

October 19, 2022

Environmental Approvals Branch  
Manitoba Environment, Climate and Parks  
1007 Century Street  
Winnipeg, Manitoba R3H 0W4

Attention: James Capotosto  
Director

**Re: Newton Force Main River Crossing Replacement  
Notice of Alteration**

Dear Director:

On behalf of the City of Winnipeg Water and Waste Department, KGS Group has prepared this Notice of Alteration (NOA) to update you on the proposed replacement of the Newton Force Main under the Environment Act Licence (EAL) No. 2684 RRR. The existing 350 mm high-density polyethylene (HDPE) force main that receives flows from the Hawthorne wastewater pumping station is in poor condition and requires replacement. The proposed project involves the replacement of the existing force main in early 2023 as part of the City of Winnipeg's asset management program. While this will result in typical small, localized and short-term construction effects that can be mitigated using standard practices, it is anticipated that there would be no change to environmental effects associated with continued operation.

This report provides the required information to support the Notice of Alteration application and includes the following:

- project background
- project schedule
- review of the regulatory requirements
- description of the proposed project
- assessment of potential environmental effects

The associated design drawings for this project are attached as Appendix A.

## 1.0 BACKGROUND

The Newton force main crossing being replaced as part of this project is one of two 350 mm diameter crossings that direct pumped flows from the Hawthorne and Linden Lift Stations (LS). The two existing crossings initiate from inlet control chambers located adjacent to each other in Fraser Grove Park.

The existing crossing was constructed in two stages; the original steel force main was constructed in 1960 and conveyed flows from both the Linden and Hawthorne force mains. The second HDPE force main was constructed in 1978 and operated in parallel with the steel force main, conveying flows from both pumping stations until 1984 when they were physically separated by the addition of interconnecting piping and associated valves.

Both crossings were inspected as part of the High-Risk River Crossing program. The steel force main was inspected in 2014 and the HDPE force main was inspected in 2018. Based on the results of the inspections, the steel force main was considered to be in good condition. The HDPE force main was found to have evidence of excessive pipe deformation, poor material traits and documented leaks and therefore it was recommended that the crossing be replaced in the very near term as it was not suitable for rehabilitation due to the excessive level of deformation present.

The City of Winnipeg Water and Waste Department engaged KGS Group and Associated Engineering to complete the preliminary engineering required to create and evaluate options for the replacement of the force main crossing. From this evaluation, it was determined that the most advantageous option was to replace the HDPE force main with the installation of a single sewer crossing by Horizontal Directional Drilling (HDD) techniques. This would also require the installation of a new force main or gravity pipe along Scotia Street that will connect to the sanitary main along Newton Avenue. The selected alignment, as shown in the design drawings, initiates near the east valve chamber in Fraser Grove Park on the east side of the Red River and exits in Kildonan Park on the west side of the river. The new alignment was selected based on geotechnical and constructability considerations, as described further in Section 4.

On July 4, 2022, KGS Group received confirmation from the Environmental Approvals Branch to proceed with our recommended approach to use a single encasement pipe and use hydrostatic integrity testing during condition assessment cycles to address the monitoring requirements as was previously revised in clauses from October 22, 2018.

## 2.0 SCHEDULE

The Newton Force Main River Crossing works are planned to be split into two separate construction contracts. Contract 1 will be the HDD works under the Red River that is scheduled to start in January 2023 and end in April 2023. Contract 2 will include all other associated works and restorations which are anticipated to begin in May



2023 and end in September 2023. The first contract has been planned during the winter months as this decreases the risk of erosion and sediment runoff to the river.

## 3.0 REGULATORY REQUIREMENTS

KGS Group reviewed the regulatory approval requirements for the Newton Force Main Crossing in Winnipeg, Manitoba. KGS Group completed a screening of requirements of the Department of Fisheries and Oceans (DFO), Transport Canada, the Historic Resource Branch (HRB), Manitoba Environment, Climate and Parks (MECP) and City of Winnipeg (Municipal) as described in the following subsections.

### 3.1 Fisheries and Oceans Canada

The Fisheries Act provides protection of aquatic species and the habitats upon which they depend and requires that projects avoid killing fish or result in a harmful alteration, disruption or destruction (HADD) of fish habitat. Additionally, the Species at Risk Act (SARA) prohibits the killing, harming, harassment, possession, capturing or taking of a species listed as extirpated, endangered or threatened and the damage or destruction of a residence or the destruction of any part of the critical habitat of such a listed species. The mapleleaf mussel (*Quadrula quadrula*), which is listed as Threatened on Schedule 1 of SARA, is known to inhabit the Red River, which the force main will be crossing under.

The work associated with the project is all above and set back at least 20 m from the Ordinary High Water Mark (OHWM). Silt fences and erosion control blankets will be used as required to prevent the release of sediment laden runoff into the river during excavation or other construction activities. The horizontal directional drilling crossing design within the rock formation provides a barrier against potential leaks getting into the Red River. During design, a hydrofracture analysis of the bedrock at this location was undertaken based on a geotechnical investigation and the proposed bore path. The hydrofracture analysis identified that the confining pressure is 3 times greater within the rock formation and will resist the drilling pressures imposed during construction. The rock will provide a barrier that stops the drilling fluid from discharging to the Red River.

Based on these design aspects the project is not anticipated to kill fish, result in a HADD of fish habitat or trigger concern associated with the Species at Risk Act. As such the work can be completed in conformance with the Fisheries Act and Species at Risk Act and it is not anticipated that Authorization would be required. Regardless to be conservative and inform DFO about the proposed project a Request for Review was prepared and submitted.

### 3.2 Transport Canada

The Canadian Navigable Waters Act (CNWA) authorizes and regulates interferences with the public right to navigation. The primary purpose of the CNWA is to regulate works and obstructions that may interfere with

navigation in Canada's navigable waters. In accordance with the CNWA, an application must be submitted to the Navigation Protection Program (NPP) by an owner who proposes to construct, place, alter, rebuild, remove or decommission a work, in a waterway on the list of scheduled waters, unless the work meets the criteria set out in the Minor Works Order. In cases where the work, including a designated major work, does not interfere with navigation, the owner is not required to apply to Transport Canada.

While the Red River is a waterway on the list of scheduled waters under the CNWA, because there will be no in-water work it is anticipated that the work will not interfere with navigation. As such, an Application for Approval will not be required, however, KGS Group will prepare and submit the required "No interference with navigation notification of work" and associated public notice.

### 3.3 Historic Resource Branch

Under Section 12(2) of The Heritage Resources Act, if the Minister of Sport, Culture and Heritage has reason to believe that heritage resources or human remains are known, or thought likely to be present, on lands that are to be developed, then a Heritage Resources Impact Assessment (HRIA) and mitigation is required to be conducted prior to the project's start. As such for projects in Manitoba that include subsurface disturbance a heritage screening request is typically prepared and submitted to the HRB to determine if there are concerns that the project might impact heritage resources and require completion of an HRIA.

