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Documents Reviewed:				Stormwater Management and Functional Servicing Report, A.M. Candaras Associates Inc., September 14, 2019		Documents Reviewed:	
						<ul style="list-style-type: none"> Stormwater Management and Functional Servicing Report for Shore Acres Drive Residential Development for North Town Developments, Town of Innisfil (Gilford) Date: August 15th, 2019 Rev: Nov 13th, 2020; prepared by a.m. Candaras Associates Inc. Floodplain Modification Report for Shore Acres Drive Gilford Residential Subdivision, Town of Innisfil, County of Simcoe; dated September 16, 2019, Rev. May 28, 2020; prepared by a.m. Candaras Associates Inc. Associated hydrologic and hydraulic models. 	
Natural Hazards							
E1	General	4		<p>The requirements concerning the natural hazards have not been fully addressed. The Floodplain Modification Report, dated Sept. 16, 2019, prepared by A.M. Candaras Associates; has not been approved yet.</p> <p>Please provide an updated Floodplain Modification Report, including the HEC-RAS model, associated drawings, and a Comment Response Matrix. The report should be a stand-alone copy or a self-contained appendix within the SWM Report.</p> <p>Please refer to the Lake Simcoe Region Conservation Authority (LSRCA) Technical Guidelines for SWM Submissions (2016), as well as LSRCA Guidelines for the Implementation of Ontario Regulation 179/06, April 24, 2015.</p>	An updated Floodplain Modification Report (FMR), HEC-RAS model and drawings was submitted for the LSRCA review, with the revision date of May 28, 2020. The Applicant Responses herein with regard to the FMR, will be in reference to the May 28, 2020 report.	<p>Partially addressed.</p> <p>Please address the comments provided below concerning the Floodplain Modification Report and associated hydraulic models.</p>	
E2	General			Confirm that the natural heritage requirements with respect to the development setbacks have been addressed.			
E3	General			Confirm that the key hydrogeologic requirements that may affect the proposed drainage pattern, setbacks, as well as development density (e.g. level of imperviousness) have been addressed.			
E4	General			Please update respective drawings and figures as applicable.	Acknowledged.		
	Figure 6	4		Floodplain / 'Cut & Fill' Analysis			
E5	General			Hydraulic modelling and analysis, including digital files, should be completed as per minimum requirements identified in Appendices C, I and K of the LSRCA SWM Guidelines.	The hydraulic modelling and analysis was completed as per the LSRCA SWM Guideline Appendices.	Please refer to the comments concerning the 'cut & fill' and hydraulic analysis provided below.	
E6	General			Survey and floodplain mapping should be completed as per minimum requirements outlined in Appendix K of the LSRCA SWM Guidelines.	The floodplain mapping was completed as per the LSRCA SWM Guideline Appendices.	Partially addressed. Please refer to applicable comments.	
E7				Demonstrate that the proposed work will not impacts the	Refer to Appendix B and Plan F1 in the FMR.	Addressed for the purpose of the Draft Plan approval	



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				adjacent properties.	They demonstrate that the post-development floodplain does not impact the adjacent properties.	process. Please address potential impacts on the downstream properties, i.e. verify floodplain analysis, remove ineffective flow areas.	
E8	All			Show Regulatory and 100-year floodlines under existing and proposed conditions, including water elevations at representative HEC-RAS sections.	The Regulatory floodline is shown as described, the 100-year floodline will be added.	SWM Report: To be addressed at the detailed design stage. Floodplain Modification Report: Please include the 100-year floodline on respective drawings.	
E9	All			Identify the natural hazard limits, environmental buffers, and respective setbacks.	Refer to Plan F1 within the FMR.	Addressed.	
E10	General			<p>Minor modifications of the floodplain area within the subject property ('cut & fill' balance) have been identified during consultations with LSRCA. As per comment above, please provide the updated Floodplain Modifications Report documenting detailed 'cut & fill' analysis.</p> <p>Please ensure that the analysis is well documented. I.e.:</p> <ol style="list-style-type: none"> 1. Identify setbacks from the adjacent properties, environmental protection areas and their buffers. 2. Show the extents of the 'cut' and fill' areas. 3. Show depths of 'cut & fill' and include respective volume calculations on an incremental basis. 4. Show cross-sections used in the analysis, as well as the existing HEC-RAS sections. 5. Identify seasonal high groundwater levels. 6. Include survey information – LSRCA will require a detailed survey plan upon the approval. 7. Provide other supportive information, as applicable. 	Refer to Plan F1 for details. The seasonal high groundwater levels and survey information will be added.	<ol style="list-style-type: none"> 1. Addressed. 2. Addressed. 3. Partially Addressed. Further discussion is required concerning ineffective areas identified on the drawings and potential updates to the volume estimates. 4. Addressed. 5. Not addressed. Pending information. 6. Partially Addressed. Please include OLS Surveyor Name and contact information on respective drawing, as applicable. 	
