



CITY OF BEVERLY
DEPARTMENT OF PUBLIC SERVICES AND ENGINEERING

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May 27, 2020

RE: Engineering Department Drainage Review Comments – Briscoe Village for Living & The Arts

The Engineering Department has reviewed a nine sheet drawing set entitled “Briscoe Village for Living & The Arts” dated May 13, 2020, the accompanying stormwater calculations/analysis and Stormwater Management Report. The Engineering Department has had preliminary discussions regarding changes to the proposed drainage design with Meridian Associates, Inc. who is the Civil Design firm of record. The changes are outlined in this letter

Stormwater Design and Construction Requirements

Proper design and construction techniques for the installation of stormwater devices DIRECTLY impacts the long-term effectiveness and efficiency of these systems as a whole. Devices are required to be inspected/maintained on an annual basis, and therefore shall be constructed/installed in a way to ensure ease of inspection/maintenance. Proper design, installation, inspections, and maintenance directly impacts the long-term cost of ownership. Facilities that are capable of being properly maintained display significant lower ownership costs when compared to facilities that are not properly constructed or maintained, ultimately directly impacting our property owners, residents, and receiving water body quality.

All device covers will be installed at grade and maintained permanently accessible. Snow removal, sweeping, and general property maintenance has the potential to damage these devices. Care shall be taken in design and construction to ensure properties can be maintained in a way to avoid damage to these drainage devices.

The proposed Subsurface Infiltration system was designed by Meridian Associates. It is recommended that Meridian Associates consults ADS Pipe to ensure proper design considerations have been met. Shop drawings shall be provided to the Engineering Department for approval prior to installation of the system at the permitting stage. This system shall be constructed with an "Isolator Row" and shall include an inlet structure with a hatch capable of being easily accessed and readily opened. The access shall not be buried and shall be designed and constructed in such a way as to avoid damage to vehicular traffic and shall be sized to properly to accommodate vacuum truck cleaning/maintenance equipment. This system shall be constructed in compliance with manufacturers specifications and shall be constructed with OEM brand (factory specific) filter fabrics.

Prior to installation of the subsurface infiltration system, a pre-installation meeting shall be coordinated by the developer to include the City Engineering Department and Manufacturer's Field Technician/Inspector. At the time of the meeting, it is expected that all construction materials are onsite, accessible, and capable of being inspected to ensure all materials meet the manufacturers specifications. Data sheets for materials shall be maintained onsite and shall be made available for the inspectors to review at the pre-installation meeting.

The subsurface infiltration system installation shall be inspected by a manufacturer qualified inspector who is trained on the installation of subsurface infiltration systems. This inspection shall be coordinated in conjunction with the City of Beverly Engineering Department to ensure City staff is aware of the construction progress.

Construction of all site-wide drainage facilities shall be performed in accordance with the manufacturers installation specifications.

Operation & Maintenance Manual

Operation and Maintenance (O&M) Manuals have been drafted under separate cover as contained within the Stormwater Management Report. The final draft of O&M documents shall be provided to the Engineering Department for review prior to commencement of construction. These documents shall clearly outline the ownership, inspection, maintenance, repair, and reporting responsibilities for all drainage and stormwater related activities. The Facilities Manager/Management Staff will be responsible to submit a contact list of current Stormwater Maintenance responsible parties as part of the annual report to the City. Two copies of the O&M Manual are to be provided to the facilities manager or designee and are to be furnished within the premises. The Engineering Department will not sign off on occupancy if these documents are not furnished within the facility.

Pavement Sweeping Twice Annually is required. This shall be performed at minimum immediately following final snow melt in the spring. Maintenance records are to be retained and shall be submitted as part of the annual O&M.

Snow storage locations shall be shown on the plans and shall be added to the O&M Manual. Sand is not permitted to be used and will cause significant degradation to drainage system components, clogging catch basin sumps, pre-treatment structures, and subsurface infiltration systems. The O&M Manual must be revised to reflect this condition. Snow is not to be placed over drainage facilities with special care to ensure the subsurface infiltration system is not buried. The access hatch is expected to be maintained clear of snow and capable of being opened within 24 hours notice at the City's request.

The O&M Manual shall include all OEM/Factory manuals for all devices including water quality devices and subsurface infiltration systems. Currently the O&M only includes brochures from CDS Water Quality Device but does not specify the required model. The specified model will need to be listed within the report to ensure compliance with maximum permissible sediment depths. The maintenance requirements need to be prescriptive and list maximum permissible sediment depths as well as inspections and cleaning methodology. Please revise the O&M Manual to include all factory maintenance manuals as well as prescriptive methodology.

Stormwater Device Inspections, Maintenance, and Reporting Requirements

To maintain compliance with Stormwater Regulations, City Departments are responsible to ensure that drainage facilities are being properly maintained. The City of Beverly reserves its right to perform audits and inspections of private property to ensure proper operation and maintenance is being performed on the parking lot, vegetation, and drainage facilities. It is expected that the owners representatives ensure provisions are made to open hatches, grates, or covers at the City's request.

Maintenance of private facilities are the responsibility of the lot owner. The City will not maintain facilities constructed within the proposed Private Development and all associated costs will be the responsibility of the private development.

Regularly and properly inspecting the drainage system components is the cheapest and most effective means of ensuring all system components are working at their designed capacity. Inspections of drainage system components

shall be performed by a trained service provider such as Stormwater Compliance, Civil Design Group, or equivalent. These service providers shall be approved and locally licensed by the Engineering Department.

Any structural or functional deficiencies that are discovered during inspections and requiring repair shall be brought to the attention of the Engineering Department within 48 hours of inspection. A plan for making the appropriate repairs shall be presented to the Engineering Department, and the repairs shall be made by a qualified contractor who is locally licensed by the City.

Inspections and maintenance of all stormwater systems requires annual reporting to be submitted to the Engineering Department. Reporting is due to the Engineering Department no later than December 31 annually.

Annual Reporting shall be provided on approved forms and bound in final presentation format. Report format will be discussed with and provided to the contracted stormwater inspection service provider at the time of licensing with the Engineering Department.

All stormwater devices shall follow a standard naming convention as determined by the Engineering Department. Naming conventions will be provided to the contracted stormwater inspection service provider at the time of licensing with the Engineering Department.

Based upon the documentation provided, the Engineering Department requests revised documentation and clarification to be provided by the Developer/Engineer of record. This proposal is conditionally approved by the Engineering Department pending receipt of this documentation prior to commencement of construction.

Sincerely,

Eric Barber, P.E.
City Engineer