
Appendix J

Summary Sheets for Sanitary Sewer Lateral Risk Sites

This aerial map shows the study area, including Forest Grove Dr. and Hi Mount Dr. The map displays various sampling points (red dots, green squares, blue circles) and a red line indicating a boundary. A yellow label '~ 0.00 m' is present near the top center. The map also shows residential areas and a river or stream on the right side.

Reach: N1
Asset ID: SL4033582
Diameter: 675 mm
Material: Concrete
Construction Year: 1960

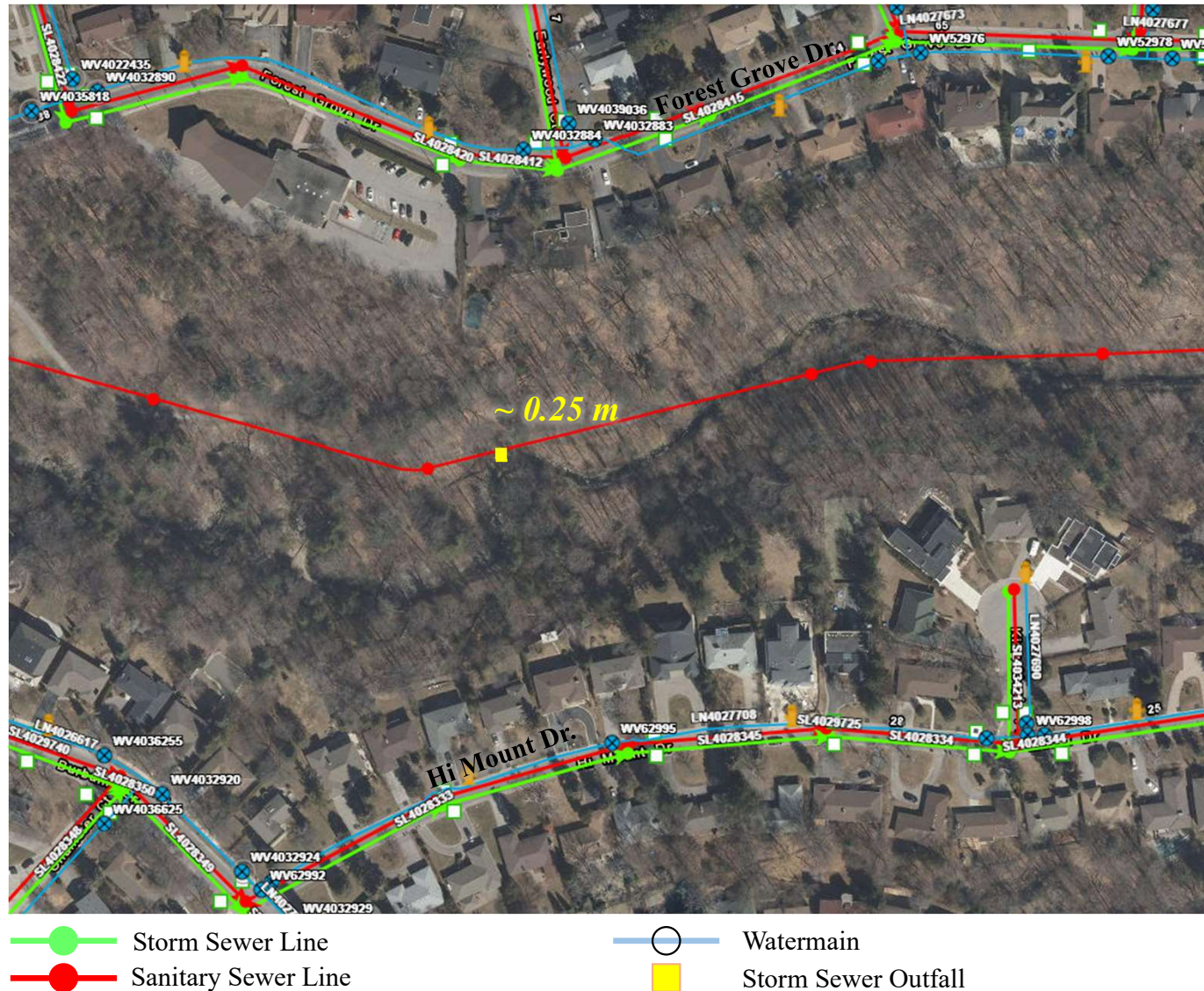
Horizontal Offset: 0.00 m
Radius of Curvature (R_c): 40.14 m
Width (w): 5.61 m
 $R_c / w = 7.16$
Bank Protection Works: None
Condition of Bank Protection Works: N/A

Downstream migration of the meander bend and channel widening has exposed the manhole casing and poses risk to sewer

 Storm Sewer Line
 Watermain

 Sanitary Sewer Line
  Storm Sewer Outfall

Sanitary Sewer Lateral Risk #2



Asset Characteristics

Reach: N1

Asset ID: SL4032404

Diameter: 675 mm

Material: Concrete

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 0.25 m

Radius of Curvature (R_c): 13.7 m

Width (w): 5.61 m

$R_c / w = 2.44$

Bank Protection Works: Gabion
Baskets

Condition of Bank Protection
Works: Fair

Additional Comments

Sanitary Sewer adjacent to the
creek at meander apex.

[illegible]

- Sanitary sewer adjacent to the creek at the meander apex.

Sanitary sewer adjacent to the creek at the meander apex.



