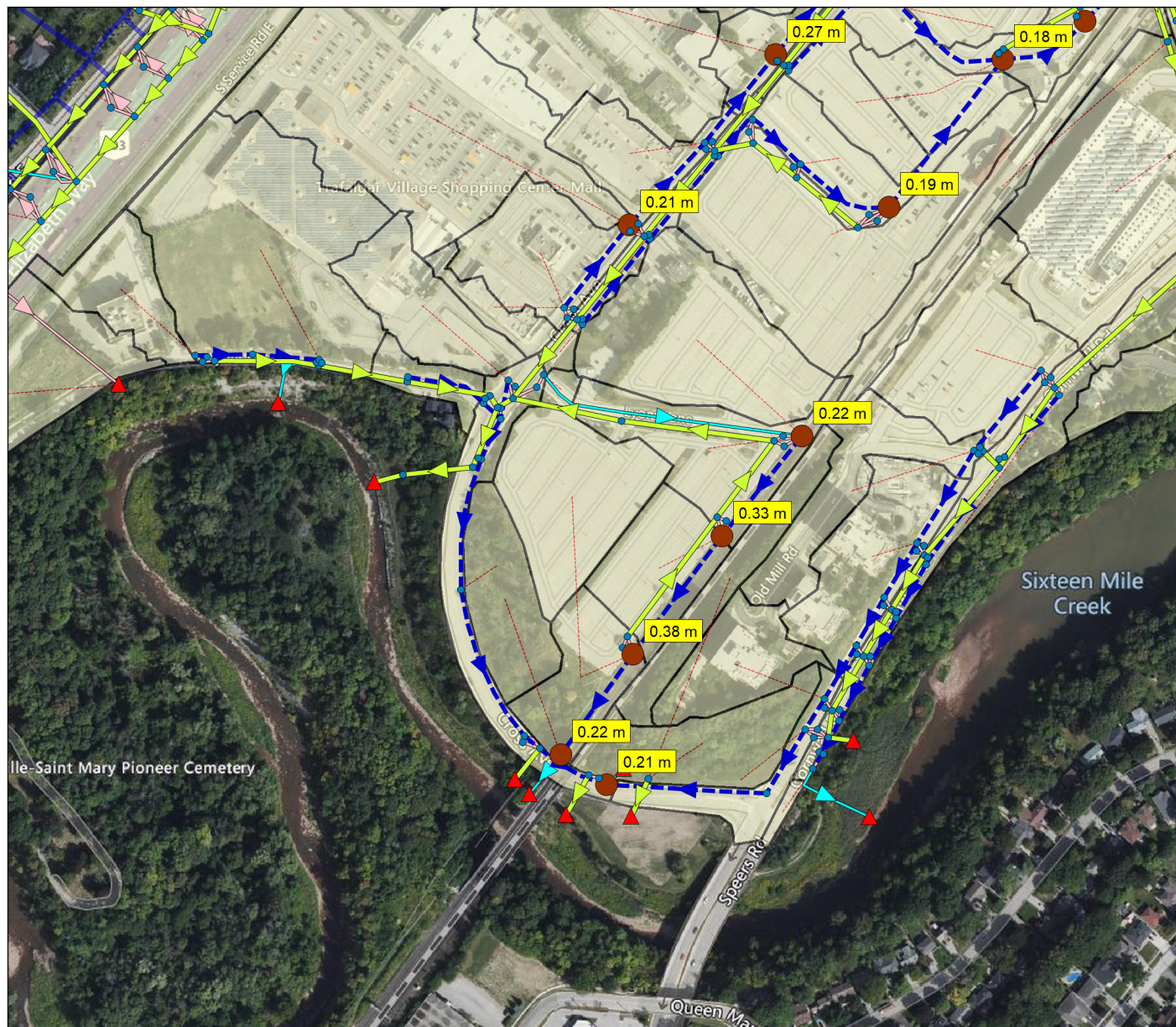


Appendix E. Major Drainage System - Performance and Cross Sections



Existing Conditions 100-Year Surface Ponding

Legend

Junctions

- Visible
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

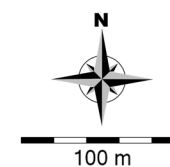
Conduits

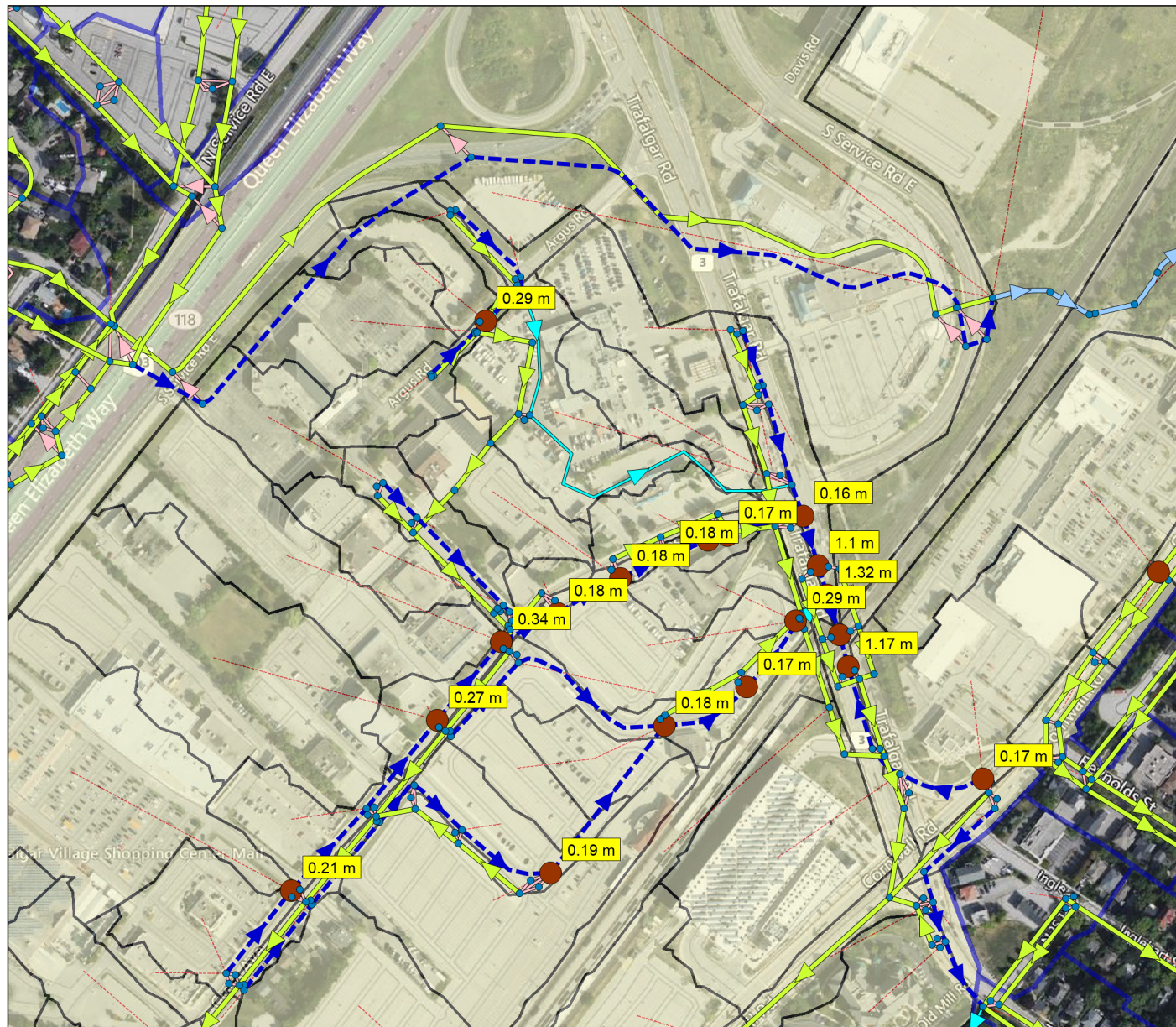
- Minor System
- - Major System
- Lower Morrison Creek (East and West)

