



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

March 30, 2026

Planning Board Chair
City of Amesbury
62 Friend St.
Amesbury, MA 02913

Attn; Chairman - Pascal Rettig

**Subject: 1-9 Oakland Street, Amesbury, MA
Stantec Peer Review Response Letter**

Dear Chair Rettig,

The following provides our response to peer review comments provided in Stantec's memorandum dated January 9, 2026. We have included the review comments and our response to facilitate the Board's review.

A. Stormwater Management Report	
Comment 1	<i>The Applicant's design proposes to place a stormwater system underneath the proposed building with the proposed system to collect a majority of the building roof runoff and infiltrate the runoff under the proposed garage floor of the six story building. This stormwater design appears unconventional and we do not recommend this practice. It is unknown if a geotechnical and/or structural analysis has been conducted and provided to the Planning Board that demonstrates the introduction of stormwater runoff below the building is appropriate and would not impact the building foundation or garage floor. The Planning Board should consider if a report to address this concern is necessary or if this design is even appropriate.</i>
Response	We are proposing a revised approach to stormwater management in this area, replacing previously proposed infiltration chambers with detention chambers (discussed more below). As per our review meeting, we investigated moving the chambers outside of the garage to be located in the entry ramp and open space between garage and Chestnut Street. Due to utility and transformer conflicts, we have confirmed that there is not sufficient space for the underground chamber system. Test pit evaluations in this area confirmed the suitability of this area for infiltration chambers. As mentioned in our meeting, I have designed a number of these systems in Boston, Cambridge and Somerville where similar site conditions exist with not sufficient space for stormwater mitigation to be located outside of the building footprint. I have attached a plan for a project I designed at 3 Hawkins Street, Somerville, MA, which has been constructed and occupied. This is one example of project where this application has been implemented. At this Somerville project, there are 6 floors of residential apartments located above this garage where the infiltration chambers are located.



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	We have located the system components within the access aisle which requires a clear span ensuring no conflict of the chamber system with structural columns and footing supporting the building. We also evaluated directing more stormwater to the chambers proposed below the outdoor parking area, but concluded that the better engineering approach is to utilize chambers under the indoor garage due to the lower elevation of this area. Updated Approach: Subsequent to performing the test pits, we received additional direction from the Licensed Site Professional (LSP) for the site. The LSP confirmed that the soils at the proposed location of the infiltration chambers within the garage are clean, but noted that there are impacted soil conditions downgradient at 34 Water Street. The LSP expressed concern that infiltrating stormwater under the garage during/after significant storm events could potentially exacerbate those off-site conditions. The risk of such impact is low, but easily avoided by detaining the stormwater at this location and directing it to the City's stormwater system instead of infiltrating it. Accordingly, the revised plans propose detention chambers in place of infiltration chambers at this location.
Comment 2	<i>The submitted NRCS soils information for the site is noted as "602- Urban Land" with no soil properties to determine the appropriate soil classification and water table characteristics relative to the stormwater system. It is noted that the report includes boings and test probe information, but none are located in or adjacent to the proposed subsurface stormwater locations. In general, the soil tests were not conducted during the spring to identify the estimated seasonal high water table (E.S.H.W.T) and demonstrate proper separation for the water table is provided. It is noted that several of the soil logs indicates fine sand and silt that would imply a lower infiltration rate at the proposed stormwater locations which is contrary to the assumed Hydraulic Soil Group A (HSG A) infiltration rate of 8.27 inches per hour in the analysis. With the proposed chambers to be 6 to 36 feet below the existing ground, it is recommended that additional test pits and in-situ saturated hydraulic conductivity soil field testing be conducted at the elevation of the proposed infiltration surfaces at each proposed stormwater location per Volume 3 of the Massachusetts Stormwater Handbook. A minimum of three infiltration tests should be conducted at each stormwater system consistent with the criteria for infiltration basins per Volume 2 Chapter 2. Since the infiltration rate dictates the size/configuration of the stormwater system, the necessary infiltration testing and soils analysis to identify the E.S.H.W.T should be completed prior to updating the site design and stormwater analysis. The locations of the soil test pits/borings should be added to the existing conditions plan.</i>
Response	Per the agreement at the review meeting, two test pits were dug at each proposed infiltration area on 3/5/2026. Test pit locations are called out on the drainage plan, and the logs from those pits are included with the stormwater report. Double ring infiltrometer tests were performed in each pit, and the infiltrometer recorded about 50 in/hr for the pit nearest IC1, and about 8 in/hr for the pit nearest IC2. \ As noted above, due to downgradient environmental conditions, we are no longer proposing infiltration beneath the garage closest to 34 Water Street. Given the



