Ecometrix | Environmental INTELLIGENCE

PRELIMINARY FUNCTIONAL SERVICING REPORT AND STORMWATER MANAGEMENT REPORT

STELLAR ESTATES SUBDIVISION PHASE 2

REPORT PREPARED FOR:

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1.0 Introduction

Ecometrix Incorporated has been retained by Stellar Homes Inc. to prepare a Preliminary Functional Servicing and Stormwater Management Report for the proposed second phase of the Stellar Estates Subdivision (Phase 2). This report is supporting documentation for the Draft Plan of Subdivision application for Phase 2.

The site is in the Palgrave Estates area of the Town of Caledon on Mulloy Court. Mulloy Court is west of Mount Pleasant Road between Old Church Road and Castlederg Side Road. The site is bounded by Mount Pleasant Road to the east, Mulloy Court and existing estate residential development to the north and west (Stellar Estates Subdivision herein denoted as Phase 1; Registered Plan 43M-1994), and agricultural land to the south. The legal description of the property is Part of Lot 18, Concession 8, former Township of Albion, Town of Caledon, Regional Municipality of Peel.

The Phase 2 site comprises approximately 4.10 hectares or 10.13 acres. It is proposed to develop the site with 5 estate residential lots using private septic systems for sewage disposal systems and municipal water. All 5 lots would front on to Mulloy Court. Mulloy Court was constructed in 2013/2014 with an urban road cross-section and comprises 10 estate residential lots serviced with private septic systems and municipal water. The Stellar Estates Subdivision Phase 1 (Registered Plan 43M-1994) has not been assumed as of the writing of this report. Currently, the 10 lots associated with the Stellar Estates Subdivision Phase 1 have either constructed and occupied dwellings (7) or dwellings under construction (3). Drainage and stormwater for the proposed Phase 2 site would be managed with existing infrastructure and application of Low Impact Development (LID) practices.

The objective of this report is to describe proposed sanitary and water servicing, drainage and stormwater management, site grading, and other proposed servicing infrastructure. Also addressed in this report are applicable review comments made on the Draft Plan of Subdivision application of March 2024, in particular, the Preliminary Functional Servicing and Stormwater Management Report dated January 26, 2024 and associated preliminary engineering drawings.

2.0 Study Area

2.1 General

The site is in the Palgrave Estates area of the Town of Caledon on Mulloy Court. Mulloy Court is west of Mount Pleasant Road between Old Church Road and Castlederg Side Road. The site is bounded by Mount Pleasant Road to the east, Mulloy Court and existing estate residential development to the north and west (Stellar Estates Subdivision herein denoted as Phase 1; Registered Plan 43M-1994), and agricultural land to the south. The legal description of the property is Part of Lot 18, Concession 8, former Township of Albion, Town of Caledon, Regional Municipality of Peel.

Illustrated on the Site Plan in Appendix A is the proposed lot pattern. Access to all five lots would be from Mulloy Court.

2.2 Physiography and Landform

The Phase 2 site is located within the physiographic region referred to as the Oak Ridges Moraine (ORM). The ORM encompasses a stretch of about 160 kilometres from the Trent River to the east to the Niagara Escarpment to the west, and typically varies from 2 to 11 kilometres in width. The moraine was created as glaciers receded and deposited layers of sand and gravel that are separated by clay and till soils. The ORM comprises smaller landforms, including Palgrave Morane, within which the site is located (Chapman and Putnam, 1984). The Palgrave Moraine is an ice-contact stratified area of sands, gravels, and silts that originated as kame outwash deposits, and consists of a strip of hummocky topography 5 to 7 kilometers in width extending from Caledon East to the Palgrave and Mount Wolfe area, and then east to King City (White, 1975).

2.3 Topography

The site and surrounding area is characterized by gently sloping terrain with moderate to shallow slopes. Elevation tends to gradually decrease moving from north to south across the site. Surface water from the site drains to a tributary of the Humber River. Thus, the site falls under jurisdiction of the Toronto and Region Conservation Authority. Specifically, the site is part of the Cold Creek subwatershed, which drains to the main branch of the Humber River.

The highest elevation within the site occurs at the top of a small ridge located along the north property limit at approximate elevation 269 metres and the lowest elevation occurs in the southwest corner of the site and along Mount Pleasant Road at approximate elevation 264 metres.

The Palgrave Estates Residential Community Secondary Plan (PERCSP) contains policies for development within the Palgrave Estates area which apply to the proposed subdivision. Specific references to topography and slopes within the secondary plan are discussed below.

Section 7.1.9.11 of the PERSCP specifies that structure envelopes will generally be restricted to areas with slopes of 10 per cent or less and may include areas with 11 to 15 per cent slope and occasionally greater than a 15 percent slope to permit the advantageous siting of a house designed for steep slopes. Additionally, all structure envelopes must include a well-drained area with slopes of 10 percent or less for a sewage disposal system. Consistent with this policy, all proposed lots have an appropriate area for a sewage disposal system (discussed further in Section 6.1 of this report) and generally include gentler slopes within the structure envelope.

Section 7.1.9.23 of the PERSCP specifies that the continuity and integrity of the lowland open space system must be maintained in estate residential plans of subdivision. The proposed subdivision is in general conformance with this policy based on the siting of lot structure envelopes away from the lowland areas, and Key Natural Heritage Feature and associated minimum vegetation protection zone in the southwest corner of the site..

Section 7.1.9.40 of the PERSCP specifies that roads in estate residential developments should follow the topography of the site and Section 7.1.9.41 specifies that the depth of cut for local streets and structure envelopes in future estate residential plans of subdivision will normally be restricted to 1 to 2 metres. Mulloy Court is an existing road and the conceptual grading for lots 1 to 5 does not result in a cut greater than 2 metres from the existing ground surface.

2.4 Pre-Development Land Use and Drainage Patterns

The land was historically cleared and farmed. Currently, portions of the lands are planted with agricultural crops. The remaining areas are either cultural meadows or wetland and hedgerow features. There are no existing buildings or structures on the property.

The site is located within the headwater reaches of Cold Creek, a tributary of Humber River Watershed. Surface flow on the site is typically via sheet flow to topographic lows. The site falls within the jurisdictional boundary of the Toronto and Region Conservation Authority and partially regulated based on review of available online mapping.

Pre-development drainage patterns are presented on Map 5 in Appendix A. Five sub-catchments have been identified. The respective sub-basins and associated characteristics are summarized in Table 2.1.

Table 2.1: Summary of Pre-Development Sub-Basin Characteristics

Sub-basin	Drainage Area (ha)	Outlet	Receiver
302a	1.38	Sub-Basin 302a and Node 4 Sub-Basin is external to Phase 2 site and is a vegetated area with a small pond feature. Drainage from this sub-basin is ephemeral.	Cold Creek Tributary, Humber River Watershed
302b	2.09	Node 4 Receives ephemeral drainage from Sub-Basin 302b. Identified natural feature in southwest corner of this sub-basin.	Cold Creek Tributary, Humber River Watershed
303	3.89	Node 1 Drainage is to existing Stellar Estates Subdivision Phase 1 stormwater management facility which discharges to Mount Pleasant Road.	Cold Creek Tributary, Humber River Watershed
304	1.61	Node 2 Overland flow to Mount Pleasant Road	Cold Creek Tributary, Humber River Watershed
305	1.02	Node 1 Major System Drainage is to existing Stellar Estates Subdivision Phase 1 stormwater management facility which discharges to Mount Pleasant Road. The minor system drains west to an existing stormwater management facility at the west end of Mulloy Court.	Cold Creek Tributary, Humber River Watershed
306	0.09	Node 3 Overland flow to south of Phase 2 site	Cold Creek Tributary Humber River Watershed
Total	10.08		

Note:
1. Units: ha – hectares.
2. Refer to Map 5 in Appendix A for sub-basin delineation.

2.5 Surficial Soils

A geotechnical investigation was performed by GeoTerre Limited (2024) comprising 4 boreholes of which three boreholes were extended to a depth of approximately 6.6 metres and 1 borehole was extended to a depth of 15.7. It was reported that shallow overburden materials included 15 to 60 centimetres of topsoil and the sub-surface profile below the surface topsoil within the limits of the entire site appeared to consist primarily of a series of low plasticity silty clay materials interbedded with occasional thin layers of more silt rich soils.

According to the Geoterre Limited (2024), the soils within the elevated Phase 2 northern part of the Phase 2 site can be described with a firm degree of consistency/loose degree of

compactness above a depth 1.4 metres and very stiff to hard degree of consistency/compact to dense degree of compactness below 1.4 metres. The soils located within the lower lying natural feature in the southwest corner of the have a dominant low plasticity silty clay soils. These soils are characterized by a firm to stiff degree of consistency above a depth 4.4 metres and a very stiff degree of consistency below a depth 4.4 metres.

2.6 Surficial Geology

Surficial geology in the local area where the Site is located is reported to comprise of yellowish brown, loam to silt loam till within the Palgrave Moraine, and is reported to correlate with Halton Till to the south (White and Karrow, 1973; White, 1975). The Site is located near the northern extent of the Halton Till; regional overburden geology transitions to ice contact stratified drift in the direction of Mount Wolfe. The till has been observed to occur as thin layers (1 to 1.5 metres) overlying stratified sediments in places; as well as deeper layers with consistent texture (White, 1975).

Mapping of overburden sediments within the Humber River watershed provided by the Toronto and Region Conservation Authority (2008) indicates that the main stratigraphic units underlying the Halton Till in the vicinity of the site include Oak Ridges Moraine Deposits, Newmarket Till, Thorncliffe Formation, and Sunnybrook Drift.

Oak Ridges Moraine sediments are described as interbedded fine sand and silt deposits with local deposits of coarse sands and heterogeneous gravels (Toronto and Region Conservation Authority, 2008). The Newmarket Till is a consistently dense silty sand diamicton, with interconnected sand and silt lenses; and is underlain by Thorncliffe Formation deposits, which represent glaciofluvial deposition of sand and silty sand (Toronto and Region Conservation Authority, 2008). Sunnybrook Drift sediments consist mostly of clay and silt and is locally present in the vicinity of the Site (Toronto and Region Conservation Authority, 2008).

2.7 Hydrogeology and Groundwater

As part of the Draft Plan of Subdivision application process, a hydrogeologic assessment was completed by Ecometrix Incorporated (2025). The hydrogeologic assessment focused on the nature of interaction between the groundwater system and the surface water system, identified hydrogeological characteristics of the site, including both groundwater flow and groundwater quality, and provided an assessment of potential impacts to groundwater as a result of the proposed development.

It was concluded by Ecometrix Incorporated (2025) that the shallow groundwater table is typically 2.5 to 4 metres below ground surface (mbgs) or less and inferred to flow in a generally southern direction across the site. The groundwater table reflects the topography and the shallow groundwater flow path follows local topography through the low permeability, predominantly silty clay, overburden. The shallow local groundwater flow system discharges to a natural wetland feature in the southern portion of the site during summer months, but this pattern may reverse during snowmelt or after rain events when surface water rises in the

wetland feature. Groundwater flow in the deeper confined aquifer(s) and regional groundwater system is generally to the south and southwest towards the Humber River

In addition to the above, the proposed 5 lot estate residential development is not anticipated to have an impact on local groundwater levels, well water quantity, or well water quality. Groundwater levels in the immediate area of the sewage disposal system on each lot are expected to be higher than pre-development levels, but this change is unlikely to materially influence the shallow groundwater flow system. Estimates of potential nitrate loading from the individual on-site sewage disposal systems indicates the downstream nitrate concentration at the property boundary will be less than the Ontario drinking water standard of 10 milligrams per litre (mg/L).

Groundwater levels on the site have been monitored since August 2022.

3.0 Stormwater Management

3.1 General

Storm water from the site is proposed to be managed using both conventional stormwater management techniques and Low Impact Development (LID) practices.

3.2 Stormwater Management Criteria

Stormwater management criteria are proposed that are consistent with the Provincial Policy Statement (2014), ORMCP (Ontario Regulation 140/02), and current municipal and Conservation Authority criteria and guidelines, and are intended to avoid impacts to site natural features and local surface and groundwater resources.

Per the Town of Caledon Development Standards Manual (2019) and Town of Caledon Consolidated Linear Infrastructure Environmental Compliance Approval (ECA), the following stormwater management criteria are applicable:

- Quantity Control – peak flows are controlled to pre-development levels;
- Quality Control – water quality treatment in conformance with Provincial requirements as outlined in the Stormwater Management Planning and Design Manual (Ministry of the Environment, 2003);
- Water Balance – implementation of Low Impact Development (LID) measures sufficient to meet pre-development conditions or control runoff from the 90th percentile storm event equivalent to 27 millimetres of rainfall; and
- Erosion Control – erosion protection be provided in accordance with policies of the Toronto and Region Conservation Authority.

In addition, Toronto and Region Conservation Authority stormwater management criteria applicable are control of 2 to 100-year post-development peak flows to pre-development peak flows.

3.3 Stormwater Management Strategy

Consistent with Section 7.10.6.9.2 of the Town of Caledon Official Plan, the proposed stormwater management strategy comprises a "treatment train" approach utilizing a combination of lot level controls, Low Impact Development (LID) measures, and conventional stormwater management techniques to minimize potential increases in peak flows and runoff volume, maintain water quality, and provide, as far as practical, a natural hydrologic response. Measures are proposed to be undertaken at the source, and conveyance and end of pipe locations, and are as follows:

- recharge of residential roof and driveway storm water by direction to grassed and naturalized areas to promote filtering and natural infiltration and evapotranspiration;
- discharge of foundation drain water to rear and side lot areas;

- by lot grading, as far as practical, direction of structure envelope drainage, via sheet flow, towards grassed and naturalized areas versus the municipal road right of way;
- application of Low Impact Development practices on the lots such as grassed swales;
- use of an oil/grit separator where drainage is to a stormwater management pond; and
- use of an existing dry stormwater management pond to temporarily detain and slowly release storm water to meet applicable stormwater management criteria.

The existing dry stormwater management pond is located in the northeast corner of the Stellar Estates Subdivision Phase 1 and drains to Mount Pleasant Road. Pre-treatment of flow to the stormwater management facility is with use of an oil/grit separator. The existing oil/grit separator installed in Phase 1 will be upgraded to a larger model sized to accommodate the increase in drainage area to the existing stormwater management facility.

3.4 Stormwater Management Assessment – Quantity Control

3.4.1 Hydrologic Modelling Approach

A hydrologic modelling approach was used to determine and evaluate measures for quantity (peak flow) control. A hydrologic model (SWMHYMO Version 4.07 dated July 1999) was set up to reflect the existing (pre-development) condition shown on Map 5 (Appendix A) and post-development condition shown on Map 6 (Appendix A). Available soils, land use, and topographic information was used to calculate SWMHYMO parameters, including curve number (CN), time to peak (tp), and catchment slope. Due to the estate residential nature of the subdivision, the catchments typically had a total imperviousness (TIMP) of less than 20% and were modeled using the Calibrate NASHYD command under post-development conditions. The time to peak was calculated using the Airport formula. The Atmospheric Environment Service (AES) 6-hour and 12-hour duration storms were used with the hydrologic model to determine the critical storm duration. Based on this analysis, the AES 6-hour duration storm was determined to be the critical design storm and applied to estimate peak flows.

3.4.2 Peak Flow Rate Estimates

Peak flows were estimated at four locations where surface water discharges from the site. These locations have been denoted as nodes 1, 2, 3 and 4, and are shown on Map 5 and Map 6 in Appendix A. The peak flow estimates for post-development conditions include the storage effect of the existing stormwater management pond. Summarized in Table 3.1 are estimated pre-development and post-development peak flows at nodes 1, 2, 3, and 4. As shown in Table 3.1, peak flows can be controlled to pre-development levels with the proposed stormwater management approach. A summary of model parameters and SWMHYMO input and output files are provided in Appendix B.

Table 3.1: Summary of Estimated Peak Flows from the Project Site

Node and Return Period	Pre-Development Peak Flow (cms)	Post-Development Peak Flow (cms)
2-Year Return Period		
1	0.069	0.010
2	0.033	0.012
3	0.003	0.002
4	0.051	0.046
5-Year Return Period		
1	0.136	0.065
2	0.065	0.024
3	0.005	0.004
4	0.103	0.093
10-Year Return Period		
1	0.188	0.096
2	0.088	0.033
3	0.006	0.005
4	0.143	0.130
25-Year Return Period		
1	0.258	0.128
2	0.120	0.045
3	0.009	0.007
4	0.198	0.181
50-Year Return Period		
1	0.313	0.148
2	0.145	0.055
3	0.010	0.008
4	0.243	0.223
100-Year Return Period		
1	0.369	0.193
2	0.171	0.065
3	0.012	0.010
4	0.288	0.265

Note:
1. Units: cms – cubic metres per second.
2. Refer to Map 5 and Map 6 in Appendix A for location of flow nodes.
3. Pre-development peak flows are based on hydrologic modelling using SWMHYMO.

3.5 Stormwater Management Assessment – Quality Control

The stormwater management criteria for quality control is to achieve an enhanced level of treatment (Level 1) consistent with the Stormwater Management Planning and Design Manual (Ministry of the Environment, 2003). Typically, Total Suspended Solids (TSS) is used as the parameter to evaluate water quality and the long-term average removal rate to achieve an enhanced level of treatment (Level 1) is 80%.

A "desk-top" accounting approach was used to calculate a nominal average annual TSS removal over the site. This approach was used to account for the various "treatment train" elements. The site was partitioned according to surface condition and an effective average annual TSS removal rate assumed for each surface condition based on flow path and "treatment train" component(s). The effective average annual TSS removal rate was assumed based on information provided in the Low Impact Development Stormwater Management Planning and Design Guide (Credit Valley Conservation and Toronto and Region Conservation, 2010) and Wet Weather Flow Management Guidelines (City of Toronto, 2006). With this approach, each TSS removal value is multiplied by respective percent of site total area to determine the TSS removal rate for each surface condition. The sum of all TSS removal rates for each surface condition is equal to the TSS removal over the site.

Summarized in Table 3.2 are the various treatment train components and assumed average annual TSS removal rate. Provided in Table 3.3 are computations for the site average annual TSS removal. For instance, Node 1 would include treatment train components 4 and 5 per Table 3.2 resulting in an effective TSS removal of 80.0%. Based on this approach, the calculated average annual TSS removal rate for the site is 80.0%. This indicates an enhanced level of treatment can be achieved with the proposed stormwater management approach.

Table 3.2: Summary of Treatment Train Components and Assumed Average Annual TSS Removal Rate

Treatment Train Component	Treatment Train Type No.	Average Annual TSS Removal Rate
In-line Filter System	1	40%
Grassed Swale	2	80%
Roadside Ditch	3	30%
Oil/Grit Separator	4	50%
Dry Stormwater Management Pond	5	60%

Note:
1. TSS – Total Suspended Solids.
2. For assumed average annual TSS removal rates, refer to Table 5 in the Wet Weather Flow Management Guidelines (City of Toronto, 2006).
3. The "In-line Filter System" represents presence a vegetated buffer strip between the lot(s) and natural feature(s).

Table 3.3: Estimation of Site Average Annual TSS Removal

Node	Treatment Train Components	Drainage Area (ha)	Percent of Site Area	Effective TSS Removal	Overall TSS Removal
1	4,5	1.34	33.5%	80%	26.8%
2	2	0.64	16.0%	80%	12.8%
3	na	na	na	na	na
4	2	2.02	50.5%	80%	40.4%
Total	-	4.00	100%		80.0%

Note:
1. Units: ha – hectares.
2. TSS – Total Suspended Solids.
3. na – not applicable.
4. The above calculations only include the Phase 2 site. No values are included for Node 3 as this sub-basin will not be subject to development and the area is outside of lot structure envelopes.

3.6 Stormwater Management Assessment – Water Balance

The water balance related stormwater management criterion is retention of storm runoff from the 90th percentile storm event, equivalent to 27 millimetres of rainfall, on the site through infiltration/filtration, evapotranspiration, and/or reuse. This is proposed to be achieved using Low Impact Development (LID) measures on the lots.

The estimated impervious area of the Phase 2 site is 3,530 square metres. This represents the driveway and roof areas of the respective proposed 5 lots. A 27 mm rainfall depth over this area represents 95.3 cubic metres or approximately 19.1 cubic metres per lot.

Approximately 140 cubic metres of storage will be provided in grassed swales on the lots. A minimum 50 metre in length of grassed infiltration swale with amended topsoil and filter media is proposed to be provided on each lot (i.e., 28 cubic metres of storage per lot). This indicates retention of storm water from the first 27 mm of rainfall on the site can be achieved with the proposed stormwater management approach and water balance target achieved. Design assumptions and summary computations are provided in Appendix B. Potential location and preliminary design of the LID measures are shown on the engineering drawings provided in Appendix C. The LID measures shown are preliminary and subject to detailed design at the engineering approval stage and Site Plan/Building Permit application stage.

Notwithstanding the above, it is suggested that at the Site Plan Approval/Building Permit application stage, that property owners be given the flexibility to incorporate other Low Impact Development techniques as long as a minimum of 28 cubic metres of storage is provided per lot. Potential other LID techniques could included water storage and re-use for irrigation, incorporation of rain gardens, use of permeable pavements, vegetated filter strips, and flow path elongation.

In addition to the above, as far as practical, storm water from the lots will be separated from storm water from the road(s) and directed via grading and sheet flow to grassed and naturalized areas.

3.7 Review and Discussion of Low Impact Development (LID) Options

A review was completed of Low Impact Development (LID) options for the proposed Stellar Estates Subdivision Phase 2 and opportunities for integration with the stormwater management planning. A comprehensive discussion of LID's has been provided by Credit Valley Conservation and Toronto and Region Conservation (2010) in the Low Impact Development Stormwater Management Planning and Design Guide.

The proposed stormwater management plan for the Stellar Estates Subdivision Phase 2 incorporates the following transport/conveyance controls and end-of-pipe management techniques:

- grassed swales
- oil/grit separator
- dry stormwater management pond

With respect to lot level controls, as far as practical, preliminary lot grading designs have directed storm water over grassed areas to adjacent open space areas versus the road network.

In general, due to the presence of low permeability soils on the site (i.e., soils with an infiltration rate less than 15 millimetres per hour), the application of infiltration type LID's is limited (i.e., soak-away pits, infiltration trenches). Applicable LID's include grassed swales and lengthening of flow paths, vegetated filter strips, and encouragement of rainwater harvesting and application of rain gardens and soft versus hard landscaping (i.e., permeable pavers).

In addition, the re-vegetation of agricultural areas, specifically the restoration of the MVPZ area and lot areas outside of the structure envelopes, and provision of a dense vegetation cover will result in localized areas on the project site with increased infiltration and evapotranspiration (relative to existing conditions). Where storm water from the lots is directed to MVPZ areas and lots areas outside of the structure envelopes, implicitly, these respective areas will act as vegetated filter strips.

For lot level controls, from a planning and implementation perspective, there are limitations on lot coverage and percent imperviousness that is/will be enacted by Town of Caledon Official Plan zoning provisions, the zoning by-law for the project, and the ORMCP. It will be important also, during the Site Plan/Building Permit application stage, that intent of lot grading, as shown of the grading plans, is retained and LID's measures such as grassed swales and vegetated filter strips are incorporated where applicable.

4.0 Minor and Major Drainage System Design

The minor and major drainage systems for the Stellar Estates Subdivision (both Phase 1 and Phase 2) consists of the Mulloy Court existing road system, storm sewers, overland flow paths, and stormwater management facility. The drainage system has been designed to manage storm water for up to the 100-year design storm consistent with Town of Caledon Development Standards Manual (2019). Peak flows up to the 100-year design level would be contained within the municipal road right-of-way and Block 14 associated with the stormwater management pond prior to release to the environment.

The Mulloy Court storm sewer system was designed based on the 2-year design event and collects and conveys storm water to an existing oil/grit separator and subsequently the existing dry stormwater management pond in the northeast corner of the Stellar Estates Subdivision.

With Stellar Estates Phase 2, the drainage area to the existing minor and major system will increase from 0.8 hectares with a runoff coefficient of 0.40 to 2.14 hectares with a runoff coefficient of 0.34. Design calculations using the Rational Method were completed to evaluate impact on the existing minor and major systems for the 2-year and 100-year design events. The design calculations are provided in Table B.3 and Table B.4 in Appendix B.

For Phase 2, with respect the existing storm sewer system, hydraulic computations were undertaken to determine the hydraulic grade line in the storm sewer system under the 2-year design event. The United States Environmental Protection Agency (US EPA) Stormwater Management Model was setup and applied for this purpose. Results of the hydraulic analysis indicate that the storm sewer system will function under the 2-year design event without surcharging to ground level. Results of the hydraulic calculations are provided in Appendix B.

For Phase 2, due to increased contributing drainage area to the storm sewer system and existing stormwater management facility, it is proposed to replace the existing oil/grit separator with an oil/grit separator sized to accommodate Phase 2. Supporting calculations are provided in Appendix B and preliminary design information is provided on the engineering drawings in Appendix C.

Should the existing storm sewer system will surcharge at Maintenance Hole 3 at the eastern end of Mulloy Court and or storm water pond at this location, there is an overland flow path (i.e., channel) to convey flow that exceeds capacity of the storm sewer system to the existing stormwater management facility. Hydraulic calculations were completed to evaluate the existing overland flow path and are provided in Table B.5 in Appendix B. Results of the hydraulic calculations indicate the existing overland flow path can convey the 100-year design event of 316.2 litres per second without exceeding the major system overland flow path (channel) hydraulic capacity of 454.4 litres per second.

Also included in Appendix B are two engineering drawings from the Stellar Estates Phase 1 project illustrating original storm sewer design calculations and design of the existing stormwater management facility and major system overland flow path.

5.0 Drainage System Operation and Maintenance Considerations

5.1 General

Listed below are operation and maintenance considerations for the drainage system and stormwater management features. Construction of the drainage works, specifically Low Impact Development (LID) features, should be scheduled and phased to ensure integrity is not compromised during construction.

1. Drainage works, stormwater management measures, and LID features be inspected on a routine basis to verify they are functioning as intended. This could include periodic inspections after major storm events to determine whether corrective actions are required. For the first two years following construction the LID features should be inspected quarterly and after major storm events. Subsequently, inspections should be conducted in the spring and fall of each year and after major storm events.

2. The grassed swales be maintained on a routine basis to remove any accumulated trash, mow grass, and remove woody material. It is anticipated that significant portions of the system will be maintained by private property owners.

3. The grassed swale system be inspected on a routine basis and any identified erosion, gullies, rills, or bare spots repaired.

4. With respect to the stormwater management pond, summarized in Table 5.1 are suggested routine inspection and maintenance activities, and annual spring inspection and maintenance activities. This information is adapted from Credit Valley Conservation and Toronto and Region Conservation (2010).

5. Signage be posted indicating natural or environmental protection areas, and that they are not to be disturbed or altered without authorization from the Town of Caledon or Toronto Region Conservation Authority.

In addition to the above, operation and maintenance considerations for stormwater management facilities are outlined in the Town of Caledon Development Standards Manual (2019) and Town of Caledon Consolidated Linear Infrastructure Environmental Compliance Approval (see Section 5.2).

Table 5.1: Stormwater Management Pond Inspection and Maintenance Activities

Activity/Inspection Item	Schedule/Corrective Action
Routine Inspection and Maintenance Activities	
Inspect for vegetation density, damage by foot or vehicular traffic, channelization, accumulation of debris, trash and sediment, and structural damage to either inlet or outlet works	After every major storm event, quarterly for first two years, and twice annually thereafter.
Regular watering may be required during the first two years until vegetation established.	As needed for the first two years of operation.
Remove trash and debris on the stormwater management pond surface, and inlets and outlets.	At least twice annually. More frequently if desired for aesthetic reasons.
Remove accumulated sediment from inlet/outlet areas, remove accumulated sediment in stormwater management pond, trim trees and shrubs, replace vegetation and remove invasive growth, repair eroded or sparsely vegetated areas.	Annually or as needed.
Annual Inspection Items and Corrective Actions	
Vegetation health, diversity, and density.	Remove dead and diseased plants, add reinforcement planting to maintain desired vegetation density, prune woody matter, check soil pH for specific vegetation, add mulch to maintain 25 mm layer if applicable.
Sediment build-up and clogging of inlets/outlets.	Remove sand that may accumulate at the inlets/outlets or on the surface following snow melt, examine the contributing drainage area for bare soil and stabilize accordingly, check that pre-treatment device or measures are properly functioning.
Ponding for more than 48 hours.	Check outlet piping for clogging and flush out or remove debris.

5.2 Town of Caledon Consolidated Linear Infrastructure Environmental Compliance Approval

It is specified in the Town of Caledon Consolidated Linear Infrastructure Environmental Compliance Approval that Sewage Works are operated with the objective that the effluent from the Sewage Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen, foam, or discoloration

on the receiving waters, and the Operator shall evaluate the need for maintenance if the objective is not being met.

In this regard, the Applicant is to ensure that at all times, the Authorized Alteration shall be:

- Operated in accordance with the requirements under the EPA and OWRA; and
- Maintained in a state of good repair.

The Applicant shall develop an Operation and Maintenance Plan as part of Preliminary Acceptance, to be approved by the Town, that will be followed throughout the period from Preliminary Acceptance to Assumption by the Applicant, and will be provided to the Town as part of Assumption. The O&M plan should include the inspections described below: The applicant may be required to undertake the following for stormwater management facilities:

- Inspections of the Authorized Alteration is to be conducted at a frequency of once per month following Preliminary Acceptance and up to Assumption;
- Inspection of the Authorized Alteration are to be conducted prior to all rainfall events greater than and including 10 mm over 12 hours;
- Inspection of the Authorized Alteration are to be conducted within 48 hours following events up to and including 10 mm over 12 hours;
- Inspection of the Authorized Alteration is to be conducted prior to significant snowmelt events;
- Inspection of the Authorized Alteration is to be conducted within 48 hours following significant snowmelt events;
- All stormwater Management Facilities shall be inspected after significant flooding events; and
- Any deficiencies shall be addressed within 48 hours or as soon as possible within reason to the satisfaction of the Town.

In addition to the above, the Applicant or Operator shall maintain records of the results of the inspections, cleaning and maintenance operations undertaken. The records shall include the following:

- Asset ID and name of the Sewage Works;
- Date and results of each inspection, maintenance, or cleaning;
- Name of person who conducted the inspection, maintenance, or the name of the inspecting official, where applicable; and

- As applicable to the type of works, observations resulting from the inspection including, at a minimum:
    - Hydraulic operation of the works (e.g., length of occurrence since the last rainfall event, evidence or occurrence of overflows).
    - Condition of vegetation in and around the work.
    - Occurrence of obstructions at the inlet and outlet of the works.
    - Evidence of spills and/or oil/grease contamination.
    - Presence of trash build-up, and
    - Measurements of other Parameters as required by the monitoring plan

Inspection forms as well as maintenance and cleaning records are to be provided to the Town within 48 hours of having been completed.

6.0 Sanitary and Water Servicing Plan

The proposed Stellar Estates Subdivision Phase 2 will be serviced with municipal water and private on-site sewage disposal systems. Consistent with Section 44 (4) of the Oak Ridges Moraine Conservation Plan (ORMCP), the construction of partial services is permitted within the Palgrave Estates Residential Community. Section 43 of the ORMCP requires that water and sewage services maintain the ecological integrity of hydrological features and key natural heritage features, maintain quantity and quality of groundwater and surface water, maintain stream baseflows, comply with the applicable watershed plan and water budget and conservation plan, that the water use projected for the development will be sustainable, and that water and service trenches be planned designed and constructed so as to keep disruption of natural groundwater flow to a minimum.

The Regional Municipality of Peel Official Plan requires that proposals for water infrastructure within or crossing areas designated as Protected Countryside demonstrate that:

- servicing can be provided in a manner that does not negatively impact ecological features and functions, quality and quantity of ground and surface water, including stream baseflow, and is sufficient to accommodate the proposed use;
- applicable recommendations, standards or targets within watershed plans and water budgets are reflected; and
- any sewage and water servicing installation is planned, designed and constructed to minimize surface and groundwater disruption.

The sanitary and water servicing plan for the proposed Stellar Estates Subdivision Phase 2 is consistent with these policies. For instance, the site water balance has been considered, proposed services are shallow in depth and comprise only water services to proposed dwellings as municipal infrastructure was constructed as part of Phase 1, and the project will not impact the local and regional groundwater regime.

6.1 Sanitary Servicing Plan

Consistent with Section 7.1.8.1 of the Town of Caledon Official Plan, sanitary servicing for the proposed subdivision will be by private individual on-site sewage disposal systems (e.g., septic systems) conforming to the Ontario Building Code. Subject to detailed design at the Building Permit application stage, it is anticipated that on-site sewage disposal systems would comprise a septic tank(s) sized at twice the daily design flow, effluent filter, tertiary treatment unit, dispersal bed, and ancillary piping, pumping system(s), and controls. A tertiary treatment unit is anticipated to be required to fit the respective dispersal bed within the lot structure envelope in conjunction with the dwelling and driveway features. Alternative tertiary treatment units can be found in Supplementary Standard SB-5, Approved Treatment Units, of the Ontario Building Code.

Provided in Appendix C is a grading plan for the Phase 2 site with preliminary sitings of the dwellings and dispersal beds. As shown, the dispersal beds have been sited on lands within

structure envelopes where the slope is less than 10% consistent with Section 7.1.9.11 of the Town of Caledon Official Plan. It should be noted that the maximum slope for siting of dispersal or leaching beds, per the Ontario Building Code, is 25% (i.e., 4 horizontal to 1 vertical). Section 7.1.9.32 of the PERCSP identifies that sewage disposal systems will be normally located a minimum of 30 metres from any pond or stream to minimize nutrient enrichment. Proposed preliminary sitings for dispersal beds associated with sewage disposal systems are consistent with this policy. Supporting nutrient loading computations have been provided by Ecometrix Incorporated (2025).

The septic system dispersal bed sizes shown on the grading plan is based on the following assumptions:

- the lots will be serviced with a dispersal bed contact area of 500 square metres or less (an area of 500 square metres is shown on the engineering plans provided in Appendix E); and
- in-situ soil percolation rate or `T` time is greater than 50 minutes per centimeter.

With a typical tertiary treatment system, a dispersal bed with a contact area of 500 square metres and in-situ soil percolation rate or `T` time of greater than 50 minutes per centimeter can accommodate a maximum daily design flow of 4,000 litres per day.

By way of example, a maximum daily design flow of 4,000 litres per day is representative of an approximately 400 square metre (4,306 square foot) home with four bedrooms. This is consistent with the size of homes anticipated for the proposed subdivision.

Detailed engineering design of the on-site sewage disposal will be undertaken at the Building Permit application stage and reflect site specific soil conditions and house designs. Detailed design of the on-site sewage disposal systems would be in general conformance with the Ontario Building Code.

6.2 Water Servicing Plan

6.2.1 Water Demand

The proposed subdivision comprises 5 estate residential lots. The estimated water demand is summarized in Table 6.1.

Table 6.1: Estimated Water Demand for the Stellar Estates Subdivision Phase 2

Population Type	Number of Units	Population Density (per Unit)	Average Consumption Rate (L/cap/day)	Subdivision Average Day Consumption (L/day)	Subdivision Max. Day Consumption (L/day)	Subdivision Peak Hour Consumption (L/day)
Residential	5	4.202	280	6,160	12,320	18,480

Note:
1. Units: L/cap/day – litres per capita per day; L/day – litres per day.
2. Consumption values determined by rounding the total subdivision population to 22 people.
3. Maximum Day Consumption based on a maximum day factor of 2.0 multiplied by Average Day Consumption.
4. Peak Hour Consumption based on a peak hour factor of 3.0 multiplied by Average Day Consumption.

6.2.2 Water Supply and Distribution

The Stellar Estates Subdivision Phase 2 will be serviced by municipal water. There is an existing 200-millimetre diameter watermain located on the north side of Mulloy Court. The 200-millimetre diameter watermain on Mulloy Court is connected to a 300-millimetre watermain on Mount Pleasant Road and located in Region of Peel Water Pressure Zone PG8. The proposed 5 lots would be serviced by connection to the existing 200-millimetre diameter watermain on Mulloy Court.

6.2.3 Water Services

All water services will be single service connections that are supplied and installed in general conformance with the Region of Peel Public Works Design, Specifications and Procedures Manual, Linear Infrastructure, Watermain Design Criteria (2010). The proposed water service size is 38 millimetres: a minimum 25-millimetre (mm) water service is required per Region of Peel design criteria for lots exceeding 500 square metres in area.

6.2.4 Fire Flow

The fire flow was estimated using "Water Supply for Public Fire Protection" prepared by the Fire Underwriters Survey (1999) and based on the assumption of a single-family dwelling with a gross floor area of 400 square metres and assumption of two adjacent dwellings at a horizontal separation distance of 15 metres.

The required fire flow associated with the Phase 2 development was estimated to be 95.3 litres per second (L/s). Supporting calculations are provided in Appendix B.

7.0 Roadway and Grading

7.1 General Description and Location

The proposed five lots will front on to and have driveway access from Mulloy Court. Mulloy Court is accessed from Mount Pleasant Road. The respective driveways will be designed and sited in general conformance with the Town of Caledon Development Standards Manual (2019) and applicable zoning bylaws.

7.2 Road Design

At the time of writing of this report, Mulloy Court has been constructed to base course asphalt and has not been assumed by the Town of Caledon. The Phase 1 construction of Mulloy Court included the curbs along the Phase 2 site.

8.0 Erosion and Sediment Control

8.1 General

At the engineering approval stage, erosion and sediment control plans will be prepared consistent with the Town of Caledon Development Standards Manual (2019), Town of Caledon Consolidated Linear Infrastructure Environmental Compliance Approval, and the Erosion & Sediment Control Guideline for Urban Construction prepared by the Toronto and Region Conservation Authority (2019). At this stage, a preliminary Erosion and Sediment Control Plan has been prepared and is provided in Appendix C. For project construction, the key items will be limiting construction activities to defined working areas, managing water from dewatering activities, and managing surface runoff. Summarized in Table 8.1 are general procedures and mitigation measures to be implemented to avoid impacts.

In addition to the above, supporting studies and reports will be provided at the detailed design stage related to erosion and sediment control and topsoil management, such as:

- Erosion and Sediment Control Report
- Topsoil and Soils Management Plan

The Topsoil and Soils Management Plan would include requirements for pedologist soil analysis for all soils to be stored on site, including nutrient, contaminants and composition.

Table 8.1: General Procedures and Mitigation Measures for Erosion and Sediment Control

Principle No.	Description
1	Install temporary sediment controls prior to the start of construction per the typical details on the Erosion and Sediment Control Plan.
2	Delineate the working area prior to the start of construction and confine operations to the defined area.
3	Enclose temporary topsoil and soil material stockpile areas with sediment control fence.
4	Maintain construction accesses, working areas, and temporary material storage areas in good repair.
5	Operate machinery in a manner that minimizes disturbance to the environment: - protect entrances at machinery access points (e.g., using mud mats/rock pads) - establish single site entry and exit points. - construction equipment and machinery to arrive on site in a clean condition - construction equipment to be maintained free of fluid leaks. - no equipment operation on the streambed and in flowing water - wash, refuel and service machinery in designated areas away from water bodies - store fuel and other materials in designated areas away from water bodies - keep an emergency spill kit on site in case of fluid leaks or spills
6	Inspect, maintain, and repair sediment controls until completion of construction and site restoration.

7	Keep additional erosion and sediment control materials, such as sediment control fencing and clear stone, on-site for emergencies and repairs.
8	Remove and dispose temporary sediment controls following completion of construction and site restoration
9	Vegetate any disturbed areas by planting and seeding preferably with native grasses and cover such areas with mulch to prevent soil erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with mulch, straw, or erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following growing season.

8.2 Emergency Contact Information

As part of the erosion and sediment control planning process, emergency contact numbers would be provided on the project engineering drawings, and a contact list kept on-site and be readily available. An example emergency contact list is provided in Table 8.2. The applicable contacts would be confirmed and updated, as required, at the construction stage.

