DRAINAGE REPORT

KING STREET COMMONS
MIXED-USE SUBDIVISION

ASSESSORS MAP U08, LOT 10-0
550 KING STREET
LITTLETON, MASSACHUSETTS

Prepared for:

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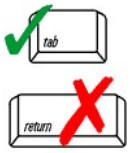
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

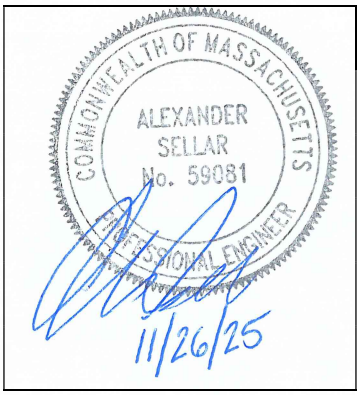
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☐ Redevelopment

☒ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

☒ No disturbance to any Wetland Resource Areas

☒ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☒ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☒ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☒ Other (describe): Water Quality Units

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☒ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☒ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☒ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☒ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☒ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☒ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

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Narrative

Introduction

550 King Street, LLC, “the Applicant” is proposing a mixed-use subdivision at 550 King Street comprised of 21 lots. The proposed master plan development of these lots consists of approximately 865 residential units, 67 hotel units, 112,880 SF of commercial/retail space, 19,000 SF of office space, and a re-use of the existing IBM office buildings which total 545,500 SF. The project is identified on the Town of Littleton’s Assessors Map U08, Lot 10-0 within the King Street Common Zoning District. This parcel, “The Site”, is situated between the intersection of King Street (southeasterly bound), Great Road (southwesterly bound), and Route 495 (northerly bound) as defined on the *Project Location Map* (Figure 1).

A portion of the 43.2 acreage, approximately 6.04 acres will become a public right-of-way herein referred to as “The Right-of-Way”. The Applicant is proposing to redevelop the right-of-way by constructing a boulevard-style two lane road with 158 on-street parking spaces, utilities which will service the subdivided parcels, stormwater management infrastructure, and landscaped areas. Approximately 415 linear feet of roadway with associated drainage and utilities has been previously constructed within the Right-of-Way.

The Phase I Retail Development, “Retail Site”, occupies approximately 6.2 acres of the Site. The Retail Site is bounded by King Street (southerly bound), Lot U08-10-19 (westerly bound), and the right-of-way (northerly and easterly bound). The Retail Site encompasses five buildings with approximately 31,500 SF restaurant use, 40,830 SF retail use, 44 residential units, a parking structure with 487 spaces, and 64 at-grade parking spaces.

This drainage study was performed in order to assess the potential impacts of the proposed improvements and to provide measures to mitigate any impacts of the project. Currently, the Site consists of buildings, paved roadway and parking areas, concrete sidewalks, and landscaped areas. Runoff from the existing Site impervious area is collected in catch basins or roof drains and directed to one ten design points. The project will provide a

stormwater management system incorporating traditional and Low Impact Design (LID) Best Management Practices (BMPs). This analysis has been prepared to verify that the project will not have an adverse effect on the stormwater conditions both on-site and off-site.

The Stormwater Management Plan has been designed to comply with all pertinent state and local standards including the Massachusetts Stormwater Handbook. The proposed project improves upon existing conditions by reducing peak runoff rates, decreasing the risk of erosion and sedimentation, and improving stormwater runoff quality by removing total suspended solids (TSS).

Existing Conditions

The existing Site is approximately 44.25 acres consisting of 52.49% impervious paved site driveways, parking areas, sidewalks, and 47.49% pervious landscaped islands and vegetated areas. Site topography generally grades away from the middle of the site, where runoff is conveyed via catch basins and drainage pipe networks to different points. The Site has two major 2:1 sloping hills, one in the center of the Site and one at the northwest corner of the Site. Another gently sloping hill exists at the west corner of the Site. The remainder of the Site is gently sloping.

The Retail Site topography generally grades away from the top of the site, where runoff is conveyed via catch basins and drainage pipe network to different points. The existing site consists of grass and wooded area, parking lots, roadway, the Tuttle House, and associated landscaped areas.

The Site is comprised of a variety of soil groups according to the Natural Resources Conservation Service Web Soil Survey (NRCS), which includes Paxton-Urban land complex, Udorthents-urban land complex, Woodbridge fine sandy loam, Merrimac-Urban land complex, Scarboro mucky fine sandy loam, and Canton fine sandy loam, which span from hydrologic soil groups A to D. Please refer to Figure 2 to review the NRCS Soil Map which depicts the various soils present at and around the Site. Test pits were performed on December 21, 2023, January 3, 2024, November 19, 2025, and November 20, 2025. The test pits revealed that the Site is primarily composed of fill and sandy soils. Please see the attached Test Pit Logs in Appendix G.

According to the FEMA Flood Insurance Rate Maps (FIRM), map number 25017C0236F, dated July 7, 2014, the project is located within an area of minimal flood hazard, denoted Zone X. Please see attached FEMA National Flood Hazard Layer FIRMette.

Proposed Conditions

The proposed Site conditions as pertaining to stormwater management are in accordance with MEPA review and all applicable regulations. The Site's stormwater management includes traditional deep sump and hooded catch basins, proprietary pretreatment devices, subsurface infiltration basins (SSIB), subsurface detention structures, and a rain garden for the reduction of peak runoff and removal of TSS in post-construction conditions. The proposed Site conditions result in an increase in impervious cover compared to existing conditions, rendering the project both redevelopment and new development. However, for permitting purposes, the Applicant will fully meet new development standards. The proposed conditions for the masterplan will have 69.15% impervious area consisting of paved roadway and parking areas, curbing, and cement concrete sidewalks, and 30.85% pervious landscaped areas.

The Right-of-Way will consist of approximately 2,600 linear feet of two-lane roadway, with street parking, landscaping, subsurface utilities, and stormwater infrastructure. Runoff from the right-of-way will be managed by a rain garden, subsurface infiltration basins, a subsurface detention structure, and a traditional catch basin and manhole conveyance system.

The Retail Site will consist of five buildings with associated utilities infrastructure, parking lot, a paved pedestrian corridor, stormwater management infrastructure, and landscaped areas. The Retail Site has 80% impervious cover. Runoff from impervious cover will be managed by a subsurface infiltration basin, one subsurface detention structure, and five proprietary water quality units. A subsurface system located on the Retail Site and currently collecting runoff from an existing building not located within the Retail Site will be removed and replaced within the Right-of-Way.

The proposed stormwater management system has been designed in accordance with the Massachusetts Stormwater Handbook and includes traditional and LID BMPs. The stormwater management system has been designed to provide water quality treatment for 1" of runoff from all proposed impervious area.

Methodology

The Stormwater Management Plan, which will be implemented as part of this project, will provide adequate collection, management, and treatment of the stormwater runoff. The proposed stormwater management system will comply with the standards set forth in the Massachusetts Stormwater Handbook.

Existing and proposed hydrologic conditions were analyzed using HydroCAD, an SCS TR-20 based program, to calculate existing and proposed peak discharge rates. This method takes into account existing and proposed pervious and impervious areas including soil types and hydrologic classifications. Peak rainfall data was collected for the Site from the NRCS rainfall data. The 2-, 10-, 25-, 50- and 100-year, 24-hour storm frequencies were used in the analysis in accordance with the Massachusetts Department of Environmental Protection (MassDEP) and Town of Littleton requirements. The "Regulatory Compliance" portion of this report addresses the ten MassDEP Stormwater Standards listed in the Massachusetts Stormwater Handbook.

The HydroCAD analysis was completed utilizing ten (10) design points. Design Points 1, 2, and 3 are solely internal design points. Design Points 4 through 10 are external to the Site and utilized for the comparison and pre- and post-development peak flows. The Design Points are as follows:

Design Point 1 (DP-1): An existing 18" flared end section outlet directed into the existing stormwater wetland (DP-6), located in the west corner of the Site.

Design Point 2 (DP-2): An existing 24" flared end section outlet directed into the existing stormwater wetland, located in the west corner of the Site.

Design Point 3 (DP-3): An existing 48" pipe outlet directed into the existing stormwater wetland located in the west corner of the Site.

Design Point 4 (DP-4): The closed drainage system within King Street (Route 110) near the east corner of the Site.

Design Point 5 (DP-5): Two existing 18" flared end section outlets directed towards the wetland located in the northeast corner of the Site.

Design Point 6 (DP-6): The existing stormwater wetland located in the west corner of the 550 King Street site. DP-1, DP-2, and DP-3 are directed to DP-6.

Design Point 7 (DP-7): An existing stormwater pond located in the south corner of the 550 King Street site.

Design Point 8 (DP-8): An existing stormwater pond located in the south corner of the 550 King Street site.

Design Point 9 (D-9): Southwest of the Site.

Design Point 10 (DP-10): North of the Site and adjacent to I-495.

Pre-Development Runoff

The existing Site, 550 King Street, contains approximately 915,858 SF of pervious land consisting of landscaped areas and undisturbed vegetated areas, and 1,011,673 SF of impervious area consisting of asphalt parking and roadway, sidewalks, building roof, and wetlands. Stormwater from the abutting lots U08-5-0, U08-6-0, and U08-7-0 also flows onto the site.

In the Site's current condition, there are twenty-one existing subcatchment areas. The *Pre-Development Drainage Areas* are depicted in Figure D-1 of this report. This figure presents the delineation of the existing catchment areas and design points.

Existing subcatchment area 1.1 is comprised of 8,170 SF of pervious area consisting of landscaped area, and 28,946 SF of impervious area consisting of paved surfaces. The subcatchment is predominantly hydrologic soil group (HSG) A. The subcatchment consists of previously developed land which is roadway and associated landscaping. Stormwater runoff from this subcatchment flows over land prior to being collected via catch basins and conveyed through a closed drainage system prior to being discharged to DP-1.

Existing subcatchment area 1.2 is comprised of 52,654 SF of pervious area consisting of on-site landscaping and 20,212 SF of impervious area consisting of a portion of the abutting parcels U08-5-0, 6-0, and 7-0, which are developed as commercial and residential properties. The primary HSG A and C. Stormwater runoff from this subcatchment flows over land prior to collection in a closed drainage system and conveyance to DP-1.

Existing subcatchment area 2.1 is comprised of 28,188 SF of pervious area consisting of landscaped islands and areas, and 94,517 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG group D with HSG C. The subcatchment consists of previously developed land which includes paved surface, roadway, and associated landscaping. Stormwater runoff from this subcatchment flows over land prior to being collected via catch basins and conveyed through a closed drainage system prior to being discharged to DP-2.

Existing subcatchment area 3.1 is comprised of 195,398 SF of pervious area consisting of landscaped islands and areas, and 386,822 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG group D with HSG C. The subcatchment consists of previously developed land which includes paved surface, roadway, and associated landscaping. Stormwater runoff from this subcatchment flows over land prior to being collected via catch basins and conveyed through a closed drainage system prior to being discharged to DP-3.

Existing subcatchment area 3.2 is comprised of 8,600 SF of impervious area consisting of building roof. The subcatchment is HSG D. The subcatchment consists of previously developed land which includes building roof. Stormwater runoff from this subcatchment is collected in roof drains and conveyed through a closed drainage system and is then conveyed to DP-3.

Existing subcatchment area 3.3 is comprised of 48,120 SF of pervious area consisting of landscaped islands and areas, and 24,667 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG C. The subcatchment consists of previously developed land which includes roadway and associated landscaping. Stormwater runoff from this subcatchment flows over land prior to collection in a closed drainage system and is then conveyed to DP-3.

Existing subcatchment area 3.4 is comprised of 91,130 SF of impervious area consisting of building roof. The subcatchment is predominantly HSG C. The subcatchment consists of previously developed land which includes building roof. Stormwater runoff from this subcatchment is collected in roof drains conveyed to closed drainage system and is then conveyed to DP-3.

Existing subcatchment area 3.5 is comprised of 90,902 SF of impervious area consisting of building roof. The subcatchment is HSG C & D. The subcatchment consists of previously developed land which includes building roof. Stormwater runoff from this subcatchment is collected in roof drains and conveyed through a closed drainage system and is then conveyed to DP-3.

Existing subcatchment area 4.1 is comprised of 29,324 SF of pervious area consisting of landscaped islands and areas, and 9,289 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG D. The subcatchment consists of previously developed land which includes roadway and associated landscaping. Stormwater runoff from this subcatchment flows over land prior to collection to King Street closed drainage system, DP-4.

Existing subcatchment area 5.1 is comprised of 16,594 SF of pervious area consisting of landscaped islands and areas, and 42,924 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG D. The subcatchment consists of previously developed land which includes roadway and associated landscaping. Stormwater runoff from this subcatchment flows over land prior to being collected via catch basins and conveyed through a closed drainage system prior to being discharged to existing wetland, DP-5.

Existing subcatchment area 5.2 is comprised of 25,282 SF of pervious area consisting of landscaped islands and areas, and 178 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG D. The subcatchment consists of previously developed land which includes

paved surface parking, roadway, and associated landscaping. Stormwater runoff from this subcatchment sheet flows over land prior to collection to existing wetland, DP-5.

Existing subcatchment area 5.3 is comprised of 99,793 SF of pervious area consisting existing wetland, grass, woods, landscaped islands and areas, and 73,286 SF of impervious area consisting of paved surface parking. The subcatchment is predominantly HSG D also with HSG B. Stormwater runoff from this subcatchment flows over land prior to discharge to existing wetland, DP-5.

Existing subcatchment area 5.4 is comprised of 57,396 SF of pervious area consisting of grass, woods, landscaped islands and areas, and 98,233 SF of impervious area consisting of paved surface parking, roadway. The subcatchment is predominantly HSG D also with HSG C & B. Stormwater runoff from this subcatchment flows over land prior to being collected via catch basins and conveyed through a closed drainage system prior to being discharged to DP-5.

Existing subcatchment area 6.1 consists of a wetland that is surrounding undisturbed vegetated buffer zone. The subcatchment is HSG D also with group A. Stormwater runoff from this subcatchment flows over land to DP-6.

Existing subcatchment areas 7.1 is comprised of 1,330 SF of impervious area consisting of the historic Tuttle House and 114,576 SF of pervious area from the associated landscaping, grass, and woods. The predominant HSG C also with HSG D. Stormwater runoff from the subcatchment infiltrates or sheet flows over land to existing stormwater management ponds. The ponds lack outlet devices; it is presumed that the pond infiltrates.

Existing subcatchment areas 8.1 is comprised of 9,409 SF of impervious area consist of the historic Tuttle House and 14,405 SF of pervious area from the associated landscaping. The predominant HSG C also with HSG D. Stormwater runoff from the subcatchment infiltrates or sheet flows over land to existing stormwater management ponds. The ponds outlet devices, it is presumed that the pond infiltrates.

Existing subcatchment area 9.1 consists of 118,336 SF pervious land with grassed and wooded land cover. The predominant HSG is D with HSG C. Stormwater runoff from subcatchment flows over land to DP-9.

Existing subcatchment area 10.1 consists of 12,178 SF pervious land with grassed and wooded land cover. The predominant HSG is D with HSG C. Stormwater runoff from subcatchment flows over land to DP-10.

Existing subcatchment area 10.2 consists of 5,430 SF pervious land with grassed and wooded land cover. The predominant HSG is D with HSG B. Stormwater runoff from subcatchment flows over land to DP-10.

Existing subcatchment area 10.3 consists of 475 SF pervious land with grassed and wooded land cover. The predominant HSG B. Stormwater runoff from subcatchment flows over land to DP-10.

Existing subcatchment area 10.4 consists of 611 SF pervious land with grassed and wooded land cover. The predominant HSG B. Stormwater runoff from subcatchment flows over land to DP-10.

Post-Development Runoff

The proposed stormwater management system is designed to mitigate the effects of the proposed development by reducing the peak runoff rates compared to the existing conditions. In the site's proposed conditions, for the masterplan there are 91 subcatchment areas. The majority of Commercial Phase 1 Site's runoff, including all runoff from impervious surfaces, is directed to water quality units which is then routed to either a CMP infiltration basin or a CMP detention basin.

Proposed Subcatchment Area 0.1 is comprised of 21,237 SF of pervious area with grasses and wooded land cover. The predominant HSG is D with soil group A. Stormwater runoff from 0.1 flows to offsite headwall southwest DP-9.

Proposed Subcatchment Area 0.2 is comprised of 78,058 SF of pervious area of grasses and wooded land cover and 6,669 of impervious area of water in the stormwater wetland. The predominant HSG is D with HSG A. Stormwater runoff from 0.2 flows to the existing stormwater wetland DP-6.

Proposed Subcatchment Area 0.3 is comprised of 45,378 SF of pervious area with grasses and wooded land cover. The predominant HSG is D with HSG C Stormwater runoff from 0.3 flows to offsite headwall southwest, DP-9.

Proposed Subcatchment Area 0.4 is comprised of 2,842 SF of pervious area of grasses and wooded land cover. The predominant HSG is D with HSG A. Stormwater runoff from 0.1 flows to the existing headwall, DP-3 and then flows to the existing King St Closed Drainage System, DP-4.

Proposed Subcatchment Area 0.5 is comprised of 12,178 SF of pervious area with grasses and wooded land cover. The predominant HSG is D with HSG C. Stormwater runoff from 0.5 flows to the existing wetland, DP-10.

Proposed Subcatchment Area 0.6 is comprised of 5,430 SF of pervious area with grassed and wooded land cover. The predominant HSG is D with HSG B. Stormwater runoff from 0.6 flows to the existing wetland, DP-10.

Proposed Subcatchment Area 0.7 is comprised of 23,835 SF of pervious area of grasses and wooded land cover. The predominant HSG is D with soil group B. Stormwater runoff from 0.7 flows to the existing wetland, DP-5.

Proposed Subcatchment Area 0.8 is comprised of 55,313 SF of pervious area. The predominant HSG is B with HSG D. Stormwater runoff from 0.8 flows to the existing wetland, DP-5.

Proposed Subcatchment Area 0.9 is comprised of 475 SF of pervious area with grassed and wooded land cover. The predominant HSG is B. Stormwater runoff from 0.9 flows to the existing wetland, DP-10.

Proposed Subcatchment Area 0.10 is comprised of 612 SF of pervious area with grassed and wooded land cover. The predominant HSG is B. Stormwater runoff from 0.10 flows to the existing wetland, DP-10.

Proposed Subcatchment Area 0.11 is comprised of 5,583 SF of pervious area of grass. The predominant HSG is A. Stormwater runoff from 0.11 flows over land and is captured by the existing headwall at DP-1.

Proposed Subcatchment Area 0.12 is comprised of 8,597 SF of pervious area consisting of grassed and wooded area. The predominant HSG is A. Stormwater runoff from 0.12 flows to the existing headwall, DP-1 and then the existing stormwater wetland, DP-6.

Proposed Subcatchment Area 0.13 is comprised of 18,120 SF of pervious area consisting of grassed and wooded area and 3,270 SF of impervious area. The predominant HSG is A. Stormwater runoff from 0.13 flows to the existing headwall, DP-1 and then the existing stormwater wetland, DP-6.

Proposed Subcatchment Area 1.1 is comprised of 4,668 SF of pervious area with grass. The predominant HSG is an also with HSG D. Stormwater runoff from 1.1 infiltrates into the ground through the proposed rain garden or overflows to the existing stormwater wetland, DP-1.

Proposed Subcatchment Area 2.1 is comprised of 7,110 SF of pervious area consisting of landscaped islands and areas, and 36,639 SF of impervious area consisting of paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D also with HSG C. Stormwater runoff from 2.1 is captured in catch basins, then routed through a proposed CMP infiltration basin, a water quality unit, and then the proposed rain garden where water either infiltrates into the ground or overflows to the existing stormwater wetland, DP-1.

Proposed Subcatchment Area 2.2 is comprised of 41,321 SF of pervious area consisting of landscaped islands and areas, and 85,949 SF of impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D also with HSG A. Stormwater runoff

from 2.2 is captured in catch basins, then routed through a proposed CMP infiltration basin and then through the existing headwall, DP-3, to the existing stormwater wetland, DP-6.

Proposed Subcatchment Area 3.1 is comprised of 22,543 of pervious area consisting of landscapes islands and areas, and 97,540 SF of impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is A with HSG C. Stormwater runoff from 3.1 is captured in catch basins, then routed through a proposed CMP infiltration basin and then through to the existing stormwater wetland, DP-6.

Proposed Subcatchment Area 4.1 is comprised of 45,194 SF of pervious area consisting of landscaped islands and area, and of 87,217 SF impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D with HSG C. Stormwater runoff from 4.1 is captured in catch basins, then routed through a proposed CMP infiltration basin and then through to the existing stormwater wetland, DP-6.

Proposed Subcatchment Area 4.2 is comprised of 15,848 SF of pervious area consisting of landscaped islands and area, and of 21,073 SF impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D. Stormwater runoff from 4.2 or is captured in catch basins, then routed through a proposed CMP infiltration basin, a water quality unit, and then through to the existing stormwater wetland, DP-6.

Proposed Subcatchment Area 4.3 is comprised of 9,878 SF of pervious area consisting of landscaped islands and area, and 17,732 SF of impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D with HSG C. Stormwater runoff from 4.3 infiltrates into the ground or is captured in catch basins, then routed through the proposed CMP infiltration basin, a water quality unit, and then through to the existing stormwater wetland, DP-6

Proposed Subcatchment Area 5.1 is comprised of 10,445 SF of pervious area consisting of landscape islands and area, and 39,954 SF of impervious area consisting of paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D with HSG C. Stormwater runoff from 5.1 is captured in catch basins, then routed through a built CMP infiltration basin, a water quality unit, and then through to the existing stormwater wetland, DP-5.

Proposed Subcatchment Area 6.1 is comprised of 71,073 SF of impervious area consisting of building, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is D with HSG C. Stormwater runoff from 6.1 is captured in catch basins, then routed through a proposed CMP infiltration basin.

Proposed Subcatchment Area 6.2 is comprised of 14,307 SF of pervious area consisting of landscaped islands and area, and 41,373 SF of impervious areas consisting of building, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is C. Stormwater runoff from 6.2 is captured in catch basins, then routed through a proposed CMP infiltration basin.

Proposed Subcatchment Areas (7.1, 7.2, 7.3, 7.4) is comprised of 1,541 SF of pervious area consisting of landscaped islands and area, and 16,451 SF of impervious areas consisting of building, paved roadway, parking areas, and cement concrete sidewalks. The predominant HSG is C & D. Stormwater runoff from the subcatchments is captured in catch basins, then routed through a water quality unit, the proposed CMP infiltration basin, and then through the existing stormwater wetland DP-6.

Proposed subcatchment area (7.7, 7.9) is comprised of 8,973 SF of impervious area consisting of building roofs. The HSG is C. Stormwater runoff is captured by roof drains, then routed through to CMP infiltration basin (P7).

Proposed subcatchment area (7.5, 7.6, 7.10, 7.11, 7.12, 7.13, 7.14) is comprised of 27,769 SF of impervious area consisting of paved roadway, parking area, and cement concrete sidewalks and 1,744 of SF of pervious area from landscaped islands and area. The HSG is D. Stormwater runoff is captured by catch basins then conveyed to CMP infiltration basin (P7).

Proposed subcatchment area (7.15, 7.16, 7.17, 7.18, 7.19, 7.20) is comprised of 34,330 SF of impervious area consisting of building roof. The predominant HSG is D. Stormwater runoff from the subcatchments is captured by roof drains, then routed through to the proposed CMP infiltration basin (P7).

Proposed subcatchment 7.21 is comprised of 670 SF of impervious area and 215 SF of impervious area. The predominant HSG is D. Stormwater runoff is captured by an area drain, then routed through to the proposed CMP infiltration basin (P7).

Proposed subcatchment area (7.22, 7.23, 7.24, 7.25, 7.26, 7.27, 7.28, 7.29, 7.30, 7.31 ,7.32, 7.33, 7.34, 7.35, 7.36, 7.37) is comprised of 32,385 SF of impervious area of cement concrete sidewalks consisting of predominantly pedestrian area modeled impervious for flexibility in design. The predominant HSG is D. Stormwater runoff from the subcatchments is captured by catch basins, then routed through a drainage system to the proposed CMP infiltration basin (P7).

Proposed subcatchment area (7.38, 7.39) is comprised of 12,060 SF of impervious area consisting of building 1200 roof. The predominant HSG is C & D. Stormwater runoff from the subcatchments is captured by roof drains then routed to the proposed CMP infiltration basin. (P7).

Proposed subcatchment area (7.40, 7.41) is comprised of 5,581 SF of impervious area consisting of paved roadway, parking area, and cement concrete sidewalks and 580 SF of pervious area. The predominant HSG is D. Stormwater runoff from the subcatchments is captured by catch basins, then routed through the proposed CMP infiltration basin (P7).

Proposed subcatchment area (7.42, 7.43, 7.44, 7.45) is comprised of 26,482 SF of impervious area consisting of building roof. The predominant HSG is D. Stormwater runoff from the subcatchments is captured by roof drains, then routed through the proposed CMP infiltration basin (P7).

Proposed subcatchment Area (7.46, 7.47, 7.48, 7.49, 7.50, 7.51) is comprised of 1,943 SF of impervious area consisting of paved roadway, parking area, and cement concrete sidewalks and 23,479 SF of pervious area from landscaped islands and areas. The HSG is D. Stormwater runoff is captured by catch basins, the routed through the proposed CMP infiltration basin (P7).

Proposed subcatchment area (7.52, 7.53, 7.54) is comprised of 4,817 SF of impervious area consisting of cement concrete sidewalk and 3,396 pervious area. The HSG is D. Stormwater runoff from the subcatchment is captured by an area drain, then routed through the proposed CMP infiltration basin.(P7)

Proposed subcatchment area (7.55, 7.56, 7.57, 7.58) is comprised of 28,741 SF of impervious area consisting of paved roadway, parking area, and cement concrete sidewalks and 3,984 of SF of pervious area from landscaped islands and areas. The HSG is D. Stormwater runoff is captured by catch basins, then routed through a closed drainage system to CMP infiltration basin (P7).

Proposed subcatchment area 8.1 is comprised of 90,966 SF of impervious area consisting of existing building B. The HSG is C and D. Stormwater runoff is captured by roof drains, then routed through a closed drainage system to CMP infiltration basin (P8).

Proposed subcatchment area 7.59 is comprised of 31,120 SF of impervious area consisting of parking garage. The HSG is D. Stormwater runoff is

captured in catch basins and routed a closed drainage system to the CMP infiltration basin (P7).

Proposed Subcatchment Area 9.1 is comprised of 59,374 SF of pervious area consisting of grassed land area, wooded land area, and landscaped islands and areas and 20,375 SF of impervious area. Stormwater runoff from 9.1 infiltrates into the ground or is captured in catch basins, then routed through the proposed CMP infiltration basin.

Proposed Subcatchment Area 9.2 is comprised of 118,363 SF of pervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. Stormwater runoff from 9.2 is captured in catch basins, then routed through the proposed CMP infiltration basin.

Proposed Subcatchment Area 10.1 is comprised of 38,384 SF of pervious area consisting of landscaped islands and area, and 93,145 SF of impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. Stormwater runs off from 10.1 infiltrates into the ground or is captured in catch basins, then routed through the proposed CMP infiltration basin.

Proposed Subcatchment Area 10.2 is comprised of 43,257 SF of pervious area consisting of existing wetland and landscaped islands and area, and 36,047 SF of impervious area consisting of buildings, paved roadway, parking areas, and cement concrete sidewalks. Stormwater runs off from 10.2 infiltrates into the ground or is captured in deep-sump and hooded catch basins, then routed through the proposed CMP infiltration basin.

Proposed Subcatchment Area 11.1 is comprised of 57,181 SF of pervious area consisting of existing landscaped islands and area, and # SF of impervious area consisting of building roof. Stormwater runoff form 11.1 is captured by roof drains, then routed through the proposed CMP infiltration basin.

Proposed Subcatchment Area 12.1 is comprised of 6,953 SF of pervious area consisting of existing landscape islands and area, and 20,278 SF of impervious area consisting of buildings, paved roadway, parking areas and cement concrete sidewalks. Stormwater runs off from 13.1 infiltrates into the ground or is captured by catch basins or roof drains, then routed through the proposed CMP infiltration basin.

Proposed Subcatchment Area 12.2 is comprised of 91,111 SF of impervious area consisting of building roof. Stormwater runoff from 13.2 is capture by roof drains, then routed through the proposed CMP infiltration basin.

Regulatory Compliance

The project is designed to new development standards. The Site's stormwater management design will improve upon existing conditions, and fully meets all Massachusetts Stormwater Management Standards for both the redevelopment and new development.

Standard 1: No New Untreated Discharges

No new untreated discharges are proposed or will be permitted as part of this development. Similar drainage paths are maintained from pre to post development. Refer to standards 4 through 6 for required computations.

Standard 2: Peak Rate Attenuation

The proposed project meets Standard 2. The post-development peak flow is mitigated by the proposed subsurface CMP infiltration basin and rain garden. Peak discharges were calculated using HydroCAD, a TR-20 program, and include all land area within the Site and draining onto the Site. The post-development peak discharge rates do not exceed pre-development peak discharge rates for all storm events, as seen in Table 1. Please see Appendix A for the full hydrologic calculations.

Table 1: Peak Flow Summary

	2-Year Storm		10-Year Storm		25-Year Storm		50-Year Storm		100-Year Storm	
Design Point	Exist (cfs)	Prop (cfs)	Exist (cfs)	Prop (cfs)	Exist (cfs)	Prop (cfs)	Exist (cfs)	Prop (cfs)	Exist (cfs)	Prop (cfs)
DP-1 Headwall*See note below	2.18	1.25	3.68	4.87	5.07	9.65	6.43	12.11	8.11	14.93
DP-2 Headwall	7.41	0.32	11.73	3.53	15.07	7.22	7.22	10.78	21.83	21.36
DP-3 Headwall	34.08	18.28	66.10	34.97	85.7	50.25	61.63	91.25	146.3	143.19
DP-4 King St Closed Drainage System	1.37	0.19	2.55	0.29	3.48	0.37	0.37	0.44	5.4	0.53
DP-5 Existing Wetland	13.76	10.32	23.5	28.25	31.17	43.21	27.39	34.59	46.79	44.13
DP-6 Existing Stormwater Wetland	44.55	19.6	85.11	41.66	112.04	63.34	75.39	111.10	188.17	175.58
DP-7	3.96	0	8.33	0	12	0	0	0	19.75	0
DP-8	0.96	0	1.81	0	2.5	0	0	0	3.9	0

DP-9 Off-Site Headwall West	3.06	1.59	6.81	3.62	10.01	5.37	5.37	7.07	16.85	9.15
DP-10	0.47	0.47	1.05	1.05	1.55	1.55	2.03	2.03	2.61	2.61

*Note: DP-1, -2, and -3 are internal points of analyses for reviewing the stormwater flow conditions discharging into the existing stormwater wetland (DP-6). These internal points of analyses are not discharging off-site and therefore are not subject to Standard 2 requirements.

Standard 3: Recharge

Soil types were determined from the NRCS Soil Resource Report (Appendix C) and confirmed with test pits (Appendix G). The soils onsite are hydrologic soil group (HSG) A (Merrimac-Urban land complex), B (Canton fine sandy loam), C (Woodbridge fine sandy loam and Paxton-Urban land complex), and D (Scarboro Mucky fine sandy loam and Udorthents-Urban land complex) soils.

The required recharge volume has been calculated below in accordance with the Massachusetts Stormwater Manual.

