



TOWNSHIP OF WELLINGTON NORTH

TO: Mayor and Council
DATE: 2024-09-23
MEETING TYPE: Open
SUBMITTED BY: Tammy Stevenson, Senior Project Manager
REPORT #: INF 2024-016
REPORT TITLE: Fergus Street North Reconstruction Update

RECOMMENDED MOTION

THAT the Council of the Corporation of the Township of Wellington North receive Report INF 2024-016 being a report on the Fergus Street North Reconstruction Update.

PREVIOUS REPORTS/BY-LAWS/RESOLUTIONS

OPS 2023-043 Public Information Centre – Capital Projects

BACKGROUND

On October 24 and October 25, 2023, the Township hosted a Public Information Centre (PIC) for Capital Projects at the Mount Forest and District Sports Complex and Arthur Community Centre Hall respectively.

Fergus Street North Reconstruction project between Sligo Road East and Wellington Street East were on display at the PIC for residents and stakeholder's review. A survey was made available to solicit feedback on the capital projects that were presented. A large portion of the survey feedback was concerns over the removal of large mature trees.

Adjustments to the design of Fergus Street North Reconstruction Phase 1 project between Wellington Street East and Birmingham Street East were made to limit the impact to trees by shifting the sidewalk from the east side to the west side of Fergus Street. Additionally, municipal services to properties were adjusted to limit the impact to trees. These design changes allowed Phase 1 of Fergus Street North Reconstruction to be tendered and constructed in 2024 with no trees removals.

ANALYSIS

Township staff and the Township's Consulting Engineers, B. M. Ross and Associates Limited (BMROSS), had a series of meetings to discuss this project to bring it closer to design completion. The design update reviewed Design Alternatives Options for the reconstruction of

Fergus Street North to minimize the impact to trees as outlined in BMROSS's memo found in Attachment 1. Highlights of design considerations and revisions are as follows:

Design Objectives

- Replacement of aging infrastructure (ie. watermain and sanitary sewers) to align with Asset Management Planning
- Design Fergus Street North roadway cross-section to urban standards
- Improve drainage with the installation of new storm sewers and structures
- Limit the impact to trees, where possible

Roadway

Fergus Street North is classified as a local road in our 2023 Road Needs Study. Roadway design continues to follow the Municipal Servicing Standards (MSS). Roadway includes two through lanes of travel, one in each direction, with a road width of 8.5m, curb and gutter, storm sewers, grass boulevard, and sidewalk located on the west side of Fergus Street North. Road alignment, including sidewalk, was reviewed to ensure that continuous flow connection between each block is being maintained. Roadway width on Fergus Street North between Sligo Road and Durham Street has been narrowed from the 8.5 m standard width to 7.5 m width to limit the impacts to trees.

Sidewalk

Sidewalk location was reviewed and shifted from the east side as shown at the PIC to the west side of Fergus Street North to limit the impacts to trees and provide continuous pedestrian movement.

Trees

Service locations have been reviewed and adjusted where possible to limit the disturbed tree roots areas for installation of municipal services (water, sanitary and storm) to private property during construction resulting with bends being installed on the service line. Coupled with the review of service locations, shifting the sidewalk to the west side of Fergus Street North, adjusting proposed storm sewer alignment and narrowing of sections of roadways, impacts to trees have been reduced and results are illustrated in Table 1 below. Revised design approach results in an no impacts to all nineteen (19) tree conflicts that were shown in the PIC drawings with a trunk diameter of 500 mm and larger.

Design	Trunk Size (mm)				Total Proposed Tree Removals
	0 to 150	200 to 450	500 to 950	1000+	
PIC Fergus Street N Design Phase 1 (Wellington to Birmingham)	0	3	0	0	3
PIC Fergus Street N Design Phase 2 (Birmingham to Durham)	0	5	3	3	11
PIC Fergus Street N Design Phase 3 (Durham to Sligo)	0	6	3	10	19
Fergus Street N Design Update Phase 1 (Wellington to Birmingham)	0	0	0	0	0
Fergus Street N Design Update Phase 2 (Birmingham to Durham)	2	5	0	0	7
Fergus Street N Design Update Phase 3 (Durham to Sligo)	0	6	0	0	6

Table 1: Summary of Tree Conflicts Resulting from Design Alternative on Fergus Street North

Next Steps

Letters will be mailed out to property owners within the project limits of Fergus Street North to receive feedback to confirm the placement of their municipal services (ie. water, sanitary and storm) to assist with the completion of the final design and tender package.

A survey will be posted to solicit feedback on the Fergus Street North design, and an electronic version will be available on the Township website with paper forms available at the municipal offices in Kenilworth and the Mount Forest Arena Upper Office or mailed out upon request to ensure survey is accessible to all residents. Survey will be open Wednesday September 25 and comments will be received until Wednesday October 9, at which time comments will be consolidated and brought to Council meeting with an aim at finalizing the Fergus Street North Reconstruction design.

CONSULTATION

Brooke Lambert, Chief Administrative Officer
 Jerry Idialu, Director of Finance/Treasurer
 Dale Clark, Manager of Transportation Services
 Corey Schmidt, Manager of Environmental Services
 B.M. Ross and Associates Limited

FINANCIAL CONSIDERATIONS

There are no financial consideration in receiving this report for information.

ATTACHMENTS

Attachment 1 – Memorandum, Re: Fergus Street Reconstruction Design Update, dated September 17, 2024, prepared by B.M. Ross and Associates Limited

STRATEGIC PLAN 2024

- Shape and support sustainable growth
How:
- Deliver quality, efficient community services aligned with the Township's mandate and capacity
How:
- Enhance information sharing and participation in decision-making
How:
- N/A Core-Service

Approved by: Brooke Lambert, Chief Administrative Officer

B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
Box 1179, 206 Industrial Drive
Mount Forest, ON, Canada N0G 2L0
p. (519) 323-2945 www.bmross.net

Memo

From: Izaak De Jager
idejager@bmross.net

To: Tammy Stevenson, Senior Project Manager
Township of Wellington North
7490 Sideroad 7 W, Box 125
Kenilworth, ON N0G 2E0

Re: Fergus Street Reconstruction Design Update

File #: 21340A, 21340B

Date: September 17, 2024

1.0 Introduction

The following memo is intended to convey design changes that were carried out to the project noted in the subject line following feedback from the PIC meeting held in October 2023. During that meeting, a preliminary design was presented for the complete reconstruction of three blocks of Fergus Street, namely from Wellington Street to Sligo Road. It is noted that this section of Fergus Street is historic with many older homes and large mature trees. During the PIC meeting several concerns were expressed regarding the number of trees that were shown requiring removal on the preliminary design drawings presented. These preliminary drawings are included in Appendix A.

2.0 Tree Conflict Evaluation and Disclaimer

For both the design presented at the 2023 PIC and the current (revised) design, the anticipated tree conflicts were determined based solely on our engineering judgement upon an evaluation of the extents of the trenching work required to install the proposed works. Simply put, if a tree trunk was anticipated to lie within the proposed excavation, the tree was designated for removal – otherwise it was designated to remain. We note that no arborist data was consulted, and we cannot guarantee the long-term health of a tree that is not designated for removal. A typical rule of thumb is that the root system of a tree extends underground horizontally to the dripline of the tree. It is important to note that given this reality, the revised design will certainly impact the root system of numerous trees. We note that especially for the Durham-Sligo block, the drip lines of many trees extend well out into the proposed roadway and thus root impacts to these and may other trees is anticipated.

3.0 Preliminary Design Presented at PIC in 2023

The tree conflicts noted in the preliminary drawings presented at the PIC in 2023 were mainly due to the location of the proposed sidewalk and the proposed layout of municipal services (water, sanitary, storm). It should be noted that since the project is a re-construction scenario, water and sanitary services are existing and any replacement services must connect to the existing utility on the private side; this fact practically limits the options for service placement. The proposed design illustrated sidewalk on the east side of the road for all three blocks, and an asphalt width of 8.5m as per Township standards. The servicing was drawn in general as per Township standards, and each service was designed to be placed perpendicular to the running line of the main line utility. This servicing approach is typically the most cost-effective, and operationally it is desirable to have straight service lines. As a result of the design approach noted above, the number of trees identified for removal were as follows:

Trunk Size (mm)	Number of Tree Conflicts (PIC Drawings 2023)			
	Wellington to Birmingham	Birmingham to Durham	Durham to Sligo	TOTAL
0 to 150	0	0	0	0
200 to 450	3	5	6	14
500-950	0	3	3	6
1000+	0	3	10	13

4.0 Design Changes

As a result of the design presented at the PIC, the Township received significant negative feedback concerning the tree removals indicated. As such, the Township directed BMROSS to investigate options to reduce the number of tree removals required. BMROSS notes the following design changes which have been implemented.

- For all three blocks, the proposed sidewalk was switched to the west side of the road. This avoided conflicts with several large (1000mm+ trunk) trees along the Durham-Sligo block.
- For all three blocks, a non-standard design approach for servicing was implemented wherein service piping was permitted to be deflected on the private side of the right-of-way (ROW) within acceptable limits.
- For the Durham-Sligo block, the proposed road width was reduced to 7.5m from the standard 8.5m. As a result, parking on the east side of the road for this block will need to be prohibited.
- For a portion of the Durham-Sligo block, the running line of the proposed storm sewer was shifted to the west from the previous design to minimize damage to tree roots during installation.

The approach noted in the first two bullet points above was successfully implemented for the Wellington-Birmingham block, and the reconstruction of this block was recently completed and did not include any tree removals. A preliminary drawing set of the current design for the northern two (2) blocks (Birmingham to Sligo) is included in Appendix B. The anticipated conflicts for the northern two blocks are described in the following section.

5.0 Tree Conflicts After Change in Design Approach

Although the changes in the design approach did not completely eliminate anticipated tree conflicts, the number has been significantly reduced, especially with regards to the largest trees on the Durham-Sligo block. The anticipated conflicts are noted in the table below.