- Orifices
- Weirs
- Outlets

Subcatchments

- Outside of Midtown Area
- Within Midtown Area





Existing Conditions 100-Year Surface Ponding

Legend

Junctions

- Visible
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

Conduits

- Minor System
- Major System
- Lower Morrison Creek (East and West)

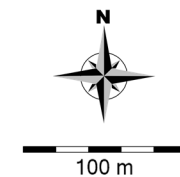
Orifices

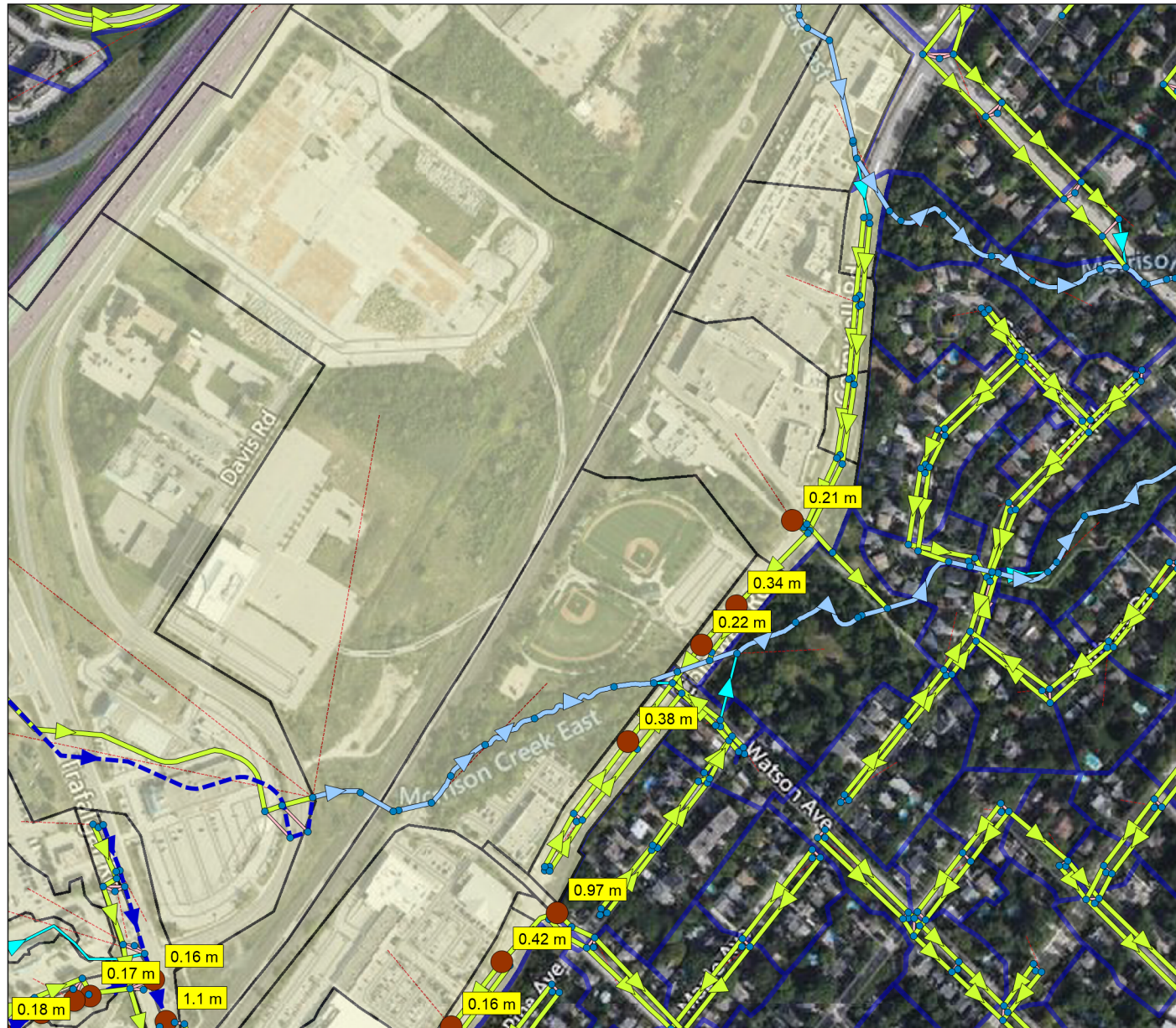
Weirs

Outlets

Subcatchments

- Outside of Midtown Area
- Within Midtown Area





Existing Conditions 100-Year Surface Ponding

Legend

Junctions

- Visible
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

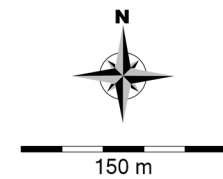
Conduits

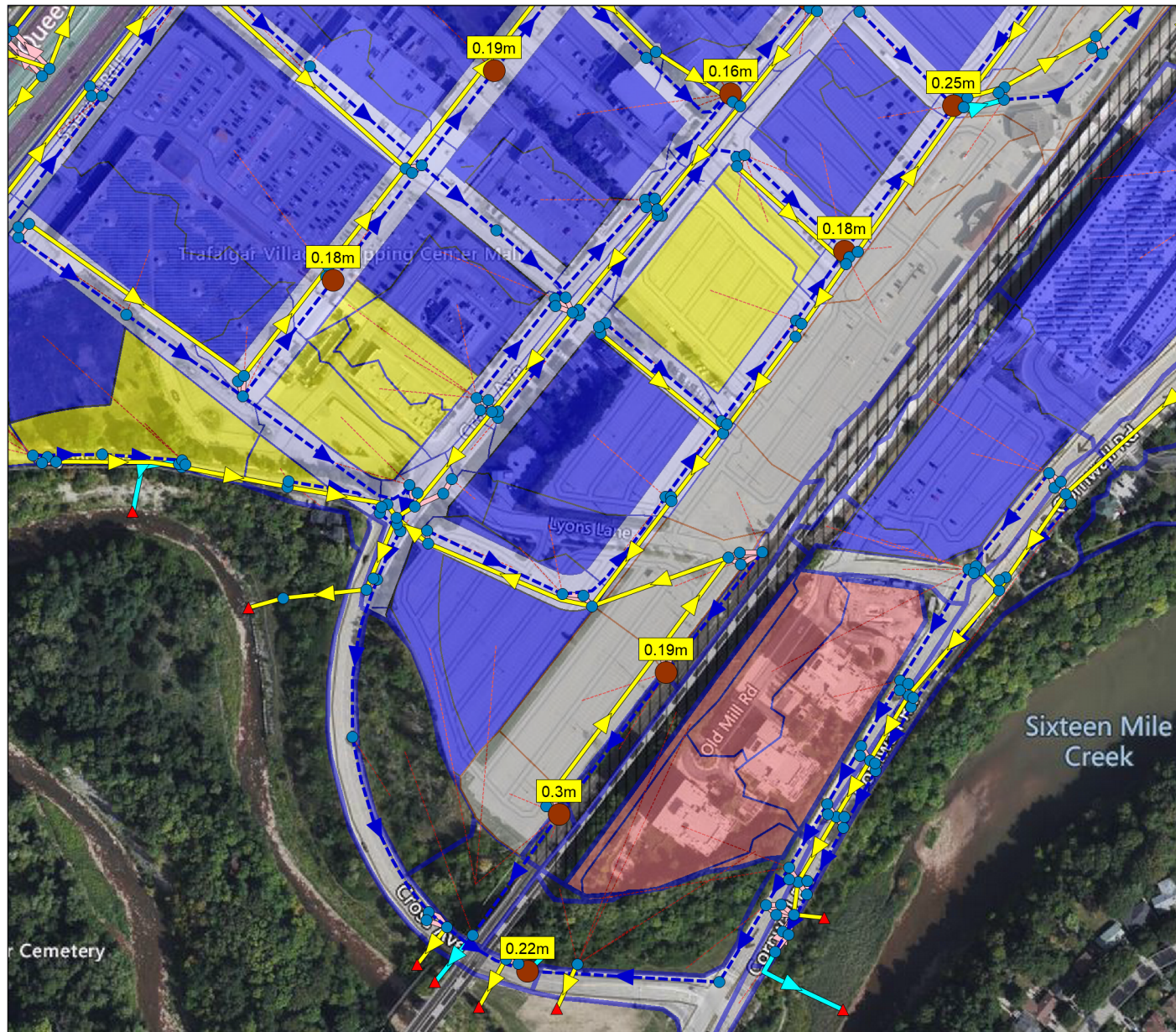
- Minor System
- Major System
- Lower Morrison Creek (East and West)

