

# MEMORANDUM

# FOCUS ENGINEERING, inc.

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Date: May 8, 2019

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To: Ken Roberts, Planner Director  
Cc: Chad Isakson, Assistant City Engineer  
From: Jack Griffin, P.E., City Engineer

Re: Springs at Lake Elmo (Continental Properties)  
Preliminary Plat/Plan Review

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We have reviewed the Springs at Lake Elmo Preliminary Plat/Plans received April 12, 2019 and revised plans received May 1, 2019 consisting of the following documentation:

- Preliminary Site Development Plans, Sheets C1.01 – C9.01, dated March 21, 2019.
- Revised Preliminary Site Development Plans, Sheets C2.06 and C3.01, dated May 1, 2019.
- Land Use Request Narrative dated April 12, 2019
- Supplemental Narrative and application memorandum, undated, received May 1, 2019.
- Stormwater Management Plan dated March 22, 2019.
- Traffic Impact Study dated and received April 26, 2019.

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**STATUS/FINDINGS:** Engineering has prepared the following review comments based on the plans submitted.

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## PRELIMINARY PLAT AND EASEMENTS

- The Preliminary Plat creates one lot (Lot 1, Block 1) with 10-foot drainage and utility easements on all sides of the lot, except no easement is proposed along the west property line. The City is requiring a 100-foot right-of-way along the proposed North-South Collector Road along this west property line and has agreed that the small utility corridor may be placed within the road right-of-way.
- The preliminary plans show several retaining wall and fencing encroachments to the Lot 1 Block 1, 10-foot drainage and utility easements.
- The plat must be revised to include a drainage and utility easement over the wetland and wetland buffers, and must include the 100-year high water level.
- North-South Collector Street (Julia Avenue) Right-of-Way Dedication. A 100-foot Right-of-way/Roadway Easement must be dedicated to the City along Julia Avenue to allow for the construction of this improvement as part of this development project. The dedicated right-of-way must be identified and made a part of the Final Plat. If roadway easement is proposed along the west half of Julia Avenue the easement must be provided in the City standard form of easement agreement and a fully signed and executed easement agreement must be submitted with the final plat application. The 100-foot right-of-way/easement must be centered over the existing sanitary sewer pipe and aligned with the right-of-way provided in the Bentley Village preliminary plat.
- Hudson Boulevard Right-of-Way Dedication. Additional right-of-way may need to be dedicated to the City along Hudson Boulevard to accommodate the Hudson Boulevard Improvements, including turn lanes and trail. The existing conditions plan and preliminary plans/plat are incomplete in regards to showing the existing Hudson Boulevard roadway centerline and right-of-way. A minimum right-of-way of 50 feet to the north from existing centerline is required. Additional right-of-way may be needed at turn lanes to meet the Hudson Boulevard design standards.

- There are no Outlots proposed or needed for the privately owned and maintained underground storm water facilities. Drainage and utility easements will be required over all 100-year high water level areas and to protect all overland emergency overflow paths. For any privately owned and maintained storm water facilities, the applicant will be required to execute and record a Stormwater Maintenance and Easement Agreement in the City's standard form of agreement.
- The storm water management plan was incomplete. Stormwater management is required for all project improvements including Julia Avenue and Hudson Boulevard. Additional storm water facilities must be located in Outlots or easements that are part of the Final Plat or within drainage and utility easements provided in the City standard form of easement agreement. Fully signed and executed easement agreements must be submitted with the final plat application.
- Watermain utility easements. The proposed watermain interior to the site will be owned and maintained by the City. Drainage and utility easements are required over the watermain and hydrants, 30-feet in width, centered over the watermain/hydrant. The easements must be shown on the grading, watermain, storm sewer and site plans, and must be provided on the Final Plat.
- Sanitary sewer utility easements. The proposed sanitary sewer interior to the site will be privately owned and maintained. Drainage and utility easements are NOT required.
- Written landowner permission must be submitted as part of the final plat applications for any off-site grading work and storm water discharges to adjacent properties. The proposed off-site easements must be shown on the preliminary site plans, grading plans, and utility plans. Fully signed and executed easement agreements must be submitted with the final plat application.