Trunk Size (mm)	Number of Tree Conflicts (Revised Design)			
	Wellington to Birmingham (Already Built)	Birmingham to Durham	Durham to Sligo	TOTAL
0 to 150	0	2	0	2
200 to 450	0	5	6	11
500-950	0	0	0	0
1000+	0	0	0	0

We note that for trees with a trunk diameter of 500mm and larger, the revised design approach results in the elimination of all nineteen (19) tree removals that were shown in the PIC 2023 drawings.

6.0 Negative Impacts of Revised Design

While the positive aspects of the revised design are obvious (minimize tree removals), it is important to also consider any negative impacts. We note some of these below:

- The revised design results in sanitary services that will include bends in order to navigate around the trees. Although having bends in a sanitary service is not prohibited by the Ontario Building Code (OBC), it is still somewhat undesirable as bends can encourage build-up and potential blockages. As these proposed bends are to be located on the private side, we suggest that homeowners be made aware of the trade-off associated with installing bends in their service in order to preserve a tree, and should be advised to consider hiring a plumber to install a clean-out access on their service if one does not already exist. The homeowner should also be made aware that they are responsible for the portion of the service which lies on their property, which would include the section with the bends.
- The revised design results in more-than-typical excavation, pipe work and restoration required on private property which will increase costs. Typically in reconstruction projects the work may just encroach onto private property in order to reconnect a service or to re-grade a driveway. However, since the services

are to be routed around the trees, this will necessarily entail additional excavation and restoration that wouldn't normally be required. An illustration of this is shown in Appendix C.

- The revised design may result in locations where the sanitary service and water service must run in the same trench. In order to achieve MECP requirements for vertical separation between water and sewer lines, this would require the sanitary service (and potentially the main itself) to be laid lower than would be otherwise required if the services could be separated by the required 2.5m horizontally. Installing the infrastructure at a lower elevation is more costly.
- The revised design involves additional storm structures on the Durham-Sligo block due to the running line of the storm sewer being pushed westward.

7.0 Conclusions and Recommendations

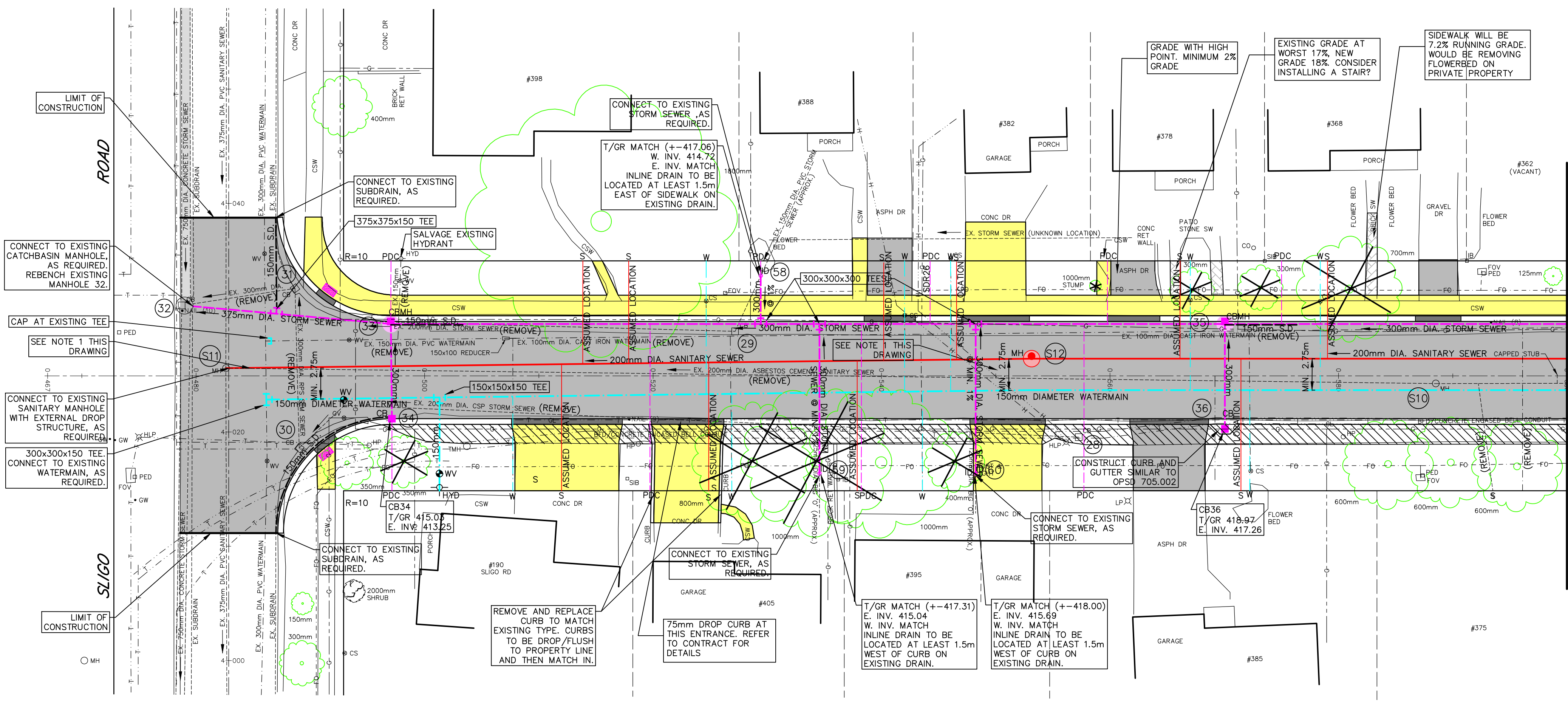
Our conclusions and recommendations are as follows:

- The revised design approach noted in Section 3.0 results in a significant reduction in anticipated tree removals (Section 4.0). We believe that this does address the concerns raised in the 2023 PIC.
- While it is not ideal to have bends in a sanitary service it is not prohibited under the OBC. Affected homeowners should be made aware of the trade-offs if bends are required, should be advised to consider hiring a plumber to install a clean-out access on their service if one does not exist already, and also be made aware that they own the reconstructed portion of the service located on their side of the ROW line.
- The revised design approach will result in more-than-typical excavation, pipe work and restoration required on private property which will increase costs.
- Where trees are removed, a replacement small caliper tree has typically been offered to be planted at the Township's expense on the homeowner's property as long as it won't conflict with services or other utilities.

We note that the proposed design should at this time be considered preliminary. It is possible that as the design progresses, the number of anticipated conflicts may change.

We trust that the above memo meets your needs and provides clarity and direction on this matter.

APPENDIX A
2023 PIC DRAWINGS



ALL WATER SERVICES INSTALLED ARE TO BE MUNICIPEX.

REFER TO NOTES ON DRAWING NO. 5 WHICH ALSO APPLY TO THIS DRAWING.

NOTE 1: THE EXISTING SOUTH INVERT AT MH S11 SHALL BE IDENTIFIED PRIOR TO INSTALLING SEWER SECTION FROM MHS11 TO MHS12 AND MHS12 TO MHS13 TO ENSURE PROPOSED SEWER IS DEEPER THAN EXISTING SEWER AT ALL POINTS. REFER TO NOTE ON THIS PROFILE.

STORM M.H. & C.B. DATA				
No	Station	O/S	Desc.	Grate
33	0+497.0	LT	701.010	400.110 (S)
34	0+497.1	RT	705.010	400.110 (S)
35	0+570.1	LT	701.010	400.110 (S)
36	0+570.1	RT	705.010	400.110 (S)
58	0+529.4	LT	INLINE	
32	0+478.7	LT	ADJUST	
28	0+557.3	LT	REMOVE	
29	0+527.2	LT	REMOVE	
30	0+489.0	RT	REMOVE	
31	0+488.7	LT	REMOVE	
59	0+534.6	RT	INLINE	
60	0+548.2	RT	INLINE	

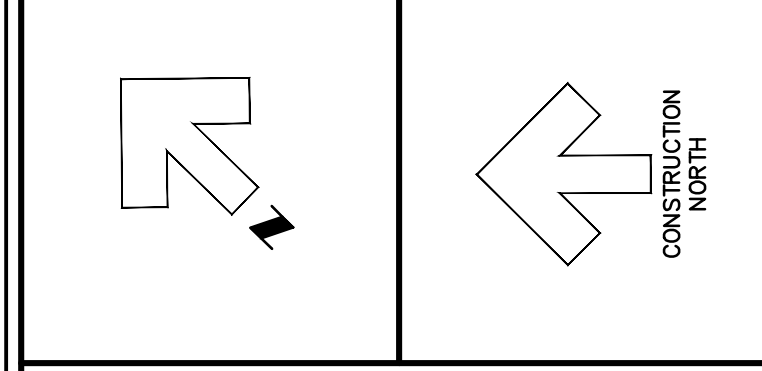
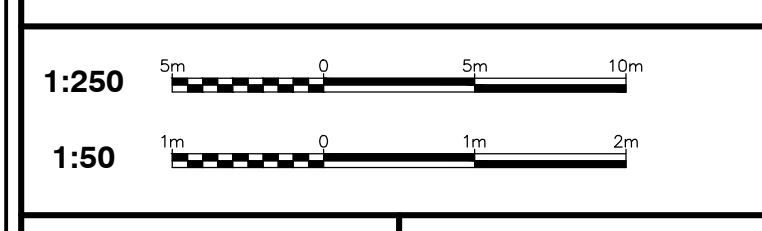
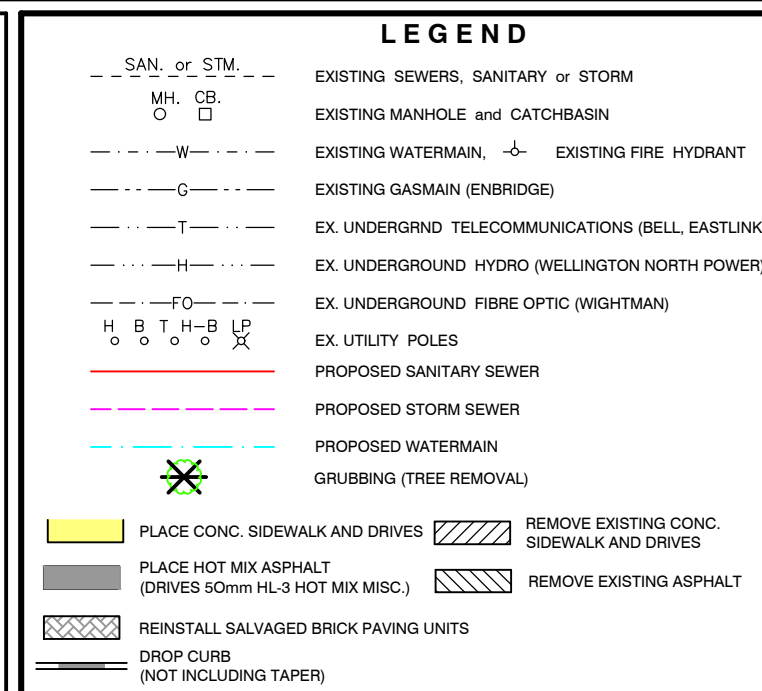
(S) DENOTES SUMP