HEC-Ras Model / Hydraulic Analysis (refer also to comment E5 above)							
E11	General			<ol style="list-style-type: none"> 1. Document changes to the original HEC-RAS model, i.e. identify surveyed cross-sections (existing and proposed conditions), changes to the key parameters (e.g. the channel / floodplain lengths, Manning's 'n' values). 2. Show HEC-RAS cross-sections on respective drawings and figures. 3. Document the boundary conditions under the existing and proposed scenario. 4. Verify the travel time and or velocities under the proposed conditions. Provide an overview of the results, including a summary table. 5. Provide a summary of the road crossing information: HEC-RAS model vs. surveyed information. 6. Identify spill boundary conditions, e.g. levees, flows, 	<ol style="list-style-type: none"> 1. Refer to Section 2.0 in the FMR. 2. Refer to Plan F1 in the FMR. 3. Boundary conditions were unchanged from LSRCA provided model, the conditions will be stated in the report. 4. Refer to Section 3.3.2 in the FMR and Tables 3, 4, 5 & 6. 5. A HEC-RAS Section of the HEC-RAS model vs. the surveyed information will be provided. 6. Refer to Table 1 in the FMR. 7. Culvert summary table outputs will be provided. 	<ol style="list-style-type: none"> 1. Addressed. 2. Addressed. 3. Addressed. 4. Addressed. 5. Not addressed. (Grading plan information used to verify the model information.) 6. Partially Addressed. Additional analysis is required to address an increase in water levels at the downstream property boundary. 7. As per comment 6 above. 	



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				elevations, depths, directions under existing and proposed conditions. 7. Document culvert operation (summary tables).			
				Stormwater Management Concept			
E12	General			<ol style="list-style-type: none"> 1. Demonstrate that the sufficient outlet criteria can be met for both minor and major system (e.g. conveyance capacity, easement). 2. Provide supportive hydro-geotechnical information to verify feasibility of the proposed SWM facilities. 3. Confirm the Operation and Maintenance requirements related to an interceptor swale (e.g. easement, setback) 4. Verify the SWM quantity and quality controls as per comments below. Please be advised that the lot layout (e.g. Lot 12) may be subject to change should feasibility of the proposed SWM plan cannot be verified. 	<ol style="list-style-type: none"> 1. design sheets were provided in the SWM/FSR of May 29th. 2. Groundwater levels were provided in the SWM/FSR appendices and indicated on the respective drawings/sections. 3. Its a swale not an LID, it will function naturally and send the water to the woodlot rather than the adjacent property rear of the development. 4. The SWM pond works, calculations have been provided within the SWM/FSR. 	<ol style="list-style-type: none"> 1. Addressed for the purpose of the Draft Plan approval. All applicable comments to be addressed at the detailed design stage, including any potential design updates. 2. Partially addressed. Note that the infiltration facilities on the private properties are currently not supported. However, as per discussions with the Town / LSRCA, other opportunities should be explored at the detailed design stage (e.g. park / SWM pond block, conveyance system). 3. Addressed. 4. Addressed for the purpose of the Draft Plan approval process. Relevant comments provided below and or future design updates to be addressed at the detailed design stage. 	
E13	Outlet 1			<p>Gilford Creek Tributary (south-east corner of the property):</p> <ol style="list-style-type: none"> 1. Demonstrate safe flow conveyance. Woodlot / wetland assessment with respect to storage capacity and flow discharges onto existing vs. adjacent property is required. Potential easement (e.g. blanket easement) should be examined. <p>Please note that the landowner authorization is required to address any changes to exiting flow pattern, peak and flow volumes.</p> <ol style="list-style-type: none"> 2. Confirm feasibility of maintaining the recharge rates. Subject to approval by LSRCA hydrogeologist. 	<ol style="list-style-type: none"> 1. Post vs Pre table have been provided within the SWM report. 2. The geo.tech report completed by terraprobe confirmed that existing water balance levels will be maintained. 	<ol style="list-style-type: none"> 1. Addressed. Substantial reduction in the pre-development flows to this location to alleviate exiting drainage concerns, as identified by the Town. 2. Subject to further review and approval by LSRCA hydrogeologist (detailed design stage). 	