Sanitary Sewer Lateral Risk #4



Asset Characteristics

Reach: N1

Asset ID: SL4033584

Diameter: 675 mm

Material: Unknown

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 10.5 m

Radius of Curvature (R_c): 21.17 m

Width (w): 5.61 m

$R_c / w = 4.84$

Bank Protection Works: None

Condition of Bank Protection

Works: N/A

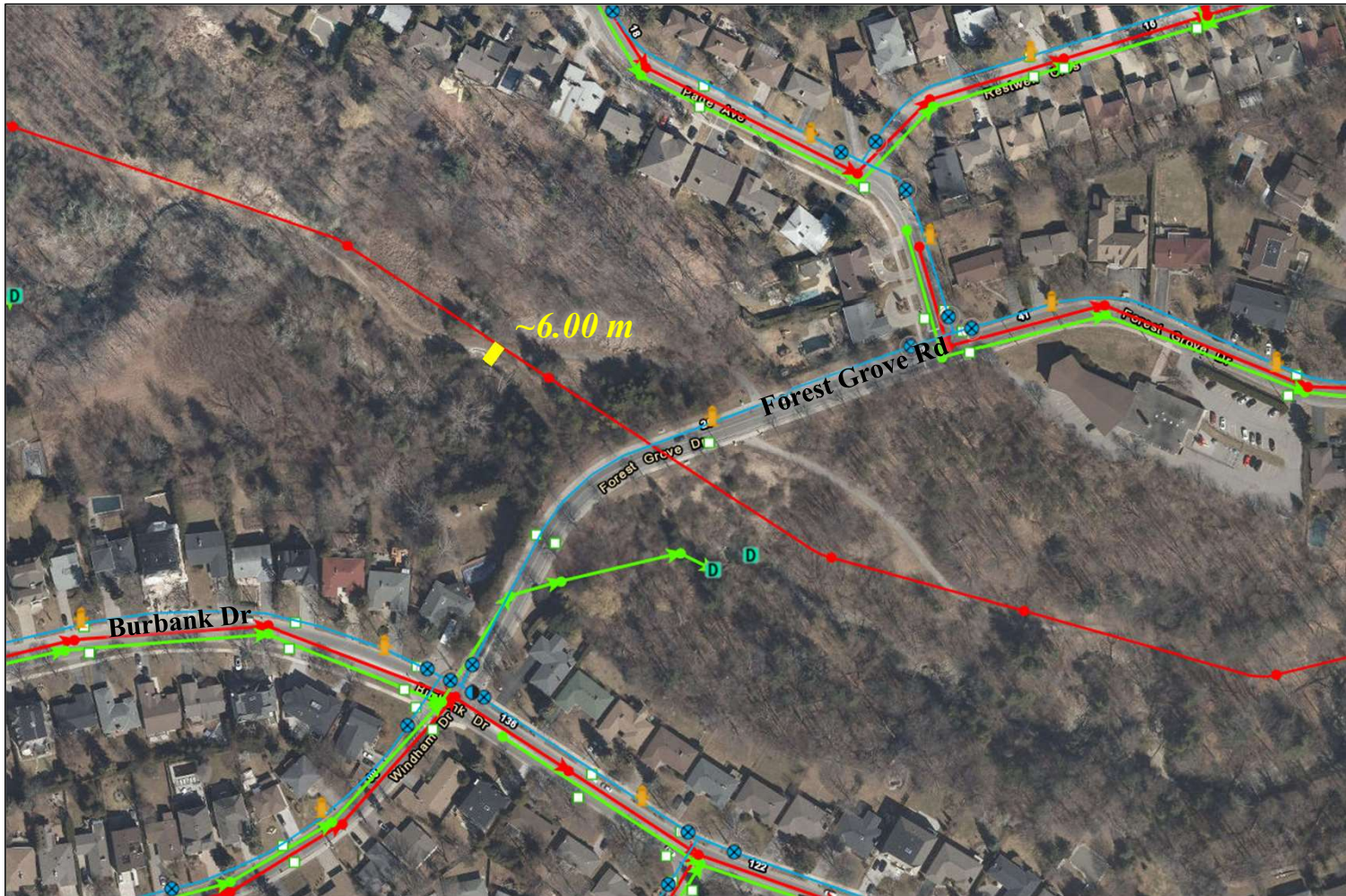
Additional Comments

Sewer parallel to Newtonbrook Creek in the valley slope downstream of Forest Grove Dr. Two storm sewer outfalls here, both are priority sites.

● Storm Sewer Line
● Sanitary Sewer Line

○ Watermain
■ Storm Sewer Outfall

Sanitary Sewer Lateral Risk #5



Asset Characteristics

Reach: N2

Asset ID: SL4034031

Diameter: 675 mm

Material: Unknown

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 6.00 m

Radius of Curvature (R_c): 10.15m

Width (w): 7.98 m

$R_c / w = 1.27$

Bank Protection Works: None

Condition of Bank Protection

Works: N/A

Additional Comments

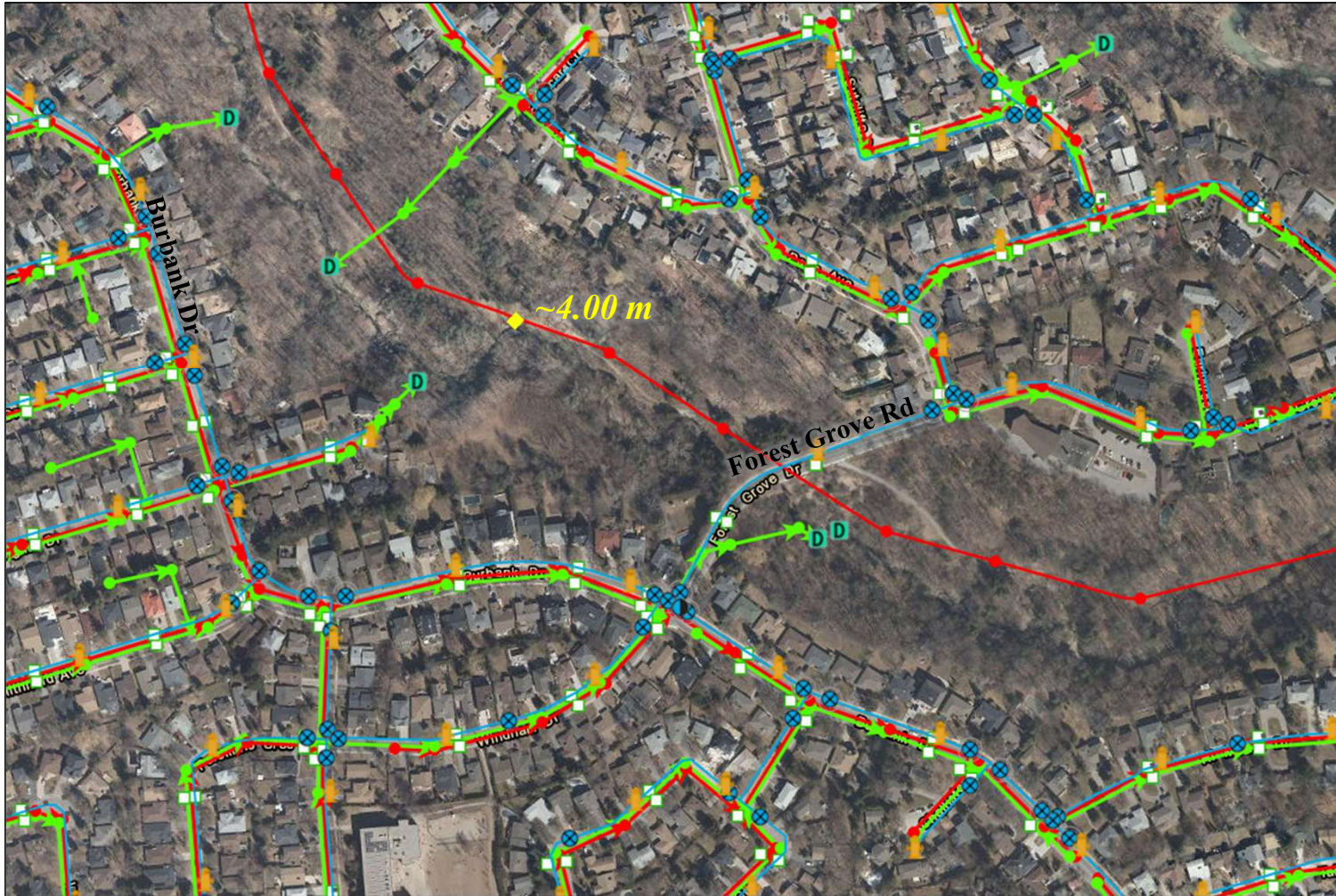
Upstream of Forest Grove Rd.

Active erosion is narrowing
pedestrian trail.

—●— Storm Sewer Line
—●— Sanitary Sewer Line

—○— Watermain
—■— Storm Sewer Outfall

Sanitary Sewer Lateral Risk #6



—●— Storm Sewer Line
—●— Sanitary Sewer Line

—○— Watermain
—■— Storm Sewer Outfall

Asset Characteristics

Reach: N2
Asset ID: SL4033585
Diameter: 675 mm
Material: Reinforced Concrete
Construction Year: 1960