The proposed work will include subsurface disturbance of previously undisturbed native soil and is in close proximity to the Red River and therefore there is potential to affect heritage resources if they are present. As such, KGS Group submitted a heritage screening request form to the HRB providing the locations of subsurface excavation required for the project. The HRB examined the locations in conjunction with Branch records for areas of potential concern and indicated there are known heritage resources of a sensitive nature within and in close proximity to the proposed footprint. As such the HRB determined that an HRIA is required consisting of conducting archaeological monitoring while the excavation is occurring. To avoid potential construction delays associated with a stop work in the event that heritage resources or human remains were encountered during construction excavation it was agreed through discussions with the HRB and City of Winnipeg that the locations would be excavated prior to the start of work to clear them of heritage concerns (or potentially make alterations to the design) prior to a contractor mobilizing to site.

### 3.4 Manitoba Environment, Climate and Parks

Environmentally significant developments within the Province of Manitoba are required to be assessed and licensed under The Environment Act. The purpose of assessment is to ensure that proposed projects are designed, constructed, and operated in an environmentally responsible manner consistent with provincial environmental legislation, policies, and guidance.

The sewer flows conveyed in the Newton Force Main ultimately flow to the North End Wastewater Treatment Plant in the City of Winnipeg and thus are considered under the existing Environmental Act License 2684 RRR.

The existing 350 mm HDPE force main that receives flows from the Hawthorne wastewater pumping station is in poor condition and in need of replacement. The replaced asset will function in the same manner as the current pipe with minor modifications to enhance serviceability and to address construction conflicts.

This report provides the required information to support the Notice of Alteration application under Environment Act License 2684 RRR and demonstrates that there are no significant adverse environmental effects anticipated with the planned work on the Newton Force Main replacement.

### 3.5 Municipal

As per City of Winnipeg Waterway By-Law No. 5888/92, a Waterway Permit to complete the repair works along the Red River will be obtained prior to commencing construction. KGS Group is in process of preparing and submitting the Waterway Permit Application for this project, and the permit is expected to be in place for construction to commence in January 2023.

## 4.0 PROPOSED PROJECT DESCRIPTION

Replacement of the existing HDPE force main is the proposed approach to maintain the current level of service for the Newton Force Main River Crossing. Details of the proposed force main replacement works are shown in the design drawings provided in Appendix A. A description of the proposed works is provided in the following sections.

### 4.1 Background

The Newton Force Main River Crossing project is being installed utilizing HDD methods deep within the bedrock which will provide an additional barrier from leakage to the river. During design, a hydrofracture analysis of the bedrock at this location was undertaken based on the geotechnical investigations and the proposed bore path. The analysis identified that the confining pressure is 3 times greater within the rock formation and will resist the drilling pressures imposed during construction and the expected operating pressures within the force main. The proposed force main crossing was designed to also enter and exit the rock 55 m beyond the normal water levels on either side of the river. Thus, the rock will provide a barrier that extends past the extent of the river and will stop any leakage from entering the river.

Based on the results of this analysis, which demonstrated that the confining pressure from the rock formation provides a barrier against leakage, our team proceeded into the detailed design of the Newton Force Main River Crossing. The detailed design was completed referencing the revised clauses 18 and 19 in Environment Act Licence 2684 RRR approved under the October 22, 2018, NOA to use a single encasement for the pipe and use hydrostatic integrity testing during condition assessment cycles to address the monitoring requirements.

## 4.2 Replacement of Force Main and Gravity Sewer

The proposed Newton River Crossing under Contract 1 will include approximately 470 m of HDPE pipe installed using HDD deep within the bedrock strata below the river. This method is being used to minimize the amount of open excavation and avoid any in-water works. During Contract 2, an additional 220 m of pipe and two new wye launch chambers will be installed to connect the proposed new force main from the exit point in Kildonan Park to the existing sewer on Scotia Street. There will also be a required excavation to plug and abandon the existing poly ethylene force main both behind the Newton Avenue Pump Station and just outside the existing chamber at Fraser Groves Park as shown in the design drawings in Appendix A.

During Contract 2, a temporary shutdown of the existing Hawthorne pump station will be required for the final connection to the existing force main and the proposed river crossing. The shutdown will be undertaken after hours during low and dry weather flows to avoid the need for temporary pumping. The shutdown will rely on the capacity of the wastewater sewers in the Hawthorne sewer district. It is currently estimated that this window would be approximately 12 hours.

## 4.3 Site Development

The following additional items have been included in the design to support the overall project site development and to mitigate regulatory requirements.

- The Contractor will be required to provide proper warning signs and safety fencing around the working area to protect the public during construction.
- The Contractor will protect, remove, and replace trees as directed by the Engineer and by the City of Winnipeg Urban Forestry Branch.
- No stockpiling of material immediately adjacent to the river will be permitted following the City of Winnipeg Waterways regulations.
- The Contractor may not store or use fueling equipment adjacent to the river and must have a mitigation plan in the case that a spill was to occur.
- The Contractor will restore the site to pre-construction contours, elevations, and conditions.

## 5.0 EXISTING ENVIRONMENT AND EFFECTS ASSESSMENT

A description of existing environmental components, project-environment interactions, mitigation measures to be implemented in project design/construction, and resulting residual effects are provided in Table 1.

## 6.0 CONCLUSION

Replacement of the Newton force main that crosses under the Red River is required to ensure that the level of service is maintained to the Hawthorne Sewer District in Winnipeg. The work will be tendered under the City of Winnipeg Tender 327-2022B and Tender 814-2022 for Contracts 1 and 2 using the design and specifications described herein and in accordance with the City of Winnipeg Standard Construction Specifications. After implementation of the mitigation measures proposed, the Newton force main river crossing replacement poses no adverse environmental effects.

Prepared By:

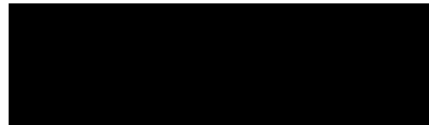


Shaun Moffatt, M.Sc.  
Senior Environmental Scientist

SM/tb/jr

Attachment

Approved By:



Ray Offman, M.Sc., P.Eng.  
Municipal Department Head

cc: Bereket Assefa, Manitoba Environment, Climate and Parks  
Ryan Lucky, City of Winnipeg Water and Waste  
Kas Zurek, City of Winnipeg Water and Wate

## STATEMENT OF LIMITATIONS AND CONDITIONS

### Limitations

This report has been prepared for the City of Winnipeg in accordance with the agreement between KGS Group and the City of Winnipeg (the “Agreement”). This report represents KGS Group’s professional judgment and exercising due care consistent with the preparation of similar reports. The information, data, recommendations and conclusions in this report are subject to the constraints and limitations in the Agreement and the qualifications in this report. This report must be read as a whole and sections or parts should not be read out of context.

This report is based on information made available to KGS Group by the City of Winnipeg and unless stated otherwise, KGS Group has not verified the accuracy, completeness or validity of such information, makes no representation regarding its accuracy and hereby disclaims any liability in connection therewith. KGS Group shall not be responsible for conditions/issues it was not authorized or able to investigate or which were beyond the scope of its work. The information and conclusions provided in this report apply only as they existed at the time of KGS Group’s work.