#### STORMWATER MANAGEMENT PLAN

- The Stormwater Management Plan is incomplete. Preliminary Plat approval must be contingent upon a complete storm water management plan meeting State, VBWD and City rules. Storm water facilities proposed as part of the site plan to meet State and VBWD permitting requirements must be constructed in accordance with the City Engineering Design Standards Manual.
  - The storm water management plan must be revised to incorporate storm water management for the Hudson Boulevard and Julia Avenue Street improvements.
  - Permitting requirements will require rate control from all points of discharge from the site and will require volume control. Overland emergency overflows or outlets are required as part of the site plan for flood protection. The storm water management plan must be revised to demonstrate that the pre and post discharges are reduced at ALL site locations rather than one combined location.
  - The storm water management must be revised to relocate the outfall pipe to avoid conflicting with the urbanization of the north boulevard of Hudson Boulevard and must be redesigned to control outfall velocities and erosion.
  - The Final Plat submittal must include a complete storm water management plan and construction plans that provide all design details for the proposed underground storage systems including details regarding building roof drainage connections.
  - Preliminary plan review and comments from the VBWD must be submitted with the Final Plat application.
  - Maintenance access roads meeting the City engineering design standards must be provided for all storm water facilities, including privately owned and maintained facilities.
  - To the extent adjacent properties are impacted by storm water management discharges, written permission from those properties must be submitted as part of the Final Plat application.
  - The storm water management plan must be certified by a MN registered professional engineer.

#### PRELIMINARY SITE PLANS

- Hudson Boulevard Improvements. Hudson Boulevard must be improved along the frontage of the proposed development in accordance with the Hudson Boulevard Design Standards, with an Urban section along the north boulevard and bituminous trail. An east bound right turn lane and must be

constructed along Hudson Boulevard at both the entrance to the proposed development and at the intersection with Julia Avenue. Storm water management for a future west bound left turn lane at Julia Avenue must be accommodated or it must be demonstrated that storm water management can be readily addressed with a future project. These improvements must be submitted as part of the Final Plat and construction plans.

- North-South Collector Street (Julia Avenue) Improvements. Julia Avenue must be constructed along the west side of the development, from Hudson Boulevard to the northly plat line of the Springs at Lake Elmo. Julia Avenue shall be designed as an urban collector street consistent with City design standards and within a 100-foot right-of-way, including a bituminous trail along one side and a sidewalk along the other side. The street alignment must accommodate the existing sanitary sewer and trunk watermain such that manholes are not within wheel paths. These improvements must be submitted as part of the Final Plat and construction plans.
- The vertical profile for Julia Avenue and its relation to the existing sanitary sewer and watermain facilities must be submitted and approved by the City Engineer prior to the development of Final Plat Construction Plans and submittal of Final Plat. The profile plan must extend the full length from 5th Street North to Hudson Boulevard, and show existing grade, existing utilities and proposed street profile with vertical curve design data.
- Sheet C3.01 Revised Site Plan. A revised site plan was received that among other changes, relocates the secondary (emergency) access to Julia Avenue. This new location is a requirement for City approval. Design details for the emergency access will need to be further reviewed once the remaining grading and utility plan revisions are received.
- Sheet C3.01 Revised Site Plan. The typical section dimensions shown for Hudson Boulevard are not consistent with the Hudson Boulevard design standards and appear to create a centerline shift to the south. This design/alignment may not be an approvable design. Information provided is incomplete to facilitate a full review. The Final Plat application must include a revised Hudson Boulevard design that is consistent with the City design standards.
- Sheet C3.01 Revised Site Plan. Perimeter Fence. A perimeter decorative fence is shown around most of the proposed site and often encroaches the easement or right-of-way by 1-2 feet. The fence locations must be revised to reside 1-foot inside the property lines or easement lines as applicable.
- Sheet C3.01 Revised Site Plan. Retaining walls are shown around the perimeters for most of the site. The retaining wall locations must be revised to reside on or inside of the property lines or easements as measured at the wall footing to preserve the full use of the easement or right-of-way.
- Sheet C4.01 Grading Plan. The grading plan is incomplete.
  - All localized 100-year HWL elevations and HWL contours must be shown on the grading plans.
  - The wetland NWL and HWL must be shown on the plans.
  - The overland emergency overflow path must be shown on the plans.
  - Building pad elevations must be a minimum of 2-feet above all adjacent 100-year HWL elevations and at least 1-foot above all adjacent emergency overflow elevations.
  - Proposed grading contours must be labeled more frequently to facilitate plan review.
  - All 100-year HWL areas and EOFs must be fully protected by drainage and utility easements.
  - The wetland and wetland buffers must be fully protected by drainage and utility easements.
  - All easements must be shown on the Preliminary Plat, site plan, grading and utility plans.
- Sheets C5.01 – C5.03 Erosion Control Plans. The erosion control plans must be revised to be consistent with the City of Lake Elmo Design Standards manual including use of City Standard erosion control plan notes and details. Conflicting or redundant plan notes and details should be removed from the plans.
- Sheet C6.01. Sanitary Sewer and Watermain Plan. This plan is incomplete.
  - The utility plan must include the minimum 30-foot utility easements centered over all watermain and hydrants. The easements must also be shown on the grading, storm sewer and site plans.

