TEETZEL FARM DEVELOPMENT

TOWNSHIP OF SOUTHWOLD
COUNTY OF ELGIN

PRELIMINARY SERVICING REPORT

CJDL
Consulting Engineers

22065
12 November 2025

TEETZEL FARM DEVELOPMENT
PRELIMINARY SERVICING REPORT
TOWNSHIP OF SOUTHWOLD

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CJDL
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TOWNSHIP OF SOUTHWOLD

1.0 INTRODUCTION

The Teetzel Farm Development, hereafter referred to as the 'subject site', is approximately 4.29 ha (10.60 ac.) in size and is legally described as Parts 8, 9, 13, 14, 18, 19, and 23 of 11R-10140, Part of Lot 16, Concession South of the North Branch of the Talbot Road, Geographic Township of Southwold, Village of Shedden, County of Elgin. As per The Township of Southwold By-Law No. 2018-21, Part 9 (Teetzel Street), 14 (Spicer Street), and 19 (Fairground Street) of Registered Plan 11R-10140 are currently classified as open road allowances and will be adjusted as required for the development by the Township.

The 3.65m± block located along the eastern edge of the subject site serves as a walkway between the Southwold Keystone Complex located to the north of the subject site to the Shedden soccer fields located to the south of the site. Further east of the walkway block are lands that are currently utilized for agricultural purposes. The lands to the north also consist of a vacant field zoned Settlement Reserve (SR) and existing residential lots. The lands to the west of the subject site located between the subject site and Union Road (County Road 20) are residential lots. Across Union Road, to the west, is the Township of Southwold Fire Station No. 1, along with currently vacant former agricultural lands zoned for a future residential development known as 'Shedden Meadows'. The southern border of the subject site also serves as the boundary of the current Village of Shedden limits. The subject site was previously used for agricultural purposes.

Domus Developments (London) Inc., hereafter referred to as the 'Developer', has purchased the entirety of Parts 8, 9, 13, 14, 18, 19, and 23 (11R-10140) to develop the site for residential purposes. The entirety of the site is developable. The proposed development consists of four (4) condo blocks, with Block 1 being separated from the southern Blocks 2, 3, and 4 by a 20.12m± municipal right-of-way for Spicer Street. Condo Block 1, which is located on the northern portion of the site, consists of fourteen (14) townhouse buildings (69 units). Condo Block 2 consists of six (6) townhouse buildings (36 units), and Condo Blocks 3 and 4 each consist of one (1) 3-story apartment buildings (28 units each). Therefore, the estimated total number of dwelling units is 161 cumulatively, with 105 being townhouse units and 56 being apartment units. The development will also consist of applicable right-of-ways/common elements, parking spaces, and amenity areas.

The purpose of this Preliminary Servicing Report is to provide an overview of the proposed Teetzel Farm Development servicing design, and will be filed in support of the Draft Plan and Zoning By-Law Amendment applications for the property.

2.0 ENVIRONMENTAL IMPACT

An Environmental Impact Study (EIS) is not required for the subject site, as there are no natural heritage sites within 120m.

3.0 TRANSPORTATION

The subject site has three (3) available right-of-ways off of Union Road (County Road 20). It is proposed that Fairground Street, which is the northern most right-of-way, be maintained as a municipal right-of-way up to the boundary of the site, and utilized as an access into Condo Block 1 with public access rights for special events. Spicer Street, which is the middle right-of-way, will serve as a municipal right-of-way that will be utilized for future developable lands to the north in addition to the subject site. Teetzel Street, which is the southern most right-of-way, will not extend into the subject site, and will instead be a private access for the applicable existing residential lots. Internal roadways are proposed to be designated as common elements with 7.50m wide back-to-back OPSD 600.100 mountable curb.

Paradigm Transportation Solutions Limited has completed a Traffic Impact Assessment (TIA). The TIA was completed for the Draft Plan of Subdivision and Zoning By-Law Amendment Applications. The TIA provides an assessment of potential traffic impacts from this proposed subdivision. The TIA concluded the proposed development does not propose any adverse effects on the existing roadways in terms of residential traffic. Special consideration was also given to ensure that Fairground Street can still be used as an access road to the fairgrounds. Please refer to the Traffic Impact Assessment for further information.

4.0 GRADING AND GEOTECHNICAL

Existing contours for the developable area of the site range in elevation from 215.10-220.45±m (CGVD1928 Datum).

The site is located within the catchment area of Talbot Creek within the Talbot Creek Subwatershed. The majority of the site slopes towards the western boundary of the site, where existing swales separate the subject site from the existing residential lots. The entirety of the site eventually drains into the Horton “A” Drain, which ultimately outlets into Talbot Creek.

Development grading will direct major flow south towards the Shedden soccer fields, where it can then be redirected into the existing surface swale and 450mmø pipe that crosses below Union Road (County Road 20) towards the future SWM facility that is to be located to the south of the Township of Southwold Fire Station No. 1. Centreline road grades are anticipated to fall within the 0.5-1.0% range. Road grades may be set in a saw-tooth pattern, as required, to suit minor and major flow tributary areas.

Grading will be designed to minimize the number of rear-yard catchbasins, where practical. Earth grading will raise boulevards and rear property lines to grade prior to sewer servicing. Surplus fill stripped from high points will be placed in low lying areas where it can be accommodated.

MTE Consultants Inc. was retained by the Developer to complete a geotechnical site investigation of the subject site. The fieldwork completed included twelve (12) boreholes within the site limits. Three (3) of the boreholes within the site limits were equipped with monitoring wells to record groundwater levels. The site was determined to consist of topsoil overlying layers of silt and sandy silt which are underlain by clayey silt deposits. The geotechnical investigation completed by MTE outlines detailed information regarding subsoil conditions, building foundations, road subgrade makeup and servicing installation. Please refer to the applicable reports for further information.

The Lower Thames Valley Conservation Authority (LTVCA) regulated area mapping does not encroach onto the subject site. The site is not within a floodplain.

5.0 WATERMAIN

The Shedden Settlement Area within the Township of Southwold is currently a Tier 2 settlement area in the Elgin County Official Plan, meaning there are partial services provided, which for Shedden is municipal water service. Sanitary infrastructure, including a wastewater treatment plant to service the communities of Shedden and Fingal, gravity sewers, pumping stations, and forcemains, are anticipated to be built in the near future. For the purpose of this report, Shedden will be referred to as a Tier 1 settlement area as both municipal water and sewage services will be provided. The Southwold municipal water system is fed solely by the St. Thomas Area Secondary Water Supply System (STASWSS). The Township of Southwold connection to the STASWSS is northwest of the City of St. Thomas. From this infeed point, water travels through the Southwold municipal water system, southwest to the Shedden Settlement Area.

WT Infrastructure (WTI) was retained by the Township of Southwold to complete an analysis of the Southwold water system, including the development of a detailed hydraulic water model. The analysis completed by WTI in 2023 concluded there are no water quality problems and the system is able to meet minimum water pressures and flow requirements under both current and future scenarios (WTI, 2023). The report continued to indicate that approx. 35 – 46% of the fire hydrants within the Township could not meet current and future Fire Underwriters Survey flow requirements (WTI, 2023). The water model report recommended interconnection to adjacent municipal water systems, such as in Central Elgin, St.Thomas and Dutton Dunwich to provide redundancy and supplement flows (WTI, 2023).

Through the Water Model Report completed by WT Infrastructure, areas of higher than nominal pressure zones were determined close to the Thames River and in the North Port Stanley Settlement Area (WTI, 2023). The Township has since retained WT Infrastructure to design pressure reducing valves (PRVs) for the North Port Stanley area to bring static pressures closer to nominal levels. The Teetzel Farm Development is not within the North Port Stanely Settlement Area.

An existing 250mmø watermain on Union Road, with a 200mmø stub on Fairground Street and 150mmø stubs on Spicer Street and Teetzel Street. Two (2) connection points to the existing 250mmø watermain are proposed via extending the existing stubs on Fairground Street and Spicer Street. Watermains will follow the main internal roadways to form a loop. The remainder of the watermains proposed within the development will be 200mmø PVC DR18, with 50mmø DR9 PEX being used for short dead end watermains. All proposed hydrants will be served by a minimum of 150mmø PVC DR18 watermains. All townhouse units will be provided with individual 25mmø DR9 PEX water services, with the apartment buildings provided with a 200mmø PVC DR18 water service. Please refer to the General Plan of Services enclosed in this report for the proposed watermain layout.

Domestic water demand flows were calculated in accordance with Section 9.0 of the Township of Southwold Design Guidelines (2023) and the Ministry of the Environment, Conservation and Parks (MECP)

Design Guidelines for Drinking Water Systems (2008). Calculation parameters were as follows:

- Apartment Population = 1.6 ppl/unit (Typical for apartment building built form)
- Townhouse Population = 3.0 ppl/unit (Southwold Design Guidelines, 2025)
- Average Per Capita Demand = 270 l/cap/d (Southwold Design Guidelines, 2025)
- Max. Day Factor = 3.5 (Southwold Design Guidelines, 2025)
- Peak Hour Factor = 7.8 (Southwold Design Guidelines, 2025)

Based on the above design parameters, the total potential population of the development is calculated to be 408 people (equivalent to 162 residential units), as shown in Table 1 below. The average daily demand was calculated to be 1.28 l/s corresponding to a max. day demand of 4.46 l/s and a peak hour demand of 9.95 l/s.

Table 1 – Domestic Water Demand Summary

	Unit Count	Population	Average Daily Demand (l/s)	Max. Day Demand (l/s)	Peak Hour Demand (l/s)
Block 1					
Townhomes	69	207	0.65	2.27	5.05
Sub-Total	**69**	**207**	**0.65**	**2.27**	**5.05**
Blocks 2, 3, & 4					
Townhomes	37	111	0.35	1.21	2.71
Apartments	56	90	0.28	0.98	2.19
Sub-Total	**93**	**201**	**0.63**	**2.19**	**4.90**
TOTAL	**162**	**408**	**1.28**	**4.46**	**9.95**

Firefighting flows were determined in accordance with Section 9.0 of the Township of Southwold Design Guidelines (2025), the Ontario Building Code (OBC), and the Fire Underwriters Survey (FUS) Water Supply for Public Fire Protection – A Guide to Recommended Practice (2020). Detailed building plans have not been developed at this time, but the following conservative assumptions were used:

- 7-unit townhomes, which have an estimated total area of 655m², will be separated into two fire areas with a maximum floor area of 600m² to remain regulated under Part 9 of the Ontario Building Code
- 1-hr fire resistance between horizontal and vertical dwelling-unit separation barriers (45 min. minimum fire resistance from Ontario Building Code Section 3.2.2.47)
- C = 1.0, Ordinary Construction (exterior walls are of masonry construction (or other approved material) with a minimum 1-hour fire resistance rating, but other elements such as interior walls, arches, floors, and/or roof do not have a minimum 1-hour fire resistance rating
- 2 storey townhome building construction
- Limited Combustible Building Contents (residential usage considered limited combustible in FUS)
- Building separation based on current draft plan and zoning provisions

Table 2 – Required Fire Flows

	Max. Daily Demand (l/s)	FUS Fire Demand (l/s)	Max Day + FUS Fire Flow (l/s)	OBC Fire Demand (l/s)	Max Day + OBC Fire Flow (l/s)
Townhomes	3.48	166.67	170.15	90.00	93.48
Apartment Buildings	0.98	200.00	200.98	90.00	90.98

Based on the above design parameters, the highest fire flow requirement for this development is 200.00 l/s and 90.00 l/s per the Fire Underwriters Survey and the Ontario Building Code, respectively. Detailed hydrant locations and watermain specifications will be provided during detailed design of the subdivision.

The total max. day demand + fire flow requirements for the site are 166.67 l/s and 200.98 l/s under FUS conditions, and 93.48 l/s and 90.98 l/s under OBC conditions for the townhomes and apartment buildings, respectively. See Appendix 'A' for detailed domestic water demand and fire flow calculations.

The Southwold hydraulic water model prepared by WT Infrastructure was used to evaluate the system conditions under average day demand (ADD), max. day demand (MDD), peak hour demand (PHD), and max. day + fire flow scenarios. The analysis was completed using the WaterCAD modelling software, with preliminary watermains following the proposed right-of-ways. Please note that a factor of 2.0 was used to simulate Max Day Demand, and a factor of 3.0 for Peak Hour Demand for the existing Southwold water system as these values were supplied by WT Infrastructure. A Max Day Factor of 3.5 and a Peak Hour Factor of 7.8 was used for the subdivision design. The model yielded the results provided in the tables below.

Table 3- WaterCAD Modelling Results

	Average Day Demand	Max. Day Demand	Peak Hour Demand
Total Demand	1.28	4.46	9.95
Minimum Residual Pressure	656.66	640.04	607.62

Table 4 – WaterCAD Fire Modelling Results (140.0 kPa System Limit)

	Max. Day + Fire Flow Available (l/s) (140.0 kPa System Limit)	Minimum Site Residual Pressure (kPa)	Minimum System Residual Pressure (kPa)
Fairground Street	84.48	238.99	140.12 *Intersection at Iona Road and Fifth Line*
Spicer Street	84.71	248.07	140.13 *Intersection at Iona Road and Fifth Line*

Table 5 – WaterCAD Fire Modelling Results (140.0 kPa Site Limit)

	Max. Day + Fire Flow Available (l/s) (140.0 kPa Site Limit)	Minimum Residual Pressure (kPa)	Minimum System Residual Pressure (kPa)
Fairground Street	96.51	140.02	65.08 *Intersection at Iona Road and Fifth Line*
Spicer Street	97.56	140.03	59.77 *Intersection at Iona Road and Fifth Line*

The WaterCAD modelling results above demonstrate the existing Southwold municipal water system can provide average day, peak hour, and max. day demands at greater than 275 kPa.