### Third Party Use of Report

Any use a third party makes of this report or any reliance on or decisions made based on it, are the responsibility of such third parties. KGS Group accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions undertaken based on this report.



# TABLES

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TABLE 1 PROJECT ENVIRONMENTAL INTERACTIONS, MITIGATION, AND RESIDUAL EFFECTS

Environment Component	Baseline Condition	Type of Interaction	Project Phase	Required Mitigation	Residual Effect(s)
Air Quality	In general, the City of Winnipeg has good air quality. The sources of airborne pollutants typically include industrial operations, vehicle and equipment emissions, fires, and other specific activities.	Emissions from equipment	Construction	<ul style="list-style-type: none"><li>• Ensure all equipment is in good working order and is maintained throughout project.</li><li>• Ensure all equipment is fitted with standard air emission control devices.</li><li>• Avoid unnecessary idling of vehicles and/or heavy machinery.</li><li>• Do not burn materials that will negatively affect air quality.</li><li>• Comply with all permit conditions issued by Manitoba Environment, Climate and Parks or other authority.</li></ul>	N/A
		Dust generations	Construction	<ul style="list-style-type: none"><li>• Employ non-toxic dust control measures, preferably water, as required.</li><li>• Avoid excavation activities during extremely windy periods.</li><li>• Re-vegetate site as required.</li><li>• Comply with all permit conditions issued by Manitoba Environment, Climate and Parks or other authority.</li></ul>	
Soils	Based on previous geotechnical reporting of the site, the stratigraphy consists of alluvium soils over lacustrine clay, glacial silt till and limestone bedrock.	Disturbance, compaction or contamination of soil	Construction	<ul style="list-style-type: none"><li>• Limit grubbing and excavation operations to designated areas and utilize excavation boxes if possible.</li><li>• Vehicles and machinery will use designated access roads/trails, laydown areas to avoid unnecessary compaction.</li><li>• Ensure all equipment is in good working order, is free of fluid leaks, and is well maintained.</li><li>• Ensure storage containers for hazardous goods are equipped with secondary containment.</li><li>• Emergency spill kits kept on site and operators properly trained to use them so that any spills can be contained and cleaned up.</li><li>• All spills will be reported to the Manitoba Emergency Response Team at 204-944-4888.</li><li>• Comply with all permit conditions issued by Manitoba Environment, Climate and Parks or other authorities.</li></ul>	N/A
Vegetation	The project site consists of landscaping (grass) and common riverbank trees, native grasses, and low shrub cover.	Disturbance to and/or loss of vegetation	Construction	<ul style="list-style-type: none"><li>• Refer to mitigation measures under Soils.</li><li>• Make use of natural or existing clearings where possible.</li><li>• Ensure appropriate firefighting equipment is on site and serviceable.</li><li>• Protect trees near worksite as required to avoid damage.</li><li>• Encourage natural regeneration of disturbed sites and/or revegetate site by seeding, tree planting, and shrub planting (in conjunction with City of Winnipeg Forestry, Naturalist Branch, and Parks).</li></ul>	N/A
Aquatic Life	The Red River provides year-round habitat for various life stages of approximately 56 forage and large bodied fish species. This includes species that are sought after for recreational fishing, such as Walleye, Sauger, Channel Catfish and Northern Pike. The Red River also falls within the range of Mapleleaf mussel, which is listed as Endangered under The Endangered Species and Ecosystems Act (Manitoba) and as Threatened under SARA (Federal).	Contamination of surface water	Construction	<ul style="list-style-type: none"><li>• No in-water work will be conducted.</li><li>• Limit grubbing and excavation operations to designated areas.</li><li>• Maintain erosion control measures until the site is restored to preconstruction conditions.</li><li>• Ensure all equipment is in good working order, is free of fluid leaks, and is well maintained.</li><li>• Ensure storage containers for hazardous goods are equipped with secondary containment.</li><li>• Ensure all fueling is completed a minimum of 30 m away from the Red River.</li><li>• Emergency spill kits kept on site and operators properly trained to use them so that any spills can be contained and cleaned up.</li><li>• All spills will be reported to the Manitoba Emergency Response Team at 204-944-4888.</li><li>• Comply with all permit conditions issued by Manitoba Environment, Climate and Parks or other authorities.</li></ul>	N/A