- The existing utilities along Hudson Boulevard have been shown incorrectly and are not complete. A field survey must be completed to verify utility locations along Hudson Boulevard and Julia Avenue and the plans revised accordingly. The existing pressure reduction valve (PRV) located along Hudson Boulevard is a critical component of the City's infrastructure and must be accurately shown on the plans to facilitate staff review and to demonstrate no encroachments.
- The proposed watermain plans must be revised to connect to the City's existing high-pressure zone in three locations. 1) Connect to the existing 12-inch watermain along Julia Avenue as shown on the plans along the emergency secondary access. 2) Connect to the existing 12-inch high pressure zone watermain in Hudson Boulevard with the connection located west of the existing PRV station. 3) Coordinate 12-inch watermain loop connection with Bentley Village located approximately 1,050 feet east from the Julia Avenue centerline. Remove the 12-inch watermain connection to the low pressure zone along Hudson Boulevard, east of the wetland.
- The sanitary sewer plans must be revised to replace approximately 160 feet of existing 8-inch sanitary sewer located in the Julia Avenue right-of-way with 10-inch sanitary sewer with a new manhole directly west of the Springs sewer connection location. A public 8-inch sewer stub must then extend east to a second manhole placed at the right-of-way edge to terminate the public sanitary sewer. The private sanitary sewer will then extend east into the site from this manhole.
- The plans must clearly identify utilities to be owned by the City and to be owned by Springs.
- No watermain pipe oversizing is anticipated at this time. Further review will be completed with the Final Plat application.
- The applicant will be responsible to place hydrants throughout the property at the direction of the Fire Department. All fire hydrants shall be owned and maintained by the City.
- Sheet C6.02. Storm Sewer Plan. The storm sewer plan is incomplete.
  - The storm sewer improvements along Hudson Boulevard and Julia Avenue must be incorporated into the construction plans for City review.
  - The plans must clearly identify storm sewer to be owned by the City and to be owned by Springs. All storm sewer to be owned and maintained by the City and all storm sewer located in City right-of-way must be design and constructed in accordance with the City Design Standards Manual.
  - The plans must include a storm sewer structure chart showing structure type, number, build, rim, invert, pipe cover and structure casting.
  - Storm sewer calculations must be submitted with the storm sewer plans to show pipe velocities meeting City design standards.
- Sheet C9.01. Civil Details. Civil details and construction plans must be revised to include the City Standard Plan Notes and Details for all infrastructure components that are to be owned and maintained by the City and for grading and erosion control. City Standard Plan Notes are to be placed on the applicable plan sheet depicting City owned infrastructure and the City Standard Details are to be shown on a detail sheet and identified for use with public owned infrastructure (see City standard plan format requirements).
- Private Streets. The streets interior to the development are proposed to remain privately owned and maintained. Interior street design is required to provide adequate fire lanes and safety access. The plans must include turning templates to demonstrate adequate turning radius for fire safety apparatus.
- Due to the high density of this development it is strongly recommended that plan details for grading and utility plans be submitted using a 1" = 20 scale.

TRAFFIC IMPACT STUDY, prepared by Swing Traffic Solutions, dated April 26, 2019

- The Traffic Impact Study concludes that the proposed development has appropriate access to the site and surrounding roadway network and the roadway network will function well with the project. However, this conclusion assumes that the CSAH19-Hudson Boulevard Traffic Signal is constructed as planned by the City prior to the completion of the development and that dedicated left and right turn lanes are constructed at both the Hudson Boulevard and Julia Avenue intersection and at the development entrance.