Table 8.2: Erosion and Sediment Control Plan Emergency Contact List

Name/Agency	Phone Number
Town of Caledon	(905) 584-2272
Toronto and Region Conservation Authority	(416) 661-6600
Ministry of the Environment, Conservation and Parks Spills Reporting	(416) 325-3000 or 1-800-268-6060
Owner – Stellar Homes Inc..	(905) 726-7778
Project Engineer – Ecometrix Incorporated	(905) 794-2325

9.0 Utility Services

It is proposed that gas and communication utilities will be provided for the Stellar Estates Subdivision Phase 2 by connection to existing utilities available either along Mulloy Court or along Mount Pleasant Road.

Electrical power to the site will be provided by connection to existing Hydro One power infrastructure on Mulloy Court. No new street lights will be required for the project.

10.0Summary

1. Ecometrix Incorporated has been retained by Stellar Homes Inc. to prepare a Preliminary Functional Servicing and Stormwater Management Report for the proposed second phase of the Stellar Estates Subdivision (Phase 2). This report is supporting documentation for the Draft Plan of Subdivision application for Phase 2.

2. The site is in the Palgrave Estates area of the Town of Caledon on Mulloy Court. Mulloy Court is west of Mount Pleasant Road between Old Church Road and Castlederg Side Road. The site is bounded by Mount Pleasant Road to the east, Mulloy Court and existing estate residential development to the north and west (Stellar Estates Subdivision herein denoted as Phase 1; Registered Plan 43M-1994), and agricultural land to the south. The legal description of the property is Part of Lot 18, Concession 8, former Township of Albion, Town of Caledon, Regional Municipality of Peel.

3. The Phase 2 site comprises approximately 4.10 hectares or 10.13 acres. It is proposed to develop the site with 5 estate residential lots using private septic systems for sewage disposal systems and municipal water. All 5 lots would front on to Mulloy Court. Mulloy Court was constructed in 2013/2014 with an urban road cross-section and comprises 10 estate residential lots serviced with private septic systems and municipal water. The Stellar Estates Subdivision Phase 1 (Registered Plan 43M-1994) has not been assumed as of the writing of this report. Currently, the 10 lots associated with the Stellar Estates Subdivision Phase 1 have either constructed and occupied dwellings (7) or dwellings under construction (3). Drainage and stormwater for the proposed Phase 2 site would be managed with existing infrastructure and application of Low Impact Development (LID) practices.

4. Drainage Storm water from the site is proposed to be managed using both conventional stormwater management techniques and Low Impact Development (LID) practices.

5. Consistent with Section 7.10.6.9.2 of the Town of Caledon Official Plan, the proposed stormwater management strategy comprises a "treatment train" approach utilizing a combination of lot level controls, Low Impact Development (LID) measures, and conventional stormwater management techniques to minimize potential increases in peak flows and runoff volume, maintain water quality, and provide, as far as practical, a natural hydrologic response. Measures are proposed to be undertaken at the source, and conveyance and end of pipe locations, and are as follows:

    - recharge of residential roof and driveway storm water by direction to grassed and naturalized areas to promote filtering and natural infiltration and evapotranspiration;

    - discharge of foundation drain water to rear and side lot areas;

- by lot grading, as far as practical, direction of structure envelope drainage, via sheet flow, towards grassed and naturalized areas versus the municipal road right of way;
- application of Low Impact Development practices on the lots such as grassed swales;
- use of an oil/grit separator where road drainage is to a stormwater management pond; and
- use of an existing dry stormwater management pond to temporarily detain and slowly release storm water to meet applicable stormwater management criteria.

6. Hydrologic modelling and "desk-top" assessments were performed to develop and evaluate the proposed Stormwater Management Plan. Based on the respective technical analyses, proposed stormwater management criteria for quantity control, quality control, erosion control, and water balance can be achieved.

7. The minor and major drainage system will consist of the existing Mulloy Court road system and storm sewers. The drainage system was designed to manage storm water for up to the 100-year design storm consistent with Town of Caledon Development Standards Manual (2019) and Toronto and Region Conservation stormwater management criteria. Peak flows up to the 100-year design level would be contained within the municipal road right-of-way and stormwater management pond prior to release to the environment. The Mulloy Court storm sewer system was designed based on the 2-year return period event and collects and conveys storm water to an existing oil/grit separator and subsequently the existing dry stormwater management pond.

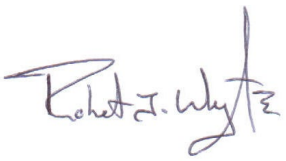
8. Sanitary servicing for the proposed subdivision will be by individual on-site sewage disposal systems (e.g., septic systems).

9. The Stellar Estates Subdivision Phase 2 will be serviced by municipal water. There is an existing 200-millimetre diameter watermain located on the north side of Mulloy Court. The proposed 5 lots would be serviced by connection to the existing 200-millimetre diameter watermain.

10. Considerations are provided for erosion and sediment control planning and erosion and sediment control plans have been prepared for the project. Erosion and sediment control planning would be undertaken consistent with the Town of Caledon Development Standards Manual (2019), Town of Caledon Consolidated Linear Infrastructure Environmental Compliance Approval, and the Erosion & Sediment Control Guideline for Urban Construction prepared by the Toronto and Region Conservation Authority (2019).

Respectfully submitted,

Ecometrix



Robert Whyte, M.Sc., P.Eng.
Principal, Senior Consultant

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Appendix A Figures and Maps

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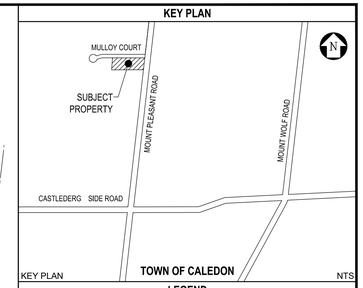
SCALE 1:500

KEY PLAN



KEY PLAN — TOWN OF CALEDON — NTS

LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF PROP. STRUCTURE ENVELOPE
- PROP. GRASSED SWALE
- MVPZ REHABILITATION PLANTINGS
- LOT AREA OUTSIDE STRUCTURE ENVELOPE

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DESIGNED BY | APPROVED BY

N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:

STELLAR HOMES INC.

Project Name:

STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:

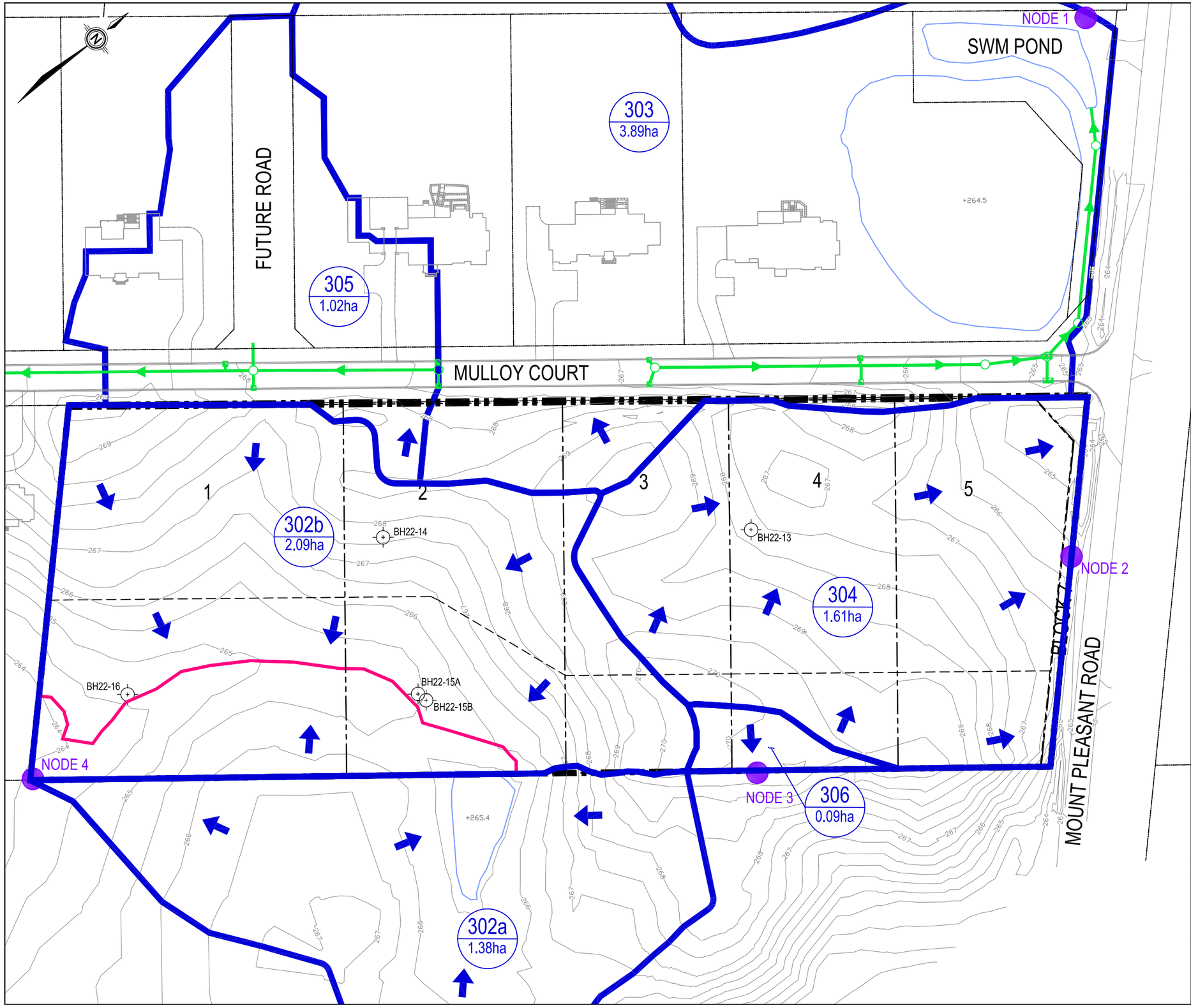
SITE PLAN

Drawing N°: **22-3001-01**

Sheet N°: 1 OF 9

Scale: 1:500

Rev. N°: 0



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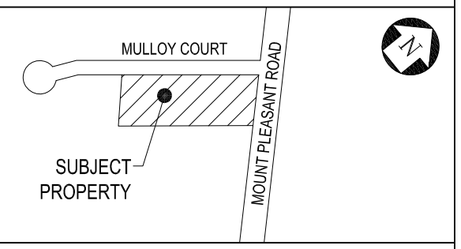

LEGEND

- SITE BOUNDARY
- ORMCP KEY NATURAL HERITAGE FEATURE
- WATER BODY
- CONTOUR (0.5m INTERVAL)
- BH22-13 — MONITORING WELL LOCATION
- DRAINAGE BOUNDARY
- 303 / 3.89ha — SUB-CATCHMENT ID / SUB-CATCHMENT AREA (ha)
- EXISTING STORM SEWER AND FLOW DIRECTION
- MAJOR FLOW DIRECTION
- NODE 2 — FLOW NODE
- EZ2 AREAS

30m 0 30m 60m

SCALE 1:1250

NOTES

1. CONTOURS WITHIN PROPERTY LIMITS GENERATED FROM SURVEYED ELEVATIONS BY ECOMETRIX INCORPORATED (2021). CONTOURS SOUTH OF PROPERTY LIMIT FROM FIRST BASE SOLUTIONS. ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
2. CONTOUR INTERVAL IS 0.5m.
3. FEATURE LOCATIONS (e.g. TREELINES, BUILDINGS, ETC.) ARE APPROXIMATE.

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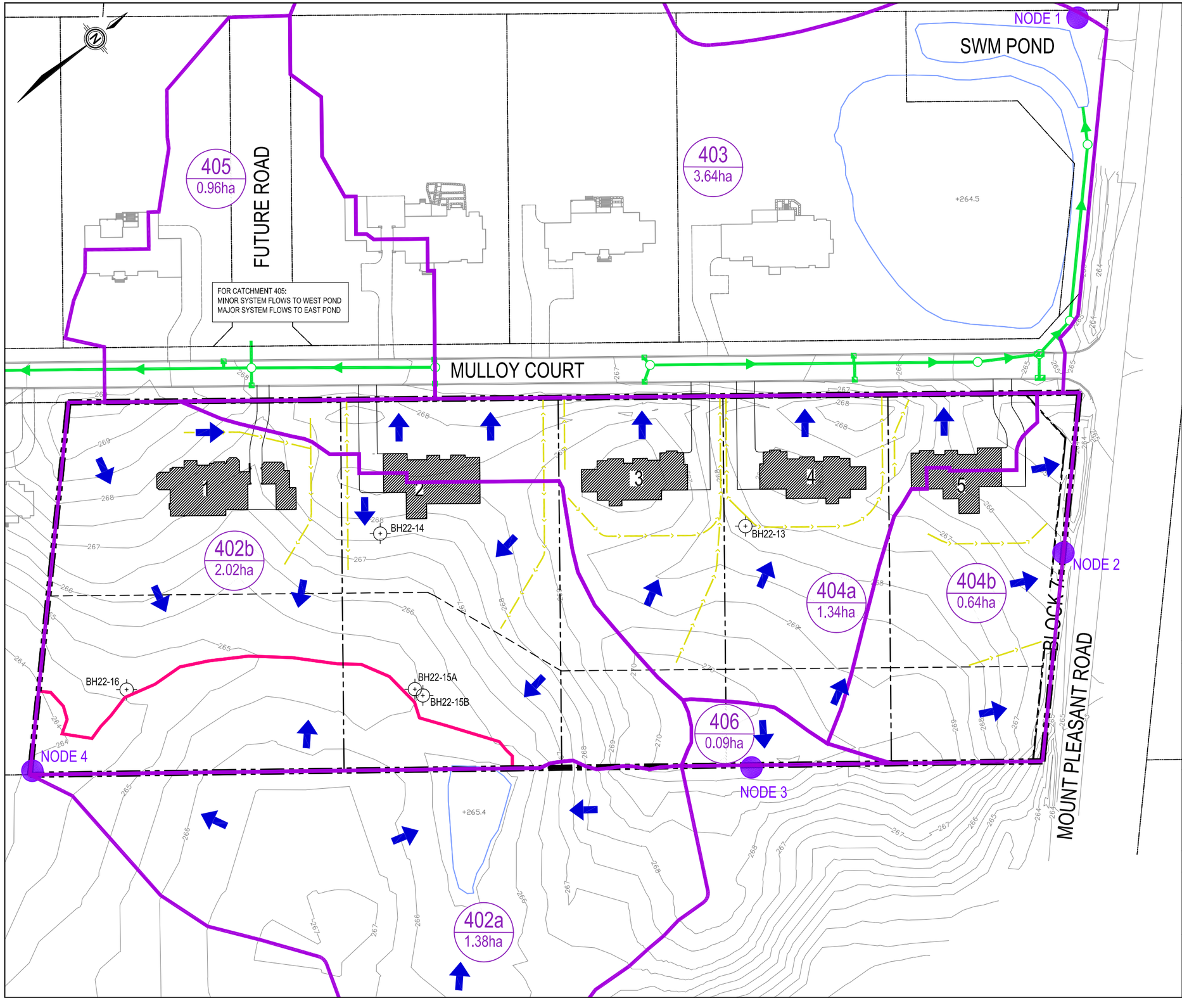
STELLAR HOMES INC.

STELLAR ESTATES PHASE 2
PART OF LOT 18, CONCESSION 8 (ALBION)
TOWN OF CALEDON, REGION OF PEEL

MAP 5
SURFACE HYDROLOGY MAP



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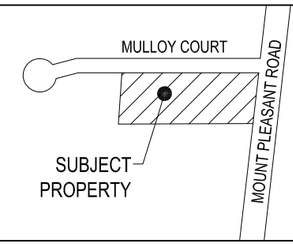

LEGEND

- SITE BOUNDARY
- ORMCP KEY NATURAL HERITAGE FEATURE
- WATER BODY
- CONTOUR (0.5m INTERVAL)
- BH22-13 — MONITORING WELL LOCATION
- DRAINAGE BOUNDARY
- 403 / 3.64ha — SUB-CATCHMENT ID / SUB-CATCHMENT AREA (ha)
- EXISTING STORM SEWER AND FLOW DIRECTION
- MAJOR FLOW DIRECTION
- NODE 2 — FLOW NODE
- EZ2 AREAS
- PROPOSED GRASS SWALE

30m 0 30m 60m

SCALE 1:1250

NOTES

1. CONTOURS WITHIN PROPERTY LIMITS GENERATED FROM SURVEYED ELEVATIONS BY ECOMETRIX INCORPORATED (2021). CONTOURS SOUTH OF PROPERTY LIMIT FROM FIRST BASE SOLUTIONS. ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
2. CONTOUR INTERVAL IS 0.5m.
3. FEATURE LOCATIONS (e.g. TREELINES, BUILDINGS, ETC.) ARE APPROXIMATE.

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STELLAR HOMES INC.

STELLAR ESTATES PHASE 2
PART OF LOT 18, CONCESSION 8 (ALBION)
TOWN OF CALEDON, REGION OF PEEL

MAP 6
PROPOSED DRAINAGE BOUNDARY MAP

Appendix B Stormwater Management Calculations

Table B.1
STELLAR HOMES ESTATES PHASE 2, SWMHYMO PARAMETERS
EXISTING CONDITIONS

NASHYD PARAMETERS

Catchment ID	NHYD ID	DT min	Area ha	DWF cms	CN/C Group	Weighted CN	IA mm	N	TP hrs
303	303	1	3.89	0	CD	82	10	3	0.32
305	305	1	1.02	0	CD	84	10	3	0.19
304	304	1	1.61	0	CD	83	10	3	0.23
306	306	1	0.09	0	CD	83	10	3	0.11
302a	302a	1	1.38	0	CD	74	10	3	0.23
302b	302b	1	2.09	0	CD	81	10	3	0.30

Notes:
1. Reference: MTO Design Chart 1.09: Soil/Land Use Curve Numbers
2. Time to Peak (TP) was calculated using Airport Method. TP=2/3 of Time of Concentration.

Table B.2
STELLAR HOMES ESTATES PHASE 2, SWMHYMO PARAMETERS
PROPOSED CONDITIONS:

NASHYD PARAMETERS

Catchment ID	NHYD ID	DT min	Area ha	DWF cms	CN/C Group	Weighted CN	IA mm	N	TP hrs
403	403	1	3.64	0	CD	82	10	3	0.32
405	405	1	0.96	0	CD	84	10	3	0.19
404a	404a	1	1.34	0	CD	83	10	3	0.17
404b	404b	1	0.64	0	CD	80	10	3	0.20
406	406	1	0.09	0	CD	76	10	3	0.11
402a	402a	1	1.38	0	CD	74	10	3	0.23
402b	402b	1	2.02	0	CD	78	10	3	0.30

Notes:
1. Reference: MTO Design Chart 1.09: Soil/Land Use Curve Numbers
2. Time to Peak (TP) was calculated using Airport Method. TP=2/3 of Time of Concentration.

TABLE B.3
2-YEAR STORM SEWER DESIGN SHEET

Location			Drainage Area				Runoff			Pipe Flow						
Catchment	From MH	To MH	A (ha)	C	A x C	Acc. A x C	Tc (min)	I (mm/hr)	Q (L/s)	Pipe Length (m)	Pipe Diameter (m)	Pipe Slope (%)	Full Flow Capacity (L/s)	Full Flow Velocity (m/s)	Time of flow (min.)	% full
A	MH1	MH2	0.6500	0.40	0.26	0.26	15.58	67.55	48.78	108.0	0.300	0.93	93.3	1.32	1.36	52.3%
B + 404a	MH2	CBMH3	1.4900	0.31	0.46	0.72	16.94	64.28	128.90	20.0	0.375	0.30	96.0	0.87	0.38	134.2%
	CBMH3	MH4	0.0000	0.00	0.00	0.72	17.33	63.42	127.18	15.5	0.375	0.30	96.0	0.87	0.30	132.4%
	MH4	MH5	0.0000	0.00	0.00	0.72	17.62	62.77	125.88	58.0	0.375	0.30	96.0	0.87	1.11	131.1%
	MH5	OUTFALL	0.0000	0.00	0.00	0.72	18.74	60.47	121.25	7.0	0.375	0.30	96.0	0.87	0.13	126.3%

Project Notes:
1. Refer to Phase 1 engineering drawings for Catchment A and Catchment B.
2. Surcharged flow at CBMH3 to be conveyed by existing major system overflow channel to existing stormwater management facility in Stellar Estates Phase 1 Block 14.
3. Assumed runoff coefficient for Catchment 404a is 0.30.

Manning's n = 0.013
Storm Event: 2 year

$$I = \frac{A}{(t_c + B)^C}$$

where:
A= 1070
B= 7.85
C= 0.8759

PROJECT: Stellar Estates Phase 2, Town of Caledon
PROJECT No: Ecometrix: 22-3001
CLIENT: Stellar Homes Inc.

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TABLE B.4
100-YEAR STORM SEWER DESIGN SHEET

Location			Drainage Area				Runoff			Pipe Flow						
Catchment	From MH	To MH	A (ha)	C	A x C	Acc. A x C	Tc (min)	I (mm/hr)	Q (L/s)	Pipe Length (m)	Pipe Diameter (m)	Pipe Slope (%)	Full Flow Capacity (L/s)	Full Flow Velocity (m/s)	Time of flow (min.)	% full
A	MH1	MH2	0.6500	0.40	0.26	0.26	15.58	164.03	118.47	108.0	0.300	0.93	93.3	1.32	1.36	127.0%
B + 404a	MH2	CBMH3	1.4900	0.31	0.46	0.72	16.94	157.68	316.19	20.0	0.375	0.30	96.0	0.87	0.38	329.3%
	CBMH3	MH4	0.0000	0.00	0.00	0.72	17.33	155.98	312.79	15.5	0.375	0.30	96.0	0.87	0.30	325.7%
	MH4	MH5	0.0000	0.00	0.00	0.72	17.62	154.70	310.21	58.0	0.375	0.30	96.0	0.87	1.11	323.0%
	MH5	OUTFALL	0.0000	0.00	0.00	0.72	18.74	150.06	300.92	7.0	0.375	0.30	96.0	0.87	0.13	313.3%

Project Notes:

1. Refer to Phase 1 engineering drawings for Catchment A and Catchment B.
2. Surcharged flow at CBMH3 to be conveyed by existing major system overflow channel to existing stormwater management facility in Stellar Estates Phase 1 Block 14.
3. Assumed runoff coefficient for Catchment 404a is 0.30.

Manning's n = 0.013

Storm Event: 100 year

where:

$$I = \frac{A}{(t_c + B)^C}$$

A= 4688

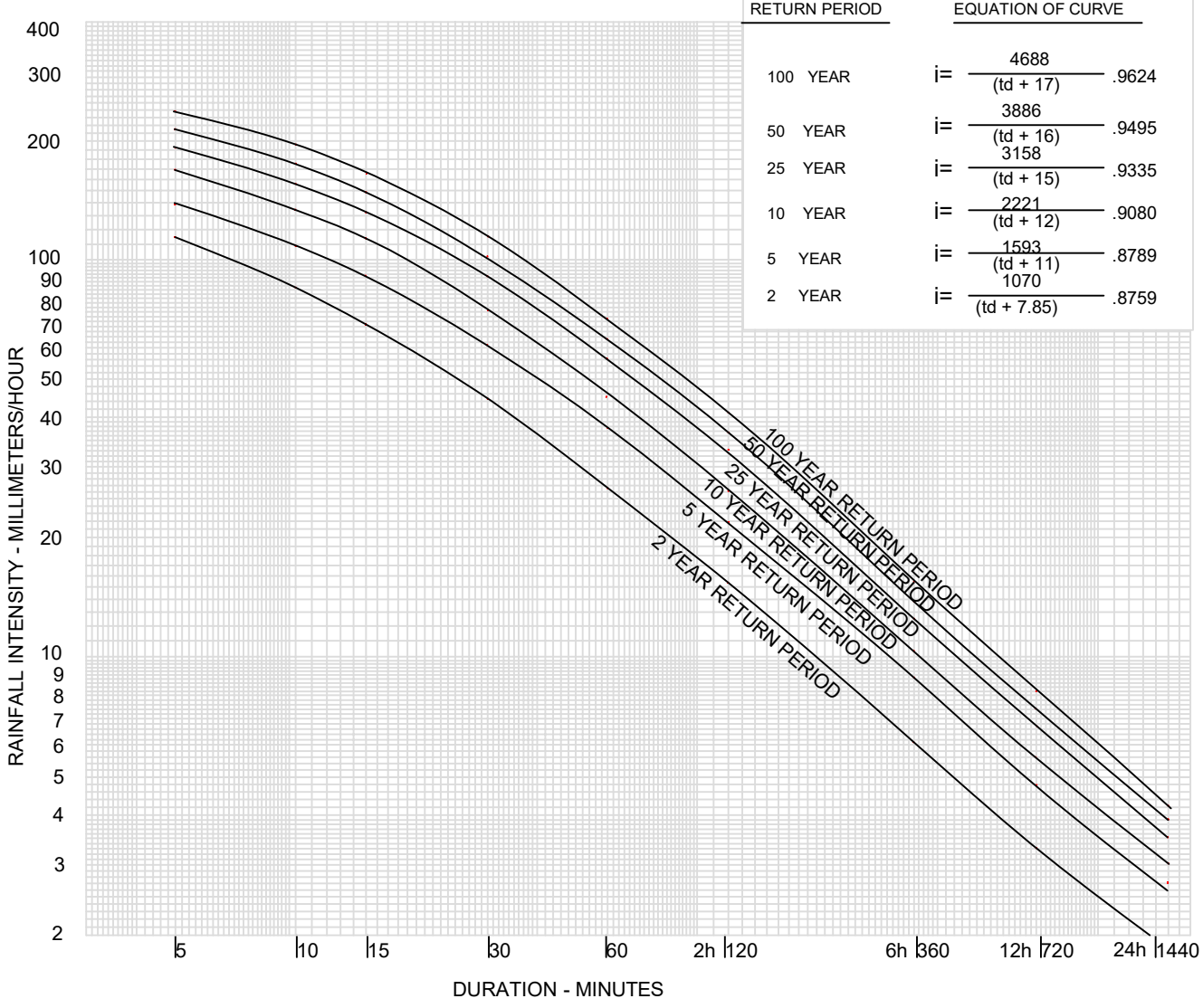
B= 17

C= 0.9624

PROJECT: **Stellar Estates Phase 2, Town of Caledon**

PROJECT No: **Ecometrix: 22-3001**

CLIENT: **Stellar Homes Inc.**



RETURN PERIOD	EQUATION OF CURVE	
100 YEAR	$i = \frac{4688}{(td + 17)}$	.9624
50 YEAR	$i = \frac{3886}{(td + 16)}$	.9495
25 YEAR	$i = \frac{3158}{(td + 15)}$	.9335
10 YEAR	$i = \frac{2221}{(td + 12)}$	.9080
5 YEAR	$i = \frac{1593}{(td + 11)}$	.8789
2 YEAR	$i = \frac{1070}{(td + 7.85)}$	.8759

INLET TIMES

SUBURBAN RESIDENTIAL	
(ROOF DRAINS UNCONNECTED)	15 min
(ROOF DRAINS CONNECTED)	10 min
SUBURBAN, COMMERCIAL, INDUSTRIAL MULTIPLE FAMILY	10 min
DOWNTOWN COMMERCIAL, HIGH DENSITY APARTMENTS, EXPRESSWAYS	5 min

RUNOFF COEFFICIENT

COMMERCIAL	
- DOWNTOWN & SUBURBAN SHOPPING	0.90
INDUSTRIAL	
- DOWNTOWN	0.90
- SUBURBAN INDUSTRIAL PARKS	0.75
RESIDENTIAL	
- APARTMENTS	0.75
- ROW DWELLINGS	0.70
- DUPLEX DWELLINGS	0.70
- SEMIDETACHED - DOWNTOWN	0.60
- SINGLE FAMILY - DOWNTOWN	0.60
- SEMIDETACHED - SUBURBAN	0.50
- SINGLE FAMILY - SUBURBAN	0.40
SCHOOLS, CHURCHES, HOSPITALS	0.75
PARKS, CEMETERIES, RAIL YARDS	
(OVER 4 Ha)	0.20
(UNDER 4 Ha)	0.25
PARKING LOTS ASPHALT & GRAVEL	0.90

TOWN OF CALEDON

RAINFALL INTENSITY CURVES

NO.	REVISION	APR'D	DATE
3	ADDITION OF TEXT		APR 19
2	STANDARD 104 NOW 103		JAN 08
1	STANDARD 112.01 NOW 104		JUNE 08

APR'D: C.C. DATE: FEB 2000

DRAWN: BJM SCALE: N.T.S.

STANDARD No. 103

TABLE B.5

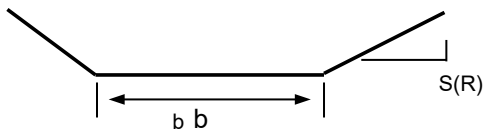
STELLAR ESTATES OVERFLOW SWALE TO BLOCK 14 SWM FACILITY

Channel Hydraulic Calculations

Grass Lined Channel

b = 1.000 m
S(L) = 3.000
S(R) = 3.000

n = 0.030



Design Flow = ***316.2 L/s***
1,138.3 cu.m/h
27,318.8 cu./day

Capacity at 0.3 m Depth = ***454.4 L/s***
1,636.0 cu.m/h
39,264.5 cu./day

Depth (m)	Slope (%)	A (m^2)	P (m)	R (m)	Q (m^3/s)	V (m/s)	T (m)	Fr	Flow Type	Meet Criteria ?
0.050	0.500%	0.06	1.32	0.04	**0.017**	0.29	***1.30***	0.44	*sub-critical*	*YES*
0.100	0.500%	0.13	1.63	0.08	**0.057**	0.44	***1.60***	0.49	*sub-critical*	*YES*
0.200	0.500%	0.32	2.26	0.14	**0.205**	0.64	***2.20***	0.54	*sub-critical*	*YES*
0.300	0.500%	0.57	2.90	0.20	**0.454**	0.80	***2.80***	0.56	*sub-critical*	*YES*
0.350	0.500%	0.72	3.21	0.22	**0.622**	0.87	***3.10***	0.58	*sub-critical*	*YES*
0.384	0.500%	0.83	3.43	0.24	**0.754**	0.91	***3.30***	0.58	*sub-critical*	*YES*
0.400	0.500%	0.88	3.53	0.25	**0.822**	0.93	***3.40***	0.59	*sub-critical*	*YES*

Note:
A cross-sectional area of flow in square metres
P wetted perimeter in metres
R hydraulic radius in metres
Q flow in cubic metres per second
V velocity in metres per second
T Topwidth
Fr Froud Number
n Manning's "n" (roughness coefficient)
b channel basewidth in metres
S channel side slope

TABLE B.6
STELLAR ESTATES PHASE 2
FIREWATER SUPPLY CALCULATIONS
Address: **0 Mulloy Court, Town of Caledon, Regional Municipality of Peel**
Client: **Stellar Homes Inc.**
Project #: **22-3001**
Date: **January 17, 2025**

										Fire Flow														
Proposed Development[1,2]										OBC A-3.2.5.7 - Water Supply						Fire Underwriters Survey (1999)								
Building ID	**Usage**	**# of units**	**Bldg Ground Floor Area**	**Bldg GFA**	**Building Volume**	**Building Setback/Separation (m)**				**K[5]**	**V**	**S_{tot}[6]**	**Q**	**F**	**F**	**C[7]**	**A[8]**	**F**	**Occupancy Reduction[9]**	**F**	**Sprinkler Reduction[10]**	**Building Exposure[11]**	**F**	**F**	F max (OBC or FUS)
			sq.m.	**sq.m.**	**cu.m.**	**North**	**East**	**South**	**West**				L	L/min	L/s					L/min			L/min	L/s	L/s
Single	Residential	1	200.0	400.0	1,219.2	50	15	50	15	16	1219	2	39,014	2,700.0	45.0	1.0	400.0	4,400	0%	4,400	0%	30%	5,720	95.3	95.3

Notes

1 Building details assumed based on typical size of Stellar Estates Phase 1 dwellings.

2 Building Volume Determination

Floor	GFA (sq.m.)	Height (m)	Volume (cu.m.)
1	200	3.048	609.6
2	200	3.048	609.6
3	0	3.048	0.0
Total	400		1,219.2

5 Group C Occupancy

Assumption: Building is of combustible construction with fire separations and fire-resistance ratings provided in accordance with Subsection 3.2.2 ofthe OBC, including loadbearing walls, columns and arches. Noncombustible constructino may be used in lieu of fire-resistance rating where permitted in Subsecti

6 Stot determined based on building separations indicated in the proposed development description

7

C	Description
1.5	wood frame construction (structure essentially all combustible)
1.0	ordinary construction (brick or massonry walls, combustible floor and interior)
0.8	non-combustible construction (unprotected metal structural components, masonry or metal walls)
0.6	fire resitive construction (fully protected rame, floors, roof)

8 GFA of building (sq.m).

9 Occupancy Credit/Charge

Non-combustible	-25%
Limited Combustible	-15%
Combustible	0%
Free Burning	15%
Rapid Burning	25%

10 Sprinkler Credit

System conforming to NFPA 13 and other NFPA standards	-30%
Water supply standard for both the system and fire department hose lines required	-10%
Fully supervised system	-10%

11 Building Exposure Charge

Determined based on separations indicated in the proposed development description

Separation	Charge
0 to 3m	25%
3.1 to 10m	20%
10.1 to 20m	15%
20.1 to 30m	10%
30.1 to 45m	5%

Total percentage is the sum of all sides not to exceed 75%.

Fire flow not to exceed 45,000 L/min or be less than 2,000 L/min

Hydro First Defense® - HC

Rev. 9.4

Project Name:	**Stellar Homes Inc.**	*Report Date:*	**2025-01-22**
Street:	**Mulloy Court**	*City:*	**Caledon**
Province:	**Ontario**	*Country:*	**Canada**
Designer:	**AAF**	*email:*	

Paste

Teatment Parameters:

Structure ID:	OGS - MH4
TSS Goal:	80 % Removal
TSS Particle Size:	NJDEP / ETV
Area:	1.49 ha
Percent Impervious:	36%
Rational C value:	0.31 Calc. Cn
Rainfall Station:	Toronto Pearson Intl AP, ONT MAP
Peak Storm Flow:	L/s

RESULTS SUMMARY

Model	TSS	Volume
FD-3HC	63.8%	99.3%
FD-4HC	73.5%	99.8%
FD-5HC	75.6%	100.0%
FD-6HC	79.5%	99.9%
FD-8HC	**85.8%**	**99.9%**

Model Specification:

Model:	**FD-8HC**
Diameter:	2400 mm
No Bypass Flow:	142.00 L/s
Peak Flow Capacity:	1416.00 L/s
Sediment Storage:	2.14 m^3
Oil Storage:	4240.00 L

Installation Configuration:

Placement:	Online	
Outlet Pipe Size:	375 mm	*OK*
Inlet Pipe 1 Size:	375 mm	*OK*
Inlet Pipe 2 Size:	mm	*OK*
Inlet Pipe 3 Size:	mm	*OK*

Rim Level:	264.900 m	Calc Invs.
Outlet Pipe Invert:	263.970 m	*OK*
Invert Pipe 1:	263.990 m	*OK*
Invert Pipe 2:	m	*Inlet below outlet*
Invert Pipe 3:	m	*Inlet below outlet*

Net Annual Removal Model: FD-8HC

Intensity[1] (mm/hr)	Fraction of Rainfall[1] (%)	FD-8HC Removal Efficiency[2] (%)	Weighted Net Annual Efficiency (%)
0.50	0.2%	100.0%	0.2%
1.00	16.3%	99.5%	16.2%
1.50	13.1%	95.1%	12.5%
2.00	13.2%	92.0%	12.2%
2.50	4.5%	89.6%	4.0%
3.00	2.2%	87.6%	1.9%
3.50	8.4%	85.9%	7.2%
4.00	4.8%	84.5%	4.0%
4.50	1.5%	83.2%	1.2%
5.00	5.0%	82.1%	4.1%
6.00	4.4%	80.1%	3.5%
7.00	4.8%	78.5%	3.8%
8.00	3.5%	77.0%	2.7%
9.00	2.2%	75.7%	1.7%
10.00	2.4%	74.6%	1.8%
20.00	8.8%	67.1%	5.9%
30.00	2.7%	62.7%	1.7%
40.00	0.9%	59.6%	0.5%
50.00	0.4%	57.2%	0.2%
100.00	0.5%	49.7%	0.3%
150.00	0.1%	45.4%	0.0%
200.00	0.0%	42.2%	0.0%
		Total Net Annual Removal Efficiency:	**85.8%**
		Total Annual Runoff Volume Treated:	**99.9%**

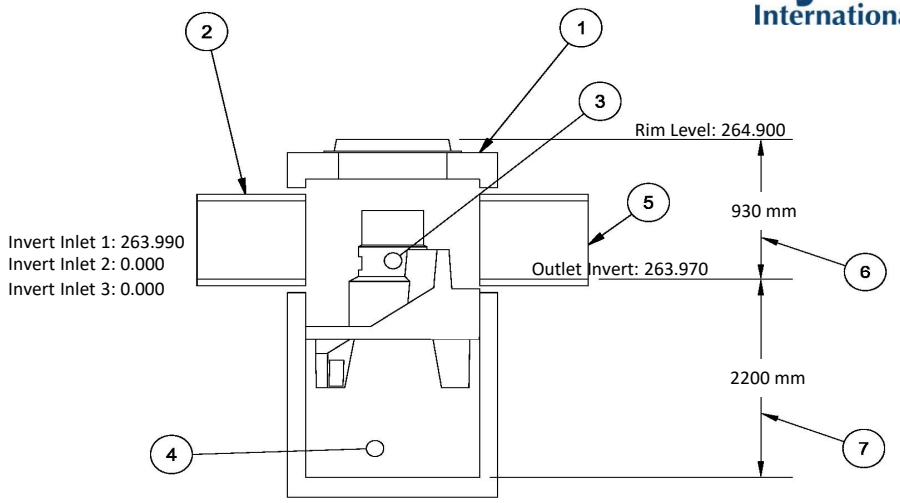
1. Rainfall Data: 1960:2013, HLY03, Toronto Pearson Intl AP , ON, 6158733.

#N/A

3. Rainfall adjusted to 5 min peak intensity based on hourly average.

Designer Notes:

Hydro First Defense® - HC

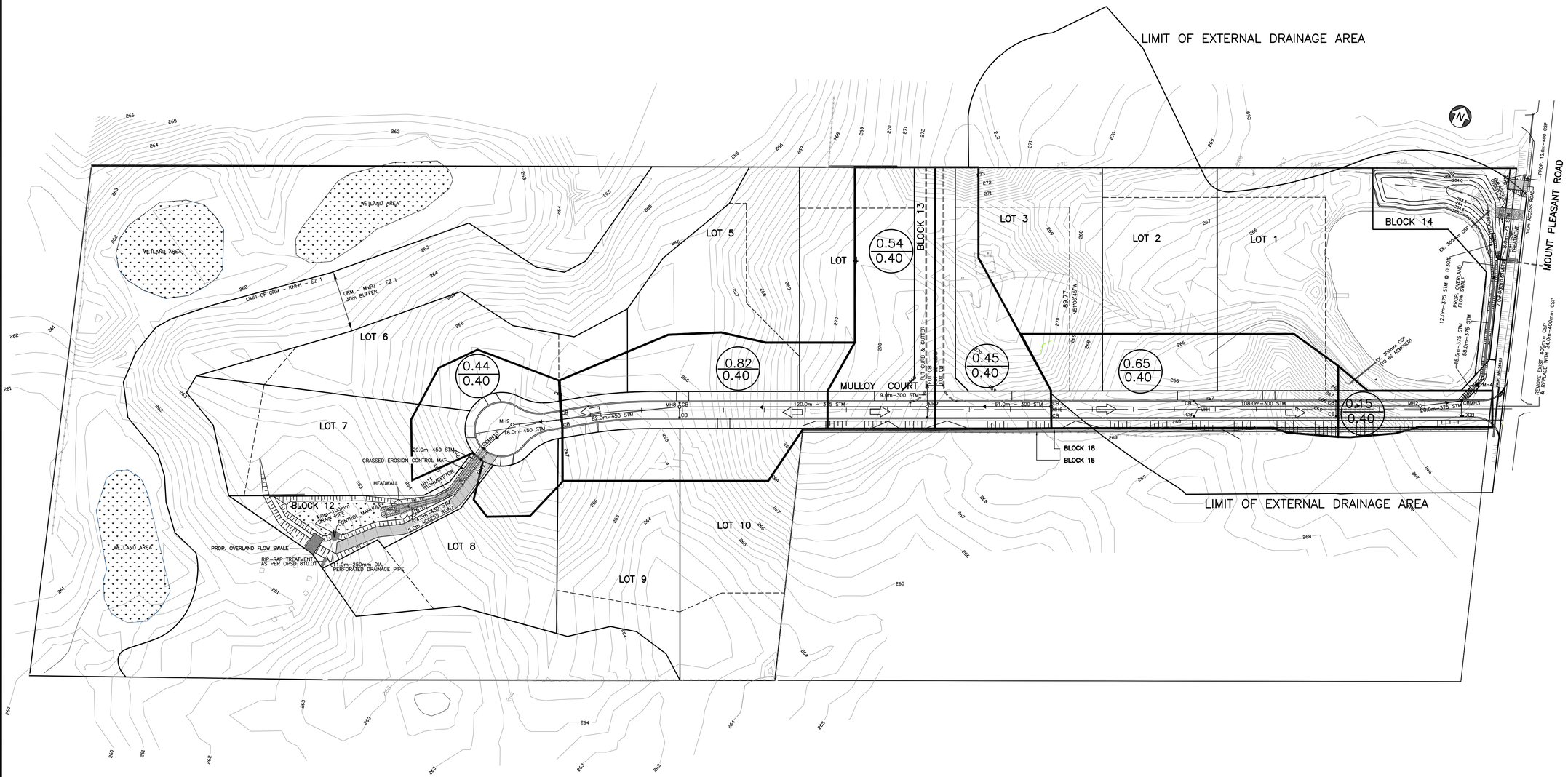


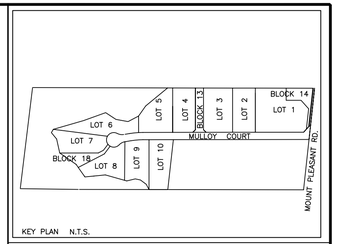
All drawing elevations are metres.