At least 44% of the TSS is removed prior to discharge to the infiltration structure through Contech CDS treatment systems. This is due to the site being a land use with a higher potential pollutant load.
The CMP infiltration basin receives pre-treatment from Contech Cascade® water quality units, receiving a minimum of 80% TSS removal.

Required Recharge Volume:

Rv = F x impervious area
Rv = Required Recharge Volume, expressed in Ft3, cubic yards, or acre-feet
F = Target Depth Factor associated with each Hydrologic Soil Group
Impervious Area = pavement, cement concrete sidewalk

Rv= $(F_A)(Imp_A)$ = (0.6inch)(1 foot/12inch)(65,579SF) = 3,279 CF

Table 2: Unadjusted Required Recharge Volume

Hydrologic Soil Group	F	Impervious Area (SF)	Rv (CF)
A	0.60 inch	65,579	3,279
B	0.35 inch	0	0
C	0.25 inch	415,905	8,665
D	0.10 inch	844,699	7,039
Total			18,983

Table 3: Adjusted Required Recharge and Provided Recharge

BMP	Required Recharge	Provided Recharge	Notes
Pond 1	**0**	**2,938**	**See masterplan**
Pond 2	**2,018**	**13,910**	**See masterplan**
Pond 3	**3,574**	**6,914**	**See masterplan**
Pond 4	**1,400**	**13,063**	**See masterplan**
Pond 5	**566**	**2,496**	**Constructed Infrastructure Phase 1**
Pond 6	**1,988**	**2,179**	**See masterplan**
Pond 7	**3,690**	**4,226**	**Commercial Phase 1**
Pond 8	**1,406**	**0**	**Commercial Phase 1**
Pond 9	**1,615**	**0**	**See masterplan**
Pond 10	**1,226**	**9,007**	**See masterplan**
Pond 11	**656**	**743**	**See masterplan**
Pond 12	**2,642**	**2,819**	**See masterplan**
Unassociated Areas	**1,329**		
Total:	**22,309**	**82,051**	

The required recharge was calculated using the adjusted infiltration factor due to pond 8 and 9 being detention. Pond 7 accounts for pond 8. Due to not all impervious areas being directed to an infiltration BMP. 85% of impervious area is directed to infiltration exceeding the 65% minimum. The provided recharge is more than the required recharge.

Adjusted Required Recharge Volume:

ARv = Rv x (Total Impervious Area / Impervious Area Directed to BMP)
ARv = (18,983 CF) (1,326,183 SF/ 1,128,427 SF) = 22,309 CF

Drawdown Calculation Pond 7

K = Saturated Hydraulic Conductivity (Rawls Rate)
Rv = Storage Volume

$Time_{drawdown}$ *= Rv / (K)(Bottom Area)*
$Time_{drawdown}$ *= [4,226 CF / (2.41 in/hr)(8,190SF)] x [12 in / 1 FT] = 2.57 hours*

The adjusted required recharge volume will be fully pre-treated and infiltrated by the proposed CMP infiltration system. Pond 7 is designed to meet the required recharge and it holds 4,226 recharge which is greater than the 3,633 required amount. The BMP will drain within 72 hours in accordance with the Massachusetts Stormwater Standards.

Further infiltration in excess of the adjusted required recharge volume will be provided by the subsurface corrugated metal pipe infiltration basin. A Rawl's

rate of 2.41 in/hr was utilized in calculations due to it being loamy sand, as determined by Test Pit 18 and 19 (Appendix G).

Standard 4: Water Quality

Currently, there are no TSS removal BMPs onsite. Runoff flows directly into catch basins before being discharged to the constructed stormwater wetland or to the closed drainage system along King Street, or it infiltrates into the ground.

MassDEP Performance Standard 4 requires a TSS removal of at least 80%. The stormwater management plan for the masterplan utilizes BMPs such as CMP infiltration basins, subsurface infiltration basins (SSIB), deep-sump and hooded catch basins, and proprietary flow-through devices to meet this standard.

The retail site utilizes TSS removal with catch basins, five Contech CDS water quality units, a CMP infiltration basin, and a CMP detention basin. A minimum of 80% TSS removal must be attained prior to infiltration. Runoff from impervious surfaces directed to infiltration practices receive 80% TSS removal credit per the Massachusetts Stormwater Handbook. The impervious area is treated by hydrodynamic separators such as Contech CDS to 80% TSS removal. Units are size based in final impervious cover and HydroCAD runoff modeling.

Because the site is designated a Land Use with a Higher Potential Pollutant Load (LUHPPL), because it will generate greater than 1000 vehicle trips per day, 44% TSS Removal must be attained prior to infiltration. Both ADS Stormtech and Corrugated Metal Pipe (CMP) infiltration systems are proposed. Where runoff is infiltrated via a ADS Stormtech system, 44% TSS removal is attained by catch basins and a proprietary isolater row plus (IRP+) in series, Where runoff is infiltrated via a CMP system, 44% TSS removal is achieved through propriety hydrodynamic separators such as Contech CDS. The hydrodynamic separator units are sized for a flow, as determined by the HydroCAD model.

Proposed water quality treatment includes catch basins, five Contech Cascade® water quality units.

The required water quality volume (WQV) has been calculated below in accordance with the Massachusetts Stormwater Manual.

Site Water Quality Volume:

V_{WQ} = Required Water Quality Volume (in cubic feet)

D_{WQ} = Water Quality Depth: 1-inch
A_{IMP} = Impervious Area (in acres)

V_{WQ} = D_{WQ} x A_{IMP}
= [(1 inch)(1,326,183 SF)] x [1 FT / 12 in]
= 110,515 CF (2.54 AF)

The water quality flow (WQF) has been calculated below to properly size the water quality units and is summarized in Table 3. All runoff from impervious areas will be treated catch basins and prior to infiltration. Water quality units have been sized to provide a minimum of 80% annual net TSS removal, exceeding the 80% net TSS removal standard.

Example Water Quality Flow Calculation for WQU-101:

Q = Required Water Quality Flow (in cfs)
CN = 98
Tc = 0.1
qu = 774 csm/in
A= 2.53

Q = (qu)(A)(WQV)
Q = (774 csm/in)(2.53 AC)(1 mi^2 / 640 AC)(1 inch) = 3.06 cfs

Table 4 Water Quality Unit Summary

Unit	Contributing Impervious Area (AC)	Time of Concentration (hr)	qu (Type III Storm)	Water Quality Flow (CFS)	Model to Treat WQF
WQU101	2.53	0.1	774	3.06	3035-6
WQU102	0.79	0.1	774	0.96	2025-5
WQU103	2.17	0.1	774	2.62	3035-6
WQU104	0.44	0.1	774	0.53	2015-4
WQU105	0.4	0.1	774	0.48	2015-4

Treatment train 1 treats runoff from subcatchment areas 7.20, 7.21, 7.46, 7.47, and 7.48. Groundcover includes part of building 1300, a parking lot, roadway, sidewalks, and landscaped area. Runoff is collected in catch basins which is routed to WQU-101 where it removes 80% TSS which meets the 44% TSS removal pre-treatment from the LUHPPL requirement. The runoff is then conveyed to the subsurface CMP infiltration basin.

Treatment train 2 treats runoff from subcatchment areas 7.45, 7.49 7.50, 7.51, and 7.5. Groundcover includes part of building 1500, a parking lot, roadway, sidewalks, and landscaped area. Runoff is collected in catch basins which is routed to WQU-102 where it removes 80% TSS which meets the 44% TSS removal pre-treatment from the LUHPPL requirement. The runoff is then conveyed to the subsurface CMP infiltration basin.

Treatment train 3 treats runoff from subcatchment areas 7.6, 7.7, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.55, 7.56, 7.57, 7.58, and 7.59. Groundcover includes building 1100, a parking lot, roadway, sidewalks, and landscaped area. Runoff is collected in catch basins which is routed to WQU-103 where it removes 80% TSS which meets the 44% TSS removal pre-treatment from the LUHPPL requirement. The runoff is then conveyed to the subsurface CMP infiltration basin.

Treatment train 4 treats runoff from subcatchment areas 7.24, 7.39, 7.40, 7.41, and 7.54. Groundcover includes part of building 1200, a parking lot, roadway, sidewalk, and landscaped area. Runoff is collected in catch basins which is routed to WQU-104 where it removes 80% TSS which meets the 44% TSS removal pre-treatment from the LUHPPL requirement. The runoff is then conveyed to the subsurface CMP infiltration basin.

Treatment train 5 treats runoff from subcatchment areas 7.1, 7.2, 7.3, 7.4, and 7.5. Groundcover includes roadway, sidewalks, and landscaped area. Runoff is collected in catch basins which is routed to WQU-105 where it removes 80% TSS which meets the 44% TSS removal pre-treatment from the LUHPPL requirement. The runoff is then conveyed to the subsurface CMP infiltration basin.

Standard 5: Land Uses with Higher Potential Pollutant Loads

The site includes a high-intensity use parking lots with an estimated greater than 1000 trips per day. Therefore, the site is a Land Use with a Higher Potential Pollutant Load (LUHPPL). This standard has been met by using 1 inch to calculate the required recharge volume (see Standard 3). The 44% LUHPPL TSS pre-treatment requirement prior to infiltration is exceeded (see Standard 4).

Standard 6: Critical Areas

Stormwater will not discharge to any critical areas.

Standard 7: Redevelopment Projects

The flow from this site is mitigated as if the site is a new development. The site exceeds redevelopment standards and meets new development standards.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

This project is covered by an NPDES Construction General Permit. The CPPP and Erosion Prevention & Sedimentation Control Plan can be found in Appendix E of this report.

Standard 9: Operation and Maintenance Plan

The roadway will be maintained by the owner as described in the O&M procedures. Standard O&M procedures will be used on the parking lot including catch basin cleaning, and inspection of drainage infrastructure. Please see the Operation & Maintenance Plan in Appendix D of this report for more detail.

Standard 10: Illicit Discharges

No illicit discharges are expected nor will be permitted as part of the redevelopment project. An Illicit Discharge Compliance Statement can be found in Appendix F of this report.

Conclusion

The proposed site redevelopment will transform the existing site into a mixed-use development offering quality residential and commercial opportunities. The project also provides a stormwater management system to mitigate the increasing Site impervious cover associated with the project and drastically increase the quality of runoff leaving the site. The stormwater management plan controls the flow of stormwater, reduces peak runoff rates, promotes stormwater infiltration, and provides water quality treatment. The stormwater management plan provides erosion and sediment control resulting in cleaner stormwater runoff. The project has been designed in accordance with the Massachusetts Stormwater Handbook and will not adversely impact resource areas or abutting properties.

Figure 1 – Project Location Map
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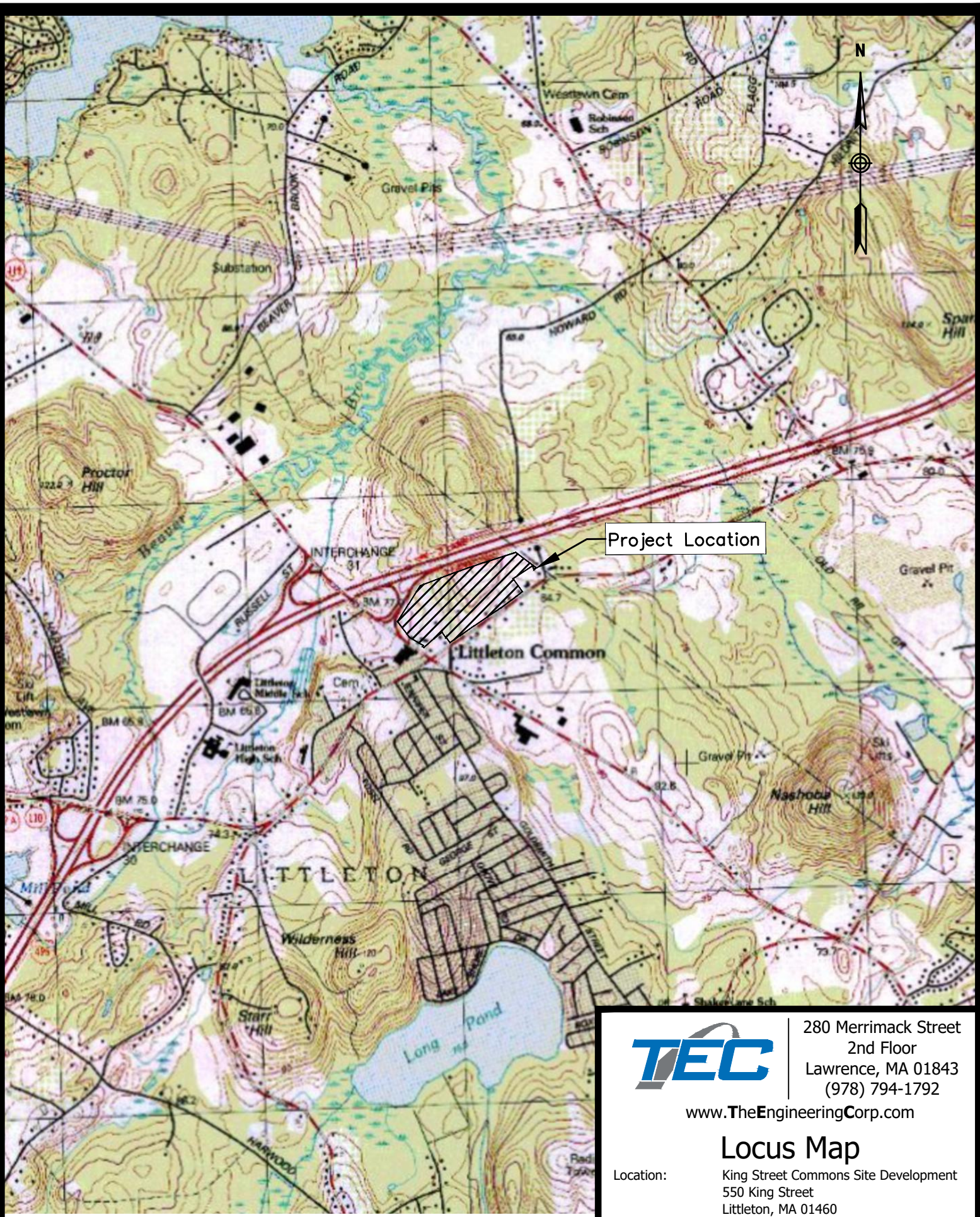

November 26th, 2025

280 Merrimack Street
2nd Floor
Lawrence, MA 01843
(978) 794-1792
www.TheEngineeringCorp.com

Locus Map

Location: King Street Commons Site Development
550 King Street
Littleton, MA 01460

Prepared For: 550 King Street, LLC
290 Merrimack Street
Lawrence, MA 01843

Figure 2 – NRCS Soil Map
(Intentionally LEFT BLANK)

Custom Soil Resource Report
Soil Map

Map Scale: 1:5,620 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 22, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Figure 3 – FEMA FIRM
(Intentionally LEFT BLANK)

National Flood Hazard Layer FIRMette

FEMA

71°28'34"W 42°33'12"N

71°27'56"W 42°32'46"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/15/2023 at 10:23 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Figure D-1 Pre-Development Drainage Areas
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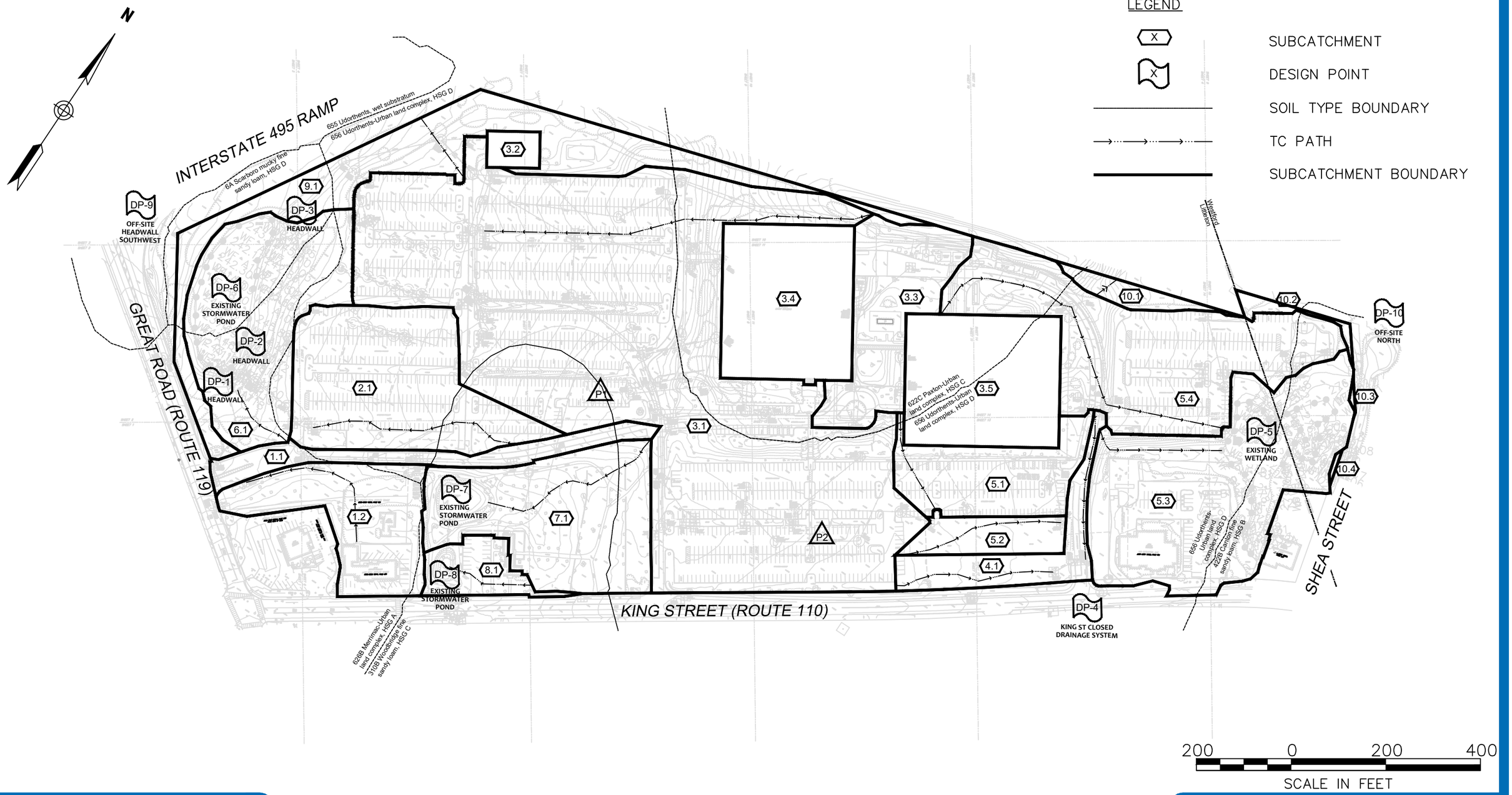
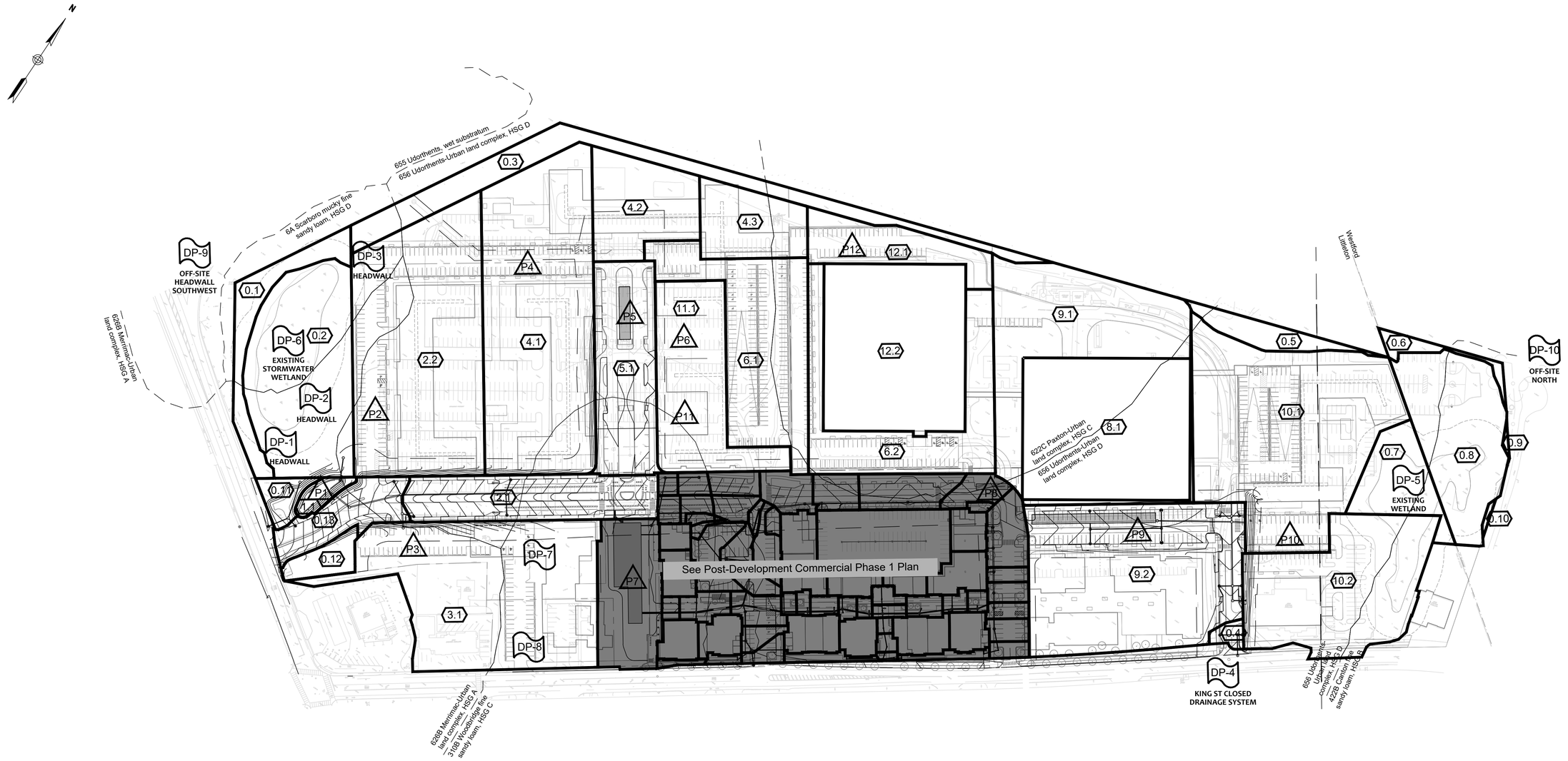


TEC
The Engineering Corp

Pre-Development Drainage Areas
King Street Common
Littleton, Massachusetts
November 26, 2025

Figure D-2 – Post Development Drainage Areas
(Intentionally LEFT BLANK)



100 0 100 200
SCALE IN FEET

Post-Development

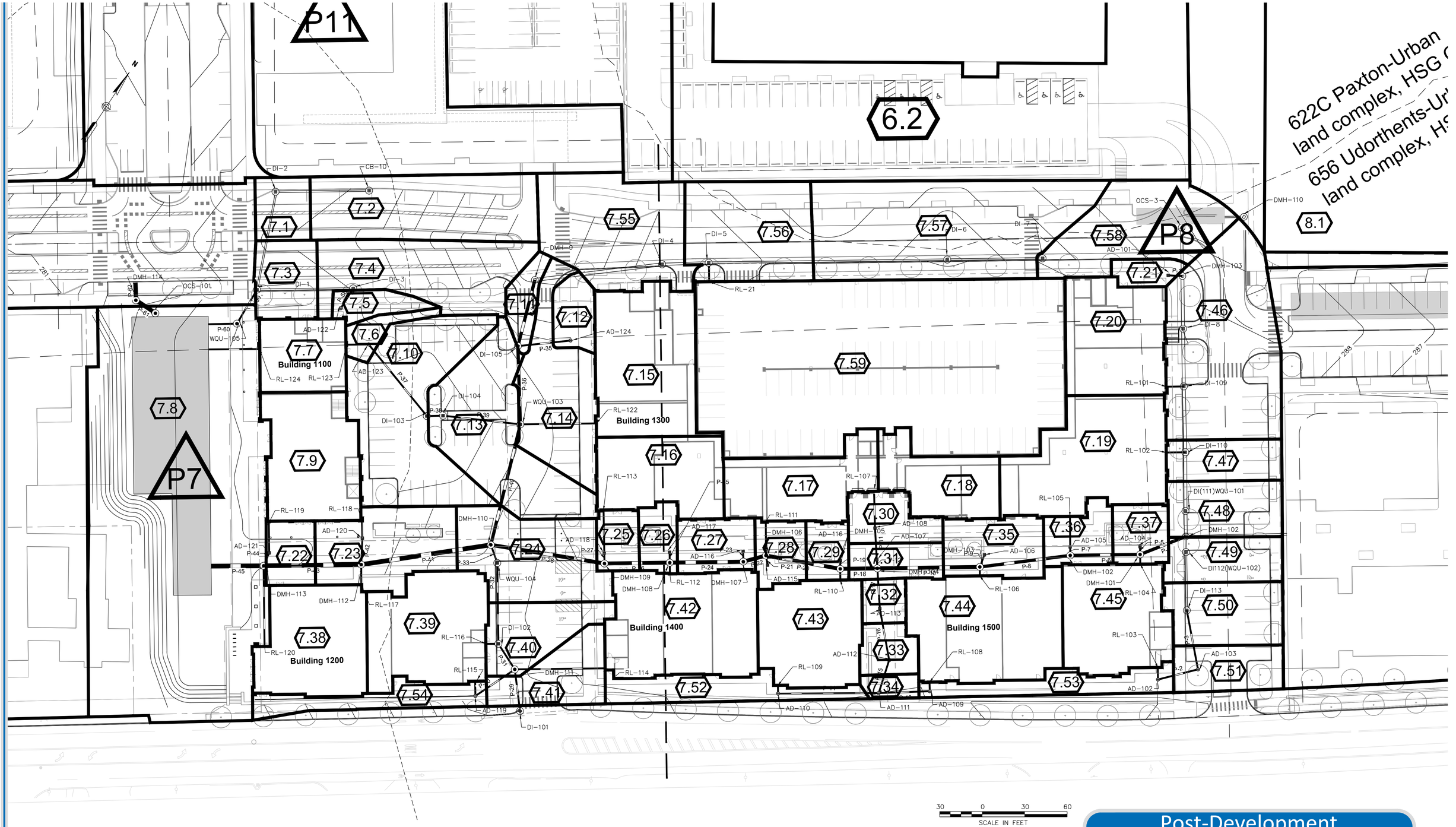
550 King Street
Littleton, Massachusetts

TEC
The Engineering Corp
TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, MA 01843

Scale: 1" = 100'
November 26th, 2025

LEGEND

- PR-# SUBCATCHMENT AREA
- P-# BASIN
- DP-# DESIGN POINT
- DRAINAGE AREA BOUNDARY



Post-Development Commercial Phase 1

550 King Street
Littleton, Massachusetts

TEC
The Engineering Corp

TEC, Inc.
282 Merrimack Street, 2nd Floor
Lawrence, MA 01843

Scale: 1" = 30'
November 26th, 2025

LEGEND

- PR-# SUBCATCHMENT AREA
- P-# BASIN
- DP-# DESIGN POINT
- DRAINAGE AREA BOUNDARY

2

Appendix

A

Hydrologic Calculations

NOAA Atlas 14, Volume 10, Version 3
Location name: Littleton, Massachusetts, USA*
Latitude: 42.5497°, Longitude: -71.4709°
Elevation: 303 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.322** (0.254-0.405)	**0.383** (0.302-0.482)	**0.483** (0.378-0.609)	**0.566** (0.441-0.718)	**0.681** (0.514-0.900)	**0.767** (0.566-1.03)	**0.858** (0.615-1.20)	**0.963** (0.650-1.36)	**1.12** (0.726-1.64)	**1.25** (0.789-1.86)
10-min	**0.456** (0.360-0.574)	**0.543** (0.428-0.683)	**0.685** (0.537-0.865)	**0.803** (0.626-1.02)	**0.965** (0.728-1.28)	**1.09** (0.802-1.46)	**1.22** (0.871-1.70)	**1.36** (0.922-1.93)	**1.58** (1.03-2.32)	**1.77** (1.12-2.63)
15-min	**0.537** (0.423-0.675)	**0.639** (0.503-0.804)	**0.806** (0.632-1.02)	**0.944** (0.735-1.20)	**1.14** (0.856-1.50)	**1.28** (0.944-1.72)	**1.43** (1.02-2.00)	**1.60** (1.08-2.28)	**1.86** (1.21-2.72)	**2.08** (1.32-3.09)
30-min	**0.731** (0.576-0.919)	**0.871** (0.686-1.10)	**1.10** (0.863-1.39)	**1.29** (1.01-1.64)	**1.55** (1.17-2.05)	**1.75** (1.29-2.36)	**1.96** (1.40-2.73)	**2.20** (1.48-3.11)	**2.55** (1.65-3.73)	**2.84** (1.80-4.24)
60-min	**0.926** (0.729-1.16)	**1.10** (0.869-1.39)	**1.40** (1.10-1.76)	**1.64** (1.28-2.08)	**1.97** (1.48-2.60)	**2.22** (1.64-2.99)	**2.48** (1.78-3.46)	**2.79** (1.88-3.95)	**3.24** (2.10-4.73)	**3.61** (2.29-5.38)
2-hr	**1.17** (0.929-1.46)	**1.42** (1.12-1.77)	**1.82** (1.44-2.27)	**2.15** (1.69-2.70)	**2.61** (1.98-3.43)	**2.94** (2.20-3.96)	**3.31** (2.40-4.62)	**3.76** (2.55-5.29)	**4.44** (2.89-6.44)	**5.02** (3.19-7.42)
3-hr	**1.34** (1.07-1.67)	**1.64** (1.30-2.03)	**2.11** (1.68-2.63)	**2.50** (1.98-3.14)	**3.05** (2.33-4.00)	**3.45** (2.58-4.62)	**3.89** (2.84-5.42)	**4.42** (3.00-6.20)	**5.26** (3.42-7.59)	**5.97** (3.80-8.78)
6-hr	**1.71** (1.38-2.11)	**2.09** (1.68-2.58)	**2.71** (2.17-3.35)	**3.22** (2.56-4.00)	**3.92** (3.02-5.10)	**4.44** (3.35-5.91)	**5.01** (3.68-6.93)	**5.71** (3.90-7.94)	**6.80** (4.45-9.74)	**7.74** (4.94-11.3)
12-hr	**2.17** (1.76-2.65)	**2.64** (2.14-3.23)	**3.41** (2.75-4.18)	**4.05** (3.25-4.99)	**4.93** (3.82-6.36)	**5.58** (4.23-7.35)	**6.29** (4.64-8.62)	**7.16** (4.90-9.86)	**8.48** (5.57-12.1)	**9.63** (6.16-13.9)
24-hr	**2.60** (2.13-3.15)	**3.18** (2.60-3.86)	**4.12** (3.35-5.02)	**4.91** (3.97-6.00)	**5.99** (4.67-7.66)	**6.79** (5.18-8.86)	**7.66** (5.67-10.4)	**8.72** (6.00-11.9)	**10.3** (6.82-14.6)	**11.7** (7.54-16.8)
2-day	**2.96** (2.44-3.55)	**3.65** (3.00-4.38)	**4.78** (3.91-5.76)	**5.71** (4.65-6.92)	**7.00** (5.50-8.89)	**7.95** (6.12-10.3)	**8.99** (6.71-12.1)	**10.3** (7.10-13.9)	**12.3** (8.11-17.1)	**14.0** (9.02-19.9)
3-day	**3.23** (2.68-3.86)	**3.97** (3.28-4.75)	**5.18** (4.27-6.22)	**6.19** (5.06-7.46)	**7.57** (5.97-9.55)	**8.58** (6.63-11.1)	**9.70** (7.26-13.0)	**11.1** (7.67-14.9)	**13.2** (8.74-18.3)	**15.0** (9.70-21.3)
4-day	**3.49** (2.90-4.16)	**4.26** (3.53-5.08)	**5.51** (4.55-6.59)	**6.55** (5.37-7.87)	**7.98** (6.31-10.0)	**9.03** (6.99-11.6)	**10.2** (7.64-13.6)	**11.6** (8.06-15.6)	**13.8** (9.14-19.1)	**15.7** (10.1-22.0)
7-day	**4.21** (3.52-4.98)	**5.02** (4.19-5.94)	**6.33** (5.26-7.52)	**7.42** (6.13-8.85)	**8.92** (7.09-11.1)	**10.0** (7.78-12.8)	**11.2** (8.43-14.8)	**12.7** (8.84-16.9)	**14.9** (9.90-20.4)	**16.7** (10.8-23.4)
10-day	**4.89** (4.11-5.76)	**5.72** (4.79-6.74)	**7.07** (5.90-8.36)	**8.19** (6.79-9.73)	**9.73** (7.76-12.0)	**10.9** (8.46-13.7)	**12.1** (9.08-15.8)	**13.6** (9.49-18.0)	**15.7** (10.5-21.4)	**17.5** (11.3-24.3)
20-day	**6.88** (5.83-8.04)	**7.77** (6.57-9.09)	**9.23** (7.77-10.8)	**10.4** (8.73-12.3)	**12.1** (9.70-14.8)	**13.4** (10.4-16.6)	**14.7** (11.0-18.8)	**16.1** (11.3-21.1)	**18.0** (12.1-24.3)	**19.5** (12.7-26.8)
30-day	**8.53** (7.26-9.91)	**9.48** (8.06-11.0)	**11.0** (9.33-12.9)	**12.3** (10.3-14.4)	**14.1** (11.3-17.0)	**15.4** (12.1-19.0)	**16.8** (12.5-21.2)	**18.2** (12.8-23.7)	**19.9** (13.4-26.8)	**21.2** (13.8-29.1)
45-day	**10.6** (9.06-12.3)	**11.6** (9.92-13.4)	**13.3** (11.3-15.4)	**14.6** (12.4-17.1)	**16.5** (13.3-19.8)	**18.0** (14.1-22.0)	**19.5** (14.5-24.3)	**20.8** (14.8-26.9)	**22.4** (15.2-30.0)	**23.5** (15.4-32.1)
60-day	**12.3** (10.6-14.2)	**13.4** (11.5-15.5)	**15.2** (12.9-17.5)	**16.6** (14.1-19.3)	**18.6** (15.1-22.2)	**20.2** (15.8-24.5)	**21.7** (16.2-26.9)	**23.0** (16.4-29.7)	**24.6** (16.7-32.8)	**25.7** (16.8-34.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

use consistent units (e.g. feet & days **or** inches & hours)

