J72 TP-J73 TP-J74 TP-J75 TP-J76 TP-J77 TP-J78 TP-J79 TP-J80 TP-J81 TP-J82 TP-J83 TP-J84 TP-J85

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

CITI GATE 416 CORPORATE CAMPUS

REGIONAL THE REGIONAL GROUP

No.	REVISION	DATE	BY
8.	RE-ISSUED FOR CONSTRUCTION	SEPT 26/14	MER
7.	ISSUED FOR CONSTRUCTION	SEPT 03/14	MER
6.	ISSUED FOR SWM APPROVAL	AUG 10/14	MER
5.	ISSUED FOR MOE PIPE APPROVALS	JUL 23/14	MER
4.	RE - ISSUED FOR TENDER	JUL 18/14	MER
3.	ISSUED FOR TENDER - PHASE 1	JUN 27/14	MER
2.	REV. PER CITY COMMENTS / ISS. FOR MOE APPROVAL	JUN 27/14	MER
1.	ISSUED FOR CITY REVIEW	MAR 31/14	MER

SCALE 1:1000

1:1000
0 10 20 30 40

DESIGN CH
CHECKED MER
DRAWN CH/BET
CHECKED MER
APPROVED JGR

LICENSED PROFESSIONAL ENGINEER M.E. RIDDELL 100401125 PROVINCE OF ONTARIO

REGISTERED PROFESSIONAL ENGINEER J.G. RIDDELL PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
CITI GATE 416 CORPORATE CAMPUS

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 109203-00
REV REV # 8
DRAWING No. 109203-CG-GP2

PLAN07-ZH07 - 11:1mm/1m

N:\NOVATECH\2009\Nov\26\109203\Civil Data\CAD\Design\109203-CG-GP2.dwg CG-GP2 Sep 29, 2014 - 2:16pm chanma

Appendix B

Water Servicing

- Domestic Water Demand
- Fire Demand – Fire Underwriters Survey
- EPANET Model Schematic and Results

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Water Demand Summary Sheet

Project: 4175 Stranherd Drive
Project No: 263560
Location: Ottawa

Water Demmand

Building	Building Area* (m^2)	Average Daily Demand (L/s)	Maximum Day Demand (L/s)	Maximum Hour Demand (L/s)	Fire Flow (L/s)	Max Day Flow + Fire Flow (L/s)	Max Day Flow + Fire Flow (L/min)	Max Day Flow + Fire Flow (GPM)
CRU 1	2,647	0.15	0.23	0.41	75.70	75.93	4,555.8	1,203.6
CRU 2	1,592	0.09	0.14	0.25	66.67	66.80	4,008.3	1,059.0
CRU 3	1,915	0.11	0.17	0.30	66.67	66.83	4,010.0	1,059.4
CRU 4	1,230	0.07	0.11	0.19	50.00	50.11	3,006.4	794.3
CRU 5	196	0.01	0.02	0.03	33.33	33.35	2,001.0	528.7
CRU 6	1,258	0.07	0.11	0.20	50.00	50.11	3,006.6	794.3
CRU 7	961	0.06	0.08	0.15	50.00	50.08	3,005.0	793.9
CRU 8	409	0.02	0.04	0.06	33.33	33.37	2,002.1	529.0
CRU 9	751	0.04	0.07	0.12	50.00	50.07	3,003.9	793.6
CRU 10	464	0.03	0.04	0.07	33.33	33.37	2,002.4	529.0
TOTAL SITE	**11,423**	**0.66**	**0.99**	**1.78**	**75.70**	**76.69**	**4,601.5**	**1,215.7**

**Statistics provided by Architect*
***Site fire flows corresponds to Building with highest fire flow demand. Site domestic flows are the sum of the domestic demands of all buildings.*

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Water Demand Calculations **CRU 1**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	4,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	2,647.0	m²		
Commercial & Institutional Demand:				
Average Daily Demand	13,235	L / day	or	9.2 L/min
Max Day Demand (1.5 x Avg Day Demand)	**19,853**	**L / day**	**or**	**13.8 L/min**
Max Hour Demand (1.8 x Max Day Demand)	35,735	L / day	or	24.8 L/min
Maximum Day + Fire Flow:	**4,542.0**	**L / min**		**75.7 L/s**
	or			
	1,200	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 1
Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project: 4175 Stranherd Drive
Building: 263560
Project No: Ottawa
Location: August 11, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 2,647 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **9,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Limited Combustible
Adjustment Factor: -15%

Adjusted Required Fire Flow: **7,650** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
3,825 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type V	None applicable.	=	0%
East	Greater than 30m		0-20	Type V	None applicable.	=	0%
South	Greater than 30m		0-20	Type V	None applicable.	=	0%
West	Greater than 30m		0-20	Type V	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 4,000 L/min
F = 1,057 GPM
F = 66.7 L/s

Client Requirement (Govern)

F = 4,542 L/min
F = 1,200 GPM
F = 75.7 L/s

The larger of FUS calculations or client requirements governs.

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Water Demand Calculations **CRU 2**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	4,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	1,592.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	7,960	L / day	or	5.5 L/min
Max Day Demand (1.5 x Avg Day Demand)	**11,940**	**L / day**	**or**	**8.3 L/min**
Max Hour Demand (1.8 x Max Day Demand)	21,492	L / day	or	14.9 L/min
Maximum Day + Fire Flow:	**4,008.3**	**L / min**		**66.8 L/s**
	or			
	1,059	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 2
Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	August 11, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 1,592 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **7,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **7,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
3,500 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	0-3m	73	61-80	Type I-II (2)	Site bldg. and exposed bldg. fully pr	=	0%
East	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
South	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
West	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 4,000 L/min
F = 1,057 GPM
F = 66.7 L/s

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Water Demand Calculations **CRU 3**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	4,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	1,915.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	9,575	L / day	or	6.6 L/min
Max Day Demand (1.5 x Avg Day Demand)	**14,363**	**L / day**	**or**	**10.0 L/min**
Max Hour Demand (1.8 x Max Day Demand)	25,853	L / day	or	18.0 L/min
Maximum Day + Fire Flow:	**4,010.0**	**L / min**		**66.8 L/s**
	or			
	1,059	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 3
Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	August 11, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 1,915 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **8,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **8,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
4,000 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	0-3m	73	61-80	Type I-II (2)	Site bldg. and exposed bldg. fully pr	=	0%
East	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
South	0-3m	58	41-60	Type I-II (2)	Site bldg. and exposed bldg. fully pr	=	0%
West	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 4,000 L/min
F = 1,057 GPM
F = 66.7 L/s

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Water Demand Calculations **CRU 4**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	3,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	1,230.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	6,150	L / day	or	4.3 L/min
Max Day Demand (1.5 x Avg Day Demand)	**9,225**	**L / day**	**or**	**6.4 L/min**
Max Hour Demand (1.8 x Max Day Demand)	16,605	L / day	or	11.5 L/min
Maximum Day + Fire Flow:	**3,006.4**	**L / min**		**50.1 L/s**
	or			
	794	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 4

Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	August 11, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 1,230 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **6,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **6,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
3,000 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
East	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
South	0-3m	58	41-60	Type I-II (2)	Site bldg. and exposed bldg. fully pr	=	0%
West	Greater than 30m		0-20	Type I-II (2)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 3,000 L/min
F = 793 GPM
F = 50.0 L/s

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Water Demand Calculations **CRU 5**

Project Name: 4175 Stranherd Drive
Project Number: 263560
Location: Ottawa
Date: Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	2,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	196.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	980	L / day	or	0.7 L/min
Max Day Demand (1.5 x Avg Day Demand)	**1,470**	**L / day**	**or**	**1.0 L/min**
Max Hour Demand (1.8 x Max Day Demand)	2,646	L / day	or	1.8 L/min
Maximum Day + Fire Flow:	**2,001.0**	**L / min**		**33.4 L/s**
	or			
	529	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 5

Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	Aug-26

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions:	Type III Ordinary Construction
Construction Coefficient (C):	**1.0**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:

Take 100% of all floor areas.

Total Effective Floor Area (A): 196 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **3,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples:	Combustible
Adjustment Factor:	0%

Adjusted Required Fire Flow: **3,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%

1,500 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
East	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
South	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
West	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 2,000 L/min
F = 528 GPM
F = 33.3 L/s

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Water Demand Calculations **CRU 6**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	3,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	1,258.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	6,290	L / day	or	4.4 L/min
Max Day Demand (1.5 x Avg Day Demand)	**9,435**	**L / day**	**or**	**6.6 L/min**
Max Hour Demand (1.8 x Max Day Demand)	16,983	L / day	or	11.8 L/min
Maximum Day + Fire Flow:	**3,006.6**	**L / min**		**50.1 L/s**
	or			
	794	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 6

Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	August 11, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 1,258 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **6,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **6,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
3,000 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
East	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
South	10.1-20m	84	81-100	Type III-IV (3)	None applicable.	=	4%
West	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
						Total Exposure Charge:	**4%**

Increase for Exposure Adjustment Charge: **240** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 3,000 L/min
F = 793 GPM
F = 50.0 L/s

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Water Demand Calculations **CRU 7**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	3,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	961.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	4,805	L / day	or	3.3 L/min
Max Day Demand (1.5 x Avg Day Demand)	**7,208**	**L / day**	**or**	**5.0 L/min**
Max Hour Demand (1.8 x Max Day Demand)	12,974	L / day	or	9.0 L/min
Maximum Day + Fire Flow:	**3,005.0**	**L / min**		**50.1 L/s**
	or			
	794	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 7

Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	August 11, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 961 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **5,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **5,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
2,500 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	10.1-20m	102	Over 100	Type III-IV (3)	None applicable.	=	5%
East	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
South	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
West	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
						Total Exposure Charge:	**5%**

Increase for Exposure Adjustment Charge: **250** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 3,000 L/min
F = 793 GPM
F = 50.0 L/s

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Water Demand Calculations **CRU 8**

Project Name: 4175 Stranherd Drive
Project Number: 263560
Location: Ottawa
Date: Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	2,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	409.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	2,045	L / day	or	1.4 L/min
Max Day Demand (1.5 x Avg Day Demand)	**3,068**	**L / day**	**or**	**2.1 L/min**
Max Hour Demand (1.8 x Max Day Demand)	5,522	L / day	or	3.8 L/min
Maximum Day + Fire Flow:	**2,002.1**	**L / min**		**33.4 L/s**
	or			
	529	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 8

Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	July 6, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 409 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **4,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **4,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
2,000 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
East	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
South	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
West	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 2,000 L/min
F = 528 GPM
F = 33.3 L/s

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Water Demand Calculations **CRU 9**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	3,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl		
Domestic Demand:	0	L / day		
, or	**0**	**L/min**		**0.0 L/s**
Maximum Day Water Demand - Domestic:	0	L / day		
Total Max Day Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Maximum Hour Water Demand - Domestic:	0	L / day		
Total Maximum Hour Water Demand:	0	L / day		
, or	**0**	**L / min**		**0.0 L/s**
Retail Area	751.0	m²		- See Sanitary Flow Calculations
Commercial & Institutional Demand:				
Average Daily Demand	3,755	L / day	or	2.6 L/min
Max Day Demand (1.5 x Avg Day Demand)	**5,633**	**L / day**	**or**	**3.9 L/min**
Max Hour Demand (1.8 x Max Day Demand)	10,139	L / day	or	7.0 L/min
Maximum Day + Fire Flow:	**3,003.9**	**L / min**		**50.1 L/s**
	or			
	794	**USGPM**		

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 9

Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	July 6, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 751 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **5,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **5,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
2,500 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
East	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
South	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
West	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 3,000 L/min
F = 793 GPM
F = 50.0 L/s

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Water Demand Calculations **CRU 10**

Project Name:	4175 Stranherd Drive
Project Number:	263560
Location:	Ottawa
Date:	Aug-26

City of Ottawa Watermain Design Guidelines

Water Demand = Maximum Day Flow + Fire Flow or Peak Hour Flow

Domestic Demand

Residential Flow (Avg Day Demand)	280	L /capita/day
Max Day Demand (2.5 x Avg Day Demand)	700	L /capita/day
Max Hour Demand (2.2 x Max Day Demand)	1540	L /capita/day

**Peaking factors as per Table 3-3 of the MOE Design Guidelines for Drinking Water Systems (used for opulations 500ppl or less in City of Ottawa)*

Commercial & Institutional Demand

Retail/Shopping Centres	5,000	L /1000m²/day
Max Day Demand (1.5 x Avg Day Demand)	7,500	L /1000m²/day
Max Hour Demand (1.8 x Max Day Demand)	13,500	L /1000m²/day

Fire Demand

Fire Flow	2,000	L / min	- See FUS calculations.
Fire Flow Duration	2	hours	

Residential Population	0	Ppl			
Domestic Demand:	0	L / day			
, or	**0**	**L/min**		**0.0**	**L/s**
Maximum Day Water Demand - Domestic:	0	L / day			
Total Max Day Demand:	0	L / day			
, or	**0**	**L / min**		**0.0**	**L/s**
Maximum Hour Water Demand - Domestic:	0	L / day			
Total Maximum Hour Water Demand:	0	L / day			
, or	**0**	**L / min**		**0.0**	**L/s**
Retail Area	464.0	m²		- See Sanitary Flow Calculations	
Commercial & Institutional Demand:					
Average Daily Demand	2,320	L / day	or	1.6 L/min	25.5 GPM
Max Day Demand (1.5 x Avg Day Demand)	**3,480**	**L / day**	**or**	**2.4 L/min**	38.3 GPM
Max Hour Demand (1.8 x Max Day Demand)	6,264	L / day	or	4.4 L/min	69.0 GPM
Maximum Day + Fire Flow:	**2,002.4**	**L / min**		**33.4**	**L/s**
	or				
	529	**USGPM**			

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Fire Underwriter Survey (2020) Fire Flow Calculation for CRU 10
Reference: https://fireunderwriters.ca/assets/img/Water%20Supply%20for%20Public%20Fire%20Protection%20in%20Canada%202020.pdf

Project:	4175 Stranherd Drive
Building:	263560
Project No:	Ottawa
Location:	July 6, 2026

A) Determine the Construction Coefficient (C). Refer to pages 20, 21.

Construction Type, see pages 20 and 21 for definitions: Type II Noncombustible Construction
Construction Coefficient (C): **0.8**

B) Determine the Total Effective Floor Area (A). Refer to pages 22, 23.

Based on the Construction Type and associated Construction Coefficient:
Are any vertical openings unprotected? Yes
Take two largest adjoining floor areas plus 50% of the sum of all floor areas immediately above them up to a maximum of eight.
Total Effective Floor Area (A): 464 m^2

C) Calculate the Required Fire Flow (RFF), rounded to nearest 1,000 LPM. $RFF = 220C\sqrt{A}$ **4,000** L/min

D) Determine the decrease or increase for the Occupancy Contents Adjustment Factor. Apply to value obtained in C. Refer to pages 24 to 26.

Contents, see Page 24 for definitions and Pages 25-26 for examples: Combustible
Adjustment Factor: 0%

Adjusted Required Fire Flow: **4,000** L/min

E) Determine decrease for having Automatic Sprinkler Protection, if warranted. Refer to pages 27 to 29.

Automatic Sprinkler System Design

Installed and Designed to NFPA 13 Standard?	Yes	[30% Reduction]
Water Supply standard for both system and fire department hose lines?	Yes	[10% Reduction]
Fully supervised system?	Yes	[10% Reduction]

Does the sprinkler system have complete building coverage? Yes

Reduction for Automatic Sprinkler Protection: 50%
2,000 L/min

F) Determine the total Exposure Adjustment Charge for exposures. Refer to pages 30 to 32.

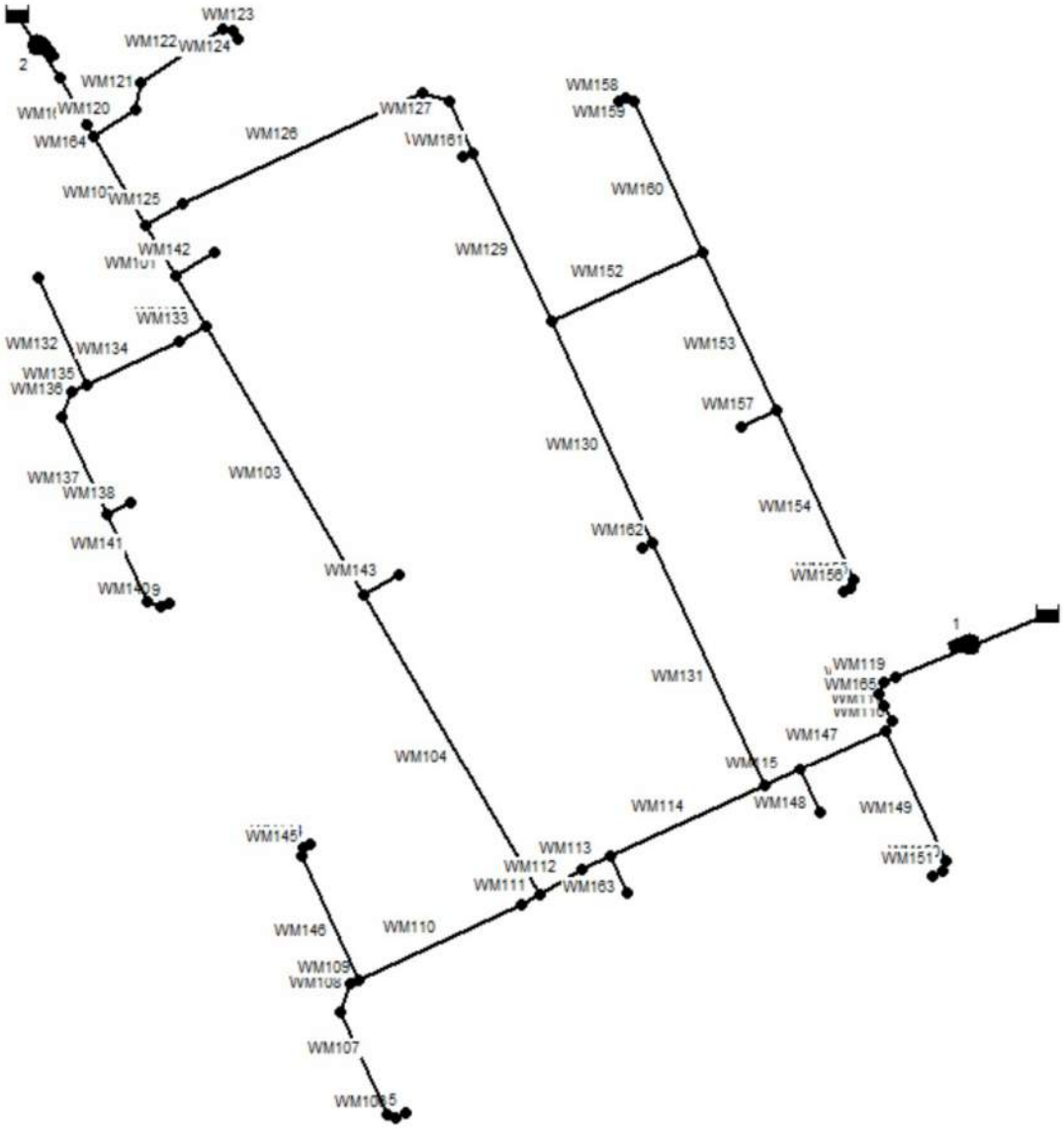
Building Face	Distance to Exposure (m)	Length-Height Factor (L.H.F.)	L.H.F. Bracket	Bldg Type	Reduction Notes		Charge
North	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
East	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
South	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
West	Greater than 30m		0-20	Type III-IV (3)	None applicable.	=	0%
					Total Exposure Charge:		**0%**

Increase for Exposure Adjustment Charge: **0** L/min

G) Final Calculation of Required Fire Flow. Subtract the value obtained in E from the answer obtained in D, then add the value obtained in F.

F = 2,000 L/min
F = 528 GPM
F = 33.3 L/s

EPANET Model Schematic



Proposed Model Results Summary Tables

Residual Pressure in expanded system during Proposed Non-fire Scenarios

Scenario	Lowest Pressure		
	Pressure (m H2O)	Pressure (psi)	Pressure (kPa)
Max Day	52.23	74.27	512.07
Peak Hour	52.04	74.00	510.21

Scenario	Highest Pressure		
	Pressure (m H2O)	Pressure (psi)	Pressure (kPa)
Max Day	53.68	76.33	526.29
Peak Hour	53.49	76.06	524.42

Residual Pressure Per Building in expanded system during Proposed Non-fire Scenarios

Building Name/ Node Name	Highest Pressure	
	Maximum Day (kPa)	Peak Hour (kPa)
CR1	520.80	518.93
CR2	526.29	524.42
CR3	515.21	513.34
CR4	515.21	513.34
CR5	512.85	510.99
CR6	515.31	513.44
CR7	515.21	513.34
CR8	516.68	514.82
CR9	515.21	513.34
CR10	516.68	514.82

Notes:

1. Preferred design pressure during normal operating conditions is approximately 345 kPa to 552 kPA
2. The maximum static pressure shall not exceed 552 kPA
3. The minimum pressure under any non-fire demand scenario should not be less than 276 kPa
4. In cases where all services are protected by an individual pressure reducing device, the maximum pressure in the watermain system will not exceed 689 kilopascals.

Residual Pressure in expanded system based on Maximum Day Demand + Fire Flow

Fire Flow at Location/ Node	Max. Velocity	Lowest Pressure			Satisfies Pressure Requirements?
		Pressure (m H2O)	Pressure (psi)	Pressure (kPa)	
	(m/s)				
CR1	2.42	46.51	66.14	455.99	Yes
CR2	2.13	48.08	68.37	471.38	Yes
CR3	2.13	47.12	67.00	461.97	Yes
CR4	2.84	48.78	69.36	478.25	Yes
CR5	1.89	49.35	70.17	483.83	Yes
CR6	1.60	49.89	70.94	489.13	Yes
CR7	2.84	43.07	61.24	422.26	Yes
CR8	1.90	47.31	67.27	463.83	Yes
CR9	2.84	39.10	55.60	383.34	Yes
CR10	1.89	49.59	70.52	486.19	Yes

Notes:

1. Fire flow requirements satisfied if lowest pressure in system > 140 kPa (20 psi)
2. Fire flow requirements satisfied if maximum velocity is <= 3.0 m/s

Proposed Conditions Nodal Elevations

Nodal Elevations	
Node ID	**Elevation (m)**
Junc CRU-2	95.367
Junc TEE-BEND24	95.367
Junc TEE-BEND23	95.442
Junc TEE-BEND43	95.468
Junc TEE-BEND44	95.544
Junc CHAMBER2	95.565
Junc TEE-BEND18	95.682
Junc TEE-BEND46	95.801
Junc TEE-BEND53	95.87
Junc TEE-BEND47	95.871
Junc TEE-BEND22	95.875
Junc CRU-1	95.925
Junc TEE-BEND52	95.945
Junc HYD3	95.969
Junc TEE-BEND45	95.979
Junc TEE-BEND16	96
Junc HYD2	96.011
Junc HYD7	96.029
Junc TEE-BEND51	96.033
Junc TEE-BEND34	96.063
Junc TEE-BEND36	96.065
Junc TEE-BEND55	96.068
Junc TEE-BEND35	96.072
Junc HYD1	96.075
Junc HYD6	96.093
Junc TEE-BEND37	96.11
Junc TEE-BEND50	96.115
Junc TEE-BEND33	96.119
Junc TEE-BEND17	96.157
Junc TEE-BEND21	96.157
Junc TEE-BEND49	96.16
Junc TEE-BEND48	96.168
Junc TEE-BEND12	96.187
Junc TEE-BEND40	96.191
Junc TEE-BEND20	96.197
Junc TEE-BEND38	96.203
Junc TEE-BEND57	96.203
Junc TEE-BEND56	96.207
Junc TEE-BEND58	96.231
Junc TEE-BEND32	96.238
Junc TEE-BEND31	96.264

Proposed Conditions Nodal Elevations

Nodal Elevations	
Node ID	**Elevation (m)**
Junc TEE-BEND30	96.277
Junc HYD5	96.301
Junc CRU-8	96.344
Junc TEE-BEND28	96.351
Junc CRU-10	96.352
Junc TEE-BEND39	96.369
Junc TEE-BEND26	96.374
Junc TEE-BEND15	96.384
Junc TEE-BEND29	96.406
Junc TEE-BEND13	96.407
Junc TEE-BEND59	96.412
Junc TEE-BEND27	96.437
Junc TEE-BEND41	96.452
Junc TEE-BEND42	96.454
Junc CRU-6	96.486
Junc CRU-9	96.495
Junc CRU-7	96.495
Junc CRU-4	96.496
Junc CRU-3	96.497
Junc TEE-BEND6	96.65
Junc CRU-5	96.736
Junc TEE-BEND4	96.746
Junc TEE-BEND3	96.75
Junc TEE-BEND2	96.773
Junc TEE-BEND1	96.799
Junc CHAMBER1	96.816

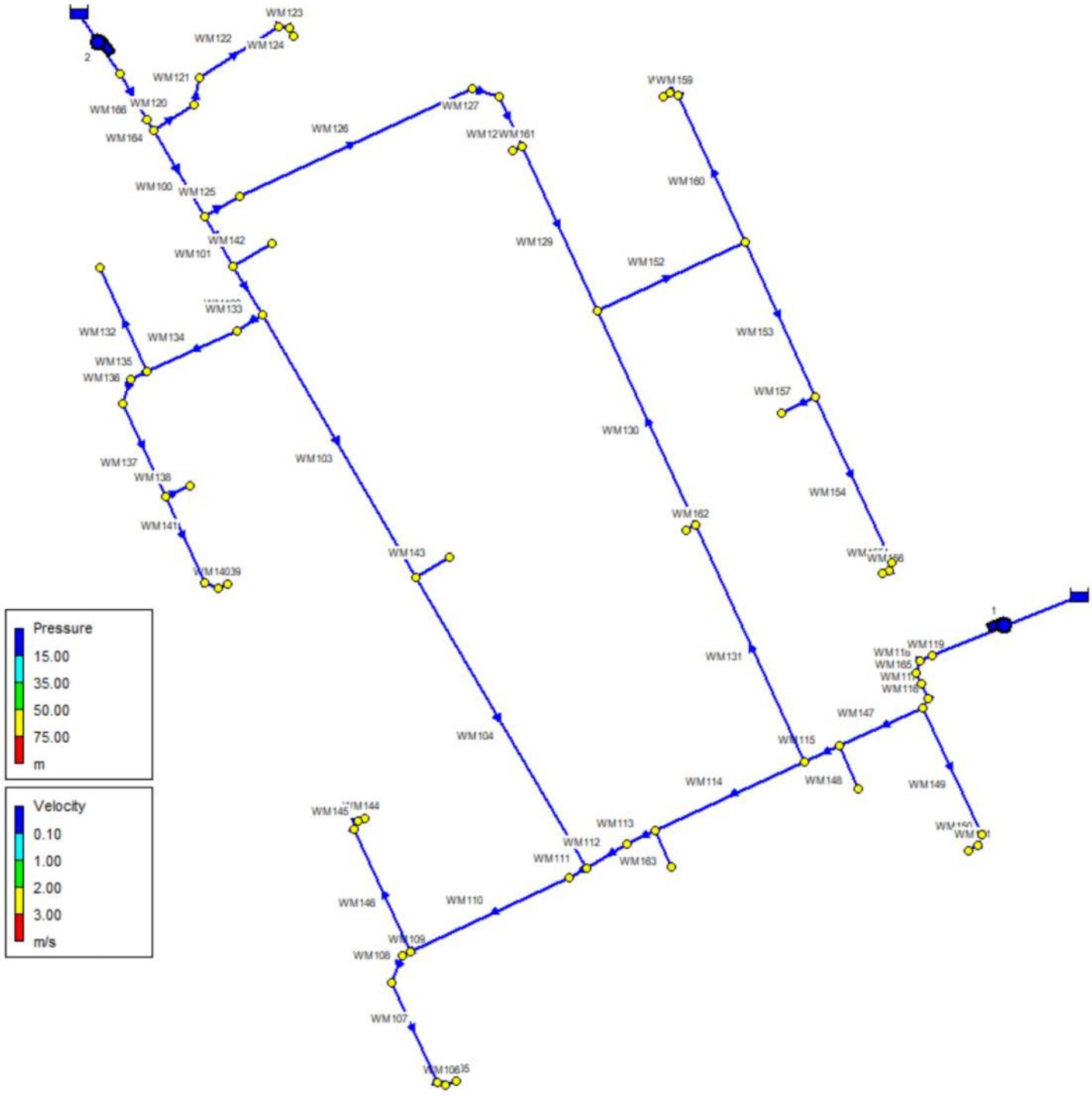
Proposed Conditions Pipe Properties

Pipe Properties			
Pipe ID	**Length (m)**	**Diameter (mm)**	**Roughness (C Value)**
Pipe WM166	13.008	200	110
Pipe WM100	24.428	200	110
Pipe WM101	14.105	200	110
Pipe WM102	14.07	200	110
Pipe WM103	74.594	200	110
Pipe WM104	83.148	200	110
Pipe WM105	2.742	200	110
Pipe WM106	2.121	200	110
Pipe WM107	27.06	200	110
Pipe WM108	7.071	200	110
Pipe WM109	2.273	200	110
Pipe WM110	43.09	200	110
Pipe WM111	5.039	200	110
Pipe WM112	11.407	200	110
Pipe WM113	7.671	200	110
Pipe WM114	40.486	200	110
Pipe WM115	9.344	200	110
Pipe WM116	2.594	200	110
Pipe WM117	4.079	200	110
Pipe WM118	3.05	200	110
Pipe WM119	3.256	200	110
Pipe WM120	11.711	200	110
Pipe WM121	6.787	200	110
Pipe WM122	23.393	200	110
Pipe WM123	2.505	200	110
Pipe WM124	2.125	200	110
Pipe WM125	10.059	200	110
Pipe WM126	63.282	200	110
Pipe WM127	6.851	200	110
Pipe WM128	13.346	200	110
Pipe WM129	44.459	200	110
Pipe WM130	58.093	200	110
Pipe WM131	64.037	200	110
Pipe WM132	28.008	150	100
Pipe WM133	7.36	200	110
Pipe WM134	24.33	200	110
Pipe WM135	4.156	200	110
Pipe WM136	6.364	200	110
Pipe WM137	25.455	200	110
Pipe WM138	6.415	150	100
Pipe WM139	2.385	200	110

Proposed Conditions Pipe Properties

Pipe Properties			
Pipe ID	**Length (m)**	**Diameter (mm)**	**Roughness (C Value)**
Pipe WM140	3.536	200	110
Pipe WM141	23.086	200	110
Pipe WM142	10.887	150	100
Pipe WM143	9.503	150	100
Pipe WM144	1.762	200	100
Pipe WM145	2.121	200	100
Pipe WM146	32.909	200	100
Pipe WM147	22.758	200	110
Pipe WM148	11.496	150	100
Pipe WM149	34.44	150	100
Pipe WM150	2.828	150	100
Pipe WM151	2.565	150	100
Pipe WM152	40.078	150	100
Pipe WM153	41.623	150	100
Pipe WM154	44.771	150	100
Pipe WM155	2.121	150	100
Pipe WM156	1.839	150	100
Pipe WM157	9.273	150	100
Pipe WM158	1.895	150	100
Pipe WM159	2.082	150	100
Pipe WM160	39.698	150	100
Pipe WM161	2.581	150	100
Pipe WM162	2.581	150	100
Pipe WM163	9.67	150	100
Pipe WM164	3.351	200	110
Pipe WM165	2.85	200	110

EPANET Model Schematic Maximum Daily Demand



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day Demand+pumos.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

Page 2

Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	0.73	0.73	0.00
2	100.00	75.00	0.54	1.24	1.24	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	149.05	53.68	0.00
TEE-BEND24	0.00	149.05	53.68	0.00
TEE-BEND23	0.00	149.05	53.61	0.00
TEE-BEND43	0.00	149.05	53.58	0.00
TEE-BEND44	0.00	149.05	53.50	0.00
CHAMBER2	0.00	149.05	53.48	0.00
TEE-BEND18	0.00	149.05	53.37	0.00
TEE-BEND46	0.00	149.05	53.25	0.00
TEE-BEND53	0.00	149.05	53.18	0.00
TEE-BEND47	0.00	149.05	53.18	0.00
TEE-BEND22	0.00	149.05	53.17	0.00
CRU-1	0.23	149.05	53.12	0.00
TEE-BEND52	0.00	149.05	53.10	0.00
HYD3	0.00	149.05	53.08	0.00
TEE-BEND45	0.00	149.05	53.07	0.00
TEE-BEND16	0.00	149.05	53.05	0.00
HYD2	0.00	149.05	53.04	0.00
HYD7	0.00	149.05	53.02	0.00
TEE-BEND51	0.00	149.05	53.02	0.00
TEE-BEND34	0.00	149.05	52.99	0.00
TEE-BEND36	0.00	149.05	52.98	0.00
TEE-BEND55	0.00	149.05	52.98	0.00
TEE-BEND35	0.00	149.05	52.98	0.00
HYD1	0.00	149.05	52.97	0.00
HYD6	0.00	149.05	52.96	0.00
TEE-BEND37	0.00	149.05	52.94	0.00
TEE-BEND50	0.00	149.05	52.93	0.00
TEE-BEND33	0.00	149.05	52.93	0.00
TEE-BEND17	0.00	149.05	52.89	0.00
TEE-BEND21	0.00	149.05	52.89	0.00
TEE-BEND49	0.00	149.05	52.89	0.00
TEE-BEND48	0.00	149.05	52.88	0.00
TEE-BEND12	0.00	149.05	52.86	0.00
TEE-BEND40	0.00	149.05	52.86	0.00
TEE-BEND20	0.00	149.05	52.85	0.00
TEE-BEND38	0.00	149.05	52.85	0.00
TEE-BEND57	0.00	149.05	52.85	0.00
TEE-BEND56	0.00	149.05	52.84	0.00
TEE-BEND58	0.00	149.05	52.82	0.00
TEE-BEND32	0.00	149.05	52.81	0.00
TEE-BEND31	0.00	149.05	52.78	0.00
TEE-BEND30	0.00	149.05	52.77	0.00

HYD5	0.00	149.05	52	0.00	
CRU-8	0.04	149.05	52.70	0.00	
TEE-BEND28	0.00	149.05	52.70	0.00	
CRU-10	0.04	149.05	52.70	0.00	
TEE-BEND39	0.00	149.05	52.68	0.00	

Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	149.05	52.67	0.00	
TEE-BEND15	0.00	149.05	52.66	0.00	
TEE-BEND29	0.00	149.05	52.64	0.00	
TEE-BEND13	0.00	149.05	52.64	0.00	
TEE-BEND59	0.00	149.05	52.64	0.00	
TEE-BEND27	0.00	149.05	52.61	0.00	
TEE-BEND41	0.00	149.05	52.60	0.00	
TEE-BEND42	0.00	149.05	52.59	0.00	
CRU-6	0.11	149.05	52.56	0.00	
CRU-9	0.07	149.05	52.55	0.00	
CRU-7	0.08	149.05	52.55	0.00	
CRU-4	0.11	149.05	52.55	0.00	
CRU-3	0.17	149.05	52.55	0.00	
TEE-BEND6	0.00	149.05	52.40	0.00	
CRU-5	0.02	149.05	52.31	0.00	
TEE-BEND4	0.00	149.05	52.30	0.00	
TEE-BEND3	0.00	149.05	52.30	0.00	
TEE-BEND2	0.00	149.05	52.28	0.00	
TEE-BEND1	0.00	149.05	52.25	0.00	
CHAMBER1	0.00	149.05	52.23	0.00	
R1	-0.38	0.00	0.00	0.00	Reservoir
R2	-0.63	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	0.63	0.02	0.01	Open
WM100	0.52	0.02	0.00	Open
WM101	0.40	0.01	0.00	Open
WM102	0.40	0.01	0.00	Open
WM103	0.10	0.00	0.00	Open
WM104	0.10	0.00	0.00	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-0.27	0.01	0.00	Open
WM113	-0.27	0.01	0.00	Open
WM114	-0.27	0.01	0.00	Open
WM115	-0.34	0.01	0.00	Open
WM116	-0.38	0.01	0.00	Open
WM117	-0.38	0.01	0.00	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM118	-0.38	0.01	0.00	Open
WM119	-0.38	0.01	0.00	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	0.12	0.00	0.00	Open
WM126	0.12	0.00	0.00	Open
WM127	0.12	0.00	0.00	Open
WM128	0.12	0.00	0.00	Open
WM129	0.12	0.00	0.00	Open
WM130	-0.07	0.00	0.00	Open
WM131	-0.07	0.00	0.00	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-0.34	0.01	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	0.63	0.02	0.01	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-0.38	0.01	0.00	Open
1	0.38	0.00	-149.05	Open Pump
2	0.63	0.00	-149.05	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	149.05	53.68	0.00
TEE-BEND24	0.00	149.05	53.68	0.00
TEE-BEND23	0.00	149.05	53.61	0.00
TEE-BEND43	0.00	149.05	53.58	0.00
TEE-BEND44	0.00	149.05	53.50	0.00
CHAMBER2	0.00	149.05	53.48	0.00
TEE-BEND18	0.00	149.05	53.37	0.00
TEE-BEND46	0.00	149.05	53.25	0.00
TEE-BEND53	0.00	149.05	53.18	0.00
TEE-BEND47	0.00	149.05	53.18	0.00
TEE-BEND22	0.00	149.05	53.17	0.00
CRU-1	0.23	149.05	53.12	0.00
TEE-BEND52	0.00	149.05	53.10	0.00
HYD3	0.00	149.05	53.08	0.00
TEE-BEND45	0.00	149.05	53.07	0.00
TEE-BEND16	0.00	149.05	53.05	0.00
HYD2	0.00	149.05	53.04	0.00
HYD7	0.00	149.05	53.02	0.00
TEE-BEND51	0.00	149.05	53.02	0.00
TEE-BEND34	0.00	149.05	52.99	0.00
TEE-BEND36	0.00	149.05	52.98	0.00
TEE-BEND55	0.00	149.05	52.98	0.00
TEE-BEND35	0.00	149.05	52.98	0.00
HYD1	0.00	149.05	52.97	0.00

HYD6	0.00	149.05	52	0.00
TEE-BEND37	0.00	149.05	52.94	0.00
TEE-BEND50	0.00	149.05	52.93	0.00
TEE-BEND33	0.00	149.05	52.93	0.00
TEE-BEND17	0.00	149.05	52.89	0.00
TEE-BEND21	0.00	149.05	52.89	0.00
TEE-BEND49	0.00	149.05	52.89	0.00
TEE-BEND48	0.00	149.05	52.88	0.00
TEE-BEND12	0.00	149.05	52.86	0.00
TEE-BEND40	0.00	149.05	52.86	0.00
TEE-BEND20	0.00	149.05	52.85	0.00
TEE-BEND38	0.00	149.05	52.85	0.00
TEE-BEND57	0.00	149.05	52.85	0.00
TEE-BEND56	0.00	149.05	52.84	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	149.05	52.82	0.00	
TEE-BEND32	0.00	149.05	52.81	0.00	
TEE-BEND31	0.00	149.05	52.78	0.00	
TEE-BEND30	0.00	149.05	52.77	0.00	
HYD5	0.00	149.05	52.75	0.00	
CRU-8	0.04	149.05	52.70	0.00	
TEE-BEND28	0.00	149.05	52.70	0.00	
CRU-10	0.04	149.05	52.70	0.00	
TEE-BEND39	0.00	149.05	52.68	0.00	
TEE-BEND26	0.00	149.05	52.67	0.00	
TEE-BEND15	0.00	149.05	52.66	0.00	
TEE-BEND29	0.00	149.05	52.64	0.00	
TEE-BEND13	0.00	149.05	52.64	0.00	
TEE-BEND59	0.00	149.05	52.64	0.00	
TEE-BEND27	0.00	149.05	52.61	0.00	
TEE-BEND41	0.00	149.05	52.60	0.00	
TEE-BEND42	0.00	149.05	52.59	0.00	
CRU-6	0.11	149.05	52.56	0.00	
CRU-9	0.07	149.05	52.55	0.00	
CRU-7	0.08	149.05	52.55	0.00	
CRU-4	0.11	149.05	52.55	0.00	
CRU-3	0.17	149.05	52.55	0.00	
TEE-BEND6	0.00	149.05	52.40	0.00	
CRU-5	0.02	149.05	52.31	0.00	
TEE-BEND4	0.00	149.05	52.30	0.00	
TEE-BEND3	0.00	149.05	52.30	0.00	
TEE-BEND2	0.00	149.05	52.28	0.00	
TEE-BEND1	0.00	149.05	52.25	0.00	
CHAMBER1	0.00	149.05	52.23	0.00	
R1	-0.38	0.00	0.00	0.00	Reservoir

R2	-0.63	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	0.63	0.02	0.01	Open
WM100	0.52	0.02	0.00	Open
WM101	0.40	0.01	0.00	Open
WM102	0.40	0.01	0.00	Open
WM103	0.10	0.00	0.00	Open
WM104	0.10	0.00	0.00	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-0.27	0.01	0.00	Open
WM113	-0.27	0.01	0.00	Open
WM114	-0.27	0.01	0.00	Open
WM115	-0.34	0.01	0.00	Open
WM116	-0.38	0.01	0.00	Open
WM117	-0.38	0.01	0.00	Open
WM118	-0.38	0.01	0.00	Open
WM119	-0.38	0.01	0.00	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	0.12	0.00	0.00	Open
WM126	0.12	0.00	0.00	Open
WM127	0.12	0.00	0.00	Open
WM128	0.12	0.00	0.00	Open
WM129	0.12	0.00	0.00	Open
WM130	-0.07	0.00	0.00	Open
WM131	-0.07	0.00	0.00	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-0.34	0.01	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	0.63	0.02	0.01	Open
WM165	-0.38	0.01	0.00	Open
1	0.38	0.00	-149.05	Open Pump
2	0.63	0.00	-149.05	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	149.05	53.68	0.00
TEE-BEND24	0.00	149.05	53.68	0.00
TEE-BEND23	0.00	149.05	53.61	0.00
TEE-BEND43	0.00	149.05	53.58	0.00
TEE-BEND44	0.00	149.05	53.50	0.00
CHAMBER2	0.00	149.05	53.48	0.00

TEE-BEND18	0.00	149.05	53	0.00
TEE-BEND46	0.00	149.05	53.25	0.00
TEE-BEND53	0.00	149.05	53.18	0.00
TEE-BEND47	0.00	149.05	53.18	0.00
TEE-BEND22	0.00	149.05	53.17	0.00
CRU-1	0.23	149.05	53.12	0.00
TEE-BEND52	0.00	149.05	53.10	0.00
HYD3	0.00	149.05	53.08	0.00
TEE-BEND45	0.00	149.05	53.07	0.00
TEE-BEND16	0.00	149.05	53.05	0.00
HYD2	0.00	149.05	53.04	0.00
HYD7	0.00	149.05	53.02	0.00
TEE-BEND51	0.00	149.05	53.02	0.00
TEE-BEND34	0.00	149.05	52.99	0.00
TEE-BEND36	0.00	149.05	52.98	0.00
TEE-BEND55	0.00	149.05	52.98	0.00
TEE-BEND35	0.00	149.05	52.98	0.00
HYD1	0.00	149.05	52.97	0.00
HYD6	0.00	149.05	52.96	0.00
TEE-BEND37	0.00	149.05	52.94	0.00
TEE-BEND50	0.00	149.05	52.93	0.00
TEE-BEND33	0.00	149.05	52.93	0.00
TEE-BEND17	0.00	149.05	52.89	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	149.05	52.89	0.00
TEE-BEND49	0.00	149.05	52.89	0.00
TEE-BEND48	0.00	149.05	52.88	0.00
TEE-BEND12	0.00	149.05	52.86	0.00
TEE-BEND40	0.00	149.05	52.86	0.00
TEE-BEND20	0.00	149.05	52.85	0.00
TEE-BEND38	0.00	149.05	52.85	0.00
TEE-BEND57	0.00	149.05	52.85	0.00
TEE-BEND56	0.00	149.05	52.84	0.00
TEE-BEND58	0.00	149.05	52.82	0.00
TEE-BEND32	0.00	149.05	52.81	0.00
TEE-BEND31	0.00	149.05	52.78	0.00
TEE-BEND30	0.00	149.05	52.77	0.00
HYD5	0.00	149.05	52.75	0.00
CRU-8	0.04	149.05	52.70	0.00
TEE-BEND28	0.00	149.05	52.70	0.00
CRU-10	0.04	149.05	52.70	0.00
TEE-BEND39	0.00	149.05	52.68	0.00
TEE-BEND26	0.00	149.05	52.67	0.00
TEE-BEND15	0.00	149.05	52.66	0.00
TEE-BEND29	0.00	149.05	52.64	0.00

TEE-BEND13	0.00	149.05	52	0.00	
TEE-BEND59	0.00	149.05	52.64	0.00	
TEE-BEND27	0.00	149.05	52.61	0.00	
TEE-BEND41	0.00	149.05	52.60	0.00	
TEE-BEND42	0.00	149.05	52.59	0.00	
CRU-6	0.11	149.05	52.56	0.00	
CRU-9	0.07	149.05	52.55	0.00	
CRU-7	0.08	149.05	52.55	0.00	
CRU-4	0.11	149.05	52.55	0.00	
CRU-3	0.17	149.05	52.55	0.00	
TEE-BEND6	0.00	149.05	52.40	0.00	
CRU-5	0.02	149.05	52.31	0.00	
TEE-BEND4	0.00	149.05	52.30	0.00	
TEE-BEND3	0.00	149.05	52.30	0.00	
TEE-BEND2	0.00	149.05	52.28	0.00	
TEE-BEND1	0.00	149.05	52.25	0.00	
CHAMBER1	0.00	149.05	52.23	0.00	
R1	-0.38	0.00	0.00	0.00	Reservoir
R2	-0.63	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	0.63	0.02	0.01	Open
WM100	0.52	0.02	0.00	Open
WM101	0.40	0.01	0.00	Open
WM102	0.40	0.01	0.00	Open
WM103	0.10	0.00	0.00	Open
WM104	0.10	0.00	0.00	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-0.27	0.01	0.00	Open
WM113	-0.27	0.01	0.00	Open
WM114	-0.27	0.01	0.00	Open
WM115	-0.34	0.01	0.00	Open
WM116	-0.38	0.01	0.00	Open
WM117	-0.38	0.01	0.00	Open
WM118	-0.38	0.01	0.00	Open
WM119	-0.38	0.01	0.00	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	0.12	0.00	0.00	Open
WM126	0.12	0.00	0.00	Open
WM127	0.12	0.00	0.00	Open
WM128	0.12	0.00	0.00	Open
WM129	0.12	0.00	0.00	Open
WM130	-0.07	0.00	0.00	Open
WM131	-0.07	0.00	0.00	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

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Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM146	-0.14	0.00	0.00	Open
WM147	-0.34	0.01	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	0.63	0.02	0.01	Open
WM165	-0.38	0.01	0.00	Open
1	0.38	0.00	-149.05	Open Pump

2	0.63	0.00	-149	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	149.05	53.68	0.00
TEE-BEND24	0.00	149.05	53.68	0.00
TEE-BEND23	0.00	149.05	53.61	0.00
TEE-BEND43	0.00	149.05	53.58	0.00
TEE-BEND44	0.00	149.05	53.50	0.00
CHAMBER2	0.00	149.05	53.48	0.00
TEE-BEND18	0.00	149.05	53.37	0.00
TEE-BEND46	0.00	149.05	53.25	0.00
TEE-BEND53	0.00	149.05	53.18	0.00
TEE-BEND47	0.00	149.05	53.18	0.00
TEE-BEND22	0.00	149.05	53.17	0.00
CRU-1	0.23	149.05	53.12	0.00
TEE-BEND52	0.00	149.05	53.10	0.00
HYD3	0.00	149.05	53.08	0.00
TEE-BEND45	0.00	149.05	53.07	0.00
TEE-BEND16	0.00	149.05	53.05	0.00
HYD2	0.00	149.05	53.04	0.00
HYD7	0.00	149.05	53.02	0.00
TEE-BEND51	0.00	149.05	53.02	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	149.05	52.99	0.00
TEE-BEND36	0.00	149.05	52.98	0.00
TEE-BEND55	0.00	149.05	52.98	0.00
TEE-BEND35	0.00	149.05	52.98	0.00
HYD1	0.00	149.05	52.97	0.00
HYD6	0.00	149.05	52.96	0.00
TEE-BEND37	0.00	149.05	52.94	0.00
TEE-BEND50	0.00	149.05	52.93	0.00
TEE-BEND33	0.00	149.05	52.93	0.00
TEE-BEND17	0.00	149.05	52.89	0.00
TEE-BEND21	0.00	149.05	52.89	0.00
TEE-BEND49	0.00	149.05	52.89	0.00
TEE-BEND48	0.00	149.05	52.88	0.00
TEE-BEND12	0.00	149.05	52.86	0.00
TEE-BEND40	0.00	149.05	52.86	0.00
TEE-BEND20	0.00	149.05	52.85	0.00
TEE-BEND38	0.00	149.05	52.85	0.00
TEE-BEND57	0.00	149.05	52.85	0.00

TEE-BEND56	0.00	149.05	52	0.00
TEE-BEND58	0.00	149.05	52.82	0.00
TEE-BEND32	0.00	149.05	52.81	0.00
TEE-BEND31	0.00	149.05	52.78	0.00
TEE-BEND30	0.00	149.05	52.77	0.00
HYD5	0.00	149.05	52.75	0.00
CRU-8	0.04	149.05	52.70	0.00
TEE-BEND28	0.00	149.05	52.70	0.00
CRU-10	0.04	149.05	52.70	0.00
TEE-BEND39	0.00	149.05	52.68	0.00
TEE-BEND26	0.00	149.05	52.67	0.00
TEE-BEND15	0.00	149.05	52.66	0.00
TEE-BEND29	0.00	149.05	52.64	0.00
TEE-BEND13	0.00	149.05	52.64	0.00
TEE-BEND59	0.00	149.05	52.64	0.00
TEE-BEND27	0.00	149.05	52.61	0.00
TEE-BEND41	0.00	149.05	52.60	0.00
TEE-BEND42	0.00	149.05	52.59	0.00
CRU-6	0.11	149.05	52.56	0.00
CRU-9	0.07	149.05	52.55	0.00
CRU-7	0.08	149.05	52.55	0.00
CRU-4	0.11	149.05	52.55	0.00
CRU-3	0.17	149.05	52.55	0.00
TEE-BEND6	0.00	149.05	52.40	0.00
CRU-5	0.02	149.05	52.31	0.00
TEE-BEND4	0.00	149.05	52.30	0.00
TEE-BEND3	0.00	149.05	52.30	0.00
TEE-BEND2	0.00	149.05	52.28	0.00
TEE-BEND1	0.00	149.05	52.25	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	149.05	52.23	0.00	
R1	-0.38	0.00	0.00	0.00	Reservoir
R2	-0.63	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	0.63	0.02	0.01	Open
WM100	0.52	0.02	0.00	Open
WM101	0.40	0.01	0.00	Open
WM102	0.40	0.01	0.00	Open
WM103	0.10	0.00	0.00	Open
WM104	0.10	0.00	0.00	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-0.27	0.01	0.00	Open
WM113	-0.27	0.01	0.00	Open
WM114	-0.27	0.01	0.00	Open
WM115	-0.34	0.01	0.00	Open
WM116	-0.38	0.01	0.00	Open
WM117	-0.38	0.01	0.00	Open
WM118	-0.38	0.01	0.00	Open
WM119	-0.38	0.01	0.00	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	0.12	0.00	0.00	Open
WM126	0.12	0.00	0.00	Open
WM127	0.12	0.00	0.00	Open
WM128	0.12	0.00	0.00	Open
WM129	0.12	0.00	0.00	Open
WM130	-0.07	0.00	0.00	Open
WM131	-0.07	0.00	0.00	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-0.34	0.01	0.00	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	0.63	0.02	0.01	Open
WM165	-0.38	0.01	0.00	Open
1	0.38	0.00	-149.05	Open Pump
2	0.63	0.00	-149.05	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	149.05	53.68	0.00
TEE-BEND24	0.00	149.05	53.68	0.00
TEE-BEND23	0.00	149.05	53.61	0.00
TEE-BEND43	0.00	149.05	53.58	0.00
TEE-BEND44	0.00	149.05	53.50	0.00
CHAMBER2	0.00	149.05	53.48	0.00
TEE-BEND18	0.00	149.05	53.37	0.00
TEE-BEND46	0.00	149.05	53.25	0.00
TEE-BEND53	0.00	149.05	53.18	0.00
TEE-BEND47	0.00	149.05	53.18	0.00

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Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	149.05	53.17	0.00
CRU-1	0.23	149.05	53.12	0.00
TEE-BEND52	0.00	149.05	53.10	0.00
HYD3	0.00	149.05	53.08	0.00
TEE-BEND45	0.00	149.05	53.07	0.00
TEE-BEND16	0.00	149.05	53.05	0.00
HYD2	0.00	149.05	53.04	0.00
HYD7	0.00	149.05	53.02	0.00
TEE-BEND51	0.00	149.05	53.02	0.00

TEE-BEND34	0.00	149.05	52	0.00
TEE-BEND36	0.00	149.05	52.98	0.00
TEE-BEND55	0.00	149.05	52.98	0.00
TEE-BEND35	0.00	149.05	52.98	0.00
HYD1	0.00	149.05	52.97	0.00
HYD6	0.00	149.05	52.96	0.00
TEE-BEND37	0.00	149.05	52.94	0.00
TEE-BEND50	0.00	149.05	52.93	0.00
TEE-BEND33	0.00	149.05	52.93	0.00
TEE-BEND17	0.00	149.05	52.89	0.00
TEE-BEND21	0.00	149.05	52.89	0.00
TEE-BEND49	0.00	149.05	52.89	0.00
TEE-BEND48	0.00	149.05	52.88	0.00
TEE-BEND12	0.00	149.05	52.86	0.00
TEE-BEND40	0.00	149.05	52.86	0.00
TEE-BEND20	0.00	149.05	52.85	0.00
TEE-BEND38	0.00	149.05	52.85	0.00
TEE-BEND57	0.00	149.05	52.85	0.00
TEE-BEND56	0.00	149.05	52.84	0.00
TEE-BEND58	0.00	149.05	52.82	0.00
TEE-BEND32	0.00	149.05	52.81	0.00
TEE-BEND31	0.00	149.05	52.78	0.00
TEE-BEND30	0.00	149.05	52.77	0.00
HYD5	0.00	149.05	52.75	0.00
CRU-8	0.04	149.05	52.70	0.00
TEE-BEND28	0.00	149.05	52.70	0.00
CRU-10	0.04	149.05	52.70	0.00
TEE-BEND39	0.00	149.05	52.68	0.00
TEE-BEND26	0.00	149.05	52.67	0.00
TEE-BEND15	0.00	149.05	52.66	0.00
TEE-BEND29	0.00	149.05	52.64	0.00
TEE-BEND13	0.00	149.05	52.64	0.00
TEE-BEND59	0.00	149.05	52.64	0.00
TEE-BEND27	0.00	149.05	52.61	0.00
TEE-BEND41	0.00	149.05	52.60	0.00
TEE-BEND42	0.00	149.05	52.59	0.00
CRU-6	0.11	149.05	52.56	0.00
CRU-9	0.07	149.05	52.55	0.00

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Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	149.05	52.55	0.00
CRU-4	0.11	149.05	52.55	0.00
CRU-3	0.17	149.05	52.55	0.00
TEE-BEND6	0.00	149.05	52.40	0.00
CRU-5	0.02	149.05	52.31	0.00
TEE-BEND4	0.00	149.05	52.30	0.00

TEE-BEND3	0.00	149.05	52	0.00	
TEE-BEND2	0.00	149.05	52.28	0.00	
TEE-BEND1	0.00	149.05	52.25	0.00	
CHAMBER1	0.00	149.05	52.23	0.00	
R1	-0.38	0.00	0.00	0.00	Reservoir
R2	-0.63	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

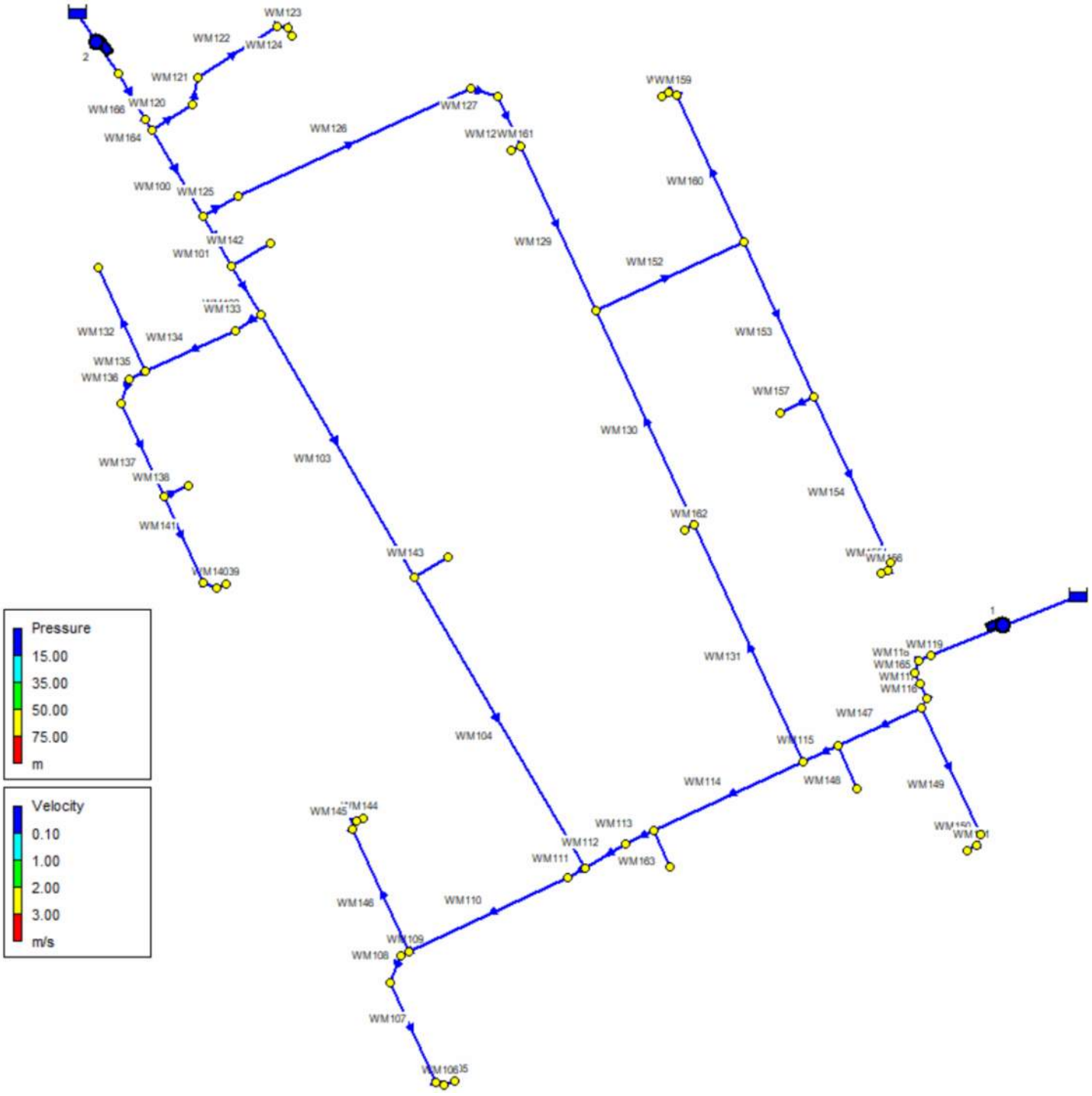
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	0.63	0.02	0.01	Open
WM100	0.52	0.02	0.00	Open
WM101	0.40	0.01	0.00	Open
WM102	0.40	0.01	0.00	Open
WM103	0.10	0.00	0.00	Open
WM104	0.10	0.00	0.00	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-0.27	0.01	0.00	Open
WM113	-0.27	0.01	0.00	Open
WM114	-0.27	0.01	0.00	Open
WM115	-0.34	0.01	0.00	Open
WM116	-0.38	0.01	0.00	Open
WM117	-0.38	0.01	0.00	Open
WM118	-0.38	0.01	0.00	Open
WM119	-0.38	0.01	0.00	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	0.12	0.00	0.00	Open
WM126	0.12	0.00	0.00	Open
WM127	0.12	0.00	0.00	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	0.12	0.00	0.00	Open
WM129	0.12	0.00	0.00	Open
WM130	-0.07	0.00	0.00	Open

WM131	-0.07	0.00	0.00	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.01	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-0.34	0.01	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.01	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	0.63	0.02	0.01	Open
WM165	-0.38	0.01	0.00	Open
1	0.38	0.00	-149.05	Open Pump
2	0.63	0.00	-149.05	Open Pump

EPANET Model Schematic Maximum Peak Demand



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Peak Hour Demand+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	1.28	1.28	0.00
2	100.00	75.00	0.54	2.18	2.18	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.25	148.86	53.49	0.00
TEE-BEND24	0.00	148.86	53.49	0.00
TEE-BEND23	0.00	148.86	53.42	0.00
TEE-BEND43	0.00	148.86	53.39	0.00
TEE-BEND44	0.00	148.86	53.31	0.00
CHAMBER2	0.00	148.86	53.29	0.00
TEE-BEND18	0.00	148.86	53.18	0.00
TEE-BEND46	0.00	148.86	53.06	0.00
TEE-BEND53	0.00	148.86	52.99	0.00
TEE-BEND47	0.00	148.86	52.99	0.00
TEE-BEND22	0.00	148.86	52.98	0.00
CRU-1	0.41	148.86	52.93	0.00
TEE-BEND52	0.00	148.86	52.91	0.00
HYD3	0.00	148.86	52.89	0.00
TEE-BEND45	0.00	148.86	52.88	0.00
TEE-BEND16	0.00	148.86	52.86	0.00
HYD2	0.00	148.86	52.85	0.00
HYD7	0.00	148.86	52.83	0.00
TEE-BEND51	0.00	148.86	52.82	0.00
TEE-BEND34	0.00	148.86	52.80	0.00
TEE-BEND36	0.00	148.86	52.79	0.00
TEE-BEND55	0.00	148.86	52.79	0.00
TEE-BEND35	0.00	148.86	52.79	0.00
HYD1	0.00	148.86	52.78	0.00
HYD6	0.00	148.86	52.77	0.00
TEE-BEND37	0.00	148.86	52.75	0.00
TEE-BEND50	0.00	148.86	52.74	0.00
TEE-BEND33	0.00	148.86	52.74	0.00
TEE-BEND17	0.00	148.86	52.70	0.00
TEE-BEND21	0.00	148.86	52.70	0.00
TEE-BEND49	0.00	148.86	52.70	0.00
TEE-BEND48	0.00	148.86	52.69	0.00
TEE-BEND12	0.00	148.86	52.67	0.00
TEE-BEND40	0.00	148.86	52.67	0.00
TEE-BEND20	0.00	148.86	52.66	0.00
TEE-BEND38	0.00	148.86	52.66	0.00
TEE-BEND57	0.00	148.86	52.66	0.00
TEE-BEND56	0.00	148.86	52.65	0.00
TEE-BEND58	0.00	148.86	52.63	0.00
TEE-BEND32	0.00	148.86	52.62	0.00
TEE-BEND31	0.00	148.86	52.59	0.00
TEE-BEND30	0.00	148.86	52.58	0.00