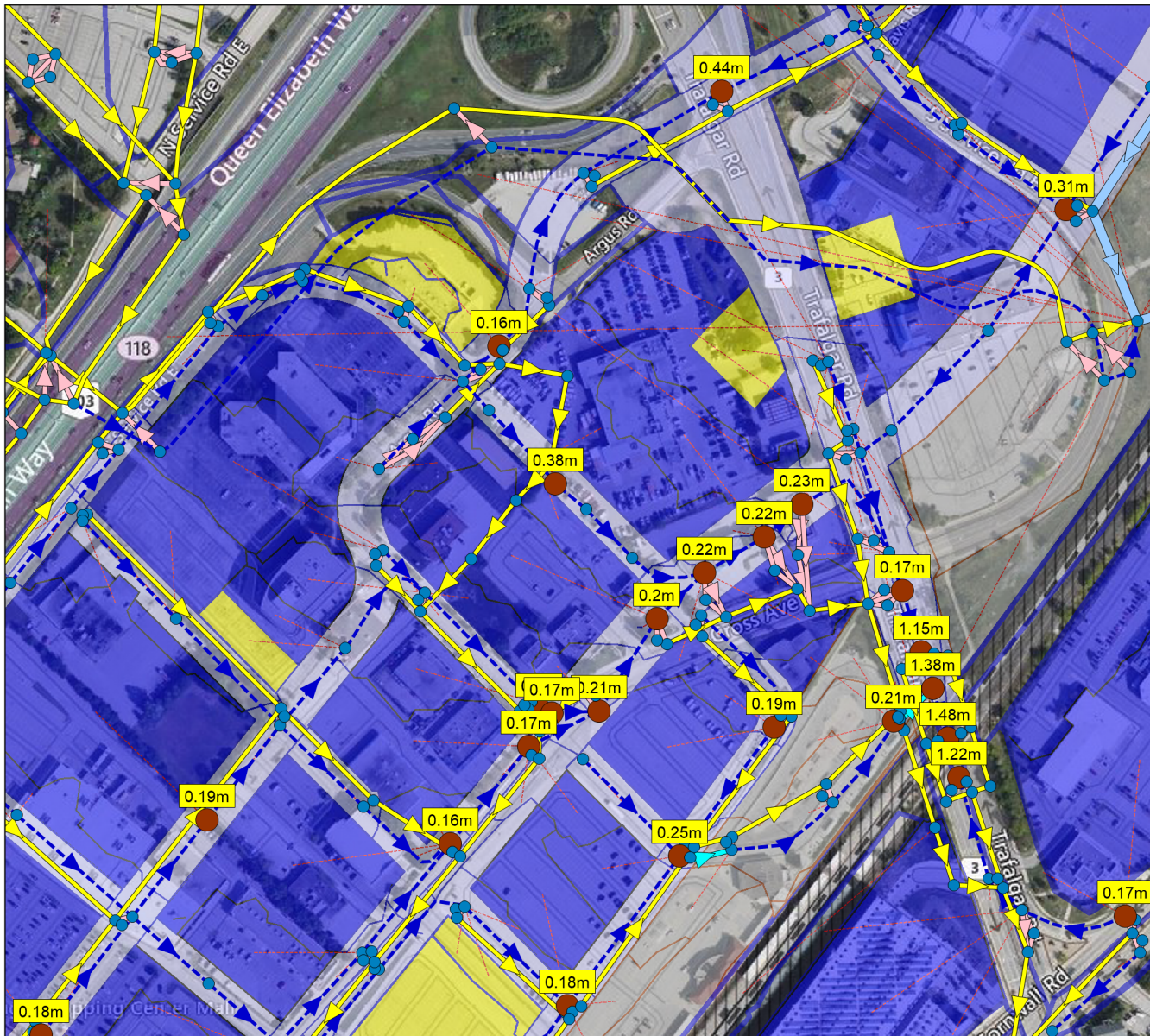
- Orifices
- Weirs
- Outlets

Subcatchments

- Outside of Midtown Area
- Within Midtown Area







Future Uncontrolled 100-Year Surface Ponding

Legend

Junctions

- Junctions
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

Conduits

- Minor System
- - Major System
- Lower Morrison Creek (East and West)
- Orifices
- Weirs
- Outlets



100 m



Future Uncontrolled 100-Year Surface Ponding

Legend

Junctions

- Junctions
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

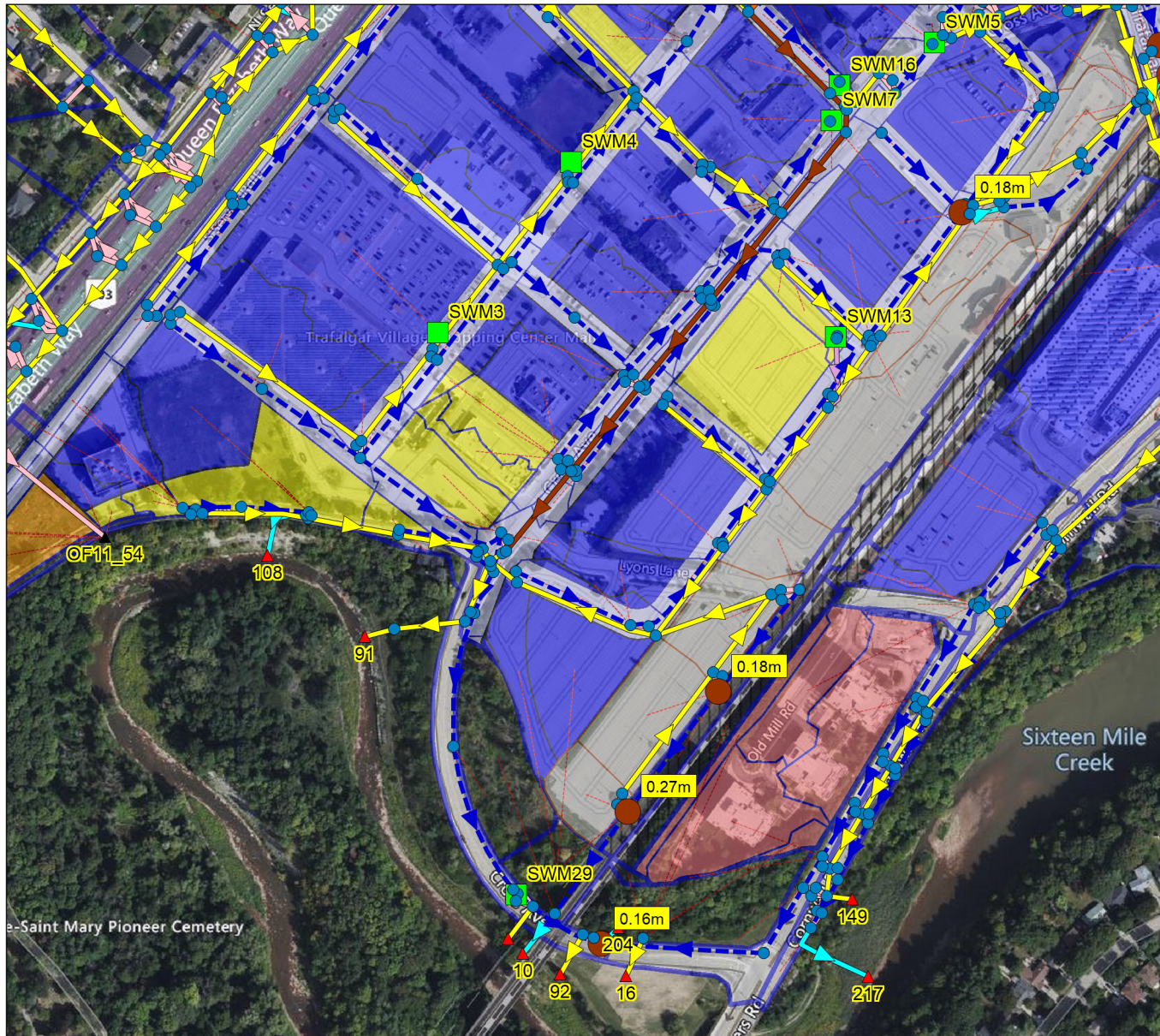
Conduits

- Minor System
- Major System
- Lower Morrison Creek (East and West)