STORM SEWER DATA				
No to No	Size	Type	Class	Length
37 - 35	300	HDPE	CSA B182.8	64.6
36 - 35	300	HDPE	CSA B182.8	9.5
35 - 33	300	HDPE	CSA B182.8	73.0
34 - 33	300	HDPE	CSA B182.8	8.3
33 - 32	375	HDPE	CSA B182.8	17.4
58 - TEE	300	HDPE	CSA B182.8	4.3
59 - TEE	300	HDPE	CSA B182.8	13.1
60 - TEE	300	HDPE	CSA B182.8	13.1

SANITARY M.H. DATA				
No	Station	O/S	Desc.	Grate
S12	0+553.1	LT	701.010	401.010A (B)
S11	0+482.6	LT	ADJUST	(E)
S10	0+588.5	RT	REMOVE	

(B) DENOTES BENCHING
(E) DENOTES EXTERNAL DROP STRUCTURE

SANITARY SEWER DATA				
No to No	Size	Type	Class	Length
S13-S12	200	PVC	SDR35	71.4
S12-S11	200	PVC	SDR35	70.6



NOTE

The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

BENCHMARK INFORMATION

?
?
?

BENCHMARK INFORMATION

?
?
?

Design By: J.A.V. Checked By: I.S.D.

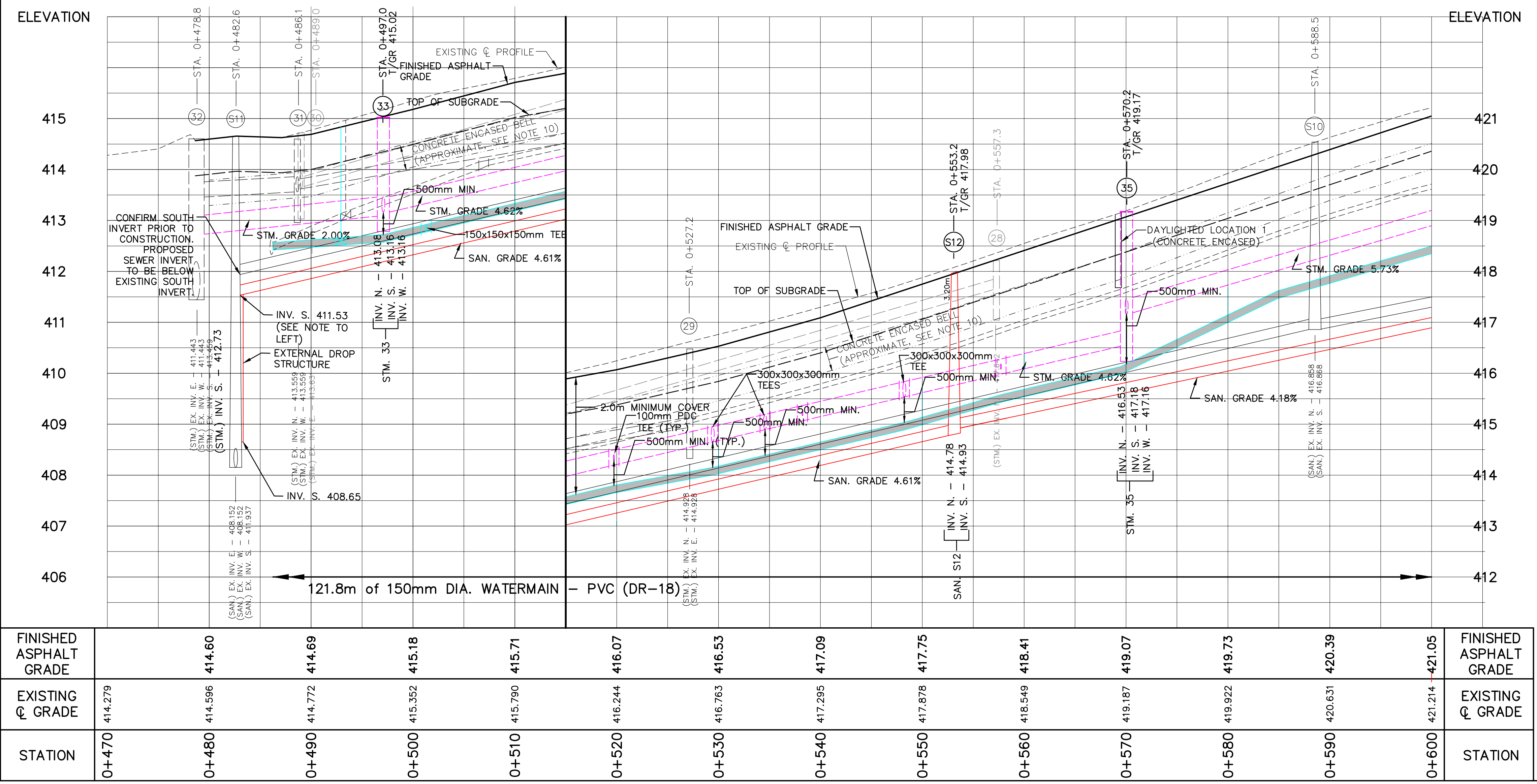
PRELIMINARY

No.	DATE	REVISION
1	Oct. 11, 2023	Issued to Client for Review (Draft Design)
2	Oct. 24, 2023	Issued for Public Information Centre



TOWNSHIP OF WELLINGTON NORTH
FERGUS STREET RECONSTRUCTION
 Plan and Profile from Sligo Road to Sta. 0+600

Contract No. ?	Project No. 21340
Scale (24x36) Horizontal: 1:250 Vertical: 1:50	Drawing No. 1 of 7



FINISHED ASPHALT GRADE		414.60	414.69	415.18	415.71	416.07	416.53	417.09	417.75	418.41	419.07	419.73	420.39	421.05	FINISHED ASPHALT GRADE
EXISTING G. GRADE	414.279	414.596	414.772	415.352	415.790	416.244	416.763	417.295	417.878	418.549	419.187	419.922	420.631	421.214	EXISTING G. GRADE
STATION	0+470	0+480	0+490	0+500	0+510	0+520	0+530	0+540	0+550	0+560	0+570	0+580	0+590	0+600	STATION

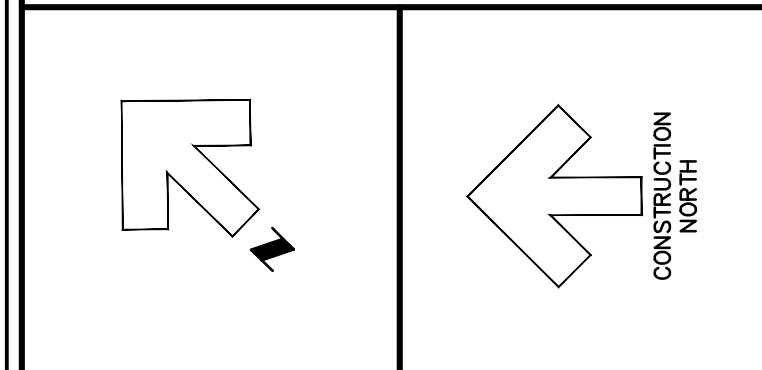
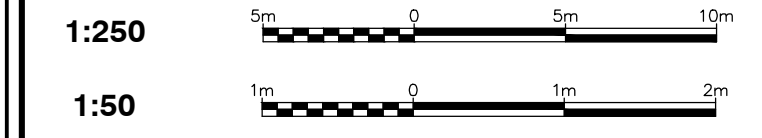
STORM M.H. & C.B. DATA				
No	Station	O/S	Desc.	Grate
37	0+634.6	LT	701.010	400.110 (S)
38	0+634.6	RT	705.010	400.110 (S)
39	0+700.0	LT	701.010	400.110 (B)

STORM SEWER DATA				
No to No	Size	Type	Class	Length
35 - 37	300	HDPE	CSA B182.8	64.6
37 - 38	300	HDPE	CSA B182.8	9.6
37 - 39	300	HDPE	CSA B182.8	65.5
39 - 40	300	HDPE	CSA B182.8	83.9

SANITARY SEWER DATA				
No to No	Size	Type	Class	Length
S12-S13	200	PVC	SDR35	71.4
S13-S14	200	PVC	SDR35	75.5
S14-S16	200	PVC	SDR35	95.4

SANITARY M.H. DATA				
No	Station	O/S	Desc.	Grate
S13	0+624.5	RT	701.010	401.010A (B)
S14	0+700.0	LT	701.010	401.010A (B)

LEGEND	
--- SAN. or STM. M.H. CB.	EXISTING SEWERS, SANITARY or STORM
---	EXISTING MANHOLE AND CATCHBASIN
---	EXISTING WATERMAIN
---	EXISTING GASMAIN (ENERGIZED)
---	EX. UNDERGROUND TELECOMMUNICATIONS BELL (EASTING)
---	EX. UNDERGROUND HYDRO (WELLINGTON NORTH POWER)
---	EX. UNDERGROUND FIBRE OPTIC (WIGHTMAN)
---	EX. UTILITY POLES
---	PROPOSED SANITARY SEWER
---	PROPOSED STORM SEWER
---	PROPOSED WATERMAIN
---	GRUBBERING (TREE REMOVAL)
---	REMOVE EXISTING CONC. SIDEWALK AND DRIVES
---	REMOVE EXISTING ASPHALT SIDEWALK AND DRIVES
---	REMOVE EXISTING ASPHALT
---	REINSTALL SALVAGED BRICK PAVING UNITS
---	DROP CURB (NOT INCLUDING TAPER)



NOTE
The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

BENCHMARK INFORMATION
B.M. ELEV 414.746
CST Nail & Flag in NE face of hydro pole on south side of road at station 1+001 (#196 Birmingham Street)

B.M. ELEV 414.998
CST Nail & Flag in NE face of hydro pole on south side of road at station 1+092 (#161 Fergus Street)

Design By: J.A.V. Checked By: I.S.D.