The Southwold Water Model Report also identified inadequate fire flow protection for rural areas of the Township, with 35-46% of existing hydrants not being able to accommodate current and future fire flow requirements (WTI, 2023). The modelling completed confirmed the existing municipal water system has limited fire flow supply. The maximum flow available at Fairground Street and Spicer Street are 84.48 l/s and 84.71 l/s respectively while maintaining a minimum 140 kPa (20 PSI) in the Southwold water system. It should be noted the residual pressure at the site is higher than 140 kPa (20 PSI) under this condition. The existing Southwold water system can supply 96.31 l/s and 97.56 l/s to Fairground Street and Spicer Street respectively while maintaining a minimum residual pressure of 140 kPa (20 PSI) at the site if other areas of the Southwold water system drop below 140 kPa (20 PSI).

Fire flows available while maintaining a pressure of 140 kPa (20 PSI) throughout the entire Southwold water system are not adequate, but if the system pressure drops below 140 kPa (20PSI)) and the OBC fire demands are to be used in favour of the FUS fire demands, as the required flows are significantly lower, fire flows can be met. The Southwold water system is not capable of providing enough fire flow under FUS fire flow demands.

The existing fire flow supply is a known limiting factor of the Southwold municipal water system, as noted in the Water Model Report prepared by WT Infrastructure, and should be supplemented by fire department tanker supply. The Shedden fire station is directly across Union Road (County Road 20) from the subject site and is equipped with a tanker truck for supplementing fire flows. The municipal water supply limitations cannot be remedied by upsizing existing watermains in the area, but rather stem from the sole Southwold water system feed from the STASWSS. As noted in the Water Model Report, connecting to adjacent existing municipal water systems will not only provide water supply redundancy, but also should increase available water demand supply for the Township (WTI, 2023). If any of the surrounding municipalities were able to develop an interconnection agreement with Southwold, a connection between systems should provide significant water supply availability to the Township of Southwold while also providing a redundant water supply connection(s) to the other system(s).

It should be noted that since development of the Southwold hydraulic water model by WT Infrastructure, the Clinton Line watermain feed from the STASWSS has been upsized from a 200mmø to a 400mmø PVC DR18 mainline. An interconnection has also been added between the St. Thomas, Central Elgin and Southwold water systems in the northwest area of St. Thomas and Lynhurst. Both of these upgrades will have some increase to the available water supply pressures and flows at the subject site, but due to the significant distance between these upgrades and the proposed development, the increase is likely to be negligible.

Based on the hydraulic analysis completed for the subject site, the existing Southwold water supply system can adequately provide domestic water service for the proposed development under average day demand, max. day demand, and peak hour demand. The existing municipal water system has limited fire flow availability and cannot supply sufficient flows while maintaining a minimum pressure of 140kPa (20PSI) throughout the entirety of the system. It is recommended the Township pursue a redundant water supply connection(s) to one or more of the surrounding systems. The above consideration does not limit the development potential of the site, as the entirety of the OBC fire flow can be supplied through the existing Southwold system, with any additional flow being supplemented by the fire department tanker supply from the Shedden fire hall as required, if a redundant water supply connection is not provided.

6.0 SANITARY SEWAGE

The Teetzel Farm Development property does not currently have a municipally owned and operated sanitary outlet. Construction of an outlet is anticipated to be complete before the initiation of construction for the site, therefore it is assumed that a viable outlet will be provided. It is anticipated that sewage flows from this development will outlet towards Union Road via Fairground Street and Spicer Street. Flows will then be directed south down Union Road via a gravity sewer, which will ultimately convey flows to the proposed Shedden and Fingal wastewater treatment plant.

All internal sanitary piping will convey sewage flows by gravity to the external sanitary system. Please refer to the General Plan of Services and Internal Sanitary Drainage Areas for proposed sanitary layout. Further details on sanitary pipe design will be provided with detailed engineering design. Each townhouse unit will be provided with an individual 150mmø sanitary PDC to provide basement gravity service, with the apartment buildings each being provided a 200mmø sanitary service.

7.0 STORM DRAINAGE

7.1 Pre-Development Conditions

The Turville Farm Development is tributary to the Horton Drain, and more specifically to Branch “B4”, Branch “B3”, and the “B” Drain of the Horton Drain. Existing overland pre-development flows for the site generally drain from north to south towards the Shedden soccer fields, with subsurface water directed west via the Horton “B” Drain. All flows ultimately outlet to Talbot Creek.

The southeastern portion of the site, consisting of 0.55ha, drains southward towards the Horton Drain Branch “B4”. The 450mmø Horton Drain Branch “B4” connects to the 675mmø Horton Drain Branch “B”, which runs south along Fairground Street before veering east down Union Road (County Road 20) to Spicer Street, where it then crosses below Union Road via a 914mmø pipe. A fernco coupler is used to connect the downstream invert of the 914mmø pipe to a 900mmø pipe, which then drains into the temporary SWM pond located to the north of the Township of Southwold Fire Station No. 1. The temporary SWM pond outlets into the Horton Drain “A” Drain, which ultimately outlets to Talbot Creek.

The remainder of the site, consisting of 3.86ha, has surface water flow into a surface swale located along the western edge of the proposed development that flows south at 0.3-2.3±% until it veers west towards Union Road (County Road 20) to the south of the existing residential lots then crosses under Union Road via a 450mmø, which then converges with the Horton Drain “A” Drain. Subsurface water is directed towards the Horton Drain Branch “B3” via the existing 200mmø tile Horton “B” Drain. The 450mmø Horton Drain Branch “B3” runs south along Teetzel Street, before connecting to the existing 300mmø tile Horton “B” Drain via a 525mm x 300mm eccentric reducer, 5m 300mmø pipe, a 22.5˚ bend, and 300mm x 300mm “WYE”. The Horton “B” Drain runs under Union Road before connecting to the Horton “A” Drain, which ultimately outlets to Talbot Creek.

The entirety of the Horton Drain is tributary to approximately 31.40±ha on the east side of Union Road (County Road 20), with 4.41ha being from the subject site.

7.2 Post-Development Conditions

Under post-development conditions, stormwater management for the entirety of the site is proposed to be handled by one (1) stormwater management wet pond located on the opposite (west) side of Union Road (County Road 20) on 35743 Horton Street that is to be designed by others. Internal piping is to be connected to the existing storm system along Fairground Street (Horton Drain Branch "B"), and Spicer Street (Horton Drain Branch "B2"). Teetzel Street ("Horton Drain Branch "B3") will handle a portion of rear yard drainage from the site. Refer to the General Plan of Services and the Post-Development Stormwater Tributary Figure for proposed stormwater piping layout. Further details on storm pipe design will be provided at the time of draft plan application. Each townhouse unit will be provided with an individual 150mmø storm PDC, to serve as an outlet for residential sump pumps, with the apartment buildings each being provided a 250mmø storm service.

8.0 ELECTRICAL AND UTILITIES

The Teetzel Farm site is currently within the electrical service area of Hydro One Networks Inc. (HONI). Initial discussions with HONI have commenced to facilitate future utility design and confirm hydro supply for the site.

Bell, Rogers and Enbridge also provide utility service to this area, and it is further anticipated that there will be adequate capacity to extend services to the subject lands.

Contact with the electrical and utility providers will continue concurrently with the municipal review of the Draft Plan of Subdivision and Zoning By-law Amendment applications.

** ** **

All of which is respectfully submitted,

Deren Lyle, P. Eng.

RJH/kc

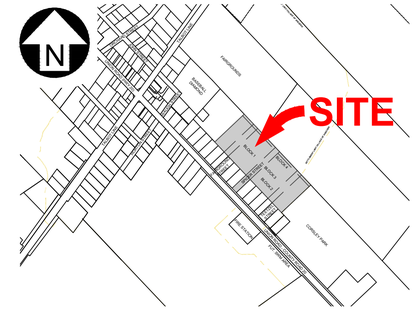
FIGURES

DRAFT PLAN OF SUBDIVISION

PART OF LOT 16,
CONCESSION SOUTH OF THE NORTH BRANCH OF THE TALBOT ROAD
GEOGRAPHIC TOWNSHIP OF SOUTHWOLD
IN THE
TOWNSHIP OF SOUTHWOLD
COUNTY OF ELGIN

INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT RSO 1990
(A) ON PLAN
(B) ON PLAN
(C) ON PLAN
(D) BLOCKS 1–4 – MEDIUM DENSITY RESIDENTIAL,
DEDICATED STREETS – SPICER STREET,
BLOCKS 5–7 –WALKWAY,
BLOCKS 8–10 – RESERVES
(E) NORTH – EXISTING RESIDENTIAL, SOUTHWOLD KEYSTONE COMPLEX
WEST– EXISTING RESIDENTIAL, FIRE STATION
EAST – EXISTING AGRICULTURE,
SOUTH – SOCCER PARK, EXISTING RESIDENTIAL, EXISTING AGRICULTURE
(F) ON PLAN
(G) ON PLAN
(H) MUNICIPAL WATER AVAILABLE
(I) SILTY CLAY
(J) ON PLAN
(K) STORM SEWERS, SANITARY SEWERS, TELEPHONE, GAS, T.V.CABLE
(L) SOUTHWOLD OFFICIAL PLAN AND ZONING BY–LAWS

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.



KEY PLAN
SCALE: 1:10,000

AREA SUMMARY

	DESCRIPTION	AREA (ha)
BLOCK 1–4	MEDIUM DENSITY RESIDENTIAL	4.02
DEDICATED STREETS	SPICER STREET	0.40
BLOCK 5–7	WALKWAY	0.11
BLOCKS 8–10	RESERVES	0.001
TOTAL		4.53

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN ON THIS PLAN.

DATE

THOMAS J. STIRLING, ONTARIO LAND SURVEYOR
ARCHIBALD, GRAY & McKAY LTD.

SCALE: 1:750

0 5 10 25 50 METRE 75

NOTE: ORIGINAL CONTOURS SHOWN FROM 2021 CJDL SURVEY

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cjdl@cjdleng.com

JOB No. 22065

DATE: 4 NOV 2025

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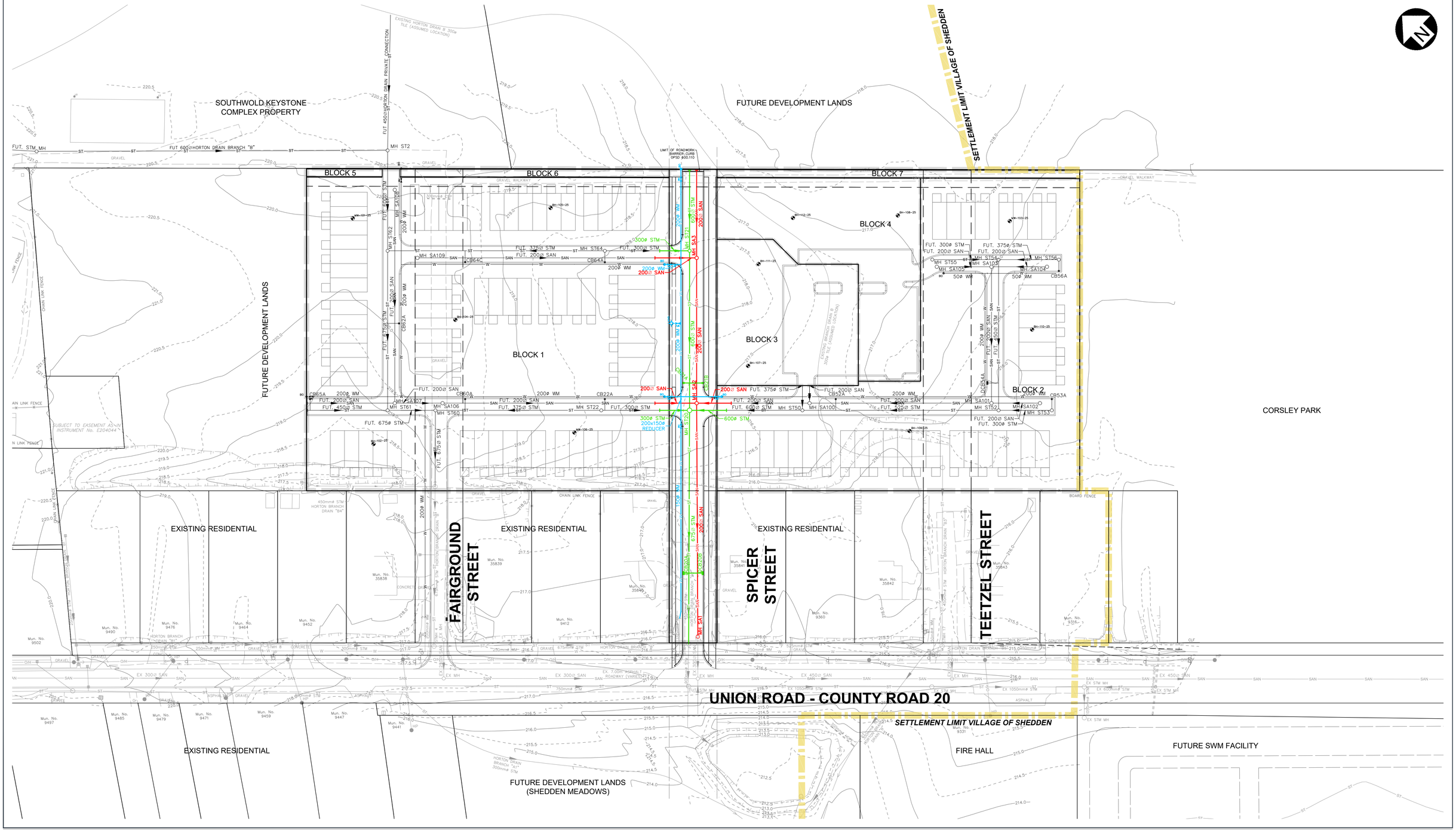

