
**HALIBURTON COMMERCIAL DEVELOPMENT
5065 COUNTY ROAD 21
COUNTY OF HALIBURTON
FUNCTIONAL SERVICING REPORT**



Prepared by:

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20-11523M

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1.0 INTRODUCTION

1.1 Background

The property owner is proposing to construct a commercial development on an unaddressed lot to the rear of 5065 County Road 21, in the County of Haliburton. The property is approximately 3.67 ha in size and is legally described as Parts 1 and 2, Plan 19R-7918, in the Geographic Township of Dysart, County of Haliburton. The property is bounded by Mallard Road to the North-east, vacant forested lands to the west, and commercial development to the south and east. (see Figure 1).

Development on the property is proposed to include industrial or commercial buildings with associated surface parking. The development plans for each individual lot are unknown at this stage and will be determined as lots are sold and developed. Access to the site will be provided by the extension of a proposed road off of Mallard Road.

1.2 Purpose and Scope

Pinestone Engineering Ltd (PEL) has been retained by the developer to prepare a functional servicing report (FSR) in support of the current planning applications. The report describes the proposed servicing strategy for the site.

2.0 REFERENCE REPORTS

The following reports and studies have been used for reference in the preparation of this Servicing and Storm Water Management Plan:

- i) *Ministry of the Environment's Design Guidelines for Sewage Works, 2008.*

3.0 EXISTING CONDITIONS

3.1 General

The subject site is approximately 3.67 hectares in size. Access is provided by a gravel driveway extending off of Mallard Road. The majority of the site is currently vacant and heavily vegetated with grasses and trees. A gravel yard and parking area are currently constructed in the southern portion of the site.

There is a well-defined intermittent watercourse that crosses the center of the property, flowing from west to east. An existing 500mm dia. culvert and swale convey the watercourse to adjacent lands east of the property.

Currently, water and sewage services are not available on the site.




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| | | | |
|-----------------------------------|------------------|---------------------------|------------------------|
| HALIBURTON COMMERCIAL DEVELOPMENT | | | |
| LOCATION PLAN | | | |
| DATE: NOVEMBER 2024 | SCALE: N.T.S. | PROJECT No. 20-11523-M | FIGURE No. FIGURE 1 |

4.0 PROPOSED DEVELOPMENT

Development on the property is proposed to include industrial or commercial buildings with associated surface parking. The site plan configurations for each lot are unknown at this stage and will be determined as individual lots are sold and developed. Access to the site will be provided by the extension of a proposed road off of Mallard Road. It is anticipated that Site Plan Approval (SPA) will be required for each individual lot development.

Drainage from the proposed buildings and surface parking facility of each individual lot will be directed to a parking lot ponding storage area or storm water management pond to attenuate peak flows. Where parking lot storage is utilized, site drainage will be directed to an oil/grit separator unit designed to provide an enhanced level of quality control for each lot, prior to discharging to the proposed municipal ditches and ultimately to Grass Lake.

Sanitary servicing is available on County Road 21 and will be extended to the site via a proposed easement crossing the Curry Chevrolet Buick GMC Ltd property. A preliminary plan and profile for the sanitary sewer extension through the proposed easement and private condominium road is shown on drawings PP-1 and PP-2.

Water servicing will be provided by individual wells.

5.0 SANITARY SEWERS

5.1 Existing Infrastructure

There is an existing 250mm dia. PVC sanitary sewer installed on County Road 21. The sewer flows north-east on County Road 21. The Municipality of Dysart is to confirm available residual system capacity of the existing sanitary sewer system based on the anticipated sewage flows outlined in this report.

5.2 Proposed Servicing Strategy

The proposed site development will be serviced by gravity sanitary sewers to be extended to the site from County Road 21 via a proposed easement crossing the Curry Chevrolet Buick GMC Ltd property. A preliminary plan and profile for the sanitary sewer extension through the proposed easement and private condominium road is shown on drawings PP-1 and PP-2.