PRELIMINARY

No.	DATE	REVISION
1.	Oct. 11, 2023	Issued to Client for Review (Draft Design)
2.	Oct. 24, 2023	Issued for Public Information Centre

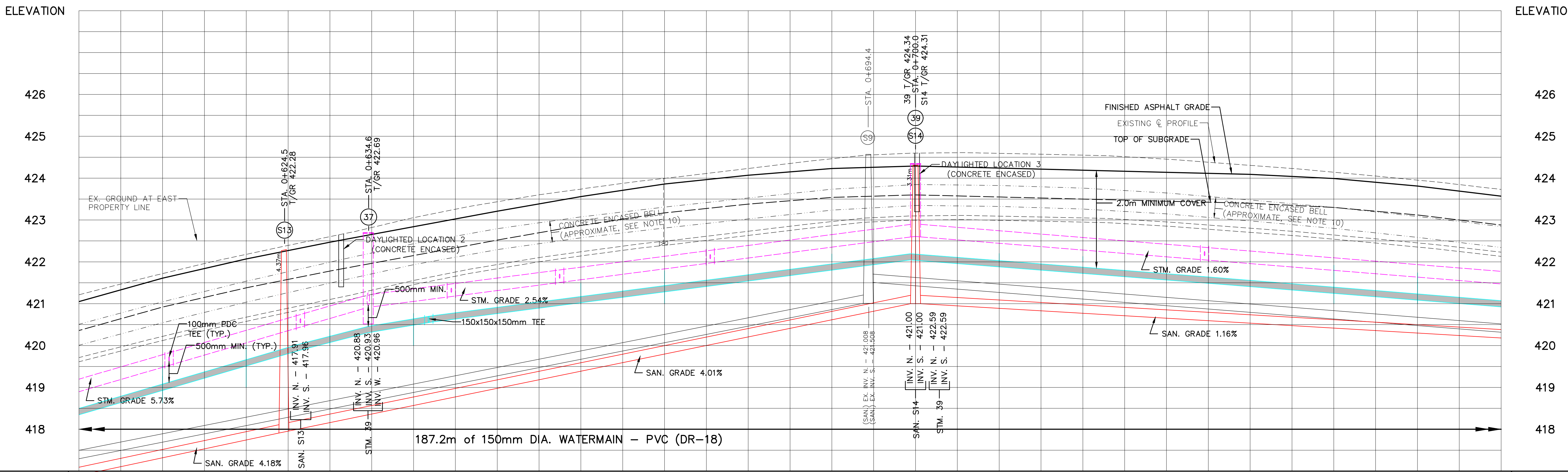
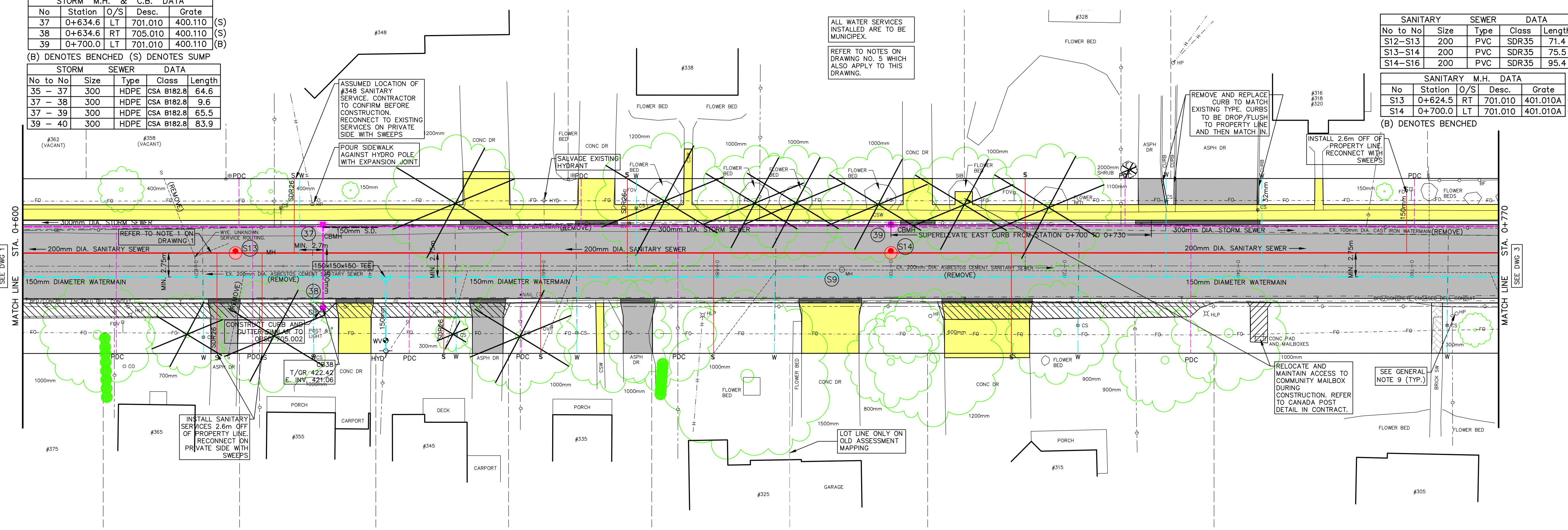


Goderich Mount Forest Sarnia

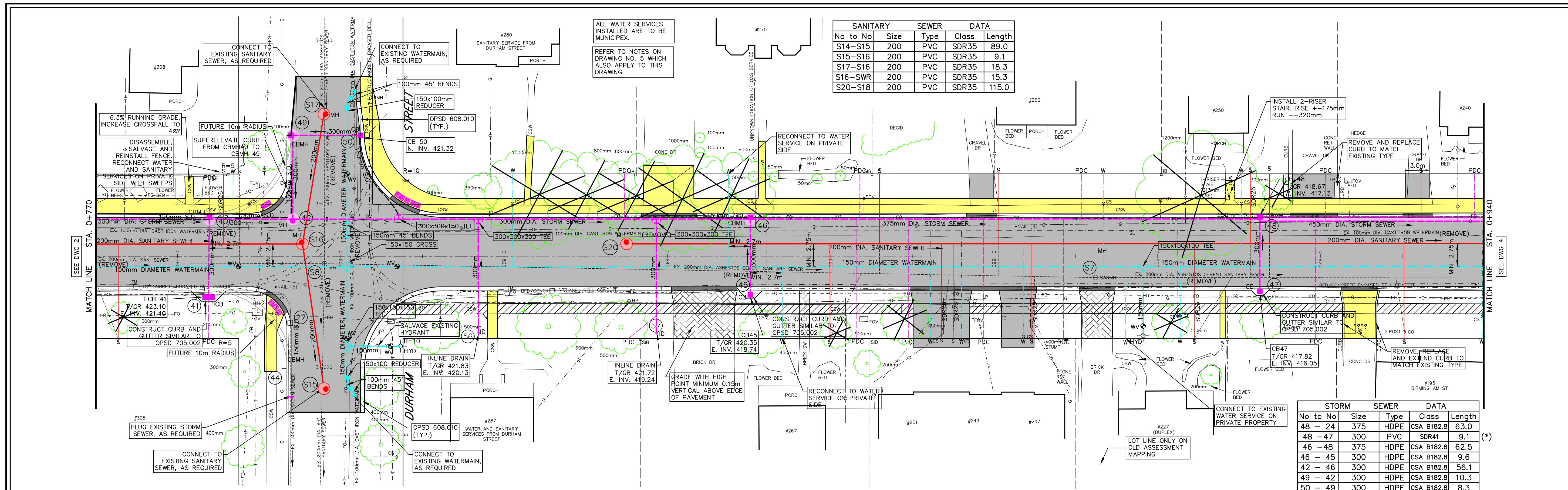


TOWNSHIP OF WELLINGTON NORTH
FERGUS STREET RECONSTRUCTION
Plan and Profile from Sta. 0+650 to Sta. 0+770

Contract No. ?	Project No. 21340
Scale (24x36) Horizontal: 1:250 Vertical: 1:50	Drawing No. 2 of 7