- Orifices
- Weirs
- Outlets



200 m



Future Controlled 100-Year Surface Ponding

Legend

Junctions

- Junctions
- Surface Ponding ≥ 0.15 m

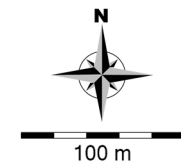
Outfalls

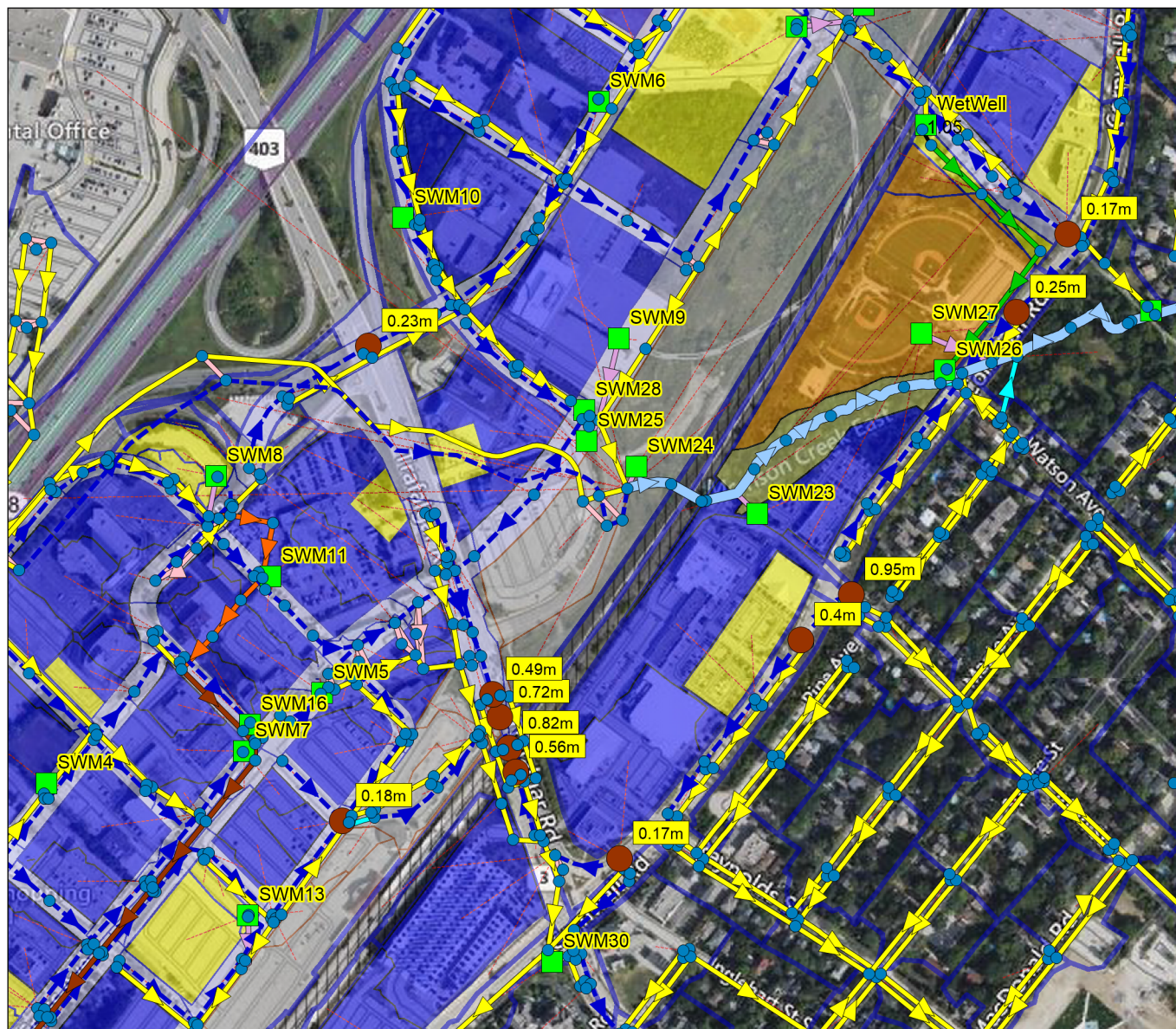
- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

Storages

Conduits

- Minor System
- Major System
- Proposed Underground Superpipes
- Proposed Forcemain
- Proposed Pipe Upsizing
- Lower Morrison Creek (East and West)
- Proposed Channel