LEGEND

- SAN — PROPOSED SANITARY SEWER
- SAN — EXISTING SANITARY SEWER
- SAN — FUTURE SANITARY SEWER
- ST — PROPOSED STORM SEWER
- ST — EXISTING STORM SEWER
- ST — FUTURE STORM SEWER
- W — PROPOSED WATERMAIN
- W — EXISTING WATERMAIN
- W — FUTURE WATERMAIN
- SITE LIMITS
- MAINTENANCE HOLE
- CATCH BASIN
- WATER VALVE
- BLOW OFF
- HYDRANT

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STAMP:

LICENSED PROFESSIONAL ENGINEER
D.J. LYLE
100174772
PROVINCE OF ONTARIO

REVISION			
1	ISSUED FOR FUNCTIONAL SERVICING REPORT	13 NOV 2025	DJL
#	DESCRIPTION	DD/MM/YYYY	BY

GENERAL PLAN OF SERVICES

CONTRACT #: 22065
SCALE: 1:750
PROJECT NAME: TEETZEL FARM SUBDIVISION 11M-XXX
DOMUS DEVELOPMENTS (LONDON) INC.
DRAWING #: F2

CONSULTANT:
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SANITARY SEWER DESIGN SHEET

PROJECT: TEETZEL FARM DEVELOPMENT

MUNICIPALITY: TOWNSHIP OF SOUTHWOLD, ONTARIO

DATE: 13 NOV 2025
DESIGNED BY: RJH
CHECKED BY: DJL
JOB No.: 22065
SHEET: 1 of 1

L.D. Residential: 44 Persons/ha
M.D. Residential: 65 Persons/ha
H.D. Residential: 250 Units/ha @ 1.6 persons/unit (as per City of London Design Guidelines)

Institutional: 53 Persons/ha
Commercial: 60 Persons/ha
Industrial: 150 Persons/ha

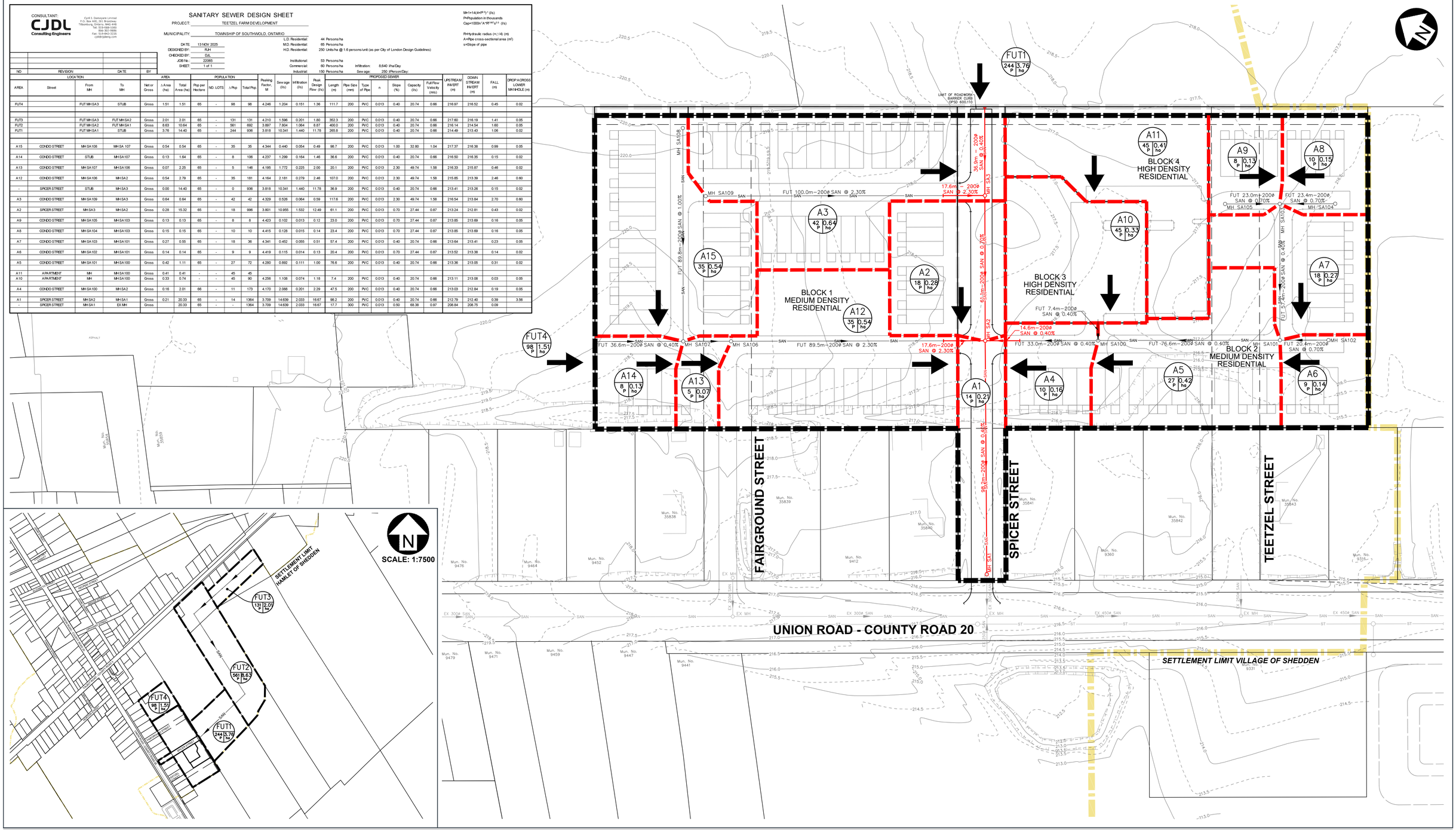
Infiltration: 8,640 l/ha/Day
Sew age: 250 l/Person/Day

M=1+14/(4+P^0.5) (0s)
P=Population in thousands
Cap=1000n^-1*R^2/3*s^1/2 (l/s)

R=Hydraulic radius (=□/d) (m)
A=Pipe cross-sectional area (m²)
s=Slope of pipe

NO	REVISION	DATE	BY

LOCATION				AREA			POPULATION					PROPOSED SEWER														
AREA	Street	From MH	To MH	Net or Gross	∆ Area (ha)	Total Area (ha)	Pop per Hectare	NO. LOTS	∆ Pop	Total Pop.	Peaking Factor, M	Sew age (l/s)	Infiltration (l/s)	Peak Design Flow (l/s)	Length (m)	Pipe Size (mm)	Type of Pipe	n	Slope (%)	Capacity (l/s)	Full Flow Velocity (m/s)	UPSTREAM INVERT (m)	DOWN STREAM INVERT (m)	FALL (m)	DROP ACROSS LOWER MANHOLE (m)
FUT4		FUT MH SA3	STUB	Gross	1.51	1.51	65	-	98	98	4.246	1.204	0.151	1.36	111.7	200	PVC	0.013	0.40	20.74	0.66	216.97	216.52	0.45	0.02
FUT3		FUT MH SA3	FUT MH SA2	Gross	2.01	2.01	65	-	131	131	4.210	1.596	0.201	1.80	352.3	200	PVC	0.013	0.40	20.74	0.66	217.60	216.19	1.41	0.05
FUT2		FUT MH SA2	FUT MH SA1	Gross	8.63	10.64	65	-	561	692	3.897	7.804	1.064	8.87	400.0	200	PVC	0.013	0.40	20.74	0.66	216.14	214.54	1.60	0.05
FUT1		FUT MH SA1	STUB	Gross	3.76	14.40	65	-	244	936	3.818	10.341	1.440	11.78	265.8	200	PVC	0.013	0.40	20.74	0.66	214.49	213.43	1.06	0.02
A15	CONDO STREET	MH SA108	MH SA 107	Gross	0.54	0.54	65	-	35	35	4.344	0.440	0.054	0.49	98.7	200	PVC	0.013	1.00	32.80	1.04	217.37	216.38	0.99	0.05
A14	CONDO STREET	STUB	MH SA107	Gross	0.13	1.64	65	-	8	106	4.237	1.299	0.164	1.46	36.6	200	PVC	0.013	0.40	20.74	0.66	216.50	216.35	0.15	0.02
A13	CONDO STREET	MH SA 107	MH SA106	Gross	0.07	2.25	65	-	5	146	4.195	1.772	0.225	2.00	20.1	200	PVC	0.013	2.30	49.74	1.58	216.33	215.87	0.46	0.02
A12	CONDO STREET	MH SA 106	MH SA2	Gross	0.54	2.79	65	-	35	181	4.164	2.181	0.279	2.46	107.0	200	PVC	0.013	2.30	49.74	1.58	215.85	213.39	2.46	0.60
-	SPICER STREET	STUB	MH SA3	Gross	0.00	14.40	65	-	0	936	3.818	10.341	1.440	11.78	36.9	200	PVC	0.013	0.40	20.74	0.66	213.41	213.26	0.15	0.02
A3	CONDO STREET	MH SA109	MH SA3	Gross	0.64	0.64	65	-	42	42	4.329	0.526	0.064	0.59	117.6	200	PVC	0.013	2.30	49.74	1.58	216.54	213.64	2.70	0.60
A2	SPICER STREET	MH SA3	MH SA2	Gross	0.28	15.32	65	-	18	996	3.801	10.955	1.532	12.49	61.1	200	PVC	0.013	0.70	27.44	0.87	213.24	212.81	0.43	0.02
A9	CONDO STREET	MH SA 105	MH SA 103	Gross	0.13	0.13	65	-	8	8	4.423	0.102	0.013	0.12	23.0	200	PVC	0.013	0.70	27.44	0.87	213.85	213.69	0.16	0.05
A8	CONDO STREET	MH SA 104	MH SA 103	Gross	0.15	0.15	65	-	10	10	4.415	0.128	0.015	0.14	23.4	200	PVC	0.013	0.70	27.44	0.87	213.85	213.69	0.16	0.05
A7	CONDO STREET	MH SA 103	MH SA101	Gross	0.27	0.55	65	-	18	36	4.341	0.452	0.055	0.51	57.4	200	PVC	0.013	0.40	20.74	0.66	213.64	213.41	0.23	0.05
A6	CONDO STREET	MH SA 102	MH SA101	Gross	0.14	0.14	65	-	9	9	4.419	0.115	0.014	0.13	20.4	200	PVC	0.013	0.70	27.44	0.87	213.52	213.38	0.14	0.02
A5	CONDO STREET	MH SA 101	MH SA 100	Gross	0.42	1.11	65	-	27	72	4.280	0.892	0.111	1.00	76.6	200	PVC	0.013	0.40	20.74	0.66	213.36	213.05	0.31	0.02
A11	APARTMENT	MH	MH SA 100	Gross	0.41	0.41	-	-	45	45																
A10	APARTMENT	MH	MH SA 100	Gross	0.33	0.74	-	-	45	90	4.256	1.108	0.074	1.18	7.4	200	PVC	0.013	0.40	20.74	0.66	213.11	213.08	0.03	0.05
A4	CONDO STREET	MH SA 100	MH SA2	Gross	0.16	2.01	66	-	11	173	4.170	2.088	0.201	2.29	47.5	200	PVC	0.013	0.40	20.74	0.66	213.03	212.84	0.19	0.05
A1	SPICER STREET	MH SA2	MH SA1	Gross	0.21	20.33	65	-	14	1364	3.709	14.639	2.033	16.67	98.2	200	PVC	0.013	0.40	20.74	0.66	212.79	212.40	0.39	3.56
-	SPICER STREET	MH SA1	EX MH	Gross		20.33	65	-	-	1364	3.709	14.639	2.033	16.67	17.7	300	PVC	0.013	0.50	68.38	0.97	208.84	208.75	0.09	



LEGEND

- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- FUTURE SANITARY SEWER
- PROPOSED MANHOLE, EXISTING/FUTURE
- LIMIT OF DRAINAGE AREA
- METRIC CONTOUR ELEVATIONS IN METRES (BY CJDL SITE SURVEY)
- SITE LIMIT
- AREA NUMBER
- AREA IN HECTARES
- POPULATION

CONSULTANT:
CJDL Consulting Engineers
Cyril J. Demeyere Limited
P.O. Box 400, 261 Broadway
Tillsonburg, Ontario, N4G 4H8
Tel: 519-688-1000
866-302-9886
cjdl@cjdleng.com