HYD5	0.00	148.86	52	0.00
CRU-8	0.06	148.86	52.51	0.00
TEE-BEND28	0.00	148.86	52.51	0.00
CRU-10	0.07	148.86	52.51	0.00
TEE-BEND39	0.00	148.86	52.49	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	148.86	52.48	0.00	
TEE-BEND15	0.00	148.86	52.47	0.00	
TEE-BEND29	0.00	148.86	52.45	0.00	
TEE-BEND13	0.00	148.86	52.45	0.00	
TEE-BEND59	0.00	148.86	52.45	0.00	
TEE-BEND27	0.00	148.86	52.42	0.00	
TEE-BEND41	0.00	148.86	52.41	0.00	
TEE-BEND42	0.00	148.86	52.40	0.00	
CRU-6	0.20	148.86	52.37	0.00	
CRU-9	0.12	148.86	52.36	0.00	
CRU-7	0.15	148.86	52.36	0.00	
CRU-4	0.19	148.86	52.36	0.00	
CRU-3	0.30	148.86	52.36	0.00	
TEE-BEND6	0.00	148.86	52.21	0.00	
CRU-5	0.03	148.86	52.12	0.00	
TEE-BEND4	0.00	148.86	52.11	0.00	
TEE-BEND3	0.00	148.86	52.11	0.00	
TEE-BEND2	0.00	148.86	52.09	0.00	
TEE-BEND1	0.00	148.86	52.06	0.00	
CHAMBER1	0.00	148.86	52.04	0.00	
R1	-0.66	0.00	0.00	0.00	Reservoir
R2	-1.12	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	1.12	0.04	0.02	Open
WM100	0.92	0.03	0.01	Open
WM101	0.70	0.02	0.01	Open
WM102	0.70	0.02	0.01	Open
WM103	0.18	0.01	0.00	Open
WM104	0.18	0.01	0.00	Open
WM105	-0.41	0.01	0.00	Open
WM106	-0.41	0.01	0.00	Open
WM107	-0.41	0.01	0.00	Open
WM108	-0.41	0.01	0.00	Open
WM109	-0.41	0.01	0.00	Open

WM110	-0.66	0.02	0	Open
WM111	-0.66	0.02	0.01	Open
WM112	-0.48	0.02	0.00	Open
WM113	-0.48	0.02	0.00	Open
WM114	-0.48	0.02	0.00	Open
WM115	-0.59	0.02	0.00	Open
WM116	-0.66	0.02	0.01	Open
WM117	-0.66	0.02	0.00	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-0.66	0.02	0.01	Open
WM119	-0.66	0.02	0.01	Open
WM120	0.20	0.01	0.00	Open
WM121	0.20	0.01	0.00	Open
WM122	0.20	0.01	0.00	Open
WM123	0.20	0.01	0.00	Open
WM124	0.20	0.01	0.00	Open
WM125	0.22	0.01	0.00	Open
WM126	0.22	0.01	0.00	Open
WM127	0.22	0.01	0.00	Open
WM128	0.22	0.01	0.00	Open
WM129	0.22	0.01	0.00	Open
WM130	-0.11	0.00	0.00	Open
WM131	-0.11	0.00	0.00	Open
WM132	-0.03	0.00	0.00	Open
WM133	0.52	0.02	0.00	Open
WM134	0.52	0.02	0.00	Open
WM135	0.49	0.02	0.00	Open
WM136	0.49	0.02	0.00	Open
WM137	0.49	0.02	0.00	Open
WM138	0.19	0.01	0.00	Open
WM139	-0.30	0.01	0.00	Open
WM140	-0.30	0.01	0.00	Open
WM141	-0.30	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.25	0.01	0.00	Open
WM145	-0.25	0.01	0.00	Open
WM146	-0.25	0.01	0.00	Open
WM147	-0.59	0.02	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.07	0.00	0.00	Open
WM150	0.07	0.00	0.00	Open
WM151	0.07	0.00	0.00	Open
WM152	0.33	0.02	0.01	Open
WM153	0.18	0.01	0.00	Open

WM154	0.12	0.01	0.00	Open
WM155	0.12	0.01	0.00	Open
WM156	0.12	0.01	0.00	Open
WM157	0.06	0.00	0.00	Open
WM158	-0.15	0.01	0.00	Open
WM159	-0.15	0.01	0.00	Open
WM160	-0.15	0.01	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	1.12	0.04	0.02	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-0.66	0.02	0.01	Open
1	0.66	0.00	-148.86	Open Pump
2	1.12	0.00	-148.86	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.25	148.86	53.49	0.00
TEE-BEND24	0.00	148.86	53.49	0.00
TEE-BEND23	0.00	148.86	53.42	0.00
TEE-BEND43	0.00	148.86	53.39	0.00
TEE-BEND44	0.00	148.86	53.31	0.00
CHAMBER2	0.00	148.86	53.29	0.00
TEE-BEND18	0.00	148.86	53.18	0.00
TEE-BEND46	0.00	148.86	53.06	0.00
TEE-BEND53	0.00	148.86	52.99	0.00
TEE-BEND47	0.00	148.86	52.99	0.00
TEE-BEND22	0.00	148.86	52.98	0.00
CRU-1	0.41	148.86	52.93	0.00
TEE-BEND52	0.00	148.86	52.91	0.00
HYD3	0.00	148.86	52.89	0.00
TEE-BEND45	0.00	148.86	52.88	0.00
TEE-BEND16	0.00	148.86	52.86	0.00
HYD2	0.00	148.86	52.85	0.00
HYD7	0.00	148.86	52.83	0.00
TEE-BEND51	0.00	148.86	52.82	0.00
TEE-BEND34	0.00	148.86	52.80	0.00
TEE-BEND36	0.00	148.86	52.79	0.00
TEE-BEND55	0.00	148.86	52.79	0.00
TEE-BEND35	0.00	148.86	52.79	0.00
HYD1	0.00	148.86	52.78	0.00

HYD6	0.00	148.86	52	0.00
TEE-BEND37	0.00	148.86	52.75	0.00
TEE-BEND50	0.00	148.86	52.74	0.00
TEE-BEND33	0.00	148.86	52.74	0.00
TEE-BEND17	0.00	148.86	52.70	0.00
TEE-BEND21	0.00	148.86	52.70	0.00
TEE-BEND49	0.00	148.86	52.70	0.00
TEE-BEND48	0.00	148.86	52.69	0.00
TEE-BEND12	0.00	148.86	52.67	0.00
TEE-BEND40	0.00	148.86	52.67	0.00
TEE-BEND20	0.00	148.86	52.66	0.00
TEE-BEND38	0.00	148.86	52.66	0.00
TEE-BEND57	0.00	148.86	52.66	0.00
TEE-BEND56	0.00	148.86	52.65	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	148.86	52.63	0.00	
TEE-BEND32	0.00	148.86	52.62	0.00	
TEE-BEND31	0.00	148.86	52.59	0.00	
TEE-BEND30	0.00	148.86	52.58	0.00	
HYD5	0.00	148.86	52.56	0.00	
CRU-8	0.06	148.86	52.51	0.00	
TEE-BEND28	0.00	148.86	52.51	0.00	
CRU-10	0.07	148.86	52.51	0.00	
TEE-BEND39	0.00	148.86	52.49	0.00	
TEE-BEND26	0.00	148.86	52.48	0.00	
TEE-BEND15	0.00	148.86	52.47	0.00	
TEE-BEND29	0.00	148.86	52.45	0.00	
TEE-BEND13	0.00	148.86	52.45	0.00	
TEE-BEND59	0.00	148.86	52.45	0.00	
TEE-BEND27	0.00	148.86	52.42	0.00	
TEE-BEND41	0.00	148.86	52.41	0.00	
TEE-BEND42	0.00	148.86	52.40	0.00	
CRU-6	0.20	148.86	52.37	0.00	
CRU-9	0.12	148.86	52.36	0.00	
CRU-7	0.15	148.86	52.36	0.00	
CRU-4	0.19	148.86	52.36	0.00	
CRU-3	0.30	148.86	52.36	0.00	
TEE-BEND6	0.00	148.86	52.21	0.00	
CRU-5	0.03	148.86	52.12	0.00	
TEE-BEND4	0.00	148.86	52.11	0.00	
TEE-BEND3	0.00	148.86	52.11	0.00	
TEE-BEND2	0.00	148.86	52.09	0.00	
TEE-BEND1	0.00	148.86	52.06	0.00	
CHAMBER1	0.00	148.86	52.04	0.00	
R1	-0.66	0.00	0.00	0.00	Reservoir

R2	-1.12	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	1.12	0.04	0.02	Open
WM100	0.92	0.03	0.01	Open
WM101	0.70	0.02	0.01	Open
WM102	0.70	0.02	0.01	Open
WM103	0.18	0.01	0.00	Open
WM104	0.18	0.01	0.00	Open
WM105	-0.41	0.01	0.00	Open
WM106	-0.41	0.01	0.00	Open
WM107	-0.41	0.01	0.00	Open
WM108	-0.41	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.41	0.01	0.00	Open
WM110	-0.66	0.02	0.01	Open
WM111	-0.66	0.02	0.01	Open
WM112	-0.48	0.02	0.00	Open
WM113	-0.48	0.02	0.00	Open
WM114	-0.48	0.02	0.00	Open
WM115	-0.59	0.02	0.00	Open
WM116	-0.66	0.02	0.00	Open
WM117	-0.66	0.02	0.01	Open
WM118	-0.66	0.02	0.01	Open
WM119	-0.66	0.02	0.01	Open
WM120	0.20	0.01	0.00	Open
WM121	0.20	0.01	0.00	Open
WM122	0.20	0.01	0.00	Open
WM123	0.20	0.01	0.00	Open
WM124	0.20	0.01	0.00	Open
WM125	0.22	0.01	0.00	Open
WM126	0.22	0.01	0.00	Open
WM127	0.22	0.01	0.00	Open
WM128	0.22	0.01	0.00	Open
WM129	0.22	0.01	0.00	Open
WM130	-0.11	0.00	0.00	Open
WM131	-0.11	0.00	0.00	Open
WM132	-0.03	0.00	0.00	Open
WM133	0.52	0.02	0.00	Open
WM134	0.52	0.02	0.00	Open
WM135	0.49	0.02	0.00	Open

WM136	0.49	0.02	0.00	Open
WM137	0.49	0.02	0.00	Open
WM138	0.19	0.01	0.00	Open
WM139	-0.30	0.01	0.00	Open
WM140	-0.30	0.01	0.00	Open
WM141	-0.30	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.25	0.01	0.00	Open
WM145	-0.25	0.01	0.00	Open
WM146	-0.25	0.01	0.00	Open
WM147	-0.59	0.02	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.07	0.00	0.00	Open
WM150	0.07	0.00	0.00	Open
WM151	0.07	0.00	0.00	Open
WM152	0.33	0.02	0.01	Open
WM153	0.18	0.01	0.00	Open
WM154	0.12	0.01	0.00	Open
WM155	0.12	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.12	0.01	0.00	Open
WM157	0.06	0.00	0.00	Open
WM158	-0.15	0.01	0.00	Open
WM159	-0.15	0.01	0.00	Open
WM160	-0.15	0.01	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	1.12	0.04	0.01	Open
WM165	-0.66	0.02	0.01	Open
1	0.66	0.00	-148.86	Open Pump
2	1.12	0.00	-148.86	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.25	148.86	53.49	0.00
TEE-BEND24	0.00	148.86	53.49	0.00
TEE-BEND23	0.00	148.86	53.42	0.00
TEE-BEND43	0.00	148.86	53.39	0.00
TEE-BEND44	0.00	148.86	53.31	0.00
CHAMBER2	0.00	148.86	53.29	0.00

TEE-BEND18	0.00	148.86	53	0.00
TEE-BEND46	0.00	148.86	53.06	0.00
TEE-BEND53	0.00	148.86	52.99	0.00
TEE-BEND47	0.00	148.86	52.99	0.00
TEE-BEND22	0.00	148.86	52.98	0.00
CRU-1	0.41	148.86	52.93	0.00
TEE-BEND52	0.00	148.86	52.91	0.00
HYD3	0.00	148.86	52.89	0.00
TEE-BEND45	0.00	148.86	52.88	0.00
TEE-BEND16	0.00	148.86	52.86	0.00
HYD2	0.00	148.86	52.85	0.00
HYD7	0.00	148.86	52.83	0.00
TEE-BEND51	0.00	148.86	52.82	0.00
TEE-BEND34	0.00	148.86	52.80	0.00
TEE-BEND36	0.00	148.86	52.79	0.00
TEE-BEND55	0.00	148.86	52.79	0.00
TEE-BEND35	0.00	148.86	52.79	0.00
HYD1	0.00	148.86	52.78	0.00
HYD6	0.00	148.86	52.77	0.00
TEE-BEND37	0.00	148.86	52.75	0.00
TEE-BEND50	0.00	148.86	52.74	0.00
TEE-BEND33	0.00	148.86	52.74	0.00
TEE-BEND17	0.00	148.86	52.70	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	148.86	52.70	0.00
TEE-BEND49	0.00	148.86	52.70	0.00
TEE-BEND48	0.00	148.86	52.69	0.00
TEE-BEND12	0.00	148.86	52.67	0.00
TEE-BEND40	0.00	148.86	52.67	0.00
TEE-BEND20	0.00	148.86	52.66	0.00
TEE-BEND38	0.00	148.86	52.66	0.00
TEE-BEND57	0.00	148.86	52.66	0.00
TEE-BEND56	0.00	148.86	52.65	0.00
TEE-BEND58	0.00	148.86	52.63	0.00
TEE-BEND32	0.00	148.86	52.62	0.00
TEE-BEND31	0.00	148.86	52.59	0.00
TEE-BEND30	0.00	148.86	52.58	0.00
HYD5	0.00	148.86	52.56	0.00
CRU-8	0.06	148.86	52.51	0.00
TEE-BEND28	0.00	148.86	52.51	0.00
CRU-10	0.07	148.86	52.51	0.00
TEE-BEND39	0.00	148.86	52.49	0.00
TEE-BEND26	0.00	148.86	52.48	0.00
TEE-BEND15	0.00	148.86	52.47	0.00
TEE-BEND29	0.00	148.86	52.45	0.00

TEE-BEND13	0.00	148.86	52	0.00	
TEE-BEND59	0.00	148.86	52.45	0.00	
TEE-BEND27	0.00	148.86	52.42	0.00	
TEE-BEND41	0.00	148.86	52.41	0.00	
TEE-BEND42	0.00	148.86	52.40	0.00	
CRU-6	0.20	148.86	52.37	0.00	
CRU-9	0.12	148.86	52.36	0.00	
CRU-7	0.15	148.86	52.36	0.00	
CRU-4	0.19	148.86	52.36	0.00	
CRU-3	0.30	148.86	52.36	0.00	
TEE-BEND6	0.00	148.86	52.21	0.00	
CRU-5	0.03	148.86	52.12	0.00	
TEE-BEND4	0.00	148.86	52.11	0.00	
TEE-BEND3	0.00	148.86	52.11	0.00	
TEE-BEND2	0.00	148.86	52.09	0.00	
TEE-BEND1	0.00	148.86	52.06	0.00	
CHAMBER1	0.00	148.86	52.04	0.00	
R1	-0.66	0.00	0.00	0.00	Reservoir
R2	-1.12	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	1.12	0.04	0.02	Open
WM100	0.92	0.03	0.01	Open
WM101	0.70	0.02	0.01	Open
WM102	0.70	0.02	0.01	Open
WM103	0.18	0.01	0.00	Open
WM104	0.18	0.01	0.00	Open
WM105	-0.41	0.01	0.00	Open
WM106	-0.41	0.01	0.00	Open
WM107	-0.41	0.01	0.00	Open
WM108	-0.41	0.01	0.00	Open
WM109	-0.41	0.01	0.00	Open
WM110	-0.66	0.02	0.01	Open
WM111	-0.66	0.02	0.01	Open
WM112	-0.48	0.02	0.00	Open
WM113	-0.48	0.02	0.00	Open
WM114	-0.48	0.02	0.00	Open
WM115	-0.59	0.02	0.00	Open
WM116	-0.66	0.02	0.01	Open
WM117	-0.66	0.02	0.00	Open
WM118	-0.66	0.02	0.01	Open
WM119	-0.66	0.02	0.01	Open
WM120	0.20	0.01	0.00	Open
WM121	0.20	0.01	0.00	Open
WM122	0.20	0.01	0.00	Open

WM123	0.20	0.01	0.00	Open
WM124	0.20	0.01	0.00	Open
WM125	0.22	0.01	0.00	Open
WM126	0.22	0.01	0.00	Open
WM127	0.22	0.01	0.00	Open
WM128	0.22	0.01	0.00	Open
WM129	0.22	0.01	0.00	Open
WM130	-0.11	0.00	0.00	Open
WM131	-0.11	0.00	0.00	Open
WM132	-0.03	0.00	0.00	Open
WM133	0.52	0.02	0.00	Open
WM134	0.52	0.02	0.00	Open
WM135	0.49	0.02	0.00	Open
WM136	0.49	0.02	0.00	Open
WM137	0.49	0.02	0.00	Open
WM138	0.19	0.01	0.00	Open
WM139	-0.30	0.01	0.00	Open
WM140	-0.30	0.01	0.00	Open
WM141	-0.30	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.25	0.01	0.00	Open
WM145	-0.25	0.01	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.25	0.01	0.00	Open	
WM147	-0.59	0.02	0.00	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.07	0.00	0.00	Open	
WM150	0.07	0.00	0.00	Open	
WM151	0.07	0.00	0.00	Open	
WM152	0.33	0.02	0.01	Open	
WM153	0.18	0.01	0.00	Open	
WM154	0.12	0.01	0.00	Open	
WM155	0.12	0.01	0.00	Open	
WM156	0.12	0.01	0.00	Open	
WM157	0.06	0.00	0.00	Open	
WM158	-0.15	0.01	0.00	Open	
WM159	-0.15	0.01	0.00	Open	
WM160	-0.15	0.01	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	1.12	0.04	0.02	Open	
WM165	-0.66	0.02	0.01	Open	
1	0.66	0.00	-148.86	Open	Pump

2	1.12	0.00	-148	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.25	148.86	53.49	0.00
TEE-BEND24	0.00	148.86	53.49	0.00
TEE-BEND23	0.00	148.86	53.42	0.00
TEE-BEND43	0.00	148.86	53.39	0.00
TEE-BEND44	0.00	148.86	53.31	0.00
CHAMBER2	0.00	148.86	53.29	0.00
TEE-BEND18	0.00	148.86	53.18	0.00
TEE-BEND46	0.00	148.86	53.06	0.00
TEE-BEND53	0.00	148.86	52.99	0.00
TEE-BEND47	0.00	148.86	52.99	0.00
TEE-BEND22	0.00	148.86	52.98	0.00
CRU-1	0.41	148.86	52.93	0.00
TEE-BEND52	0.00	148.86	52.91	0.00
HYD3	0.00	148.86	52.89	0.00
TEE-BEND45	0.00	148.86	52.88	0.00
TEE-BEND16	0.00	148.86	52.86	0.00
HYD2	0.00	148.86	52.85	0.00
HYD7	0.00	148.86	52.83	0.00
TEE-BEND51	0.00	148.86	52.82	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	148.86	52.80	0.00
TEE-BEND36	0.00	148.86	52.79	0.00
TEE-BEND55	0.00	148.86	52.79	0.00
TEE-BEND35	0.00	148.86	52.79	0.00
HYD1	0.00	148.86	52.78	0.00
HYD6	0.00	148.86	52.77	0.00
TEE-BEND37	0.00	148.86	52.75	0.00
TEE-BEND50	0.00	148.86	52.74	0.00
TEE-BEND33	0.00	148.86	52.74	0.00
TEE-BEND17	0.00	148.86	52.70	0.00
TEE-BEND21	0.00	148.86	52.70	0.00
TEE-BEND49	0.00	148.86	52.70	0.00
TEE-BEND48	0.00	148.86	52.69	0.00
TEE-BEND12	0.00	148.86	52.67	0.00
TEE-BEND40	0.00	148.86	52.67	0.00
TEE-BEND20	0.00	148.86	52.66	0.00
TEE-BEND38	0.00	148.86	52.66	0.00
TEE-BEND57	0.00	148.86	52.66	0.00

TEE-BEND56	0.00	148.86	52	0.00
TEE-BEND58	0.00	148.86	52.63	0.00
TEE-BEND32	0.00	148.86	52.62	0.00
TEE-BEND31	0.00	148.86	52.59	0.00
TEE-BEND30	0.00	148.86	52.58	0.00
HYD5	0.00	148.86	52.56	0.00
CRU-8	0.06	148.86	52.51	0.00
TEE-BEND28	0.00	148.86	52.51	0.00
CRU-10	0.07	148.86	52.51	0.00
TEE-BEND39	0.00	148.86	52.49	0.00
TEE-BEND26	0.00	148.86	52.48	0.00
TEE-BEND15	0.00	148.86	52.47	0.00
TEE-BEND29	0.00	148.86	52.45	0.00
TEE-BEND13	0.00	148.86	52.45	0.00
TEE-BEND59	0.00	148.86	52.45	0.00
TEE-BEND27	0.00	148.86	52.42	0.00
TEE-BEND41	0.00	148.86	52.41	0.00
TEE-BEND42	0.00	148.86	52.40	0.00
CRU-6	0.20	148.86	52.37	0.00
CRU-9	0.12	148.86	52.36	0.00
CRU-7	0.15	148.86	52.36	0.00
CRU-4	0.19	148.86	52.36	0.00
CRU-3	0.30	148.86	52.36	0.00
TEE-BEND6	0.00	148.86	52.21	0.00
CRU-5	0.03	148.86	52.12	0.00
TEE-BEND4	0.00	148.86	52.11	0.00
TEE-BEND3	0.00	148.86	52.11	0.00
TEE-BEND2	0.00	148.86	52.09	0.00
TEE-BEND1	0.00	148.86	52.06	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	148.86	52.04	0.00	
R1	-0.66	0.00	0.00	0.00	Reservoir
R2	-1.12	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	1.12	0.04	0.02	Open
WM100	0.92	0.03	0.01	Open
WM101	0.70	0.02	0.01	Open
WM102	0.70	0.02	0.01	Open
WM103	0.18	0.01	0.00	Open
WM104	0.18	0.01	0.00	Open

WM105	-0.41	0.01	0.00	Open
WM106	-0.41	0.01	0.00	Open
WM107	-0.41	0.01	0.00	Open
WM108	-0.41	0.01	0.00	Open
WM109	-0.41	0.01	0.00	Open
WM110	-0.66	0.02	0.01	Open
WM111	-0.66	0.02	0.01	Open
WM112	-0.48	0.02	0.00	Open
WM113	-0.48	0.02	0.00	Open
WM114	-0.48	0.02	0.00	Open
WM115	-0.59	0.02	0.00	Open
WM116	-0.66	0.02	0.01	Open
WM117	-0.66	0.02	0.00	Open
WM118	-0.66	0.02	0.01	Open
WM119	-0.66	0.02	0.01	Open
WM120	0.20	0.01	0.00	Open
WM121	0.20	0.01	0.00	Open
WM122	0.20	0.01	0.00	Open
WM123	0.20	0.01	0.00	Open
WM124	0.20	0.01	0.00	Open
WM125	0.22	0.01	0.00	Open
WM126	0.22	0.01	0.00	Open
WM127	0.22	0.01	0.00	Open
WM128	0.22	0.01	0.00	Open
WM129	0.22	0.01	0.00	Open
WM130	-0.11	0.00	0.00	Open
WM131	-0.11	0.00	0.00	Open
WM132	-0.03	0.00	0.00	Open
WM133	0.52	0.02	0.00	Open
WM134	0.52	0.02	0.00	Open
WM135	0.49	0.02	0.00	Open
WM136	0.49	0.02	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM137	0.49	0.02	0.00	Open
WM138	0.19	0.01	0.00	Open
WM139	-0.30	0.01	0.00	Open
WM140	-0.30	0.01	0.00	Open
WM141	-0.30	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.25	0.01	0.00	Open
WM145	-0.25	0.01	0.00	Open
WM146	-0.25	0.01	0.00	Open
WM147	-0.59	0.02	0.00	Open
WM148	0.00	0.00	0.00	Open

WM149	0.07	0.00	0.00	Open
WM150	0.07	0.00	0.00	Open
WM151	0.07	0.00	0.00	Open
WM152	0.33	0.02	0.01	Open
WM153	0.18	0.01	0.00	Open
WM154	0.12	0.01	0.00	Open
WM155	0.12	0.01	0.00	Open
WM156	0.12	0.01	0.00	Open
WM157	0.06	0.00	0.00	Open
WM158	-0.15	0.01	0.00	Open
WM159	-0.15	0.01	0.00	Open
WM160	-0.15	0.01	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	1.12	0.04	0.01	Open
WM165	-0.66	0.02	0.01	Open
1	0.66	0.00	-148.86	Open Pump
2	1.12	0.00	-148.86	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.25	148.86	53.49	0.00
TEE-BEND24	0.00	148.86	53.49	0.00
TEE-BEND23	0.00	148.86	53.42	0.00
TEE-BEND43	0.00	148.86	53.39	0.00
TEE-BEND44	0.00	148.86	53.31	0.00
CHAMBER2	0.00	148.86	53.29	0.00
TEE-BEND18	0.00	148.86	53.18	0.00
TEE-BEND46	0.00	148.86	53.06	0.00
TEE-BEND53	0.00	148.86	52.99	0.00
TEE-BEND47	0.00	148.86	52.99	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	148.86	52.98	0.00
CRU-1	0.41	148.86	52.93	0.00
TEE-BEND52	0.00	148.86	52.91	0.00
HYD3	0.00	148.86	52.89	0.00
TEE-BEND45	0.00	148.86	52.88	0.00
TEE-BEND16	0.00	148.86	52.86	0.00
HYD2	0.00	148.86	52.85	0.00
HYD7	0.00	148.86	52.83	0.00
TEE-BEND51	0.00	148.86	52.82	0.00

TEE-BEND34	0.00	148.86	52	0.00
TEE-BEND36	0.00	148.86	52.79	0.00
TEE-BEND55	0.00	148.86	52.79	0.00
TEE-BEND35	0.00	148.86	52.79	0.00
HYD1	0.00	148.86	52.78	0.00
HYD6	0.00	148.86	52.77	0.00
TEE-BEND37	0.00	148.86	52.75	0.00
TEE-BEND50	0.00	148.86	52.74	0.00
TEE-BEND33	0.00	148.86	52.74	0.00
TEE-BEND17	0.00	148.86	52.70	0.00
TEE-BEND21	0.00	148.86	52.70	0.00
TEE-BEND49	0.00	148.86	52.70	0.00
TEE-BEND48	0.00	148.86	52.69	0.00
TEE-BEND12	0.00	148.86	52.67	0.00
TEE-BEND40	0.00	148.86	52.67	0.00
TEE-BEND20	0.00	148.86	52.66	0.00
TEE-BEND38	0.00	148.86	52.66	0.00
TEE-BEND57	0.00	148.86	52.66	0.00
TEE-BEND56	0.00	148.86	52.65	0.00
TEE-BEND58	0.00	148.86	52.63	0.00
TEE-BEND32	0.00	148.86	52.62	0.00
TEE-BEND31	0.00	148.86	52.59	0.00
TEE-BEND30	0.00	148.86	52.58	0.00
HYD5	0.00	148.86	52.56	0.00
CRU-8	0.06	148.86	52.51	0.00
TEE-BEND28	0.00	148.86	52.51	0.00
CRU-10	0.07	148.86	52.51	0.00
TEE-BEND39	0.00	148.86	52.49	0.00
TEE-BEND26	0.00	148.86	52.48	0.00
TEE-BEND15	0.00	148.86	52.47	0.00
TEE-BEND29	0.00	148.86	52.45	0.00
TEE-BEND13	0.00	148.86	52.45	0.00
TEE-BEND59	0.00	148.86	52.45	0.00
TEE-BEND27	0.00	148.86	52.42	0.00
TEE-BEND41	0.00	148.86	52.41	0.00
TEE-BEND42	0.00	148.86	52.40	0.00
CRU-6	0.20	148.86	52.37	0.00
CRU-9	0.12	148.86	52.36	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.15	148.86	52.36	0.00
CRU-4	0.19	148.86	52.36	0.00
CRU-3	0.30	148.86	52.36	0.00
TEE-BEND6	0.00	148.86	52.21	0.00
CRU-5	0.03	148.86	52.12	0.00
TEE-BEND4	0.00	148.86	52.11	0.00

TEE-BEND3	0.00	148.86	52	0.00	
TEE-BEND2	0.00	148.86	52.09	0.00	
TEE-BEND1	0.00	148.86	52.06	0.00	
CHAMBER1	0.00	148.86	52.04	0.00	
R1	-0.66	0.00	0.00	0.00	Reservoir
R2	-1.12	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

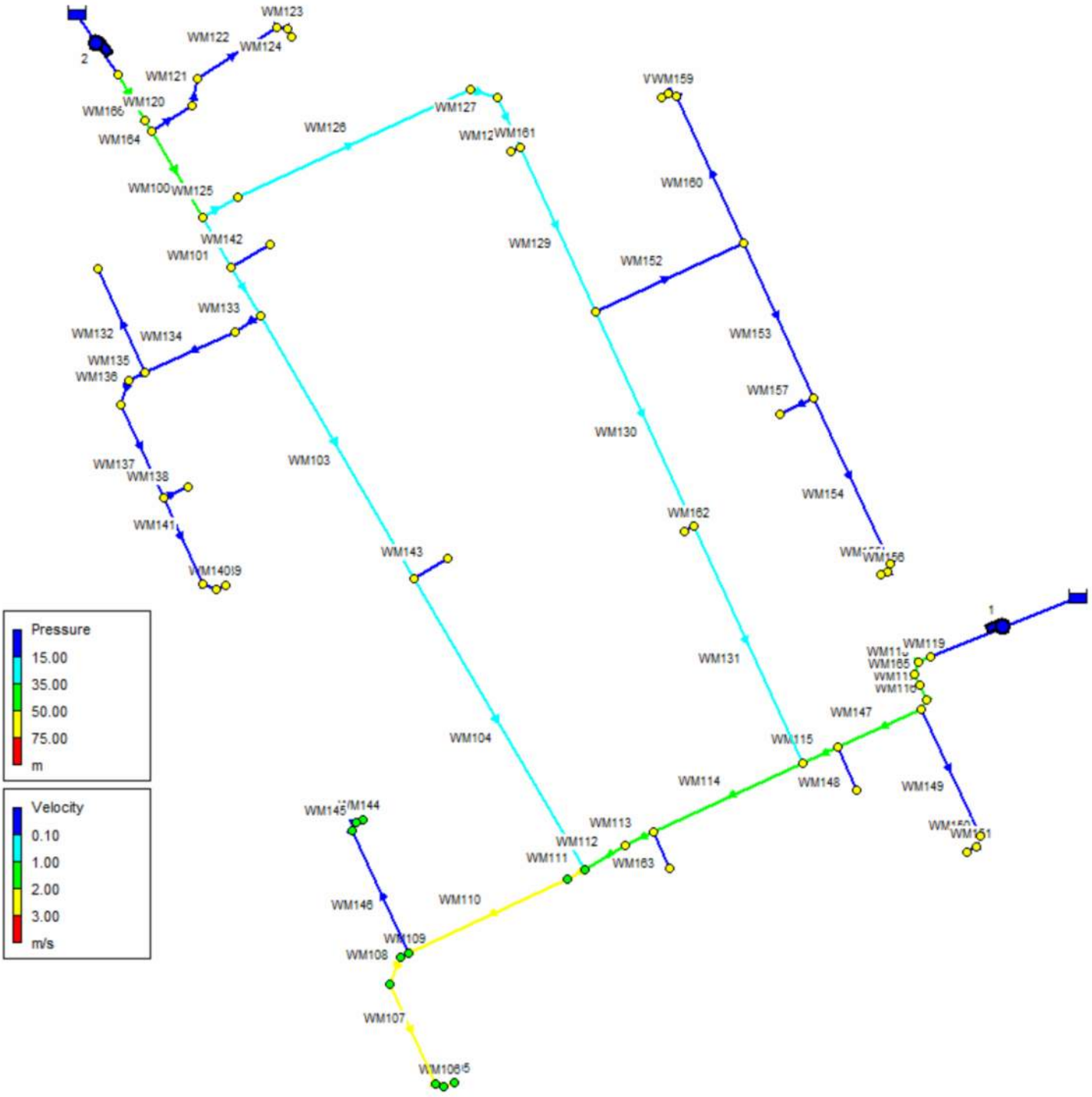
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	1.12	0.04	0.02	Open
WM100	0.92	0.03	0.01	Open
WM101	0.70	0.02	0.01	Open
WM102	0.70	0.02	0.01	Open
WM103	0.18	0.01	0.00	Open
WM104	0.18	0.01	0.00	Open
WM105	-0.41	0.01	0.00	Open
WM106	-0.41	0.01	0.00	Open
WM107	-0.41	0.01	0.00	Open
WM108	-0.41	0.01	0.00	Open
WM109	-0.41	0.01	0.00	Open
WM110	-0.66	0.02	0.01	Open
WM111	-0.66	0.02	0.01	Open
WM112	-0.48	0.02	0.00	Open
WM113	-0.48	0.02	0.00	Open
WM114	-0.48	0.02	0.00	Open
WM115	-0.59	0.02	0.00	Open
WM116	-0.66	0.02	0.00	Open
WM117	-0.66	0.02	0.01	Open
WM118	-0.66	0.02	0.01	Open
WM119	-0.66	0.02	0.01	Open
WM120	0.20	0.01	0.00	Open
WM121	0.20	0.01	0.00	Open
WM122	0.20	0.01	0.00	Open
WM123	0.20	0.01	0.00	Open
WM124	0.20	0.01	0.00	Open
WM125	0.22	0.01	0.00	Open
WM126	0.22	0.01	0.00	Open
WM127	0.22	0.01	0.00	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	0.22	0.01	0.00	Open
WM129	0.22	0.01	0.00	Open
WM130	-0.11	0.00	0.00	Open

WM131	-0.11	0.00	0.00	Open
WM132	-0.03	0.00	0.00	Open
WM133	0.52	0.02	0.00	Open
WM134	0.52	0.02	0.00	Open
WM135	0.49	0.02	0.00	Open
WM136	0.49	0.02	0.00	Open
WM137	0.49	0.02	0.00	Open
WM138	0.19	0.01	0.00	Open
WM139	-0.30	0.01	0.00	Open
WM140	-0.30	0.01	0.00	Open
WM141	-0.30	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.25	0.01	0.00	Open
WM145	-0.25	0.01	0.00	Open
WM146	-0.25	0.01	0.00	Open
WM147	-0.59	0.02	0.00	Open
WM148	0.00	0.00	0.00	Open
WM149	0.07	0.00	0.00	Open
WM150	0.07	0.00	0.00	Open
WM151	0.07	0.00	0.00	Open
WM152	0.33	0.02	0.01	Open
WM153	0.18	0.01	0.00	Open
WM154	0.12	0.01	0.00	Open
WM155	0.12	0.01	0.00	Open
WM156	0.12	0.01	0.00	Open
WM157	0.06	0.00	0.00	Open
WM158	-0.15	0.01	0.00	Open
WM159	-0.15	0.01	0.00	Open
WM160	-0.15	0.01	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	1.12	0.04	0.02	Open
WM165	-0.66	0.02	0.01	Open
1	0.66	0.00	-148.86	Open Pump
2	1.12	0.00	-148.86	Open Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR1



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU1)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.53	70.86	70.86	0.00
2	100.00	75.00	0.54	76.89	76.89	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	144.00	48.63	0.00
TEE-BEND24	0.00	144.00	48.63	0.00
TEE-BEND23	0.00	144.00	48.56	0.00
TEE-BEND43	0.00	147.11	51.64	0.00
TEE-BEND44	0.00	147.08	51.54	0.00
CHAMBER2	0.00	147.15	51.58	0.00
TEE-BEND18	0.00	146.88	51.20	0.00
TEE-BEND46	0.00	146.13	50.33	0.00
TEE-BEND53	0.00	142.54	46.67	0.00
TEE-BEND47	0.00	146.01	50.14	0.00
TEE-BEND22	0.00	146.86	50.98	0.00
CRU-1	75.93	142.44	46.51	0.00
TEE-BEND52	0.00	142.62	46.68	0.00
HYD3	0.00	146.13	50.16	0.00
TEE-BEND45	0.00	146.76	50.78	0.00
TEE-BEND16	0.00	146.88	50.88	0.00
HYD2	0.00	146.36	50.35	0.00
HYD7	0.00	146.92	50.89	0.00
TEE-BEND51	0.00	143.65	47.61	0.00
TEE-BEND34	0.00	146.88	50.82	0.00
TEE-BEND36	0.00	146.94	50.87	0.00
TEE-BEND55	0.00	145.83	49.76	0.00
TEE-BEND35	0.00	146.92	50.85	0.00
HYD1	0.00	146.92	50.85	0.00
HYD6	0.00	146.82	50.73	0.00
TEE-BEND37	0.00	146.94	50.83	0.00
TEE-BEND50	0.00	143.91	47.80	0.00
TEE-BEND33	0.00	146.82	50.70	0.00
TEE-BEND17	0.00	146.88	50.72	0.00
TEE-BEND21	0.00	147.08	50.92	0.00
TEE-BEND49	0.00	144.00	47.84	0.00
TEE-BEND48	0.00	145.64	49.47	0.00
TEE-BEND12	0.00	146.88	50.69	0.00
TEE-BEND40	0.00	147.24	51.05	0.00
TEE-BEND20	0.00	147.08	50.88	0.00
TEE-BEND38	0.00	147.00	50.80	0.00
TEE-BEND57	0.00	146.83	50.63	0.00
TEE-BEND56	0.00	146.36	50.15	0.00
TEE-BEND58	0.00	146.92	50.69	0.00
TEE-BEND32	0.00	146.83	50.59	0.00
TEE-BEND31	0.00	146.83	50.57	0.00
TEE-BEND30	0.00	146.83	50.55	0.00

HYD5	0.00	146.86	50	0.00
CRU-8	0.04	146.88	50.53	0.00
TEE-BEND28	0.00	146.83	50.48	0.00
CRU-10	0.04	147.08	50.73	0.00
TEE-BEND39	0.00	147.29	50.92	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	146.83	50.46	0.00	
TEE-BEND15	0.00	146.88	50.49	0.00	
TEE-BEND29	0.00	146.83	50.43	0.00	
TEE-BEND13	0.00	146.88	50.47	0.00	
TEE-BEND59	0.00	147.01	50.60	0.00	
TEE-BEND27	0.00	146.83	50.39	0.00	
TEE-BEND41	0.00	147.21	50.75	0.00	
TEE-BEND42	0.00	147.18	50.72	0.00	
CRU-6	0.11	147.29	50.81	0.00	
CRU-9	0.07	146.88	50.38	0.00	
CRU-7	0.08	146.88	50.38	0.00	
CRU-4	0.11	146.83	50.34	0.00	
CRU-3	0.17	146.83	50.33	0.00	
TEE-BEND6	0.00	147.29	50.64	0.00	
CRU-5	0.02	146.83	50.10	0.00	
TEE-BEND4	0.00	147.29	50.55	0.00	
TEE-BEND3	0.00	147.48	50.73	0.00	
TEE-BEND2	0.00	147.29	50.52	0.00	
TEE-BEND1	0.00	147.29	50.49	0.00	
CHAMBER1	0.00	147.33	50.52	0.00	
R1	-36.82	0.00	0.00	0.00	Reservoir
R2	-39.89	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	39.89	1.27	11.50	Open
WM100	39.78	1.27	11.44	Open
WM101	29.24	0.93	6.47	Open
WM102	29.24	0.93	6.47	Open
WM103	28.94	0.92	6.35	Open
WM104	28.94	0.92	6.35	Open
WM105	-75.93	2.42	37.90	Open
WM106	-75.93	2.42	37.90	Open
WM107	-75.93	2.42	37.89	Open
WM108	-75.93	2.42	37.90	Open
WM109	-75.93	2.42	37.89	Open

WM110	-76.07	2.42	38	Open
WM111	-76.07	2.42	38.02	Open
WM112	-47.13	1.50	15.67	Open
WM113	-47.13	1.50	15.67	Open
WM114	-47.13	1.50	15.67	Open
WM115	-36.78	1.17	9.90	Open
WM116	-36.82	1.17	9.92	Open
WM117	-36.82	1.17	9.92	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-36.82	1.17	9.92	Open
WM119	-36.82	1.17	9.92	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	10.54	0.34	0.98	Open
WM126	10.54	0.34	0.98	Open
WM127	10.54	0.34	0.98	Open
WM128	10.54	0.34	0.98	Open
WM129	10.54	0.34	0.98	Open
WM130	10.35	0.33	0.95	Open
WM131	10.35	0.33	0.95	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-36.78	1.17	9.90	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.01	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	39.89	1.27	11.50	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-36.82	1.17	9.92	Open
1	36.82	0.00	-147.24	Open Pump
2	39.89	0.00	-147.48	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	144.00	48.63	0.00
TEE-BEND24	0.00	144.00	48.63	0.00
TEE-BEND23	0.00	144.00	48.56	0.00
TEE-BEND43	0.00	147.11	51.64	0.00
TEE-BEND44	0.00	147.08	51.54	0.00
CHAMBER2	0.00	147.15	51.58	0.00
TEE-BEND18	0.00	146.88	51.20	0.00
TEE-BEND46	0.00	146.13	50.33	0.00
TEE-BEND53	0.00	142.54	46.67	0.00
TEE-BEND47	0.00	146.01	50.14	0.00
TEE-BEND22	0.00	146.86	50.98	0.00
CRU-1	75.93	142.44	46.51	0.00
TEE-BEND52	0.00	142.62	46.68	0.00
HYD3	0.00	146.13	50.16	0.00
TEE-BEND45	0.00	146.76	50.78	0.00
TEE-BEND16	0.00	146.88	50.88	0.00
HYD2	0.00	146.36	50.35	0.00
HYD7	0.00	146.92	50.89	0.00
TEE-BEND51	0.00	143.65	47.61	0.00
TEE-BEND34	0.00	146.88	50.82	0.00
TEE-BEND36	0.00	146.94	50.87	0.00
TEE-BEND55	0.00	145.83	49.76	0.00
TEE-BEND35	0.00	146.92	50.85	0.00
HYD1	0.00	146.92	50.85	0.00

HYD6	0.00	146.82	50	0.00
TEE-BEND37	0.00	146.94	50.83	0.00
TEE-BEND50	0.00	143.91	47.80	0.00
TEE-BEND33	0.00	146.82	50.70	0.00
TEE-BEND17	0.00	146.88	50.72	0.00
TEE-BEND21	0.00	147.08	50.92	0.00
TEE-BEND49	0.00	144.00	47.84	0.00
TEE-BEND48	0.00	145.64	49.47	0.00
TEE-BEND12	0.00	146.88	50.69	0.00
TEE-BEND40	0.00	147.24	51.05	0.00
TEE-BEND20	0.00	147.08	50.88	0.00
TEE-BEND38	0.00	147.00	50.80	0.00
TEE-BEND57	0.00	146.83	50.63	0.00
TEE-BEND56	0.00	146.36	50.15	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	146.92	50.69	0.00	
TEE-BEND32	0.00	146.83	50.59	0.00	
TEE-BEND31	0.00	146.83	50.57	0.00	
TEE-BEND30	0.00	146.83	50.55	0.00	
HYD5	0.00	146.86	50.55	0.00	
CRU-8	0.04	146.88	50.53	0.00	
TEE-BEND28	0.00	146.83	50.48	0.00	
CRU-10	0.04	147.08	50.73	0.00	
TEE-BEND39	0.00	147.29	50.92	0.00	
TEE-BEND26	0.00	146.83	50.46	0.00	
TEE-BEND15	0.00	146.88	50.49	0.00	
TEE-BEND29	0.00	146.83	50.43	0.00	
TEE-BEND13	0.00	146.88	50.47	0.00	
TEE-BEND59	0.00	147.01	50.60	0.00	
TEE-BEND27	0.00	146.83	50.39	0.00	
TEE-BEND41	0.00	147.21	50.75	0.00	
TEE-BEND42	0.00	147.18	50.72	0.00	
CRU-6	0.11	147.29	50.81	0.00	
CRU-9	0.07	146.88	50.38	0.00	
CRU-7	0.08	146.88	50.38	0.00	
CRU-4	0.11	146.83	50.34	0.00	
CRU-3	0.17	146.83	50.33	0.00	
TEE-BEND6	0.00	147.29	50.64	0.00	
CRU-5	0.02	146.83	50.10	0.00	
TEE-BEND4	0.00	147.29	50.55	0.00	
TEE-BEND3	0.00	147.48	50.73	0.00	
TEE-BEND2	0.00	147.29	50.52	0.00	
TEE-BEND1	0.00	147.29	50.49	0.00	
CHAMBER1	0.00	147.33	50.52	0.00	
R1	-36.82	0.00	0.00	0.00	Reservoir

R2	-39.89	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	39.89	1.27	11.50	Open
WM100	39.78	1.27	11.44	Open
WM101	29.24	0.93	6.47	Open
WM102	29.24	0.93	6.47	Open
WM103	28.94	0.92	6.35	Open
WM104	28.94	0.92	6.35	Open
WM105	-75.93	2.42	37.90	Open
WM106	-75.93	2.42	37.90	Open
WM107	-75.93	2.42	37.89	Open
WM108	-75.93	2.42	37.90	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-75.93	2.42	37.89	Open
WM110	-76.07	2.42	38.02	Open
WM111	-76.07	2.42	38.02	Open
WM112	-47.13	1.50	15.67	Open
WM113	-47.13	1.50	15.67	Open
WM114	-47.13	1.50	15.67	Open
WM115	-36.78	1.17	9.90	Open
WM116	-36.82	1.17	9.92	Open
WM117	-36.82	1.17	9.92	Open
WM118	-36.82	1.17	9.92	Open
WM119	-36.82	1.17	9.92	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	10.54	0.34	0.98	Open
WM126	10.54	0.34	0.98	Open
WM127	10.54	0.34	0.98	Open
WM128	10.54	0.34	0.98	Open
WM129	10.54	0.34	0.98	Open
WM130	10.35	0.33	0.95	Open
WM131	10.35	0.33	0.95	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-36.78	1.17	9.90	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM156	0.07	0.00	0.01	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	39.89	1.27	11.50	Open
WM165	-36.82	1.17	9.92	Open
1	36.82	0.00	-147.24	Open Pump
2	39.89	0.00	-147.48	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	144.00	48.63	0.00
TEE-BEND24	0.00	144.00	48.63	0.00
TEE-BEND23	0.00	144.00	48.56	0.00
TEE-BEND43	0.00	147.11	51.64	0.00
TEE-BEND44	0.00	147.08	51.54	0.00
CHAMBER2	0.00	147.15	51.58	0.00

TEE-BEND18	0.00	146.88	51	0.00
TEE-BEND46	0.00	146.13	50.33	0.00
TEE-BEND53	0.00	142.54	46.67	0.00
TEE-BEND47	0.00	146.01	50.14	0.00
TEE-BEND22	0.00	146.86	50.98	0.00
CRU-1	75.93	142.44	46.51	0.00
TEE-BEND52	0.00	142.62	46.68	0.00
HYD3	0.00	146.13	50.16	0.00
TEE-BEND45	0.00	146.76	50.78	0.00
TEE-BEND16	0.00	146.88	50.88	0.00
HYD2	0.00	146.36	50.35	0.00
HYD7	0.00	146.92	50.89	0.00
TEE-BEND51	0.00	143.65	47.61	0.00
TEE-BEND34	0.00	146.88	50.82	0.00
TEE-BEND36	0.00	146.94	50.87	0.00
TEE-BEND55	0.00	145.83	49.76	0.00
TEE-BEND35	0.00	146.92	50.85	0.00
HYD1	0.00	146.92	50.85	0.00
HYD6	0.00	146.82	50.73	0.00
TEE-BEND37	0.00	146.94	50.83	0.00
TEE-BEND50	0.00	143.91	47.80	0.00
TEE-BEND33	0.00	146.82	50.70	0.00
TEE-BEND17	0.00	146.88	50.72	0.00

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Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.08	50.92	0.00
TEE-BEND49	0.00	144.00	47.84	0.00
TEE-BEND48	0.00	145.64	49.47	0.00
TEE-BEND12	0.00	146.88	50.69	0.00
TEE-BEND40	0.00	147.24	51.05	0.00
TEE-BEND20	0.00	147.08	50.88	0.00
TEE-BEND38	0.00	147.00	50.80	0.00
TEE-BEND57	0.00	146.83	50.63	0.00
TEE-BEND56	0.00	146.36	50.15	0.00
TEE-BEND58	0.00	146.92	50.69	0.00
TEE-BEND32	0.00	146.83	50.59	0.00
TEE-BEND31	0.00	146.83	50.57	0.00
TEE-BEND30	0.00	146.83	50.55	0.00
HYD5	0.00	146.86	50.55	0.00
CRU-8	0.04	146.88	50.53	0.00
TEE-BEND28	0.00	146.83	50.48	0.00
CRU-10	0.04	147.08	50.73	0.00
TEE-BEND39	0.00	147.29	50.92	0.00
TEE-BEND26	0.00	146.83	50.46	0.00
TEE-BEND15	0.00	146.88	50.49	0.00
TEE-BEND29	0.00	146.83	50.43	0.00

TEE-BEND13	0.00	146.88	50	0.00	
TEE-BEND59	0.00	147.01	50.60	0.00	
TEE-BEND27	0.00	146.83	50.39	0.00	
TEE-BEND41	0.00	147.21	50.75	0.00	
TEE-BEND42	0.00	147.18	50.72	0.00	
CRU-6	0.11	147.29	50.81	0.00	
CRU-9	0.07	146.88	50.38	0.00	
CRU-7	0.08	146.88	50.38	0.00	
CRU-4	0.11	146.83	50.34	0.00	
CRU-3	0.17	146.83	50.33	0.00	
TEE-BEND6	0.00	147.29	50.64	0.00	
CRU-5	0.02	146.83	50.10	0.00	
TEE-BEND4	0.00	147.29	50.55	0.00	
TEE-BEND3	0.00	147.48	50.73	0.00	
TEE-BEND2	0.00	147.29	50.52	0.00	
TEE-BEND1	0.00	147.29	50.49	0.00	
CHAMBER1	0.00	147.33	50.52	0.00	
R1	-36.82	0.00	0.00	0.00	Reservoir
R2	-39.89	0.00	0.00	0.00	Reservoir

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Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	39.89	1.27	11.50	Open
WM100	39.78	1.27	11.44	Open
WM101	29.24	0.93	6.47	Open
WM102	29.24	0.93	6.47	Open
WM103	28.94	0.92	6.35	Open
WM104	28.94	0.92	6.35	Open
WM105	-75.93	2.42	37.90	Open
WM106	-75.93	2.42	37.90	Open
WM107	-75.93	2.42	37.89	Open
WM108	-75.93	2.42	37.90	Open
WM109	-75.93	2.42	37.89	Open
WM110	-76.07	2.42	38.02	Open
WM111	-76.07	2.42	38.02	Open
WM112	-47.13	1.50	15.67	Open
WM113	-47.13	1.50	15.67	Open
WM114	-47.13	1.50	15.67	Open
WM115	-36.78	1.17	9.90	Open
WM116	-36.82	1.17	9.92	Open
WM117	-36.82	1.17	9.92	Open
WM118	-36.82	1.17	9.92	Open
WM119	-36.82	1.17	9.92	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	10.54	0.34	0.98	Open
WM126	10.54	0.34	0.98	Open
WM127	10.54	0.34	0.98	Open
WM128	10.54	0.34	0.98	Open
WM129	10.54	0.34	0.98	Open
WM130	10.35	0.33	0.95	Open
WM131	10.35	0.33	0.95	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-36.78	1.17	9.90	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.01	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	39.89	1.27	11.50	Open	
WM165	-36.82	1.17	9.92	Open	
1	36.82	0.00	-147.24	Open	Pump

2	39.89	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	144.00	48.63	0.00
TEE-BEND24	0.00	144.00	48.63	0.00
TEE-BEND23	0.00	144.00	48.56	0.00
TEE-BEND43	0.00	147.11	51.64	0.00
TEE-BEND44	0.00	147.08	51.54	0.00
CHAMBER2	0.00	147.15	51.58	0.00
TEE-BEND18	0.00	146.88	51.20	0.00
TEE-BEND46	0.00	146.13	50.33	0.00
TEE-BEND53	0.00	142.54	46.67	0.00
TEE-BEND47	0.00	146.01	50.14	0.00
TEE-BEND22	0.00	146.86	50.98	0.00
CRU-1	75.93	142.44	46.51	0.00
TEE-BEND52	0.00	142.62	46.68	0.00
HYD3	0.00	146.13	50.16	0.00
TEE-BEND45	0.00	146.76	50.78	0.00
TEE-BEND16	0.00	146.88	50.88	0.00
HYD2	0.00	146.36	50.35	0.00
HYD7	0.00	146.92	50.89	0.00
TEE-BEND51	0.00	143.65	47.61	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	146.88	50.82	0.00
TEE-BEND36	0.00	146.94	50.87	0.00
TEE-BEND55	0.00	145.83	49.76	0.00
TEE-BEND35	0.00	146.92	50.85	0.00
HYD1	0.00	146.92	50.85	0.00
HYD6	0.00	146.82	50.73	0.00
TEE-BEND37	0.00	146.94	50.83	0.00
TEE-BEND50	0.00	143.91	47.80	0.00
TEE-BEND33	0.00	146.82	50.70	0.00
TEE-BEND17	0.00	146.88	50.72	0.00
TEE-BEND21	0.00	147.08	50.92	0.00
TEE-BEND49	0.00	144.00	47.84	0.00
TEE-BEND48	0.00	145.64	49.47	0.00
TEE-BEND12	0.00	146.88	50.69	0.00
TEE-BEND40	0.00	147.24	51.05	0.00
TEE-BEND20	0.00	147.08	50.88	0.00
TEE-BEND38	0.00	147.00	50.80	0.00
TEE-BEND57	0.00	146.83	50.63	0.00

TEE-BEND56	0.00	146.36	50	0.00
TEE-BEND58	0.00	146.92	50.69	0.00
TEE-BEND32	0.00	146.83	50.59	0.00
TEE-BEND31	0.00	146.83	50.57	0.00
TEE-BEND30	0.00	146.83	50.55	0.00
HYD5	0.00	146.86	50.55	0.00
CRU-8	0.04	146.88	50.53	0.00
TEE-BEND28	0.00	146.83	50.48	0.00
CRU-10	0.04	147.08	50.73	0.00
TEE-BEND39	0.00	147.29	50.92	0.00
TEE-BEND26	0.00	146.83	50.46	0.00
TEE-BEND15	0.00	146.88	50.49	0.00
TEE-BEND29	0.00	146.83	50.43	0.00
TEE-BEND13	0.00	146.88	50.47	0.00
TEE-BEND59	0.00	147.01	50.60	0.00
TEE-BEND27	0.00	146.83	50.39	0.00
TEE-BEND41	0.00	147.21	50.75	0.00
TEE-BEND42	0.00	147.18	50.72	0.00
CRU-6	0.11	147.29	50.81	0.00
CRU-9	0.07	146.88	50.38	0.00
CRU-7	0.08	146.88	50.38	0.00
CRU-4	0.11	146.83	50.34	0.00
CRU-3	0.17	146.83	50.33	0.00
TEE-BEND6	0.00	147.29	50.64	0.00
CRU-5	0.02	146.83	50.10	0.00
TEE-BEND4	0.00	147.29	50.55	0.00
TEE-BEND3	0.00	147.48	50.73	0.00
TEE-BEND2	0.00	147.29	50.52	0.00
TEE-BEND1	0.00	147.29	50.49	0.00

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Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.33	50.52	0.00	
R1	-36.82	0.00	0.00	0.00	Reservoir
R2	-39.89	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	39.89	1.27	11.50	Open
WM100	39.78	1.27	11.44	Open
WM101	29.24	0.93	6.47	Open
WM102	29.24	0.93	6.47	Open
WM103	28.94	0.92	6.35	Open
WM104	28.94	0.92	6.35	Open

WM105	-75.93	2.42	37.90	Open
WM106	-75.93	2.42	37.90	Open
WM107	-75.93	2.42	37.89	Open
WM108	-75.93	2.42	37.90	Open
WM109	-75.93	2.42	37.89	Open
WM110	-76.07	2.42	38.02	Open
WM111	-76.07	2.42	38.02	Open
WM112	-47.13	1.50	15.67	Open
WM113	-47.13	1.50	15.67	Open
WM114	-47.13	1.50	15.67	Open
WM115	-36.78	1.17	9.90	Open
WM116	-36.82	1.17	9.92	Open
WM117	-36.82	1.17	9.92	Open
WM118	-36.82	1.17	9.92	Open
WM119	-36.82	1.17	9.92	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	10.54	0.34	0.98	Open
WM126	10.54	0.34	0.98	Open
WM127	10.54	0.34	0.98	Open
WM128	10.54	0.34	0.98	Open
WM129	10.54	0.34	0.98	Open
WM130	10.35	0.33	0.95	Open
WM131	10.35	0.33	0.95	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-36.78	1.17	9.90	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	39.89	1.27	11.50	Open
WM165	-36.82	1.17	9.92	Open
1	36.82	0.00	-147.24	Open Pump
2	39.89	0.00	-147.48	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	144.00	48.63	0.00
TEE-BEND24	0.00	144.00	48.63	0.00
TEE-BEND23	0.00	144.00	48.56	0.00
TEE-BEND43	0.00	147.11	51.64	0.00
TEE-BEND44	0.00	147.08	51.54	0.00
CHAMBER2	0.00	147.15	51.58	0.00
TEE-BEND18	0.00	146.88	51.20	0.00
TEE-BEND46	0.00	146.13	50.33	0.00
TEE-BEND53	0.00	142.54	46.67	0.00
TEE-BEND47	0.00	146.01	50.14	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	146.86	50.98	0.00
CRU-1	75.93	142.44	46.51	0.00
TEE-BEND52	0.00	142.62	46.68	0.00
HYD3	0.00	146.13	50.16	0.00
TEE-BEND45	0.00	146.76	50.78	0.00
TEE-BEND16	0.00	146.88	50.88	0.00
HYD2	0.00	146.36	50.35	0.00
HYD7	0.00	146.92	50.89	0.00
TEE-BEND51	0.00	143.65	47.61	0.00

TEE-BEND34	0.00	146.88	50	0.00
TEE-BEND36	0.00	146.94	50.87	0.00
TEE-BEND55	0.00	145.83	49.76	0.00
TEE-BEND35	0.00	146.92	50.85	0.00
HYD1	0.00	146.92	50.85	0.00
HYD6	0.00	146.82	50.73	0.00
TEE-BEND37	0.00	146.94	50.83	0.00
TEE-BEND50	0.00	143.91	47.80	0.00
TEE-BEND33	0.00	146.82	50.70	0.00
TEE-BEND17	0.00	146.88	50.72	0.00
TEE-BEND21	0.00	147.08	50.92	0.00
TEE-BEND49	0.00	144.00	47.84	0.00
TEE-BEND48	0.00	145.64	49.47	0.00
TEE-BEND12	0.00	146.88	50.69	0.00
TEE-BEND40	0.00	147.24	51.05	0.00
TEE-BEND20	0.00	147.08	50.88	0.00
TEE-BEND38	0.00	147.00	50.80	0.00
TEE-BEND57	0.00	146.83	50.63	0.00
TEE-BEND56	0.00	146.36	50.15	0.00
TEE-BEND58	0.00	146.92	50.69	0.00
TEE-BEND32	0.00	146.83	50.59	0.00
TEE-BEND31	0.00	146.83	50.57	0.00
TEE-BEND30	0.00	146.83	50.55	0.00
HYD5	0.00	146.86	50.55	0.00
CRU-8	0.04	146.88	50.53	0.00
TEE-BEND28	0.00	146.83	50.48	0.00
CRU-10	0.04	147.08	50.73	0.00
TEE-BEND39	0.00	147.29	50.92	0.00
TEE-BEND26	0.00	146.83	50.46	0.00
TEE-BEND15	0.00	146.88	50.49	0.00
TEE-BEND29	0.00	146.83	50.43	0.00
TEE-BEND13	0.00	146.88	50.47	0.00
TEE-BEND59	0.00	147.01	50.60	0.00
TEE-BEND27	0.00	146.83	50.39	0.00
TEE-BEND41	0.00	147.21	50.75	0.00
TEE-BEND42	0.00	147.18	50.72	0.00
CRU-6	0.11	147.29	50.81	0.00
CRU-9	0.07	146.88	50.38	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	146.88	50.38	0.00
CRU-4	0.11	146.83	50.34	0.00
CRU-3	0.17	146.83	50.33	0.00
TEE-BEND6	0.00	147.29	50.64	0.00
CRU-5	0.02	146.83	50.10	0.00
TEE-BEND4	0.00	147.29	50.55	0.00

TEE-BEND3	0.00	147.48	50	0.00	
TEE-BEND2	0.00	147.29	50.52	0.00	
TEE-BEND1	0.00	147.29	50.49	0.00	
CHAMBER1	0.00	147.33	50.52	0.00	
R1	-36.82	0.00	0.00	0.00	Reservoir
R2	-39.89	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