FD-8HC Specification

1	Vortex Chamber Diameter	2400 mm
2	Inlet Pipe Diameter	375 mm
3	Oil Storage Capacity	4240.00 L
4	Min. Provided Sediment Storage Capacity	2.14 m^3
5	Outlet Pipe Diameter	375 mm
6	Height(Final Grade to Outlet Invert)	930 mm
7	Sump Depth(Outlet Invert to Sump)	1130 mm
	Total Depth	**2060 mm**

Notes:





KEY PLAN N.T.S.

GENERAL NOTES:

MEASUREMENTS
ALL DIMENSIONS ARE IN METERS, EXCEPT PIPE DIAMETERS WHICH ARE IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED.

1. CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE ENGINEERING STANDARDS, POLICIES AND GUIDELINES, PREPARED BY THE TOWN OF CALEDON INFRASTRUCTURE DEPARTMENT,REGIONAL MUNICIPALITY OF PEEL PUBLIC WORKS STANDARDS, SPECIFICATIONS AND THE ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.
2. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE LATEST STANDARDS AND CODES AND BE IN GENERAL CONFORMANCE WITH THE MINISTRY OF ENVIRONMENT GUIDELINES.
3. ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
4. LOCATION OF EXISTING SERVICES AND UTILITIES ARE NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAINTAINING EXISTING UTILITIES. ANY CHANGES SHALL BE REPAIRED AT THE CONTRACTORS COST TO THE SATISFACTION OF THE APPROPRIATE UTILITY.
5. A MINIMUM OF FORTY-EIGHT HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT OF WAY THE CONTRACTOR MUST CONTACT THE FOLLOWING:
   - THE TOWN OF CALEDON PUBLIC WORKS AND ENGINEERING DEPARTMENT – 905-584-2272
   - THE REGION OF PEEL – 905-791-7800
   - ENBRIDGE CONSUMERS GAS – 905-758-7924
   - HYDRO ONE – 519-941-1211
   - BELL CANADA – 416-296-6927
   - FIRE AND EMERGENCY SERVICES – 905-584-1477
6. SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN AND THE APPLICABLE CONSERVATION AUTHORITY.
7. A MINIMUM OF 1.2m CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT OF WAY. IF THIS CLEARANCE IS NOT MAINTAINED THEY SHALL RELOCATE AT THE APPLICANT'S EXPENSE.
8. ALL BOULEVARDS TO BE RESTORED WITH 150mm MINIMUM OF TOPSOIL AND SOD TO THE SATISFACTION OF THE TOWN OF CALEDON PUBLIC WORKS AND ENGINEERING DEPARTMENT.
9. THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:
   - 40mm HL3 ASPHALT
   - 50mm HL8 ASPHALT
   - 150mm GRANULAR 'A'
   - 300mm GRANULAR 'B'
10. A ROAD OCCUPANCY PERMIT MUST BE OBTAINED PRIOR TO COMMENCING ANY WORKS WITHIN THE ROAD ALLOWANCE FROM THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR TRAFFIC CONTROL.
11. NATIVE AND GRANULAR MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO A MIN. 95% SPMDD EXCEPT TOP 0.3m WHICH MUST BE COMPACTED TO 98% SPMDD, OR AS RECOMMENDED BY A QUALIFIED SOILS CONSULTANT.

REGION OF PEEL

THE CORPORATION OF THE
TOWN OF CALEDON

Calder Engineering Ltd.
12246 Albion Vaughan Road, Caledon, ON L0J 1C0
T 905-857-7600 F 905-857-5900 www.caldereng.com

DESIGNED BY | APPROVED BY

Drawing N°	Date	Sheet Title
		Reference Drawings

N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
5	31/MAY/12	FINAL TOWN COMMENTS	D.H.	D.H.	R.J.W.
4	12/MAR./12	THIRD SUBMISSION TO TOWN AND REGION	D.H.	D.H.	R.J.W.
3	27/JUNE/11	PER TRCA COMMENTS	D.H.	D.H.	R.J.W.
2	15/APR/11	SECOND SUBMISSION	D.H.	D.H.	E.M.
1	2/DEC./10	FIRST SUBMISSION	D.H.	D.H.	R.J.W.

Client:
STELLAR HOMES INC.
21T-07001C

PROJECT:
STELLAR ESTATES
RESIDENTIAL DEVELOPMENT
LOTS 1 TO 10

TITLE:
STORM DRAINAGE AREA PLAN

Scale: 1:1000 | Drawing No. 10-109-A-1A

DEVELOPMENT STELLAR HOMES
CONSULTANT CALDER ENGINEERING LTD.
MAJOR DRAINAGE AREA

THE TOWN OF CALEDON
PUBLIC WORKS AND ENGINEERING DEPARTMENT
STORM DRAINAGE DESIGN CHART
FOR CIRCULAR DRAINS FLOWING FULL

SHEET No. 1 OF 1 DATE MARCH/2011
DESIGNED BY D. HAY
CHECKED BY E. MINOR

2 YEAR

LOCATION				DRAINAGE AREA			RUNOFF				PIPE SELECTION				n=0.013				PROFILE							NOTES/DESCRIPTION
STREET	FROM		TO		A	C	A x C	CUMUL A x C	To EXTERNAL	CUMUL To (Ti ___)	I	Q	PIPE L	PIPE So	PIPE DIA.	ACTUAL CAPACITY (FULL)	V (AVERAGE)	Δ V CHANGE IN VELOCITY m/s (MAX. 0.6)	TIME OF FLOW	MINOR LOSSES	FALL IN SEWER	UPSTREAM			DOWNSTREAM			
	MH No.	STA.	MH No.	STA.	ha.				min.	min.	mm/h	m3/s	m	m/m	mm	m3/s	m/s		min.	m	m	SURFACE ELEV. m	INV. ELEV. m	COVER m	SURFACE ELEV. m	INV. ELEV. m	COVER m	
SITE	MH1		MH2		0.65	0.40	0.26	0.26		10:00	85.71	0.062	108.0	0.93	300	0.097	1.33		1.16	1.0	267.09	265.20	1.51	265.43	264.20	0.86	
	MH2		CBMH3		0.15	0.40	0.06	0.32		11.16	81.12	0.072	20.0	0.30	375	0.10	0.88		0.38	0.06	265.43	264.20	0.86	265.13	264.06	0.70	
	MH3		MH4		---	0.40	---	0.32		11.54	79.72	0.07	15.5	0.30	375	0.10	0.88		0.29	0.05	265.13	264.04	0.88	264.90	263.99	0.54	
	MH4		MH5		---	----	---	0.32		11.83	78.70	0.07	58.0	0.30	375	0.10	0.88		1.09	0.17	264.90	263.97	0.56	264.60	263.80	0.43	
	MH5		OUTFALL										7.0	0.30	375	0.10	0.88										
	MH6		MH7		0.45	0.40	0.18	0.18		10:00	85.71	0.043	61.0	0.50	300	0.071	0.98		1.03	0.31	266.61	265.80	1.61	268.09	265.49	2.30	
	MH7		MH8		0.54	0.40	0.22	0.40		11.03	81.61	0.091	120.0	0.50	375	0.129	1.13		1.76	0.60	268.09	265.41	2.30	267.22	264.81	2.04	
	MH8		MH9		0.82	0.40	0.33	0.73		12.79	75.48	0.153	82.0	0.50	450	0.210	1.28		1.06	0.60	267.22	264.73	2.04	266.53	264.32	1.76	
	MH9		CBMH10		0.44	0.40	0.18	0.91		13.85	72.24	0.182	18.0	1.0	450	0.297	1.81		0.17	0.18	266.53	264.27	1.81	265.92	264.09	1.38	
	CBMH10		MH11		---	----	---	0.91		14.02	71.75	0.182	29.0	0.50	450	0.210	1.28		0.17	0.15	265.92	263.04	2.43	265.60	262.89	2.26	
	MH11		HEADWALL		---	----	---	0.91		14.19	71.26	0.182	24.0	0.50	450	0.210	1.28										

0.24 / 0.40 — DRAINAGE AREA (HECTARES) / RUN-OFF COEFFICIENT
LIMIT OF BUILDING ENVELOPE
OMH 5 — PROPOSED MANHOLE
PROPOPSED DOUBLE CATCHBASIN
PROPOPSED DOUBLE CATCHBASIN MANHOLE
PROPOPSED DIRECTION OF OVERLAND FLOW
108.0m-300 STM — PROPOPSED STORM SEWER

LEGEND

TOWN OF CALEDON
APPROVED AS NOTED

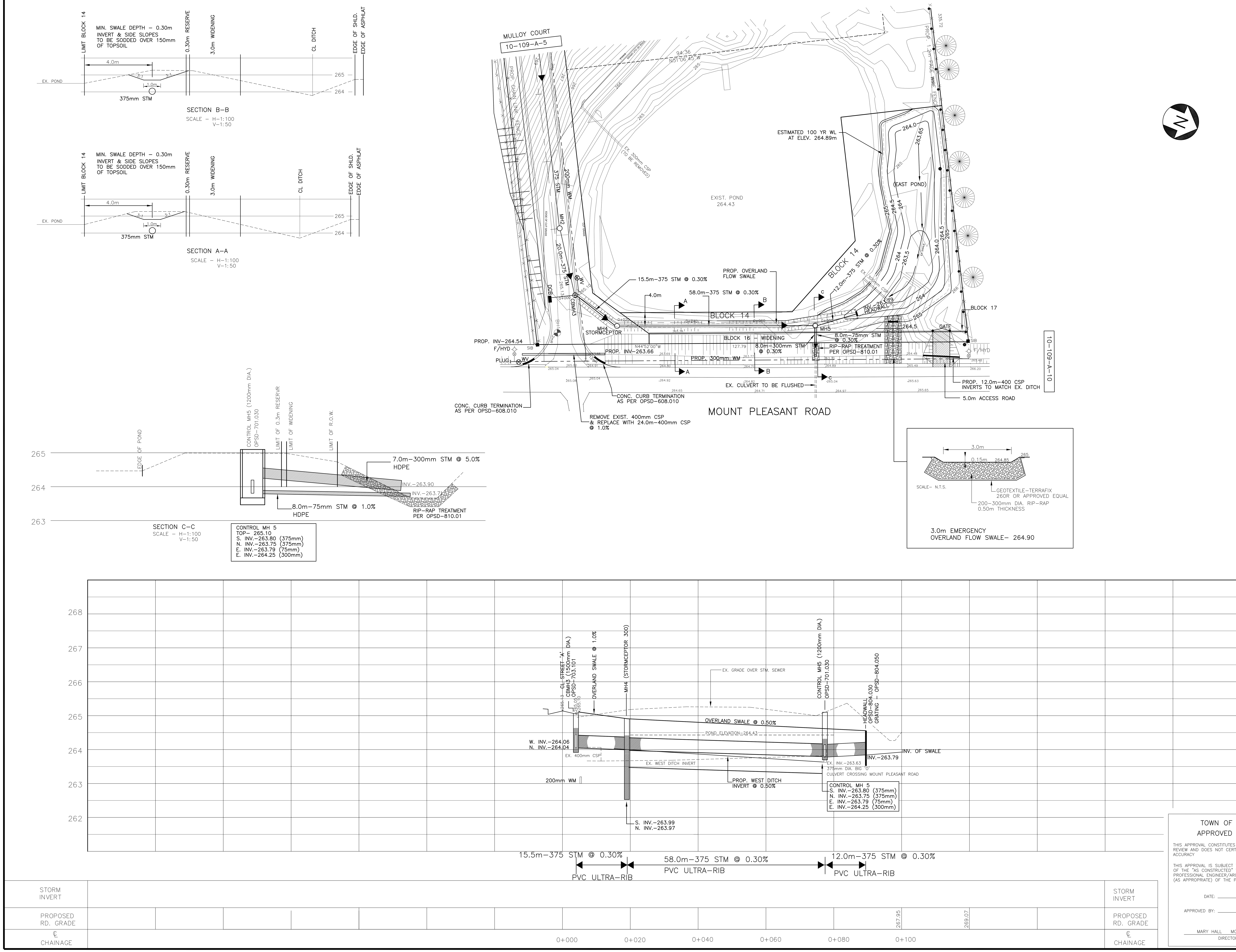
THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY

THIS APPROVAL IS SUBJECT TO FURTHER CERTIFICATION OF THE "AS CONSTRUCTED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER/ARCHITECT (AS APPROPRIATE) OF THE PROVINCE OF ONTARIO

DATE:

APPROVED BY:

MARY HALL MCIP RPP
DIRECTOR



TOWN OF CALEDON
APPROVED AS NOTED

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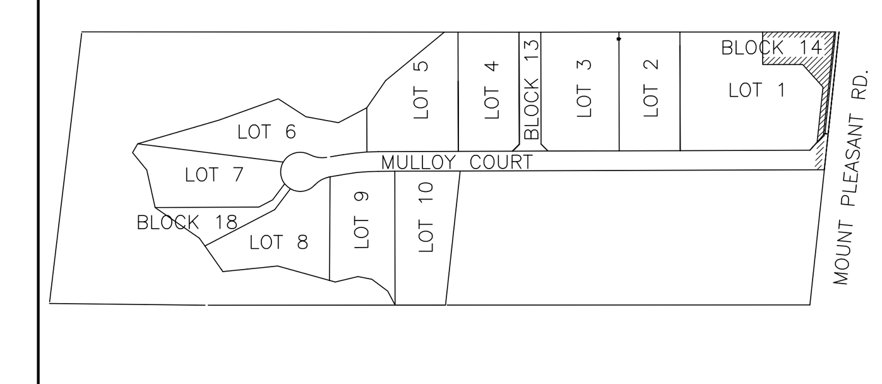

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2. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE LATEST STANDARDS AND CODES AND BE IN GENERAL CONFORMANCE WITH THE MINISTRY OF ENVIRONMENT GUIDELINES.
3. ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
4. LOCATION OF EXISTING SERVICES AND UTILITIES ARE NOT GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAINTAINING EXISTING UTILITIES. ANY CHANGES SHALL BE REPAIRED AT THE CONTRACTORS COST TO THE SATISFACTION OF THE APPROPRIATE UTILITY.
5. A MINIMUM OF FORTY-EIGHT HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT OF WAY THE CONTRACTOR MUST CONTACT THE FOLLOWING:
   - THE TOWN OF CALEDON PUBLIC WORKS AND ENGINEERING DEPARTMENT – 905-584-2272
   - THE REGION OF PEEL – 905-791-7800
   - ENBRIDGE CONSUMERS GAS – 905-758-7924
   - HYDRO ONE – 519-941-1211
   - BELL CANADA – 416-296-6927
   - FIRE AND EMERGENCY SERVICES – 905-584-1477
6. SEDIMENT CONTROL DEVICES ARE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN AND THE APPLICABLE CONSERVATION AUTHORITY.
7. A MINIMUM OF 1.2m CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT OF WAY. IF THIS CLEARANCE IS NOT MAINTAINED THEY SHALL RELOCATE AT THE APPLICANT'S EXPENSE.
8. ALL BOULEVARDS TO BE RESTORED WITH 150mm MINIMUM OF TOPSOIL AND SOD TO THE SATISFACTION OF THE TOWN OF CALEDON PUBLIC WORKS AND ENGINEERING DEPARTMENT.
9. THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:
   - 40mm HL3 ASPHALT
   - 50mm HL8 ASPHALT
   - 150mm GRANULAR 'A'
   - 300mm GRANULAR 'B'
10. A ROAD OCCUPANCY PERMIT MUST BE OBTAINED PRIOR TO COMMENCING ANY WORKS WITHIN THE ROAD ALLOWANCE FROM THE TOWN OF CALEDON PUBLIC WORKS DEPARTMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR TRAFFIC CONTROL.
11. NATIVE AND GRANULAR MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO A MIN. 95% SPMDD EXCEPT TOP 0.3m WHICH MUST BE COMPACTED TO 98% SPMDD, OR AS RECOMMENDED BY A QUALIFIED SOILS CONSULTANT.

REGION OF PEEL

THE CORPORATION OF THE
TOWN OF CALEDON

Calder Engineering Ltd.
12246 Albion Vaughan Road, Kleinburg, ON L0J 1C0
T 905-857-7600 F 905-857-5900 www.caldereng.com

DESIGNED BY | APPROVED BY

Drawing N°	Date	Sheet Title

Reference Drawings

	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
5	31/MAY/12	FINAL TOWN COMMENTS	D.H.	D.H.	R.J.W.
4	12/MARCH/12	THIRD SUBMISSION TO TOWN AND REGION	D.H.	D.H.	R.J.W.
3	27/JUNE/11	PER TRCA COMMENTS	D.H.	D.H.	R.J.W.
2	15/APR/11	SECOND SUBMISSION	D.H.	D.H.	E.M.
1	2/DEC/10	FIRST SUBMISSION	D.H.	D.H.	R.J.W.

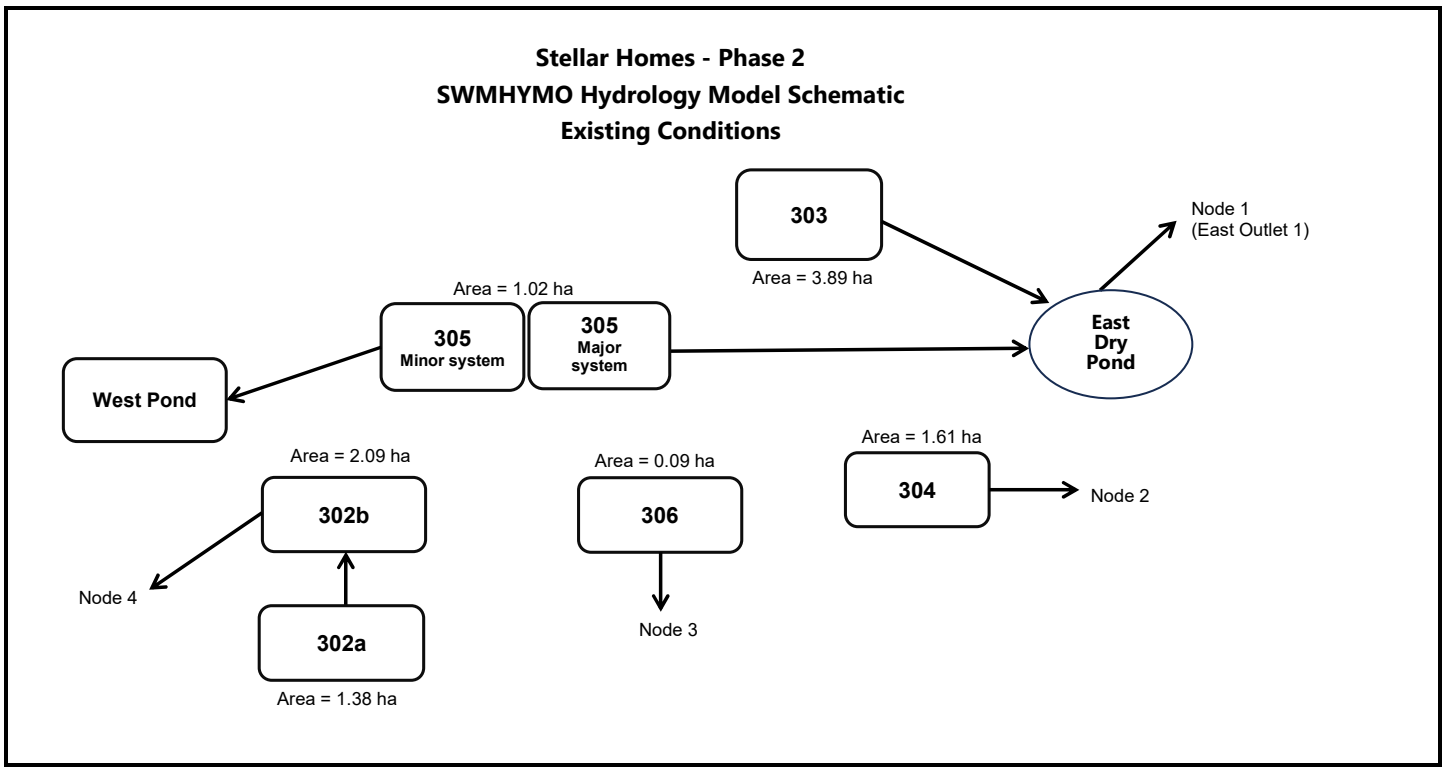
Client:
STELLAR HOMES INC.
21T-07001C

PROJECT:
STELLAR ESTATES
RESIDENTIAL DEVELOPMENT
LOTS 1 TO 10

TITLE:
STORM SEWER OUTFALL
BLOCK 14

Scale: HOR 1:500 VERT. 1:50
Drawing No. 10-109-A-8

FIGURE B.1 - SWMHYMO MODEL SCHEMATIC OF EXISTING AND POST-DEVELOPMENT CONDITIONS



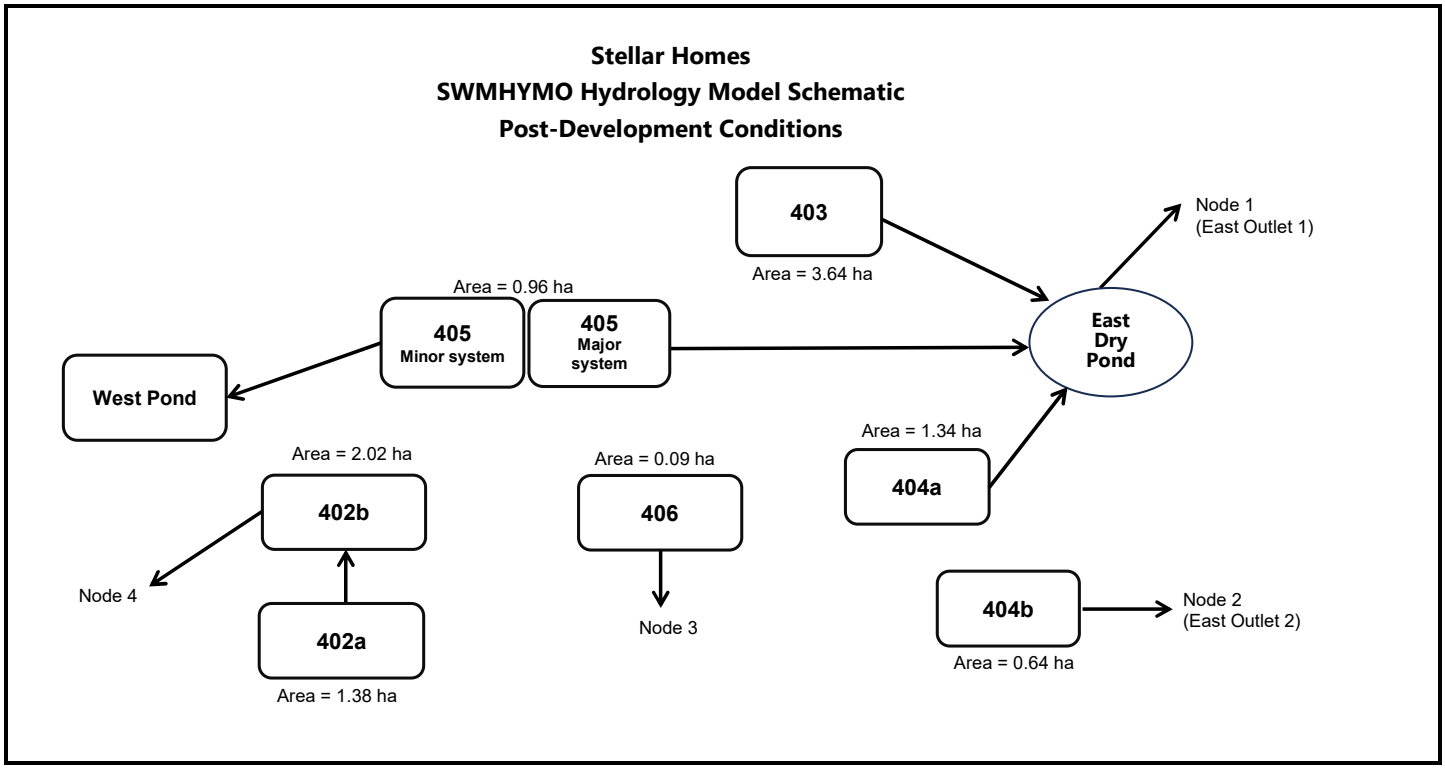
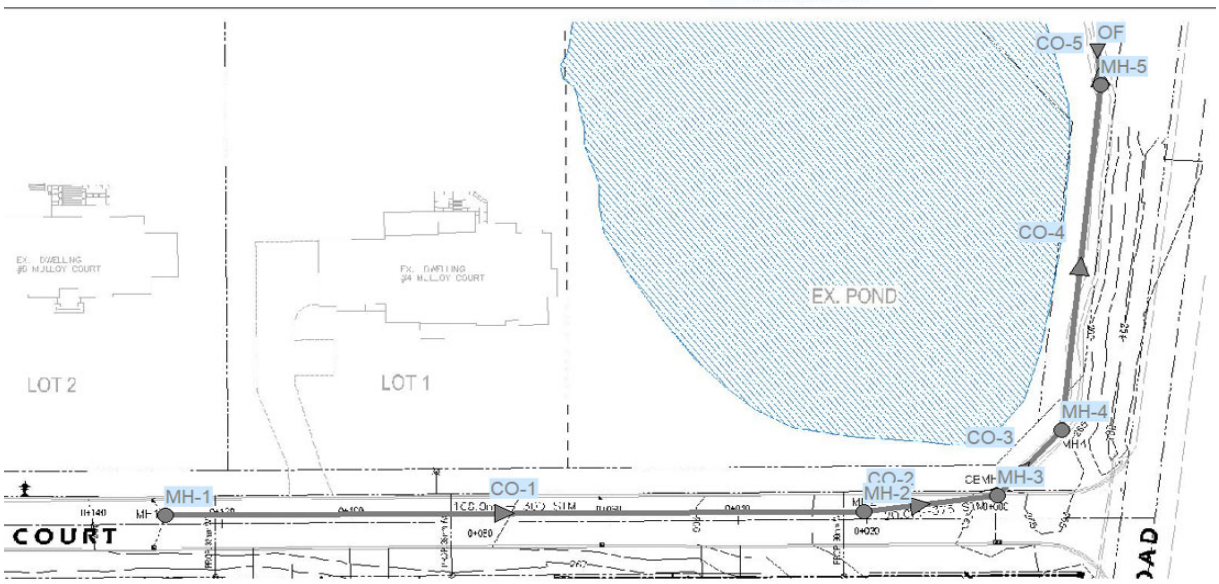
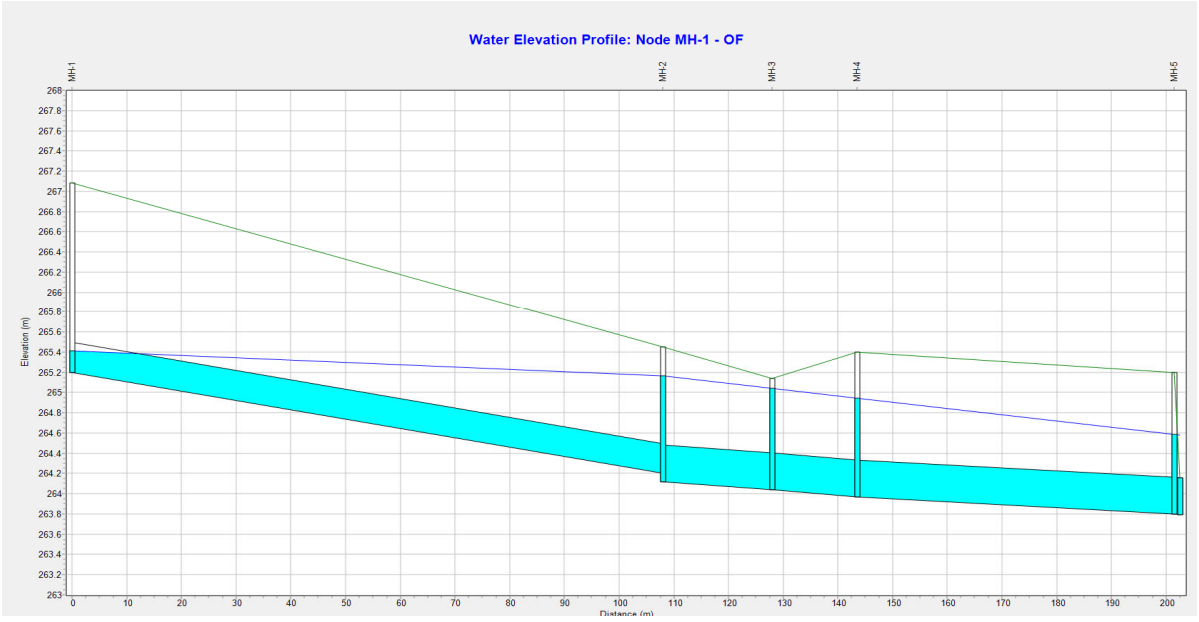