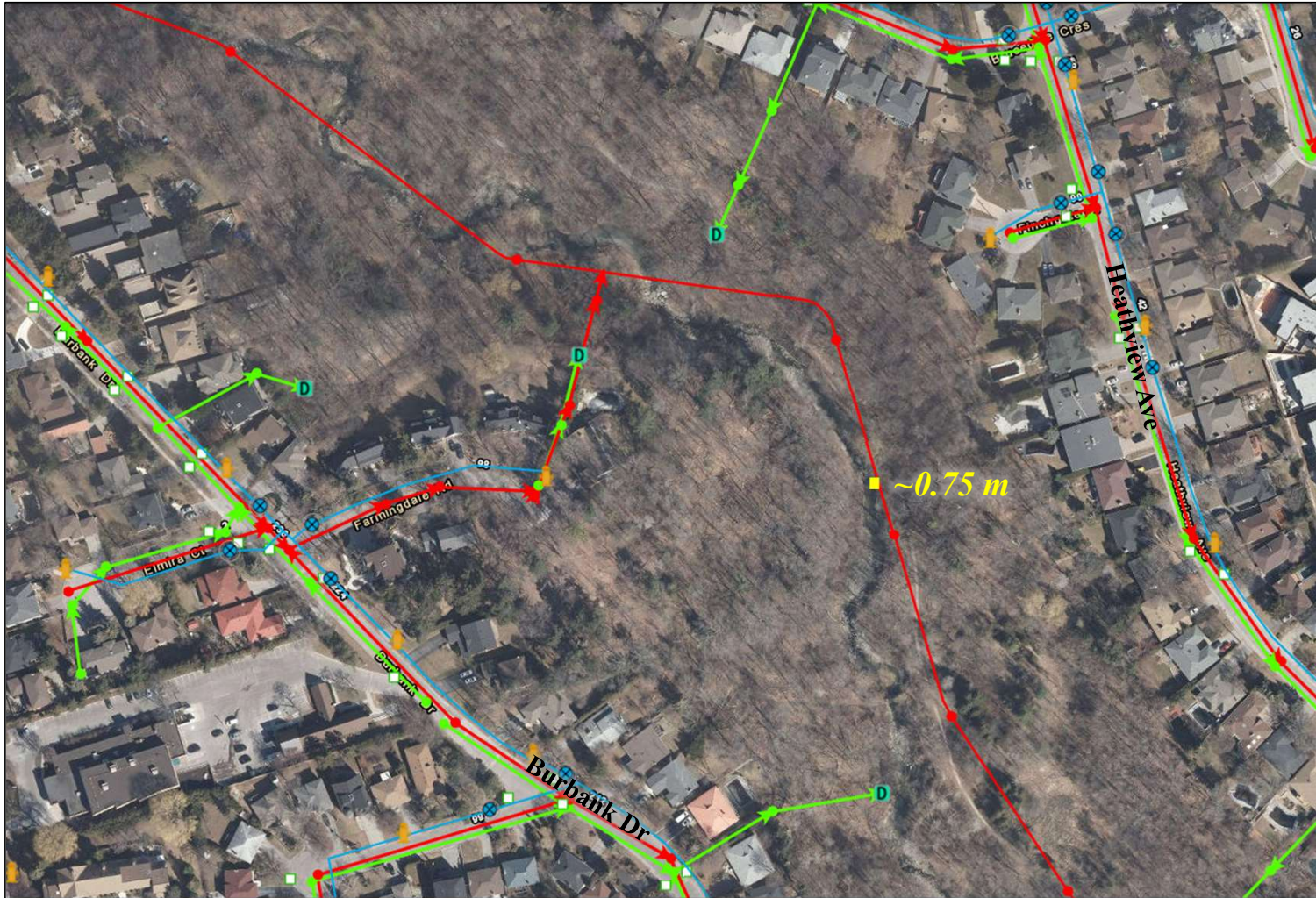
Lateral Risk Assessment

Horizontal Offset: 4.00 m
Radius of Curvature (R_c): 18.23
Width (w): 7.98 m
 $R_c / w = 2.28$
Bank Protection Works: None
Condition of Bank Protection Works: N/A

Additional Comments

Active erosion into adjacent pedestrian trail with bare soil

Sanitary Sewer Lateral Risk #7



● Storm Sewer Line
● Sanitary Sewer Line

○ Watermain
■ Storm Sewer Outfall

Asset Characteristics

Reach: N2
Asset ID: SL4032401
Diameter: 675 mm
Material: Reinforced Concrete
Construction Year: 1960

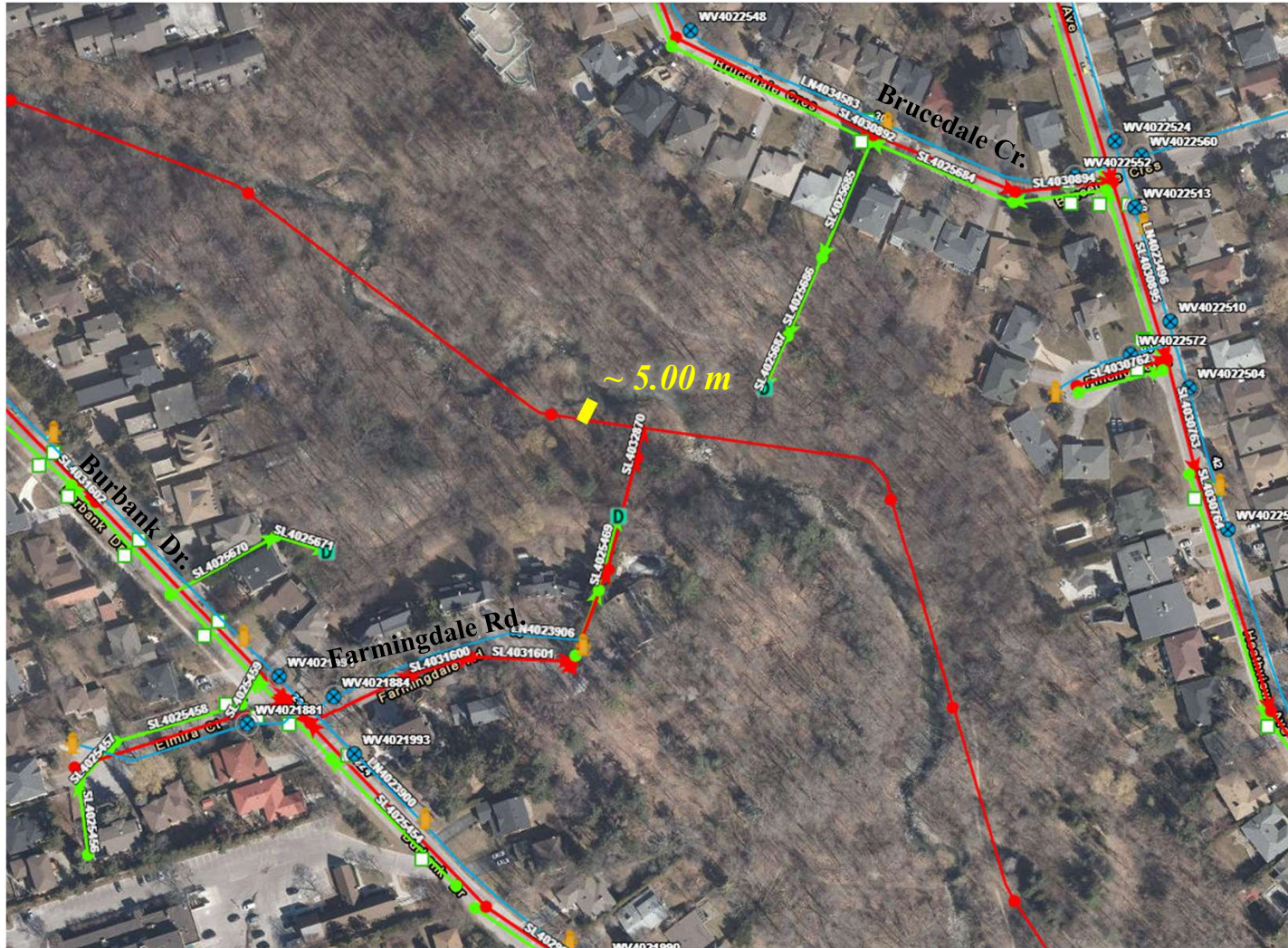
Lateral Risk Assessment

Horizontal Offset: 0.75 m
Radius of Curvature (R_c): 77.09 m
Width (w): 7.98 m
 $R_c / w = 9.66$
Bank Protection Works: None
Condition of Bank Protection Works: N/A

Additional Comments

Area of active bank erosion and channel widening

Sanitary Sewer Lateral Risk #8



- Reach: N2

Asset ID: SL4031857

Diameter: 675 mm

Material: Concrete

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 5.00 m

Radius of Curvature (R_c): 11.96 m

Width (w): 7.98

$R_c / w = 1.50$

Bank Protection Works: Gabion Baskets

Condition of Bank Protection Works:


Additional Comments

Sewer parallel to Newtonbrook Creek. The closest point of contact is at a section protected by gabion baskets, the bottom baskets have emptied.