Future Controlled 100-Year Surface Ponding

Legend

Junctions

- Junctions
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

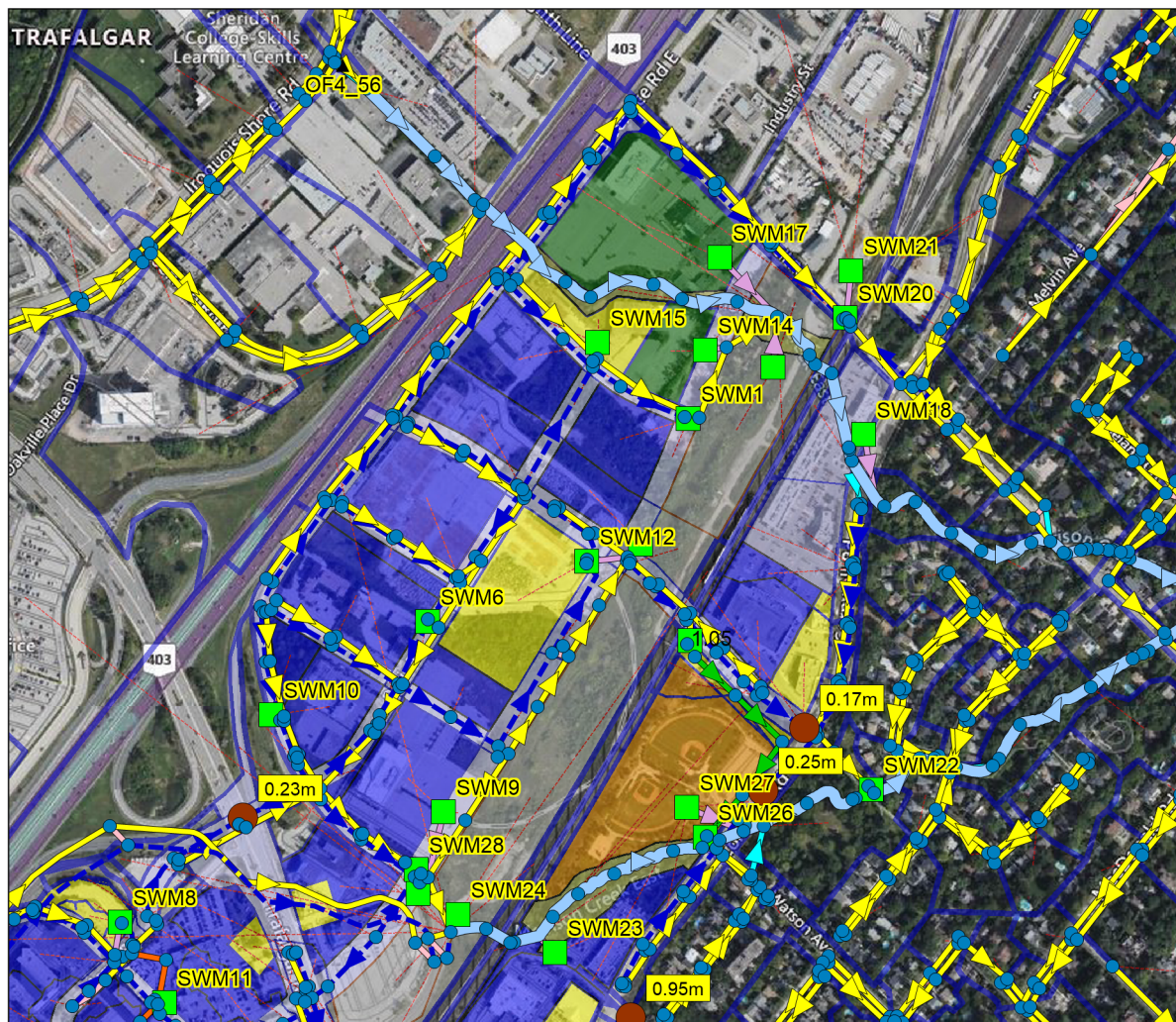
Storages

Conduits

- Minor System
- Major System
- Proposed Underground Superpipes
- Proposed Forcemain
- Proposed Pipe Upsizing
- Lower Morrison Creek (East and West)
- Proposed Channel



200 m



Future Controlled 100-Year Surface Ponding

Legend

Junctions

- Junctions
- Surface Ponding ≥ 0.15 m

Outfalls

- ▲ Outside of Midtown Area
- ▲ Within Midtown Area

Storages

Conduits

- Minor System
- Major System
- Proposed Underground Superpipes
- Proposed Forcemain
- Proposed Pipe Upsizing
- Lower Morrison Creek (East and West)
- Proposed Channel



250 m

Road Name / Intersection	Surface ponding under 100-yr Storm Conditions (m)		
	Existing	Proposed Uncontrolled	Proposed Controlled
Argus Rd near South Service Rd East	0.29	0.16	0.1
Cross Ave & Argus Rd	0.18	0.21	0.06
Cross Ave	0.18	0.2	0.01
Cross Ave	0.18	0.22	0.07
Cross Ave	0.17	0.23	0.1
Cross Ave	0.17	0.22	0.1
East of Go Parking lot close to the Bus Stop before spilling to Trafalgar Rd	0.29	0.21	0.12
Lyons Ln south - next to the Railway	0.22	0.1	0.1
Cross Ave	0.27	0.16	0.15
Cross Ave	0.21	0.13	0.1
Go Train Parking lot	0.19	0.18	0.1
Cross Ave near Speers Rd	0.21	0.22	0.22
Trafalgar Rd	0.16	0.17	0.11
Trafalgar Rd	1.43	1.49	0.83

Road Name / Intersection	Surface ponding under 100-yr Storm Conditions (m)		
	Existing	Proposed Uncontrolled	Proposed Controlled
Trafalgar Rd	1.17	1.22	0.57
Trafalgar Rd	1.32	1.38	0.73
Go parking lot close to Bus stop	0.18	0.13	0.08
Go parking lot close to Bus stop	0.17	0.13	0.09
Trafalgar Rd	1.1	1.15	0.5
Cornwall Rd near Trafalgar	0.17	0.17	0.17
South of Go parking lot near the railway.	0.33	0.19	0.18
South of Go parking lot near the railway.	0.38	0.3	0.27
Cross Ave - Near Speers Rd - Under the bridge	0.22	0.15	0.13
Cornwall Rd - East of Trafalgar	0.16	0.15	0.15
Cornwall Rd - East of Trafalgar	0.42	0.4	0.4
Cornwall Rd - East of Trafalgar	0.97	0.95	0.95
Cornwall Rd - East of Trafalgar	0.38	0.28	0.27
Cornwall Rd - East of Trafalgar	0.34	0.28	0.27

Road Name / Intersection	Surface ponding under 100-yr Storm Conditions (m)		
	Existing	Proposed Uncontrolled	Proposed Controlled
Cornwall Rd - East of Trafalgar	0.22	0.17	0.16
Cornwall Rd - East of Trafalgar	0.21	0.17	0.17

Choose a Transect for Conduit 503_2

? X

Transects:

- Rem_Chan_LMC_5
- Rem_Chan_LMC_6
- Rem_Chan_LMC_7
- Rem_Chan_LMC_8_Trim...
- Rem_Chan_LMC_9
- RemnantChannel1_CN
- RightHalf2LaneUrbanwit...
- RightHalfUrban3LwthHo...
- rural
- Rural2LaneDeepDitchEq...
- RuralStreet2withHouses
- RuralStreet3withHouses
- RuralStreet4withHouses
- RuralStreetwithHousesE...
- RuralStreetwithHousesE...
- RuralStreetwithHousesDe...
- SmallSwale
- SS39Channel1
- Urban_1Half_CrossAve_...
- Urban_2Half_CrossAve_...
- Urban_4-Lane-Half-1
- Urban_4-Lane-Half-2
- Urban_Argus/DavisRd_...
- Urban_Chartwell_26m_Pr...
- Urban_Cross-Ave_30m_...
- Urban_Cross-Ave_36m_...**
- Urban_LocalRoad_Prop

Name:

Urban_Cross-Ave_36m_F

Description:

Cross Ave - 36m ROW
Section from Appendix F (Cross sections);
Full street, Road width = 9.5 m, curb =

Left encroachment station: 0

Right encroachment station: 0

Properties:

Bank Stations

Left 5.9
Right 30.1

Modifiers

Stations 0.0
Elevations 0.0
Meander 0.0

Roughness

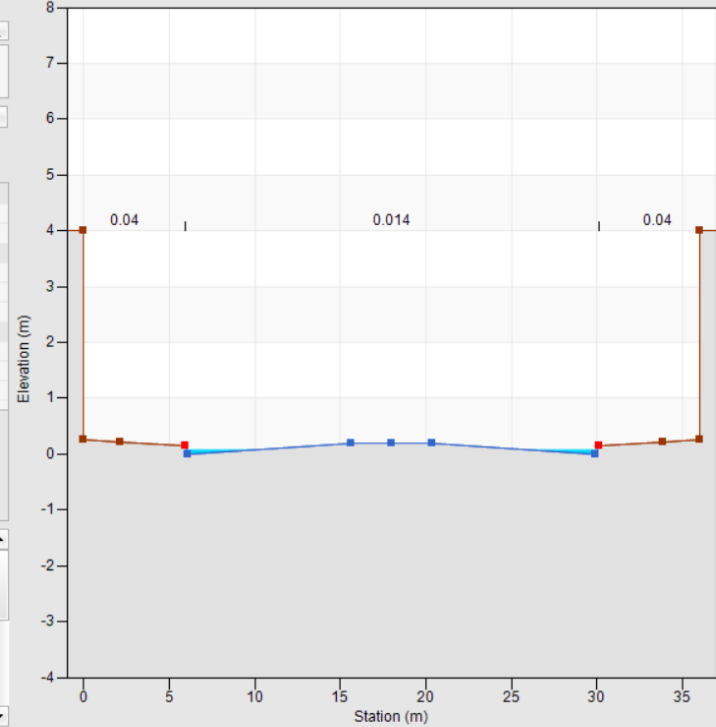
Left Bank 0.04
Right Bank 0.04
Channel 0.014

Left Bank

Value of Manning's roughness for the left overbank portion of the Transect.