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	distance from 34 Water Street and the limited infiltration rates, the infiltration chambers in the parking lot adjacent to Oakland Street can remain.
<i>Comment 3</i>	<i>The Applicant's name noted in the introduction (Sweet Management, Inc.) does not match the Project application information. Please update the report consistent with the application accordingly.</i>
Response	The Applicant's name has been corrected to 9 Oakland Street Amesbury LLC.
<i>Comment 4</i>	<i>Standard 1: This standard appears to be addressed.</i>
Response	No response required.
<i>Comment 5</i>	<i>Standard 2: The existing conditions analysis approach assumes the entire site flows to the City's existing drainage system along Chestnut Street and does not address the specific impacts to each abutter and each street. The limits of the subcatchment delineation is unclear. Please note the existing conditions plan information provided on the pre-development plan appears incomplete and does not provide information for comparison to the post development conditions and apparent impacts to all abutters. The following relative to pre-development existing conditions plan is noted:</i> <i>A. The indicated contours imply the runoff from the southwesterly portion of the site would contribute flow to abutting lot 97, but this is not identified.</i> <i>B. The direction of the building roof runoff is not identified. It is unclear/unknown if the current roof runoff is directed to internal roof drains or sheet flows off the roof to abutting lots and streets.</i> <i>C. Spot elevations are absent along the southerly boundary to demonstrate the direction of runoff along the southerly side of the site along abutting lot 214.</i> <i>D. Contour labels are absent from the courtyard area facing Oakland Street to clarify the direction of site runoff.</i> <i>E. The current amount of site area contributing runoff to the catch basin on Oakland Street is not identified.</i> <i>F. The area of site that contributes runoff directly to each catch basin on Chestnut Street is not identified.</i> <i>G. The area of site runoff that bypasses the existing Chestnut Street catch basin and flows directly to Chestnut Street is not identified.</i> <i>H. The plan does not appear to include or address the areas of the proposed improvements shown within Oakland Street or Chestnut Street.</i> <i>I. The plan does not appear to address the proposed sewer line relocation upon abutting lot 97.</i> <i>The existing pre-development plan and analysis should be revised accordingly to clarify the above items and the associated impacts to all abutters (lots and streets) should be identified in a summary table in the report. The post development drainage plan and analysis should be reviewed and revised accordingly for comparison to demonstrate compliance with no increase in runoff is achieved at each abutter.</i>
Response	A. Drainage plan has been updated with newer and clearer subcatchment bounds. B. Contours along the lot line shared with lot 97 have been labeled, and a flow path through that subcatchment has been provided. Please note that flow crisscrosses the lot line as it moves toward Chestnut St. C. Link node DP3 has been added to quantify flow that crisscrosses the lot line with lot 97. D. Flow paths have been added for all subcatchments; these extend to catch basins where necessary.



