

WILSON DEVELOPMENTS INC.

FUNCTIONAL SERVICING REPORT

**ECO PARKWAY INDUSTRIAL SITE
TOWNSHIP OF SOUTHGATE**

JUNE 2022

COBIDE Engineering Inc
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A – Drawings

SP1 – Proposed Site Plan

SS1 – Proposed Site Servicing Plan

B – SWM Model Output

1. INTRODUCTION

Cobide Engineering Inc. was retained by Wilson Developments to provide engineering services in support of a Site Plan Approval Application for their proposed industrial development in the village of Dundalk.

A copy of the proposed Site Plan has been included in Appendix A as Drawing SP1.

1.1 LOCATION

The proposed development is located Part of Lots 235 and 236, Former Township of Proton, Township of Southgate, County of Grey (described herein as the “site”). A Site Location Map is included as Figure 1. The subject property is approximately 4.85 hectares in area.

1.2 DEVELOPMENT PROPOSAL

The proposed development consists of constructing a 9,300 m² industrial building, two (2) 1,113.6 m² rental unit buildings, adjacent parking areas and an interior roadway. The total area to be developed is approximately 4.85 hectares.

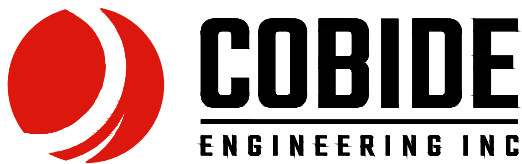
There will be a private road throughout the site providing access around the buildings. One entrance will be provided in the southwest corner of the property off Eco Parkway.

The Site Plan showing the overall configuration of the development has been included in Appendix A and noted as SP1.

The subject property is currently designated Industrial in the Township of Southgate’s Official Plan and is zoned “M1 – General Industrial Zone” in the Township of Southgate’s Zoning By-law. The subject property is within the Dundalk Settlement Boundary of the current Official Plan of the Township of Southgate and thus is intended for servicing from municipal water and municipal sewage.



MAP SOURCE - MTO ROAD MAP



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Client/Project
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 WILSON DEVELOPMENTS
 Township of Southgate, Ontario
 FUNCTIONAL SERVICING REPORT

Figure No.

1

Title

REGIONAL LOCATION MAP

2. WATER DISTRIBUTION SYSTEM

The water distribution system will be sized based on the existing conditions at the connection to the municipal system and the proposed development's estimated demands which are determined by the Ministry of the Environment, Conservation and Parks (MECP) Design Guidelines for Drinking-Water Systems (2008).

2.1 DESIGN CRITERIA

The water distribution system will be design in accordance MOE guidelines which state the system "should be designed to satisfy the greater of the following demands:

- *Maximum day demand plus fire flow; or,*
- *Peak hour demand*

The maximum day demand and peak hour demand are based on the projected water consumption from the development and the fire flow is based on the type of the development.

The system will require modelling during the detailed design stage to ensure the water pressure throughout the system is within the requirements of the MECP.

Based on MECP guidelines, the minimum pressure at ground level at all points in the distribution system under maximum day demand plus fire flow conditions are to be 140 kPa (20 psi). The normal operation pressure should be between 350 kPa (50 psi) to 480 kPa (70 psi). There shall be no point in the distribution system that has a normal operating pressure of less than 275 kPa (40 psi). The maximum pressure in the pipe cannot exceed 700 kPa (100 psi).

2.2 WATER CONSUMPTION

The system will be designed based on the average recommended commercial water demand of 5L/m² of floor area/day and industrial water demand of 45m³/gross hectare/day per the MECP's Design Guidelines for Drinking-Water Systems (2008).

Table 1 below summarizes the projected water demands for the proposed development.

Table 1 - Proposed Water Demands

Demand	Area	Consumption	Peaking Factor	Peak Rate (L/day)	Peak Rate (L/s)
Rental	2,227 m ²	5 L/m ² /day	2.5	27,838	0.32
Warehouse	3 ha	45 m ³ /ha/day	2.5	337,500	3.91

The system should be capable of supplying a minimum of 4.23 L/s of water to meet the peak hour demand of the proposed development.

2.3 WATERMAIN CONFIGURATION

A 150mm diameter watermain will be connected to the municipal system at the proposed entrance into the development. There is currently a 150mm diameter watermain on the east side of Eco Parkway.

Functional Servicing Report
Eco Parkway Industrial Site

A single 50mm diameter connection will be provided to each storage building and a single 150mm diameter connection will be provided to the proposed warehouse building.

A drawing showing the proposed watermain distribution network has been included in Appendix A.

3. SANITARY SEWER SYSTEM

The sanitary servicing of the proposed development will be sized based on the existing conditions at the connection to the municipal sanitary sewer and the proposed development's estimated site demands which are determined by the MECP *Design Guidelines for Sewage Works (2008)*.

3.1 DESIGN CRITERIA

The sanitary sewer system will be designed in accordance MECP guidelines.

The sanitary sewer will be designed to convey the projected peak flow based on the site's occupancy load as well as extraneous flows.

3.2 DESIGN FLOW RATES

The sanitary sewer will be design flows are expected to be similar to the water usage. Therefore the peak flows are expected to be approximately 4.23 l/s.

3.3 SANITARY SEWER CONFIGURATION

There will be a sanitary sewer through the middle of the site with a single connection to the existing sanitary sewer. Based on the as built drawings received for the area, there are sanitary sewers north of the site which connect to the sanitary sewer system on Eco Parkway that will provide the outlet for the development.

All sanitary sewers are proposed to be 200mm diameter PVC pipe. The minimum slope considered will be 0.40% to maintain a minimum velocity at full flow to prevent sediment deposition and blockages.

A drawing showing the proposed sanitary collection network has been included in Appendix A as Drawing 03710-SS1.

4. STORM SEWER SYSTEM

The subject property is currently vacant. The site is generally sloping from south to north, and west to east. There are no existing storm sewers on the property. The site mainly discharges into an existing ditch on the west side of Eco Parkway. Eco Parkway will be considered Discharge Point #1 for the purposes of this report.

The proposed development will be graded such that runoff is conveyed via storm sewer system and sheet flow to a new wet stormwater management pond in the northeast corner of the property. The outlet for the stormwater management pond will consist of a headwall, and a 300mm dia. storm sewer c/w an orifice, that will then discharge into the existing ditch on the west side of Eco Parkway.

The storm sewer system will be designed in accordance with the municipal and conservation authority guidelines including the Ministry of the Environment, Conservation and Parks (MECP) Design Guidelines. The storm sewer system will use the rationale method to size the storm sewer to accommodate the 5 year peak flow from the development. The majority of the site will discharge to the proposed storm sewers.

The hydrologic modelling software PCSWMM Version 7.4.3240 Professional 2D was used to determine the pre and post-development peak flows of the 5 yr., 25 yr., and 100 yr. storm events (3 hour Chicago Storm Event, Dundalk IDF Parameters using MTO Curve Look-Up Tool).

The pre-development and post-development parameters and model outputs are contained in Appendix B.

4.1 DESIGN REQUIREMENTS

The intent of stormwater quantity control is to limit the flows under proposed conditions to existing levels or less to protect the downstream watercourses, infrastructure and properties.

Minor and Major flows from the majority of the development will be conveyed to the proposed stormwater management facility via a new storm sewer system throughout the site and overland flow routes.

Due to the increase in impervious area, stormwater quantity control will be required for the site. The design of the stormwater management facility has assumed a free outlet from the pond.

4.2 SWM FACILITY CHARACTERISTICS

The stormwater management facility and outlet structure have been designed to control peak runoff rates as well as conform to MECP best practices.

In order to provide the above required volumes and discharges, the following SWM Facility geometry is being proposed:

Table 4.1 – SWM Facility Geometry

SWM FACILITY	DETAILED DESIGN
Side Slope	3:1
SWM Facility Bottom	508.00 m
Permanent Pool Elevation	509.00 m
Top Elevation	510.50 m
High Water Elevation	509.77 m

The outlet configuration for the SWM Facility will be as follows:

- A 300mm diameter storm sewer with a 175mm orifice and an outlet elevation of 509.00 m;
- The outlet pipe will discharge into the roadside ditch on the west side of Eco Parkway

As seen by the proposed inverts, the proposed stormwater management facility will be constructed as a wet pond.