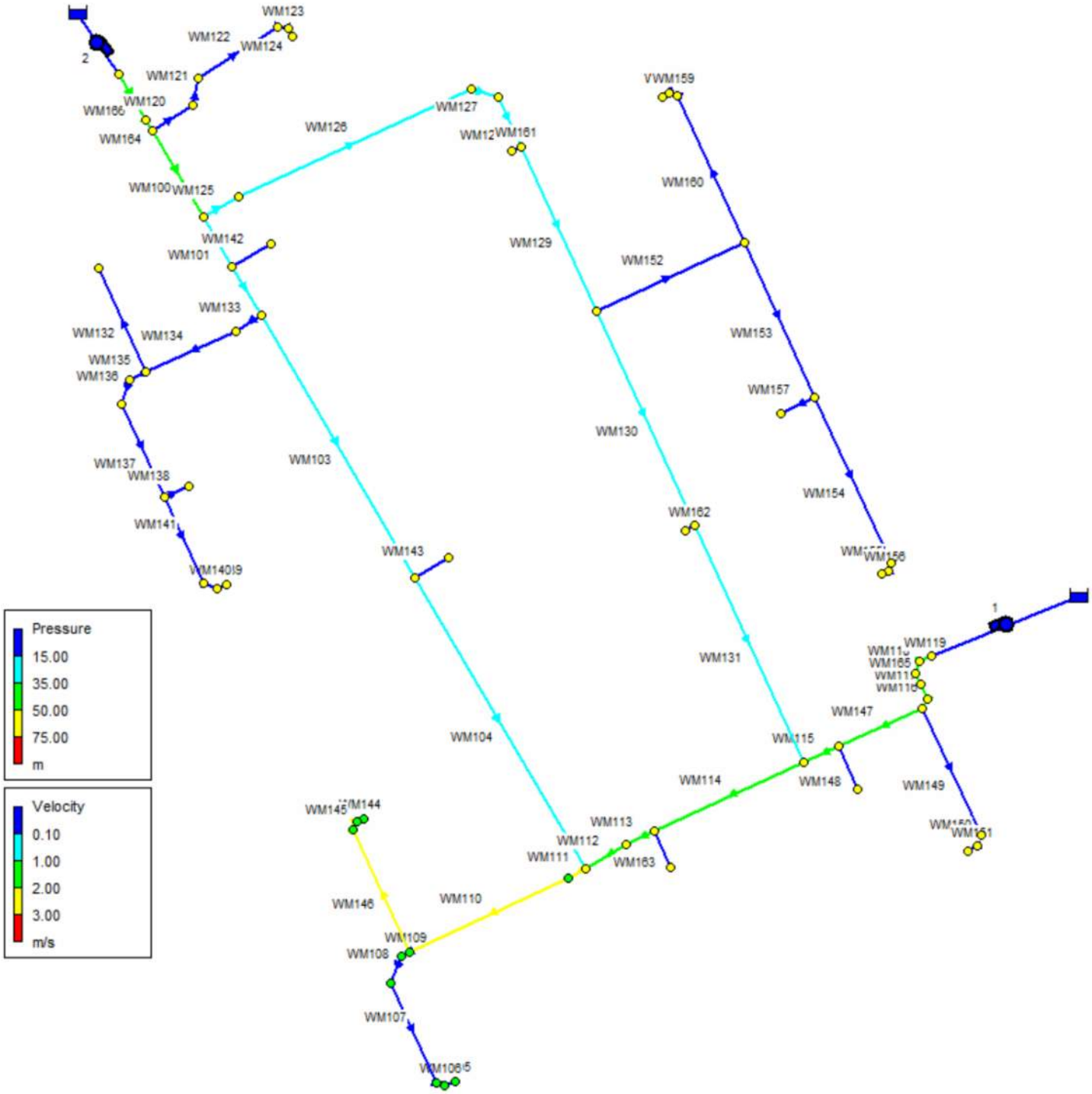
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	39.89	1.27	11.50	Open
WM100	39.78	1.27	11.44	Open
WM101	29.24	0.93	6.47	Open
WM102	29.24	0.93	6.47	Open
WM103	28.94	0.92	6.35	Open
WM104	28.94	0.92	6.35	Open
WM105	-75.93	2.42	37.90	Open
WM106	-75.93	2.42	37.90	Open
WM107	-75.93	2.42	37.89	Open
WM108	-75.93	2.42	37.90	Open
WM109	-75.93	2.42	37.89	Open
WM110	-76.07	2.42	38.02	Open
WM111	-76.07	2.42	38.02	Open
WM112	-47.13	1.50	15.67	Open
WM113	-47.13	1.50	15.67	Open
WM114	-47.13	1.50	15.67	Open
WM115	-36.78	1.17	9.90	Open
WM116	-36.82	1.17	9.92	Open
WM117	-36.82	1.17	9.92	Open
WM118	-36.82	1.17	9.92	Open
WM119	-36.82	1.17	9.92	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	10.54	0.34	0.98	Open
WM126	10.54	0.34	0.98	Open
WM127	10.54	0.34	0.98	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	10.54	0.34	0.98	Open
WM129	10.54	0.34	0.98	Open
WM130	10.35	0.33	0.95	Open

WM131	10.35	0.33	0	Open	
WM132	-0.02	0.00	0.00	Open	
WM133	0.30	0.01	0.00	Open	
WM134	0.30	0.01	0.00	Open	
WM135	0.28	0.01	0.00	Open	
WM136	0.28	0.01	0.00	Open	
WM137	0.28	0.01	0.00	Open	
WM138	0.11	0.01	0.00	Open	
WM139	-0.17	0.01	0.00	Open	
WM140	-0.17	0.01	0.00	Open	
WM141	-0.17	0.01	0.00	Open	
WM142	0.00	0.00	0.00	Open	
WM143	0.00	0.00	0.00	Open	
WM144	-0.14	0.00	0.00	Open	
WM145	-0.14	0.00	0.00	Open	
WM146	-0.14	0.00	0.00	Open	
WM147	-36.78	1.17	9.90	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	39.89	1.27	11.50	Open	
WM165	-36.82	1.17	9.92	Open	
1	36.82	0.00	-147.24	Open	Pump
2	39.89	0.00	-147.48	Open	Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR2



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU2)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.53	61.58	61.58	0.00
2	100.00	75.00	0.54	68.81	68.81	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	66.80	143.44	48.08	0.00
TEE-BEND24	0.00	143.51	48.14	0.00
TEE-BEND23	0.00	143.58	48.14	0.00
TEE-BEND43	0.00	147.20	51.73	0.00
TEE-BEND44	0.00	147.18	51.64	0.00
CHAMBER2	0.00	147.23	51.67	0.00
TEE-BEND18	0.00	147.03	51.35	0.00
TEE-BEND46	0.00	146.44	50.64	0.00
TEE-BEND53	0.00	144.76	48.89	0.00
TEE-BEND47	0.00	146.34	50.47	0.00
TEE-BEND22	0.00	147.01	51.13	0.00
CRU-1	0.23	144.76	48.83	0.00
TEE-BEND52	0.00	144.76	48.81	0.00
HYD3	0.00	146.44	50.47	0.00
TEE-BEND45	0.00	146.94	50.96	0.00
TEE-BEND16	0.00	147.03	51.03	0.00
HYD2	0.00	146.63	50.61	0.00
HYD7	0.00	147.07	51.04	0.00
TEE-BEND51	0.00	144.76	48.72	0.00
TEE-BEND34	0.00	147.04	50.97	0.00
TEE-BEND36	0.00	147.08	51.02	0.00
TEE-BEND55	0.00	146.20	50.14	0.00
TEE-BEND35	0.00	147.07	51.00	0.00
HYD1	0.00	147.08	51.00	0.00
HYD6	0.00	146.99	50.90	0.00
TEE-BEND37	0.00	147.09	50.98	0.00
TEE-BEND50	0.00	144.76	48.64	0.00
TEE-BEND33	0.00	146.99	50.87	0.00
TEE-BEND17	0.00	147.03	50.88	0.00
TEE-BEND21	0.00	147.18	51.03	0.00
TEE-BEND49	0.00	144.76	48.60	0.00
TEE-BEND48	0.00	146.05	49.88	0.00
TEE-BEND12	0.00	147.03	50.85	0.00
TEE-BEND40	0.00	147.30	51.11	0.00
TEE-BEND20	0.00	147.18	50.99	0.00
TEE-BEND38	0.00	147.14	50.94	0.00
TEE-BEND57	0.00	147.00	50.80	0.00
TEE-BEND56	0.00	146.63	50.42	0.00
TEE-BEND58	0.00	147.08	50.85	0.00
TEE-BEND32	0.00	147.00	50.77	0.00
TEE-BEND31	0.00	147.00	50.74	0.00
TEE-BEND30	0.00	147.00	50.73	0.00

HYD5	0.00	147.01	50	0.00	
CRU-8	0.04	147.03	50.69	0.00	
TEE-BEND28	0.00	147.00	50.65	0.00	
CRU-10	0.04	147.18	50.83	0.00	
TEE-BEND39	0.00	147.38	51.01	0.00	

Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.00	50.63	0.00	
TEE-BEND15	0.00	147.03	50.65	0.00	
TEE-BEND29	0.00	147.00	50.60	0.00	
TEE-BEND13	0.00	147.03	50.63	0.00	
TEE-BEND59	0.00	147.15	50.74	0.00	
TEE-BEND27	0.00	147.00	50.57	0.00	
TEE-BEND41	0.00	147.28	50.83	0.00	
TEE-BEND42	0.00	147.25	50.80	0.00	
CRU-6	0.11	147.38	50.89	0.00	
CRU-9	0.07	147.03	50.54	0.00	
CRU-7	0.08	147.03	50.54	0.00	
CRU-4	0.11	147.00	50.51	0.00	
CRU-3	0.17	147.00	50.51	0.00	
TEE-BEND6	0.00	147.38	50.73	0.00	
CRU-5	0.02	147.00	50.27	0.00	
TEE-BEND4	0.00	147.38	50.63	0.00	
TEE-BEND3	0.00	147.53	50.78	0.00	
TEE-BEND2	0.00	147.38	50.60	0.00	
TEE-BEND1	0.00	147.38	50.58	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-31.98	0.00	0.00	0.00	Reservoir
R2	-35.69	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.69	1.14	9.36	Open
WM100	35.58	1.13	9.31	Open
WM101	25.93	0.83	5.18	Open
WM102	25.93	0.83	5.18	Open
WM103	25.63	0.82	5.07	Open
WM104	25.63	0.82	5.07	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-67.03	2.13	30	Open
WM111	-67.03	2.13	30.08	Open
WM112	-41.40	1.32	12.32	Open
WM113	-41.40	1.32	12.32	Open
WM114	-41.40	1.32	12.32	Open
WM115	-31.94	1.02	7.62	Open
WM116	-31.98	1.02	7.64	Open
WM117	-31.98	1.02	7.64	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-31.98	1.02	7.64	Open
WM119	-31.98	1.02	7.64	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	9.64	0.31	0.83	Open
WM126	9.64	0.31	0.83	Open
WM127	9.64	0.31	0.83	Open
WM128	9.64	0.31	0.83	Open
WM129	9.64	0.31	0.83	Open
WM130	9.45	0.30	0.80	Open
WM131	9.45	0.30	0.80	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-66.80	2.13	35.67	Open
WM145	-66.80	2.13	35.66	Open
WM146	-66.80	2.13	35.66	Open
WM147	-31.94	1.02	7.62	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.69	1.14	9.36	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-31.98	1.02	7.64	Open
1	31.98	0.00	-147.30	Open Pump
2	35.69	0.00	-147.53	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	66.80	143.44	48.08	0.00
TEE-BEND24	0.00	143.51	48.14	0.00
TEE-BEND23	0.00	143.58	48.14	0.00
TEE-BEND43	0.00	147.20	51.73	0.00
TEE-BEND44	0.00	147.18	51.64	0.00
CHAMBER2	0.00	147.23	51.67	0.00
TEE-BEND18	0.00	147.03	51.35	0.00
TEE-BEND46	0.00	146.44	50.64	0.00
TEE-BEND53	0.00	144.76	48.89	0.00
TEE-BEND47	0.00	146.34	50.47	0.00
TEE-BEND22	0.00	147.01	51.13	0.00
CRU-1	0.23	144.76	48.83	0.00
TEE-BEND52	0.00	144.76	48.81	0.00
HYD3	0.00	146.44	50.47	0.00
TEE-BEND45	0.00	146.94	50.96	0.00
TEE-BEND16	0.00	147.03	51.03	0.00
HYD2	0.00	146.63	50.61	0.00
HYD7	0.00	147.07	51.04	0.00
TEE-BEND51	0.00	144.76	48.72	0.00
TEE-BEND34	0.00	147.04	50.97	0.00
TEE-BEND36	0.00	147.08	51.02	0.00
TEE-BEND55	0.00	146.20	50.14	0.00
TEE-BEND35	0.00	147.07	51.00	0.00
HYD1	0.00	147.08	51.00	0.00

HYD6	0.00	146.99	50	0.00
TEE-BEND37	0.00	147.09	50.98	0.00
TEE-BEND50	0.00	144.76	48.64	0.00
TEE-BEND33	0.00	146.99	50.87	0.00
TEE-BEND17	0.00	147.03	50.88	0.00
TEE-BEND21	0.00	147.18	51.03	0.00
TEE-BEND49	0.00	144.76	48.60	0.00
TEE-BEND48	0.00	146.05	49.88	0.00
TEE-BEND12	0.00	147.03	50.85	0.00
TEE-BEND40	0.00	147.30	51.11	0.00
TEE-BEND20	0.00	147.18	50.99	0.00
TEE-BEND38	0.00	147.14	50.94	0.00
TEE-BEND57	0.00	147.00	50.80	0.00
TEE-BEND56	0.00	146.63	50.42	0.00

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Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.08	50.85	0.00	
TEE-BEND32	0.00	147.00	50.77	0.00	
TEE-BEND31	0.00	147.00	50.74	0.00	
TEE-BEND30	0.00	147.00	50.73	0.00	
HYD5	0.00	147.01	50.71	0.00	
CRU-8	0.04	147.03	50.69	0.00	
TEE-BEND28	0.00	147.00	50.65	0.00	
CRU-10	0.04	147.18	50.83	0.00	
TEE-BEND39	0.00	147.38	51.01	0.00	
TEE-BEND26	0.00	147.00	50.63	0.00	
TEE-BEND15	0.00	147.03	50.65	0.00	
TEE-BEND29	0.00	147.00	50.60	0.00	
TEE-BEND13	0.00	147.03	50.63	0.00	
TEE-BEND59	0.00	147.15	50.74	0.00	
TEE-BEND27	0.00	147.00	50.57	0.00	
TEE-BEND41	0.00	147.28	50.83	0.00	
TEE-BEND42	0.00	147.25	50.80	0.00	
CRU-6	0.11	147.38	50.89	0.00	
CRU-9	0.07	147.03	50.54	0.00	
CRU-7	0.08	147.03	50.54	0.00	
CRU-4	0.11	147.00	50.51	0.00	
CRU-3	0.17	147.00	50.51	0.00	
TEE-BEND6	0.00	147.38	50.73	0.00	
CRU-5	0.02	147.00	50.27	0.00	
TEE-BEND4	0.00	147.38	50.63	0.00	
TEE-BEND3	0.00	147.53	50.78	0.00	
TEE-BEND2	0.00	147.38	50.60	0.00	
TEE-BEND1	0.00	147.38	50.58	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-31.98	0.00	0.00	0.00	Reservoir

R2	-35.69	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	35.69	1.14	9.36	Open
WM100	35.58	1.13	9.31	Open
WM101	25.93	0.83	5.18	Open
WM102	25.93	0.83	5.18	Open
WM103	25.63	0.82	5.07	Open
WM104	25.63	0.82	5.07	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-67.03	2.13	30.08	Open
WM111	-67.03	2.13	30.08	Open
WM112	-41.40	1.32	12.32	Open
WM113	-41.40	1.32	12.32	Open
WM114	-41.40	1.32	12.32	Open
WM115	-31.94	1.02	7.62	Open
WM116	-31.98	1.02	7.64	Open
WM117	-31.98	1.02	7.64	Open
WM118	-31.98	1.02	7.64	Open
WM119	-31.98	1.02	7.64	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	9.64	0.31	0.83	Open
WM126	9.64	0.31	0.83	Open
WM127	9.64	0.31	0.83	Open
WM128	9.64	0.31	0.83	Open
WM129	9.64	0.31	0.83	Open
WM130	9.45	0.30	0.80	Open
WM131	9.45	0.30	0.80	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-66.80	2.13	35.66	Open
WM145	-66.80	2.13	35.66	Open
WM146	-66.80	2.13	35.66	Open
WM147	-31.94	1.02	7.62	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.69	1.14	9.36	Open
WM165	-31.98	1.02	7.64	Open
1	31.98	0.00	-147.30	Open Pump
2	35.69	0.00	-147.53	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	66.80	143.44	48.08	0.00
TEE-BEND24	0.00	143.51	48.14	0.00
TEE-BEND23	0.00	143.58	48.14	0.00
TEE-BEND43	0.00	147.20	51.73	0.00
TEE-BEND44	0.00	147.18	51.64	0.00
CHAMBER2	0.00	147.23	51.67	0.00

TEE-BEND18	0.00	147.03	51	0.00
TEE-BEND46	0.00	146.44	50.64	0.00
TEE-BEND53	0.00	144.76	48.89	0.00
TEE-BEND47	0.00	146.34	50.47	0.00
TEE-BEND22	0.00	147.01	51.13	0.00
CRU-1	0.23	144.76	48.83	0.00
TEE-BEND52	0.00	144.76	48.81	0.00
HYD3	0.00	146.44	50.47	0.00
TEE-BEND45	0.00	146.94	50.96	0.00
TEE-BEND16	0.00	147.03	51.03	0.00
HYD2	0.00	146.63	50.61	0.00
HYD7	0.00	147.07	51.04	0.00
TEE-BEND51	0.00	144.76	48.72	0.00
TEE-BEND34	0.00	147.04	50.97	0.00
TEE-BEND36	0.00	147.08	51.02	0.00
TEE-BEND55	0.00	146.20	50.14	0.00
TEE-BEND35	0.00	147.07	51.00	0.00
HYD1	0.00	147.08	51.00	0.00
HYD6	0.00	146.99	50.90	0.00
TEE-BEND37	0.00	147.09	50.98	0.00
TEE-BEND50	0.00	144.76	48.64	0.00
TEE-BEND33	0.00	146.99	50.87	0.00
TEE-BEND17	0.00	147.03	50.88	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.18	51.03	0.00
TEE-BEND49	0.00	144.76	48.60	0.00
TEE-BEND48	0.00	146.05	49.88	0.00
TEE-BEND12	0.00	147.03	50.85	0.00
TEE-BEND40	0.00	147.30	51.11	0.00
TEE-BEND20	0.00	147.18	50.99	0.00
TEE-BEND38	0.00	147.14	50.94	0.00
TEE-BEND57	0.00	147.00	50.80	0.00
TEE-BEND56	0.00	146.63	50.42	0.00
TEE-BEND58	0.00	147.08	50.85	0.00
TEE-BEND32	0.00	147.00	50.77	0.00
TEE-BEND31	0.00	147.00	50.74	0.00
TEE-BEND30	0.00	147.00	50.73	0.00
HYD5	0.00	147.01	50.71	0.00
CRU-8	0.04	147.03	50.69	0.00
TEE-BEND28	0.00	147.00	50.65	0.00
CRU-10	0.04	147.18	50.83	0.00
TEE-BEND39	0.00	147.38	51.01	0.00
TEE-BEND26	0.00	147.00	50.63	0.00
TEE-BEND15	0.00	147.03	50.65	0.00
TEE-BEND29	0.00	147.00	50.60	0.00

TEE-BEND13	0.00	147.03	50	0.00	
TEE-BEND59	0.00	147.15	50.74	0.00	
TEE-BEND27	0.00	147.00	50.57	0.00	
TEE-BEND41	0.00	147.28	50.83	0.00	
TEE-BEND42	0.00	147.25	50.80	0.00	
CRU-6	0.11	147.38	50.89	0.00	
CRU-9	0.07	147.03	50.54	0.00	
CRU-7	0.08	147.03	50.54	0.00	
CRU-4	0.11	147.00	50.51	0.00	
CRU-3	0.17	147.00	50.51	0.00	
TEE-BEND6	0.00	147.38	50.73	0.00	
CRU-5	0.02	147.00	50.27	0.00	
TEE-BEND4	0.00	147.38	50.63	0.00	
TEE-BEND3	0.00	147.53	50.78	0.00	
TEE-BEND2	0.00	147.38	50.60	0.00	
TEE-BEND1	0.00	147.38	50.58	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-31.98	0.00	0.00	0.00	Reservoir
R2	-35.69	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.69	1.14	9.36	Open
WM100	35.58	1.13	9.31	Open
WM101	25.93	0.83	5.18	Open
WM102	25.93	0.83	5.18	Open
WM103	25.63	0.82	5.07	Open
WM104	25.63	0.82	5.07	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-67.03	2.13	30.08	Open
WM111	-67.03	2.13	30.08	Open
WM112	-41.40	1.32	12.32	Open
WM113	-41.40	1.32	12.32	Open
WM114	-41.40	1.32	12.32	Open
WM115	-31.94	1.02	7.62	Open
WM116	-31.98	1.02	7.64	Open
WM117	-31.98	1.02	7.64	Open
WM118	-31.98	1.02	7.64	Open
WM119	-31.98	1.02	7.64	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	9.64	0.31	0.83	Open
WM126	9.64	0.31	0.83	Open
WM127	9.64	0.31	0.83	Open
WM128	9.64	0.31	0.83	Open
WM129	9.64	0.31	0.83	Open
WM130	9.45	0.30	0.80	Open
WM131	9.45	0.30	0.80	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-66.80	2.13	35.67	Open
WM145	-66.80	2.13	35.66	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-66.80	2.13	35.66	Open	
WM147	-31.94	1.02	7.62	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	35.69	1.14	9.36	Open	
WM165	-31.98	1.02	7.64	Open	
1	31.98	0.00	-147.30	Open	Pump

2	35.69	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	66.80	143.44	48.08	0.00
TEE-BEND24	0.00	143.51	48.14	0.00
TEE-BEND23	0.00	143.58	48.14	0.00
TEE-BEND43	0.00	147.20	51.73	0.00
TEE-BEND44	0.00	147.18	51.64	0.00
CHAMBER2	0.00	147.23	51.67	0.00
TEE-BEND18	0.00	147.03	51.35	0.00
TEE-BEND46	0.00	146.44	50.64	0.00
TEE-BEND53	0.00	144.76	48.89	0.00
TEE-BEND47	0.00	146.34	50.47	0.00
TEE-BEND22	0.00	147.01	51.13	0.00
CRU-1	0.23	144.76	48.83	0.00
TEE-BEND52	0.00	144.76	48.81	0.00
HYD3	0.00	146.44	50.47	0.00
TEE-BEND45	0.00	146.94	50.96	0.00
TEE-BEND16	0.00	147.03	51.03	0.00
HYD2	0.00	146.63	50.61	0.00
HYD7	0.00	147.07	51.04	0.00
TEE-BEND51	0.00	144.76	48.72	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.04	50.97	0.00
TEE-BEND36	0.00	147.08	51.02	0.00
TEE-BEND55	0.00	146.20	50.14	0.00
TEE-BEND35	0.00	147.07	51.00	0.00
HYD1	0.00	147.08	51.00	0.00
HYD6	0.00	146.99	50.90	0.00
TEE-BEND37	0.00	147.09	50.98	0.00
TEE-BEND50	0.00	144.76	48.64	0.00
TEE-BEND33	0.00	146.99	50.87	0.00
TEE-BEND17	0.00	147.03	50.88	0.00
TEE-BEND21	0.00	147.18	51.03	0.00
TEE-BEND49	0.00	144.76	48.60	0.00
TEE-BEND48	0.00	146.05	49.88	0.00
TEE-BEND12	0.00	147.03	50.85	0.00
TEE-BEND40	0.00	147.30	51.11	0.00
TEE-BEND20	0.00	147.18	50.99	0.00
TEE-BEND38	0.00	147.14	50.94	0.00
TEE-BEND57	0.00	147.00	50.80	0.00

TEE-BEND56	0.00	146.63	50	0.00
TEE-BEND58	0.00	147.08	50.85	0.00
TEE-BEND32	0.00	147.00	50.77	0.00
TEE-BEND31	0.00	147.00	50.74	0.00
TEE-BEND30	0.00	147.00	50.73	0.00
HYD5	0.00	147.01	50.71	0.00
CRU-8	0.04	147.03	50.69	0.00
TEE-BEND28	0.00	147.00	50.65	0.00
CRU-10	0.04	147.18	50.83	0.00
TEE-BEND39	0.00	147.38	51.01	0.00
TEE-BEND26	0.00	147.00	50.63	0.00
TEE-BEND15	0.00	147.03	50.65	0.00
TEE-BEND29	0.00	147.00	50.60	0.00
TEE-BEND13	0.00	147.03	50.63	0.00
TEE-BEND59	0.00	147.15	50.74	0.00
TEE-BEND27	0.00	147.00	50.57	0.00
TEE-BEND41	0.00	147.28	50.83	0.00
TEE-BEND42	0.00	147.25	50.80	0.00
CRU-6	0.11	147.38	50.89	0.00
CRU-9	0.07	147.03	50.54	0.00
CRU-7	0.08	147.03	50.54	0.00
CRU-4	0.11	147.00	50.51	0.00
CRU-3	0.17	147.00	50.51	0.00
TEE-BEND6	0.00	147.38	50.73	0.00
CRU-5	0.02	147.00	50.27	0.00
TEE-BEND4	0.00	147.38	50.63	0.00
TEE-BEND3	0.00	147.53	50.78	0.00
TEE-BEND2	0.00	147.38	50.60	0.00
TEE-BEND1	0.00	147.38	50.58	0.00

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Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-31.98	0.00	0.00	0.00	Reservoir
R2	-35.69	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.69	1.14	9.36	Open
WM100	35.58	1.13	9.31	Open
WM101	25.93	0.83	5.18	Open
WM102	25.93	0.83	5.18	Open
WM103	25.63	0.82	5.07	Open
WM104	25.63	0.82	5.07	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-67.03	2.13	30.08	Open
WM111	-67.03	2.13	30.08	Open
WM112	-41.40	1.32	12.32	Open
WM113	-41.40	1.32	12.32	Open
WM114	-41.40	1.32	12.32	Open
WM115	-31.94	1.02	7.62	Open
WM116	-31.98	1.02	7.64	Open
WM117	-31.98	1.02	7.64	Open
WM118	-31.98	1.02	7.64	Open
WM119	-31.98	1.02	7.64	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	9.64	0.31	0.83	Open
WM126	9.64	0.31	0.83	Open
WM127	9.64	0.31	0.83	Open
WM128	9.64	0.31	0.83	Open
WM129	9.64	0.31	0.83	Open
WM130	9.45	0.30	0.80	Open
WM131	9.45	0.30	0.80	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-66.80	2.13	35.67	Open
WM145	-66.80	2.13	35.66	Open
WM146	-66.80	2.13	35.66	Open
WM147	-31.94	1.02	7.62	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.69	1.14	9.36	Open
WM165	-31.98	1.02	7.64	Open
1	31.98	0.00	-147.30	Open Pump
2	35.69	0.00	-147.53	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	66.80	143.44	48.08	0.00
TEE-BEND24	0.00	143.51	48.14	0.00
TEE-BEND23	0.00	143.58	48.14	0.00
TEE-BEND43	0.00	147.20	51.73	0.00
TEE-BEND44	0.00	147.18	51.64	0.00
CHAMBER2	0.00	147.23	51.67	0.00
TEE-BEND18	0.00	147.03	51.35	0.00
TEE-BEND46	0.00	146.44	50.64	0.00
TEE-BEND53	0.00	144.76	48.89	0.00
TEE-BEND47	0.00	146.34	50.47	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.01	51.13	0.00
CRU-1	0.23	144.76	48.83	0.00
TEE-BEND52	0.00	144.76	48.81	0.00
HYD3	0.00	146.44	50.47	0.00
TEE-BEND45	0.00	146.94	50.96	0.00
TEE-BEND16	0.00	147.03	51.03	0.00
HYD2	0.00	146.63	50.61	0.00
HYD7	0.00	147.07	51.04	0.00
TEE-BEND51	0.00	144.76	48.72	0.00

TEE-BEND34	0.00	147.04	50	0.00
TEE-BEND36	0.00	147.08	51.02	0.00
TEE-BEND55	0.00	146.20	50.14	0.00
TEE-BEND35	0.00	147.07	51.00	0.00
HYD1	0.00	147.08	51.00	0.00
HYD6	0.00	146.99	50.90	0.00
TEE-BEND37	0.00	147.09	50.98	0.00
TEE-BEND50	0.00	144.76	48.64	0.00
TEE-BEND33	0.00	146.99	50.87	0.00
TEE-BEND17	0.00	147.03	50.88	0.00
TEE-BEND21	0.00	147.18	51.03	0.00
TEE-BEND49	0.00	144.76	48.60	0.00
TEE-BEND48	0.00	146.05	49.88	0.00
TEE-BEND12	0.00	147.03	50.85	0.00
TEE-BEND40	0.00	147.30	51.11	0.00
TEE-BEND20	0.00	147.18	50.99	0.00
TEE-BEND38	0.00	147.14	50.94	0.00
TEE-BEND57	0.00	147.00	50.80	0.00
TEE-BEND56	0.00	146.63	50.42	0.00
TEE-BEND58	0.00	147.08	50.85	0.00
TEE-BEND32	0.00	147.00	50.77	0.00
TEE-BEND31	0.00	147.00	50.74	0.00
TEE-BEND30	0.00	147.00	50.73	0.00
HYD5	0.00	147.01	50.71	0.00
CRU-8	0.04	147.03	50.69	0.00
TEE-BEND28	0.00	147.00	50.65	0.00
CRU-10	0.04	147.18	50.83	0.00
TEE-BEND39	0.00	147.38	51.01	0.00
TEE-BEND26	0.00	147.00	50.63	0.00
TEE-BEND15	0.00	147.03	50.65	0.00
TEE-BEND29	0.00	147.00	50.60	0.00
TEE-BEND13	0.00	147.03	50.63	0.00
TEE-BEND59	0.00	147.15	50.74	0.00
TEE-BEND27	0.00	147.00	50.57	0.00
TEE-BEND41	0.00	147.28	50.83	0.00
TEE-BEND42	0.00	147.25	50.80	0.00
CRU-6	0.11	147.38	50.89	0.00
CRU-9	0.07	147.03	50.54	0.00

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Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	147.03	50.54	0.00
CRU-4	0.11	147.00	50.51	0.00
CRU-3	0.17	147.00	50.51	0.00
TEE-BEND6	0.00	147.38	50.73	0.00
CRU-5	0.02	147.00	50.27	0.00
TEE-BEND4	0.00	147.38	50.63	0.00

TEE-BEND3	0.00	147.53	50	0.00	
TEE-BEND2	0.00	147.38	50.60	0.00	
TEE-BEND1	0.00	147.38	50.58	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-31.98	0.00	0.00	0.00	Reservoir
R2	-35.69	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

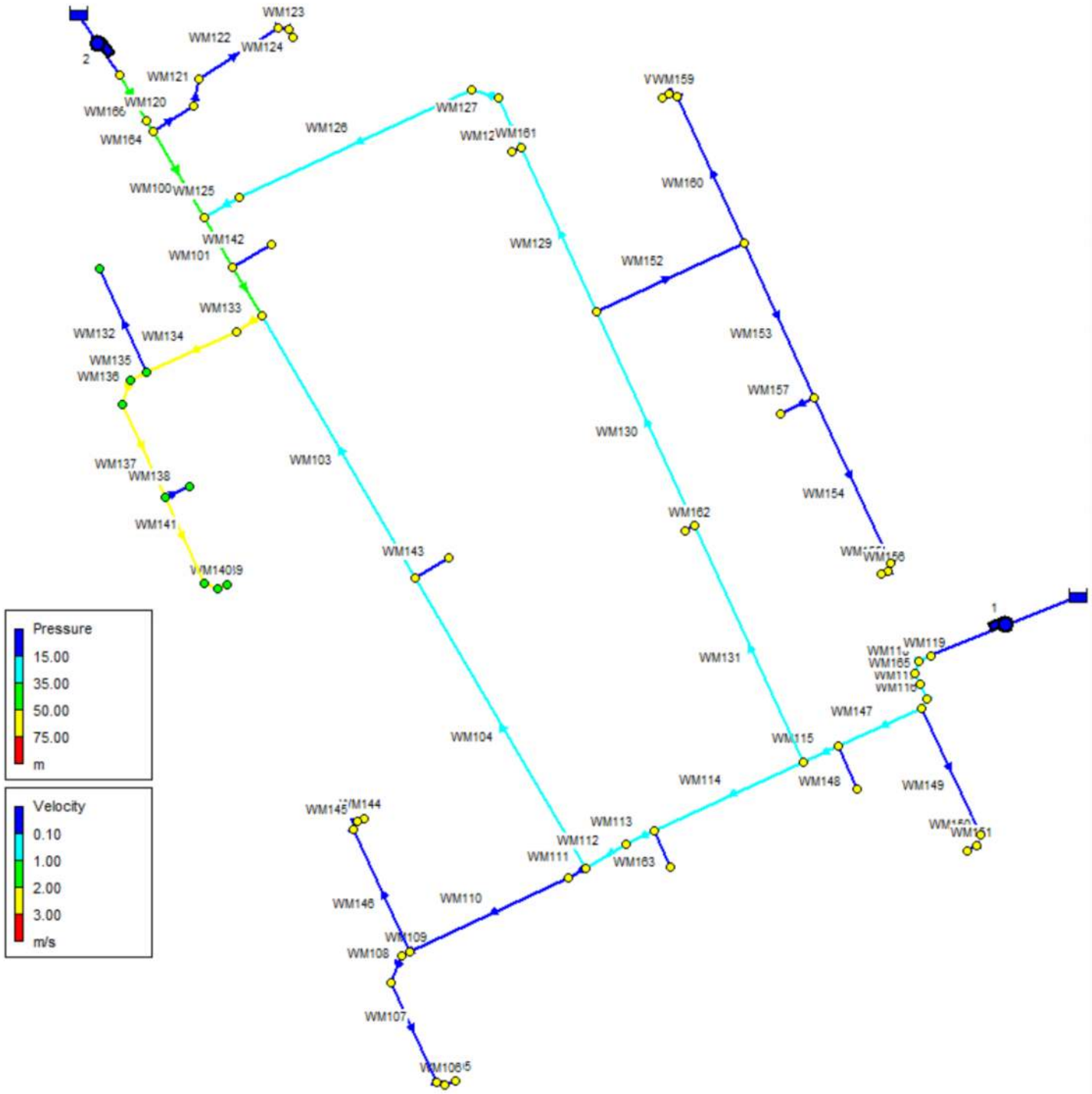
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.69	1.14	9.36	Open
WM100	35.58	1.13	9.31	Open
WM101	25.93	0.83	5.18	Open
WM102	25.93	0.83	5.18	Open
WM103	25.63	0.82	5.07	Open
WM104	25.63	0.82	5.07	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-67.03	2.13	30.08	Open
WM111	-67.03	2.13	30.08	Open
WM112	-41.40	1.32	12.32	Open
WM113	-41.40	1.32	12.32	Open
WM114	-41.40	1.32	12.32	Open
WM115	-31.94	1.02	7.62	Open
WM116	-31.98	1.02	7.64	Open
WM117	-31.98	1.02	7.64	Open
WM118	-31.98	1.02	7.64	Open
WM119	-31.98	1.02	7.64	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	9.64	0.31	0.83	Open
WM126	9.64	0.31	0.83	Open
WM127	9.64	0.31	0.83	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	9.64	0.31	0.83	Open
WM129	9.64	0.31	0.83	Open
WM130	9.45	0.30	0.80	Open

WM131	9.45	0.30	0	Open	
WM132	-0.02	0.00	0.00	Open	
WM133	0.30	0.01	0.00	Open	
WM134	0.30	0.01	0.00	Open	
WM135	0.28	0.01	0.00	Open	
WM136	0.28	0.01	0.00	Open	
WM137	0.28	0.01	0.00	Open	
WM138	0.11	0.01	0.00	Open	
WM139	-0.17	0.01	0.00	Open	
WM140	-0.17	0.01	0.00	Open	
WM141	-0.17	0.01	0.00	Open	
WM142	0.00	0.00	0.00	Open	
WM143	0.00	0.00	0.00	Open	
WM144	-66.80	2.13	35.67	Open	
WM145	-66.80	2.13	35.66	Open	
WM146	-66.80	2.13	35.66	Open	
WM147	-31.94	1.02	7.62	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	35.69	1.14	9.36	Open	
WM165	-31.98	1.02	7.64	Open	
1	31.98	0.00	-147.30	Open	Pump
2	35.69	0.00	-147.53	Open	Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR3



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU3)+pumps.net


Link - Node Table:
---------------------------------------------------------------------
Link            Start           End                  Length  Diameter
ID              Node            Node                      m        mm
---------------------------------------------------------------------
WM166           TEE-BEND3       CHAMBER1             13.008       200
WM100           TEE-BEND2       TEE-BEND59           24.428       200
WM101           TEE-BEND59      TEE-BEND58           14.105       200
WM102           TEE-BEND58      TEE-BEND57            14.07       200
WM103           TEE-BEND57      TEE-BEND56           74.594       200
WM104           TEE-BEND56      TEE-BEND55           83.148       200
WM105           CRU-1           TEE-BEND53            2.742       200
WM106           TEE-BEND53      TEE-BEND52            2.121       200
WM107           TEE-BEND52      TEE-BEND51            27.06       200
WM108           TEE-BEND51      TEE-BEND50            7.071       200
WM109           TEE-BEND50      TEE-BEND49            2.273       200
WM110           TEE-BEND49      TEE-BEND48            43.09       200
WM111           TEE-BEND48      TEE-BEND55            5.039       200
WM112           TEE-BEND55      TEE-BEND47           11.407       200
WM113           TEE-BEND47      TEE-BEND46            7.671       200
WM114           TEE-BEND46      TEE-BEND45           40.486       200
WM115           TEE-BEND45      TEE-BEND22            9.344       200
WM116           TEE-BEND44      TEE-BEND43            2.594       200
WM117           TEE-BEND43      CHAMBER2              4.079       200
WM118           TEE-BEND42      TEE-BEND41             3.05       200
WM119           TEE-BEND41      TEE-BEND40            3.256       200
WM120           TEE-BEND2       TEE-BEND6            11.711       200
WM121           TEE-BEND6       TEE-BEND1            6.787       200
WM122           TEE-BEND1       TEE-BEND4            23.393       200
WM123           TEE-BEND4       TEE-BEND39            2.505       200
WM124           TEE-BEND39      CRU-6                 2.125       200
WM125           TEE-BEND59      TEE-BEND38           10.059       200
WM126           TEE-BEND38      TEE-BEND37           63.282       200
WM127           TEE-BEND37      TEE-BEND36            6.851       200
WM128           TEE-BEND36      TEE-BEND35           13.346       200
WM129           TEE-BEND35      TEE-BEND34           44.459       200
WM130           TEE-BEND34      TEE-BEND33           58.093       200
WM131           TEE-BEND33      TEE-BEND45           64.037       200
WM132           CRU-5           TEE-BEND32           28.008       150
WM133           TEE-BEND57      TEE-BEND31             7.36       200
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WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	51.49	51.49	0.00
2	100.00	75.00	0.54	78.90	78.90	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	146.95	51.58	0.00
TEE-BEND24	0.00	146.95	51.58	0.00
TEE-BEND23	0.00	146.95	51.51	0.00
TEE-BEND43	0.00	147.31	51.84	0.00
TEE-BEND44	0.00	147.30	51.75	0.00
CHAMBER2	0.00	147.33	51.77	0.00
TEE-BEND18	0.00	147.05	51.37	0.00
TEE-BEND46	0.00	147.01	51.21	0.00
TEE-BEND53	0.00	146.95	51.08	0.00
TEE-BEND47	0.00	146.98	51.11	0.00
TEE-BEND22	0.00	147.17	51.30	0.00
CRU-1	0.23	146.95	51.03	0.00
TEE-BEND52	0.00	146.95	51.01	0.00
HYD3	0.00	147.01	51.04	0.00
TEE-BEND45	0.00	147.12	51.14	0.00
TEE-BEND16	0.00	147.05	51.05	0.00
HYD2	0.00	146.72	50.71	0.00
HYD7	0.00	147.03	51.00	0.00
TEE-BEND51	0.00	146.95	50.92	0.00
TEE-BEND34	0.00	147.05	50.99	0.00
TEE-BEND36	0.00	147.02	50.96	0.00
TEE-BEND55	0.00	146.95	50.88	0.00
TEE-BEND35	0.00	147.03	50.96	0.00
HYD1	0.00	146.75	50.67	0.00
HYD6	0.00	147.09	50.99	0.00
TEE-BEND37	0.00	147.02	50.91	0.00
TEE-BEND50	0.00	146.95	50.84	0.00
TEE-BEND33	0.00	147.09	50.97	0.00
TEE-BEND17	0.00	147.05	50.90	0.00
TEE-BEND21	0.00	147.30	51.14	0.00
TEE-BEND49	0.00	146.95	50.79	0.00
TEE-BEND48	0.00	146.95	50.78	0.00
TEE-BEND12	0.00	147.05	50.87	0.00
TEE-BEND40	0.00	147.38	51.19	0.00
TEE-BEND20	0.00	147.30	51.10	0.00
TEE-BEND38	0.00	146.98	50.78	0.00
TEE-BEND57	0.00	146.51	50.31	0.00
TEE-BEND56	0.00	146.72	50.51	0.00
TEE-BEND58	0.00	146.75	50.52	0.00
TEE-BEND32	0.00	145.56	49.33	0.00
TEE-BEND31	0.00	146.29	50.03	0.00
TEE-BEND30	0.00	145.44	49.16	0.00

HYD5	0.00	147.17	50	0.00
CRU-8	0.04	147.05	50.71	0.00
TEE-BEND28	0.00	144.48	48.13	0.00
CRU-10	0.04	147.30	50.95	0.00
TEE-BEND39	0.00	147.27	50.90	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	143.79	47.42	0.00	
TEE-BEND15	0.00	147.05	50.67	0.00	
TEE-BEND29	0.00	145.25	48.84	0.00	
TEE-BEND13	0.00	147.05	50.65	0.00	
TEE-BEND59	0.00	146.98	50.57	0.00	
TEE-BEND27	0.00	143.69	47.25	0.00	
TEE-BEND41	0.00	147.37	50.92	0.00	
TEE-BEND42	0.00	147.35	50.90	0.00	
CRU-6	0.11	147.27	50.79	0.00	
CRU-9	0.07	147.05	50.56	0.00	
CRU-7	0.08	147.05	50.56	0.00	
CRU-4	0.11	144.48	47.99	0.00	
CRU-3	66.83	143.62	47.12	0.00	
TEE-BEND6	0.00	147.27	50.62	0.00	
CRU-5	0.02	145.56	48.83	0.00	
TEE-BEND4	0.00	147.27	50.53	0.00	
TEE-BEND3	0.00	147.47	50.72	0.00	
TEE-BEND2	0.00	147.27	50.50	0.00	
TEE-BEND1	0.00	147.27	50.47	0.00	
CHAMBER1	0.00	147.31	50.50	0.00	
R1	-26.73	0.00	0.00	0.00	Reservoir
R2	-40.94	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	40.94	1.30	12.07	Open
WM100	40.83	1.30	12.01	Open
WM101	48.47	1.54	16.50	Open
WM102	48.47	1.54	16.50	Open
WM103	-18.49	0.59	2.77	Open
WM104	-18.49	0.59	2.77	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-18.86	0.60	2.87	Open
WM113	-18.86	0.60	2.87	Open
WM114	-18.86	0.60	2.87	Open
WM115	-26.69	0.85	5.47	Open
WM116	-26.73	0.85	5.48	Open
WM117	-26.73	0.85	5.48	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-26.73	0.85	5.48	Open
WM119	-26.73	0.85	5.48	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-7.64	0.24	0.54	Open
WM126	-7.64	0.24	0.54	Open
WM127	-7.64	0.24	0.54	Open
WM128	-7.64	0.24	0.54	Open
WM129	-7.64	0.24	0.54	Open
WM130	-7.83	0.25	0.56	Open
WM131	-7.83	0.25	0.56	Open
WM132	-0.02	0.00	0.00	Open
WM133	66.96	2.13	30.02	Open
WM134	66.96	2.13	30.02	Open
WM135	66.94	2.13	30.01	Open
WM136	66.94	2.13	30.01	Open
WM137	66.94	2.13	30.01	Open
WM138	0.11	0.01	0.00	Open
WM139	-66.83	2.13	29.91	Open
WM140	-66.83	2.13	29.92	Open
WM141	-66.83	2.13	29.92	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-26.69	0.85	5.47	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	40.94	1.30	12.07	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-26.73	0.85	5.48	Open
1	26.73	0.00	-147.38	Open Pump
2	40.94	0.00	-147.47	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	146.95	51.58	0.00
TEE-BEND24	0.00	146.95	51.58	0.00
TEE-BEND23	0.00	146.95	51.51	0.00
TEE-BEND43	0.00	147.31	51.84	0.00
TEE-BEND44	0.00	147.30	51.75	0.00
CHAMBER2	0.00	147.33	51.77	0.00
TEE-BEND18	0.00	147.05	51.37	0.00
TEE-BEND46	0.00	147.01	51.21	0.00
TEE-BEND53	0.00	146.95	51.08	0.00
TEE-BEND47	0.00	146.98	51.11	0.00
TEE-BEND22	0.00	147.17	51.30	0.00
CRU-1	0.23	146.95	51.03	0.00
TEE-BEND52	0.00	146.95	51.01	0.00
HYD3	0.00	147.01	51.04	0.00
TEE-BEND45	0.00	147.12	51.14	0.00
TEE-BEND16	0.00	147.05	51.05	0.00
HYD2	0.00	146.72	50.71	0.00
HYD7	0.00	147.03	51.00	0.00
TEE-BEND51	0.00	146.95	50.92	0.00
TEE-BEND34	0.00	147.05	50.99	0.00
TEE-BEND36	0.00	147.02	50.96	0.00
TEE-BEND55	0.00	146.95	50.88	0.00
TEE-BEND35	0.00	147.03	50.96	0.00
HYD1	0.00	146.75	50.67	0.00

HYD6	0.00	147.09	50	0.00	
TEE-BEND37	0.00	147.02	50.91	0.00	
TEE-BEND50	0.00	146.95	50.84	0.00	
TEE-BEND33	0.00	147.09	50.97	0.00	
TEE-BEND17	0.00	147.05	50.90	0.00	
TEE-BEND21	0.00	147.30	51.14	0.00	
TEE-BEND49	0.00	146.95	50.79	0.00	
TEE-BEND48	0.00	146.95	50.78	0.00	
TEE-BEND12	0.00	147.05	50.87	0.00	
TEE-BEND40	0.00	147.38	51.19	0.00	
TEE-BEND20	0.00	147.30	51.10	0.00	
TEE-BEND38	0.00	146.98	50.78	0.00	
TEE-BEND57	0.00	146.51	50.31	0.00	
TEE-BEND56	0.00	146.72	50.51	0.00	

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	146.75	50.52	0.00	
TEE-BEND32	0.00	145.56	49.33	0.00	
TEE-BEND31	0.00	146.29	50.03	0.00	
TEE-BEND30	0.00	145.44	49.16	0.00	
HYD5	0.00	147.17	50.87	0.00	
CRU-8	0.04	147.05	50.71	0.00	
TEE-BEND28	0.00	144.48	48.13	0.00	
CRU-10	0.04	147.30	50.95	0.00	
TEE-BEND39	0.00	147.27	50.90	0.00	
TEE-BEND26	0.00	143.79	47.42	0.00	
TEE-BEND15	0.00	147.05	50.67	0.00	
TEE-BEND29	0.00	145.25	48.84	0.00	
TEE-BEND13	0.00	147.05	50.65	0.00	
TEE-BEND59	0.00	146.98	50.57	0.00	
TEE-BEND27	0.00	143.69	47.25	0.00	
TEE-BEND41	0.00	147.37	50.92	0.00	
TEE-BEND42	0.00	147.35	50.90	0.00	
CRU-6	0.11	147.27	50.79	0.00	
CRU-9	0.07	147.05	50.56	0.00	
CRU-7	0.08	147.05	50.56	0.00	
CRU-4	0.11	144.48	47.99	0.00	
CRU-3	66.83	143.62	47.12	0.00	
TEE-BEND6	0.00	147.27	50.62	0.00	
CRU-5	0.02	145.56	48.83	0.00	
TEE-BEND4	0.00	147.27	50.53	0.00	
TEE-BEND3	0.00	147.47	50.72	0.00	
TEE-BEND2	0.00	147.27	50.50	0.00	
TEE-BEND1	0.00	147.27	50.47	0.00	
CHAMBER1	0.00	147.31	50.50	0.00	
R1	-26.73	0.00	0.00	0.00	Reservoir

R2	-40.94	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	40.94	1.30	12.07	Open
WM100	40.83	1.30	12.01	Open
WM101	48.47	1.54	16.50	Open
WM102	48.47	1.54	16.50	Open
WM103	-18.49	0.59	2.77	Open
WM104	-18.49	0.59	2.77	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

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Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-18.86	0.60	2.87	Open
WM113	-18.86	0.60	2.87	Open
WM114	-18.86	0.60	2.87	Open
WM115	-26.69	0.85	5.47	Open
WM116	-26.73	0.85	5.48	Open
WM117	-26.73	0.85	5.48	Open
WM118	-26.73	0.85	5.48	Open
WM119	-26.73	0.85	5.48	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-7.64	0.24	0.54	Open
WM126	-7.64	0.24	0.54	Open
WM127	-7.64	0.24	0.54	Open
WM128	-7.64	0.24	0.54	Open
WM129	-7.64	0.24	0.54	Open
WM130	-7.83	0.25	0.56	Open
WM131	-7.83	0.25	0.56	Open
WM132	-0.02	0.00	0.00	Open
WM133	66.96	2.13	30.02	Open
WM134	66.96	2.13	30.02	Open
WM135	66.94	2.13	30.01	Open

WM136	66.94	2.13	30	Open
WM137	66.94	2.13	30.01	Open
WM138	0.11	0.01	0.00	Open
WM139	-66.83	2.13	29.91	Open
WM140	-66.83	2.13	29.92	Open
WM141	-66.83	2.13	29.92	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-26.69	0.85	5.47	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

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Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	40.94	1.30	12.07	Open
WM165	-26.73	0.85	5.48	Open
1	26.73	0.00	-147.38	Open Pump
2	40.94	0.00	-147.47	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	146.95	51.58	0.00
TEE-BEND24	0.00	146.95	51.58	0.00
TEE-BEND23	0.00	146.95	51.51	0.00
TEE-BEND43	0.00	147.31	51.84	0.00
TEE-BEND44	0.00	147.30	51.75	0.00
CHAMBER2	0.00	147.33	51.77	0.00

TEE-BEND18	0.00	147.05	51	0.00
TEE-BEND46	0.00	147.01	51.21	0.00
TEE-BEND53	0.00	146.95	51.08	0.00
TEE-BEND47	0.00	146.98	51.11	0.00
TEE-BEND22	0.00	147.17	51.30	0.00
CRU-1	0.23	146.95	51.03	0.00
TEE-BEND52	0.00	146.95	51.01	0.00
HYD3	0.00	147.01	51.04	0.00
TEE-BEND45	0.00	147.12	51.14	0.00
TEE-BEND16	0.00	147.05	51.05	0.00
HYD2	0.00	146.72	50.71	0.00
HYD7	0.00	147.03	51.00	0.00
TEE-BEND51	0.00	146.95	50.92	0.00
TEE-BEND34	0.00	147.05	50.99	0.00
TEE-BEND36	0.00	147.02	50.96	0.00
TEE-BEND55	0.00	146.95	50.88	0.00
TEE-BEND35	0.00	147.03	50.96	0.00
HYD1	0.00	146.75	50.67	0.00
HYD6	0.00	147.09	50.99	0.00
TEE-BEND37	0.00	147.02	50.91	0.00
TEE-BEND50	0.00	146.95	50.84	0.00
TEE-BEND33	0.00	147.09	50.97	0.00
TEE-BEND17	0.00	147.05	50.90	0.00

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Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.30	51.14	0.00
TEE-BEND49	0.00	146.95	50.79	0.00
TEE-BEND48	0.00	146.95	50.78	0.00
TEE-BEND12	0.00	147.05	50.87	0.00
TEE-BEND40	0.00	147.38	51.19	0.00
TEE-BEND20	0.00	147.30	51.10	0.00
TEE-BEND38	0.00	146.98	50.78	0.00
TEE-BEND57	0.00	146.51	50.31	0.00
TEE-BEND56	0.00	146.72	50.51	0.00
TEE-BEND58	0.00	146.75	50.52	0.00
TEE-BEND32	0.00	145.56	49.33	0.00
TEE-BEND31	0.00	146.29	50.03	0.00
TEE-BEND30	0.00	145.44	49.16	0.00
HYD5	0.00	147.17	50.87	0.00
CRU-8	0.04	147.05	50.71	0.00
TEE-BEND28	0.00	144.48	48.13	0.00
CRU-10	0.04	147.30	50.95	0.00
TEE-BEND39	0.00	147.27	50.90	0.00
TEE-BEND26	0.00	143.79	47.42	0.00
TEE-BEND15	0.00	147.05	50.67	0.00
TEE-BEND29	0.00	145.25	48.84	0.00

TEE-BEND13	0.00	147.05	50	0.00	
TEE-BEND59	0.00	146.98	50.57	0.00	
TEE-BEND27	0.00	143.69	47.25	0.00	
TEE-BEND41	0.00	147.37	50.92	0.00	
TEE-BEND42	0.00	147.35	50.90	0.00	
CRU-6	0.11	147.27	50.79	0.00	
CRU-9	0.07	147.05	50.56	0.00	
CRU-7	0.08	147.05	50.56	0.00	
CRU-4	0.11	144.48	47.99	0.00	
CRU-3	66.83	143.62	47.12	0.00	
TEE-BEND6	0.00	147.27	50.62	0.00	
CRU-5	0.02	145.56	48.83	0.00	
TEE-BEND4	0.00	147.27	50.53	0.00	
TEE-BEND3	0.00	147.47	50.72	0.00	
TEE-BEND2	0.00	147.27	50.50	0.00	
TEE-BEND1	0.00	147.27	50.47	0.00	
CHAMBER1	0.00	147.31	50.50	0.00	
R1	-26.73	0.00	0.00	0.00	Reservoir
R2	-40.94	0.00	0.00	0.00	Reservoir

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Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	40.94	1.30	12.07	Open
WM100	40.83	1.30	12.01	Open
WM101	48.47	1.54	16.50	Open
WM102	48.47	1.54	16.50	Open
WM103	-18.49	0.59	2.77	Open
WM104	-18.49	0.59	2.77	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-18.86	0.60	2.87	Open
WM113	-18.86	0.60	2.87	Open
WM114	-18.86	0.60	2.87	Open
WM115	-26.69	0.85	5.47	Open
WM116	-26.73	0.85	5.48	Open
WM117	-26.73	0.85	5.48	Open
WM118	-26.73	0.85	5.48	Open
WM119	-26.73	0.85	5.48	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-7.64	0.24	0.54	Open
WM126	-7.64	0.24	0.54	Open
WM127	-7.64	0.24	0.54	Open
WM128	-7.64	0.24	0.54	Open
WM129	-7.64	0.24	0.54	Open
WM130	-7.83	0.25	0.56	Open
WM131	-7.83	0.25	0.56	Open
WM132	-0.02	0.00	0.00	Open
WM133	66.96	2.13	30.02	Open
WM134	66.96	2.13	30.02	Open
WM135	66.94	2.13	30.01	Open
WM136	66.94	2.13	30.01	Open
WM137	66.94	2.13	30.01	Open
WM138	0.11	0.01	0.00	Open
WM139	-66.83	2.13	29.91	Open
WM140	-66.83	2.13	29.92	Open
WM141	-66.83	2.13	29.92	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-26.69	0.85	5.47	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	40.94	1.30	12.07	Open	
WM165	-26.73	0.85	5.48	Open	
1	26.73	0.00	-147.38	Open	Pump

2	40.94	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	146.95	51.58	0.00
TEE-BEND24	0.00	146.95	51.58	0.00
TEE-BEND23	0.00	146.95	51.51	0.00
TEE-BEND43	0.00	147.31	51.84	0.00
TEE-BEND44	0.00	147.30	51.75	0.00
CHAMBER2	0.00	147.33	51.77	0.00
TEE-BEND18	0.00	147.05	51.37	0.00
TEE-BEND46	0.00	147.01	51.21	0.00
TEE-BEND53	0.00	146.95	51.08	0.00
TEE-BEND47	0.00	146.98	51.11	0.00
TEE-BEND22	0.00	147.17	51.30	0.00
CRU-1	0.23	146.95	51.03	0.00
TEE-BEND52	0.00	146.95	51.01	0.00
HYD3	0.00	147.01	51.04	0.00
TEE-BEND45	0.00	147.12	51.14	0.00
TEE-BEND16	0.00	147.05	51.05	0.00
HYD2	0.00	146.72	50.71	0.00
HYD7	0.00	147.03	51.00	0.00
TEE-BEND51	0.00	146.95	50.92	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.05	50.99	0.00
TEE-BEND36	0.00	147.02	50.96	0.00
TEE-BEND55	0.00	146.95	50.88	0.00
TEE-BEND35	0.00	147.03	50.96	0.00
HYD1	0.00	146.75	50.67	0.00
HYD6	0.00	147.09	50.99	0.00
TEE-BEND37	0.00	147.02	50.91	0.00
TEE-BEND50	0.00	146.95	50.84	0.00
TEE-BEND33	0.00	147.09	50.97	0.00
TEE-BEND17	0.00	147.05	50.90	0.00
TEE-BEND21	0.00	147.30	51.14	0.00
TEE-BEND49	0.00	146.95	50.79	0.00
TEE-BEND48	0.00	146.95	50.78	0.00
TEE-BEND12	0.00	147.05	50.87	0.00
TEE-BEND40	0.00	147.38	51.19	0.00
TEE-BEND20	0.00	147.30	51.10	0.00
TEE-BEND38	0.00	146.98	50.78	0.00
TEE-BEND57	0.00	146.51	50.31	0.00

TEE-BEND56	0.00	146.72	50	0.00
TEE-BEND58	0.00	146.75	50.52	0.00
TEE-BEND32	0.00	145.56	49.33	0.00
TEE-BEND31	0.00	146.29	50.03	0.00
TEE-BEND30	0.00	145.44	49.16	0.00
HYD5	0.00	147.17	50.87	0.00
CRU-8	0.04	147.05	50.71	0.00
TEE-BEND28	0.00	144.48	48.13	0.00
CRU-10	0.04	147.30	50.95	0.00
TEE-BEND39	0.00	147.27	50.90	0.00
TEE-BEND26	0.00	143.79	47.42	0.00
TEE-BEND15	0.00	147.05	50.67	0.00
TEE-BEND29	0.00	145.25	48.84	0.00
TEE-BEND13	0.00	147.05	50.65	0.00
TEE-BEND59	0.00	146.98	50.57	0.00
TEE-BEND27	0.00	143.69	47.25	0.00
TEE-BEND41	0.00	147.37	50.92	0.00
TEE-BEND42	0.00	147.35	50.90	0.00
CRU-6	0.11	147.27	50.79	0.00
CRU-9	0.07	147.05	50.56	0.00
CRU-7	0.08	147.05	50.56	0.00
CRU-4	0.11	144.48	47.99	0.00
CRU-3	66.83	143.62	47.12	0.00
TEE-BEND6	0.00	147.27	50.62	0.00
CRU-5	0.02	145.56	48.83	0.00
TEE-BEND4	0.00	147.27	50.53	0.00
TEE-BEND3	0.00	147.47	50.72	0.00
TEE-BEND2	0.00	147.27	50.50	0.00
TEE-BEND1	0.00	147.27	50.47	0.00

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Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.31	50.50	0.00	
R1	-26.73	0.00	0.00	0.00	Reservoir
R2	-40.94	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	40.94	1.30	12.07	Open
WM100	40.83	1.30	12.01	Open
WM101	48.47	1.54	16.50	Open
WM102	48.47	1.54	16.50	Open
WM103	-18.49	0.59	2.77	Open
WM104	-18.49	0.59	2.77	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-18.86	0.60	2.87	Open
WM113	-18.86	0.60	2.87	Open
WM114	-18.86	0.60	2.87	Open
WM115	-26.69	0.85	5.47	Open
WM116	-26.73	0.85	5.48	Open
WM117	-26.73	0.85	5.48	Open
WM118	-26.73	0.85	5.48	Open
WM119	-26.73	0.85	5.48	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-7.64	0.24	0.54	Open
WM126	-7.64	0.24	0.54	Open
WM127	-7.64	0.24	0.54	Open
WM128	-7.64	0.24	0.54	Open
WM129	-7.64	0.24	0.54	Open
WM130	-7.83	0.25	0.56	Open
WM131	-7.83	0.25	0.56	Open
WM132	-0.02	0.00	0.00	Open
WM133	66.96	2.13	30.02	Open
WM134	66.96	2.13	30.02	Open
WM135	66.94	2.13	30.01	Open
WM136	66.94	2.13	30.01	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM137	66.94	2.13	30.01	Open
WM138	0.11	0.01	0.00	Open
WM139	-66.83	2.13	29.91	Open
WM140	-66.83	2.13	29.92	Open
WM141	-66.83	2.13	29.92	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-26.69	0.85	5.47	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	40.94	1.30	12.07	Open
WM165	-26.73	0.85	5.48	Open
1	26.73	0.00	-147.38	Open Pump
2	40.94	0.00	-147.47	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	146.95	51.58	0.00
TEE-BEND24	0.00	146.95	51.58	0.00
TEE-BEND23	0.00	146.95	51.51	0.00
TEE-BEND43	0.00	147.31	51.84	0.00
TEE-BEND44	0.00	147.30	51.75	0.00
CHAMBER2	0.00	147.33	51.77	0.00
TEE-BEND18	0.00	147.05	51.37	0.00
TEE-BEND46	0.00	147.01	51.21	0.00
TEE-BEND53	0.00	146.95	51.08	0.00
TEE-BEND47	0.00	146.98	51.11	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.17	51.30	0.00
CRU-1	0.23	146.95	51.03	0.00
TEE-BEND52	0.00	146.95	51.01	0.00
HYD3	0.00	147.01	51.04	0.00
TEE-BEND45	0.00	147.12	51.14	0.00
TEE-BEND16	0.00	147.05	51.05	0.00
HYD2	0.00	146.72	50.71	0.00
HYD7	0.00	147.03	51.00	0.00
TEE-BEND51	0.00	146.95	50.92	0.00