The proposed peak sanitary design flows for the development were calculated using sewage flow rates, in accordance with MECF guidelines for sewage works, as follows:

- 1.0 L/s/ha for industrial development

The total proposed design flow for the development was determined to be 4.00L/sec. A copy of the sanitary sewer design sheet is included in Appendix B. The capacity of the existing immediate downstream reach of 250mm dia. sanitary sewer is approximately

**HALIBURTON COMMERCIAL DEVELOPMENT
5065 COUNTY ROAD 21, COUNTY OF HALIBURTON
FUNCTIONAL SERVICING REPORT**

101.2 L/sec and the proposed design flow is expected to utilize 3.95% of the total pipe capacity in this reach.

6.0 WATERMAIN

There is no municipal water treatment or distribution system within the Village of Haliburton. Individual wells will be required on each lot to supply domestic water, with on-site treatment provided based on the chemistry of the source water.

6.1 Analysis of On-site Fire Protection

The Dysart Fire Department is primarily comprised of volunteer firefighters. Most of their firefighting operations are made up of drafting, water shuttling and pump relaying. Grass Lake is a natural water source that is in close proximity to the proposed building sites and available as a drafting location. Alternatively on-site tank storage with dry hydrant connection could be provided on each lot, with the storage volume based on the size and type of building proposed and the Fire Underwriters Survey calculation guide.

7.0 SUMMARY AND CONCLUSIONS

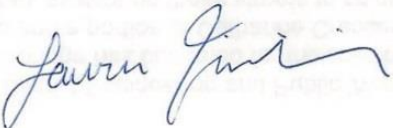
The findings of this report are summarized as follows:

- Gravity sewer can be extended from County Road 21 to service the development.
- Wells will be required on each lot to supply domestic water with on-site treatment provided.
- Fire protection can be provided by drafting or dry-hydrant connections.

It is recommended that this report and drawings be submitted to the County of Haliburton and the Municipality of Dysart et al for review and approval.

All of which is respectfully submitted.

PINESTONE ENGINEERING LTD.




Lauren Trividic, P.Eng.