E14	Outlet 2			<p>White Birch Creek (north-west corner of the property):</p> <p>Confirm that the natural heritage and hydrogeologic requirements have been addressed at this location, as applicable to this design stage.</p>	Refer to Terraprobe and Azimuth reports	Subject to approval by LSRCA ecologist and hydrogeologist.	
SWM Report							
E16	General			Please refer to Appendix A of the LSRCA SWM Guidelines to ensure that the new submission adheres to the LSRCA requirements.	All LSRCA design requirements have been adhered to in the May 28/20 submitted report	Please address any outstanding comments and update the report at the detailed design, as applicable.	
E17	General			Provide a digital copy of the submission.	A digital copy has been submitted	Addressed.	
E18				Correct page order (Page 20, 21).	Corrected	Addressed.	
E19		1		The report indicates that the land has not been cultivated	It has been cultivated up until last year. Owner	Addressed.	



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				for number of years. Please verify the land use classification. It appears that hay-pasture / unimproved lands would be more representative than row crops.	was not aware of the ongoing farming.		
E20		1, 2.1, Appendix A	4, 5	Verify land use classification: contour crop vs. hay-pasture. The report indicates that the land has been uncultivated for many years. Associated hydrologic parameters (e.g. CN), including phosphorus export coefficients should reflect confirmed land use category (e.g. Area / catchment 102).	See above comment response.	Addressed.	
E21		2		Include a reference to Gilford Creek (Outlet 1) as a receiving system and its respective ID. Identify the key concerns and requirements at each outlet.	Please clarify.	Addressed.	
E22		2.1		Include a summary of the rainfall data used in the analysis, including the source information.	Rainfall data is from the Town of Innisfil SWM design guidelines. Will add Infill table reference.	Partially addressed. Please include the requested information (detailed design).	
E23		2.2		Include a figure / drawing showing regulated areas.	Refer to planning. Include LSRCA regulated print off.	Noted.	
E24		2.1, 2.2, Appendix A		Consistent with LSRCA guidelines, please use CN* method in the hydrologic analysis (SWMHYMO model).	This has been completed and the previous SWM facility design submitted in May works with the revised CN*	Noted. Use of the CN method in the final design has been confirmed through the discussions with the Town.	
E25		2.1	5	Please include initial abstraction parameters for all applicable land uses.	IA's have been used as per LSRCA guidelines. Can be included in the appendices. Town currently reviewing SWMHYMO output and can confirm correct IA's were used. Will include reference to LSRCA IA Table.	Partially addressed. Please use consistent data (text vs. hydrologic model) and provide a summary of applicable parameters.	
E26	Figure 2	2.2	5, 6	Discretize catchment 100 (existing conditions) to account for future drainage to a rear-yard interceptor swale and to better reflect current drainage conditions (slope, flow path). Please verify a total area of catchment 100. Table 1A (Notes) indicates 7.87 ha while Figure 2 shows 7.93 ha.	Please clarify The catchment area has been revised on previous submission	Addressed. Catchment 100 could better reflect the proposed drainage diversion (i.e. consistent with catchment 502), hence the catchment hydrologic parameters.	
E27		2.2, 3.2		Approximately 6.2 ha of the site (~45%) is proposed to be diverted away from the Gilford Creek to the White Birch Creek. Please note that LSRCA generally does not support significant changes in drainage boundaries. Therefore, the proposed drainage pattern is subject to the natural heritage and hydrogeological requirements, as well as verification of the sufficient outlet via Shore Acres Drive. Please include any additional information based on previous consultations with LSRCA.	Multiple consultations with the Town engineering staff were undertaken and under the direction of the Town, it was requested that the flows be diverted due the flooding the residents experience. The rerouted flows will be discharging directly to Lake Simcoe and will not adversely affect any other residents.	Addressed for the purpose of the Draft Plan approval process. Any outstanding comments to be addressed at the detailed design stage.	