FIGURE B.2 - STORM SEWER HYDRAULIC MODEL SCHEMATIC AND RESULTS

Stellar Estates Phase 2
Storm Sewer Hydraulic Model Schematic



Stellar Estates Phase 2
Storm Sewer Hydraulic Grade Line - 2-Year Design Event



```
00001> 2     Metric units
00002> *#*****************************************************************************
00003> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00004> *#  Date        : 2024-01-30a
00005> *#  Modeller    : [MYS]
00006> *#  Company     : Ecometrix Incorporated
00007> *#  License #   : 3375279
00008> *#*****************************************************************************
00009> * Existing Conditions for Phase 2 Subdivision
00010> * Filename: S2-E.dat
00011> *
00012> *#*****************************************************************************
00013> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[0]
00014> *%                   ["2Y6.STM"] <--storm filename, one per line for NSTORM time
00015> *%                   ["5Y6.STM"]
00016> *%                   ["10Y6.STM"]
00017> *%                   ["25Y6.STM"]
00018> *%                   ["50Y6.STM"]
00019> *%                   ["100Y6.STM"]
00020> *%-----------------|-------------------------------------------------------|
00021> READ STORM          STORM_FILENAME=["STORM.001"]
00022> *%-----------------|-------------------------------------------------------|
00023> CALIB NASHYD        ID=[ 1 ], NHYD=["303"], DT=[ 1 ]min, AREA=[3.89](ha),
00024>                     DWF=[0](cms),  CN/C=[ 82 ], IA=[ 10  ](mm),
00025>                     N=[ 3  ], TP=[0.32 ]hrs,
00026>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00027> *%-----------------|-------------------------------------------------------|
00028> CALIB NASHYD        ID=[ 2 ], NHYD=["305"], DT=[ 1 ]min, AREA=[1.02](ha),
00029>                     DWF=[ 0 ](cms),  CN/C=[ 84 ], IA=[ 10 ](mm),
00030>                     N=[ 3  ], TP=[ 0.19 ]hrs,
00031>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00032> *%-----------------|-------------------------------------------------------|
00033> * For Catchment 305:
00034> * Minor system goes to West outlet, major system goes to East Outlet 1
00035> *%-----------------|-------------------------------------------------------|
00036> COMPUTE DUALHYD     IDin=[2  ], CINLET=[0.129 ](cms), NINLET=[1  ],
00037>                     MAJID=[3  ], MajNHYD=["Major" ],
00038>                     MINID=[4  ], MinNHYD=["Minor" ],
00039>                     TMJSTO=[ 0  ](cu-m)
00040> *%-----------------|-------------------------------------------------------|
00041> ADD HYD             IDsum=[ 5 ], NHYD=["to EP"], IDs to add=[ 1+3]
00042> *%-----------------|-------------------------------------------------------|
00043> ROUTE RESERVOIR     IDout=[ 6 ],   NHYD=["EPond"],  IDin=[ 5 ],
00044>                     RDT=[ 1 ](min),
00045>                          TABLE of ( OUTFLOW-STORAGE ) values
00046>                                     (cms) - (ha-m)
00047>                                   [0.0000 , 0.0000]
00048>                                   [0.0056 , 0.0190]
00049>                                   [0.0068 , 0.0254]
00050>                                   [0.0078 , 0.0324]
00051>                                   [0.0521 , 0.0400]
00052>                                   [0.0847 , 0.0483]
00053>                                   [0.1073 , 0.0572]
00054>                                   [0.1258 , 0.0668]
00055>                                   [0.1419 , 0.0770]
00056>                                   [0.1562 , 0.0880]
00057>                                   [0.2230 , 0.0996]
00058>                                   [0.4348 , 0.1119]
00059>                                   [   -1  ,   -1  ]  (max twenty pts)
00060>                          IDovf=[ 7  ], NHYDovf=["EPOVF"]
00061> *%-----------------|-------------------------------------------------------|
00062> CALIB NASHYD        ID=[ 8 ], NHYD=["304"], DT=[ 1 ]min, AREA=[ 1.61 ](ha),
00063>                     DWF=[ 0 ](cms),  CN/C=[ 83 ], IA=[ 10](mm),
00064>                     N=[ 3 ], TP=[ 0.23 ]hrs,
00065>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00066> *%-----------------|-------------------------------------------------------|
00067> CALIB NASHYD        ID=[ 9 ], NHYD=["306"], DT=[ 1 ]min, AREA=[ 0.09 ](ha),
00068>                     DWF=[ 0 ](cms),  CN/C=[ 83], IA=[ 10 ](mm),
00069>                     N=[ 3 ], TP=[ 0.11 ]hrs,
00070>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00071> *%-----------------|-------------------------------------------------------|
00072> CALIB NASHYD        ID=[ 1 ], NHYD=["302a"], DT=[ 1 ]min, AREA=[ 1.38 ](ha),
00073>                     DWF=[ 0 ](cms),  CN/C=[ 74], IA=[ 10 ](mm),
00074>                     N=[ 3 ], TP=[ 0.23 ]hrs,
00075>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00076> *%-----------------|-------------------------------------------------------|
00077> CALIB NASHYD        ID=[ 2 ], NHYD=["302b"], DT=[ 1 ]min, AREA=[ 2.09 ](ha),
00078>                     DWF=[ 0 ](cms),  CN/C=[ 81], IA=[ 10 ](mm),
00079>                     N=[ 3 ], TP=[ 0.30 ]hrs,
00080>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00081> *%-----------------|-------------------------------------------------------|
00082> ADD HYD             IDsum=[ 3 ], NHYD=["Node 4"], IDs to add=[ 1+2 ]
00083> *%-----------------|-------------------------------------------------------|
00084> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[2]
00085> *                   ["5Y6.STM"] <--storm filename, one per line for NSTORM time
00086> *%-----------------|-------------------------------------------------------|
00087> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[3]
00088> *                   ["10Y6.STM"] <--storm filename, one per line for NSTORM time
00089> *%-----------------|-------------------------------------------------------|
00090> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[4]
00091> *                   ["25Y6.STM"] <--storm filename, one per line for NSTORM time
00092> *%-----------------|-------------------------------------------------------|
00093> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[5]
00094> *                   ["50Y6.STM"] <--storm filename, one per line for NSTORM time
00095> *%-----------------|-------------------------------------------------------|
00096> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[6]
00097> *                   ["100Y6.STM"] <--storm filename, one per line for NSTORM tim
00098> *%-----------------|-------------------------------------------------------|
00099> FINISH
00100>
00101>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O        9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9   =========
00008>                                                           9   9  9   9   # 3375279
00009>          StormWater Management HYdrologic Model            999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                   OTTHYMO-83 and OTTHYMO-89.                *********
00016>  ********************************************************************************
00017>  ********* Distributed by:  J.F. Sabourin and Associates Inc.          *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                   *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: Calder Engineering Ltd.                      +++++++++
00025>  +++++++++                Bolton              SERIAL#:3375279         +++++++++
00026>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ********************************************************************************
00029>  *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030>  *********           Maximum value for ID numbers  :     10            *********
00031>  *********           Max. number of rainfall points: 105408            *********
00032>  *********           Max. number of flow points    : 105408            *********
00033>  ********************************************************************************
00034>
00035>
00036>  **********************   D E T A I L E D   O U T P U T   **********************
00037>  ********************************************************************************
00038>  *         DATE: 2024-01-30     TIME: 15:00:31     RUN COUNTER: 000507         *
00039>  ********************************************************************************
00040>  * Input   filename: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\S2-E.dat               *
00041>  * Output  filename: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\S2-E.out               *
00042>  * Summary filename: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\S2-E.sum               *
00043>  * User comments:                                                             *
00044>  * 1:_____________________________________________________________________    *
00045>  * 2:_____________________________________________________________________    *
00046>  * 3:_____________________________________________________________________    *
00047>  ********************************************************************************
00048>
00049> -------------------------------------------------------------------------------
00050> 001:0001-------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00053> *#  Date         : 2024-01-30a
00054> *#  Modeller     : [MYS]
00055> *#  Company      : Ecometrix Incorporated
00056> *#  License #    : 3375279
00057> *#*****************************************************************************
00058> * Existing Conditions for Phase 2 Subdivision
00059> * Filename: S2-E.dat
00060> *
00061> *#*****************************************************************************
00062> --------------------
00063> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00064> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00065>     TZERO =   .00 hrs on        0
00066>     METOUT=   2 (output = METRIC)
00067>     NRUN  = 001
00068>     NSTORM=   1
00069>               #  1=2Y6.STM
00070> -------------------------------------------------------------------------------
00071> 001:0002-------------------------------------------------------------------------
00072> --------------------
00073> | READ STORM       |    Filename: 2yr/6hr
00074> | Ptotal=  36.00 mm|    Comments: 2yr/6hr
00075> --------------------
00076>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00077>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00078>                .25    .000 |   2.00  12.240 |   3.75   5.040 |   5.50    .720
00079>                .50    .720 |   2.25  12.240 |   4.00   2.880 |   5.75    .720
00080>                .75    .720 |   2.50  33.120 |   4.25   2.880 |   6.00    .720
00081>               1.00    .720 |   2.75  33.120 |   4.50   1.440 |   6.25    .720
00082>               1.25    .720 |   3.00   9.360 |   4.75   1.440 |
00083>               1.50   4.320 |   3.25   9.360 |   5.00    .720 |
00084>               1.75   4.320 |   3.50   5.040 |   5.25    .720 |
00085>
00086> -------------------------------------------------------------------------------
00087> 001:0003-------------------------------------------------------------------------
00088> ----------------------
00089> | CALIB NASHYD       |   Area     (ha)=    3.89   Curve Number    (CN)=82.00
00090> | 01:303    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00091> ----------------------   U.H. Tp(hrs)=    .320
00092>
00093>     Unit Hyd Qpeak  (cms)=     .464
00094>
00095>     PEAK FLOW       (cms)=     .063 (i)
00096>     TIME TO PEAK    (hrs)=    3.033
00097>     RUNOFF VOLUME    (mm)=    8.268
00098>     TOTAL RAINFALL   (mm)=   36.000
00099>     RUNOFF COEFFICIENT   =     .230
00100>
00101>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00102>
00103> -------------------------------------------------------------------------------
00104> 001:0004-------------------------------------------------------------------------
00105> ----------------------
00106> | CALIB NASHYD       |   Area     (ha)=    1.02   Curve Number    (CN)=84.00
00107> | 02:305    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00108> ----------------------   U.H. Tp(hrs)=    .190
00109>
00110>     Unit Hyd Qpeak  (cms)=     .205
00111>
00112>     PEAK FLOW       (cms)=     .025 (i)
00113>     TIME TO PEAK    (hrs)=    2.850
00114>     RUNOFF VOLUME    (mm)=    9.088
00115>     TOTAL RAINFALL   (mm)=   36.000
00116>     RUNOFF COEFFICIENT   =     .252
00117>
00118>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00119>
00120> -------------------------------------------------------------------------------
00121> 001:0005-------------------------------------------------------------------------
00122> * For Catchment 305:
00123> * Minor system goes to West outlet, major system goes to East Outlet 1
00124> ----------------------
00125> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00126> | TotalHyd 02:305    |   Number of inlets in system [NINLET] =       1
00127> ----------------------   Total minor system capacity          =    .129  (cms)
00128>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00129>
00130>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00131>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
00132>     TOTAL HYD.   02:305          1.02      .025     2.850    9.088     .000
00133>     ==========================================================================
00134>     MAJOR SYST   03:Major         .00      .000      .000     .000      .000
00135>     MINOR SYST   04:Minor        1.02      .025     2.850    9.088     .000
00136>
00137>     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00138>
00139> -------------------------------------------------------------------------------
00140> 001:0006-------------------------------------------------------------------------
00141> ------------------------
00142> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00143> ------------------------                  (ha)     (cms)   (hrs)   (mm)    (cms)
00144>                         ID1 01:303         3.89     .063    3.03   8.27    .000
00145>                        +ID2 03:Major        .00     .000     .00    .00    .000
00146>                         ==========================================================
00147>                         SUM 05:to EP       3.89     .063    3.03   8.27    .000
00148>
00149>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00150>
00151> -------------------------------------------------------------------------------
00152> 001:0007-------------------------------------------------------------------------
00153> ----------------------
00154> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00155> |  IN>05:(to EP )    |
00156> | OUT<06:(EPond )    |    =========  OUTFLOW STORAGE TABLE  =========
00157> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00158>                             (cms)     (ha.m.)   |    (cms)     (ha.m.)
00159>                              .000  .0000E+00    |     .107  .5720E-01
00160>                              .006  .1900E-01    |     .126  .6680E-01
00161>                              .007  .2540E-01    |     .142  .7700E-01
00162>                              .008  .3240E-01    |     .156  .8800E-01
00163>                              .052  .4000E-01    |     .223  .9960E-01
00164>                              .085  .4830E-01    |     .435  .1119E+00
00165>
00166>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00167>      ---------------            (ha)     (cms)     (hrs)       (mm)
00168>      INFLOW >05: (to EP )       3.89      .063     3.033      8.268
00169>      OUTFLOW<06: (EPond )       3.89      .007     5.167      8.268
00170>     OVERFLOW<07: (EPOVF )        .00      .000      .000       .000
00171>
00172>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00173>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00174>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
00175>
00176>
00177>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   10.701
00178>                    TIME SHIFT OF PEAK FLOW          (min)=   128.00
00179>                    MAXIMUM  STORAGE   USED        (ha.m.)=.2515E-01
00180>
00181> -------------------------------------------------------------------------------
00182> 001:0008-------------------------------------------------------------------------
00183> ----------------------
00184> | CALIB NASHYD       |   Area     (ha)=    1.61   Curve Number    (CN)=83.00
00185> | 08:304    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00186> ----------------------   U.H. Tp(hrs)=    .230
00187>
00188>     Unit Hyd Qpeak  (cms)=     .267
00189>
00190>     PEAK FLOW       (cms)=     .033 (i)
00191>     TIME TO PEAK    (hrs)=    2.900
00192>     RUNOFF VOLUME    (mm)=    8.664
00193>     TOTAL RAINFALL   (mm)=   36.000
00194>     RUNOFF COEFFICIENT   =     .241
00195>
00196>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00197>
00198> -------------------------------------------------------------------------------
00199> 001:0009-------------------------------------------------------------------------
00200> ----------------------
00201> | CALIB NASHYD       |   Area     (ha)=     .09   Curve Number    (CN)=83.00
00202> | 09:306    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00203> ----------------------   U.H. Tp(hrs)=    .110
00204>
00205>     Unit Hyd Qpeak  (cms)=     .031
00206>
00207>     PEAK FLOW       (cms)=     .003 (i)
00208>     TIME TO PEAK    (hrs)=    2.783
00209>     RUNOFF VOLUME    (mm)=    8.661
00210>     TOTAL RAINFALL   (mm)=   36.000
00211>     RUNOFF COEFFICIENT   =     .241
00212>
00213>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00214>
00215> -------------------------------------------------------------------------------
00216> 001:0010-------------------------------------------------------------------------
00217> ----------------------
00218> | CALIB NASHYD       |   Area     (ha)=    1.38   Curve Number    (CN)=74.00
00219> | 01:302a   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00220> ----------------------   U.H. Tp(hrs)=    .230
00221>
00222>     Unit Hyd Qpeak  (cms)=     .229
00223>
00224>     PEAK FLOW       (cms)=     .019 (i)
00225>     TIME TO PEAK    (hrs)=    2.900
00226>     RUNOFF VOLUME    (mm)=    5.866
00227>     TOTAL RAINFALL   (mm)=   36.000
00228>     RUNOFF COEFFICIENT   =     .163
00229>
00230>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00231>
00232> -------------------------------------------------------------------------------
00233> 001:0011-------------------------------------------------------------------------
00234> ----------------------
00235> | CALIB NASHYD       |   Area     (ha)=    2.09   Curve Number    (CN)=81.00
00236> | 02:302b   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00237> ----------------------   U.H. Tp(hrs)=    .300
00238>
00239>     Unit Hyd Qpeak  (cms)=     .266
00240>
00241>     PEAK FLOW       (cms)=     .033 (i)
00242>     TIME TO PEAK    (hrs)=    3.000
00243>     RUNOFF VOLUME    (mm)=    7.899
00244>     TOTAL RAINFALL   (mm)=   36.000
00245>     RUNOFF COEFFICIENT   =     .219
00246>
00247>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00248>
00249> -------------------------------------------------------------------------------
00250> 001:0012-------------------------------------------------------------------------
00251> ------------------------
00252> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00253> ------------------------                  (ha)     (cms)   (hrs)   (mm)    (cms)
00254>                         ID1 01:302a        1.38     .019    2.90   5.87    .000
00255>                        +ID2 02:302b        2.09     .033    3.00   7.90    .000
00256>                         ==========================================================
00257>                         SUM 03:Node 4      3.47     .051    2.95   7.09    .000
00258>
00259>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00260>
00261> -------------------------------------------------------------------------------
00262> 001:0013-------------------------------------------------------------------------
00263>  ** END OF RUN :   1
00264>
00265> ********************************************************************************
00266>
00267>
00268>
00269>
00270>
```

```
00271> --------------------
00272> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00273> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00274>     TZERO =   .00 hrs on        0
00275>     METOUT=   2 (output = METRIC)
00276>     NRUN  = 002
00277>     NSTORM=   1
00278>              #  1=5Y6.STM
00279> ----------------------------------------------------------------------------
00280> 002:0002-------------------------------------------------------------------
00281> *#***************************************************************************
00282> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00283> *#  Date        : 2024-01-30a
00284> *#  Modeller    : [MYS]
00285> *#  Company     : Ecometrix Incorporated
00286> *#  License #   : 3375279
00287> *#***************************************************************************
00288> * Existing Conditions for Phase 2 Subdivision
00289> * Filename: S2-E.dat
00290> *
00291> *#***************************************************************************
00292> ----------------------------------------------------------------------------
00293> 002:0002-------------------------------------------------------------------
00294> --------------------
00295> | READ STORM       |    Filename: 5yr/6hr
00296> | Ptotal=  47.81 mm|    Comments: 5yr/6hr
00297> --------------------
00298>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00299>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00300>                .25    .000 |   2.00  16.250 |   3.75   6.690 |   5.50    .960
00301>                .50    .960 |   2.25  16.250 |   4.00   3.820 |   5.75    .960
00302>                .75    .960 |   2.50  43.980 |   4.25   3.820 |   6.00    .960
00303>               1.00    .960 |   2.75  43.980 |   4.50   1.910 |   6.25    .960
00304>               1.25    .960 |   3.00  12.430 |   4.75   1.910 |
00305>               1.50   5.740 |   3.25  12.430 |   5.00    .960 |
00306>               1.75   5.740 |   3.50   6.690 |   5.25    .960 |
00307>
00308> ----------------------------------------------------------------------------
00309> 002:0003-------------------------------------------------------------------
00310> ----------------------
00311> | CALIB NASHYD       |   Area    (ha)=    3.89   Curve Number   (CN)=82.00
00312> | 01:303    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00313> ----------------------   U.H. Tp(hrs)=    .320
00314>
00315>     Unit Hyd Qpeak  (cms)=     .464
00316>
00317>     PEAK FLOW       (cms)=     .124 (i)
00318>     TIME TO PEAK    (hrs)=    2.983
00319>     RUNOFF VOLUME    (mm)=   15.279
00320>     TOTAL RAINFALL   (mm)=   47.810
00321>     RUNOFF COEFFICIENT   =     .320
00322>
00323>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00324>
00325> ----------------------------------------------------------------------------
00326> 002:0004-------------------------------------------------------------------
00327> ----------------------
00328> | CALIB NASHYD       |   Area    (ha)=    1.02   Curve Number   (CN)=84.00
00329> | 02:305    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00330> ----------------------   U.H. Tp(hrs)=    .190
00331>
00332>     Unit Hyd Qpeak  (cms)=     .205
00333>
00334>     PEAK FLOW       (cms)=     .047 (i)
00335>     TIME TO PEAK    (hrs)=    2.833
00336>     RUNOFF VOLUME    (mm)=   16.586
00337>     TOTAL RAINFALL   (mm)=   47.810
00338>     RUNOFF COEFFICIENT   =     .347
00339>
00340>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00341>
00342> ----------------------------------------------------------------------------
00343> 002:0005-------------------------------------------------------------------
00344> * For Catchment 305:
00345> * Minor system goes to West outlet, major system goes to East Outlet 1
00346> ----------------------
00347> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00348> | TotalHyd 02:305    |   Number of inlets in system [NINLET] =       1
00349> ----------------------   Total minor system capacity          =    .129  (cms)
00350>                          Total major system storage [TMJSTO] =       0.(cu.m.)
00351>
00352>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00353>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
00354>     TOTAL HYD.   02:305          1.02      .047     2.833   16.586     .000
00355>     ==========================================================================
00356>     MAJOR SYST   03:Major         .00      .000      .000     .000     .000
00357>     MINOR SYST   04:Minor        1.02      .047     2.833   16.586     .000
00358>
00359>     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00360>
00361> ----------------------------------------------------------------------------
00362> 002:0006-------------------------------------------------------------------
00363> ----------------------
00364> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00365> ----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
00366>                        ID1 01:303          3.89     .124    2.98  15.28    .000
00367>                       +ID2 03:Major        .00      .000     .00    .00    .000
00368>                        ============================================================
00369>                        SUM 05:to EP         3.89     .124    2.98  15.28    .000
00370>
00371>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00372>
00373> ----------------------------------------------------------------------------
00374> 002:0007-------------------------------------------------------------------
00375> ----------------------
00376> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00377> |  IN>05:(to EP )    |
00378> | OUT<06:(EPond )    |    =========  OUTFLOW STORAGE TABLE  =========
00379> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00380>                             (cms)     (ha.m.)   |    (cms)    (ha.m.)
00381>                              .000  .0000E+00    |     .107  .5720E-01
00382>                              .006  .1900E-01    |     .126  .6680E-01
00383>                              .007  .2540E-01    |     .142  .7700E-01
00384>                              .008  .3240E-01    |     .156  .8800E-01
00385>                              .052  .4000E-01    |     .223  .9960E-01
00386>                              .085  .4830E-01    |     .435  .1119E+00
00387>
00388>     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00389>     --------------------        (ha)     (cms)     (hrs)       (mm)
00390>     INFLOW >05: (to EP )       3.89      .124     2.983     15.279
00391>     OUTFLOW<06: (EPond )       3.89      .041     4.083     15.279
00392>    OVERFLOW<07: (EPOVF )        .00      .000      .000       .000
00393>
00394>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00395>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00396>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
00397>
00398>
00399>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   33.099
00400>                    TIME SHIFT OF PEAK FLOW          (min)=    66.00
00401>                    MAXIMUM  STORAGE   USED       (ha.m.)=.3810E-01
00402>
00403> ----------------------------------------------------------------------------
00404> 002:0008-------------------------------------------------------------------
00405> ----------------------
00406> | CALIB NASHYD       |   Area    (ha)=    1.61   Curve Number   (CN)=83.00
00407> | 08:304    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00408> ----------------------   U.H. Tp(hrs)=    .230
00409>
00410>     Unit Hyd Qpeak  (cms)=     .267
00411>
00412>     PEAK FLOW       (cms)=     .065 (i)
00413>     TIME TO PEAK    (hrs)=    2.867
00414>     RUNOFF VOLUME    (mm)=   15.914
00415>     TOTAL RAINFALL   (mm)=   47.810
00416>     RUNOFF COEFFICIENT   =     .333
00417>
00418>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00419>
00420> ----------------------------------------------------------------------------
00421> 002:0009-------------------------------------------------------------------
00422> ----------------------
00423> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=83.00
00424> | 09:306    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00425> ----------------------   U.H. Tp(hrs)=    .110
00426>
00427>     Unit Hyd Qpeak  (cms)=     .031
00428>
00429>     PEAK FLOW       (cms)=     .005 (i)
00430>     TIME TO PEAK    (hrs)=    2.767
00431>     RUNOFF VOLUME    (mm)=   15.911
00432>     TOTAL RAINFALL   (mm)=   47.810
00433>     RUNOFF COEFFICIENT   =     .333
00434>
00435>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00436>
00437> ----------------------------------------------------------------------------
00438> 002:0010-------------------------------------------------------------------
00439> ----------------------
00440> | CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
00441> | 01:302a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00442> ----------------------   U.H. Tp(hrs)=    .230
00443>
00444>     Unit Hyd Qpeak  (cms)=     .229
00445>
00446>     PEAK FLOW       (cms)=     .038 (i)
00447>     TIME TO PEAK    (hrs)=    2.883
00448>     RUNOFF VOLUME    (mm)=   11.252
00449>     TOTAL RAINFALL   (mm)=   47.810
00450>     RUNOFF COEFFICIENT   =     .235
00451>
00452>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00453>
00454> ----------------------------------------------------------------------------
00455> 002:0011-------------------------------------------------------------------
00456> ----------------------
00457> | CALIB NASHYD       |   Area    (ha)=    2.09   Curve Number   (CN)=81.00
00458> | 02:302b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00459> ----------------------   U.H. Tp(hrs)=    .300
00460>
00461>     Unit Hyd Qpeak  (cms)=     .266
00462>
00463>     PEAK FLOW       (cms)=     .066 (i)
00464>     TIME TO PEAK    (hrs)=    2.967
00465>     RUNOFF VOLUME    (mm)=   14.679
00466>     TOTAL RAINFALL   (mm)=   47.810
00467>     RUNOFF COEFFICIENT   =     .307
00468>
00469>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00470>
00471> ----------------------------------------------------------------------------
00472> 002:0012-------------------------------------------------------------------
00473> ----------------------
00474> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00475> ----------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
00476>                        ID1 01:302a         1.38     .038    2.88  11.25    .000
00477>                       +ID2 02:302b         2.09     .066    2.97  14.68    .000
00478>                        ============================================================
00479>                        SUM 03:Node 4       3.47     .103    2.93  13.32    .000
00480>
00481>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00482>
00483> ----------------------------------------------------------------------------
00484> 002:0013-------------------------------------------------------------------
00485> ----------------------------------------------------------------------------
00486> 002:0002-------------------------------------------------------------------
00487>  ** END OF RUN :   2
00488>
00489> ****************************************************************************
00490>
00491>
00492>
00493>
00494>
00495> --------------------
00496> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00497> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00498>     TZERO =   .00 hrs on        0
00499>     METOUT=   2 (output = METRIC)
00500>     NRUN  = 003
00501>     NSTORM=   1
00502>              #  1=10Y6.STM
00503> ----------------------------------------------------------------------------
00504> 003:0002-------------------------------------------------------------------
00505> *#***************************************************************************
00506> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00507> *#  Date        : 2024-01-30a
00508> *#  Modeller    : [MYS]
00509> *#  Company     : Ecometrix Incorporated
00510> *#  License #   : 3375279
00511> *#***************************************************************************
00512> * Existing Conditions for Phase 2 Subdivision
00513> * Filename: S2-E.dat
00514> *
00515> *#***************************************************************************
00516> ----------------------------------------------------------------------------
00517> 003:0002-------------------------------------------------------------------
00518> --------------------
00519> | READ STORM       |    Filename: 10yr/6hr
00520> | Ptotal=  55.69 mm|    Comments: 10yr/6hr
00521> --------------------
00522>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00523>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00524>                .25    .000 |   2.00  18.940 |   3.75   7.800 |   5.50   1.110
00525>                .50   1.110 |   2.25  18.940 |   4.00   4.460 |   5.75   1.110
00526>                .75   1.110 |   2.50  51.240 |   4.25   4.460 |   6.00   1.110
00527>               1.00   1.110 |   2.75  51.240 |   4.50   2.230 |   6.25   1.110
00528>               1.25   1.110 |   3.00  14.480 |   4.75   2.230 |
00529>               1.50   6.680 |   3.25  14.480 |   5.00   1.110 |
00530>               1.75   6.680 |   3.50   7.800 |   5.25   1.110 |
00531>
00532> ----------------------------------------------------------------------------
00533> 003:0003-------------------------------------------------------------------
00534> ----------------------
00535> | CALIB NASHYD       |   Area    (ha)=    3.89   Curve Number   (CN)=82.00
00536> | 01:303    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00537> ----------------------   U.H. Tp(hrs)=    .320
00538>
00539>     Unit Hyd Qpeak  (cms)=     .464
00540>
```

```
00541>      PEAK FLOW       (cms)=     .171 (i)
00542>      TIME TO PEAK    (hrs)=    2.967
00543>      RUNOFF VOLUME    (mm)=   20.578
00544>      TOTAL RAINFALL   (mm)=   55.690
00545>      RUNOFF COEFFICIENT   =     .370
00546>
00547>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00548>
00549> ------------------------------------------------------------------------------
00550> 003:0004----------------------------------------------------------------------
00551> ----------------------
00552> | CALIB NASHYD       |   Area     (ha)=    1.02   Curve Number    (CN)=84.00
00553> | 02:305     DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00554> ----------------------   U.H. Tp(hrs)=    .190
00555>
00556>      Unit Hyd Qpeak  (cms)=     .205
00557>
00558>      PEAK FLOW       (cms)=     .064 (i)
00559>      TIME TO PEAK    (hrs)=    2.833
00560>      RUNOFF VOLUME    (mm)=   22.191
00561>      TOTAL RAINFALL   (mm)=   55.690
00562>      RUNOFF COEFFICIENT   =     .398
00563>
00564>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00565>
00566> ------------------------------------------------------------------------------
00567> 003:0005----------------------------------------------------------------------
00568> * For Catchment 305:
00569> * Minor system goes to West outlet, major system goes to East Outlet 1
00570> ----------------------
00571> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00572> | TotalHyd 02:305    |   Number of inlets in system [NINLET] =      1
00573> ----------------------   Total minor system capacity          =    .129  (cms)
00574>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00575>
00576>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00577>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
00578>      TOTAL HYD.   02:305          1.02      .064     2.833   22.191     .000
00579>      ================================================================
00580>      MAJOR SYST   03:Major         .00      .000      .000     .000     .000
00581>      MINOR SYST   04:Minor        1.02      .064     2.833   22.191     .000
00582>
00583>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00584>
00585> ------------------------------------------------------------------------------
00586> 003:0006----------------------------------------------------------------------
00587> ----------------------
00588> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00589> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
00590>                        ID1 01:303          3.89     .171    2.97  20.58    .000
00591>                       +ID2 03:Major         .00     .000     .00    .00    .000
00592>                        ============================================================
00593>                        SUM 05:to EP        3.89     .171    2.97  20.58    .000
00594>
00595>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00596>
00597> ------------------------------------------------------------------------------
00598> 003:0007----------------------------------------------------------------------
00599> ----------------------
00600> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00601> |  IN>05:(to EP )    |
00602> | OUT<06:(EPond )    |    =========  OUTLFOW STORAGE TABLE  =========
00603> ----------------------    OUTFLOW     STORAGE   |  OUTFLOW    STORAGE
00604>                             (cms)     (ha.m.)   |    (cms)    (ha.m.)
00605>                              .000  .0000E+00    |     .107  .5720E-01
00606>                              .006  .1900E-01    |     .126  .6680E-01
00607>                              .007  .2540E-01    |     .142  .7700E-01
00608>                              .008  .3240E-01    |     .156  .8800E-01
00609>                              .052  .4000E-01    |     .223  .9960E-01
00610>                              .085  .4830E-01    |     .435  .1119E+00
00611>
00612>      ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
00613>      --------------------         (ha)     (cms)     (hrs)        (mm)
00614>      INFLOW >05: (to EP )        3.89      .171     2.967      20.578
00615>      OUTFLOW<06: (EPond )        3.89      .069     3.850      20.578
00616>     OVERFLOW<07: (EPOVF )         .00      .000      .000        .000
00617>
00618>                      TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00619>                      CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00620>                      PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
00621>
00622>
00623>                      PEAK   FLOW   REDUCTION [Qout/Qin](%)=   40.648
00624>                      TIME SHIFT OF PEAK FLOW         (min)=    53.00
00625>                      MAXIMUM  STORAGE   USED       (ha.m.)=.4441E-01
00626>
00627> ------------------------------------------------------------------------------
00628> 003:0008----------------------------------------------------------------------
00629> ----------------------
00630> | CALIB NASHYD       |   Area     (ha)=    1.61   Curve Number    (CN)=83.00
00631> | 08:304     DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00632> ----------------------   U.H. Tp(hrs)=    .230
00633>
00634>      Unit Hyd Qpeak  (cms)=     .267
00635>
00636>      PEAK FLOW       (cms)=     .088 (i)
00637>      TIME TO PEAK    (hrs)=    2.867
00638>      RUNOFF VOLUME    (mm)=   21.364
00639>      TOTAL RAINFALL   (mm)=   55.690
00640>      RUNOFF COEFFICIENT   =     .384
00641>
00642>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00643>
00644> ------------------------------------------------------------------------------
00645> 003:0009----------------------------------------------------------------------
00646> ----------------------
00647> | CALIB NASHYD       |   Area     (ha)=     .09   Curve Number    (CN)=83.00
00648> | 09:306     DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00649> ----------------------   U.H. Tp(hrs)=    .110
00650>
00651>      Unit Hyd Qpeak  (cms)=     .031
00652>
00653>      PEAK FLOW       (cms)=     .006 (i)
00654>      TIME TO PEAK    (hrs)=    2.767
00655>      RUNOFF VOLUME    (mm)=   21.362
00656>      TOTAL RAINFALL   (mm)=   55.690
00657>      RUNOFF COEFFICIENT   =     .384
00658>
00659>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00660>
00661> ------------------------------------------------------------------------------
00662> 003:0010----------------------------------------------------------------------
00663> ----------------------
00664> | CALIB NASHYD       |   Area     (ha)=    1.38   Curve Number    (CN)=74.00
00665> | 01:302a    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00666> ----------------------   U.H. Tp(hrs)=    .230
00667>
00668>      Unit Hyd Qpeak  (cms)=     .229
00669>
00670>      PEAK FLOW       (cms)=     .053 (i)
00671>      TIME TO PEAK    (hrs)=    2.867
00672>      RUNOFF VOLUME    (mm)=   15.471
00673>      TOTAL RAINFALL   (mm)=   55.690
00674>      RUNOFF COEFFICIENT   =     .278
00675>
00676>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00677>
00678> ------------------------------------------------------------------------------
00679> 003:0011----------------------------------------------------------------------
00680> ----------------------
00681> | CALIB NASHYD       |   Area     (ha)=    2.09   Curve Number    (CN)=81.00
00682> | 02:302b    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00683> ----------------------   U.H. Tp(hrs)=    .300
00684>
00685>      Unit Hyd Qpeak  (cms)=     .266
00686>
00687>      PEAK FLOW       (cms)=     .091 (i)
00688>      TIME TO PEAK    (hrs)=    2.950
00689>      RUNOFF VOLUME    (mm)=   19.831
00690>      TOTAL RAINFALL   (mm)=   55.690
00691>      RUNOFF COEFFICIENT   =     .356
00692>
00693>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00694>
00695> ------------------------------------------------------------------------------
00696> 003:0012----------------------------------------------------------------------
00697> ----------------------
00698> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00699> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
00700>                        ID1 01:302a         1.38      .053    2.87  15.47    .000
00701>                       +ID2 02:302b         2.09      .091    2.95  19.83    .000
00702>                        ============================================================
00703>                        SUM 03:Node 4       3.47      .143    2.92  18.10    .000
00704>
00705>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00706>
00707> ------------------------------------------------------------------------------
00708> 003:0013----------------------------------------------------------------------
00709> ----------
00710> 003:0002----------------------------------------------------------------------
00711> ----------------------------------------------------------------------------
00712> 003:0002----------------------------------------------------------------------
00713>   ** END OF RUN :   3
00714>
00715> ******************************************************************************
00716>
00717>
00718>
00719>
00720>
00721> --------------------
00722> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00723> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00724>     TZERO =   .00 hrs on        0
00725>     METOUT=   2 (output = METRIC)
00726>     NRUN  = 004
00727>     NSTORM=   1
00728>              #  1=25Y6.STM
00729> ------------------------------------------------------------------------------
00730> 004:0002----------------------------------------------------------------------
00731> *#############################################################################
00732> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00733> *#  Date         : 2024-01-30a
00734> *#  Modeller     : [MYS]
00735> *#  Company      : Ecometrix Incorporated
00736> *#  License #    : 3375279
00737> *#############################################################################
00738> * Existing Conditions for Phase 2 Subdivision
00739> * Filename: S2-E.dat
00740> *
00741> *#############################################################################
00742> ----------------------------------------------------------------------------
00743> 004:0002----------------------------------------------------------------------
00744> ----------------------
00745> | READ STORM        |    Filename: 25yr/6hr
00746> | Ptotal=  65.59 mm|    Comments: 25yr/6hr
00747> ----------------------
00748>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00749>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00750>               .25    .000 |   2.00  22.300 |   3.75   9.180 |   5.50   1.310
00751>               .50   1.310 |   2.25  22.300 |   4.00   5.250 |   5.75   1.310
00752>               .75   1.310 |   2.50  60.350 |   4.25   5.250 |   6.00   1.310
00753>              1.00   1.310 |   2.75  60.350 |   4.50   2.620 |   6.25   1.310
00754>              1.25   1.310 |   3.00  17.060 |   4.75   2.620 |
00755>              1.50   7.870 |   3.25  17.060 |   5.00   1.310 |
00756>              1.75   7.870 |   3.50   9.180 |   5.25   1.310 |
00757>
00758> ------------------------------------------------------------------------------
00759> 004:0003----------------------------------------------------------------------
00760> ----------------------
00761> | CALIB NASHYD       |   Area     (ha)=    3.89   Curve Number    (CN)=82.00
00762> | 01:303     DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00763> ----------------------   U.H. Tp(hrs)=    .320
00764>
00765>      Unit Hyd Qpeak  (cms)=     .464
00766>
00767>      PEAK FLOW       (cms)=     .235 (i)
00768>      TIME TO PEAK    (hrs)=    2.950
00769>      RUNOFF VOLUME    (mm)=   27.753
00770>      TOTAL RAINFALL   (mm)=   65.590
00771>      RUNOFF COEFFICIENT   =     .423
00772>
00773>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00774>
00775> ------------------------------------------------------------------------------
00776> 004:0004----------------------------------------------------------------------
00777> ----------------------
00778> | CALIB NASHYD       |   Area     (ha)=    1.02   Curve Number    (CN)=84.00
00779> | 02:305     DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00780> ----------------------   U.H. Tp(hrs)=    .190
00781>
00782>      Unit Hyd Qpeak  (cms)=     .205
00783>
00784>      PEAK FLOW       (cms)=     .086 (i)
00785>      TIME TO PEAK    (hrs)=    2.817
00786>      RUNOFF VOLUME    (mm)=   29.722
00787>      TOTAL RAINFALL   (mm)=   65.590
00788>      RUNOFF COEFFICIENT   =     .453
00789>
00790>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00791>
00792> ------------------------------------------------------------------------------
00793> 004:0005----------------------------------------------------------------------
00794> * For Catchment 305:
00795> * Minor system goes to West outlet, major system goes to East Outlet 1
00796> ----------------------
00797> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00798> | TotalHyd 02:305    |   Number of inlets in system [NINLET] =      1
00799> ----------------------   Total minor system capacity          =    .129  (cms)
00800>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00801>
00802>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00803>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
00804>      TOTAL HYD.   02:305          1.02      .086     2.817   29.722     .000
00805>      ================================================================
00806>      MAJOR SYST   03:Major         .00      .000      .000     .000     .000
00807>      MINOR SYST   04:Minor        1.02      .086     2.817   29.722     .000
00808>
00809>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00810>
```

```
00811> ------------------------------------------------------------------------------
00812> 004:0006------------------------------------------------------------------------
00813> ----------------------
00814> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00815> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
00816>                        ID1 01:303          3.89     .235    2.95  27.75    .000
00817>                       +ID2 03:Major         .00     .000     .00    .00    .000
00818>                        ==========================================================
00819>                        SUM 05:to EP        3.89     .235    2.95  27.75    .000
00820>
00821>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00822>
00823> ------------------------------------------------------------------------------
00824> 004:0007------------------------------------------------------------------------
00825> ----------------------
00826> | ROUTE RESERVOIR   |    Requested routing time step =  1.0 min.
00827> |  IN>05:(to EP )   |
00828> | OUT<06:(EPond )   |    =========  OUTLFOW STORAGE TABLE  =========
00829> ----------------------   OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00830>                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
00831>                             .000  .0000E+00    |     .107  .5720E-01
00832>                             .006  .1900E-01    |     .126  .6680E-01
00833>                             .007  .2540E-01    |     .142  .7700E-01
00834>                             .008  .3240E-01    |     .156  .8800E-01
00835>                             .052  .4000E-01    |     .223  .9960E-01
00836>                             .085  .4830E-01    |     .435  .1119E+00
00837>
00838>     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00839>     ---------------------       (ha)     (cms)     (hrs)       (mm)
00840>     INFLOW >05: (to EP )       3.89      .235     2.950      27.753
00841>     OUTFLOW<06: (EPond )       3.89      .101     3.750      27.753
00842>    OVERFLOW<07: (EPOVF )        .00      .000      .000        .000
00843>
00844>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00845>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00846>                    PERCENTAGE OF TIME OVERFLOWING     (%)=     .00
00847>
00848>
00849>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   43.020
00850>                    TIME SHIFT OF PEAK FLOW          (min)=    48.00
00851>                    MAXIMUM  STORAGE   USED       (ha.m.)=.5468E-01
00852>
00853> ------------------------------------------------------------------------------
00854> 004:0008------------------------------------------------------------------------
00855> ----------------------
00856> | CALIB NASHYD       |   Area     (ha)=    1.61   Curve Number    (CN)=83.00
00857> | 08:304    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00858> ----------------------   U.H. Tp(hrs)=    .230
00859>
00860>     Unit Hyd Qpeak  (cms)=     .267
00861>
00862>     PEAK FLOW       (cms)=     .120 (i)
00863>     TIME TO PEAK    (hrs)=    2.850
00864>     RUNOFF VOLUME    (mm)=   28.716
00865>     TOTAL RAINFALL   (mm)=   65.590
00866>     RUNOFF COEFFICIENT   =     .438
00867>
00868>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00869>
00870> ------------------------------------------------------------------------------
00871> 004:0009------------------------------------------------------------------------
00872> ----------------------
00873> | CALIB NASHYD       |   Area     (ha)=     .09   Curve Number    (CN)=83.00
00874> | 09:306    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00875> ----------------------   U.H. Tp(hrs)=    .110
00876>
00877>     Unit Hyd Qpeak  (cms)=     .031
00878>
00879>     PEAK FLOW       (cms)=     .009 (i)
00880>     TIME TO PEAK    (hrs)=    2.767
00881>     RUNOFF VOLUME    (mm)=   28.714
00882>     TOTAL RAINFALL   (mm)=   65.590
00883>     RUNOFF COEFFICIENT   =     .438
00884>
00885>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00886>
00887> ------------------------------------------------------------------------------
00888> 004:0010------------------------------------------------------------------------
00889> ----------------------
00890> | CALIB NASHYD       |   Area     (ha)=    1.38   Curve Number    (CN)=74.00
00891> | 01:302a   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00892> ----------------------   U.H. Tp(hrs)=    .230
00893>
00894>     Unit Hyd Qpeak  (cms)=     .229
00895>
00896>     PEAK FLOW       (cms)=     .074 (i)
00897>     TIME TO PEAK    (hrs)=    2.867
00898>     RUNOFF VOLUME    (mm)=   21.336
00899>     TOTAL RAINFALL   (mm)=   65.590
00900>     RUNOFF COEFFICIENT   =     .325
00901>
00902>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00903>
00904> ------------------------------------------------------------------------------
00905> 004:0011------------------------------------------------------------------------
00906> ----------------------
00907> | CALIB NASHYD       |   Area     (ha)=    2.09   Curve Number    (CN)=81.00
00908> | 02:302b   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00909> ----------------------   U.H. Tp(hrs)=    .300
00910>
00911>     Unit Hyd Qpeak  (cms)=     .266
00912>
00913>     PEAK FLOW       (cms)=     .126 (i)
00914>     TIME TO PEAK    (hrs)=    2.933
00915>     RUNOFF VOLUME    (mm)=   26.832
00916>     TOTAL RAINFALL   (mm)=   65.590
00917>     RUNOFF COEFFICIENT   =     .409
00918>
00919>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00920>
00921> ------------------------------------------------------------------------------
00922> 004:0012------------------------------------------------------------------------
00923> ------------------------
00924> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00925> ------------------------                 (ha)     (cms)   (hrs)   (mm)    (cms)
00926>                        ID1 01:302a         1.38     .074    2.87  21.34    .000
00927>                       +ID2 02:302b         2.09     .126    2.93  26.83    .000
00928>                        ==========================================================
00929>                        SUM 03:Node 4       3.47     .198    2.90  24.65    .000
00930>
00931>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00932>
00933> ------------------------------------------------------------------------------
00934> 004:0013------------------------------------------------------------------------
00935> ------------------------------------------------------------------------------
00936> 004:0002------------------------------------------------------------------------
00937> ------------------------------------------------------------------------------
00938> 004:0002------------------------------------------------------------------------
00939> ------------------------------------------------------------------------------
00940> 004:0002------------------------------------------------------------------------
00941>   ** END OF RUN :   4
00942>
00943> ********************************************************************************
00944>
00945>
00946>
00947>
00948>
00949> --------------------
00950> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00951> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00952>     TZERO =   .00 hrs on       0
00953>     METOUT=   2 (output = METRIC)
00954>     NRUN  = 005
00955>     NSTORM=   1
00956>               #  1=50Y6.STM
00957> ------------------------------------------------------------------------------
00958> 005:0002------------------------------------------------------------------------
00959> *#*****************************************************************************
00960> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00961> *#  Date        : 2024-01-30a
00962> *#  Modeller    : [MYS]
00963> *#  Company     : Ecometrix Incorporated
00964> *#  License #   : 3375279
00965> *#*****************************************************************************
00966> * Existing Conditions for Phase 2 Subdivision
00967> * Filename: S2-E.dat
00968> *
00969> *#*****************************************************************************
00970> ------------------------------------------------------------------------------
00971> 005:0002------------------------------------------------------------------------
00972> --------------------
00973> | READ STORM       |    Filename: 50yr/6hr
00974> | Ptotal=  73.00 mm|    Comments: 50yr/6hr
00975> --------------------
00976>              TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00977>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00978>               .25    .000 |   2.00  24.820 |   3.75  10.220 |   5.50   1.460
00979>               .50   1.460 |   2.25  24.820 |   4.00   5.840 |   5.75   1.460
00980>               .75   1.460 |   2.50  67.160 |   4.25   5.840 |   6.00   1.460
00981>              1.00   1.460 |   2.75  67.160 |   4.50   2.920 |   6.25   1.460
00982>              1.25   1.460 |   3.00  18.980 |   4.75   2.920 |
00983>              1.50   8.760 |   3.25  18.980 |   5.00   1.460 |
00984>              1.75   8.760 |   3.50  10.220 |   5.25   1.460 |
00985>
00986> ------------------------------------------------------------------------------
00987> 005:0003------------------------------------------------------------------------
00988> ----------------------
00989> | CALIB NASHYD       |   Area     (ha)=    3.89   Curve Number    (CN)=82.00
00990> | 01:303    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00991> ----------------------   U.H. Tp(hrs)=    .320
00992>
00993>     Unit Hyd Qpeak  (cms)=     .464
00994>
00995>     PEAK FLOW       (cms)=     .285 (i)
00996>     TIME TO PEAK    (hrs)=    2.950
00997>     RUNOFF VOLUME    (mm)=   33.421
00998>     TOTAL RAINFALL   (mm)=   73.000
00999>     RUNOFF COEFFICIENT   =     .458
01000>
01001>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01002>
01003> ------------------------------------------------------------------------------
01004> 005:0004------------------------------------------------------------------------
01005> ----------------------
01006> | CALIB NASHYD       |   Area     (ha)=    1.02   Curve Number    (CN)=84.00
01007> | 02:305    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
01008> ----------------------   U.H. Tp(hrs)=    .190
01009>
01010>     Unit Hyd Qpeak  (cms)=     .205
01011>
01012>     PEAK FLOW       (cms)=     .103 (i)
01013>     TIME TO PEAK    (hrs)=    2.817
01014>     RUNOFF VOLUME    (mm)=   35.634
01015>     TOTAL RAINFALL   (mm)=   73.000
01016>     RUNOFF COEFFICIENT   =     .488
01017>
01018>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01019>
01020> ------------------------------------------------------------------------------
01021> 005:0005------------------------------------------------------------------------
01022> * For Catchment 305:
01023> * Minor system goes to West outlet, major system goes to East Outlet 1
01024> ----------------------
01025> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
01026> | TotalHyd 02:305    |   Number of inlets in system [NINLET] =      1
01027> ----------------------   Total minor system capacity          =    .129  (cms)
01028>                          Total major system storage [TMJSTO] =      0.(cu.m.)
01029>
01030>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01031>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
01032>     TOTAL HYD.   02:305          1.02      .103     2.817   35.634     .000
01033>     ==========================================================================
01034>     MAJOR SYST   03:Major          .00      .000      .000     .000     .000
01035>     MINOR SYST   04:Minor        1.02      .103     2.817   35.634     .000
01036>
01037>     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01038>
01039> ------------------------------------------------------------------------------
01040> 005:0006------------------------------------------------------------------------
01041> ------------------------
01042> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01043> ------------------------                 (ha)     (cms)   (hrs)   (mm)    (cms)
01044>                        ID1 01:303          3.89     .285    2.95  33.42    .000
01045>                       +ID2 03:Major         .00     .000     .00    .00    .000
01046>                        ==========================================================
01047>                        SUM 05:to EP        3.89     .285    2.95  33.42    .000
01048>
01049>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01050>
01051> ------------------------------------------------------------------------------
01052> 005:0007------------------------------------------------------------------------
01053> ----------------------
01054> | ROUTE RESERVOIR   |    Requested routing time step =  1.0 min.
01055> |  IN>05:(to EP )   |
01056> | OUT<06:(EPond )   |    =========  OUTLFOW STORAGE TABLE  =========
01057> ----------------------   OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
01058>                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
01059>                             .000  .0000E+00    |     .107  .5720E-01
01060>                             .006  .1900E-01    |     .126  .6680E-01
01061>                             .007  .2540E-01    |     .142  .7700E-01
01062>                             .008  .3240E-01    |     .156  .8800E-01
01063>                             .052  .4000E-01    |     .223  .9960E-01
01064>                             .085  .4830E-01    |     .435  .1119E+00
01065>
01066>     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
01067>     ---------------------       (ha)     (cms)     (hrs)       (mm)
01068>     INFLOW >05: (to EP )       3.89      .285     2.950      33.421
01069>     OUTFLOW<06: (EPond )       3.89      .121     3.733      33.421
01070>    OVERFLOW<07: (EPOVF )        .00      .000      .000        .000
01071>
01072>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
01073>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
01074>                    PERCENTAGE OF TIME OVERFLOWING     (%)=     .00
01075>
01076>
01077>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   42.346
01078>                    TIME SHIFT OF PEAK FLOW          (min)=    47.00
01079>                    MAXIMUM  STORAGE   USED       (ha.m.)=.6415E-01
01080>
```

```
01081> ------------------------------------------------------------------------------
01082> 005:0008------------------------------------------------------------------------
01083> ----------------------
01084> | CALIB NASHYD       |   Area    (ha)=    1.61   Curve Number   (CN)=83.00
01085> | 08:304    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01086> ----------------------   U.H. Tp(hrs)=    .230
01087>
01088>      Unit Hyd Qpeak  (cms)=     .267
01089>
01090>      PEAK FLOW       (cms)=     .145 (i)
01091>      TIME TO PEAK    (hrs)=    2.850
01092>      RUNOFF VOLUME    (mm)=   34.506
01093>      TOTAL RAINFALL   (mm)=   73.000
01094>      RUNOFF COEFFICIENT   =     .473
01095>
01096>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01097>
01098> ------------------------------------------------------------------------------
01099> 005:0009------------------------------------------------------------------------
01100> ----------------------
01101> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=83.00
01102> | 09:306    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01103> ----------------------   U.H. Tp(hrs)=    .110
01104>
01105>      Unit Hyd Qpeak  (cms)=     .031
01106>
01107>      PEAK FLOW       (cms)=     .010 (i)
01108>      TIME TO PEAK    (hrs)=    2.767
01109>      RUNOFF VOLUME    (mm)=   34.503
01110>      TOTAL RAINFALL   (mm)=   73.000
01111>      RUNOFF COEFFICIENT   =     .473
01112>
01113>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01114>
01115> ------------------------------------------------------------------------------
01116> 005:0010------------------------------------------------------------------------
01117> ----------------------
01118> | CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
01119> | 01:302a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01120> ----------------------   U.H. Tp(hrs)=    .230
01121>
01122>      Unit Hyd Qpeak  (cms)=     .229
01123>
01124>      PEAK FLOW       (cms)=     .091 (i)
01125>      TIME TO PEAK    (hrs)=    2.867
01126>      RUNOFF VOLUME    (mm)=   26.070
01127>      TOTAL RAINFALL   (mm)=   73.000
01128>      RUNOFF COEFFICIENT   =     .357
01129>
01130>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01131>
01132> ------------------------------------------------------------------------------
01133> 005:0011------------------------------------------------------------------------
01134> ----------------------
01135> | CALIB NASHYD       |   Area    (ha)=    2.09   Curve Number   (CN)=81.00
01136> | 02:302b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01137> ----------------------   U.H. Tp(hrs)=    .300
01138>
01139>      Unit Hyd Qpeak  (cms)=     .266
01140>
01141>      PEAK FLOW       (cms)=     .153 (i)
01142>      TIME TO PEAK    (hrs)=    2.933
01143>      RUNOFF VOLUME    (mm)=   32.379
01144>      TOTAL RAINFALL   (mm)=   73.000
01145>      RUNOFF COEFFICIENT   =     .444
01146>
01147>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01148>
01149> ------------------------------------------------------------------------------
01150> 005:0012------------------------------------------------------------------------
01151> ----------------------
01152> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01153> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
01154>                        ID1 01:302a          1.38     .091    2.87  26.07    .000
01155>                       +ID2 02:302b          2.09     .153    2.93  32.38    .000
01156>                        ========================================================
01157>                        SUM 03:Node 4         3.47     .243    2.90  29.87    .000
01158>
01159>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01160>
01161> ------------------------------------------------------------------------------
01162> 005:0013------------------------------------------------------------------------
01163> ------------------------------------------------------------------------------
01164> 005:0002------------------------------------------------------------------------
01165> ------------------------------------------------------------------------------
01166> 005:0002------------------------------------------------------------------------
01167> ------------------------------------------------------------------------------
01168> 005:0002------------------------------------------------------------------------
01169> ------------------------------------------------------------------------------
01170> 005:0002------------------------------------------------------------------------
01171>   ** END OF RUN :   5
01172>
01173> ********************************************************************************
01174>
01175>
01176>
01177>
01178>
01179> ---------------------
01180> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
01181> ---------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
01182>     TZERO =   .00 hrs on       0
01183>     METOUT=   2 (output = METRIC)
01184>     NRUN  = 006
01185>     NSTORM=   1
01186>               #  1=100Y6.STM
01187> ------------------------------------------------------------------------------
01188> 006:0002------------------------------------------------------------------------
01189> *#*****************************************************************************
01190> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
01191> *#  Date        : 2024-01-30a
01192> *#  Modeller    : [MYS]
01193> *#  Company     : Ecometrix Incorporated
01194> *#  License #   : 3375279
01195> *#*****************************************************************************
01196> * Existing Conditions for Phase 2 Subdivision
01197> * Filename: S2-E.dat
01198> *
01199> *#*****************************************************************************
01200> ------------------------------------------------------------------------------
01201> 006:0002------------------------------------------------------------------------
01202> ---------------------
01203> | READ STORM       |    Filename: 100yr/6hr
01204> | Ptotal=  80.31 mm|    Comments: 100yr/6hr
01205> ---------------------
01206>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
01207>               hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
01208>               .25    .000 |   2.00  27.300 |   3.75  11.240 |   5.50   1.610
01209>               .50   1.610 |   2.25  27.300 |   4.00   6.420 |   5.75   1.610
01210>               .75   1.610 |   2.50  73.880 |   4.25   6.420 |   6.00   1.610
01211>              1.00   1.610 |   2.75  73.880 |   4.50   3.210 |   6.25   1.610
01212>              1.25   1.610 |   3.00  20.880 |   4.75   3.210 |
01213>              1.50   9.640 |   3.25  20.880 |   5.00   1.610 |
01214>              1.75   9.640 |   3.50  11.240 |   5.25   1.610 |
01215>
01216> ------------------------------------------------------------------------------
01217> 006:0003------------------------------------------------------------------------
01218> ----------------------
01219> | CALIB NASHYD       |   Area    (ha)=    3.89   Curve Number   (CN)=82.00
01220> | 01:303    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01221> ----------------------   U.H. Tp(hrs)=    .320
01222>
01223>      Unit Hyd Qpeak  (cms)=     .464
01224>
01225>      PEAK FLOW       (cms)=     .337 (i)
01226>      TIME TO PEAK    (hrs)=    2.933
01227>      RUNOFF VOLUME    (mm)=   39.213
01228>      TOTAL RAINFALL   (mm)=   80.310
01229>      RUNOFF COEFFICIENT   =     .488
01230>
01231>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01232>
01233> ------------------------------------------------------------------------------
01234> 006:0004------------------------------------------------------------------------
01235> ----------------------
01236> | CALIB NASHYD       |   Area    (ha)=    1.02   Curve Number   (CN)=84.00
01237> | 02:305    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01238> ----------------------   U.H. Tp(hrs)=    .190
01239>
01240>      Unit Hyd Qpeak  (cms)=     .205
01241>
01242>      PEAK FLOW       (cms)=     .121 (i)
01243>      TIME TO PEAK    (hrs)=    2.817
01244>      RUNOFF VOLUME    (mm)=   41.650
01245>      TOTAL RAINFALL   (mm)=   80.310
01246>      RUNOFF COEFFICIENT   =     .519
01247>
01248>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01249>
01250> ------------------------------------------------------------------------------
01251> 006:0005------------------------------------------------------------------------
01252> * For Catchment 305:
01253> * Minor system goes to West outlet, major system goes to East Outlet 1
01254> ----------------------
01255> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
01256> | TotalHyd 02:305    |   Number of inlets in system [NINLET] =       1
01257> ----------------------   Total minor system capacity          =    .129  (cms)
01258>                          Total major system storage [TMJSTO] =       0.(cu.m.)
01259>
01260>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01261>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
01262>      TOTAL HYD.   02:305          1.02      .121     2.817   41.650     .000
01263>      ============================================================================
01264>      MAJOR SYST   03:Major         .00      .000      .000     .000     .000
01265>      MINOR SYST   04:Minor        1.02      .121     2.817   41.650     .000
01266>
01267>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01268>
01269> ------------------------------------------------------------------------------
01270> 006:0006------------------------------------------------------------------------
01271> ----------------------
01272> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01273> ----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
01274>                        ID1 01:303           3.89     .337    2.93  39.21    .000
01275>                       +ID2 03:Major          .00     .000     .00    .00    .000
01276>                        ========================================================
01277>                        SUM 05:to EP         3.89     .337    2.93  39.21    .000
01278>
01279>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01280>
01281> ------------------------------------------------------------------------------
01282> 006:0007------------------------------------------------------------------------
01283> ----------------------
01284> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
01285> |  IN>05:(to EP )    |
01286> | OUT<06:(EPond )    |   =========  OUTLFOW STORAGE TABLE  =========
01287> ----------------------   OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
01288>                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
01289>                            .000  .0000E+00   |     .107  .5720E-01
01290>                            .006  .1900E-01   |     .126  .6680E-01
01291>                            .007  .2540E-01   |     .142  .7700E-01
01292>                            .008  .3240E-01   |     .156  .8800E-01
01293>                            .052  .4000E-01   |     .223  .9960E-01
01294>                            .085  .4830E-01   |     .435  .1119E+00
01295>
01296>      ROUTING RESULTS             AREA     QPEAK     TPEAK       R.V.
01297>      ---------------------        (ha)     (cms)     (hrs)       (mm)
01298>      INFLOW >05: (to EP )        3.89      .337     2.933     39.213
01299>      OUTFLOW<06: (EPond )        3.89      .138     3.733     39.213
01300>     OVERFLOW<07: (EPOVF )         .00      .000      .000       .000
01301>
01302>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
01303>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
01304>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
01305>
01306>
01307>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=   41.111
01308>                     TIME SHIFT OF PEAK FLOW          (min)=   48.00
01309>                     MAXIMUM  STORAGE   USED       (ha.m.)=.7476E-01
01310>
01311> ------------------------------------------------------------------------------
01312> 006:0008------------------------------------------------------------------------
01313> ----------------------
01314> | CALIB NASHYD       |   Area    (ha)=    1.61   Curve Number   (CN)=83.00
01315> | 08:304    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01316> ----------------------   U.H. Tp(hrs)=    .230
01317>
01318>      Unit Hyd Qpeak  (cms)=     .267
01319>
01320>      PEAK FLOW       (cms)=     .171 (i)
01321>      TIME TO PEAK    (hrs)=    2.850
01322>      RUNOFF VOLUME    (mm)=   40.410
01323>      TOTAL RAINFALL   (mm)=   80.310
01324>      RUNOFF COEFFICIENT   =     .503
01325>
01326>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01327>
01328> ------------------------------------------------------------------------------
01329> 006:0009------------------------------------------------------------------------
01330> ----------------------
01331> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=83.00
01332> | 09:306    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01333> ----------------------   U.H. Tp(hrs)=    .110
01334>
01335>      Unit Hyd Qpeak  (cms)=     .031
01336>
01337>      PEAK FLOW       (cms)=     .012 (i)
01338>      TIME TO PEAK    (hrs)=    2.767
01339>      RUNOFF VOLUME    (mm)=   40.407
01340>      TOTAL RAINFALL   (mm)=   80.310
01341>      RUNOFF COEFFICIENT   =     .503
01342>
01343>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01344>
01345> ------------------------------------------------------------------------------
01346> 006:0010------------------------------------------------------------------------
01347> ----------------------
01348> | CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
01349> | 01:302a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01350> ----------------------   U.H. Tp(hrs)=    .230
```

```
01351>
01352>      Unit Hyd Qpeak  (cms)=     .229
01353>
01354>      PEAK FLOW       (cms)=     .109 (i)
01355>      TIME TO PEAK    (hrs)=    2.850
01356>      RUNOFF VOLUME    (mm)=   30.983
01357>      TOTAL RAINFALL   (mm)=   80.310
01358>      RUNOFF COEFFICIENT   =     .386
01359>
01360>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01361>
01362> ---------------------------------------------------------------------------
01363> 006:0011-----------------------------------------------------------------------
01364> ---------------------
01365> | CALIB NASHYD       |   Area    (ha)=    2.09   Curve Number   (CN)=81.00
01366> | 02:302b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01367> ---------------------   U.H. Tp(hrs)=    .300
01368>
01369>      Unit Hyd Qpeak  (cms)=     .266
01370>
01371>      PEAK FLOW       (cms)=     .181 (i)
01372>      TIME TO PEAK    (hrs)=    2.917
01373>      RUNOFF VOLUME    (mm)=   38.059
01374>      TOTAL RAINFALL   (mm)=   80.310
01375>      RUNOFF COEFFICIENT   =     .474
01376>
01377>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01378>
01379> ---------------------------------------------------------------------------
01380> 006:0012-----------------------------------------------------------------------
01381> ------------------------
01382> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01383> ------------------------                  (ha)     (cms)   (hrs)   (mm)    (cms)
01384>                       ID1 01:302a          1.38     .109    2.85  30.98    .000
01385>                      +ID2 02:302b          2.09     .181    2.92  38.06    .000
01386>                       ==========================================================
01387>                       SUM 03:Node 4        3.47     .288    2.88  35.24    .000
01388>
01389>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01390>
01391> ---------------------------------------------------------------------------
01392> 006:0013-----------------------------------------------------------------------
01393> ---------------------------------------------------------------------------
01394> 006:0002-----------------------------------------------------------------------
01395> ---------------------------------------------------------------------------
01396> 006:0002-----------------------------------------------------------------------
01397> ---------------------------------------------------------------------------
01398> 006:0002-----------------------------------------------------------------------
01399> ---------------------------------------------------------------------------
01400> 006:0002-----------------------------------------------------------------------
01401> ---------------------------------------------------------------------------
01402> 006:0002-----------------------------------------------------------------------
01403>       FINISH
01404> ---------------------------------------------------------------------------
01405> ***************************************************************************
01406>      WARNINGS / ERRORS / NOTES
01407>      -------------------------
01408>    Simulation ended on 2024-01-30     at 15:00:32
01409> ===========================================================================
01410>
01411>
```

```
00001> 2     Metric units
00002> *#****************************************************************************
00003> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00004> *#  Date        : 2024-01-30a
00005> *#  Modeller    : [MYS]
00006> *#  Company     : Ecometrix Incorporated
00007> *#  License #   : 3375279
00008> *#****************************************************************************