4.2.1 SWM FACILITY PERFORMANCE

Below is a summary of the hydraulic performance of the stormwater SWM Facility during the various storm events.

Table 4.2 – SWM Facility Performance

RETURN PERIOD	ELEVATION (m)	STORAGE (m³)	DISCHARGE (l/s)
5 Year	509.46	1,537	42.2
25 Year	509.63	2,184	51.1
100 Year	509.77	2,714	57.1

4.3 MODELLING RESULTS

Based upon the above outlet structure, the following summarizes the pre-development and post development peak flows to the discharge point.

Table 4.3 - Peak Flow Summary

RETURN PERIOD	DISCHARGE POINT #1 (L/S)	
	PRE	POST
5 Year	51.7	42.2
25 Year	109.4	51.1
100 Year	172.7	57.1

As seen in the above table, the post development peak flows will be less than the pre development peak flows for all design storm events at Discharge Point #1. The peak flow is being conservatively controlled by the proposed stormwater management pond.

5. GRADING & EROSION AND SEDIMENT CONTROL

Erosion and sediment controls shall meet the requirements of the most recent version of the MECP *Stormwater Management Planning and Design Manual* at the time of construction.

5.1 CONSTRUCTION STAGE

Prior to the start of construction, appropriate sediment control facilities are to be in place. Following are details regarding erosion and sediment control that are to be implemented:

- Placement of heavy duty siltation fencing is required to be installed around the property boundary within the drainage corridor on the north and east side of the site to intercept sediment that could potentially be transported by sheet flow across the site. Light duty siltation fence will also be installed at any development grading limits where runoff may discharge from the site.
- It is proposed that the stormwater management pond be constructed first to act as a sedimentation basin.
- Placement of temporary straw check dams within the Eco Parkway drainage ditch downstream of the site;
- Installation of filter cloth under all new catchbasin grates until paving of the roadway is completed;
- Mud mats will be placed at construction access to keep public roadways free from debris during the construction period.
- Re-vegetate all disturbed areas after underground and surface works have been constructed.

Prior to removal of sediment control facilities, ensure that sediment that may have accumulated has been removed.

Once the area has been stabilized, the silt fencing can be removed.

Sincerely,

Cobide Engineering Inc.



Travis Burnside, P. Eng.

Appendix A

DRAWINGS

FUNCTIONAL SERVICING REPORT

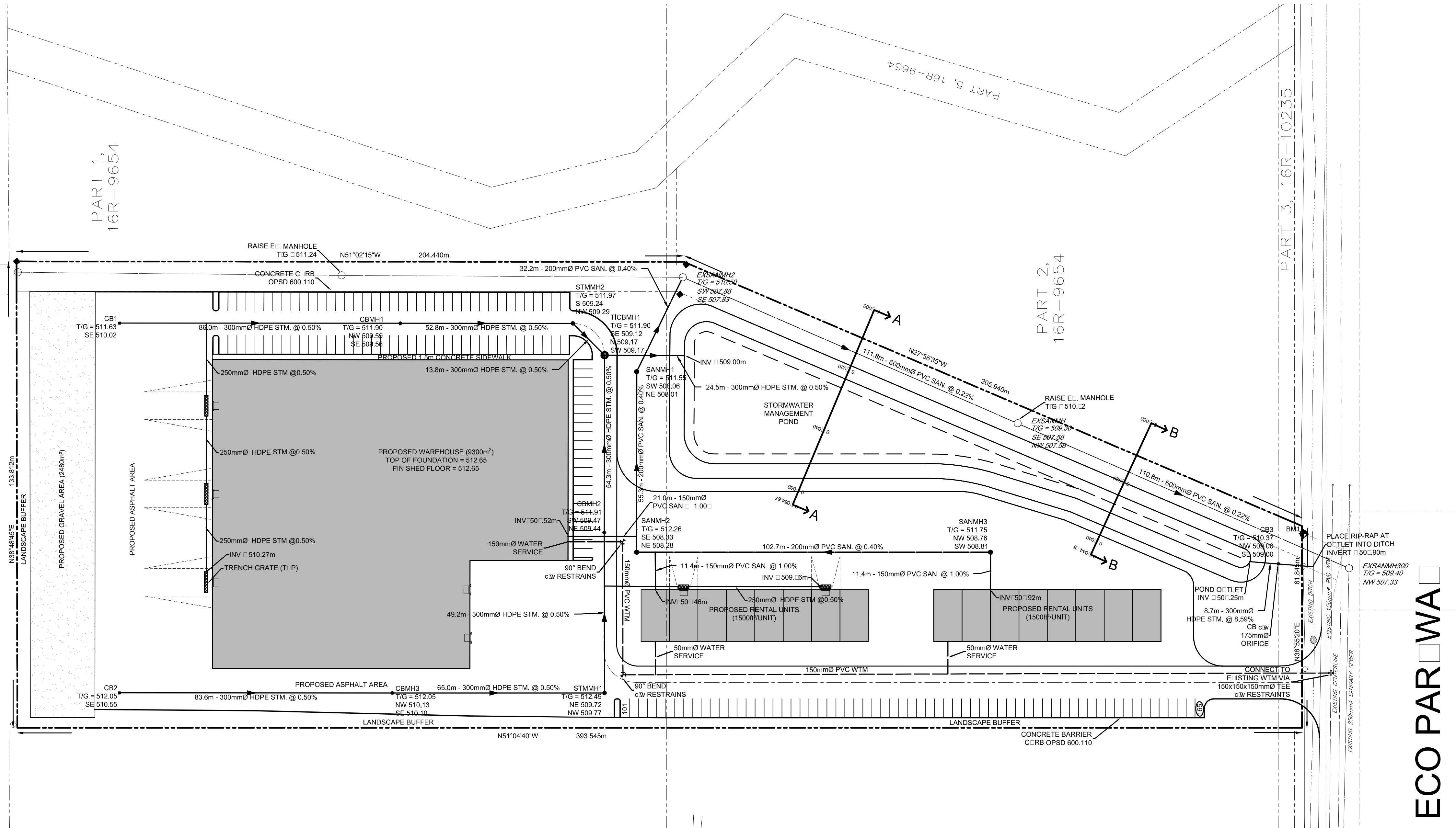
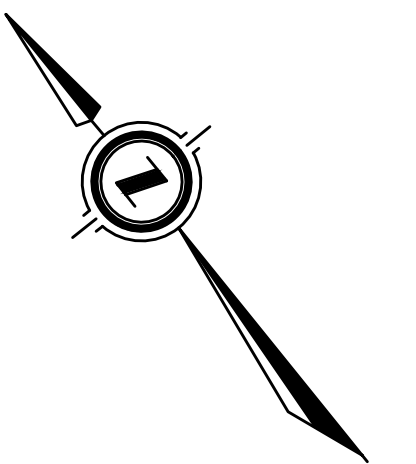
ECO PARKWAY INDUSTRIAL SITE