E28		2.2	6	Table 1C: Include pre-development flows at this location and or required release rates (subject to the Town's approval).	There are no pre-development flows.	Noted. Please include in a table the uncontrolled flows (outlet 3) and provide a summary table documenting drainage areas and flows between outlet 3 and the outlet to the White Birch Creek (Figure 4, 5).	



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E29		2.2		Include a summary of the flows required to maintain the hydrologic functions of the woodlot / wetland, subject to approval by LSRCA hydrogeologist. This is to verify surface and or subsurface (infiltration) design options.	Refer to Terraprobe report.	Subject to review and approval by LSRCA ecologist and hydrogeologist. Design details to be addressed during the detailed design stage.	
E30		3.1	8	Please include specific design criteria and reference respective documents demonstrating within the report how each requirement has been addressed. Please refer to Section 2 of the LSRCA SWM Technical Guidelines (2016), as well as the Town's Comprehensive Stormwater Management Master Plan (e.g. Section 10.2.8), 2016.	Refer to previous responses regarding SWM strategy in consultation with the Town.	Update the Design Criteria Section to include the controls required at outlet 3 and verify the date of the Town's Standards used in the design.	
E31		3.2	9	Confirm the seasonal high groundwater levels along the proposed rear-yard interceptor swale and demonstrate that the SWM criteria have been met (e.g. vertical separation, conveyance capacity, setbacks).	Not an enhanced vegetated swale. Strictly a conveyance system. Separations to not apply.	Addressed.	
E32		3.2	9	Identify maintenance access to the interceptor swale.	It is a typical rear yard swale, it does not need access.	Addressed.	
E33		3.3 Appendix A	10	Verify the TIMP values and provide summary calculations for all catchments. The Town's comments indicate that the percent impervious should be more conservative and reflect a higher lot coverage (e.g. 35%). The pervious area shown on a typical lot layout (SWMHYMO Impervious Calculations) appears to be marked incorrectly. Please update.	TIMP values have been updated and included in May 2020 submission.	Addressed.	
E34		3.4	10	Correct an unfinished sentence / paragraph.	Revised in previously submitted May 2020 report.	Addressed.	
E35		3.4		Verify the quantity controls based on the overall comments and updates. Additional measures upstream of the pond (e.g. within the ROW) or a larger SWM pond block may be required to address the proposed overcontrols to ensure safe flow conveyance.	All flow controls works in previously submitted report (May 2020)	Addressed for the purpose of the Draft Plan approval process. The detailed design to incorporate all applicable comments.	
E36		3.4	10	Confirm if additional quantity control storage is proposed over the infiltration facility. It appears that currently the infiltration facility is represented in the SWMHYMO model by a 'route reservoir' with additional storage.	Infiltration facility is not accounted for in the stage/storage.	Not applicable due to the design change (removal of the infiltration facility).	
E37		3.4 Appendix A	10, 12	Update the stage-storage-discharge curve (report/ SWMHYMO model) to reflect operation of the two separate facilities (wetland, infiltration facility) and their respective control requirements. It appears that the infiltration facility is included in the active storage calculations of the wetland facility. Please verify outlet operation (e.g. orifice controls) as per overall updates.	See above comment	Addressed.	



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E38		3.4 Appendix A		Demonstrate safe conveyance from the SWM pond via the infiltration facility. Include a typical cross-section. Confirm grades along the boundary with Lot 12.	Design has been revised and submitted to LSRCA and Town prior to receiving this comment and has already been addressed.	Addressed.	
E39				<p>Please provide hydro-geotechnical recommendations for the SWM facilities, including verification of a minimum setback from the adjacent properties.</p> <p>As per past hydrogeological recommendations, a 0.50 m separation between the invert of the bottom of the SWM pond or ditches /swales is required to ensure their proper operation. Please include the seasonal high groundwater information on respective drawings to demonstrate feasibility.</p>	<p>Please clarify.</p> <p>SWM wetland does not drain to the ditch, it is directly piped to lake simcoe</p>	As a result of the design change this comment is not applicable.	