APPENDIX A

Design Calculations

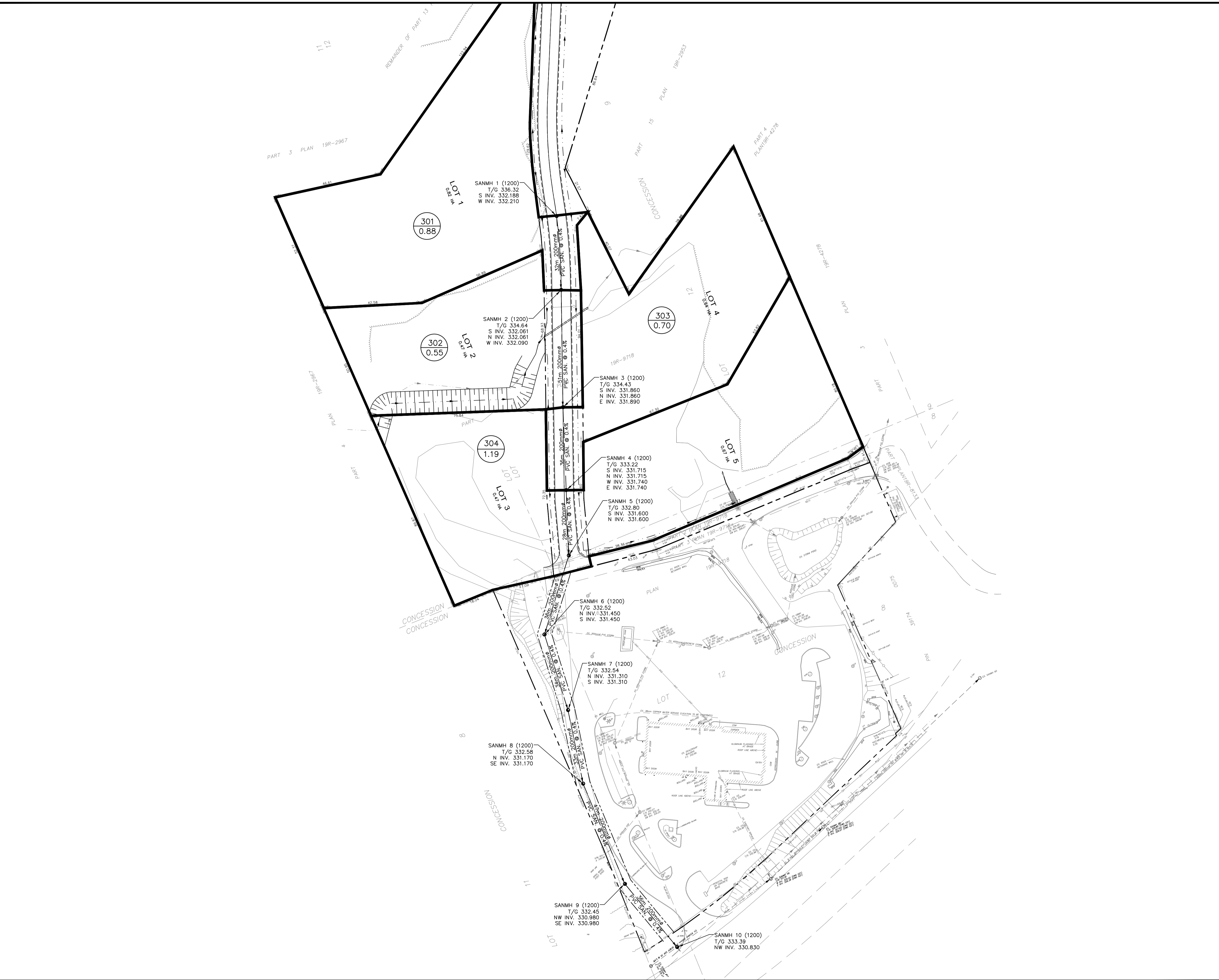


| | | | | | | | | | |
|--|--|------------------------------------|--|---|--|--|--|---|--|
| Haliburton Commerical Development | | SANITARY SEWER DESIGN SHEET | | Design Parameters | | | |  | |
| Municipality of Dysart | | | | ENGINEERING AND PUBLIC WORKS | | Average Daily Flow Residential 0.0052 L/s/c | | | |
| Project Number: 20-11523M Date: January 14, 2025 Design By: LT Checked By: LT File: Z:\Project Documents\11500 - 11749\11523M Campbell Commercial\FSR\Sanitary Sewer Design Sheet - Revised Jan 2025 | | Drainage Area Plan No: SAN - 1 | | Commercial 1.5 L/s/ha Industrial 1.0 L/s/ha Inst. / School 2.5 L/s/ha | | Residential Areas Infiltration 0.28 L/s/ha | | | |

| LOCATION | | | | RESIDENTIAL AREAS and POPULATION | | | | | SCHOOL, INSTITUTIONAL | COMMERCIAL | INDUSTRIAL | | INFILTRATION | | | DESIGN | | | | | | | | | | | | | |
|----------|----------|------------------|-------|----------------------------------|------------|--------|--------------|-----------------|-----------------------|----------------------------------|------------|-------|--------------|------|--------|-------------|------|------|-----------------|--------|------------|------------|-------------------|----------|-------|-----------|----------|--------------------|-----------------|
| STREET | AREA NO. | MANHOLE LOCATION | | AREA | UNITS | POPUL. | CUMUL POPUL. | PEAK FACTOR "F" | PEAK RES. FLOW | HECTARES AND FLOW OF EACH ZONING | | | | | | | | | TOTALS C-I FLOW | AREA | CUMUL AREA | INFIL FLOW | TOTAL VOLUME FLOW | LENGTH | SLOPE | PIPE SIZE | CAPACITY | FULL FLOW VELOCITY | ACTUAL VELOCITY |
| | | FROM MH | TO MH | | | | | | | 2.50 L/s/ha | | | 1.50 L/s/ha | | | 1.00 L/s/ha | | | | | | | | | | | | | |
| | | | | ha | 3.5pp/unit | 1000s | 1000s | | L/sec | ha | ha | L/sec | ha | ha | L/sec | L/sec | ha | ha | L/sec | L/sec | m | % | mm | L/sec. | m/s | m/s | | | |
| LOT 1 | 301 | 1 | 2 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.82 | 0.82 | 0.8200 | 0.8200 | 0.88 | 0.88 | 0.2464 | 1.0664 | 32.0 | 4.80 | 200 | 71.8213 | 2.287 | 0.820 | | | |
| LOT 2 | 302 | 2 | 3 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.47 | 1.29 | 1.2900 | 1.2900 | 0.55 | 1.43 | 0.4004 | 1.6904 | 51.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.397 | | | |
| LOT 4 | 303 | 3 | 4 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.64 | 1.93 | 1.9300 | 1.9300 | 0.70 | 2.13 | 0.5964 | 2.5264 | 36.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.447 | | | |
| LOTS 3&5 | 304 | 4 | 5 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 1.14 | 3.07 | 3.0700 | 3.0700 | 1.19 | 3.32 | 0.9296 | 3.9996 | 28.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.510 | | | |
| | | 5 | 6 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.00 | 3.07 | 3.0700 | 3.0700 | 0.00 | 3.32 | 0.9296 | 3.9996 | 36.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.510 | | | |
| | | 6 | 7 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.00 | 3.07 | 3.0700 | 3.0700 | 0.00 | 3.32 | 0.9296 | 3.9996 | 34.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.510 | | | |
| | | 7 | 8 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.00 | 3.07 | 3.0700 | 3.0700 | 0.00 | 3.32 | 0.9296 | 3.9996 | 33.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.510 | | | |
| | | 8 | 9 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.00 | 3.07 | 3.0700 | 3.0700 | 0.00 | 3.32 | 0.9296 | 3.9996 | 47.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.510 | | | |
| | | 9 | 10 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.00 | 3.07 | 3.0700 | 3.0700 | 0.00 | 3.32 | 0.9296 | 3.9996 | 36.0 | 0.40 | 200 | 20.7330 | 0.660 | 0.510 | | | |
| | | 10 | EX58 | | | 0.000 | 0.000 | 4.5 | 0.0000 | | | | 0.00 | 3.07 | 3.0700 | 3.0700 | 0.00 | 3.32 | 0.9296 | 3.9996 | 50.0 | 2.90 | 250 | 101.2181 | 2.063 | 0.999 | | | |