	Station (m)	Elevation (m)
1	-0.01	4
2	0	0.268
3	2.1	0.226
4	5.9	0.15
5	6.1	0
6	15.6	0.19

Transect Urban_Cross-Ave_36m_Prop



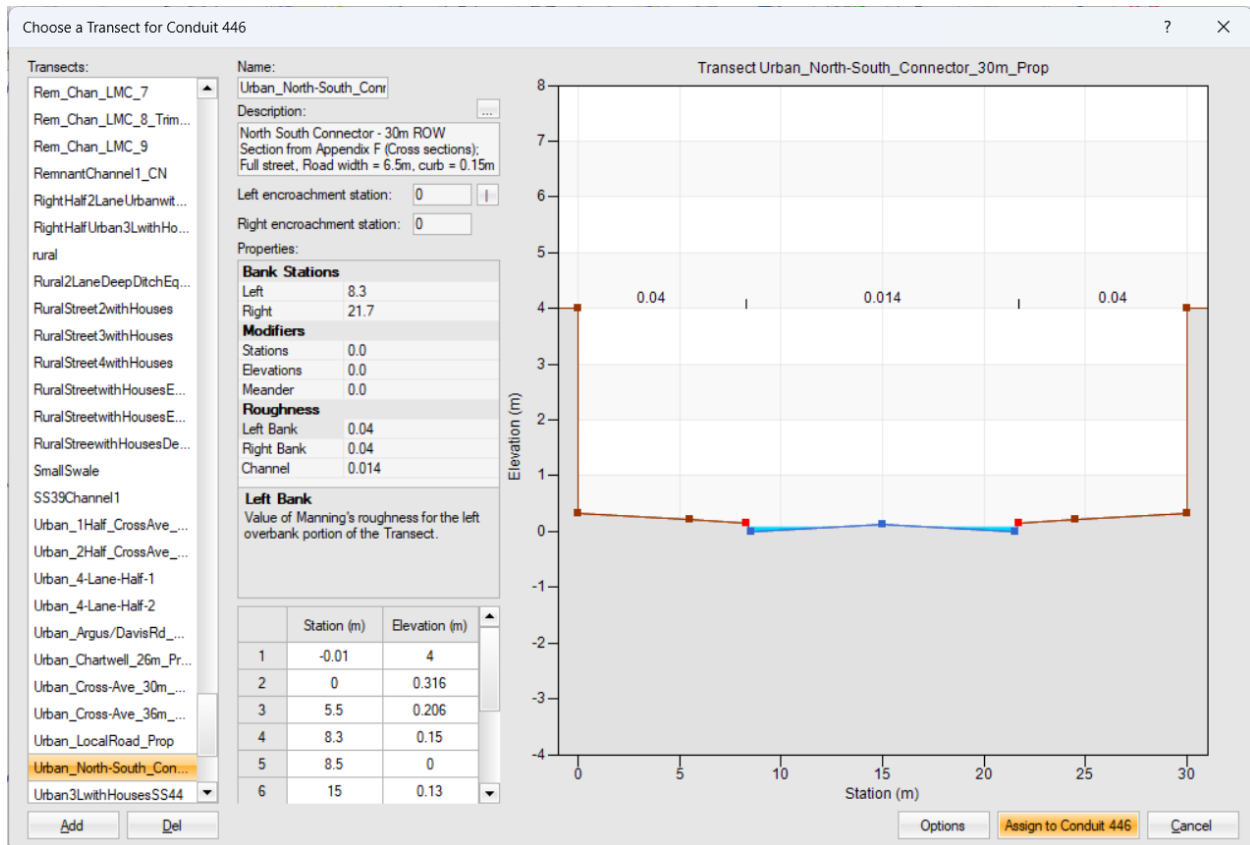
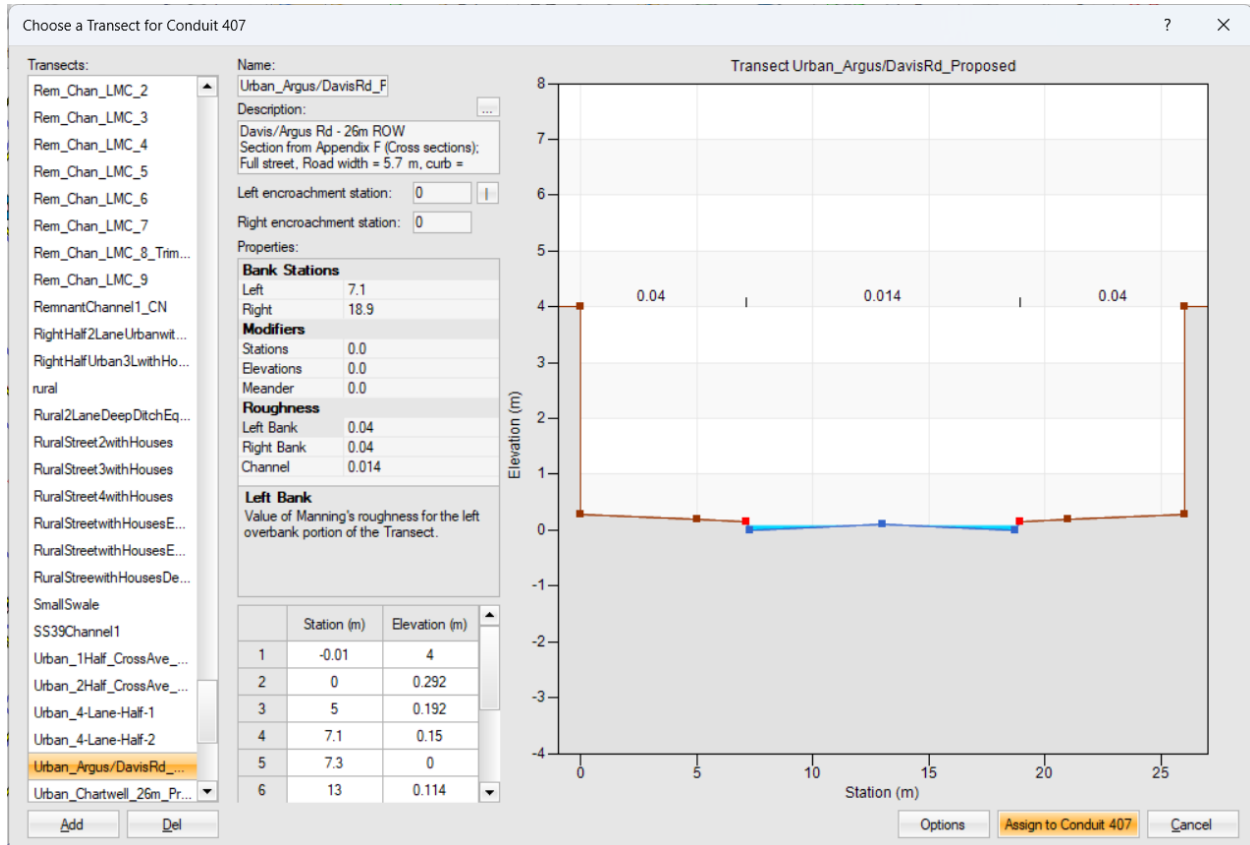
Add

