APPENDIX A - SRPI.20.007

Richmond Hill

COMMENTS

PLANNING AND REGULATORY SERVICES DEPARTMENT
DEVELOPMENT ENGINEERING DIVISION

July 22, 2020

MEMO TO: Doris Cheng, Senior Planner

FROM: Paul Guerreiro, Manager of Development Engineering - Site Plans

SUBJECT: **Circulation of Site Plan Application – Submission #2**
D06-18030 (Site Plan) Related File: D06-18031
LESLIE RICHMOND DEVELOPMENTS LIMITED
1521 19TH AVE.

The Development Engineering Division has reviewed the above noted application.
The applicant/consultant shall confirm that all comments noted below have been addressed by ensuring each box is checked off, initialed and included with the next submission.

Transportation and Traffic - Please contact Jason Dahl, Transportation Engineer at (905) 771-2478 if you have any questions or concerns.

Comment to follow.

Lighting - Please contact Rob Cowie, Senior Traffic Analyst at (905) 747-6455 if you have any questions or concerns.

Comment to follow.

Hydrogeological - Please contact Jeff Walters, Manager of Stormwater Management & Subdivision at (905) 747-6380 if you have any questions or concerns.

Comments provide by Colin Alston P. Eng

We have been provided with a set of drawings prepared by DSEL, Project No. 17-925, Drawing Nos. 3 through 43A for review of geotechnical design aspects. My comments are given below.

The provided drawing set does not include the sheet (Drawing No. 2) showing General Notes. In this regard, it is noted that aspects of geotechnical design have been addressed by both Shad and Associates, and Soil Engineers. The documents prepared by Soil Engineers do not address matters of construction. Clarification of reliance on subsurface data is required.

With regard to control of groundwater levels in the course of construction, the geotechnical report by Shad and Associates recommends that the water level along trench alignments be set at a depth of not less than 0.8 m below trench invert. This recommendation is not addressed by Soil Engineers or by R.J.Burnside and Associates. If the Shad and Associates report is regarded as having merit, this recommendation should be shown on the relevant drawings.

The drawings for the SWM pond show a 0.5 m thick "Sand and Granular B" (it is not noted if the material is Granular B - Type 1 or - Type 2) blanket which is sandwiched between the underside of the compacted clay pond liner and the native soil exposed in the base of excavation. Borehole data reported on the drawings indicate that the native soil consists of "sandy silt till". The following items are required to make the drawings complete:

-specification for gradation of the "Sand and Granular B" material;
-demonstration that the granular material used to construct the granular blanket meets filtration criteria to restrain movement of soil particles from the underlying native soil into the granular blanket, or if a layered blanket may be required the meet filtration criteria;
-confirmation from the Specialist Hydrogeologist that the permeability characteristics of the specified granular material are appropriate for the design spacing of the drain pipes which will be included in the drainage layer, and the layer thickness.

The drawings show that the riprap surfacing to the liner will lie on a sheet of Terrafix 270R non-woven geotextile. The Manufacturer's description of this material is that it is a "Lightweight geotextile". The Design Team should provide confirmation that the material specification meets the project requirements for durability and survivability with respect to the covering riprap stone.

The specification for the sand filter annulus in the sandwicks is that this material has a uniformity coefficient of about 1 to 2 however, there is no specification given for gradation. The sandwick design should provide a specification for the gradation of the silica sand material which will ensure that the sand is not subject to clogging as a result of invasion of soil particles from the enclosing native soils.

Notes given on the drawings for the SWM Pond show that the Geotechnical Engineer and the Specialist Hydrogeologist will provide monitoring of the elevation of the base of the pond excavation. A description of the monitoring program is required.

The specification given on the drawings for the clay liner shows: the thickness of the lifts of loose soil to be used in the course of construction, the degree of compaction of the completed liner and the placement water content. However, that specification does not include the permeability requirement. It is necessary that the permeability criterion is specified. Also, the methodology that the geotechnical engineer will adopt to ensure that the liner meets permeability requirements should be provided.

A note given on the drawings requires that the Contractor is to produce and provide shop drawings of the Pond subdrain layer for review prior to construction. This requirement indicates that the design of the drainage layout shown on the set of drawings by DSEL is subject to change and is not final; kindly clarify.