APPENDIX B

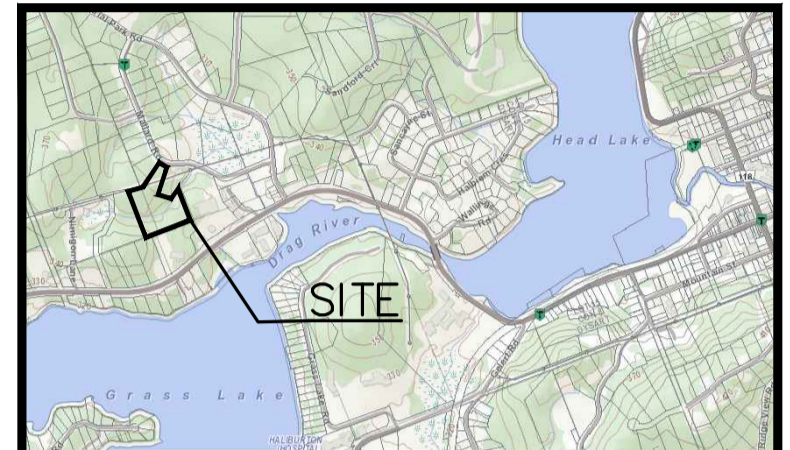
Drawings



The position of existing above ground and underground utilities and facilities are not necessarily shown on the drawings, and where shown, the accuracy of the position of such utilities and facilities is not guaranteed. Before starting work, the contractor shall confirm the exact location of all existing utilities and facilities, and shall assume all liability for damage to them.

Drawings shall not be used for construction unless sealed and signed. All work to be performed in accordance with the Occupational Health & Safety Act 1990.

Any errors and/or omissions shall be reported to Pinestone Engineering Ltd. without delay.