00009> * Proposed Conditions for Phase 2 Subdivision
00010> * Filename: S2-P.dat
00011> *
00012> *#****************************************************************************
00013> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[0]
00014> *%                   ["2Y6.STM"] <--storm filename, one per line for NSTORM time
00015> *%                   ["5Y6.STM"]
00016> *%                   ["10Y6.STM"]
00017> *%                   ["25Y6.STM"]
00018> *%                   ["50Y6.STM"]
00019> *%                   ["100Y6.STM"]
00020> *%-----------------|-------------------------------------------------------|
00021> READ STORM          STORM_FILENAME=["STORM.001"]
00022> *%-----------------|-------------------------------------------------------|
00023> CALIB NASHYD        ID=[ 1 ], NHYD=["403"], DT=[ 1 ]min, AREA=[3.64](ha),
00024>                     DWF=[0](cms),  CN/C=[ 82 ], IA=[ 10  ](mm),
00025>                     N=[ 3  ], TP=[0.32 ]hrs,
00026>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00027> *%-----------------|-------------------------------------------------------|
00028> CALIB NASHYD        ID=[ 2 ], NHYD=["405"], DT=[ 1 ]min, AREA=[0.96](ha),
00029>                     DWF=[ 0 ](cms),  CN/C=[ 84 ], IA=[ 10 ](mm),
00030>                     N=[ 3  ], TP=[ 0.19 ]hrs,
00031>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00032> *%-----------------|-------------------------------------------------------|
00033> * For Catchment 405:
00034> * Minor system goes to West outlet, major system goes to East Outlet 1
00035> *%-----------------|-------------------------------------------------------|
00036> COMPUTE DUALHYD     IDin=[2  ], CINLET=[0.129 ](cms), NINLET=[1  ],
00037>                     MAJID=[3  ], MajNHYD=["Major" ],
00038>                     MINID=[4  ], MinNHYD=["Minor" ],
00039>                     TMJSTO=[ 0  ](cu-m)
00040> *%-----------------|-------------------------------------------------------|
00041> CALIB NASHYD        ID=[ 5 ], NHYD=["404a"], DT=[ 1 ]min, AREA=[1.34](ha),
00042>                     DWF=[ 0 ](cms),  CN/C=[ 83], IA=[ 10 ](mm),
00043>                     N=[ 3  ], TP=[ 0.17 ]hrs,
00044>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00045> *%-----------------|-------------------------------------------------------|
00046> ADD HYD            IDsum=[ 6 ], NHYD=["to EP"], IDs to add=[ 1+3+5]
00047> *%-----------------|-------------------------------------------------------|
00048> ROUTE RESERVOIR     IDout=[ 7 ],   NHYD=["EPond"],  IDin=[ 6 ],
00049>                     RDT=[ 1 ](min),
00050>                          TABLE of ( OUTFLOW-STORAGE ) values
00051>                                     (cms) - (ha-m)
00052>                                   [0.0000 , 0.0000]
00053>                                   [0.0056 , 0.0190]
00054>                                   [0.0068 , 0.0254]
00055>                                   [0.0078 , 0.0324]
00056>                                   [0.0521 , 0.0400]
00057>                                   [0.0847 , 0.0483]
00058>                                   [0.1073 , 0.0572]
00059>                                   [0.1258 , 0.0668]
00060>                                   [0.1419 , 0.0770]
00061>                                   [0.1562 , 0.0880]
00062>                                   [0.2230 , 0.0996]
00063>                                   [0.4348 , 0.1119]
00064>                                   [   -1  ,  -1  ]  (max twenty pts)
00065>                          IDovf=[ 8  ], NHYDovf=["EPOVF"]
00066> *%-----------------|-------------------------------------------------------|
00067> CALIB NASHYD        ID=[ 9 ], NHYD=["404b"], DT=[ 1 ]min, AREA=[ 0.64](ha),
00068>                     DWF=[ 0 ](cms),  CN/C=[ 80 ], IA=[ 10](mm),
00069>                     N=[ 3 ], TP=[ 0.20 ]hrs,
00070>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00071> *%-----------------|-------------------------------------------------------|
00072> CALIB NASHYD        ID=[ 1 ], NHYD=["406"], DT=[ 1 ]min, AREA=[ 0.09 ](ha),
00073>                     DWF=[ 0 ](cms),  CN/C=[ 76 ], IA=[ 10 ](mm),
00074>                     N=[ 3 ], TP=[ 0.11 ]hrs,
00075>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00076> *%-----------------|-------------------------------------------------------|
00077> CALIB NASHYD        ID=[ 2 ], NHYD=["402a"], DT=[ 1 ]min, AREA=[ 1.38 ](ha),
00078>                     DWF=[ 0 ](cms),  CN/C=[ 74 ], IA=[ 10 ](mm),
00079>                     N=[ 3 ], TP=[ 0.23 ]hrs,
00080>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00081> *%-----------------|-------------------------------------------------------|
00082> CALIB NASHYD        ID=[ 3 ], NHYD=["402b"], DT=[ 1 ]min, AREA=[ 2.02 ](ha),
00083>                     DWF=[ 0 ](cms),  CN/C=[ 78], IA=[ 10 ](mm),
00084>                     N=[ 3 ], TP=[ 0.30 ]hrs,
00085>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00086> *%-----------------|-------------------------------------------------------|
00087> ADD HYD            IDsum=[ 4 ], NHYD=["Node 4"], IDs to add=[ 2+3 ]
00088> *%-----------------|-------------------------------------------------------|
00089> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[2]
00090> *                   ["5Y6.STM"] <--storm filename, one per line for NSTORM time
00091> *%-----------------|-------------------------------------------------------|
00092> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[3]
00093> *                   ["10Y6.STM"] <--storm filename, one per line for NSTORM time
00094> *%-----------------|-------------------------------------------------------|
00095> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[4]
00096> *                   ["25Y6.STM"] <--storm filename, one per line for NSTORM time
00097> *%-----------------|-------------------------------------------------------|
00098> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[5]
00099> *                   ["50Y6.STM"] <--storm filename, one per line for NSTORM time
00100> *%-----------------|-------------------------------------------------------|
00101> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[6]
00102> *                   ["100Y6.STM"] <--storm filename, one per line for NSTORM tim
00103> *%-----------------|-------------------------------------------------------|
00104> FINISH
00105>
00106>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9   =========
00008>                                                          9   9  9   9   # 3375279
00009>          StormWater Management HYdrologic Model          999    999    =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO Ver/4.05  ***************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ******** Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                 Ottawa,  Ontario: (613) 836-3884            *********
00019>  *********                 Gatineau, Quebec: (819) 243-6858            *********
00020>  *********                 E-Mail: swmhymo@jfsa.Com                    *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: Calder Engineering Ltd.                      +++++++++
00025>  +++++++++                Bolton              SERIAL#:3375279         +++++++++
00026>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00027>
00028>  ********************************************************************************
00029>  *********           ++++++ PROGRAM ARRAY DIMENSIONS ++++++             *********
00030>  *********           Maximum value for ID numbers  :     10            *********
00031>  *********           Max. number of rainfall points: 105408            *********
00032>  *********           Max. number of flow points    : 105408            *********
00033>  ********************************************************************************
00034>
00035>
00036>  **********************   D E T A I L E D   O U T P U T   **********************
00037>  ********************************************************************************
00038>  *         DATE: 2024-01-30     TIME: 15:02:53     RUN COUNTER: 000508         *
00039>  ********************************************************************************
00040>  * Input   filename: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\S2-P.dat               *
00041>  * Output  filename: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\S2-P.out               *
00042>  * Summary filename: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\S2-P.sum               *
00043>  * User comments:                                                             *
00044>  * 1:_____________________________________________________________________    *
00045>  * 2:_____________________________________________________________________    *
00046>  * 3:_____________________________________________________________________    *
00047>  ********************************************************************************
00048>
00049> -------------------------------------------------------------------------------
00050> 001:0001-------------------------------------------------------------------------
00051> *#*****************************************************************************
00052> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00053> *#  Date         : 2024-01-30a
00054> *#  Modeller     : [MYS]
00055> *#  Company      : Ecometrix Incorporated
00056> *#  License #    : 3375279
00057> *#*****************************************************************************
00058> * Proposed Conditions for Phase 2 Subdivision
00059> * Filename: S2-P.dat
00060> *
00061> *#*****************************************************************************
00062> --------------------
00063> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00064> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00065>     TZERO =   .00 hrs on        0
00066>     METOUT=   2 (output = METRIC)
00067>     NRUN  = 001
00068>     NSTORM=   1
00069>              #  1=2Y6.STM
00070> -------------------------------------------------------------------------------
00071> 001:0002-------------------------------------------------------------------------
00072> --------------------
00073> | READ STORM       |    Filename: 2yr/6hr
00074> | Ptotal=  36.00 mm|    Comments: 2yr/6hr
00075> --------------------
00076>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00077>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00078>                .25    .000 |   2.00  12.240 |   3.75   5.040 |   5.50    .720
00079>                .50    .720 |   2.25  12.240 |   4.00   2.880 |   5.75    .720
00080>                .75    .720 |   2.50  33.120 |   4.25   2.880 |   6.00    .720
00081>               1.00    .720 |   2.75  33.120 |   4.50   1.440 |   6.25    .720
00082>               1.25    .720 |   3.00   9.360 |   4.75   1.440 |
00083>               1.50   4.320 |   3.25   9.360 |   5.00    .720 |
00084>               1.75   4.320 |   3.50   5.040 |   5.25    .720 |
00085>
00086> -------------------------------------------------------------------------------
00087> 001:0003-------------------------------------------------------------------------
00088> ----------------------
00089> | CALIB NASHYD       |   Area     (ha)=    3.64   Curve Number    (CN)=82.00
00090> | 01:403    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00091> ----------------------   U.H. Tp(hrs)=    .320
00092>
00093>     Unit Hyd Qpeak  (cms)=     .434
00094>
00095>     PEAK FLOW       (cms)=     .059 (i)
00096>     TIME TO PEAK    (hrs)=    3.033
00097>     RUNOFF VOLUME    (mm)=    8.268
00098>     TOTAL RAINFALL   (mm)=   36.000
00099>     RUNOFF COEFFICIENT   =     .230
00100>
00101>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00102>
00103> -------------------------------------------------------------------------------
00104> 001:0004-------------------------------------------------------------------------
00105> ----------------------
00106> | CALIB NASHYD       |   Area     (ha)=     .96   Curve Number    (CN)=84.00
00107> | 02:405    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00108> ----------------------   U.H. Tp(hrs)=    .190
00109>
00110>     Unit Hyd Qpeak  (cms)=     .193
00111>
00112>     PEAK FLOW       (cms)=     .023 (i)
00113>     TIME TO PEAK    (hrs)=    2.850
00114>     RUNOFF VOLUME    (mm)=    9.088
00115>     TOTAL RAINFALL   (mm)=   36.000
00116>     RUNOFF COEFFICIENT   =     .252
00117>
00118>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00119>
00120> -------------------------------------------------------------------------------
00121> 001:0005-------------------------------------------------------------------------
00122> * For Catchment 405:
00123> * Minor system goes to West outlet, major system goes to East Outlet 1
00124> ----------------------
00125> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00126> | TotalHyd 02:405    |   Number of inlets in system [NINLET] =      1
00127> ----------------------   Total minor system capacity          =    .129  (cms)
00128>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00129>
00130>                  ID: NHYD        AREA     QPEAK     TPEAK      R.V.       DWF
00131>                                   (ha)     (cms)     (hrs)      (mm)     (cms)
00132>     TOTAL HYD.   02:405           .96      .023     2.850     9.088     .000
00133>     ==========================================================================
00134>     MAJOR SYST   03:Major         .00      .000      .000      .000     .000
00135>     MINOR SYST   04:Minor         .96      .023     2.850     9.088     .000
00136>
00137>     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00138>
00139> -------------------------------------------------------------------------------
00140> 001:0006-------------------------------------------------------------------------
00141> ----------------------
00142> | CALIB NASHYD       |   Area     (ha)=    1.34   Curve Number    (CN)=83.00
00143> | 05:404a   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00144> ----------------------   U.H. Tp(hrs)=    .170
00145>
00146>     Unit Hyd Qpeak  (cms)=     .301
00147>
00148>     PEAK FLOW       (cms)=     .032 (i)
00149>     TIME TO PEAK    (hrs)=    2.833
00150>     RUNOFF VOLUME    (mm)=    8.664
00151>     TOTAL RAINFALL   (mm)=   36.000
00152>     RUNOFF COEFFICIENT   =     .241
00153>
00154>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00155>
00156> -------------------------------------------------------------------------------
00157> 001:0007-------------------------------------------------------------------------
00158> ----------------------
00159> | ADD HYD (to EP     ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
00160> ----------------------                   (ha)     (cms)   (hrs)   (mm)    (cms)
00161>                         ID1 01:403        3.64     .059    3.03   8.27    .000
00162>                        +ID2 03:Major       .00     .000     .00    .00    .000
00163>                        +ID3 05:404a       1.34     .032    2.83   8.66    .000
00164>                         ================================================================
00165>                         SUM 06:to EP       4.98     .085    2.93   8.37    .000
00166>
00167>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00168>
00169> -------------------------------------------------------------------------------
00170> 001:0008-------------------------------------------------------------------------
00171> ----------------------
00172> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00173> |  IN>06:(to EP )    |
00174> | OUT<07:(EPond )    |    =========  OUTFLOW STORAGE TABLE  =========
00175> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00176>                             (cms)     (ha.m.)   |    (cms)     (ha.m.)
00177>                              .000  .0000E+00    |     .107  .5720E-01
00178>                              .006  .1900E-01    |     .126  .6680E-01
00179>                              .007  .2540E-01    |     .142  .7700E-01
00180>                              .008  .3240E-01    |     .156  .8800E-01
00181>                              .052  .4000E-01    |     .223  .9960E-01
00182>                              .085  .4830E-01    |     .435  .1119E+00
00183>
00184>     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00185>     ---------------           (ha)     (cms)     (hrs)       (mm)
00186>     INFLOW >06: (to EP )       4.98      .085     2.933      8.375
00187>     OUTFLOW<07: (EPond )       4.98      .010     4.983      8.375
00188>    OVERFLOW<08: (EPOVF )        .00      .000      .000       .000
00189>
00190>                  TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00191>                  CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00192>                  PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
00193>
00194>
00195>                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=   11.953
00196>                  TIME SHIFT OF PEAK FLOW         (min)=   123.00
00197>                  MAXIMUM  STORAGE   USED       (ha.m.)=.3281E-01
00198>
00199> -------------------------------------------------------------------------------
00200> 001:0009-------------------------------------------------------------------------
00201> ----------------------
00202> | CALIB NASHYD       |   Area     (ha)=     .64   Curve Number    (CN)=80.00
00203> | 09:404b   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00204> ----------------------   U.H. Tp(hrs)=    .200
00205>
00206>     Unit Hyd Qpeak  (cms)=     .122
00207>
00208>     PEAK FLOW       (cms)=     .012 (i)
00209>     TIME TO PEAK    (hrs)=    2.867
00210>     RUNOFF VOLUME    (mm)=    7.552
00211>     TOTAL RAINFALL   (mm)=   36.000
00212>     RUNOFF COEFFICIENT   =     .210
00213>
00214>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00215>
00216> -------------------------------------------------------------------------------
00217> 001:0010-------------------------------------------------------------------------
00218> ----------------------
00219> | CALIB NASHYD       |   Area     (ha)=     .09   Curve Number    (CN)=76.00
00220> | 01:406    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00221> ----------------------   U.H. Tp(hrs)=    .110
00222>
00223>     Unit Hyd Qpeak  (cms)=     .031
00224>
00225>     PEAK FLOW       (cms)=     .002 (i)
00226>     TIME TO PEAK    (hrs)=    2.783
00227>     RUNOFF VOLUME    (mm)=    6.362
00228>     TOTAL RAINFALL   (mm)=   36.000
00229>     RUNOFF COEFFICIENT   =     .177
00230>
00231>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00232>
00233> -------------------------------------------------------------------------------
00234> 001:0011-------------------------------------------------------------------------
00235> ----------------------
00236> | CALIB NASHYD       |   Area     (ha)=    1.38   Curve Number    (CN)=74.00
00237> | 02:402a   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00238> ----------------------   U.H. Tp(hrs)=    .230
00239>
00240>     Unit Hyd Qpeak  (cms)=     .229
00241>
00242>     PEAK FLOW       (cms)=     .019 (i)
00243>     TIME TO PEAK    (hrs)=    2.900
00244>     RUNOFF VOLUME    (mm)=    5.866
00245>     TOTAL RAINFALL   (mm)=   36.000
00246>     RUNOFF COEFFICIENT   =     .163
00247>
00248>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00249>
00250> -------------------------------------------------------------------------------
00251> 001:0012-------------------------------------------------------------------------
00252> ----------------------
00253> | CALIB NASHYD       |   Area     (ha)=    2.02   Curve Number    (CN)=78.00
00254> | 03:402b   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00255> ----------------------   U.H. Tp(hrs)=    .300
00256>
00257>     Unit Hyd Qpeak  (cms)=     .257
00258>
00259>     PEAK FLOW       (cms)=     .028 (i)
00260>     TIME TO PEAK    (hrs)=    3.000
00261>     RUNOFF VOLUME    (mm)=    6.923
00262>     TOTAL RAINFALL   (mm)=   36.000
00263>     RUNOFF COEFFICIENT   =     .192
00264>
00265>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00266>
00267> -------------------------------------------------------------------------------
00268> 001:0013-------------------------------------------------------------------------
00269> ----------------------
00270> | ADD HYD (Node 4    ) | ID: NHYD        AREA     QPEAK   TPEAK   R.V.    DWF
```

```
                        (ha)     (cms)   (hrs)   (mm)    (cms)
                    ID1 02:402a          1.38     .019    2.90   5.87    .000
                   +ID2 03:402b          2.02     .028    3.00   6.92    .000
                    ============================================================
                    SUM 04:Node 4        3.40     .046    2.95   6.49    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
001:0014--------------------------------------------------------------------------
  ** END OF RUN :   1

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--------------------
| START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
--------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
    TZERO =   .00 hrs on      0
    METOUT=   2 (output = METRIC)
    NRUN  = 002
    NSTORM=   1
           #  1=5Y6.STM
--------------------------------------------------------------------------------
002:0002--------------------------------------------------------------------------
*#*****************************************************************************
*#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
*#  Date        : 2024-01-30a
*#  Modeller    : [MYS]
*#  Company     : Ecometrix Incorporated
*#  License #   : 3375279
*#*****************************************************************************
* Proposed Conditions for Phase 2 Subdivision
* Filename: S2-P.dat
*
*#*****************************************************************************
--------------------------------------------------------------------------------
002:0002--------------------------------------------------------------------------
--------------------
| READ STORM       |    Filename: 5yr/6hr
| Ptotal=  47.81 mm|    Comments: 5yr/6hr
--------------------
               TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
               .25    .000 |  2.00  16.250 |  3.75   6.690 |  5.50    .960
               .50    .960 |  2.25  16.250 |  4.00   3.820 |  5.75    .960
               .75    .960 |  2.50  43.980 |  4.25   3.820 |  6.00    .960
              1.00    .960 |  2.75  43.980 |  4.50   1.910 |  6.25    .960
              1.25    .960 |  3.00  12.430 |  4.75   1.910 |
              1.50   5.740 |  3.25  12.430 |  5.00    .960 |
              1.75   5.740 |  3.50   6.690 |  5.25    .960 |

--------------------------------------------------------------------------------
002:0003--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    3.64   Curve Number   (CN)=82.00
| 01:403    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .320

     Unit Hyd Qpeak  (cms)=     .434

     PEAK FLOW       (cms)=     .116 (i)
     TIME TO PEAK    (hrs)=    2.983
     RUNOFF VOLUME    (mm)=   15.279
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .320

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0004--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .96   Curve Number   (CN)=84.00
| 02:405    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .190

     Unit Hyd Qpeak  (cms)=     .193

     PEAK FLOW       (cms)=     .044 (i)
     TIME TO PEAK    (hrs)=    2.833
     RUNOFF VOLUME    (mm)=   16.586
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .347

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0005--------------------------------------------------------------------------
* For Catchment 405:
* Minor system goes to West outlet, major system goes to East Outlet 1
----------------------
| COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
| TotalHyd 02:405    |   Number of inlets in system [NINLET] =       1
----------------------   Total minor system capacity         =    .129  (cms)
                         Total major system storage [TMJSTO] =       0.(cu.m.)

                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.       DWF
                                   (ha)     (cms)     (hrs)     (mm)     (cms)
     TOTAL HYD.   02:405           .96      .044     2.833   16.586     .000
     ============================================================================
     MAJOR SYST   03:Major         .00      .000      .000     .000     .000
     MINOR SYST   04:Minor         .96      .044     2.833   16.586     .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
002:0006--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.34   Curve Number   (CN)=83.00
| 05:404a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .170

     Unit Hyd Qpeak  (cms)=     .301

     PEAK FLOW       (cms)=     .062 (i)
     TIME TO PEAK    (hrs)=    2.817
     RUNOFF VOLUME    (mm)=   15.914
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .333

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0007--------------------------------------------------------------------------
----------------------
| ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                    ID1 01:403           3.64     .116    2.98  15.28    .000
                   +ID2 03:Major          .00     .000     .00    .00    .000
                   +ID3 05:404a          1.34     .062    2.82  15.91    .000
                    ============================================================
                    SUM 06:to EP         4.98     .168    2.90  15.45    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
002:0008--------------------------------------------------------------------------
----------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>06:(to EP )    |
| OUT<07:(EPond )    |    =========  OUTFLOW STORAGE TABLE  =========
----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                            (cms)     (ha.m.)   |    (cms)    (ha.m.)
                             .000  .0000E+00    |     .107  .5720E-01
                             .006  .1900E-01    |     .126  .6680E-01
                             .007  .2540E-01    |     .142  .7700E-01
                             .008  .3240E-01    |     .156  .8800E-01
                             .052  .4000E-01    |     .223  .9960E-01
                             .085  .4830E-01    |     .435  .1119E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     --------------------        (ha)     (cms)     (hrs)       (mm)
     INFLOW >06: (to EP )       4.98      .168     2.900      15.450
     OUTFLOW<07: (EPond )       4.98      .065     3.867      15.449
    OVERFLOW<08: (EPOVF )        .00      .000      .000        .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =         0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=       .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=       .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   38.483
                    TIME SHIFT OF PEAK FLOW          (min)=    58.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.4322E-01

--------------------------------------------------------------------------------
002:0009--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .64   Curve Number   (CN)=80.00
| 09:404b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .200

     Unit Hyd Qpeak  (cms)=     .122

     PEAK FLOW       (cms)=     .024 (i)
     TIME TO PEAK    (hrs)=    2.850
     RUNOFF VOLUME    (mm)=   14.111
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .295

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0010--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=76.00
| 01:406    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .110

     Unit Hyd Qpeak  (cms)=     .031

     PEAK FLOW       (cms)=     .004 (i)
     TIME TO PEAK    (hrs)=    2.783
     RUNOFF VOLUME    (mm)=   12.111
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .253

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0011--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
| 02:402a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .230

     Unit Hyd Qpeak  (cms)=     .229

     PEAK FLOW       (cms)=     .038 (i)
     TIME TO PEAK    (hrs)=    2.883
     RUNOFF VOLUME    (mm)=   11.252
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .235

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0012--------------------------------------------------------------------------
----------------------
| CALIB NASHYD       |   Area    (ha)=    2.02   Curve Number   (CN)=78.00
| 03:402b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
----------------------  U.H. Tp(hrs)=    .300

     Unit Hyd Qpeak  (cms)=     .257

     PEAK FLOW       (cms)=     .056 (i)
     TIME TO PEAK    (hrs)=    2.967
     RUNOFF VOLUME    (mm)=   13.061
     TOTAL RAINFALL   (mm)=   47.810
     RUNOFF COEFFICIENT   =     .273

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
002:0013--------------------------------------------------------------------------
----------------------
| ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
----------------------                    (ha)     (cms)   (hrs)   (mm)    (cms)
                    ID1 02:402a           1.38     .038    2.88  11.25    .000
                   +ID2 03:402b           2.02     .056    2.97  13.06    .000
                    ============================================================
                    SUM 04:Node 4         3.40     .093    2.92  12.33    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
002:0014--------------------------------------------------------------------------
--------------------------------------------------------------------------------
002:0002--------------------------------------------------------------------------
  ** END OF RUN :   2

********************************************************************************




--------------------
| START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
--------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
    TZERO =   .00 hrs on      0
    METOUT=   2 (output = METRIC)
    NRUN  = 003
    NSTORM=   1
           #  1=10Y6.STM
--------------------------------------------------------------------------------
003:0002--------------------------------------------------------------------------
```

```
00541> *#*************************************************************************
00542> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00543> *#  Date        : 2024-01-30a
00544> *#  Modeller    : [MYS]
00545> *#  Company     : Ecometrix Incorporated
00546> *#  License #   : 3375279
00547> *#*************************************************************************
00548> * Proposed Conditions for Phase 2 Subdivision
00549> * Filename: S2-P.dat
00550> *
00551> *#*************************************************************************
00552> ----------------------------------------------------------------------------
00553> 003:0002----------------------------------------------------------------------
00554> ---------------------
00555> | READ STORM       |    Filename: 10yr/6hr
00556> | Ptotal=  55.69 mm|    Comments: 10yr/6hr
00557> ---------------------
00558>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00559>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00560>               .25    .000 |   2.00  18.940 |   3.75   7.800 |   5.50   1.110
00561>               .50   1.110 |   2.25  18.940 |   4.00   4.460 |   5.75   1.110
00562>               .75   1.110 |   2.50  51.240 |   4.25   4.460 |   6.00   1.110
00563>              1.00   1.110 |   2.75  51.240 |   4.50   2.230 |   6.25   1.110
00564>              1.25   1.110 |   3.00  14.480 |   4.75   2.230 |
00565>              1.50   6.680 |   3.25  14.480 |   5.00   1.110 |
00566>              1.75   6.680 |   3.50   7.800 |   5.25   1.110 |
00567>
00568> ----------------------------------------------------------------------------
00569> 003:0003----------------------------------------------------------------------
00570> ----------------------
00571> | CALIB NASHYD       |   Area     (ha)=    3.64   Curve Number   (CN)=82.00
00572> | 01:403    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00573> ----------------------   U.H. Tp(hrs)=    .320
00574>
00575>      Unit Hyd Qpeak  (cms)=     .434
00576>
00577>      PEAK FLOW       (cms)=     .160 (i)
00578>      TIME TO PEAK    (hrs)=    2.967
00579>      RUNOFF VOLUME    (mm)=   20.578
00580>      TOTAL RAINFALL   (mm)=   55.690
00581>      RUNOFF COEFFICIENT   =     .370
00582>
00583>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00584>
00585> ----------------------------------------------------------------------------
00586> 003:0004----------------------------------------------------------------------
00587> ----------------------
00588> | CALIB NASHYD       |   Area     (ha)=     .96   Curve Number   (CN)=84.00
00589> | 02:405    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00590> ----------------------   U.H. Tp(hrs)=    .190
00591>
00592>      Unit Hyd Qpeak  (cms)=     .193
00593>
00594>      PEAK FLOW       (cms)=     .060 (i)
00595>      TIME TO PEAK    (hrs)=    2.833
00596>      RUNOFF VOLUME    (mm)=   22.191
00597>      TOTAL RAINFALL   (mm)=   55.690
00598>      RUNOFF COEFFICIENT   =     .398
00599>
00600>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00601>
00602> ----------------------------------------------------------------------------
00603> 003:0005----------------------------------------------------------------------
00604> * For Catchment 405:
00605> * Minor system goes to West outlet, major system goes to East Outlet 1
00606> ----------------------
00607> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00608> | TotalHyd 02:405    |   Number of inlets in system [NINLET] =      1
00609> ----------------------   Total minor system capacity         =    .129  (cms)
00610>                          Total major system storage [TMJSTO] =      0.(cu.m.)
00611>
00612>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00613>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
00614>      TOTAL HYD.   02:405            .96      .060     2.833   22.191     .000
00615>      ================================================================
00616>      MAJOR SYST   03:Major          .00      .000      .000     .000     .000
00617>      MINOR SYST   04:Minor          .96      .060     2.833   22.191     .000
00618>
00619>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00620>
00621> ----------------------------------------------------------------------------
00622> 003:0006----------------------------------------------------------------------
00623> ----------------------
00624> | CALIB NASHYD       |   Area     (ha)=    1.34   Curve Number   (CN)=83.00
00625> | 05:404a   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00626> ----------------------   U.H. Tp(hrs)=    .170
00627>
00628>      Unit Hyd Qpeak  (cms)=     .301
00629>
00630>      PEAK FLOW       (cms)=     .084 (i)
00631>      TIME TO PEAK    (hrs)=    2.817
00632>      RUNOFF VOLUME    (mm)=   21.364
00633>      TOTAL RAINFALL   (mm)=   55.690
00634>      RUNOFF COEFFICIENT   =     .384
00635>
00636>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00637>
00638> ----------------------------------------------------------------------------
00639> 003:0007----------------------------------------------------------------------
00640> ------------------------
00641> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00642> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
00643>                        ID1 01:403          3.64     .160    2.97  20.58    .000
00644>                       +ID2 03:Major         .00     .000     .00    .00    .000
00645>                       +ID3 05:404a         1.34     .084    2.82  21.36    .000
00646>                        ==========================================================
00647>                        SUM 06:to EP         4.98     .232    2.88  20.79    .000
00648>
00649>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00650>
00651> ----------------------------------------------------------------------------
00652> 003:0008----------------------------------------------------------------------
00653> ----------------------
00654> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00655> |  IN>06:(to EP )    |
00656> | OUT<07:(EPond )    |    =========  OUTLFOW STORAGE TABLE  =========
00657> ----------------------    OUTFLOW     STORAGE   |  OUTFLOW     STORAGE
00658>                             (cms)     (ha.m.)   |    (cms)     (ha.m.)
00659>                              .000  .0000E+00    |     .107  .5720E-01
00660>                              .006  .1900E-01    |     .126  .6680E-01
00661>                              .007  .2540E-01    |     .142  .7700E-01
00662>                              .008  .3240E-01    |     .156  .8800E-01
00663>                              .052  .4000E-01    |     .223  .9960E-01
00664>                              .085  .4830E-01    |     .435  .1119E+00
00665>
00666>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00667>      ---------------------      (ha)     (cms)     (hrs)       (mm)
00668>      INFLOW >06: (to EP )       4.98      .232     2.883     20.790
00669>      OUTFLOW<07: (EPond )       4.98      .096     3.717     20.789
00670>     OVERFLOW<08: (EPOVF )        .00      .000      .000       .000
00671>
00672>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00673>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00674>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
00675>
00676>
00677>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   41.230
00678>                    TIME SHIFT OF PEAK FLOW         (min)=    50.00
00679>                    MAXIMUM  STORAGE   USED       (ha.m.)=.5256E-01
00680>
00681> ----------------------------------------------------------------------------
00682> 003:0009----------------------------------------------------------------------
00683> ----------------------
00684> | CALIB NASHYD       |   Area     (ha)=     .64   Curve Number   (CN)=80.00
00685> | 09:404b   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00686> ----------------------   U.H. Tp(hrs)=    .200
00687>
00688>      Unit Hyd Qpeak  (cms)=     .122
00689>
00690>      PEAK FLOW       (cms)=     .033 (i)
00691>      TIME TO PEAK    (hrs)=    2.833
00692>      RUNOFF VOLUME    (mm)=   19.118
00693>      TOTAL RAINFALL   (mm)=   55.690
00694>      RUNOFF COEFFICIENT   =     .343
00695>
00696>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00697>
00698> ----------------------------------------------------------------------------
00699> 003:0010----------------------------------------------------------------------
00700> ----------------------
00701> | CALIB NASHYD       |   Area     (ha)=     .09   Curve Number   (CN)=76.00
00702> | 01:406    DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00703> ----------------------   U.H. Tp(hrs)=    .110
00704>
00705>      Unit Hyd Qpeak  (cms)=     .031
00706>
00707>      PEAK FLOW       (cms)=     .005 (i)
00708>      TIME TO PEAK    (hrs)=    2.767
00709>      RUNOFF VOLUME    (mm)=   16.579
00710>      TOTAL RAINFALL   (mm)=   55.690
00711>      RUNOFF COEFFICIENT   =     .298
00712>
00713>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00714>
00715> ----------------------------------------------------------------------------
00716> 003:0011----------------------------------------------------------------------
00717> ----------------------
00718> | CALIB NASHYD       |   Area     (ha)=    1.38   Curve Number   (CN)=74.00
00719> | 02:402a   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00720> ----------------------   U.H. Tp(hrs)=    .230
00721>
00722>      Unit Hyd Qpeak  (cms)=     .229
00723>
00724>      PEAK FLOW       (cms)=     .053 (i)
00725>      TIME TO PEAK    (hrs)=    2.867
00726>      RUNOFF VOLUME    (mm)=   15.471
00727>      TOTAL RAINFALL   (mm)=   55.690
00728>      RUNOFF COEFFICIENT   =     .278
00729>
00730>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00731>
00732> ----------------------------------------------------------------------------
00733> 003:0012----------------------------------------------------------------------
00734> ----------------------
00735> | CALIB NASHYD       |   Area     (ha)=    2.02   Curve Number   (CN)=78.00
00736> | 03:402b   DT= 1.00 |   Ia       (mm)=  10.000   # of Linear Res.(N)= 3.00
00737> ----------------------   U.H. Tp(hrs)=    .300
00738>
00739>      Unit Hyd Qpeak  (cms)=     .257
00740>
00741>      PEAK FLOW       (cms)=     .078 (i)
00742>      TIME TO PEAK    (hrs)=    2.950
00743>      RUNOFF VOLUME    (mm)=   17.792
00744>      TOTAL RAINFALL   (mm)=   55.690
00745>      RUNOFF COEFFICIENT   =     .319
00746>
00747>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00748>
00749> ----------------------------------------------------------------------------
00750> 003:0013----------------------------------------------------------------------
00751> ------------------------
00752> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00753> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
00754>                        ID1 02:402a          1.38     .053    2.87  15.47    .000
00755>                       +ID2 03:402b          2.02     .078    2.95  17.79    .000
00756>                        ==========================================================
00757>                        SUM 04:Node 4        3.40     .130    2.92  16.85    .000
00758>
00759>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00760>
00761> ----------------------------------------------------------------------------
00762> 003:0014----------------------------------------------------------------------
00763> ----------------------------------------------------------------------------
00764> 003:0002----------------------------------------------------------------------
00765> ----------------------------------------------------------------------------
00766> 003:0002----------------------------------------------------------------------
00767>   ** END OF RUN :   3
00768>
00769> ****************************************************************************
00770>
00771>
00772>
00773>
00774>
00775> --------------------
00776> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00777> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
00778>     TZERO =   .00 hrs on        0
00779>     METOUT=   2 (output = METRIC)
00780>     NRUN  = 004
00781>     NSTORM=   1
00782>           #  1=25Y6.STM
00783> ----------------------------------------------------------------------------
00784> 004:0002----------------------------------------------------------------------
00785> *#*************************************************************************
00786> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
00787> *#  Date        : 2024-01-30a
00788> *#  Modeller    : [MYS]
00789> *#  Company     : Ecometrix Incorporated
00790> *#  License #   : 3375279
00791> *#*************************************************************************
00792> * Proposed Conditions for Phase 2 Subdivision
00793> * Filename: S2-P.dat
00794> *
00795> *#*************************************************************************
00796> ----------------------------------------------------------------------------
00797> 004:0002----------------------------------------------------------------------
00798> ---------------------
00799> | READ STORM       |    Filename: 25yr/6hr
00800> | Ptotal=  65.59 mm|    Comments: 25yr/6hr
00801> ---------------------
00802>               TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
00803>               hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
00804>               .25    .000 |   2.00  22.300 |   3.75   9.180 |   5.50   1.310
00805>               .50   1.310 |   2.25  22.300 |   4.00   5.250 |   5.75   1.310
00806>               .75   1.310 |   2.50  60.350 |   4.25   5.250 |   6.00   1.310
00807>              1.00   1.310 |   2.75  60.350 |   4.50   2.620 |   6.25   1.310
00808>              1.25   1.310 |   3.00  17.060 |   4.75   2.620 |
00809>              1.50   7.870 |   3.25  17.060 |   5.00   1.310 |
00810>              1.75   7.870 |   3.50   9.180 |   5.25   1.310 |
```

```
00811>
00812> ------------------------------------------------------------------------------
00813> 004:0003----------------------------------------------------------------------
00814> ----------------------
00815> | CALIB NASHYD       |   Area    (ha)=    3.64   Curve Number   (CN)=82.00
00816> | 01:403    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00817> ----------------------   U.H. Tp(hrs)=    .320
00818>
00819>      Unit Hyd Qpeak  (cms)=     .434
00820>
00821>      PEAK FLOW       (cms)=     .219 (i)
00822>      TIME TO PEAK    (hrs)=    2.950
00823>      RUNOFF VOLUME    (mm)=   27.753
00824>      TOTAL RAINFALL   (mm)=   65.590
00825>      RUNOFF COEFFICIENT   =     .423
00826>
00827>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00828>
00829> ------------------------------------------------------------------------------
00830> 004:0004----------------------------------------------------------------------
00831> ----------------------
00832> | CALIB NASHYD       |   Area    (ha)=     .96   Curve Number   (CN)=84.00
00833> | 02:405    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00834> ----------------------   U.H. Tp(hrs)=    .190
00835>
00836>      Unit Hyd Qpeak  (cms)=     .193
00837>
00838>      PEAK FLOW       (cms)=     .081 (i)
00839>      TIME TO PEAK    (hrs)=    2.817
00840>      RUNOFF VOLUME    (mm)=   29.722
00841>      TOTAL RAINFALL   (mm)=   65.590
00842>      RUNOFF COEFFICIENT   =     .453
00843>
00844>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00845>
00846> ------------------------------------------------------------------------------
00847> 004:0005----------------------------------------------------------------------
00848> * For Catchment 405:
00849> * Minor system goes to West outlet, major system goes to East Outlet 1
00850> ----------------------
00851> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
00852> | TotalHyd 02:405    |   Number of inlets in system [NINLET] =       1
00853> ----------------------   Total minor system capacity         =    .129  (cms)
00854>                          Total major system storage [TMJSTO] =       0.(cu.m.)
00855>
00856>                    ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
00857>                                     (ha)     (cms)     (hrs)     (mm)     (cms)
00858>      TOTAL HYD.   02:405            .96      .081     2.817   29.722     .000
00859>      ==========================================================================
00860>      MAJOR SYST   03:Major          .00      .000      .000     .000     .000
00861>      MINOR SYST   04:Minor          .96      .081     2.817   29.722     .000
00862>
00863>      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00864>
00865> ------------------------------------------------------------------------------
00866> 004:0006----------------------------------------------------------------------
00867> ----------------------
00868> | CALIB NASHYD       |   Area    (ha)=    1.34   Curve Number   (CN)=83.00
00869> | 05:404a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00870> ----------------------   U.H. Tp(hrs)=    .170
00871>
00872>      Unit Hyd Qpeak  (cms)=     .301
00873>
00874>      PEAK FLOW       (cms)=     .113 (i)
00875>      TIME TO PEAK    (hrs)=    2.800
00876>      RUNOFF VOLUME    (mm)=   28.716
00877>      TOTAL RAINFALL   (mm)=   65.590
00878>      RUNOFF COEFFICIENT   =     .438
00879>
00880>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00881>
00882> ------------------------------------------------------------------------------
00883> 004:0007----------------------------------------------------------------------
00884> ------------------------
00885> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00886> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
00887>                       ID1 01:403           3.64     .219    2.95  27.75    .000
00888>                      +ID2 03:Major          .00     .000     .00    .00    .000
00889>                      +ID3 05:404a          1.34     .113    2.80  28.72    .000
00890>                       ================================================
00891>                       SUM 06:to EP          4.98     .318    2.88  28.01    .000
00892>
00893>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
00894>
00895> ------------------------------------------------------------------------------
00896> 004:0008----------------------------------------------------------------------
00897> ----------------------
00898> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
00899> |  IN>06:(to EP )    |
00900> | OUT<07:(EPond )    |    =========  OUTLFOW STORAGE TABLE  =========
00901> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
00902>                             (cms)    (ha.m.)   |    (cms)     (ha.m.)
00903>                              .000  .0000E+00    |     .107  .5720E-01
00904>                              .006  .1900E-01    |     .126  .6680E-01
00905>                              .007  .2540E-01    |     .142  .7700E-01
00906>                              .008  .3240E-01    |     .156  .8800E-01
00907>                              .052  .4000E-01    |     .223  .9960E-01
00908>                              .085  .4830E-01    |     .435  .1119E+00
00909>
00910>      ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
00911>      --------------------       (ha)     (cms)     (hrs)       (mm)
00912>      INFLOW >06: (to EP )       4.98      .318     2.883     28.012
00913>      OUTFLOW<07: (EPond )       4.98      .128     3.683     28.012
00914>     OVERFLOW<08: (EPOVF )        .00      .000      .000       .000
00915>
00916>                     TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
00917>                     CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
00918>                     PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
00919>
00920>
00921>                     PEAK   FLOW   REDUCTION [Qout/Qin](%)=   40.203
00922>                     TIME SHIFT OF PEAK FLOW         (min)=    48.00
00923>                     MAXIMUM  STORAGE   USED       (ha.m.)=.6803E-01
00924>
00925> ------------------------------------------------------------------------------
00926> 004:0009----------------------------------------------------------------------
00927> ----------------------
00928> | CALIB NASHYD       |   Area    (ha)=     .64   Curve Number   (CN)=80.00
00929> | 09:404b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00930> ----------------------   U.H. Tp(hrs)=    .200
00931>
00932>      Unit Hyd Qpeak  (cms)=     .122
00933>
00934>      PEAK FLOW       (cms)=     .045 (i)
00935>      TIME TO PEAK    (hrs)=    2.833
00936>      RUNOFF VOLUME    (mm)=   25.948
00937>      TOTAL RAINFALL   (mm)=   65.590
00938>      RUNOFF COEFFICIENT   =     .396
00939>
00940>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00941>
00942> ------------------------------------------------------------------------------
00943> 004:0010----------------------------------------------------------------------
00944> ----------------------
00945> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=76.00
00946> | 01:406    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00947> ----------------------   U.H. Tp(hrs)=    .110
00948>
00949>      Unit Hyd Qpeak  (cms)=     .031
00950>
00951>      PEAK FLOW       (cms)=     .007 (i)
00952>      TIME TO PEAK    (hrs)=    2.767
00953>      RUNOFF VOLUME    (mm)=   22.753
00954>      TOTAL RAINFALL   (mm)=   65.590
00955>      RUNOFF COEFFICIENT   =     .347
00956>
00957>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00958>
00959> ------------------------------------------------------------------------------
00960> 004:0011----------------------------------------------------------------------
00961> ----------------------
00962> | CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
00963> | 02:402a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00964> ----------------------   U.H. Tp(hrs)=    .230
00965>
00966>      Unit Hyd Qpeak  (cms)=     .229
00967>
00968>      PEAK FLOW       (cms)=     .074 (i)
00969>      TIME TO PEAK    (hrs)=    2.867
00970>      RUNOFF VOLUME    (mm)=   21.336
00971>      TOTAL RAINFALL   (mm)=   65.590
00972>      RUNOFF COEFFICIENT   =     .325
00973>
00974>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00975>
00976> ------------------------------------------------------------------------------
00977> 004:0012----------------------------------------------------------------------
00978> ----------------------
00979> | CALIB NASHYD       |   Area    (ha)=    2.02   Curve Number   (CN)=78.00
00980> | 03:402b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
00981> ----------------------   U.H. Tp(hrs)=    .300
00982>
00983>      Unit Hyd Qpeak  (cms)=     .257
00984>
00985>      PEAK FLOW       (cms)=     .109 (i)
00986>      TIME TO PEAK    (hrs)=    2.933
00987>      RUNOFF VOLUME    (mm)=   24.288
00988>      TOTAL RAINFALL   (mm)=   65.590
00989>      RUNOFF COEFFICIENT   =     .370
00990>
00991>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00992>
00993> ------------------------------------------------------------------------------
00994> 004:0013----------------------------------------------------------------------
00995> ------------------------
00996> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
00997> ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
00998>                       ID1 02:402a           1.38     .074    2.87  21.34    .000
00999>                      +ID2 03:402b           2.02     .109    2.93  24.29    .000
01000>                       ================================================
01001>                       SUM 04:Node 4         3.40     .181    2.90  23.09    .000
01002>
01003>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01004>
01005> ------------------------------------------------------------------------------
01006> 004:0014----------------------------------------------------------------------
01007> ------------------------------------------------------------------------------
01008> 004:0002----------------------------------------------------------------------
01009> ------------------------------------------------------------------------------
01010> 004:0002----------------------------------------------------------------------
01011> ------------------------------------------------------------------------------
01012> 004:0002----------------------------------------------------------------------
01013>   ** END OF RUN :   4
01014>
01015> ****************************************************************************
01016>
01017>
01018>
01019>
01020>
01021> --------------------
01022> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
01023> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
01024>     TZERO =   .00 hrs on       0
01025>     METOUT=  2 (output = METRIC)
01026>     NRUN  = 005
01027>     NSTORM=  1
01028>              #  1=50Y6.STM
01029> ------------------------------------------------------------------------------
01030> 005:0002----------------------------------------------------------------------
01031> *############################################################################
01032> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
01033> *#  Date        : 2024-01-30a
01034> *#  Modeller    : [MYS]
01035> *#  Company     : Ecometrix Incorporated
01036> *#  License #   : 3375279
01037> *############################################################################
01038> * Proposed Conditions for Phase 2 Subdivision
01039> * Filename: S2-P.dat
01040> *
01041> *############################################################################
01042> ------------------------------------------------------------------------------
01043> 005:0002----------------------------------------------------------------------
01044> --------------------
01045> | READ STORM       |    Filename: 50yr/6hr
01046> | Ptotal=  73.00 mm|    Comments: 50yr/6hr
01047> --------------------
01048>                TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
01049>                hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
01050>                 .25    .000 |   2.00  24.820 |   3.75  10.220 |   5.50   1.460
01051>                 .50   1.460 |   2.25  24.820 |   4.00   5.840 |   5.75   1.460
01052>                 .75   1.460 |   2.50  67.160 |   4.25   5.840 |   6.00   1.460
01053>                1.00   1.460 |   2.75  67.160 |   4.50   2.920 |   6.25   1.460
01054>                1.25   1.460 |   3.00  18.980 |   4.75   2.920 |
01055>                1.50   8.760 |   3.25  18.980 |   5.00   1.460 |
01056>                1.75   8.760 |   3.50  10.220 |   5.25   1.460 |
01057>
01058> ------------------------------------------------------------------------------
01059> 005:0003----------------------------------------------------------------------
01060> ----------------------
01061> | CALIB NASHYD       |   Area    (ha)=    3.64   Curve Number   (CN)=82.00
01062> | 01:403    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01063> ----------------------   U.H. Tp(hrs)=    .320
01064>
01065>      Unit Hyd Qpeak  (cms)=     .434
01066>
01067>      PEAK FLOW       (cms)=     .267 (i)
01068>      TIME TO PEAK    (hrs)=    2.950
01069>      RUNOFF VOLUME    (mm)=   33.421
01070>      TOTAL RAINFALL   (mm)=   73.000
01071>      RUNOFF COEFFICIENT   =     .458
01072>
01073>      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01074>
01075> ------------------------------------------------------------------------------
01076> 005:0004----------------------------------------------------------------------
01077> ----------------------
01078> | CALIB NASHYD       |   Area    (ha)=     .96   Curve Number   (CN)=84.00
01079> | 02:405    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01080> ----------------------   U.H. Tp(hrs)=    .190
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01081>
01082>     Unit Hyd Qpeak  (cms)=     .193
01083>
01084>     PEAK FLOW       (cms)=     .097 (i)
01085>     TIME TO PEAK    (hrs)=    2.817
01086>     RUNOFF VOLUME    (mm)=   35.634
01087>     TOTAL RAINFALL   (mm)=   73.000
01088>     RUNOFF COEFFICIENT   =     .488
01089>
01090>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01091>
01092> ---------------------------------------------------------------------------
01093> 005:0005-----------------------------------------------------------------
01094> * For Catchment 405:
01095> * Minor system goes to West outlet, major system goes to East Outlet 1
01096> ----------------------
01097> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
01098> | TotalHyd 02:405    |   Number of inlets in system [NINLET] =       1
01099> ----------------------   Total minor system capacity         =    .129  (cms)
01100>                          Total major system storage [TMJSTO] =       0.(cu.m.)
01101>
01102>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
01103>                                   (ha)     (cms)     (hrs)     (mm)     (cms)
01104>     TOTAL HYD.   02:405            .96      .097     2.817   35.634     .000
01105>     ==========================================================================
01106>     MAJOR SYST   03:Major          .00      .000      .000     .000     .000
01107>     MINOR SYST   04:Minor          .96      .097     2.817   35.634     .000
01108>
01109>     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01110>
01111> ---------------------------------------------------------------------------
01112> 005:0006-----------------------------------------------------------------
01113> ----------------------
01114> | CALIB NASHYD       |   Area    (ha)=    1.34   Curve Number   (CN)=83.00
01115> | 05:404a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01116> ----------------------   U.H. Tp(hrs)=    .170
01117>
01118>     Unit Hyd Qpeak  (cms)=     .301
01119>
01120>     PEAK FLOW       (cms)=     .136 (i)
01121>     TIME TO PEAK    (hrs)=    2.800
01122>     RUNOFF VOLUME    (mm)=   34.506
01123>     TOTAL RAINFALL   (mm)=   73.000
01124>     RUNOFF COEFFICIENT   =     .473
01125>
01126>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01127>
01128> ---------------------------------------------------------------------------
01129> 005:0007-----------------------------------------------------------------
01130> ----------------------
01131> | ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01132> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
01133>                       ID1 01:403          3.64     .267    2.95  33.42    .000
01134>                      +ID2 03:Major          .00     .000     .00    .00    .000
01135>                      +ID3 05:404a          1.34     .136    2.80  34.51    .000
01136>                       ================================================
01137>                       SUM 06:to EP          4.98     .386    2.87  33.71    .000
01138>
01139>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01140>
01141> ---------------------------------------------------------------------------
01142> 005:0008-----------------------------------------------------------------
01143> ----------------------
01144> | ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
01145> |  IN>06:(to EP )    |
01146> | OUT<07:(EPond )    |    =========  OUTLFOW STORAGE TABLE  =========
01147> ----------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
01148>                             (cms)    (ha.m.)   |    (cms)    (ha.m.)
01149>                              .000  .0000E+00    |     .107  .5720E-01
01150>                              .006  .1900E-01    |     .126  .6680E-01
01151>                              .007  .2540E-01    |     .142  .7700E-01
01152>                              .008  .3240E-01    |     .156  .8800E-01
01153>                              .052  .4000E-01    |     .223  .9960E-01
01154>                              .085  .4830E-01    |     .435  .1119E+00
01155>
01156>     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
01157>     ---------------------      (ha)     (cms)     (hrs)       (mm)
01158>     INFLOW >06: (to EP )       4.98      .386     2.867      33.713
01159>     OUTFLOW<07: (EPond )       4.98      .148     3.700      33.713
01160>    OVERFLOW<08: (EPOVF )        .00      .000      .000        .000
01161>
01162>                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
01163>                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
01164>                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00
01165>
01166>
01167>                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   38.431
01168>                    TIME SHIFT OF PEAK FLOW         (min)=    50.00
01169>                    MAXIMUM  STORAGE   USED       (ha.m.)=.8188E-01
01170>
01171> ---------------------------------------------------------------------------
01172> 005:0009-----------------------------------------------------------------
01173> ----------------------
01174> | CALIB NASHYD       |   Area    (ha)=     .64   Curve Number   (CN)=80.00
01175> | 09:404b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01176> ----------------------   U.H. Tp(hrs)=    .200
01177>
01178>     Unit Hyd Qpeak  (cms)=     .122
01179>
01180>     PEAK FLOW       (cms)=     .055 (i)
01181>     TIME TO PEAK    (hrs)=    2.833
01182>     RUNOFF VOLUME    (mm)=   31.375
01183>     TOTAL RAINFALL   (mm)=   73.000
01184>     RUNOFF COEFFICIENT   =     .430
01185>
01186>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01187>
01188> ---------------------------------------------------------------------------
01189> 005:0010-----------------------------------------------------------------
01190> ----------------------
01191> | CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=76.00
01192> | 01:406    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01193> ----------------------   U.H. Tp(hrs)=    .110
01194>
01195>     Unit Hyd Qpeak  (cms)=     .031
01196>
01197>     PEAK FLOW       (cms)=     .008 (i)
01198>     TIME TO PEAK    (hrs)=    2.767
01199>     RUNOFF VOLUME    (mm)=   27.712
01200>     TOTAL RAINFALL   (mm)=   73.000
01201>     RUNOFF COEFFICIENT   =     .380
01202>
01203>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01204>
01205> ---------------------------------------------------------------------------
01206> 005:0011-----------------------------------------------------------------
01207> ----------------------
01208> | CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
01209> | 02:402a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01210> ----------------------   U.H. Tp(hrs)=    .230
01211>
01212>     Unit Hyd Qpeak  (cms)=     .229
01213>
01214>     PEAK FLOW       (cms)=     .091 (i)
01215>     TIME TO PEAK    (hrs)=    2.867
01216>     RUNOFF VOLUME    (mm)=   26.070
01217>     TOTAL RAINFALL   (mm)=   73.000
01218>     RUNOFF COEFFICIENT   =     .357
01219>
01220>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01221>
01222> ---------------------------------------------------------------------------
01223> 005:0012-----------------------------------------------------------------
01224> ----------------------
01225> | CALIB NASHYD       |   Area    (ha)=    2.02   Curve Number   (CN)=78.00
01226> | 03:402b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01227> ----------------------   U.H. Tp(hrs)=    .300
01228>
01229>     Unit Hyd Qpeak  (cms)=     .257
01230>
01231>     PEAK FLOW       (cms)=     .133 (i)
01232>     TIME TO PEAK    (hrs)=    2.933
01233>     RUNOFF VOLUME    (mm)=   29.478
01234>     TOTAL RAINFALL   (mm)=   73.000
01235>     RUNOFF COEFFICIENT   =     .404
01236>
01237>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01238>
01239> ---------------------------------------------------------------------------
01240> 005:0013-----------------------------------------------------------------
01241> ----------------------
01242> | ADD HYD (Node 4    ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
01243> ----------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
01244>                       ID1 02:402a          1.38     .091    2.87  26.07    .000
01245>                      +ID2 03:402b          2.02     .133    2.93  29.48    .000
01246>                       ================================================
01247>                       SUM 04:Node 4         3.40     .223    2.90  28.09    .000
01248>
01249>    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
01250>
01251> ---------------------------------------------------------------------------
01252> 005:0014-----------------------------------------------------------------
01253> ---------------------------------------------------------------------------
01254> 005:0002-----------------------------------------------------------------
01255> ---------------------------------------------------------------------------
01256> 005:0002-----------------------------------------------------------------
01257> ---------------------------------------------------------------------------
01258> 005:0002-----------------------------------------------------------------
01259> ---------------------------------------------------------------------------
01260> 005:0002-----------------------------------------------------------------
01261>  ** END OF RUN :   5
01262>
01263> ***************************************************************************
01264>
01265>
01266>
01267>
01268>
01269> --------------------
01270> | START            |  Project  dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
01271> --------------------  Rainfall dir.: C:\PROGRA~2\SWMHYMO\PROJECTS\S-PH2\
01272>     TZERO =   .00 hrs on      0
01273>     METOUT=   2 (output = METRIC)
01274>     NRUN  = 006
01275>     NSTORM=   1
01276>               #  1=100Y6.STM
01277> ---------------------------------------------------------------------------
01278> 006:0002-----------------------------------------------------------------
01279> *###########################################################################
01280> *#  Project Name: [Stella Homes Phase 2]    Project Number: [22-3001]
01281> *#  Date        : 2024-01-30a
01282> *#  Modeller    : [MYS]
01283> *#  Company     : Ecometrix Incorporated
01284> *#  License #   : 3375279
01285> *###########################################################################
01286> * Proposed Conditions for Phase 2 Subdivision
01287> * Filename: S2-P.dat
01288> *
01289> *###########################################################################
01290> ---------------------------------------------------------------------------
01291> 006:0002-----------------------------------------------------------------
01292> --------------------
01293> | READ STORM       |    Filename: 100yr/6hr
01294> | Ptotal=  80.31 mm|    Comments: 100yr/6hr
01295> --------------------
01296>                 TIME    RAIN |   TIME    RAIN |   TIME    RAIN |   TIME    RAIN
01297>                  hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr |    hrs   mm/hr
01298>                  .25    .000 |   2.00  27.300 |   3.75  11.240 |   5.50   1.610
01299>                  .50   1.610 |   2.25  27.300 |   4.00   6.420 |   5.75   1.610
01300>                  .75   1.610 |   2.50  73.880 |   4.25   6.420 |   6.00   1.610
01301>                 1.00   1.610 |   2.75  73.880 |   4.50   3.210 |   6.25   1.610
01302>                 1.25   1.610 |   3.00  20.880 |   4.75   3.210 |
01303>                 1.50   9.640 |   3.25  20.880 |   5.00   1.610 |
01304>                 1.75   9.640 |   3.50  11.240 |   5.25   1.610 |
01305>
01306> ---------------------------------------------------------------------------
01307> 006:0003-----------------------------------------------------------------
01308> ----------------------
01309> | CALIB NASHYD       |   Area    (ha)=    3.64   Curve Number   (CN)=82.00
01310> | 01:403    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01311> ----------------------   U.H. Tp(hrs)=    .320
01312>
01313>     Unit Hyd Qpeak  (cms)=     .434
01314>
01315>     PEAK FLOW       (cms)=     .315 (i)
01316>     TIME TO PEAK    (hrs)=    2.933
01317>     RUNOFF VOLUME    (mm)=   39.213
01318>     TOTAL RAINFALL   (mm)=   80.310
01319>     RUNOFF COEFFICIENT   =     .488
01320>
01321>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01322>
01323> ---------------------------------------------------------------------------
01324> 006:0004-----------------------------------------------------------------
01325> ----------------------
01326> | CALIB NASHYD       |   Area    (ha)=     .96   Curve Number   (CN)=84.00
01327> | 02:405    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
01328> ----------------------   U.H. Tp(hrs)=    .190
01329>
01330>     Unit Hyd Qpeak  (cms)=     .193
01331>
01332>     PEAK FLOW       (cms)=     .114 (i)
01333>     TIME TO PEAK    (hrs)=    2.817
01334>     RUNOFF VOLUME    (mm)=   41.650
01335>     TOTAL RAINFALL   (mm)=   80.310
01336>     RUNOFF COEFFICIENT   =     .519
01337>
01338>     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01339>
01340> ---------------------------------------------------------------------------
01341> 006:0005-----------------------------------------------------------------
01342> * For Catchment 405:
01343> * Minor system goes to West outlet, major system goes to East Outlet 1
01344> ----------------------
01345> | COMPUTE DUALHYD    |   Average inlet capacities   [CINLET] =    .129  (cms)
01346> | TotalHyd 02:405    |   Number of inlets in system [NINLET] =       1
01347> ----------------------   Total minor system capacity         =    .129  (cms)
01348>                          Total major system storage [TMJSTO] =       0.(cu.m.)
01349>
01350>                  ID: NHYD        AREA     QPEAK     TPEAK     R.V.      DWF
```
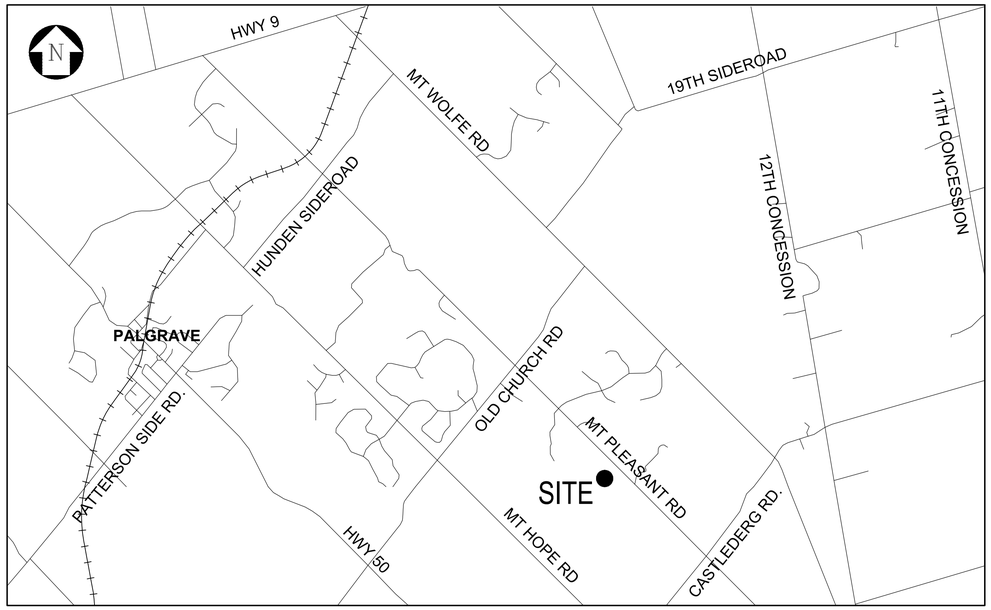

```
                                  (ha)      (cms)      (hrs)      (mm)     (cms)
     TOTAL HYD.   02:405           .96       .114      2.817    41.650      .000
     ==========================================================================
     MAJOR SYST   03:Major         .00       .000       .000      .000      .000
     MINOR SYST   04:Minor         .96       .114      2.817    41.650      .000

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
006:0006----------------------------------------------------------------------
 ---------------------
| CALIB NASHYD       |   Area    (ha)=    1.34   Curve Number   (CN)=83.00
| 05:404a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
 ---------------------   U.H. Tp(hrs)=    .170

     Unit Hyd Qpeak  (cms)=     .301

     PEAK FLOW       (cms)=     .160 (i)
     TIME TO PEAK    (hrs)=    2.800
     RUNOFF VOLUME    (mm)=   40.410
     TOTAL RAINFALL   (mm)=   80.310
     RUNOFF COEFFICIENT   =     .503

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
006:0007----------------------------------------------------------------------
 ------------------------
| ADD HYD (to EP     ) | ID: NHYD         AREA     QPEAK   TPEAK   R.V.    DWF
 ------------------------                   (ha)     (cms)   (hrs)   (mm)   (cms)
                      ID1 01:403            3.64     .315    2.93  39.21    .000
                     +ID2 03:Major           .00     .000     .00    .00    .000
                     +ID3 05:404a           1.34     .160    2.80  40.41    .000
                      ==========================================================
                      SUM 06:to EP          4.98     .455    2.87  39.54    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
006:0008----------------------------------------------------------------------
 ---------------------
| ROUTE RESERVOIR    |    Requested routing time step =  1.0 min.
|  IN>06:(to EP )    |
| OUT<07:(EPond )    |    =========  OUTLFOW STORAGE TABLE  =========
 ---------------------    OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
                            (cms)     (ha.m.)  |    (cms)     (ha.m.)
                            .000  .0000E+00    |     .107  .5720E-01
                            .006  .1900E-01    |     .126  .6680E-01
                            .007  .2540E-01    |     .142  .7700E-01
                            .008  .3240E-01    |     .156  .8800E-01
                            .052  .4000E-01    |     .223  .9960E-01
                            .085  .4830E-01    |     .435  .1119E+00

     ROUTING RESULTS            AREA     QPEAK     TPEAK       R.V.
     --------------------       (ha)     (cms)     (hrs)       (mm)
     INFLOW >06: (to EP )       4.98      .455     2.867     39.535
     OUTFLOW<07: (EPond )       4.98      .193     3.600     39.534
    OVERFLOW<08: (EPOVF )        .00      .000      .000       .000

                    TOTAL NUMBER OF SIMULATED OVERFLOWS  =        0
                    CUMULATIVE TIME OF OVERFLOWS  (hours)=      .00
                    PERCENTAGE OF TIME OVERFLOWING    (%)=      .00


                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=   42.477
                    TIME SHIFT OF PEAK FLOW         (min)=    44.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=.9446E-01

--------------------------------------------------------------------------------
006:0009----------------------------------------------------------------------
 ---------------------
| CALIB NASHYD       |   Area    (ha)=     .64   Curve Number   (CN)=80.00
| 09:404b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
 ---------------------   U.H. Tp(hrs)=    .200

     Unit Hyd Qpeak  (cms)=     .122

     PEAK FLOW       (cms)=     .065 (i)
     TIME TO PEAK    (hrs)=    2.833
     RUNOFF VOLUME    (mm)=   36.944
     TOTAL RAINFALL   (mm)=   80.310
     RUNOFF COEFFICIENT   =     .460

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
006:0010----------------------------------------------------------------------
 ---------------------
| CALIB NASHYD       |   Area    (ha)=     .09   Curve Number   (CN)=76.00
| 01:406    DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
 ---------------------   U.H. Tp(hrs)=    .110

     Unit Hyd Qpeak  (cms)=     .031

     PEAK FLOW       (cms)=     .010 (i)
     TIME TO PEAK    (hrs)=    2.767
     RUNOFF VOLUME    (mm)=   32.840
     TOTAL RAINFALL   (mm)=   80.310
     RUNOFF COEFFICIENT   =     .409

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
006:0011----------------------------------------------------------------------
 ---------------------
| CALIB NASHYD       |   Area    (ha)=    1.38   Curve Number   (CN)=74.00
| 02:402a   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
 ---------------------   U.H. Tp(hrs)=    .230

     Unit Hyd Qpeak  (cms)=     .229

     PEAK FLOW       (cms)=     .109 (i)
     TIME TO PEAK    (hrs)=    2.850
     RUNOFF VOLUME    (mm)=   30.983
     TOTAL RAINFALL   (mm)=   80.310
     RUNOFF COEFFICIENT   =     .386

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
006:0012----------------------------------------------------------------------
 ---------------------
| CALIB NASHYD       |   Area    (ha)=    2.02   Curve Number   (CN)=78.00
| 03:402b   DT= 1.00 |   Ia      (mm)=  10.000   # of Linear Res.(N)= 3.00
 ---------------------   U.H. Tp(hrs)=    .300

     Unit Hyd Qpeak  (cms)=     .257

     PEAK FLOW       (cms)=     .158 (i)
     TIME TO PEAK    (hrs)=    2.933
     RUNOFF VOLUME    (mm)=   34.825
     TOTAL RAINFALL   (mm)=   80.310
     RUNOFF COEFFICIENT   =     .434

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.


--------------------------------------------------------------------------------
006:0013----------------------------------------------------------------------
 ------------------------
| ADD HYD (Node 4    ) | ID: NHYD          AREA     QPEAK   TPEAK   R.V.    DWF
 ------------------------                    (ha)     (cms)   (hrs)   (mm)   (cms)
                       ID1 02:402a           1.38     .109    2.85  30.98    .000
                      +ID2 03:402b           2.02     .158    2.93  34.83    .000
                       ==========================================================
                       SUM 04:Node 4         3.40     .265    2.90  33.27    .000

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
006:0014----------------------------------------------------------------------
--------------------------------------------------------------------------------
006:0002----------------------------------------------------------------------
--------------------------------------------------------------------------------
006:0002----------------------------------------------------------------------
--------------------------------------------------------------------------------
006:0002----------------------------------------------------------------------
--------------------------------------------------------------------------------
006:0002----------------------------------------------------------------------
--------------------------------------------------------------------------------
006:0002----------------------------------------------------------------------
      FINISH
--------------------------------------------------------------------------------
*******************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2024-01-30     at 15:02:55
===============================================================================
```