TABLE 1 PROJECT ENVIRONMENTAL INTERACTIONS, MITIGATION, AND RESIDUAL EFFECTS

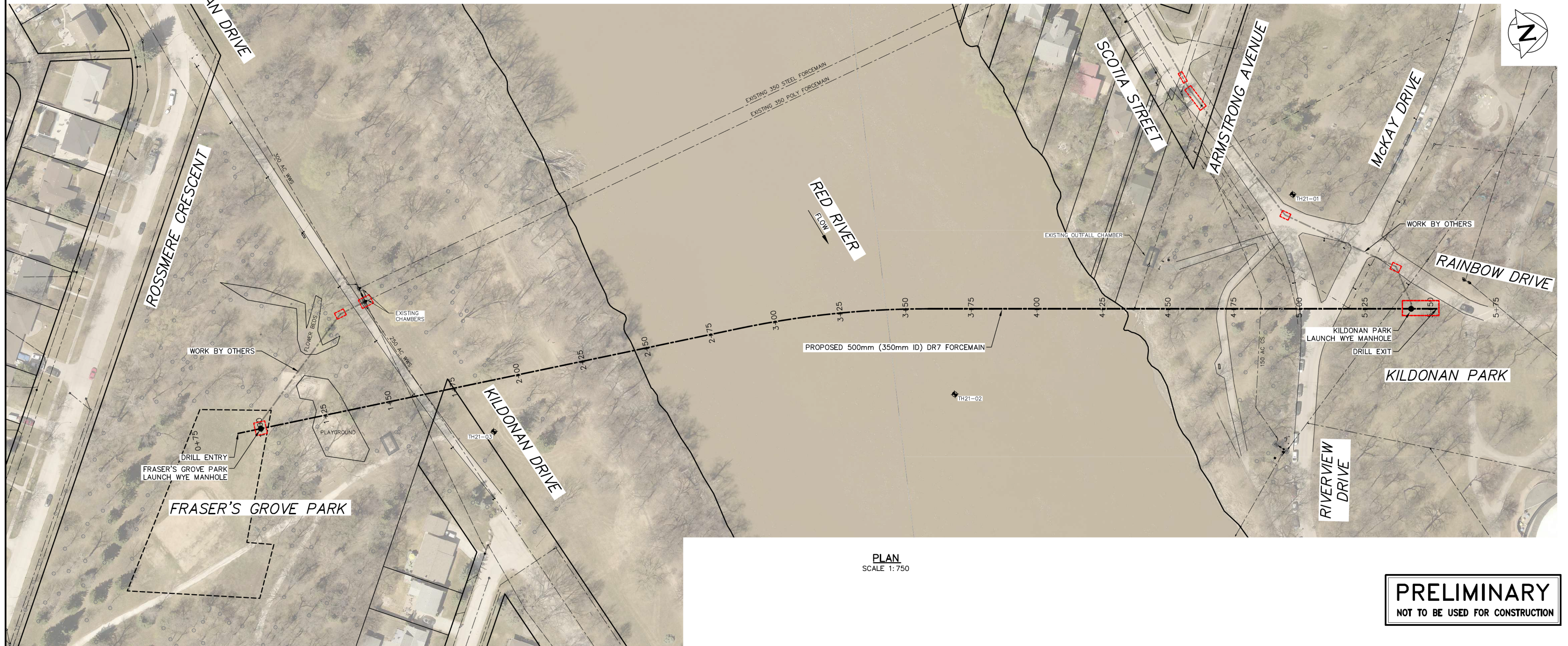
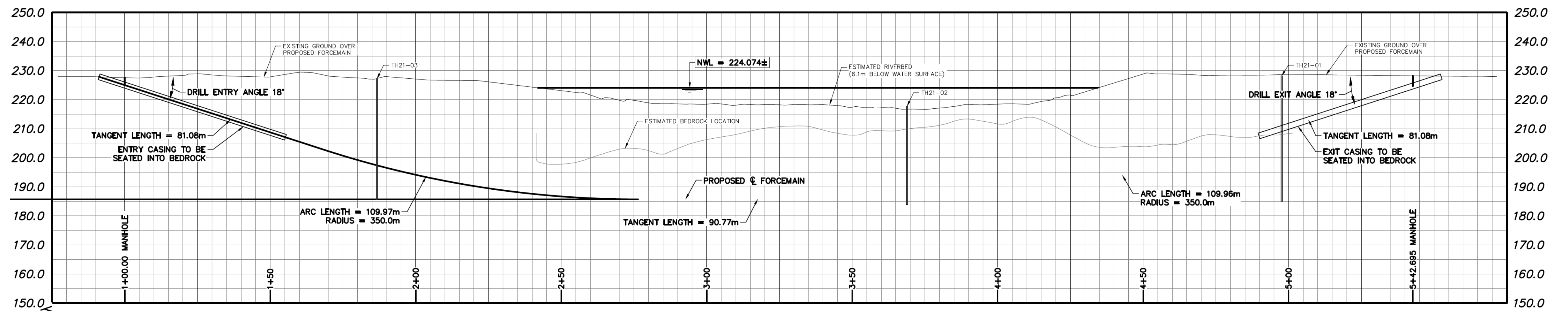
Environment Component	Baseline Condition	Type of Interaction	Project Phase	Required Mitigation	Residual Effect(s)
Heritage Resources	There are previously reported sensitive heritage resources in and near both Kildonan and Fraser Grove Parks.	Disturbance of heritage resources	Construction	<ul style="list-style-type: none"><li>• Conduct a pre-construction Heritage Resource Impact Assessment (HRIA) of the excavations that will provide access for directional drilling.</li><li>• If contractors discover any additional heritage resources during construction activities, not identified during the HRIA, work must be stopped and the Historic Resources Branch contacted immediately (204-945-2118).</li><li>• Comply with all permit conditions issued by Manitoba Environment, Climate and Parks or other authority.</li></ul>	N/A
Waste Management	Waste collection bins are placed nearby for pedestrian garbage collection.	Waste generation	Construction	<ul style="list-style-type: none"><li>• Construction waste must be collected, sorted, transported, and recycled or disposed of based on its unique characteristics at a licensed facility.</li><li>• Comply with all permit conditions issued by Manitoba Environment, Climate and Parks or other authorities.</li></ul>	N/A
Socio-Economic	The Kildonan and Fraser Grove Parks, where the project is located, are well used by Winnipeg residents and visitors. Several private residences are located adjacent to Fraser Grove Park and along Newton Avenue in the vicinity of the project site.	Noise disturbance, traffic management	Construction	<ul style="list-style-type: none"><li>• The City will notify adjacent landowners of the upcoming construction or potential traffic disruptions through letter mail.</li><li>• Public concerns during construction can be communicated through the City's 311 system.</li></ul>	N/A

# APPENDIX A

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Design Drawings





PLAN  
SCALE 1:750

**PRELIMINARY**  
NOT TO BE USED FOR CONSTRUCTION

**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

**FOR INDEX PAGE  
SEE DWG**



#### WARNING

IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:

- 1) NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
- 2) TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.

SEE PROVINCIAL REGULATION 210/72 FOR DETAILS

#### LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

#### NOTE:

LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M.  
ELEV.

NO.	REVISIONS	DATE	BY
B	ISSUED 66% FOR REVIEW	2022 08 16	RBO
A	ISSUED FOR PRE-TENDER	2022 08 10	RBO

**KGS**  
GROUP

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PLOT DATE: 2022 09 01

ENGINEER'S SEAL

CONSULTANT DRAWING NUMBER  
22-0107-21\_C02



**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT  
ENGINEERING DIVISION

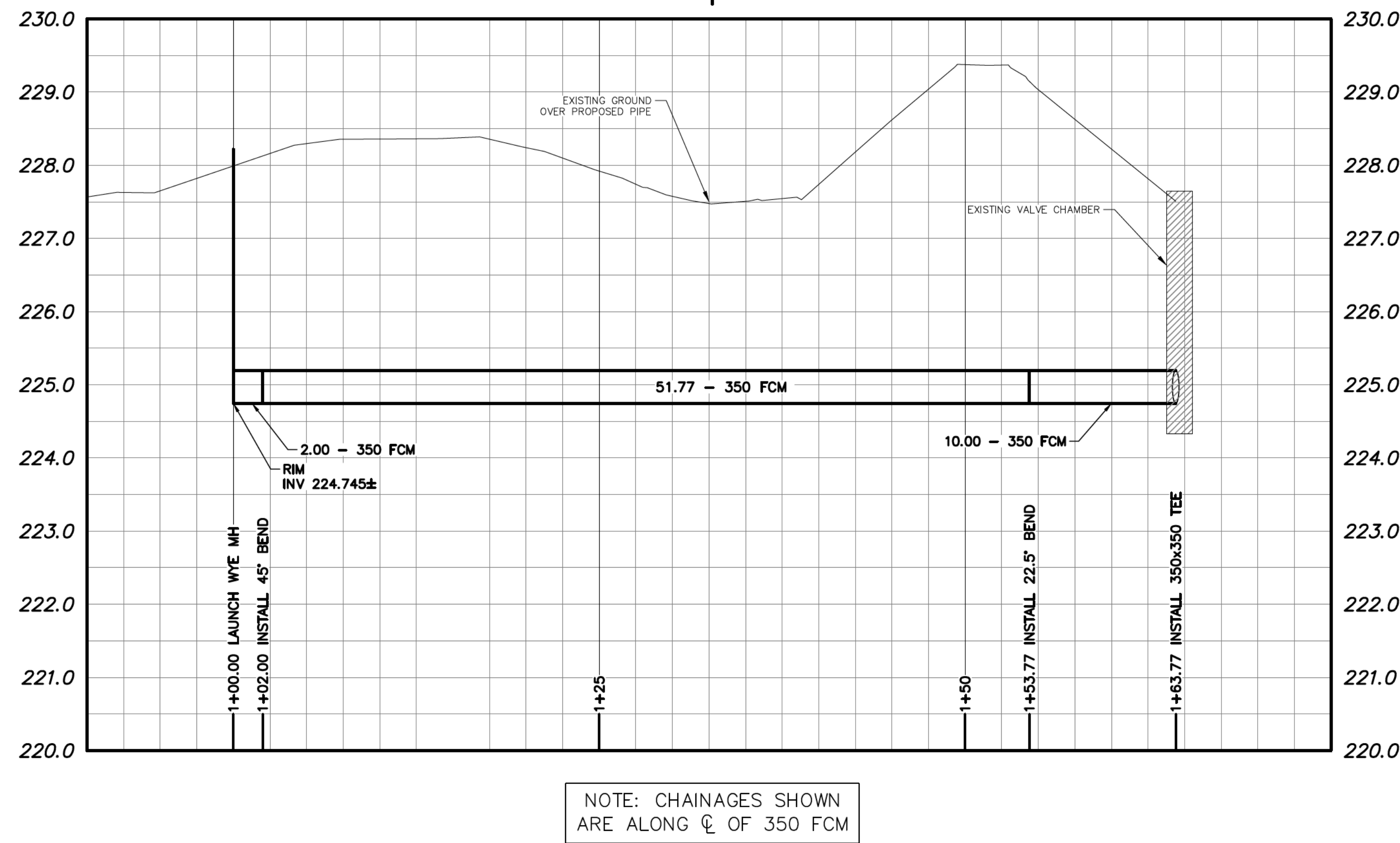
**NEWTON FORCE MAIN  
RIVER CROSSING REPLACEMENT  
RIVER CROSSING PLAN PROFILE**