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	E. An additional 55ft contour line has been identified on lot 214 indicating that runoff discharged onto lot 214 splits, then flows toward nodes DP1 and DP3; meaning that discharge onto lot 214 cannot be measured by a single node. Therefore, the total flow onto lot 214 is represented by the sum of nodes S2A and S2B on the pre-development model, and nodes S2A-1 and S2B-1 on the post-development model. F. Labels have been added to the post-development contour lines in the courtyard. G. The existing sewer line beneath the proposed garage is no longer proposed for relocation. H. Improvements outside the lot lines have not been modeled because they are in-kind replacements that will not increase or decrease the amount of runoff generated. I. The sewer line is no longer proposed for relocation.
Comment 6	<i>Standard 2: The predevelopment calculations for subcatchment S1 should be revised to note "Good " conditions consistent with standard engineering practice when no supporting information is provided to demonstrate other conditions. In addition, the limits of the entire existing tree line are absent and the amount of woods could not be confirmed. Also, the location of bare soil areas were not indicated or labeled and could not be confirmed. Please update the calculations and predevelopment plan accordingly.</i>
Response	Cover areas for open space and woods have been updated to good condition.
Comment 7	<i>The predevelopment calculations for subcatchment S1 should be revised to clarify the amount of pavement versus roof area for review and comparison to the existing conditions plan and for review and comparison to the post development calculations. Please update the calculations accordingly.</i>
Response	Roof areas have now been separated from paved areas in the model. Where runoff from the roof crosses pervious ground, the unconnected roof type has been used in accordance with procedures outlined in TR-55.
Comment 8	<i>The post development analysis indicates a portion of the proposed roof runoff (subcatchment S1-1) will be directed to the proposed infiltration chamber system under the proposed garage – pond IC1, however, the project plans do not indicate/address how this runoff would reach the chamber system. The limit of the subcatchment delineation is unclear and the amount of roof imperious area could not be confirmed. We note the separate architecture plans imply the proposed building will have sloped roofs that would sheet flow runoff away from the site and this appears contrary to the stormwater design information presented. Please provide additional information to clarify that the submitted stormwater design/analysis is consistent with the project design. This should include hydraulic analysis of any piping system (absent) that may be needed to connect the roof to the chamber system to demonstrate the design is appropriate.</i>
Response	Location, quantity, and size of roof drains will not be specified until construction plans are prepared. As typical, this design will be completed for the building permit application.
Comment 9	<i>Post development subcatchment S1-2 is noted to be an isolated area between the existing and proposed building, but the area shown on the post development plan appears to be different than the area shown on the separate architectural plans (sheets A104-A106) which indicate a large opening. Please provide additional information to clarify that the project design is consistent with the stormwater analysis and subcatchment calculations.</i>
Response	Subcatchment S1-2 has been renumbered to S3-3, and its contributing area has been revised to match architectural plans.



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

Comment 10	<i>Post development analysis indicates subcatchment S1-2 is to be an isolated area between the existing and proposed building and will pond water in this location with the design intent to infiltrate the water between the building foundations. Based upon the assumed rapid infiltration rate, the pond calculations indicate the pond volume would be up to one foot in depth during the 100-year storm and the would be deeper should the soil infiltration rate be significantly less that the optimal assumed. From a practical perspective, the Applicant should consider installation of a catch basin in this area with a connection to the stormwater system to prevent water ponding between the buildings.</i>
Response	Please note that the previously submitted HydroCAD model showed only 0.04ft of runoff being stored at the peak elevation of the 100-yr storm, not one foot. An area drain has been added to collect runoff and convey it to the infiltration chambers.
Comment 11	<i>The post development subcatchment S1-3 calculations appear to include the remainder of the site roof runoff will be directed to the proposed infiltration chamber system under the parking lot – pond IC2, however, the project plans do not indicate/address how this would occur. The limit of the subcatchment delineation is unclear and the amount of roof imperious area could not be confirmed. We note the separate architecture plans imply the proposed building will have sloped roofs that appear to sheet flow to the streets and abutting lot 214, which is contrary to information presented. Please provide additional information to clarify that the project design is consistent with the stormwater analysis. This should include hydraulic analysis of any piping system (absent) that may be needed to connect to the roofs to chamber system to demonstrate the design is appropriate.</i>
Response	See responses to comments 5 and 8.
Comment 12	<i>It appears the delineation of post subcatchment S1-3 does not properly address the driveway ramp down into the garage. Please review, clarify, and revise the subcatchment delineation, calculations, and analysis to be consistent with the project design.</i>
Response	A trench drain has been added to the project plans to capture runoff from the courtyard before it goes down the ramp into the garage.
Comment 13	<i>Please review and revise the amount of grass area in post subcatchment S1-3 that appears to be more than represented on sheet A102.</i>
Response	All cover areas have been revised to match the architectural plans.
Comment 14	<i>Standard 2: The post development plan and project analysis does not appear to include/address the walkway along the southwesterly side of the proposed building shown on sheet A100 or the impacts to abutting lot 97. Please review, clarify, and revise the calculations and analysis to be consistent with the project design. Please verify compliance is achieved – no increase in runoff.</i>
Response	See response to comment 5.
Comment 15	<i>Standard 2: The post development analysis does not address the CDS unit in the analysis or routing diagram. It is unknown if the CDS unit is adequately sized or designed to capture all of the site runoff and direct it to the chamber system as implied in the analysis. Please provide additional information to clarify that the project design is consistent with the stormwater analysis. This should include calculations and supporting information that the top grate and associated grading design would capture all the site runoff and not bypass the structure.</i>
Response	Catch basin node added to model for the CDS unit that includes grate and culvert. Subcatchment area draining to catch basin now more clearly shown.
Comment 16	<i>Standard 2: It appears the volumes for the proposed chambers in the pond calculations are not representative of the dimensions noted for the chambers. Please review and</i>