Appendix C Engineering Drawings

STELLAR ESTATES SUBDIVISION PHASE 2
DRAFT PLAN OF SUBDIVISION APPLICATION

0 MOUNT PLEASANT ROAD
PART OF LOT 18, CONCESSION 8 (ALBION)
TOWN OF CALEDON
REGION OF PEEL



LIST OF DRAWINGS

DRAWING TITLE	DRAWING	SHEET
SITE PLAN	22-3001-01	1
GENERAL ABOVE GROUND SERVICES PLAN	22-3001-02	2
GENERAL BELOW GROUND SERVICES PLAN	22-3001-03	3
WATER DISTRIBUTION PLAN	22-3001-04	4
STORM DRAINAGE PLAN	22-3001-05	5
MULLOY COURT PLAN AND PROFILE	22-3001-06	6
GRADING PLAN	22-3001-07	7
EROSION AND SEDIMENT CONTROL PLAN	22-3001-08	8
CONSTRUCTION DETAILS	22-3001-09	9

THE CORPORATION
OF THE
TOWN OF CALEDON

LIST OF TOWN INFRASTRUCTURE

LENGTH OF ROAD	0m
LENGTH OF STORM SEWER	0m
NUMBER OF MANHOLES	0
NUMBER OF CATCH BASINS	0
NUMBER OF STREET LIGHTS	0
NUMBER OF OGS UNITS	1
NUM. OF STORMWATER MANAGEMENT FACILITIES	0

REGION OF PEEL

Ecometrix | Environmental INTELLIGENCE
www.ecometrix.ca

STELLAR HOMES INC.
125 DON HILLOCK DRIVE
UNIT 8 B
AURORA, ONTARIO
L4G 0H8

REV. 1 - SECOND SUBMISSION
JANUARY 17, 2025

EX. DWELLING #10 MULLOY COURT

LOT 4

BLOCK 15 FUTURE RD.