TOWNSHIP OF SOUTHGATE

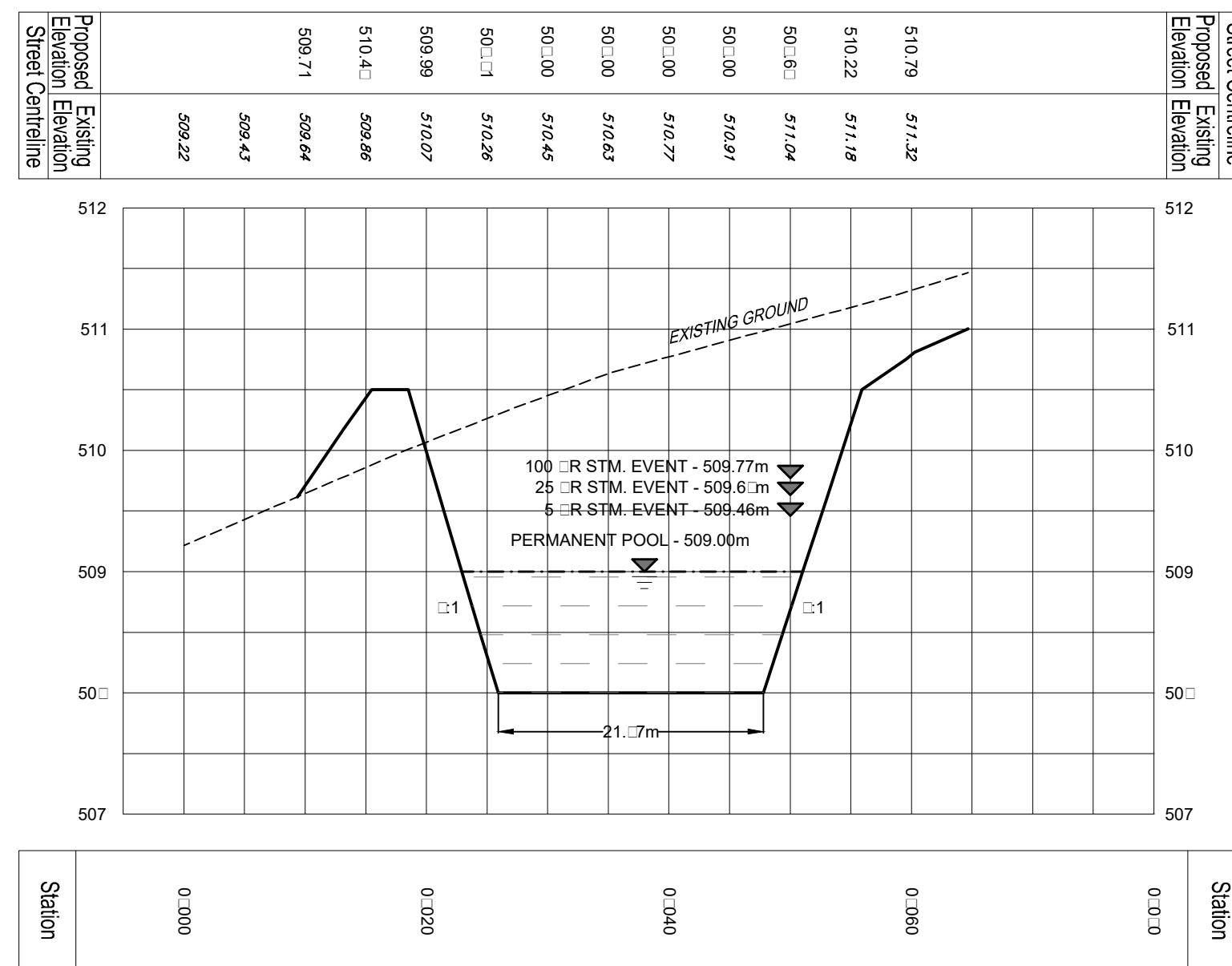
CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE DRAWINGS, AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

Notes

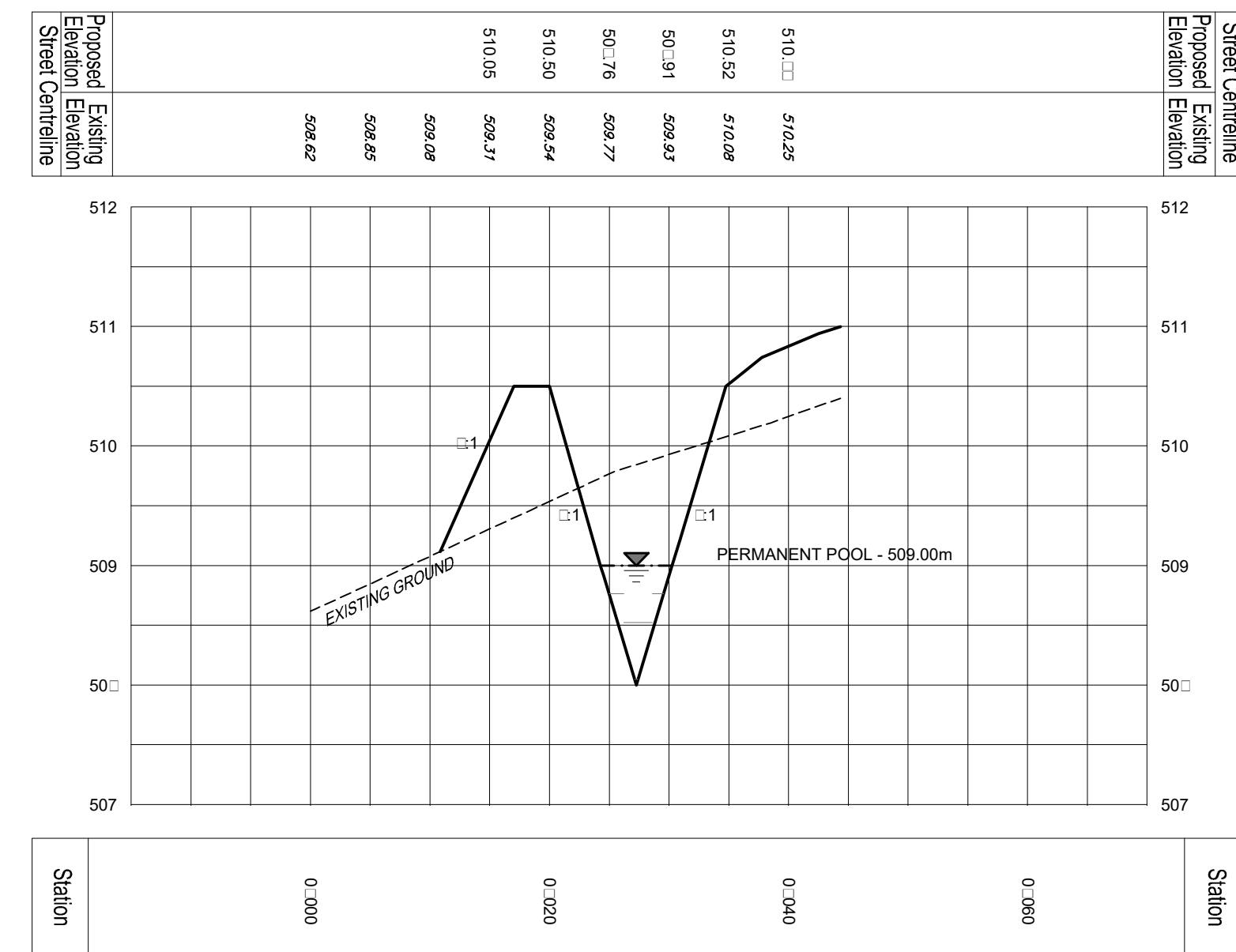
- PROPERTY BOUNDARY DERIVED FROM INFORMATION SHOWN ON PLAN 16R-1609-B, VAN HARTEN SURVEYING INC.
- TOPOGRAPHICAL INFORMATION DERIVED FROM FIELD SURVEY BY WILSON-FORD AS SUPPLIED BY THE TOWNSHIP OF SOOTHGATE.
- SEE SHEET 0.710-DET1 FOR TYPICAL CROSS-SECTION AND PAVEMENT DESIGN.
- ALL ORGANIC MATERIAL WITHIN 1.2m OF FINISHED PROFILE GRADE TO BE REMOVED FROM ALL AREAS UNDER THE TRAVELLED PORTION OF THE ROAD.
- COVER OVER WATERMAIN TO BE MINIMUM 2.0m AT ALL POINTS.
- ALL WATERMANS SHALL BE CONSTRUCTED OF PVC DRI.
- SANITARY SEWER SHALL BE CONSTRUCTED OF PVC SDR-5.
- ALL POINTS OF SANITARY MAINTENANCE HOLES TO BE CALLED WITH MIN. 15mm BEAD, INSTALLED ON THE TOP OF DIRT OF EACH SECTION PRIOR TO SECTION ABOVE BEING INSTALLED, CALLING TO BE SUFFICIENT OR APPROVED EQUIVALENT.
- MAINTAIN 2.5m HORIZONTAL AND 0.50m VERTICAL SEPARATION BETWEEN STORM SANITARY SEWERS AND WATERMAIN.
- ALL STORM CATCHBASINS TO HAVE A MINIMUM SUMP OF 600mm AND ALL STORM MAINTENANCE HOLES TO HAVE A MINIMUM SUMP OF 100mm.
- FIELD LOCATES OF ALL UNDERGROUND UTILITIES INCLUDING BUT NOT LIMITED TO UNDERGROUND GAS, HYDRO, TELEPHONE, AND CABLE TELEVISION SHALL BE ARRANGED PRIOR TO CONSTRUCTION AND IS THEREFORE RESPONSIBILITY OF THE CONTRACTOR.
- THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNTIL STAMPED ISSUED FOR CONSTRUCTION.
- ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE TOWNSHIP OF SOOTHGATE MUNICIPAL SERVICING STANDARDS.