Conversion Table

inch/hour	feet/day
0.67	1.33
2.00	4.00

hours	days
36	1.50

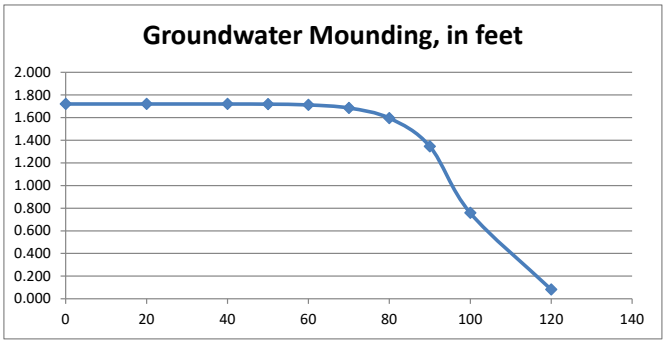
In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

Input Values		
0.5115	***R***	**Recharge (infiltration) rate (feet/day)**
0.250	**Sy**	**Specific yield, Sy (dimensionless, between 0 and 1)**
5.12	**K**	**Horizontal hydraulic conductivity, Kh (feet/day)***
98.500	**x**	**1/2 length of basin (x direction, in feet)**
18.750	**y**	**1/2 width of basin (y direction, in feet)**
1.000	**t**	**duration of infiltration period (days)**
8.170	**hi(0)**	**initial thickness of saturated zone (feet)**

9.890	**h(max)**	**maximum thickness of saturated zone (beneath center of basin at end of infiltration period)**
1.720	**Δh(max)**	**maximum groundwater mounding (beneath center of basin at end of infiltration period)**

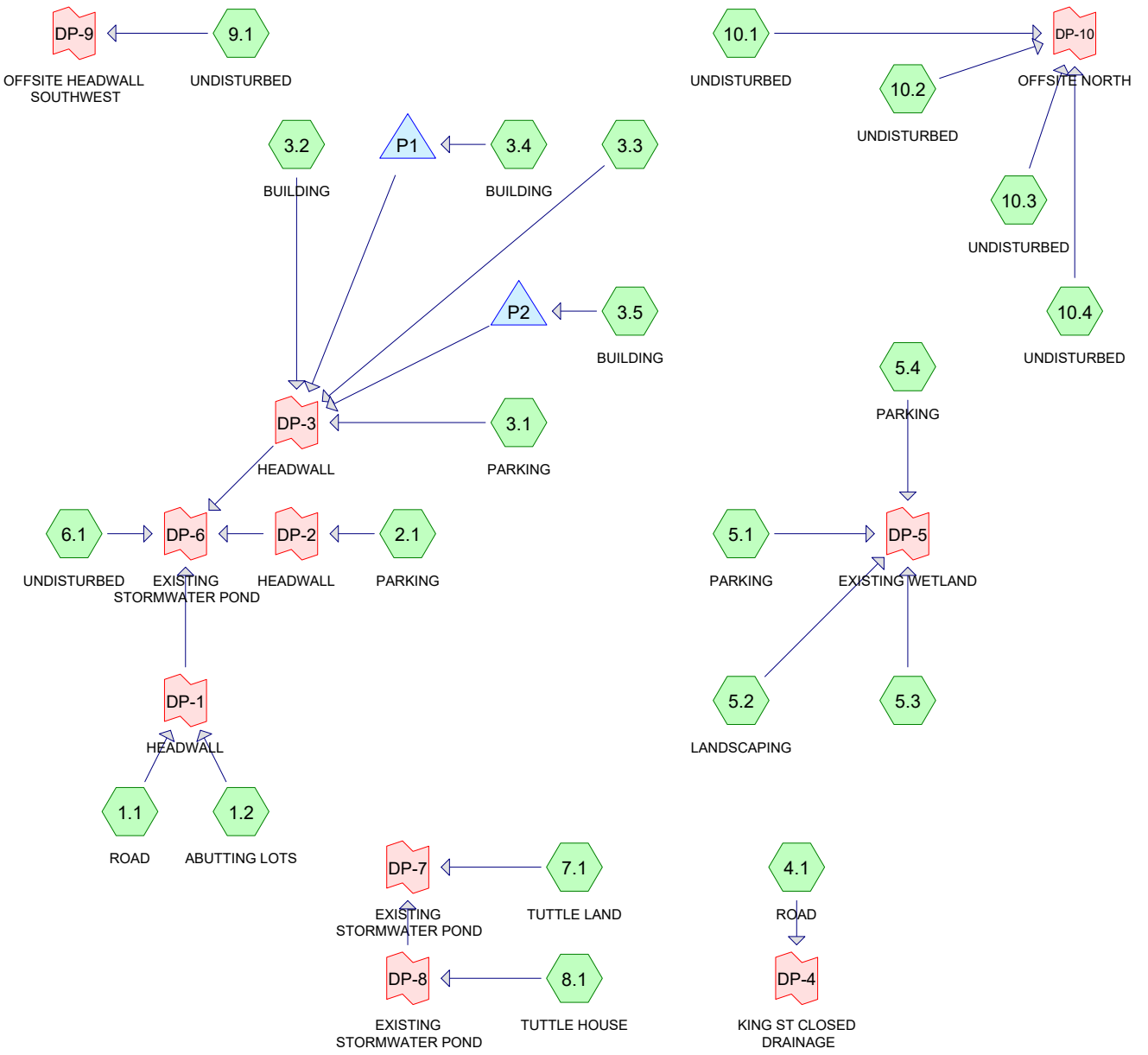
Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.720	0
1.720	20
1.720	40
1.719	50
1.712	60
1.685	70
1.595	80
1.346	90
0.758	100
0.082	120

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.



Subcat Reach Pond Link

Routing Diagram for 1180.03PRE
Prepared by TEC, Inc, Printed 11/26/2025

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
147,986	HSG A	1.1, 1.2, 6.1, 9.1
71,666	HSG B	5.3, 5.4, 10.2, 10.3, 10.4
532,849	HSG C	1.1, 1.2, 2.1, 3.1, 3.3, 3.4, 3.5, 5.1, 5.4, 7.1, 8.1, 9.1, 10.1
1,175,030	HSG D	1.1, 1.2, 2.1, 3.1, 3.2, 3.5, 4.1, 5.1, 5.2, 5.3, 5.4, 6.1, 7.1, 9.1, 10.1, 10.2
0	Other	
1,927,531		**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.1: ROAD Runoff Area=37,116 sf 77.99% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=2.18 cfs 6,948 cf

Subcatchment1.2: ABUTTING LOTS Runoff Area=72,866 sf 27.74% Impervious Runoff Depth=0.27"
Flow Length=357' Tc=27.1 min CN=57 Runoff=0.16 cfs 1,664 cf

Subcatchment2.1: PARKING Runoff Area=122,705 sf 77.03% Impervious Runoff Depth=2.44"
Flow Length=451' Tc=6.9 min CN=94 Runoff=7.41 cfs 24,921 cf

Subcatchment3.1: PARKING Runoff Area=582,220 sf 66.44% Impervious Runoff Depth=2.16"
Flow Length=823' Tc=7.9 min CN=91 Runoff=30.88 cfs 104,567 cf

Subcatchment3.2: BUILDING Runoff Area=8,600 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,048 cf

Subcatchment3.3: Runoff Area=72,797 sf 33.90% Impervious Runoff Depth=1.45"
Tc=6.0 min CN=82 Runoff=2.80 cfs 8,797 cf

Subcatchment3.4: BUILDING Runoff Area=91,130 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=6.21 cfs 21,703 cf

Subcatchment3.5: BUILDING Runoff Area=90,902 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=6.20 cfs 21,649 cf

Subcatchment4.1: ROAD Runoff Area=38,613 sf 24.06% Impervious Runoff Depth=1.59"
Flow Length=339' Slope=0.0210 '/' Tc=11.4 min CN=84 Runoff=1.37 cfs 5,118 cf

Subcatchment5.1: PARKING Runoff Area=59,518 sf 72.12% Impervious Runoff Depth=2.34"
Tc=6.0 min CN=93 Runoff=3.60 cfs 11,607 cf

Subcatchment5.2: LANDSCAPING Runoff Area=25,460 sf 0.70% Impervious Runoff Depth=1.32"
Flow Length=343' Slope=0.0200 '/' Tc=11.7 min CN=80 Runoff=0.73 cfs 2,796 cf

Subcatchment5.3: Runoff Area=173,079 sf 42.34% Impervious Runoff Depth=1.52"
Flow Length=284' Tc=38.3 min CN=83 Runoff=3.55 cfs 21,914 cf

Subcatchment5.4: PARKING Runoff Area=155,629 sf 63.12% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=90 Runoff=8.50 cfs 26,806 cf

Subcatchment6.1: UNDISTURBED Runoff Area=120,146 sf 25.98% Impervious Runoff Depth=0.51"
Flow Length=159' Slope=0.0500 '/' Tc=7.2 min CN=64 Runoff=1.12 cfs 5,093 cf

Subcatchment7.1: TUTTLE LAND Runoff Area=115,906 sf 1.15% Impervious Runoff Depth=1.08"
Flow Length=404' Tc=7.4 min CN=76 Runoff=3.04 cfs 10,394 cf

Subcatchment8.1: TUTTLE HOUSE Runoff Area=23,814 sf 39.51% Impervious Runoff Depth=1.52"
Tc=6.0 min CN=83 Runoff=0.96 cfs 3,015 cf

Subcatchment9.1: UNDISTURBED Runoff Area=118,336 sf 0.00% Impervious Runoff Depth=1.02"
Tc=6.0 min CN=75 Runoff=3.06 cfs 10,060 cf

Subcatchment10.1: UNDISTURBED Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=1.13"
Tc=6.0 min CN=77 Runoff=0.36 cfs 1,151 cf

Subcatchment10.2: UNDISTURBED Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=0.86"
Tc=6.0 min CN=72 Runoff=0.11 cfs 390 cf

Subcatchment10.3: UNDISTURBED Runoff Area=475 sf 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=55 Runoff=0.00 cfs 9 cf

Subcatchment10.4: UNDISTURBED Runoff Area=611 sf 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=55 Runoff=0.00 cfs 11 cf

Pond P1: Peak Elev=280.85' Storage=8,927 cf Inflow=6.21 cfs 21,703 cf
Discarded=0.10 cfs 11,439 cf Primary=2.99 cfs 6,733 cf Outflow=3.09 cfs 18,172 cf

Pond P2: Peak Elev=282.11' Storage=12,071 cf Inflow=6.20 cfs 21,649 cf
Discarded=0.19 cfs 20,829 cf Primary=0.00 cfs 0 cf Outflow=0.19 cfs 20,829 cf

Link DP-1: HEADWALL Inflow=2.18 cfs 8,611 cf
Primary=2.18 cfs 8,611 cf

Link DP-10: OFFSITE NORTH Inflow=0.47 cfs 1,561 cf
Primary=0.47 cfs 1,561 cf

Link DP-2: HEADWALL Inflow=7.41 cfs 24,921 cf
Primary=7.41 cfs 24,921 cf

Link DP-3: HEADWALL Inflow=34.08 cfs 122,145 cf
Primary=34.08 cfs 122,145 cf

Link DP-4: KING ST CLOSED DRAINAGE Inflow=1.37 cfs 5,118 cf
Primary=1.37 cfs 5,118 cf

Link DP-5: EXISTING WETLAND Inflow=13.76 cfs 63,124 cf
Primary=13.76 cfs 63,124 cf

Link DP-6: EXISTING STORMWATER POND Inflow=44.55 cfs 160,772 cf
Primary=44.55 cfs 160,772 cf

Link DP-7: EXISTING STORMWATER POND Inflow=3.96 cfs 13,409 cf
Primary=3.96 cfs 13,409 cf

Link DP-8: EXISTING STORMWATER POND Inflow=0.96 cfs 3,015 cf
Primary=0.96 cfs 3,015 cf

Link DP-9: OFFSITE HEADWALL SOUTHWEST Inflow=3.06 cfs 10,060 cf
Primary=3.06 cfs 10,060 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 290,663 cf Average Runoff Depth = 1.81"
47.51% Pervious = 915,858 sf 52.49% Impervious = 1,011,673 sf

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.1: ROAD Runoff Area=37,116 sf 77.99% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=3.54 cfs 11,592 cf

Subcatchment1.2: ABUTTING LOTS Runoff Area=72,866 sf 27.74% Impervious Runoff Depth=0.92"
Flow Length=357' Tc=27.1 min CN=57 Runoff=0.87 cfs 5,607 cf

Subcatchment2.1: PARKING Runoff Area=122,705 sf 77.03% Impervious Runoff Depth=3.96"
Flow Length=451' Tc=6.9 min CN=94 Runoff=11.73 cfs 40,523 cf

Subcatchment3.1: PARKING Runoff Area=582,220 sf 66.44% Impervious Runoff Depth=3.64"
Flow Length=823' Tc=7.9 min CN=91 Runoff=50.97 cfs 176,750 cf

Subcatchment3.2: BUILDING Runoff Area=8,600 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.89 cfs 3,163 cf

Subcatchment3.3: Runoff Area=72,797 sf 33.90% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=82 Runoff=5.37 cfs 16,792 cf

Subcatchment3.4: BUILDING Runoff Area=91,130 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=9.42 cfs 33,519 cf

Subcatchment3.5: BUILDING Runoff Area=90,902 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=9.40 cfs 33,435 cf

Subcatchment4.1: ROAD Runoff Area=38,613 sf 24.06% Impervious Runoff Depth=2.95"
Flow Length=339' Slope=0.0210 '/' Tc=11.4 min CN=84 Runoff=2.55 cfs 9,499 cf

Subcatchment5.1: PARKING Runoff Area=59,518 sf 72.12% Impervious Runoff Depth=3.85"
Tc=6.0 min CN=93 Runoff=5.78 cfs 19,118 cf

Subcatchment5.2: LANDSCAPING Runoff Area=25,460 sf 0.70% Impervious Runoff Depth=2.59"
Flow Length=343' Slope=0.0200 '/' Tc=11.7 min CN=80 Runoff=1.47 cfs 5,495 cf

Subcatchment5.3: Runoff Area=173,079 sf 42.34% Impervious Runoff Depth=2.86"
Flow Length=284' Tc=38.3 min CN=83 Runoff=6.69 cfs 41,240 cf

Subcatchment5.4: PARKING Runoff Area=155,629 sf 63.12% Impervious Runoff Depth=3.54"
Tc=6.0 min CN=90 Runoff=14.24 cfs 45,905 cf

Subcatchment6.1: UNDISTURBED Runoff Area=120,146 sf 25.98% Impervious Runoff Depth=1.36"
Flow Length=159' Slope=0.0500 '/' Tc=7.2 min CN=64 Runoff=3.85 cfs 13,596 cf

Subcatchment7.1: TUTTLE LAND Runoff Area=115,906 sf 1.15% Impervious Runoff Depth=2.25"
Flow Length=404' Tc=7.4 min CN=76 Runoff=6.59 cfs 21,734 cf

Subcatchment8.1: TUTTLE HOUSE Runoff Area=23,814 sf 39.51% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=83 Runoff=1.81 cfs 5,674 cf

Subcatchment9.1: UNDISTURBED Runoff Area=118,336 sf 0.00% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=75 Runoff=6.81 cfs 21,385 cf

Subcatchment10.1: UNDISTURBED Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=2.33"
Tc=6.0 min CN=77 Runoff=0.76 cfs 2,368 cf

Subcatchment10.2: UNDISTURBED Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=1.93"
Tc=6.0 min CN=72 Runoff=0.28 cfs 874 cf

Subcatchment10.3: UNDISTURBED Runoff Area=475 sf 0.00% Impervious Runoff Depth=0.81"
Tc=6.0 min CN=55 Runoff=0.01 cfs 32 cf

Subcatchment10.4: UNDISTURBED Runoff Area=611 sf 0.00% Impervious Runoff Depth=0.81"
Tc=6.0 min CN=55 Runoff=0.01 cfs 41 cf

Pond P1: Peak Elev=281.19' Storage=9,183 cf Inflow=9.42 cfs 33,519 cf
Discarded=0.10 cfs 12,065 cf Primary=9.02 cfs 17,481 cf Outflow=9.12 cfs 29,546 cf

Pond P2: Peak Elev=283.19' Storage=16,792 cf Inflow=9.40 cfs 33,435 cf
Discarded=0.19 cfs 22,031 cf Primary=1.12 cfs 5,216 cf Outflow=1.32 cfs 27,248 cf

Link DP-1: HEADWALL Inflow=3.68 cfs 17,200 cf
Primary=3.68 cfs 17,200 cf

Link DP-10: OFFSITE NORTH Inflow=1.05 cfs 3,315 cf
Primary=1.05 cfs 3,315 cf

Link DP-2: HEADWALL Inflow=11.73 cfs 40,523 cf
Primary=11.73 cfs 40,523 cf

Link DP-3: HEADWALL Inflow=66.10 cfs 219,403 cf
Primary=66.10 cfs 219,403 cf

Link DP-4: KING ST CLOSED DRAINAGE Inflow=2.55 cfs 9,499 cf
Primary=2.55 cfs 9,499 cf

Link DP-5: EXISTING WETLAND Inflow=23.50 cfs 111,758 cf
Primary=23.50 cfs 111,758 cf

Link DP-6: EXISTING STORMWATERPOND Inflow=85.11 cfs 290,722 cf
Primary=85.11 cfs 290,722 cf

Link DP-7: EXISTING STORMWATERPOND Inflow=8.33 cfs 27,408 cf
Primary=8.33 cfs 27,408 cf

Link DP-8: EXISTING STORMWATERPOND Inflow=1.81 cfs 5,674 cf
Primary=1.81 cfs 5,674 cf

Link DP-9: OFFSITE HEADWALLSOUTHWEST Inflow=6.81 cfs 21,385 cf
Primary=6.81 cfs 21,385 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 508,344 cf Average Runoff Depth = 3.16"
47.51% Pervious = 915,858 sf 52.49% Impervious = 1,011,673 sf

Summary for Subcatchment 1.1: ROAD

Runoff = 3.54 cfs @ 12.09 hrs, Volume= 11,592 cf, Depth= 3.75"
Routed to Link DP-1 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
10,712	98	Paved parking, HSG A
8,395	98	Paved parking, HSG D
9,839	98	Paved parking, HSG C
1,590	39	>75% Grass cover, Good, HSG A
1,961	80	>75% Grass cover, Good, HSG D
4,619	74	>75% Grass cover, Good, HSG C
37,116	92	Weighted Average
8,170		22.01% Pervious Area
28,946		77.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 1.2: ABUTTING LOTS

Runoff = 0.87 cfs @ 12.46 hrs, Volume= 5,607 cf, Depth= 0.92"
Routed to Link DP-1 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
13,678	98	Paved parking, HSG A
6,534	98	Roofs, HSG A
10,585	30	Woods, Good, HSG A
566	70	Woods, Good, HSG C
36,587	39	>75% Grass cover, Good, HSG A
2,215	74	>75% Grass cover, Good, HSG C
2,222	80	>75% Grass cover, Good, HSG D
479	77	Woods, Good, HSG D
72,866	57	Weighted Average
52,654		72.26% Pervious Area
20,212		27.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.2	100	0.0550	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
1.9	257	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
27.1	357	Total			

Summary for Subcatchment 2.1: PARKING

Runoff = 11.73 cfs @ 12.10 hrs, Volume= 40,523 cf, Depth= 3.96"
Routed to Link DP-2 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
80,903	98	Paved parking, HSG D
13,614	98	Paved parking, HSG C
20,764	80	>75% Grass cover, Good, HSG D
7,424	74	>75% Grass cover, Good, HSG C
122,705	94	Weighted Average
28,188		22.97% Pervious Area
94,517		77.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	71	0.0500	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.13"
1.7	380	0.0320	3.63		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.9	451	Total			

Summary for Subcatchment 3.1: PARKING

Runoff = 50.97 cfs @ 12.11 hrs, Volume= 176,750 cf, Depth= 3.64"
Routed to Link DP-3 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
84,161	74	>75% Grass cover, Good, HSG C
48,407	98	Paved parking, HSG C
338,415	98	Paved parking, HSG D
111,237	80	>75% Grass cover, Good, HSG D
582,220	91	Weighted Average
195,398		33.56% Pervious Area
386,822		66.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0970	0.32		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.13"
1.0	290	0.0970	5.01		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.6	433	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.9	823	Total			

Summary for Subcatchment 3.2: BUILDING

Runoff = 0.89 cfs @ 12.08 hrs, Volume= 3,163 cf, Depth= 4.41"
Routed to Link DP-3 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
8,600	98	Roofs, HSG D
8,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3.3:

Runoff = 5.37 cfs @ 12.09 hrs, Volume= 16,792 cf, Depth= 2.77"
Routed to Link DP-3 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
24,677	98	Paved parking, HSG C
48,120	74	>75% Grass cover, Good, HSG C
72,797	82	Weighted Average
48,120		66.10% Pervious Area
24,677		33.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3.4: BUILDING

Runoff = 9.42 cfs @ 12.08 hrs, Volume= 33,519 cf, Depth= 4.41"
Routed to Pond P1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
91,130	98	Roofs, HSG C
91,130		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3.5: BUILDING

Runoff = 9.40 cfs @ 12.08 hrs, Volume= 33,435 cf, Depth= 4.41"
Routed to Pond P2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
37,591	98	Roofs, HSG C
53,311	98	Roofs, HSG D
90,902	98	Weighted Average
90,902		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4.1: ROAD

Runoff = 2.55 cfs @ 12.16 hrs, Volume= 9,499 cf, Depth= 2.95"
Routed to Link DP-4 : KING ST CLOSED DRAINAGE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
29,324	80	>75% Grass cover, Good, HSG D
9,289	98	Paved parking, HSG D
38,613	84	Weighted Average
29,324		75.94% Pervious Area
9,289		24.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	100	0.0210	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.13"
1.7	239	0.0210	2.33		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.4	339	Total			

Summary for Subcatchment 5.1: PARKING

Runoff = 5.78 cfs @ 12.09 hrs, Volume= 19,118 cf, Depth= 3.85"
Routed to Link DP-5 : EXISTING WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
16,294	80	>75% Grass cover, Good, HSG D
42,924	98	Paved parking, HSG D
300	74	>75% Grass cover, Good, HSG C
59,518	93	Weighted Average
16,594		27.88% Pervious Area
42,924		72.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5.2: LANDSCAPING

Runoff = 1.47 cfs @ 12.16 hrs, Volume= 5,495 cf, Depth= 2.59"
Routed to Link DP-5 : EXISTING WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
25,282	80	>75% Grass cover, Good, HSG D
178	98	Paved parking, HSG D
25,460	80	Weighted Average
25,282		99.30% Pervious Area
178		0.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.13"
1.8	243	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.7	343	Total			

Summary for Subcatchment 5.3:

Runoff = 6.69 cfs @ 12.53 hrs, Volume= 41,240 cf, Depth= 2.86"
Routed to Link DP-5 : EXISTING WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

	Area (sf)	CN	Description
	61,872	80	>75% Grass cover, Good, HSG D
	37,921	61	>75% Grass cover, Good, HSG B
	40,591	98	Paved parking, HSG D
	4,419	98	Paved parking, HSG B
	11,386	98	Water Surface, HSG D
*	16,890	98	Wetland, HSG B
	173,079	83	Weighted Average
	99,793		57.66% Pervious Area
	73,286		42.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	45	0.2222	0.10		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
20.7	55	0.0273	0.04		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
10.0	184	0.0150	0.31		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
38.3	284	Total			

Summary for Subcatchment 5.4: PARKING

Runoff = 14.24 cfs @ 12.09 hrs, Volume= 45,905 cf, Depth= 3.54"
Routed to Link DP-5 : EXISTING WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
11,602	98	Paved parking, HSG C
20,457	74	>75% Grass cover, Good, HSG C
5,371	98	Paved parking, HSG B
4,297	61	>75% Grass cover, Good, HSG B
81,260	98	Paved parking, HSG D
32,642	80	>75% Grass cover, Good, HSG D
155,629	90	Weighted Average
57,396		36.88% Pervious Area
98,233		63.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6.1: UNDISTURBED

Runoff = 3.85 cfs @ 12.12 hrs, Volume= 13,596 cf, Depth= 1.36"
Routed to Link DP-6 : EXISTING STORMWATER POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
37,057	79	Woods/grass comb., Good, HSG D
51,871	32	Woods/grass comb., Good, HSG A
24,456	98	Water Surface, HSG D
6,762	98	Water Surface, HSG A
120,146	64	Weighted Average
88,928		74.02% Pervious Area
31,218		25.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.0500	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.13"
0.3	59	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.2	159	Total			

Summary for Subcatchment 7.1: TUTTLE LAND

Runoff = 6.59 cfs @ 12.11 hrs, Volume= 21,734 cf, Depth= 2.25"
Routed to Link DP-7 : EXISTING STORMWATER POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
24,748	80	>75% Grass cover, Good, HSG D
87,018	74	>75% Grass cover, Good, HSG C
2,810	72	Woods/grass comb., Good, HSG C
1,330	98	Paved parking, HSG C
115,906	76	Weighted Average
114,576		98.85% Pervious Area
1,330		1.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.4	100	0.0900	0.31		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.13"
2.0	304	0.0260	2.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.4	404	Total			

Summary for Subcatchment 8.1: TUTTLE HOUSE

Runoff = 1.81 cfs @ 12.09 hrs, Volume= 5,674 cf, Depth= 2.86"
Routed to Link DP-8 : EXISTING STORMWATER POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,038	72	Woods/grass comb., Good, HSG C
9,409	98	Paved parking, HSG C
12,367	74	>75% Grass cover, Good, HSG C
23,814	83	Weighted Average
14,405		60.49% Pervious Area
9,409		39.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 9.1: UNDISTURBED

Runoff = 6.81 cfs @ 12.09 hrs, Volume= 21,385 cf, Depth= 2.17"
Routed to Link DP-9 : OFFSITE HEADWALL SOUTHWEST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
72,238	80	>75% Grass cover, Good, HSG D
3,196	72	Woods/grass comb., Good, HSG C
9,091	74	>75% Grass cover, Good, HSG C
24,144	79	Woods/grass comb., Good, HSG D
9,667	32	Woods/grass comb., Good, HSG A
118,336	75	Weighted Average
118,336		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 10.1: UNDISTURBED

Runoff = 0.76 cfs @ 12.09 hrs, Volume= 2,368 cf, Depth= 2.33"
Routed to Link DP-10 : OFFSITE NORTH

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
868	70	Woods, Good, HSG C
8,563	77	Woods, Good, HSG D
2,747	80	>75% Grass cover, Good, HSG D
12,178	77	Weighted Average
12,178		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 10.2: UNDISTURBED

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 874 cf, Depth= 1.93"
Routed to Link DP-10 : OFFSITE NORTH

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,682	55	Woods, Good, HSG B
3,748	79	Woods/grass comb., Good, HSG D
5,430	72	Weighted Average
5,430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 10.3: UNDISTURBED

Runoff = 0.01 cfs @ 12.12 hrs, Volume= 32 cf, Depth= 0.81"
Routed to Link DP-10 : OFFSITE NORTH

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
475	55	Woods, Good, HSG B
475		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 10.4: UNDISTURBED

Runoff = 0.01 cfs @ 12.12 hrs, Volume= 41 cf, Depth= 0.81"
Routed to Link DP-10 : OFFSITE NORTH

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
611	55	Woods, Good, HSG B
611		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond P1:

[93] Warning: Storage range exceeded by 0.19'

Inflow Area = 91,130 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 9.42 cfs @ 12.08 hrs, Volume= 33,519 cf
Outflow = 9.12 cfs @ 12.09 hrs, Volume= 29,546 cf, Atten= 3%, Lag= 0.4 min
Discarded = 0.10 cfs @ 5.92 hrs, Volume= 12,065 cf
Primary = 9.02 cfs @ 12.09 hrs, Volume= 17,481 cf
Routed to Link DP-3 : HEADWALL