Recognizing the dependence of the design of the SWM Pond on geotechnical and hydrogeological aspects. The final drawings should be accompanied by or include a signed and sealed endorsement of the designs by the respective Specialist Consultants.

Servicing, Grading, Storm Water Management & ESC - Please contact Rob Nicoll, Project Coordinator at (905) 771-5457 if you have any questions or concerns.

Sustainability Metric

Initial

_____ ☐ Sustainability Metrics prepared by applicant dated June 18, 2020 was reviewed. The mandatory 5mm run-off retention has not been demonstrated, see SWM comments below.

Grading, Servicing & ESC

Initial

_____ ☐ The Grading Plan should be of sufficient scale to allow for the grading detail required for a Site Plan submission. The Grading Plan is to include, but not be limited to:

- Elevations at all building corners
- Entrance locations, riser location and riser count
- Walkway drainage direction and slope.
- Finished floor, basement floor, underside of footing elevations and top of foundation wall.
- Townhouse building break/step locations.
- Top and bottom of curb elevations.
- Downspout discharge locations
- Garage slab and landing elevations
- Transition slopes (3:1 max.) where gradients are in excess of 5%

_____ ☐ Staff have concerns with the trapped grading proposed for the blocks fronting Leslie Street, Lunay Drive and the Park Block. Please review grading alternatives to eliminate these sunken areas and limit/eliminate area drains fronting Leslie Street. Area drains proposed for blocks fronting Lunay Drive and the Park Block will not be permitted.

_____ ☐ The site driveway entrances are to be designed in accordance with the City's Materials Standards and Specification Manual. Sidewalk is to be constructed through all driveway entrances.

_____ ☐ Please provide additional cross sections where indicated on the Grading and/or Servicing Plan, complete with existing and proposed elevations.

_____ ☐ Please provide retaining wall detail(s) identifying the type and maximum retained height. Retaining walls 1.0m in height or greater require the detail be stamped by a qualified professional.

_____ ☐ Where the proposed grade difference, between the top of a retaining wall and adjacent grade is greater than 0.6m, a barrier is required (Fence/handrail/guiderail). The barrier location should be identified in plan and the retaining wall detail must accurately illustrate the barrier type, location relative to the retaining wall, and method of construction.

_____ ☐ Where applicable, identify minimum underside of footing elevations for critical units requiring extended footings (including stair footings).

_____ ☐ Please identify the location of storm service laterals on the servicing plan, it appears storm services are omitted from the plan.

_____ ☐ Where water service connections are proposed through garage slabs, the water service is to be constructed in a sleeve to allow for repair/replacement of the water service without open cut excavation. Details to be included on the Servicing Plan. (See attached)

_____ ☐ Where water service curb stops are located within driveways they are to be constructed with frost collars and a frost collar detailed is to be provided.

_____ ☐ Sump pumps are to discharge to storm laterals where practical. Where sump pumps are to discharge at grade, the Servicing Plan is to identify such sump pumps and indicate the discharge location.

_____ ☐ Please review the private watermain layout as various termination points for the extension of watermain through future private development will not be permitted. Please refer to the redline markups depicting an alternate layout required to eliminate the water service crossings over the municipal servicing easement.

_____ ☐ Please revise the servicing plan to eliminate the additional valve chamber with check valve at the street line, and locate the Protectus III meter chamber as indicated on the redline markups.

_____ ☐ Development Engineering (Site Plans) have concerns with the design of the clean water collection system as proposed. These systems are generally closed systems typically limited to roof runoff via direct connection. However, the proposed system is designed to capture surface runoff from numerous catchbasin/area drains which are open to contamination and debris, potentially shortening the life expectancy of the infiltration gallery. What mitigation measures are in place to limit surface contaminates from entering the infiltration gallery and how will the gallery be maintained.

_____ ☐ Further to the above, please ensure the clean water collection system drainage pipe layout is in accordance with Section 7 of the Ontario Building Code, specifically the proposed pipe deflections and the requirement for maintenance holes.

_____ ☐ Infrastructure associated with the clean water collection system for Blocks 19, 20, 21, 22 and 23 are to be located within private lands a minimum of 1 m from the street line/property line to ensure future maintenance of City lands/infrastructure will not be impeded. In addition, the proposed roof drain collection system must be free and clear of all proposed building structures and set a sufficient distance from above and below grade structures to allow for repair and maintenance.