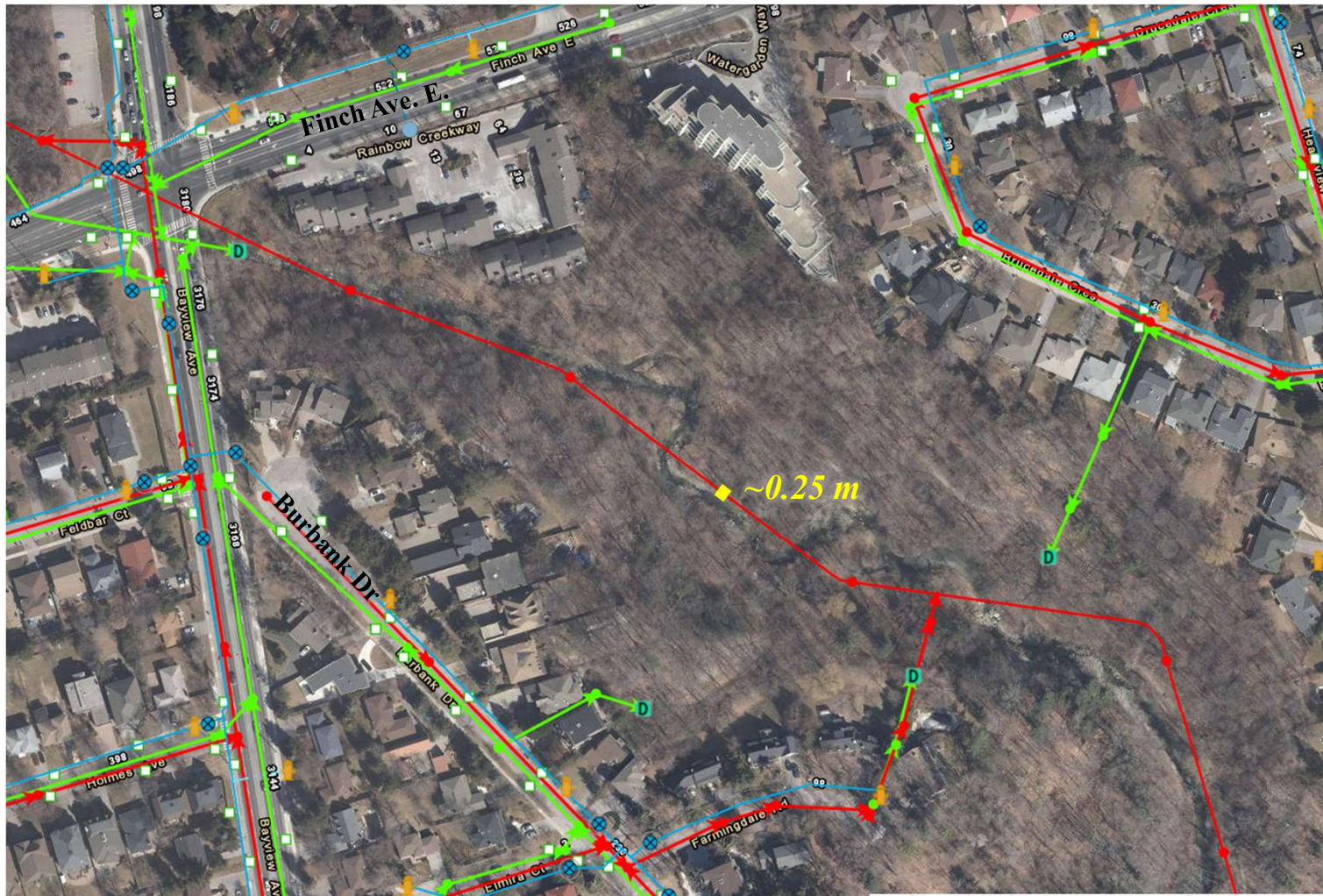
- ## Storm Sewer Line

- ## Sanitary Sewer Line

-
- Watermain

-  Storm Sewer Outfall

Sanitary Sewer Lateral Risk #9



Asset Characteristics

Reach: N2

Asset ID: SL4031887

Diameter: 675 mm

Material: Reinforced Concrete

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 0.25 m

Radius of Curvature (R_c): 30.88

Width (w): 7.98 m

$R_c / w = 3.87$

Bank Protection Works: Rip-Rap

Condition of Bank Protection

Works: N/A

Additional Comments

Area of active scour with exposed concrete encasements upstream and downstream

● Storm Sewer Line
● Sanitary Sewer Line

○ Watermain
■ Storm Sewer Outfall

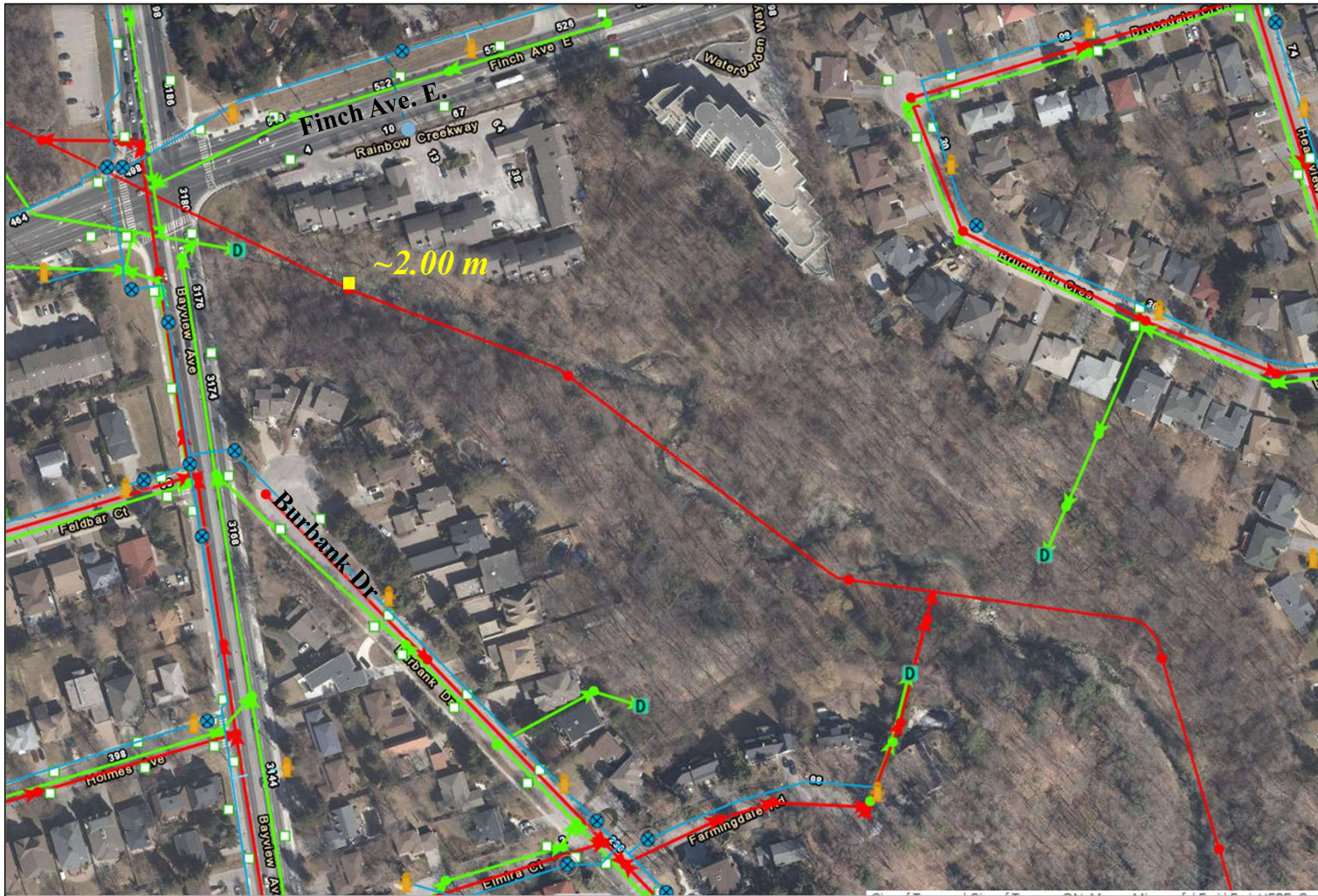
Reach: N2
Asset ID: SL4031888
Diameter: 675 mm
Material: Concrete
Construction Year: 1960

Horizontal Offset: 0.00 m
Radius of Curvature (R_c): 15.47 m
Width (w): 7.98 m
 $R_c / w = 1.94$
Bank Protection Works: None
Condition of Bank Protection Works: N/A

Sewer parallel to Newtonbrook Creek. Substrate rip rap is still intact, banks are unprotected and currently eroding. The offset from risk is minimal.