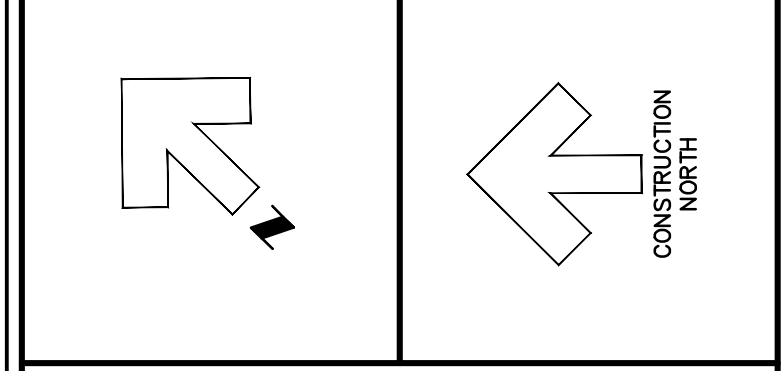
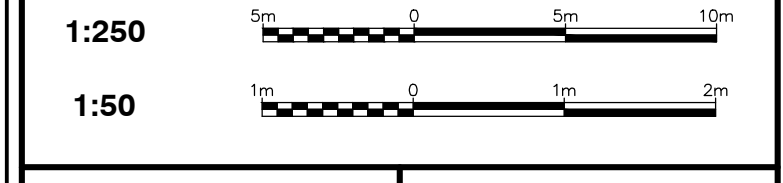


FINISHED ASPHALT GRADE	421.05	421.61	422.07	422.47	422.84	423.21	423.56	423.86	424.07	424.23	424.29	424.24	424.19	424.14	424.09	423.99	423.81	423.57
EXISTING ϕ GRADE	421.214	421.720	422.179	422.602	423.056	423.436	423.738	423.995	424.231	424.464	424.597	424.592	424.550	424.454	424.305	424.141	423.952	423.731
STATION	0+600	0+610	0+620	0+630	0+640	0+650	0+660	0+670	0+680	0+690	0+700	0+710	0+720	0+730	0+740	0+750	0+760	0+770



LEGEND

- SAN. or STM. M.H. CB
- EXISTING SEWERS, SANITARY or STORM
- EXISTING MANHOLE and CATCHBASIN
- EXISTING WATERMAIN
- EXISTING FIRE HYDRANT
- EXISTING GASMAIN (ENERGIZED)
- EX. UNDERGROUND TELECOMMUNICATIONS (BELL, EASTLINK)
- EX. UNDERGROUND HYDRO (WELLINGTON NORTH POWER)
- EX. UNDERGROUND FIBRE OPTIC (WIGHTMAN)
- EX. UTILTY POLES
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED WATERMAIN
- GRUBBER (TREE REMOVAL)
- PLACE CONC. SIDEWALK AND DRIVES
- REMOVE EXISTING CONC. SIDEWALK AND DRIVES
- PLACE HOT MIX ASPHALT (DRIVES 50mm H/L HOT MIX MISC.)
- REMOVE EXISTING ASPHALT
- REINSTALL SALVAGED BRICK PAVING UNITS
- DROP CURB (NOT INCLUDING TAPER)



NOTE
The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

BENCHMARK INFORMATION

B.M. ELEV 414.746
CST Nail & Flag in NE face of hydro pole on south side of road at station 1+001 (#196 Birmingham Street)

B.M. ELEV 414.998
CST Nail & Flag in NE face of hydro pole on south side of road at station 1+092 (#161 Fergus Street)

Design By: J.A.V. Checked By: I.S.D.

PRELIMINARY

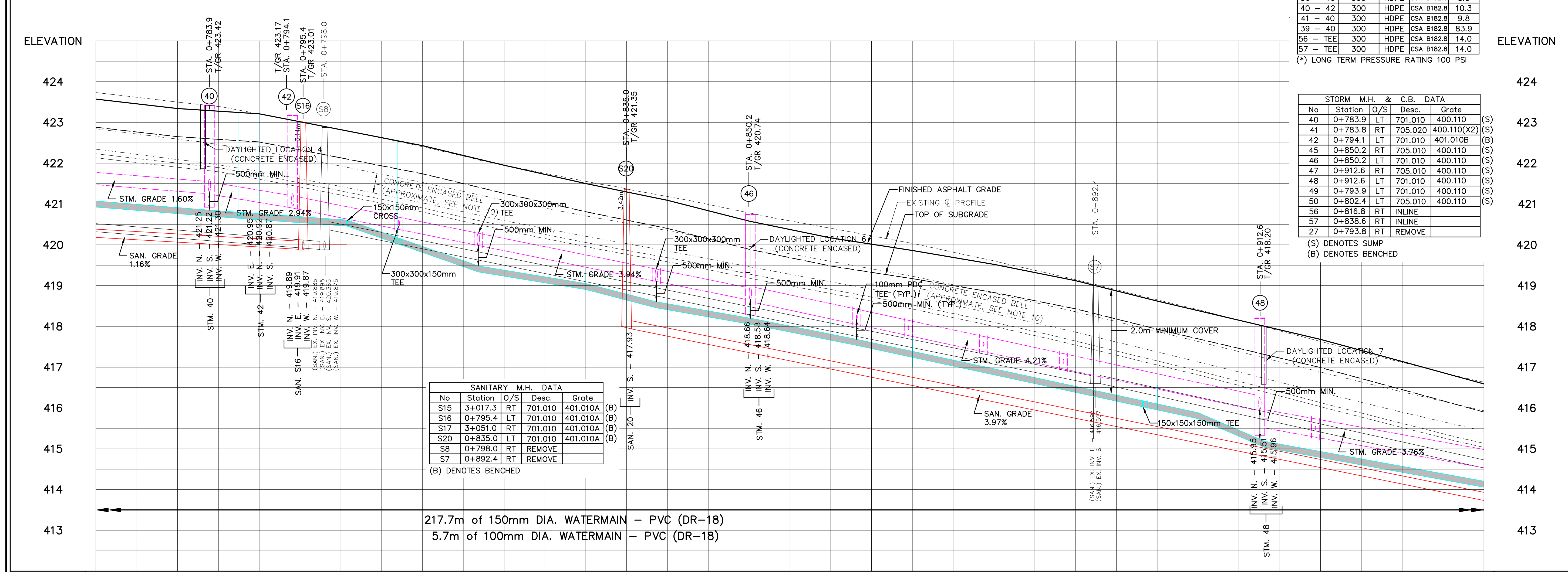
No.	DATE	REVISION
1.	Oct. 11, 2023	Issued to Client for Review (Draft Design)
2.	Oct. 24, 2023	Issued for Public Information Centre

(S) DENOTES SUMP
(B) DENOTES BENCHED



TOWNSHIP OF WELLINGTON NORTH
FERGUS STREET RECONSTRUCTION
Plan and Profile from Sta. 0+770 to Sta. 0+940

Contract No. ?	Project No. 21340
Scale (24x36) Horizontal: 1:250 Vertical: 1:50	Drawing No. 3 of 7



FINISHED ASPHALT GRADE	423.57	423.34	423.21	422.82	422.43	421.95	421.50	421.09	420.58	420.17	419.86	419.52	419.12	418.62	418.15	417.68	417.14	416.59	FINISHED ASPHALT GRADE
EXISTING Q GRADE	423.731	423.497	423.207	422.819	422.403	421.952	421.555	421.183	420.782	420.405	420.033	419.605	419.144	418.652	418.152	417.631	417.119	416.632	EXISTING Q GRADE
STATION	0+770	0+780	0+790	0+800	0+810	0+820	0+830	0+840	0+850	0+860	0+870	0+880	0+890	0+900	0+910	0+920	0+930	0+940	STATION

SANITARY SEWER DATA	SEWER DATA	DATA		
No to No	Size	Type	Class	Length
S6 - S1	200	PVC	SDR35	15.7
S18-S19	200	PVC	SDR35	33.1
S19 - S1	200	PVC	SDR35	6.4
S20-S18	200	PVC	SDR35	115.0

ALL WATER SERVICES INSTALLED ARE TO BE MUNICIPEX.

SANITARY M.H. DATA				
No	Station	O/S	Desc.	Grate
S1	0+989.1	RT	ADJUST	401.010A (B)
S2	0+989.4	RT	REMOVE	
S3	1+089.9	RT	REBUILD	401.010A
S6	1+986.4	LT	701.010	401.010A (B)
S21	0+983.1	LT	701.010	401.010A (B)
S18	0+950.0	LT	701.010	401.010A (B)

(B) DENOTES BENCHMARK

STORM SEWER DATA (2 OF 2)				
No to No	Size	Type	Class	Length
52 - 53	300	HDPE	CSA B182.8	7.0
53 - 54	300	HDPE	CSA B182.8	7.4
54 - 61	300	HDPE	CSA B182.8	22.3
61 - SEWER	300	HDPE	CSA B182.8	10.0
55 - 20	300	HDPE	CSA B182.8	4.9
48 - 24	375	HDPE	CSA B182.8	63.0

STORM SEWER DATA (1 OF 2)				
No to No	Size	Type	Class	Length
1 - 2	300	HDPE	CSA B182.8	10.2
18 - 3	525	HDPE	CSA B182.8	13.8
16 - 6	375	HDPE	CSA B182.8	6.3
20 - 6	375	HDPE	CSA B182.8	2.5
23 - 24	300	HDPE	CSA B182.8	8.9
24 - 3	450	HDPE	CSA B182.8	15.5
25 - 18	375	HDPE	CSA B182.8	8.3
51 - 18	450	HDPE	CSA B182.8	20.1

STORM M.H. & C.B. DATA (1 OF 2)				
No	Station	O/S	Desc.	Grate
26	0+985.2	RT	REMOVE	
52	1+024.5	RT	INLINE	
53	1+031.4	RT	INLINE	
54	1+038.8	RT	INLINE	
55	1+033.5	LT	INLINE	
61	1+061.1	RT	INLINE	

REFER TO NOTES ON DRAWING NO. 5 WHICH ALSO APPLY TO THIS DRAWING.