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	<i>provide additional information to clarify the chamber volumes are properly represented in the pond calculations.</i>
Response	Chamber dimensions noted on drainage plan are the external dimensions of the chamber, which is how the manufacturer lists the chamber product in their catalog.
<i>Comment 17</i>	<i>Standard 2: the post development pond routing calculations for the two chamber systems indicate two primary outlet devices and one secondary automatic overflow device, but the configuration and location of these devices is unknown. In addition, it is unclear how the flow from the three devices merge together into a single pipe and discharge to the street connections as implied in the analysis. The detail in the plan set does not appear to address the outlet devices noted in the analysis. Please review and provide additional information to clarify the location and configuration of each outlet device and clarify how the flow from the devices would be collected and discharge toward the street in a single pipe as represented in the pond calculations.</i>
Response	Pond routing calculations now include culverts as final outlet device.
<i>Comment 18</i>	<i>Standard 2: The report lacks hydraulic pipe calculations for the proposed pipes and pipe network systems for the connections to the City's existing stormwater system. The hydraulic pipe calculations should indicate the system pipe velocities, hydraulic grade line/elevations to demonstrate the proposed systems are of adequate size to convey flow under gravity conditions for the storm events and to demonstrate the flow range is within the minimum velocity of 3 FPS and maximum 10 FPS in accordance with section 7.10.C of the Amesbury Subdivision Rules and Regulations. The analysis should be updated accordingly.</i>
Response	Calculations of the full-flow (flushing flow) velocity for the four proposed pipes are now included with the report.
<i>Comment 19</i>	<i>Standard 3: The project design includes infiltration for recharge to groundwater to meet this standard and the design proposes to capture a significant amount of impervious area and infiltrate it. As noted above, the NRCS soils information and the other soil data does not address the actual soil infiltration rate and the assumption of HSG A soils at the elevation of the proposed soil and chamber system interface. Site specific soil testing should be conducted as noted in comment A.2 above.</i>
Response	See response to comment 2.
<i>Comment 20</i>	<i>Standard 4: The analysis does not address the CDS unit in the analysis or routing diagram and demonstrate the unit is properly sized. In addition, the report does not provide information relative to the TSS removal amount provided before infiltration and the final TSS for the site. Please review and update accordingly to demonstrate how compliance for this standard has been met.</i>
Response	The CDS unit has been replaced with a deep sump catch basin with a hooded outlet. This catch basin was given its own node in the HydroCAD model to demonstrate routing through its grate and culvert into the infiltration chamber. The narrative has been updated with additional calculations and attachments to demonstrate TSS removal. As designated in the DEP Stormwater Policy, 25% TSS Removal is provided with the deep sump catch basin.
<i>Comment 21</i>	<i>Standard 5: The report notes that the site's previous industrial use and remedial efforts have been completed, but the report is absent of supporting documentation of the completion of the remedial efforts. Please update the report to provide supporting information.</i>
Response	The property has been the subject of several remediation actions under MassDEP Release Tracking Numbers (RTNs) 3-28751, 3-29565 and 3-32360. The first two