Del

Options

Assign to Conduit 503_2

Cancel



Transects:

Rem_Chanc_LMC_6
Rem_Chanc_LMC_7
Rem_Chanc_LMC_8_Trim...
Rem_Chanc_LMC_9
RemnantChannel1_CN
RightHalf2LaneUrbanwit...
RightHalfUrban3LwithHo...
rural
Rural2LaneDeepDitchEq...
RuralStreet2withHouses
RuralStreet3withHouses
RuralStreet4withHouses
RuralStreetwithHousesE...
RuralStreetwithHousesE...
RuralStreewithHousesDe...
SmallSwale
SS39Channel1
Urban_1Half_CrossAve_...
Urban_2Half_CrossAve_...
Urban_4Lane-Half-1
Urban_4Lane-Half-2
Urban_Argus/DavisRd_...
Urban_Chartwell_26m_Pr...
Urban_Cross-Ave_30m_...
Urban_Cross-Ave_36m_...
Urban_LocalRoad_Prop
Urban_North-South_Con...

Add

Del

Name:

Urban_LocalRoad_Prop

Description:

Local Road - No Parking - Option 4 - 20 m
ROW
Section from Appendix F (Cross sections);

Left encroachment station:

0

Right encroachment station:

0

Properties:

Bank Stations

Left 6.5
Right 13.5

Modifiers

Stations 0.0
Elevations 0.0
Meander 0.0

Roughness

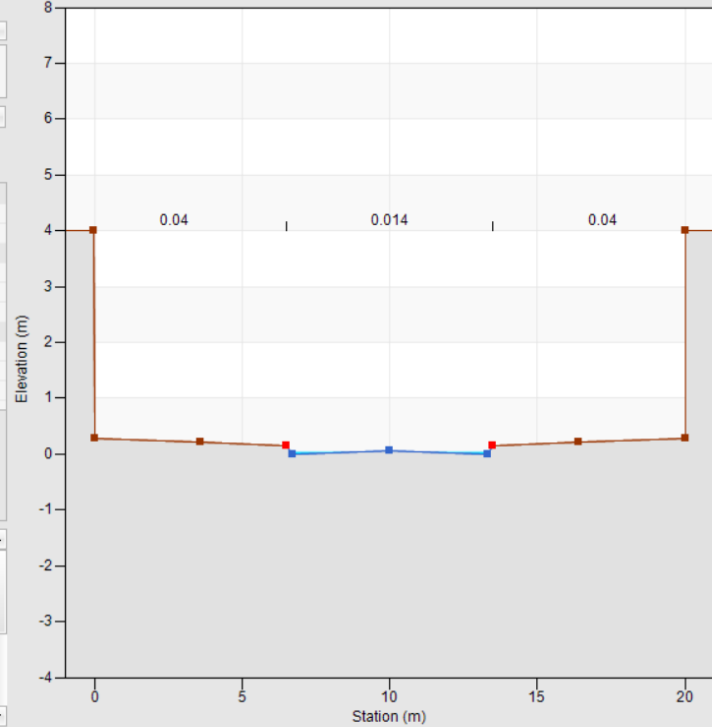
Left Bank 0.04
Right Bank 0.04
Channel 0.014

Left Bank

Value of Manning's roughness for the left
overbank portion of the Transect.

	Station (m)	Elevation (m)
1	-0.01	4
2	0	0.28
3	3.6	0.208
4	6.5	0.15
5	6.7	0
6	10	0.066

Transect Urban_LocalRoad_Prop



Options

Assign to Conduit 397

Cancel