STORM M.H. & C.B. DATA (2 OF 2)				
No	Station	O/S	Desc.	Grate
3	0+991.2	CL	ADJUST	401.010B (B)
4	0+994.4	RT	REMOVE	
5	1+024.5	RT	REMOVE	
6	1+027.5	LT	ADJUST	REUSE (B)
8	1+032.0	RT	705.020	400.110 (S)
16	1+032.0	RT	705.020	400.110 (S)
18	0+995.2	RT	701.010	400.110 (S)
20	1+030.0	LT	705.020	400.110 (S)
22	0+985.3	RT	REMOVE	
23	0+975.2	RT	701.010	400.110 (S)
24	0+975.5	LT	705.010	400.110 (S)
25	0+985.2	RT	705.020	400.110 (S)

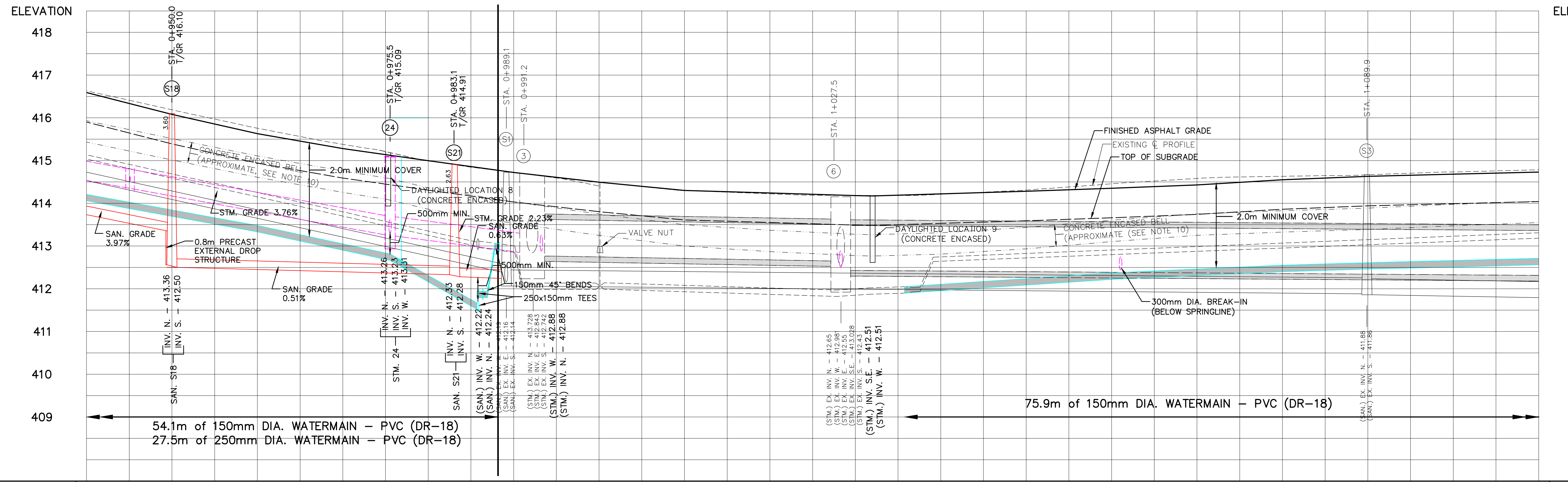
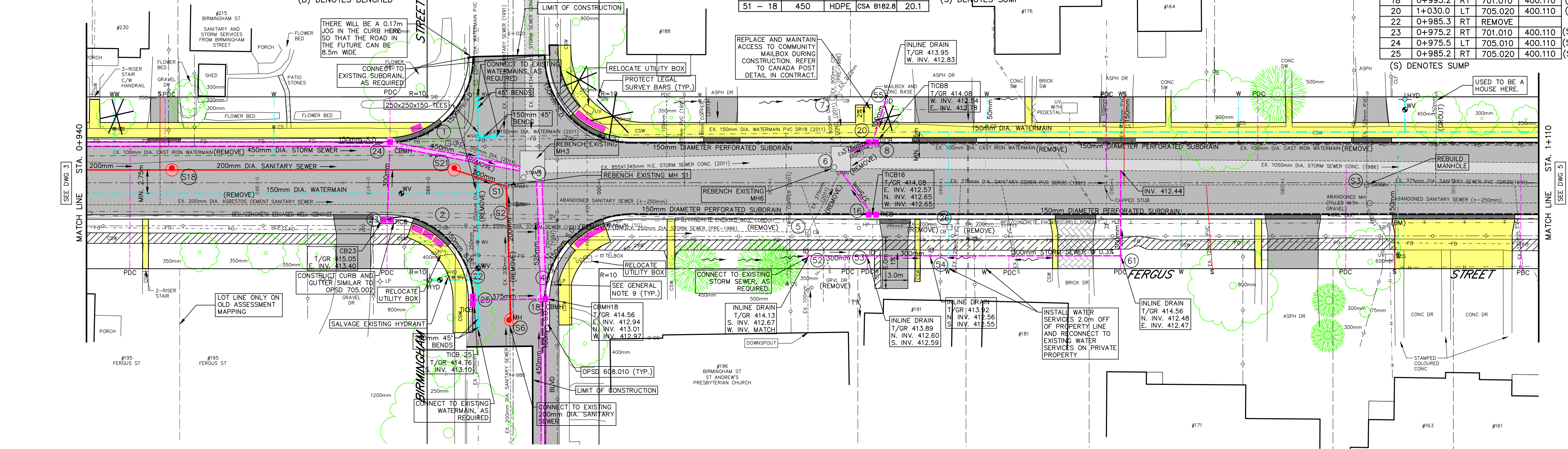
(S) DENOTES SUMP

LEGEND

- SAN. or STM. M.H. or C.B.
- EXISTING SEWERS, SANITARY or STORM
- EXISTING MANHOLE and CATCHBASIN
- EXISTING WATERMAIN, - EXISTING FIRE HYDRANT
- EXISTING GASMAIN (ENERGIZED)
- EX. UNDERGROUND TELECOMMUNICATIONS (EASTING)
- EX. UNDERGROUND HYDRO (WELLINGTON NORTH POWER)
- EX. UNDERGROUND FIBRE OPTIC (WIGHTMAN)
- EX. UTILITY POLES
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED WATERMAIN
- GRUBBING (TREE REMOVAL)
- REMOVE EXISTING CONC. SIDEWALK AND DRIVES
- REMOVE EXISTING CONC. SIDEWALK AND DRIVES
- REINSTATE SALVAGED BRICK PAVING UNITS
- DROP CURB (NOT INCLUDING TAPER)

1:250
1:50

CONSTRUCTION NORTH



FINISHED ASPHALT GRADE	416.59	416.08	415.63	415.28	415.00	414.72	414.49	414.30	414.24	414.18	414.17	414.22	414.28	414.35	414.43	414.55	414.63	414.68	414.73	FINISHED ASPHALT GRADE
EXISTING ϕ GRADE	416.632	416.187	415.756	415.379	414.997	414.721	414.495	414.298	414.221	414.184	414.17	414.210	414.310	414.455	414.580	414.631	414.666	414.733	414.784	EXISTING ϕ GRADE
STATION	0+940	0+950	0+960	0+970	0+980	0+990	1+000	1+010	1+020	1+030	1+032	1+040	1+050	1+060	1+070	1+080	1+090	1+100	1+110	STATION

NOTE

The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

BENCHMARK INFORMATION

B.M. ELEV 414.746
CST Nail & Flag in NE face of hydro pole on south side of road at station 1+001 (#196 Birmingham Street)

B.M. ELEV 414.998
CST Nail & Flag in NE face of hydro pole on south side of road at station 1+092 (#161 Fergus Street)

Design By: J.A.V. Checked By: I.S.D.

PRELIMINARY

No.	DATE	REVISION
1.	Apr. 21, 2023	Issued to Client for Review (Draft Design)
2.	Oct. 11, 2023	Issued to Client for Review (Draft Design)
3.	Oct. 24, 2023	Issued for Public Information Centre