TEE-BEND34	0.00	147.05	50	0.00
TEE-BEND36	0.00	147.02	50.96	0.00
TEE-BEND55	0.00	146.95	50.88	0.00
TEE-BEND35	0.00	147.03	50.96	0.00
HYD1	0.00	146.75	50.67	0.00
HYD6	0.00	147.09	50.99	0.00
TEE-BEND37	0.00	147.02	50.91	0.00
TEE-BEND50	0.00	146.95	50.84	0.00
TEE-BEND33	0.00	147.09	50.97	0.00
TEE-BEND17	0.00	147.05	50.90	0.00
TEE-BEND21	0.00	147.30	51.14	0.00
TEE-BEND49	0.00	146.95	50.79	0.00
TEE-BEND48	0.00	146.95	50.78	0.00
TEE-BEND12	0.00	147.05	50.87	0.00
TEE-BEND40	0.00	147.38	51.19	0.00
TEE-BEND20	0.00	147.30	51.10	0.00
TEE-BEND38	0.00	146.98	50.78	0.00
TEE-BEND57	0.00	146.51	50.31	0.00
TEE-BEND56	0.00	146.72	50.51	0.00
TEE-BEND58	0.00	146.75	50.52	0.00
TEE-BEND32	0.00	145.56	49.33	0.00
TEE-BEND31	0.00	146.29	50.03	0.00
TEE-BEND30	0.00	145.44	49.16	0.00
HYD5	0.00	147.17	50.87	0.00
CRU-8	0.04	147.05	50.71	0.00
TEE-BEND28	0.00	144.48	48.13	0.00
CRU-10	0.04	147.30	50.95	0.00
TEE-BEND39	0.00	147.27	50.90	0.00
TEE-BEND26	0.00	143.79	47.42	0.00
TEE-BEND15	0.00	147.05	50.67	0.00
TEE-BEND29	0.00	145.25	48.84	0.00
TEE-BEND13	0.00	147.05	50.65	0.00
TEE-BEND59	0.00	146.98	50.57	0.00
TEE-BEND27	0.00	143.69	47.25	0.00
TEE-BEND41	0.00	147.37	50.92	0.00
TEE-BEND42	0.00	147.35	50.90	0.00
CRU-6	0.11	147.27	50.79	0.00
CRU-9	0.07	147.05	50.56	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	147.05	50.56	0.00
CRU-4	0.11	144.48	47.99	0.00
CRU-3	66.83	143.62	47.12	0.00
TEE-BEND6	0.00	147.27	50.62	0.00
CRU-5	0.02	145.56	48.83	0.00
TEE-BEND4	0.00	147.27	50.53	0.00

TEE-BEND3	0.00	147.47	50	0.00	
TEE-BEND2	0.00	147.27	50.50	0.00	
TEE-BEND1	0.00	147.27	50.47	0.00	
CHAMBER1	0.00	147.31	50.50	0.00	
R1	-26.73	0.00	0.00	0.00	Reservoir
R2	-40.94	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

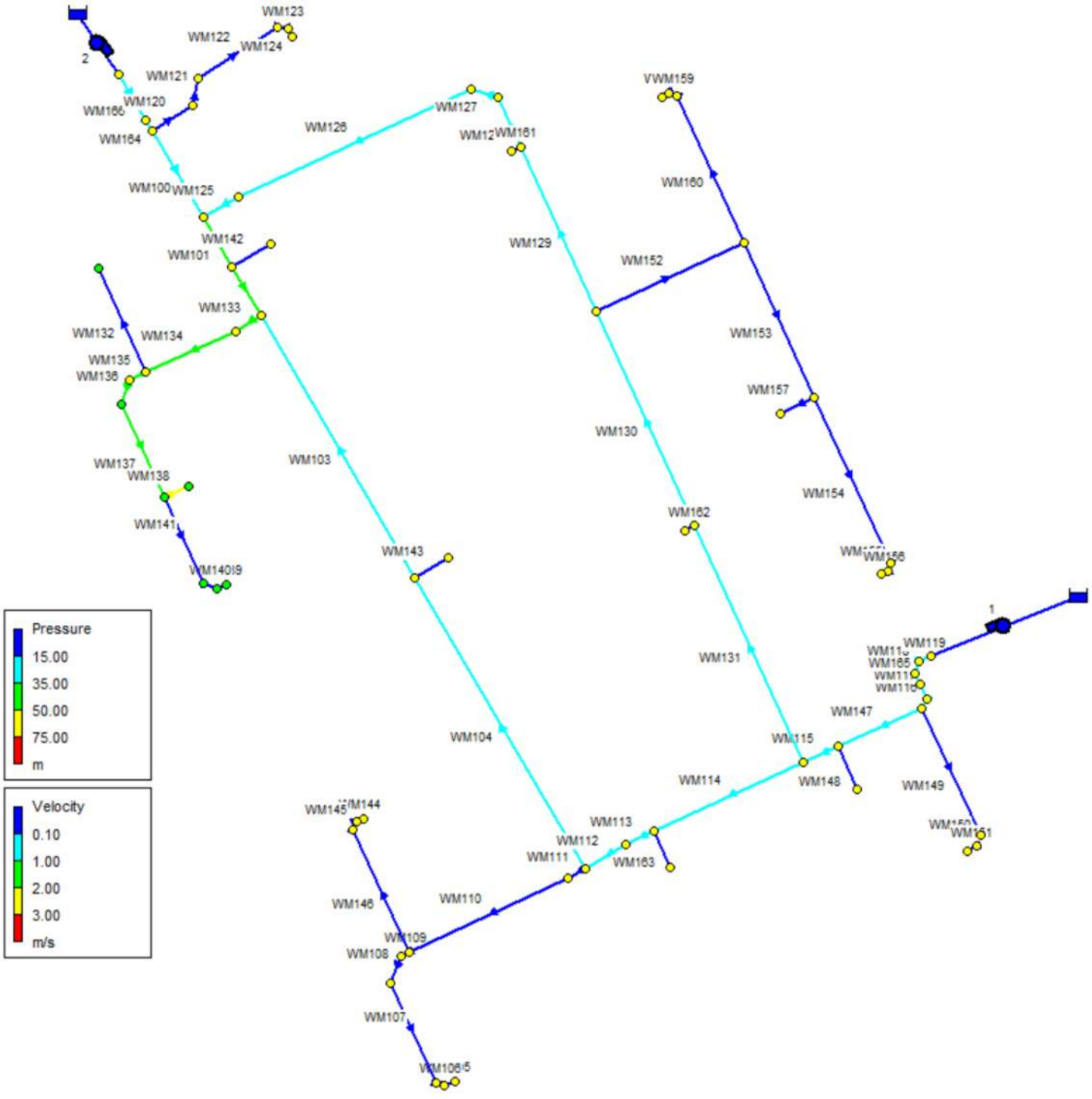
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	40.94	1.30	12.07	Open
WM100	40.83	1.30	12.01	Open
WM101	48.47	1.54	16.50	Open
WM102	48.47	1.54	16.50	Open
WM103	-18.49	0.59	2.77	Open
WM104	-18.49	0.59	2.77	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-18.86	0.60	2.87	Open
WM113	-18.86	0.60	2.87	Open
WM114	-18.86	0.60	2.87	Open
WM115	-26.69	0.85	5.47	Open
WM116	-26.73	0.85	5.48	Open
WM117	-26.73	0.85	5.48	Open
WM118	-26.73	0.85	5.48	Open
WM119	-26.73	0.85	5.48	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-7.64	0.24	0.54	Open
WM126	-7.64	0.24	0.54	Open
WM127	-7.64	0.24	0.54	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	-7.64	0.24	0.54	Open
WM129	-7.64	0.24	0.54	Open
WM130	-7.83	0.25	0.56	Open

WM131	-7.83	0.25	0	Open
WM132	-0.02	0.00	0.00	Open
WM133	66.96	2.13	30.02	Open
WM134	66.96	2.13	30.02	Open
WM135	66.94	2.13	30.01	Open
WM136	66.94	2.13	30.01	Open
WM137	66.94	2.13	30.01	Open
WM138	0.11	0.01	0.00	Open
WM139	-66.83	2.13	29.91	Open
WM140	-66.83	2.13	29.92	Open
WM141	-66.83	2.13	29.92	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-26.69	0.85	5.47	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	40.94	1.30	12.07	Open
WM165	-26.73	0.85	5.48	Open
1	26.73	0.00	-147.38	Open Pump
2	40.94	0.00	-147.47	Open Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR4



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*************************************************************************
*                            E P A N E T                                *
*                     Hydraulic and Water Quality                       *
*                     Analysis for Pipe Networks                        *
*                          Version 2.2                                  *
*************************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU4)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	38.20	38.20	0.00
2	100.00	75.00	0.54	60.18	60.18	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.27	51.90	0.00
TEE-BEND24	0.00	147.27	51.90	0.00
TEE-BEND23	0.00	147.27	51.83	0.00
TEE-BEND43	0.00	147.48	52.01	0.00
TEE-BEND44	0.00	147.47	51.93	0.00
CHAMBER2	0.00	147.49	51.93	0.00
TEE-BEND18	0.00	147.33	51.65	0.00
TEE-BEND46	0.00	147.30	51.50	0.00
TEE-BEND53	0.00	147.27	51.40	0.00
TEE-BEND47	0.00	147.29	51.42	0.00
TEE-BEND22	0.00	147.40	51.52	0.00
CRU-1	0.23	147.27	51.34	0.00
TEE-BEND52	0.00	147.27	51.32	0.00
HYD3	0.00	147.30	51.33	0.00
TEE-BEND45	0.00	147.37	51.39	0.00
TEE-BEND16	0.00	147.33	51.33	0.00
HYD2	0.00	147.14	51.12	0.00
HYD7	0.00	147.32	51.29	0.00
TEE-BEND51	0.00	147.27	51.24	0.00
TEE-BEND34	0.00	147.33	51.27	0.00
TEE-BEND36	0.00	147.31	51.25	0.00
TEE-BEND55	0.00	147.27	51.20	0.00
TEE-BEND35	0.00	147.32	51.25	0.00
HYD1	0.00	147.15	51.08	0.00
HYD6	0.00	147.35	51.26	0.00
TEE-BEND37	0.00	147.31	51.20	0.00
TEE-BEND50	0.00	147.27	51.15	0.00
TEE-BEND33	0.00	147.35	51.23	0.00
TEE-BEND17	0.00	147.33	51.17	0.00
TEE-BEND21	0.00	147.47	51.31	0.00
TEE-BEND49	0.00	147.27	51.11	0.00
TEE-BEND48	0.00	147.27	51.10	0.00
TEE-BEND12	0.00	147.33	51.14	0.00
TEE-BEND40	0.00	147.52	51.33	0.00
TEE-BEND20	0.00	147.47	51.27	0.00
TEE-BEND38	0.00	147.29	51.09	0.00
TEE-BEND57	0.00	147.02	50.81	0.00
TEE-BEND56	0.00	147.14	50.93	0.00
TEE-BEND58	0.00	147.15	50.92	0.00
TEE-BEND32	0.00	146.46	50.22	0.00
TEE-BEND31	0.00	146.89	50.62	0.00
TEE-BEND30	0.00	146.38	50.11	0.00

HYD5	0.00	147.40	51	0.00
CRU-8	0.04	147.33	50.99	0.00
TEE-BEND28	0.00	145.82	49.47	0.00
CRU-10	0.04	147.47	51.12	0.00
TEE-BEND39	0.00	147.47	51.10	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	145.82	49.45	0.00	
TEE-BEND15	0.00	147.33	50.95	0.00	
TEE-BEND29	0.00	146.27	49.86	0.00	
TEE-BEND13	0.00	147.33	50.92	0.00	
TEE-BEND59	0.00	147.29	50.88	0.00	
TEE-BEND27	0.00	145.82	49.38	0.00	
TEE-BEND41	0.00	147.51	51.06	0.00	
TEE-BEND42	0.00	147.50	51.05	0.00	
CRU-6	0.11	147.47	50.98	0.00	
CRU-9	0.07	147.33	50.84	0.00	
CRU-7	0.08	147.33	50.84	0.00	
CRU-4	50.11	145.27	48.78	0.00	
CRU-3	0.17	145.82	49.32	0.00	
TEE-BEND6	0.00	147.47	50.82	0.00	
CRU-5	0.02	146.46	49.72	0.00	
TEE-BEND4	0.00	147.47	50.72	0.00	
TEE-BEND3	0.00	147.59	50.84	0.00	
TEE-BEND2	0.00	147.47	50.70	0.00	
TEE-BEND1	0.00	147.47	50.67	0.00	
CHAMBER1	0.00	147.49	50.68	0.00	
R1	-19.81	0.00	0.00	0.00	Reservoir
R2	-31.20	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	31.20	0.99	7.30	Open
WM100	31.09	0.99	7.25	Open
WM101	36.54	1.16	9.78	Open
WM102	36.54	1.16	9.78	Open
WM103	-13.76	0.44	1.60	Open
WM104	-13.76	0.44	1.60	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-14.13	0.45	1.68	Open
WM113	-14.13	0.45	1.68	Open
WM114	-14.13	0.45	1.68	Open
WM115	-19.77	0.63	3.14	Open
WM116	-19.81	0.63	3.15	Open
WM117	-19.81	0.63	3.15	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-19.81	0.63	3.15	Open
WM119	-19.81	0.63	3.15	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-5.45	0.17	0.29	Open
WM126	-5.45	0.17	0.29	Open
WM127	-5.45	0.17	0.29	Open
WM128	-5.45	0.17	0.29	Open
WM129	-5.45	0.17	0.29	Open
WM130	-5.64	0.18	0.31	Open
WM131	-5.64	0.18	0.31	Open
WM132	-0.02	0.00	0.00	Open
WM133	50.30	1.60	17.68	Open
WM134	50.30	1.60	17.67	Open
WM135	50.28	1.60	17.66	Open
WM136	50.28	1.60	17.66	Open
WM137	50.28	1.60	17.66	Open
WM138	50.11	2.84	85.03	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-19.77	0.63	3.14	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	31.20	0.99	7.30	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-19.81	0.63	3.15	Open
1	19.81	0.00	-147.52	Open Pump
2	31.20	0.00	-147.59	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.27	51.90	0.00
TEE-BEND24	0.00	147.27	51.90	0.00
TEE-BEND23	0.00	147.27	51.83	0.00
TEE-BEND43	0.00	147.48	52.01	0.00
TEE-BEND44	0.00	147.47	51.93	0.00
CHAMBER2	0.00	147.49	51.93	0.00
TEE-BEND18	0.00	147.33	51.65	0.00
TEE-BEND46	0.00	147.30	51.50	0.00
TEE-BEND53	0.00	147.27	51.40	0.00
TEE-BEND47	0.00	147.29	51.42	0.00
TEE-BEND22	0.00	147.40	51.52	0.00
CRU-1	0.23	147.27	51.34	0.00
TEE-BEND52	0.00	147.27	51.32	0.00
HYD3	0.00	147.30	51.33	0.00
TEE-BEND45	0.00	147.37	51.39	0.00
TEE-BEND16	0.00	147.33	51.33	0.00
HYD2	0.00	147.14	51.12	0.00
HYD7	0.00	147.32	51.29	0.00
TEE-BEND51	0.00	147.27	51.24	0.00
TEE-BEND34	0.00	147.33	51.27	0.00
TEE-BEND36	0.00	147.31	51.25	0.00
TEE-BEND55	0.00	147.27	51.20	0.00
TEE-BEND35	0.00	147.32	51.25	0.00
HYD1	0.00	147.15	51.08	0.00

HYD6	0.00	147.35	51	0.00
TEE-BEND37	0.00	147.31	51.20	0.00
TEE-BEND50	0.00	147.27	51.15	0.00
TEE-BEND33	0.00	147.35	51.23	0.00
TEE-BEND17	0.00	147.33	51.17	0.00
TEE-BEND21	0.00	147.47	51.31	0.00
TEE-BEND49	0.00	147.27	51.11	0.00
TEE-BEND48	0.00	147.27	51.10	0.00
TEE-BEND12	0.00	147.33	51.14	0.00
TEE-BEND40	0.00	147.52	51.33	0.00
TEE-BEND20	0.00	147.47	51.27	0.00
TEE-BEND38	0.00	147.29	51.09	0.00
TEE-BEND57	0.00	147.02	50.81	0.00
TEE-BEND56	0.00	147.14	50.93	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.15	50.92	0.00	
TEE-BEND32	0.00	146.46	50.22	0.00	
TEE-BEND31	0.00	146.89	50.62	0.00	
TEE-BEND30	0.00	146.38	50.11	0.00	
HYD5	0.00	147.40	51.10	0.00	
CRU-8	0.04	147.33	50.99	0.00	
TEE-BEND28	0.00	145.82	49.47	0.00	
CRU-10	0.04	147.47	51.12	0.00	
TEE-BEND39	0.00	147.47	51.10	0.00	
TEE-BEND26	0.00	145.82	49.45	0.00	
TEE-BEND15	0.00	147.33	50.95	0.00	
TEE-BEND29	0.00	146.27	49.86	0.00	
TEE-BEND13	0.00	147.33	50.92	0.00	
TEE-BEND59	0.00	147.29	50.88	0.00	
TEE-BEND27	0.00	145.82	49.38	0.00	
TEE-BEND41	0.00	147.51	51.06	0.00	
TEE-BEND42	0.00	147.50	51.05	0.00	
CRU-6	0.11	147.47	50.98	0.00	
CRU-9	0.07	147.33	50.84	0.00	
CRU-7	0.08	147.33	50.84	0.00	
CRU-4	50.11	145.27	48.78	0.00	
CRU-3	0.17	145.82	49.32	0.00	
TEE-BEND6	0.00	147.47	50.82	0.00	
CRU-5	0.02	146.46	49.72	0.00	
TEE-BEND4	0.00	147.47	50.72	0.00	
TEE-BEND3	0.00	147.59	50.84	0.00	
TEE-BEND2	0.00	147.47	50.70	0.00	
TEE-BEND1	0.00	147.47	50.67	0.00	
CHAMBER1	0.00	147.49	50.68	0.00	
R1	-19.81	0.00	0.00	0.00	Reservoir

R2	-31.20	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	31.20	0.99	7.30	Open
WM100	31.09	0.99	7.25	Open
WM101	36.54	1.16	9.78	Open
WM102	36.54	1.16	9.78	Open
WM103	-13.76	0.44	1.60	Open
WM104	-13.76	0.44	1.60	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-14.13	0.45	1.68	Open
WM113	-14.13	0.45	1.68	Open
WM114	-14.13	0.45	1.68	Open
WM115	-19.77	0.63	3.13	Open
WM116	-19.81	0.63	3.14	Open
WM117	-19.81	0.63	3.15	Open
WM118	-19.81	0.63	3.15	Open
WM119	-19.81	0.63	3.15	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-5.45	0.17	0.29	Open
WM126	-5.45	0.17	0.29	Open
WM127	-5.45	0.17	0.29	Open
WM128	-5.45	0.17	0.29	Open
WM129	-5.45	0.17	0.29	Open
WM130	-5.64	0.18	0.31	Open
WM131	-5.64	0.18	0.31	Open
WM132	-0.02	0.00	0.00	Open
WM133	50.30	1.60	17.67	Open
WM134	50.30	1.60	17.68	Open
WM135	50.28	1.60	17.66	Open

WM136	50.28	1.60	17	Open
WM137	50.28	1.60	17.66	Open
WM138	50.11	2.84	85.03	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.01	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-19.77	0.63	3.14	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	31.20	0.99	7.30	Open
WM165	-19.81	0.63	3.15	Open
1	19.81	0.00	-147.52	Open Pump
2	31.20	0.00	-147.59	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.27	51.90	0.00
TEE-BEND24	0.00	147.27	51.90	0.00
TEE-BEND23	0.00	147.27	51.83	0.00
TEE-BEND43	0.00	147.48	52.01	0.00
TEE-BEND44	0.00	147.47	51.93	0.00
CHAMBER2	0.00	147.49	51.93	0.00

TEE-BEND18	0.00	147.33	51	0.00
TEE-BEND46	0.00	147.30	51.50	0.00
TEE-BEND53	0.00	147.27	51.40	0.00
TEE-BEND47	0.00	147.29	51.42	0.00
TEE-BEND22	0.00	147.40	51.52	0.00
CRU-1	0.23	147.27	51.34	0.00
TEE-BEND52	0.00	147.27	51.32	0.00
HYD3	0.00	147.30	51.33	0.00
TEE-BEND45	0.00	147.37	51.39	0.00
TEE-BEND16	0.00	147.33	51.33	0.00
HYD2	0.00	147.14	51.12	0.00
HYD7	0.00	147.32	51.29	0.00
TEE-BEND51	0.00	147.27	51.24	0.00
TEE-BEND34	0.00	147.33	51.27	0.00
TEE-BEND36	0.00	147.31	51.25	0.00
TEE-BEND55	0.00	147.27	51.20	0.00
TEE-BEND35	0.00	147.32	51.25	0.00
HYD1	0.00	147.15	51.08	0.00
HYD6	0.00	147.35	51.26	0.00
TEE-BEND37	0.00	147.31	51.20	0.00
TEE-BEND50	0.00	147.27	51.15	0.00
TEE-BEND33	0.00	147.35	51.23	0.00
TEE-BEND17	0.00	147.33	51.17	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.47	51.31	0.00
TEE-BEND49	0.00	147.27	51.11	0.00
TEE-BEND48	0.00	147.27	51.10	0.00
TEE-BEND12	0.00	147.33	51.14	0.00
TEE-BEND40	0.00	147.52	51.33	0.00
TEE-BEND20	0.00	147.47	51.27	0.00
TEE-BEND38	0.00	147.29	51.09	0.00
TEE-BEND57	0.00	147.02	50.81	0.00
TEE-BEND56	0.00	147.14	50.93	0.00
TEE-BEND58	0.00	147.15	50.92	0.00
TEE-BEND32	0.00	146.46	50.22	0.00
TEE-BEND31	0.00	146.89	50.62	0.00
TEE-BEND30	0.00	146.38	50.11	0.00
HYD5	0.00	147.40	51.10	0.00
CRU-8	0.04	147.33	50.99	0.00
TEE-BEND28	0.00	145.82	49.47	0.00
CRU-10	0.04	147.47	51.12	0.00
TEE-BEND39	0.00	147.47	51.10	0.00
TEE-BEND26	0.00	145.82	49.45	0.00
TEE-BEND15	0.00	147.33	50.95	0.00
TEE-BEND29	0.00	146.27	49.86	0.00

TEE-BEND13	0.00	147.33	50	0.00	
TEE-BEND59	0.00	147.29	50.88	0.00	
TEE-BEND27	0.00	145.82	49.38	0.00	
TEE-BEND41	0.00	147.51	51.06	0.00	
TEE-BEND42	0.00	147.50	51.05	0.00	
CRU-6	0.11	147.47	50.98	0.00	
CRU-9	0.07	147.33	50.84	0.00	
CRU-7	0.08	147.33	50.84	0.00	
CRU-4	50.11	145.27	48.78	0.00	
CRU-3	0.17	145.82	49.32	0.00	
TEE-BEND6	0.00	147.47	50.82	0.00	
CRU-5	0.02	146.46	49.72	0.00	
TEE-BEND4	0.00	147.47	50.72	0.00	
TEE-BEND3	0.00	147.59	50.84	0.00	
TEE-BEND2	0.00	147.47	50.70	0.00	
TEE-BEND1	0.00	147.47	50.67	0.00	
CHAMBER1	0.00	147.49	50.68	0.00	
R1	-19.81	0.00	0.00	0.00	Reservoir
R2	-31.20	0.00	0.00	0.00	Reservoir

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Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	31.20	0.99	7.30	Open
WM100	31.09	0.99	7.25	Open
WM101	36.54	1.16	9.78	Open
WM102	36.54	1.16	9.78	Open
WM103	-13.76	0.44	1.60	Open
WM104	-13.76	0.44	1.60	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-14.13	0.45	1.68	Open
WM113	-14.13	0.45	1.68	Open
WM114	-14.13	0.45	1.68	Open
WM115	-19.77	0.63	3.14	Open
WM116	-19.81	0.63	3.15	Open
WM117	-19.81	0.63	3.15	Open
WM118	-19.81	0.63	3.15	Open
WM119	-19.81	0.63	3.15	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-5.45	0.17	0.29	Open
WM126	-5.45	0.17	0.29	Open
WM127	-5.45	0.17	0.29	Open
WM128	-5.45	0.17	0.29	Open
WM129	-5.45	0.17	0.29	Open
WM130	-5.64	0.18	0.31	Open
WM131	-5.64	0.18	0.31	Open
WM132	-0.02	0.00	0.00	Open
WM133	50.30	1.60	17.68	Open
WM134	50.30	1.60	17.67	Open
WM135	50.28	1.60	17.66	Open
WM136	50.28	1.60	17.66	Open
WM137	50.28	1.60	17.66	Open
WM138	50.11	2.84	85.03	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-19.77	0.63	3.14	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	31.20	0.99	7.30	Open	
WM165	-19.81	0.63	3.15	Open	
1	19.81	0.00	-147.52	Open	Pump

2	31.20	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.27	51.90	0.00
TEE-BEND24	0.00	147.27	51.90	0.00
TEE-BEND23	0.00	147.27	51.83	0.00
TEE-BEND43	0.00	147.48	52.01	0.00
TEE-BEND44	0.00	147.47	51.93	0.00
CHAMBER2	0.00	147.49	51.93	0.00
TEE-BEND18	0.00	147.33	51.65	0.00
TEE-BEND46	0.00	147.30	51.50	0.00
TEE-BEND53	0.00	147.27	51.40	0.00
TEE-BEND47	0.00	147.29	51.42	0.00
TEE-BEND22	0.00	147.40	51.52	0.00
CRU-1	0.23	147.27	51.34	0.00
TEE-BEND52	0.00	147.27	51.32	0.00
HYD3	0.00	147.30	51.33	0.00
TEE-BEND45	0.00	147.37	51.39	0.00
TEE-BEND16	0.00	147.33	51.33	0.00
HYD2	0.00	147.14	51.12	0.00
HYD7	0.00	147.32	51.29	0.00
TEE-BEND51	0.00	147.27	51.24	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.33	51.27	0.00
TEE-BEND36	0.00	147.31	51.25	0.00
TEE-BEND55	0.00	147.27	51.20	0.00
TEE-BEND35	0.00	147.32	51.25	0.00
HYD1	0.00	147.15	51.08	0.00
HYD6	0.00	147.35	51.26	0.00
TEE-BEND37	0.00	147.31	51.20	0.00
TEE-BEND50	0.00	147.27	51.15	0.00
TEE-BEND33	0.00	147.35	51.23	0.00
TEE-BEND17	0.00	147.33	51.17	0.00
TEE-BEND21	0.00	147.47	51.31	0.00
TEE-BEND49	0.00	147.27	51.11	0.00
TEE-BEND48	0.00	147.27	51.10	0.00
TEE-BEND12	0.00	147.33	51.14	0.00
TEE-BEND40	0.00	147.52	51.33	0.00
TEE-BEND20	0.00	147.47	51.27	0.00
TEE-BEND38	0.00	147.29	51.09	0.00
TEE-BEND57	0.00	147.02	50.81	0.00

TEE-BEND56	0.00	147.14	50	0.00
TEE-BEND58	0.00	147.15	50.92	0.00
TEE-BEND32	0.00	146.46	50.22	0.00
TEE-BEND31	0.00	146.89	50.62	0.00
TEE-BEND30	0.00	146.38	50.11	0.00
HYD5	0.00	147.40	51.10	0.00
CRU-8	0.04	147.33	50.99	0.00
TEE-BEND28	0.00	145.82	49.47	0.00
CRU-10	0.04	147.47	51.12	0.00
TEE-BEND39	0.00	147.47	51.10	0.00
TEE-BEND26	0.00	145.82	49.45	0.00
TEE-BEND15	0.00	147.33	50.95	0.00
TEE-BEND29	0.00	146.27	49.86	0.00
TEE-BEND13	0.00	147.33	50.92	0.00
TEE-BEND59	0.00	147.29	50.88	0.00
TEE-BEND27	0.00	145.82	49.38	0.00
TEE-BEND41	0.00	147.51	51.06	0.00
TEE-BEND42	0.00	147.50	51.05	0.00
CRU-6	0.11	147.47	50.98	0.00
CRU-9	0.07	147.33	50.84	0.00
CRU-7	0.08	147.33	50.84	0.00
CRU-4	50.11	145.27	48.78	0.00
CRU-3	0.17	145.82	49.32	0.00
TEE-BEND6	0.00	147.47	50.82	0.00
CRU-5	0.02	146.46	49.72	0.00
TEE-BEND4	0.00	147.47	50.72	0.00
TEE-BEND3	0.00	147.59	50.84	0.00
TEE-BEND2	0.00	147.47	50.70	0.00
TEE-BEND1	0.00	147.47	50.67	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.49	50.68	0.00	
R1	-19.81	0.00	0.00	0.00	Reservoir
R2	-31.20	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	31.20	0.99	7.30	Open
WM100	31.09	0.99	7.25	Open
WM101	36.54	1.16	9.78	Open
WM102	36.54	1.16	9.78	Open
WM103	-13.76	0.44	1.60	Open
WM104	-13.76	0.44	1.60	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-14.13	0.45	1.68	Open
WM113	-14.13	0.45	1.68	Open
WM114	-14.13	0.45	1.68	Open
WM115	-19.77	0.63	3.13	Open
WM116	-19.81	0.63	3.14	Open
WM117	-19.81	0.63	3.15	Open
WM118	-19.81	0.63	3.15	Open
WM119	-19.81	0.63	3.15	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-5.45	0.17	0.29	Open
WM126	-5.45	0.17	0.29	Open
WM127	-5.45	0.17	0.29	Open
WM128	-5.45	0.17	0.29	Open
WM129	-5.45	0.17	0.29	Open
WM130	-5.64	0.18	0.31	Open
WM131	-5.64	0.18	0.31	Open
WM132	-0.02	0.00	0.00	Open
WM133	50.30	1.60	17.67	Open
WM134	50.30	1.60	17.68	Open
WM135	50.28	1.60	17.66	Open
WM136	50.28	1.60	17.66	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM137	50.28	1.60	17.66	Open
WM138	50.11	2.84	85.03	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-19.77	0.63	3.14	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.01	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	31.20	0.99	7.30	Open
WM165	-19.81	0.63	3.15	Open
1	19.81	0.00	-147.52	Open Pump
2	31.20	0.00	-147.59	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.27	51.90	0.00
TEE-BEND24	0.00	147.27	51.90	0.00
TEE-BEND23	0.00	147.27	51.83	0.00
TEE-BEND43	0.00	147.48	52.01	0.00
TEE-BEND44	0.00	147.47	51.93	0.00
CHAMBER2	0.00	147.49	51.93	0.00
TEE-BEND18	0.00	147.33	51.65	0.00
TEE-BEND46	0.00	147.30	51.50	0.00
TEE-BEND53	0.00	147.27	51.40	0.00
TEE-BEND47	0.00	147.29	51.42	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.40	51.52	0.00
CRU-1	0.23	147.27	51.34	0.00
TEE-BEND52	0.00	147.27	51.32	0.00
HYD3	0.00	147.30	51.33	0.00
TEE-BEND45	0.00	147.37	51.39	0.00
TEE-BEND16	0.00	147.33	51.33	0.00
HYD2	0.00	147.14	51.12	0.00
HYD7	0.00	147.32	51.29	0.00
TEE-BEND51	0.00	147.27	51.24	0.00

TEE-BEND34	0.00	147.33	51	0.00
TEE-BEND36	0.00	147.31	51.25	0.00
TEE-BEND55	0.00	147.27	51.20	0.00
TEE-BEND35	0.00	147.32	51.25	0.00
HYD1	0.00	147.15	51.08	0.00
HYD6	0.00	147.35	51.26	0.00
TEE-BEND37	0.00	147.31	51.20	0.00
TEE-BEND50	0.00	147.27	51.15	0.00
TEE-BEND33	0.00	147.35	51.23	0.00
TEE-BEND17	0.00	147.33	51.17	0.00
TEE-BEND21	0.00	147.47	51.31	0.00
TEE-BEND49	0.00	147.27	51.11	0.00
TEE-BEND48	0.00	147.27	51.10	0.00
TEE-BEND12	0.00	147.33	51.14	0.00
TEE-BEND40	0.00	147.52	51.33	0.00
TEE-BEND20	0.00	147.47	51.27	0.00
TEE-BEND38	0.00	147.29	51.09	0.00
TEE-BEND57	0.00	147.02	50.81	0.00
TEE-BEND56	0.00	147.14	50.93	0.00
TEE-BEND58	0.00	147.15	50.92	0.00
TEE-BEND32	0.00	146.46	50.22	0.00
TEE-BEND31	0.00	146.89	50.62	0.00
TEE-BEND30	0.00	146.38	50.11	0.00
HYD5	0.00	147.40	51.10	0.00
CRU-8	0.04	147.33	50.99	0.00
TEE-BEND28	0.00	145.82	49.47	0.00
CRU-10	0.04	147.47	51.12	0.00
TEE-BEND39	0.00	147.47	51.10	0.00
TEE-BEND26	0.00	145.82	49.45	0.00
TEE-BEND15	0.00	147.33	50.95	0.00
TEE-BEND29	0.00	146.27	49.86	0.00
TEE-BEND13	0.00	147.33	50.92	0.00
TEE-BEND59	0.00	147.29	50.88	0.00
TEE-BEND27	0.00	145.82	49.38	0.00
TEE-BEND41	0.00	147.51	51.06	0.00
TEE-BEND42	0.00	147.50	51.05	0.00
CRU-6	0.11	147.47	50.98	0.00
CRU-9	0.07	147.33	50.84	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	147.33	50.84	0.00
CRU-4	50.11	145.27	48.78	0.00
CRU-3	0.17	145.82	49.32	0.00
TEE-BEND6	0.00	147.47	50.82	0.00
CRU-5	0.02	146.46	49.72	0.00
TEE-BEND4	0.00	147.47	50.72	0.00

TEE-BEND3	0.00	147.59	50	0.00	
TEE-BEND2	0.00	147.47	50.70	0.00	
TEE-BEND1	0.00	147.47	50.67	0.00	
CHAMBER1	0.00	147.49	50.68	0.00	
R1	-19.81	0.00	0.00	0.00	Reservoir
R2	-31.20	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

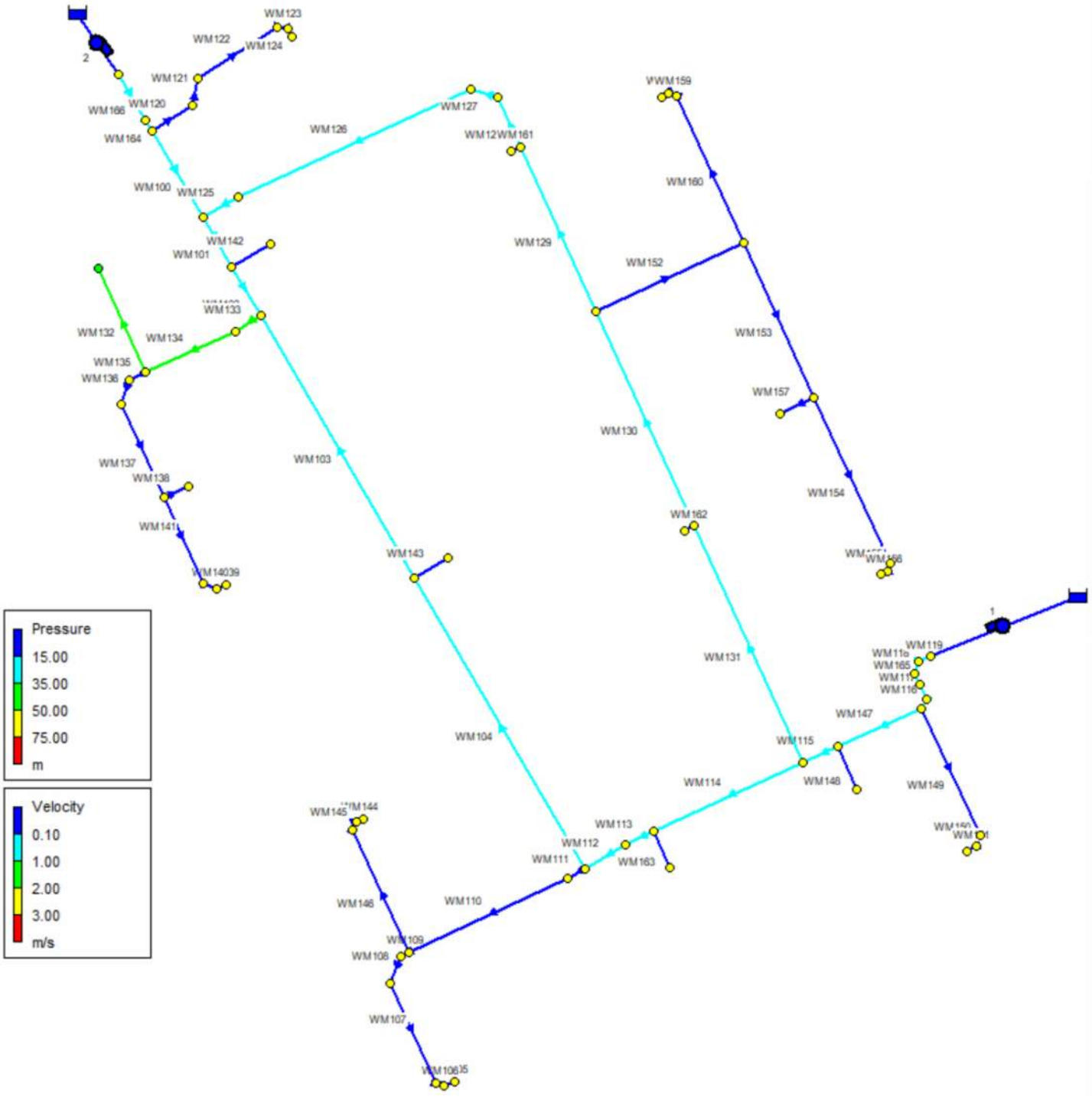
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	31.20	0.99	7.30	Open
WM100	31.09	0.99	7.25	Open
WM101	36.54	1.16	9.78	Open
WM102	36.54	1.16	9.78	Open
WM103	-13.76	0.44	1.60	Open
WM104	-13.76	0.44	1.60	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-14.13	0.45	1.68	Open
WM113	-14.13	0.45	1.68	Open
WM114	-14.13	0.45	1.68	Open
WM115	-19.77	0.63	3.14	Open
WM116	-19.81	0.63	3.15	Open
WM117	-19.81	0.63	3.15	Open
WM118	-19.81	0.63	3.14	Open
WM119	-19.81	0.63	3.15	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-5.45	0.17	0.29	Open
WM126	-5.45	0.17	0.29	Open
WM127	-5.45	0.17	0.29	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	-5.45	0.17	0.29	Open
WM129	-5.45	0.17	0.29	Open
WM130	-5.64	0.18	0.31	Open

WM131	-5.64	0.18	0	Open	
WM132	-0.02	0.00	0.00	Open	
WM133	50.30	1.60	17.67	Open	
WM134	50.30	1.60	17.68	Open	
WM135	50.28	1.60	17.66	Open	
WM136	50.28	1.60	17.66	Open	
WM137	50.28	1.60	17.66	Open	
WM138	50.11	2.84	85.03	Open	
WM139	-0.17	0.01	0.00	Open	
WM140	-0.17	0.01	0.00	Open	
WM141	-0.17	0.01	0.00	Open	
WM142	0.00	0.00	0.00	Open	
WM143	0.00	0.00	0.00	Open	
WM144	-0.14	0.00	0.01	Open	
WM145	-0.14	0.00	0.00	Open	
WM146	-0.14	0.00	0.00	Open	
WM147	-19.77	0.63	3.14	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	31.20	0.99	7.30	Open	
WM165	-19.81	0.63	3.15	Open	
1	19.81	0.00	-147.52	Open	Pump
2	31.20	0.00	-147.59	Open	Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR5



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU5).net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	25.10	25.10	0.00
2	100.00	75.00	0.54	41.20	41.20	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.59	52.22	0.00
TEE-BEND24	0.00	147.59	52.22	0.00
TEE-BEND23	0.00	147.59	52.14	0.00
TEE-BEND43	0.00	147.68	52.22	0.00
TEE-BEND44	0.00	147.68	52.14	0.00
CHAMBER2	0.00	147.69	52.12	0.00
TEE-BEND18	0.00	147.62	51.94	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.59	51.72	0.00
TEE-BEND47	0.00	147.60	51.72	0.00
TEE-BEND22	0.00	147.65	51.77	0.00
CRU-1	0.23	147.59	51.66	0.00
TEE-BEND52	0.00	147.59	51.64	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.63	51.66	0.00
TEE-BEND16	0.00	147.62	51.62	0.00
HYD2	0.00	147.53	51.51	0.00
HYD7	0.00	147.61	51.58	0.00
TEE-BEND51	0.00	147.59	51.55	0.00
TEE-BEND34	0.00	147.62	51.56	0.00
TEE-BEND36	0.00	147.61	51.55	0.00
TEE-BEND55	0.00	147.59	51.52	0.00
TEE-BEND35	0.00	147.61	51.54	0.00
HYD1	0.00	147.54	51.46	0.00
HYD6	0.00	147.63	51.53	0.00
TEE-BEND37	0.00	147.61	51.50	0.00
TEE-BEND50	0.00	147.59	51.47	0.00
TEE-BEND33	0.00	147.63	51.51	0.00
TEE-BEND17	0.00	147.62	51.46	0.00
TEE-BEND21	0.00	147.68	51.52	0.00
TEE-BEND49	0.00	147.59	51.43	0.00
TEE-BEND48	0.00	147.59	51.42	0.00
TEE-BEND12	0.00	147.62	51.43	0.00
TEE-BEND40	0.00	147.70	51.51	0.00
TEE-BEND20	0.00	147.68	51.48	0.00
TEE-BEND38	0.00	147.60	51.40	0.00
TEE-BEND57	0.00	147.47	51.27	0.00
TEE-BEND56	0.00	147.53	51.32	0.00
TEE-BEND58	0.00	147.54	51.31	0.00
TEE-BEND32	0.00	147.20	50.97	0.00
TEE-BEND31	0.00	147.41	51.14	0.00
TEE-BEND30	0.00	147.20	50.93	0.00

HYD5	0.00	147.65	51	0.00
CRU-8	0.04	147.62	51.27	0.00
TEE-BEND28	0.00	147.20	50.85	0.00
CRU-10	0.04	147.68	51.33	0.00
TEE-BEND39	0.00	147.69	51.32	0.00

Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.20	50.83	0.00	
TEE-BEND15	0.00	147.62	51.23	0.00	
TEE-BEND29	0.00	147.20	50.80	0.00	
TEE-BEND13	0.00	147.62	51.21	0.00	
TEE-BEND59	0.00	147.60	51.19	0.00	
TEE-BEND27	0.00	147.20	50.77	0.00	
TEE-BEND41	0.00	147.70	51.25	0.00	
TEE-BEND42	0.00	147.69	51.24	0.00	
CRU-6	0.11	147.69	51.20	0.00	
CRU-9	0.07	147.62	51.12	0.00	
CRU-7	0.08	147.62	51.12	0.00	
CRU-4	0.11	147.20	50.71	0.00	
CRU-3	0.17	147.20	50.71	0.00	
TEE-BEND6	0.00	147.69	51.04	0.00	
CRU-5	33.35	146.08	49.35	0.00	
TEE-BEND4	0.00	147.69	50.94	0.00	
TEE-BEND3	0.00	147.75	51.00	0.00	
TEE-BEND2	0.00	147.69	50.92	0.00	
TEE-BEND1	0.00	147.69	50.89	0.00	
CHAMBER1	0.00	147.70	50.89	0.00	
R1	-13.00	0.00	0.00	0.00	Reservoir
R2	-21.34	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	21.34	0.68	3.61	Open
WM100	21.23	0.68	3.58	Open
WM101	24.57	0.78	4.69	Open
WM102	24.57	0.78	4.69	Open
WM103	-9.06	0.29	0.74	Open
WM104	-9.06	0.29	0.74	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-9.43	0.30	0.80	Open
WM113	-9.43	0.30	0.80	Open
WM114	-9.43	0.30	0.80	Open
WM115	-12.96	0.41	1.43	Open
WM116	-13.00	0.41	1.44	Open
WM117	-13.00	0.41	1.44	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-13.00	0.41	1.44	Open
WM119	-13.00	0.41	1.45	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-3.34	0.11	0.12	Open
WM126	-3.34	0.11	0.12	Open
WM127	-3.34	0.11	0.12	Open
WM128	-3.34	0.11	0.12	Open
WM129	-3.34	0.11	0.12	Open
WM130	-3.53	0.11	0.13	Open
WM131	-3.53	0.11	0.13	Open
WM132	-33.35	1.89	40.00	Open
WM133	33.63	1.07	8.39	Open
WM134	33.63	1.07	8.39	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-12.96	0.41	1.44	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	21.34	0.68	3.61	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-13.00	0.41	1.44	Open
1	13.00	0.00	-147.70	Open Pump
2	21.34	0.00	-147.75	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.59	52.22	0.00
TEE-BEND24	0.00	147.59	52.22	0.00
TEE-BEND23	0.00	147.59	52.14	0.00
TEE-BEND43	0.00	147.68	52.22	0.00
TEE-BEND44	0.00	147.68	52.14	0.00
CHAMBER2	0.00	147.69	52.12	0.00
TEE-BEND18	0.00	147.62	51.94	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.59	51.72	0.00
TEE-BEND47	0.00	147.60	51.72	0.00
TEE-BEND22	0.00	147.65	51.77	0.00
CRU-1	0.23	147.59	51.66	0.00
TEE-BEND52	0.00	147.59	51.64	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.63	51.66	0.00
TEE-BEND16	0.00	147.62	51.62	0.00
HYD2	0.00	147.53	51.51	0.00
HYD7	0.00	147.61	51.58	0.00
TEE-BEND51	0.00	147.59	51.55	0.00
TEE-BEND34	0.00	147.62	51.56	0.00
TEE-BEND36	0.00	147.61	51.55	0.00
TEE-BEND55	0.00	147.59	51.52	0.00
TEE-BEND35	0.00	147.61	51.54	0.00
HYD1	0.00	147.54	51.46	0.00

HYD6	0.00	147.63	51	0.00
TEE-BEND37	0.00	147.61	51.50	0.00
TEE-BEND50	0.00	147.59	51.47	0.00
TEE-BEND33	0.00	147.63	51.51	0.00
TEE-BEND17	0.00	147.62	51.46	0.00
TEE-BEND21	0.00	147.68	51.52	0.00
TEE-BEND49	0.00	147.59	51.43	0.00
TEE-BEND48	0.00	147.59	51.42	0.00
TEE-BEND12	0.00	147.62	51.43	0.00
TEE-BEND40	0.00	147.70	51.51	0.00
TEE-BEND20	0.00	147.68	51.48	0.00
TEE-BEND38	0.00	147.60	51.40	0.00
TEE-BEND57	0.00	147.47	51.27	0.00
TEE-BEND56	0.00	147.53	51.32	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.54	51.31	0.00	
TEE-BEND32	0.00	147.20	50.97	0.00	
TEE-BEND31	0.00	147.41	51.14	0.00	
TEE-BEND30	0.00	147.20	50.93	0.00	
HYD5	0.00	147.65	51.35	0.00	
CRU-8	0.04	147.62	51.27	0.00	
TEE-BEND28	0.00	147.20	50.85	0.00	
CRU-10	0.04	147.68	51.33	0.00	
TEE-BEND39	0.00	147.69	51.32	0.00	
TEE-BEND26	0.00	147.20	50.83	0.00	
TEE-BEND15	0.00	147.62	51.23	0.00	
TEE-BEND29	0.00	147.20	50.80	0.00	
TEE-BEND13	0.00	147.62	51.21	0.00	
TEE-BEND59	0.00	147.60	51.19	0.00	
TEE-BEND27	0.00	147.20	50.77	0.00	
TEE-BEND41	0.00	147.70	51.25	0.00	
TEE-BEND42	0.00	147.69	51.24	0.00	
CRU-6	0.11	147.69	51.20	0.00	
CRU-9	0.07	147.62	51.12	0.00	
CRU-7	0.08	147.62	51.12	0.00	
CRU-4	0.11	147.20	50.71	0.00	
CRU-3	0.17	147.20	50.71	0.00	
TEE-BEND6	0.00	147.69	51.04	0.00	
CRU-5	33.35	146.08	49.35	0.00	
TEE-BEND4	0.00	147.69	50.94	0.00	
TEE-BEND3	0.00	147.75	51.00	0.00	
TEE-BEND2	0.00	147.69	50.92	0.00	
TEE-BEND1	0.00	147.69	50.89	0.00	
CHAMBER1	0.00	147.70	50.89	0.00	
R1	-13.00	0.00	0.00	0.00	Reservoir

R2	-21.34	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	21.34	0.68	3.61	Open
WM100	21.23	0.68	3.58	Open
WM101	24.57	0.78	4.69	Open
WM102	24.57	0.78	4.69	Open
WM103	-9.06	0.29	0.74	Open
WM104	-9.06	0.29	0.74	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-9.43	0.30	0.80	Open
WM113	-9.43	0.30	0.80	Open
WM114	-9.43	0.30	0.80	Open
WM115	-12.96	0.41	1.43	Open
WM116	-13.00	0.41	1.44	Open
WM117	-13.00	0.41	1.44	Open
WM118	-13.00	0.41	1.45	Open
WM119	-13.00	0.41	1.44	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-3.34	0.11	0.12	Open
WM126	-3.34	0.11	0.12	Open
WM127	-3.34	0.11	0.12	Open
WM128	-3.34	0.11	0.12	Open
WM129	-3.34	0.11	0.12	Open
WM130	-3.53	0.11	0.13	Open
WM131	-3.53	0.11	0.13	Open
WM132	-33.35	1.89	40.00	Open
WM133	33.63	1.07	8.39	Open
WM134	33.63	1.07	8.39	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-12.96	0.41	1.44	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	21.34	0.68	3.61	Open
WM165	-13.00	0.41	1.44	Open
1	13.00	0.00	-147.70	Open Pump
2	21.34	0.00	-147.75	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.59	52.22	0.00
TEE-BEND24	0.00	147.59	52.22	0.00
TEE-BEND23	0.00	147.59	52.14	0.00
TEE-BEND43	0.00	147.68	52.22	0.00
TEE-BEND44	0.00	147.68	52.14	0.00
CHAMBER2	0.00	147.69	52.12	0.00

TEE-BEND18	0.00	147.62	51	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.59	51.72	0.00
TEE-BEND47	0.00	147.60	51.72	0.00
TEE-BEND22	0.00	147.65	51.77	0.00
CRU-1	0.23	147.59	51.66	0.00
TEE-BEND52	0.00	147.59	51.64	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.63	51.66	0.00
TEE-BEND16	0.00	147.62	51.62	0.00
HYD2	0.00	147.53	51.51	0.00
HYD7	0.00	147.61	51.58	0.00
TEE-BEND51	0.00	147.59	51.55	0.00
TEE-BEND34	0.00	147.62	51.56	0.00
TEE-BEND36	0.00	147.61	51.55	0.00
TEE-BEND55	0.00	147.59	51.52	0.00
TEE-BEND35	0.00	147.61	51.54	0.00
HYD1	0.00	147.54	51.46	0.00
HYD6	0.00	147.63	51.53	0.00
TEE-BEND37	0.00	147.61	51.50	0.00
TEE-BEND50	0.00	147.59	51.47	0.00
TEE-BEND33	0.00	147.63	51.51	0.00
TEE-BEND17	0.00	147.62	51.46	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.68	51.52	0.00
TEE-BEND49	0.00	147.59	51.43	0.00
TEE-BEND48	0.00	147.59	51.42	0.00
TEE-BEND12	0.00	147.62	51.43	0.00
TEE-BEND40	0.00	147.70	51.51	0.00
TEE-BEND20	0.00	147.68	51.48	0.00
TEE-BEND38	0.00	147.60	51.40	0.00
TEE-BEND57	0.00	147.47	51.27	0.00
TEE-BEND56	0.00	147.53	51.32	0.00
TEE-BEND58	0.00	147.54	51.31	0.00
TEE-BEND32	0.00	147.20	50.97	0.00
TEE-BEND31	0.00	147.41	51.14	0.00
TEE-BEND30	0.00	147.20	50.93	0.00
HYD5	0.00	147.65	51.35	0.00
CRU-8	0.04	147.62	51.27	0.00
TEE-BEND28	0.00	147.20	50.85	0.00
CRU-10	0.04	147.68	51.33	0.00
TEE-BEND39	0.00	147.69	51.32	0.00
TEE-BEND26	0.00	147.20	50.83	0.00
TEE-BEND15	0.00	147.62	51.23	0.00
TEE-BEND29	0.00	147.20	50.80	0.00

TEE-BEND13	0.00	147.62	51	0.00	
TEE-BEND59	0.00	147.60	51.19	0.00	
TEE-BEND27	0.00	147.20	50.77	0.00	
TEE-BEND41	0.00	147.70	51.25	0.00	
TEE-BEND42	0.00	147.69	51.24	0.00	
CRU-6	0.11	147.69	51.20	0.00	
CRU-9	0.07	147.62	51.12	0.00	
CRU-7	0.08	147.62	51.12	0.00	
CRU-4	0.11	147.20	50.71	0.00	
CRU-3	0.17	147.20	50.71	0.00	
TEE-BEND6	0.00	147.69	51.04	0.00	
CRU-5	33.35	146.08	49.35	0.00	
TEE-BEND4	0.00	147.69	50.94	0.00	
TEE-BEND3	0.00	147.75	51.00	0.00	
TEE-BEND2	0.00	147.69	50.92	0.00	
TEE-BEND1	0.00	147.69	50.89	0.00	
CHAMBER1	0.00	147.70	50.89	0.00	
R1	-13.00	0.00	0.00	0.00	Reservoir
R2	-21.34	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	21.34	0.68	3.61	Open
WM100	21.23	0.68	3.58	Open
WM101	24.57	0.78	4.69	Open
WM102	24.57	0.78	4.69	Open
WM103	-9.06	0.29	0.74	Open
WM104	-9.06	0.29	0.74	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-9.43	0.30	0.80	Open
WM113	-9.43	0.30	0.80	Open
WM114	-9.43	0.30	0.80	Open
WM115	-12.96	0.41	1.43	Open
WM116	-13.00	0.41	1.44	Open
WM117	-13.00	0.41	1.44	Open
WM118	-13.00	0.41	1.44	Open
WM119	-13.00	0.41	1.45	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-3.34	0.11	0.12	Open
WM126	-3.34	0.11	0.12	Open
WM127	-3.34	0.11	0.12	Open
WM128	-3.34	0.11	0.12	Open
WM129	-3.34	0.11	0.12	Open
WM130	-3.53	0.11	0.13	Open
WM131	-3.53	0.11	0.13	Open
WM132	-33.35	1.89	40.00	Open
WM133	33.63	1.07	8.39	Open
WM134	33.63	1.07	8.39	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-12.96	0.41	1.44	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	21.34	0.68	3.61	Open	
WM165	-13.00	0.41	1.44	Open	
1	13.00	0.00	-147.70	Open	Pump

2	21.34	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.59	52.22	0.00
TEE-BEND24	0.00	147.59	52.22	0.00
TEE-BEND23	0.00	147.59	52.14	0.00
TEE-BEND43	0.00	147.68	52.22	0.00
TEE-BEND44	0.00	147.68	52.14	0.00
CHAMBER2	0.00	147.69	52.12	0.00
TEE-BEND18	0.00	147.62	51.94	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.59	51.72	0.00
TEE-BEND47	0.00	147.60	51.72	0.00
TEE-BEND22	0.00	147.65	51.77	0.00
CRU-1	0.23	147.59	51.66	0.00
TEE-BEND52	0.00	147.59	51.64	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.63	51.66	0.00
TEE-BEND16	0.00	147.62	51.62	0.00
HYD2	0.00	147.53	51.51	0.00
HYD7	0.00	147.61	51.58	0.00
TEE-BEND51	0.00	147.59	51.55	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.62	51.56	0.00
TEE-BEND36	0.00	147.61	51.55	0.00
TEE-BEND55	0.00	147.59	51.52	0.00
TEE-BEND35	0.00	147.61	51.54	0.00
HYD1	0.00	147.54	51.46	0.00
HYD6	0.00	147.63	51.53	0.00
TEE-BEND37	0.00	147.61	51.50	0.00
TEE-BEND50	0.00	147.59	51.47	0.00
TEE-BEND33	0.00	147.63	51.51	0.00
TEE-BEND17	0.00	147.62	51.46	0.00
TEE-BEND21	0.00	147.68	51.52	0.00
TEE-BEND49	0.00	147.59	51.43	0.00
TEE-BEND48	0.00	147.59	51.42	0.00
TEE-BEND12	0.00	147.62	51.43	0.00
TEE-BEND40	0.00	147.70	51.51	0.00
TEE-BEND20	0.00	147.68	51.48	0.00
TEE-BEND38	0.00	147.60	51.40	0.00
TEE-BEND57	0.00	147.47	51.27	0.00

TEE-BEND56	0.00	147.53	51	0.00
TEE-BEND58	0.00	147.54	51.31	0.00
TEE-BEND32	0.00	147.20	50.97	0.00
TEE-BEND31	0.00	147.41	51.14	0.00
TEE-BEND30	0.00	147.20	50.93	0.00
HYD5	0.00	147.65	51.35	0.00
CRU-8	0.04	147.62	51.27	0.00
TEE-BEND28	0.00	147.20	50.85	0.00
CRU-10	0.04	147.68	51.33	0.00
TEE-BEND39	0.00	147.69	51.32	0.00
TEE-BEND26	0.00	147.20	50.83	0.00
TEE-BEND15	0.00	147.62	51.23	0.00
TEE-BEND29	0.00	147.20	50.80	0.00
TEE-BEND13	0.00	147.62	51.21	0.00
TEE-BEND59	0.00	147.60	51.19	0.00
TEE-BEND27	0.00	147.20	50.77	0.00
TEE-BEND41	0.00	147.70	51.25	0.00
TEE-BEND42	0.00	147.69	51.24	0.00
CRU-6	0.11	147.69	51.20	0.00
CRU-9	0.07	147.62	51.12	0.00
CRU-7	0.08	147.62	51.12	0.00
CRU-4	0.11	147.20	50.71	0.00
CRU-3	0.17	147.20	50.71	0.00
TEE-BEND6	0.00	147.69	51.04	0.00
CRU-5	33.35	146.08	49.35	0.00
TEE-BEND4	0.00	147.69	50.94	0.00
TEE-BEND3	0.00	147.75	51.00	0.00
TEE-BEND2	0.00	147.69	50.92	0.00
TEE-BEND1	0.00	147.69	50.89	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.70	50.89	0.00	
R1	-13.00	0.00	0.00	0.00	Reservoir
R2	-21.34	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	21.34	0.68	3.61	Open
WM100	21.23	0.68	3.58	Open
WM101	24.57	0.78	4.69	Open
WM102	24.57	0.78	4.69	Open
WM103	-9.06	0.29	0.74	Open
WM104	-9.06	0.29	0.74	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-9.43	0.30	0.80	Open
WM113	-9.43	0.30	0.80	Open
WM114	-9.43	0.30	0.80	Open
WM115	-12.96	0.41	1.43	Open
WM116	-13.00	0.41	1.44	Open
WM117	-13.00	0.41	1.44	Open
WM118	-13.00	0.41	1.44	Open
WM119	-13.00	0.41	1.45	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-3.34	0.11	0.12	Open
WM126	-3.34	0.11	0.12	Open
WM127	-3.34	0.11	0.12	Open
WM128	-3.34	0.11	0.12	Open
WM129	-3.34	0.11	0.12	Open
WM130	-3.53	0.11	0.13	Open
WM131	-3.53	0.11	0.13	Open
WM132	-33.35	1.89	40.00	Open
WM133	33.63	1.07	8.39	Open
WM134	33.63	1.07	8.39	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-12.96	0.41	1.44	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	21.34	0.68	3.61	Open
WM165	-13.00	0.41	1.44	Open
1	13.00	0.00	-147.70	Open Pump
2	21.34	0.00	-147.75	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.59	52.22	0.00
TEE-BEND24	0.00	147.59	52.22	0.00
TEE-BEND23	0.00	147.59	52.14	0.00
TEE-BEND43	0.00	147.68	52.22	0.00
TEE-BEND44	0.00	147.68	52.14	0.00
CHAMBER2	0.00	147.69	52.12	0.00
TEE-BEND18	0.00	147.62	51.94	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.59	51.72	0.00
TEE-BEND47	0.00	147.60	51.72	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.65	51.77	0.00
CRU-1	0.23	147.59	51.66	0.00
TEE-BEND52	0.00	147.59	51.64	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.63	51.66	0.00
TEE-BEND16	0.00	147.62	51.62	0.00
HYD2	0.00	147.53	51.51	0.00
HYD7	0.00	147.61	51.58	0.00
TEE-BEND51	0.00	147.59	51.55	0.00

TEE-BEND34	0.00	147.62	51	0.00
TEE-BEND36	0.00	147.61	51.55	0.00
TEE-BEND55	0.00	147.59	51.52	0.00
TEE-BEND35	0.00	147.61	51.54	0.00
HYD1	0.00	147.54	51.46	0.00
HYD6	0.00	147.63	51.53	0.00
TEE-BEND37	0.00	147.61	51.50	0.00
TEE-BEND50	0.00	147.59	51.47	0.00
TEE-BEND33	0.00	147.63	51.51	0.00
TEE-BEND17	0.00	147.62	51.46	0.00
TEE-BEND21	0.00	147.68	51.52	0.00
TEE-BEND49	0.00	147.59	51.43	0.00
TEE-BEND48	0.00	147.59	51.42	0.00
TEE-BEND12	0.00	147.62	51.43	0.00
TEE-BEND40	0.00	147.70	51.51	0.00
TEE-BEND20	0.00	147.68	51.48	0.00
TEE-BEND38	0.00	147.60	51.40	0.00
TEE-BEND57	0.00	147.47	51.27	0.00
TEE-BEND56	0.00	147.53	51.32	0.00
TEE-BEND58	0.00	147.54	51.30	0.00
TEE-BEND32	0.00	147.20	50.97	0.00
TEE-BEND31	0.00	147.41	51.14	0.00
TEE-BEND30	0.00	147.20	50.93	0.00
HYD5	0.00	147.65	51.35	0.00
CRU-8	0.04	147.62	51.27	0.00
TEE-BEND28	0.00	147.20	50.85	0.00
CRU-10	0.04	147.68	51.33	0.00
TEE-BEND39	0.00	147.69	51.32	0.00
TEE-BEND26	0.00	147.20	50.83	0.00
TEE-BEND15	0.00	147.62	51.23	0.00
TEE-BEND29	0.00	147.20	50.80	0.00
TEE-BEND13	0.00	147.62	51.21	0.00
TEE-BEND59	0.00	147.60	51.19	0.00
TEE-BEND27	0.00	147.20	50.77	0.00
TEE-BEND41	0.00	147.70	51.25	0.00
TEE-BEND42	0.00	147.69	51.24	0.00
CRU-6	0.11	147.69	51.20	0.00
CRU-9	0.07	147.62	51.12	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	147.62	51.12	0.00
CRU-4	0.11	147.20	50.71	0.00
CRU-3	0.17	147.20	50.71	0.00
TEE-BEND6	0.00	147.69	51.04	0.00
CRU-5	33.35	146.08	49.35	0.00
TEE-BEND4	0.00	147.69	50.94	0.00