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs / 3
Peak Elev= 281.19' @ 12.09 hrs Surf.Area= 4,256 sf Storage= 9,183 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 190.2 min (939.4 - 749.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	277.50'	3,808 cf	**44.25'W x 96.18'L x 3.50'H Field A** 14,895 cf Overall - 5,375 cf Embedded = 9,520 cf x 40.0% Voids
#2A	278.00'	5,375 cf	**ADS_StormTech SC-740 +Cap** x 117 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 117 Chambers in 9 Rows
		9,183 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	277.50'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.10 cfs @ 5.92 hrs HW=277.54' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=8.94 cfs @ 12.09 hrs HW=281.18' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 8.94 cfs @ 2.62 fps)

Pond P1: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

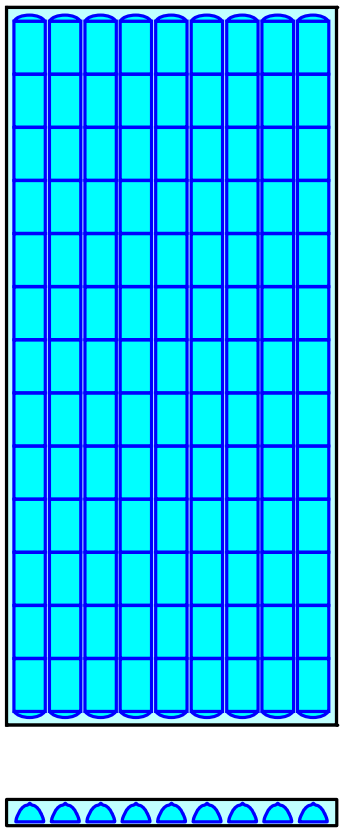
13 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 94.18' Row Length +12.0" End Stone x 2 = 96.18' Base Length
9 Rows x 51.0" Wide + 6.0" Spacing x 8 + 12.0" Side Stone x 2 = 44.25' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

117 Chambers x 45.9 cf = 5,375.0 cf Chamber Storage

14,895.4 cf Field - 5,375.0 cf Chambers = 9,520.4 cf Stone x 40.0% Voids = 3,808.2 cf Stone Storage

Chamber Storage + Stone Storage = 9,183.1 cf = 0.211 af
Overall Storage Efficiency = 61.7%
Overall System Size = 96.18' x 44.25' x 3.50'

117 Chambers
551.7 cy Field
352.6 cy Stone



Summary for Pond P2:

Inflow Area = 90,902 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 9.40 cfs @ 12.08 hrs, Volume= 33,435 cf
Outflow = 1.32 cfs @ 12.60 hrs, Volume= 27,248 cf, Atten= 86%, Lag= 30.8 min
Discarded = 0.19 cfs @ 8.40 hrs, Volume= 22,031 cf
Primary = 1.12 cfs @ 12.60 hrs, Volume= 5,216 cf
Routed to Link DP-3 : HEADWALL

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs / 3
Peak Elev= 283.19' @ 12.60 hrs Surf.Area= 8,201 sf Storage= 16,792 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 386.2 min (1,135.4 - 749.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	280.00'	7,256 cf	**49.00'W x 167.38'L x 3.50'H Field A** 28,705 cf Overall - 10,566 cf Embedded = 18,139 cf x 40.0% Voids
#2A	280.50'	10,566 cf	**ADS_StormTech SC-740 +Cap** x 230 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 230 Chambers in 10 Rows
		17,822 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	283.00'	**5.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	280.00'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.19 cfs @ 8.40 hrs HW=280.04' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=1.12 cfs @ 12.60 hrs HW=283.19' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.12 cfs @ 1.21 fps)

Pond P2: - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

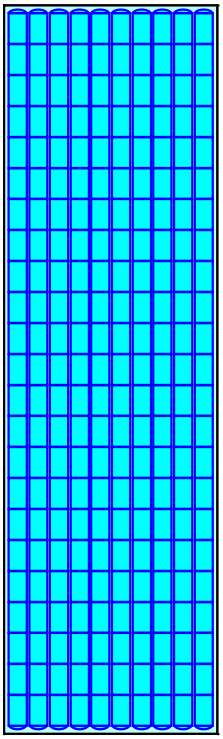
23 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 165.38' Row Length +12.0" End Stone x 2 = 167.38' Base Length
10 Rows x 51.0" Wide + 6.0" Spacing x 9 + 12.0" Side Stone x 2 = 49.00' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

230 Chambers x 45.9 cf = 10,566.2 cf Chamber Storage

28,705.1 cf Field - 10,566.2 cf Chambers = 18,138.9 cf Stone x 40.0% Voids = 7,255.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,821.8 cf = 0.409 af
Overall Storage Efficiency = 62.1%
Overall System Size = 167.38' x 49.00' x 3.50'

230 Chambers
1,063.2 cy Field
671.8 cy Stone



Summary for Link DP-1: HEADWALL

Inflow Area = 109,982 sf, 44.70% Impervious, Inflow Depth = 1.88" for 10-Year event
Inflow = 3.68 cfs @ 12.09 hrs, Volume= 17,200 cf
Primary = 3.68 cfs @ 12.09 hrs, Volume= 17,200 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-6 : EXISTING STORMWATER POND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-10: OFFSITE NORTH

Inflow Area = 18,694 sf, 0.00% Impervious, Inflow Depth = 2.13" for 10-Year event
Inflow = 1.05 cfs @ 12.09 hrs, Volume= 3,315 cf
Primary = 1.05 cfs @ 12.09 hrs, Volume= 3,315 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-2: HEADWALL

Inflow Area = 122,705 sf, 77.03% Impervious, Inflow Depth = 3.96" for 10-Year event
Inflow = 11.73 cfs @ 12.10 hrs, Volume= 40,523 cf
Primary = 11.73 cfs @ 12.10 hrs, Volume= 40,523 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-6 : EXISTING STORMWATER POND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-3: HEADWALL

Inflow Area = 845,649 sf, 71.20% Impervious, Inflow Depth = 3.11" for 10-Year event
Inflow = 66.10 cfs @ 12.11 hrs, Volume= 219,403 cf
Primary = 66.10 cfs @ 12.11 hrs, Volume= 219,403 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-6 : EXISTING STORMWATER POND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-4: KING ST CLOSED DRAINAGE

Inflow Area = 38,613 sf, 24.06% Impervious, Inflow Depth = 2.95" for 10-Year event
Inflow = 2.55 cfs @ 12.16 hrs, Volume= 9,499 cf
Primary = 2.55 cfs @ 12.16 hrs, Volume= 9,499 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-5: EXISTING WETLAND

Inflow Area = 413,686 sf, 51.88% Impervious, Inflow Depth = 3.24" for 10-Year event
Inflow = 23.50 cfs @ 12.09 hrs, Volume= 111,758 cf
Primary = 23.50 cfs @ 12.09 hrs, Volume= 111,758 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-6: EXISTING STORMWATER POND

Inflow Area = 1,198,482 sf, 64.83% Impervious, Inflow Depth = 2.91" for 10-Year event
Inflow = 85.11 cfs @ 12.10 hrs, Volume= 290,722 cf
Primary = 85.11 cfs @ 12.10 hrs, Volume= 290,722 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-7: EXISTING STORMWATER POND

Inflow Area = 139,720 sf, 7.69% Impervious, Inflow Depth = 2.35" for 10-Year event
Inflow = 8.33 cfs @ 12.11 hrs, Volume= 27,408 cf
Primary = 8.33 cfs @ 12.11 hrs, Volume= 27,408 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-8: EXISTING STORMWATER POND

Inflow Area = 23,814 sf, 39.51% Impervious, Inflow Depth = 2.86" for 10-Year event
Inflow = 1.81 cfs @ 12.09 hrs, Volume= 5,674 cf
Primary = 1.81 cfs @ 12.09 hrs, Volume= 5,674 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-7 : EXISTING STORMWATER POND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-9: OFFSITE HEADWALL SOUTHWEST

Inflow Area = 118,336 sf, 0.00% Impervious, Inflow Depth = 2.17" for 10-Year event
Inflow = 6.81 cfs @ 12.09 hrs, Volume= 21,385 cf
Primary = 6.81 cfs @ 12.09 hrs, Volume= 21,385 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.1: ROAD Runoff Area=37,116 sf 77.99% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=4.59 cfs 15,285 cf

Subcatchment1.2: ABUTTING LOTS Runoff Area=72,866 sf 27.74% Impervious Runoff Depth=1.60"
Flow Length=357' Tc=27.1 min CN=57 Runoff=1.68 cfs 9,701 cf

Subcatchment2.1: PARKING Runoff Area=122,705 sf 77.03% Impervious Runoff Depth=5.17"
Flow Length=451' Tc=6.9 min CN=94 Runoff=15.07 cfs 52,844 cf

Subcatchment3.1: PARKING Runoff Area=582,220 sf 66.44% Impervious Runoff Depth=4.83"
Flow Length=823' Tc=7.9 min CN=91 Runoff=66.54 cfs 234,345 cf

Subcatchment3.2: BUILDING Runoff Area=8,600 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=1.13 cfs 4,036 cf

Subcatchment3.3: Runoff Area=72,797 sf 33.90% Impervious Runoff Depth=3.87"
Tc=6.0 min CN=82 Runoff=7.45 cfs 23,463 cf

Subcatchment3.4: BUILDING Runoff Area=91,130 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=11.92 cfs 42,770 cf

Subcatchment3.5: BUILDING Runoff Area=90,902 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=11.89 cfs 42,663 cf

Subcatchment4.1: ROAD Runoff Area=38,613 sf 24.06% Impervious Runoff Depth=4.07"
Flow Length=339' Slope=0.0210 '/' Tc=11.4 min CN=84 Runoff=3.48 cfs 13,112 cf

Subcatchment5.1: PARKING Runoff Area=59,518 sf 72.12% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=93 Runoff=7.46 cfs 25,069 cf

Subcatchment5.2: LANDSCAPING Runoff Area=25,460 sf 0.70% Impervious Runoff Depth=3.66"
Flow Length=343' Slope=0.0200 '/' Tc=11.7 min CN=80 Runoff=2.07 cfs 7,774 cf

Subcatchment5.3: Runoff Area=173,079 sf 42.34% Impervious Runoff Depth=3.97"
Flow Length=284' Tc=38.3 min CN=83 Runoff=9.23 cfs 57,273 cf

Subcatchment5.4: PARKING Runoff Area=155,629 sf 63.12% Impervious Runoff Depth=4.72"
Tc=6.0 min CN=90 Runoff=18.70 cfs 61,205 cf

Subcatchment6.1: UNDISTURBED Runoff Area=120,146 sf 25.98% Impervious Runoff Depth=2.17"
Flow Length=159' Slope=0.0500 '/' Tc=7.2 min CN=64 Runoff=6.45 cfs 21,738 cf

Subcatchment7.1: TUTTLE LAND Runoff Area=115,906 sf 1.15% Impervious Runoff Depth=3.27"
Flow Length=404' Tc=7.4 min CN=76 Runoff=9.60 cfs 31,567 cf

Subcatchment8.1: TUTTLE HOUSE Runoff Area=23,814 sf 39.51% Impervious Runoff Depth=3.97"
Tc=6.0 min CN=83 Runoff=2.50 cfs 7,880 cf

Subcatchment9.1: UNDISTURBED Runoff Area=118,336 sf 0.00% Impervious Runoff Depth=3.17"
Tc=6.0 min CN=75 Runoff=10.01 cfs 31,276 cf

Subcatchment10.1: UNDISTURBED Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=3.37"
Tc=6.0 min CN=77 Runoff=1.09 cfs 3,416 cf

Subcatchment10.2: UNDISTURBED Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=2.89"
Tc=6.0 min CN=72 Runoff=0.42 cfs 1,306 cf

Subcatchment10.3: UNDISTURBED Runoff Area=475 sf 0.00% Impervious Runoff Depth=1.44"
Tc=6.0 min CN=55 Runoff=0.02 cfs 57 cf

Subcatchment10.4: UNDISTURBED Runoff Area=611 sf 0.00% Impervious Runoff Depth=1.44"
Tc=6.0 min CN=55 Runoff=0.02 cfs 74 cf

Pond P1: Peak Elev=281.31' Storage=9,183 cf Inflow=11.92 cfs 42,770 cf
Discarded=0.10 cfs 12,338 cf Primary=12.13 cfs 26,403 cf Outflow=12.23 cfs 38,741 cf

Pond P2: Peak Elev=283.49' Storage=17,781 cf Inflow=11.89 cfs 42,663 cf
Discarded=0.19 cfs 22,735 cf Primary=5.09 cfs 13,029 cf Outflow=5.29 cfs 35,765 cf

Link DP-1: HEADWALL Inflow=5.07 cfs 24,986 cf
Primary=5.07 cfs 24,986 cf

Link DP-10: OFFSITE NORTH Inflow=1.55 cfs 4,853 cf
Primary=1.55 cfs 4,853 cf

Link DP-2: HEADWALL Inflow=15.07 cfs 52,844 cf
Primary=15.07 cfs 52,844 cf

Link DP-3: HEADWALL Inflow=85.70 cfs 301,277 cf
Primary=85.70 cfs 301,277 cf

Link DP-4: KING ST CLOSED DRAINAGE Inflow=3.48 cfs 13,112 cf
Primary=3.48 cfs 13,112 cf

Link DP-5: EXISTING WETLAND Inflow=31.17 cfs 151,321 cf
Primary=31.17 cfs 151,321 cf

Link DP-6: EXISTING STORMWATER POND Inflow=112.04 cfs 400,844 cf
Primary=112.04 cfs 400,844 cf

Link DP-7: EXISTING STORMWATER POND Inflow=12.00 cfs 39,447 cf
Primary=12.00 cfs 39,447 cf

Link DP-8: EXISTING STORMWATER POND Inflow=2.50 cfs 7,880 cf
Primary=2.50 cfs 7,880 cf

Link DP-9: OFFSITE HEADWALL SOUTHWEST Inflow=10.01 cfs 31,276 cf
Primary=10.01 cfs 31,276 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 686,855 cf Average Runoff Depth = 4.28"
47.51% Pervious = 915,858 sf 52.49% Impervious = 1,011,673 sf

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.1: ROAD Runoff Area=37,116 sf 77.99% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=5.56 cfs 18,727 cf

Subcatchment1.2: ABUTTING LOTS Runoff Area=72,866 sf 27.74% Impervious Runoff Depth=2.31"
Flow Length=357' Tc=27.1 min CN=57 Runoff=2.54 cfs 14,047 cf

Subcatchment2.1: PARKING Runoff Area=122,705 sf 77.03% Impervious Runoff Depth=6.29"
Flow Length=451' Tc=6.9 min CN=94 Runoff=18.15 cfs 64,300 cf

Subcatchment3.1: PARKING Runoff Area=582,220 sf 66.44% Impervious Runoff Depth=5.94"
Flow Length=823' Tc=7.9 min CN=91 Runoff=80.86 cfs 288,137 cf

Subcatchment3.2: BUILDING Runoff Area=8,600 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=1.34 cfs 4,845 cf

Subcatchment3.3: Runoff Area=72,797 sf 33.90% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=82 Runoff=9.40 cfs 29,823 cf

Subcatchment3.4: BUILDING Runoff Area=91,130 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=14.24 cfs 51,344 cf

Subcatchment3.5: BUILDING Runoff Area=90,902 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=14.20 cfs 51,215 cf

Subcatchment4.1: ROAD Runoff Area=38,613 sf 24.06% Impervious Runoff Depth=5.14"
Flow Length=339' Slope=0.0210 '/' Tc=11.4 min CN=84 Runoff=4.35 cfs 16,539 cf

Subcatchment5.1: PARKING Runoff Area=59,518 sf 72.12% Impervious Runoff Depth=6.17"
Tc=6.0 min CN=93 Runoff=9.01 cfs 30,609 cf

Subcatchment5.2: LANDSCAPING Runoff Area=25,460 sf 0.70% Impervious Runoff Depth=4.69"
Flow Length=343' Slope=0.0200 '/' Tc=11.7 min CN=80 Runoff=2.63 cfs 9,960 cf

Subcatchment5.3: Runoff Area=173,079 sf 42.34% Impervious Runoff Depth=5.03"
Flow Length=284' Tc=38.3 min CN=83 Runoff=11.61 cfs 72,517 cf

Subcatchment5.4: PARKING Runoff Area=155,629 sf 63.12% Impervious Runoff Depth=5.82"
Tc=6.0 min CN=90 Runoff=22.80 cfs 75,521 cf

Subcatchment6.1: UNDISTURBED Runoff Area=120,146 sf 25.98% Impervious Runoff Depth=3.00"
Flow Length=159' Slope=0.0500 '/' Tc=7.2 min CN=64 Runoff=9.08 cfs 30,050 cf

Subcatchment7.1: TUTTLE LAND Runoff Area=115,906 sf 1.15% Impervious Runoff Depth=4.26"
Flow Length=404' Tc=7.4 min CN=76 Runoff=12.47 cfs 41,121 cf

Subcatchment8.1: TUTTLE HOUSE Runoff Area=23,814 sf 39.51% Impervious Runoff Depth=5.03"
Tc=6.0 min CN=83 Runoff=3.13 cfs 9,978 cf

Subcatchment9.1: UNDISTURBED Runoff Area=118,336 sf 0.00% Impervious Runoff Depth=4.15"
Tc=6.0 min CN=75 Runoff=13.09 cfs 40,919 cf

Subcatchment10.1: UNDISTURBED Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=4.37"
Tc=6.0 min CN=77 Runoff=1.41 cfs 4,431 cf

Subcatchment10.2: UNDISTURBED Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=3.83"
Tc=6.0 min CN=72 Runoff=0.55 cfs 1,733 cf

Subcatchment10.3: UNDISTURBED Runoff Area=475 sf 0.00% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=55 Runoff=0.03 cfs 84 cf

Subcatchment10.4: UNDISTURBED Runoff Area=611 sf 0.00% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=55 Runoff=0.03 cfs 108 cf

Pond P1: Peak Elev=281.40' Storage=9,183 cf Inflow=14.24 cfs 51,344 cf
Discarded=0.10 cfs 12,502 cf Primary=14.07 cfs 34,798 cf Outflow=14.17 cfs 47,300 cf

Pond P2: Peak Elev=284.04' Storage=17,822 cf Inflow=14.20 cfs 51,215 cf
Discarded=0.19 cfs 23,271 cf Primary=17.50 cfs 20,572 cf Outflow=17.70 cfs 43,843 cf

Link DP-1: HEADWALL Inflow=6.43 cfs 32,774 cf
Primary=6.43 cfs 32,774 cf

Link DP-10: OFFSITE NORTH Inflow=2.03 cfs 6,355 cf
Primary=2.03 cfs 6,355 cf

Link DP-2: HEADWALL Inflow=18.15 cfs 64,300 cf
Primary=18.15 cfs 64,300 cf

Link DP-3: HEADWALL Inflow=121.19 cfs 378,176 cf
Primary=121.19 cfs 378,176 cf

Link DP-4: KING ST CLOSED DRAINAGE Inflow=4.35 cfs 16,539 cf
Primary=4.35 cfs 16,539 cf

Link DP-5: EXISTING WETLAND Inflow=38.27 cfs 188,607 cf
Primary=38.27 cfs 188,607 cf

Link DP-6: EXISTING STORMWATER POND Inflow=154.20 cfs 505,301 cf
Primary=154.20 cfs 505,301 cf

Link DP-7: EXISTING STORMWATER POND Inflow=15.49 cfs 51,099 cf
Primary=15.49 cfs 51,099 cf

Link DP-8: EXISTING STORMWATER POND Inflow=3.13 cfs 9,978 cf
Primary=3.13 cfs 9,978 cf

Link DP-9: OFFSITE HEADWALL SOUTHWEST Inflow=13.09 cfs 40,919 cf
Primary=13.09 cfs 40,919 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 856,008 cf Average Runoff Depth = 5.33"
47.51% Pervious = 915,858 sf 52.49% Impervious = 1,011,673 sf

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1.1: ROAD Runoff Area=37,116 sf 77.99% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=6.72 cfs 22,888 cf

Subcatchment1.2: ABUTTING LOTS Runoff Area=72,866 sf 27.74% Impervious Runoff Depth=3.26"
Flow Length=357' Tc=27.1 min CN=57 Runoff=3.68 cfs 19,800 cf

Subcatchment2.1: PARKING Runoff Area=122,705 sf 77.03% Impervious Runoff Depth=7.64"
Flow Length=451' Tc=6.9 min CN=94 Runoff=21.83 cfs 78,122 cf

Subcatchment3.1: PARKING Runoff Area=582,220 sf 66.44% Impervious Runoff Depth=7.28"
Flow Length=823' Tc=7.9 min CN=91 Runoff=97.97 cfs 353,217 cf

Subcatchment3.2: BUILDING Runoff Area=8,600 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.61 cfs 5,819 cf

Subcatchment3.3: Runoff Area=72,797 sf 33.90% Impervious Runoff Depth=6.20"
Tc=6.0 min CN=82 Runoff=11.74 cfs 37,625 cf

Subcatchment3.4: BUILDING Runoff Area=91,130 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=17.02 cfs 61,665 cf

Subcatchment3.5: BUILDING Runoff Area=90,902 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=16.98 cfs 61,510 cf

Subcatchment4.1: ROAD Runoff Area=38,613 sf 24.06% Impervious Runoff Depth=6.44"
Flow Length=339' Slope=0.0210 '/' Tc=11.4 min CN=84 Runoff=5.40 cfs 20,727 cf

Subcatchment5.1: PARKING Runoff Area=59,518 sf 72.12% Impervious Runoff Depth=7.52"
Tc=6.0 min CN=93 Runoff=10.86 cfs 37,298 cf

Subcatchment5.2: LANDSCAPING Runoff Area=25,460 sf 0.70% Impervious Runoff Depth=5.96"
Flow Length=343' Slope=0.0200 '/' Tc=11.7 min CN=80 Runoff=3.32 cfs 12,652 cf

Subcatchment5.3: Runoff Area=173,079 sf 42.34% Impervious Runoff Depth=6.32"
Flow Length=284' Tc=38.3 min CN=83 Runoff=14.47 cfs 91,180 cf

Subcatchment5.4: PARKING Runoff Area=155,629 sf 63.12% Impervious Runoff Depth=7.16"
Tc=6.0 min CN=90 Runoff=27.70 cfs 92,861 cf

Subcatchment6.1: UNDISTURBED Runoff Area=120,146 sf 25.98% Impervious Runoff Depth=4.07"
Flow Length=159' Slope=0.0500 '/' Tc=7.2 min CN=64 Runoff=12.42 cfs 40,753 cf

Subcatchment7.1: TUTTLE LAND Runoff Area=115,906 sf 1.15% Impervious Runoff Depth=5.49"
Flow Length=404' Tc=7.4 min CN=76 Runoff=15.98 cfs 52,994 cf

Subcatchment8.1: TUTTLE HOUSE Runoff Area=23,814 sf 39.51% Impervious Runoff Depth=6.32"
Tc=6.0 min CN=83 Runoff=3.90 cfs 12,545 cf

Subcatchment9.1: UNDISTURBED Runoff Area=118,336 sf 0.00% Impervious Runoff Depth=5.37"
Tc=6.0 min CN=75 Runoff=16.85 cfs 52,932 cf

Subcatchment10.1: UNDISTURBED Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=5.61"
Tc=6.0 min CN=77 Runoff=1.80 cfs 5,689 cf

Subcatchment10.2: UNDISTURBED Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=5.01"
Tc=6.0 min CN=72 Runoff=0.72 cfs 2,268 cf

Subcatchment10.3: UNDISTURBED Runoff Area=475 sf 0.00% Impervious Runoff Depth=3.03"
Tc=6.0 min CN=55 Runoff=0.04 cfs 120 cf

Subcatchment10.4: UNDISTURBED Runoff Area=611 sf 0.00% Impervious Runoff Depth=3.03"
Tc=6.0 min CN=55 Runoff=0.05 cfs 154 cf

Pond P1: Peak Elev=281.50' Storage=9,183 cf Inflow=17.02 cfs 61,665 cf
Discarded=0.10 cfs 12,636 cf Primary=16.59 cfs 44,975 cf Outflow=16.69 cfs 57,610 cf

Pond P2: Peak Elev=284.11' Storage=17,822 cf Inflow=16.98 cfs 61,510 cf
Discarded=0.19 cfs 23,727 cf Primary=19.47 cfs 30,079 cf Outflow=19.67 cfs 53,806 cf

Link DP-1: HEADWALL Inflow=8.11 cfs 42,688 cf
Primary=8.11 cfs 42,688 cf

Link DP-10: OFFSITE NORTH Inflow=2.61 cfs 8,231 cf
Primary=2.61 cfs 8,231 cf

Link DP-2: HEADWALL Inflow=21.83 cfs 78,122 cf
Primary=21.83 cfs 78,122 cf

Link DP-3: HEADWALL Inflow=146.30 cfs 471,715 cf
Primary=146.30 cfs 471,715 cf

Link DP-4: KING ST CLOSED DRAINAGE Inflow=5.40 cfs 20,727 cf
Primary=5.40 cfs 20,727 cf

Link DP-5: EXISTING WETLAND Inflow=46.79 cfs 233,991 cf
Primary=46.79 cfs 233,991 cf

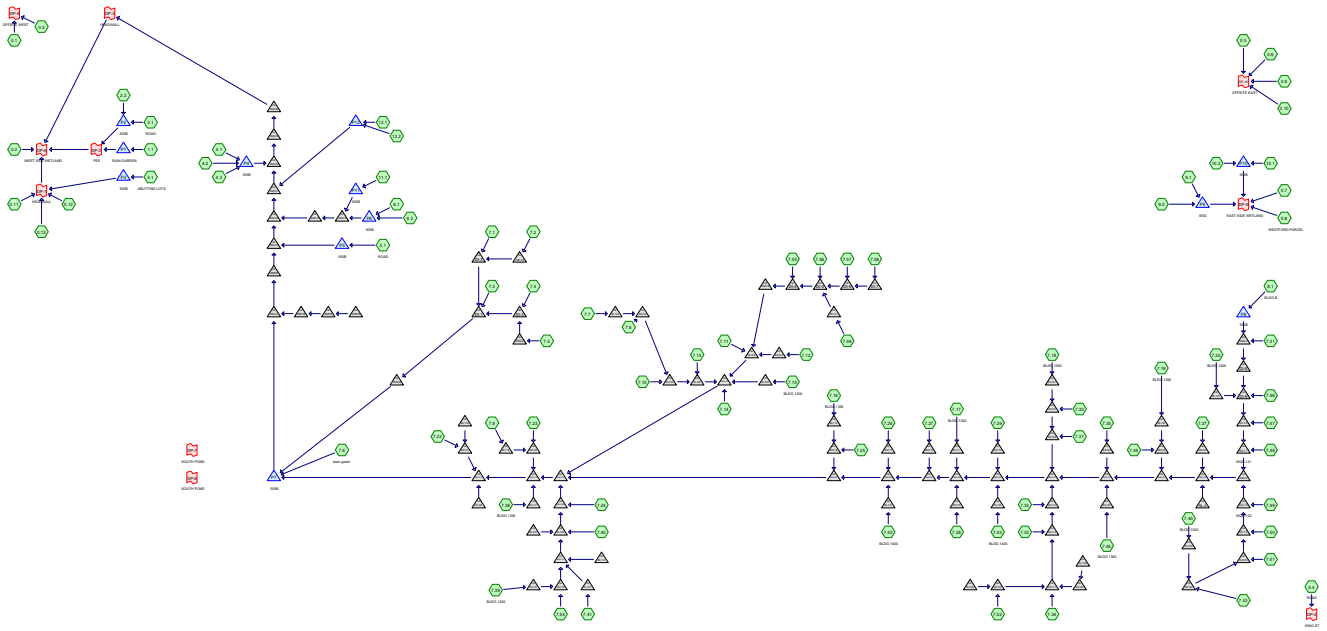
Link DP-6: EXISTING STORMWATER POND Inflow=188.17 cfs 633,279 cf
Primary=188.17 cfs 633,279 cf

Link DP-7: EXISTING STORMWATER POND Inflow=19.75 cfs 65,539 cf
Primary=19.75 cfs 65,539 cf

Link DP-8: EXISTING STORMWATER POND Inflow=3.90 cfs 12,545 cf
Primary=3.90 cfs 12,545 cf

Link DP-9: OFFSITE HEADWALL SOUTHWEST Inflow=16.85 cfs 52,932 cf
Primary=16.85 cfs 52,932 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 1,062,820 cf Average Runoff Depth = 6.62"
47.51% Pervious = 915,858 sf 52.49% Impervious = 1,011,673 sf



Subcat Reach Pond Link

Routing Diagram for T1180.03_POST_MASTERPLAN
Prepared by TEC, Inc, Printed 11/26/2025

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
40,343	39	>75% Grass cover, Good, HSG A (0.11, 0.12, 0.13, 1.1, 2.2, 3.1)
105,135	74	>75% Grass cover, Good, HSG C (2.1, 3.1, 4.1, 4.3, 5.1, 6.2, 7.1, 7.10, 7.2, 7.3, 7.56, 7.57, 7.8, 9.1, 12.1)
169,134	80	>75% Grass cover, Good, HSG D (0.13, 0.5, 1.1, 2.1, 2.2, 4.1, 4.3, 5.1, 7.10, 7.13, 7.2, 7.21, 7.41, 7.46, 7.51, 7.52, 7.53, 7.54, 7.55, 7.56, 7.58, 9.1, 10.1, 10.2)
63,611	98	Paved parking, HSG A (0.11, 0.13, 2.2, 3.1)
251,229	98	Paved parking, HSG C (2.1, 3.1, 4.3, 5.1, 6.1, 6.2, 7.1, 7.10, 7.2, 7.22, 7.23, 7.3, 7.4, 7.5, 7.54, 7.56, 7.57, 7.58, 7.6, 7.8, 9.1, 12.1)
502,276	98	Paved parking, HSG D (0.13, 0.4, 2.1, 2.2, 3.1, 4.1, 4.2, 4.3, 5.1, 6.1, 7.10, 7.11, 7.12, 7.13, 7.14, 7.2, 7.21, 7.23, 7.24, 7.25, 7.26, 7.27, 7.28, 7.29, 7.30, 7.31, 7.32, 7.33, 7.34, 7.35, 7.36, 7.37, 7.4, 7.40, 7.41, 7.46, 7.47, 7.48, 7.49, 7.5, 7.50, 7.51, 7.52, 7.53, 7.54, 7.55, 7.56, 7.57, 7.58, 7.59, 7.6, 9.2, 10.1, 10.2)
1,968	98	Roofs, HSG A (2.2)
164,676	98	Roofs, HSG C (4.1, 4.3, 7.38, 7.39, 7.7, 7.9, 8.1, 11.1, 12.2)
342,423	98	Roofs, HSG D (2.2, 4.1, 4.3, 7.15, 7.16, 7.17, 7.18, 7.19, 7.20, 7.39, 7.42, 7.43, 7.44, 7.45, 8.1, 9.2, 10.1, 10.2, 11.1)
24,549	98	Water Surface, 0% imp, HSG D (0.2)
6,669	98	Water Surface, HSG A (0.2)
5,792	30	Woods, Good, HSG A (0.1)
2,769	55	Woods, Good, HSG B (0.10, 0.6, 0.9)
868	70	Woods, Good, HSG C (0.5)
8,563	77	Woods, Good, HSG D (0.5)
29,603	32	Woods/grass comb., Good, HSG A (0.2)
68,897	58	Woods/grass comb., Good, HSG B (0.7, 0.8, 10.2)
10,941	72	Woods/grass comb., Good, HSG C (0.3)
128,085	79	Woods/grass comb., Good, HSG D (0.1, 0.2, 0.3, 0.6, 0.7, 0.8, 4.2, 10.2)
1,927,531	**90**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
147,986	HSG A	0.1, 0.11, 0.12, 0.13, 0.2, 1.1, 2.2, 3.1
71,666	HSG B	0.10, 0.6, 0.7, 0.8, 0.9, 10.2
532,849	HSG C	0.3, 0.5, 2.1, 3.1, 4.1, 4.3, 5.1, 6.1, 6.2, 7.1, 7.10, 7.2, 7.22, 7.23, 7.3, 7.38, 7.39, 7.4, 7.5, 7.54, 7.56, 7.57, 7.58, 7.6, 7.7, 7.8, 7.9, 8.1, 9.1, 11.1, 12.1, 12.2
1,175,030	HSG D	0.1, 0.13, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1.1, 2.1, 2.2, 3.1, 4.1, 4.2, 4.3, 5.1, 6.1, 7.10, 7.11, 7.12, 7.13, 7.14, 7.15, 7.16, 7.17, 7.18, 7.19, 7.2, 7.20, 7.21, 7.23, 7.24, 7.25, 7.26, 7.27, 7.28, 7.29, 7.30, 7.31, 7.32, 7.33, 7.34, 7.35, 7.36, 7.37, 7.39, 7.4, 7.40, 7.41, 7.42, 7.43, 7.44, 7.45, 7.46, 7.47, 7.48, 7.49, 7.5, 7.50, 7.51, 7.52, 7.53, 7.54, 7.55, 7.56, 7.57, 7.58, 7.59, 7.6, 8.1, 9.1, 9.2, 10.1, 10.2, 11.1
0	Other	
1,927,531		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	S N
40,343	0	105,135	169,134	0	314,612	>75% Grass cover, Good	
63,611	0	251,229	502,276	0	817,116	Paved parking	
1,968	0	164,676	342,423	0	509,067	Roofs	
6,669	0	0	0	0	6,669	Water Surface	
0	0	0	24,549	0	24,549	Water Surface, 0% imp	
5,792	2,769	868	8,563	0	17,992	Woods, Good	
29,603	68,897	10,941	128,085	0	237,526	Woods/grass comb., Good	
147,986	**71,666**	**532,849**	**1,175,030**	**0**	**1,927,531**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment0.1: Runoff Area=21,237 sf 0.00% Impervious Runoff Depth=0.59"
Tc=6.0 min CN=66 Runoff=0.26 cfs 1,041 cf