-  Storm Sewer Line
  Watermain
-  Sanitary Sewer Line
  Storm Sewer Outfall

Sanitary Sewer Lateral Risk #11



Asset Characteristics

Reach: N2

Asset ID: SL4033483

Diameter: 675 mm

Material: Reinforced Concrete

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 2.00 m

Radius of Curvature (R_c): 31.31

Width (w): 7.98 m

$R_c / w = 3.92$

Bank Protection Works:

Armourstone wall

Condition of Bank Protection

Works: Fair

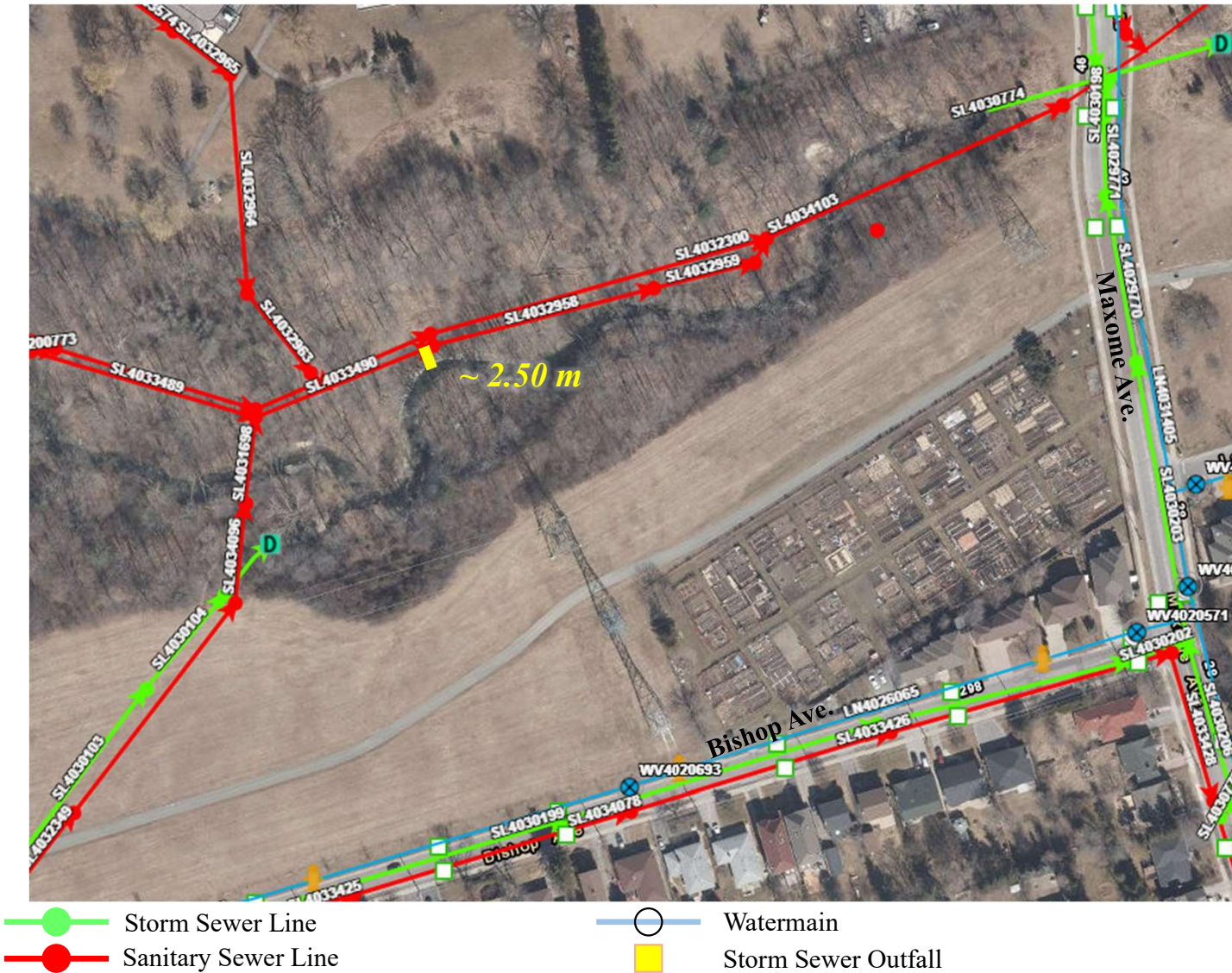
Additional Comments

Armourstone wall is outflanking and falling over, with risk to manhole

● Storm Sewer Line
● Sanitary Sewer Line

○ Watermain
■ Storm Sewer Outfall

Sanitary Sewer Lateral Risk #13



Asset Characteristics

Reach: N4

Asset ID:

SL4033490

MH4934112589

SL4032958

Diameter: 675 mm

Material: Concrete

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 2.50

Radius of Curvature (R_c): 15.18

Width (w): 7.50

$$R_c / w = 2.02$$

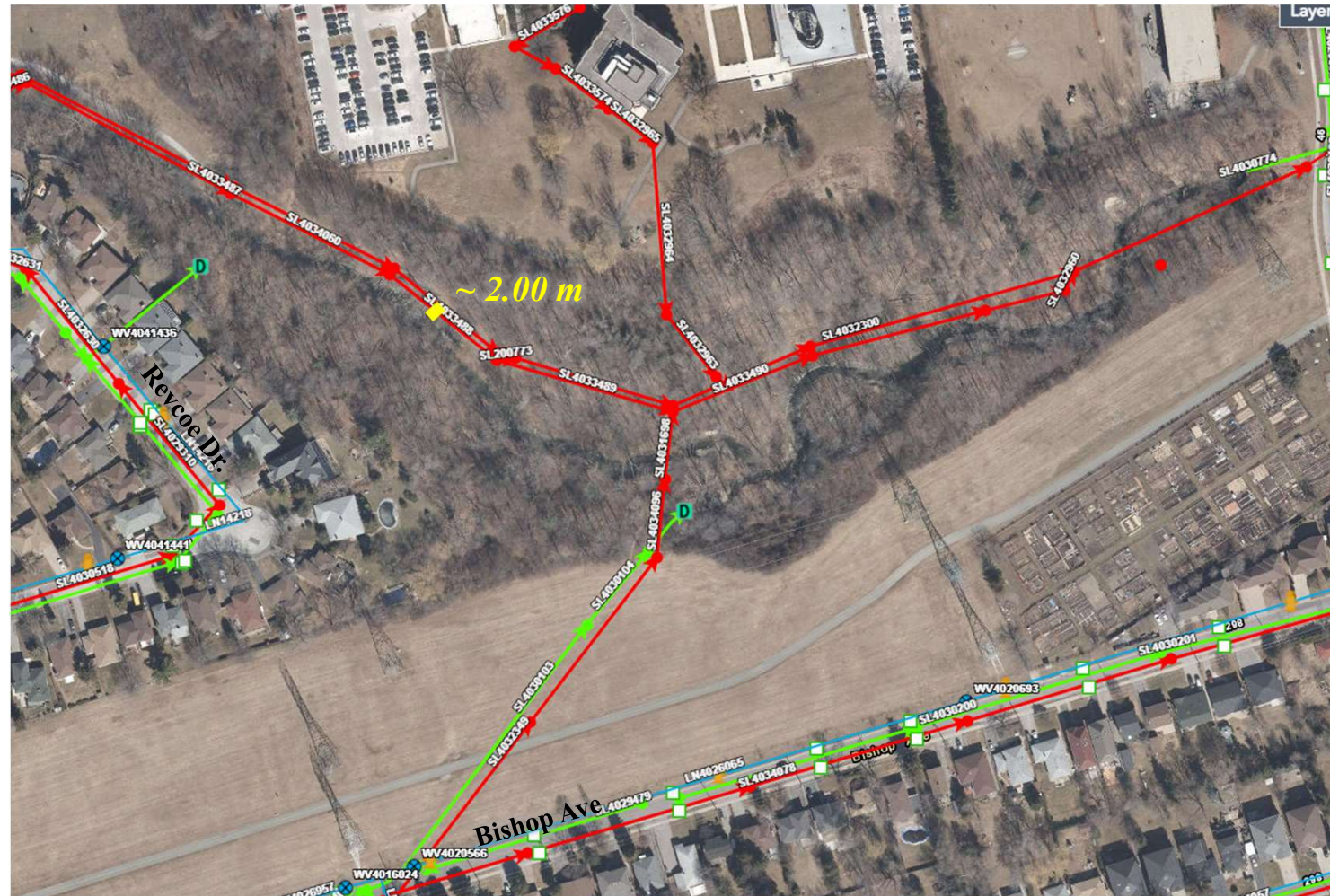
Bank Protection Works: Boulder Revetment

Condition of Bank Protection Works: Good

Additional Comments

Sewer parallel to Newtonbrook
Creek with boulder bank
protection.