SWMP - SECTION A-A



SWMP - SECTION B-B



Benchmark Information

BM1	TOP OF STANDARD IRON BAR LOCATED AT NORTHEAST CORNER OF SUBJECT PROPERTY	509.20m
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No.	DATE	DESCRIPTION	EV	TLB
1	NE 24 22	FIRST SUBMISSION		

REVISION ISSUE



COBIDE ENGINEERING INC.
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 Telephone: (519) 506-5959
 www.cobideeng.com

PROPOSED INDUSTRIAL SITE
 PART OF LOT 215 AND 216
 FORMER TOWNSHIP OF PROTON
 TOWNSHIP OF SOOTHGATE
 SITE SERVICING PLAN

Client: **WILSON DEVELOPMENTS**

Design: TLB Scale: 1:750
 Draw: [] Approved:
 Checked: TLB
 Date: JAN 2022 Design Engineer

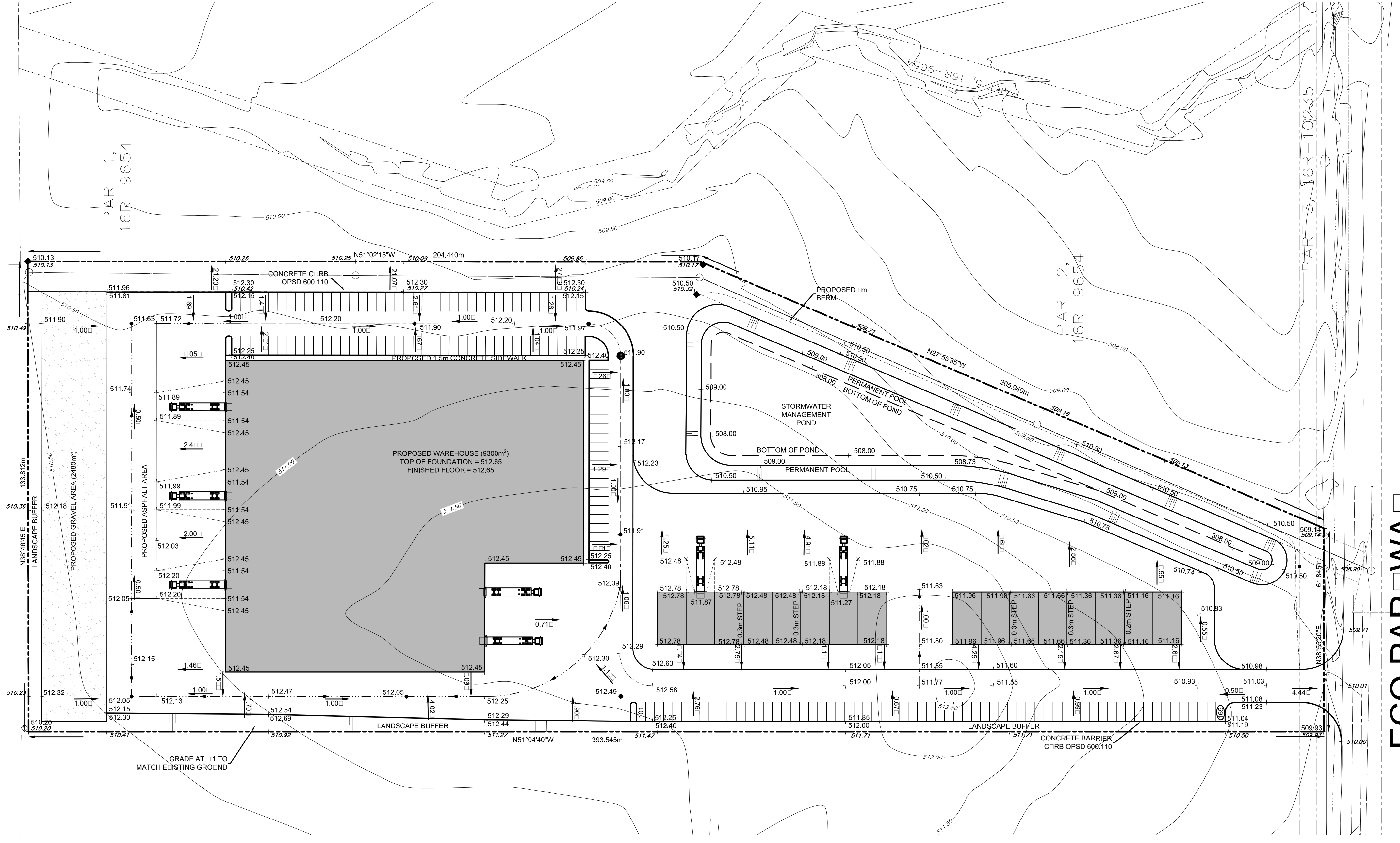
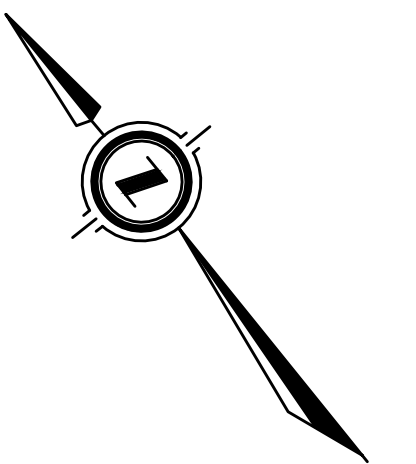
DRAWING No. **0.710-SS1**

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Notes

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2. TOPOGRAPHICAL INFORMATION DERIVED FROM FIELD SURVEY BY WILSON-FORD AS SUPPLIED BY THE TOWNSHIP OF SOOTHGATE.
3. SEE SHEET 0710-DET1 FOR TYPICAL CROSS-SECTION AND PAVEMENT DESIGN.
4. ALL ORGANIC MATERIAL WITHIN 1.2m OF FINISHED PROFILE GRADE TO BE REMOVED FROM ALL AREAS UNDER THE TRAVELLED PORTION OF THE ROAD.
5. COVER OVER WATERMANS TO BE MINIMUM 2.0m AT ALL POINTS.
6. ALL WATERMANS SHALL BE CONSTRUCTED OF PVC DRI.
7. SANITARY SEWER SHALL BE CONSTRUCTED OF PVC SDR-5.
8. ALL JUNCTIONS OF SANITARY MAINTENANCE HOLES TO BE CALLED WITH MIN. 15mm BEAD, INSTALLED ON THE TOP OF JUNCTION OF EACH SECTION PRIOR TO SECTION ABOVE BEING INSTALLED. CALLING TO BE SIGNIFIED BY 1A OR APPROVED EQUIVALENT.
9. MAINTAIN 2.50m HORIZONTAL AND 0.50m VERTICAL SEPARATION BETWEEN STORM SANITARY SEWERS AND WATERMANS.
10. ALL STORM CATCHBASINS TO HAVE A MINIMUM SUMP OF 600mm AND ALL STORM MAINTENANCE HOLES TO HAVE A MINIMUM SUMP OF 100mm.
11. FIELD LOCATES OF ALL UNDERGROUND UTILITIES INCLUDING BUT NOT LIMITED TO UNDERGROUND GAS, HYDRO, TELEPHONE, AND CABLE TELEVISION SHALL BE ARRANGED PRIOR TO CONSTRUCTION AND IS THEREFORE RESPONSIBILITY OF THE CONTRACTOR.
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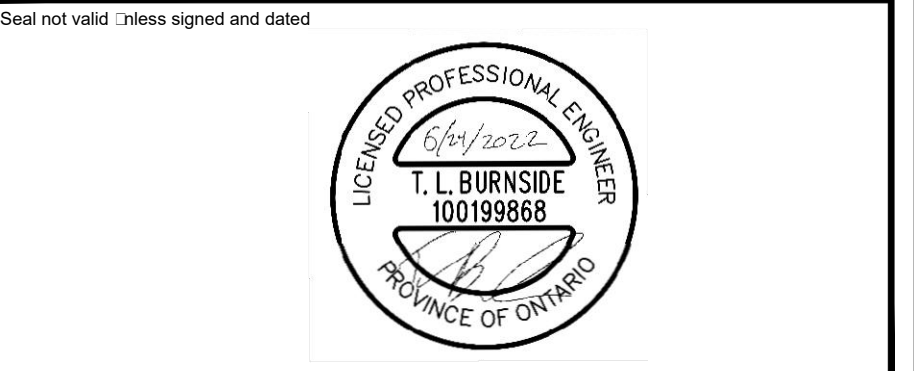