Subcatchment0.10: Runoff Area=612 sf 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=55 Runoff=0.00 cfs 11 cf

Subcatchment0.11: Runoff Area=6,663 sf 16.21% Impervious Runoff Depth=0.09"
Tc=6.0 min CN=49 Runoff=0.00 cfs 49 cf

Subcatchment0.12: Runoff Area=8,597 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0 cf

Subcatchment0.13: Runoff Area=21,390 sf 84.71% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=1.25 cfs 4,004 cf

Subcatchment0.2: Runoff Area=78,058 sf 8.54% Impervious Runoff Depth=0.72"
Flow Length=125' Tc=22.3 min CN=69 Runoff=0.83 cfs 4,674 cf

Subcatchment0.3: Runoff Area=45,378 sf 0.00% Impervious Runoff Depth=1.13"
Tc=6.0 min CN=77 Runoff=1.33 cfs 4,288 cf

Subcatchment0.4: ROAD Runoff Area=2,842 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.19 cfs 677 cf

Subcatchment0.5: Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=1.13"
Tc=6.0 min CN=77 Runoff=0.36 cfs 1,151 cf

Subcatchment0.6: Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=0.86"
Tc=6.0 min CN=72 Runoff=0.11 cfs 390 cf

Subcatchment0.7: Runoff Area=23,835 sf 0.00% Impervious Runoff Depth=1.02"
Tc=6.0 min CN=75 Runoff=0.62 cfs 2,026 cf

Subcatchment0.8: WESTFORD PARCEL Runoff Area=55,313 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=115' Tc=21.2 min CN=63 Runoff=0.32 cfs 2,171 cf

Subcatchment0.9: Runoff Area=475 sf 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=55 Runoff=0.00 cfs 9 cf

Subcatchment1.1: Runoff Area=4,688 sf 0.00% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=42 Runoff=0.00 cfs 3 cf

Subcatchment2.1: ROAD Runoff Area=43,749 sf 83.75% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=95 Runoff=2.81 cfs 9,250 cf

Subcatchment2.2: Runoff Area=127,270 sf 67.53% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=7.46 cfs 23,823 cf

Subcatchment3.1: ABUTTINGLOTS Runoff Area=120,083 sf 81.23% Impervious Runoff Depth=1.90"
Flow Length=211' Tc=23.6 min CN=88 Runoff=3.85 cfs 18,997 cf

Subcatchment4.1: Runoff Area=132,411 sf 65.87% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=7.76 cfs 24,786 cf

Subcatchment4.2: Runoff Area=36,921 sf 57.08% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=90 Runoff=2.02 cfs 6,359 cf

Subcatchment4.3: Runoff Area=27,610 sf 64.22% Impervious Runoff Depth=2.16"
Tc=6.0 min CN=91 Runoff=1.56 cfs 4,959 cf

Subcatchment5.1: ROAD Runoff Area=50,399 sf 79.28% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=94 Runoff=3.15 cfs 10,236 cf

Subcatchment6.1: Runoff Area=71,073 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=4.85 cfs 16,927 cf

Subcatchment6.2: Runoff Area=55,680 sf 74.30% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=3.26 cfs 10,423 cf

Subcatchment7.1: Runoff Area=1,738 sf 84.06% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=94 Runoff=0.11 cfs 353 cf

Subcatchment7.10: Runoff Area=9,074 sf 91.94% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=96 Runoff=0.60 cfs 1,997 cf

Subcatchment7.11: Runoff Area=1,187 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.08 cfs 283 cf

Subcatchment7.12: Runoff Area=1,445 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.10 cfs 344 cf

Subcatchment7.13: Runoff Area=7,690 sf 86.83% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=96 Runoff=0.51 cfs 1,692 cf

Subcatchment7.14: Runoff Area=5,580 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.38 cfs 1,329 cf

Subcatchment7.15: BLDG 1300 Runoff Area=7,477 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.51 cfs 1,781 cf

Subcatchment7.16: BLDG 1300 Runoff Area=4,749 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.32 cfs 1,131 cf

Subcatchment7.17: BLDG 1300 Runoff Area=4,819 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.33 cfs 1,148 cf

Subcatchment7.18: BLDG 1300 Runoff Area=3,759 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.26 cfs 895 cf

Subcatchment7.19: BLDG 1300 Runoff Area=7,852 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.54 cfs 1,870 cf

Subcatchment7.2: Runoff Area=7,404 sf 87.25% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=95 Runoff=0.47 cfs 1,566 cf

Subcatchment7.20: BLDG 1300 Runoff Area=5,674 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.39 cfs 1,351 cf

Subcatchment7.21: Runoff Area=885 sf 75.71% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=94 Runoff=0.06 cfs 180 cf

Subcatchment7.22: Runoff Area=1,572 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.11 cfs 374 cf

Subcatchment7.23: Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.34 cfs 1,203 cf

Subcatchment7.24: Runoff Area=5,584 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.38 cfs 1,330 cf

Subcatchment7.25: Runoff Area=1,272 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.09 cfs 303 cf

Subcatchment7.26: Runoff Area=1,296 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.09 cfs 309 cf

Subcatchment7.27: Runoff Area=2,052 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.14 cfs 489 cf

Subcatchment7.28: Runoff Area=1,608 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.11 cfs 383 cf

Subcatchment7.29: Runoff Area=1,228 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.08 cfs 292 cf

Subcatchment7.3: Runoff Area=2,453 sf 86.95% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=95 Runoff=0.16 cfs 519 cf

Subcatchment7.30: Runoff Area=2,023 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.14 cfs 482 cf

Subcatchment7.31: Runoff Area=1,682 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.11 cfs 401 cf

Subcatchment7.32: Runoff Area=968 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.07 cfs 231 cf

Subcatchment7.33: Runoff Area=1,396 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.10 cfs 332 cf

Subcatchment7.34: Runoff Area=666 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.05 cfs 159 cf

Subcatchment7.35: Runoff Area=2,969 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.20 cfs 707 cf

Subcatchment7.36: Runoff Area=1,885 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.13 cfs 449 cf

Subcatchment7.37: Runoff Area=1,644 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.11 cfs 392 cf

Subcatchment7.38: BLDG 1200 Runoff Area=5,735 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.39 cfs 1,366 cf

Subcatchment7.39: BLDG 1200 Runoff Area=6,325 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.43 cfs 1,506 cf

Subcatchment7.4: Runoff Area=6,397 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.44 cfs 1,524 cf

Subcatchment7.40: Runoff Area=3,136 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.21 cfs 747 cf

Subcatchment7.41: Runoff Area=3,026 sf 80.83% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=95 Runoff=0.19 cfs 640 cf

Subcatchment7.42: BLDG 1400 Runoff Area=7,732 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.53 cfs 1,841 cf

Subcatchment7.43: BLDG 1400 Runoff Area=5,257 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.36 cfs 1,252 cf

Subcatchment7.44: BLDG 1500 Runoff Area=7,862 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.54 cfs 1,872 cf

Subcatchment7.45: BLDG 1500 Runoff Area=5,631 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.38 cfs 1,341 cf

Subcatchment7.46: Runoff Area=11,125 sf 89.21% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=96 Runoff=0.73 cfs 2,448 cf

Subcatchment7.47: Runoff Area=2,366 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.16 cfs 563 cf

Subcatchment7.48: Runoff Area=3,206 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.22 cfs 764 cf

Subcatchment7.49: Runoff Area=2,626 sf 100.00% Impervious Runoff Depth=2.86"
Tc=0.0 min CN=98 Runoff=0.21 cfs 625 cf

Subcatchment7.5: Runoff Area=1,148 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.08 cfs 273 cf

Subcatchment7.50: Runoff Area=3,609 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.25 cfs 860 cf

Subcatchment7.51: Runoff Area=2,490 sf 70.16% Impervious Runoff Depth=2.34"
Tc=0.0 min CN=93 Runoff=0.18 cfs 486 cf

Subcatchment7.52: Runoff Area=2,288 sf 25.00% Impervious Runoff Depth=1.66"
Tc=6.0 min CN=85 Runoff=0.10 cfs 317 cf

Subcatchment7.53: Runoff Area=2,435 sf 50.31% Impervious Runoff Depth=1.98"
Tc=6.0 min CN=89 Runoff=0.13 cfs 402 cf

Subcatchment7.54: Runoff Area=2,361 sf 80.09% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=94 Runoff=0.15 cfs 480 cf

Subcatchment7.55: Runoff Area=7,649 sf 88.60% Impervious Runoff Depth=2.64"
Tc=6.0 min CN=96 Runoff=0.50 cfs 1,683 cf

Subcatchment7.56: Runoff Area=6,258 sf 86.07% Impervious Runoff Depth=2.54"
Tc=6.0 min CN=95 Runoff=0.40 cfs 1,323 cf

Subcatchment7.57: Runoff Area=12,638 sf 84.25% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=94 Runoff=0.79 cfs 2,567 cf

Subcatchment7.58: Runoff Area=6,180 sf 95.97% Impervious Runoff Depth=2.75"
Tc=6.0 min CN=97 Runoff=0.41 cfs 1,415 cf

Subcatchment7.59: Runoff Area=31,120 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=2.12 cfs 7,411 cf

Subcatchment7.6: Runoff Area=928 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.06 cfs 221 cf

Subcatchment7.7: Runoff Area=3,159 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.22 cfs 752 cf

Subcatchment7.8: town green Runoff Area=36,660 sf 76.33% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=2.15 cfs 6,862 cf

Subcatchment7.9: Runoff Area=5,814 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=0.40 cfs 1,385 cf

Subcatchment8.1: BLDG B Runoff Area=90,966 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=6.20 cfs 21,664 cf

Subcatchment9.1: Runoff Area=80,109 sf 25.88% Impervious Runoff Depth=1.38"
Tc=6.0 min CN=81 Runoff=2.93 cfs 9,233 cf

Subcatchment9.2: Runoff Area=118,363 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=8.07 cfs 28,189 cf

Subcatchment10.1: Runoff Area=131,529 sf 70.82% Impervious Runoff Depth=2.34"
Tc=6.0 min CN=93 Runoff=7.97 cfs 25,651 cf

Subcatchment10.2: Runoff Area=79,304 sf 45.45% Impervious Runoff Depth=1.45"
Tc=6.0 min CN=82 Runoff=3.05 cfs 9,584 cf

Subcatchment11.1: Runoff Area=57,181 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=3.90 cfs 13,618 cf

Subcatchment12.1: Runoff Area=27,231 sf 74.47% Impervious Runoff Depth=2.25"
Tc=6.0 min CN=92 Runoff=1.60 cfs 5,097 cf

Subcatchment12.2: Runoff Area=91,111 sf 100.00% Impervious Runoff Depth=2.86"
Tc=6.0 min CN=98 Runoff=6.21 cfs 21,699 cf

Pond AD102: Peak Elev=279.13' Inflow=0.51 cfs 1,743 cf
12.0" Round Culvert n=0.012 L=31.4' S=0.0051 '/' Outflow=0.51 cfs 1,743 cf

Pond AD103: Peak Elev=278.90' Inflow=0.61 cfs 2,229 cf
12.0" Round Culvert n=0.012 L=46.1' S=0.0050 '/' Outflow=0.61 cfs 2,229 cf

Pond AD104: Peak Elev=277.97' Inflow=0.11 cfs 392 cf
12.0" Round Culvert n=0.013 L=5.5' S=0.0055 '/' Outflow=0.11 cfs 392 cf

Pond AD105: Peak Elev=277.93' Inflow=0.66 cfs 2,319 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.66 cfs 2,319 cf

Pond AD106: Peak Elev=277.29' Inflow=0.20 cfs 707 cf
12.0" Round Culvert n=0.013 L=9.2' S=0.0054 '/' Outflow=0.20 cfs 707 cf

Pond AD107: Peak Elev=276.03' Inflow=0.39 cfs 1,377 cf
12.0" Round Culvert n=0.013 L=22.5' S=0.0049 '/' Outflow=0.39 cfs 1,377 cf

Pond AD108: Peak Elev=275.89' Inflow=0.51 cfs 1,778 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.51 cfs 1,778 cf

Pond AD109: Peak Elev=277.44' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.013 L=36.1' S=0.0050 '/' Outflow=0.00 cfs 0 cf

Pond AD110: Peak Elev=277.80' Inflow=0.10 cfs 317 cf
12.0" Round Culvert n=0.013 L=71.1' S=0.0051 '/' Outflow=0.10 cfs 317 cf

Pond AD111: Peak Elev=277.38' Inflow=0.15 cfs 476 cf
12.0" Round Culvert n=0.013 L=24.4' S=0.0049 '/' Outflow=0.15 cfs 476 cf

Pond AD112: Peak Elev=277.22' Inflow=0.24 cfs 808 cf
12.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=0.24 cfs 808 cf

Pond AD113: Peak Elev=276.98' Inflow=0.31 cfs 1,039 cf
12.0" Round Culvert n=0.013 L=28.4' S=0.0049 '/' Outflow=0.31 cfs 1,039 cf

Pond AD114: Peak Elev=275.39' Inflow=0.08 cfs 292 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.08 cfs 292 cf

Pond AD115: Peak Elev=275.05' Inflow=0.11 cfs 383 cf
12.0" Round Culvert n=0.013 L=6.9' S=0.0043 '/' Outflow=0.11 cfs 383 cf

Pond AD116: Peak Elev=274.90' Inflow=0.14 cfs 489 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.14 cfs 489 cf

Pond AD117: Peak Elev=274.49' Inflow=0.09 cfs 309 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.09 cfs 309 cf

Pond AD118: Peak Elev=274.38' Inflow=0.41 cfs 1,434 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.41 cfs 1,434 cf

Pond AD119: Peak Elev=274.82' Inflow=0.58 cfs 1,986 cf
12.0" Round Culvert n=0.013 L=26.9' S=0.0048 '/' Outflow=0.58 cfs 1,986 cf

Pond AD120: Peak Elev=273.50' Inflow=0.74 cfs 2,588 cf
12.0" Round Culvert n=0.013 L=18.7' S=0.0048 '/' Outflow=0.74 cfs 2,588 cf

Pond AD121: Peak Elev=272.53' Inflow=0.11 cfs 374 cf
12.0" Round Culvert n=0.013 L=9.9' S=0.0051 '/' Outflow=0.11 cfs 374 cf

Pond AD123: Peak Elev=275.14' Inflow=0.28 cfs 973 cf
12.0" Round Culvert n=0.013 L=65.1' S=0.0051 '/' Outflow=0.28 cfs 973 cf

Pond AD124: Peak Elev=274.73' Inflow=0.10 cfs 344 cf
12.0" Round Culvert n=0.013 L=37.4' S=0.0051 '/' Outflow=0.10 cfs 344 cf

Pond AD22: Peak Elev=278.43' Inflow=0.08 cfs 273 cf
12.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.08 cfs 273 cf

Pond CB-10: Peak Elev=278.92' Inflow=0.47 cfs 1,566 cf
12.0" Round Culvert n=0.013 L=61.5' S=0.0050 '/' Outflow=0.47 cfs 1,566 cf

Pond DI-1: Peak Elev=278.39' Inflow=1.26 cfs 4,234 cf
12.0" Round Culvert n=0.013 L=27.6' S=0.0051 '/' Outflow=1.26 cfs 4,234 cf

Pond DI-10: Peak Elev=279.47' Inflow=6.49 cfs 26,207 cf
24.0" Round Culvert n=0.012 L=41.7' S=0.0050 '/' Outflow=6.49 cfs 26,207 cf

Pond DI-101: Peak Elev=274.61' Inflow=0.19 cfs 640 cf
12.0" Round Culvert n=0.013 L=23.9' S=0.0050 '/' Outflow=0.19 cfs 640 cf

Pond DI-102: Peak Elev=274.50' Inflow=0.99 cfs 3,373 cf
12.0" Round Culvert n=0.013 L=57.1' S=0.0051 '/' Outflow=0.99 cfs 3,373 cf

Pond DI-103: Peak Elev=274.99' Inflow=0.87 cfs 2,970 cf
12.0" Round Culvert n=0.013 L=11.5' S=0.0052 '/' Outflow=0.87 cfs 2,970 cf

Pond DI-104: Peak Elev=274.99' Inflow=1.38 cfs 4,662 cf
12.0" Round Culvert n=0.013 L=54.9' S=0.0049 '/' Outflow=1.38 cfs 4,662 cf

Pond DI-105: Peak Elev=275.31' Inflow=4.41 cfs 15,027 cf
24.0" Round Culvert n=0.013 L=55.3' S=0.0051 '/' Outflow=4.41 cfs 15,027 cf

Pond DI-11: WQU-101 Peak Elev=279.23' Inflow=6.69 cfs 26,971 cf
24.0" Round Culvert n=0.012 L=17.7' S=0.0051 '/' Outflow=6.69 cfs 26,971 cf

Pond DI-12: WQU-102 Peak Elev=278.72' Inflow=0.98 cfs 3,714 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=0.98 cfs 3,714 cf

Pond DI-13: Peak Elev=278.67' Inflow=0.86 cfs 3,088 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=0.86 cfs 3,088 cf

Pond DI-2: Peak Elev=278.56' Inflow=0.58 cfs 1,919 cf
12.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=0.58 cfs 1,919 cf

Pond DI-3: Peak Elev=278.52' Inflow=0.51 cfs 1,797 cf
12.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=0.51 cfs 1,797 cf

Pond DI-4: Peak Elev=276.14' Inflow=4.23 cfs 14,400 cf
24.0" Round Culvert n=0.012 L=89.0' S=0.0049 '/' Outflow=4.23 cfs 14,400 cf

Pond DI-5: Peak Elev=276.51' Inflow=3.73 cfs 12,716 cf
18.0" Round Culvert n=0.012 L=32.9' S=0.0049 '/' Outflow=3.73 cfs 12,716 cf

Pond DI-6: Peak Elev=277.00' Inflow=1.20 cfs 3,982 cf
12.0" Round Culvert n=0.012 L=170.9' S=0.0050 '/' Outflow=1.20 cfs 3,982 cf

Pond DI-7: Peak Elev=277.16' Inflow=0.41 cfs 1,415 cf
12.0" Round Culvert n=0.012 L=67.3' S=0.0051 '/' Outflow=0.41 cfs 1,415 cf

Pond DI-8: Peak Elev=279.98' Inflow=5.35 cfs 21,844 cf
24.0" Round Culvert n=0.012 L=44.5' S=0.0049 '/' Outflow=5.35 cfs 21,844 cf

Pond DI-9: Peak Elev=279.78' Inflow=6.35 cfs 25,644 cf
24.0" Round Culvert n=0.012 L=46.5' S=0.0049 '/' Outflow=6.35 cfs 25,644 cf

Pond DMH 5: Peak Elev=267.78' Inflow=7.90 cfs 55,707 cf
30.0" Round Culvert n=0.011 L=199.7' S=0.0001 '/' Outflow=7.90 cfs 55,707 cf

Pond DMH-2: Peak Elev=278.38' Inflow=7.56 cfs 30,684 cf
24.0" Round Culvert n=0.013 L=34.6' S=0.0049 '/' Outflow=7.56 cfs 30,684 cf

Pond DMH-3: Peak Elev=280.28' Inflow=5.35 cfs 21,844 cf
24.0" Round Culvert n=0.012 L=37.1' S=0.0051 '/' Outflow=5.35 cfs 21,844 cf

Pond DMH-9: Peak Elev=275.62' Inflow=4.23 cfs 14,400 cf
24.0" Round Culvert n=0.012 L=48.0' S=0.0052 '/' Outflow=4.23 cfs 14,400 cf

Pond DMH101: Peak Elev=278.01' Inflow=7.67 cfs 31,076 cf
24.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=7.67 cfs 31,076 cf

Pond DMH102: Peak Elev=277.72' Inflow=8.30 cfs 33,395 cf
24.0" Round Culvert n=0.013 L=64.4' S=0.0050 '/' Outflow=8.30 cfs 33,395 cf

Pond DMH103: Peak Elev=277.20' Inflow=9.01 cfs 35,974 cf
30.0" Round Culvert n=0.013 L=72.4' S=0.0050 '/' Outflow=9.01 cfs 35,974 cf

Pond DMH104: Peak Elev=276.88' Inflow=9.80 cfs 38,791 cf
30.0" Round Culvert n=0.013 L=26.2' S=0.0050 '/' Outflow=9.80 cfs 38,791 cf

Pond DMH105: Peak Elev=276.65' Inflow=10.29 cfs 40,335 cf
30.0" Round Culvert n=0.013 L=53.3' S=0.0051 '/' Outflow=10.29 cfs 40,335 cf

Pond DMH106: Peak Elev=276.38' Inflow=10.72 cfs 41,866 cf
30.0" Round Culvert n=0.013 L=16.6' S=0.0048 '/' Outflow=10.72 cfs 41,866 cf

Pond DMH107: Peak Elev=276.15' Inflow=10.86 cfs 42,355 cf
30.0" Round Culvert n=0.013 L=51.9' S=0.0050 '/' Outflow=10.86 cfs 42,355 cf

Pond DMH108: Peak Elev=275.85' Inflow=11.46 cfs 44,505 cf
30.0" Round Culvert n=0.013 L=46.1' S=0.0050 '/' Outflow=11.46 cfs 44,505 cf

Pond DMH109: Peak Elev=275.51' Inflow=11.87 cfs 45,939 cf
30.0" Round Culvert n=0.013 L=81.4' S=0.0050 '/' Outflow=11.87 cfs 45,939 cf

Pond DMH110: Peak Elev=275.40' Inflow=19.88 cfs 73,440 cf
36.0" Round Culvert n=0.013 L=92.0' S=0.0050 '/' Outflow=19.88 cfs 73,440 cf

Pond DMH111: Peak Elev=274.67' Inflow=0.77 cfs 2,626 cf
12.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=0.77 cfs 2,626 cf

Pond DMH112: Peak Elev=274.95' Inflow=21.01 cfs 77,394 cf
36.0" Round Culvert n=0.013 L=69.0' S=0.0051 '/' Outflow=21.01 cfs 77,394 cf

Pond DMH113: Peak Elev=274.41' Inflow=21.11 cfs 77,768 cf
36.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=21.11 cfs 77,768 cf

Pond DMH13: Peak Elev=265.51' Inflow=9.24 cfs 60,430 cf
36.0" Round Culvert n=0.011 L=53.0' S=0.0055 '/' Outflow=9.24 cfs 60,430 cf

Pond DMH14: Peak Elev=265.68' Inflow=5.85 cfs 27,468 cf
18.0" Round Culvert n=0.011 L=50.0' S=0.0064 '/' Outflow=5.85 cfs 27,468 cf

Pond DMH15: Peak Elev=260.73' Inflow=5.85 cfs 27,468 cf
18.0" Round Culvert n=0.011 L=76.0' S=0.0070 '/' Outflow=5.85 cfs 27,468 cf

Pond DMH16: Peak Elev=260.56' Inflow=14.94 cfs 87,898 cf
36.0" Round Culvert n=0.011 L=105.0' S=0.0048 '/' Outflow=14.94 cfs 87,898 cf

Pond DMH17: Peak Elev=259.02' Inflow=18.28 cfs 104,774 cf
36.0" Round Culvert n=0.011 L=142.0' S=0.0058 '/' Outflow=18.28 cfs 104,774 cf

Pond DMH18: Peak Elev=258.04' Inflow=18.28 cfs 104,774 cf
36.0" Round Culvert n=0.011 L=86.0' S=0.0144 '/' Outflow=18.28 cfs 104,774 cf

Pond DMH19: Peak Elev=249.27' Inflow=18.28 cfs 104,774 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0722 '/' Outflow=18.28 cfs 104,774 cf

Pond DMH2: Peak Elev=0.00'
36.0" Round Culvert n=0.011 L=123.0' S=0.0110 '/' Primary=0.00 cfs 0 cf

Pond DMH20: Peak Elev=242.63' Inflow=18.28 cfs 104,774 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0036 '/' Outflow=18.28 cfs 104,774 cf

Pond DMH3: Peak Elev=268.06' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=67.6' S=0.0067 '/' Outflow=0.00 cfs 0 cf

Pond DMH4: Peak Elev=267.52' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=68.3' S=0.0047 '/' Outflow=0.00 cfs 0 cf

Pond DMH6: Peak Elev=267.25' Inflow=7.90 cfs 55,707 cf
24.0" Round Culvert n=0.011 L=133.0' S=0.0090 '/' Outflow=7.90 cfs 55,707 cf

Pond P1: RAIN GARDEN Peak Elev=255.50' Storage=0 cf Inflow=0.00 cfs 3 cf
Discarded=0.00 cfs 3 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 3 cf

Pond P10: SSIB Peak Elev=280.25' Storage=13,041 cf Inflow=11.01 cfs 35,234 cf
Outflow=3.77 cfs 32,584 cf

Pond P11: SSIB Peak Elev=275.31' Storage=3,033 cf Inflow=3.90 cfs 13,618 cf
Discarded=0.05 cfs 4,200 cf Primary=1.97 cfs 9,418 cf Outflow=2.02 cfs 13,618 cf

Pond P12: Peak Elev=293.03' Storage=8,762 cf Inflow=7.81 cfs 26,796 cf
Discarded=0.10 cfs 9,920 cf Primary=3.34 cfs 16,876 cf Outflow=3.44 cfs 26,796 cf

Pond P2: SSIB Peak Elev=266.78' Storage=15,663 cf Inflow=10.27 cfs 33,074 cf
Discarded=0.43 cfs 30,537 cf Primary=0.32 cfs 2,537 cf Outflow=0.75 cfs 33,074 cf

Pond P3: SSIB Peak Elev=270.09' Storage=8,527 cf Inflow=3.85 cfs 18,997 cf
Discarded=0.19 cfs 14,879 cf Primary=0.55 cfs 4,119 cf Outflow=0.75 cfs 18,997 cf

Pond P4: SSIB Peak Elev=264.80' Storage=12,520 cf Inflow=11.34 cfs 36,104 cf
Discarded=1.26 cfs 36,104 cf Primary=0.00 cfs 0 cf Outflow=1.26 cfs 36,104 cf

Pond P5: SSIB Peak Elev=272.90' Storage=3,569 cf Inflow=3.15 cfs 10,236 cf
Discarded=0.05 cfs 5,425 cf Primary=1.67 cfs 4,723 cf Outflow=1.73 cfs 10,148 cf

Pond P6: SSIB Peak Elev=275.55' Storage=7,413 cf Inflow=8.11 cfs 27,349 cf
Discarded=0.11 cfs 9,300 cf Primary=3.88 cfs 18,050 cf Outflow=3.99 cfs 27,349 cf

Pond P7: SSIB Peak Elev=276.47' Storage=29,311 cf Inflow=24.51 cfs 88,864 cf
Discarded=0.46 cfs 33,157 cf Primary=7.90 cfs 55,707 cf Outflow=8.36 cfs 88,864 cf

Pond P8: SSIB Peak Elev=281.27' Storage=1,323 cf Inflow=6.20 cfs 21,664 cf
Outflow=5.30 cfs 21,664 cf

Pond P9: SSD Peak Elev=280.39' Storage=7,178 cf Inflow=10.99 cfs 37,422 cf
Outflow=6.10 cfs 36,370 cf

Pond RL-4: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.8' S=0.0044 '/' Primary=0.00 cfs 0 cf

Pond RL101: Peak Elev=279.32' Inflow=0.39 cfs 1,351 cf
12.0" Round Culvert n=0.013 L=12.6' S=0.0048 '/' Outflow=0.39 cfs 1,351 cf

Pond RL103: Peak Elev=279.34' Inflow=0.38 cfs 1,341 cf
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.38 cfs 1,341 cf

Pond RL105: Peak Elev=278.07' Inflow=0.54 cfs 1,870 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0051 '/' Outflow=0.54 cfs 1,870 cf

Pond RL106: Peak Elev=277.45' Inflow=0.54 cfs 1,872 cf
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Outflow=0.54 cfs 1,872 cf

Pond RL107: Peak Elev=277.29' Inflow=0.26 cfs 895 cf
12.0" Round Culvert n=0.013 L=28.2' S=0.0050 '/' Outflow=0.26 cfs 895 cf

Pond RL108: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Primary=0.00 cfs 0 cf

Pond RL109: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=5.8' S=0.0052 '/' Primary=0.00 cfs 0 cf

Pond RL110: Peak Elev=275.59' Inflow=0.36 cfs 1,252 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.36 cfs 1,252 cf

Pond RL111: Peak Elev=275.28' Inflow=0.33 cfs 1,148 cf
12.0" Round Culvert n=0.013 L=23.6' S=0.0051 '/' Outflow=0.33 cfs 1,148 cf

Pond RL112: Peak Elev=274.77' Inflow=0.53 cfs 1,841 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.53 cfs 1,841 cf

Pond RL113: Peak Elev=274.58' Inflow=0.32 cfs 1,131 cf
12.0" Round Culvert n=0.013 L=30.5' S=0.0049 '/' Outflow=0.32 cfs 1,131 cf

Pond RL114: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=73.6' S=0.0050 '/' Primary=0.00 cfs 0 cf

Pond RL115: Peak Elev=274.91' Inflow=0.43 cfs 1,506 cf
12.0" Round Culvert n=0.013 L=10.4' S=0.0048 '/' Outflow=0.43 cfs 1,506 cf