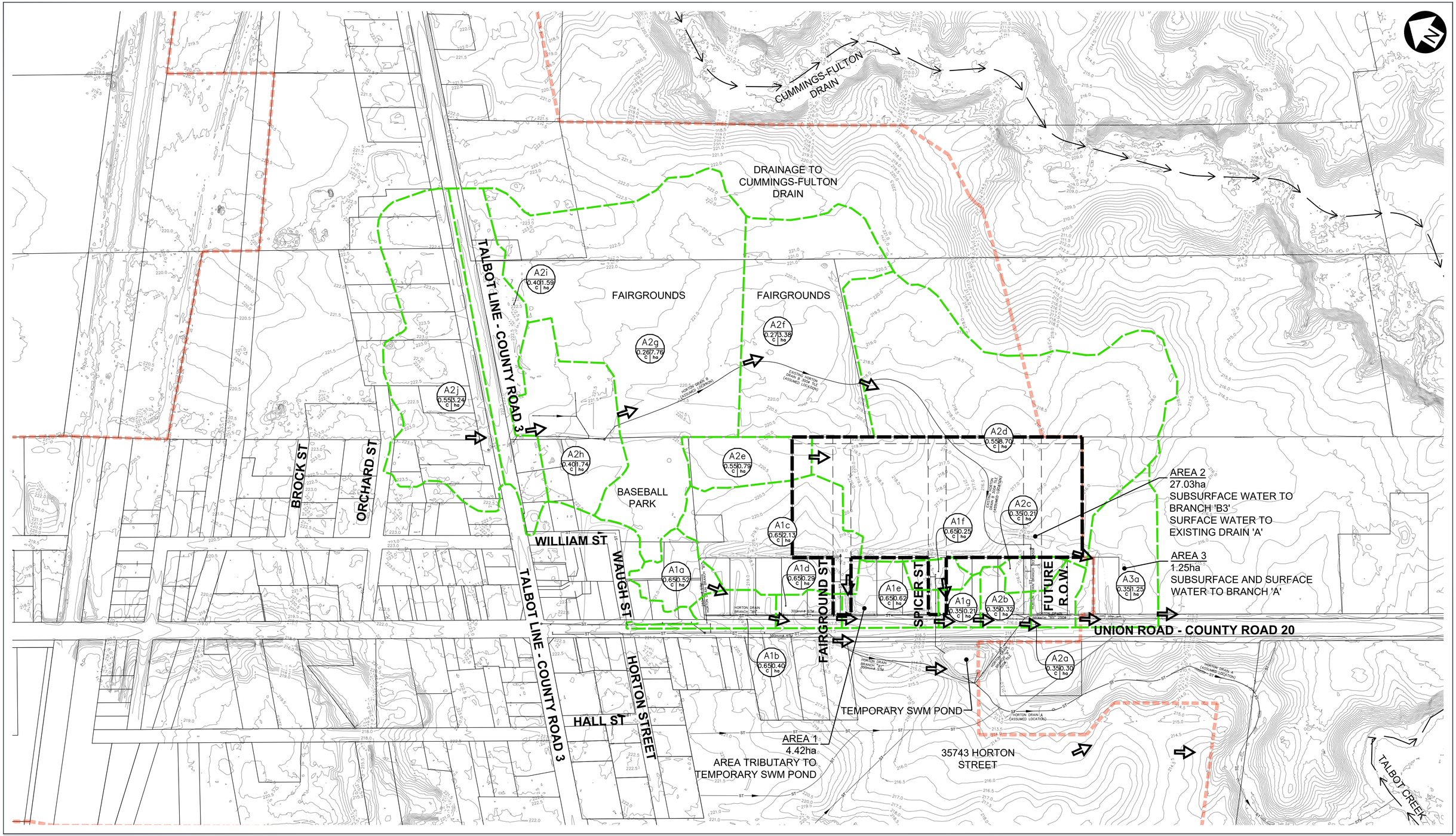
STAMP:

LICENSED PROFESSIONAL ENGINEER
D.J. LYLE
100174772
PROVINCE OF ONTARIO

REVISION			
1	ISSUED FOR FUNCTIONAL SERVICING REPORT	13 NOV 2025	DJL
#	DESCRIPTION	DD/MM/YYYY	BY

SANITARY DRAINAGE SYSTEM AND AREAS

CONTRACT #: 22065
SCALE: 1:750
PROJECT NAME: TEETZEL FARM SUBDIVISION 11M-XXX DOMUS DEVELOPMENTS (LONDON) INC.
DRAWING #: F3



LEGEND

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- FUTURE STORM SEWER
- PROPOSED MANHOLE, EXISTING/FUTURE
- PROPOSED CATCHBASIN, EXISTING/FUTURE
- LIMIT OF DRAINAGE AREA
- SETTLEMENT BOUNDARY

250.0 — METRIC CONTOUR ELEVATIONS IN METRES (BY CJDL SITE SURVEY)

2.1Ac (0.85ha) — MAJOR OVERLAND FLOW ROUTE

STORM WATER DRAINAGE TO SWM FACILITY

A27 — AREA NUMBER
0.55 35.7 C ha — AREA IN HECTARES
RUN-OFF COEFFICIENT

CONSULTANT:
CJDL Consulting Engineers
Cyril J. Demeyere Limited
P.O. Box 460, 261 Broadway
Tillsonburg, Ontario, N4G 4H8
Tel: 519-688-1000
866-302-9886
cjdl@cjdleng.com

Township of Southwold

LICENSED PROFESSIONAL ENGINEER — D.J. LYLE 100174772 — PROVINCE OF ONTARIO

REVISION			
1	ISSUED FOR FUNCTIONAL SERVICING REPORT	13 NOV 2025	DJL
#	DESCRIPTION	DD/MM/YYYY	BY

PRE-DEVELOPMENT STORM TRIBUTARY AREAS

CONTRACT #: 22065 **SCALE:** 1:2000

PROJECT NAME: TEETZEL FARM SUBDIVISION 11M-XXX
DOMUS DEVELOPMENTS (LONDON) INC.

DRAWING #: F4

STORM SEWER DESIGN SHEET

Corporation of the Township of Southwold

TOWNSHIP OF Southwold

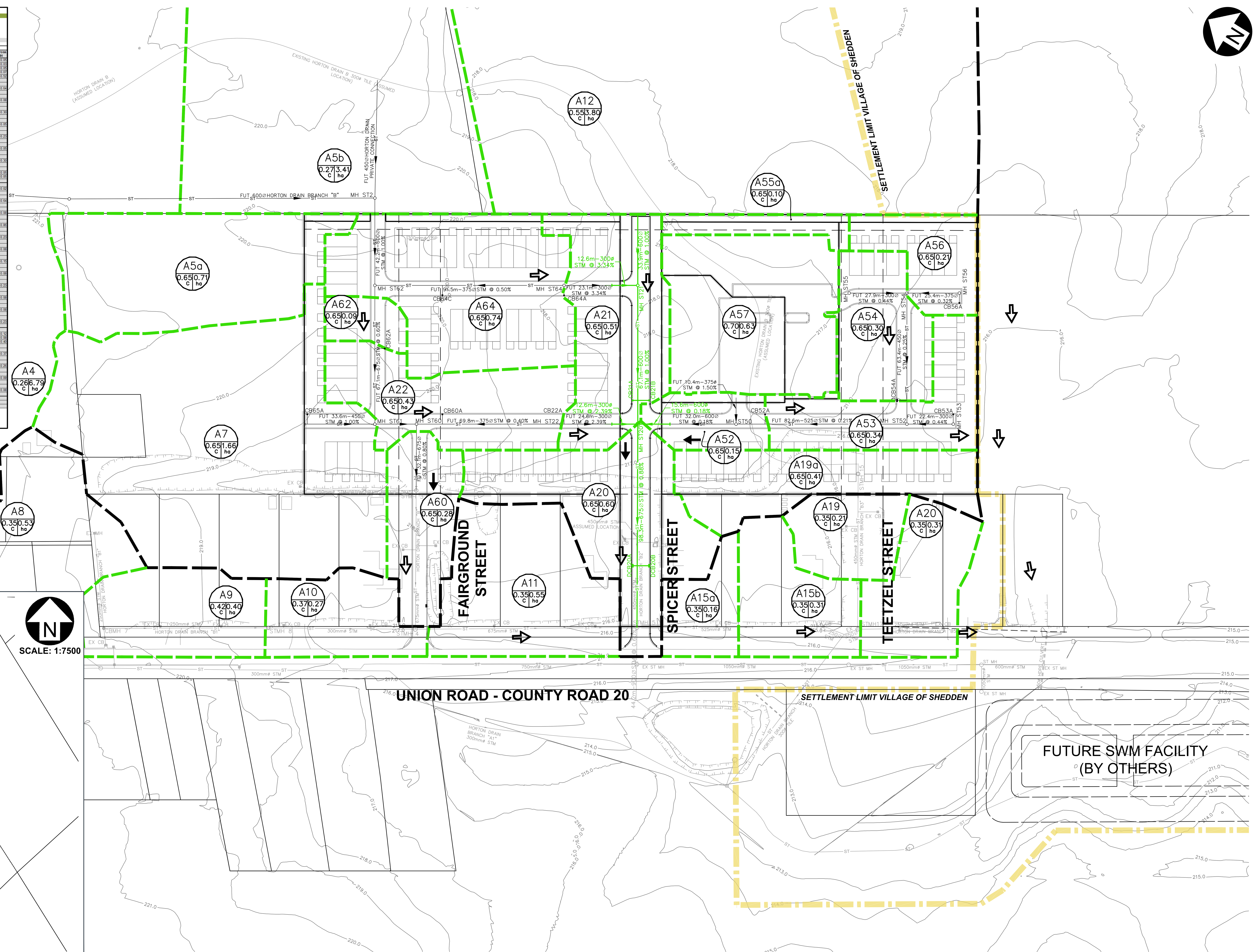
Project Name: TEETZEL FARM
Project Limits:
Project Number: 22065
Design Year Year Storm Event: 1 in 5 year return
Intensity Option #: 2

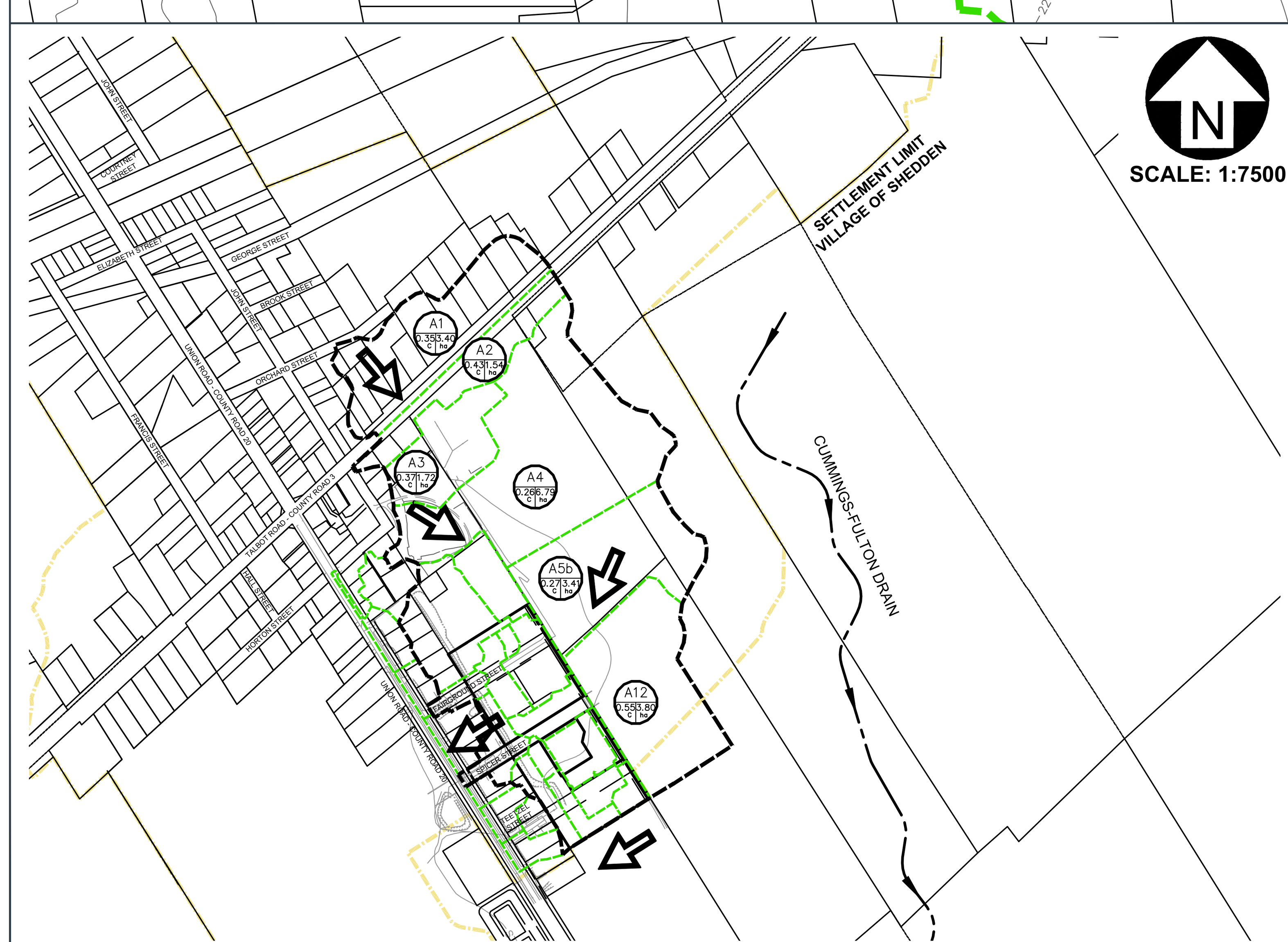
1) Intensity (i) = a/(t+b)^c — a= 1183.740, b= 7.641, c= 0.838
2) Intensity (i) = a*t^b — a= 31.00, b= -0.699
3) Insert Intensity — i=