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	RTNs have been closed out under MassDEP's 21E/Massachusetts Contingency Plan (MCP) regulations at 310 CMR 40.0000 with Response Action Outcome statements. For RTN 3-32360, Remedy Operation Status (ROS) was accomplished in 2022. Pursuant to the ROS Limited ongoing Operation, Maintenance and Monitoring (OMM) activities are being implemented, including operation of a soil vapor extraction system aimed at reducing concentrations of contaminants under portions of the existing buildings to achieve the applicable risk-based regulatory limits. The applicant's Licensed Site Professional has confirmed that the proposed redevelopment of this property is compatible with the extensively evaluated conditions. Redevelopment activities will also be conducted in consultation with the LSP and otherwise in accordance with the 21E/MCP requirements. 21E documents related to the property, including recently filed monitoring reports, are publicly available and can be reviewed at the following link: https://eeaonline.eea.state.ma.us/portal#!/search/wastesite. Go to the Waste Site Cleanup Portal and enter RTN 3-0032360.
Comment 22	Standard 6: The report notes that this standard is not applicable. Stantec concurs with the statement.
Response	No response required.
Comment 23	Standard 7: Redevelopment: This project is subject to this standard. The updates/clarifications to standards 2-5 noted above would further demonstrate that the proposed stormwater system provides improvements to the existing conditions and compliance with the standard.
Response	No response required.
Comment 24	Standard 8: The report does not include information relative to the Erosion and Sediment Control BMP's but does reference that a separate plan has been prepared that appears to be sheet C6.0 in the separate project plan set prepared by MEI. Relative to the separate plan, please clarify/address the following relative to standard 8 and the project design: A. The plan is presented as a demolition plan and erosion control plan with overlapping text that is unclear. The plan is at a reduced scale (1"=30') from the rest of the plan set (1"=20') and the details for the work do not appear to represent all of the proposed demolition work in areas where construction is shown on the site plan including the associated erosion control measures for these areas. It is recommended a separate plan at the same scale as the site plan (1"=20") be provided that clearly identifies all of the project impact areas and the appropriate erosion control measures. B. Names of Persons or Entity Responsible for Plan Compliance needs to be identified; C. Due to the limited site constraints, the initial locations of typical Construction Period Pollution Prevention Measures BMP's such as waste material dumpsters, hazardous waste storage, sanitary waste facilities, concrete/construction washout areas, vehicle maintenance/refueling locations, etc. should be indicated and labeled. Please review and revise the plan accordingly. D. Location of swales ditches and ponds noted under the general maintenance needs to be clearly shown; E. Details/specifications for the noted erosion control BMPs, such as silt fence, hay bales, stone sump, etc. needs to be provided. F. Inspection and Maintenance Log Form needs to be included;



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	G. <i>Review/correct typographic errors.</i>
Response	A. The Erosion & Sedimentation Control (E&SC) plan has been revised to reduce clutter and make it easier to read. The drawing scale was revised to 1"=20'. B. The E&SC plan now identifies the parties responsible for compliance with the plan: The current operator and owner: Sweet Management LLC and 9 Oakland Street Amesbury LLC. C. The location of Construction Period Pollution Prevention (CPPP) BMP's are now called out on the E&SC plan. D. No swales, ditches, or ponds are proposed by this project. References to them have been removed from the E&SC Plan E. Detail drawings & specifications are included on the E&SC plan F. Inspection and Maintenance Log has been attached to the Operations & Maintenance Manual.
Comment 25	<i>Standard 9: The report includes a Long Term Pollution Prevention and Operation & Maintenance Plan document.</i> A. <i>Please clarify/address the following items in Post Construction BMP's that is part of Standard 9, which typically includes the following:</i> 1. <i>Provisions for storing materials and waste products inside or under cover;</i> 2. <i>Requirements for routine inspections and maintenance of each stormwater BMP (i.e. CDS unit) and checklist that identifies each BMP(provide O&M manuals for all systems);</i> 3. <i>Provisions for maintenance of gardens, and other landscaped areas;</i> 4. <i>Update the street sweeping to include sidewalks and patios;</i> 5. <i>Requirements for storage and use of fertilizers, herbicides, and pesticides;</i> 6. <i>Snow disposal and plowing plans (including snow storage location plan);</i> 7. <i>Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges.</i> 8. <i>A plan identifying each BMP location requiring maintenance under the BMPS should be included in the document. This should include the maintenance requirements as specified for any manufactured BMP's.</i> 9. <i>Please clarify and provide supporting documentation that the garage design has considered access by men and equipment to conduct maintenance of the chamber system located under the floor.</i> B. <i>Amesbury is an MS4 community, and we recommend copies of the stormwater inspection checklists be provided to the City on an annual basis. This should be noted in the document.</i> C. <i>Please provide an endorsement for the illicit discharge statement to meet compliance with standard 10.</i> D. <i>We recommend the updated document be a separate complete document as typically requested by the Board</i>
Response	A. Regarding Post-Construction BMP's: 1. The only waste products anticipated post-construction are municipal solid waste generated by the redevelopment's occupants. Such waste will be stored in the trash compactor room shown on the architectural plans until it is picked up by a trash collection service. 2. Inspection schedule, checklist, and maintenance items for stormwater BMP's have been added to the O&M Plan.