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CITY DRAWING NUMBER

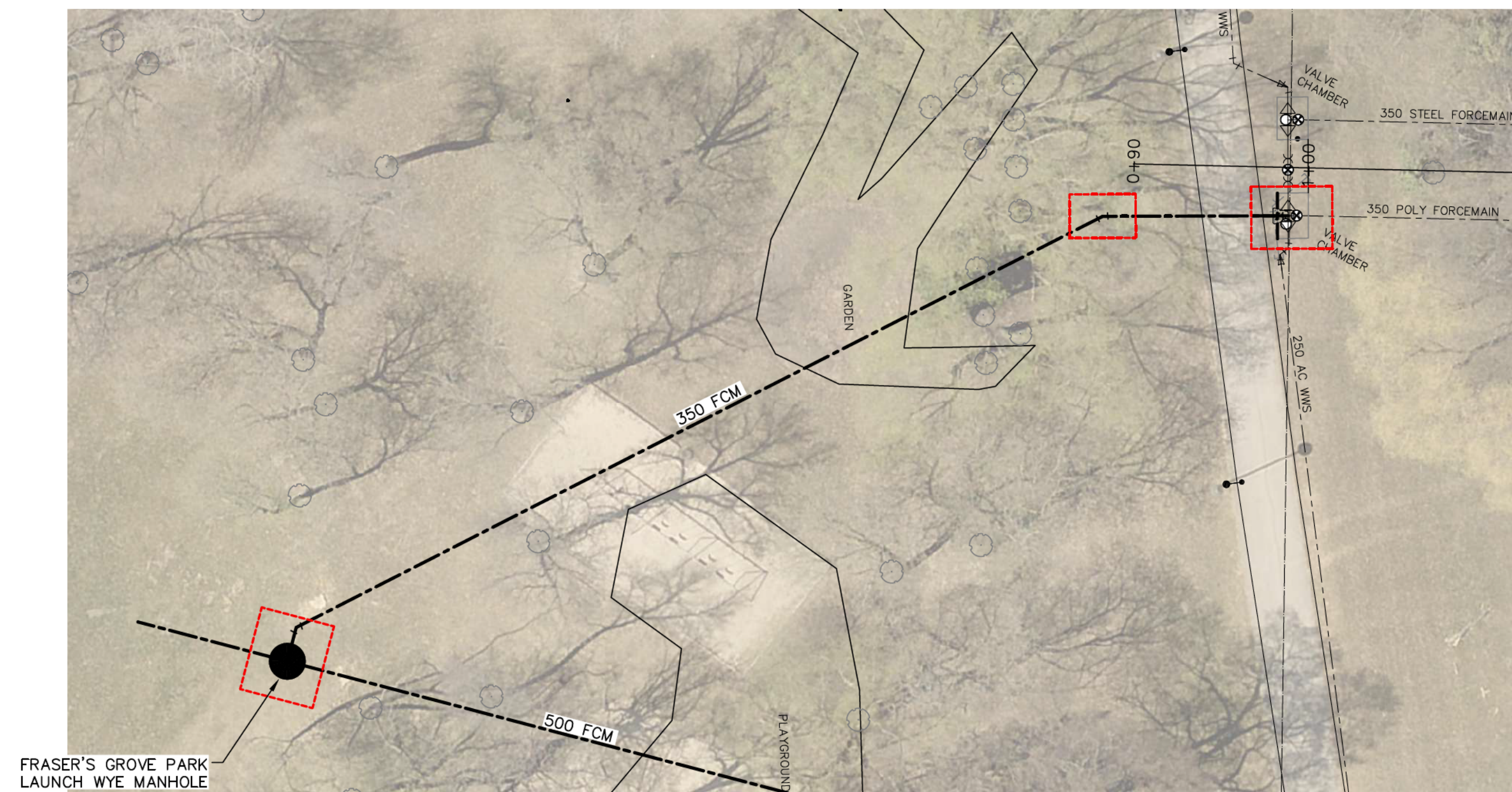
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FRASER'S GROVE PARK



PLAN  
SCALE 1:250

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**METRIC**  
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**KGS**  
GROUP