TEE-BEND3	0.00	147.75	51	0.00	
TEE-BEND2	0.00	147.69	50.92	0.00	
TEE-BEND1	0.00	147.69	50.89	0.00	
CHAMBER1	0.00	147.70	50.89	0.00	
R1	-13.00	0.00	0.00	0.00	Reservoir
R2	-21.34	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

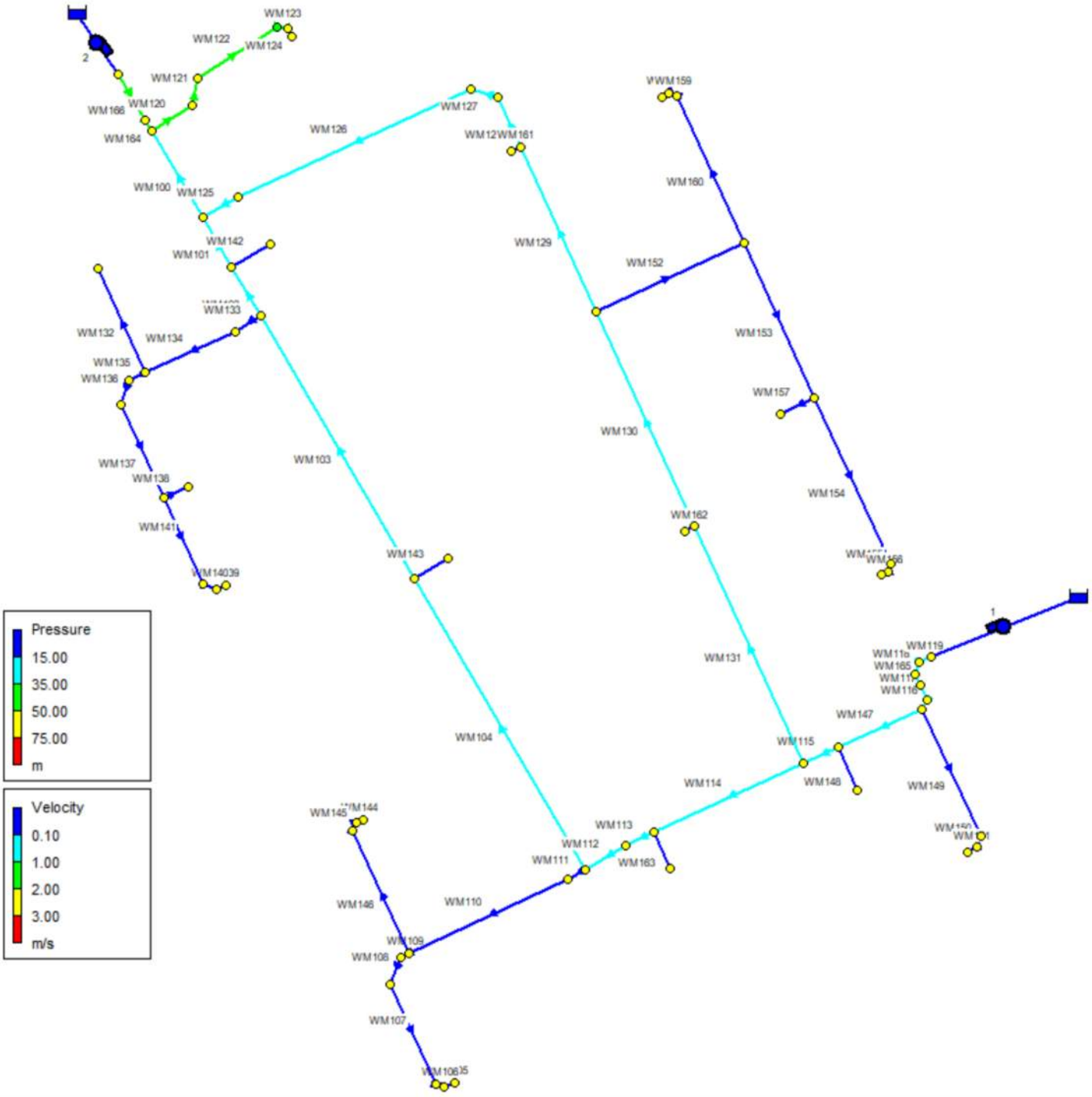
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	21.34	0.68	3.61	Open
WM100	21.23	0.68	3.58	Open
WM101	24.57	0.78	4.69	Open
WM102	24.57	0.78	4.69	Open
WM103	-9.06	0.29	0.74	Open
WM104	-9.06	0.29	0.74	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-9.43	0.30	0.80	Open
WM113	-9.43	0.30	0.80	Open
WM114	-9.43	0.30	0.80	Open
WM115	-12.96	0.41	1.43	Open
WM116	-13.00	0.41	1.45	Open
WM117	-13.00	0.41	1.44	Open
WM118	-13.00	0.41	1.44	Open
WM119	-13.00	0.41	1.45	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	-3.34	0.11	0.12	Open
WM126	-3.34	0.11	0.12	Open
WM127	-3.34	0.11	0.12	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	-3.34	0.11	0.12	Open
WM129	-3.34	0.11	0.12	Open
WM130	-3.53	0.11	0.13	Open

WM131	-3.53	0.11	0	Open	
WM132	-33.35	1.89	40.00	Open	
WM133	33.63	1.07	8.39	Open	
WM134	33.63	1.07	8.39	Open	
WM135	0.28	0.01	0.00	Open	
WM136	0.28	0.01	0.00	Open	
WM137	0.28	0.01	0.00	Open	
WM138	0.11	0.01	0.00	Open	
WM139	-0.17	0.01	0.00	Open	
WM140	-0.17	0.01	0.00	Open	
WM141	-0.17	0.01	0.00	Open	
WM142	0.00	0.00	0.00	Open	
WM143	0.00	0.00	0.00	Open	
WM144	-0.14	0.00	0.00	Open	
WM145	-0.14	0.00	0.00	Open	
WM146	-0.14	0.00	0.00	Open	
WM147	-12.96	0.41	1.44	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	21.34	0.68	3.61	Open	
WM165	-13.00	0.41	1.44	Open	
1	13.00	0.00	-147.70	Open	Pump
2	21.34	0.00	-147.75	Open	Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR6



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU6)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	29.32	29.32	0.00
2	100.00	75.00	0.54	69.06	69.06	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.51	52.14	0.00
TEE-BEND24	0.00	147.51	52.14	0.00
TEE-BEND23	0.00	147.51	52.07	0.00
TEE-BEND43	0.00	147.61	52.14	0.00
TEE-BEND44	0.00	147.61	52.06	0.00
CHAMBER2	0.00	147.62	52.05	0.00
TEE-BEND18	0.00	147.48	51.80	0.00
TEE-BEND46	0.00	147.52	51.72	0.00
TEE-BEND53	0.00	147.51	51.64	0.00
TEE-BEND47	0.00	147.52	51.65	0.00
TEE-BEND22	0.00	147.56	51.69	0.00
CRU-1	0.23	147.51	51.59	0.00
TEE-BEND52	0.00	147.51	51.57	0.00
HYD3	0.00	147.52	51.55	0.00
TEE-BEND45	0.00	147.54	51.56	0.00
TEE-BEND16	0.00	147.48	51.48	0.00
HYD2	0.00	147.47	51.46	0.00
HYD7	0.00	147.46	51.43	0.00
TEE-BEND51	0.00	147.51	51.48	0.00
TEE-BEND34	0.00	147.48	51.42	0.00
TEE-BEND36	0.00	147.45	51.39	0.00
TEE-BEND55	0.00	147.51	51.44	0.00
TEE-BEND35	0.00	147.46	51.39	0.00
HYD1	0.00	147.42	51.35	0.00
HYD6	0.00	147.51	51.42	0.00
TEE-BEND37	0.00	147.45	51.34	0.00
TEE-BEND50	0.00	147.51	51.40	0.00
TEE-BEND33	0.00	147.51	51.39	0.00
TEE-BEND17	0.00	147.48	51.33	0.00
TEE-BEND21	0.00	147.61	51.45	0.00
TEE-BEND49	0.00	147.51	51.35	0.00
TEE-BEND48	0.00	147.51	51.34	0.00
TEE-BEND12	0.00	147.48	51.30	0.00
TEE-BEND40	0.00	147.64	51.44	0.00
TEE-BEND20	0.00	147.61	51.41	0.00
TEE-BEND38	0.00	147.42	51.22	0.00
TEE-BEND57	0.00	147.43	51.23	0.00
TEE-BEND56	0.00	147.47	51.26	0.00
TEE-BEND58	0.00	147.42	51.19	0.00
TEE-BEND32	0.00	147.43	51.19	0.00
TEE-BEND31	0.00	147.43	51.17	0.00
TEE-BEND30	0.00	147.43	51.15	0.00

HYD5	0.00	147.56	51	0.00
CRU-8	0.04	147.48	51.14	0.00
TEE-BEND28	0.00	147.43	51.08	0.00
CRU-10	0.04	147.61	51.25	0.00
TEE-BEND39	0.00	146.59	50.23	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.43	51.06	0.00	
TEE-BEND15	0.00	147.48	51.10	0.00	
TEE-BEND29	0.00	147.43	51.02	0.00	
TEE-BEND13	0.00	147.48	51.08	0.00	
TEE-BEND59	0.00	147.42	51.00	0.00	
TEE-BEND27	0.00	147.43	50.99	0.00	
TEE-BEND41	0.00	147.63	51.18	0.00	
TEE-BEND42	0.00	147.62	51.17	0.00	
CRU-6	50.11	146.56	50.07	0.00	
CRU-9	0.07	147.48	50.99	0.00	
CRU-7	0.08	147.48	50.99	0.00	
CRU-4	0.11	147.43	50.93	0.00	
CRU-3	0.17	147.43	50.93	0.00	
TEE-BEND6	0.00	147.17	50.52	0.00	
CRU-5	0.02	147.43	50.69	0.00	
TEE-BEND4	0.00	146.64	49.89	0.00	
TEE-BEND3	0.00	147.53	50.78	0.00	
TEE-BEND2	0.00	147.37	50.60	0.00	
TEE-BEND1	0.00	147.05	50.25	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-15.19	0.00	0.00	0.00	Reservoir
R2	-35.82	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.82	1.14	9.42	Open
WM100	-14.29	0.46	1.72	Open
WM101	-7.13	0.23	0.47	Open
WM102	-7.13	0.23	0.47	Open
WM103	-7.43	0.24	0.51	Open
WM104	-7.43	0.24	0.51	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-7.80	0.25	0.56	Open
WM113	-7.80	0.25	0.56	Open
WM114	-7.80	0.25	0.56	Open
WM115	-15.15	0.48	1.92	Open
WM116	-15.19	0.48	1.93	Open
WM117	-15.19	0.48	1.93	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-15.19	0.48	1.92	Open
WM119	-15.19	0.48	1.93	Open
WM120	50.11	1.60	17.55	Open
WM121	50.11	1.60	17.55	Open
WM122	50.11	1.60	17.55	Open
WM123	50.11	1.60	17.55	Open
WM124	50.11	1.60	17.55	Open
WM125	-7.17	0.23	0.48	Open
WM126	-7.17	0.23	0.48	Open
WM127	-7.17	0.23	0.48	Open
WM128	-7.17	0.23	0.48	Open
WM129	-7.17	0.23	0.48	Open
WM130	-7.36	0.23	0.50	Open
WM131	-7.36	0.23	0.50	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-15.15	0.48	1.92	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.82	1.14	9.42	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-15.19	0.48	1.93	Open
1	15.19	0.00	-147.64	Open Pump
2	35.82	0.00	-147.53	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.51	52.14	0.00
TEE-BEND24	0.00	147.51	52.14	0.00
TEE-BEND23	0.00	147.51	52.07	0.00
TEE-BEND43	0.00	147.61	52.14	0.00
TEE-BEND44	0.00	147.61	52.06	0.00
CHAMBER2	0.00	147.62	52.05	0.00
TEE-BEND18	0.00	147.48	51.80	0.00
TEE-BEND46	0.00	147.52	51.72	0.00
TEE-BEND53	0.00	147.51	51.64	0.00
TEE-BEND47	0.00	147.52	51.65	0.00
TEE-BEND22	0.00	147.56	51.69	0.00
CRU-1	0.23	147.51	51.59	0.00
TEE-BEND52	0.00	147.51	51.57	0.00
HYD3	0.00	147.52	51.55	0.00
TEE-BEND45	0.00	147.54	51.56	0.00
TEE-BEND16	0.00	147.48	51.48	0.00
HYD2	0.00	147.47	51.46	0.00
HYD7	0.00	147.46	51.43	0.00
TEE-BEND51	0.00	147.51	51.48	0.00
TEE-BEND34	0.00	147.48	51.42	0.00
TEE-BEND36	0.00	147.45	51.39	0.00
TEE-BEND55	0.00	147.51	51.44	0.00
TEE-BEND35	0.00	147.46	51.39	0.00
HYD1	0.00	147.42	51.35	0.00

HYD6	0.00	147.51	51	0.00
TEE-BEND37	0.00	147.45	51.34	0.00
TEE-BEND50	0.00	147.51	51.40	0.00
TEE-BEND33	0.00	147.51	51.39	0.00
TEE-BEND17	0.00	147.48	51.33	0.00
TEE-BEND21	0.00	147.61	51.45	0.00
TEE-BEND49	0.00	147.51	51.35	0.00
TEE-BEND48	0.00	147.51	51.34	0.00
TEE-BEND12	0.00	147.48	51.30	0.00
TEE-BEND40	0.00	147.64	51.44	0.00
TEE-BEND20	0.00	147.61	51.41	0.00
TEE-BEND38	0.00	147.42	51.22	0.00
TEE-BEND57	0.00	147.43	51.23	0.00
TEE-BEND56	0.00	147.47	51.26	0.00

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Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.42	51.19	0.00	
TEE-BEND32	0.00	147.43	51.19	0.00	
TEE-BEND31	0.00	147.43	51.17	0.00	
TEE-BEND30	0.00	147.43	51.15	0.00	
HYD5	0.00	147.56	51.26	0.00	
CRU-8	0.04	147.48	51.14	0.00	
TEE-BEND28	0.00	147.43	51.08	0.00	
CRU-10	0.04	147.61	51.25	0.00	
TEE-BEND39	0.00	146.59	50.23	0.00	
TEE-BEND26	0.00	147.43	51.06	0.00	
TEE-BEND15	0.00	147.48	51.10	0.00	
TEE-BEND29	0.00	147.43	51.02	0.00	
TEE-BEND13	0.00	147.48	51.08	0.00	
TEE-BEND59	0.00	147.42	51.00	0.00	
TEE-BEND27	0.00	147.43	50.99	0.00	
TEE-BEND41	0.00	147.63	51.18	0.00	
TEE-BEND42	0.00	147.62	51.17	0.00	
CRU-6	50.11	146.56	50.07	0.00	
CRU-9	0.07	147.48	50.99	0.00	
CRU-7	0.08	147.48	50.99	0.00	
CRU-4	0.11	147.43	50.93	0.00	
CRU-3	0.17	147.43	50.93	0.00	
TEE-BEND6	0.00	147.17	50.52	0.00	
CRU-5	0.02	147.43	50.69	0.00	
TEE-BEND4	0.00	146.64	49.89	0.00	
TEE-BEND3	0.00	147.53	50.78	0.00	
TEE-BEND2	0.00	147.37	50.60	0.00	
TEE-BEND1	0.00	147.05	50.25	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-15.19	0.00	0.00	0.00	Reservoir

R2	-35.82	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.82	1.14	9.42	Open
WM100	-14.29	0.46	1.72	Open
WM101	-7.13	0.23	0.47	Open
WM102	-7.13	0.23	0.47	Open
WM103	-7.43	0.24	0.51	Open
WM104	-7.43	0.24	0.51	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-7.80	0.25	0.56	Open
WM113	-7.80	0.25	0.56	Open
WM114	-7.80	0.25	0.56	Open
WM115	-15.15	0.48	1.92	Open
WM116	-15.19	0.48	1.93	Open
WM117	-15.19	0.48	1.93	Open
WM118	-15.19	0.48	1.92	Open
WM119	-15.19	0.48	1.93	Open
WM120	50.11	1.60	17.55	Open
WM121	50.11	1.60	17.55	Open
WM122	50.11	1.60	17.55	Open
WM123	50.11	1.60	17.55	Open
WM124	50.11	1.60	17.55	Open
WM125	-7.17	0.23	0.48	Open
WM126	-7.17	0.23	0.48	Open
WM127	-7.17	0.23	0.48	Open
WM128	-7.17	0.23	0.48	Open
WM129	-7.17	0.23	0.48	Open
WM130	-7.36	0.23	0.50	Open
WM131	-7.36	0.23	0.50	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.01	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-15.15	0.48	1.92	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

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Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.82	1.14	9.42	Open
WM165	-15.19	0.48	1.93	Open
1	15.19	0.00	-147.64	Open Pump
2	35.82	0.00	-147.53	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.51	52.14	0.00
TEE-BEND24	0.00	147.51	52.14	0.00
TEE-BEND23	0.00	147.51	52.07	0.00
TEE-BEND43	0.00	147.61	52.14	0.00
TEE-BEND44	0.00	147.61	52.06	0.00
CHAMBER2	0.00	147.62	52.05	0.00

TEE-BEND18	0.00	147.48	51	0.00
TEE-BEND46	0.00	147.52	51.72	0.00
TEE-BEND53	0.00	147.51	51.64	0.00
TEE-BEND47	0.00	147.52	51.65	0.00
TEE-BEND22	0.00	147.56	51.69	0.00
CRU-1	0.23	147.51	51.59	0.00
TEE-BEND52	0.00	147.51	51.57	0.00
HYD3	0.00	147.52	51.55	0.00
TEE-BEND45	0.00	147.54	51.56	0.00
TEE-BEND16	0.00	147.48	51.48	0.00
HYD2	0.00	147.47	51.46	0.00
HYD7	0.00	147.46	51.43	0.00
TEE-BEND51	0.00	147.51	51.48	0.00
TEE-BEND34	0.00	147.48	51.42	0.00
TEE-BEND36	0.00	147.45	51.39	0.00
TEE-BEND55	0.00	147.51	51.44	0.00
TEE-BEND35	0.00	147.46	51.39	0.00
HYD1	0.00	147.42	51.35	0.00
HYD6	0.00	147.51	51.42	0.00
TEE-BEND37	0.00	147.45	51.34	0.00
TEE-BEND50	0.00	147.51	51.40	0.00
TEE-BEND33	0.00	147.51	51.39	0.00
TEE-BEND17	0.00	147.48	51.33	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.61	51.45	0.00
TEE-BEND49	0.00	147.51	51.35	0.00
TEE-BEND48	0.00	147.51	51.34	0.00
TEE-BEND12	0.00	147.48	51.30	0.00
TEE-BEND40	0.00	147.64	51.44	0.00
TEE-BEND20	0.00	147.61	51.41	0.00
TEE-BEND38	0.00	147.42	51.22	0.00
TEE-BEND57	0.00	147.43	51.23	0.00
TEE-BEND56	0.00	147.47	51.26	0.00
TEE-BEND58	0.00	147.42	51.19	0.00
TEE-BEND32	0.00	147.43	51.19	0.00
TEE-BEND31	0.00	147.43	51.17	0.00
TEE-BEND30	0.00	147.43	51.15	0.00
HYD5	0.00	147.56	51.26	0.00
CRU-8	0.04	147.48	51.14	0.00
TEE-BEND28	0.00	147.43	51.08	0.00
CRU-10	0.04	147.61	51.25	0.00
TEE-BEND39	0.00	146.59	50.23	0.00
TEE-BEND26	0.00	147.43	51.06	0.00
TEE-BEND15	0.00	147.48	51.10	0.00
TEE-BEND29	0.00	147.43	51.02	0.00

TEE-BEND13	0.00	147.48	51	0.00	
TEE-BEND59	0.00	147.42	51.00	0.00	
TEE-BEND27	0.00	147.43	50.99	0.00	
TEE-BEND41	0.00	147.63	51.18	0.00	
TEE-BEND42	0.00	147.62	51.17	0.00	
CRU-6	50.11	146.56	50.07	0.00	
CRU-9	0.07	147.48	50.99	0.00	
CRU-7	0.08	147.48	50.99	0.00	
CRU-4	0.11	147.43	50.93	0.00	
CRU-3	0.17	147.43	50.93	0.00	
TEE-BEND6	0.00	147.17	50.52	0.00	
CRU-5	0.02	147.43	50.69	0.00	
TEE-BEND4	0.00	146.64	49.89	0.00	
TEE-BEND3	0.00	147.53	50.78	0.00	
TEE-BEND2	0.00	147.37	50.60	0.00	
TEE-BEND1	0.00	147.05	50.25	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-15.19	0.00	0.00	0.00	Reservoir
R2	-35.82	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.82	1.14	9.42	Open
WM100	-14.29	0.46	1.72	Open
WM101	-7.13	0.23	0.47	Open
WM102	-7.13	0.23	0.47	Open
WM103	-7.43	0.24	0.51	Open
WM104	-7.43	0.24	0.51	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-7.80	0.25	0.56	Open
WM113	-7.80	0.25	0.56	Open
WM114	-7.80	0.25	0.56	Open
WM115	-15.15	0.48	1.92	Open
WM116	-15.19	0.48	1.93	Open
WM117	-15.19	0.48	1.93	Open
WM118	-15.19	0.48	1.92	Open
WM119	-15.19	0.48	1.93	Open
WM120	50.11	1.60	17.55	Open
WM121	50.11	1.60	17.55	Open
WM122	50.11	1.60	17.55	Open

WM123	50.11	1.60	17	Open
WM124	50.11	1.60	17.55	Open
WM125	-7.17	0.23	0.48	Open
WM126	-7.17	0.23	0.48	Open
WM127	-7.17	0.23	0.48	Open
WM128	-7.17	0.23	0.48	Open
WM129	-7.17	0.23	0.48	Open
WM130	-7.36	0.23	0.50	Open
WM131	-7.36	0.23	0.50	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-15.15	0.48	1.92	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	35.82	1.14	9.42	Open	
WM165	-15.19	0.48	1.93	Open	
1	15.19	0.00	-147.64	Open	Pump

2	35.82	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.51	52.14	0.00
TEE-BEND24	0.00	147.51	52.14	0.00
TEE-BEND23	0.00	147.51	52.07	0.00
TEE-BEND43	0.00	147.61	52.14	0.00
TEE-BEND44	0.00	147.61	52.06	0.00
CHAMBER2	0.00	147.62	52.05	0.00
TEE-BEND18	0.00	147.48	51.80	0.00
TEE-BEND46	0.00	147.52	51.72	0.00
TEE-BEND53	0.00	147.51	51.64	0.00
TEE-BEND47	0.00	147.52	51.65	0.00
TEE-BEND22	0.00	147.56	51.69	0.00
CRU-1	0.23	147.51	51.59	0.00
TEE-BEND52	0.00	147.51	51.57	0.00
HYD3	0.00	147.52	51.55	0.00
TEE-BEND45	0.00	147.54	51.56	0.00
TEE-BEND16	0.00	147.48	51.48	0.00
HYD2	0.00	147.47	51.46	0.00
HYD7	0.00	147.46	51.43	0.00
TEE-BEND51	0.00	147.51	51.48	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.48	51.42	0.00
TEE-BEND36	0.00	147.45	51.39	0.00
TEE-BEND55	0.00	147.51	51.44	0.00
TEE-BEND35	0.00	147.46	51.39	0.00
HYD1	0.00	147.42	51.35	0.00
HYD6	0.00	147.51	51.42	0.00
TEE-BEND37	0.00	147.45	51.34	0.00
TEE-BEND50	0.00	147.51	51.40	0.00
TEE-BEND33	0.00	147.51	51.39	0.00
TEE-BEND17	0.00	147.48	51.33	0.00
TEE-BEND21	0.00	147.61	51.45	0.00
TEE-BEND49	0.00	147.51	51.35	0.00
TEE-BEND48	0.00	147.51	51.34	0.00
TEE-BEND12	0.00	147.48	51.30	0.00
TEE-BEND40	0.00	147.64	51.44	0.00
TEE-BEND20	0.00	147.61	51.41	0.00
TEE-BEND38	0.00	147.42	51.22	0.00
TEE-BEND57	0.00	147.43	51.23	0.00

TEE-BEND56	0.00	147.47	51	0.00
TEE-BEND58	0.00	147.42	51.19	0.00
TEE-BEND32	0.00	147.43	51.19	0.00
TEE-BEND31	0.00	147.43	51.17	0.00
TEE-BEND30	0.00	147.43	51.15	0.00
HYD5	0.00	147.56	51.26	0.00
CRU-8	0.04	147.48	51.14	0.00
TEE-BEND28	0.00	147.43	51.08	0.00
CRU-10	0.04	147.61	51.25	0.00
TEE-BEND39	0.00	146.59	50.23	0.00
TEE-BEND26	0.00	147.43	51.06	0.00
TEE-BEND15	0.00	147.48	51.10	0.00
TEE-BEND29	0.00	147.43	51.02	0.00
TEE-BEND13	0.00	147.48	51.08	0.00
TEE-BEND59	0.00	147.42	51.00	0.00
TEE-BEND27	0.00	147.43	50.99	0.00
TEE-BEND41	0.00	147.63	51.18	0.00
TEE-BEND42	0.00	147.62	51.17	0.00
CRU-6	50.11	146.56	50.07	0.00
CRU-9	0.07	147.48	50.99	0.00
CRU-7	0.08	147.48	50.99	0.00
CRU-4	0.11	147.43	50.93	0.00
CRU-3	0.17	147.43	50.93	0.00
TEE-BEND6	0.00	147.17	50.52	0.00
CRU-5	0.02	147.43	50.69	0.00
TEE-BEND4	0.00	146.64	49.89	0.00
TEE-BEND3	0.00	147.53	50.78	0.00
TEE-BEND2	0.00	147.37	50.60	0.00
TEE-BEND1	0.00	147.05	50.25	0.00

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Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-15.19	0.00	0.00	0.00	Reservoir
R2	-35.82	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	35.82	1.14	9.42	Open
WM100	-14.29	0.46	1.72	Open
WM101	-7.13	0.23	0.47	Open
WM102	-7.13	0.23	0.47	Open
WM103	-7.43	0.24	0.51	Open
WM104	-7.43	0.24	0.51	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-7.80	0.25	0.56	Open
WM113	-7.80	0.25	0.56	Open
WM114	-7.80	0.25	0.56	Open
WM115	-15.15	0.48	1.92	Open
WM116	-15.19	0.48	1.93	Open
WM117	-15.19	0.48	1.93	Open
WM118	-15.19	0.48	1.92	Open
WM119	-15.19	0.48	1.93	Open
WM120	50.11	1.60	17.55	Open
WM121	50.11	1.60	17.55	Open
WM122	50.11	1.60	17.55	Open
WM123	50.11	1.60	17.55	Open
WM124	50.11	1.60	17.55	Open
WM125	-7.17	0.23	0.48	Open
WM126	-7.17	0.23	0.48	Open
WM127	-7.17	0.23	0.48	Open
WM128	-7.17	0.23	0.48	Open
WM129	-7.17	0.23	0.48	Open
WM130	-7.36	0.23	0.50	Open
WM131	-7.36	0.23	0.50	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-15.15	0.48	1.92	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.82	1.14	9.42	Open
WM165	-15.19	0.48	1.93	Open
1	15.19	0.00	-147.64	Open Pump
2	35.82	0.00	-147.53	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.51	52.14	0.00
TEE-BEND24	0.00	147.51	52.14	0.00
TEE-BEND23	0.00	147.51	52.07	0.00
TEE-BEND43	0.00	147.61	52.14	0.00
TEE-BEND44	0.00	147.61	52.06	0.00
CHAMBER2	0.00	147.62	52.05	0.00
TEE-BEND18	0.00	147.48	51.80	0.00
TEE-BEND46	0.00	147.52	51.72	0.00
TEE-BEND53	0.00	147.51	51.64	0.00
TEE-BEND47	0.00	147.52	51.65	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.56	51.69	0.00
CRU-1	0.23	147.51	51.59	0.00
TEE-BEND52	0.00	147.51	51.57	0.00
HYD3	0.00	147.52	51.55	0.00
TEE-BEND45	0.00	147.54	51.56	0.00
TEE-BEND16	0.00	147.48	51.48	0.00
HYD2	0.00	147.47	51.46	0.00
HYD7	0.00	147.46	51.43	0.00
TEE-BEND51	0.00	147.51	51.48	0.00

TEE-BEND34	0.00	147.48	51	0.00
TEE-BEND36	0.00	147.45	51.39	0.00
TEE-BEND55	0.00	147.51	51.44	0.00
TEE-BEND35	0.00	147.46	51.39	0.00
HYD1	0.00	147.42	51.35	0.00
HYD6	0.00	147.51	51.42	0.00
TEE-BEND37	0.00	147.45	51.34	0.00
TEE-BEND50	0.00	147.51	51.40	0.00
TEE-BEND33	0.00	147.51	51.39	0.00
TEE-BEND17	0.00	147.48	51.33	0.00
TEE-BEND21	0.00	147.61	51.45	0.00
TEE-BEND49	0.00	147.51	51.35	0.00
TEE-BEND48	0.00	147.51	51.34	0.00
TEE-BEND12	0.00	147.48	51.30	0.00
TEE-BEND40	0.00	147.64	51.44	0.00
TEE-BEND20	0.00	147.61	51.41	0.00
TEE-BEND38	0.00	147.42	51.22	0.00
TEE-BEND57	0.00	147.43	51.23	0.00
TEE-BEND56	0.00	147.47	51.26	0.00
TEE-BEND58	0.00	147.42	51.19	0.00
TEE-BEND32	0.00	147.43	51.19	0.00
TEE-BEND31	0.00	147.43	51.17	0.00
TEE-BEND30	0.00	147.43	51.15	0.00
HYD5	0.00	147.56	51.26	0.00
CRU-8	0.04	147.48	51.14	0.00
TEE-BEND28	0.00	147.43	51.08	0.00
CRU-10	0.04	147.61	51.25	0.00
TEE-BEND39	0.00	146.59	50.23	0.00
TEE-BEND26	0.00	147.43	51.06	0.00
TEE-BEND15	0.00	147.48	51.10	0.00
TEE-BEND29	0.00	147.43	51.02	0.00
TEE-BEND13	0.00	147.48	51.08	0.00
TEE-BEND59	0.00	147.42	51.00	0.00
TEE-BEND27	0.00	147.43	50.99	0.00
TEE-BEND41	0.00	147.63	51.18	0.00
TEE-BEND42	0.00	147.62	51.17	0.00
CRU-6	50.11	146.56	50.07	0.00
CRU-9	0.07	147.48	50.99	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	147.48	50.99	0.00
CRU-4	0.11	147.43	50.93	0.00
CRU-3	0.17	147.43	50.93	0.00
TEE-BEND6	0.00	147.17	50.52	0.00
CRU-5	0.02	147.43	50.69	0.00
TEE-BEND4	0.00	146.64	49.89	0.00

TEE-BEND3	0.00	147.53	50	0.00	
TEE-BEND2	0.00	147.37	50.60	0.00	
TEE-BEND1	0.00	147.05	50.25	0.00	
CHAMBER1	0.00	147.41	50.59	0.00	
R1	-15.19	0.00	0.00	0.00	Reservoir
R2	-35.82	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

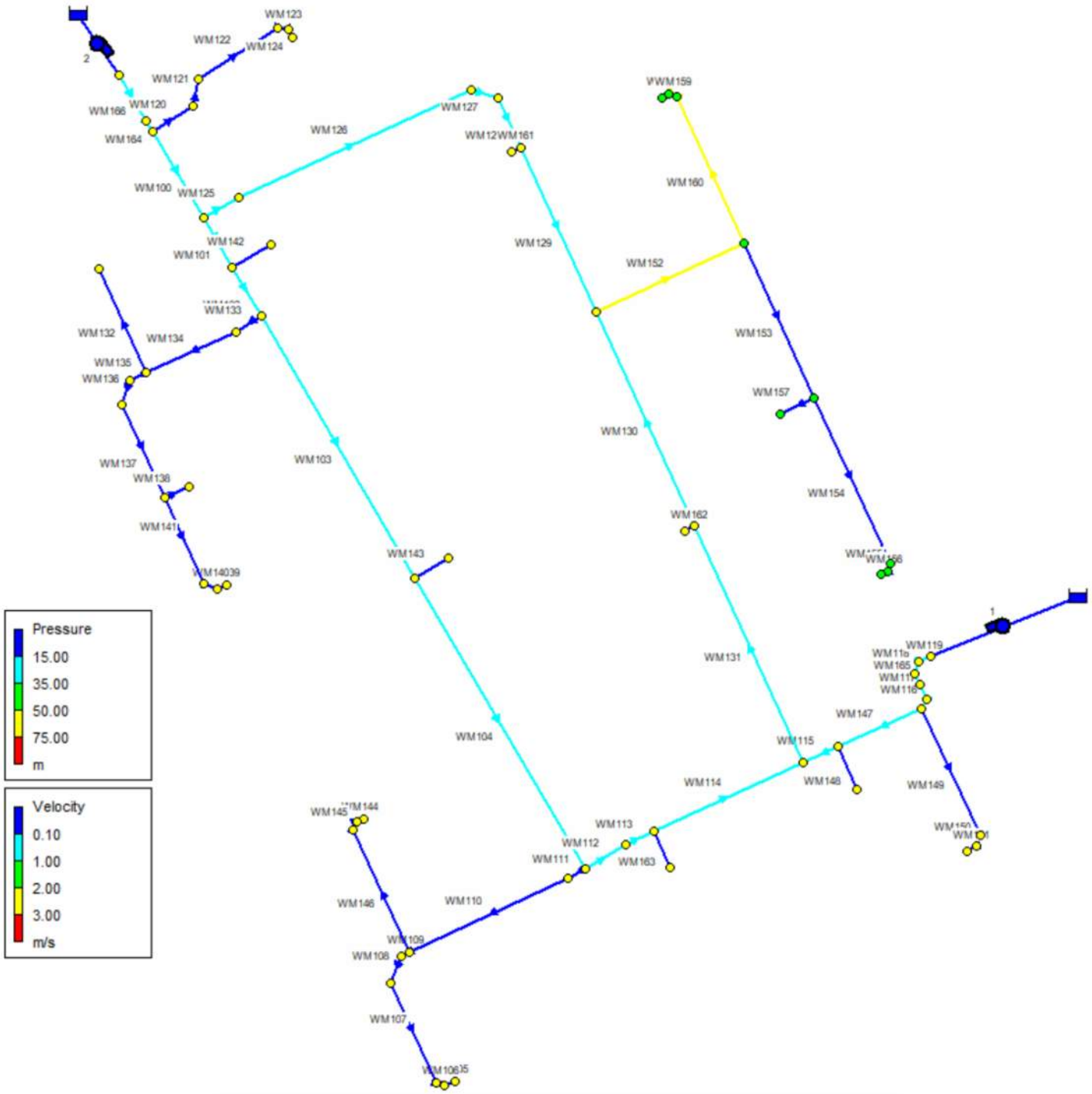
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	35.82	1.14	9.42	Open
WM100	-14.29	0.46	1.72	Open
WM101	-7.13	0.23	0.47	Open
WM102	-7.13	0.23	0.47	Open
WM103	-7.43	0.24	0.51	Open
WM104	-7.43	0.24	0.51	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	-7.80	0.25	0.56	Open
WM113	-7.80	0.25	0.56	Open
WM114	-7.80	0.25	0.56	Open
WM115	-15.15	0.48	1.92	Open
WM116	-15.19	0.48	1.93	Open
WM117	-15.19	0.48	1.93	Open
WM118	-15.19	0.48	1.92	Open
WM119	-15.19	0.48	1.93	Open
WM120	50.11	1.60	17.55	Open
WM121	50.11	1.60	17.55	Open
WM122	50.11	1.60	17.55	Open
WM123	50.11	1.60	17.55	Open
WM124	50.11	1.60	17.55	Open
WM125	-7.17	0.23	0.48	Open
WM126	-7.17	0.23	0.48	Open
WM127	-7.17	0.23	0.48	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	-7.17	0.23	0.48	Open
WM129	-7.17	0.23	0.48	Open
WM130	-7.36	0.23	0.50	Open

WM131	-7.36	0.23	0	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.01	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-15.15	0.48	1.92	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	35.82	1.14	9.42	Open
WM165	-15.19	0.48	1.93	Open
1	15.19	0.00	-147.64	Open Pump
2	35.82	0.00	-147.53	Open Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR7



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*************************************************************************
*                            E P A N E T                                *
*                     Hydraulic and Water Quality                       *
*                     Analysis for Pipe Networks                        *
*                          Version 2.2                                  *
*************************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU7)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	41.65	41.65	0.00
2	100.00	75.00	0.54	56.73	56.73	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	143.27	47.27	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	143.27	47.12	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	139.90	43.72	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00

HYD5	0.00	147.34	51	0.00
CRU-8	0.04	143.27	46.93	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.34	50.97	0.00	
TEE-BEND15	0.00	143.27	46.89	0.00	
TEE-BEND29	0.00	147.34	50.94	0.00	
TEE-BEND13	0.00	139.73	43.32	0.00	
TEE-BEND59	0.00	147.35	50.94	0.00	
TEE-BEND27	0.00	147.34	50.90	0.00	
TEE-BEND41	0.00	147.47	51.02	0.00	
TEE-BEND42	0.00	147.46	51.00	0.00	
CRU-6	0.11	147.51	51.02	0.00	
CRU-9	0.07	143.27	46.78	0.00	
CRU-7	50.08	139.57	43.07	0.00	
CRU-4	0.11	147.34	50.85	0.00	
CRU-3	0.17	147.34	50.84	0.00	
TEE-BEND6	0.00	147.51	50.86	0.00	
CRU-5	0.02	147.34	50.61	0.00	
TEE-BEND4	0.00	147.51	50.76	0.00	
TEE-BEND3	0.00	147.61	50.86	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.69	Open
WM117	-21.61	0.69	3.70	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.69	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.01	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-50.08	2.83	84.93	Open
WM159	-50.08	2.83	84.93	Open
WM160	-50.08	2.83	84.93	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	29.40	0.94	6.54	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-21.61	0.69	3.70	Open
1	21.61	0.00	-147.48	Open Pump
2	29.40	0.00	-147.61	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	143.27	47.27	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00

HYD6	0.00	146.98	50	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	143.27	47.12	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	139.90	43.72	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.34	51.11	0.00	
TEE-BEND32	0.00	147.34	51.10	0.00	
TEE-BEND31	0.00	147.34	51.08	0.00	
TEE-BEND30	0.00	147.34	51.06	0.00	
HYD5	0.00	147.34	51.04	0.00	
CRU-8	0.04	143.27	46.93	0.00	
TEE-BEND28	0.00	147.34	50.99	0.00	
CRU-10	0.04	147.42	51.07	0.00	
TEE-BEND39	0.00	147.51	51.14	0.00	
TEE-BEND26	0.00	147.34	50.97	0.00	
TEE-BEND15	0.00	143.27	46.89	0.00	
TEE-BEND29	0.00	147.34	50.94	0.00	
TEE-BEND13	0.00	139.73	43.32	0.00	
TEE-BEND59	0.00	147.35	50.94	0.00	
TEE-BEND27	0.00	147.34	50.90	0.00	
TEE-BEND41	0.00	147.47	51.02	0.00	
TEE-BEND42	0.00	147.46	51.00	0.00	
CRU-6	0.11	147.51	51.02	0.00	
CRU-9	0.07	143.27	46.78	0.00	
CRU-7	50.08	139.57	43.07	0.00	
CRU-4	0.11	147.34	50.85	0.00	
CRU-3	0.17	147.34	50.84	0.00	
TEE-BEND6	0.00	147.51	50.86	0.00	
CRU-5	0.02	147.34	50.61	0.00	
TEE-BEND4	0.00	147.51	50.76	0.00	
TEE-BEND3	0.00	147.61	50.86	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir

R2	-29.40	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-50.08	2.83	84.93	Open
WM159	-50.08	2.83	84.93	Open
WM160	-50.08	2.83	84.93	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	29.40	0.94	6.54	Open
WM165	-21.61	0.69	3.70	Open
1	21.61	0.00	-147.48	Open Pump
2	29.40	0.00	-147.61	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00

TEE-BEND18	0.00	143.27	47	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	143.27	47.27	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	143.27	47.12	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	139.90	43.72	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00
HYD5	0.00	147.34	51.04	0.00
CRU-8	0.04	143.27	46.93	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00
TEE-BEND26	0.00	147.34	50.97	0.00
TEE-BEND15	0.00	143.27	46.89	0.00
TEE-BEND29	0.00	147.34	50.94	0.00

TEE-BEND13	0.00	139.73	43	0.00	
TEE-BEND59	0.00	147.35	50.94	0.00	
TEE-BEND27	0.00	147.34	50.90	0.00	
TEE-BEND41	0.00	147.47	51.02	0.00	
TEE-BEND42	0.00	147.46	51.00	0.00	
CRU-6	0.11	147.51	51.02	0.00	
CRU-9	0.07	143.27	46.78	0.00	
CRU-7	50.08	139.57	43.07	0.00	
CRU-4	0.11	147.34	50.85	0.00	
CRU-3	0.17	147.34	50.84	0.00	
TEE-BEND6	0.00	147.51	50.86	0.00	
CRU-5	0.02	147.34	50.61	0.00	
TEE-BEND4	0.00	147.51	50.76	0.00	
TEE-BEND3	0.00	147.61	50.86	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-21.57	0.69	3.68	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	50.19	2.84	85.28	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.01	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-50.08	2.83	84.93	Open	
WM159	-50.08	2.83	84.93	Open	
WM160	-50.08	2.83	84.93	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	29.40	0.94	6.54	Open	
WM165	-21.61	0.69	3.70	Open	
1	21.61	0.00	-147.48	Open	Pump

2	29.40	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	143.27	47.27	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	143.27	47.12	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	139.90	43.72	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00

TEE-BEND56	0.00	147.33	51	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00
HYD5	0.00	147.34	51.04	0.00
CRU-8	0.04	143.27	46.93	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00
TEE-BEND26	0.00	147.34	50.97	0.00
TEE-BEND15	0.00	143.27	46.89	0.00
TEE-BEND29	0.00	147.34	50.94	0.00
TEE-BEND13	0.00	139.73	43.32	0.00
TEE-BEND59	0.00	147.35	50.94	0.00
TEE-BEND27	0.00	147.34	50.90	0.00
TEE-BEND41	0.00	147.47	51.02	0.00
TEE-BEND42	0.00	147.46	51.00	0.00
CRU-6	0.11	147.51	51.02	0.00
CRU-9	0.07	143.27	46.78	0.00
CRU-7	50.08	139.57	43.07	0.00
CRU-4	0.11	147.34	50.85	0.00
CRU-3	0.17	147.34	50.84	0.00
TEE-BEND6	0.00	147.51	50.86	0.00
CRU-5	0.02	147.34	50.61	0.00
TEE-BEND4	0.00	147.51	50.76	0.00
TEE-BEND3	0.00	147.61	50.86	0.00
TEE-BEND2	0.00	147.51	50.73	0.00
TEE-BEND1	0.00	147.51	50.71	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.16	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-50.08	2.83	84.93	Open
WM159	-50.08	2.83	84.93	Open
WM160	-50.08	2.83	84.93	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	29.40	0.94	6.54	Open
WM165	-21.61	0.69	3.70	Open
1	21.61	0.00	-147.48	Open Pump
2	29.40	0.00	-147.61	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	143.27	47.27	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00

TEE-BEND34	0.00	146.69	50	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	143.27	47.12	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	139.90	43.72	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00
HYD5	0.00	147.34	51.04	0.00
CRU-8	0.04	143.27	46.93	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00
TEE-BEND26	0.00	147.34	50.97	0.00
TEE-BEND15	0.00	143.27	46.89	0.00
TEE-BEND29	0.00	147.34	50.94	0.00
TEE-BEND13	0.00	139.73	43.32	0.00
TEE-BEND59	0.00	147.35	50.94	0.00
TEE-BEND27	0.00	147.34	50.90	0.00
TEE-BEND41	0.00	147.47	51.02	0.00
TEE-BEND42	0.00	147.46	51.00	0.00
CRU-6	0.11	147.51	51.02	0.00
CRU-9	0.07	143.27	46.78	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	50.08	139.57	43.07	0.00
CRU-4	0.11	147.34	50.85	0.00
CRU-3	0.17	147.34	50.84	0.00
TEE-BEND6	0.00	147.51	50.86	0.00
CRU-5	0.02	147.34	50.61	0.00
TEE-BEND4	0.00	147.51	50.76	0.00

TEE-BEND3	0.00	147.61	50	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

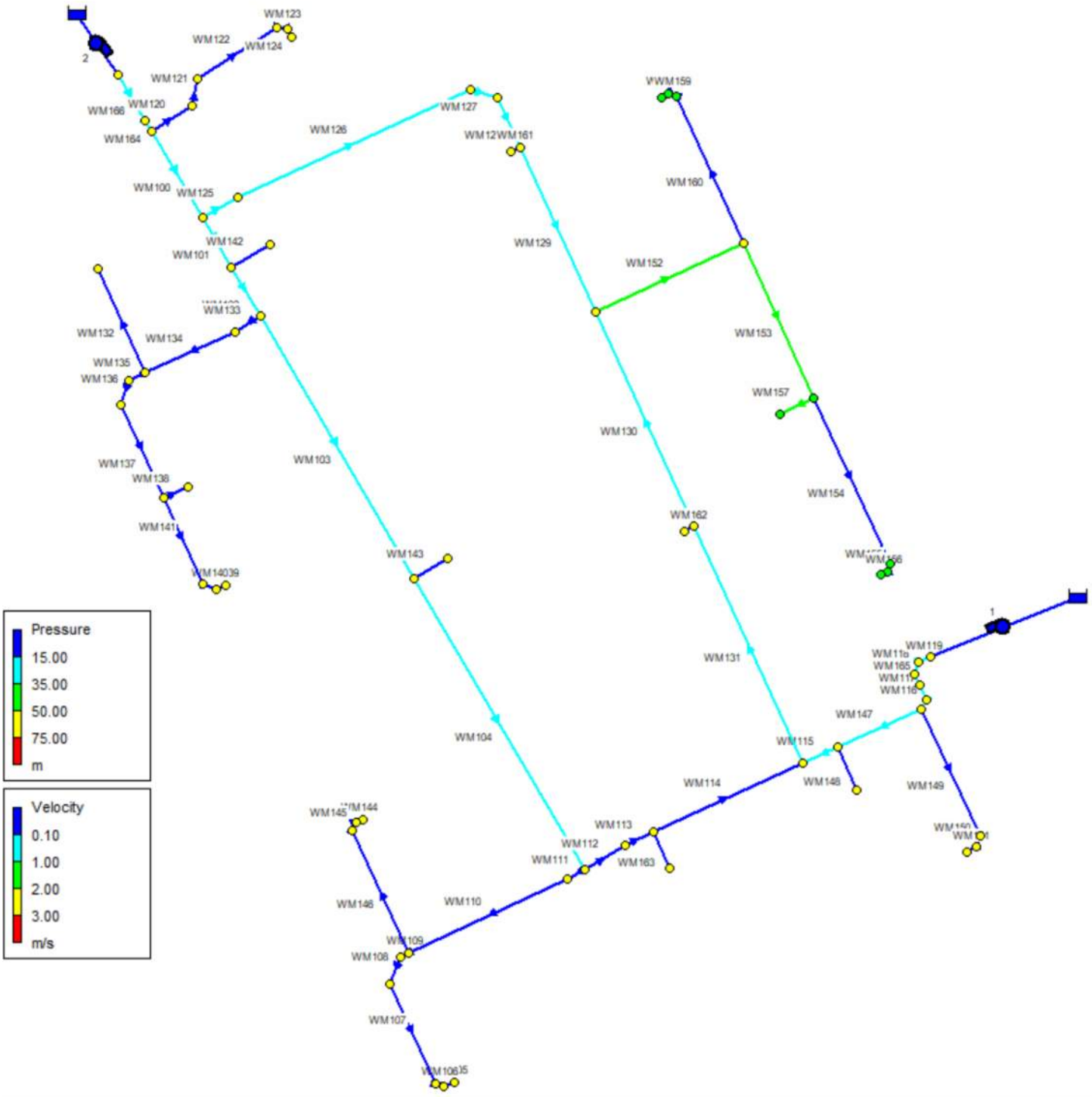
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.16	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open

WM131	-25.45	0.81	5	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-50.08	2.83	84.93	Open
WM159	-50.08	2.83	84.93	Open
WM160	-50.08	2.83	84.93	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	29.40	0.94	6.54	Open
WM165	-21.61	0.69	3.70	Open
1	21.61	0.00	-147.48	Open Pump
2	29.40	0.00	-147.61	Open Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR8



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**************************************************************************
*                            E P A N E T                                 *
*                     Hydraulic and Water Quality                        *
*                     Analysis for Pipe Networks                         *
*                          Version 2.2                                   *
**************************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU8)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	26.69	26.69	0.00
2	100.00	75.00	0.54	39.62	39.62	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.61	52.24	0.00
TEE-BEND24	0.00	147.61	52.24	0.00
TEE-BEND23	0.00	147.61	52.16	0.00
TEE-BEND43	0.00	147.66	52.19	0.00
TEE-BEND44	0.00	147.65	52.11	0.00
CHAMBER2	0.00	147.66	52.10	0.00
TEE-BEND18	0.00	145.70	50.01	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.61	51.74	0.00
TEE-BEND47	0.00	147.60	51.73	0.00
TEE-BEND22	0.00	147.61	51.74	0.00
CRU-1	0.23	147.61	51.68	0.00
TEE-BEND52	0.00	147.61	51.66	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	144.02	48.02	0.00
HYD2	0.00	147.62	51.60	0.00
HYD7	0.00	147.42	51.39	0.00
TEE-BEND51	0.00	147.61	51.57	0.00
TEE-BEND34	0.00	147.31	51.25	0.00
TEE-BEND36	0.00	147.45	51.38	0.00
TEE-BEND55	0.00	147.61	51.54	0.00
TEE-BEND35	0.00	147.42	51.34	0.00
HYD1	0.00	147.63	51.55	0.00
HYD6	0.00	147.45	51.36	0.00
TEE-BEND37	0.00	147.46	51.35	0.00
TEE-BEND50	0.00	147.61	51.49	0.00
TEE-BEND33	0.00	147.45	51.33	0.00
TEE-BEND17	0.00	144.02	47.87	0.00
TEE-BEND21	0.00	147.65	51.49	0.00
TEE-BEND49	0.00	147.61	51.45	0.00
TEE-BEND48	0.00	147.61	51.44	0.00
TEE-BEND12	0.00	145.70	49.51	0.00
TEE-BEND40	0.00	147.68	51.49	0.00
TEE-BEND20	0.00	147.65	51.45	0.00
TEE-BEND38	0.00	147.61	51.40	0.00
TEE-BEND57	0.00	147.62	51.42	0.00
TEE-BEND56	0.00	147.62	51.41	0.00
TEE-BEND58	0.00	147.63	51.40	0.00
TEE-BEND32	0.00	147.62	51.39	0.00
TEE-BEND31	0.00	147.62	51.36	0.00
TEE-BEND30	0.00	147.62	51.35	0.00

HYD5	0.00	147.61	51	0.00
CRU-8	33.37	143.65	47.31	0.00
TEE-BEND28	0.00	147.62	51.27	0.00
CRU-10	0.04	147.65	51.30	0.00
TEE-BEND39	0.00	147.71	51.34	0.00

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Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.62	51.25	0.00	
TEE-BEND15	0.00	144.02	47.64	0.00	
TEE-BEND29	0.00	147.62	51.22	0.00	
TEE-BEND13	0.00	145.70	49.29	0.00	
TEE-BEND59	0.00	147.63	51.22	0.00	
TEE-BEND27	0.00	147.62	51.19	0.00	
TEE-BEND41	0.00	147.67	51.22	0.00	
TEE-BEND42	0.00	147.67	51.21	0.00	
CRU-6	0.11	147.71	51.22	0.00	
CRU-9	0.07	144.02	47.53	0.00	
CRU-7	0.08	145.70	49.20	0.00	
CRU-4	0.11	147.62	51.13	0.00	
CRU-3	0.17	147.62	51.13	0.00	
TEE-BEND6	0.00	147.71	51.06	0.00	
CRU-5	0.02	147.62	50.89	0.00	
TEE-BEND4	0.00	147.71	50.96	0.00	
TEE-BEND3	0.00	147.76	51.01	0.00	
TEE-BEND2	0.00	147.71	50.94	0.00	
TEE-BEND1	0.00	147.71	50.91	0.00	
CHAMBER1	0.00	147.72	50.91	0.00	
R1	-13.83	0.00	0.00	0.00	Reservoir
R2	-20.51	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	20.51	0.65	3.36	Open
WM100	20.40	0.65	3.32	Open
WM101	3.75	0.12	0.14	Open
WM102	3.75	0.12	0.14	Open
WM103	3.45	0.11	0.12	Open
WM104	3.45	0.11	0.12	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.08	0.10	0.10	Open
WM113	3.08	0.10	0.10	Open
WM114	3.08	0.10	0.10	Open
WM115	-13.79	0.44	1.61	Open
WM116	-13.83	0.44	1.62	Open
WM117	-13.83	0.44	1.62	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-13.83	0.44	1.62	Open
WM119	-13.83	0.44	1.62	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	16.65	0.53	2.28	Open
WM126	16.65	0.53	2.28	Open
WM127	16.65	0.53	2.28	Open
WM128	16.65	0.53	2.28	Open
WM129	16.65	0.53	2.28	Open
WM130	-16.87	0.54	2.34	Open
WM131	-16.87	0.54	2.34	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-13.79	0.44	1.61	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	33.52	1.90	40.38	Open
WM153	33.44	1.89	40.20	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.01	Open
WM157	33.37	1.89	40.04	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	20.51	0.65	3.36	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-13.83	0.44	1.62	Open
1	13.83	0.00	-147.68	Open Pump
2	20.51	0.00	-147.76	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.61	52.24	0.00
TEE-BEND24	0.00	147.61	52.24	0.00
TEE-BEND23	0.00	147.61	52.16	0.00
TEE-BEND43	0.00	147.66	52.19	0.00
TEE-BEND44	0.00	147.65	52.11	0.00
CHAMBER2	0.00	147.66	52.10	0.00
TEE-BEND18	0.00	145.70	50.01	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.61	51.74	0.00
TEE-BEND47	0.00	147.60	51.73	0.00
TEE-BEND22	0.00	147.61	51.74	0.00
CRU-1	0.23	147.61	51.68	0.00
TEE-BEND52	0.00	147.61	51.66	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	144.02	48.02	0.00
HYD2	0.00	147.62	51.60	0.00
HYD7	0.00	147.42	51.39	0.00
TEE-BEND51	0.00	147.61	51.57	0.00
TEE-BEND34	0.00	147.31	51.25	0.00
TEE-BEND36	0.00	147.45	51.38	0.00
TEE-BEND55	0.00	147.61	51.54	0.00
TEE-BEND35	0.00	147.42	51.34	0.00
HYD1	0.00	147.63	51.55	0.00

HYD6	0.00	147.45	51	0.00
TEE-BEND37	0.00	147.46	51.35	0.00
TEE-BEND50	0.00	147.61	51.49	0.00
TEE-BEND33	0.00	147.45	51.33	0.00
TEE-BEND17	0.00	144.02	47.87	0.00
TEE-BEND21	0.00	147.65	51.49	0.00
TEE-BEND49	0.00	147.61	51.45	0.00
TEE-BEND48	0.00	147.61	51.44	0.00
TEE-BEND12	0.00	145.70	49.51	0.00
TEE-BEND40	0.00	147.68	51.49	0.00
TEE-BEND20	0.00	147.65	51.45	0.00
TEE-BEND38	0.00	147.61	51.40	0.00
TEE-BEND57	0.00	147.62	51.42	0.00
TEE-BEND56	0.00	147.62	51.41	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.63	51.40	0.00	
TEE-BEND32	0.00	147.62	51.39	0.00	
TEE-BEND31	0.00	147.62	51.36	0.00	
TEE-BEND30	0.00	147.62	51.35	0.00	
HYD5	0.00	147.61	51.31	0.00	
CRU-8	33.37	143.65	47.31	0.00	
TEE-BEND28	0.00	147.62	51.27	0.00	
CRU-10	0.04	147.65	51.30	0.00	
TEE-BEND39	0.00	147.71	51.34	0.00	
TEE-BEND26	0.00	147.62	51.25	0.00	
TEE-BEND15	0.00	144.02	47.64	0.00	
TEE-BEND29	0.00	147.62	51.22	0.00	
TEE-BEND13	0.00	145.70	49.29	0.00	
TEE-BEND59	0.00	147.63	51.22	0.00	
TEE-BEND27	0.00	147.62	51.19	0.00	
TEE-BEND41	0.00	147.67	51.22	0.00	
TEE-BEND42	0.00	147.67	51.21	0.00	
CRU-6	0.11	147.71	51.22	0.00	
CRU-9	0.07	144.02	47.53	0.00	
CRU-7	0.08	145.70	49.20	0.00	
CRU-4	0.11	147.62	51.13	0.00	
CRU-3	0.17	147.62	51.13	0.00	
TEE-BEND6	0.00	147.71	51.06	0.00	
CRU-5	0.02	147.62	50.89	0.00	
TEE-BEND4	0.00	147.71	50.96	0.00	
TEE-BEND3	0.00	147.76	51.01	0.00	
TEE-BEND2	0.00	147.71	50.94	0.00	
TEE-BEND1	0.00	147.71	50.91	0.00	
CHAMBER1	0.00	147.72	50.91	0.00	
R1	-13.83	0.00	0.00	0.00	Reservoir

R2	-20.51	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	20.51	0.65	3.36	Open
WM100	20.40	0.65	3.32	Open
WM101	3.75	0.12	0.14	Open
WM102	3.75	0.12	0.14	Open
WM103	3.45	0.11	0.12	Open
WM104	3.45	0.11	0.12	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.08	0.10	0.10	Open
WM113	3.08	0.10	0.10	Open
WM114	3.08	0.10	0.10	Open
WM115	-13.79	0.44	1.61	Open
WM116	-13.83	0.44	1.62	Open
WM117	-13.83	0.44	1.62	Open
WM118	-13.83	0.44	1.62	Open
WM119	-13.83	0.44	1.62	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	16.65	0.53	2.28	Open
WM126	16.65	0.53	2.28	Open
WM127	16.65	0.53	2.28	Open
WM128	16.65	0.53	2.28	Open
WM129	16.65	0.53	2.28	Open
WM130	-16.87	0.54	2.34	Open
WM131	-16.87	0.54	2.34	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-13.79	0.44	1.61	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	33.52	1.90	40.38	Open
WM153	33.44	1.89	40.20	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	33.37	1.89	40.04	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	20.51	0.65	3.36	Open
WM165	-13.83	0.44	1.62	Open
1	13.83	0.00	-147.68	Open Pump
2	20.51	0.00	-147.76	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.61	52.24	0.00
TEE-BEND24	0.00	147.61	52.24	0.00
TEE-BEND23	0.00	147.61	52.16	0.00
TEE-BEND43	0.00	147.66	52.19	0.00
TEE-BEND44	0.00	147.65	52.11	0.00
CHAMBER2	0.00	147.66	52.10	0.00

TEE-BEND18	0.00	145.70	50	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.61	51.74	0.00
TEE-BEND47	0.00	147.60	51.73	0.00
TEE-BEND22	0.00	147.61	51.74	0.00
CRU-1	0.23	147.61	51.68	0.00
TEE-BEND52	0.00	147.61	51.66	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	144.02	48.02	0.00
HYD2	0.00	147.62	51.60	0.00
HYD7	0.00	147.42	51.39	0.00
TEE-BEND51	0.00	147.61	51.57	0.00
TEE-BEND34	0.00	147.31	51.25	0.00
TEE-BEND36	0.00	147.45	51.38	0.00
TEE-BEND55	0.00	147.61	51.54	0.00
TEE-BEND35	0.00	147.42	51.34	0.00
HYD1	0.00	147.63	51.55	0.00
HYD6	0.00	147.45	51.36	0.00
TEE-BEND37	0.00	147.46	51.35	0.00
TEE-BEND50	0.00	147.61	51.49	0.00
TEE-BEND33	0.00	147.45	51.33	0.00
TEE-BEND17	0.00	144.02	47.87	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.65	51.49	0.00
TEE-BEND49	0.00	147.61	51.45	0.00
TEE-BEND48	0.00	147.61	51.44	0.00
TEE-BEND12	0.00	145.70	49.51	0.00
TEE-BEND40	0.00	147.68	51.49	0.00
TEE-BEND20	0.00	147.65	51.45	0.00
TEE-BEND38	0.00	147.61	51.40	0.00
TEE-BEND57	0.00	147.62	51.42	0.00
TEE-BEND56	0.00	147.62	51.41	0.00
TEE-BEND58	0.00	147.63	51.40	0.00
TEE-BEND32	0.00	147.62	51.39	0.00
TEE-BEND31	0.00	147.62	51.36	0.00
TEE-BEND30	0.00	147.62	51.35	0.00
HYD5	0.00	147.61	51.31	0.00
CRU-8	33.37	143.65	47.31	0.00
TEE-BEND28	0.00	147.62	51.27	0.00
CRU-10	0.04	147.65	51.30	0.00
TEE-BEND39	0.00	147.71	51.34	0.00
TEE-BEND26	0.00	147.62	51.25	0.00
TEE-BEND15	0.00	144.02	47.64	0.00
TEE-BEND29	0.00	147.62	51.22	0.00