KEY MAP
NOTES

1. TOPOGRAPHIC SURVEY COMPLETED BY PINESTONE ENGINEERING, AUGUST 2020.

LEGEND

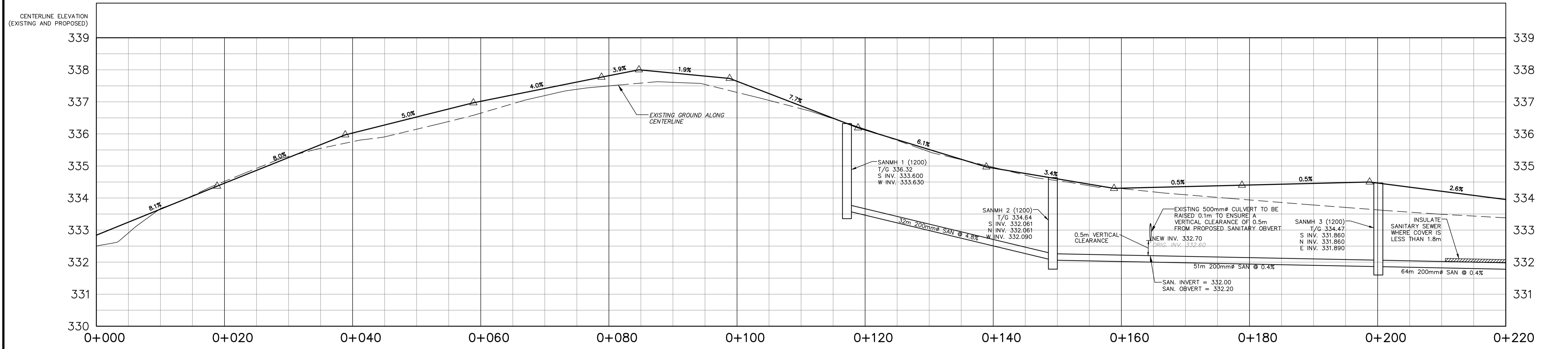
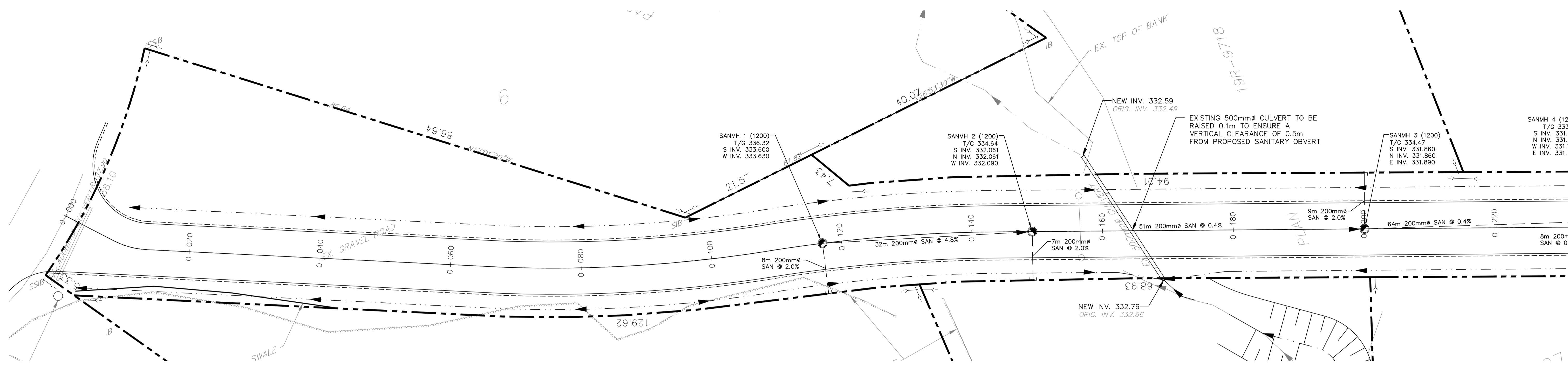
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY SEWER
- SANITARY CATCHMENT BOUNDARY
- CATCHMENT NUMBER
- AREA(ha)

| NO. | YY.MM.DD | REVISION | BY |
|-----|----------|----------|----|
| | | | |

| | |
|--|-------------|
| | NORTH ARROW |
| | |

| | |
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| DESIGN BY: | T.H. |
| DRAWN BY: | G.N. |
| CHECKED: | T.H. |
| DATE: | NOVEMBER 2024 |
| SCALE: | 1:500 |

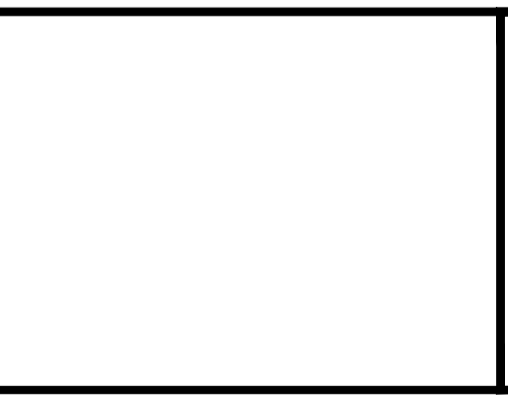
| | | |
|-----------------------------------|-------------|----------|
| CLIENT/PROJECT | | |
| HALIBURTON COMMERCIAL DEVELOPMENT | | |
| DRAWING TITLE | | |
| SANITARY DRAINAGE CATCHMENT PLAN | | |
| PROJECT NO. | DRAWING NO. | REVISION |
| 20-11523-M | SAN-1 | 0 |