Pond RL116: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=8.8' S=0.0045 '/' Primary=0.00 cfs 0 cf

Pond RL117: Peak Elev=273.33' Inflow=0.39 cfs 1,366 cf
12.0" Round Culvert n=0.013 L=14.1' S=0.0050 '/' Outflow=0.39 cfs 1,366 cf

Pond RL118: Peak Elev=273.51' Inflow=0.40 cfs 1,385 cf
12.0" Round Culvert n=0.013 L=12.2' S=0.0049 '/' Outflow=0.40 cfs 1,385 cf

Pond RL119: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=22.3' S=0.0049 '/' Primary=0.00 cfs 0 cf

Pond RL120: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Primary=0.00 cfs 0 cf

Pond RL121: Peak Elev=276.39' Inflow=2.12 cfs 7,411 cf
18.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=2.12 cfs 7,411 cf

Pond RL122: Peak Elev=274.67' Inflow=0.51 cfs 1,781 cf
12.0" Round Culvert n=0.013 L=53.7' S=0.0050 '/' Outflow=0.51 cfs 1,781 cf

Pond RL123: Peak Elev=275.29' Inflow=0.22 cfs 752 cf
12.0" Round Culvert n=0.013 L=15.7' S=0.0051 '/' Outflow=0.22 cfs 752 cf

Pond WQU103: Peak Elev=275.19' Inflow=6.68 cfs 22,799 cf
24.0" Round Culvert n=0.013 L=87.6' S=0.0050 '/' Outflow=6.68 cfs 22,799 cf

Pond WQU104: Peak Elev=274.27' Inflow=1.37 cfs 4,702 cf
12.0" Round Culvert n=0.013 L=13.6' S=0.0051 '/' Outflow=1.37 cfs 4,702 cf

Pond WQU5: Peak Elev=278.16' Inflow=1.26 cfs 4,234 cf
12.0" Round Culvert n=0.013 L=20.2' S=0.0050 '/' Outflow=1.26 cfs 4,234 cf

Link DP-1: HEADWALL Inflow=1.25 cfs 8,172 cf
Primary=1.25 cfs 8,172 cf

Link DP-10: OFFSITE EAST Inflow=0.47 cfs 1,561 cf
Primary=0.47 cfs 1,561 cf

Link DP-2: FES Inflow=0.32 cfs 2,537 cf
Primary=0.32 cfs 2,537 cf

Link DP-3: HEADWALL Inflow=18.28 cfs 104,774 cf
Primary=18.28 cfs 104,774 cf

Link DP-4: KING ST Inflow=0.19 cfs 677 cf
Primary=0.19 cfs 677 cf

Link DP-5: EAST SIDE WETLAND Inflow=10.32 cfs 73,152 cf
Primary=10.32 cfs 73,152 cf

Link DP-6: WEST SIDE WETLAND Inflow=19.60 cfs 120,156 cf
Primary=19.60 cfs 120,156 cf

Link DP-7: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-8: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-9: OFFSITE WEST Inflow=1.59 cfs 5,329 cf
Primary=1.59 cfs 5,329 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 348,189 cf Average Runoff Depth = 2.17"
30.85% Pervious = 594,679 sf 69.15% Impervious = 1,332,852 sf

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment0.1: Runoff Area=21,237 sf 0.00% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=66 Runoff=0.80 cfs 2,644 cf

Subcatchment0.10: Runoff Area=612 sf 0.00% Impervious Runoff Depth=0.81"
Tc=6.0 min CN=55 Runoff=0.01 cfs 41 cf

Subcatchment0.11: Runoff Area=6,663 sf 16.21% Impervious Runoff Depth=0.51"
Tc=6.0 min CN=49 Runoff=0.04 cfs 282 cf

Subcatchment0.12: Runoff Area=8,597 sf 0.00% Impervious Runoff Depth=0.13"
Tc=6.0 min CN=39 Runoff=0.00 cfs 97 cf

Subcatchment0.13: Runoff Area=21,390 sf 84.71% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=2.04 cfs 6,681 cf

Subcatchment0.2: Runoff Area=78,058 sf 8.54% Impervious Runoff Depth=1.71"
Flow Length=125' Tc=22.3 min CN=69 Runoff=2.22 cfs 11,104 cf

Subcatchment0.3: Runoff Area=45,378 sf 0.00% Impervious Runoff Depth=2.33"
Tc=6.0 min CN=77 Runoff=2.82 cfs 8,822 cf

Subcatchment0.4: ROAD Runoff Area=2,842 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.29 cfs 1,045 cf

Subcatchment0.5: Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=2.33"
Tc=6.0 min CN=77 Runoff=0.76 cfs 2,368 cf

Subcatchment0.6: Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=1.93"
Tc=6.0 min CN=72 Runoff=0.28 cfs 874 cf

Subcatchment0.7: Runoff Area=23,835 sf 0.00% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=75 Runoff=1.37 cfs 4,307 cf

Subcatchment0.8: WESTFORD PARCEL Runoff Area=55,313 sf 0.00% Impervious Runoff Depth=1.29"
Flow Length=115' Tc=21.2 min CN=63 Runoff=1.15 cfs 5,955 cf

Subcatchment0.9: Runoff Area=475 sf 0.00% Impervious Runoff Depth=0.81"
Tc=6.0 min CN=55 Runoff=0.01 cfs 32 cf

Subcatchment1.1: Runoff Area=4,688 sf 0.00% Impervious Runoff Depth=0.23"
Tc=6.0 min CN=42 Runoff=0.01 cfs 89 cf

Subcatchment2.1: ROAD Runoff Area=43,749 sf 83.75% Impervious Runoff Depth=4.07"
Tc=6.0 min CN=95 Runoff=4.38 cfs 14,849 cf

Subcatchment2.2: Runoff Area=127,270 sf 67.53% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=12.13 cfs 39,750 cf

Subcatchment3.1: ABUTTINGLOTS Runoff Area=120,083 sf 81.23% Impervious Runoff Depth=3.34"
Flow Length=211' Tc=23.6 min CN=88 Runoff=6.67 cfs 33,398 cf

Subcatchment4.1: Runoff Area=132,411 sf 65.87% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=12.62 cfs 41,356 cf

Subcatchment4.2: Runoff Area=36,921 sf 57.08% Impervious Runoff Depth=3.54"
Tc=6.0 min CN=90 Runoff=3.38 cfs 10,890 cf

Subcatchment4.3: Runoff Area=27,610 sf 64.22% Impervious Runoff Depth=3.64"
Tc=6.0 min CN=91 Runoff=2.58 cfs 8,382 cf

Subcatchment5.1: ROAD Runoff Area=50,399 sf 79.28% Impervious Runoff Depth=3.96"
Tc=6.0 min CN=94 Runoff=4.98 cfs 16,644 cf

Subcatchment6.1: Runoff Area=71,073 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=7.35 cfs 26,142 cf

Subcatchment6.2: Runoff Area=55,680 sf 74.30% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=5.31 cfs 17,391 cf

Subcatchment7.1: Runoff Area=1,738 sf 84.06% Impervious Runoff Depth=3.96"
Tc=6.0 min CN=94 Runoff=0.17 cfs 574 cf

Subcatchment7.10: Runoff Area=9,074 sf 91.94% Impervious Runoff Depth=4.18"
Tc=6.0 min CN=96 Runoff=0.92 cfs 3,164 cf

Subcatchment7.11: Runoff Area=1,187 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.12 cfs 437 cf

Subcatchment7.12: Runoff Area=1,445 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.15 cfs 531 cf

Subcatchment7.13: Runoff Area=7,690 sf 86.83% Impervious Runoff Depth=4.18"
Tc=6.0 min CN=96 Runoff=0.78 cfs 2,682 cf

Subcatchment7.14: Runoff Area=5,580 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.58 cfs 2,052 cf

Subcatchment7.15: BLDG 1300 Runoff Area=7,477 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.77 cfs 2,750 cf

Subcatchment7.16: BLDG 1300 Runoff Area=4,749 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.49 cfs 1,747 cf

Subcatchment7.17: BLDG 1300 Runoff Area=4,819 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.50 cfs 1,772 cf

Subcatchment7.18: BLDG 1300 Runoff Area=3,759 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.39 cfs 1,383 cf

Subcatchment7.19: BLDG 1300 Runoff Area=7,852 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.81 cfs 2,888 cf

Subcatchment7.2: Runoff Area=7,404 sf 87.25% Impervious Runoff Depth=4.07"
Tc=6.0 min CN=95 Runoff=0.74 cfs 2,513 cf

Subcatchment7.20: BLDG 1300 Runoff Area=5,674 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,087 cf

Subcatchment7.21: Runoff Area=885 sf 75.71% Impervious Runoff Depth=3.96"
Tc=6.0 min CN=94 Runoff=0.09 cfs 292 cf

Subcatchment7.22: Runoff Area=1,572 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.16 cfs 578 cf

Subcatchment7.23: Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.52 cfs 1,859 cf

Subcatchment7.24: Runoff Area=5,584 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.58 cfs 2,054 cf

Subcatchment7.25: Runoff Area=1,272 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.13 cfs 468 cf

Subcatchment7.26: Runoff Area=1,296 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.13 cfs 477 cf

Subcatchment7.27: Runoff Area=2,052 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.21 cfs 755 cf

Subcatchment7.28: Runoff Area=1,608 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.17 cfs 591 cf

Subcatchment7.29: Runoff Area=1,228 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.13 cfs 452 cf

Subcatchment7.3: Runoff Area=2,453 sf 86.95% Impervious Runoff Depth=4.07"
Tc=6.0 min CN=95 Runoff=0.25 cfs 833 cf

Subcatchment7.30: Runoff Area=2,023 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.21 cfs 744 cf

Subcatchment7.31: Runoff Area=1,682 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.17 cfs 619 cf

Subcatchment7.32: Runoff Area=968 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.10 cfs 356 cf

Subcatchment7.33: Runoff Area=1,396 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.14 cfs 513 cf

Subcatchment7.34: Runoff Area=666 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.07 cfs 245 cf

Subcatchment7.35: Runoff Area=2,969 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.31 cfs 1,092 cf

Subcatchment7.36: Runoff Area=1,885 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.19 cfs 693 cf

Subcatchment7.37: Runoff Area=1,644 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.17 cfs 605 cf

Subcatchment7.38: BLDG 1200 Runoff Area=5,735 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,109 cf

Subcatchment7.39: BLDG 1200 Runoff Area=6,325 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.65 cfs 2,326 cf

Subcatchment7.4: Runoff Area=6,397 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.66 cfs 2,353 cf

Subcatchment7.40: Runoff Area=3,136 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.32 cfs 1,153 cf

Subcatchment7.41: Runoff Area=3,026 sf 80.83% Impervious Runoff Depth=4.07"
Tc=6.0 min CN=95 Runoff=0.30 cfs 1,027 cf

Subcatchment7.42: BLDG 1400 Runoff Area=7,732 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.80 cfs 2,844 cf

Subcatchment7.43: BLDG 1400 Runoff Area=5,257 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.54 cfs 1,934 cf

Subcatchment7.44: BLDG 1500 Runoff Area=7,862 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.81 cfs 2,892 cf

Subcatchment7.45: BLDG 1500 Runoff Area=5,631 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.58 cfs 2,071 cf

Subcatchment7.46: Runoff Area=11,125 sf 89.21% Impervious Runoff Depth=4.18"
Tc=6.0 min CN=96 Runoff=1.13 cfs 3,880 cf

Subcatchment7.47: Runoff Area=2,366 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.24 cfs 870 cf

Subcatchment7.48: Runoff Area=3,206 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.33 cfs 1,179 cf

Subcatchment7.49: Runoff Area=2,626 sf 100.00% Impervious Runoff Depth=4.41"
Tc=0.0 min CN=98 Runoff=0.32 cfs 966 cf

Subcatchment7.5: Runoff Area=1,148 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.12 cfs 422 cf

Subcatchment7.50: Runoff Area=3,609 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.37 cfs 1,327 cf

Subcatchment7.51: Runoff Area=2,490 sf 70.16% Impervious Runoff Depth=3.85"
Tc=0.0 min CN=93 Runoff=0.28 cfs 800 cf

Subcatchment7.52: Runoff Area=2,288 sf 25.00% Impervious Runoff Depth=3.05"
Tc=6.0 min CN=85 Runoff=0.18 cfs 581 cf

Subcatchment7.53: Runoff Area=2,435 sf 50.31% Impervious Runoff Depth=3.44"
Tc=6.0 min CN=89 Runoff=0.22 cfs 698 cf

Subcatchment7.54: Runoff Area=2,361 sf 80.09% Impervious Runoff Depth=3.96"
Tc=6.0 min CN=94 Runoff=0.23 cfs 780 cf

Subcatchment7.55: Runoff Area=7,649 sf 88.60% Impervious Runoff Depth=4.18"
Tc=6.0 min CN=96 Runoff=0.78 cfs 2,667 cf

Subcatchment7.56: Runoff Area=6,258 sf 86.07% Impervious Runoff Depth=4.07"
Tc=6.0 min CN=95 Runoff=0.63 cfs 2,124 cf

Subcatchment7.57: Runoff Area=12,638 sf 84.25% Impervious Runoff Depth=3.96"
Tc=6.0 min CN=94 Runoff=1.25 cfs 4,174 cf

Subcatchment7.58: Runoff Area=6,180 sf 95.97% Impervious Runoff Depth=4.30"
Tc=6.0 min CN=97 Runoff=0.63 cfs 2,214 cf

Subcatchment7.59: Runoff Area=31,120 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=3.22 cfs 11,446 cf

Subcatchment7.6: Runoff Area=928 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.10 cfs 341 cf

Subcatchment7.7: Runoff Area=3,159 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.33 cfs 1,162 cf

Subcatchment7.8: town green Runoff Area=36,660 sf 76.33% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=3.50 cfs 11,450 cf

Subcatchment7.9: Runoff Area=5,814 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=0.60 cfs 2,138 cf

Subcatchment8.1: BLDG B Runoff Area=90,966 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=9.41 cfs 33,458 cf

Subcatchment9.1: Runoff Area=80,109 sf 25.88% Impervious Runoff Depth=2.68"
Tc=6.0 min CN=81 Runoff=5.72 cfs 17,879 cf

Subcatchment9.2: Runoff Area=118,363 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=12.24 cfs 43,535 cf

Subcatchment10.1: Runoff Area=131,529 sf 70.82% Impervious Runoff Depth=3.85"
Tc=6.0 min CN=93 Runoff=12.77 cfs 42,250 cf

Subcatchment10.2: Runoff Area=79,304 sf 45.45% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=82 Runoff=5.85 cfs 18,293 cf

Subcatchment11.1: Runoff Area=57,181 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=5.91 cfs 21,032 cf

Subcatchment12.1: Runoff Area=27,231 sf 74.47% Impervious Runoff Depth=3.75"
Tc=6.0 min CN=92 Runoff=2.60 cfs 8,505 cf

Subcatchment12.2: Runoff Area=91,111 sf 100.00% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=98 Runoff=9.42 cfs 33,512 cf

Pond AD102: Peak Elev=279.24' Inflow=0.80 cfs 2,769 cf
12.0" Round Culvert n=0.012 L=31.4' S=0.0051 '/' Outflow=0.80 cfs 2,769 cf

Pond AD103: Peak Elev=279.03' Inflow=0.96 cfs 3,569 cf
12.0" Round Culvert n=0.012 L=46.1' S=0.0050 '/' Outflow=0.96 cfs 3,569 cf

Pond AD104: Peak Elev=278.02' Inflow=0.17 cfs 605 cf
12.0" Round Culvert n=0.013 L=5.5' S=0.0055 '/' Outflow=0.17 cfs 605 cf

Pond AD105: Peak Elev=278.06' Inflow=1.01 cfs 3,581 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=1.01 cfs 3,581 cf

Pond AD106: Peak Elev=277.35' Inflow=0.31 cfs 1,092 cf
12.0" Round Culvert n=0.013 L=9.2' S=0.0054 '/' Outflow=0.31 cfs 1,092 cf

Pond AD107: Peak Elev=276.13' Inflow=0.60 cfs 2,127 cf
12.0" Round Culvert n=0.013 L=22.5' S=0.0049 '/' Outflow=0.60 cfs 2,127 cf

Pond AD108: Peak Elev=276.00' Inflow=0.77 cfs 2,745 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.77 cfs 2,745 cf

Pond AD109: Peak Elev=277.44' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.013 L=36.1' S=0.0050 '/' Outflow=0.00 cfs 0 cf

Pond AD110: Peak Elev=277.87' Inflow=0.18 cfs 581 cf
12.0" Round Culvert n=0.013 L=71.1' S=0.0051 '/' Outflow=0.18 cfs 581 cf

Pond AD111: Peak Elev=277.46' Inflow=0.25 cfs 826 cf
12.0" Round Culvert n=0.013 L=24.4' S=0.0049 '/' Outflow=0.25 cfs 826 cf

Pond AD112: Peak Elev=277.31' Inflow=0.40 cfs 1,339 cf
12.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=0.40 cfs 1,339 cf

Pond AD113: Peak Elev=277.07' Inflow=0.50 cfs 1,695 cf
12.0" Round Culvert n=0.013 L=28.4' S=0.0049 '/' Outflow=0.50 cfs 1,695 cf

Pond AD114: Peak Elev=275.43' Inflow=0.13 cfs 452 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.13 cfs 452 cf

Pond AD115: Peak Elev=275.10' Inflow=0.17 cfs 591 cf
12.0" Round Culvert n=0.013 L=6.9' S=0.0043 '/' Outflow=0.17 cfs 591 cf

Pond AD116: Peak Elev=274.95' Inflow=0.21 cfs 755 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.21 cfs 755 cf

Pond AD117: Peak Elev=274.54' Inflow=0.13 cfs 477 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.13 cfs 477 cf

Pond AD118: Peak Elev=274.48' Inflow=0.62 cfs 2,215 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.62 cfs 2,215 cf

Pond AD119: Peak Elev=274.94' Inflow=0.89 cfs 3,106 cf
12.0" Round Culvert n=0.013 L=26.9' S=0.0048 '/' Outflow=0.89 cfs 3,106 cf

Pond AD120: Peak Elev=273.64' Inflow=1.12 cfs 3,997 cf
12.0" Round Culvert n=0.013 L=18.7' S=0.0048 '/' Outflow=1.12 cfs 3,997 cf

Pond AD121: Peak Elev=272.58' Inflow=0.16 cfs 578 cf
12.0" Round Culvert n=0.013 L=9.9' S=0.0051 '/' Outflow=0.16 cfs 578 cf

Pond AD123: Peak Elev=275.22' Inflow=0.42 cfs 1,503 cf
12.0" Round Culvert n=0.013 L=65.1' S=0.0051 '/' Outflow=0.42 cfs 1,503 cf

Pond AD124: Peak Elev=274.77' Inflow=0.15 cfs 531 cf
12.0" Round Culvert n=0.013 L=37.4' S=0.0051 '/' Outflow=0.15 cfs 531 cf

Pond AD22: Peak Elev=278.47' Inflow=0.12 cfs 422 cf
12.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.12 cfs 422 cf

Pond CB-10: Peak Elev=279.03' Inflow=0.74 cfs 2,513 cf
12.0" Round Culvert n=0.013 L=61.5' S=0.0050 '/' Outflow=0.74 cfs 2,513 cf

Pond DI-1: Peak Elev=278.61' Inflow=1.94 cfs 6,695 cf
12.0" Round Culvert n=0.013 L=27.6' S=0.0051 '/' Outflow=1.94 cfs 6,695 cf

Pond DI-10: Peak Elev=279.85' Inflow=9.77 cfs 40,588 cf
24.0" Round Culvert n=0.012 L=41.7' S=0.0050 '/' Outflow=9.77 cfs 40,588 cf

Pond DI-101: Peak Elev=274.67' Inflow=0.30 cfs 1,027 cf
12.0" Round Culvert n=0.013 L=23.9' S=0.0050 '/' Outflow=0.30 cfs 1,027 cf

Pond DI-102: Peak Elev=274.68' Inflow=1.51 cfs 5,287 cf
12.0" Round Culvert n=0.013 L=57.1' S=0.0051 '/' Outflow=1.51 cfs 5,287 cf

Pond DI-103: Peak Elev=275.16' Inflow=1.34 cfs 4,668 cf
12.0" Round Culvert n=0.013 L=11.5' S=0.0052 '/' Outflow=1.34 cfs 4,668 cf

Pond DI-104: Peak Elev=275.23' Inflow=2.12 cfs 7,349 cf
12.0" Round Culvert n=0.013 L=54.9' S=0.0049 '/' Outflow=2.12 cfs 7,349 cf

Pond DI-105: Peak Elev=275.61' Inflow=6.78 cfs 23,593 cf
24.0" Round Culvert n=0.013 L=55.3' S=0.0051 '/' Outflow=6.78 cfs 23,593 cf

Pond DI-11: WQU-101 Peak Elev=279.62' Inflow=10.07 cfs 41,767 cf
24.0" Round Culvert n=0.012 L=17.7' S=0.0051 '/' Outflow=10.07 cfs 41,767 cf

Pond DI-12: WQU-102 Peak Elev=278.89' Inflow=1.53 cfs 5,862 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=1.53 cfs 5,862 cf

Pond DI-13: Peak Elev=278.83' Inflow=1.33 cfs 4,896 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=1.33 cfs 4,896 cf

Pond DI-2: Peak Elev=278.68' Inflow=0.91 cfs 3,087 cf
12.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=0.91 cfs 3,087 cf

Pond DI-3: Peak Elev=278.63' Inflow=0.78 cfs 2,775 cf
12.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=0.78 cfs 2,775 cf

Pond DI-4: Peak Elev=276.42' Inflow=6.50 cfs 22,625 cf
24.0" Round Culvert n=0.012 L=89.0' S=0.0049 '/' Outflow=6.50 cfs 22,625 cf

Pond DI-5: Peak Elev=276.85' Inflow=5.73 cfs 19,958 cf
18.0" Round Culvert n=0.012 L=32.9' S=0.0049 '/' Outflow=5.73 cfs 19,958 cf

Pond DI-6: Peak Elev=277.21' Inflow=1.88 cfs 6,387 cf
12.0" Round Culvert n=0.012 L=170.9' S=0.0050 '/' Outflow=1.88 cfs 6,387 cf

Pond DI-7: Peak Elev=277.26' Inflow=0.63 cfs 2,214 cf
12.0" Round Culvert n=0.012 L=67.3' S=0.0051 '/' Outflow=0.63 cfs 2,214 cf

Pond DI-8: Peak Elev=280.30' Inflow=8.04 cfs 33,751 cf
24.0" Round Culvert n=0.012 L=44.5' S=0.0049 '/' Outflow=8.04 cfs 33,751 cf

Pond DI-9: Peak Elev=280.15' Inflow=9.54 cfs 39,717 cf
24.0" Round Culvert n=0.012 L=46.5' S=0.0049 '/' Outflow=9.54 cfs 39,717 cf

Pond DMH 5: Peak Elev=268.24' Inflow=12.35 cfs 100,859 cf
30.0" Round Culvert n=0.011 L=199.7' S=0.0001 '/' Outflow=12.35 cfs 100,859 cf

Pond DMH-2: Peak Elev=278.86' Inflow=11.40 cfs 47,629 cf
24.0" Round Culvert n=0.013 L=34.6' S=0.0049 '/' Outflow=11.40 cfs 47,629 cf

Pond DMH-3: Peak Elev=280.60' Inflow=8.04 cfs 33,751 cf
24.0" Round Culvert n=0.012 L=37.1' S=0.0051 '/' Outflow=8.04 cfs 33,751 cf

Pond DMH-9: Peak Elev=275.91' Inflow=6.50 cfs 22,625 cf
24.0" Round Culvert n=0.012 L=48.0' S=0.0052 '/' Outflow=6.50 cfs 22,625 cf

Pond DMH101: Peak Elev=278.44' Inflow=11.56 cfs 48,233 cf
24.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=11.56 cfs 48,233 cf

Pond DMH102: Peak Elev=278.19' Inflow=12.51 cfs 51,815 cf
24.0" Round Culvert n=0.013 L=64.4' S=0.0050 '/' Outflow=12.51 cfs 51,815 cf

Pond DMH103: Peak Elev=277.60' Inflow=13.57 cfs 55,799 cf
30.0" Round Culvert n=0.013 L=72.4' S=0.0050 '/' Outflow=13.57 cfs 55,799 cf

Pond DMH104: Peak Elev=277.31' Inflow=14.80 cfs 60,239 cf
30.0" Round Culvert n=0.013 L=26.2' S=0.0050 '/' Outflow=14.80 cfs 60,239 cf

Pond DMH105: Peak Elev=277.08' Inflow=15.44 cfs 62,624 cf
30.0" Round Culvert n=0.013 L=53.3' S=0.0051 '/' Outflow=15.44 cfs 62,624 cf

Pond DMH106: Peak Elev=276.84' Inflow=16.18 cfs 64,988 cf
30.0" Round Culvert n=0.013 L=16.6' S=0.0048 '/' Outflow=16.18 cfs 64,988 cf

Pond DMH107: Peak Elev=276.61' Inflow=16.39 cfs 65,743 cf
30.0" Round Culvert n=0.013 L=51.9' S=0.0050 '/' Outflow=16.39 cfs 65,743 cf

Pond DMH108: Peak Elev=276.33' Inflow=17.31 cfs 69,064 cf
30.0" Round Culvert n=0.013 L=46.1' S=0.0050 '/' Outflow=17.31 cfs 69,064 cf

Pond DMH109: Peak Elev=276.00' Inflow=17.93 cfs 71,278 cf
30.0" Round Culvert n=0.013 L=81.4' S=0.0050 '/' Outflow=17.93 cfs 71,278 cf

Pond DMH110: Peak Elev=276.03' Inflow=30.19 cfs 114,364 cf
36.0" Round Culvert n=0.013 L=92.0' S=0.0050 '/' Outflow=30.19 cfs 114,364 cf

Pond DMH111: Peak Elev=274.82' Inflow=1.19 cfs 4,133 cf
12.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=1.19 cfs 4,133 cf

Pond DMH112: Peak Elev=275.61' Inflow=31.90 cfs 120,471 cf
36.0" Round Culvert n=0.013 L=69.0' S=0.0051 '/' Outflow=31.90 cfs 120,471 cf

Pond DMH113: Peak Elev=275.08' Inflow=32.07 cfs 121,049 cf
36.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=32.07 cfs 121,049 cf

Pond DMH13: Peak Elev=265.94' Inflow=15.06 cfs 111,452 cf
36.0" Round Culvert n=0.011 L=53.0' S=0.0055 '/' Outflow=15.06 cfs 111,452 cf

Pond DMH14: Peak Elev=266.68' Inflow=10.49 cfs 49,759 cf
18.0" Round Culvert n=0.011 L=50.0' S=0.0064 '/' Outflow=10.49 cfs 49,759 cf

Pond DMH15: Peak Elev=261.78' Inflow=10.49 cfs 49,759 cf
18.0" Round Culvert n=0.011 L=76.0' S=0.0070 '/' Outflow=10.49 cfs 49,759 cf

Pond DMH16: Peak Elev=261.21' Inflow=25.47 cfs 161,211 cf
36.0" Round Culvert n=0.011 L=105.0' S=0.0048 '/' Outflow=25.47 cfs 161,211 cf

Pond DMH17: Peak Elev=259.74' Inflow=30.91 cfs 192,403 cf
36.0" Round Culvert n=0.011 L=142.0' S=0.0058 '/' Outflow=30.91 cfs 192,403 cf

Pond DMH18: Peak Elev=258.90' Inflow=34.97 cfs 203,797 cf
36.0" Round Culvert n=0.011 L=86.0' S=0.0144 '/' Outflow=34.97 cfs 203,797 cf

Pond DMH19: Peak Elev=250.13' Inflow=34.97 cfs 203,797 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0722 '/' Outflow=34.97 cfs 203,797 cf

Pond DMH2: Peak Elev=0.00'
36.0" Round Culvert n=0.011 L=123.0' S=0.0110 '/' Primary=0.00 cfs 0 cf

Pond DMH20: Peak Elev=243.67' Inflow=34.97 cfs 203,797 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0036 '/' Outflow=34.97 cfs 203,797 cf

Pond DMH3: Peak Elev=268.06' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=67.6' S=0.0067 '/' Outflow=0.00 cfs 0 cf

Pond DMH4: Peak Elev=267.52' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=68.3' S=0.0047 '/' Outflow=0.00 cfs 0 cf

Pond DMH6: Peak Elev=267.67' Inflow=12.35 cfs 100,859 cf
24.0" Round Culvert n=0.011 L=133.0' S=0.0090 '/' Outflow=12.35 cfs 100,859 cf

Pond P1: RAIN GARDEN Peak Elev=255.50' Storage=1 cf Inflow=0.01 cfs 89 cf
Discarded=0.01 cfs 89 cf Primary=0.00 cfs 0 cf Outflow=0.01 cfs 89 cf

Pond P10: SSIB Peak Elev=281.35' Storage=20,331 cf Inflow=18.62 cfs 60,543 cf
Outflow=6.76 cfs 57,880 cf

Pond P11: SSIB Peak Elev=275.93' Storage=4,074 cf Inflow=5.91 cfs 21,032 cf
Discarded=0.05 cfs 4,573 cf Primary=3.44 cfs 16,459 cf Outflow=3.49 cfs 21,032 cf

Pond P12: Peak Elev=293.93' Storage=11,863 cf Inflow=12.02 cfs 42,017 cf
Discarded=0.10 cfs 10,825 cf Primary=5.52 cfs 31,192 cf Outflow=5.62 cfs 42,017 cf

Pond P2: SSIB Peak Elev=267.87' Storage=22,219 cf Inflow=16.52 cfs 54,600 cf
Discarded=0.43 cfs 35,769 cf Primary=3.53 cfs 18,830 cf Outflow=3.96 cfs 54,600 cf

Pond P3: SSIB Peak Elev=271.43' Storage=11,646 cf Inflow=6.67 cfs 33,398 cf
Discarded=0.19 cfs 17,308 cf Primary=4.50 cfs 16,090 cf Outflow=4.69 cfs 33,398 cf

Pond P4: SSIB Peak Elev=265.95' Storage=18,386 cf Inflow=18.58 cfs 60,628 cf
Discarded=1.26 cfs 49,234 cf Primary=5.02 cfs 11,394 cf Outflow=6.28 cfs 60,628 cf

Pond P5: SSIB Peak Elev=273.59' Storage=4,427 cf Inflow=4.98 cfs 16,644 cf
Discarded=0.05 cfs 5,753 cf Primary=3.57 cfs 10,593 cf Outflow=3.63 cfs 16,346 cf

Pond P6: SSIB Peak Elev=276.29' Storage=10,070 cf Inflow=12.66 cfs 43,532 cf
Discarded=0.11 cfs 10,232 cf Primary=7.05 cfs 33,300 cf Outflow=7.16 cfs 43,532 cf

Pond P7: SSIB Peak Elev=278.65' Storage=43,724 cf Inflow=37.49 cfs 139,194 cf
Discarded=0.46 cfs 38,335 cf Primary=12.35 cfs 100,859 cf Outflow=12.81 cfs 139,194 cf

Pond P8: SSIB Peak Elev=282.49' Storage=1,999 cf Inflow=9.41 cfs 33,458 cf
Outflow=7.96 cfs 33,458 cf

Pond P9: SSD Peak Elev=281.33' Storage=11,138 cf Inflow=17.95 cfs 61,415 cf
Outflow=10.28 cfs 60,362 cf