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**THE CITY OF WINNIPEG**  
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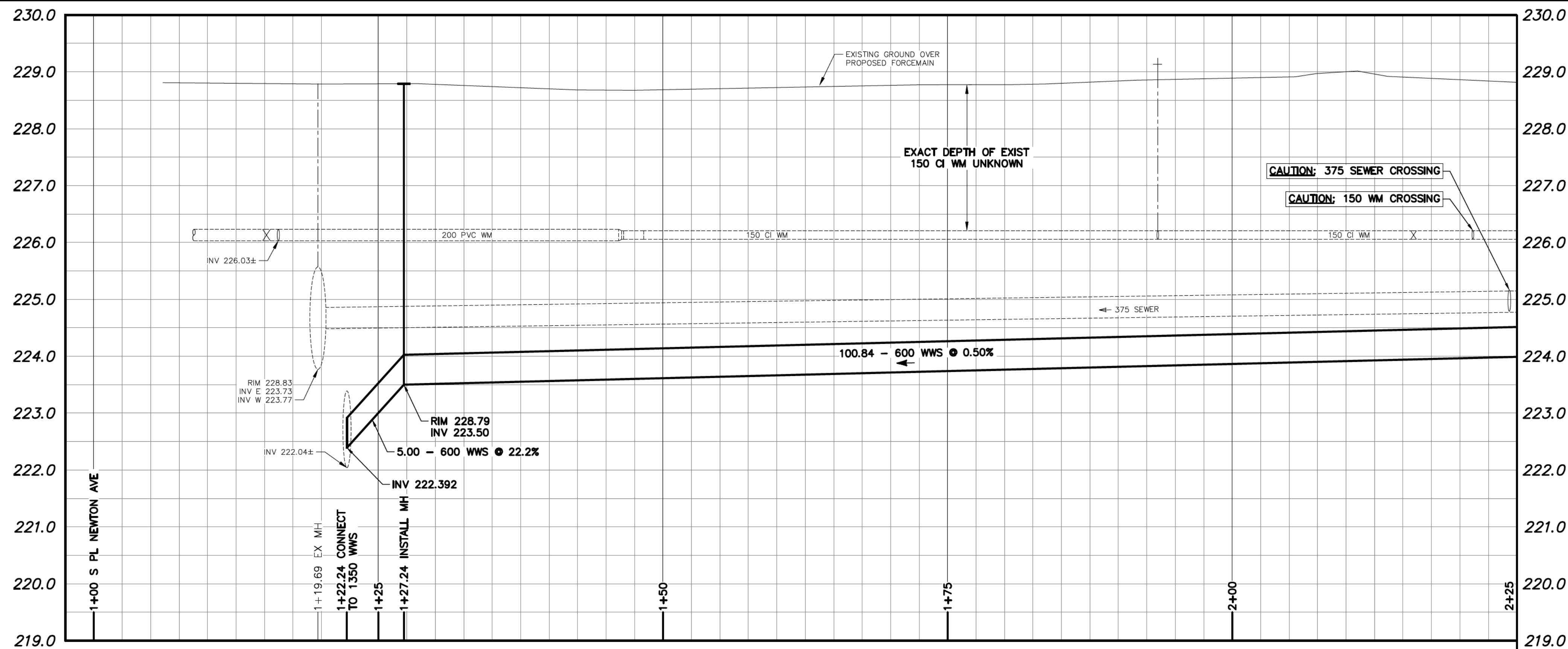
**NEWTON FORCE MAIN  
RIVER CROSSING REPLACEMENT  
SOUTH AND NORTH TIE-IN'S**

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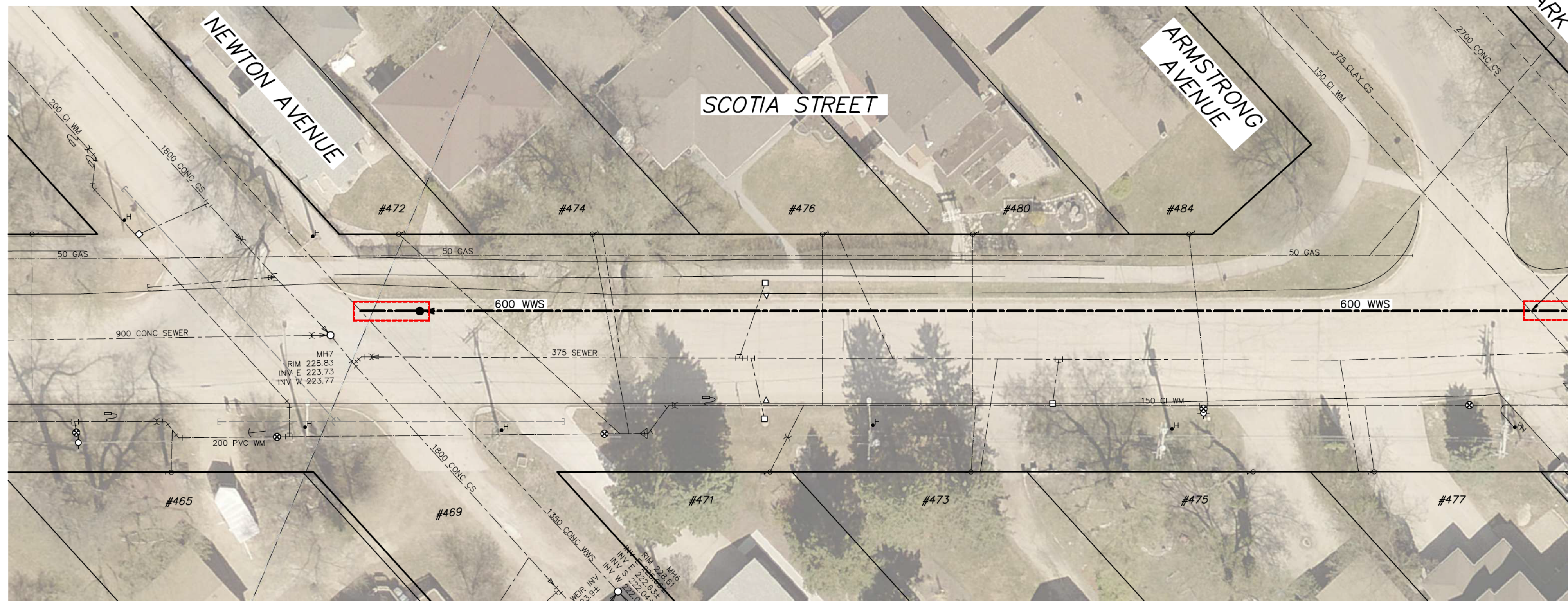
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NOTE: CHAINAGES SHOWN ARE  
ALONG W P SCOTIA STREET



PLAN  
SCALE 1:250

CAUTION: 150 WM CROSSING  
CAUTION: 375 SEWER CROSSING

MATCHLINE

**PRELIMINARY**  
NOT TO BE USED FOR CONSTRUCTION

FOR INDEX PAGE  
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METRIC  
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A	ISSUED 33% FOR REVIEW	2022 07 11	RBO