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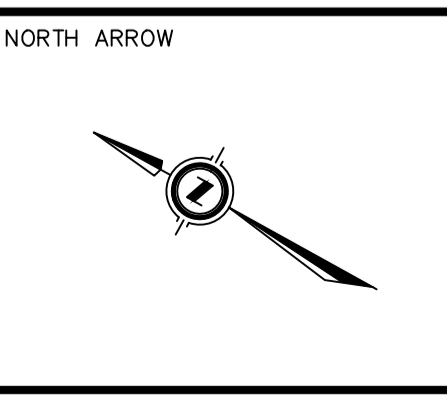
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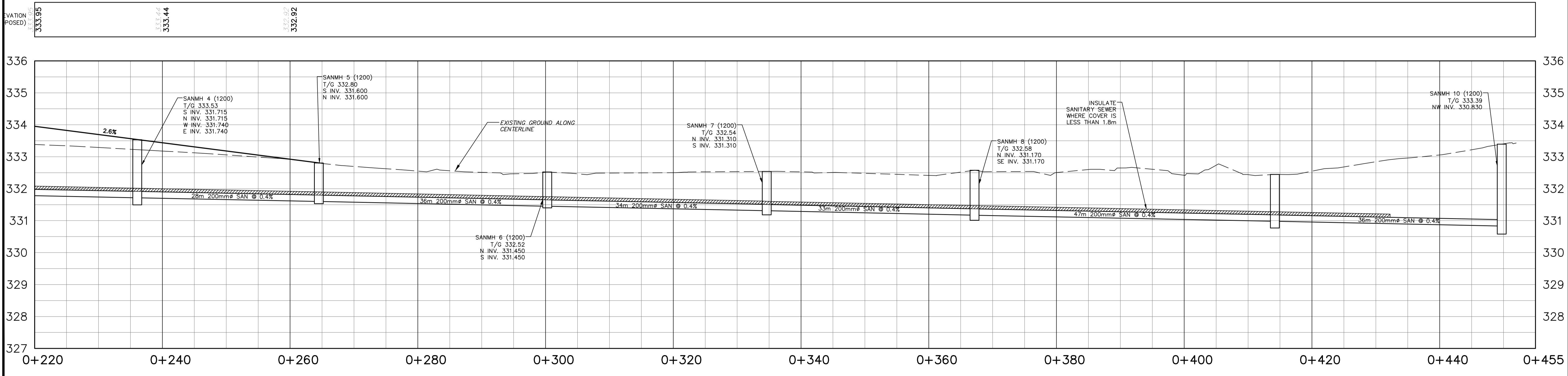
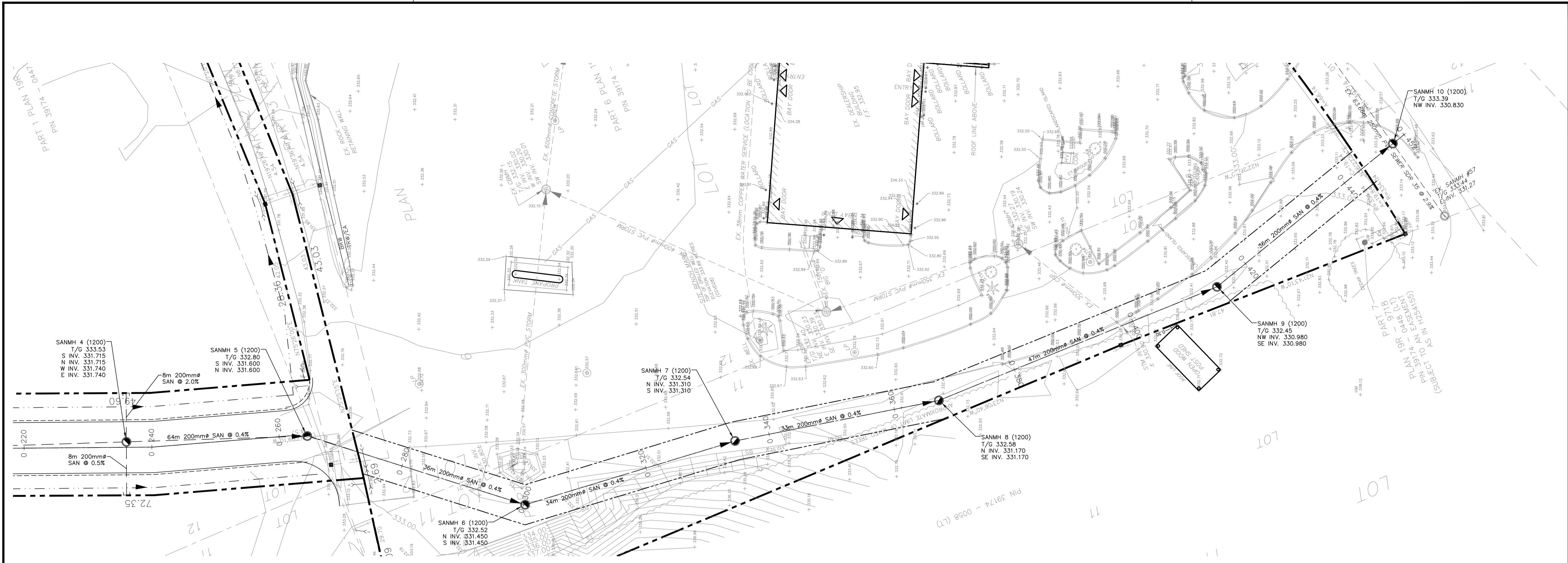