TEE-BEND13	0.00	145.70	49	0.00	
TEE-BEND59	0.00	147.63	51.22	0.00	
TEE-BEND27	0.00	147.62	51.19	0.00	
TEE-BEND41	0.00	147.67	51.22	0.00	
TEE-BEND42	0.00	147.67	51.21	0.00	
CRU-6	0.11	147.71	51.22	0.00	
CRU-9	0.07	144.02	47.53	0.00	
CRU-7	0.08	145.70	49.20	0.00	
CRU-4	0.11	147.62	51.13	0.00	
CRU-3	0.17	147.62	51.13	0.00	
TEE-BEND6	0.00	147.71	51.06	0.00	
CRU-5	0.02	147.62	50.89	0.00	
TEE-BEND4	0.00	147.71	50.96	0.00	
TEE-BEND3	0.00	147.76	51.01	0.00	
TEE-BEND2	0.00	147.71	50.94	0.00	
TEE-BEND1	0.00	147.71	50.91	0.00	
CHAMBER1	0.00	147.72	50.91	0.00	
R1	-13.83	0.00	0.00	0.00	Reservoir
R2	-20.51	0.00	0.00	0.00	Reservoir

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Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	20.51	0.65	3.36	Open
WM100	20.40	0.65	3.32	Open
WM101	3.75	0.12	0.14	Open
WM102	3.75	0.12	0.14	Open
WM103	3.45	0.11	0.12	Open
WM104	3.45	0.11	0.12	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.08	0.10	0.10	Open
WM113	3.08	0.10	0.10	Open
WM114	3.08	0.10	0.10	Open
WM115	-13.79	0.44	1.61	Open
WM116	-13.83	0.44	1.62	Open
WM117	-13.83	0.44	1.62	Open
WM118	-13.83	0.44	1.62	Open
WM119	-13.83	0.44	1.62	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	16.65	0.53	2.28	Open
WM126	16.65	0.53	2.28	Open
WM127	16.65	0.53	2.28	Open
WM128	16.65	0.53	2.28	Open
WM129	16.65	0.53	2.28	Open
WM130	-16.87	0.54	2.34	Open
WM131	-16.87	0.54	2.34	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-13.79	0.44	1.61	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	33.52	1.90	40.38	Open	
WM153	33.44	1.89	40.20	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.01	Open	
WM157	33.37	1.89	40.04	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	20.51	0.65	3.36	Open	
WM165	-13.83	0.44	1.62	Open	
1	13.83	0.00	-147.68	Open	Pump

2	20.51	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.61	52.24	0.00
TEE-BEND24	0.00	147.61	52.24	0.00
TEE-BEND23	0.00	147.61	52.16	0.00
TEE-BEND43	0.00	147.66	52.19	0.00
TEE-BEND44	0.00	147.65	52.11	0.00
CHAMBER2	0.00	147.66	52.10	0.00
TEE-BEND18	0.00	145.70	50.01	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.61	51.74	0.00
TEE-BEND47	0.00	147.60	51.73	0.00
TEE-BEND22	0.00	147.61	51.74	0.00
CRU-1	0.23	147.61	51.68	0.00
TEE-BEND52	0.00	147.61	51.66	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	144.02	48.02	0.00
HYD2	0.00	147.62	51.60	0.00
HYD7	0.00	147.42	51.39	0.00
TEE-BEND51	0.00	147.61	51.57	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.31	51.25	0.00
TEE-BEND36	0.00	147.45	51.38	0.00
TEE-BEND55	0.00	147.61	51.54	0.00
TEE-BEND35	0.00	147.42	51.34	0.00
HYD1	0.00	147.63	51.55	0.00
HYD6	0.00	147.45	51.36	0.00
TEE-BEND37	0.00	147.46	51.35	0.00
TEE-BEND50	0.00	147.61	51.49	0.00
TEE-BEND33	0.00	147.45	51.33	0.00
TEE-BEND17	0.00	144.02	47.87	0.00
TEE-BEND21	0.00	147.65	51.49	0.00
TEE-BEND49	0.00	147.61	51.45	0.00
TEE-BEND48	0.00	147.61	51.44	0.00
TEE-BEND12	0.00	145.70	49.51	0.00
TEE-BEND40	0.00	147.68	51.49	0.00
TEE-BEND20	0.00	147.65	51.45	0.00
TEE-BEND38	0.00	147.61	51.40	0.00
TEE-BEND57	0.00	147.62	51.42	0.00

TEE-BEND56	0.00	147.62	51	0.00
TEE-BEND58	0.00	147.63	51.40	0.00
TEE-BEND32	0.00	147.62	51.39	0.00
TEE-BEND31	0.00	147.62	51.36	0.00
TEE-BEND30	0.00	147.62	51.35	0.00
HYD5	0.00	147.61	51.31	0.00
CRU-8	33.37	143.65	47.31	0.00
TEE-BEND28	0.00	147.62	51.27	0.00
CRU-10	0.04	147.65	51.30	0.00
TEE-BEND39	0.00	147.71	51.34	0.00
TEE-BEND26	0.00	147.62	51.25	0.00
TEE-BEND15	0.00	144.02	47.64	0.00
TEE-BEND29	0.00	147.62	51.22	0.00
TEE-BEND13	0.00	145.70	49.29	0.00
TEE-BEND59	0.00	147.63	51.22	0.00
TEE-BEND27	0.00	147.62	51.19	0.00
TEE-BEND41	0.00	147.67	51.22	0.00
TEE-BEND42	0.00	147.67	51.21	0.00
CRU-6	0.11	147.71	51.22	0.00
CRU-9	0.07	144.02	47.53	0.00
CRU-7	0.08	145.70	49.20	0.00
CRU-4	0.11	147.62	51.13	0.00
CRU-3	0.17	147.62	51.13	0.00
TEE-BEND6	0.00	147.71	51.06	0.00
CRU-5	0.02	147.62	50.89	0.00
TEE-BEND4	0.00	147.71	50.96	0.00
TEE-BEND3	0.00	147.76	51.01	0.00
TEE-BEND2	0.00	147.71	50.94	0.00
TEE-BEND1	0.00	147.71	50.91	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.72	50.91	0.00	
R1	-13.83	0.00	0.00	0.00	Reservoir
R2	-20.51	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	20.51	0.65	3.36	Open
WM100	20.40	0.65	3.32	Open
WM101	3.75	0.12	0.14	Open
WM102	3.75	0.12	0.14	Open
WM103	3.45	0.11	0.12	Open
WM104	3.45	0.11	0.12	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.08	0.10	0.10	Open
WM113	3.08	0.10	0.10	Open
WM114	3.08	0.10	0.10	Open
WM115	-13.79	0.44	1.61	Open
WM116	-13.83	0.44	1.62	Open
WM117	-13.83	0.44	1.62	Open
WM118	-13.83	0.44	1.62	Open
WM119	-13.83	0.44	1.62	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	16.65	0.53	2.28	Open
WM126	16.65	0.53	2.28	Open
WM127	16.65	0.53	2.28	Open
WM128	16.65	0.53	2.28	Open
WM129	16.65	0.53	2.28	Open
WM130	-16.87	0.54	2.34	Open
WM131	-16.87	0.54	2.34	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-13.79	0.44	1.61	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	33.52	1.90	40.38	Open
WM153	33.44	1.89	40.20	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	33.37	1.89	40.04	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	20.51	0.65	3.36	Open
WM165	-13.83	0.44	1.62	Open
1	13.83	0.00	-147.68	Open Pump
2	20.51	0.00	-147.76	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.61	52.24	0.00
TEE-BEND24	0.00	147.61	52.24	0.00
TEE-BEND23	0.00	147.61	52.16	0.00
TEE-BEND43	0.00	147.66	52.19	0.00
TEE-BEND44	0.00	147.65	52.11	0.00
CHAMBER2	0.00	147.66	52.10	0.00
TEE-BEND18	0.00	145.70	50.01	0.00
TEE-BEND46	0.00	147.60	51.80	0.00
TEE-BEND53	0.00	147.61	51.74	0.00
TEE-BEND47	0.00	147.60	51.73	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.61	51.74	0.00
CRU-1	0.23	147.61	51.68	0.00
TEE-BEND52	0.00	147.61	51.66	0.00
HYD3	0.00	147.60	51.63	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	144.02	48.02	0.00
HYD2	0.00	147.62	51.60	0.00
HYD7	0.00	147.42	51.39	0.00
TEE-BEND51	0.00	147.61	51.57	0.00

TEE-BEND34	0.00	147.31	51	0.00
TEE-BEND36	0.00	147.45	51.38	0.00
TEE-BEND55	0.00	147.61	51.54	0.00
TEE-BEND35	0.00	147.42	51.34	0.00
HYD1	0.00	147.63	51.55	0.00
HYD6	0.00	147.45	51.36	0.00
TEE-BEND37	0.00	147.46	51.35	0.00
TEE-BEND50	0.00	147.61	51.49	0.00
TEE-BEND33	0.00	147.45	51.33	0.00
TEE-BEND17	0.00	144.02	47.87	0.00
TEE-BEND21	0.00	147.65	51.49	0.00
TEE-BEND49	0.00	147.61	51.45	0.00
TEE-BEND48	0.00	147.61	51.44	0.00
TEE-BEND12	0.00	145.70	49.51	0.00
TEE-BEND40	0.00	147.68	51.49	0.00
TEE-BEND20	0.00	147.65	51.45	0.00
TEE-BEND38	0.00	147.61	51.40	0.00
TEE-BEND57	0.00	147.62	51.42	0.00
TEE-BEND56	0.00	147.62	51.41	0.00
TEE-BEND58	0.00	147.63	51.40	0.00
TEE-BEND32	0.00	147.62	51.39	0.00
TEE-BEND31	0.00	147.62	51.36	0.00
TEE-BEND30	0.00	147.62	51.35	0.00
HYD5	0.00	147.61	51.31	0.00
CRU-8	33.37	143.65	47.31	0.00
TEE-BEND28	0.00	147.62	51.27	0.00
CRU-10	0.04	147.65	51.30	0.00
TEE-BEND39	0.00	147.71	51.34	0.00
TEE-BEND26	0.00	147.62	51.25	0.00
TEE-BEND15	0.00	144.02	47.64	0.00
TEE-BEND29	0.00	147.62	51.22	0.00
TEE-BEND13	0.00	145.70	49.29	0.00
TEE-BEND59	0.00	147.63	51.22	0.00
TEE-BEND27	0.00	147.62	51.19	0.00
TEE-BEND41	0.00	147.67	51.22	0.00
TEE-BEND42	0.00	147.67	51.21	0.00
CRU-6	0.11	147.71	51.22	0.00
CRU-9	0.07	144.02	47.53	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	145.70	49.20	0.00
CRU-4	0.11	147.62	51.13	0.00
CRU-3	0.17	147.62	51.13	0.00
TEE-BEND6	0.00	147.71	51.06	0.00
CRU-5	0.02	147.62	50.89	0.00
TEE-BEND4	0.00	147.71	50.96	0.00

TEE-BEND3	0.00	147.76	51	0.00	
TEE-BEND2	0.00	147.71	50.94	0.00	
TEE-BEND1	0.00	147.71	50.91	0.00	
CHAMBER1	0.00	147.72	50.91	0.00	
R1	-13.83	0.00	0.00	0.00	Reservoir
R2	-20.51	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

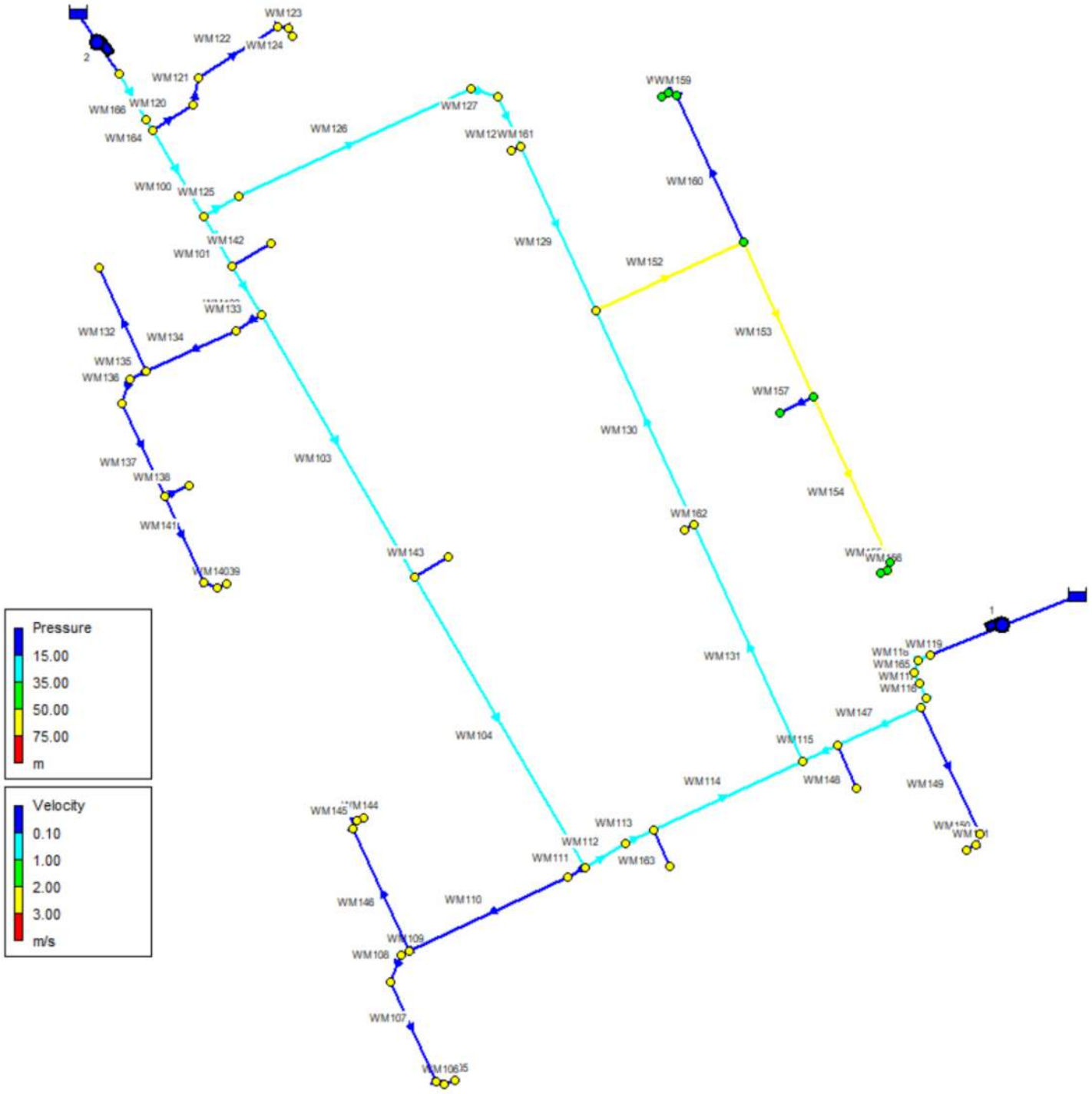
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	20.51	0.65	3.36	Open
WM100	20.40	0.65	3.32	Open
WM101	3.75	0.12	0.14	Open
WM102	3.75	0.12	0.14	Open
WM103	3.45	0.11	0.12	Open
WM104	3.45	0.11	0.12	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.08	0.10	0.10	Open
WM113	3.08	0.10	0.10	Open
WM114	3.08	0.10	0.10	Open
WM115	-13.79	0.44	1.61	Open
WM116	-13.83	0.44	1.62	Open
WM117	-13.83	0.44	1.62	Open
WM118	-13.83	0.44	1.62	Open
WM119	-13.83	0.44	1.62	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	16.65	0.53	2.28	Open
WM126	16.65	0.53	2.28	Open
WM127	16.65	0.53	2.28	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	16.65	0.53	2.28	Open
WM129	16.65	0.53	2.28	Open
WM130	-16.87	0.54	2.34	Open

WM131	-16.87	0.54	2	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-13.79	0.44	1.61	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	33.52	1.90	40.38	Open
WM153	33.44	1.89	40.20	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	33.37	1.89	40.04	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	20.51	0.65	3.36	Open
WM165	-13.83	0.44	1.62	Open
1	13.83	0.00	-147.68	Open Pump
2	20.51	0.00	-147.76	Open Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR9



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*********************************************************************
*                            E P A N E T                            *
*                     Hydraulic and Water Quality                   *
*                     Analysis for Pipe Networks                    *
*                          Version 2.2                              *
*********************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU9)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	41.65	41.65	0.00
2	100.00	75.00	0.54	56.73	56.73	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	135.93	39.93	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	139.74	43.58	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	143.27	47.09	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00

HYD5	0.00	147.34	51	0.00
CRU-8	0.04	139.74	43.39	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00

Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.34	50.97	0.00	
TEE-BEND15	0.00	135.75	39.37	0.00	
TEE-BEND29	0.00	147.34	50.94	0.00	
TEE-BEND13	0.00	143.27	46.87	0.00	
TEE-BEND59	0.00	147.35	50.94	0.00	
TEE-BEND27	0.00	147.34	50.90	0.00	
TEE-BEND41	0.00	147.47	51.02	0.00	
TEE-BEND42	0.00	147.46	51.00	0.00	
CRU-6	0.11	147.51	51.02	0.00	
CRU-9	50.07	135.60	39.10	0.00	
CRU-7	0.08	143.27	46.78	0.00	
CRU-4	0.11	147.34	50.85	0.00	
CRU-3	0.17	147.34	50.84	0.00	
TEE-BEND6	0.00	147.51	50.86	0.00	
CRU-5	0.02	147.34	50.61	0.00	
TEE-BEND4	0.00	147.51	50.76	0.00	
TEE-BEND3	0.00	147.61	50.86	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	50.11	2.84	85.03	Open

WM154	50.07	2.83	84	Open
WM155	50.07	2.83	84.90	Open
WM156	50.07	2.83	84.90	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	29.40	0.94	6.54	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-21.61	0.69	3.70	Open
1	21.61	0.00	-147.48	Open Pump
2	29.40	0.00	-147.61	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	135.93	39.93	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00

HYD6	0.00	146.98	50	0.00	
TEE-BEND37	0.00	147.00	50.89	0.00	
TEE-BEND50	0.00	147.31	51.20	0.00	
TEE-BEND33	0.00	146.98	50.86	0.00	
TEE-BEND17	0.00	139.74	43.58	0.00	
TEE-BEND21	0.00	147.42	51.27	0.00	
TEE-BEND49	0.00	147.31	51.15	0.00	
TEE-BEND48	0.00	147.31	51.14	0.00	
TEE-BEND12	0.00	143.27	47.09	0.00	
TEE-BEND40	0.00	147.48	51.29	0.00	
TEE-BEND20	0.00	147.42	51.23	0.00	
TEE-BEND38	0.00	147.30	51.10	0.00	
TEE-BEND57	0.00	147.34	51.14	0.00	
TEE-BEND56	0.00	147.33	51.12	0.00	

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.34	51.11	0.00	
TEE-BEND32	0.00	147.34	51.10	0.00	
TEE-BEND31	0.00	147.34	51.08	0.00	
TEE-BEND30	0.00	147.34	51.06	0.00	
HYD5	0.00	147.34	51.04	0.00	
CRU-8	0.04	139.74	43.39	0.00	
TEE-BEND28	0.00	147.34	50.99	0.00	
CRU-10	0.04	147.42	51.07	0.00	
TEE-BEND39	0.00	147.51	51.14	0.00	
TEE-BEND26	0.00	147.34	50.97	0.00	
TEE-BEND15	0.00	135.75	39.37	0.00	
TEE-BEND29	0.00	147.34	50.94	0.00	
TEE-BEND13	0.00	143.27	46.87	0.00	
TEE-BEND59	0.00	147.35	50.94	0.00	
TEE-BEND27	0.00	147.34	50.90	0.00	
TEE-BEND41	0.00	147.47	51.02	0.00	
TEE-BEND42	0.00	147.46	51.00	0.00	
CRU-6	0.11	147.51	51.02	0.00	
CRU-9	50.07	135.60	39.10	0.00	
CRU-7	0.08	143.27	46.78	0.00	
CRU-4	0.11	147.34	50.85	0.00	
CRU-3	0.17	147.34	50.84	0.00	
TEE-BEND6	0.00	147.51	50.86	0.00	
CRU-5	0.02	147.34	50.61	0.00	
TEE-BEND4	0.00	147.51	50.76	0.00	
TEE-BEND3	0.00	147.61	50.86	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir

R2	-29.40	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.16	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open
WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	50.11	2.84	85.03	Open
WM154	50.07	2.83	84.90	Open
WM155	50.07	2.83	84.90	Open

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Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM156	50.07	2.83	84.90	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	29.40	0.94	6.54	Open	
WM165	-21.61	0.69	3.70	Open	
1	21.61	0.00	-147.48	Open	Pump
2	29.40	0.00	-147.61	Open	Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00

TEE-BEND18	0.00	143.27	47	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	135.93	39.93	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	139.74	43.58	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	143.27	47.09	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00
HYD5	0.00	147.34	51.04	0.00
CRU-8	0.04	139.74	43.39	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00
TEE-BEND26	0.00	147.34	50.97	0.00
TEE-BEND15	0.00	135.75	39.37	0.00
TEE-BEND29	0.00	147.34	50.94	0.00

TEE-BEND13	0.00	143.27	46	0.00	
TEE-BEND59	0.00	147.35	50.94	0.00	
TEE-BEND27	0.00	147.34	50.90	0.00	
TEE-BEND41	0.00	147.47	51.02	0.00	
TEE-BEND42	0.00	147.46	51.00	0.00	
CRU-6	0.11	147.51	51.02	0.00	
CRU-9	50.07	135.60	39.10	0.00	
CRU-7	0.08	143.27	46.78	0.00	
CRU-4	0.11	147.34	50.85	0.00	
CRU-3	0.17	147.34	50.84	0.00	
TEE-BEND6	0.00	147.51	50.86	0.00	
CRU-5	0.02	147.34	50.61	0.00	
TEE-BEND4	0.00	147.51	50.76	0.00	
TEE-BEND3	0.00	147.61	50.86	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	-21.57	0.69	3.68	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	50.19	2.84	85.28	Open	
WM153	50.11	2.84	85.03	Open	
WM154	50.07	2.83	84.90	Open	
WM155	50.07	2.83	84.90	Open	
WM156	50.07	2.83	84.90	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	29.40	0.94	6.54	Open	
WM165	-21.61	0.69	3.70	Open	
1	21.61	0.00	-147.48	Open	Pump

2	29.40	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	135.93	39.93	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	146.69	50.63	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	139.74	43.58	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	143.27	47.09	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00

TEE-BEND56	0.00	147.33	51	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00
HYD5	0.00	147.34	51.04	0.00
CRU-8	0.04	139.74	43.39	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00
TEE-BEND26	0.00	147.34	50.97	0.00
TEE-BEND15	0.00	135.75	39.37	0.00
TEE-BEND29	0.00	147.34	50.94	0.00
TEE-BEND13	0.00	143.27	46.87	0.00
TEE-BEND59	0.00	147.35	50.94	0.00
TEE-BEND27	0.00	147.34	50.90	0.00
TEE-BEND41	0.00	147.47	51.02	0.00
TEE-BEND42	0.00	147.46	51.00	0.00
CRU-6	0.11	147.51	51.02	0.00
CRU-9	50.07	135.60	39.10	0.00
CRU-7	0.08	143.27	46.78	0.00
CRU-4	0.11	147.34	50.85	0.00
CRU-3	0.17	147.34	50.84	0.00
TEE-BEND6	0.00	147.51	50.86	0.00
CRU-5	0.02	147.34	50.61	0.00
TEE-BEND4	0.00	147.51	50.76	0.00
TEE-BEND3	0.00	147.61	50.86	0.00
TEE-BEND2	0.00	147.51	50.73	0.00
TEE-BEND1	0.00	147.51	50.71	0.00

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Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open
WM131	-25.45	0.81	5.01	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	-21.57	0.69	3.68	Open
WM148	0.00	0.00	0.00	Open

WM149	0.04	0.00	0.00	Open
WM150	0.04	0.00	0.00	Open
WM151	0.04	0.00	0.00	Open
WM152	50.19	2.84	85.28	Open
WM153	50.11	2.84	85.03	Open
WM154	50.07	2.83	84.90	Open
WM155	50.07	2.83	84.90	Open
WM156	50.07	2.83	84.90	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	29.40	0.94	6.54	Open
WM165	-21.61	0.69	3.70	Open
1	21.61	0.00	-147.48	Open Pump
2	29.40	0.00	-147.61	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.31	51.95	0.00
TEE-BEND24	0.00	147.31	51.95	0.00
TEE-BEND23	0.00	147.31	51.87	0.00
TEE-BEND43	0.00	147.43	51.96	0.00
TEE-BEND44	0.00	147.42	51.88	0.00
CHAMBER2	0.00	147.45	51.88	0.00
TEE-BEND18	0.00	143.27	47.59	0.00
TEE-BEND46	0.00	147.31	51.51	0.00
TEE-BEND53	0.00	147.31	51.44	0.00
TEE-BEND47	0.00	147.31	51.44	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.34	51.46	0.00
CRU-1	0.23	147.31	51.39	0.00
TEE-BEND52	0.00	147.31	51.37	0.00
HYD3	0.00	147.31	51.34	0.00
TEE-BEND45	0.00	147.30	51.32	0.00
TEE-BEND16	0.00	135.93	39.93	0.00
HYD2	0.00	147.33	51.32	0.00
HYD7	0.00	146.90	50.87	0.00
TEE-BEND51	0.00	147.31	51.28	0.00

TEE-BEND34	0.00	146.69	50	0.00
TEE-BEND36	0.00	146.97	50.90	0.00
TEE-BEND55	0.00	147.31	51.24	0.00
TEE-BEND35	0.00	146.90	50.83	0.00
HYD1	0.00	147.34	51.27	0.00
HYD6	0.00	146.98	50.89	0.00
TEE-BEND37	0.00	147.00	50.89	0.00
TEE-BEND50	0.00	147.31	51.20	0.00
TEE-BEND33	0.00	146.98	50.86	0.00
TEE-BEND17	0.00	139.74	43.58	0.00
TEE-BEND21	0.00	147.42	51.27	0.00
TEE-BEND49	0.00	147.31	51.15	0.00
TEE-BEND48	0.00	147.31	51.14	0.00
TEE-BEND12	0.00	143.27	47.09	0.00
TEE-BEND40	0.00	147.48	51.29	0.00
TEE-BEND20	0.00	147.42	51.23	0.00
TEE-BEND38	0.00	147.30	51.10	0.00
TEE-BEND57	0.00	147.34	51.14	0.00
TEE-BEND56	0.00	147.33	51.12	0.00
TEE-BEND58	0.00	147.34	51.11	0.00
TEE-BEND32	0.00	147.34	51.10	0.00
TEE-BEND31	0.00	147.34	51.08	0.00
TEE-BEND30	0.00	147.34	51.06	0.00
HYD5	0.00	147.34	51.04	0.00
CRU-8	0.04	139.74	43.39	0.00
TEE-BEND28	0.00	147.34	50.99	0.00
CRU-10	0.04	147.42	51.07	0.00
TEE-BEND39	0.00	147.51	51.14	0.00
TEE-BEND26	0.00	147.34	50.97	0.00
TEE-BEND15	0.00	135.75	39.37	0.00
TEE-BEND29	0.00	147.34	50.94	0.00
TEE-BEND13	0.00	143.27	46.87	0.00
TEE-BEND59	0.00	147.35	50.94	0.00
TEE-BEND27	0.00	147.34	50.90	0.00
TEE-BEND41	0.00	147.47	51.02	0.00
TEE-BEND42	0.00	147.46	51.00	0.00
CRU-6	0.11	147.51	51.02	0.00
CRU-9	50.07	135.60	39.10	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	143.27	46.78	0.00
CRU-4	0.11	147.34	50.85	0.00
CRU-3	0.17	147.34	50.84	0.00
TEE-BEND6	0.00	147.51	50.86	0.00
CRU-5	0.02	147.34	50.61	0.00
TEE-BEND4	0.00	147.51	50.76	0.00

TEE-BEND3	0.00	147.61	50	0.00	
TEE-BEND2	0.00	147.51	50.73	0.00	
TEE-BEND1	0.00	147.51	50.71	0.00	
CHAMBER1	0.00	147.53	50.71	0.00	
R1	-21.61	0.00	0.00	0.00	Reservoir
R2	-29.40	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

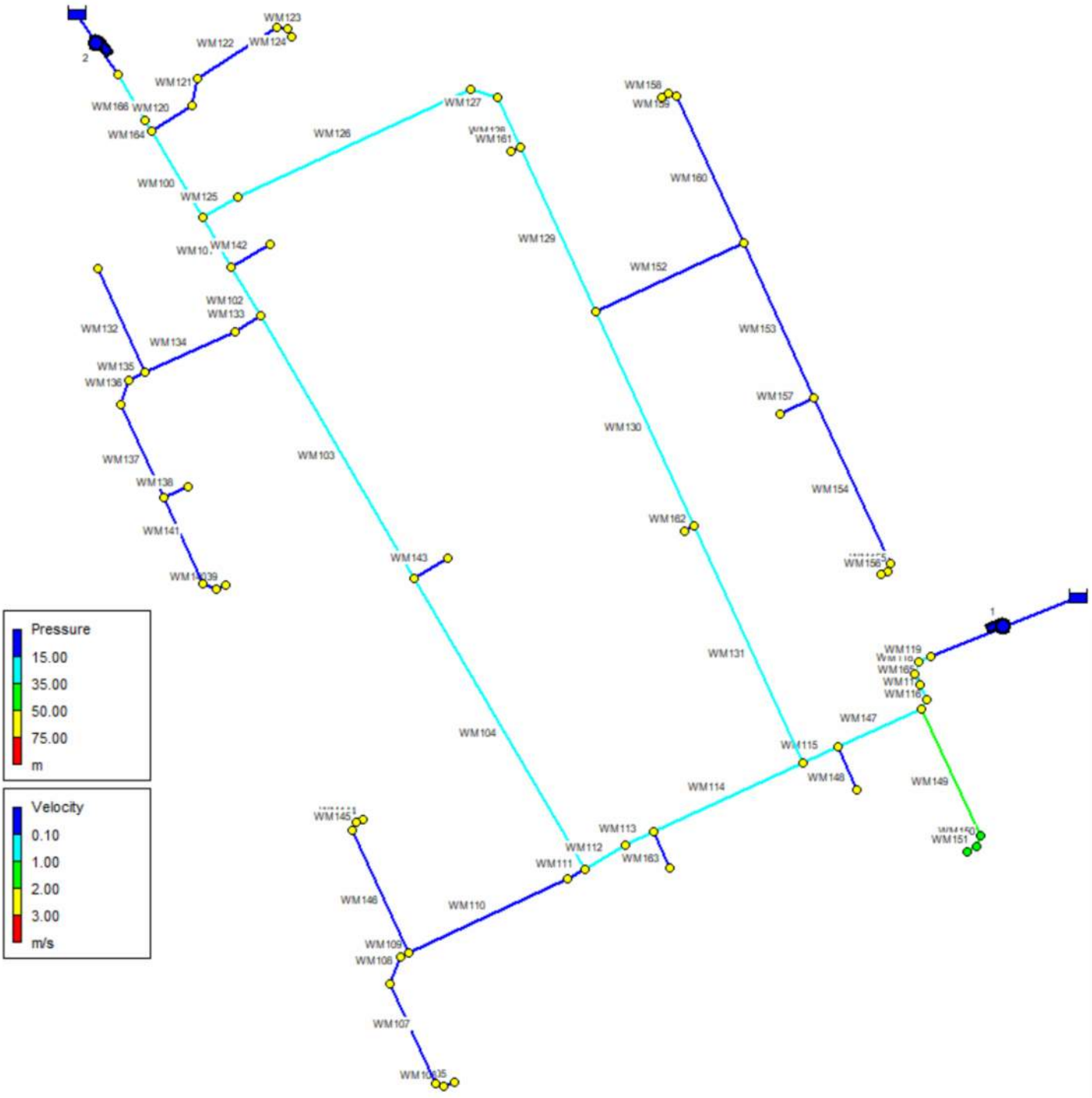
Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	29.40	0.94	6.54	Open
WM100	29.29	0.93	6.49	Open
WM101	4.56	0.15	0.21	Open
WM102	4.56	0.15	0.21	Open
WM103	4.26	0.14	0.18	Open
WM104	4.26	0.14	0.18	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	3.89	0.12	0.15	Open
WM113	3.89	0.12	0.15	Open
WM114	3.89	0.12	0.15	Open
WM115	-21.57	0.69	3.68	Open
WM116	-21.61	0.69	3.70	Open
WM117	-21.61	0.69	3.69	Open
WM118	-21.61	0.69	3.70	Open
WM119	-21.61	0.69	3.70	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	24.74	0.79	4.75	Open
WM126	24.74	0.79	4.75	Open
WM127	24.74	0.79	4.75	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	24.74	0.79	4.75	Open
WM129	24.74	0.79	4.75	Open
WM130	-25.45	0.81	5.01	Open

WM131	-25.45	0.81	5	Open	
WM132	-0.02	0.00	0.00	Open	
WM133	0.30	0.01	0.00	Open	
WM134	0.30	0.01	0.00	Open	
WM135	0.28	0.01	0.00	Open	
WM136	0.28	0.01	0.00	Open	
WM137	0.28	0.01	0.00	Open	
WM138	0.11	0.01	0.00	Open	
WM139	-0.17	0.01	0.00	Open	
WM140	-0.17	0.01	0.00	Open	
WM141	-0.17	0.01	0.00	Open	
WM142	0.00	0.00	0.00	Open	
WM143	0.00	0.00	0.00	Open	
WM144	-0.14	0.00	0.00	Open	
WM145	-0.14	0.00	0.00	Open	
WM146	-0.14	0.00	0.00	Open	
WM147	-21.57	0.69	3.68	Open	
WM148	0.00	0.00	0.00	Open	
WM149	0.04	0.00	0.00	Open	
WM150	0.04	0.00	0.00	Open	
WM151	0.04	0.00	0.00	Open	
WM152	50.19	2.84	85.28	Open	
WM153	50.11	2.84	85.03	Open	
WM154	50.07	2.83	84.90	Open	
WM155	50.07	2.83	84.90	Open	
WM156	50.07	2.83	84.90	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	29.40	0.94	6.54	Open	
WM165	-21.61	0.69	3.70	Open	
1	21.61	0.00	-147.48	Open	Pump
2	29.40	0.00	-147.61	Open	Pump

EPANET Model Schematic Maximum Day Plus Fire Demand @ CR10



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**************************************************************************
*                            E P A N E T                                 *
*                     Hydraulic and Water Quality                        *
*                     Analysis for Pipe Networks                         *
*                          Version 2.2                                   *
**************************************************************************

Input File: 263560_Proposed Conditions - Max Day + Fire(CRU10)+pumps.net
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Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
WM166	TEE-BEND3	CHAMBER1	13.008	200
WM100	TEE-BEND2	TEE-BEND59	24.428	200
WM101	TEE-BEND59	TEE-BEND58	14.105	200
WM102	TEE-BEND58	TEE-BEND57	14.07	200
WM103	TEE-BEND57	TEE-BEND56	74.594	200
WM104	TEE-BEND56	TEE-BEND55	83.148	200
WM105	CRU-1	TEE-BEND53	2.742	200
WM106	TEE-BEND53	TEE-BEND52	2.121	200
WM107	TEE-BEND52	TEE-BEND51	27.06	200
WM108	TEE-BEND51	TEE-BEND50	7.071	200
WM109	TEE-BEND50	TEE-BEND49	2.273	200
WM110	TEE-BEND49	TEE-BEND48	43.09	200
WM111	TEE-BEND48	TEE-BEND55	5.039	200
WM112	TEE-BEND55	TEE-BEND47	11.407	200
WM113	TEE-BEND47	TEE-BEND46	7.671	200
WM114	TEE-BEND46	TEE-BEND45	40.486	200
WM115	TEE-BEND45	TEE-BEND22	9.344	200
WM116	TEE-BEND44	TEE-BEND43	2.594	200
WM117	TEE-BEND43	CHAMBER2	4.079	200
WM118	TEE-BEND42	TEE-BEND41	3.05	200
WM119	TEE-BEND41	TEE-BEND40	3.256	200
WM120	TEE-BEND2	TEE-BEND6	11.711	200
WM121	TEE-BEND6	TEE-BEND1	6.787	200
WM122	TEE-BEND1	TEE-BEND4	23.393	200
WM123	TEE-BEND4	TEE-BEND39	2.505	200
WM124	TEE-BEND39	CRU-6	2.125	200
WM125	TEE-BEND59	TEE-BEND38	10.059	200
WM126	TEE-BEND38	TEE-BEND37	63.282	200
WM127	TEE-BEND37	TEE-BEND36	6.851	200
WM128	TEE-BEND36	TEE-BEND35	13.346	200
WM129	TEE-BEND35	TEE-BEND34	44.459	200
WM130	TEE-BEND34	TEE-BEND33	58.093	200
WM131	TEE-BEND33	TEE-BEND45	64.037	200
WM132	CRU-5	TEE-BEND32	28.008	150
WM133	TEE-BEND57	TEE-BEND31	7.36	200

WM134	TEE-BEND31	TEE-BEND32	24.33	200
WM135	TEE-BEND32	TEE-BEND30	4.156	200

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Link - Node Table: (continued)

Link ID	Start Node	End Node	Length m	Diameter mm	
WM136	TEE-BEND30	TEE-BEND29	6.364	200	
WM137	TEE-BEND29	TEE-BEND28	25.455	200	
WM138	TEE-BEND28	CRU-4	6.415	150	
WM139	CRU-3	TEE-BEND27	2.385	200	
WM140	TEE-BEND27	TEE-BEND26	3.536	200	
WM141	TEE-BEND26	TEE-BEND28	23.086	200	
WM142	TEE-BEND58	HYD1	10.887	150	
WM143	TEE-BEND56	HYD2	9.503	150	
WM144	CRU-2	TEE-BEND24	1.762	200	
WM145	TEE-BEND24	TEE-BEND23	2.121	200	
WM146	TEE-BEND23	TEE-BEND49	32.909	200	
WM147	TEE-BEND22	TEE-BEND44	22.758	200	
WM148	TEE-BEND22	HYD5	11.496	150	
WM149	TEE-BEND44	TEE-BEND21	34.44	150	
WM150	TEE-BEND21	TEE-BEND20	2.828	150	
WM151	TEE-BEND20	CRU-10	2.565	150	
WM152	TEE-BEND34	TEE-BEND18	40.078	150	
WM153	TEE-BEND18	TEE-BEND17	41.623	150	
WM154	TEE-BEND17	TEE-BEND16	44.771	150	
WM155	TEE-BEND16	TEE-BEND15	2.121	150	
WM156	TEE-BEND15	CRU-9	1.839	150	
WM157	TEE-BEND17	CRU-8	9.273	150	
WM158	CRU-7	TEE-BEND13	1.895	150	
WM159	TEE-BEND13	TEE-BEND12	2.082	150	
WM160	TEE-BEND12	TEE-BEND18	39.698	150	
WM161	TEE-BEND35	HYD7	2.581	150	
WM162	TEE-BEND33	HYD6	2.581	150	
WM163	TEE-BEND46	HYD3	9.67	150	
WM164	CHAMBER1	TEE-BEND2	3.351	200	
WM165	CHAMBER2	TEE-BEND42	2.85	200	
1	R1	TEE-BEND40	#N/A	#N/A	Pump
2	R2	TEE-BEND3	#N/A	#N/A	Pump

Energy Usage:

Pump	Usage Factor	Avg. Effic.	Kw-hr /m3	Avg. Kw	Peak Kw	Cost /day
1	100.00	75.00	0.54	33.80	33.80	0.00
2	100.00	75.00	0.54	32.49	32.49	0.00
				Demand Charge:		0.00

Total Cost: 0.00

Node Results at 0:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.63	52.27	0.00
TEE-BEND24	0.00	147.63	52.27	0.00
TEE-BEND23	0.00	147.63	52.19	0.00
TEE-BEND43	0.00	147.54	52.07	0.00
TEE-BEND44	0.00	147.53	51.99	0.00
CHAMBER2	0.00	147.55	51.99	0.00
TEE-BEND18	0.00	147.67	51.99	0.00
TEE-BEND46	0.00	147.62	51.82	0.00
TEE-BEND53	0.00	147.63	51.76	0.00
TEE-BEND47	0.00	147.63	51.76	0.00
TEE-BEND22	0.00	147.58	51.71	0.00
CRU-1	0.23	147.63	51.71	0.00
TEE-BEND52	0.00	147.63	51.69	0.00
HYD3	0.00	147.62	51.65	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	147.67	51.67	0.00
HYD2	0.00	147.69	51.68	0.00
HYD7	0.00	147.70	51.67	0.00
TEE-BEND51	0.00	147.63	51.60	0.00
TEE-BEND34	0.00	147.67	51.61	0.00
TEE-BEND36	0.00	147.71	51.64	0.00
TEE-BEND55	0.00	147.63	51.57	0.00
TEE-BEND35	0.00	147.70	51.63	0.00
HYD1	0.00	147.74	51.67	0.00
HYD6	0.00	147.64	51.54	0.00
TEE-BEND37	0.00	147.71	51.60	0.00
TEE-BEND50	0.00	147.63	51.52	0.00
TEE-BEND33	0.00	147.64	51.52	0.00
TEE-BEND17	0.00	147.67	51.51	0.00
TEE-BEND21	0.00	146.15	50.00	0.00
TEE-BEND49	0.00	147.63	51.47	0.00
TEE-BEND48	0.00	147.63	51.47	0.00
TEE-BEND12	0.00	147.67	51.48	0.00
TEE-BEND40	0.00	147.57	51.38	0.00
TEE-BEND20	0.00	146.04	49.84	0.00
TEE-BEND38	0.00	147.75	51.54	0.00
TEE-BEND57	0.00	147.73	51.53	0.00
TEE-BEND56	0.00	147.69	51.48	0.00
TEE-BEND58	0.00	147.74	51.51	0.00
TEE-BEND32	0.00	147.73	51.50	0.00
TEE-BEND31	0.00	147.73	51.47	0.00
TEE-BEND30	0.00	147.73	51.46	0.00

HYD5	0.00	147.58	51	0.00
CRU-8	0.04	147.67	51.33	0.00
TEE-BEND28	0.00	147.73	51.38	0.00
CRU-10	33.37	145.94	49.59	0.00
TEE-BEND39	0.00	147.81	51.44	0.00

Node Results at 0:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND26	0.00	147.73	51.36	0.00	
TEE-BEND15	0.00	147.67	51.29	0.00	
TEE-BEND29	0.00	147.73	51.33	0.00	
TEE-BEND13	0.00	147.67	51.26	0.00	
TEE-BEND59	0.00	147.75	51.34	0.00	
TEE-BEND27	0.00	147.73	51.30	0.00	
TEE-BEND41	0.00	147.57	51.11	0.00	
TEE-BEND42	0.00	147.56	51.10	0.00	
CRU-6	0.11	147.81	51.32	0.00	
CRU-9	0.07	147.67	51.18	0.00	
CRU-7	0.08	147.67	51.18	0.00	
CRU-4	0.11	147.73	51.24	0.00	
CRU-3	0.17	147.73	51.24	0.00	
TEE-BEND6	0.00	147.81	51.16	0.00	
CRU-5	0.02	147.73	51.00	0.00	
TEE-BEND4	0.00	147.81	51.06	0.00	
TEE-BEND3	0.00	147.85	51.10	0.00	
TEE-BEND2	0.00	147.81	51.04	0.00	
TEE-BEND1	0.00	147.81	51.01	0.00	
CHAMBER1	0.00	147.82	51.00	0.00	
R1	-17.53	0.00	0.00	0.00	Reservoir
R2	-16.81	0.00	0.00	0.00	Reservoir

Link Results at 0:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	16.81	0.54	2.32	Open
WM100	16.70	0.53	2.29	Open
WM101	8.61	0.27	0.67	Open
WM102	8.61	0.27	0.67	Open
WM103	8.31	0.26	0.63	Open
WM104	8.31	0.26	0.63	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open

WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	7.94	0.25	0.58	Open
WM113	7.94	0.25	0.58	Open
WM114	7.94	0.25	0.58	Open
WM115	15.84	0.50	2.08	Open
WM116	-17.53	0.56	2.51	Open
WM117	-17.53	0.56	2.51	Open

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Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM118	-17.53	0.56	2.51	Open
WM119	-17.53	0.56	2.51	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	8.09	0.26	0.60	Open
WM126	8.09	0.26	0.60	Open
WM127	8.09	0.26	0.60	Open
WM128	8.09	0.26	0.60	Open
WM129	8.09	0.26	0.60	Open
WM130	7.90	0.25	0.57	Open
WM131	7.90	0.25	0.57	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	15.84	0.50	2.08	Open
WM148	0.00	0.00	0.00	Open
WM149	33.37	1.89	40.04	Open
WM150	33.37	1.89	40.05	Open
WM151	33.37	1.89	40.05	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open

WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	16.81	0.54	2.32	Open

Link Results at 0:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM165	-17.53	0.56	2.51	Open
1	17.53	0.00	-147.57	Open Pump
2	16.81	0.00	-147.85	Open Pump

Node Results at 1:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.63	52.27	0.00
TEE-BEND24	0.00	147.63	52.27	0.00
TEE-BEND23	0.00	147.63	52.19	0.00
TEE-BEND43	0.00	147.54	52.07	0.00
TEE-BEND44	0.00	147.53	51.99	0.00
CHAMBER2	0.00	147.55	51.99	0.00
TEE-BEND18	0.00	147.67	51.99	0.00
TEE-BEND46	0.00	147.62	51.82	0.00
TEE-BEND53	0.00	147.63	51.76	0.00
TEE-BEND47	0.00	147.63	51.76	0.00
TEE-BEND22	0.00	147.58	51.71	0.00
CRU-1	0.23	147.63	51.71	0.00
TEE-BEND52	0.00	147.63	51.69	0.00
HYD3	0.00	147.62	51.65	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	147.67	51.67	0.00
HYD2	0.00	147.69	51.68	0.00
HYD7	0.00	147.70	51.67	0.00
TEE-BEND51	0.00	147.63	51.60	0.00
TEE-BEND34	0.00	147.67	51.61	0.00
TEE-BEND36	0.00	147.71	51.64	0.00
TEE-BEND55	0.00	147.63	51.57	0.00
TEE-BEND35	0.00	147.70	51.63	0.00
HYD1	0.00	147.74	51.67	0.00

HYD6	0.00	147.64	51	0.00
TEE-BEND37	0.00	147.71	51.60	0.00
TEE-BEND50	0.00	147.63	51.52	0.00
TEE-BEND33	0.00	147.64	51.52	0.00
TEE-BEND17	0.00	147.67	51.51	0.00
TEE-BEND21	0.00	146.15	50.00	0.00
TEE-BEND49	0.00	147.63	51.47	0.00
TEE-BEND48	0.00	147.63	51.47	0.00
TEE-BEND12	0.00	147.67	51.48	0.00
TEE-BEND40	0.00	147.57	51.38	0.00
TEE-BEND20	0.00	146.04	49.84	0.00
TEE-BEND38	0.00	147.75	51.54	0.00
TEE-BEND57	0.00	147.73	51.53	0.00
TEE-BEND56	0.00	147.69	51.48	0.00

Node Results at 1:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
TEE-BEND58	0.00	147.74	51.51	0.00	
TEE-BEND32	0.00	147.73	51.50	0.00	
TEE-BEND31	0.00	147.73	51.47	0.00	
TEE-BEND30	0.00	147.73	51.46	0.00	
HYD5	0.00	147.58	51.28	0.00	
CRU-8	0.04	147.67	51.33	0.00	
TEE-BEND28	0.00	147.73	51.38	0.00	
CRU-10	33.37	145.94	49.59	0.00	
TEE-BEND39	0.00	147.81	51.44	0.00	
TEE-BEND26	0.00	147.73	51.36	0.00	
TEE-BEND15	0.00	147.67	51.29	0.00	
TEE-BEND29	0.00	147.73	51.33	0.00	
TEE-BEND13	0.00	147.67	51.26	0.00	
TEE-BEND59	0.00	147.75	51.34	0.00	
TEE-BEND27	0.00	147.73	51.30	0.00	
TEE-BEND41	0.00	147.57	51.11	0.00	
TEE-BEND42	0.00	147.56	51.10	0.00	
CRU-6	0.11	147.81	51.32	0.00	
CRU-9	0.07	147.67	51.18	0.00	
CRU-7	0.08	147.67	51.18	0.00	
CRU-4	0.11	147.73	51.24	0.00	
CRU-3	0.17	147.73	51.24	0.00	
TEE-BEND6	0.00	147.81	51.16	0.00	
CRU-5	0.02	147.73	51.00	0.00	
TEE-BEND4	0.00	147.81	51.06	0.00	
TEE-BEND3	0.00	147.85	51.10	0.00	
TEE-BEND2	0.00	147.81	51.04	0.00	
TEE-BEND1	0.00	147.81	51.01	0.00	
CHAMBER1	0.00	147.82	51.00	0.00	
R1	-17.53	0.00	0.00	0.00	Reservoir

R2	-16.81	0.00	0	0.00	Reservoir

Link Results at 1:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	16.81	0.54	2.32	Open
WM100	16.70	0.53	2.29	Open
WM101	8.61	0.27	0.67	Open
WM102	8.61	0.27	0.67	Open
WM103	8.31	0.26	0.63	Open
WM104	8.31	0.26	0.63	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	7.94	0.25	0.58	Open
WM113	7.94	0.25	0.58	Open
WM114	7.94	0.25	0.58	Open
WM115	15.84	0.50	2.08	Open
WM116	-17.53	0.56	2.51	Open
WM117	-17.53	0.56	2.51	Open
WM118	-17.53	0.56	2.51	Open
WM119	-17.53	0.56	2.51	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	8.09	0.26	0.60	Open
WM126	8.09	0.26	0.60	Open
WM127	8.09	0.26	0.60	Open
WM128	8.09	0.26	0.60	Open
WM129	8.09	0.26	0.60	Open
WM130	7.90	0.25	0.57	Open
WM131	7.90	0.25	0.57	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open

WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	15.84	0.50	2.08	Open
WM148	0.00	0.00	0.00	Open
WM149	33.37	1.89	40.04	Open
WM150	33.37	1.89	40.04	Open
WM151	33.37	1.89	40.05	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open

Link Results at 1:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	16.81	0.54	2.32	Open
WM165	-17.53	0.56	2.51	Open
1	17.53	0.00	-147.57	Open Pump
2	16.81	0.00	-147.85	Open Pump

Node Results at 2:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.63	52.27	0.00
TEE-BEND24	0.00	147.63	52.27	0.00
TEE-BEND23	0.00	147.63	52.19	0.00
TEE-BEND43	0.00	147.54	52.07	0.00
TEE-BEND44	0.00	147.53	51.99	0.00
CHAMBER2	0.00	147.55	51.99	0.00

TEE-BEND18	0.00	147.67	51	0.00
TEE-BEND46	0.00	147.62	51.82	0.00
TEE-BEND53	0.00	147.63	51.76	0.00
TEE-BEND47	0.00	147.63	51.76	0.00
TEE-BEND22	0.00	147.58	51.71	0.00
CRU-1	0.23	147.63	51.71	0.00
TEE-BEND52	0.00	147.63	51.69	0.00
HYD3	0.00	147.62	51.65	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	147.67	51.67	0.00
HYD2	0.00	147.69	51.68	0.00
HYD7	0.00	147.70	51.67	0.00
TEE-BEND51	0.00	147.63	51.60	0.00
TEE-BEND34	0.00	147.67	51.61	0.00
TEE-BEND36	0.00	147.71	51.64	0.00
TEE-BEND55	0.00	147.63	51.57	0.00
TEE-BEND35	0.00	147.70	51.63	0.00
HYD1	0.00	147.74	51.67	0.00
HYD6	0.00	147.64	51.54	0.00
TEE-BEND37	0.00	147.71	51.60	0.00
TEE-BEND50	0.00	147.63	51.52	0.00
TEE-BEND33	0.00	147.64	51.52	0.00
TEE-BEND17	0.00	147.67	51.51	0.00

Node Results at 2:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND21	0.00	146.15	50.00	0.00
TEE-BEND49	0.00	147.63	51.47	0.00
TEE-BEND48	0.00	147.63	51.47	0.00
TEE-BEND12	0.00	147.67	51.48	0.00
TEE-BEND40	0.00	147.57	51.38	0.00
TEE-BEND20	0.00	146.04	49.84	0.00
TEE-BEND38	0.00	147.75	51.54	0.00
TEE-BEND57	0.00	147.73	51.53	0.00
TEE-BEND56	0.00	147.69	51.48	0.00
TEE-BEND58	0.00	147.74	51.51	0.00
TEE-BEND32	0.00	147.73	51.50	0.00
TEE-BEND31	0.00	147.73	51.47	0.00
TEE-BEND30	0.00	147.73	51.46	0.00
HYD5	0.00	147.58	51.28	0.00
CRU-8	0.04	147.67	51.33	0.00
TEE-BEND28	0.00	147.73	51.38	0.00
CRU-10	33.37	145.94	49.59	0.00
TEE-BEND39	0.00	147.81	51.44	0.00
TEE-BEND26	0.00	147.73	51.36	0.00
TEE-BEND15	0.00	147.67	51.29	0.00
TEE-BEND29	0.00	147.73	51.33	0.00

TEE-BEND13	0.00	147.67	51	0.00	
TEE-BEND59	0.00	147.75	51.34	0.00	
TEE-BEND27	0.00	147.73	51.30	0.00	
TEE-BEND41	0.00	147.57	51.11	0.00	
TEE-BEND42	0.00	147.56	51.10	0.00	
CRU-6	0.11	147.81	51.32	0.00	
CRU-9	0.07	147.67	51.18	0.00	
CRU-7	0.08	147.67	51.18	0.00	
CRU-4	0.11	147.73	51.24	0.00	
CRU-3	0.17	147.73	51.24	0.00	
TEE-BEND6	0.00	147.81	51.16	0.00	
CRU-5	0.02	147.73	51.00	0.00	
TEE-BEND4	0.00	147.81	51.06	0.00	
TEE-BEND3	0.00	147.85	51.10	0.00	
TEE-BEND2	0.00	147.81	51.04	0.00	
TEE-BEND1	0.00	147.81	51.01	0.00	
CHAMBER1	0.00	147.82	51.00	0.00	
R1	-17.53	0.00	0.00	0.00	Reservoir
R2	-16.81	0.00	0.00	0.00	Reservoir

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Link Results at 2:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	16.81	0.54	2.32	Open
WM100	16.70	0.53	2.29	Open
WM101	8.61	0.27	0.67	Open
WM102	8.61	0.27	0.67	Open
WM103	8.31	0.26	0.63	Open
WM104	8.31	0.26	0.63	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	7.94	0.25	0.58	Open
WM113	7.94	0.25	0.58	Open
WM114	7.94	0.25	0.58	Open
WM115	15.84	0.50	2.08	Open
WM116	-17.53	0.56	2.51	Open
WM117	-17.53	0.56	2.51	Open
WM118	-17.53	0.56	2.51	Open
WM119	-17.53	0.56	2.51	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open

WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	8.09	0.26	0.60	Open
WM126	8.09	0.26	0.60	Open
WM127	8.09	0.26	0.60	Open
WM128	8.09	0.26	0.60	Open
WM129	8.09	0.26	0.60	Open
WM130	7.90	0.25	0.57	Open
WM131	7.90	0.25	0.57	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open

Link Results at 2:00 Hrs: (continued)

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status	
WM146	-0.14	0.00	0.00	Open	
WM147	15.84	0.50	2.08	Open	
WM148	0.00	0.00	0.00	Open	
WM149	33.37	1.89	40.04	Open	
WM150	33.37	1.89	40.05	Open	
WM151	33.37	1.89	40.05	Open	
WM152	0.19	0.01	0.00	Open	
WM153	0.11	0.01	0.00	Open	
WM154	0.07	0.00	0.00	Open	
WM155	0.07	0.00	0.00	Open	
WM156	0.07	0.00	0.00	Open	
WM157	0.04	0.00	0.00	Open	
WM158	-0.08	0.00	0.00	Open	
WM159	-0.08	0.00	0.00	Open	
WM160	-0.08	0.00	0.00	Open	
WM161	0.00	0.00	0.00	Open	
WM162	0.00	0.00	0.00	Open	
WM163	0.00	0.00	0.00	Open	
WM164	16.81	0.54	2.32	Open	
WM165	-17.53	0.56	2.51	Open	
1	17.53	0.00	-147.57	Open	Pump

2	16.81	0.00	-147	Open Pump

Node Results at 3:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.63	52.27	0.00
TEE-BEND24	0.00	147.63	52.27	0.00
TEE-BEND23	0.00	147.63	52.19	0.00
TEE-BEND43	0.00	147.54	52.07	0.00
TEE-BEND44	0.00	147.53	51.99	0.00
CHAMBER2	0.00	147.55	51.99	0.00
TEE-BEND18	0.00	147.67	51.99	0.00
TEE-BEND46	0.00	147.62	51.82	0.00
TEE-BEND53	0.00	147.63	51.76	0.00
TEE-BEND47	0.00	147.63	51.76	0.00
TEE-BEND22	0.00	147.58	51.71	0.00
CRU-1	0.23	147.63	51.71	0.00
TEE-BEND52	0.00	147.63	51.69	0.00
HYD3	0.00	147.62	51.65	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	147.67	51.67	0.00
HYD2	0.00	147.69	51.68	0.00
HYD7	0.00	147.70	51.67	0.00
TEE-BEND51	0.00	147.63	51.60	0.00

Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND34	0.00	147.67	51.61	0.00
TEE-BEND36	0.00	147.71	51.64	0.00
TEE-BEND55	0.00	147.63	51.57	0.00
TEE-BEND35	0.00	147.70	51.63	0.00
HYD1	0.00	147.74	51.67	0.00
HYD6	0.00	147.64	51.54	0.00
TEE-BEND37	0.00	147.71	51.60	0.00
TEE-BEND50	0.00	147.63	51.52	0.00
TEE-BEND33	0.00	147.64	51.52	0.00
TEE-BEND17	0.00	147.67	51.51	0.00
TEE-BEND21	0.00	146.15	50.00	0.00
TEE-BEND49	0.00	147.63	51.47	0.00
TEE-BEND48	0.00	147.63	51.47	0.00
TEE-BEND12	0.00	147.67	51.48	0.00
TEE-BEND40	0.00	147.57	51.38	0.00
TEE-BEND20	0.00	146.04	49.84	0.00
TEE-BEND38	0.00	147.75	51.54	0.00
TEE-BEND57	0.00	147.73	51.53	0.00

TEE-BEND56	0.00	147.69	51	0.00
TEE-BEND58	0.00	147.74	51.51	0.00
TEE-BEND32	0.00	147.73	51.50	0.00
TEE-BEND31	0.00	147.73	51.47	0.00
TEE-BEND30	0.00	147.73	51.46	0.00
HYD5	0.00	147.58	51.28	0.00
CRU-8	0.04	147.67	51.33	0.00
TEE-BEND28	0.00	147.73	51.38	0.00
CRU-10	33.37	145.94	49.59	0.00
TEE-BEND39	0.00	147.81	51.44	0.00
TEE-BEND26	0.00	147.73	51.36	0.00
TEE-BEND15	0.00	147.67	51.29	0.00
TEE-BEND29	0.00	147.73	51.33	0.00
TEE-BEND13	0.00	147.67	51.26	0.00
TEE-BEND59	0.00	147.75	51.34	0.00
TEE-BEND27	0.00	147.73	51.30	0.00
TEE-BEND41	0.00	147.57	51.11	0.00
TEE-BEND42	0.00	147.56	51.10	0.00
CRU-6	0.11	147.81	51.32	0.00
CRU-9	0.07	147.67	51.18	0.00
CRU-7	0.08	147.67	51.18	0.00
CRU-4	0.11	147.73	51.24	0.00
CRU-3	0.17	147.73	51.24	0.00
TEE-BEND6	0.00	147.81	51.16	0.00
CRU-5	0.02	147.73	51.00	0.00
TEE-BEND4	0.00	147.81	51.06	0.00
TEE-BEND3	0.00	147.85	51.10	0.00
TEE-BEND2	0.00	147.81	51.04	0.00
TEE-BEND1	0.00	147.81	51.01	0.00

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Node Results at 3:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality	
CHAMBER1	0.00	147.82	51.00	0.00	
R1	-17.53	0.00	0.00	0.00	Reservoir
R2	-16.81	0.00	0.00	0.00	Reservoir

Link Results at 3:00 Hrs:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
WM166	16.81	0.54	2.32	Open
WM100	16.70	0.53	2.29	Open
WM101	8.61	0.27	0.67	Open
WM102	8.61	0.27	0.67	Open
WM103	8.31	0.26	0.63	Open
WM104	8.31	0.26	0.63	Open

WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	7.94	0.25	0.58	Open
WM113	7.94	0.25	0.58	Open
WM114	7.94	0.25	0.58	Open
WM115	15.84	0.50	2.08	Open
WM116	-17.53	0.56	2.51	Open
WM117	-17.53	0.56	2.51	Open
WM118	-17.53	0.56	2.51	Open
WM119	-17.53	0.56	2.51	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	8.09	0.26	0.60	Open
WM126	8.09	0.26	0.60	Open
WM127	8.09	0.26	0.60	Open
WM128	8.09	0.26	0.60	Open
WM129	8.09	0.26	0.60	Open
WM130	7.90	0.25	0.57	Open
WM131	7.90	0.25	0.57	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open

Link Results at 3:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	15.84	0.50	2.08	Open
WM148	0.00	0.00	0.00	Open

WM149	33.37	1.89	40	Open
WM150	33.37	1.89	40.04	Open
WM151	33.37	1.89	40.05	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	16.81	0.54	2.32	Open
WM165	-17.53	0.56	2.51	Open
1	17.53	0.00	-147.57	Open Pump
2	16.81	0.00	-147.85	Open Pump

Node Results at 4:00 Hrs:

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-2	0.14	147.63	52.27	0.00
TEE-BEND24	0.00	147.63	52.27	0.00
TEE-BEND23	0.00	147.63	52.19	0.00
TEE-BEND43	0.00	147.54	52.07	0.00
TEE-BEND44	0.00	147.53	51.99	0.00
CHAMBER2	0.00	147.55	51.99	0.00
TEE-BEND18	0.00	147.67	51.99	0.00
TEE-BEND46	0.00	147.62	51.82	0.00
TEE-BEND53	0.00	147.63	51.76	0.00
TEE-BEND47	0.00	147.63	51.76	0.00

Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
TEE-BEND22	0.00	147.58	51.71	0.00
CRU-1	0.23	147.63	51.71	0.00
TEE-BEND52	0.00	147.63	51.69	0.00
HYD3	0.00	147.62	51.65	0.00
TEE-BEND45	0.00	147.60	51.62	0.00
TEE-BEND16	0.00	147.67	51.67	0.00
HYD2	0.00	147.69	51.68	0.00
HYD7	0.00	147.70	51.67	0.00
TEE-BEND51	0.00	147.63	51.60	0.00

TEE-BEND34	0.00	147.67	51	0.00
TEE-BEND36	0.00	147.71	51.64	0.00
TEE-BEND55	0.00	147.63	51.57	0.00
TEE-BEND35	0.00	147.70	51.63	0.00
HYD1	0.00	147.74	51.67	0.00
HYD6	0.00	147.64	51.54	0.00
TEE-BEND37	0.00	147.71	51.60	0.00
TEE-BEND50	0.00	147.63	51.52	0.00
TEE-BEND33	0.00	147.64	51.52	0.00
TEE-BEND17	0.00	147.67	51.51	0.00
TEE-BEND21	0.00	146.15	50.00	0.00
TEE-BEND49	0.00	147.63	51.47	0.00
TEE-BEND48	0.00	147.63	51.47	0.00
TEE-BEND12	0.00	147.67	51.48	0.00
TEE-BEND40	0.00	147.57	51.38	0.00
TEE-BEND20	0.00	146.04	49.84	0.00
TEE-BEND38	0.00	147.75	51.54	0.00
TEE-BEND57	0.00	147.73	51.53	0.00
TEE-BEND56	0.00	147.69	51.48	0.00
TEE-BEND58	0.00	147.74	51.51	0.00
TEE-BEND32	0.00	147.73	51.50	0.00
TEE-BEND31	0.00	147.73	51.47	0.00
TEE-BEND30	0.00	147.73	51.46	0.00
HYD5	0.00	147.58	51.28	0.00
CRU-8	0.04	147.67	51.33	0.00
TEE-BEND28	0.00	147.73	51.38	0.00
CRU-10	33.37	145.94	49.59	0.00
TEE-BEND39	0.00	147.81	51.44	0.00
TEE-BEND26	0.00	147.73	51.36	0.00
TEE-BEND15	0.00	147.67	51.29	0.00
TEE-BEND29	0.00	147.73	51.33	0.00
TEE-BEND13	0.00	147.67	51.26	0.00
TEE-BEND59	0.00	147.75	51.34	0.00
TEE-BEND27	0.00	147.73	51.30	0.00
TEE-BEND41	0.00	147.57	51.11	0.00
TEE-BEND42	0.00	147.56	51.10	0.00
CRU-6	0.11	147.81	51.32	0.00
CRU-9	0.07	147.67	51.18	0.00

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Node Results at 4:00 Hrs: (continued)

Node ID	Demand LPS	Head m	Pressure m	Quality
CRU-7	0.08	147.67	51.18	0.00
CRU-4	0.11	147.73	51.24	0.00
CRU-3	0.17	147.73	51.24	0.00
TEE-BEND6	0.00	147.81	51.16	0.00
CRU-5	0.02	147.73	51.00	0.00
TEE-BEND4	0.00	147.81	51.06	0.00

TEE-BEND3	0.00	147.85	51	0.00	
TEE-BEND2	0.00	147.81	51.04	0.00	
TEE-BEND1	0.00	147.81	51.01	0.00	
CHAMBER1	0.00	147.82	51.00	0.00	
R1	-17.53	0.00	0.00	0.00	Reservoir
R2	-16.81	0.00	0.00	0.00	Reservoir

Link Results at 4:00 Hrs:

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM166	16.81	0.54	2.32	Open
WM100	16.70	0.53	2.29	Open
WM101	8.61	0.27	0.67	Open
WM102	8.61	0.27	0.67	Open
WM103	8.31	0.26	0.63	Open
WM104	8.31	0.26	0.63	Open
WM105	-0.23	0.01	0.00	Open
WM106	-0.23	0.01	0.00	Open
WM107	-0.23	0.01	0.00	Open
WM108	-0.23	0.01	0.00	Open
WM109	-0.23	0.01	0.00	Open
WM110	-0.37	0.01	0.00	Open
WM111	-0.37	0.01	0.00	Open
WM112	7.94	0.25	0.58	Open
WM113	7.94	0.25	0.58	Open
WM114	7.94	0.25	0.58	Open
WM115	15.84	0.50	2.08	Open
WM116	-17.53	0.56	2.51	Open
WM117	-17.53	0.56	2.51	Open
WM118	-17.53	0.56	2.51	Open
WM119	-17.53	0.56	2.51	Open
WM120	0.11	0.00	0.00	Open
WM121	0.11	0.00	0.00	Open
WM122	0.11	0.00	0.00	Open
WM123	0.11	0.00	0.00	Open
WM124	0.11	0.00	0.00	Open
WM125	8.09	0.26	0.60	Open
WM126	8.09	0.26	0.60	Open
WM127	8.09	0.26	0.60	Open

Link Results at 4:00 Hrs: (continued)

Link ID	Flow LPS	VelocityUnit m/s	Headloss m/km	Status
WM128	8.09	0.26	0.60	Open
WM129	8.09	0.26	0.60	Open
WM130	7.90	0.25	0.57	Open

WM131	7.90	0.25	0	Open
WM132	-0.02	0.00	0.00	Open
WM133	0.30	0.01	0.00	Open
WM134	0.30	0.01	0.00	Open
WM135	0.28	0.01	0.00	Open
WM136	0.28	0.01	0.00	Open
WM137	0.28	0.01	0.00	Open
WM138	0.11	0.01	0.00	Open
WM139	-0.17	0.01	0.00	Open
WM140	-0.17	0.01	0.00	Open
WM141	-0.17	0.01	0.00	Open
WM142	0.00	0.00	0.00	Open
WM143	0.00	0.00	0.00	Open
WM144	-0.14	0.00	0.00	Open
WM145	-0.14	0.00	0.00	Open
WM146	-0.14	0.00	0.00	Open
WM147	15.84	0.50	2.08	Open
WM148	0.00	0.00	0.00	Open
WM149	33.37	1.89	40.04	Open
WM150	33.37	1.89	40.05	Open
WM151	33.37	1.89	40.05	Open
WM152	0.19	0.01	0.00	Open
WM153	0.11	0.01	0.00	Open
WM154	0.07	0.00	0.00	Open
WM155	0.07	0.00	0.00	Open
WM156	0.07	0.00	0.00	Open
WM157	0.04	0.00	0.00	Open
WM158	-0.08	0.00	0.00	Open
WM159	-0.08	0.00	0.00	Open
WM160	-0.08	0.00	0.00	Open
WM161	0.00	0.00	0.00	Open
WM162	0.00	0.00	0.00	Open
WM163	0.00	0.00	0.00	Open
WM164	16.81	0.54	2.32	Open
WM165	-17.53	0.56	2.51	Open
1	17.53	0.00	-147.57	Open Pump
2	16.81	0.00	-147.85	Open Pump

Appendix C

Sanitary Servicing

- Sanitary Demand Calculations
- Sanitary Design Sheet Sanitary Design Sheet
- Excerpt of CITI Gate 416 Corporate Campus, Detailed Servicing and Management Report (Phase 1) with Allowable Sanitary Flows

Counterpoint Engineering Inc.