ECO PARADISE

Benchmark Information

BM1	TOP OF STANDARD IRON BAR LOCATED AT NORTHEAST CORNER OF SUBJECT PROPERTY	ELEVATION	509.20m
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No.	DATE	DESCRIPTION	EV	TLB
1	NE 24/22	FIRST SUBMISSION	EV	TLB
REVISION ISSUE				



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**PROPOSED INDUSTRIAL SITE
 PART OF LOT 215 AND 216
 FORMER TOWNSHIP OF PRYOR
 TOWNSHIP OF SOOTHGATE
 SITE GRADING PLAN**

Client: **WILSON DEVELOPMENTS**

Design:	TLB	Scale:	1:750
Drawn:	W	Approved:	
Checked:	TLB		
Date:	JAN 2022		Design Engineer

DRAWING No. 0710-SG1

LEGEND

--- SANMH	PROPOSED SANITARY MANHOLE	--- SANMH	PROPOSED SANITARY MANHOLE
--- STMBH	PROPOSED STORM MANHOLE	--- STMBH	PROPOSED STORM MANHOLE
--- CBMH	PROPOSED CATCHBASIN MANHOLE	--- CBMH	PROPOSED CATCHBASIN MANHOLE
--- TICBMH	PROPOSED TWIN INLET CATCHBASIN MANHOLE	--- TICBMH	PROPOSED TWIN INLET CATCHBASIN MANHOLE
--- CB	PROPOSED CATCH BASIN	--- CB	PROPOSED CATCH BASIN
--- DICB	PROPOSED DITCH INLET CATCHBASIN	--- DICB	PROPOSED DITCH INLET CATCHBASIN
--- CO	PROPOSED SANITARY SERVICE CLEANOUT	--- CO	PROPOSED SANITARY SERVICE CLEANOUT
--- CSV	PROPOSED SANITARY SERVICE CLEANOUT VALVE	--- CSV	PROPOSED SANITARY SERVICE CLEANOUT VALVE
--- CSV	PROPOSED C/RB STOP VALVE	--- CSV	PROPOSED C/RB STOP VALVE
--- CSV	PROPOSED H/DRAIN SET	--- CSV	PROPOSED H/DRAIN SET
--- CSV	PROPOSED STORM SERVICE	--- CSV	PROPOSED STORM SERVICE
--- CSV	PROPOSED GATE VALVE	--- CSV	PROPOSED GATE VALVE
--- CSV	PROPOSED CAP C/W THROUGH BLOC	--- CSV	PROPOSED CAP C/W THROUGH BLOC
--- CSV	PROPOSED BLOWOFF	--- CSV	PROPOSED BLOWOFF
--- CSV	EXISTING HYDRO WIRE	--- CSV	EXISTING HYDRO WIRE
--- CSV	EXISTING HYDRO POLE	--- CSV	EXISTING HYDRO POLE
--- CSV	EXISTING CABLE TV PEDESTAL	--- CSV	EXISTING CABLE TV PEDESTAL
--- CSV	EXISTING TELEPHONE PEDESTAL	--- CSV	EXISTING TELEPHONE PEDESTAL
--- CSV	STANDARD IRON BAR	--- CSV	STANDARD IRON BAR
--- CSV	IRON BAR	--- CSV	IRON BAR
--- CSV	BENCHMARK	--- CSV	BENCHMARK
--- CSV	DROP CURB	--- CSV	DROP CURB

Appendix B

MODEL PARAMETERS AND OUTPUT

STORMWATER MANAGEMENT REPORT

ECO PARKWAY INDUSTRIAL SITE

TOWNSHIP OF SOUTHGATE

Table A.1 Parameter Summary Table

Existing Conditions										
Outlet Location	Model Catchment ID	Description	Area (ha)	Drainage Channel (m)	Flow Length (m)	Gradient (%)	Total Imperv. Connected (%)	Not Connected Imperv. (%)	Manning's 'n' (Perv.)	CN (Perv.)
	101	Pre Development Site	4.85	390	124	2.0	0.0	100%	0.30	72.0
	201	Post Development Site	4.85	600	81	2.0	81.5	0%	0.25	77.0

Table A.2 Site Soils: (as per Ontario Soil Survey Report for Grey County)

Soil Type
Listowel Silt Loam

Hydrologic Soil Group
BC

TABLE OF CURVE NUMBERS (CN's)								
Land Use	Hydrologic Soil Type							Manning's 'n'
	A	AB	B	BC	C	CD	D	
Meadow	50	54	58	64.5	71	74.5	78	0.4
Woodlot	50	55.3	60.5	67	73.5	76.8	80	0.4
Long Grass	55	60	65	72	79	81.5	84	0.3
Lawns	60	65.5	71	77	83	86	89	0.25
Pasture/Range	58	61.5	65	70.5	76	78.5	81	0.17
Crop	66	70	74	78	82	84	86	0.13
Fallow (bare)	77	82	86	89	91	93	94	0.05
Built-up	60	65.5	71	77	83	89	89	0.25
Streets, paved	98	98	98	98	98	98	98	0.01

continuous grass
forests
natural, not maintained
maintained
farm pasture
farm land
idle farm land (bare)
Lawns Existing

HYDROLOGIC SOIL TYPE (%) - Existing Conditions								
Catchment	Hydrologic Soil Type							TOTAL
	A	AB	B	BC	C	CD	D	
101	0	0	0	100	0	0	0	100
201	0	0	0	100	0	0	0	100

LAND USE (%) - Existing Conditions										
Catchment	Meadow	Woodlot	Long Grass	Lawns	Pasture Range	Crop	Fallow (Bare)	Imperv. Not Connected (Rooftops)	Imperv. Connected	Total
101	0	0.0	100.0	0	0	0.0	0	0.0	0.0	100
201	0	0	0	18.5	0	0	0	0.0	81.5	100

CURVE NUMBER (CN) - Existing Conditions											
Catchment	Meadow	Woodlot	Long Grass	Lawns	Pasture Range	Crop	Fallow (Bare)	Built-up	Imperv. Not Connected (Rooftops)	Weighted CN - Pervious	Manning's 'n'
101	65	67	72	77	70.5	78	89	77	90	72.0	0.30
201	65	67	72	77	70.5	78	89	77	90	77.0	0.25

Table A.3: Impervious Area Determination for Subcatchment 101

Existing Conditions

Area of Concern	Total Area (ha)	Impervious Area Connected		Impervious Area Not Connected (Rooftops)		Total (%)
		(ha)	(%)	(ha)	(%)	
101	4.85	0.00	0.0	0.00	0.0	0.0
201	4.85	3.95	81.5	0.00	0.0	81.5