EX. DWELLING #8 MULLOY COURT

LOT 3

EX. DWELLING #6 MULLOY COURT

LOT 2

EX. DWELLING #4 MULLOY COURT

LOT 1

EX. POND

MH4

CBMH3

MH2

MH1

MH6

MH7

0+320 0+300 0+280 0+260 0+240 0+220 0+200 0+180 0+160 0+140 0+120 0+100 0+080 0+060 0+040 0+020 0+000

MULLOY COURT

90.00 72.00 54.50 54.50 45.30

PROP. SEPTIC BED

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

18.77 18.00 18.00 18.00 18.00

2.5% 5.0% 5.5% 5.5% 5.9%

2.0% 3.0% 3.0% 3.0%

4.50 4.50 7.50 7.56

65.98

122.17 121.97 107.53

6.0

30m 30m 30m

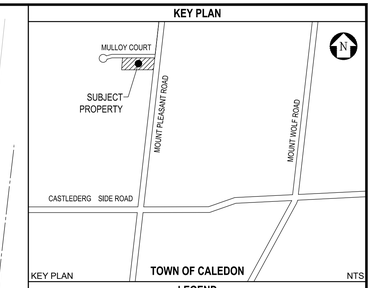
25.0

MOUNT PLEASANT ROAD

10m 0 10m 20m

SCALE 1:500

KEY PLAN



KEY PLAN — TOWN OF CALEDON — NTS

LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF PROP. STRUCTURE ENVELOPE
- PROP. GRASSED SWALE
- PROP. INFILTRATION SWALE, MIN. 50.0m / LOT
- MVPZ REHABILITATION PLANTINGS
- LOT AREA OUTSIDE STRUCTURE ENVELOPE

Ecometrix | Environmental INTELLIGENCE
www.ecometrix.ca

DESIGNED BY | APPROVED BY

N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:
STELLAR HOMES INC.

Project Name:
STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:
SITE PLAN

Drawing N°: **22-3001-01**
Sheet N°: 1 OF 9
Scale: 1:500
Rev. N°: 1

GENERAL NOTES

1. CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES, AND GUIDELINES OF THE TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL AND THE ONTARIO BUILDING CODE.
2. ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
3. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH LATEST STANDARDS AND CODES AND TO BE IN GENERAL CONFORMANCE WITH MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS GUIDELINES.
4. CONTOURS GENERATED FROM A TOPOGRAPHIC SURVEY CARRIED OUT BY ECOMETRIX INC., 2021. ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT AND SURVEY CONTROL DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND SERVICES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES AND SERVICES WHERE SHOWN ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. DAMAGES TO EXISTING UTILITIES AND SERVICES TO BE REPAIRED TO THE SATISFACTION OF THE APPROPRIATE UTILITY AT THE CONTRACTORS EXPENSE.
7. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVISION, MAINTENANCE AND RESTORATION OF ALL CONSTRUCTION ACCESS REQUIREMENTS.
9. THE CONTRACTOR SHALL DELINEATE THE REQUIRED WORKING ARE PRIOR TO THE START OF WORK AND SHALL CONFINE OPERATIONS WITHIN THE DEFINED AREA.
10. WORKING AREAS, ACCESS REQUIREMENTS AND TEMPORARY MATERIAL STORAGE AREAS TO BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR AT ALL TIMES. AREAS AFFECTED BY THE CONTRACTORS ACTIVITIES ARE TO BE REINSTATED TO THE EXISTING CONDITIONS OR BETTER.
11. NATIVE AND GRANULAR MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO A MIN. 95% SPMDD UNLESS OTHERWISE NOTED.
12. SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN OF CALEDON AND TORONTO AND REGION CONSERVATION AUTHORITY.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEBRIS RELATED TO THE CONSTRUCTION OF THE WORKS.
14. ALL ERRORS, OMISSIONS AND OR CHANGE OF CONDITIONS AT THE SITE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PERFORMING THE RELATED WORK.
15. STORM DRAINAGE TO BE SELF-CONTAINED AND SHALL NOT ADVERSELY AFFECT ADJACENT PROPERTIES. GRADING SHALL NOT EXTEND ONTO ADJACENT PROPERTIES WITHOUT PRIOR WRITTEN CONSENT FROM THE ADJACENT PROPERTY OWNER.

WORK WITHIN MUNICIPAL ROAD ALLOWANCE

1. A ROAD OCCUPANCY PERMIT MUST BE OBTAINED A MINIMUM OF 48 HOURS PRIOR TO COMMENCING ANY WORKS WITHIN THE ROAD ALLOWANCE FROM THE TOWN OF CALEDON AND/OR REGION OF PEEL, AS APPLICABLE. CONTRACTOR TO CONFORM TO REQUIREMENTS OF THE ROAD OCCUPANCY PERMIT.
2. A MINIMUM OF 48 HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE MUNICIPAL RIGHT OF WAY THE CONTRACTOR MUST CONTACT THE FOLLOWING:

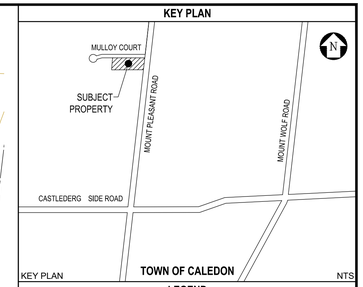
TOWN OF CALEDON PUBLIC WORKS	905-584-2272
FIRE AND EMERGENCY SERVICES	905-584-1477
REGION OF PEEL	905-781-7800
ENBRIDGE CONSUMERS GAS	905-758-7924
HYDRO ONE	519-941-1211
BELL CANADA	416-296-6927
ROGERS CABLE	
DUFFERIN/PEEL CATHOLIC SCHOOL BOARD	905-890-1221
PEEL DISTRICT SCHOOL BOARD	905-890-1010

3. ROAD MUST BE MAINTAINED TO A MINIMUM OF ONE LANE AT ALL TIMES FOR EMERGENCY ACCESS AS PER THE OTM GUIDELINES.
4. NOTIFICATION TO FIRE AND EMERGENCY SERVICES AND SCHOOL BOARDS REQUIRED TO BE PROVIDED A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK.
5. THE CONTRACTOR, AT THEIR EXPENSE AND TO THE SATISFACTION OF THE TOWN OF CALEDON OR REGION OF PEEL, AS APPLICABLE, SHALL BE RESPONSIBLE FOR THE RESTORATION AND REPAIR OF ALL AREAS BEYOND THE PROPERTY LIMITS DISTURBED DURING CONSTRUCTION.
6. A MINIMUM OF 1.5m CLEARANCE IS TO BE PROVIDED FROM THE LIMITS OF ALL SIDEWALKS AND DRIVEWAYS TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT OF WAY. IF THIS CLEARANCE IS NOT MAINTAINED, THEY SHALL BE RELOCATED AT THE APPLICANT'S EXPENSE
7. CONTRACTOR IS RESPONSIBLE FOR PROPERLY COMPACTING THE BACKFILL MATERIAL AND REPLACING ALL SURFACES TO ORIGINAL CONDITION OR BETTER.
8. BACKFILL MATERIALS AND PLACEMENT SHALL CONFORM TO THE ROAD OCCUPANCY PERMIT UNLESS OTHERWISE SPECIFIED.
9. AS APPLICABLE, SUBDRAINS MUST REMAIN INTACT AND AT GRADE DURING CONSTRUCTION AND RESTORATION.
10. STREET CURBS ARE TO BE CONTINUOUS THROUGH PROPOSED ENTRANCES.
11. THE MINIMUM PAVEMENT DESIGN FOR THE ASPHALT DRIVEWAY APRON WITHIN THE MUNICIPAL ROAD ALLOWANCE SHALL BE AS FOLLOWS:
    40mm HL3 ASPHALT
    50mm HL8 ASPHALT
    150mm GRANULAR 'A'
    300mm GRANULAR 'B'
12. AS APPLICABLE, MUNICIPAL SIDEWALKS SHALL BE CONTINUOUS THROUGH ALL ENTRANCES TO THE SITE AND THE CURB SHALL BE TAPERED BACK 600mm.
13. ALL BOULEVARDS ARE TO BE RESTORED WITH MINIMUM 300mm TOPSOIL AND SOD.
14. TOP ASPHALT COLD JOINTS TO BE SEALED WITH T-BOND HOT ASPHALT JOINT TAPE FROM McASPHALT OR DENSO BRAND BY DENSO. THESE SEALANTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH OTM BOOK 7 - TEMPORARY CONDITIONS.

FENCING

1. ALL FENCING SHALL BE POST AND WIRE FENCE PER OPSD 971.101, UNLESS OTHERWISE NOTED.
2. ALL FENCE POSTS AND MESH TO BE LOCATED WITHIN THE LOTS ON PRIVATE PROPERTY, UNLESS OTHERWISE NOTED.
3. CHAIN LINK FENCE CONSTRUCTION SHALL CONFORM TO OPSS.MUNI 772, WHERE APPLICABLE.

KEY PLAN



LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF PROP. STRUCTURE ENVELOPE
- PROP. GRASSED SWALE
- PROP. INFILTRATION SWALE, MIN. 50.0m / LOT
- PROP. POST AND WIRE FENCE

LOCATION OF RESIDENTIAL UNITS AND SEPTIC FIELDS ARE CONCEPTUAL ONLY.
FINAL LOCATIONS TO BE DETERMINED AT THE SITE PLAN APPROVAL / BUILDING PERMIT APPLICATION STAGE

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N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:

STELLAR HOMES INC.

Project Name:

STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:

GENERAL ABOVE GROUND SERVICES PLAN

Drawing N°:	Sheet N°:	Rev. N°:
22-3001-02	2 OF 9	2
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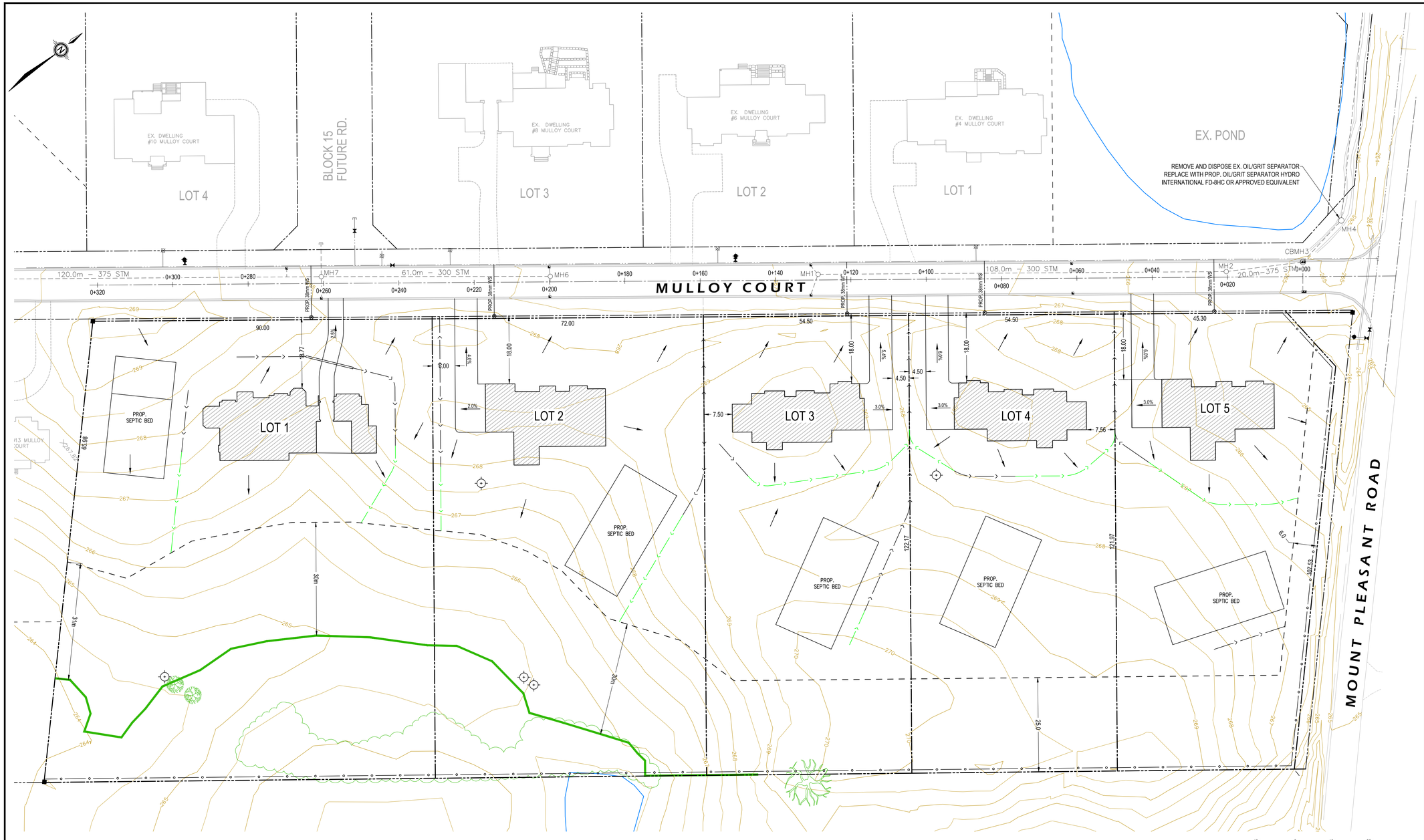
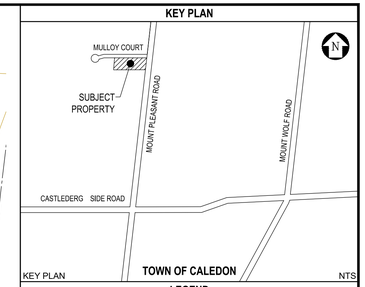


KEY PLAN



LEGEND

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- PROPERTY LINES (EXISTING)
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- PROP. GRASSED SWALE
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FINAL LOCATIONS TO BE DETERMINED AT THE SITE PLAN APPROVAL / BUILDING PERMIT APPLICATION STAGE

GENERAL NOTES

1. CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES, AND GUIDELINES OF THE TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL AND THE ONTARIO BUILDING CODE.
2. ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
3. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH LATEST STANDARDS AND CODES AND TO BE IN GENERAL CONFORMANCE WITH MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS GUIDELINES.
4. CONTOURS GENERATED FROM A TOPOGRAPHIC SURVEY CARRIED OUT BY ECOMETRIX INC., 2021. ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT AND SURVEY CONTROL DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND SERVICES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES AND SERVICES WHERE SHOWN ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. DAMAGES TO EXISTING UTILITIES AND SERVICES TO BE REPAIRED TO THE SATISFACTION OF THE APPROPRIATE UTILITY AT THE CONTRACTORS EXPENSE.
7. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVISION, MAINTENANCE AND RESTORATION OF ALL CONSTRUCTION ACCESS REQUIREMENTS.
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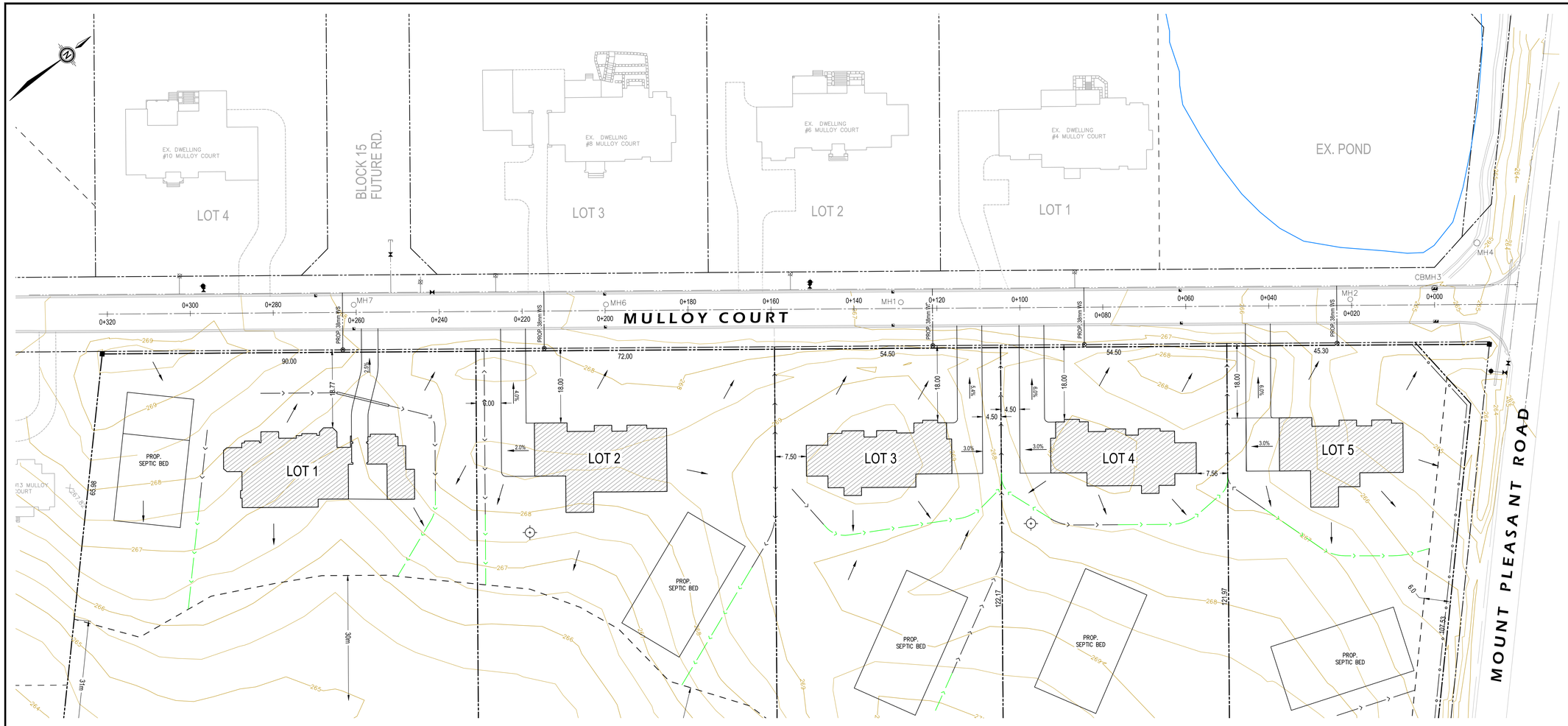
N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:
STELLAR HOMES INC.

Project Name:
STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:
GENERAL BELOW GROUND SERVICES PLAN

Drawing N°: **22-3001-03**
Sheet N°: 3 OF 9
Scale: 1:500
Rev. N°: 1



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WATERMAINS GENERAL NOTES

GENERAL

1. THE APPLICANT, APPLICANT'S REPRESENTATIVE, CONSULTANT, CONTRACTOR AND SUB CONTRACTORS ARE RESPONSIBLE TO ENSURE THAT THEIR DESIGN MATERIALS AND CONSTRUCTION PRACTICES CONFORM TO THE LATEST REGION OF PEEL STANDARDS, SPECIFICATIONS, MATERIALS AND DESIGN CRITERIA, POSTED ON REGION OF PEEL'S WEBSITE (www.peelregion.ca/pw/standards). IN THE ABSENCE OF REGION SPECIFICATIONS, THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS (OPSS) SHALL APPLY.
2. ALL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE "OCCUPATIONAL HEALTH AND SAFETY ACT". THE GENERAL CONTRACTOR SHALL BE DEEMED THE CONSTRUCTOR AS DEFINED IN THE ACT.
3. THE CONTRACTOR, AT THEIR EXPENSE SHALL VERIFY THE LOCATION, DIMENSION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES IN THE FIELD.
4. PRIOR TO EXCAVATION OR BORING CONTRACTOR AT THEIR EXPENSE SHALL EXPOSE AND VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND SERVICES TO BE CROSSED AND MUST NOTIFY THE DESIGN ENGINEER AND THE AGENCY FIELD INSPECTOR AND/OR PROJECT MANAGER IMMEDIATELY, IN WRITING, OF ANY CONFLICTS OR DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING THE EXISTING UTILITIES FAR ENOUGH IN ADVANCE OF CONSTRUCTION TO MAKE NECESSARY DESIGN MODIFICATIONS FOR REVIEW AND APPROVAL, IF REQUIRED, WITHOUT DELAYING THE WORK.
5. THE CONTRACTOR, AT THEIR EXPENSE AND TO THE SATISFACTION OF THE REGION OF PEEL, SHALL BE RESPONSIBLE FOR THE RESTORATION AND THE REPAIR OF THE EXISTING UTILITIES AND ALL AREAS BEYOND THE PLAN OF SUBDIVISION DISTURBED DURING CONSTRUCTION.
6. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
7. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE MUST BE MECHANICALLY COMPACTED.
8. ALL BOREHOLES SHOWN ON DRAWING ARE FOR INFORMATION ONLY. REFER TO GEOTECHNICAL REPORT.
9. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.

WATERMAINS

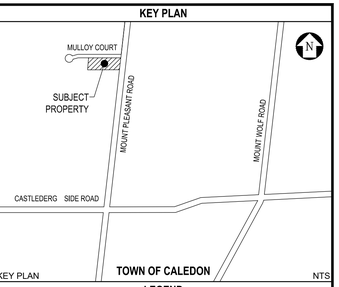
1. THE REGION OF PEEL SHALL CONDUCT THE OPERATION OF EXISTING VALVES AND HYDRANTS IF REQUIRED.
2. CONTRACTOR MUST USE BATTER BOARD OR ROD-AND-LEVEL METHOD FOR WATERMAIN INSTALLATION.
3. ALL WATERMAINS SHALL HAVE 1.70m MINIMUM COVER FOR URBAN ROAD DESIGN AND 2.1m MINIMUM COVER FOR RURAL ROAD DESIGN.
4. ALL WATERMAINS SHALL MAINTAIN A MINIMUM 1.5m CLEARANCE FROM ALL MANHOLES AND CATCH BASINS, WHERE APPLICABLE.
5. FOR WATERMAINS CROSSING OVER OR UNDER SEWERS A MINIMUM 0.5m VERTICAL CLEARANCE SHALL BE PROVIDED.
6. FOR WATERMAIN CROSSING A SANITARY SEWER, WATERMAIN JOINTS ARE TO BE OFFSET A MINIMUM OF 2.5m HORIZONTALLY FROM THE CENTERLINE OF THE SANITARY SEWER.
7. WATERMAIN BEDDING SHOULD BE AS PER DWG 1-5-1.
8. WATERMAINS TO BE INSTALLED TO GRADES AS SHOWN ON APPROVED PLANS, COPY OF GRADE SHEET MUST BE SUPPLIED TO THE REGION OF PEEL INSPECTOR PRIOR TO COMMENCEMENT OF WORK.
9. ANY JOINT DEFLECTION SHALL BE 50% OF MANUFACTURER'S SPECIFICATIONS. PIPE BARREL DEFLECTION IS PROHIBITED.
10. FIRE HYDRANTS SHALL BE INSTALLED AS PER REGION STD. DWG, 1-6-1 OR 1-6-2 WITH FLANGE SET BETWEEN 50mm AND 150mm ABOVE FINISHED GRADE.
11. ALL HYDRANTS SHALL HAVE 1.2m MINIMUM HORIZONTAL CLEARANCE FROM ALL OTHER UTILITIES AND STRUCTURES MEASURED FROM THE NEAREST POINT OF THE STRUCTURE.
12. MECHANICAL RESTRAINERS ARE REQUIRED FOR ALL FITTINGS, VALVES, DEAD ENDS, CAPS AND HYDRANTS ON ALL PVC WATERMAINS; MINIMUM RESTRAINED PIPE LENGTH AS PER REGION'S STANDARD DRAWING 1-5-9.
13. STAINLESS STEEL NUTS AND BOLTS ARE TO BE USED ON ALL METALLIC FITTINGS AND JOINT RESTRAINTS:
14. ALL METALLIC VALVES, FITTINGS, THROUGH WALL METAL PIPING AND JOINT RESTRAINTS TO BE C/W DENSO PASTE, DENSO MASTIC & DENSO TAPE OR APPROVED EQUAL APPLIED TO MANUFACTURER'S RECOMMENDATIONS.
15. WHERE PLASTIC PIPE IS USED, INSTALL A 12 GAUGE TWU STRANDED COPPER, LIGHT COLOURED, PLASTIC COATED TRACER WIRE ATTACHED TO THE PIPE WITH APPROVED WIRE SPLICE. THE WIRE SHOULD BE BROUGHT TO THE SURFACE AT EACH SERVICE & VALVE BOX AND HYDRANT VALVES.
16. 50mm DIAMETER WATERMAIN SHALL BE TYPE K SOFT COPPER. WATERMAIN INSTALLATION IN CUL-DE-SACS AS PER REGION STD. DWG. 1-7-4.
17. A PHYSICAL SEPARATION MUST BE MAINTAINED AT ALL CONNECTION POINTS OF NEW WATERMAIN TO THE EXISTING SYSTEM UNTIL BACTERIOLOGICAL TESTS HAVE PASSED, AS PER STD. DWG 1-7-7 AND 1-7-8.
18. PROVISION FOR FLUSHING OF NEW WATERMAINS PRIOR TO TESTING MUST BE PROVIDED WITH AT LEAST 50mm OUTLET ON WATERMAINS SMALLER THAN 300mm IN DIAMETER, AND MINIMUM 100mm OUTLET ON WATERMAINS 300mm AND LARGER, COPPER WATERMAINS ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE WATERMAIN, AS PER STD. DWG. 1-7-7 AND 1-7-8.
19. ALL SERVICE CONNECTIONS TO PVC PIPES ARE TO BE MADE USING APPROVED WIDE BAND SERVICE SADDLE. DIRECT TAPPING IS NOT ALLOWED.
20. ALL WATER SERVICES SHALL BE MINIMUM 38mm DIA NOMINAL COPPER PIPE SIZE OR 50mm DIA POLYETHYLENE PIPE. IN GENERAL, NON METALLIC SERVICES SHALL BE ONE SIZE LARGER THAN THE NOMINAL COPPER PIPE SIZE AS PER LATEST APPROVED REGIONAL PRODUCT LIST AND SIZES C/W TRACER WIRE.
21. THE MINIMUM LATERAL DISTANCE BETWEEN WATER SERVICES AND OTHER UTILITIES SHALL BE 1.2m.
22. ALL RESIDENTIAL WATER SERVICE BOXES/CURB STOPS SHALL BE INSTALLED WITHIN SODDED AREAS WITH MINIMUM DISTANCE OF 1.0 METRES FROM THE EDGE OF THE DRIVEWAY, BE FLUSH WITH GRADE AND ACCESSIBLE AT ALL TIME.
23. VALVE AND BOXES SHALL BE CAST IRON SLIDING TYPE, COMPLETED WITH VALVE GUIDE PLATES AND INSTALLED AS PER REGION STD. 1-3-8. MAINLINE VALVES TO BE RESTRAINED AS PER REGION STD. 1-3-3A. VALVES SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE).
24. ALL WATER SERVICES BOXES SHOULD BE "LEAD FREE" AS PER REGION'S MATERIAL SPECIFICATIONS.
25. THE REGION WILL COMPLETE THE NECESSARY WATER TESTING (PRESSURE TEST, FLUSHING, CHLORINATION AND SAMPLING). CONTRACTOR MAY PROCEED WITH HIS OWN PRESSURE TEST AND FLUSHING PRIOR TO REGION'S TESTING.
26. ALL METALLIC WATER PIPES INCLUDING 'K' COPPER WATER SERVICES, INSTALLED OR REPAIRED, SHALL HAVE ZINC ANODE AS PER REGION OF PEEL STANDARD 1-7-1, OPSS422 AND OPSD 1109.011 AND TO CONFORM TO ASTM B-418 TYPE.
27. ALL WATERMAIN PIPE DELIVERED ON SITE SHALL HAVE MANUFACTURER'S PLUGS AND STORED SO THAT NO DEBRIS ENTERS THE PIPE. NO WATERMAIN IS TO BE INSTALLED UNTIL NIGHT PLUG IS ON SITE. NIGHT PLUG TO BE USED EVERY TIME WORK IS STOPPED.

WATERMAINS IN FILL AREA

1. NO WATERMAIN TO BE LAID ON FILL UNTIL THE FIELD DENSITY TEST REPORTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE REGION OF PEEL OR THE CONSULTING ENGINEER.
2. PIPE JOINTS DEFLECTIONS ARE NOT ALLOWED IN FILL AREA.
3. JOINTS SHALL BE MECHANICALLY RESTRAINED THE WHOLE LENGTH.
4. ALL HYDRANTS, TEE BRANCH VALVES AND HORIZONTAL BENDS ARE TO BE MECHANICALLY RESTRAINED WITH TIE RODS.
5. IN EXISTING MUNICIPAL RIGHT-OF-WAY OR EASEMENT, FILL TO BE PLACED TO 600mm MINIMUM ABOVE THE OBVERT OF THE WATERMAIN AND TO 300mm EITHER SIDE, COMPACTED TO MINIMUM 100% STANDARD PROCTOR DENSITY IN 300mm-LIFTS; AND THEREAFTER, FOR EVERY 300mm LIFT ALONG THE CENTERLINE, AND 1.5m TO EITHER SIDE, OF WATERMAIN AT MAXIMUM INTERVAL OF 30.0m, TEST RESULTS MUST BE SUBMITTED TO AND APPROVED BY THE CONSULTANT OR AGENCY.

ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN GENERAL CONFORMANCE WITH MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS GUIDELINES. A MINIMUM HORIZONTAL SEPARATION OF 2.5m MUST BE MAINTAINED BETWEEN WATERMAINS AND SANITARY OR STORM SEWERS, INCLUDING SERVICE LATERALS.

KEY PLAN



KEY PLAN — TOWN OF CALEDON — NTS

LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF STRUCTURE ENVELOPE (PROPOSED)
- PROP. GRASSED SWALE
- PROP. INFILTRATION SWALE, MIN. 50.0m / LOT
- EX. WATERMAIN
- PROP. WATERMAIN CONNECTIONS
- EX. / PROP. WATER BOX
- EX. GATE VALVE
- EX. HYDRANT

SUBDIVISION STATISTICS (REGION)

SANITARY SEWER LENGTH	0m
NUMBER OF SANITARY MANHOLES	0
150mm - WATERMAIN LENGTH	0m
50mm - WATERMAIN LENGTH	0m
NUMBER OF HYDRANTS	0
NUMBER OF 38mm WATER SERVICES	5

RESIDENTIAL DEVELOPMENT CHARGES	No. OF UNITS	LOT#	METERS
No. OF SINGLE LOTS	5	-	
No. OF SEMIS (UNITS)	0	-	
No. OF TOWNHOUSES	0	-	
No. OF BLOCKS (FUTURE)			
TOTAL No. OF WATER METERS	5	-	

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N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:
STELLAR HOMES INC.