PROPOSED BUILDING/SITE SANITARY FLOWS

Project: 4175 Stranherd Drive
Project No: 263560
Location: Ottawa
Site Area: 5.273 ha

Per Capita Flow for External Reviews

Residential	280	litres/person/day	
Retail/Commercial	5.00	litres/floor m^2/day	As per Appendix A-4.
Restaurant	25.00	litres/floor m^2/day	Based on 125 litres/seat/day as per Appendix A-4, and one seat per 5 m2 of restaurant floor area.
Infiltration (Dry)	0.33	litres/ha/sec	

Residential Population Criteria

Bachelor	1.4	ppu
1 Bedroom	1.4	ppu
2 Bedroom	2.1	ppu
3 Bedroom	3.1	ppu
Townhome	2.7	ppu

Proposed Buildings

Site Area: 5.273 ha

Building	No. of Res. Units	Bachelor/ 1 Bedroom	2 Bedroom	3 Bedroom	Townhome	Total Res Population	Parcel Area (Ha)	Retail /Commercial Floor Area (Ha)	Restaurant Floor Area (Ha)	Average Building Flows (litres/s)	Peak Building Flows (litres/s)	Infiltration (litres/s)	Total Flows (litres/s)
CRU1	0	0	0	0	0	0	1.015	0.2515	0.0132	0.184	0.276	0.335	0.611
CRU2	0	0	0	0	0	0	0.523	0.1592	0.0000	0.092	0.138	0.173	0.311
CRU3	0	0	0	0	0	0	0.488	0.1915	0.0000	0.111	0.166	0.161	0.327
CRU4	0	0	0	0	0	0	0.513	0.1230	0.0000	0.071	0.107	0.169	0.276
CRU5	0	0	0	0	0	0	0.238	0.0000	0.0196	0.057	0.085	0.079	0.164
CRU6	0	0	0	0	0	0	0.508	0.0564	0.0694	0.233	0.350	0.168	0.518
CRU7	0	0	0	0	0	0	0.489	0.0333	0.0628	0.201	0.301	0.161	0.463
CRU8	0	0	0	0	0	0	0.580	0.0000	0.0409	0.118	0.178	0.191	0.369
CRU9	0	0	0	0	0	0	0.377	0.0000	0.0751	0.217	0.326	0.124	0.450
CRU10	0	0	0	0	0	0	0.542	0.0000	0.0464	0.134	0.201	0.179	0.380
TOTAL	**0**	**0**	**0**	**0**	**0**	0	**5.273**	**0.8149**	**0.3274**	**1.42**	**2.13**	**1.74**	**3.87**

Harmon Peaking F, Residential: (Min=2.0, Max=4.0)

Building	Total Population	Harmon Peak Factor
Residential	0	3.8

Peaking Factor

Retail and Restaura	**1.50**

Total Average Residential Flow	0.00	l/s
Total Average Retail/Commercial Flow:	0.47	l/s
Total Average Restaurant Flow:	0.95	l/s
Proposed Buildings Total Peak Flow:	2.13	l/s
0.33 l/s/ha Infiltration:	1.74	l/s
Total Peak Flows	**3.87**	**l/s**

counterpoint ENGINEERING

A SUBSIDIARY OF DILLON CONSULTING LIMITED

Proposed Conditions - Sanitary Sewer Design Sheet

Project: 4175 Stranherd Drive

Date: **August 2026**

Designed by: **GR**
Designed by: **GD**

Design Flow- Retail Commercialuse = 5.00 L/Floor m^2/day
Design Flow- Restaurant Use = 25.00 L/Floor m^2/day
(125 L/day per restaurant seat and 5 m2 per seat).

Peaking Factor Retail and Restaurant = 1.50

Infiltration = 0.33 L/s/ha

Infiltration= 0.33 l/s/ha x Gross Area ha

q = 280 l/person/day (For the analysis of existing sewers - residential)

q = 28,000 l/gross hectares/day inc. infiltration and peaking effect (For the analysis of existing sewers - comm/ind/office)

LOCATION	MANHOLE				Total Residential Pop.		Commercial Retail Use				Commercial Restaurant Use				Infiltration		Prop.	**Total Design Flow**	Pipe design							
BUILDING	FROM	TO	GROSS AREA ha	ACCUM. GROSS AREA ha	EQUIV. POP P	ACCUM. EQUIV. POP P	FLOOR AREA ha	ACCUM. FLOOR Area ha	Peaking Factor	Peak Flow l/s	Floor Area ha	Accum. Floor. Area ha	Peaking Factor	Peak Flow l/s	Area Infiltrated Area ha	I l/s	Foundation drain l/s	**Q Total l/s**	Length (m)	Slope S %	Diameter (mm)	Pipe Material PIPE	Rough. Coeff.	Q Full (L/s)	Velocity Full (m/s)	Velocity Actual (m/s)	Capacity (%)
CRU 10	Stub	MH12A	0.542	0.542	0	0	0	0	1.50	0.000	464	464	1.50	0.201	0.542	0.18	0.00	**0.38**	7.0	2.00	200	PVC	0.013	48.3	1.49	0.43	1%
	MH12A	MH11A	0.000	0.542	0	0	0	0	1.50	0.000	0	464	1.50	0.201	0.542	0.18	0.00	**0.38**	70.7	0.50	250	PVC	0.013	43.9	0.87	0.25	1%
CRU 9	Stub	MH11A	0.377	0.919	0	0	0	0	1.50	0.000	751	751	1.50	0.326	0.919	0.30	0.00	**0.63**	4.7	2.00	200	PVC	0.013	48.3	1.49	0.48	1%
	MH11A	MH10A	0.000	0.919	0	0	0	0	1.50	0.000	0	1,215	1.50	0.527	0.919	0.30	0.00	**0.83**	57.3	0.50	250	PVC	0.013	43.9	0.87	0.32	2%
CRU 8	Stub	MH10A	0.580	1.499	0	0	0	0	1.50	0.000	409	409	1.50	0.178	1.499	0.49	0.00	**0.67**	9.6	2.00	200	PVC	0.013	48.3	1.49	0.52	1%
	MH10A	MH9A	0.000	1.499	0	0	0	0	1.50	0.000	0	1,624	1.50	0.705	1.499	0.49	0.00	**1.20**	90.0	0.50	250	PVC	0.013	43.9	0.87	0.37	3%
CRU 7	Stub	MH9A	0.489	1.988	0	0	333	333	1.50	0.029	628	628	1.50	0.273	1.988	0.66	0.00	**0.96**	10.7	2.00	200	PVC	0.013	48.3	1.49	0.56	2%
CRU 6	Stub	MH9A	0.508	2.496	0	0	564	564	1.50	0.049	694	694	1.50	0.301	2.496	0.82	0.00	**1.17**	10.8	2.00	200	PVC	0.013	48.3	1.49	0.60	2%
	MH9A	MH3A	0.000	2.496	0	0	0	897	1.50	0.078	0	2,946	1.50	1.279	2.496	0.82	0.00	**2.18**	81.4	2.00	250	PVC	0.013	87.7	1.73	0.69	2%
CRU 1	Stub	MH8A	1.015	1.015	0	0	2,515	2,515	1.50	0.218	132	132	1.50	0.057	1.015	0.33	0.00	**0.61**	13.5	2.00	250	PVC	0.013	87.7	1.73	0.44	1%
	MH8A	MH7A	0.000	1.015	0	0	0	2,515	1.50	0.218	0	132	1.50	0.057	1.015	0.33	0.00	**0.61**	26.5	0.50	250	PVC	0.013	43.9	0.87	0.30	1%
	MH7A	MH6A	0.000	1.015	0	0	0	2,515	1.50	0.218	0	132	1.50	0.057	1.015	0.33	0.00	**0.61**	33.2	0.50	250	PVC	0.013	43.9	0.87	0.30	1%
CRU 2	Stub	MH6A	0.523	1.538	0	0	1,592	1,592	1.50	0.138	0	0	1.50	0.000	1.538	0.51	0.00	**0.65**	7.3	2.00	200	PVC	0.013	48.3	1.49	0.52	1%
	MH6A	MH5A	0.000	1.538	0	0	0	4,107	1.50	0.356	0	132	1.50	0.057	1.538	0.51	0.00	**0.92**	52.6	0.50	250	PVC	0.013	43.9	0.87	0.35	2%
CRU 3	Stub	MH5A	0.488	2.026	0	0	1,915	1,915	1.50	0.166	0	0	1.50	0.000	2.026	0.67	0.00	**0.83**	7.1	2.00	200	PVC	0.013	48.3	1.49	0.56	2%
	MH5A	MH4A	0.000	2.026	0	0	0	6,022	1.50	0.523	0	132	1.50	0.057	2.026	0.67	0.00	**1.25**	50.3	0.50	250	PVC	0.013	43.9	0.87	0.37	3%
CRU 4	Stub	MH4A	0.513	2.539	0	0	1,230	1,230	1.50	0.107	0	0	1.50	0.000	2.539	0.84	0.00	**0.94**	7.1	2.00	200	PVC	0.013	48.3	1.49	0.56	2%
	MH4A	MH3A	0.000	2.539	0	0	0	7,252	1.50	0.629	0	132	1.50	0.057	2.539	0.84	0.00	**1.52**	42.6	0.50	250	PVC	0.013	43.9	0.87	0.39	3%
CRU 5	Stub	MH3A	0.238	0.238	0	0	0	0	1.50	0.000	196	196	1.50	0.085	0.238	0.08	0.00	**0.16**	7.1	2.00	200	PVC	0.013	48.3	1.49	0.33	0%
	MH3A	MH2A	0.000	5.273	0	0	0	8,149	1.50	0.707	0	3,274	1.50	1.421	5.273	1.74	0.00	**3.87**	27.2	0.50	250	PVC	0.013	43.9	0.87	0.53	9%
Municipal Connection	MH2A	MH1A	0.000	5.273	0	0	0	8,149	1.50	0.707	0	3,274	1.50	1.421	5.273	1.74	0.00	**3.87**	14.1	2.00	250	PVC	0.013	87.7	1.73	0.86	4%

Excerpt from 416 Citi Gate Campus, Detailed Servicing and Stormwater Management Report (Phase 1), dated Oct. 1, 2014.

SANITARY SEWER DESIGN SHEET

Citi Gate 416 Corporate Campus

PROJECT : 109203
DESIGNED BY: LAB
CHECKED BY: MER
Prepared: March 31, 2014
Revised: August 10, 2014

NOVATECH ENGINEERING CONSULTANTS LTD.

Location						Wastewater Flow Q(w)		Extraneous Flow Q(i)		Design Flow Q(d)	Proposed Sanitary Sewer						
Area I.D.	Street	Block Number	From MH	To MH	Area (ha)	Individual Peak Flow Rate 50,000 L/ha/d (L/s)	Cumulative Peak Flow Rate (L/s)	Individual Infiltration Rate 0.28 L/s/ha (L/s)	Cumulative Infiltration Rate (L/s)	Peak Design Flow (L/s)	Length (m)	Pipe Size (mm)	Type of Pipe	Grade %	Capacity (L/s)	Full Flow Velocity (m/s)	Percentage of Capacity
Sanitary Outlet A to Strandherd Drive at Maravista Drive **Plan Reference: Sanitary Drainage Area Plan (109203-CG-SAN1)**																	
A-1	Nortel Drive		201	203	0.40	0.35	0.35	0.11	0.11	0.46							
A-2	Nortel Drive	Block 1	201	203	3.49	3.03	3.38	0.98	1.09	4.47							
A-3	Nortel Drive	Block 16	201	203	2.50	2.17	5.55	0.70	1.79	7.34							
A-4	Nortel Drive		201	203	0.09	0.08	5.63	0.03	1.81	7.44	36.7	250	PVC	0.24	30.39	0.60	24%
A-5	Nortel Drive		203	205	0.13	0.11	5.74	0.04	1.85	7.59	57.2	250	PVC	0.24	30.39	0.60	25%
A-6	Nortel Drive	Block 17	205	101	1.17	1.02	6.75	0.33	2.18	8.93							
A-7	Nortel Drive		205	101	0.20	0.17	6.93	0.06	2.23	9.16	37.1	250	PVC	0.24	30.39	0.60	30%
A-9	Crosskey Place		101	207	0.92	0.80	7.73	0.26	7.54	15.27							
A-8	Crosskey Place	Block 14	101	207	18.03	15.65	23.38	5.05	5.05	28.43	29.5	300	PVC	0.25	50.44	0.69	56%
A-10	Nortel Drive	Block 15	207	209	7.98	6.93	30.30	2.23	9.77	40.08							
A-11	Nortel Drive		207	209	0.30	0.26	30.56	0.08	9.86	40.42	107.1	300	PVC	0.25	50.44	0.69	80%
A-12	Nortel Drive		209	211	0.31	0.27	30.83	0.09	9.95	40.78	118.3	300	PVC	0.25	50.44	0.69	81%
A-13	Nortel Drive		211	213	0.31	0.27	31.10	0.09	10.03	41.13	114.4	300	PVC	0.25	50.44	0.69	82%
A-14	Systemhouse Street		213	401	0.07	0.06	31.16	0.02	10.05	41.22	26.4	300	PVC	0.25	50.44	0.69	82%
A-15	Systemhouse Street		401	403	0.21	0.18	31.35	0.06	10.11	41.46	87.7	300	PVC	0.25	50.44	0.69	82%
A-16	Systemhouse Street		403	405	0.29	0.25	31.60	0.08	10.19	41.79	118.4	300	PVC	0.25	50.44	0.69	83%
A-17	Systemhouse Street	Block 18	405	407	2.29	1.99	33.59	0.64	10.83	44.42							
A-18	Systemhouse Street		405	407	0.20	0.17	33.76	0.06	10.89	44.65	81.2	375	PVC	0.14	68.44	0.60	65%
A-19	Systemhouse Street	Block 2	407	409	11.95	10.37	44.13	3.35	14.24	58.37							
A-20	Systemhouse Street	Block 3	407	409	5.28	4.58	48.72	1.48	15.71	64.43							
A-21	Systemhouse Street		407	409	0.30	0.26	48.98	0.08	15.80	64.77	115.8	375	PVC	0.25	91.46	0.80	71%
A-22	Systemhouse Street		409	101	0.16	0.14	49.11	0.04	15.84	64.96	53.5	375	PVC	0.25	91.46	0.80	71%
										64.96							
					56.58												

Notes:
1. Q(d) = Q(w) + Q(i) , where
2. Q(i) = 0.28 L/s/ha
3. Peaking Factor = 1.5

Q(d) = Design Flow (L/s)
Q(w) = Peak Wastewater Flow (L/s)
Q(i) = Extraneous Flow (L/s)

Total Allowable Peak Flow from 4175 Strandherd Drive:
4.58 L/s + 1.48 L/s = 6.06 L/s

Block 3 indicates the 4175 Stranherd Drive proposed development

Appendix D

Storm Servicing

- Catch Basin Ponding Areas and Volumes
- Proposed Storm Sewer Design Sheets
- Uncontrolled Area Release rates
- Greenstorm Chambers Details Sheet
- InfoWorks HGL Model Results Summary, Schematic and Profiles.

counterpoint ENGINEERING

A SUBSIDIARY OF DILLON CONSULTING LIMITED

Project: 4175 Strandherd Drive
Project No: 46209
Location: Ottawa

CATCH BASIN PONDING ELEVATIONS, DEPTHS, AREAS AND VOLUMES

Catch Basin	Contributing Area (ha)	Rim Elev.	Local Ponding Elev. [1]	Maximum Ponding Elev. [2]	Max. Depth of Ponding (h)	Max. Ponding Area (A) [3]	Max. Ponding Volume (V)	100-Year Ponding Elevation	100-Year Ponding Depth	100-Year + 20% Ponding Elevation	100-Year + 20% Ponding Depth
DCB1	0.246	95.80	96.10	96.10	0.30	967	97	95.92	0.12	95.99	0.19
DCB2	0.245	95.80	96.05	96.05	0.25	658	55	95.92	0.12	95.99	0.19
CB3	0.112	95.80	96.00	96.05	0.25	425	35	95.92	0.12	95.99	0.19
CB4	0.109	95.80	96.00	96.05	0.25	390	33	95.92	0.12	95.99	0.19
CB5	0.107	95.80	96.05	96.05	0.25	483	40	95.92	0.12	95.99	0.19
CB6	0.100	95.80	96.05	96.05	0.25	416	35	95.92	0.12	95.99	0.19
CB7	0.163	95.80	96.05	96.05	0.25	750	63	95.92	0.12	95.99	0.19
CB8	0.177	95.80	96.05	96.05	0.25	836	70	95.92	0.12	95.99	0.19
CB9	0.159	95.80	96.05	96.05	0.25	800	67	95.92	0.12	95.99	0.19
CB10	0.148	95.80	96.05	96.05	0.25	686	57	95.92	0.12	95.99	0.19
CB11	0.087	95.80	96.00	96.00	0.20	240	16	95.92	0.12	95.99	0.19
CB12	0.080	95.80	96.00	96.00	0.20	234	16	95.92	0.12	95.99	0.19
CB13	0.057	95.75	96.00	96.00	0.25	425	35	95.92	0.17	95.99	0.24
CB14	0.074	95.75	96.00	96.00	0.25	295	25	95.92	0.17	95.99	0.24
CB15	0.131	95.70	96.00	96.00	0.30	626	63	95.92	0.22	95.99	0.29
CB16	0.170	95.70	96.00	96.00	0.30	811	81	95.92	0.22	95.99	0.29
CB17	0.121	95.70	96.00	96.00	0.30	633	63	95.92	0.22	95.99	0.29
CB18	0.169	95.70	96.00	96.00	0.30	709	71	95.92	0.22	95.99	0.29
CB19	0.035	95.95	96.07	96.07	0.12	75	3	-	0.00	-	0.00
CB20	0.023	95.95	96.04	96.07	0.09	85	3	-	0.00	-	0.00
CB21	0.028	96.07	96.16	96.16	0.09	96	3	-	0.00	-	0.00
CB22	0.016	96.07	96.16	96.16	0.09	95	3	-	0.00	-	0.00
CB23	0.015	96.15	96.23	96.23	0.08	31	1	-	0.00	-	0.00
CB24	0.015	96.17	96.28	96.28	0.11	88	3	-	0.00	-	0.00
CBMH23	0.008	96.34	96.45	96.45	0.11	48	2	-	0.00	-	0.00
CB36	0.012	96.38	96.43	96.43	0.05	35	1	-	0.00	-	0.00
CB37	0.014	96.38	96.43	96.43	0.05	37	1	-	0.00	-	0.00
CB24	0.019	96.17	96.28	96.28	0.11	88	3	-	0.00	-	0.00
DCB26	0.051	96.09	96.15	96.15	0.06	26	1	-	0.00	-	0.00
CB27	0.028	96.05	96.20	96.20	0.15	145	7	-	0.00	-	0.00
CB28	0.038	96.05	96.20	96.20	0.15	131	7	-	0.00	-	0.00
CB29	0.071	95.98	96.20	96.20	0.22	424	31	-	0.00	95.99	0.01
CB30	0.061	95.95	96.20	96.20	0.25	378	32	-	0.00	95.99	0.04
CB31	0.091	95.95	96.20	96.20	0.25	436	36	-	0.00	95.99	0.04
CB32	0.052	96.05	96.25	96.25	0.20	197	13	-	0.00	95.99	0.00
CB33	0.045	96.00	96.25	96.25	0.25	188	16	-	0.00	-	0.00
CB35	0.064	96.22	96.32	96.32	0.10	53	2	-	0.00	-	0.00
CBMH40	0.022	96.40	96.49	96.49	0.09	36	1	-	0.00	-	0.00
CB41	0.023	96.20	96.30	96.30	0.10	43	1	-	0.00	-	0.00
CB42	0.027	96.05	96.20	96.20	0.15	155	8	-	0.00	-	0.00
CB45	0.020	96.15	96.40	96.40	0.25	55	5	-	0.00	-	0.00
CB46	0.023	96.13	96.20	96.20	0.07	33	1	-	0.00	-	0.00
CB47	0.047	96.05	96.20	96.20	0.15	164	8	-	0.00	-	0.00
CB48	0.045	96.04	96.25	96.25	0.21	207	14	-	0.00	-	0.00
CB49	0.027	96.10	96.30	96.30	0.20	158	11	-	0.00	-	0.00
CB50	0.013	96.16	96.28	96.28	0.12	117	5	-	0.00	-	0.00

[1] Local ponding max. ponding to spill per catch basin.

[2] Max. ponding for a CB. Maybe join with ponding of another CB

[3] Max. ponding area for a CB.

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STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Project: 4175 Strandherd Drive
Project No: 263560
Location: Ottawa, ON
Prepared by: G.R.
Checked by: G.D.
Date: August 14, 2026

Total Site area (including Strandherd Drive widening) =	5.273 ha	5.273 ha
Controlled Area =	3.732 ha	4.602 ha
Uncontrolled Area (including widenning, RC=0.44) =	0.671 ha	0.671 ha

Rainfall Data: a, b, c Values

	2 Year	100 Year
a	732.951	1735.688
b	6.199	6.014
c	0.81	0.82

Manning's Roughness Coefficient (All pipes)= 0.013

LOCATION			FLOW									DESIGN CAPACITY											
Notes	From Node	To Node	Area (ha)	C	A x C (ha)	Accum AxC (ha)	Rainfall Intensity mm/hr	Time of Conc. (Tc) (min)	Area Flow Q (l/s)	Controlled Flows (l/s)	Total Flow (l/s)	Diam. (nominal) (mm)	Length Pipe (m)	Slope Pipe (%)	Diameter Actual (m)	Pipe Area (sq.m)	Hydraulic Radius (m)	Pipe Mat.	Pipe Capacity (l/s)	Velocity (m/s)	Time of Flow (min)	Ratio Q/Q full	Cap. Check
East Branch																							
Behind CRU6	CB45	CRU 6	0.020	0.60	0.012	0.012	76.8	10.00	2.6	0.0	**2.6**	250	2.0	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.03	0.04	OK
CRU6 Controlled Roof	Stub	MH18	0.126	0.90	0.113	0.012	76.7	10.03	2.6	5.3	**7.8**	300	19.1	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.23	0.08	OK
DCB1	DCB1	MH18	0.246	0.90	0.222	0.222	76.8	10.00	47.3	0.0	**47.3**	300	7.8	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.10	0.50	OK
	MH18	MH17	0.000	0.90	0.000	0.234	75.8	10.26	49.2	5.3	**54.5**	375	17.8	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.26	0.42	OK
CRU7 Controlled Roof	Stub	MH17	0.096	0.90	0.086	0.000	76.8	10.00	0.0	4.0	**4.0**	300	13.5	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.17	0.04	OK
AD1	AD1	CBMH23	0.012	0.90	0.011	0.011	76.8	10.00	2.3	0.0	**2.3**	250	17.0	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.23	0.04	OK
AD2	AD2	CBMH23	0.014	0.90	0.013	0.013	76.8	10.00	2.7	0.0	**2.7**	250	18.1	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.25	0.04	OK
Beetween CRU6 and CRU7	CBMH23	MH17	0.008	0.90	0.007	0.031	75.9	10.25	6.4	0.0	**6.4**	300	25.7	0.50%	0.298	0.07	0.075	PVC	67.2	0.96	0.44	0.10	OK
	MH17	MH22	0.000	0.90	0.000	0.264	74.9	10.52	54.97	9.3	**64.3**	675	37.8	0.12%	0.686	0.37	0.171	PVC	303.8	0.82	0.77	0.21	OK
CB3	CB3	MH38	0.112	0.90	0.101	0.101	76.8	10.00	21.5	0.0	**21.5**	250	9.0	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.12	0.36	OK
	MH38	MH22	0.000	0.90	0.000	0.101	76.8	10.00	21.5	0.0	**21.5**	300	13.1	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.16	0.23	OK
CB23	CB23	MH22	0.015	0.90	0.015	0.015	76.8	10.00	3.2	0.0	**3.2**	250	14.5	2.00%	0.251	0.05	0.063	PVC	85.0	1.72	0.14	0.04	OK
CB46	CB46	PIPE	0.023	0.90	0.021	0.021	76.8	10.00	4.4	0.0	**4.4**	250	16.8	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.23	0.07	OK
	MH22	MH16	0.000	0.90	0.000	0.401	72.2	11.29	80.4	9.3	**89.7**	675	47.6	0.12%	0.686	0.37	0.171	PVC	303.8	0.82	0.96	0.30	OK
CRU8	Stub	MH16	0.042	0.90	0.038	0.038	76.8	10.00	8.1	0.0	**8.1**	300	12.6	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.15	0.08	OK
CB6	CB6	MH37	0.100	0.90	0.090	0.090	76.8	10.00	19.2	0.0	**19.2**	300	29.0	1.03%	0.298	0.07	0.075	PVC	96.4	1.38	0.35	0.20	OK
CB8	CB8	MH37	0.177	0.90	0.159	0.159	76.8	10.00	34.0	0.0	**34.0**	250	10.7	1.77%	0.251	0.05	0.063	PVC	80.0	1.62	0.11	0.43	OK
CB6 and CB8	MH37	MH16	0.000	0.90	0.000	0.249	76.8	10.00	53.2	0.0	**53.2**	375	12.6	0.40%	0.381	0.11	0.095	PVC	115.7	1.01	0.21	0.46	OK
	MH16	MH15	0.000	0.90	0.000	0.688	69.1	12.25	132.1	9.3	**141.4**	750	19.2	0.10%	0.762	0.46	0.191	PVC	367.3	0.81	0.40	0.39	OK
	CB24	MH27	0.019	0.90	0.017	0.017	76.8	10.00	3.6	0.0	**3.6**	250	25.5	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.35	0.06	OK
	CB50	MH27	0.013	0.90	0.012	0.012	76.8	10.00	2.5	0.0	**2.5**	250	2.9	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.04	0.04	OK
	CB49	PIPE	0.027	0.90	0.024	0.024	76.8	10.00	5.2	0.0	**5.2**	250	4.3	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.06	0.09	OK
	CB48	PIPE	0.045	0.90	0.041	0.041	76.8	10.00	8.6	0.0	**8.6**	250	17.3	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.24	0.14	OK
Northeast CRU8 Drivethru	MH27	MH15	0.000	0.90	0.000	0.094	76.8	10.00	20.0	0.0	**20.0**	375	31.5	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.46	0.15	OK
	MH15	MH36	0.000	0.90	0.000	0.782	67.9	12.65	147.5	9.3	**156.8**	750	52.9	0.10%	0.762	0.46	0.191	PVC	367.3	0.81	1.09	0.43	OK
CRU9	Stub	MH36	0.075	0.90	0.068	0.068	76.8	10.00	14.4	0.0	**14.4**	300	12.6	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.15	0.15	OK
	CB9	MH41	0.159	0.90	0.143	0.143	76.8	10.00	30.5	0.0	**30.5**	250	27.9	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.38	0.51	OK
	CB11	MH41	0.087	0.90	0.078	0.078	76.8	10.00	16.7	0.0	**16.7**	250	9.6	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.13	0.28	OK
Connection to storage	MH41	MH36	0.000	0.90	0.000	0.221	76.8	10.00	47.2	0.0	**47.2**	525	18.1	0.50%	0.533	0.22	0.133	PVC	317.2	1.42	0.21	0.15	OK
	CB13	PIPE	0.057	0.90	0.051	0.051	76.8	10.00	10.9	0.0	**10.9**	250	18.3	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.25	0.18	OK
	MH36	MH14	0.000	0.90	0.000	1.122	64.9	13.75	202.2	9.3	**211.5**	750	41.9	0.10%	0.762	0.46	0.191	PVC	367.3	0.81	0.87	0.58	OK
	CB21	MH26	0.028	0.90	0.025	0.025	76.8	10.00	5.4	0.0	**5.4**	250	18.0	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.25	0.09	OK
	CB22	MH26	0.016	0.90	0.014	0.014	76.8	10.00	3.1	0.0	**3.1**	250	4.7	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.06	0.05	OK
CRU10 Drivethru	MH26	MH14	0.000	0.90	0.000	0.040	76.8	10.00	8.4	0.0	**8.4**	300	13.7	0.40%	0.298	0.07	0.075	PVC	60.1	0.86	0.27	0.14	OK
	MH14	MH13	0.000	0.90	0.000	1.161	62.7	14.61	202.3	9.3	**211.6**	825	19.5	0.10%	0.838	0.55	0.210	PVC	473.6	0.86	0.38	0.45	OK
CRU10	Stub	MH13	0.046	0.90	0.041	0.041	76.8	10.00	8.8	0.0	**8.8**	300	8.7	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.11	0.09	OK
	CB15	MH35	0.131	0.90	0.118	0.118	76.8	10.00	25.2	0.0	**25.2**	250	10.1	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.14	0.42	OK
Connection to storage	MH35	MH13	0.000	0.90	0.000	0.118	76.8	10.00	25.2	0.0	**25.2**	525	13.4	0.50%	0.533	0.22	0.133	PVC	317.2	1.42	0.16	0.08	OK

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STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Project: 4175 Strandherd Drive
Project No: 263560
Location: Ottawa, ON
Prepared by: G.R.
Checked by: G.D.
Date: August 14, 2026

Total Site area (including Strandherd Drive widening) =	5.273 ha	5.273 ha
Controlled Area =	3.732 ha	4.602 ha
Uncontrolled Area (including widenning, RC=0.44) =	0.671 ha	0.671 ha

Rainfall Data: a, b, c Values

	2 Year	100 Year
a	732.951	1735.688
b	6.199	6.014
c	0.81	0.82

Manning's Roughness Coefficient (All pipes)= 0.013

LOCATION			FLOW									DESIGN CAPACITY											
Notes	From Node	To Node	Area (ha)	C	A x C (ha)	Accum AxC (ha)	Rainfall Intensity mm/hr	Time of Conc. (Tc) (min)	Area Flow Q (l/s)	Controlled Flows (l/s)	Total Flow (l/s)	Diam. (nominal) (mm)	Length Pipe (m)	Slope Pipe (%)	Diameter Actual (m)	Pipe Area (sq.m)	Hydraulic Radius (m)	Pipe Mat.	Pipe Capacity (l/s)	Velocity (m/s)	Time of Flow (min)	Ratio Q/Q full	Cap. Check
	MH13	MH12	0.000	0.90	0.000	1.321	61.8	14.99	226.7	9.3	**236.0**	825	35.0	0.10%	0.838	0.55	0.210	PVC	473.6	0.86	0.68	0.50	OK
	CB20	MH24	0.023	0.90	0.021	0.021	76.8	10.00	4.4	0.0	**4.4**	250	17.4	1.01%	0.251	0.05	0.063	PVC	60.4	1.22	0.24	0.07	OK
	CB19	MH24	0.035	0.90	0.032	0.032	76.8	10.00	6.7	0.0	**6.7**	250	4.7	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.06	0.11	OK
South of CRU10	MH24	MH12	0.000	0.90	0.000	0.052	76.8	10.00	11.1	0.0	**11.1**	300	17.1	0.50%	0.298	0.07	0.075	PVC	67.2	0.96	0.30	0.17	OK
	MH12	MH11	0.000	0.90	0.000	1.373	60.2	15.67	229.7	9.3	**239.0**	825	7.8	0.10%	0.838	0.55	0.210	PVC	473.6	0.86	0.15	0.50	OK
	CB17	PIPE	0.121	0.90	0.109	0.109	76.8	10.00	23.2	0.0	**23.2**	250	14.1	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.19	0.39	OK
Orifice Tube	MH11	MH2	0.000	0.90	0.000	1.482	62.7	14.61	258.1	9.3	**267.4**	825	37.7	0.10%	0.838	0.55	0.210	PVC	473.6	0.86	0.73	0.56	OK
West Branch																							
	CB27	MH30	0.028	0.90	0.025	0.025	76.8	10.00	5.4	0.0	**5.4**	300	14.4	0.70%	0.298	0.07	0.075	PVC	79.5	1.14	0.21	0.07	OK
	CB47	PIPE	0.047	0.90	0.042	0.042	76.8	10.00	9.0	0.0	**9.0**	250	7.5	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.10	0.15	OK
	MH30	MH31	0.000	0.90	0.000	0.068	76.0	10.21	14.3	0.0	**14.3**	375	39.4	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.58	0.11	OK
	MH31	MH10	0.000	0.90	0.000	0.068	73.9	10.79	13.9	0.0	**13.9**	375	26.4	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.39	0.11	OK
	CB41	MH39	0.023	0.90	0.021	0.021	76.8	10.00	4.4	0.0	**4.4**	250	6.3	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.09	0.07	OK
	CBMH40	MH39	0.022	0.80	0.018	0.018	76.8	10.00	3.8	0.0	**3.8**	300	31.5	0.50%	0.298	0.07	0.075	PVC	67.2	0.96	0.55	0.06	OK
	MH39	MH10	0.000	0.90	0.000	0.038	74.8	10.55	8.0	0.0	**8.0**	300	12.9	0.50%	0.298	0.07	0.075	PVC	67.2	0.96	0.22	0.12	OK
CRU5	Stub	MH10	0.019	0.90	0.017	0.017	76.8	10.00	3.6	0.0	**3.6**	300	9.0	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.11	0.04	OK
	CB32	PIPE	0.052	0.90	0.047	0.047	76.8	10.00	10.0	0.0	**10.0**	250	11.6	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.16	0.17	OK
	CB33	PIPE	0.045	0.90	0.041	0.041	76.8	10.00	8.6	0.0	**8.6**	250	10.7	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.15	0.14	OK
	CB35	PIPE	0.064	0.77	0.049	0.049	76.8	10.00	10.5	0.0	**10.5**	250	11.5	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.16	0.17	OK
	MH10	MH9	0.000	0.90	0.000	0.259	72.6	11.18	52.30	0.0	**52.3**	600	32.8	0.20%	0.610	0.29	0.152	PVC	286.5	0.98	0.56	0.18	OK
	DCB26	MH9	0.051	0.90	0.046	0.046	76.8	10.00	9.8	0.0	**9.8**	250	24.3	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.33	0.16	OK
	MH9	MH8	0.000	0.80	0.000	0.305	70.7	11.73	60.00	0.0	**60.0**	675	33.5	0.12%	0.686	0.37	0.171	PVC	303.8	0.82	0.68	0.20	OK
CRU4 Controlled Roof	Stub	MH8	0.123	0.90	0.111	0.000	76.8	10.00	0.0	5.2	**5.2**	300	8.9	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.11	0.05	OK
	DCB2	MH29	0.245	0.90	0.221	0.221	76.8	10.00	47.0	0.0	**47.0**	300	28.7	0.70%	0.298	0.07	0.075	PVC	79.5	1.14	0.42	0.59	OK
	CB4	MH29	0.109	0.90	0.098	0.098	76.8	10.00	20.9	0.0	**20.9**	250	10.8	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.15	0.35	OK
	MH29	MH8	0.000	0.90	0.000	0.319	76.8	10.00	68.0	0.0	**68.0**	525	11.5	0.50%	0.533	0.22	0.133	PVC	317.2	1.42	0.14	0.21	OK
	MH8	MH7	0.000	0.90	0.000	0.624	68.6	12.41	118.96	5.2	**124.1**	675	48.1	0.12%	0.686	0.37	0.171	PVC	303.8	0.82	0.97	0.41	OK
CRU3 Controlled Roof	Stub	MH7	0.192	0.90	0.172	0.000	76.8	10.00	0.0	8.0	**8.0**	300	11.9	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.15	0.08	OK
	CB5	MH32	0.107	0.90	0.096	0.096	76.8	10.00	20.5	0.0	**20.5**	250	28.6	1.05%	0.251	0.05	0.063	PVC	61.6	1.24	0.38	0.33	OK
	CB7	MH32	0.163	0.90	0.147	0.147	76.8	10.00	31.3	0.0	**31.3**	250	9.1	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.12	0.52	OK
CB2 and CB7	MH32	MH7	0.000	0.90	0.000	0.243	76.8	10.00	51.8	0.0	**51.8**	300	12.9	0.50%	0.298	0.07	0.075	PVC	67.2	0.96	0.22	0.77	OK
	MH7	MH6	0.000	0.90	0.000	0.867	65.9	13.39	158.59	13.2	**171.8**	750	55.2	0.10%	0.762	0.46	0.191	PVC	367.3	0.81	1.14	0.47	OK
CRU2 Controlled Roof	Stub	MH6	0.160	0.90	0.144	0.000	76.8	10.00	0.0	6.7	**6.7**	300	10.8	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.13	0.07	OK
	CB10	MH34	0.148	0.90	0.133	0.133	76.8	10.00	28.4	0.0	**28.4**	250	9.7	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.13	0.47	OK
	CB12	MH34	0.080	0.90	0.072	0.072	76.8	10.00	15.4	0.0	**15.4**	250	28.4	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.39	0.26	OK
Connection to storage	MH34	MH6	0.000	0.90	0.000	0.205	76.8	10.00	43.8	0.0	**43.8**	525	11.6	0.50%	0.533	0.22	0.133	PVC	317.2	1.42	0.14	0.14	OK
	MH6	MH5	0.000	0.90	0.000	1.072	62.9	14.53	187.33	19.9	**207.3**	750	29.1	0.10%	0.762	0.46	0.191	PVC	367.3	0.81	0.60	0.56	OK
	CB28	MH21	0.038	0.90	0.034	0.034	76.8	10.00	7.3	0.0	**7.3**	300	6.4	0.62%	0.298	0.07	0.075	PVC	74.8	1.07	0.10	0.10	OK
	CB42	PIPE	0.027	0.90	0.024	0.024	76.8	10.00	5.2	0.0	**5.2**	250	3.7	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.05	0.09	OK
Behind CRU2	MH21	MH20	0.000	0.90	0.000	0.059	76.8	10.00	12.5	0.0	**12.5**	375	54.3	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.80	0.10	OK

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STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Project: 4175 Strandherd Drive
Project No: 263560
Location: Ottawa, ON
Prepared by: G.R.
Checked by: G.D.
Date: August 14, 2026

Total Site area (including Strandherd Drive widening) =	5.273 ha	5.273 ha
Controlled Area =	3.732 ha	4.602 ha
Uncontrolled Area (including widenning, RC=0.44) =	0.671 ha	0.671 ha

Rainfall Data: a, b, c Values

	2 Year	100 Year
a	732.951	1735.688
b	6.199	6.014
c	0.81	0.82

Manning's Roughness Coefficient (All pipes)= 0.013

LOCATION			FLOW									DESIGN CAPACITY											
Notes	From Node	To Node	Area (ha)	C	A x C (ha)	Accum AxC (ha)	Rainfall Intensity mm/hr	Time of Conc. (Tc) (min)	Area Flow Q (l/s)	Controlled Flows (l/s)	Total Flow (l/s)	Diam. (nominal) (mm)	Length Pipe (m)	Slope Pipe (%)	Diameter Actual (m)	Pipe Area (sq.m)	Hydraulic Radius (m)	Pipe Mat.	Pipe Capacity (l/s)	Velocity (m/s)	Time of Flow (min)	Ratio Q/Q full	Cap. Check
	CB29	MH20	0.071	0.90	0.064	0.064	76.8	10.00	13.6	0.0	**13.6**	250	12.2	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.17	0.23	OK
Pumped Loading Dock CRU2	Pump Well 2	MH20	0.026	0.90	0.023	0.023	76.8	10.00	5.0	0.0	**5.0**												
Pumped Loading Dock CRU1	Pump Well 1	MH20	0.046	0.90	0.041	0.041	76.8	10.00	8.8	0.0	**8.8**												
	CB30	PIPE	0.061	0.90	0.055	0.055	178.6	10.00	27.2	0.0	**27.2**	250	6.6	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.09	0.45	OK
	CB31	PIPE	0.091	0.90	0.082	0.082	178.6	10.00	40.6	13.8	**54.4**	250	8.2	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.11	0.91	OK
	MH20	MH19	0.000	0.90	0.000	0.259	73.9	10.80	53.2	13.8	**67.0**	375	50.5	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.74	0.52	OK
	MH19	MH5	0.000	0.90	0.000	0.259	71.4	11.54	51.4	13.8	**65.2**	375	13.5	0.50%	0.381	0.11	0.095	PVC	129.3	1.13	0.20	0.50	OK
	MH5	MH4	0.000	0.90	0.000	1.331	61.5	15.13	227.28	33.8	**261.0**	750	27.8	0.10%	0.762	0.46	0.191	PVC	367.3	0.81	0.58	0.71	OK
	CB14	PIPE	0.074	0.90	0.067	0.067	76.8	10.00	14.2	0.0	**14.2**	250	7.5	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.10	0.24	OK
	MH4	MH3	0.000	0.90	0.000	1.398	60.1	15.71	233.56	33.8	**267.3**	825	26.3	0.10%	0.838	0.55	0.210	PVC	473.6	0.86	0.51	0.56	OK
CRU1 Partially Controlled	Stub	MH3	0.278	0.90	0.150	0.150	76.8	10.00	0.0	11.7	**11.7**	300	21.1	1.00%	0.298	0.07	0.075	PVC	95.0	1.36	0.26	0.12	OK
	CB16	MH33	0.170	0.90	0.153	0.153	76.8	10.00	32.6	0.0	**32.6**	250	10.2	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.14	0.54	OK
Connection to storage	MH33	MH3	0.000	0.90	0.000	0.153	76.8	10.00	32.6	0.0	**32.6**	525	8.2	0.50%	0.533	0.22	0.133	PVC	317.2	1.42	0.10	0.10	OK
	CB18	PIPE	0.169	0.90	0.152	0.152	76.8	10.00	32.5	0.0	**32.5**	250	7.7	1.00%	0.251	0.05	0.063	PVC	60.1	1.21	0.11	0.54	OK
	MH3	MH2	0.000	0.90	0.000	1.853	59.0	16.22	303.89	45.4	**349.3**	825	45.9	0.10%	0.838	0.55	0.210	PVC	473.6	0.86	0.89	0.74	OK
Common Branch	MH2	MH1	0.000	0.90	0.000	3.335	57.2	17.11	529.87	45.4	**575.3**	864x1345	74.9	0.10%	0.991	0.77	0.248	PVC	739.3	0.96	1.30	0.78	OK
	MH1	*Ex. OGS1*	*0.000*	*0.90*	*0.000*	*3.335*	*54.7*	*18.41*	507.06	*45.4*	***552.5***	*864x1345*	*4.6*	*0.24%*	*0.991*	*0.77*	*0.248*	*PVC*	*1145.4*	*1.49*	*0.05*	*0.48*	*OK*
	Ex. OGS1	*Ex. OGS2*	*0.000*	*0.90*	*0.000*	*3.335*	*54.6*	*18.46*	506.20	*45.4*	***551.6***	*864x1345*	*4.1*	*0.25%*	*0.991*	*0.77*	*0.248*	*PVC*	*1169.0*	*1.52*	*0.05*	*0.47*	*OK*
	Ex. OGS2	*Ex. Outfall*	*0.000*	*0.90*	*0.000*	*3.335*	*54.6*	*18.51*	505.45	*45.4*	***550.9***	*864x1345*	*13.2*	*0.22%*	*0.991*	*0.77*	*0.248*	*PVC*	*1096.6*	*1.42*	*0.15*	*0.50*	*OK*

Recessed loading dock area flows to be pumped calculated based on the 100-year storm event.

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Post-Development Uncontrolled Area Release Rates

Project Name: 4175 Strandherd Drive

Project Number: 263560

AREA 200

Rational Method - 2 Year Post Development

Event:		2	years
ABC's:	A	732.951	
	B	6.199	
	C	0.81	
Time of Concentration:	t	10	min
Runoff Coefficient:	C	0.44	
Site Area	A	0.671	ha
Intensity $i=A/(T)^c$	i	76.81	mm/hr
Flow Q=CiA/360	Q	0.063	m^3/s
		63.0	**l/s**

Rational Method - 5 Year Post Development

Event:		5	years
ABC's:	A	998.071	
	B	6.053	
	C	0.814	
Time of Concentration:	t	10	min
Runoff Coefficient:	C	0.44	
Site Area	A	0.671	ha
Intensity $i=A/(T)^c$	i	104.19	mm/hr
Flow Q=CiA/360	Q	0.09	m^3/s
		85.4	l/s

Rational Method - 10 Year Post Development

Event:		10	years
ABC's:	A	1174.184	
	B	6.014	
	C	0.816	
Time of Concentration:	t	10	min
Runoff Coefficient:	C	0.44	
Site Area	A	0.671	ha
Intensity $i=A/(T)^c$	i	122.14	mm/hr
Flow Q=CiA/360	Q	0.10	m^3/s
		100.2	l/s

Rational Method - 25 Year Post Development

Event:		25	years
ABC's:	A	1402.884	
	B	6.018	
	C	0.819	
Time of Concentration:	t	10	min
Runoff Coefficient:	C	0.44	
Site Area	A	0.671	ha
Intensity $i=A/(T)^c$	i	144.69	mm/hr
Flow Q=CiA/360	Q	0.12	m^3/s
		118.7	l/s

Rational Method - 50 Year Post Development

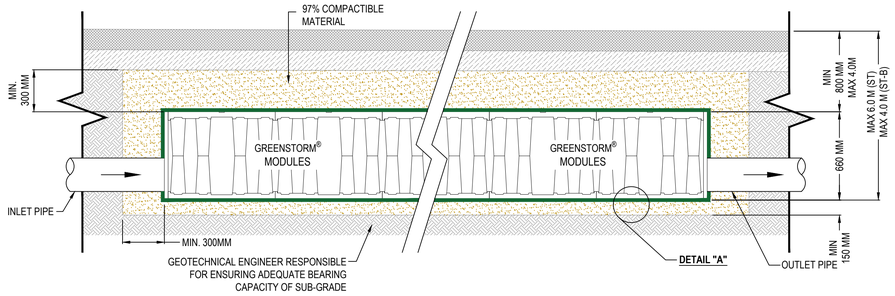
Event:		50	years
ABC's:	A	1569.58	
	B	6.014	
	C	0.82	
Time of Concentration:	t	10	min
Runoff Coefficient:	C	0.44	
Site Area	A	0.671	ha
Intensity $i=A/(T)^c$	i	161.47	mm/hr
Flow Q=CiA/360	Q	0.13	m^3/s
		132.4	l/s

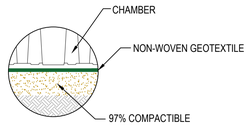
Rational Method - 100 Year Post Development

Event:		100	years
ABC's:	A	1735.688	
	B	6.014	
	C	0.82	
Time of Concentration:	t	10	min
Runoff Coefficient:	C	0.44	
Site Area	A	0.671	ha
Intensity $i=A/(T)^c$	i	178.56	mm/hr
Flow Q=CiA/360	Q	0.15	m^3/s
		146.4	l/s

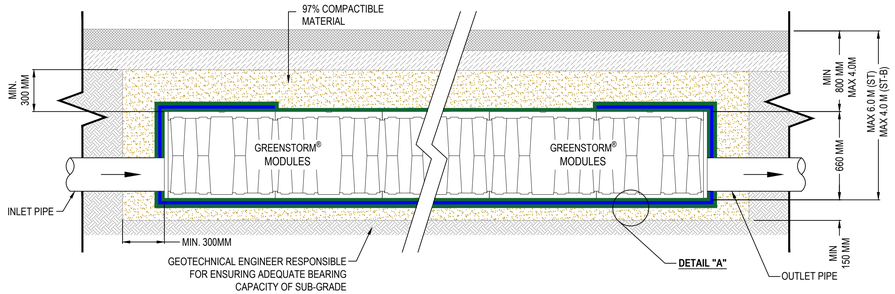
Rational Method - 100yr + 20% IDF Increase Post Development

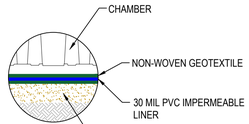
Event:		100yr + 20% IDF INC.		
ABC's:	A	1735.688		
	B	6.014		
	C	0.82		
Time of Concentration:	t	10	min	
Runoff Coefficient:	C	0.44		
Site Area	A	0.671	ha	
Intensity $i=A/(T)^c$	i	214.27	mm/hr	100-year x 20%
Flow Q=CiA/360	Q	0.18	m^3/s	
		175.7	l/s	





DETAIL "A"



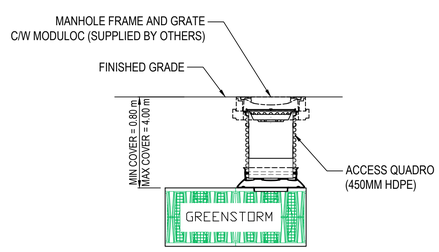


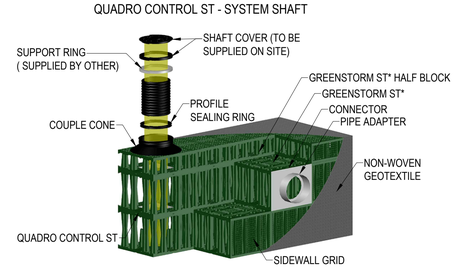
DETAIL "A"

**Recommended bedding materials : HPB

COMPACTIBLE MATERIAL LIST	LEGEND
• GRANULAR A	30MIL PVC IMPERMEABLE LINER
• GRANULAR B	8 OZ NON-WOVEN GEOTEXTILE
• 19mm CLEAR ANGULAR STONE	
• HIGH PERFORMANCE BEDDING (HPB)	
• HL6	

TYPICAL ONE LAYER GREENSTORM CROSS SECTION

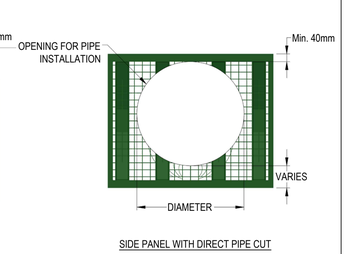




GREENSTORM ACCESS QUADRO DETAIL(WHERE APPLICABLE)

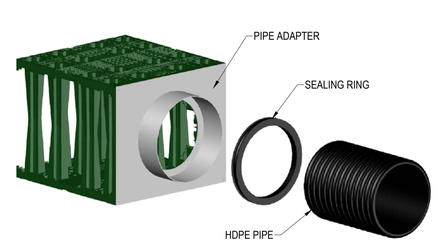
FULL CONNECTION OPTIONS
Dia 100mm, 150 mm, 200 mm, 250 mm, 300 mm AND 375 mm



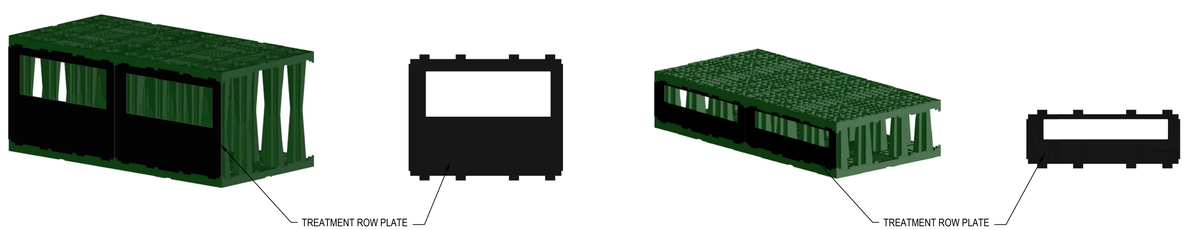


SIDE PANEL WITH DIRECT PIPE CUT

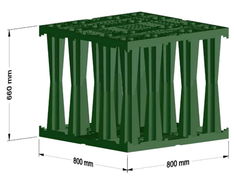
STANDARD SIDE PANEL WITH DIRECT PIPE CUT



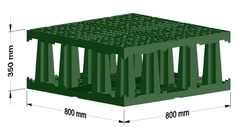
STD. ADAPTER PANEL W/ DIA 450&525



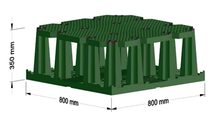
STANDARD TREATMENT ROW DETAIL (WHERE APPLICABLE)



FULL BLOCK



HALF BLOCK



MIDDLE GRID

STANDARD GREENSTORM BLOCK DETAIL

STORMCON
69 CONNIE CRESCENT
CONCORD, ON
L4K 1L3

SALES@STORMCON.CA
www.STORMCON.CA

THIS DRAWING WAS PREPARED TO SUPPORT THE PROJECT ENGINEER OF RECORD FOR THE PROPOSED SYSTEM. IT IS THE ULTIMATE RESPONSIBILITY OF THE PROJECT ENGINEER OF RECORD TO ENSURE THAT THE GREENSTORM SYSTEM'S DESIGN IS IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IT IS THE CONTRACTOR OF RECORD'S RESPONSIBILITY TO ENSURE THAT THE STORMCON PRODUCTS ARE DESIGNED IN ACCORDANCE WITH STORMCONS MINIMUM REQUIREMENTS. STORMCON DOES NOT APPROVE PLANS, SIZING, OR SYSTEM DESIGNS.

260 EIGHTH STREET
TORONTO, ON

DETAILS SHEET

GREENSTORM STORMWATER CHAMBER

PROJECT NO:	2024-079	DATE:	05/23/2024
DESIGNED BY:	JD	CHECKED BY:	EC
SCALE:	N.T.S.	SHEET NO:	12 OF 12

Particle Size Distribution

Removing silt particles from runoff ensures that the majority of the pollutants, such as hydrocarbons and heavy metals that adhere to fine particles, are not discharged into our natural water courses. The table below lists the particle size distribution used to define the annual TSS removal.

CLOCA (clay, silt and sand)

Particle Size µm	Distribution %	Specific Gravity	Settling Velocity m/s		Particle Size µm	Distribution %	Specific Gravity	Settling Velocity m/s
850	3.3	2.65	0.1465		50	3.9	2.65	0.0022
425	23.4	2.65	0.0698		36	2.6	2.65	0.0012
300	17.5	2.65	0.0439		22	1.3	2.65	0.0004
250	6.5	2.65	0.0335		12	1.9	2.65	0.0004
212	6.5	2.65	0.0259		9	0	2.65	0.0004
150	11.7	2.65	0.0145		6.5	1.3	2.65	0.0004
125	5.2	2.65	0.0105		3	1.3	2.65	0.0004
100	3.9	2.65	0.0070		1.5	1.3	2.65	0.0004
75	3.9	2.65	0.0040		1	4.5	2.65	0.0004

Stormceptor Design Notes

- Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor version 1.0
- Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal.
- Only the STC 300 is adaptable to function with a catch basin inlet and/or inline pipes.
- Only the Stormceptor models STC 750 to STC 6000 may accommodate multiple inlet pipes.
- Inlet and outlet invert elevation differences are as follows:

Inlet and Outlet Pipe Invert Elevations Differences

Inlet Pipe Configuration	STC 300	STC 750 to STC 6000	STC 9000 to STC 14000
Single inlet pipe	75 mm	25 mm	75 mm
Multiple inlet pipes	75 mm	75 mm	Only one inlet pipe.

- Design estimates are based on stable site conditions only, after construction is completed.
- Design estimates assume that the storm drain is not submerged during zero flows. For submerged applications, please contact your local Stormceptor representative.
- Design estimates may be modified for specific spills controls. Please contact your local Stormceptor representative for further assistance.
- For pricing inquiries or assistance, please contact Imbrium Systems Inc., 1-800-565-4801.

Stormceptor Design Summary

PCSWMM for Stormceptor

Project Information

Date	06/12/2013
Project Name	Oil/Grit Separator #8
Project Number	109203 - Citi Gate (416) Lands
Location	Block 3

Designer Information

Company	Novatech Engineering Consultants Ltd.
Contact	Conrad Stang, M.A.Sc., P.Eng.

Notes

N/A

Drainage Area

Total Area (ha)	6.31
Imperviousness (%)	85

The Stormceptor System model STC 9000 achieves the water quality objective removing 82% TSS for a CLOCA (clay, silt and sand) particle size distribution.