Total Area (ha)= 30.56
Outlet Invert Elevation= 212.90

Location			Rainfall Intensity									Sewer Design / Profile									
Road / Stations	From MH	To MH	Area (ha)	Run. Coef.	2.78AC	Accum. 2.78AC	T of In (min)	T of F (min)	T of Conc. (min)	Intensity (mm/hr)	Peak Flow (L/s)	Capacity (L/s)	Velocity (m/s)	Wall Thickness (mm)	Length (m)	Pipe Dia. (mm)	Slope (%)	Invert Up MH	Invert Low MH	Fall (m)	Drop Across Low MH
EXISTING RESIDENTIAL	CB	MH	3.40	0.35	3.31	3.31	① 52.30	0.08	52.30	34	113	175	2	10.71	7.9	375	1.00	219.65	219.57	0.08	0.05
EXISTING RESIDENTIAL	MH	MH	1.54	0.43	1.84	5.15	-	1.25	52.38	34	176	282	1	15.00	98.0	525	0.43	219.52	219.10	0.42	0.03
PARK	MH	CB				5.15	-	0.34	53.64	33.53	172.63	198.37	0.92	15.00	18.8	525	0.21	219.07	219.03	0.04	0.05
PARK/FUTURE DEV.	CB	ST MH1	1.72	0.37	1.77	6.92	-	0.86	53.98	33.38	230.92	524.61	1.86	17.14	96.0	600	0.73	218.88	218.18	0.70	0.07
FAIRGROUNDS	ST MH1	ST MH2	6.79	0.26	4.91	11.83	② 58.00 59.37	1.37	58.00	31.74	375.40	538.79	1.91	17.14	156.5	600	0.77	218.11	216.90	1.21	0.52
FAIRGROUNDS	TILE	ST MH2	3.41	0.27	2.56	2.56	③ 38.10 39.08	0.98	38.10	42.58	108.99	156.16	0.98	12.86	57.7	450	0.30	217.20	217.03	0.17	0.64
HORTON TO INT	ST MH2	MH ST62	0.71	0.65	1.28	15.67	- 59.69	0.32	59.37	31.23	489.33	614.01	2.17	17.14	42.2	600	1.00	216.39	215.97	0.42	0.08
SPICER TO INT	MH ST64	MH ST62	0.74	0.65	1.34	1.34	15.00 16.36	1.36	15.00	81.70	109.24	123.98	1.12	10.71	91.5	375	0.50	216.65	216.19	0.46	0.30
INT TO INT	MH ST62	MH ST61	0.09	0.65	0.16	17.17	- 60.31	0.61	59.69	31.11	534.14	651.12	1.82	19.29	67.1	675	0.60	215.89	215.49	0.40	0.05
FUTURE	STUB	MH ST61	1.66	0.65	3.00	3.00	15.00 15.31	0.31	15.00	81.70	245.06	285.11	1.79	12.86	33.6	450	1.00	216.01	215.67	0.34	0.23
INT TO INT	MH ST61	MH ST60	PDCs			20.17	- 60.47	0.16	60.31	30.89	622.98	727.97	2.03	19.29	20.1	675	0.75	215.44	215.29	0.15	0.05
SPICER TO FAIRGROUND	MH ST22	MH ST60	0.43	0.65	0.78	0.78	15.00 16.16	1.16	15.00	81.70	63.48	110.89	1.00	10.71	69.8	375	0.40	215.82	215.54	0.28	0.30
FAIRGROUND STREET	MH ST60	STMH3	PDCs			20.95	-	0.25	60.47	30.83	645.75	751.84	2.10	19.29	32.1	675	0.80	215.24	214.98	0.26	0.05
FAIRGROUND STREET	STMH3	MH ST4	0.28	0.55	0.43	21.37	- 61.16	0.43	60.73	30.74	657.02	920.82	2.57	19.29	67.1	675	1.20	215.79	214.98	0.81	0.05
FUTURE DEVELOPMENT	STUB	MH ST21	3.80	0.55	5.81	5.81	④ 21.40 21.66	0.26	21.40	63.73	370.27	614.01	2.17	17.14	34.4	600	1.00	215.21	214.87	0.34	0.02
CONDO TO SPICER	MH ST64	MH ST21	PDCs				15.00 15.24	0.24	15.00	81.70		176.73	2.50	8.57	35.7	300	3.34	216.68	215.49	1.19	0.64
SPICER STREET	MH ST21	MH ST20	0.51	0.65	0.92	6.73	- 22.18	0.51	21.66	63.18	425.34	614.01	2.17	17.14	67.1	600	1.00	214.85	214.18	0.67	0.08
CONDO TO SPICER	MH ST22	MH ST20	PDCs				15.00 15.29	0.29	15.00	81.70		149.50	2.11	8.57	37.2	300	2.39	215.85	214.96	0.89	0.86
APARTMENTS	STUB	MH ST50	0.63	0.70	1.23	1.23	15.00 15.09	0.09	15.00	81.70	100.16	214.73	1.94	10.71	10.4	375	1.50	214.66	214.50	0.16	0.23
INT TO END	MH ST56	MH ST54	0.21	0.65	0.38	0.38	15.00 15.47	0.47	15.00	81.70	31.00	99.18	0.90	10.71	25.4	375	0.32	214.92	214.84	0.08	0.08
INT TO END	MH ST55	MH ST54	0.10	0.65	0.18	0.18	15.00 15.51	0.51	15.00	81.70	14.76	64.14	0.91	8.57	27.9	300	0.44	215.03	214.91	0.12	0.15
INT TO INT	MH ST54	MH ST52	0.30	0.65	0.54	1.10	- 16.69	1.18	15.51	79.80	87.96	142.55	0.90	12.86	63.4	450	0.25	214.76	214.60	0.16	0.08
END TO INT	MH ST53	MH ST52	0.34	0.65	0.61	0.61	15.00 15.41	0.41	15.00	81.70	50.19	64.14	0.91	8.57	22.4	300	0.44	214.85	214.75	0.10	0.23
APARTMENT TO INT	MH ST52	MH ST50	0.15	0.65	0.27	1.99	- 18.20	1.51	16.69	75.82	150.70	197.08	0.91	15.00	82.6	525	0.21	214.52	214.35	0.17	0.08
INT TO APARTMENT	MH ST50	MH ST20	PDCs	-		3.21	- 19.06	0.86	18.20	71.36	229.32	260.50	0.92	17.14	47.6	600	0.18	214.27	214.18	0.09	0.08
SPICER STREET	MH ST20	MH ST5	0.60	0.65	1.08	11.03	- 22.92	0.74	22.18	62.16	685.55	788.54	2.20	19.29	98.3	675	0.88	214.10	213.24	0.87	0.23
BRANCH B1	CB	CBMH7	0.53	0.35	0.52	0.52	20.00	0.71	20.00	66.81	34.46	53.19	1.08	7.14	46.2	250	0.80	217.74	217.37	0.37	0.12
BRANCH B1	CBMH7	STMH8	0.40	0.42	0.47	0.98	-	0.82	20.71	65.20	64.08	79.78	1.63	7.14	79.5	250	1.80	217.25	215.82	1.43	0.08
BRANCH B1	STMH8	STMH4	0.27	0.37	0.28	1.26	- 22.49	0.97	21.53	63.47	80.00	86.49	1.22	8.57	71.0	300	0.80	215.74	215.17	0.57	0.40
BRANCH B	STMH4	STMH5	0.55	0.35	0.54	22.74	- 61.39	0.67	60.73	30.74	699.05	958.42	2.68	19.29	107.3	675	1.30	214.77	213.38	1.39	0.37
BRANCH B5	CBMH16	ST MH17	0.31	0.35	0.30	0.30	20.00 21.45	1.45	20.00	66.81	20.15	23.03	0.47	7.14	40.9	250	0.15	213.70	213.64	0.06	0.26
BRANCH B3	ST MH15	ST MH17	0.62	0.35	0.60	0.60	15.00 16.03	1.03	15.00	81.70	49.28	201.60	1.27	12.86	78.7	450	0.50	213.86	213.47	0.39	0.09
BRANCH B3	ST MH17	ST MH5	0.47	0.35	0.46	1.36	- 23.12	1.66	21.45	63.62	86.66	227.57	1.05	15.00	105.0	525	0.28	213.38	213.09	0.29	0.08
UNION ROAD CROSSING	MH ST5	-	0.00	0.35		35.13	-	0.14	61.39	30.51	1071.76	1402.26	2.20	25.71	17.9	900	0.60	213.01	212.90	0.11	

NOTES:
1. TIME OF CONCENTRATION FOR A1f DETERMINED USING AIRPORT FORMULA FOR C=0.35 WITH 290m @ 0.5%, Tc=52.3min.
2. TIME OF CONCENTRATION FOR A1f DETERMINED USING AIRPORT FORMULA FOR C=0.26 WITH 387m @ 0.8%, Tc=58.0min.
3. TIME OF CONCENTRATION FOR A1d DETERMINED USING AIRPORT FORMULA FOR C=0.35 WITH 157m @ 0.7%, Tc=38.1min.
4. TIME OF CONCENTRATION FOR A12 DETERMINED USING AIRPORT FORMULA FOR C=0.55 WITH 160m @ 1.2%, Tc=21.4min.





LEGEND

PROPOSED STORM SEWER
EXISTING STORM SEWER
FUTURE STORM SEWER
PROPOSED MANHOLE, EXISTING/FUTURE
PROPOSED CATCHBASIN, EXISTING/FUTURE
LIMIT OF DRAINAGE AREA

250.0 — METRIC CONTOUR ELEVATIONS IN METRES (BY CJDL SITE SURVEY)
MAJOR OVERLAND FLOW ROUTE
2.1Ac (0.85ha) — STORM WATER DRAINAGE TO SWM FACILITY

A4 / 0.50 / 0.38 — AREA NUMBER; AREA IN HECTARES; RUN-OFF COEFFICIENT

CONSULTANT: CJDL Consulting Engineers
Cyril J. Demeyere Limited
P.O. Box 460, 261 Broadway
Tillsonburg, Ontario, N4G 4H8
Tel: 519-688-1000
866-302-9886
cjdl@cjdleng.com

STAMP: LICENSED PROFESSIONAL ENGINEER — D.J. LYLE 100174772 — PROVINCE OF ONTARIO

REVISION			
#	DESCRIPTION	DD/MM/YYYY	BY
1	ISSUED FOR FUNCTIONAL SERVICING REPORT	11 NOV 2025	DJL

STORM DRAINAGE SYSTEM AND AREAS

CONTRACT #: 22065
SCALE: 1:1000
PROJECT NAME: TEETZEL FARM SUBDIVISION 11M-XXX
DOMUS DEVELOPMENTS (LONDON) INC.
DRAWING #: F5

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APPENDIX ‘A'

- Domestic Water Demand Calculations
- FUS Fire Flow Calculations
- WaterCAD Modelling Results

Domus Developments
Teetzel Farm Subdivision - Functional Servicing Report
Township of Southwold

CJDL Consulting Engineers

PROJECT No. 22065
DATE: 13-Nov-25
DESIGN BY: RJH
CHECKED BY: DJL

DOMESTIC WATER DEMAND CALCULATIONS

Teetzel Farm Subdivision - Functional Servicing Report

Average Daily Demand Determination

Number of Units	106	Townhouse Units
	56	Apartment Units
Population Per Unit:	3.0	Townhouse Population/Unit
	1.6	Apartment Population/Unit
Total Water Demands	270.0	L/d/cap
Design Demand:	110.2	m^3/day
Design Demand:	110160	L/d
Average Daily Demand:	1.28	L/s

Peak Hour Demand Determination:

Average Daily Demand:	1.28	L/s
Peak Hour Factor:	7.8	
Peak Hour Demand:	9.95	L/s

Max. Day Demand Determination:

Average Daily Demand:	1.28	L/s
Max. Day Factor:	3.5	
Max. Day Demand:	4.46	L/s

AVERAGE DAILY DEMAND:	1.28	L/s
PEAK HOUR DEMAND:	9.95	L/s
MAX. DAY DEMAND:	4.46	L/s

No.	REVISION	BY	DATE

Domus Developments
Teetzel Farm Subdivision - Functional Servicing Report
Township of Southwold

CJDL Consulting Engineers

PROJECT No. 22065
DATE: 13-Nov-25
DESIGN BY: RJH
CHECKED BY: DJL

ONTARIO BUILDING CODE FIRE DEMAND CALCULATIONS

Teetzel Farm Subdivision - Functional Servicing Report

5-UNIT TOWNHOME

Building Volume Determination

Average Floor Area:	561.4	m^2
No. Storeys:	3.0	(Including Below Grade Storeys)
Height Per Storey:	3.0	m
Building Volume (V):	5052.6	m^3

Water Supply Coefficient Determination

Building Class: C (Per OBC Section 3.1.2.1.)

Construction Type: Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2. of the OBC.