BMROSS
engineering better communities

Goderich Mount Forest Sarnia



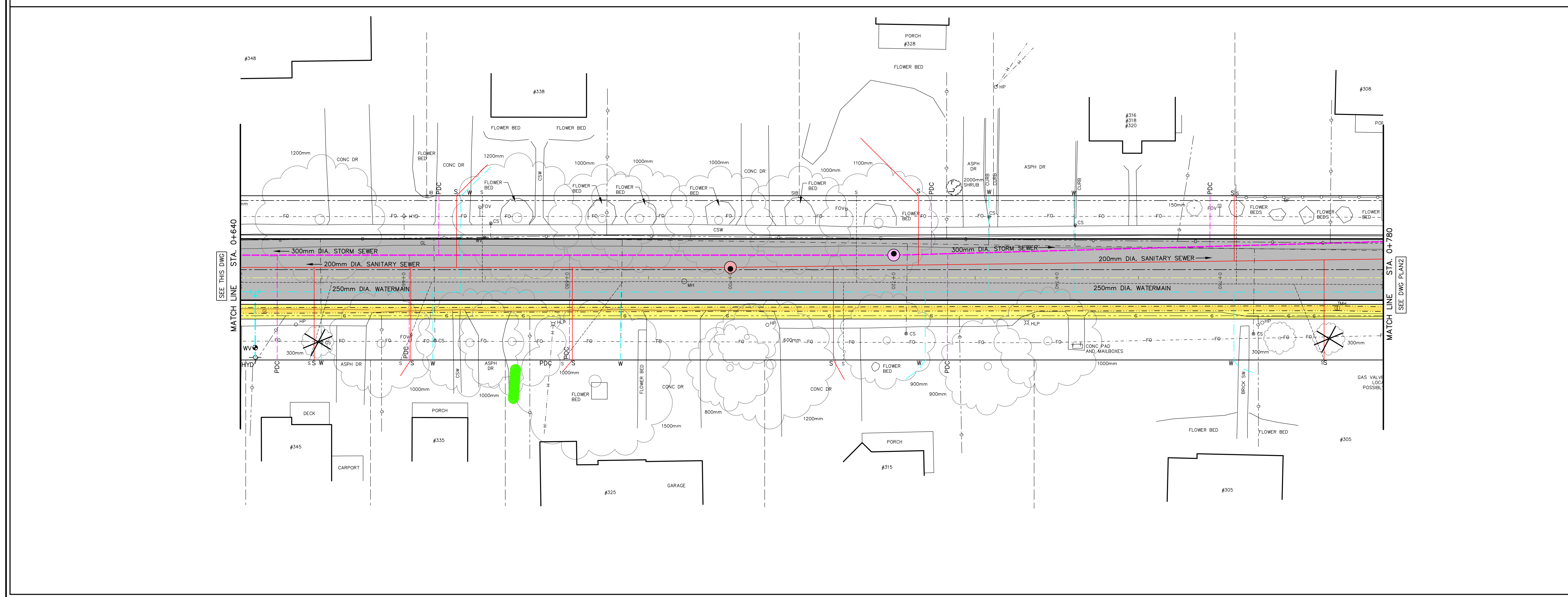
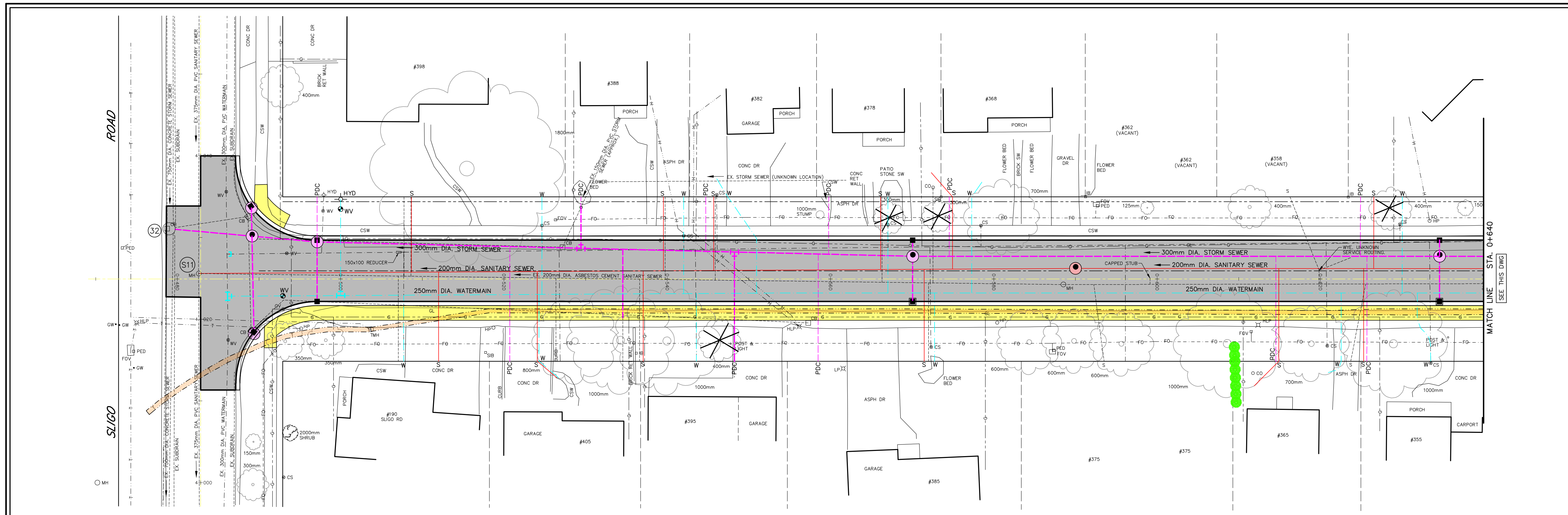
TOWNSHIP OF WELLINGTON NORTH
FERGUS STREET RECONSTRUCTION
Plan and Profile from Sta. 0+940 to Sta. 1+110

Project No. 21340
Drawing No. 4 of 7

Scale (24x36)
Horizontal: 1:250
Vertical: 1:50

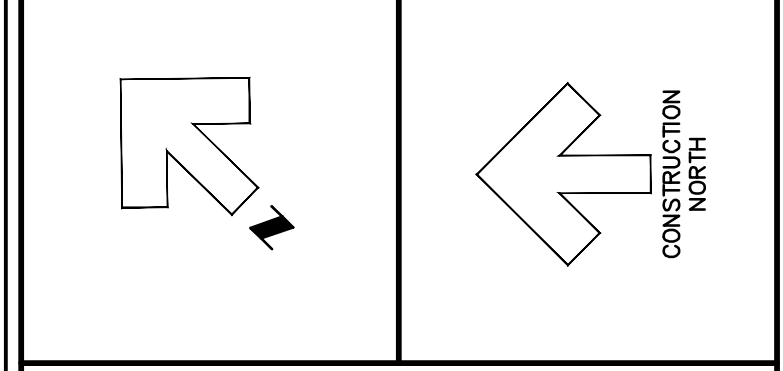
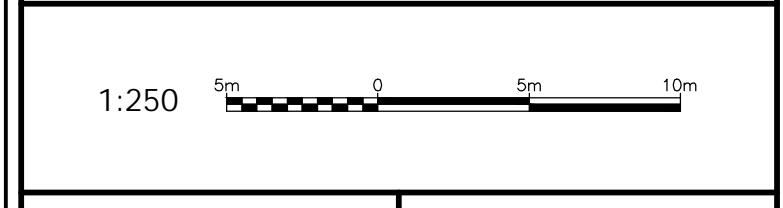
APPENDIX B

CURRENT CONCEPTUAL LAYOUT (PLAN ONLY)



LEGEND

--- SAN. or STM.	EXISTING SEWERS, SANITARY or STORM
--- MH, CB	EXISTING MANHOLE and CATCHBASIN
--- W	EXISTING WATERMAIN
--- G	EXISTING GASMAIN (ENBRIDGE)
--- T	EX. UNDERGND. TELECOMMUNICATIONS (BELL, EASTLINK)
--- H	EX. UNDERGND. HYDRO (WELLINGTON NORTH POWER)
--- F	EX. UNDERGND. FIBRE OPTIC (NIGHTMAN)
--- U	EX. UTILITY POLES
---	PROPOSED SANITARY SEWER
---	PROPOSED STORM SEWER
---	PROPOSED WATERMAIN
---	GRUBBING (TREE REMOVAL)
---	REMOVE EXISTING CONC. SIDEWALK AND DRIVES
---	REMOVE EXISTING ASPHALT



NOTE
 The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

BENCHMARK INFORMATION
 ?
 ?
 ?

BENCHMARK INFORMATION
 ?
 ?
 ?