Rainfall

Name	OTTAWA MACDONALD-CARTIER INT'L A
State	ON
ID	6000
Years of Records	1967 to 2003
Latitude	45°19'N
Longitude	75°40'W

Water Quality Objective

TSS Removal (%)	80

Upstream Storage

Storage (ha-m)	Discharge (L/s)
0	0

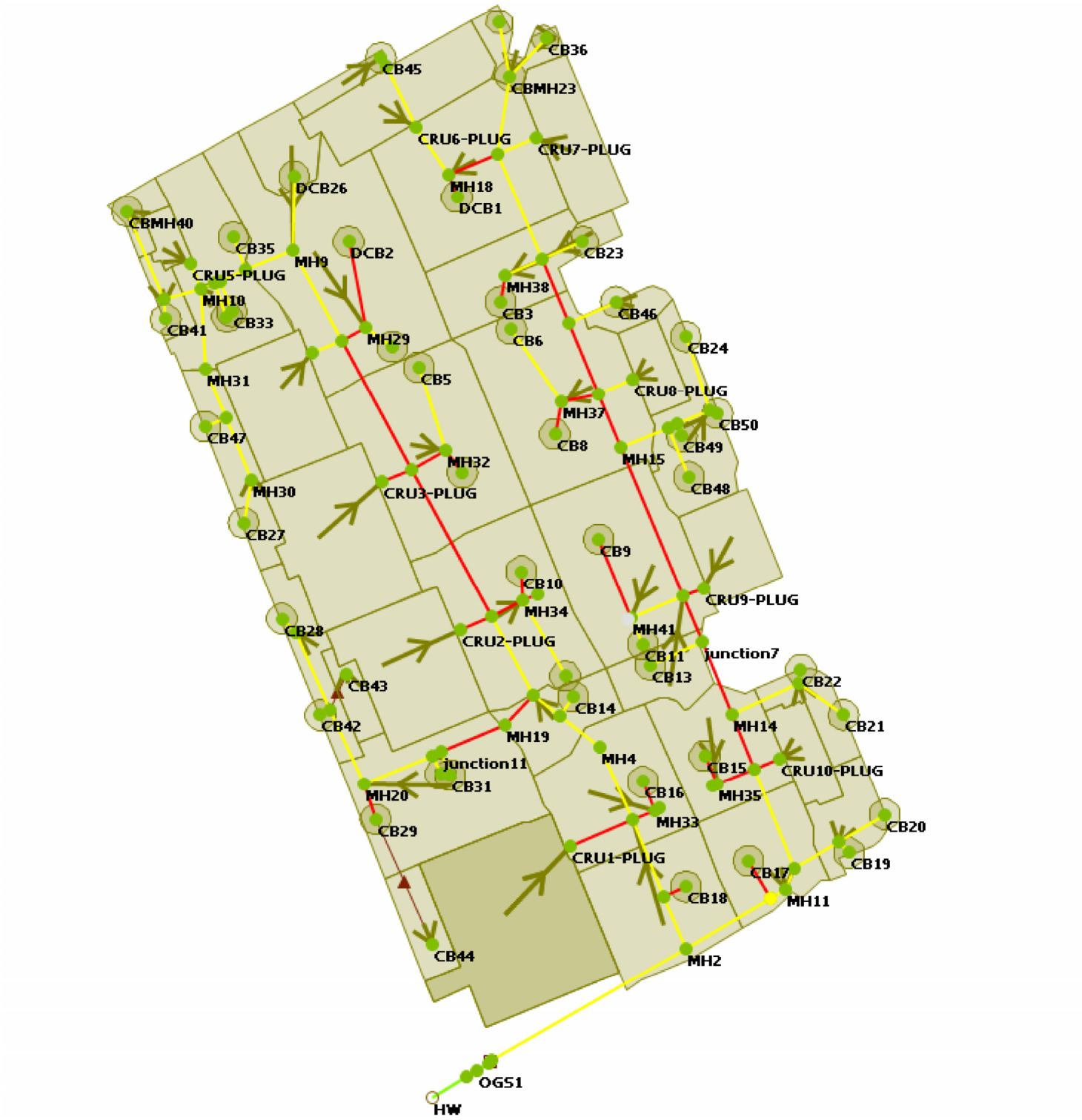
Stormceptor Sizing Summary

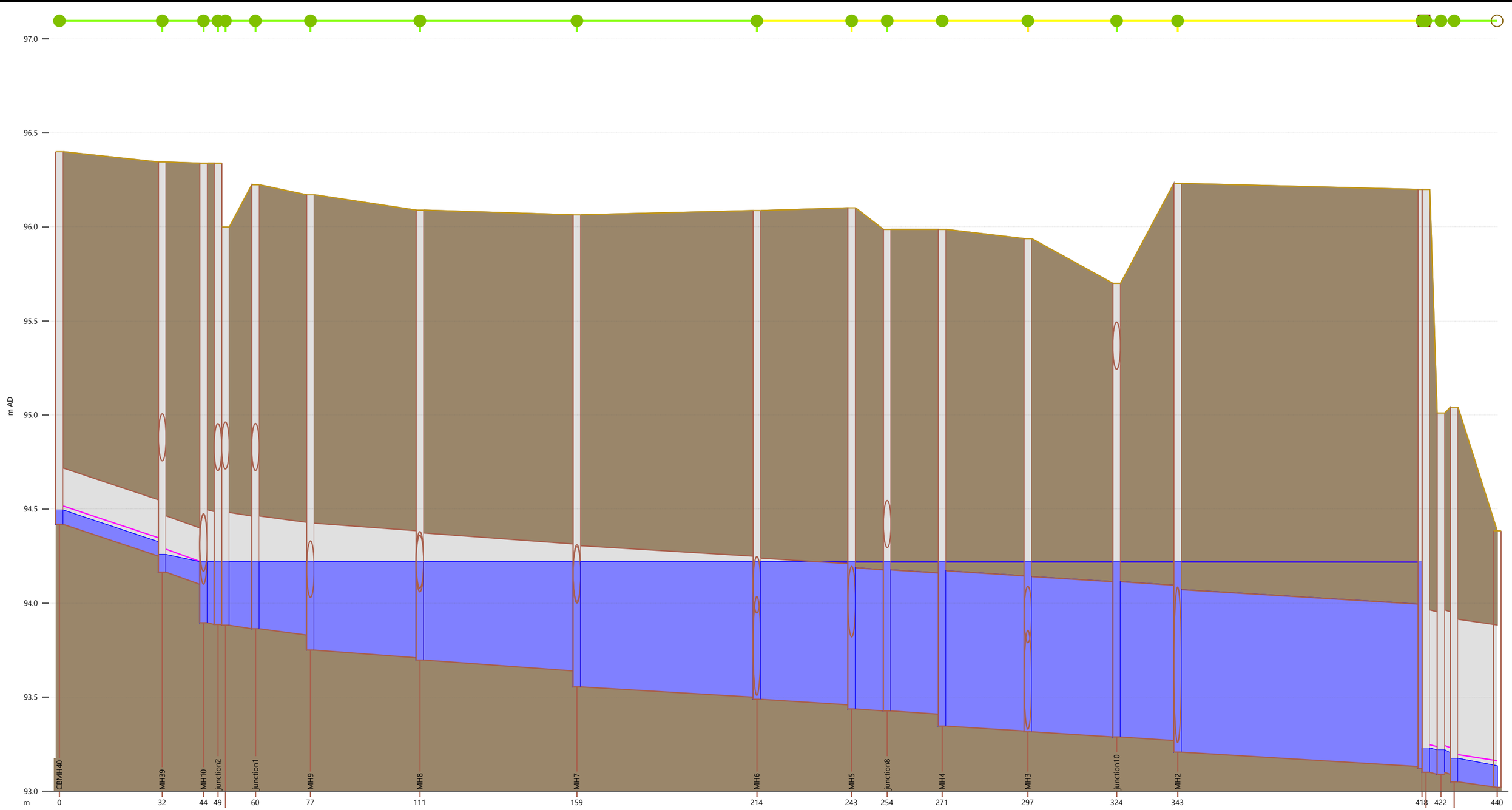
Stormceptor Model	TSS Removal %
STC 300	41
STC 750	56
STC 1000	56
STC 1500	57
STC 2000	66
STC 3000	67
STC 4000	73
STC 5000	74
STC 6000	78
STC 9000	**82**
STC 10000	82
STC 14000	85

InfoWorks HGL Model Results Summary Table for 25-year, 100-year and 100-year+20% Storm Events

Catch Basin	CB Type	Contributing Area (ha)	Rim Elev. (m AD)	Local Ponding Elev. (m AD)	Maximum Ponding Elev. (m AD)	Available Depth of Ponding (m)	Ponding Area (ha)	25-year Ponding Elevation (m AD)	25-year Ponding Depth (m)	100-year Ponding Elevation (m AD)	100-year Ponding Depth (m)	100-year+20% Ponding Elevation (m AD)	100-year+20% Ponding Depth (m)
CB10	Single CB - HozFB	0.148	95.800	96.05	96.05	0.25	0.0686	95.59	0.00	95.92	0.12	95.99	0.19
CB11	Single CB - HozFB	0.087	95.800	96.00	96.00	0.20	0.0240	95.59	0.00	95.92	0.12	95.99	0.19
CB12	Single CB - HozFB	0.080	95.800	96.00	96.00	0.20	0.0234	95.59	0.00	95.92	0.12	95.99	0.19
CB13	Single CB - HozFB	0.057	95.750	96.00	96.00	0.25	0.0425	95.59	0.00	95.92	0.17	95.99	0.24
CB14	Single CB - HozFB	0.074	95.750	96.00	96.00	0.25	0.0295	95.59	0.00	95.92	0.17	95.99	0.24
CB15	Single CB - HozFB	0.131	95.700	96.00	96.00	0.30	0.0626	95.59	0.00	95.92	**0.22**	95.99	**0.29**
CB16	Single CB - HozFB	0.170	95.700	96.00	96.00	0.30	0.0811	95.59	0.00	95.92	**0.22**	95.99	**0.29**
CB17	Single CB - HozFB	0.121	95.700	96.00	96.00	0.30	0.0633	95.59	0.00	95.92	**0.22**	95.99	**0.29**
CB18	Single CB - HozFB	0.169	95.700	96.00	96.00	0.30	0.0709	95.59	0.00	95.92	**0.22**	95.99	**0.29**
CB19	Single CB - HozFB	0.035	95.950	96.07	96.07	0.12	0.0075	95.59	0.00	95.92	0.00	95.99	0.04
CB20	Single CB - HozFB	0.023	95.950	96.04	96.07	0.09	0.0085	95.59	0.00	95.92	0.00	95.99	0.04
CB21	Single CB - HozFB	0.028	96.070	96.16	96.16	0.09	0.0096	95.59	0.00	95.92	0.00	95.99	0.00
CB22	Single CB - HozFB	0.016	96.070	96.16	96.16	0.09	0.0095	95.59	0.00	95.92	0.00	95.99	0.00
CB23	Single CB - HozFB	0.015	96.150	96.23	96.23	0.08	0.0031	95.59	0.00	95.92	0.00	95.99	0.00
CB24	Single CB - HozFB	0.019	96.170	96.28	96.28	0.11	0.0088	95.59	0.00	95.92	0.00	95.99	0.00
CB26	Single CB - HozFB	0.051	96.090	96.15	96.15	0.06	0.0026	95.59	0.00	95.92	0.00	95.99	0.00
CB27	Single CB - HozFB	0.028	96.050	96.20	96.20	0.15	0.0145	95.59	0.00	95.92	0.00	95.99	0.00
CB28	Single CB - HozFB	0.038	96.050	96.20	96.20	0.15	0.0131	95.59	0.00	95.92	0.00	95.99	0.00
CB29	Single CB - HozFB	0.071	95.980	96.20	96.20	0.22	0.0424	95.59	0.00	95.92	0.00	95.99	0.01
CB3	Single CB - HozFB	0.112	95.800	96.00	96.05	0.25	0.0425	95.59	0.00	95.92	0.12	95.99	0.19
CB30	Single CB - HozFB	0.061	95.950	96.20	96.20	0.25	0.0378	95.59	0.00	95.92	0.00	95.99	0.04
CB31	Single CB - HozFB	0.091	95.950	96.20	96.20	0.25	0.0436	95.59	0.00	95.92	0.00	95.99	0.04
CB32	Single CB - HozFB	0.052	96.050	96.25	96.25	0.20	0.0197	95.59	0.00	95.92	0.00	95.99	0.00
CB33	Single CB - HozFB	0.045	96.000	96.25	96.25	0.25	0.0188	95.59	0.00	95.92	0.00	95.99	0.00
CB35	Single CB - HozFB	0.064	96.220	96.32	96.32	0.10	0.0053	95.59	0.00	95.92	0.00	95.99	0.00
CB36	Single CB - HozFB	0.012	96.380	96.43	96.43	0.05	0.0035	95.59	0.00	95.92	0.00	95.99	0.00
CB37	Single CB - HozFB	0.014	96.380	96.43	96.43	0.05	0.0037	95.59	0.00	95.92	0.00	95.99	0.00
CB4	Single CB - HozFB	0.109	95.800	96.00	96.05	0.25	0.0390	95.59	0.00	95.92	0.12	95.99	0.19
CB41	Single CB - HozFB	0.023	96.200	96.30	96.30	0.10	0.0043	95.59	0.00	95.92	0.00	95.99	0.00
CB42	Single CB - HozFB	0.027	96.050	96.20	96.20	0.15	0.0155	95.59	0.00	95.92	0.00	95.99	0.00
CB45	Single CB - HozFB	0.020	96.150	96.40	96.40	0.25	0.0055	95.59	0.00	95.92	0.00	95.99	0.00
CB46	Single CB - HozFB	0.023	96.13	96.20	96.20	0.07	0.0033	95.59	0.00	95.92	0.00	95.99	0.00
CB47	Single CB - HozFB	0.047	96.05	96.20	96.20	0.15	0.0164	95.59	0.00	95.92	0.00	95.99	0.00
CB48	Single CB - HozFB	0.045	96.04	96.25	96.25	0.21	0.0207	95.59	0.00	95.92	0.00	95.99	0.00
CB49	Single CB - HozFB	0.027	96.10	96.30	96.30	0.20	0.0158	95.59	0.00	95.92	0.00	95.99	0.00
CB5	Single CB - HozFB	0.107	95.80	96.05	96.05	0.25	0.0483	95.59	0.00	95.92	0.12	95.99	0.19
CB50	Single CB - HozFB	0.013	96.16	96.28	96.28	0.12	0.0117	95.59	0.00	95.92	0.00	95.99	0.00
CB6	Single CB - HozFB	0.100	95.80	96.05	96.05	0.25	0.0416	95.59	0.00	95.92	0.12	95.99	0.19
CB7	Single CB - HozFB	0.163	95.80	96.05	96.05	0.25	0.0750	95.59	0.00	95.92	0.12	95.99	0.19
CB8	Single CB - HozFB	0.177	95.80	96.05	96.05	0.25	0.0836	95.59	0.00	95.92	0.12	95.99	0.19
CB9	Single CB - HozFB	0.159	95.80	96.05	96.05	0.25	0.0800	95.59	0.00	95.92	0.12	95.99	0.19
CBMH23	Single CB - HozFB	0.008	96.34	96.45	96.45	0.11	0.0048	95.59	0.00	95.92	0.00	95.99	0.00
CBMH40	Single CB - HozFB	0.022	96.40	96.49	96.49	0.09	0.0036	95.59	0.00	95.92	0.00	95.99	0.00
DCB1	Dual CB - HozFB	0.246	95.80	96.10	96.10	0.30	0.0967	95.59	0.00	95.92	0.12	95.99	0.19
DCB2	Dual CB - HozFB	0.245	95.80	96.05	96.05	0.25	0.0658	95.59	0.00	95.92	0.12	95.99	0.19

InfoWorks Model Schematic Plan



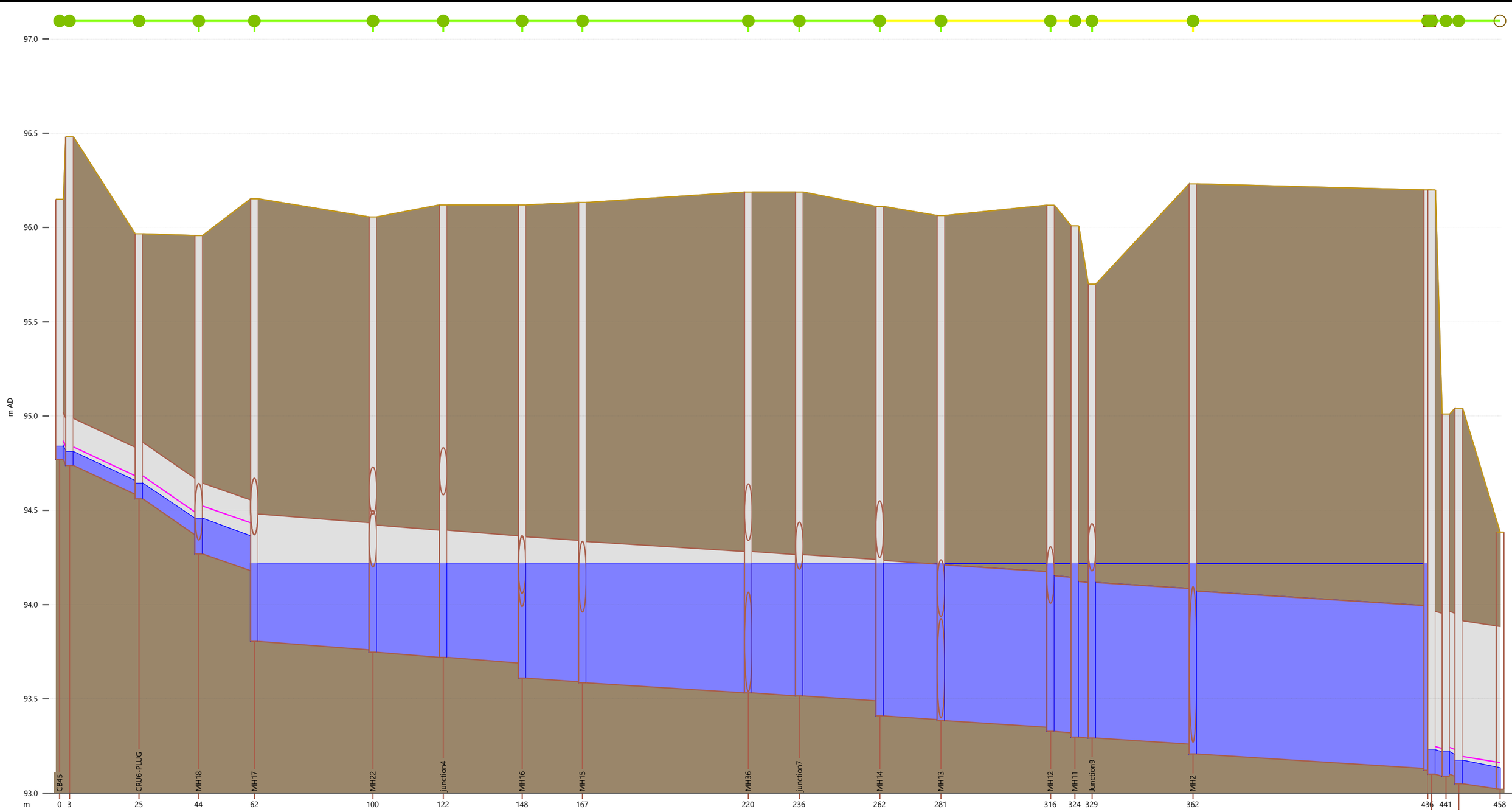


Link	CBMH40.1		MH39.1	-	-	-	junction1.1	MH9.1	MH8.1	MH7.1	MH6.1	MH5.1	junction8.1	MH4.1	MH3.1	junction10.1	MH2.1		-	-	OGS2.1	
Node	CBMH40		MH39	-	-	-	junction1	MH9	MH8	MH7	MH6	MH5	junction8	MH4	MH3	junction10	MH2	Control	-	-	OGS2	HW
Ground level (m AD)	96.400		96.345	-	-	-	96.224	96.171	96.089	96.064	96.087	96.102	95.987	95.987	95.938	95.700	96.231	96.200	-	-	-	-
Max Level (m AD)	94.494		94.258	-	-	-	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.218	-	-		
Max Flood depth (m)	0.046		-2.088	-	-	-	-2.005	-1.952	-1.870	-1.845	-1.868	-1.883	-1.768	-1.768	-1.719	-1.481	-2.012	-1.981	-	-		

2-Year Storm Event Profile 1

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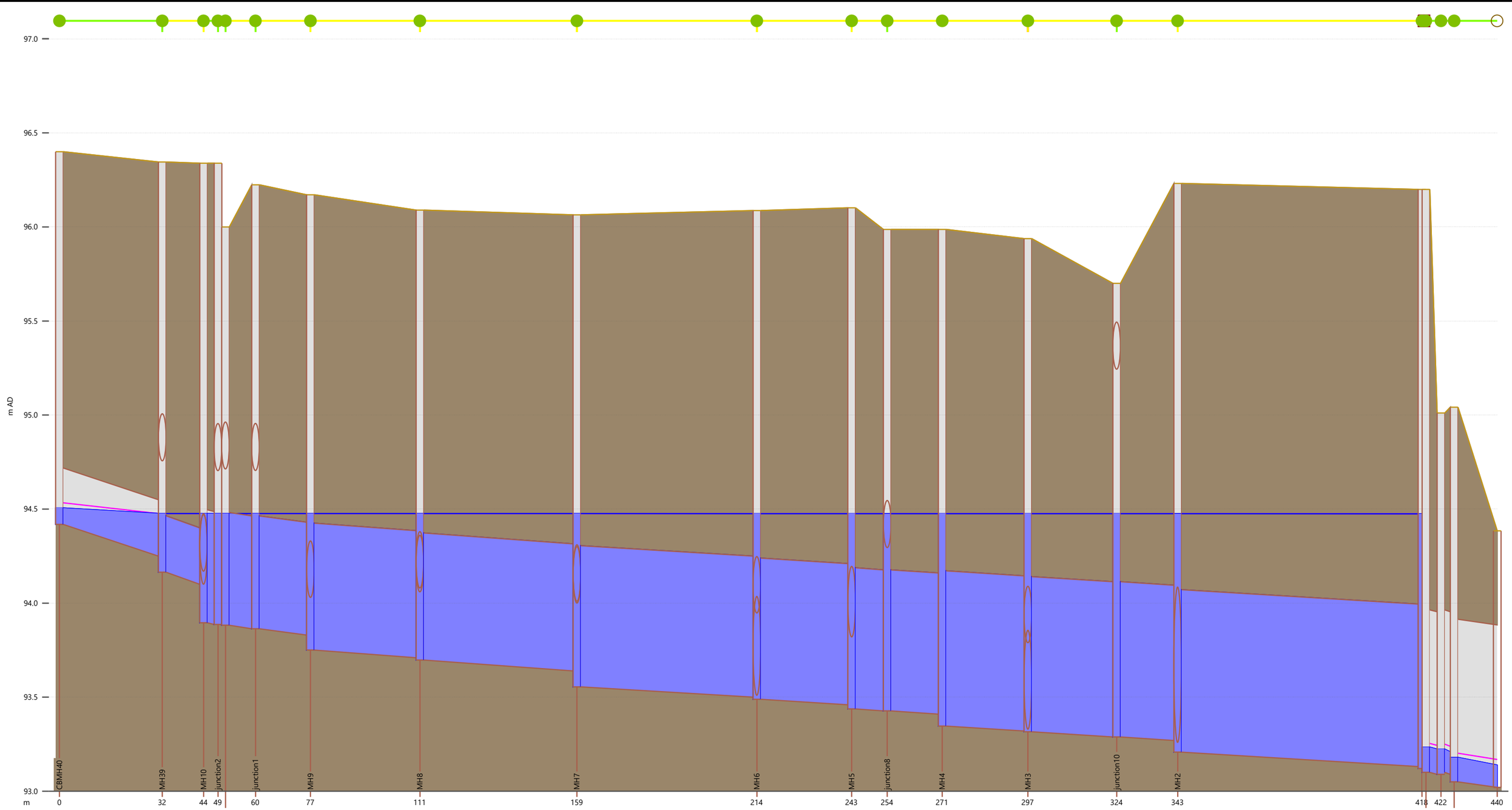
InfoWorks



Link	-	Structure - (242).1	CRU6-PLUG.1	MH18.1	MH17.1	MH22.1	junction4.1	MH16.1	MH15.1	MH36.1	junction7.1	MH14.1	MH13.1	-	-	Junction9.1	MH2.1	-	-	-	OGS2.1	
Node		-	CRU6-PLUG	MH18	MH17	MH22	junction4	MH16	MH15	MH36	junction7	MH14	MH13	MH12	-	Junction9	MH2	Control		-	-	HW
Ground level (m AD)		96.481	95.967	95.957	96.152	96.056	96.119	96.119	96.133	96.188	96.188	96.112	96.063	96.118	-	95.700	96.231	96.200		-	-	-
Max Level (m AD)		94.810	94.642	94.457	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	94.219	-	94.219	94.219	94.218		-	-	
Max Flood depth (m)		-1.671	-1.325	-1.500	-1.933	-1.837	-1.901	-1.901	-1.914	-1.969	-1.969	-1.893	-1.844	-1.900	-	-1.481	-2.012	-1.981		-	-	

2-Year Storm Event Profile 2

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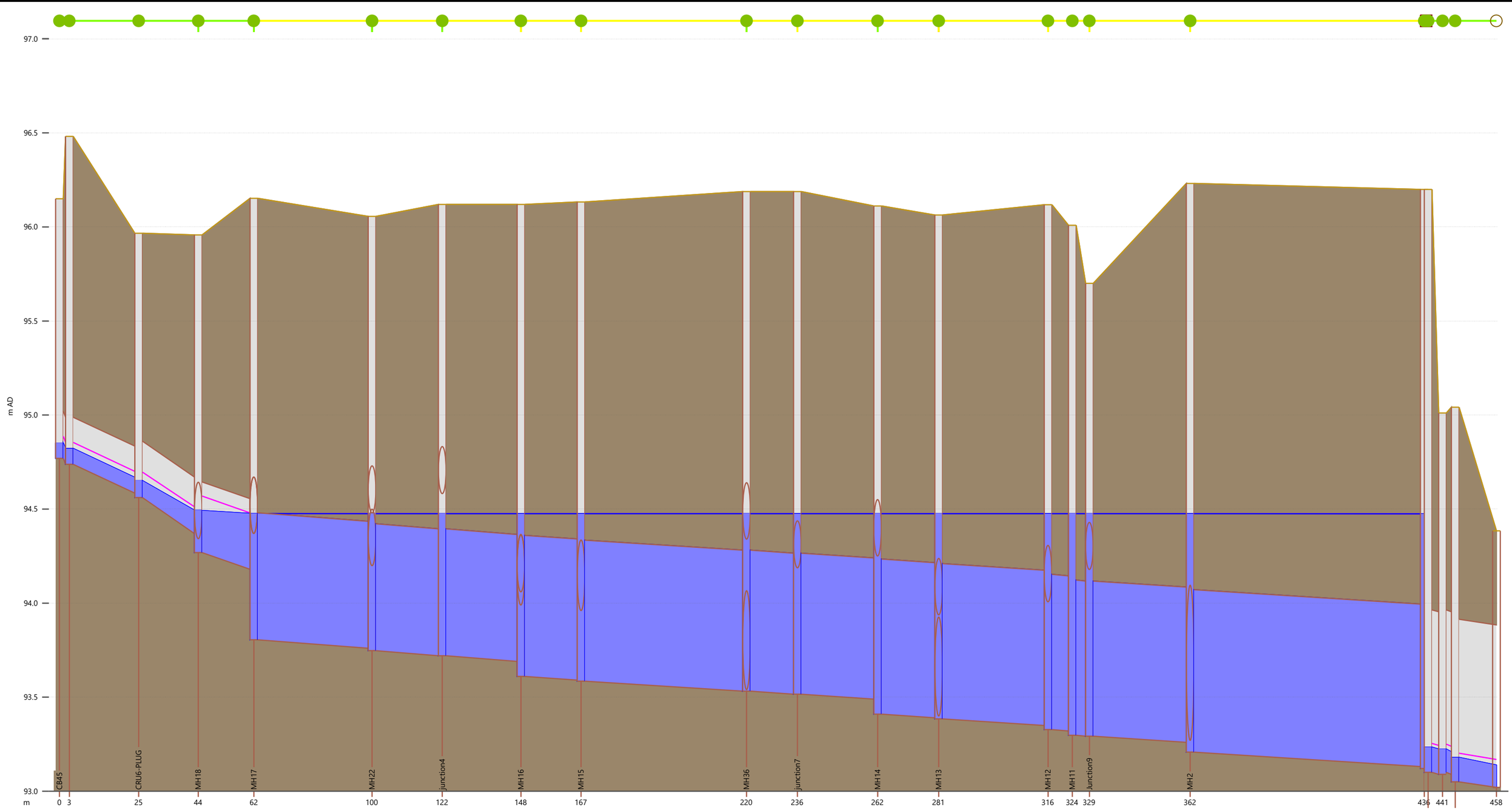


Link		CBMH40.1		MH39.1	-		-	junction1.1	MH9.1	MH8.1	MH7.1	MH6.1	MH5.1	junction8.1	MH4.1	MH3.1	junction10.1	MH2.1		-	-	OGS2.1	
Node		CBMH40	MH39	-		-	junction1	MH9	MH8	MH7	MH6	MH5	junction8	MH4	MH3	junction10	MH2	Control		-	OGS2	HW	
Ground level (m AD)		96.400	96.345	-		-	96.224	96.171	96.089	96.064	96.087	96.102	95.987	95.987	95.938	95.700	96.231	96.200		-	-	-	
Max Level (m AD)		94.506	94.476	-		-	94.476	94.476	94.476	94.476	94.476	94.476	94.476	94.476	94.475	94.475	94.475	94.475		-	-		
Max Flood depth (m)		0.053	-1.869	-		-	-1.748	-1.695	-1.613	-1.588	-1.611	-1.626	-1.511	-1.511	-1.463	-1.225	-1.756	-1.725		-	-		

5-Year Storm Event Profile 1

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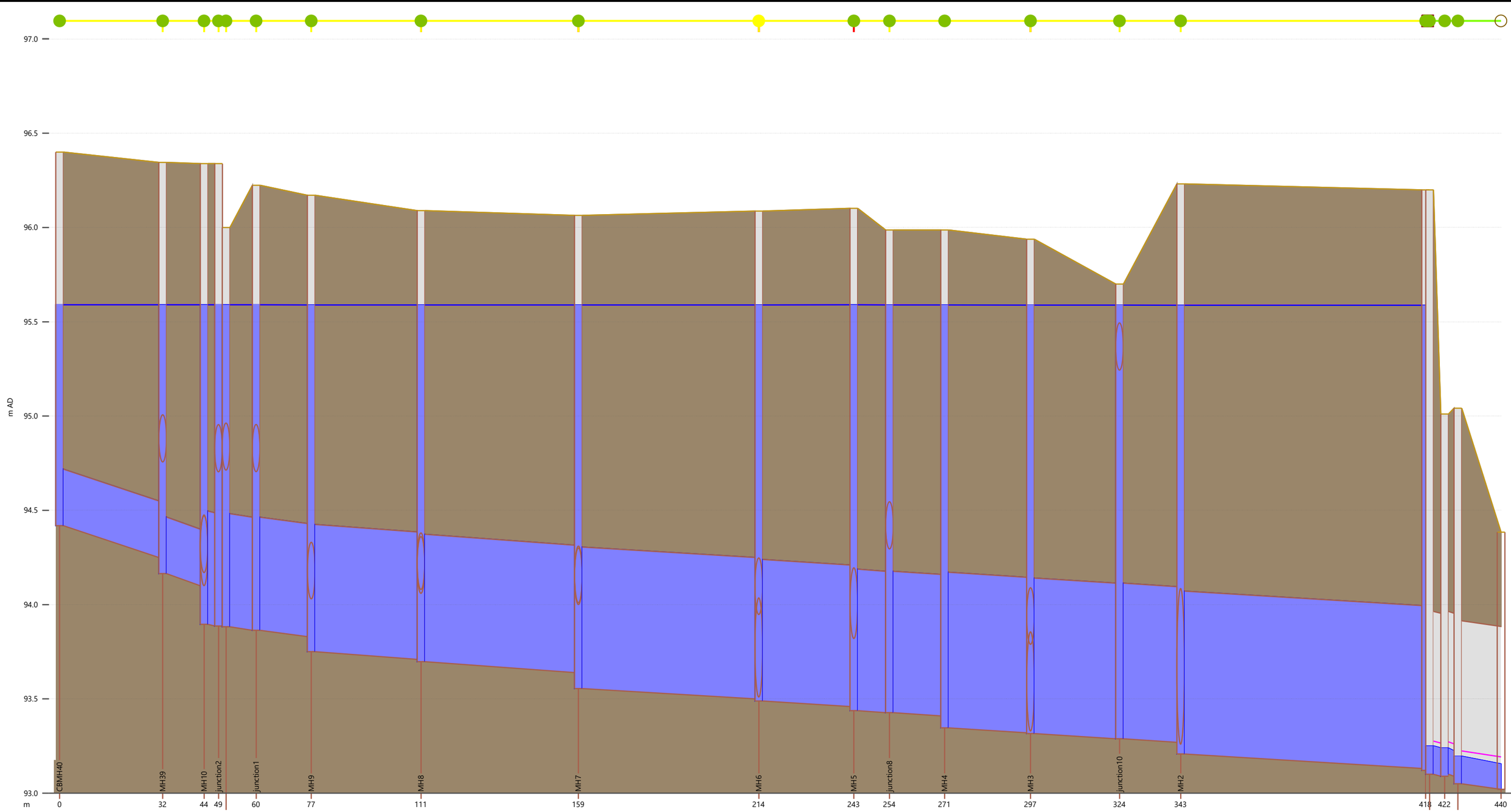
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Link		-	Structure - (242).1	CRU6-PLUG.1	MH18.1	MH17.1	MH22.1	junction4.1	MH16.1	MH15.1	MH36.1	junction7.1	MH14.1	MH13.1	-	-	Junction9.1	MH2.1		-	-	OGS2.1	
Node		-	CRU6-PLUG	MH18	MH17	MH22	junction4	MH16	MH15	MH36	junction7	MH14	MH13	MH12	-	Junction9	MH2	Control		-	-	HW	
Ground level (m AD)		96.481	95.967	95.957	96.152	96.056	96.119	96.119	96.133	96.188	96.188	96.112	96.063	96.118	-	95.700	96.231	96.200		-	-	-	
Max Level (m AD)		94.822	94.650	94.493	94.476	94.476	94.476	94.476	94.476	94.476	94.476	94.476	94.476	94.475	-	94.475	94.475	94.475		-	-		
Max Flood depth (m)		-1.660	-1.316	-1.464	-1.676	-1.580	-1.644	-1.644	-1.657	-1.713	-1.713	-1.636	-1.587	-1.643	-	-1.225	-1.756	-1.725		-	-		

5-Year Storm Event Profile 2

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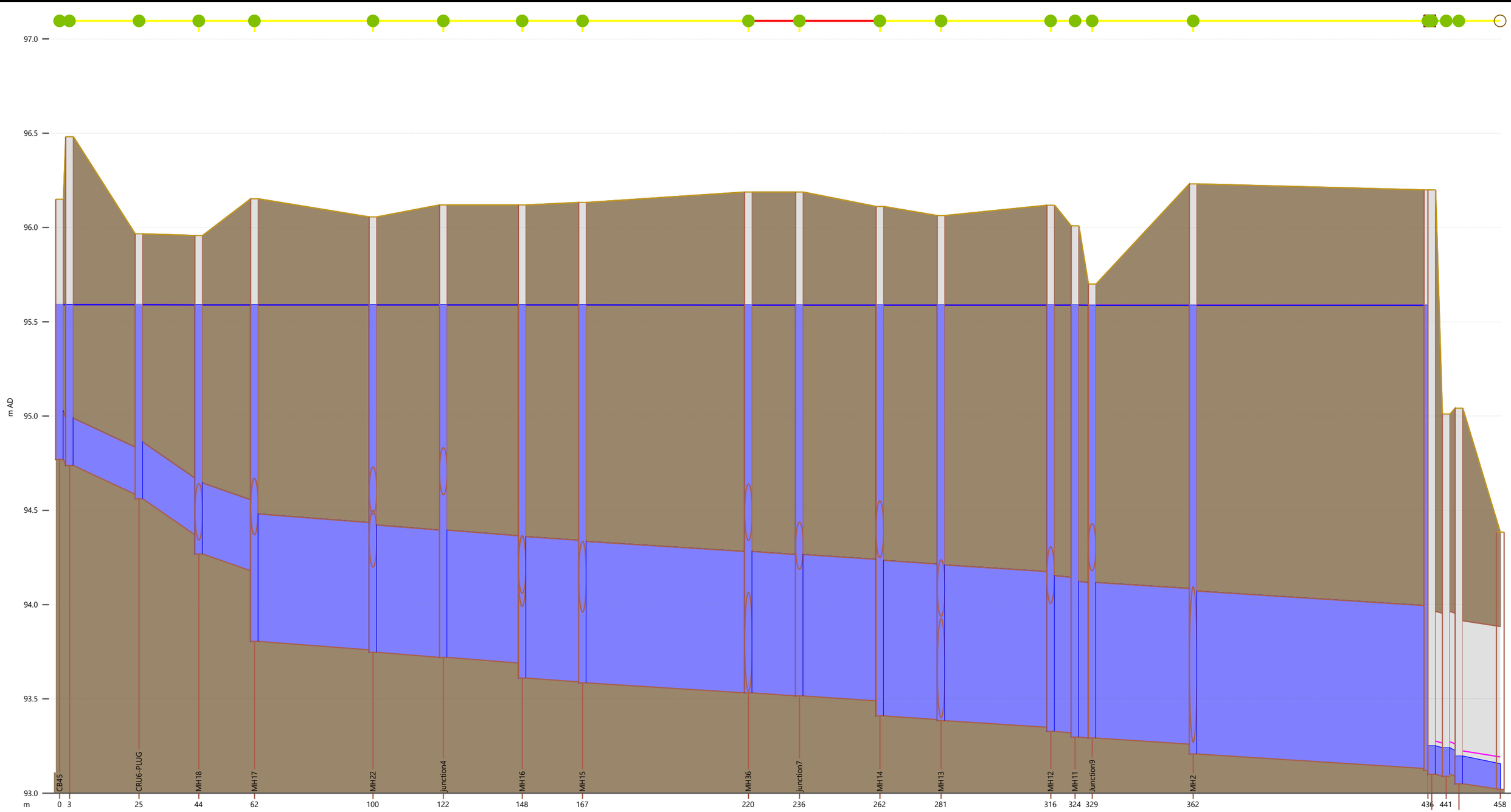


Link		CBMH40.1		MH39.1	-		-	junction1.1		MH9.1		MH8.1		MH7.1		MH6.1		MH5.1	junction8.1		MH4.1		MH3.1		junction10.1		MH2.1			-	-	OGS2.1	
Node		CBMH40		MH39	-		-	junction1		MH9		MH8		MH7		MH6		MH5	junction8		MH4		MH3		junction10		MH2			-	-	OGS2	HW
Ground level (m AD)		96.400		96.345	-		-	96.224		96.171		96.089		96.064		96.087		96.102	95.987		95.987		95.938		95.700		96.231			96.200	-	-		-
Max Level (m AD)		95.590		95.590	-		-	95.590		95.590		95.590		95.589		95.589		95.590	95.590		95.589		95.588		95.588		95.588			95.587	-	-		
Max Flood depth (m)		0.061		-0.756	-		-	-0.634		-0.581		-0.500		-0.475		-0.498		-0.512	-0.397		-0.398		-0.350		-0.112		-0.643			-0.612	-	-		

25-Year Storm Event Profile 1

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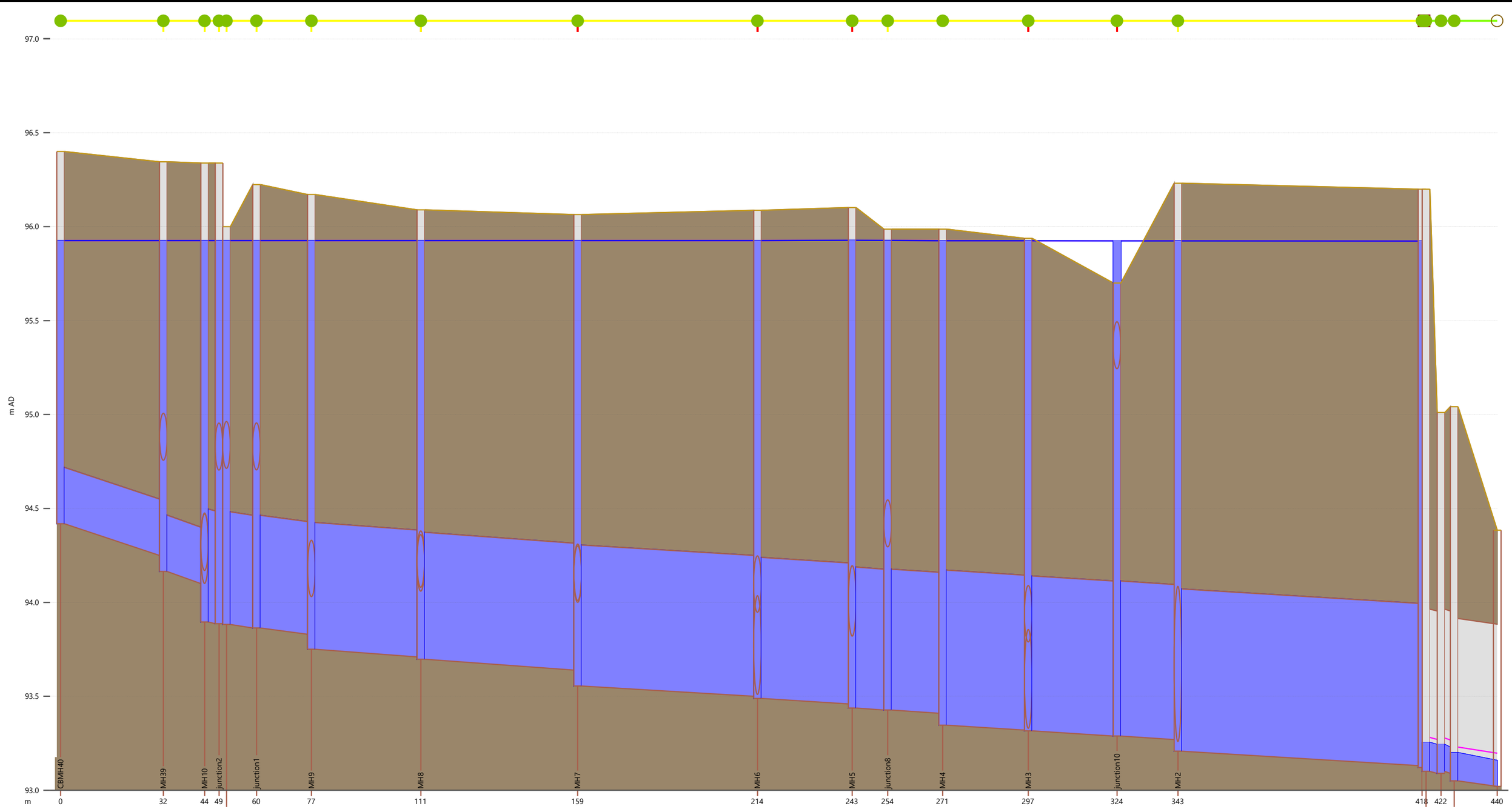
InfoWorks



Link	-	Structure - (242).1	CRU6-PLUG.1	MH18.1	MH17.1	MH22.1	junction4.1	MH16.1	MH15.1	MH36.1	junction7.1	MH14.1	MH13.1	-	-	Junction9.1	MH2.1	-	-	OGS2.1
Node		-	CRU6-PLUG	MH18	MH17	MH22	junction4	MH16	MH15	MH36	junction7	MH14	MH13	MH12	-	Junction9	MH2	Control	-	-	HW
Ground level (m AD)		96.481	95.967	95.957	96.152	96.056	96.119	96.119	96.133	96.188	96.188	96.112	96.063	96.118	-	95.700	96.231	96.200	-	-	-
Max Level (m AD)		95.590	95.590	95.589	95.589	95.589	95.589	95.589	95.589	95.589	95.589	95.588	95.588	95.588	-	95.588	95.588	95.587	-	-	
Max Flood depth (m)		-0.891	-0.377	-0.368	-0.563	-0.467	-0.530	-0.531	-0.544	-0.600	-0.600	-0.523	-0.475	-0.530	-	-0.112	-0.643	-0.612	-	-	

25-Year Storm Event Profile 2

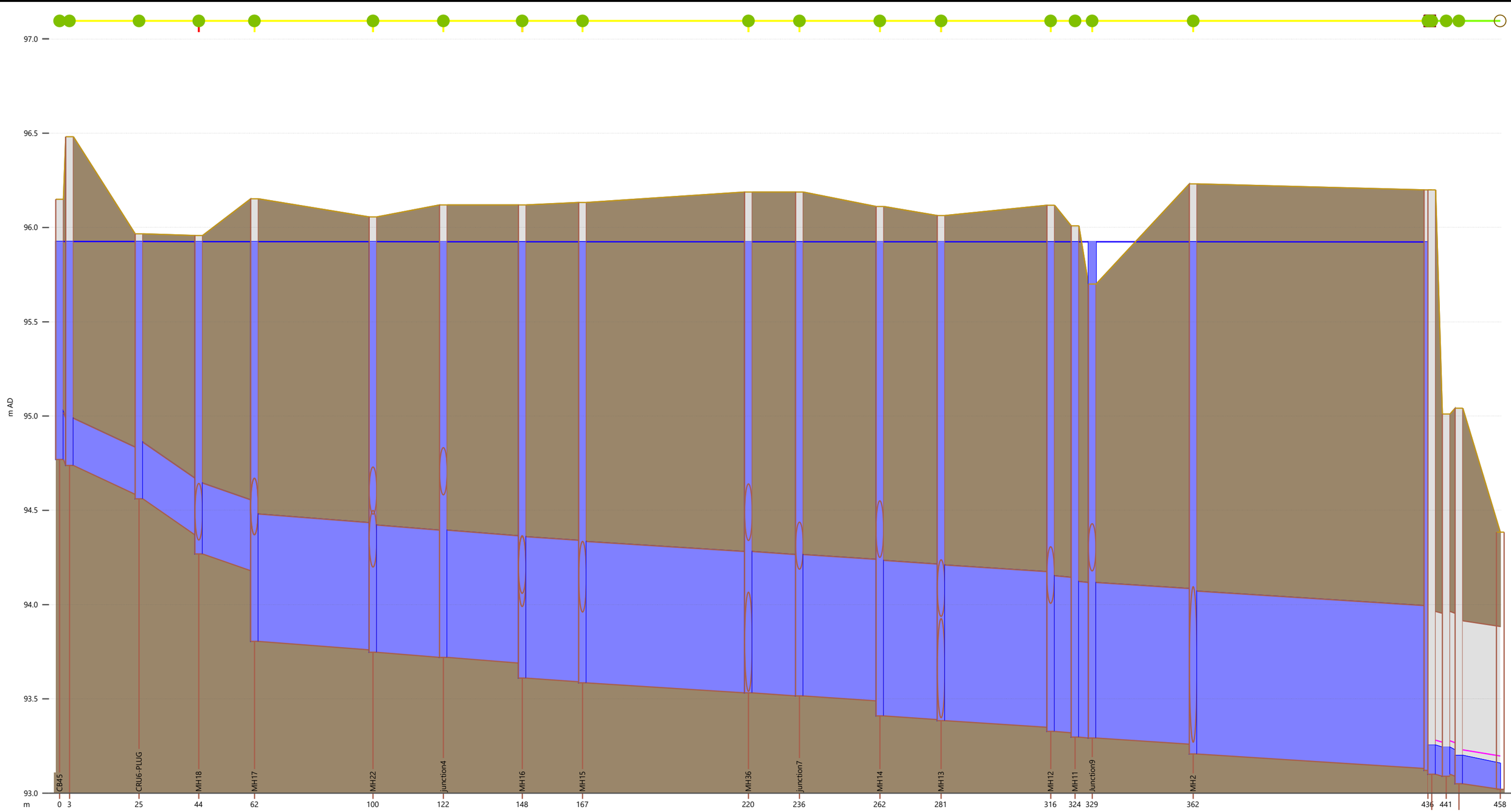
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Link		CBMH40.1		MH39.1	-		-	junction1.1		MH9.1		MH8.1		MH7.1		MH6.1		MH5.1	junction8.1		MH4.1		MH3.1		junction10.1		MH2.1			-	-	OGS2.1	
Node		CBMH40		MH39	-		-	junction1		MH9		MH8		MH7		MH6		MH5	junction8		MH4		MH3		junction10		MH2			-	-	OGS2	HW
Ground level (m AD)		96.400		96.345	-		-	96.224		96.171		96.089		96.064		96.087		96.102	95.987		95.987		95.938		95.700		96.231			96.200	-	-		-
Max Level (m AD)		95.926		95.926	-		-	95.926		95.926		95.926		95.926		95.926		95.927	95.926		95.925		95.925		95.924		95.924			95.923	-	-		
Max Flood depth (m)		0.066		-0.419	-		-	-0.298		-0.245		-0.164		-0.138		-0.161		-0.175	-0.060		-0.062		-0.014		0.224		-0.307			-0.276	-	-		

100-Year Storm Event Profile 1

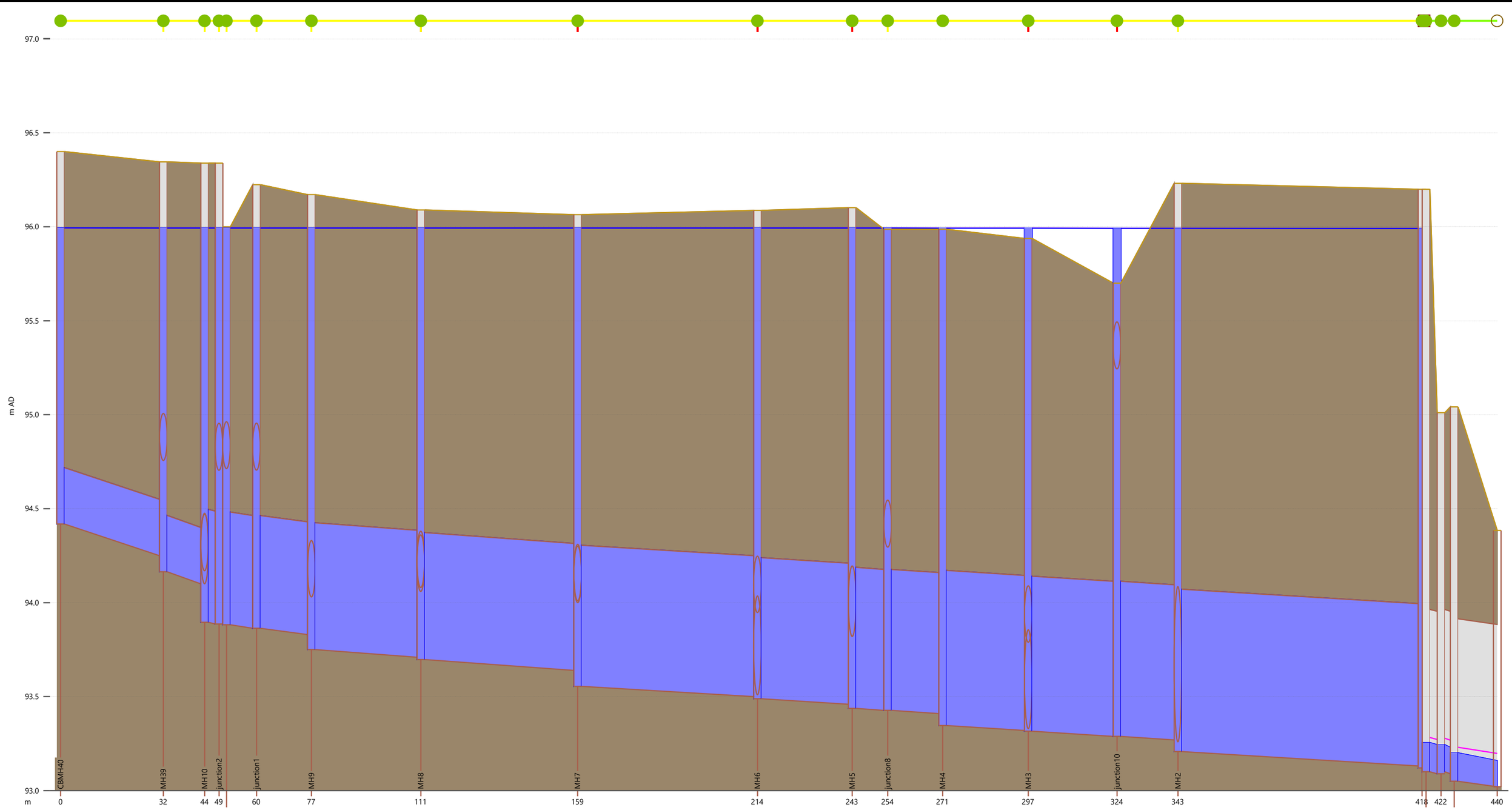
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Link	-	Structure - (242).1	CRU6-PLUG.1	MH18.1	MH17.1	MH22.1	junction4.1	MH16.1	MH15.1	MH36.1	junction7.1	MH14.1	MH13.1	-	-	Junction9.1	MH2.1	-	-	OGS2.1	
Node		-	CRU6-PLUG	MH18	MH17	MH22	junction4	MH16	MH15	MH36	junction7	MH14	MH13	MH12	-	Junction9	MH2	Control	-	-	HW
Ground level (m AD)		96.481	95.967	95.957	96.152	96.056	96.119	96.119	96.133	96.188	96.188	96.112	96.063	96.118	-	95.700	96.231	96.200	-	-	-
Max Level (m AD)		95.926	95.926	95.925	95.925	95.925	95.924	95.924	95.924	95.924	95.924	95.924	95.924	95.924	-	95.924	95.924	95.923	-	-	
Max Flood depth (m)		-0.556	-0.041	-0.032	-0.228	-0.132	-0.195	-0.195	-0.209	-0.264	-0.264	-0.188	-0.139	-0.194	-	0.224	-0.307	-0.276	-	-	

100-Year Storm Event Profile 2

Powered by InfoWorks

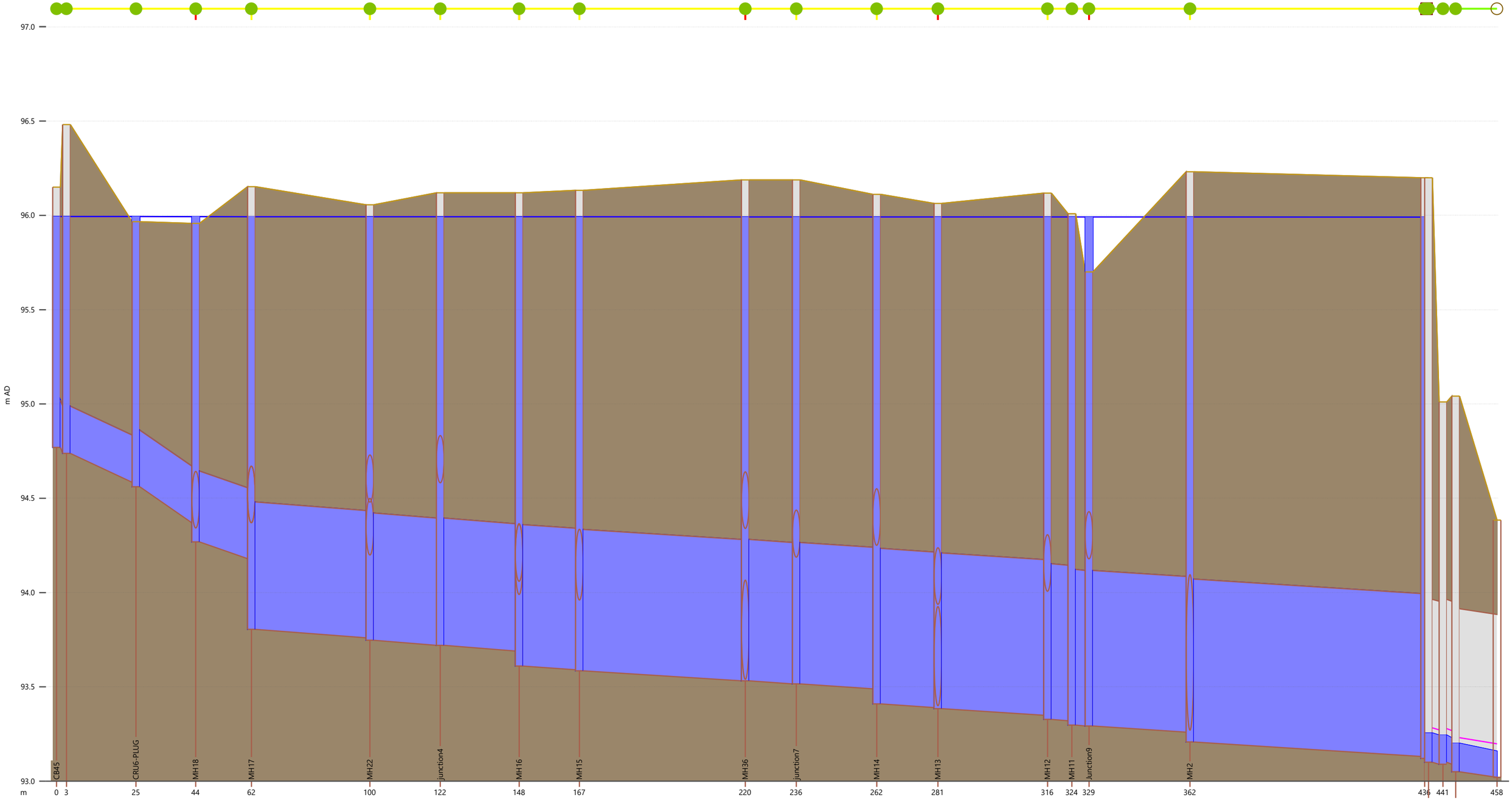


Link		CBMH40.1		MH39.1	-		-	junction1.1		MH9.1		MH8.1		MH7.1		MH6.1		MH5.1	junction8.1		MH4.1		MH3.1		junction10.1		MH2.1			-	-	OGS2.1	
Node		CBMH40		MH39	-		-	junction1		MH9		MH8		MH7		MH6		MH5	junction8		MH4		MH3		junction10		MH2			-	-	OGS2	HW
Ground level (m AD)		96.400		96.345	-		-	96.224		96.171		96.089		96.064		96.087		96.102	95.987		95.987		95.938		95.700		96.231			96.200	-	-		-
Max Level (m AD)		95.994		95.994	-		-	95.994		95.994		95.994		95.993		95.993		95.994	95.993		95.993		95.992		95.992		95.991			95.991	-	-		
Max Flood depth (m)		0.071		-0.352	-		-	-0.230		-0.177		-0.096		-0.071		-0.094		-0.108	0.007		0.006		0.054		0.292		-0.240			-0.209	-	-		

100-Year Plus 20% Stress Test Storm Event Profile 1

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Link	-	Structure - (242).1	CRU6-PLUG.1	MH18.1	MH17.1	MH22.1	junction4.1	MH16.1	MH15.1	MH36.1	junction7.1	MH14.1	MH13.1	-	-	Junction9.1	MH2.1	-	-	OGS2.1	
Node		-	CRU6-PLUG	MH18	MH17	MH22	junction4	MH16	MH15	MH36	junction7	MH14	MH13	MH12	-	Junction9	MH2	Control	-	-	HW
Ground level (m AD)		96.481	95.967	95.957	96.152	96.056	96.119	96.119	96.133	96.188	96.188	96.112	96.063	96.118	-	95.700	96.231	96.200	-	-	-
Max Level (m AD)		95.994	95.994	95.993	95.993	95.992	95.992	95.992	95.992	95.992	95.992	95.992	95.992	95.991	-	95.991	95.991	95.991	-	-	
Max Flood depth (m)		-0.487	0.027	0.036	-0.160	-0.064	-0.127	-0.127	-0.141	-0.196	-0.196	-0.120	-0.071	-0.127	-	0.291	-0.240	-0.209	-	-	

100-Year Plus 20% Stress Test Storm Event Profile 2

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8.5.2 Water Quantity

Public Roads

The storm sewers in the public right-of-ways will convey stormwater uncontrolled for storm events up to and including the 5-year storm event. For storm greater than the 5-year storm event, the public right-of-ways will provide approximately 100 m^3/ha of storage within the road sags.

While, peak flows from the right-of-ways will be higher than pre-development conditions, the SWM facility on the west-side of the O'Keefe Drain has been oversized to ensure that flows in the O'Keefe Drain do not exceed pre-development levels.

Private Sites

The private sites east of the O'Keefe Drain will be designed to provide sufficient on-site storage to ensure that peak flows in the O'Keefe Drain are maintained to below pre-development levels at all stages of development. Per hectare release rates and on-site storage requirements (based on 85% impervious) are shown in **Table 8.13**.

Table 8.13: SWM Targets for Areas East of the O'Keefe Drain

Design Event	Release Rate (L/s/ha)	On-Site Storage* (m^3/ha)
2-yr Event	20	179
5-yr Event	35	232
10-yr Event	45	267
25-yr Event	64	310
50-yr Event	75	333
100-yr Event	126	351

** Based on 85% imperviousness*

Site-specific SWM reports will be required as part of the site plan application and detailed design of each individual site to demonstrate that the design adheres to the release rates listed in **Table 8.13**. Storage requirements will vary based on the imperviousness of each site. The allowable release rates for each Block are summarized in **Table 8.14**.

Table 8.14: Allowable Release Rates for Areas East of the O'Keefe drain

Block	Area (ha)	Allowable Release Rate (L/s)					
		2yr	5yr	10yr	25yr	50yr	100yr
Block 16	2.50	50	88	113	160	188	315
Block 1	3.51	70	123	158	225	263	442
Block 2	12.04	241	421	542	771	903	1,517
Block 3	5.30	106	186	239	339	398	668
Block 4	3.41	68	119	153	218	256	430
Blocks 5 & 6	3.49	70	122	157	223	262	440

Temperature Mitigation

Best-management practices for temperature mitigation are encouraged for development on the east side of the O'Keefe Drain. Examples of suitable BMPs are provided in **Section 9.2.5**.