TYPE OF CONSTRUCTION	Classification by Group or Division in Accordance with Table 3.1.2.1 of the Ontario Building Code				
	A-2 B-1 B-2 B-3 C D	A-4 F-3	A-1 A-3	E F-2	F-1
Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches.	10	12	14	17	23
Building is of noncombustible construction or of heavy timber construction conforming to Article 3.1.4.6. of the OBC. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	16	19	22	27	37
Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2. of the OBC.	18	22	25	31	41
Building is of combustible construction. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	23	28	32	39	53
Column 1	**2**	**3**	**4**	**5**	**6**

Water Supply Coefficient (K): 18

Spatial Coefficient Determination

Front:	0.00	(Distance =	20.1	m (OFM TG-03-1999 Section 6.3)
Rear:	0.00	(Distance =	16	m (OFM TG-03-1999 Section 6.3)
Left:	0.50	(Distance =	3.5	m (OFM TG-03-1999 Section 6.3)
Right:	0.50	(Distance =	3.5	m (OFM TG-03-1999 Section 6.3)

Spatient Coefficient Total (S_{tot}): 2.00

Fire Flow Determination

$$Q = KVS_{Tot}$$

Water Supply Coefficient (K):	18	
Building Volume (V):	5052.6	m^3
Spatial Coefficient Total (S_{tot}):	2.00	
Minimum Supply of Water (Q):	181893.6	L

Building Code, Part 3 Buildings	Required Minimum Water Supply Flow Rate (L/min.)
One-storey building with building area not exceeding $600m^2$ (excluding F-1 occupancies)	1800
All other buildings	2700 (If **Q** ≤ 108,000L)(1) 3600 (If **Q** > 108,000L **and** ≤ 135,000L)(1) 4500 (If **Q** > 135,000L **and** ≤ 162,000L)(1) 5400 (If **Q** > 162,000L **and** ≤ 190,000L)(1) 6300 (If **Q** > 190,000L **and** ≤ 270,000L)(1) 9000 (If **Q** > 270,000L)(1)

Required Minimum Water Supply Flow Rate: 5400.0 L/min

Minimum Volume of Water Supply: 162000 L (Based on 30 min. minimum supply duration)

REQUIRED FIRE FLOW:	90.00	L/s

No.	REVISION	BY	DATE

Domus Developments
Teetzel Farm Subdivision - Functional Servicing Report
Township of Southwold

CJDL Consulting Engineers

PROJECT No. 22065
DATE: 13-Nov-25
DESIGN BY: RJH
CHECKED BY: DJL

ONTARIO BUILDING CODE FIRE DEMAND CALCULATIONS

Teetzel Farm Subdivision - Functional Servicing Report

5-UNIT TOWNHOME

Building Volume Determination

Average Floor Area:	890.0	m^2
No. Storeys:	3.0	(Including Below Grade Storeys)
Height Per Storey:	3.6	m
Building Volume (V):	9718.8	m^3

Water Supply Coefficient Determination

Building Class: C (Per OBC Section 3.1.2.1.)

Construction Type: Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2. of the OBC.

	Classification by Group or Division in Accordance with Table 3.1.2.1 of the Ontario Building Code				
TYPE OF CONSTRUCTION	**A-2 B-1 B-2 B-3 C D**	**A-4 F-3**	**A-1 A-3**	**E F-2**	**F-1**
Building is of noncombustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches.	10	12	14	17	23
Building is of noncombustible construction or of heavy timber construction conforming to Article 3.1.4.6. of the OBC. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	16	19	22	27	37
Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2. of the OBC, including loadbearing walls, columns and arches. Noncombustible construction may be used in lieu of fire-resistance rating where permitted in Subsection 3.2.2. of the OBC.	18	22	25	31	41
Building is of combustible construction. Floor assemblies are fire separations but with no fire-resistance rating. Roof assemblies, mezzanines, loadbearing walls, columns and arches do not have a fire-resistance rating.	23	28	32	39	53
Column 1	**2**	**3**	**4**	**5**	**6**

Water Supply Coefficient (K): 18

Spatial Coefficient Determination

Front:	0.00	(Distance =	105	m (OFM TG-03-1999 Section 6.3)
Rear:	0.00	(Distance =	29.9	m (OFM TG-03-1999 Section 6.3)
Left:	0.00	(Distance =	22.95	m (OFM TG-03-1999 Section 6.3)
Right:	0.00	(Distance =	11.8	m (OFM TG-03-1999 Section 6.3)

Spatient Coefficient Total (S_{tot}): 1.00

Fire Flow Determination

$$Q = KVS_{Tot}$$

Water Supply Coefficient (K):	18	
Building Volume (V):	9718.8	m^3
Spatial Coefficient Total (S_{tot}):	1.00	
Minimum Supply of Water (Q):	174938.4	L

Building Code, Part 3 Buildings	**Required Minimum Water Supply Flow Rate (L/min.)**
One-storey building with building area not exceeding $600m^2$ (excluding F-1 occupancies)	1800
All other buildings	2700 (If **Q** ≤ 108,000L)(1) 3600 (If **Q** > 108,000L **and** ≤ 135,000L)(1) 4500 (If **Q** > 135,000L **and** ≤ 162,000L)(1) 5400 (If **Q** > 162,000L **and** ≤ 190,000L)(1) 6300 (If **Q** > 190,000L **and** ≤ 270,000L)(1) 9000 (If **Q** > 270,000L)(1)

Required Minimum Water Supply Flow Rate: 5400.0 L/min

Minimum Volume of Water Supply: 162000 L (Based on 30 min. minimum supply duration)

REQUIRED FIRE FLOW:	90.00	L/s

No.	REVISION	BY	DATE

Domus Developments
Teetzel Farm Subdivision - Functional Servicing Report
Township of Southwold

CJDL Consulting Engineers

PROJECT No. 22065
DATE: 13-Nov-25
DESIGN BY: RJH
CHECKED BY: DJL

FIRE UNDERWRITERS SURVEY FIRE DEMAND CALCULATIONS

78 Spruce Street West Townhouse Development - Functional Servicing Report

Units 1-6 (Largest Townhome Block)

** Although the other townhome blocks are larger, they contain 2 hour fire breaks and therefore can be calculated as 3 separate buildings of a size smaller then units 1-6.**

Construction Coefficient Determination

Construction Material:	Ordinary Construction	
Fire Resistance Rating:	1.0	hours
Construction Description:	Exterior walls are of masonry construction (or other approved material) with a minimum 1-hour fire resistance rating, but other elements such as interior walls, arches, floors, and/or roof do not have a minimum 1-hour fire resistance rating.	
Construction Type (FUS, 2020):	Type III	
Construction Coefficient (C):	1.0	

Total Floor Area Determination

Largest Floor Area:	561.4	m^2 (Subdivided floor area if vertical firewalls have minimum 2-hour fire rating)
Storey of Largest Floor Area:	1	
Vertical Opening Protection:	Unprotected	(Only applies for buildings with Construction Coefficient (C) less than 1.0)
Number of Storeys:	2	(Excluding basements 50% or more below grade)
Vertical Firewall Separation:	No	(Only applies if vertical firewall has a minimum 2-hour fire rating)
Vertical Firewall Protection:		(Only applies if there is vertical firewall separation)
Vertical Firewall Separation Risk:		(Indicates if there is severe risk of fire on other side of vertical firewall)
Vertical Firewall Factor:	0%	(0% if there is no vertical firewall separation)
Total Floor Area (A):	1122.8	m^2 100% of all floor areas

Occupancy & Contents Adjustment Factor

Building Class:	C	
Contents Hazard:	Limited Combustible Contents	
Occupancy & Contents Adjustment:	-15%	

Automatic Sprinkler Protection Adjustment

Automatic Sprinkler System:	No	(Per NFPA 13)
Standard Water Supply:	No	(Pressurized water supply, public or private, designed to handle Max Day +Fire Flow)
Fully Supervised System:	No	(Per NFPA 25)
Community Level Sprinkler Protection:	No	(Fully sprinklered/fire protected communities)
Automatic Sprinkler Adjustment:	0%	

Exposure Adjustment Charge

Front:	9.9%	(Distance =	20.1	m (FUS 2020)	(Sprinklered =	No)
Rear:	12.0%	(Distance =	16	m (FUS 2020)	(Sprinklered =	No)
Left:	19.6%	(Distance =	3.5	m (FUS 2020)	(Sprinklered =	No)
Right:	19.6%	(Distance =	3.5	m (FUS 2020)	(Sprinklered =	No)
Exposure Adjustment:	61.2%					

Fire Flow Determination

$$RFF = 220C\sqrt{A}$$

A.	Construction Coefficient (C) :	1.0	
B.	Total Effective Floor Area (A) :	1122.8	m^2
C.	Base Fire Flow (RFF) :	7000	L/m (Rounded to nearest 1,000 L/m)
D.	Occupancy & Contents Adjustment:	-15%	
	O & C Fire Flow Adjustment:	-1050	L/m
E.	Automatic Sprinkler Adjustment:	0%	
	Sprinkler Fire Flow Adjustment:	0	L/m
F.	Exposure Adjustment:	61.2%	
	Exposure Fire Flow Adjustment:	4283	L/m
G.	Required Fire Flow:	10000	L/m (Rounded to nearest 1,000 L/m)

REQUIRED FIRE FLOW:	166.67	L/s

No.	REVISION	BY	DATE

Domus Developments
Teetzel Farm Subdivision - Functional Servicing Report
Township of Southwold

CJDL Consulting Engineers

PROJECT No. 22065
DATE: 13-Nov-25
DESIGN BY: RJH
CHECKED BY: DJL

FIRE UNDERWRITERS SURVEY FIRE DEMAND CALCULATIONS

78 Spruce Street West Townhouse Development - Functional Servicing Report

Units 1-6 (Largest Townhome Block)

** Although the other townhome blocks are larger, they contain 2 hour fire breaks and therefore can be calculated as 3 separate buildings of a size smaller then units 1-6.**

Construction Coefficient Determination

Construction Material:	Ordinary Construction	
Fire Resistance Rating:	1.0	hours
Construction Description:	Exterior walls are of masonry construction (or other approved material) with a minimum 1-hour fire resistance rating, but other elements such as interior walls, arches, floors, and/or roof do not have a minimum 1-hour fire resistance rating.	
Construction Type (FUS, 2020):	Type III	
Construction Coefficient (C):	1.0	

Total Floor Area Determination

Largest Floor Area:	890	m^2 (Subdivided floor area if vertical firewalls have minimum 2-hour fire rating)
Storey of Largest Floor Area:	1	
Vertical Opening Protection:	Unprotected	(Only applies for buildings with Construction Coefficient (C) less than 1.0)
Number of Storeys:	3	(Excluding basements 50% or more below grade)
Vertical Firewall Separation:	No	(Only applies if vertical firewall has a minimum 2-hour fire rating)
Vertical Firewall Protection:		(Only applies if there is vertical firewall separation)
Vertical Firewall Separation Risk:		(Indicates if there is severe risk of fire on other side of vertical firewall)
Vertical Firewall Factor:	0%	(0% if there is no vertical firewall separation)
Total Floor Area (A):	2670	m^2 100% of all floor areas

Occupancy & Contents Adjustment Factor

Building Class:	C	
Contents Hazard:	Limited Combustible Contents	
Occupancy & Contents Adjustment:	-15%	

Automatic Sprinkler Protection Adjustment

Automatic Sprinkler System:	No	(Per NFPA 13)
Standard Water Supply:	No	(Pressurized water supply, public or private, designed to handle Max Day +Fire Flow)
Fully Supervised System:	No	(Per NFPA 25)
Community Level Sprinkler Protection:	No	(Fully sprinklered/fire protected communities)
Automatic Sprinkler Adjustment:	0%	

Exposure Adjustment Charge

Front:	0.0%	(Distance =	105	m (FUS 2020)	(Sprinklered =	No)
Rear:	0.1%	(Distance =	29.9	m (FUS 2020)	(Sprinklered =	No)
Left:	7.1%	(Distance =	22.95	m (FUS 2020)	(Sprinklered =	No)
Right:	14.1%	(Distance =	11.8	m (FUS 2020)	(Sprinklered =	No)
Exposure Adjustment:	21.3%					

Fire Flow Determination

$$RFF = 220C\sqrt{A}$$

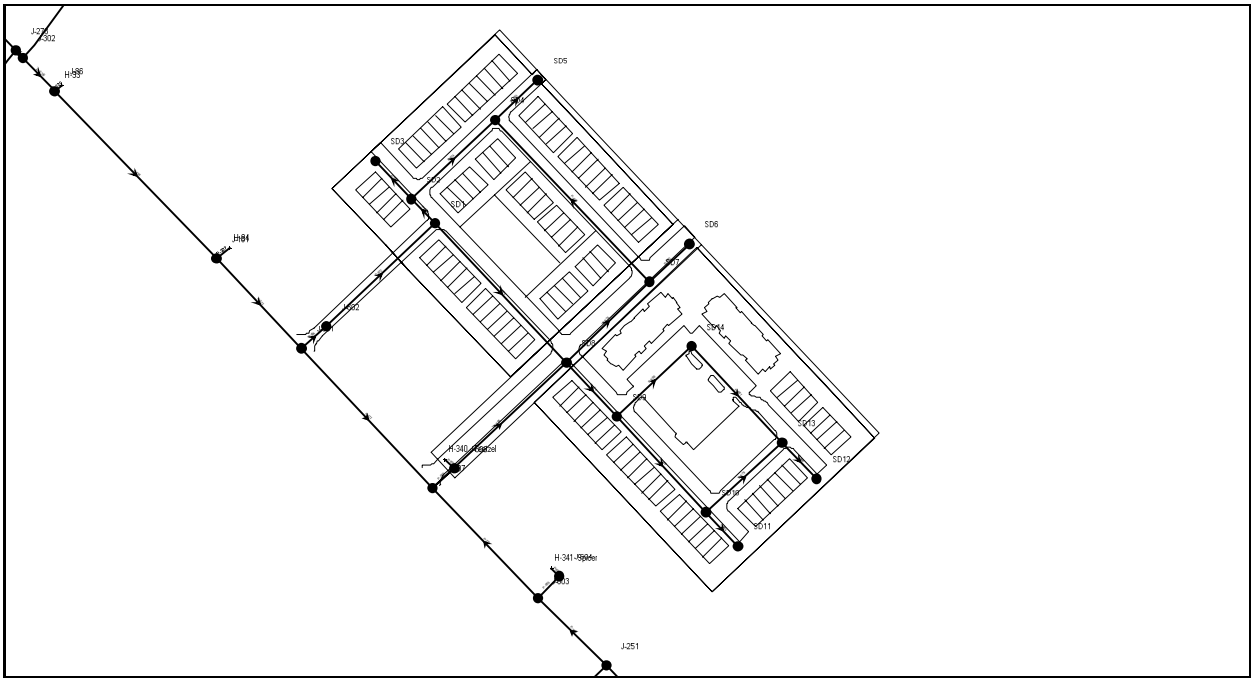
A.	Construction Coefficient (C) :	1.0	
B.	Total Effective Floor Area (A) :	2670	m^2
C.	Base Fire Flow (RFF) :	11000	L/m (Rounded to nearest 1,000 L/m)
D.	Occupancy & Contents Adjustment:	-15%	
	O & C Fire Flow Adjustment:	-1650	L/m
E.	Automatic Sprinkler Adjustment:	0%	
	Sprinkler Fire Flow Adjustment:	0	L/m
F.	Exposure Adjustment:	21.3%	
	Exposure Fire Flow Adjustment:	2337.5	L/m
G.	Required Fire Flow:	12000	L/m (Rounded to nearest 1,000 L/m)