Table A.3 - Impervious Area Determination for Existing Catchments 101

Catchment					Imperv. Area	Imperv %
101	0	m of	20	m wide ROW @ 45% imperv.	0.00 ha	0.0 %
	0	Impervious Area	720	m ² @ 100% imperv.	0.00 ha	0.0 %
	0	Roof Area	100	m ² @ 100% imperv.	0.00 ha	0.0 %
					0.00 ha	
201	0	m of	20	m wide ROW @ 45% imperv.	0.00 ha	0.0 %
	1	Impervious Area	24927	m ² @ 100% imperv.	2.49 ha	51.4 %
	1	Permanent Pool	3060	m ² @ 100% imperv.	0.31 ha	6.3 %
	1	Roof Area	11540	m ² @ 100% imperv.	1.15 ha	23.8 %
					3.95 ha	

ECOPARK WAY SITE PLAN - MODEL SCHEMATIC



Legend

- ▲ Outfalls
- Storages
- Orifices
- Subcatchments



200 m

ECOPARK WAY SITE PLAN – MODEL DETAILS

[TITLE]

;;Project Title/Notes

[OPTIONS]

```

;;Option      Value
FLOW_UNITS    LPS
INFILTRATION  HORTON
FLOW_ROUTING  DYNWAVE
LINK_OFFSETS  ELEVATION
MIN_SLOPE     0
ALLOW_PONDING NO
SKIP_STEADY_STATE NO

START_DATE    5/25/2022
START_TIME    00:00:00
REPORT_START_DATE 5/25/2022
REPORT_START_TIME 00:00:00
END_DATE      5/26/2022
END_TIME      00:00:00
SWEEP_START   1/1
SWEEP_END     12/31
DRY_DAYS      0
REPORT_STEP   00:01:00
WET_STEP      00:05:00
DRY_STEP      00:05:00
ROUTING_STEP   5
RULE_STEP     00:00:00

INERTIAL_DAMPING PARTIAL
NORMAL_FLOW_LIMITED BOTH
FORCE_MAIN_EQUATION H-W
VARIABLE_STEP    0.75
LENGTHENING_STEP 0
MIN_SURFAREA     0
MAX_TRIALS       8
HEAD_TOLERANCE   0
SYS_FLOW_TOL     5
LAT_FLOW_TOL     5
MINIMUM_STEP     0.5
THREADS          8
    
```

[EVAPORATION]

```

;;Data Source Parameters
;;-----
CONSTANT 0.0
DRY_ONLY NO
    
```

[RAINGAGES]

```

;;Name      Format      Interval SCF      Source
;;-----
Chicago_3h  INTENSITY 0:05      1.0      TIMESERIES Chicago_3h
Chicago_3h_100yr INTENSITY 0:05      1.0      TIMESERIES Chicago_3h_100yr
Chicago_3h_25yr INTENSITY 0:05      1.0      TIMESERIES Chicago_3h_25yr
    
```

[SUBCATCHMENTS]

```

;;Name      Rain Gage      Outlet      Area      %Imperv      Width      %Slope      CurbLen      SnowPack
;;-----
101         Chicago_3h     OF1         4.85      0            390        2          0
201         Chicago_3h     SU1         4.85      81.5        600        2          0
    
```

[SUBAREAS]

```

;;Subcatchment N-Imperv N-Perv S-Imperv S-Perv PctZero RouteTo PctRouted
;;-----
101            0.01    0.3    0.05    0.05    25      OUTLET
201            0.01    0.25   0.05    0.05    25      OUTLET
    
```

[INFILTRATION]

```

;;Subcatchment Param1 Param2 Param3 Param4 Param5
;;-----
101            72     0.5    7       0       0      CURVE_NUMBER
201            77     0.5    7       0       0      CURVE_NUMBER
    
```

[OUTFALLS]

ECOPARK WAY SITE PLAN – MODEL DETAILS

```

;;Name      Elevation  Type      Stage Data      Gated      Route To
;;-----
OF1         509.1     FREE
OF2         509       FREE
NO
NO

[STORAGE]
;;Name      Elev.      MaxDepth  InitDepth  Shape      Curve Name/Params      N/A      Fevap      Psi
Ksat      IMD
;;-----
SU1         508       2.5       1          TABULAR    Pond                    0        0

[ORIFICES]
;;Name      From Node      To Node      Type      Offset      Qcoeff      Gated      CloseTime
;;-----
OR1         SU1            OF2          SIDE      509         0.65        NO         0

[XSECTIONS]
;;Link      Shape      Geom1      Geom2      Geom3      Geom4      Barrels      Culvert
;;-----
OR1         CIRCULAR    0.175     0          0          0

[CURVES]
;;Name      Type      X-Value      Y-Value
;;-----
Pond       Storage    0            1860
Pond       1          3060
Pond       2.5       4960

[TIMESERIES]
;;Name      Date      Time      Value
;;-----
;Chicago design storm, a = 541.32, b = 0.093, c = 0.701, Duration = 180 minutes, r = 0.4, rain units = mm/hr.
Chicago_3h

;Chicago design storm, a = 895.37, b = 0.029, c = 0.7, Duration = 180 minutes, r = 0.4, rain units = mm/hr.
Chicago_3h_100yr

;Chicago design storm, a = 737.24, b = 0.067, c = 0.7, Duration = 180 minutes, r = 0.4, rain units = mm/hr.
Chicago_3h_25yr

[REPORT]
;;Reporting Options
INPUT      YES
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 548727.60145 4889582.2144 549762.07555 4889725.9536
UNITS      Meters
    
```

ECOPARK WAY SITE PLAN – 5 YEAR DESIGN STORM EVENT

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

Element Count

Number of rain gages 3
 Number of subcatchments ... 2
 Number of nodes 3
 Number of links 1
 Number of pollutants 0
 Number of land uses 0

Raingage Summary

Name	Data Source	Data Type	Recording Interval
Chicago_3h	Chicago_3h	INTENSITY	5 min.
Chicago_3h_100yr	Chicago_3h_100yr	INTENSITY	5 min.
Chicago_3h_25yr	Chicago_3h_25yr	INTENSITY	5 min.

Subcatchment Summary

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
101	4.85	390.00	0.00	2.0000	Chicago_3h	OF1
201	4.85	600.00	81.50	2.0000	Chicago_3h	SU1

Node Summary

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
OF1	OUTFALL	509.10	0.00	0.0	
OF2	OUTFALL	509.00	0.00	0.0	
SU1	STORAGE	508.00	2.50	0.0	

Link Summary

Name	From Node	To Node	Type	Length	%Slope	Roughness
OR1	SU1	OF2	ORIFICE			

Cross Section Summary

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow

 NOTE: The summary statistics displayed in this report are based on results found at every computational time step, not just on results from each reporting time step.

Analysis Options

Flow Units LPS

ECOPARK WAY SITE PLAN – 5 YEAR DESIGN STORM EVENT

Process Models:

```

Rainfall/Runoff ..... YES
RDII ..... NO
Snowmelt ..... NO
Groundwater ..... NO
Flow Routing ..... YES
Ponding Allowed ..... NO
Water Quality ..... NO
Infiltration Method ..... HORTON
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 05/25/2022 00:00:00
Ending Date ..... 05/26/2022 00:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 1
Head Tolerance ..... 0.001524 m
    
```

```

*****
                Volume          Depth
Runoff Quantity Continuity  hectare-m          mm
*****
Total Precipitation .....      0.413          42.606
Evaporation Loss .....          0.000           0.000
Infiltration Loss .....          0.186          19.197
Surface Runoff .....           0.228          23.503
Final Storage .....            0.002           0.158
Continuity Error (%) .....     -0.590
    
```

```

*****
                Volume          Volume
Flow Routing Continuity    hectare-m          10^6 ltr
*****
Dry Weather Inflow .....          0.000           0.000
Wet Weather Inflow .....          0.228           2.280
Groundwater Inflow .....          0.000           0.000
RDII Inflow .....              0.000           0.000
External Inflow .....           0.000           0.000
External Outflow .....           0.211           2.113
Flooding Loss .....             0.000           0.000
Evaporation Loss .....           0.000           0.000
Exfiltration Loss .....          0.000           0.000
Initial Stored Volume .....       0.246           2.460
Final Stored Volume .....         0.263           2.627
Continuity Error (%) .....          0.000
    
```

```

*****
Time-Step Critical Elements
*****
None
    
```

```

*****
Highest Flow Instability Indexes
*****
All links are stable.
    
```

```

*****
Routing Time Step Summary
*****
Minimum Time Step      :      4.50 sec
Average Time Step      :      5.00 sec
Maximum Time Step      :      5.00 sec
Percent in Steady State :      0.00
Average Iterations per Step :      2.00
Percent Not Converging :      0.00
Time Step Frequencies  :
    
```