Project Name:
STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:
WATER DISTRIBUTION PLAN

Drawing N°: **22-3001-04**
Sheet N°: 4 OF 9
Scale: 1:500
Rev. N°: 1

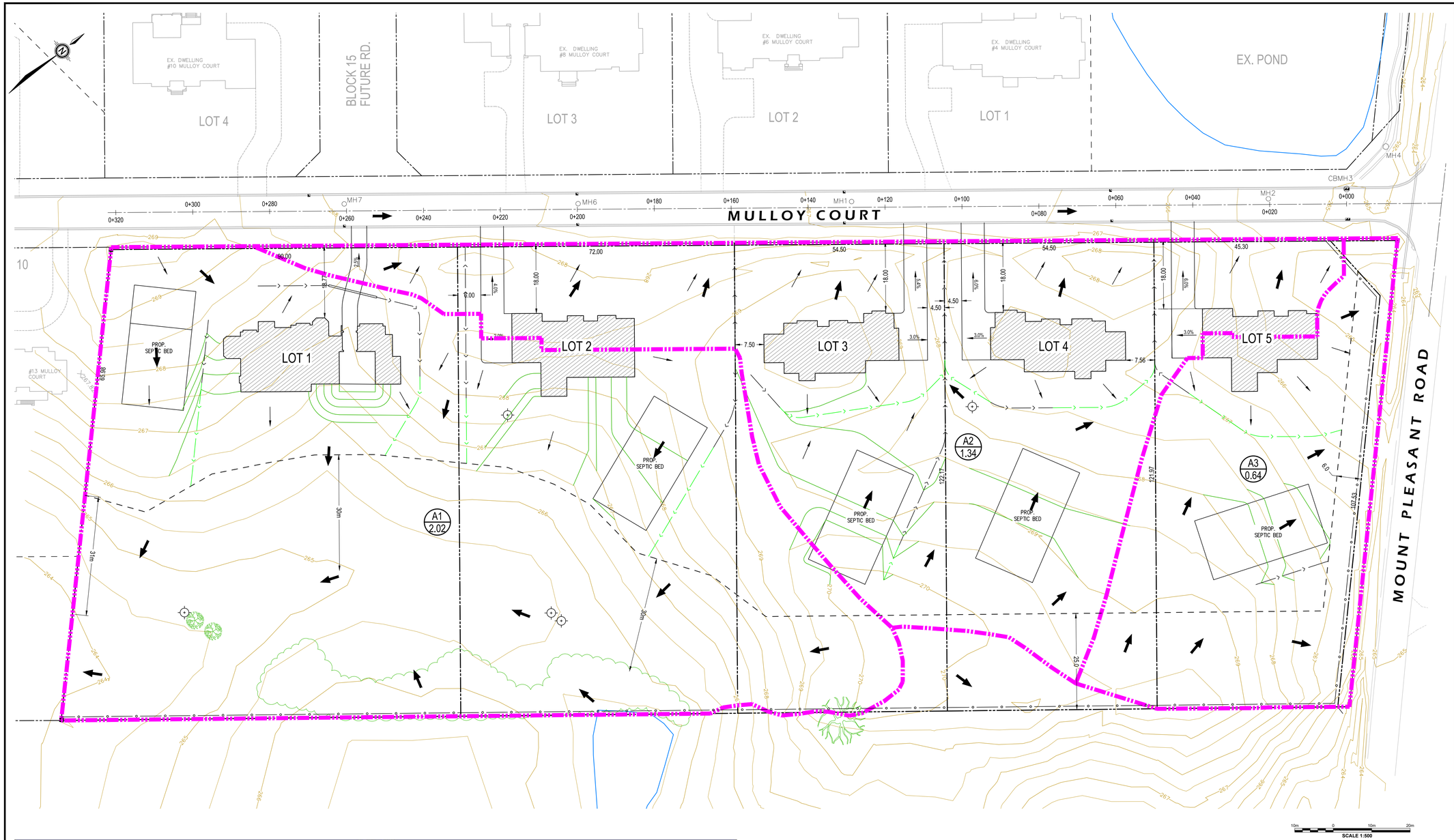
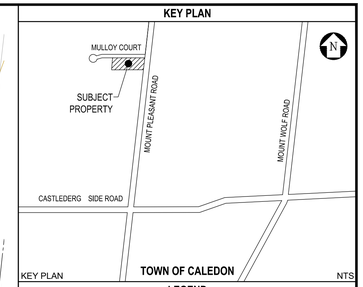


TABLE B.3
2-YEAR STORM SEWER DESIGN SHEET

Location			Drainage Area				Runoff			Pipe Flow						
Catchment	From MH	To MH	A (ha)	C	A x C	Acc. A x C	Tc (min)	I (mm/hr)	Q (L/s)	Pipe Length (m)	Pipe Diameter (m)	Pipe Slope (%)	Full Flow Capacity (L/s)	Full Flow Velocity (m/s)	Time of flow (min.)	% full
A	MH1	MH2	0.6500	0.40	0.26	0.26	15.58	67.55	48.78	108.0	0.300	0.93	93.3	1.32	1.36	52.3%
B + 404a	MH2	CBMH3	1.4900	0.31	0.46	0.72	16.94	64.28	128.90	20.0	0.375	0.30	96.0	0.87	0.38	134.2%
	CBMH3	MH4	0.0000	0.00	0.00	0.72	17.33	63.42	127.18	15.5	0.375	0.30	96.0	0.87	0.30	132.4%
	MH4	MH5	0.0000	0.00	0.00	0.72	17.62	62.77	125.88	58.0	0.375	0.30	96.0	0.87	1.11	131.1%
	MH5	OUTFALL	0.0000	0.00	0.00	0.72	18.74	60.47	121.25	7.0	0.375	0.30	96.0	0.87	0.13	126.3%

KEY PLAN



LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF STRUCTURE ENVELOPE (PROPOSED)
- PROP. GRASSED SWALE
- PROP. INFILTRATION SWALE, MIN. 50.0m / LOT
- PROP. STORM DRAINAGE BOUNDARY
- PROP. DRAINAGE DIRECTION
- A1 / 1.93 — PROP. CATCHMENT ID / PROP. DRAINAGE AREA (HECTARES)

LOCATION OF RESIDENTIAL UNITS AND SEPTIC FIELDS ARE CONCEPTUAL ONLY. FINAL LOCATIONS TO BE DETERMINED AT THE SITE PLAN APPROVAL / BUILDING PERMIT APPLICATION STAGE

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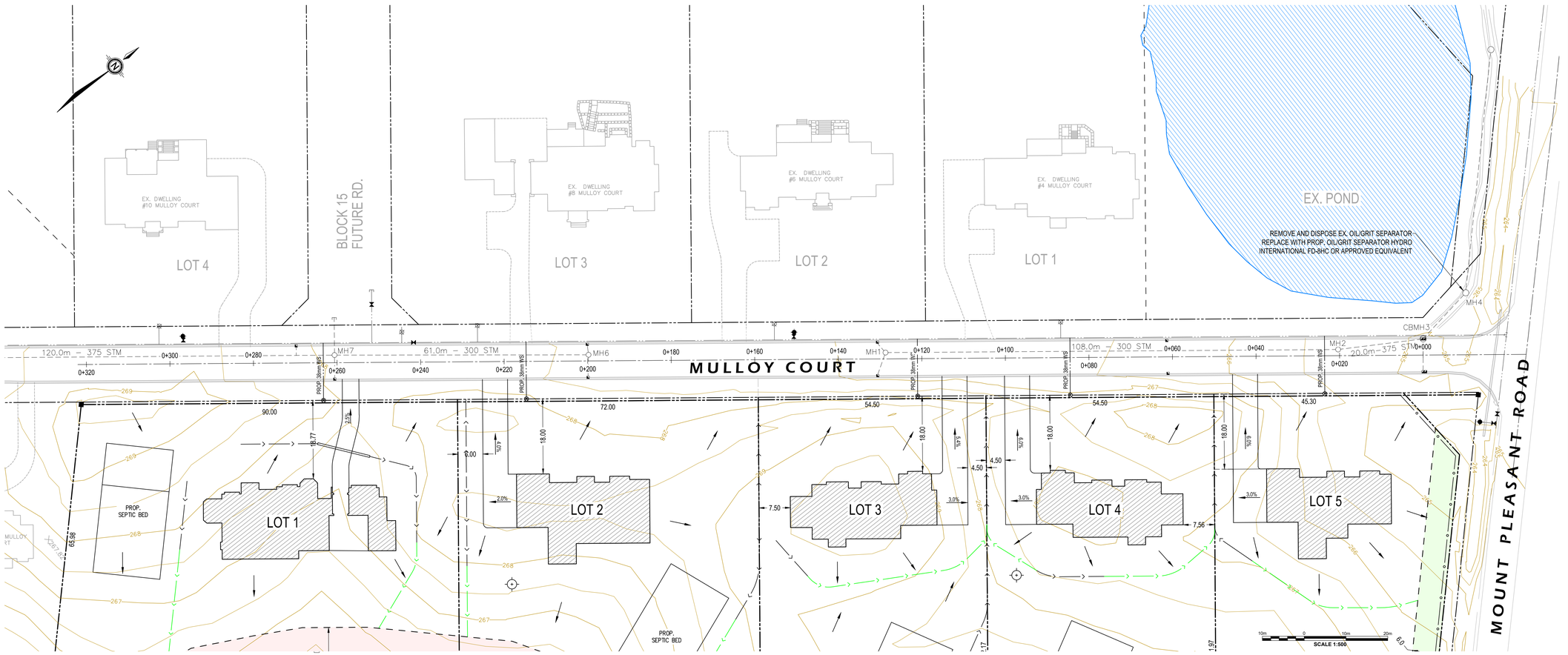
N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

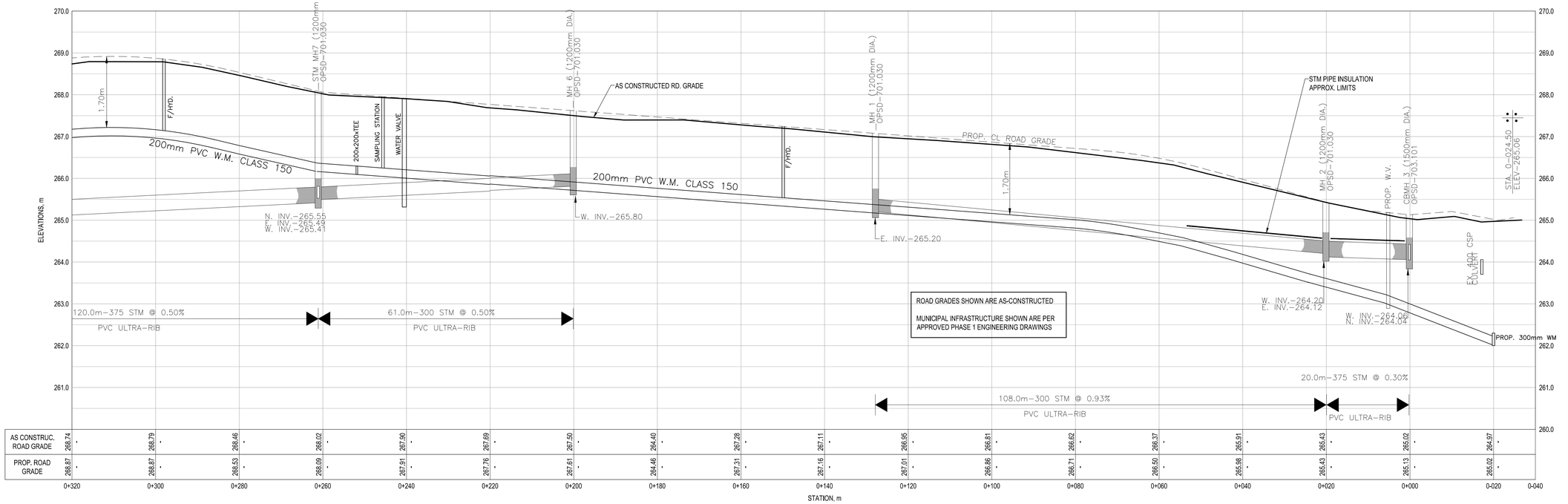
Client:
STELLAR HOMES INC.

Project Name:
STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:
STORM DRAINAGE PLAN

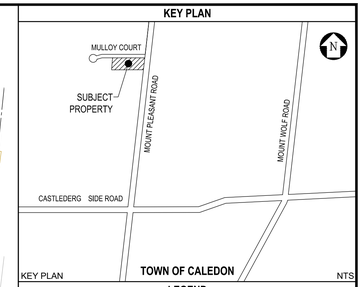
Drawing N°: **22-3001-05**
Sheet N°: 5 OF 9
Scale: 1:500
Rev. N°: 1





	0+320	0+300	0+280	0+260	0+240	0+220	0+200	0+180	0+160	0+140	0+120	0+100	0+080	0+060	0+040	0+020	0+000	0-020	0-040
AS CONSTRUC. ROAD GRADE	268.74	268.79	268.46	268.02	267.90	267.69	267.50	264.40	267.28	267.11	266.95	266.81	266.62	266.37	265.91	265.43	265.02	264.97	
PROP. ROAD GRADE	269.87	269.87	269.53	269.09	267.91	267.76	267.61	264.46	267.31	267.16	267.01	266.86	266.71	266.50	265.98	265.43	265.13	265.02	264.97

KEY PLAN



LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF STRUCTURE ENVELOPE (PROPOSED)
- PROP. GRASSED SWALE
- PROP. INFILTRATION SWALE, MIN. 50.0m / LOT
- EX. WATERMAIN
- PROP. WATERMAIN CONNECTIONS
- EX. / PROP. WATER BOX
- EX. GATE VALVE
- EX. HYDRANT

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N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:

STELLAR HOMES INC.

Project Name:

STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:

MULLOY COURT PLAN AND PROFILE

Drawing N°: **22-3001-06**

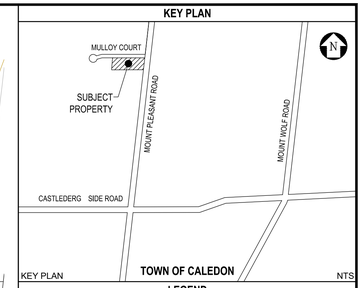
Sheet N°: 6 OF 9

Scale: H 1:500 / V 1:50

Rev. N°: 1

10m 0 10m 20m
SCALE 1:500

KEY PLAN



LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- EX. MJR CONTOURS (EACH 1.0m)
- EX. MNR CONTOURS (EACH 0.5m)
- PROP. GRADE CONTOURS
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF STRUCTURE ENVELOPE (PROPOSED)
- PROP. GRASSED SWALE, DET. '1' SHEET 9
- PROP. INFILTRATION SWALE, MIN. 50.0m / LOT DET '2' SHEET 9
- PROP. GRADE ELEVATIONS
- PROP. POST AND WIRE FENCE
- PROP. WATER BOX

CONCEPTUAL DWELLINGS

LOT	HOUSE TYPE	WALKOUT	GFA (m2)	GFA (ft2)	REFERENCE
1	BUNGALOW	YES	568.5	6,119.3	8 MULLOY COURT
2	BUNGALOW	YES	501.6	5,399.2	10 MULLOY COURT
3	BUNGALOW	NO	432.5	4,655.4	6 MULLOY COURT
4	BUNGALOW	NO	432.5	4,655.4	6 MULLOY COURT
5	BUNGALOW	NO	435.6	4,688.8	10 MULLOY COURT

LOCATION OF RESIDENTIAL UNITS AND SEPTIC FIELDS ARE CONCEPTUAL ONLY. FINAL LOCATIONS TO BE DETERMINED AT THE SITE PLAN APPROVAL / BUILDING PERMIT APPLICATION STAGE

GENERAL NOTES

1. CONSTRUCTION FOR THIS PROJECT TO COMPLY WITH THE MOST CURRENT VERSION OF THE DEVELOPMENT STANDARDS, POLICIES, AND GUIDELINES OF THE TOWN OF CALEDON, REGIONAL MUNICIPALITY OF PEEL AND THE ONTARIO BUILDING CODE.
2. ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
3. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH LATEST STANDARDS AND CODES AND TO BE IN GENERAL CONFORMANCE WITH MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS GUIDELINES.
4. CONTOURS GENERATED FROM ORTHOPHOTOGRAPHY DEVELOPED IN THE SPRING OF 2002, AND SURVEYED ELEVATIONS BY CALDER ENGINEERING LTD. (2017 & 2019) AND EPLETT WOROBEC RAIKES SURVEYING LTD. (2015). ACTUAL ELEVATIONS MAY VARY FROM THOSE SHOWN.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT AND SURVEY CONTROL DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND SERVICES PRIOR TO AND DURING CONSTRUCTION. LOCATION OF EXISTING UTILITIES AND SERVICES WHERE SHOWN ARE APPROXIMATE AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. DAMAGES TO EXISTING UTILITIES AND SERVICES TO BE REPAIRED TO THE SATISFACTION OF THE APPROPRIATE UTILITY AT THE CONTRACTORS EXPENSE.
7. THE SUPPORT OF ALL UTILITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVISION, MAINTENANCE AND RESTORATION OF ALL CONSTRUCTION ACCESS REQUIREMENTS.
9. THE CONTRACTOR SHALL DELINEATE THE REQUIRED WORKING ARE PRIOR TO THE START OF WORK AND SHALL CONFINE OPERATIONS WITHIN THE DEFINED AREA.
10. WORKING AREAS, ACCESS REQUIREMENTS AND TEMPORARY MATERIAL STORAGE AREAS TO BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR AT ALL TIMES. AREAS AFFECTED BY THE CONTRACTORS ACTIVITIES ARE TO BE REINSTATED TO THE EXISTING CONDITIONS OR BETTER.
11. NATIVE AND GRANULAR MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO A MIN. 95% SPMDD UNLESS OTHERWISE NOTED.
12. SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ON THE SITE AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD TO THE SATISFACTION OF THE TOWN OF CALEDON AND TORONTO AND REGION CONSERVATION AUTHORITY.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEBRIS RELATED TO THE CONSTRUCTION OF THE WORKS.
14. ALL ERRORS, OMISSIONS AND OR CHANGE OF CONDITIONS AT THE SITE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PERFORMING THE RELATED WORK.
15. STORM DRAINAGE TO BE SELF-CONTAINED AND SHALL NOT ADVERSELY AFFECT ADJACENT PROPERTIES. GRADING SHALL NOT EXTEND ONTO ADJACENT PROPERTIES WITHOUT PRIOR WRITTEN CONSENT FROM THE ADJACENT PROPERTY OWNER.

GRADING NOTES

1. DOWNSPOUTS TO DISCHARGE TO GROUND VIA SPLASH PADS.
2. DRIVEWAY GRADES TO BE BETWEEN 2 AND 6%.
3. ALL SLOPES ARE TO BE 4H:1V MAXIMUM, UNLESS OTHERWISE NOTED.
4. A MINIMUM OF 1.5m CLEARANCE IS TO BE PROVIDED FROM THE LIMIT OF THE DRIVEWAY TO EXISTING UTILITY STRUCTURES WITHIN THE MUNICIPAL RIGHT-OF-WAY. IF THIS CLEARANCE IS NOT MAINTAINED THEY SHALL BE RELOCATED AT THE APPLICANT'S EXPENSE.
5. DISTURBED BOULEVARD AREAS TO BE RESTORED WITH MINIMUM 300mm TOPSOIL AND SOD.
6. DISTURBED SITE AREAS TO BE RESTORED WITH MINIMUM 100mm TOPSOIL AND EITHER SEED OR SOD.
7. ALL GRADING TO BE IN GENERAL CONFORMANCE WITH THE TOWN OF CALEDON "DEVELOPMENT STANDARDS MANUAL" SECTION 1.12 RESIDENTIAL LOT DRAINAGE AND SODDING.

FENCING

1. ALL FENCING SHALL BE POST AND WIRE FENCE PER OPSD 971.101, UNLESS OTHERWISE NOTED.
2. ALL FENCE POSTS AND MESH TO BE LOCATED WITHIN THE LOTS ON PRIVATE PROPERTY, UNLESS OTHERWISE NOTED.
3. CHAIN LINK FENCE CONSTRUCTION SHALL CONFORM TO OPSS.MUNI 772, WHERE APPLICABLE.

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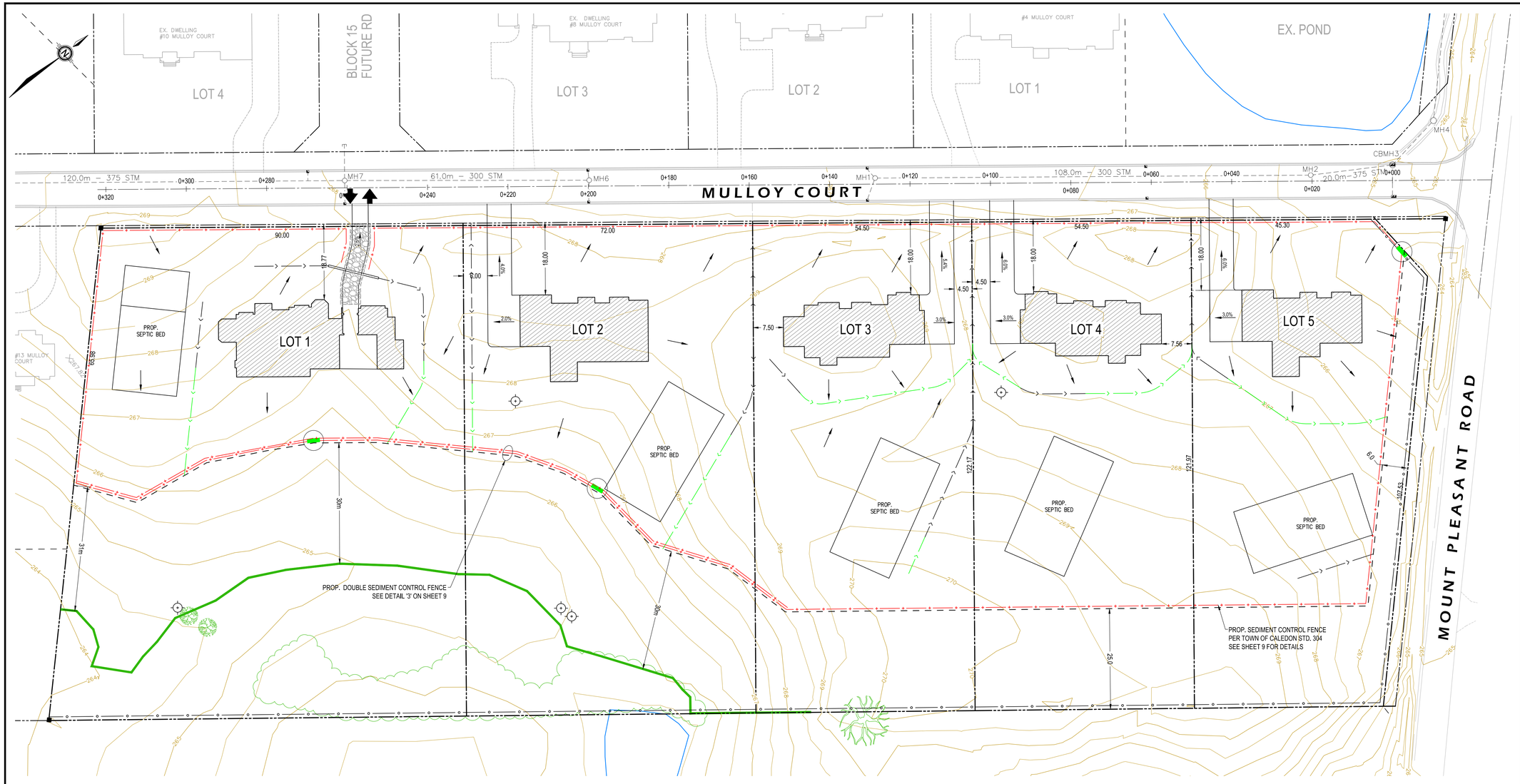
N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:
STELLAR HOMES INC.

Project Name:
STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:
GRADING PLAN

Drawing N°: **22-3001-07**
Sheet N°: 7 OF 9
Scale: 1:500
Rev. N°: 1



EROSION AND SEDIMENT CONTROL NOTES

SITE MANAGEMENT

1. EROSION AND SEDIMENT CONTROL (ESC) MEASURES TO BE IMPLEMENTED PRIOR TO, AND MAINTAINED DURING THE CONSTRUCTION PHASES, TO PREVENT ENTRY OF SEDIMENT INTO THE WATER. ALL DAMAGED EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE REPAIRED AND/OR REPLACED WITHIN 48 HOURS OF INSPECTION.
2. DISTURBED AREAS TO BE MINIMIZED TO THE EXTENT POSSIBLE. AND TEMPORARILY OR PERMANENTLY STABILIZED OR RESTORED AS THE WORK PROGRESSES. AS PER THE ESC GUIDELINE FOR URBAN CONSTRUCTION (2019), ANY DISTURBED AREA LEFT EXPOSED FOR 30 DAYS OR GREATER ARE TO BE STABILIZED. STABILIZATION SHALL BE BY HYDROSEEDING WITH AN APPROVED SEED MIXTURE AND APPLICATION OF MULCH PER OPSS 804 (OR APPROVED EQUIVALENT) TO THE SATISFACTION OF THE TOWN. SEED MIXTURE TO BE COMPRISED OF SPECIES PER THE TRCA'S SEED MIX GUIDELINES SPECIES LIST.
3. ALL IN-WATER AND NEAR WATER WORKS TO BE CONDUCTED IN THE DRY WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
4. THE ESC STRATEGIES OUTLINED ON THE PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO MINIMIZE SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREAS. IF THE PRESCRIBED MEASURES ON THE PLANS ARE NOT EFFECTIVE IN PREVENTING THE RELEASE OF A DELETERIOUS SUBSTANCE, INCLUDING SEDIMENT, THEN ALTERNATIVE MEASURES MUST BE IMPLEMENTED IMMEDIATELY TO MINIMIZE POTENTIAL ECOLOGICAL IMPACTS. TRCA ENFORCEMENT OFFICER SHOULD BE IMMEDIATELY CONTACTED. THE TOWN IS TO BE ADVISED OF ANY CHANGES TO ESC MEASURES, AND AT THE DISCRETION OF THE TOWN, UPDATED PLANS MAY BE REQUIRED. ADDITIONAL ESC MEASURES TO BE KEPT ON SITE AND USED AS NECESSARY.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ESC MEASURES IN WORKING CONDITION AT ALL TIMES TO THE SATISFACTION OF THE TOWN AND TRCA. ALL DAMAGED ESC MEASURES SHOULD BE REPAIRED AND/OR REPLACED WITHIN 48 HOURS OF INSPECTION.
6. THE CONTRACTOR IS TO ASSIGN AN ENVIRONMENTAL MONITOR TO ASSURE CONSTRUCTION ACTIVITIES COMPLY WITH THE ENVIRONMENTAL PROVISIONS AND AGENCY PERMITS. THE ENVIRONMENTAL MONITOR WILL BE A QUALIFIED PERSON AS DETERMINED BY THE TOWN AND TRCA. THE ENVIRONMENTAL MONITOR SHOULD SUBMIT INSPECTION FORMS ELECTRONICALLY TO THE TOWN AND TRCA UPON REQUEST.
7. THE ENVIRONMENTAL MONITOR TO ATTEND THE SITE TO INSPECT ALL NEW CONTROLS, AS WELL AS ON A REGULAR BASIS, OR FOLLOWING RAIN/SNOWMELT EVENT, TO MONITOR ALL WORKS, AND IN PARTICULAR WORKS RELATED TO EROSION AND SEDIMENT CONTROLS, DEWATERING OR UNWATERING, RESTORATION AND IN-WATER OR NEAR WATER WORKS. SHOULD CONCERNS ARISE ON SITE THE ENVIRONMENTAL MONITOR SHALL CONTACT THE TRCA ENFORCEMENT OFFICER AS WELL AS THE PROPONENT.
8. THE CONTRACTOR SHALL ROUTINELY INSPECT ALL ESC MEASURES TO ENSURE PROPER WORKING ORDER. FREQUENCY OF INSPECTIONS OF ESC MEASURES IS AS FOLLOWS:

DURING EARTHWORKS ACTIVITIES:

- ON A WEEKLY BASIS;
- PRIOR TO PREDICTED RAINFALL EVENTS;
- AFTER EVERY RAINFALL EVENT;
- AFTER SIGNIFICANT SNOWFALL EVENTS; AND
- DAILY DURING EXTENDED RAIN OR SNOWMELT PERIODS.

DURING TIMES OF NO EARTHWORKS ACTIVITIES:

- ONCE EVERY TWO WEEKS
- AFTER SIGNIFICANT SNOWMELT EVENTS;
- AFTER SIGNIFICANT RAINFALL EVENTS (MORE THAN 25mm OF RAINFALL IN A 24-HOUR PERIOD)

8. THE PROPONENT/CONTRACTOR SHALL MONITOR THE WEATHER SEVERAL DAYS IN ADVANCE OF THE ONSET OF THE PROJECT TO ENSURE THAT THE WORKS TO BE CONDUCTED DURING FAVOURABLE WEATHER CONDITIONS. SHOULD AN UNEXPECTED STORM ARISE, THE CONTRACTOR SHALL REMOVE ALL UNFIXED ITEMS FROM THE REGIONAL STORM FLOOD PLAIN THAT WOULD HAVE THE POTENTIAL TO CAUSE A SPILL OR AN OBSTRUCTION TO FLOW, E.G. FUEL TANKS, PORTA-POTTIES, MACHINERY, EQUIPMENT, CONSTRUCTION MATERIALS, ETC.
9. ALL ACTIVITIES, INCLUDING MAINTENANCE PROCEDURES, TO BE CONTROLLED TO PREVENT THE ENTRY OF PETROLEUM PRODUCTS, DEBRIS, RUBBLE, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO THE WATER. VEHICULAR REFUELING AND MAINTENANCE TO BE CONDUCTED A MINIMUM OF 30 METRES FROM THE WATER. CONTRACTOR SHALL TAKE CARE AND CONTROL SPILLS, FLUIDS AND MATERIALS DURING CONSTRUCTION TO MINIMIZE RISK TO THE ENVIRONMENT.
10. ALL CONSTRUCTION VEHICLES MUST ENTER AND EXIT THE SITE ONLY FROM THE APPROVED ACCESS ROUTE(S) AS SHOWN ON THE PLANS. CONSTRUCTION ACCESS WILL BE MAINTAINED TO THE SATISFACTION OF THE TOWN/REGION. STREET SWEEPING IS REQUIRED AS NEEDED.
11. NO CONSTRUCTION ACTIVITY OR MACHINERY SHALL BE ALLOWED BEYOND THE TEMPORARY SEDIMENT CONTROL FENCES OR LIMITS OF THE SITE WORKS.
12. ALL DEWATERING/UNWATERING SHALL BE TREATED AND RELEASED TO THE ENVIRONMENT AT LEAST 30 METRES FROM A WATERCOURSE OR WETLAND AND ALLOWED TO DRAIN THROUGH A WELL-VEGETATED AREA. NO DEWATERING EFFLUENT SHALL BE SENT DIRECTLY TO ANY WATERCOURSE, WETLAND OR FOREST, OR ALLOWED TO DRAIN ONTO DISTURBED SOILS WITHIN THE WORK AREA. THESE CONTROL MEASURES SHALL BE MONITORED FOR EFFECTIVENESS AND MAINTAINED OR REVISED TO MEET THE OBJECTIVE OF PREVENTING THE RELEASE OF SEDIMENT LADEN WATER.

CONSTRUCTION TIMING

13. IN ORDER TO COMPLY WITH THE MIGRATORY BIRDS CONVENTION ACT AND BAT HABITAT CONSIDERATIONS, TREE REMOVALS SHOULD BE COMPLETED BETWEEN OCTOBER 1 AND APRIL 1.
14. TO PROTECT LOCAL FISH POPULATIONS DURING THEIR SPAWNING, NURSERY AND MIGRATORY PERIODS, IN-WATER/NEAR WATER ACTIVITIES MAY ONLY OCCUR DURING THE FOLLOWING TIME PERIOD [TRCA TO CONFIRM TIMING WINDOW DURING REVIEW OF FIRST SUBMISSION].

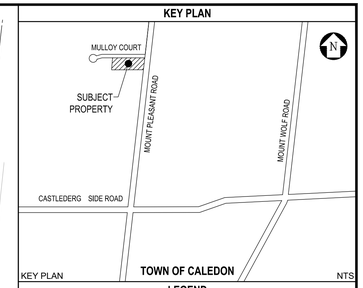
ENVIRONMENTAL COMPLIANCE

15. PLEASE NOTIFY THE TRCA AT 416-661-6000 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
16. AN ENVIRONMENTAL MONITOR TO BE ON SITE, AND PROVIDE ADVICE, TO ENSURE THAT ACTIVITIES THAT COULD HAVE A NEGATIVE IMPACT TO THE NATURAL ENVIRONMENT ARE EFFECTIVELY MITIGATED AS CONSTRUCTION PROCEEDS. THE ENVIRONMENTAL MONITOR SHALL NOTIFY THE TRCA ENFORCEMENT OFFICER AND PROJECT MANAGER IF AN ISSUE ARISES.

TEMPORARY EROSION AND SEDIMENT CONTROLS

17. MUD MAT TO BE PROVIDED ON SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES EXIT THE SITE. MUD MAT(S) SHALL BE A MINIMUM OF 5m WIDE, 30m LONG AND 0.45m DEEP. THE MUD MAT(S) SHALL CONSIST OF 50-100mm CLEAR STONE MATERIAL OR APPROVED EQUIVALENT EXCEPT FOR THE FIRST 15m WHICH SHALL BE 50mm CLEAR STONE. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MUD MAT IS MAINTAINED IN A MANNER TO MAXIMIZE EFFECTIVE NESS AT ALL TIMES.
18. THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT DUST CONTROL MEASURES AND CONSTRUCTION BEST PRACTICE GUIDELINES AS APPROVED BY THE TOWN AND TRCA.
19. TOPSOIL AND MATERIAL STOCKPILES TO BE ENCLOSED WITH SEDIMENT CONTROL FENCE. SEDIMENT CONTROL FENCE FOR STOCKPILES TO BE TERRAFIX TERRAFENCE OR APPROVED EQUIVALENT. THE MAXIMUM SIDE SLOPE SHALL BE 1.5H:1V. ONCE TOPSOIL STRIPPING IS COMPLETED, THE STOCKPILE SHALL BE VEGETATED, SUBJECT TO WEATHER CONDITIONS, BY HYDROSEEDING OR AN APPROVED EQUIVALENT, TO THE SATISFACTION OF THE TOWN.
20. REMOVE TEMPORARY SEDIMENT CONTROLS FOLLOWING COMPLETION OF CONSTRUCTION AND SITE STABILIZATION AND REINSTATE AFFECTED AREAS TO EXISTING CONDITIONS OR BETTER. TIMING OF REMOVAL OF TEMPORARY SEDIMENT CONTROLS TO BE APPROVED BY TOWN STAFF.
21. SEDIMENT CONTROL FENCING ON LOTS TO REMAIN IN PLACE UNTIL BUILDER HOME CONSTRUCTION THEN EITHER BE MAINTAINED, REMOVED OR AUGMENTED. SEDIMENT CONTROL FENCE TO BE REMOVED BY BUILDER ON COMPLETION OF HOUSE CONSTRUCTION AND LOT RESTORATION.

KEY PLAN



LEGEND

- PROPERTY LINES (PROPOSED)
- PROPERTY LINES (EXISTING)
- KEY NATURAL HERITAGE FEATURE
- LIMIT OF STRUCTURE ENVELOPE (PROPOSED)
- PROP. GRASSED SWALE
- PROP. HEAVY DUTY SEDIMENT CONTROL FENCE PER MODIFIED TOWN OF CALEDON STANDARD DRAWING 304
- PROP. DOUBLE ROW HEAVY DUTY SEDIMENT CONTROL FENCE c/w STRAW BALES IN BETWEEN
- PROP. CONSTRUCTION ACCESS AND EGRESS POINT
- PROPOSED MUD MAT ALIGNMENT TO BE FIELD DETERMINED
- PROP. SILTSOXX CHECK DAM - 450mm PER DETAIL ON SHEET 23

EMERGENCY CONTACT LIST

NAME/AGENCY	PHONE NUMBER
TOWN OF CALEDON	905-584-2272
TORONTO AND REGION CONSERVATION	416-661-6600
MINISTRY OF ENVIRONMENT SPILLS REPORTING	416-325-3000
OWNER - STELLAR HOMES INC.	905-726-7778
PROJECT ENGINEER - ECOMETRIX INCORORATED	905-857-7600

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N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:

STELLAR HOMES INC.

Project Name:

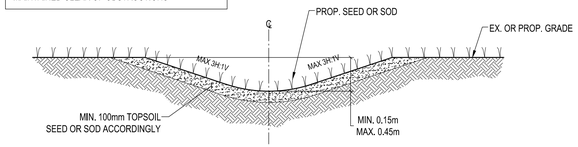
STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:

EROSION AND SEDIMENT CONTROL PLAN

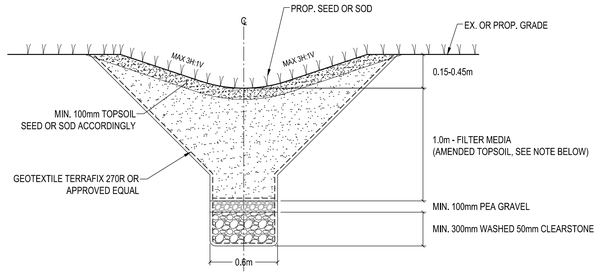
Drawing N°:	Sheet N°:	Rev. N°:
22-3001-08	8 OF 9	1
	Scale: AS NOTED	

SWALES TO BE MAINTAINED BY OWNER SUCH THAT THEY FUNCTIONS AS INTENDED. SWALES TO BE MAINTAINED CLEAR OF OBSTRUCTIONS



SWALE DETAIL (TYP.) 1/07
SCALE: 1:20

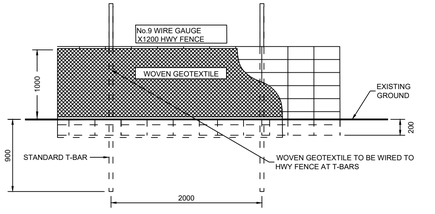
INFILTRATION SWALES TO BE MAINTAINED BY OWNER SUCH THAT THEY FUNCTIONS AS INTENDED. SWALES TO BE MAINTAINED CLEAR OF OBSTRUCTIONS



PROPOSED INFILTRATION SWALE 2/07
SCALE: 1:20

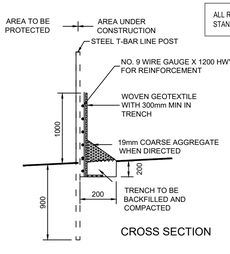
FILTER MEDIA NOTES

1. SOIL MIXTURE TO CONTAIN:
   - 85 - 88% SAND
   - 8 - 12% SOIL FINES
   - 3 - 5% ORGANIC MATTER (LEAF COMPOST)
2. PHOSPHORUS SOIL TEST INDEX (P-INDEX) VALUE: 10-30 ppm
3. CATIONIC EXCHANGE CAPACITY : GRATER THAN 10 meq/100g
4. FILTER MEDIA FREE OF STONES, STUMPS, ROOTS AND OTHER LARGE DEBRIS
5. pH: 5.5 TO 7.5



ELEVATION

ALL REFERENCES TO WOVEN GEOTEXTILE IN THE TOWN OF CALEDON STANDARD 304 TO BE REPLACE WITH NON-WOVEN GEOTEXTILE



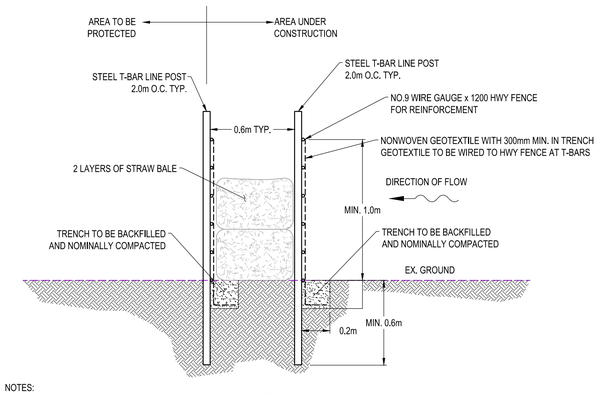
CROSS SECTION

NOTES:

1. WOVEN GEOTEXTILE TO HAVE A WEAVE DENSITY OF 270R OR EQUIVALENT
2. WOVEN GEOTEXTILE TO HAVE A HORIZONTAL OVERLAP OF 1000mm AT JOINTS.
3. END RUNS SHALL BE TURNED UPSTREAM AT 30°

NO.	REVISION	APR'D	DATE
2	NAME CHANGED, STANDARD No. 325.01 NOW 304		JUNE 08
1	SUPPORT FENCING CHANGED TO HWY FENCE		Oct 02

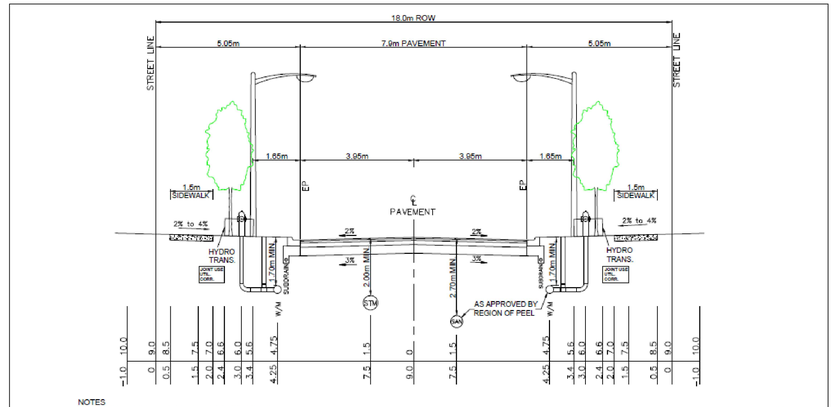
TOWN OF CALEDON	APR'D: C.C.	DATE: APRIL 2000
SEDIMENT CONTROL FENCE	DRAWN: BJM	SCALE: N.T.S.
	STANDARD No. 304	



NOTES:

1. NONWOVEN GEOTEXTILE TO HAVE A HORIZONTAL OVERLAP OF 1000mm AT JOINTS.
2. END RUNS SHALL BE TURNED UPSTREAM AT 30°.
3. STRAW BALES TO BE PLACED CONTINUOUSLY END TO END BETWEEN SEDIMENT CONTROL FENCE.

DOUBLE SEDIMENT CONTROL FENCE WITH STRAW BALES (TYP.) 3/08
SCALE: NTS



NOTES

1. WATERMAIN TO HAVE MINIMUM COVER OF 1.7m.
2. UTILITY CORRIDOR TO HAVE A MINIMUM COVER OF 0.9m.
3. TREES TO BE PLACED IN LOCATIONS PER APPROVED LANDSCAPE PLAN.
4. STREETLIGHT FIXTURE PER APPROVED TOWN STANDARD.
5. THE FOLLOWING IS A MINIMUM ROAD BASE AND WILL REQUIRE A SOILS REPORT VERIFICATION
   - 40 mm HL3
   - 55 mm HL8
   - 150 mm GRANULAR "A"
   - 300 mm GRANULAR "B"
6. THE BOULEVARDS REQUIRE A MINIMUM OF 300mm OF TOPSOIL AND NURSERY SOD.
7. ON A CRESCENT THE WATERMAIN SHALL BE PLACED ON THE OUTSIDE.
8. FULL LENGTH MINIMUM 100 MM DIA.SUB-DRAINS C/W FILTERCLOTH SHALL BE INSTALLED, AS PER APPROVED TOWN OF CALEDON STANDARD NO. 219.
9. SUB-GRADE SHALL BE COMPACTED TO A MINIMUM 95% OF S.P.D. AT OPTIMUM MOISTURE CONTENT.
10. WHERE POSSIBLE MANHOLE LIDS TO BE LOCATED OUT OF TIRE LANE OF TRAFFIC.
11. LONG DIMENSION OF TRANSFORMER TO BE PARALLEL TO STREETLINE.

TOWN OF CALEDON	4	TEXT AND SLOPE REVISIONS		MAY 19	APR'D: C.C. DATE: JUNE 08
	3	DIMENSION AND TEXT REVISION		JAN. 09	
18.0m LOCAL ROAD	2	DIMENSION AND LAYOUT REVISION		JULY 08	DRAWN: SCALE: N.T.S.
8.5m ROADWAY (7.9m PAVEMENT)	1	DIMENSION EDIT		JUNE 08	STANDARD No. 202
	NO.	REVISION	APR'D	DATE	

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DESIGNED BY	APPROVED BY

N°	Date	Revisions	Dwn.	Dsg'd.	Chk'd.
1	17/JAN/2025	SECOND SUBMISSION	AAF	AAF	RJW
0	26/JAN/2024	DPA APPLICATION	AAF	AAF	RJW

Client:

STELLAR HOMES INC.

Project Name:

STELLAR ESTATES PHASE 2
MULLOY COURT, TOWN OF CALEDON

Title Name:

CONSTRUCTION DETAILS

Drawing N°:	Sheet N°:	Rev. N°:
22-3001-09	9 OF 9	1
	Scale: AS NOTED	