Sanitary Sewer Lateral Risk #14



—●— Storm Sewer Line
—●— Sanitary Sewer Line

—○— Watermain
—■— Storm Sewer Outfall

Asset Characteristics

Reach: N4

Asset ID: SL4033488

Diameter: 675 mm

Material: Concrete

Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 2.00 m

Radius of Curvature (R_c): 15.95 m

Width (w): 7.50 m

$R_c / w = 2.13$

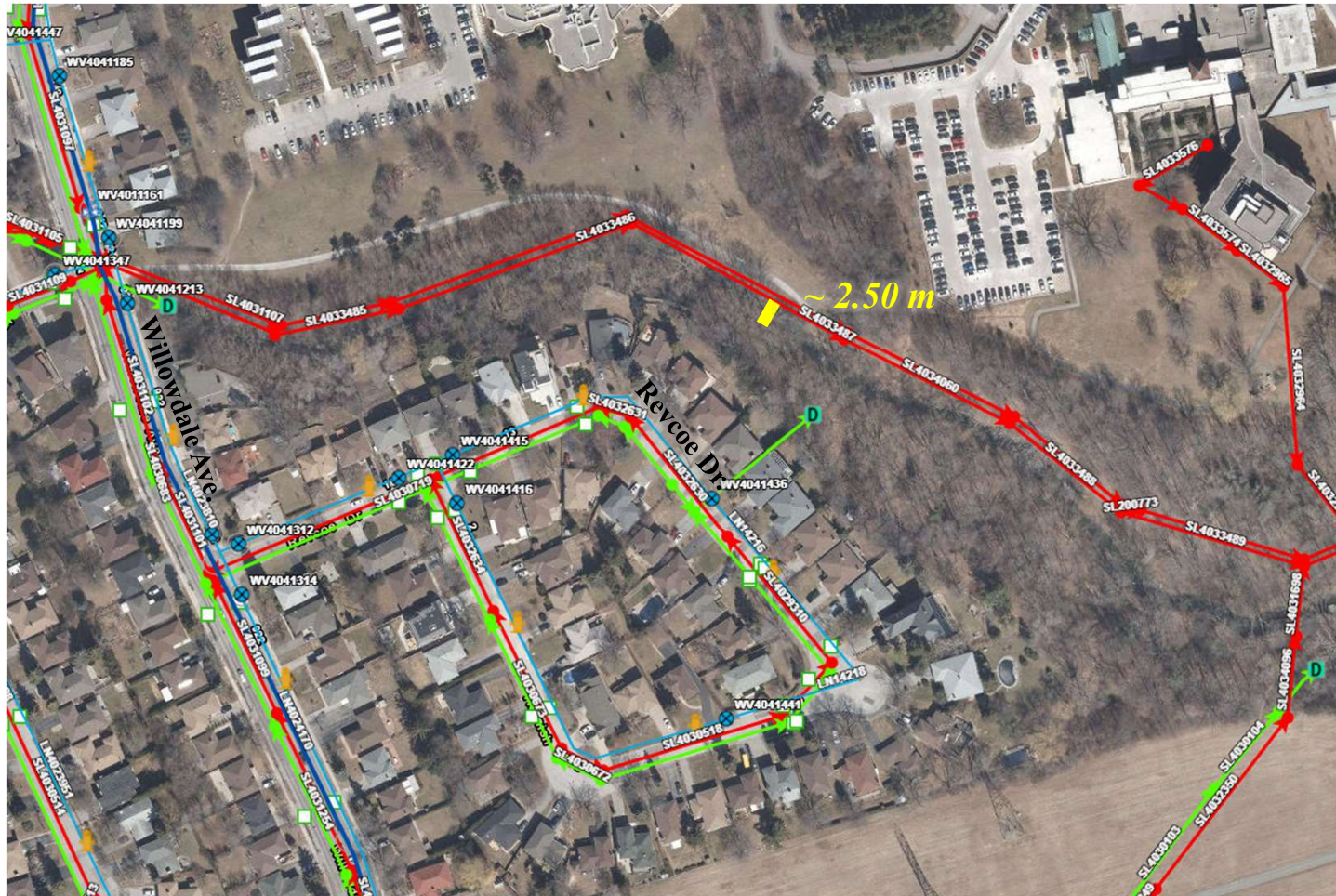
Bank Protection Works: Gabion
Baskets

Condition of Bank Protection
Works: N/A

Additional Comments

Sewer parallel to Newtonbrook
Creek with failed gabion
baskets. The emptied baskets
have some rip rap protection,
basket wire has rusted through.

Sanitary Sewer Lateral Risk #15



Asset Characteristics

Reach: N4
Asset ID: SL4033487
Diameter: 675 mm
Material: Unknown
Construction Year: 1960

Lateral Risk Assessment

Horizontal Offset: 2.50 m
Radius of Curvature (R_c): 97.85 m
Width (w): 7.50 m
 $R_c / w = 13.05$
Bank Protection Works: Gabion Baskets
Condition of Bank Protection Works:

Additional Comments

Sewer parallel to Newtonbrook Creek with failed gabion baskets. The emptied baskets have some rip rap protection, basket wire has rusted through.

Reach: N4
Asset ID: SL4033486
Diameter: 675
Material: Unknown
Construction Year: 1960

Horizontal Offset: 2.50 m
Radius of Curvature (R_c): 97.85 m
Width (w): 7.50 m
 $R_c / w = 13.05$
Bank Protection Works: Rip Rap
Condition of Bank Protection Works:

Sewer parallel to Newtonbrook Creek. While offset is minimal, asset has ~ 0.7 m of cover and degradation rate controls TTC



Sanitary Sewer Lateral Risk #17



Asset Characteristics

Reach: BR1

Asset ID: SL4053177

Diameter: 300 mm

Material: Asbestos Cement

Construction Year: 1977

Lateral Risk Assessment

Horizontal Offset: 12.00 m

Radius of Curvature (R_c): 13.64

Width (w): 2.74 m

$R_c / w = 4.98$

Bank Protection Works: None

Condition of Bank Protection

Works: N/A

Additional Comments

Entire valley corridor is area of active bank and slope erosion.