ECOPARK WAY SITE PLAN – 5 YEAR DESIGN STORM EVENT

5.000 - 3.155 sec : 100.00 %
 3.155 - 1.991 sec : 0.00 %
 1.991 - 1.256 sec : 0.00 %
 1.256 - 0.792 sec : 0.00 %
 0.792 - 0.500 sec : 0.00 %

 Subcatchment Runoff Summary

Peak Runoff	Runoff Coeff	Total Precip	Total Runon	Total Evap	Total Infil	Imperv Runoff	Perv Runoff	Total Runoff	Total Runoff
Subcatchment		mm	mm	mm	mm	mm	mm	mm	10^6 ltr
LPS									
101		42.61	0.00	0.00	33.29	0.00	9.06	9.06	0.44
51.67	0.213								
201		42.61	0.00	0.00	5.10	35.16	2.79	37.95	1.84
1889.86	0.891								

 Node Depth Summary

Node	Type	Average Depth	Maximum Depth	Maximum HGL	Time of Max Occurrence	Reported Max Depth
		Meters	Meters	Meters	days hr:min	Meters
OF1	OUTFALL	0.00	0.00	509.10	0 00:00	0.00
OF2	OUTFALL	0.00	0.00	509.00	0 00:00	0.00
SU1	STORAGE	1.20	1.46	509.46	0 03:02	1.46

 Node Inflow Summary

Node	Type	Maximum Lateral Inflow	Maximum Total Inflow	Time of Max Occurrence	Lateral Inflow Volume	Total Inflow Volume	Flow Balance Error
		LPS	LPS	days hr:min	10^6 ltr	10^6 ltr	Percent
OF1	OUTFALL	51.67	51.67	0 01:55	0.439	0.439	0.000
OF2	OUTFALL	0.00	42.21	0 03:02	0	1.67	0.000
SU1	STORAGE	1889.86	1889.86	0 01:15	1.84	4.3	0.000

 Node Surcharge Summary

No nodes were surcharged.

 Node Flooding Summary

No nodes were flooded.

 Storage Volume Summary

ECOPARK WAY SITE PLAN – 5 YEAR DESIGN STORM EVENT

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
SU1	3.095	37	0	0	3.997	47	0 03:02	42.21

Outfall Loading Summary

Outfall Node	Flow Freq Pcnt	Avg Flow LPS	Max Flow LPS	Total Volume 10^6 ltr
OF1	97.22	5.23	51.67	0.439
OF2	99.34	19.49	42.21	1.673
System	98.28	24.72	91.81	2.113

Link Flow Summary

Link	Type	Maximum Flow LPS	Time of Max Occurrence days hr:min	Maximum Veloc m/sec	Max/ Full Flow	Max/ Full Depth
OR1	ORIFICE	42.21	0 03:02			1.00

Flow Classification Summary

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class							
		Up Dry	Down Dry	Sub Dry	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
Conduit									

Conduit Surcharge Summary

No conduits were surcharged.

Analysis begun on: Thu Jun 23 20:45:42 2022
 Analysis ended on: Thu Jun 23 20:45:42 2022
 Total elapsed time: < 1 sec

ECOPARK WAY SITE PLAN – 25 YEAR DESIGN STORM EVENT

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

Element Count

```

Number of rain gages ..... 3
Number of subcatchments ... 2
Number of nodes ..... 3
Number of links ..... 1
Number of pollutants ..... 0
Number of land uses ..... 0
    
```

Raingage Summary

Name	Data Source	Data Type	Recording Interval
Chicago_3h	Chicago_3h	INTENSITY	5 min.
Chicago_3h_100yr	Chicago_3h_100yr	INTENSITY	5 min.
Chicago_3h_25yr	Chicago_3h_25yr	INTENSITY	5 min.

Subcatchment Summary

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
101	4.85	390.00	0.00	2.0000	Chicago_3h_25yr	OF1
201	4.85	600.00	81.50	2.0000	Chicago_3h_25yr	SU1

Node Summary

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
OF1	OUTFALL	509.10	0.00	0.0	
OF2	OUTFALL	509.00	0.00	0.0	
SU1	STORAGE	508.00	2.50	0.0	

Link Summary

Name	From Node	To Node	Type	Length	%Slope	Roughness
OR1	SU1	OF2	ORIFICE			

Cross Section Summary

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow

NOTE: The summary statistics displayed in this report are based on results found at every computational time step, not just on results from each reporting time step.

Analysis Options

Flow Units LPS

ECOPARK WAY SITE PLAN – 25 YEAR DESIGN STORM EVENT

Process Models:

```

Rainfall/Runoff ..... YES
RDII ..... NO
Snowmelt ..... NO
Groundwater ..... NO
Flow Routing ..... YES
Ponding Allowed ..... NO
Water Quality ..... NO
Infiltration Method ..... HORTON
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 05/25/2022 00:00:00
Ending Date ..... 05/26/2022 00:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 1
Head Tolerance ..... 0.001524 m
    
```

```

*****
Volume          Depth
Runoff Quantity Continuity  hectare-m      mm
*****
Total Precipitation ..... 0.566          58.334
Evaporation Loss ..... 0.000          0.000
Infiltration Loss ..... 0.230          23.688
Surface Runoff ..... 0.338          34.804
Final Storage ..... 0.002          0.161
Continuity Error (%) ..... -0.545
    
```

```

*****
Volume          Volume
Flow Routing Continuity  hectare-m      10^6 ltr
*****
Dry Weather Inflow ..... 0.000          0.000
Wet Weather Inflow ..... 0.338          3.376
Groundwater Inflow ..... 0.000          0.000
RDII Inflow ..... 0.000          0.000
External Inflow ..... 0.000          0.000
External Outflow ..... 0.315          3.147
Flooding Loss ..... 0.000          0.000
Evaporation Loss ..... 0.000          0.000
Exfiltration Loss ..... 0.000          0.000
Initial Stored Volume .... 0.246          2.460
Final Stored Volume ..... 0.269          2.688
Continuity Error (%) ..... 0.000
    
```

```

*****
Time-Step Critical Elements
*****
None
    
```

```

*****
Highest Flow Instability Indexes
*****
All links are stable.
    
```

```

*****
Routing Time Step Summary
*****
Minimum Time Step      : 4.50 sec
Average Time Step      : 5.00 sec
Maximum Time Step      : 5.00 sec
Percent in Steady State : 0.00
Average Iterations per Step : 2.00
Percent Not Converging  : 0.00
Time Step Frequencies  :
    
```

ECOPARK WAY SITE PLAN – 25 YEAR DESIGN STORM EVENT

5.000 - 3.155 sec : 100.00 %
 3.155 - 1.991 sec : 0.00 %
 1.991 - 1.256 sec : 0.00 %
 1.256 - 0.792 sec : 0.00 %
 0.792 - 0.500 sec : 0.00 %

 Subcatchment Runoff Summary

Peak Runoff	Runoff Coeff	Total Precip	Total Runon	Total Evap	Total Infil	Imperv Runoff	Perv Runoff	Total Runoff	Total Runoff
Subcatchment		mm	mm	mm	mm	mm	mm	mm	10^6 ltr
LPS									
101		58.33	0.00	0.00	41.19	0.00	16.90	16.90	0.82
109.36	0.290								
201		58.33	0.00	0.00	6.19	48.06	4.65	52.70	2.56
2665.59	0.903								

 Node Depth Summary

Node	Type	Average Depth	Maximum Depth	Maximum HGL	Time of Max Occurrence	Reported Max Depth
		Meters	Meters	Meters	days hr:min	Meters
OF1	OUTFALL	0.00	0.00	509.10	0 00:00	0.00
OF2	OUTFALL	0.00	0.00	509.00	0 00:00	0.00
SU1	STORAGE	1.29	1.63	509.63	0 03:03	1.63

 Node Inflow Summary

Node	Type	Maximum Lateral Inflow	Maximum Total Inflow	Time of Max Occurrence	Lateral Inflow Volume	Total Inflow Volume	Flow Balance Error
		LPS	LPS	days hr:min	10^6 ltr	10^6 ltr	Percent
OF1	OUTFALL	109.36	109.36	0 01:40	0.82	0.82	0.000
OF2	OUTFALL	0.00	51.08	0 03:03	0	2.33	0.000
SU1	STORAGE	2665.59	2665.59	0 01:15	2.56	5.02	0.000

 Node Surcharge Summary

No nodes were surcharged.