**KGS**  
GROUP

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DATE	2022 09 01	DATE	

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22-0107-21\_C04



THE CITY OF WINNIPEG  
WATER AND WASTE DEPARTMENT  
ENGINEERING DIVISION

NEWTON FORCE MAIN  
RIVER CROSSING REPLACEMENT  
SCOTIA STREET SEWER  
SHEET 1

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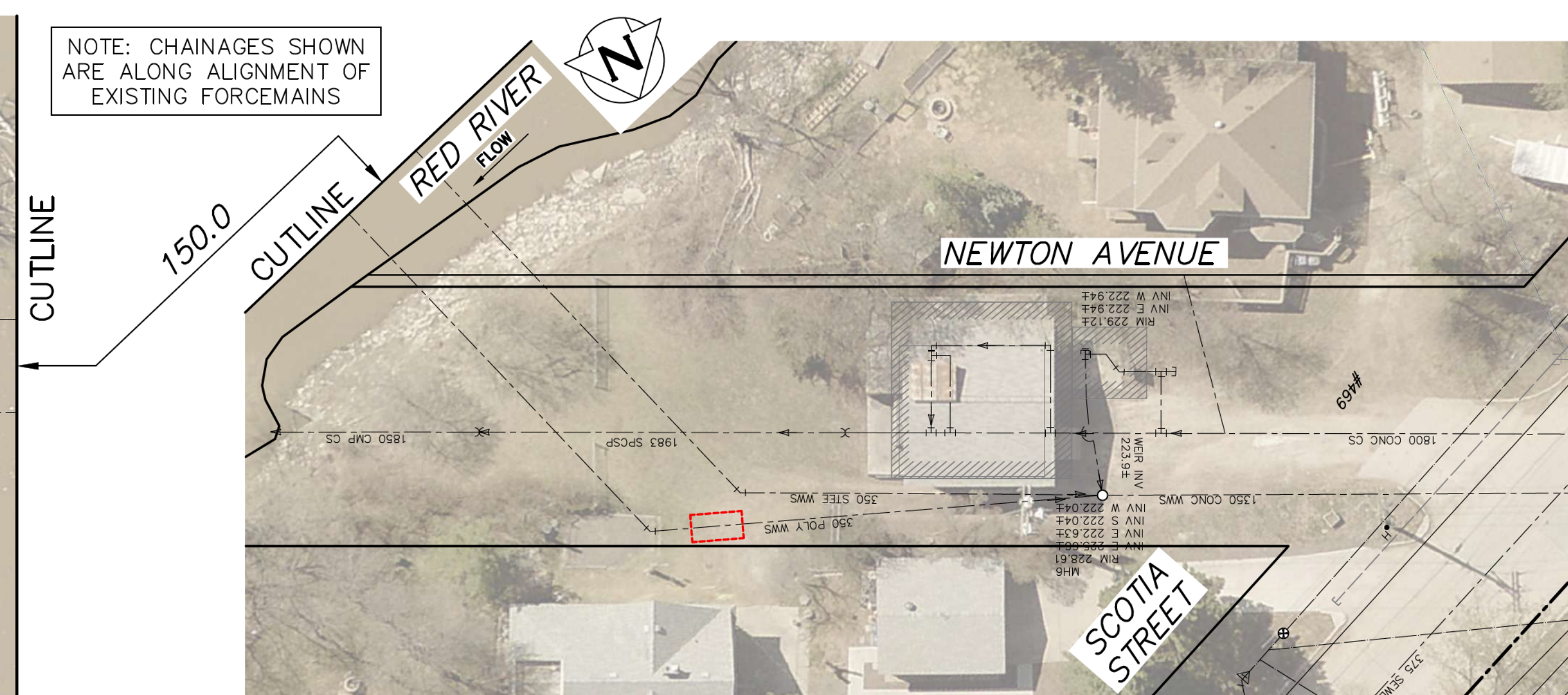
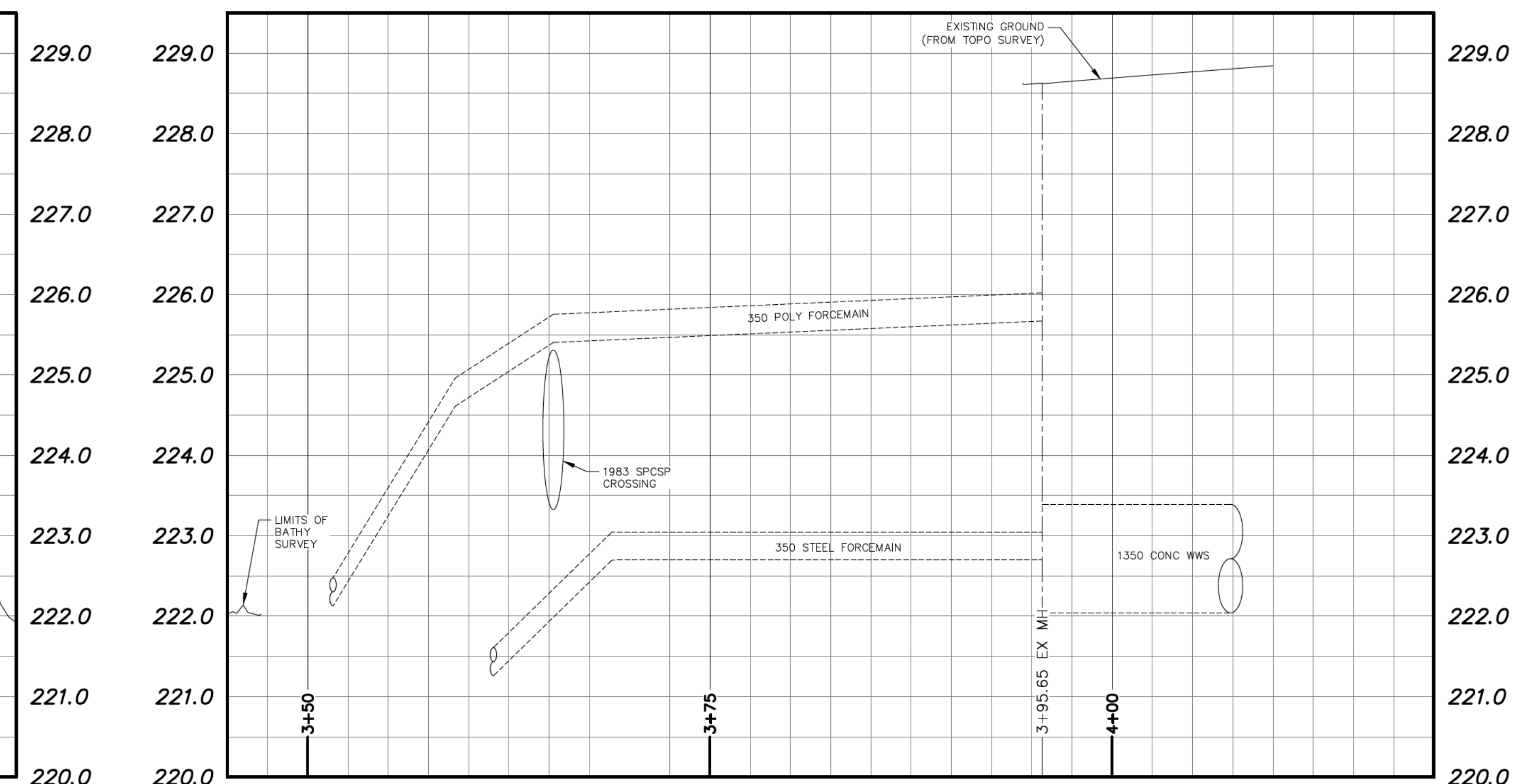
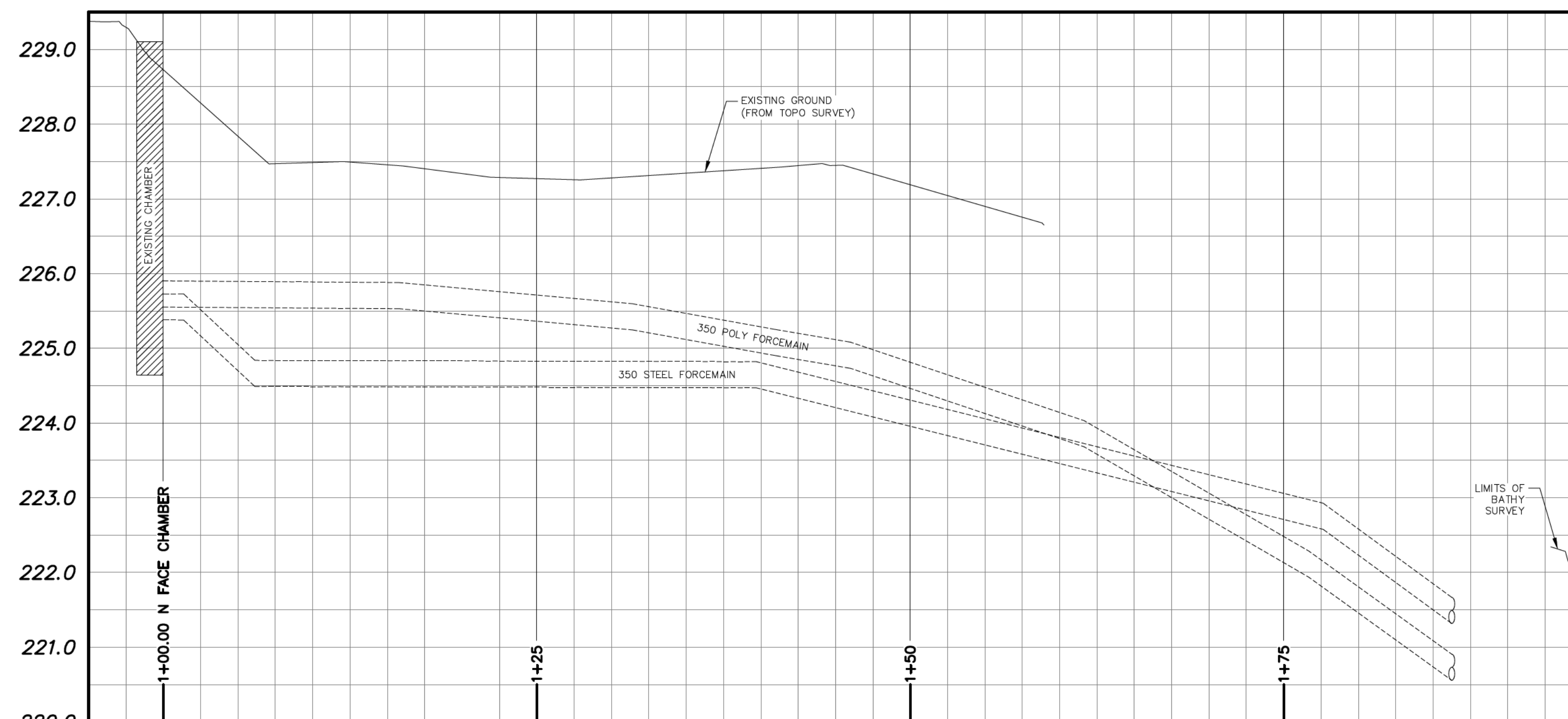
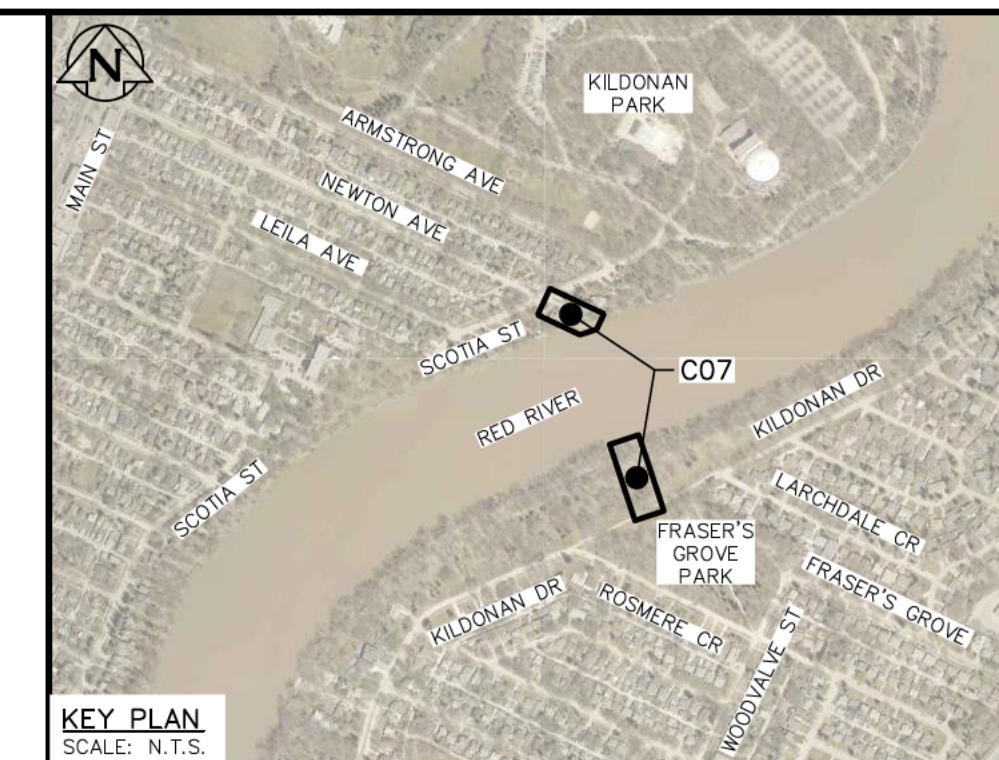
BID OPPORTUNITY: 327-2022B  
CONTRACT NUMBER:

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**PRELIMINARY**  
NOT TO BE USED FOR CONSTRUCTION

FOR INDEX PAGE  
SFF DWG

**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES



## WARNING

IF POWER EQUIPMENT OR EXPLOSIVES  
ARE TO BE USED FOR EXCAVATION ON  
THIS PROJECT THE CONTRACTOR MUST:

- 1) NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
- 2) TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS.

SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.

PLAN  
SCALE 1:250

LOCATION APPROVED  
UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES \_\_\_\_\_ DATE \_\_\_\_\_

NOTE

LOCATION OF UNDERGROUND STRUCTURES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT EXISTING UTILITIES ARE SHOWN OR THAT THE LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M.	FLYV
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B	ISSUED 66% FOR REVIEW	2022 08 16		RB
A	ISSUED 33% FOR REVIEW	2022 07 11		RB
NO	REVISIONS	DATE		RY

**KGS**  
GROUP

ENGINEER'S SEAL

CONSULTANT DRAWING NUMBER  
22-0107-21\_C07

BID OPPORTUNITY: 327-2022E  
CONTRACT NUMBER:



Winnipeg

THE CITY OF WINNIPEG  
WATER AND WASTE DEPARTMENT  
ENGINEERING DIVISION

NEWTON FORCE MAIN  
RIVER CROSSING REPLACEMENT  
**EXISTING FORCEMAIN**  
ABANDONMENT AND CHAMBER MODIFICATIONS

SHEET	OF	
CITY DRAWING NUMBER		

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