REQUIRED FIRE FLOW:	200.00	L/s

No.	REVISION	BY	DATE

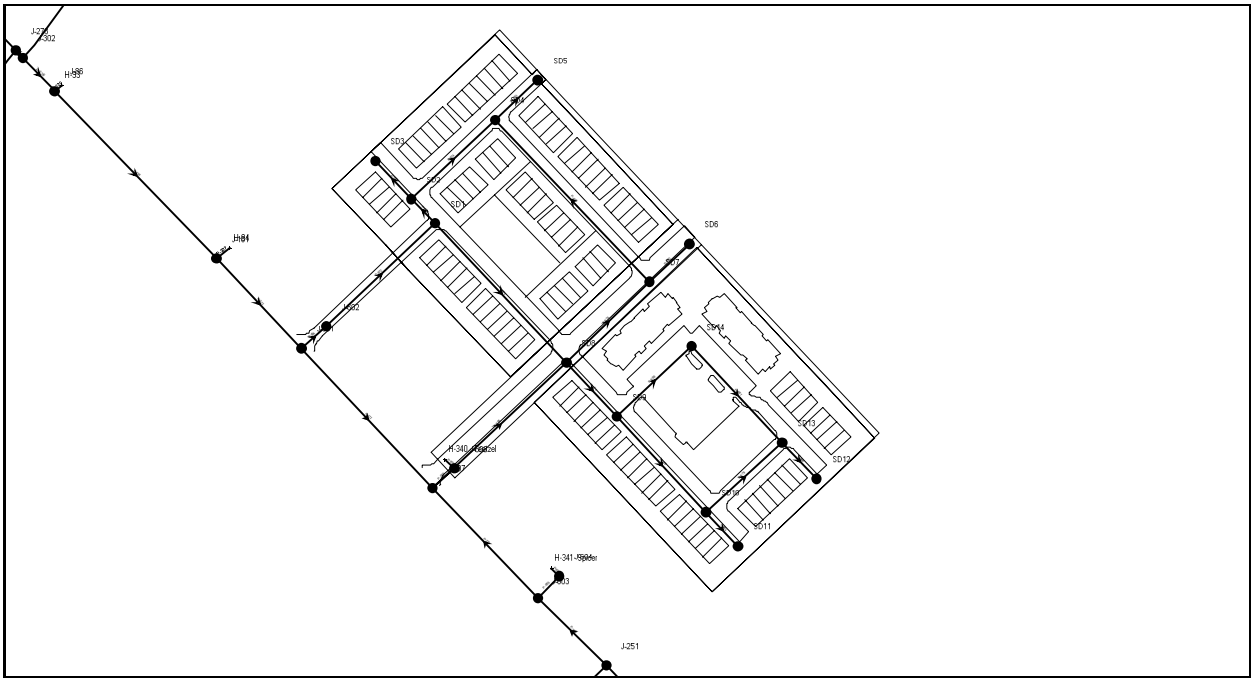
WaterCAD Model Layout

Teetzel Farm Development



22065 - Average Day Demand Scenario Results

Teetzel Farm Development



22065 - Average Day Demand Scenario Results

Junction General Pressure - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Pressure (kPa)	Pressure (Minimum) (kPa)	Pressure (Maximum) (kPa)
SD8	217.75	0.120	683.58	683.58	683.58
SD9	217.20	0.090	688.96	688.96	688.96
SD10	216.80	0.090	692.88	692.88	692.88
SD13	216.95	0.100	691.41	691.41	691.41
SD7	218.35	0.140	677.71	677.71	677.71
SD4	220.15	0.210	660.09	660.09	660.09
SD1	219.40	0.060	667.43	667.43	667.43
SD2	219.50	0.100	666.45	666.45	666.45
SD3	219.35	0.020	667.92	667.92	667.92
SD5	220.50	0.020	656.67	656.67	656.67
SD6	218.50	0.000	676.24	676.24	676.24
SD11	216.65	0.020	694.34	694.34	694.34
SD12	216.80	0.020	692.88	692.88	692.88
SD14	217.75	0.280	683.58	683.58	683.58

22065 - Average Day Demand Scenario Results

Pipe Table - Time: 0.00 hours

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Has Check Valve?	Minor Loss Coefficient (Local)	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)	Has User Defined Length?	Length (User Defined) (m)
3334	P-872	88.1	J-602	SD1	200.00	PVC	110.0	False	0.00	0.555	0.02	0.004	False	0.0
3335	P-873	20.0	SD1	SD2	200.00	PVC	110.0	False	0.00	0.317	0.01	0.002	False	0.0
3336	P-874	67.8	SD2	SD4	200.00	PVC	110.0	False	0.00	0.197	0.01	0.001	False	0.0
3337	P-875	131.5	SD4	SD7	200.00	PVC	110.0	False	0.00	-0.033	0.00	0.000	False	0.0
3338	P-876	68.1	SD7	SD8	200.00	PVC	110.0	False	0.00	-0.173	0.00	0.000	False	0.0
3339	P-877	43.4	SD8	SD9	200.00	PVC	110.0	False	0.00	0.600	0.01	0.002	False	0.0
3340	P-878	76.9	SD9	SD10	200.00	PVC	110.0	False	0.00	0.224	0.00	0.000	False	0.0
3341	P-879	60.6	SD10	SD13	200.00	PVC	110.0	False	0.00	0.114	0.00	0.000	False	0.0
3342	P-880	32.4	SD7	SD6	200.00	PVC	110.0	False	0.00	0.000	0.00	0.000	False	0.0
3343	P-881	34.2	SD4	SD5	200.00	PVC	110.0	False	0.00	0.020	0.00	0.000	False	0.0
3344	P-882	30.9	SD3	SD2	200.00	PVC	110.0	False	0.00	-0.020	0.00	0.000	False	0.0
3347	P-884	27.4	SD10	SD11	50.00	PVC	100.0	False	0.00	0.020	0.01	0.009	False	0.0
3348	P-885	112.6	SD8	SD1	200.00	PVC	110.0	False	0.00	-0.178	0.01	0.000	False	0.0
3350	P-886	29.4	SD13	SD12	50.00	PVC	100.0	False	0.00	0.020	0.01	0.009	False	0.0
3352	P-887	77.9	SD13	SD14	200.00	PVC	110.0	False	0.00	-0.006	0.00	0.000	False	0.0
3353	P-888	60.4	SD14	SD9	200.00	PVC	110.0	False	0.00	-0.286	0.01	0.000	False	0.0

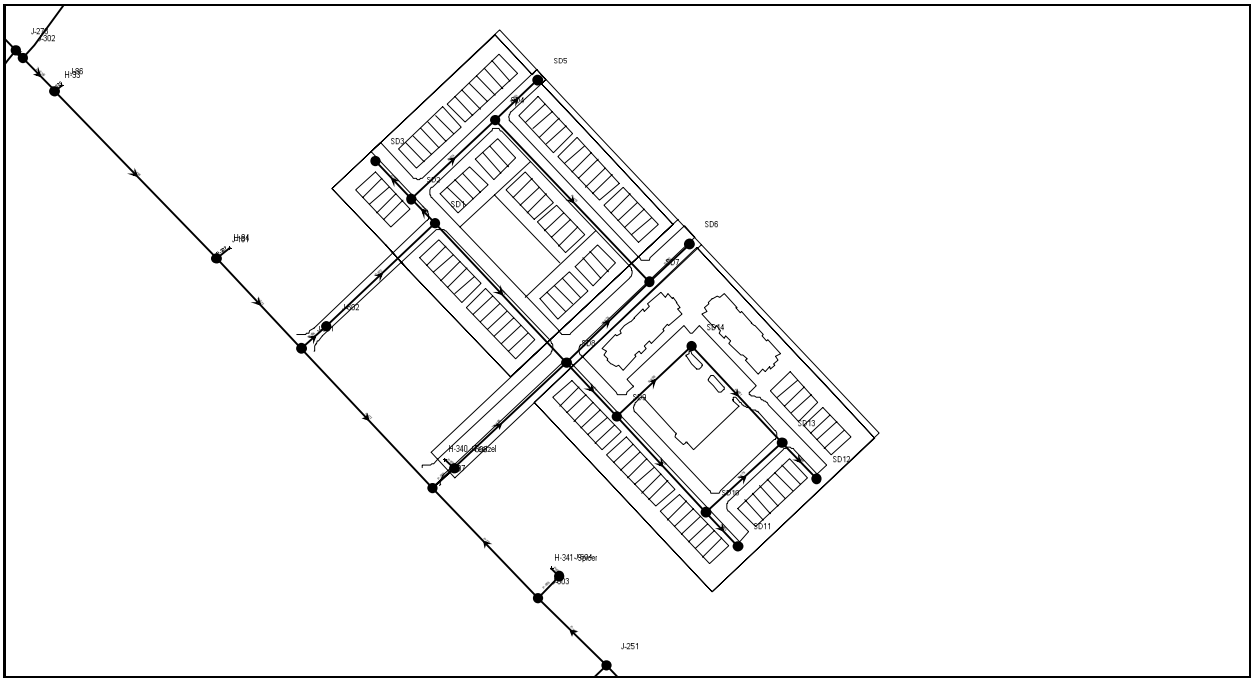
22065 - Average Day Demand Scenario Results

Pipe Table - Time: 0.00 hours

Length (User Defined) (m)
0.0
0.0
0.0
0.0
0.0
0.0
0.0

22065 - Max Day Demand Scenario Results

Teetzel Farm Development



22065 - Max Day Demand Scenario Results

Junction General Pressure - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Pressure (kPa)	Pressure (Minimum) (kPa)	Pressure (Maximum) (kPa)
SD8	217.75	0.430	666.95	666.95	666.95
SD9	217.20	0.330	672.32	672.32	672.32
SD10	216.80	0.330	676.71	676.71	676.71
SD13	216.95	0.360	674.75	674.75	674.75
SD7	218.35	0.490	661.08	661.08	661.08
SD4	220.15	0.720	643.47	643.47	643.47
SD1	219.40	0.200	650.83	650.83	650.83
SD2	219.50	0.360	649.84	649.84	649.84
SD3	219.35	0.070	651.80	651.80	651.80
SD5	220.50	0.070	640.04	640.04	640.04
SD6	218.50	0.000	659.61	659.61	659.61
SD11	216.65	0.070	677.67	677.67	677.67
SD12	216.80	0.070	676.20	676.20	676.20
SD14	217.75	0.980	666.92	666.92	666.92

22065 - Max Day Demand Scenario Results

Pipe Table - Time: 0.00 hours

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Has Check Valve?	Minor Loss Coefficient (Local)	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)	Has User Defined Length?	Length (User Defined) (m)
3334	P-872	88.1	J-602	SD1	200.00	PVC	110.0	False	0.00	3.075	0.10	0.100	False	0.0
3335	P-873	20.0	SD1	SD2	200.00	PVC	110.0	False	0.00	1.630	0.05	0.031	False	0.0
3336	P-874	67.8	SD2	SD4	200.00	PVC	110.0	False	0.00	1.200	0.04	0.018	False	0.0
3337	P-875	131.5	SD4	SD7	200.00	PVC	110.0	False	0.00	0.410	0.01	0.002	False	0.0
3338	P-876	68.1	SD7	SD8	200.00	PVC	110.0	False	0.00	-0.080	0.00	0.000	False	0.0
3339	P-877	43.4	SD8	SD9	200.00	PVC	110.0	False	0.00	2.140	0.07	0.051	False	0.0
3340	P-878	76.9	SD9	SD10	200.00	PVC	110.0	False	0.00	0.799	0.03	0.008	False	0.0
3341	P-879	60.6	SD10	SD13	200.00	PVC	110.0	False	0.00	0.399	0.01	0.002	False	0.0
3342	P-880	32.4	SD7	SD6	200.00	PVC	110.0	False	0.00	0.000	0.00	0.000	False	0.0
3343	P-881	34.2	SD4	SD5	200.00	PVC	110.0	False	0.00	0.070	0.00	0.000	False	0.0
3344	P-882	30.9	SD3	SD2	200.00	PVC	110.0	False	0.00	-0.070	0.00	0.000	False	0.0
3347	P-884	27.4	SD10	SD11	50.00	PVC	100.0	False	0.00	0.070	0.04	0.092	False	0.0
3348	P-885	112.6	SD8	SD1	200.00	PVC	110.0	False	0.00	-1.245	0.04	0.019	False	0.0
3350	P-886	29.4	SD13	SD12	50.00	PVC	100.0	False	0.00	0.070	0.04	0.092	False	0.0
3352	P-887	77.9	SD13	SD14	200.00	PVC	110.0	False	0.00	-0.031	0.00	0.000	False	0.0
3353	P-888	60.4	SD14	SD9	200.00	PVC	110.0	False	0.00	-1.011	0.03	0.013	False	0.0