 Node Flooding Summary

No nodes were flooded.

 Storage Volume Summary

ECOPARK WAY SITE PLAN – 25 YEAR DESIGN STORM EVENT

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
SU1	3.411	40	0	0	4.644	55	0 03:03	51.08

Outfall Loading Summary

Outfall Node	Flow Freq Pcnt	Avg Flow LPS	Max Flow LPS	Total Volume 10^6 ltr
OF1	97.84	9.70	109.36	0.820
OF2	99.47	27.08	51.08	2.327
System	98.65	36.78	156.10	3.147

Link Flow Summary

Link	Type	Maximum Flow LPS	Time of Max Occurrence days hr:min	Maximum Veloc m/sec	Max/ Full Flow	Max/ Full Depth
OR1	ORIFICE	51.08	0 03:03			1.00

Flow Classification Summary

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class							
		Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl

Conduit Surcharge Summary

No conduits were surcharged.

Analysis begun on: Thu Jun 23 20:44:15 2022
 Analysis ended on: Thu Jun 23 20:44:15 2022
 Total elapsed time: < 1 sec

ECOPARK WAY SITE PLAN – 100 YEAR DESIGN STORM EVENT

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

Element Count

Number of rain gages 3
 Number of subcatchments ... 2
 Number of nodes 3
 Number of links 1
 Number of pollutants 0
 Number of land uses 0

Raingage Summary

Name	Data Source	Data Type	Recording Interval
Chicago_3h	Chicago_3h	INTENSITY	5 min.
Chicago_3h_100yr	Chicago_3h_100yr	INTENSITY	5 min.
Chicago_3h_25yr	Chicago_3h_25yr	INTENSITY	5 min.

Subcatchment Summary

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
101	4.85	390.00	0.00	2.0000	Chicago_3h_100yr	OF1
201	4.85	600.00	81.50	2.0000	Chicago_3h_100yr	SU1

Node Summary

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
OF1	OUTFALL	509.10	0.00	0.0	
OF2	OUTFALL	509.00	0.00	0.0	
SU1	STORAGE	508.00	2.50	0.0	

Link Summary

Name	From Node	To Node	Type	Length	%Slope	Roughness
OR1	SU1	OF2	ORIFICE			

Cross Section Summary

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow

 NOTE: The summary statistics displayed in this report are based on results found at every computational time step, not just on results from each reporting time step.

Analysis Options

Flow Units LPS

ECOPARK WAY SITE PLAN – 100 YEAR DESIGN STORM EVENT

Process Models:

```

Rainfall/Runoff ..... YES
RDII ..... NO
Snowmelt ..... NO
Groundwater ..... NO
Flow Routing ..... YES
Ponding Allowed ..... NO
Water Quality ..... NO
Infiltration Method ..... HORTON
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 05/25/2022 00:00:00
Ending Date ..... 05/26/2022 00:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 1
Head Tolerance ..... 0.001524 m
    
```

```

*****
Volume          Depth
Runoff Quantity Continuity  hectare-m      mm
*****
Total Precipitation ..... 0.687          70.857
Evaporation Loss ..... 0.000          0.000
Infiltration Loss ..... 0.258          26.618
Surface Runoff ..... 0.431          44.450
Final Storage ..... 0.002          0.161
Continuity Error (%) ..... -0.524
    
```

```

*****
Volume          Volume
Flow Routing Continuity  hectare-m      10^6 ltr
*****
Dry Weather Inflow ..... 0.000          0.000
Wet Weather Inflow ..... 0.431          4.312
Groundwater Inflow ..... 0.000          0.000
RDII Inflow ..... 0.000          0.000
External Inflow ..... 0.000          0.000
External Outflow ..... 0.402          4.017
Flooding Loss ..... 0.000          0.000
Evaporation Loss ..... 0.000          0.000
Exfiltration Loss ..... 0.000          0.000
Initial Stored Volume .... 0.246          2.460
Final Stored Volume ..... 0.275          2.755
Continuity Error (%) ..... 0.000
    
```

```

*****
Time-Step Critical Elements
*****
None
    
```

```

*****
Highest Flow Instability Indexes
*****
All links are stable.
    
```

```

*****
Routing Time Step Summary
*****
Minimum Time Step      : 4.50 sec
Average Time Step      : 5.00 sec
Maximum Time Step      : 5.00 sec
Percent in Steady State : 0.00
Average Iterations per Step : 2.00
Percent Not Converging  : 0.00
Time Step Frequencies  :
    
```

ECOPARK WAY SITE PLAN – 100 YEAR DESIGN STORM EVENT

5.000 - 3.155 sec : 100.00 %
 3.155 - 1.991 sec : 0.00 %
 1.991 - 1.256 sec : 0.00 %
 1.256 - 0.792 sec : 0.00 %
 0.792 - 0.500 sec : 0.00 %

 Subcatchment Runoff Summary

Peak Runoff	Runoff Coeff	Total Precip	Total Runon	Total Evap	Total Infil	Imperv Runoff	Perv Runoff	Total Runoff	Total Runoff
Subcatchment		mm	mm	mm	mm	mm	mm	mm	10^6 ltr
LPS									
101		70.86	0.00	0.00	46.37	0.00	24.27	24.27	1.18
172.65	0.342								
201		70.86	0.00	0.00	6.87	58.32	6.31	64.63	3.13
3314.94	0.912								

 Node Depth Summary

Node	Type	Average Depth	Maximum Depth	Maximum HGL	Time of Max Occurrence	Reported Max Depth
		Meters	Meters	Meters	days hr:min	Meters
OF1	OUTFALL	0.00	0.00	509.10	0 00:00	0.00
OF2	OUTFALL	0.00	0.00	509.00	0 00:00	0.00
SU1	STORAGE	1.37	1.77	509.77	0 03:03	1.77

 Node Inflow Summary

Node	Type	Maximum Lateral Inflow	Maximum Total Inflow	Time of Max Occurrence	Lateral Inflow Volume	Total Inflow Volume	Flow Balance Error
		LPS	LPS	days hr:min	10^6 ltr	10^6 ltr	Percent
OF1	OUTFALL	172.65	172.65	0 01:35	1.18	1.18	0.000
OF2	OUTFALL	0.00	57.05	0 03:03	0	2.84	0.000
SU1	STORAGE	3314.94	3314.94	0 01:15	3.13	5.59	0.000

 Node Surcharge Summary

No nodes were surcharged.

 Node Flooding Summary

No nodes were flooded.

 Storage Volume Summary

ECOPARK WAY SITE PLAN – 100 YEAR DESIGN STORM EVENT

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
SU1	3.700	44	0	0	5.174	61	0 03:03	57.05

 Outfall Loading Summary

Outfall Node	Flow Freq Pcnt	Avg Flow LPS	Max Flow LPS	Total Volume 10^6 ltr
OF1	98.17	13.88	172.65	1.177
OF2	99.54	33.02	57.05	2.840
System	98.85	46.89	223.85	4.017

 Link Flow Summary

Link	Type	Maximum Flow LPS	Time of Max Occurrence days hr:min	Maximum Veloc m/sec	Max/ Full Flow	Max/ Full Depth
OR1	ORIFICE	57.05	0 03:03			1.00

 Flow Classification Summary

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class							
		Up Dry	Down Dry	Sub Dry	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl

 Conduit Surcharge Summary

No conduits were surcharged.

Analysis begun on: Thu Jun 23 20:41:30 2022
 Analysis ended on: Thu Jun 23 20:41:30 2022
 Total elapsed time: < 1 sec