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	3. The lawn care section of the O&M Manual has been revised to include landscaping. 4. Sidewalks and patios are now included in street sweeping. 5. Fertilizers, pesticides and herbicides will not be stored in the redevelopment. Groundskeeping is expected to be contracted out, and the selected contractor will take such chemicals with them when they leave the site. 6. Snow storage areas are now shown on the Site Plans. 7. Stormwater BMP's associated with residential use are not required to have emergency shutdown capabilities. 8. All post-construction stormwater BMP's are shown on the post-development drainage plan. 9. Access/inspection ports for the infiltration chambers are now shown on the post-development drainage plan.
Comment 26	<i>Standard 9: An estimated operations and maintenance budget in accordance with Standard 9 was absent from the document. Please include with the updated submission.</i>
Response	Estimated annual maintenance budget estimate has been added to the O&M Plan.
Comment 27	<i>We recommend the Applicant update the report to include a complete 25-year analysis for the pre- and post-development conditions per section 7.10.A of the Subdivision Rules and Regulations as referenced in Section XI.C.8.p of the Amesbury Zoning Ordinance.</i>
Response	The 25-year storm has been included in the HydroCAD model and the report.
B. Site Plan Set	
Comment 1	<i>The following relative to existing conditions plan is noted. The plan shall be updated accordingly:</i> • <i>Five foot contour interval is indicated and does not comply with XI.C.5.b of the Amesbury Zoning Ordinance requiring 2-foot contours.</i> • <i>Spot elevations are absent along the southerly boundary to demonstrate the direction of runoff along the southerly side of the site along abutting lot 214.</i> • <i>Spot elevations are absent from the courtyard area to demonstrate the direction of runoff flow.</i>
Response	One foot contours and spot grades have been added to the existing conditions plan.
Comment 2	<i>We recommend the Applicant clarify/address the following relative to the civil site plan – sheet C-5.0:</i> <i>A. The drainage design indicates a 10" PVC pipe is proposed for the garage chamber system to the connection point in Chestnut Street, which does not comply with the reinforced concrete pipe class III (RCP-CIII) or minimum 12-inch pipe size required in the specific design and construction standards of Section 8.04.A.1 of the Amesbury Subdivision Rules and Regulations referenced under Section XI.C.8.p of the Bylaws. The stormwater design indicates a "Y" connection to the City's existing stormwater system is proposed. It is unknown if the Department of Public Works (DPW) has agreed to the connection within Chestnut Street, the type of connection proposed, or the type of pipe within the existing street. Since design invert information for the proposed pipe and a profile of the proposed stormwater connection is absent from the project plans, it is unknown if the proposed stormwater pipe would provide proper cover or conflict with the existing water line. The stormwater design and connection should be revised in compliance with the regulations and the separate stormwater report should include documentation the design is acceptable to the</i>



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	DPW. The project details should be revised accordingly and provide any additional details for proper construction. B. Please label the size, type, length, and slope of the drain pipe from CB/WQU to the parking lot chamber system and the proposed pipe from the chamber system to the existing catch basin on Oakland Street. It is unknown if the DPW has agreed to the connection within Oakland Street or the type of connection proposed. Since design invert information for the proposed pipe and a profile of the proposed stormwater connection at Oakland Street is absent from the project plans, it is unknown if the proposed stormwater pipe would have proper cover or properly connect at the catch basin. In addition, it is unknown if the 25-year chamber system peak elevation would backwater the CB/WQU unit outlet. The stormwater design and connection should be revised to include the design information for proper construction and the separate stormwater report should include documentation the design is acceptable to the DPW. C. As noted above, the stormwater analysis indicates all of the building roof runoff is directed to the two proposed subsurface chamber systems, but the plan does not indicate or address how this would occur. The plans should be revised accordingly and consistent with the stormwater analysis and all appropriate details should be provided in the plan set for proper construction. D. The location and rim elevations for the access manholes to the two chamber systems are absent from the plan for proper construction. We recommend a minimum of two inspection manholes be provided for each subsurface chamber system or more if required by the manufacturer. Please update the plan accordingly. E. Please provide spot elevations at parking lot corners, building corners, dumpster pad, patio area and other various locations around the buildings to demonstrate the grading design intent and for proper construction. It is unclear how the runoff along the rear of the building adjacent to Lot 97 is intended to drain with the proposed stone dust walkway and how the runoff would enter into the City's stormwater system as implied in the stormwater analysis. Please review and revise the design accordingly. F. It is unclear whether the necessary minimum cover over the chamber system and below the pavement is provided at the parking lot system near the pipe connection from the CB/WQU. In addition, it is unclear whether sufficient cover is provided over the garage chamber system. Please review and revise the design and provide supporting information, including spot elevations, to demonstrate the proposed design complies with the manufacturer's requirements. G. A spot elevation of 31.47 is shown near the patio area adjacent to the garage that would appear to pond water at the building. Please review and revise as necessary.
Response	A. All drainage pipes within the City right of way are now identified as 12" RCP. Note that the drainage connections do not cross the city's water line with the 18" existing invert and proposed 12" invert, as now shown on the plan. A trench detail and connection detail are shown for work to be completed. Please be specific for any additional required details. B. The invert is now shown on the plan for the connection to the catch basin on Oakland Street. Note the original flow to this design point was directly from the parking lot to this catch basin with the flow reduced to this design point in the proposed condition so the 25-year peak is reduced from its current condition.