E40				As currently proposed, the infiltration facility is not feasible due to insufficient separation from seasonally high groundwater level (SHGWL). Groundwater measurements in proximity of the proposed infiltration facility (BH 13) indicate levels as high as 222.9 m (April 5, 2019). A bottom of the facility is set at 223.6 m which results in less than a 1 m separation. Please confirm SHGWLs. Note that filtration options may be considered in addition to on-site infiltration. Demonstrate feasibility of any proposed infiltration facility, including its footprint, setback, volume and a 24 to 48-hour drawdown time requirements. Provide a typical cross-section of the proposed LID facility, including the SHGWL.	<p>0.7m is provided and the water being infiltrated is clean water.</p> <p>Drain down times were provided on previously submitted report (may 2020)</p>	It appears that the infiltration facility has been removed from the design. Any other infiltration facilities, i.e. to address the volume control requirements, to be addressed at the detailed design stage.	
E41				Confirm if the rear-yard swale design includes the LID components (e.g. enhanced swale, shallow infiltration trench). Please note that the LID facilities must be discontinuous between properties or are to be located on public land.	The rear yard swale is not for LID purposes, strictly conveyance.	Addressed.	
E42		3.5	11	Please address volume control as part of the quantity control requirements and consistent with Section 2.2.2 of the LSRCA SWM Guidelines. Note that the required storage should reflect the 25 mm control target based on the total impervious area.	25mm volume control has been provided in section 3.3.2 of previously submitted report, may 2020	Partially addressed. As per earlier comments, the volume control-based design needs to be revisited at the detailed design stage.	
E43		3.5	10	Please integrate verified SHGWL into the SWM plan, as applicable. The water balance requirements are subject to approval by LSRCA hydrogeologist.	SHGWL have been incorporated into the SWM design	As per applicable comments, the design to be verified at the detailed design stage.	
E44		3.5.1	11	Please address the drawdown time design criteria (MOE) and include this section under the quantity controls.	<p>Refer to section 3.3.2.1</p> <p>The MOE equation does not apply to this case. As the equation includes an orifice and the 25mm event is infiltrated into the ground.</p>	Partially addressed. Please confirm that a safety factor has been used in the calculations.	
E45		3.6	13	Verify spillway design / safe flow conveyance during the 100-year storm. The report indicates a 1 m-wide weir while the	Spillway design revised and can convey 100yr and regional event, refer to may 2020 report	Addressed.	



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				SWMHYMO model indicates 1.5 m-wide weir. Consistent with the LSRCA SWM Guidelines, the emergency spillway design needs to allow for safe conveyance of the 100-year uncontrolled design flows.			
E46	Figure 4	3.6.2	14	Verify discharges at the north-east outlet (Outlet #3). The SWMHYMO model, figure 4 and the report indicate various values during the 100-year event.	Outflows have been revised on previously submitted report.	As per applicable comments, the design to be verified at the detailed design stage.	
E47		3.7	16	Verify the water quality volume requirements based on verified TIMP values. Include more conservative impervious area to account for potential auxiliary impervious areas (patios, swimming pools).	A timp of 43% has been used and implemented the SWM design	Addressed.	
E48		3.8	18	Complete the preliminary TP budget for the entire site.	Refer to section 3.4.2 The total phosphorus was based on the total developed site. We do not see the point in calculating based on areas that will remain undeveloped.	Partially addressed. Update the TP budget calculations as per relevant comments and provide calculations in support of TP reduction. The report section still refers to an infiltration facility downstream of the wetland.	
E49		3.8	18	Verify land uses (hay-pasture vs. contour crop) and update the preliminary calculations.	It is ROW Crop, hay pasture was referred to incorrectly.	Addressed.	
E50		3.8	18-19	Confirm proposed LID facilities and their operation (e.g. infiltration vs. filtration) and verify TP removal efficiencies.	An infiltration facility is being used for volume control and phosphorus removal. The entire NET 25mm is being infiltrated.	Update the TP budget as per relevant comments.	
	Figure 3, 4	Appendix A		Hydrologic modelling - SWMHYMO Model			
E51				Provide the existing conditions model.	Can be provided in next submission. Was provided to Town already.	Addressed. Input / output files have been provided. Please address the following at the detailed design stage: 1. Use consistent number of reservoirs in modelling (3 vs. 4) 2. Show catchment 202, 203, 204, 205 on respective figure(s). 3. Use consistent parameters, e.g. CN=48 vs. CN=44 (outlet 2). 4. Verify catchment slopes (e.g. 500) and lengths. 5. Verify IA and CN values applied to the woodlot areas. 6. Verify parameters for catchment 102, e.g. IA should reflect the floodplain area.	