_____ ☐ Notwithstanding the fact that this development applications erosion and sediment control measures form part of a wider earthworks and grading program, ESC plans depicting all phases/stages of construction are required to support this application. Review of the submitted erosion and siltation control has been deferred until such time as all supporting plans depicting ECS measures, including construction notes and details, are submitted for this development application.

_____ ☐ Additional revisions are required in accordance with the redline drawings attached.

Comments based on:
Drawing SP2-1 – General Notes prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-2 – Servicing Plan prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-3 – Servicing Plan prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-4 – Grading Plan prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-5 – Grading Plan prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-6 – Storm Drainage Plan prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-7 – Sanitary Drainage Plan prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-8 – Details prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-9 – Details prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-8 – Details prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-10 – Servicing Table prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-11 – Cross Sections prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-12 – Leslie Street Sections prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14
Drawing SP2-13 – Leslie Street Sections prepared by David Schaeffer Engineering Ltd., Revision 3, dated 20/04/14

Servicing and SWM Brief

Initial

_____ ☐ A site specific Servicing and SWM Conformance Brief is required to demonstrate servicing and stormwater design conformance in support of this Site Plan application. The brief is to include the following:

- The developments water demand requirements and provide a new/updated water distribution analysis of the proposed distribution system to confirm adequate supply and residual pressures for the proposed development under all demand conditions in accordance with City standards.
- A summary of the developments sanitary demand and proposed sanitary flow from the site and how they relate to the overall subdivision design.

- A site specific discussion addressing the water balance criteria for this development. We note that, in support of this development application the applicant has submitted a letter brief from J.F. Sabourin and Associates Inc. dated March 18, 2020. However, Development Engineering (Site Plans) have concerns with the design of the clean water collection system as proposed. In addition to grading concerns, what mitigation measures are in place to limit surface contaminates from entering the infiltration gallery and how will the gallery be maintained?
- A summary of the developments storm servicing scheme and overall stormwater management design criteria for the Leslie Richmond Development subdivision, including site plan conformance check demonstrating conformance with the identified criteria.
- A site specific ICD design sheet Identifying (in area and cumulative) the number, size, controlled flow and comparable 5yr peak flow per sewer segment is required.
- Please ensure that all supporting documentation referenced in the brief relating to the associated subdivision application, including figures, drainage area plans, design sheets and/or specific excerpts from earlier reports are appended to the back of the brief.

_____ ☐ Please revise the storm drainage area plan and associated design sheets to account for flows based on actual flow capture areas.

_____ ☐ Please provide area drain specifications and details.

_____ ☐ Please provide a site specific grate inlet analysis and associated hydraulic calculations to demonstrate that the 100-yr capture flow can enter the storm system.

General

Initial

_____ ☐ Please ensure the cost estimate is kept up to date with all drawing and design revisions.

_____ ☐ Engineering fee, inspection fee and Letter of Credit will be required.

_____ ☐ We note that the design proposes the construction of municipal storm and sanitary sewers in easement through the subject property, within the private road network of the development. It is understood that the easement is to be captured through the subdivision process.

_____ ☐ A 6.0m wide surface access easement will be required. Please provide a draft Reference Plan for Town's review prior to deposition

_____ ☐ Municipal services in easement proposed through the subject property require a MOECC submission to the City under the MOECC 'Transfer of Review' program. An Environmental Compliance Approval Certificate issued by the Ministry will be required as condition for Site Plan approval.

_____ ☐ Prior to final Site Plan approval, engineering approval of the Leslie Richmond Subdivision grading, servicing and stormwater management design, demonstrating capacity to accommodate the subject development is required.

_____ ☐ Drawing scale is to be revisited on the grading and servicing plans. The drawing scale should reflect the level of detail required for a Site Plan submission, presently aspects of the plans are illegible.

_____ ☐ Prior to execution of the site plan agreement and/or clearance for a conditional building permit, the subdivision registration process must be complete.

_____ ☐ Additional comments may be forthcoming related to the Site Plan Block private road layout requirements for driveway access to non-participating properties.

D06-18030

These comments have been addressed by:

Name: _____

Contact Number: _____

For Paul Guerreiro

PG/ph