22065 - Max Day Demand Scenario Results

Pipe Table - Time: 0.00 hours

Length (User Defined) (m)
0.0
0.0
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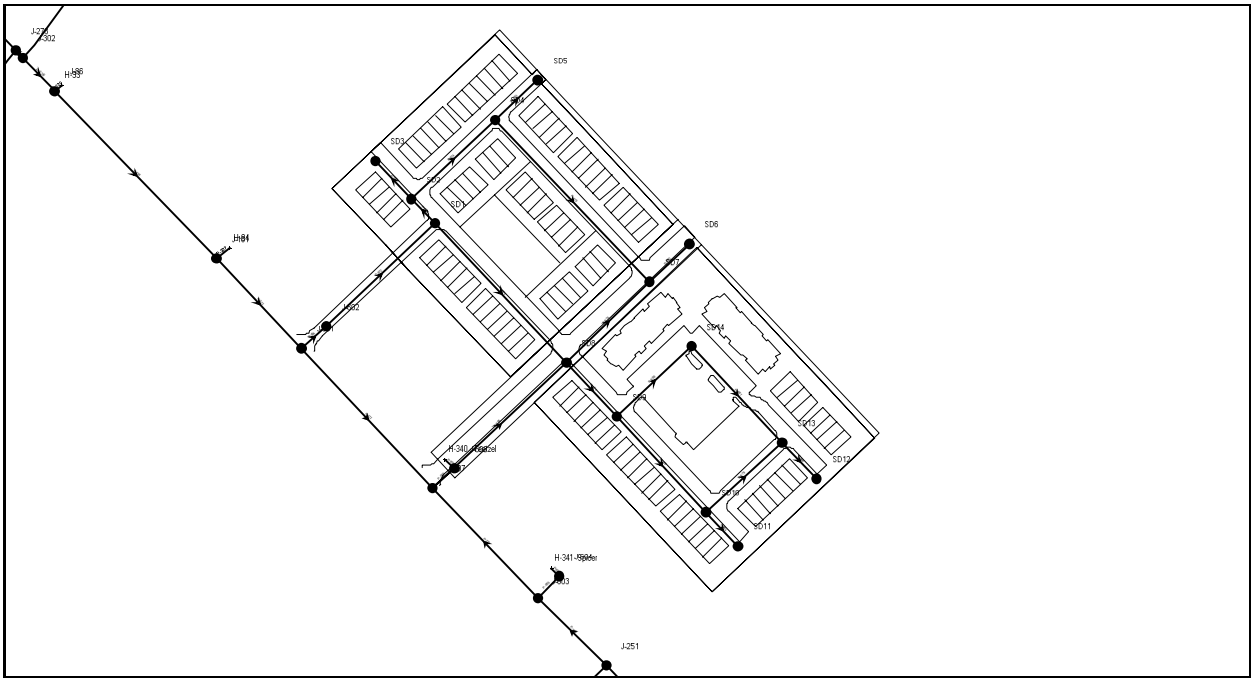
22065 - Peak Hour Demand Scenario Results

Teetzel Farm Development



22065 - Peak Hour Demand Scenario Results

Junction General Pressure - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Pressure (kPa)	Pressure (Minimum) (kPa)	Pressure (Maximum) (kPa)
SD8	217.75	0.950	634.52	634.52	634.52
SD9	217.20	0.730	639.81	639.81	639.81
SD10	216.80	0.730	644.19	644.19	644.19
SD13	216.95	0.800	642.22	642.22	642.22
SD7	218.35	1.100	628.65	628.65	628.65
SD4	220.15	1.610	611.05	611.05	611.05
SD1	219.40	0.440	618.47	618.47	618.47
SD2	219.50	0.800	617.46	617.46	617.46
SD3	219.35	0.150	619.42	619.42	619.42
SD5	220.50	0.150	607.62	607.62	607.62
SD6	218.50	0.000	627.18	627.18	627.18
SD11	216.65	0.150	645.06	645.06	645.06
SD12	216.80	0.150	643.58	643.58	643.58
SD14	217.75	2.190	634.39	634.39	634.39

22065 - Peak Hour Demand Scenario Results

Pipe Table - Time: 0.00 hours

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Has Check Valve?	Minor Loss Coefficient (Local)	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)	Has User Defined Length?	Length (User Defined) (m)
3334	P-872	88.1	J-602	SD1	200.00	PVC	110.0	False	0.00	6.827	0.22	0.438	False	0.0
3335	P-873	20.0	SD1	SD2	200.00	PVC	110.0	False	0.00	3.619	0.12	0.135	False	0.0
3336	P-874	67.8	SD2	SD4	200.00	PVC	110.0	False	0.00	2.669	0.08	0.077	False	0.0
3337	P-875	131.5	SD4	SD7	200.00	PVC	110.0	False	0.00	0.909	0.03	0.010	False	0.0
3338	P-876	68.1	SD7	SD8	200.00	PVC	110.0	False	0.00	-0.191	0.01	0.001	False	0.0
3339	P-877	43.4	SD8	SD9	200.00	PVC	110.0	False	0.00	4.750	0.15	0.224	False	0.0
3340	P-878	76.9	SD9	SD10	200.00	PVC	110.0	False	0.00	1.772	0.06	0.036	False	0.0
3341	P-879	60.6	SD10	SD13	200.00	PVC	110.0	False	0.00	0.892	0.03	0.010	False	0.0
3342	P-880	32.4	SD7	SD6	200.00	PVC	110.0	False	0.00	0.000	0.00	0.000	False	0.0
3343	P-881	34.2	SD4	SD5	200.00	PVC	110.0	False	0.00	0.150	0.00	0.000	False	0.0
3344	P-882	30.9	SD3	SD2	200.00	PVC	110.0	False	0.00	-0.150	0.00	0.001	False	0.0
3347	P-884	27.4	SD10	SD11	50.00	PVC	100.0	False	0.00	0.150	0.08	0.380	False	0.0
3348	P-885	112.6	SD8	SD1	200.00	PVC	110.0	False	0.00	-2.768	0.09	0.082	False	0.0
3350	P-886	29.4	SD13	SD12	50.00	PVC	100.0	False	0.00	0.150	0.08	0.380	False	0.0
3352	P-887	77.9	SD13	SD14	200.00	PVC	110.0	False	0.00	-0.058	0.00	0.000	False	0.0
3353	P-888	60.4	SD14	SD9	200.00	PVC	110.0	False	0.00	-2.248	0.07	0.056	False	0.0

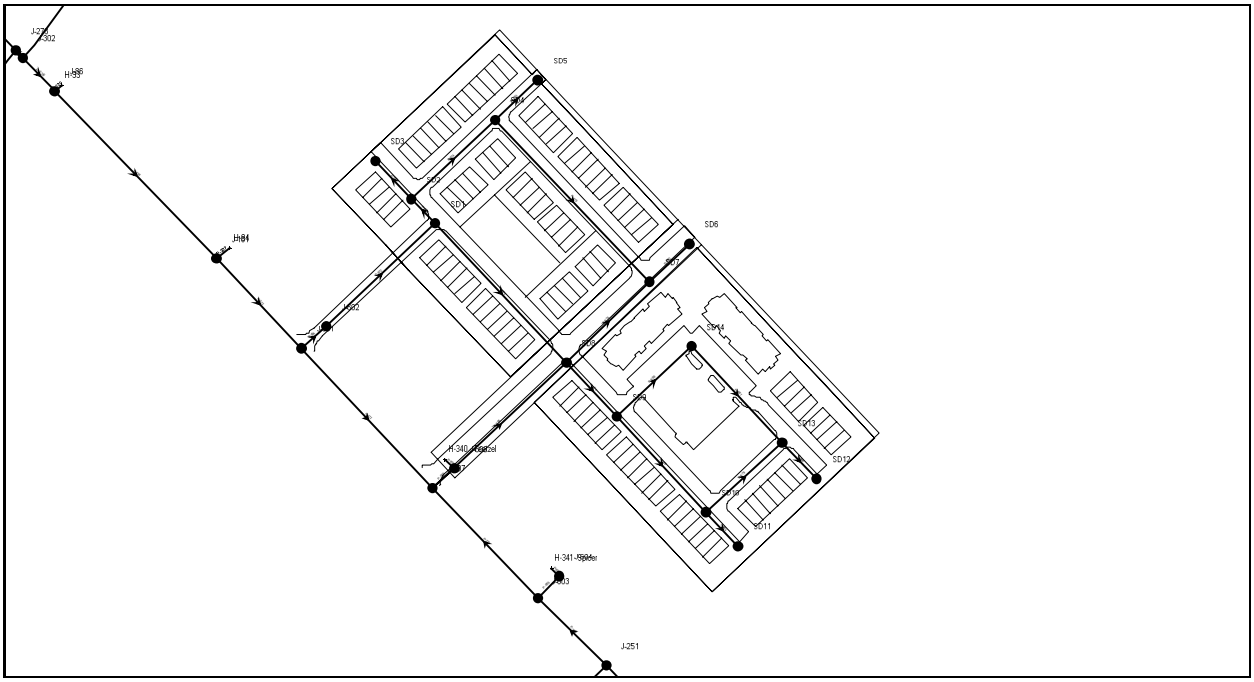
22065 - Peak Hour Demand Scenario Results

Pipe Table - Time: 0.00 hours

Length (User Defined) (m)
0.0
0.0
0.0
0.0
0.0
0.0
0.0

22065 - Fire Flow Analysis Results

Teetzel Farm Development



22065 - Fire Flow Analysis Results

Junction General Pressure - Time: 0.00 hours

Label	Elevation (m)	Demand (L/s)	Pressure (kPa)	Pressure (Minimum) (kPa)	Pressure (Maximum) (kPa)
SD8	217.75	0.430	666.95	666.95	666.95
SD9	217.20	0.330	672.32	672.32	672.32
SD10	216.80	0.330	676.22	676.22	676.22
SD13	216.95	0.360	674.75	674.75	674.75
SD7	218.35	0.490	661.08	661.08	661.08
SD4	220.15	0.720	643.47	643.47	643.47
SD1	219.40	0.200	650.83	650.83	650.83
SD2	219.50	0.360	649.84	649.84	649.84
SD3	219.35	0.070	651.31	651.31	651.31
SD5	220.50	0.070	640.04	640.04	640.04
SD6	218.50	0.000	659.61	659.61	659.61
SD11	216.65	0.070	677.67	677.67	677.67
SD12	216.80	0.070	676.20	676.20	676.20
SD14	217.75	0.980	666.92	666.92	666.92

22065 - Fire Flow Analysis Results

Pipe Table - Time: 0.00 hours

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Has Check Valve?	Minor Loss Coefficient (Local)	Flow (L/s)	Velocity (m/s)	Headloss Gradient (m/km)	Has User Defined Length?	Length (User Defined) (m)
3334	P-872	88.1	J-602	SD1	200.00	PVC	110.0	False	0.00	3.075	0.10	0.100	False	0.0
3335	P-873	20.0	SD1	SD2	200.00	PVC	110.0	False	0.00	1.630	0.05	0.031	False	0.0
3336	P-874	67.8	SD2	SD4	200.00	PVC	110.0	False	0.00	1.200	0.04	0.018	False	0.0
3337	P-875	131.5	SD4	SD7	200.00	PVC	110.0	False	0.00	0.410	0.01	0.002	False	0.0
3338	P-876	68.1	SD7	SD8	200.00	PVC	110.0	False	0.00	-0.080	0.00	0.000	False	0.0
3339	P-877	43.4	SD8	SD9	200.00	PVC	110.0	False	0.00	2.140	0.07	0.051	False	0.0
3340	P-878	76.9	SD9	SD10	200.00	PVC	110.0	False	0.00	0.799	0.03	0.008	False	0.0
3341	P-879	60.6	SD10	SD13	200.00	PVC	110.0	False	0.00	0.399	0.01	0.002	False	0.0
3342	P-880	32.4	SD7	SD6	200.00	PVC	110.0	False	0.00	0.000	0.00	0.000	False	0.0
3343	P-881	34.2	SD4	SD5	200.00	PVC	110.0	False	0.00	0.070	0.00	0.000	False	0.0
3344	P-882	30.9	SD3	SD2	200.00	PVC	110.0	False	0.00	-0.070	0.00	0.000	False	0.0
3347	P-884	27.4	SD10	SD11	50.00	PVC	100.0	False	0.00	0.070	0.04	0.092	False	0.0
3348	P-885	112.6	SD8	SD1	200.00	PVC	110.0	False	0.00	-1.245	0.04	0.019	False	0.0
3350	P-886	29.4	SD13	SD12	50.00	PVC	100.0	False	0.00	0.070	0.04	0.092	False	0.0
3352	P-887	77.9	SD13	SD14	200.00	PVC	110.0	False	0.00	-0.031	0.00	0.000	False	0.0
3353	P-888	60.4	SD14	SD9	200.00	PVC	110.0	False	0.00	-1.011	0.03	0.013	False	0.0

22065 - Fire Flow Analysis Results

Pipe Table - Time: 0.00 hours

Length (User Defined) (m)
0.0
0.0
0.0
0.0
0.0
0.0
0.0