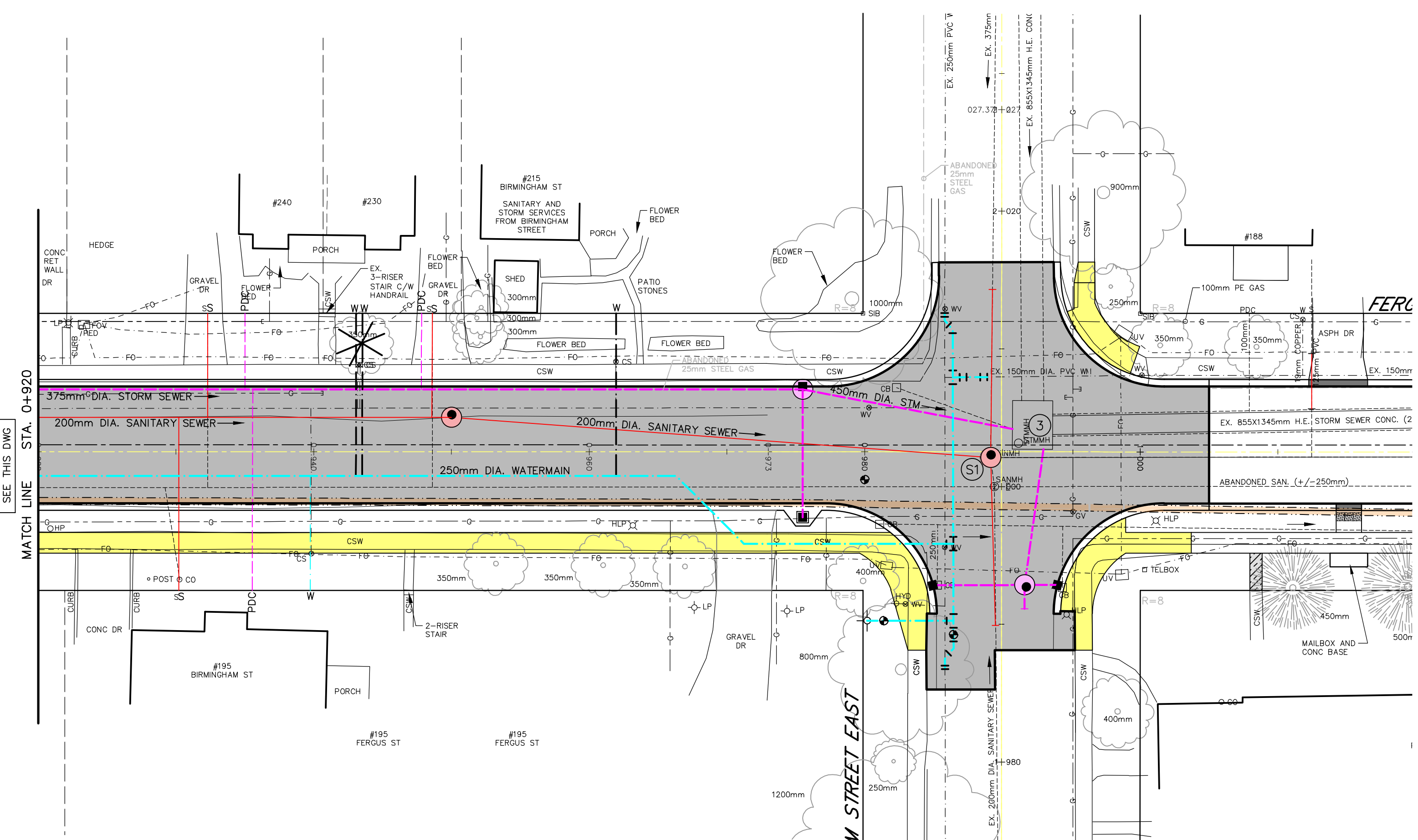
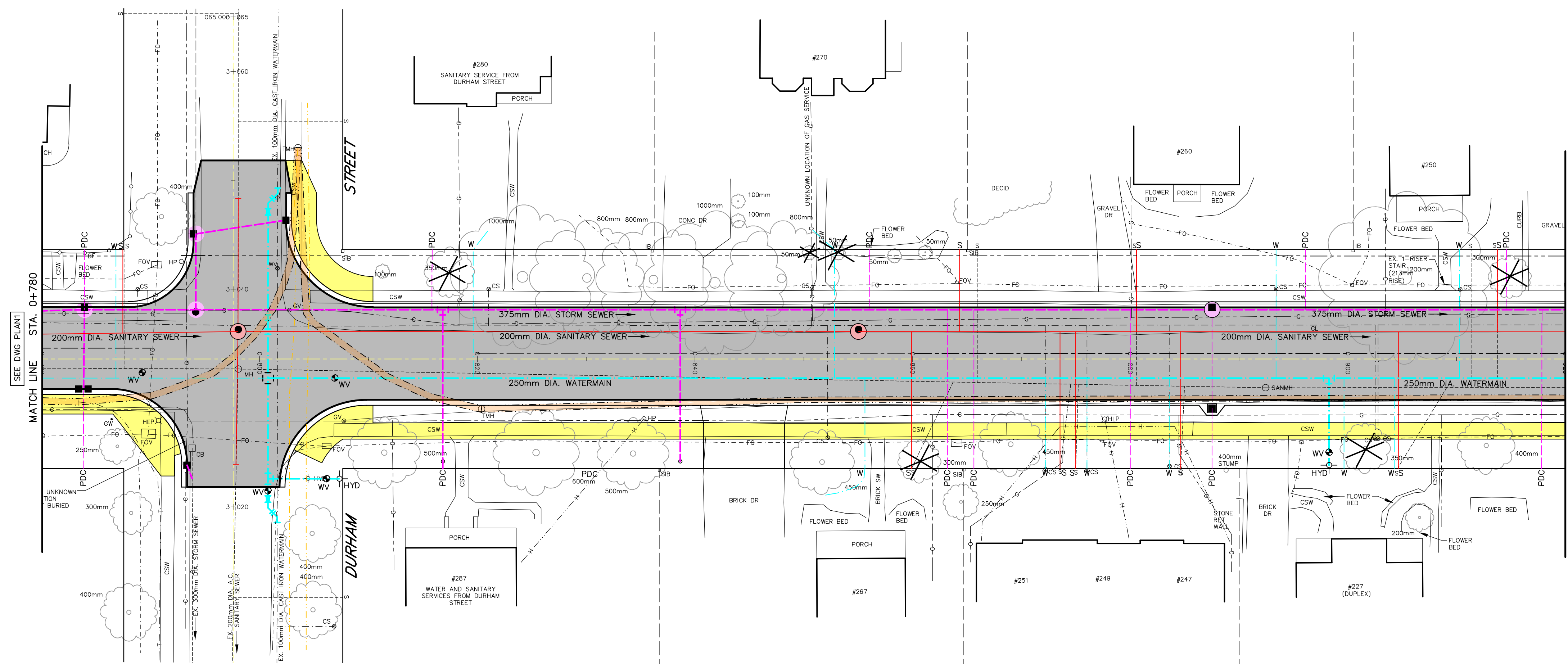
Design By: J.A.V. Checked By: I.S.D.

No.	DATE	REVISION
1	Sep. 16, 2024	Issued to Client for Review



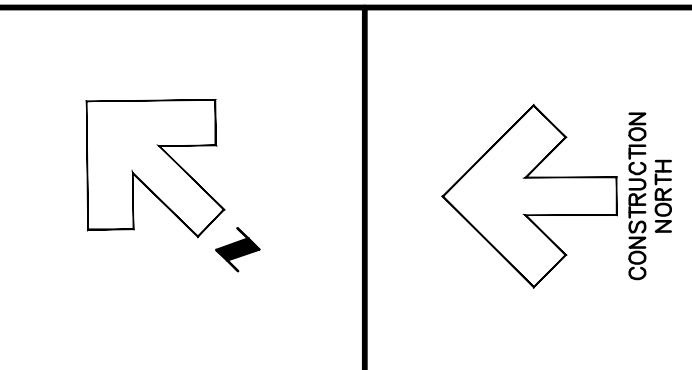
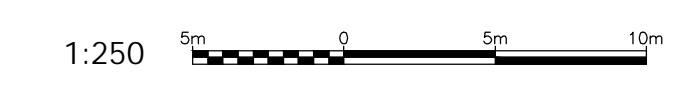
TOWNSHIP OF WELLINGTON NORTH
FERGUS STREET RECONSTRUCTION
 Plan View from Sligo Road to Sta. 0+780

Contract No. ?	Project No. 21340A,B
Scale (24x36) Horizontal : 1:250 Vertical : 1:50	Drawing No. Plan1



LEGEND

— SAN. or STM.	EXISTING SEWERS, SANITARY or STORM
— MH, CB	EXISTING MANHOLE and CATCHBASIN
— W	EXISTING WATERMAIN
— G	EXISTING GASMAIN (ENBRIDGE)
— T	EX. UNDERGROUND TELECOMMUNICATIONS (BELL, EASTLINK)
— H	EX. UNDERGROUND HYDRO (WELLINGTON NORTH POWER)
— FO	EX. UNDERGROUND FIBRE OPTIC (NIGHTMAN)
— U	EX. UTILITY POLES
— S	PROPOSED SANITARY SEWER
— ST	PROPOSED STORM SEWER
— W	PROPOSED WATERMAIN
— X	GRUBBING (TREE REMOVAL)
— Y	PLACE CONC. SIDEWALK AND DRIVES
— Z	REMOVE EXISTING CONC. SIDEWALK AND DRIVES
— AA	PLACE HOT MIX ASPHALT (DIRVELS 50mm HL-3 HOT MIX MISC.)
— AB	REMOVE EXISTING ASPHALT
— AC	REINSTALL SALVAGED BRICK PAVING UNITS
— AD	DROP CURB (NOT INCLUDING TAPER)



NOTE

The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the owner or its representative. The contractor shall determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any damages which might be occasioned by the contractor's failure to exactly locate and preserve any and all underground utilities.

BENCHMARK INFORMATION

?
?
?

BENCHMARK INFORMATION

?
?
?

Design By: J.A.V. Checked By: I.S.D.

No.	DATE	REVISION
1	Sep. 16, 2024	Issued to Client for Review



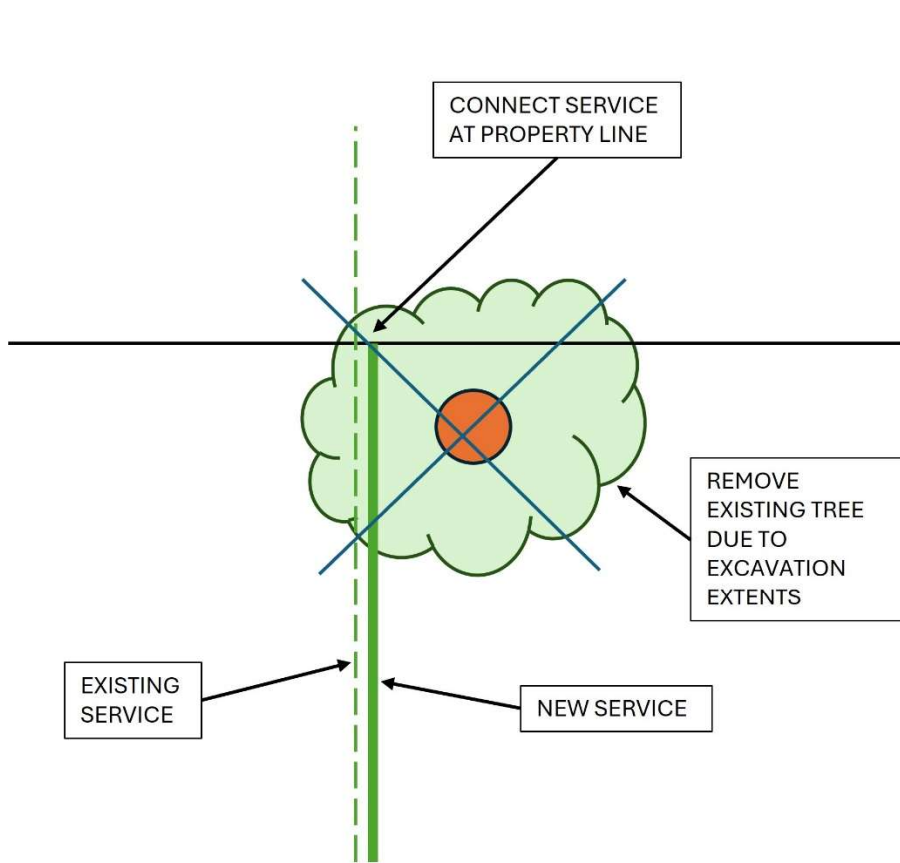
TOWNSHIP OF WELLINGTON NORTH
FERGUS STREET RECONSTRUCTION
 Plan View from Sligo Road to Sta. 0+780

Contract No. ?	Project No. 21340A,B
Scale (24x36) Horizontal : 1:250 Vertical : 1:50	Drawing No. Plan2

APPENDIX C

SERVICING APPROACH

ORIGINAL DESIGN APPROACH FOR SERVICING



REVISED DESIGN APPROACH FOR SERVICING