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

	C. As typical for large building projects, the plumbing plans are not done until the building permit application. MEP plans will be provided to the Community Development department when completed. Note that the entire building will be directed to the large chamber system under the garage as the soil is optimal at that location for subsurface infiltration. D. A standard 24" frame and cover is provided and required to be locate over all inlet and outlet pipes. Final locations in system #1 will be determined with the building permit plans. E. Spot grades are now provided. Water from the perimeter will flow along Lot 97 property line to Chestnut Street. Note that this flow is substantially reduced from the existing conditions. Refer to the updated stormwater report for existing and proposed flows to this design point. F. A minimum of 12" of cover is provide. There is no structural minimum cover required on the chambers, just what is needed to install the cast iron frame and cover. G. An area drain was added in the upper level if that was the location in question.
Comment 3	<i>The drain service connection detail does not properly indicate the existing drain pipe size noted on the existing conditions plan. Please update accordingly.</i>
Response	The drain connection detail has been updated along with inverts on the site plane for the exciting 18" and proposed 12" pipe.
Comment 4	<i>Other items observed during the plan review;</i> A. <i>The proposed building is indicated to be placed 5 feet from the existing sewer line and upon a portion of the existing sewer line through the property. The existing conditions plan does not identify an existing sewer easement along the property line or within the property for the sewer line. The proposed design indicates a portion of the existing sewer line will be removed and relocated onto the abutting property, Lot 97, but the plans do not indicate a sewer easement for the relocation. It is unknown if the DPW has agreed to the relocation and the construction of the proposed building in close proximity to the existing sewer line. It is unknown if the construction of the building footing (located outside the foundation wall) would be placed upon or below the existing sewer line. It appears the proximity of the proposed building would inhibit or prevent the DPW's men and equipment from maintaining, repairing, or replacing the existing and proposed sewer lines in this location.</i> B. <i>The proposed site improvements along Oakland Street include creation of curbed sidewalks and landscape islands for the benefit of the development along the existing courtyard area, and reduce the existing roadway width to approximately 20 feet which is less than the existing conditions and minimum required width of 24 feet per the Subdivision Rules and Regulations design standards 7.09.E It is unknown if the DPW has agreed to the creation of landscape areas within the roadway right-of-way and the reduction of the roadway width. Street parking and snowbanks at this reduced roadway width location could impair emergency services for the neighborhood.</i>
Response:	A. The sewer design has been changed to follow the existing location, no longer impacting lot 97. The existing sewer line will be replaced with a class 56 ductile iron pipe ensuring its longevity. Note also that any required maintenance associated with this portion of the sewer line will fall upon the building owner. Prior to issuance of a building permit, easement language



MILLENNIUM ENGINEERING, INC.

Land Surveyors and Civil Engineers

will be codified between the building owner and City DPW. Along the section of pipe to remain off the property line on lot 97 the bottom of garage footing will be set 1' below the invert of the existing sewer to mitigate any potential undermining of footing if work is required on the existing sewer pipe.

- B. We have maintained the previously proposed sidewalk and landscape islands and minimum roadway pavement width of 20 feet at this location. The City Planning Department is in favor of providing a sidewalk at this location and has expressed the view that the 20' roadway pavement width is appropriate to accommodate traffic here and will also serve to encourage reduced speeds.**

We trust this response letter provides the necessary information for the Board's consideration of the request for completeness. If you have any questions or comments, please feel free to contact our office at your convenience.

Sincerely,

Millennium Engineering, Inc.

Stephen Sawyer

Stephen Sawyer, P.E.
Sr. Project Manager