Pond RL-4: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.8' S=0.0044 '/' Primary=0.00 cfs 0 cf

Pond RL101: Peak Elev=279.41' Inflow=0.59 cfs 2,087 cf
12.0" Round Culvert n=0.013 L=12.6' S=0.0048 '/' Outflow=0.59 cfs 2,087 cf

Pond RL103: Peak Elev=279.43' Inflow=0.58 cfs 2,071 cf
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.58 cfs 2,071 cf

Pond RL105: Peak Elev=278.18' Inflow=0.81 cfs 2,888 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0051 '/' Outflow=0.81 cfs 2,888 cf

Pond RL106: Peak Elev=277.57' Inflow=0.81 cfs 2,892 cf
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Outflow=0.81 cfs 2,892 cf

Pond RL107: Peak Elev=277.36' Inflow=0.39 cfs 1,383 cf
12.0" Round Culvert n=0.013 L=28.2' S=0.0050 '/' Outflow=0.39 cfs 1,383 cf

Pond RL108: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Primary=0.00 cfs 0 cf

Pond RL109: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=5.8' S=0.0052 '/' Primary=0.00 cfs 0 cf

Pond RL110: Peak Elev=275.68' Inflow=0.54 cfs 1,934 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.54 cfs 1,934 cf

Pond RL111: Peak Elev=275.36' Inflow=0.50 cfs 1,772 cf
12.0" Round Culvert n=0.013 L=23.6' S=0.0051 '/' Outflow=0.50 cfs 1,772 cf

Pond RL112: Peak Elev=274.88' Inflow=0.80 cfs 2,844 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.80 cfs 2,844 cf

Pond RL113: Peak Elev=274.66' Inflow=0.49 cfs 1,747 cf
12.0" Round Culvert n=0.013 L=30.5' S=0.0049 '/' Outflow=0.49 cfs 1,747 cf

Pond RL114: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=73.6' S=0.0050 '/' Primary=0.00 cfs 0 cf

Pond RL115: Peak Elev=275.01' Inflow=0.65 cfs 2,326 cf
12.0" Round Culvert n=0.013 L=10.4' S=0.0048 '/' Outflow=0.65 cfs 2,326 cf

Pond RL116: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=8.8' S=0.0045 '/' Primary=0.00 cfs 0 cf

Pond RL117: Peak Elev=273.42' Inflow=0.59 cfs 2,109 cf
12.0" Round Culvert n=0.013 L=14.1' S=0.0050 '/' Outflow=0.59 cfs 2,109 cf

Pond RL118: Peak Elev=273.61' Inflow=0.60 cfs 2,138 cf
12.0" Round Culvert n=0.013 L=12.2' S=0.0049 '/' Outflow=0.60 cfs 2,138 cf

Pond RL119: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=22.3' S=0.0049 '/' Primary=0.00 cfs 0 cf

Pond RL120: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Primary=0.00 cfs 0 cf

Pond RL121: Peak Elev=276.61' Inflow=3.22 cfs 11,446 cf
18.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=3.22 cfs 11,446 cf

Pond RL122: Peak Elev=274.78' Inflow=0.77 cfs 2,750 cf
12.0" Round Culvert n=0.013 L=53.7' S=0.0050 '/' Outflow=0.77 cfs 2,750 cf

Pond RL123: Peak Elev=275.36' Inflow=0.33 cfs 1,162 cf
12.0" Round Culvert n=0.013 L=15.7' S=0.0051 '/' Outflow=0.33 cfs 1,162 cf

Pond WQU103: Peak Elev=275.59' Inflow=10.25 cfs 35,745 cf
24.0" Round Culvert n=0.013 L=87.6' S=0.0050 '/' Outflow=10.25 cfs 35,745 cf

Pond WQU104: Peak Elev=274.50' Inflow=2.09 cfs 7,341 cf
12.0" Round Culvert n=0.013 L=13.6' S=0.0051 '/' Outflow=2.09 cfs 7,341 cf

Pond WQU5: Peak Elev=278.38' Inflow=1.94 cfs 6,695 cf
12.0" Round Culvert n=0.013 L=20.2' S=0.0050 '/' Outflow=1.94 cfs 6,695 cf

Link DP-1: HEADWALL Inflow=4.87 cfs 23,150 cf
Primary=4.87 cfs 23,150 cf

Link DP-10: OFFSITE EAST Inflow=1.05 cfs 3,315 cf
Primary=1.05 cfs 3,315 cf

Link DP-2: FES Inflow=3.53 cfs 18,830 cf
Primary=3.53 cfs 18,830 cf

Link DP-3: HEADWALL Inflow=34.97 cfs 203,797 cf
Primary=34.97 cfs 203,797 cf

Link DP-4: KING ST Inflow=0.29 cfs 1,045 cf
Primary=0.29 cfs 1,045 cf

Link DP-5: EAST SIDE WETLAND Inflow=18.25 cfs 128,506 cf
Primary=18.25 cfs 128,506 cf

Link DP-6: WEST SIDE WETLAND Inflow=41.66 cfs 256,882 cf
Primary=41.66 cfs 256,882 cf

Link DP-7: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-8: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-9: OFFSITE WEST Inflow=3.62 cfs 11,466 cf
Primary=3.62 cfs 11,466 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 577,345 cf Average Runoff Depth = 3.59"
30.85% Pervious = 594,679 sf 69.15% Impervious = 1,332,852 sf

Summary for Subcatchment 0.1:

Runoff = 0.80 cfs @ 12.10 hrs, Volume= 2,644 cf, Depth= 1.49"
Routed to Link DP-9 : OFFSITE WEST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
15,445	79	Woods/grass comb., Good, HSG D
5,792	30	Woods, Good, HSG A
21,237	66	Weighted Average
21,237		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.10:

Runoff = 0.01 cfs @ 12.12 hrs, Volume= 41 cf, Depth= 0.81"
Routed to Link DP-10 : OFFSITE EAST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
612	55	Woods, Good, HSG B
612		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.11:

Runoff = 0.04 cfs @ 12.16 hrs, Volume= 282 cf, Depth= 0.51"
Routed to Link DP-1 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,080	98	Paved parking, HSG A
5,583	39	>75% Grass cover, Good, HSG A
6,663	49	Weighted Average
5,583		83.79% Pervious Area
1,080		16.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.12:

Runoff = 0.00 cfs @ 13.81 hrs, Volume= 97 cf, Depth= 0.13"
Routed to Link DP-1 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
8,597	39	>75% Grass cover, Good, HSG A
8,597		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.13:

Runoff = 2.04 cfs @ 12.09 hrs, Volume= 6,681 cf, Depth= 3.75"
Routed to Link DP-1 : HEADWALL

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,571	80	>75% Grass cover, Good, HSG D
6,121	98	Paved parking, HSG D
1,699	39	>75% Grass cover, Good, HSG A
11,999	98	Paved parking, HSG A
21,390	92	Weighted Average
3,270		15.29% Pervious Area
18,120		84.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.2:

Runoff = 2.22 cfs @ 12.33 hrs, Volume= 11,104 cf, Depth= 1.71"
Routed to Link DP-6 : WEST SIDE WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
29,603	32	Woods/grass comb., Good, HSG A
17,237	79	Woods/grass comb., Good, HSG D
6,669	98	Water Surface, HSG A
24,549	98	Water Surface, 0% imp, HSG D
78,058	69	Weighted Average
71,389		91.46% Pervious Area
6,669		8.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	100	0.1333	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
4.6	25	0.2400	0.09		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
22.3	125	Total			

Summary for Subcatchment 0.3:

Runoff = 2.82 cfs @ 12.09 hrs, Volume= 8,822 cf, Depth= 2.33"
Routed to Link DP-9 : OFFSITE WEST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
10,941	72	Woods/grass comb., Good, HSG C
34,437	79	Woods/grass comb., Good, HSG D
45,378	77	Weighted Average
45,378		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.4: ROAD

Runoff = 0.29 cfs @ 12.08 hrs, Volume= 1,045 cf, Depth= 4.41"
Routed to Link DP-4 : KING ST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,842	98	Paved parking, HSG D
2,842		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.5:

Runoff = 0.76 cfs @ 12.09 hrs, Volume= 2,368 cf, Depth= 2.33"
Routed to Link DP-10 : OFFSITE EAST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
868	70	Woods, Good, HSG C
8,563	77	Woods, Good, HSG D
2,747	80	>75% Grass cover, Good, HSG D
12,178	77	Weighted Average
12,178		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.6:

Runoff = 0.28 cfs @ 12.09 hrs, Volume= 874 cf, Depth= 1.93"
Routed to Link DP-10 : OFFSITE EAST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,682	55	Woods, Good, HSG B
3,748	79	Woods/grass comb., Good, HSG D
5,430	72	Weighted Average
5,430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.7:

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 4,307 cf, Depth= 2.17"
Routed to Link DP-5 : EAST SIDE WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
4,560	58	Woods/grass comb., Good, HSG B
19,275	79	Woods/grass comb., Good, HSG D
23,835	75	Weighted Average
23,835		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 0.8: WESTFORD PARCEL

Runoff = 1.15 cfs @ 12.33 hrs, Volume= 5,955 cf, Depth= 1.29"
Routed to Link DP-5 : EAST SIDE WETLAND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
41,260	58	Woods/grass comb., Good, HSG B
14,053	79	Woods/grass comb., Good, HSG D
55,313	63	Weighted Average
55,313		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0900	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
0.5	15	0.0333	0.46		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
21.2	115	Total			

Summary for Subcatchment 0.9:

Runoff = 0.01 cfs @ 12.12 hrs, Volume= 32 cf, Depth= 0.81"
Routed to Link DP-10 : OFFSITE EAST

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
475	55	Woods, Good, HSG B
475		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 1.1:

Runoff = 0.01 cfs @ 12.43 hrs, Volume= 89 cf, Depth= 0.23"
Routed to Pond P1 : RAIN GARDEN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
4,299	39	>75% Grass cover, Good, HSG A
389	80	>75% Grass cover, Good, HSG D
4,688	42	Weighted Average
4,688		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2.1: ROAD

Runoff = 4.38 cfs @ 12.08 hrs, Volume= 14,849 cf, Depth= 4.07"
Routed to Pond P2 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
19,631	98	Paved parking, HSG C
17,008	98	Paved parking, HSG D
3,889	74	>75% Grass cover, Good, HSG C
3,221	80	>75% Grass cover, Good, HSG D
43,749	95	Weighted Average
7,110		16.25% Pervious Area
36,639		83.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 2.2:

Runoff = 12.13 cfs @ 12.09 hrs, Volume= 39,750 cf, Depth= 3.75"
Routed to Pond P2 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
10,162	98	Paved parking, HSG A
39,400	98	Paved parking, HSG D
1,110	39	>75% Grass cover, Good, HSG A
40,211	80	>75% Grass cover, Good, HSG D
34,419	98	Roofs, HSG D
1,968	98	Roofs, HSG A
127,270	92	Weighted Average
41,321		32.47% Pervious Area
85,949		67.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 3.1: ABUTTING LOTS

Runoff = 6.67 cfs @ 12.32 hrs, Volume= 33,398 cf, Depth= 3.34"
Routed to Pond P3 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
40,370	98	Paved parking, HSG A
36,062	98	Paved parking, HSG C
5,600	98	Paved parking, HSG D
19,055	39	>75% Grass cover, Good, HSG A
3,488	74	>75% Grass cover, Good, HSG C
15,508	98	Paved parking, HSG C
120,083	88	Weighted Average
22,543		18.77% Pervious Area
97,540		81.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.9	100	0.0700	0.07		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.13"
0.7	111	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
23.6	211	Total			

Summary for Subcatchment 4.1:

Runoff = 12.62 cfs @ 12.09 hrs, Volume= 41,356 cf, Depth= 3.75"
Routed to Pond P4 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
32,934	98	Paved parking, HSG D
1,520	74	>75% Grass cover, Good, HSG C
43,674	80	>75% Grass cover, Good, HSG D
10,533	98	Roofs, HSG C
43,750	98	Roofs, HSG D
132,411	92	Weighted Average
45,194		34.13% Pervious Area
87,217		65.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4.2:

Runoff = 3.38 cfs @ 12.09 hrs, Volume= 10,890 cf, Depth= 3.54"
Routed to Pond P4 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
15,848	79	Woods/grass comb., Good, HSG D
21,073	98	Paved parking, HSG D
36,921	90	Weighted Average
15,848		42.92% Pervious Area
21,073		57.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 4.3:

Runoff = 2.58 cfs @ 12.09 hrs, Volume= 8,382 cf, Depth= 3.64"
Routed to Pond P4 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,635	98	Paved parking, HSG C
2,177	98	Paved parking, HSG D
3,881	74	>75% Grass cover, Good, HSG C
5,997	80	>75% Grass cover, Good, HSG D
1,186	98	Roofs, HSG C
11,734	98	Roofs, HSG D
27,610	91	Weighted Average
9,878		35.78% Pervious Area
17,732		64.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 5.1: ROAD

412 CF RECHARGE VOLUME

Runoff = 4.98 cfs @ 12.08 hrs, Volume= 16,644 cf, Depth= 3.96"
Routed to Pond P5 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
13,156	98	Paved parking, HSG C
26,798	98	Paved parking, HSG D
4,599	74	>75% Grass cover, Good, HSG C
5,846	80	>75% Grass cover, Good, HSG D
50,399	94	Weighted Average
10,445		20.72% Pervious Area
39,954		79.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6.1:

Runoff = 7.35 cfs @ 12.08 hrs, Volume= 26,142 cf, Depth= 4.41"
Routed to Pond P6 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
23,388	98	Paved parking, HSG C
47,685	98	Paved parking, HSG D
71,073	98	Weighted Average
71,073		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 6.2:

Runoff = 5.31 cfs @ 12.09 hrs, Volume= 17,391 cf, Depth= 3.75"
Routed to Pond P6 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
41,373	98	Paved parking, HSG C
14,307	74	>75% Grass cover, Good, HSG C
55,680	92	Weighted Average
14,307		25.70% Pervious Area
41,373		74.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.1:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 574 cf, Depth= 3.96"
Routed to Pond DI-2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,461	98	Paved parking, HSG C
277	74	>75% Grass cover, Good, HSG C
1,738	94	Weighted Average
277		15.94% Pervious Area
1,461		84.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.10:

Runoff = 0.92 cfs @ 12.08 hrs, Volume= 3,164 cf, Depth= 4.18"
Routed to Pond DI-103 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
4,005	98	Paved parking, HSG D
4,338	98	Paved parking, HSG C
366	74	>75% Grass cover, Good, HSG C
365	80	>75% Grass cover, Good, HSG D
9,074	96	Weighted Average
731		8.06% Pervious Area
8,343		91.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.11:

Runoff = 0.12 cfs @ 12.08 hrs, Volume= 437 cf, Depth= 4.41"
Routed to Pond DI-105 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,187	98	Paved parking, HSG D
1,187		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.12:

Runoff = 0.15 cfs @ 12.08 hrs, Volume= 531 cf, Depth= 4.41"
Routed to Pond AD124 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,445	98	Paved parking, HSG D
1,445		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.13:

Runoff = 0.78 cfs @ 12.08 hrs, Volume= 2,682 cf, Depth= 4.18"
Routed to Pond DI-104 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
6,677	98	Paved parking, HSG D
1,013	80	>75% Grass cover, Good, HSG D
7,690	96	Weighted Average
1,013		13.17% Pervious Area
6,677		86.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.14:

Runoff = 0.58 cfs @ 12.08 hrs, Volume= 2,052 cf, Depth= 4.41"
Routed to Pond WQU103 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,580	98	Paved parking, HSG D
5,580		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.15: BLDG 1300

Runoff = 0.77 cfs @ 12.08 hrs, Volume= 2,750 cf, Depth= 4.41"
Routed to Pond RL122 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
7,477	98	Roofs, HSG D
7,477		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.16: BLDG 1300

Runoff = 0.49 cfs @ 12.08 hrs, Volume= 1,747 cf, Depth= 4.41"
Routed to Pond RL113 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
4,749	98	Roofs, HSG D
4,749		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.17: BLDG 1300

Runoff = 0.50 cfs @ 12.08 hrs, Volume= 1,772 cf, Depth= 4.41"
Routed to Pond RL111 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
4,819	98	Roofs, HSG D
4,819		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.18: BLDG 1300

Runoff = 0.39 cfs @ 12.08 hrs, Volume= 1,383 cf, Depth= 4.41"
Routed to Pond RL107 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
3,759	98	Roofs, HSG D
3,759		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.19: BLDG 1300

Runoff = 0.81 cfs @ 12.08 hrs, Volume= 2,888 cf, Depth= 4.41"
Routed to Pond RL105 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
7,852	98	Roofs, HSG D
7,852		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.2:

Runoff = 0.74 cfs @ 12.08 hrs, Volume= 2,513 cf, Depth= 4.07"
Routed to Pond CB-10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,280	98	Paved parking, HSG C
4,180	98	Paved parking, HSG D
468	74	>75% Grass cover, Good, HSG C
476	80	>75% Grass cover, Good, HSG D
7,404	95	Weighted Average
944		12.75% Pervious Area
6,460		87.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.20: BLDG 1300

Runoff = 0.59 cfs @ 12.08 hrs, Volume= 2,087 cf, Depth= 4.41"
Routed to Pond RL101 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,674	98	Roofs, HSG D
5,674		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.21:

Runoff = 0.09 cfs @ 12.08 hrs, Volume= 292 cf, Depth= 3.96"
Routed to Pond DMH-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
670	98	Paved parking, HSG D
215	80	>75% Grass cover, Good, HSG D
885	94	Weighted Average
215		24.29% Pervious Area
670		75.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.22:

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 578 cf, Depth= 4.41"
Routed to Pond AD121 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,572	98	Paved parking, HSG C
1,572		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.23:

Runoff = 0.52 cfs @ 12.08 hrs, Volume= 1,859 cf, Depth= 4.41"
Routed to Pond AD120 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,803	98	Paved parking, HSG C
2,250	98	Paved parking, HSG D
5,053	98	Weighted Average
5,053		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.24:

Runoff = 0.58 cfs @ 12.08 hrs, Volume= 2,054 cf, Depth= 4.41"
Routed to Pond WQU104 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,584	98	Paved parking, HSG D
5,584		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.25:

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 468 cf, Depth= 4.41"
Routed to Pond AD118 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,272	98	Paved parking, HSG D
1,272		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.26:

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 477 cf, Depth= 4.41"
Routed to Pond AD117 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,296	98	Paved parking, HSG D
1,296		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.27:

Runoff = 0.21 cfs @ 12.08 hrs, Volume= 755 cf, Depth= 4.41"
Routed to Pond AD116 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,052	98	Paved parking, HSG D
2,052		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.28:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 591 cf, Depth= 4.41"
Routed to Pond AD115 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,608	98	Paved parking, HSG D
1,608		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.29:

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 452 cf, Depth= 4.41"
Routed to Pond AD114 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,228	98	Paved parking, HSG D
1,228		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.3:

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 833 cf, Depth= 4.07"
Routed to Pond DI-1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,133	98	Paved parking, HSG C
320	74	>75% Grass cover, Good, HSG C
2,453	95	Weighted Average
320		13.05% Pervious Area
2,133		86.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.30:

Runoff = 0.21 cfs @ 12.08 hrs, Volume= 744 cf, Depth= 4.41"
Routed to Pond AD107 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,023	98	Paved parking, HSG D
2,023		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.31:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 619 cf, Depth= 4.41"
Routed to Pond AD108 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,682	98	Paved parking, HSG D
1,682		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.32:

Runoff = 0.10 cfs @ 12.08 hrs, Volume= 356 cf, Depth= 4.41"
Routed to Pond AD113 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
968	98	Paved parking, HSG D
968		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.33:

Runoff = 0.14 cfs @ 12.08 hrs, Volume= 513 cf, Depth= 4.41"
Routed to Pond AD112 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,396	98	Paved parking, HSG D
1,396		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.34:

Runoff = 0.07 cfs @ 12.08 hrs, Volume= 245 cf, Depth= 4.41"
Routed to Pond AD111 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
666	98	Paved parking, HSG D
666		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.35:

Runoff = 0.31 cfs @ 12.08 hrs, Volume= 1,092 cf, Depth= 4.41"
Routed to Pond AD106 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,969	98	Paved parking, HSG D
2,969		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.36:

Runoff = 0.19 cfs @ 12.08 hrs, Volume= 693 cf, Depth= 4.41"
Routed to Pond AD105 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,885	98	Paved parking, HSG D
1,885		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.37:

Runoff = 0.17 cfs @ 12.08 hrs, Volume= 605 cf, Depth= 4.41"
Routed to Pond AD104 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,644	98	Paved parking, HSG D
1,644		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.38: BLDG 1200

Runoff = 0.59 cfs @ 12.08 hrs, Volume= 2,109 cf, Depth= 4.41"
Routed to Pond RL117 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,735	98	Roofs, HSG C
5,735		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.39: BLDG 1200

Runoff = 0.65 cfs @ 12.08 hrs, Volume= 2,326 cf, Depth= 4.41"
Routed to Pond RL115 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,014	98	Roofs, HSG C
5,311	98	Roofs, HSG D
6,325	98	Weighted Average
6,325		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.4:

Runoff = 0.66 cfs @ 12.08 hrs, Volume= 2,353 cf, Depth= 4.41"
Routed to Pond DI-3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,527	98	Paved parking, HSG C
3,870	98	Paved parking, HSG D
6,397	98	Weighted Average
6,397		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.40:

Runoff = 0.32 cfs @ 12.08 hrs, Volume= 1,153 cf, Depth= 4.41"
Routed to Pond DI-102 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
3,136	98	Paved parking, HSG D
3,136		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.41:

Runoff = 0.30 cfs @ 12.08 hrs, Volume= 1,027 cf, Depth= 4.07"
Routed to Pond DI-101 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,446	98	Paved parking, HSG D
580	80	>75% Grass cover, Good, HSG D
3,026	95	Weighted Average
580		19.17% Pervious Area
2,446		80.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.42: BLDG 1400

Runoff = 0.80 cfs @ 12.08 hrs, Volume= 2,844 cf, Depth= 4.41"
Routed to Pond RL112 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
7,732	98	Roofs, HSG D
7,732		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.43: BLDG 1400

Runoff = 0.54 cfs @ 12.08 hrs, Volume= 1,934 cf, Depth= 4.41"
Routed to Pond RL110 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,257	98	Roofs, HSG D
5,257		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.44: BLDG 1500

Runoff = 0.81 cfs @ 12.08 hrs, Volume= 2,892 cf, Depth= 4.41"
Routed to Pond RL106 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
7,862	98	Roofs, HSG D
7,862		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.45: BLDG 1500

Runoff = 0.58 cfs @ 12.08 hrs, Volume= 2,071 cf, Depth= 4.41"
Routed to Pond RL103 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,631	98	Roofs, HSG D
5,631		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.46:

Runoff = 1.13 cfs @ 12.08 hrs, Volume= 3,880 cf, Depth= 4.18"
Routed to Pond DI-9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
9,925	98	Paved parking, HSG D
1,200	80	>75% Grass cover, Good, HSG D
11,125	96	Weighted Average
1,200		10.79% Pervious Area
9,925		89.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.47:

Runoff = 0.24 cfs @ 12.08 hrs, Volume= 870 cf, Depth= 4.41"
Routed to Pond DI-10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,366	98	Paved parking, HSG D
2,366		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.48:

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 1,179 cf, Depth= 4.41"
Routed to Pond DI-11 : WQU-101

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
3,206	98	Paved parking, HSG D
3,206		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.49:

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.32 cfs @ 12.00 hrs, Volume= 966 cf, Depth= 4.41"
Routed to Pond DI-12 : WQU-102

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,626	98	Paved parking, HSG D
2,626		100.00% Impervious Area

Summary for Subcatchment 7.5:

Runoff = 0.12 cfs @ 12.08 hrs, Volume= 422 cf, Depth= 4.41"
Routed to Pond AD22 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,034	98	Paved parking, HSG C
114	98	Paved parking, HSG D
1,148	98	Weighted Average
1,148		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.50:

Runoff = 0.37 cfs @ 12.08 hrs, Volume= 1,327 cf, Depth= 4.41"
Routed to Pond DI-13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
3,609	98	Paved parking, HSG D
3,609		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.51:

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.28 cfs @ 12.00 hrs, Volume= 800 cf, Depth= 3.85"
Routed to Pond AD103 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,747	98	Paved parking, HSG D
743	80	>75% Grass cover, Good, HSG D
2,490	93	Weighted Average
743		29.84% Pervious Area
1,747		70.16% Impervious Area

Summary for Subcatchment 7.52:

Runoff = 0.18 cfs @ 12.09 hrs, Volume= 581 cf, Depth= 3.05"
Routed to Pond AD110 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,716	80	>75% Grass cover, Good, HSG D
572	98	Paved parking, HSG D
2,288	85	Weighted Average
1,716		75.00% Pervious Area
572		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.53:

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 698 cf, Depth= 3.44"
Routed to Pond AD102 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,210	80	>75% Grass cover, Good, HSG D
1,225	98	Paved parking, HSG D
2,435	89	Weighted Average
1,210		49.69% Pervious Area
1,225		50.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.54:

Runoff = 0.23 cfs @ 12.08 hrs, Volume= 780 cf, Depth= 3.96"
Routed to Pond AD119 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
746	98	Paved parking, HSG D
1,145	98	Paved parking, HSG C
470	80	>75% Grass cover, Good, HSG D
2,361	94	Weighted Average
470		19.91% Pervious Area
1,891		80.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.55:

Runoff = 0.78 cfs @ 12.08 hrs, Volume= 2,667 cf, Depth= 4.18"
Routed to Pond DI-4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
872	80	>75% Grass cover, Good, HSG D
6,777	98	Paved parking, HSG D
7,649	96	Weighted Average
872		11.40% Pervious Area
6,777		88.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.56:

Runoff = 0.63 cfs @ 12.08 hrs, Volume= 2,124 cf, Depth= 4.07"
Routed to Pond DI-5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
741	74	>75% Grass cover, Good, HSG C
131	80	>75% Grass cover, Good, HSG D
4,179	98	Paved parking, HSG D
1,207	98	Paved parking, HSG C
6,258	95	Weighted Average
872		13.93% Pervious Area
5,386		86.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.57:

Runoff = 1.25 cfs @ 12.08 hrs, Volume= 4,174 cf, Depth= 3.96"
Routed to Pond DI-6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
1,991	74	>75% Grass cover, Good, HSG C
6,708	98	Paved parking, HSG C
3,939	98	Paved parking, HSG D
12,638	94	Weighted Average
1,991		15.75% Pervious Area
10,647		84.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.58:

Runoff = 0.63 cfs @ 12.08 hrs, Volume= 2,214 cf, Depth= 4.30"
Routed to Pond DI-7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
2,461	98	Paved parking, HSG C
3,470	98	Paved parking, HSG D
249	80	>75% Grass cover, Good, HSG D
6,180	97	Weighted Average
249		4.03% Pervious Area
5,931		95.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.59:

Runoff = 3.22 cfs @ 12.08 hrs, Volume= 11,446 cf, Depth= 4.41"
Routed to Pond RL121 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
31,120	98	Paved parking, HSG D
31,120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.6:

Runoff = 0.10 cfs @ 12.08 hrs, Volume= 341 cf, Depth= 4.41"
Routed to Pond AD123 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
811	98	Paved parking, HSG C
117	98	Paved parking, HSG D
928	98	Weighted Average
928		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.7:

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 1,162 cf, Depth= 4.41"
Routed to Pond RL123 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
3,159	98	Roofs, HSG C
3,159		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.8: town green

Runoff = 3.50 cfs @ 12.09 hrs, Volume= 11,450 cf, Depth= 3.75"
Routed to Pond P7 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
27,124	98	Paved parking, HSG C
8,677	74	>75% Grass cover, Good, HSG C
859	98	Paved parking, HSG C
36,660	92	Weighted Average
8,677		23.67% Pervious Area
27,983		76.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 7.9:

Runoff = 0.60 cfs @ 12.08 hrs, Volume= 2,138 cf, Depth= 4.41"
Routed to Pond RL118 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
5,814	98	Roofs, HSG C
5,814		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 8.1: BLDG B

Runoff = 9.41 cfs @ 12.08 hrs, Volume= 33,458 cf, Depth= 4.41"
Routed to Pond P8 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
38,147	98	Roofs, HSG C
52,819	98	Roofs, HSG D
90,966	98	Weighted Average
90,966		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 9.1:

Runoff = 5.72 cfs @ 12.09 hrs, Volume= 17,879 cf, Depth= 2.68"
Routed to Pond P9 : SSD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
20,735	98	Paved parking, HSG C
53,658	74	>75% Grass cover, Good, HSG C
5,716	80	>75% Grass cover, Good, HSG D
80,109	81	Weighted Average
59,374		74.12% Pervious Area
20,735		25.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 9.2:

Runoff = 12.24 cfs @ 12.08 hrs, Volume= 43,535 cf, Depth= 4.41"
Routed to Pond P9 : SSD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
73,869	98	Paved parking, HSG D
7,976	98	Paved parking, HSG D
36,518	98	Roofs, HSG D
118,363	98	Weighted Average
118,363		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 10.1:

Runoff = 12.77 cfs @ 12.09 hrs, Volume= 42,250 cf, Depth= 3.85"
Routed to Pond P10 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
58,309	98	Paved parking, HSG D
437	80	>75% Grass cover, Good, HSG D
37,947	80	>75% Grass cover, Good, HSG D
34,836	98	Roofs, HSG D
131,529	93	Weighted Average
38,384		29.18% Pervious Area
93,145		70.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 10.2:

Runoff = 5.85 cfs @ 12.09 hrs, Volume= 18,293 cf, Depth= 2.77"
Routed to Pond P10 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
23,077	58	Woods/grass comb., Good, HSG B
8,042	79	Woods/grass comb., Good, HSG D
23,027	98	Paved parking, HSG D
12,138	80	>75% Grass cover, Good, HSG D
13,020	98	Roofs, HSG D
79,304	82	Weighted Average
43,257		54.55% Pervious Area
36,047		45.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 11.1:

Runoff = 5.91 cfs @ 12.08 hrs, Volume= 21,032 cf, Depth= 4.41"
Routed to Pond P11 : SSIB

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
7,977	98	Roofs, HSG C
49,204	98	Roofs, HSG D
57,181	98	Weighted Average
57,181		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 12.1:

Runoff = 2.60 cfs @ 12.09 hrs, Volume= 8,505 cf, Depth= 3.75"
Routed to Pond P12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
6,953	74	>75% Grass cover, Good, HSG C
20,278	98	Paved parking, HSG C
27,231	92	Weighted Average
6,953		25.53% Pervious Area
20,278		74.47% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment 12.2:

Runoff = 9.42 cfs @ 12.08 hrs, Volume= 33,512 cf, Depth= 4.41"
Routed to Pond P12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Type III 24-hr 10-Year Rainfall=4.65"

Area (sf)	CN	Description
91,111	98	Roofs, HSG C
91,111		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Pond AD102:

[57] Hint: Peaked at 279.24' (Flood elevation advised)
[79] Warning: Submerged Pond RL103 Primary device # 1 INLET by 0.27'

Inflow Area = 8,066 sf, 85.00% Impervious, Inflow Depth = 4.12" for 10-Year event
Inflow = 0.80 cfs @ 12.08 hrs, Volume= 2,769 cf
Outflow = 0.80 cfs @ 12.08 hrs, Volume= 2,769 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 12.08 hrs, Volume= 2,769 cf
Routed to Pond AD103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.24' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.71'	**12.0" Round Culvert** L= 31.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.71' / 278.55' S= 0.0051 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.08 hrs HW=279.24' (Free Discharge)
1=Culvert (Barrel Controls 0.79 cfs @ 2.72 fps)