—●— Storm Sewer Line
—●— Sanitary Sewer Line

—○— Watermain
—■— Storm Sewer Outfall

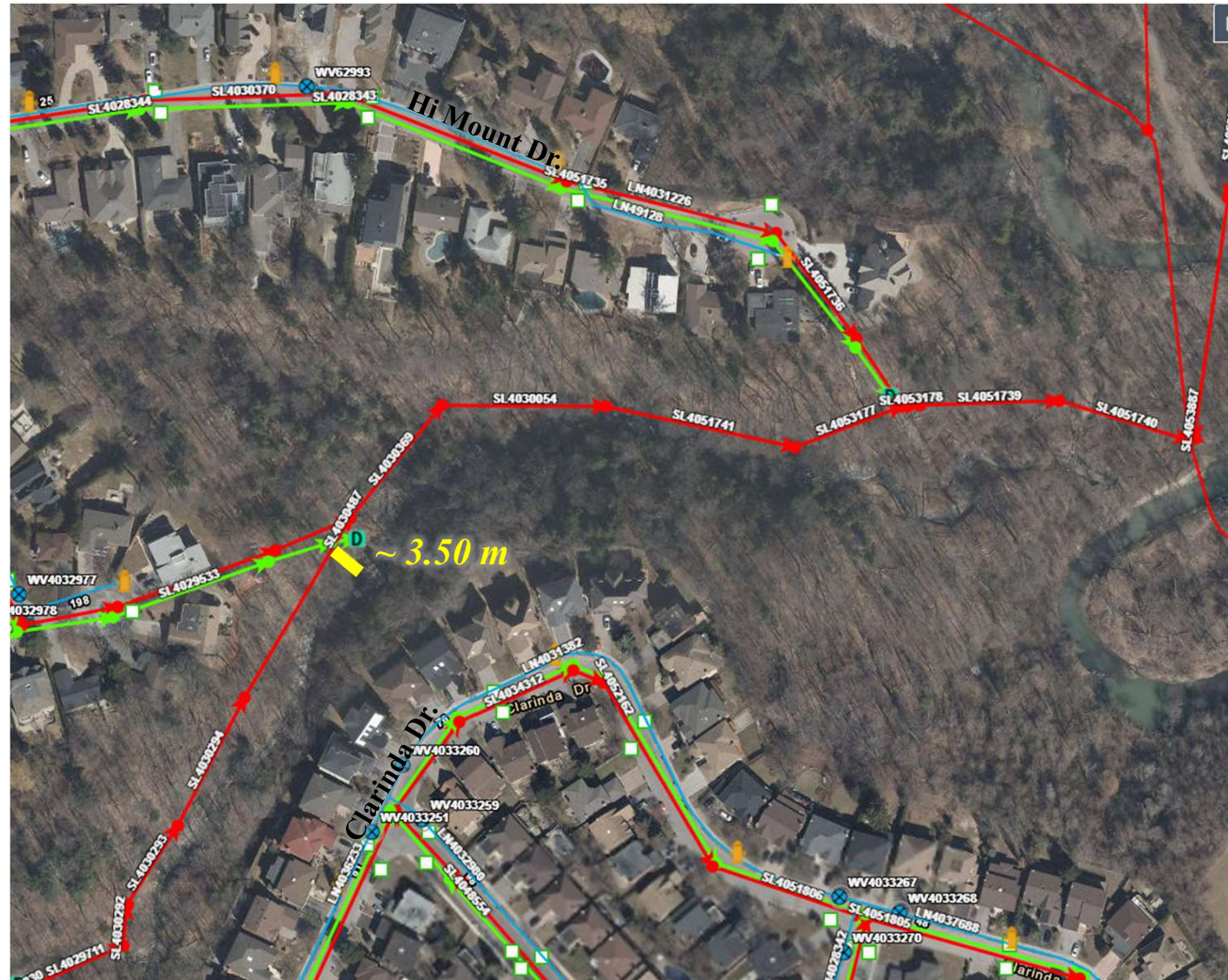
Reach: BR1
Asset ID: SL4051741
Diameter: 300 mm
Material: Asbestos Cement
Construction Year: 1977

Horizontal Offset: 3.00 m
Radius of Curvature (R_c): 20.22 m
Width (w): 2.74 m
 $R_c / w = 7.38$
Bank Protection Works:
Armourstone
Condition of Bank Protection Works:

Sewer parallel to Blue Ridge Creek with Armourstone and boulder bank protection.

Storm Sewer Line Watermain
Sanitary Sewer Line Storm Sewer Outfall

Sanitary Sewer Lateral Risk #19



Asset Characteristics

Reach: BR1

Asset ID:

MH4825114957

SL4030369

Diameter: 300 mm

Material: Asbestos Cement

Construction Year: 1977

Lateral Risk Assessment

Horizontal Offset: 3.50 m

Radius of Curvature (R_c): 35.66 m

Width (w): 2.74 m

$R_c / w = 13.01$

Bank Protection Works: None

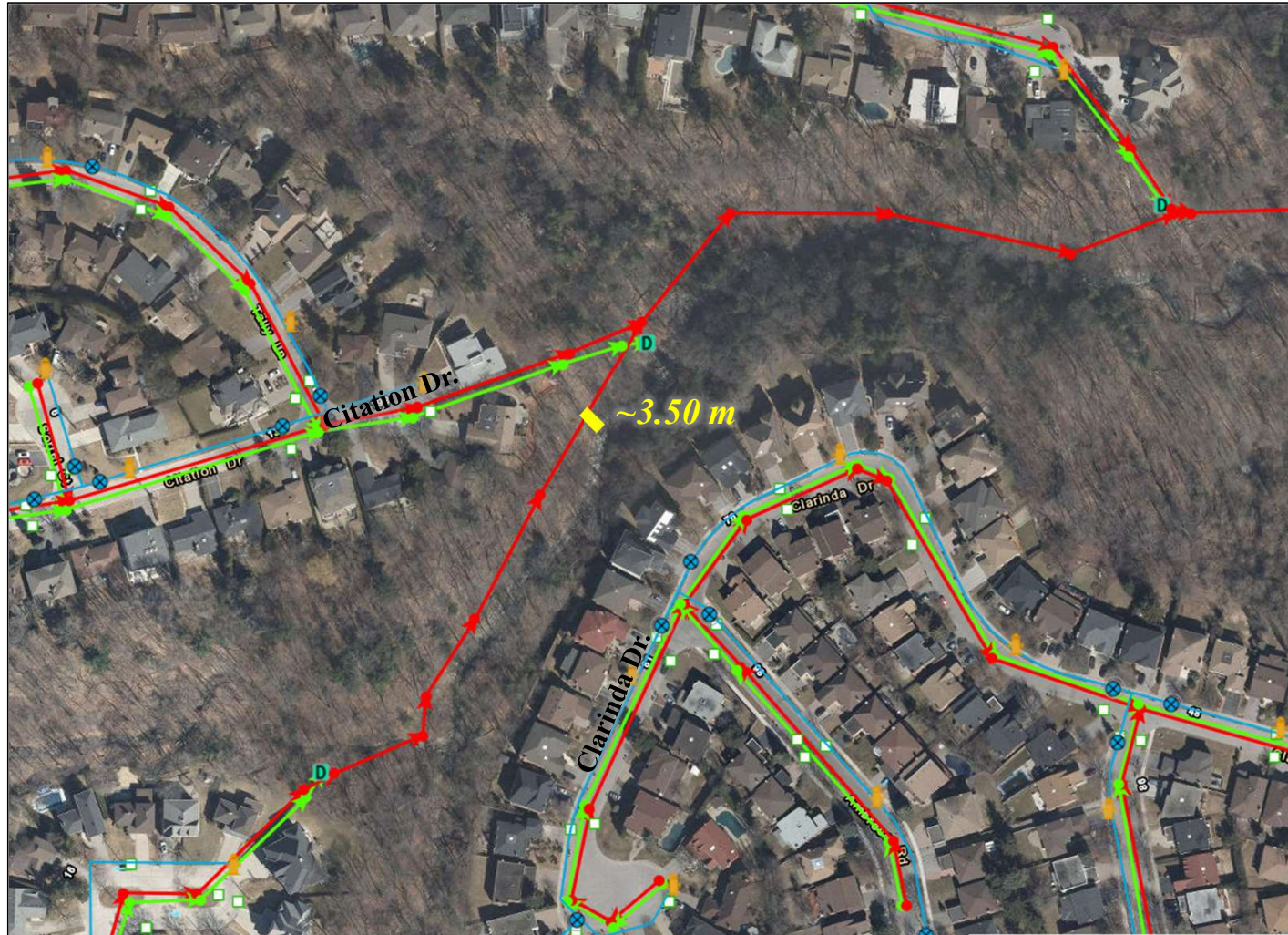
Condition of Bank Protection Works: N/A

Additional Comments

Sewer parallel to Blue Ridge Creek. The closest point of contact is at an unarmoured eroding bank.