E52				Ensure consistent references between the report and the SWMHYMO model, e.g. outlet numbering / locations.	Updated on previous (May 2020) submitted report.	Addressed.	
E53				Update catchment IDs. There are two catchments #501. The catchments can be combined unless the LIDs are proposed within the right-of-way area. The TIMP value should be verified for a combined catchment.	Revised on previous submission	Addressed.	
E54				Confirm the catchment lengths (pervious / impervious). It	The travel length has been revised to 64m	Addressed.	



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				appears that a default value (40 m) is used for the pervious areas.	based on an average lot depth.		
E55				Confirm area of catchment 500 has (1.86 ha vs. 1.42 ha). Catchment 500 and 506 can be combined unless the LIDs are proposed within the right-of-way area. The TIMP value should be verified for a combined catchment.	500 & 506 have been combined.	Addressed.	
E56				Verify slope and length of pervious area for catchment 500.	Catchment area has been revised and combined per Town request	Addressed.	
E57				Verify a total area to the wetland facility.	7.15ha	Addressed.	
E58		Appendix B		Please provide a digital copy of the Hydrogeological study dated July 12, 2019 and or its latest version. The excerpts of the report do not include recommendations concerning the proposed SWM facilities. Please include a key map showing SHGWs levels within the site and its perimeters, where applicable.	Refer to geo.tech consultant	Acknowledged.	
E59		Appendix B		Please note that if dewatering is required, a dewatering plan must be provided to LSRCA for review and approval at detailed design stage. However, sufficient details should be provided to identify potential impacts, if any.	Refer to geo.tech	Acknowledged. To be addressed at the detailed design stage.	
Drawings / Figures							
E60	All			All drawings should be stamped and signed.	Acknowledged and were part of the stamped and signed report.	The SWM Report is to be signed and sealed by a Professional Engineer. Currently, only engineering drawings included in the report are signed and sealed.	
E61	All			Provide consistent labels.	Acknowledged	To be addressed / verified at the detailed design stage.	
E62	All			Include adjacent street and creek names.	Acknowledged		
E63	All			Include a legend, as applicable.	Acknowledged		
E64	All			On applicable drawings / figures, show limits of the development and LSRCA regulated areas, including respective setbacks with their values.	Acknowledged		
E65	All			Where applicable, show representative HEC-RAS sections with existing and proposed water elevations for both events.	Acknowledged		
E66	All			Revise Open Space to Environmental Protection Block on respective drawings.	Acknowledged		
E67	All			Include SHGWs at the key locations, i.e. SWM facilities.	Acknowledged		
E68	G1			Include survey information.	Acknowledged		
E69	G1			Include data of the Shore Acres Drive culvert.	Acknowledged		
E70	G1			Include design water levels and verify freeboard during the 100-year event.	Acknowledged		
E71	G1			Confirm a drainage outlet for rear-yard runoff from lot 1, 2, 22 and 23.	Acknowledged		
E72	G1			Verify rear-yard flow conveyance across the adjacent property for lot 3,4, 20 and 21. Subject to the Town's approval.	Acknowledged		
E73	G1, G2, G3			Provide a typical cross-section of an easement with the interceptor swale, including a minimum setback from the	Will provide. There is no easement		



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				south property boundary. Confirm separation requirements with respect to an existing ditch.			
E74	G1, G2, G3			Confirm if raised septic beds are proposed and confirm a minimum setback from an interceptor swale / easement at the south property boundary.	Not raised beds	Addressed.	
E75	G2			Identify emergency spillway(s) and include respective cross-section(s).	included	Addressed (Drawing C1).	
E76	G2			Update the overall outlet control structure(s) to include control details (e.g. orifice, weir) and to account for the Town's requirements (e.g. perforated riser pipe inlet structure).	Not applicable,	Addressed.	
E77	G2			Update the maintenance access road to meet LSRCA and Town's requirements.	Already updated	Addressed.	
E78	G2, G3			Identify a minimum setback between the infiltration / filtration facility and the property boundary.	Will provide dimension from property.	Not applicable due to removal of the infiltration facility.	
E79	G2, G3			Show a maintenance access road to the interceptor swale.	Not required. Strictly conveyance rear yard swale.	Acknowledged.	