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| SEAL | |
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| DRAWN BY: G.N. | CHECKED BY: L.T. | | |
| DESIGNED BY: L.T. | | | |
| SCALE: 1:300 1:30 | DATE: NOVEMBER 2024 | 1 25.01.10 REVISED PER TOWN COMMENTS | G.N. |
| | | NO. YY.MM.DD | REVISION BY |



| | |
|--|------------------------------------|
| PROJECT: HALIBURTON COMMERCIAL DEVELOPMENT | PROJECT No. : 20-11523-M |
| DRAWING: PROPOSED SANITARY ALIGNMENT STA. 0+000 TO 0+220 | DRAWING No. PP-1 |



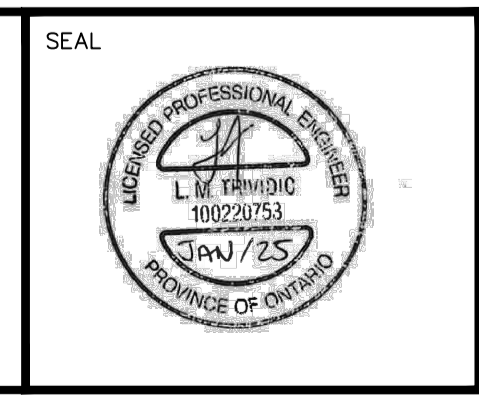
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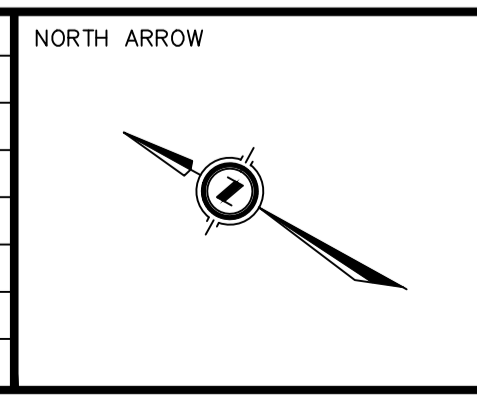
SEAL



DRAWN BY: G.N.
DESIGNED BY: L.T.
SCALE: 1:300
1:30

CHECKED BY: L.T.
DATE: NOVEMBER 2024

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| 1 | 25.01.10 | REVISED PER TOWN COMMENTS | G.N. |
| NO. YY.MM.DD | | | |



PROJECT: HALIBURTON COMMERCIAL DEVELOPMENT

DRAWING: PROPOSED SANITARY ALIGNMENT STA. 0+220 TO STA. 0+455

PROJECT No.: 20-11523-M
DRAWING No.: PP-2