-  Storm Sewer Line
-  Sanitary Sewer Line
-  Watermain
-  Storm Sewer Outfall

Sanitary Sewer Lateral Risk #20



Asset Characteristics

Reach: BR1

Asset ID: SL4030487

Diameter: 300 mm

Material: Asbestos Cement

Construction Year: 1977

Lateral Risk Assessment

Horizontal Offset: 3.5 m

Radius of Curvature (R_c): 15.61 m

Width (w): 2.74 m

$R_c / w = 5.70$

Bank Protection Works: None

Condition of Bank Protection

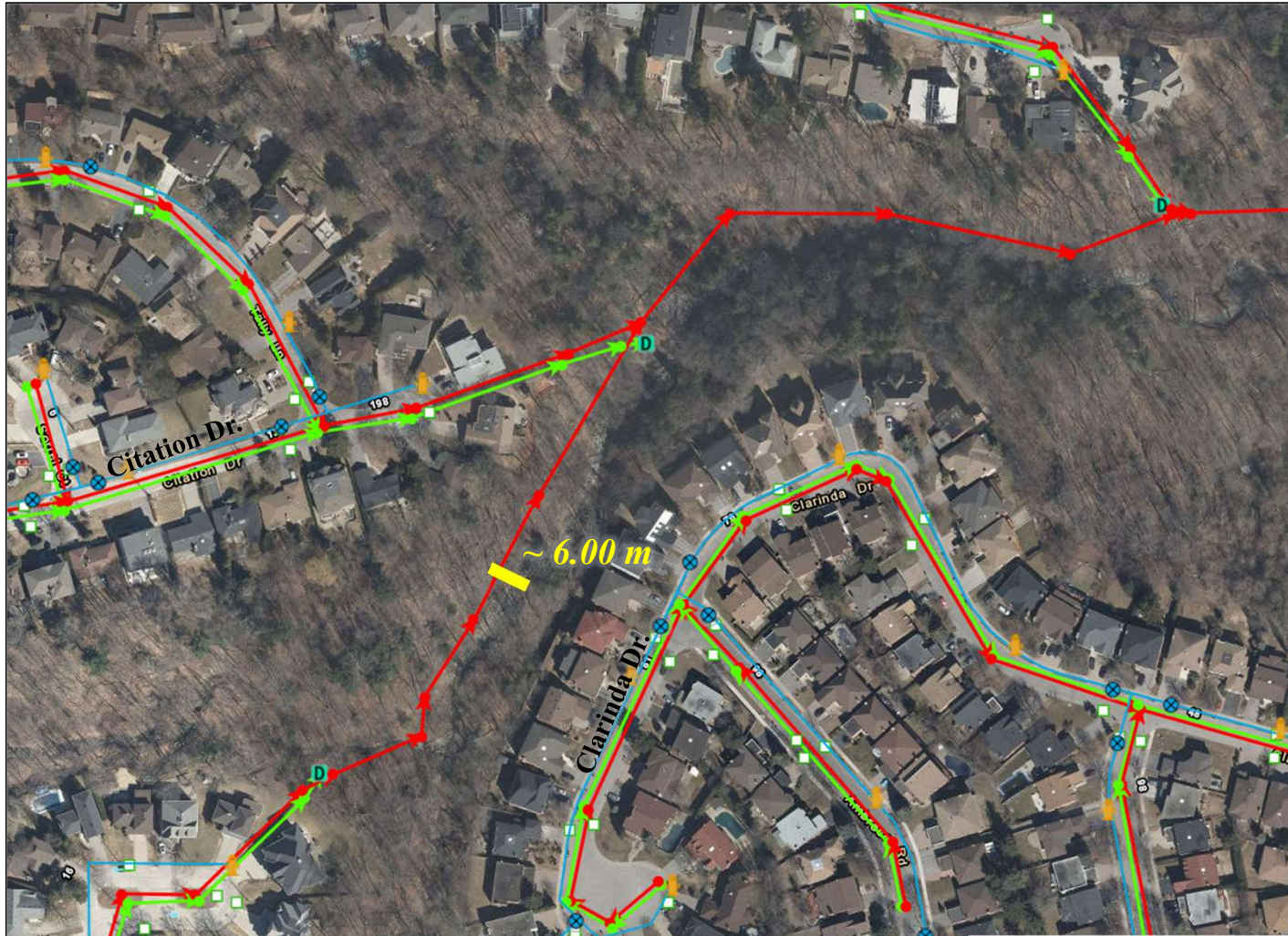
Works: N/A

Additional Comments

Entire valley corridor is area of active bank and slope erosion.



Sanitary Sewer Lateral Risk #21



Asset Characteristics

Reach: BR1

Asset ID: SL4030294

Diameter: 300 mm

Material: Asbestos Cement

Construction Year: 1977

Lateral Risk Assessment

Horizontal Offset: 6.00 m

Radius of Curvature (R_c): 14.72 m

Width (w): 2.74 m

$R_c / w = 5.37$

Bank Protection Works:

Armourstone

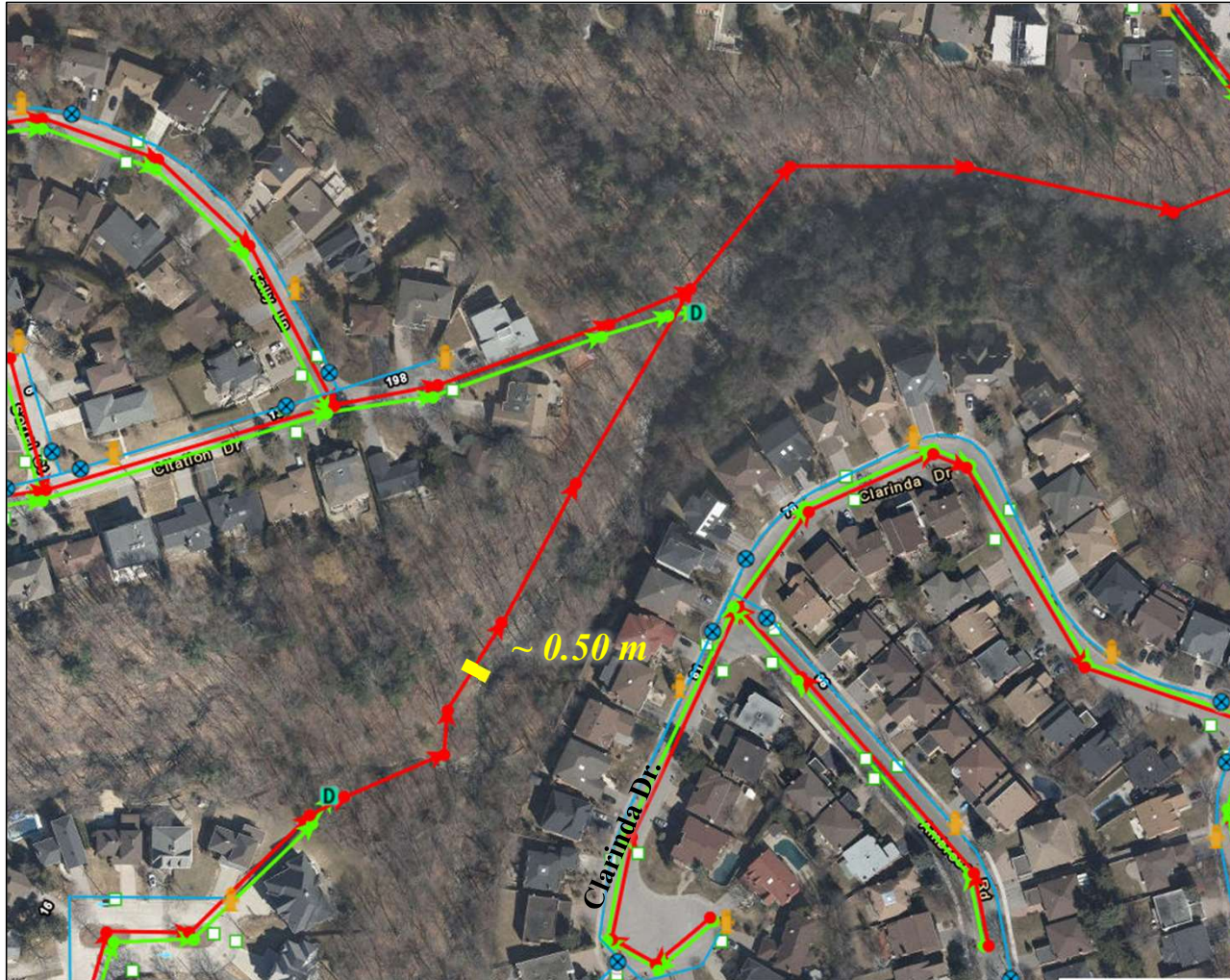
Condition of Bank Protection Works:

Additional Comments

Sewer parallel to Blue Ridge Creek with Armourstone bank protection.



Sanitary Sewer Lateral Risk #22



● Storm Sewer Line
● Sanitary Sewer Line

○ Watermain
■ Storm Sewer Outfall

Asset Characteristics

Reach: BR1

Asset ID: SL4030293

Diameter: 300 mm

Material: Asbestos Cement

Construction Year: 1977

Lateral Risk Assessment

Horizontal Offset: 0.50 m

Radius of Curvature (R_c): 12.29 m

Width (w): 2.74 m

$R_c / w = 4.49$

Bank Protection Works: None

Condition of Bank Protection

Works: N/A

Additional Comments

Entire valley corridor is area of active bank and slope erosion.