E80	G2, G3			Include a SHGWs (pond, infiltration facility). Update a 'Typical Infiltration Trench Section' (G3), as required. Include corresponding design event for the emergency data (e.g. WL, flow). Note: 'Top of pond' elevation is repeated twice.	Will revised to show 0.7m separation	Not applicable due to removal of the infiltration facility.	
E81	G3			Clearly identify catchment boundary (Area=3.24 ha).	identified	Addressed.	
E82	G3		12	Update the wetland design to meet the freeboard criteria. A 0.3m freeboard is required above the maximum active storage of a SWM pond to the top of the pond berm. Identify 100-year vs. Regulatory WL to address LSRCA and Town's freeboard requirements. Emergency outflow provided on the drawing (89 l/s) does not agree with the flows listed in the stage-storage-discharge table.	0.3m freeboard has been provided on may 2020 submission	Addressed.	
E84	G4, G5			Include a cross-section for the major flow conveyance to verify overland conveyance capacity, e.g. overflows / emergency spills.	Will be included on detailed design	Acknowledged.	
E85	G5			It appears that a roadside ditch / swale along Everton Street is being regraded to accommodate a stormwater pipe. Please consider a dual drainage to maintain surface drainage to the greatest extent possible (subject to the Town's approval).	Already been discussed with the town.	Please confirm that there is no flow contribution to the proposed conveyance system from the area east of Everton Drive.	
E86	ESC			Erosion and Sediment Control as per Section 2.6. (Drawings to be provided at the detailed design stage).	noted		
E87				A consultation meeting is suggested with LSRCA and the Town's staff once the comments have been addressed.	noted	Additional comments may be provided at the detailed design stage, subject to any additional design changes, as well as report / drawing updates.	
RESUBMISSION REQUIREMENTS: 1. A completed matrix which includes a detailed response outlining how each of the comments above have been addressed with reference to applicable reports / drawings (i.e. specific sections / pages / details or tab identifiers).							



LSRCA THIRD SUBMISSION ENGINEERING REVIEW

1291 Shore Acres Dr – Innisfil (APID310354)

December 9, 2020

#	Report/ Drawing	Section	Pg#	LSRCA COMMENT (June 5, 2020)	APPLICANT RESPONSE (Nov. 13, 2020)	LSRCA COMMENT (Dec. 9, 2020)	APPLICANT RESPONSE (XXX)
				<p>The matrix shall also include a summary of any additional changes to the design (i.e. in addition to those not identified in the detailed response to comments, and includes changes to reports, drawings, details, facility design, etc.).</p> <p>2. All drawings are to be folded (8.5 x 11). Currently not applicable.</p> <p>3. Reports and engineering drawings / details are to be signed and sealed by a Professional Engineer.</p> <p>4. Reports are to include a digital copy of applicable models on a Data CD or USB Thumb Drive.</p> <p>All submissions / reports are to include applicable technical components which achieve the minimum requirements outlined in the LSRCA Technical Guidelines for Stormwater Management Submissions, September 2016.</p>			
				<p>Important Notes and References:</p> <ol style="list-style-type: none">1. Please contact the LSRCA to scope any required Environmental Impact Study or Natural Heritage Evaluation2. The stormwater management submission is required to be prepared in accordance with “LSRCA Technical Guidelines for SWM Submissions” https://www.lsrca.on.ca/Shared%20Documents/permits/swm_guidelines.pdf3. Submissions are to be in accordance with the LSRCA Watershed Development Guidelines https://www.lsrca.on.ca/Shared%20Documents/permits/watershed-development-guidelines.pdf?pdf=Watershed-Development-Guidelines4. The hydrogeological analysis is required to be prepared in accordance with “Hydrogeological Assessment Submissions: Conservation Authority Guidelines for Development Applications” https://www.lsrca.on.ca/Shared%20Documents/permits/hydrogeological%20_guidelines.pdf?pdf=Hydrogeological-Guidelines5. Where the LSPOP applies, submissions are to be in accordance with the LSPOP found here: https://www.lsrca.on.ca/watershed-health/phosphorus6. Low Impact Development Treatment Train Tool can be found here: https://www.lsrca.on.ca/Pages/LIDTTTool.aspx7. LSRCA Review Fees can be found here: https://www.lsrca.on.ca/permits/permit-fees			