Summary for Pond AD103:

[57] Hint: Peaked at 279.03' (Flood elevation advised)
[79] Warning: Submerged Pond AD102 Primary device # 1 INLET by 0.32'

Inflow Area = 10,556 sf, 81.50% Impervious, Inflow Depth = 4.06" for 10-Year event
Inflow = 0.96 cfs @ 12.07 hrs, Volume= 3,569 cf
Outflow = 0.96 cfs @ 12.07 hrs, Volume= 3,569 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.96 cfs @ 12.07 hrs, Volume= 3,569 cf
Routed to Pond DI-13 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.03' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.45'	**12.0" Round Culvert** L= 46.1' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.45' / 278.22' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.95 cfs @ 12.07 hrs HW=279.03' (Free Discharge)
1=Culvert (Barrel Controls 0.95 cfs @ 2.89 fps)

Summary for Pond AD104:

[57] Hint: Peaked at 278.02' (Flood elevation advised)

Inflow Area = 1,644 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 605 cf
Outflow = 0.17 cfs @ 12.08 hrs, Volume= 605 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.17 cfs @ 12.08 hrs, Volume= 605 cf
Routed to Pond DMH101 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.02' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.77'	**12.0" Round Culvert** L= 5.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.77' / 277.74' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.17 cfs @ 12.08 hrs HW=278.01' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.17 cfs @ 1.71 fps)

Summary for Pond AD105:

[57] Hint: Peaked at 278.06' (Flood elevation advised)
[79] Warning: Submerged Pond RL105 Primary device # 1 INLET by 0.43'

Inflow Area = 9,737 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 1.01 cfs @ 12.08 hrs, Volume= 3,581 cf
Outflow = 1.01 cfs @ 12.08 hrs, Volume= 3,581 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.01 cfs @ 12.08 hrs, Volume= 3,581 cf
Routed to Pond DMH102 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.06' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.42'	**12.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.42' / 277.39' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.00 cfs @ 12.08 hrs HW=278.06' (Free Discharge)
1=Culvert (Barrel Controls 1.00 cfs @ 2.68 fps)

Summary for Pond AD106:

[57] Hint: Peaked at 277.35' (Flood elevation advised)

Inflow Area = 2,969 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.31 cfs @ 12.08 hrs, Volume= 1,092 cf
Outflow = 0.31 cfs @ 12.08 hrs, Volume= 1,092 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.08 hrs, Volume= 1,092 cf
Routed to Pond DMH103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.35' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.02'	**12.0" Round Culvert** L= 9.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.02' / 276.97' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.30 cfs @ 12.08 hrs HW=277.35' (Free Discharge)
1=Culvert (Barrel Controls 0.30 cfs @ 2.02 fps)

Summary for Pond AD107:

[57] Hint: Peaked at 276.13' (Flood elevation advised)

Inflow Area = 5,782 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.60 cfs @ 12.08 hrs, Volume= 2,127 cf
Outflow = 0.60 cfs @ 12.08 hrs, Volume= 2,127 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.60 cfs @ 12.08 hrs, Volume= 2,127 cf
Routed to Pond AD108 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.13' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.66'	**12.0" Round Culvert** L= 22.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.66' / 275.55' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.08 hrs HW=276.13' (Free Discharge)
1=Culvert (Barrel Controls 0.59 cfs @ 2.42 fps)

Summary for Pond AD108:

[57] Hint: Peaked at 276.00' (Flood elevation advised)
[79] Warning: Submerged Pond AD107 Primary device # 1 INLET by 0.34'

Inflow Area = 7,464 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.77 cfs @ 12.08 hrs, Volume= 2,745 cf
Outflow = 0.77 cfs @ 12.08 hrs, Volume= 2,745 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.77 cfs @ 12.08 hrs, Volume= 2,745 cf
Routed to Pond DMH104 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.00' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.45'	**12.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.45' / 275.42' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.76 cfs @ 12.08 hrs HW=276.00' (Free Discharge)
1=Culvert (Barrel Controls 0.76 cfs @ 2.50 fps)

Summary for Pond AD109:

[57] Hint: Peaked at 277.44' (Flood elevation advised)

Inflow	=	0.00 cfs @	0.00 hrs, Volume=	0 cf
Outflow	=	0.00 cfs @	0.00 hrs, Volume=	0 cf, Atten= 0%, Lag= 0.0 min
Primary	=	0.00 cfs @	0.00 hrs, Volume=	0 cf

Routed to Pond AD111 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.44' @ 0.00 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**12.0" Round Culvert** L= 36.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.26' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=277.44' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond AD110:

[57] Hint: Peaked at 277.87' (Flood elevation advised)
[79] Warning: Submerged Pond RL109 Primary device # 1 INLET by 0.12'

Inflow Area = 2,288 sf, 25.00% Impervious, Inflow Depth = 3.05" for 10-Year event
Inflow = 0.18 cfs @ 12.09 hrs, Volume= 581 cf
Outflow = 0.18 cfs @ 12.09 hrs, Volume= 581 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.09 hrs, Volume= 581 cf
Routed to Pond AD111 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.87' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.62'	**12.0" Round Culvert** L= 71.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.62' / 277.26' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.09 hrs HW=277.86' (Free Discharge)
1=Culvert (Barrel Controls 0.18 cfs @ 1.84 fps)

Summary for Pond AD111:

[57] Hint: Peaked at 277.46' (Flood elevation advised)
[81] Warning: Exceeded Pond AD109 by 0.02' @ 12.08 hrs
[79] Warning: Submerged Pond AD110 Primary device # 1 OUTLET by 0.20'

Inflow Area = 2,954 sf, 41.91% Impervious, Inflow Depth = 3.35" for 10-Year event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 826 cf
Outflow = 0.25 cfs @ 12.09 hrs, Volume= 826 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.09 hrs, Volume= 826 cf
Routed to Pond AD112 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.46' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.16'	**12.0" Round Culvert** L= 24.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.16' / 277.04' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.25 cfs @ 12.09 hrs HW=277.45' (Free Discharge)
1=Culvert (Barrel Controls 0.25 cfs @ 1.94 fps)

Summary for Pond AD112:

[57] Hint: Peaked at 277.31' (Flood elevation advised)
[79] Warning: Submerged Pond AD111 Primary device # 1 INLET by 0.15'

Inflow Area = 4,350 sf, 60.55% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 1,339 cf
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 1,339 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.09 hrs, Volume= 1,339 cf
Routed to Pond AD113 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.31' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.94'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.94' / 276.75' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.39 cfs @ 12.09 hrs HW=277.31' (Free Discharge)
1=Culvert (Barrel Controls 0.39 cfs @ 2.24 fps)

Summary for Pond AD113:

[57] Hint: Peaked at 277.07' (Flood elevation advised)
[79] Warning: Submerged Pond AD112 Primary device # 1 INLET by 0.13'

Inflow Area = 5,318 sf, 67.73% Impervious, Inflow Depth = 3.83" for 10-Year event
Inflow = 0.50 cfs @ 12.09 hrs, Volume= 1,695 cf
Outflow = 0.50 cfs @ 12.09 hrs, Volume= 1,695 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.50 cfs @ 12.09 hrs, Volume= 1,695 cf
Routed to Pond DMH104 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.07' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.65'	**12.0" Round Culvert** L= 28.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.65' / 276.51' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.49 cfs @ 12.09 hrs HW=277.07' (Free Discharge)
1=Culvert (Barrel Controls 0.49 cfs @ 2.33 fps)

Summary for Pond AD114:

[57] Hint: Peaked at 275.43' (Flood elevation advised)

Inflow Area = 1,228 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.13 cfs @ 12.08 hrs, Volume= 452 cf
Outflow = 0.13 cfs @ 12.08 hrs, Volume= 452 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.08 hrs, Volume= 452 cf
Routed to Pond DMH105 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.43' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.22'	**12.0" Round Culvert** L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.22' / 275.19' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.13 cfs @ 12.08 hrs HW=275.43' (Free Discharge)
1=Culvert (Barrel Controls 0.13 cfs @ 1.57 fps)

Summary for Pond AD115:

[57] Hint: Peaked at 275.10' (Flood elevation advised)

Inflow Area = 1,608 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 591 cf
Outflow = 0.17 cfs @ 12.08 hrs, Volume= 591 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.17 cfs @ 12.08 hrs, Volume= 591 cf
Routed to Pond DMH106 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.10' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.85'	**12.0" Round Culvert** L= 6.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.85' / 274.82' S= 0.0043 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.16 cfs @ 12.08 hrs HW=275.10' (Free Discharge)
1=Culvert (Barrel Controls 0.16 cfs @ 1.66 fps)

Summary for Pond AD116:

[57] Hint: Peaked at 274.95' (Flood elevation advised)

Inflow Area = 2,052 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.21 cfs @ 12.08 hrs, Volume= 755 cf
Outflow = 0.21 cfs @ 12.08 hrs, Volume= 755 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 12.08 hrs, Volume= 755 cf
Routed to Pond DMH107 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.95' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.68'	**12.0" Round Culvert** L= 7.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.68' / 274.64' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.21 cfs @ 12.08 hrs HW=274.95' (Free Discharge)
1=Culvert (Barrel Controls 0.21 cfs @ 1.82 fps)

Summary for Pond AD117:

[57] Hint: Peaked at 274.54' (Flood elevation advised)

Inflow Area = 1,296 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.13 cfs @ 12.08 hrs, Volume= 477 cf
Outflow = 0.13 cfs @ 12.08 hrs, Volume= 477 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.08 hrs, Volume= 477 cf
Routed to Pond DMH108 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.54' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.32'	**12.0" Round Culvert** L= 7.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.32' / 274.28' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.13 cfs @ 12.08 hrs HW=274.53' (Free Discharge)
1=Culvert (Barrel Controls 0.13 cfs @ 1.62 fps)

Summary for Pond AD118:

[57] Hint: Peaked at 274.48' (Flood elevation advised)
[79] Warning: Submerged Pond RL113 Primary device # 1 INLET by 0.24'

Inflow Area = 6,021 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.62 cfs @ 12.08 hrs, Volume= 2,215 cf
Outflow = 0.62 cfs @ 12.08 hrs, Volume= 2,215 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.08 hrs, Volume= 2,215 cf
Routed to Pond DMH109 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.48' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	273.99'	**12.0" Round Culvert** L= 7.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.99' / 273.95' S= 0.0055 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.62 cfs @ 12.08 hrs HW=274.47' (Free Discharge)
1=Culvert (Barrel Controls 0.62 cfs @ 2.39 fps)

Summary for Pond AD119:

[57] Hint: Peaked at 274.94' (Flood elevation advised)
[79] Warning: Submerged Pond RL115 Primary device # 1 INLET by 0.43'

Inflow Area = 8,686 sf, 94.59% Impervious, Inflow Depth = 4.29" for 10-Year event
Inflow = 0.89 cfs @ 12.08 hrs, Volume= 3,106 cf
Outflow = 0.89 cfs @ 12.08 hrs, Volume= 3,106 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.89 cfs @ 12.08 hrs, Volume= 3,106 cf
Routed to Pond DMH111 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.94' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.36'	**12.0" Round Culvert** L= 26.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.36' / 274.23' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.88 cfs @ 12.08 hrs HW=274.94' (Free Discharge)
1=Culvert (Barrel Controls 0.88 cfs @ 2.68 fps)

Summary for Pond AD120:

[57] Hint: Peaked at 273.64' (Flood elevation advised)
[81] Warning: Exceeded Pond RL118 by 0.04' @ 12.08 hrs

Inflow Area = 10,867 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 1.12 cfs @ 12.08 hrs, Volume= 3,997 cf
Outflow = 1.12 cfs @ 12.08 hrs, Volume= 3,997 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.08 hrs, Volume= 3,997 cf
Routed to Pond DMH112 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 273.64' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	272.97'	**12.0" Round Culvert** L= 18.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.97' / 272.88' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.11 cfs @ 12.08 hrs HW=273.64' (Free Discharge)
1=Culvert (Barrel Controls 1.11 cfs @ 2.82 fps)

Summary for Pond AD121:

[57] Hint: Peaked at 272.58' (Flood elevation advised)
[79] Warning: Submerged Pond RL119 Primary device # 1 INLET by 0.03'

Inflow Area = 1,572 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.16 cfs @ 12.08 hrs, Volume= 578 cf
Outflow = 0.16 cfs @ 12.08 hrs, Volume= 578 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.16 cfs @ 12.08 hrs, Volume= 578 cf
Routed to Pond DMH113 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 272.58' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	272.34'	**12.0" Round Culvert** L= 9.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.34' / 272.29' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.16 cfs @ 12.08 hrs HW=272.58' (Free Discharge)
1=Culvert (Barrel Controls 0.16 cfs @ 1.70 fps)

Summary for Pond AD123:

[57] Hint: Peaked at 275.22' (Flood elevation advised)
[79] Warning: Submerged Pond RL123 Primary device # 1 INLET by 0.20'

Inflow Area = 4,087 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.42 cfs @ 12.08 hrs, Volume= 1,503 cf
Outflow = 0.42 cfs @ 12.08 hrs, Volume= 1,503 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.08 hrs, Volume= 1,503 cf
Routed to Pond DI-103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.22' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.84'	**12.0" Round Culvert** L= 65.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.84' / 274.51' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.42 cfs @ 12.08 hrs HW=275.22' (Free Discharge)
1=Culvert (Barrel Controls 0.42 cfs @ 2.30 fps)

Summary for Pond AD124:

Inflow Area = 1,445 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.15 cfs @ 12.08 hrs, Volume= 531 cf
Outflow = 0.15 cfs @ 12.08 hrs, Volume= 531 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.15 cfs @ 12.08 hrs, Volume= 531 cf
Routed to Pond DI-105 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.77' @ 12.08 hrs
Flood Elev= 282.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	274.55'	**12.0" Round Culvert** L= 37.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.55' / 274.36' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.15 cfs @ 12.08 hrs HW=274.77' (Free Discharge)
1=Culvert (Barrel Controls 0.15 cfs @ 1.71 fps)

Summary for Pond AD22:

[57] Hint: Peaked at 278.47' (Flood elevation advised)

Inflow Area = 1,148 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.12 cfs @ 12.08 hrs, Volume= 422 cf
Outflow = 0.12 cfs @ 12.08 hrs, Volume= 422 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.08 hrs, Volume= 422 cf
Routed to Pond DI-3 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.47' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.27'	**12.0" Round Culvert** L= 14.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.27' / 278.20' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.12 cfs @ 12.08 hrs HW=278.47' (Free Discharge)
1=Culvert (Barrel Controls 0.12 cfs @ 1.57 fps)

Summary for Pond CB-10:

[57] Hint: Peaked at 279.03' (Flood elevation advised)

Inflow Area = 7,404 sf, 87.25% Impervious, Inflow Depth = 4.07" for 10-Year event
Inflow = 0.74 cfs @ 12.08 hrs, Volume= 2,513 cf
Outflow = 0.74 cfs @ 12.08 hrs, Volume= 2,513 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.08 hrs, Volume= 2,513 cf
Routed to Pond DI-2 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.03' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.52'	**12.0" Round Culvert** L= 61.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.52' / 278.21' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.73 cfs @ 12.08 hrs HW=279.03' (Free Discharge)
1=Culvert (Barrel Controls 0.73 cfs @ 2.66 fps)

Summary for Pond DI-1:

[57] Hint: Peaked at 278.61' (Flood elevation advised)
[79] Warning: Submerged Pond DI-2 Primary device # 1 INLET by 0.50'
[79] Warning: Submerged Pond DI-3 Primary device # 1 INLET by 0.51'

Inflow Area = 19,140 sf, 91.95% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 1.94 cfs @ 12.08 hrs, Volume= 6,695 cf
Outflow = 1.94 cfs @ 12.08 hrs, Volume= 6,695 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.08 hrs, Volume= 6,695 cf
Routed to Pond WQU5 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.61' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.68'	**12.0" Round Culvert** L= 27.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.68' / 277.54' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.92 cfs @ 12.08 hrs HW=278.60' (Free Discharge)
1=Culvert (Barrel Controls 1.92 cfs @ 3.30 fps)

Summary for Pond DI-10:

[57] Hint: Peaked at 279.85' (Flood elevation advised)
[79] Warning: Submerged Pond DI-9 Primary device # 1 INLET by 1.36'

Inflow Area = 111,016 sf, 98.73% Impervious, Inflow Depth = 4.39" for 10-Year event
Inflow = 9.77 cfs @ 12.12 hrs, Volume= 40,588 cf
Outflow = 9.77 cfs @ 12.12 hrs, Volume= 40,588 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.77 cfs @ 12.12 hrs, Volume= 40,588 cf
Routed to Pond DI-11 : WQU-101

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.85' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.16'	**24.0" Round Culvert** L= 41.7' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.16' / 277.95' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=9.74 cfs @ 12.12 hrs HW=279.84' (Free Discharge)
1=Culvert (Barrel Controls 9.74 cfs @ 4.66 fps)

Summary for Pond DI-101:

[57] Hint: Peaked at 274.67' (Flood elevation advised)

Inflow Area = 3,026 sf, 80.83% Impervious, Inflow Depth = 4.07" for 10-Year event
Inflow = 0.30 cfs @ 12.08 hrs, Volume= 1,027 cf
Outflow = 0.30 cfs @ 12.08 hrs, Volume= 1,027 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.08 hrs, Volume= 1,027 cf
Routed to Pond DMH111 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.67' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.35'	**12.0" Round Culvert** L= 23.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.35' / 274.23' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.30 cfs @ 12.08 hrs HW=274.67' (Free Discharge)
1=Culvert (Barrel Controls 0.30 cfs @ 2.05 fps)

Summary for Pond DI-102:

[57] Hint: Peaked at 274.68' (Flood elevation advised)
[79] Warning: Submerged Pond DMH111 Primary device # 1 INLET by 0.55'
[79] Warning: Submerged Pond RL116 Primary device # 1 INLET by 0.64'

Inflow Area = 14,848 sf, 92.93% Impervious, Inflow Depth = 4.27" for 10-Year event
Inflow = 1.51 cfs @ 12.08 hrs, Volume= 5,287 cf
Outflow = 1.51 cfs @ 12.08 hrs, Volume= 5,287 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.51 cfs @ 12.08 hrs, Volume= 5,287 cf
Routed to Pond WQU104 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.68' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	273.90'	**12.0" Round Culvert** L= 57.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.90' / 273.61' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.50 cfs @ 12.08 hrs HW=274.67' (Free Discharge)
1=Culvert (Barrel Controls 1.50 cfs @ 3.17 fps)

Summary for Pond DI-103:

[57] Hint: Peaked at 275.16' (Flood elevation advised)
[79] Warning: Submerged Pond AD123 Primary device # 1 INLET by 0.32'

Inflow Area = 13,161 sf, 94.45% Impervious, Inflow Depth = 4.26" for 10-Year event
Inflow = 1.34 cfs @ 12.08 hrs, Volume= 4,668 cf
Outflow = 1.34 cfs @ 12.08 hrs, Volume= 4,668 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.34 cfs @ 12.08 hrs, Volume= 4,668 cf
Routed to Pond DI-104 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.16' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.41'	**12.0" Round Culvert** L= 11.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.41' / 274.35' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.33 cfs @ 12.08 hrs HW=275.16' (Free Discharge)
1=Culvert (Barrel Controls 1.33 cfs @ 2.94 fps)

Summary for Pond DI-104:

[57] Hint: Peaked at 275.23' (Flood elevation advised)
[81] Warning: Exceeded Pond DI-103 by 0.07' @ 12.08 hrs

Inflow Area = 20,851 sf, 91.64% Impervious, Inflow Depth = 4.23" for 10-Year event
Inflow = 2.12 cfs @ 12.08 hrs, Volume= 7,349 cf
Outflow = 2.12 cfs @ 12.08 hrs, Volume= 7,349 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.12 cfs @ 12.08 hrs, Volume= 7,349 cf
Routed to Pond WQU103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.23' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.25'	**12.0" Round Culvert** L= 54.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.25' / 273.98' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.10 cfs @ 12.08 hrs HW=275.23' (Free Discharge)
1=Culvert (Barrel Controls 2.10 cfs @ 3.41 fps)

Summary for Pond DI-105:

[81] Warning: Exceeded Pond AD124 by 0.83' @ 12.08 hrs
[79] Warning: Submerged Pond DMH-9 Primary device # 1 INLET by 0.99'

Inflow Area = 66,477 sf, 94.01% Impervious, Inflow Depth = 4.26" for 10-Year event
Inflow = 6.78 cfs @ 12.08 hrs, Volume= 23,593 cf
Outflow = 6.78 cfs @ 12.08 hrs, Volume= 23,593 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.78 cfs @ 12.08 hrs, Volume= 23,593 cf
Routed to Pond WQU103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.61' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	274.26'	**24.0" Round Culvert** L= 55.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.26' / 273.98' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=6.70 cfs @ 12.08 hrs HW=275.60' (Free Discharge)
1=Culvert (Barrel Controls 6.70 cfs @ 4.25 fps)

Summary for Pond DI-11: WQU-101

[57] Hint: Peaked at 279.62' (Flood elevation advised)
[79] Warning: Submerged Pond DI-10 Primary device # 1 INLET by 1.46'

Inflow Area = 114,222 sf, 98.76% Impervious, Inflow Depth = 4.39" for 10-Year event
Inflow = 10.07 cfs @ 12.12 hrs, Volume= 41,767 cf
Outflow = 10.07 cfs @ 12.12 hrs, Volume= 41,767 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.07 cfs @ 12.12 hrs, Volume= 41,767 cf
Routed to Pond DMH-2 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.62' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.85'	**24.0" Round Culvert** L= 17.7' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.85' / 277.76' S= 0.0051 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=10.06 cfs @ 12.12 hrs HW=279.62' (Free Discharge)
1=Culvert (Barrel Controls 10.06 cfs @ 4.55 fps)

Summary for Pond DI-12: WQU-102

[57] Hint: Peaked at 278.89' (Flood elevation advised)
[81] Warning: Exceeded Pond DI-13 by 0.11' @ 12.00 hrs

Inflow Area = 16,791 sf, 88.37% Impervious, Inflow Depth = 4.19" for 10-Year event
Inflow = 1.53 cfs @ 12.06 hrs, Volume= 5,862 cf
Outflow = 1.53 cfs @ 12.06 hrs, Volume= 5,862 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.53 cfs @ 12.06 hrs, Volume= 5,862 cf
Routed to Pond DMH-2 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.89' @ 12.06 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.12'	**12.0" Round Culvert** L= 39.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.12' / 277.92' S= 0.0051 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.50 cfs @ 12.06 hrs HW=278.89' (Free Discharge)
1=Culvert (Barrel Controls 1.50 cfs @ 3.21 fps)

Summary for Pond DI-13:

[57] Hint: Peaked at 278.83' (Flood elevation advised)
[79] Warning: Submerged Pond AD103 Primary device # 1 INLET by 0.38'

Inflow Area = 14,165 sf, 86.21% Impervious, Inflow Depth = 4.15" for 10-Year event
Inflow = 1.33 cfs @ 12.07 hrs, Volume= 4,896 cf
Outflow = 1.33 cfs @ 12.07 hrs, Volume= 4,896 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.33 cfs @ 12.07 hrs, Volume= 4,896 cf
Routed to Pond DI-12 : WQU-102

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.83' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.12'	**12.0" Round Culvert** L= 39.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.12' / 277.92' S= 0.0051 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.32 cfs @ 12.07 hrs HW=278.83' (Free Discharge)
1=Culvert (Barrel Controls 1.32 cfs @ 3.11 fps)

Summary for Pond DI-2:

[57] Hint: Peaked at 278.68' (Flood elevation advised)
[79] Warning: Submerged Pond CB-10 Primary device # 1 INLET by 0.16'

Inflow Area = 9,142 sf, 86.64% Impervious, Inflow Depth = 4.05" for 10-Year event
Inflow = 0.91 cfs @ 12.08 hrs, Volume= 3,087 cf
Outflow = 0.91 cfs @ 12.08 hrs, Volume= 3,087 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.91 cfs @ 12.08 hrs, Volume= 3,087 cf
Routed to Pond DI-1 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.68' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.11'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.11' / 277.78' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.90 cfs @ 12.08 hrs HW=278.68' (Free Discharge)
1=Culvert (Barrel Controls 0.90 cfs @ 2.81 fps)

Summary for Pond DI-3:

[57] Hint: Peaked at 278.63' (Flood elevation advised)
[81] Warning: Exceeded Pond AD22 by 0.15' @ 12.08 hrs

Inflow Area = 7,545 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.78 cfs @ 12.08 hrs, Volume= 2,775 cf
Outflow = 0.78 cfs @ 12.08 hrs, Volume= 2,775 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.08 hrs, Volume= 2,775 cf
Routed to Pond DI-1 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.63' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.10'	**12.0" Round Culvert** L= 63.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.10' / 277.78' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.77 cfs @ 12.08 hrs HW=278.62' (Free Discharge)
1=Culvert (Barrel Controls 0.77 cfs @ 2.70 fps)

Summary for Pond DI-4:

[57] Hint: Peaked at 276.42' (Flood elevation advised)
[79] Warning: Submerged Pond DI-5 Primary device # 1 INLET by 1.00'

Inflow Area = 63,845 sf, 93.76% Impervious, Inflow Depth = 4.25" for 10-Year event
Inflow = 6.50 cfs @ 12.08 hrs, Volume= 22,625 cf
Outflow = 6.50 cfs @ 12.08 hrs, Volume= 22,625 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.50 cfs @ 12.08 hrs, Volume= 22,625 cf
Routed to Pond DMH-9 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.42' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.15'	**24.0" Round Culvert** L= 89.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.15' / 274.71' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=6.43 cfs @ 12.08 hrs HW=276.41' (Free Discharge)
1=Culvert (Barrel Controls 6.43 cfs @ 4.41 fps)

Summary for Pond DI-5:

[57] Hint: Peaked at 276.85' (Flood elevation advised)
[79] Warning: Submerged Pond DI-6 Primary device # 1 INLET by 0.49'
[81] Warning: Exceeded Pond RL121 by 0.24' @ 12.08 hrs

Inflow Area = 56,196 sf, 94.46% Impervious, Inflow Depth = 4.26" for 10-Year event
Inflow = 5.73 cfs @ 12.08 hrs, Volume= 19,958 cf
Outflow = 5.73 cfs @ 12.08 hrs, Volume= 19,958 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.73 cfs @ 12.08 hrs, Volume= 19,958 cf
Routed to Pond DI-4 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.85' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.41'	**18.0" Round Culvert** L= 32.9' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.41' / 275.25' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=5.67 cfs @ 12.08 hrs HW=276.84' (Free Discharge)
1=Culvert (Barrel Controls 5.67 cfs @ 4.18 fps)

Summary for Pond DI-6:

[57] Hint: Peaked at 277.21' (Flood elevation advised)
[79] Warning: Submerged Pond DI-7 Primary device # 1 INLET by 0.41'

Inflow Area = 18,818 sf, 88.10% Impervious, Inflow Depth = 4.07" for 10-Year event
Inflow = 1.88 cfs @ 12.08 hrs, Volume= 6,387 cf
Outflow = 1.88 cfs @ 12.08 hrs, Volume= 6,387 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.88 cfs @ 12.08 hrs, Volume= 6,387 cf
Routed to Pond DI-5 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.21' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.36'	**12.0" Round Culvert** L= 170.9' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.36' / 275.51' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=1.86 cfs @ 12.08 hrs HW=277.20' (Free Discharge)
1=Culvert (Barrel Controls 1.86 cfs @ 3.57 fps)

Summary for Pond DI-7:

[57] Hint: Peaked at 277.26' (Flood elevation advised)

Inflow Area = 6,180 sf, 95.97% Impervious, Inflow Depth = 4.30" for 10-Year event
Inflow = 0.63 cfs @ 12.08 hrs, Volume= 2,214 cf
Outflow = 0.63 cfs @ 12.08 hrs, Volume= 2,214 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.08 hrs, Volume= 2,214 cf
Routed to Pond DI-6 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.26' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.80'	**12.0" Round Culvert** L= 67.3' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.80' / 276.46' S= 0.0051 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.63 cfs @ 12.08 hrs HW=277.25' (Free Discharge)
1=Culvert (Barrel Controls 0.63 cfs @ 2.66 fps)

Summary for Pond DI-8:

[57] Hint: Peaked at 280.30' (Flood elevation advised)
[79] Warning: Submerged Pond DMH-3 Primary device # 1 INLET by 1.19'

Inflow Area = 91,851 sf, 99.77% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 8.04 cfs @ 12.14 hrs, Volume= 33,751 cf
Outflow = 8.04 cfs @ 12.14 hrs, Volume= 33,751 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.04 cfs @ 12.14 hrs, Volume= 33,751 cf
Routed to Pond DI-9 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 280.30' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.81'	**24.0" Round Culvert** L= 44.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.81' / 278.59' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=7.93 cfs @ 12.14 hrs HW=280.29' (Free Discharge)
1=Culvert (Barrel Controls 7.93 cfs @ 4.43 fps)

Summary for Pond DI-9:

[57] Hint: Peaked at 280.15' (Flood elevation advised)
[79] Warning: Submerged Pond DI-8 Primary device # 1 INLET by 1.34'
[81] Warning: Exceeded Pond RL101 by 0.76' @ 12.16 hrs

Inflow Area = 108,650 sf, 98.70% Impervious, Inflow Depth = 4.39" for 10-Year event
Inflow = 9.54 cfs @ 12.12 hrs, Volume= 39,717 cf
Outflow = 9.54 cfs @ 12.12 hrs, Volume= 39,717 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.54 cfs @ 12.12 hrs, Volume= 39,717 cf
Routed to Pond DI-10 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 280.15' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.49'	**24.0" Round Culvert** L= 46.5' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.49' / 278.26' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=9.50 cfs @ 12.12 hrs HW=280.14' (Free Discharge)
1=Culvert (Barrel Controls 9.50 cfs @ 4.64 fps)

Summary for Pond DMH 5:

[81] Warning: Exceeded Pond DMH4 by 0.72' @ 12.40 hrs

Inflow Area = 390,811 sf, 94.35% Impervious, Inflow Depth = 3.10" for 10-Year event
Inflow = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf
Outflow = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf
Routed to Pond DMH6 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 268.24' @ 12.39 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	266.10'	**30.0" Round Culvert** L= 199.7' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.10' / 266.08' S= 0.0001 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 4.91 sf

Primary OutFlow Max=12.34 cfs @ 12.39 hrs HW=268.24' (Free Discharge)
1=Culvert (Barrel Controls 12.34 cfs @ 3.71 fps)

Summary for Pond DMH-2:

[57] Hint: Peaked at 278.86' (Flood elevation advised)
[79] Warning: Submerged Pond DI-11 Primary device # 1 INLET by 1.01'
[81] Warning: Exceeded Pond DI-12 by 0.03' @ 12.12 hrs

Inflow Area = 131,013 sf, 97.43% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 11.40 cfs @ 12.11 hrs, Volume= 47,629 cf
Outflow = 11.40 cfs @ 12.11 hrs, Volume= 47,629 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.40 cfs @ 12.11 hrs, Volume= 47,629 cf
Routed to Pond DMH101 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.86' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.82'	**24.0" Round Culvert** L= 34.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 276.82' / 276.65' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.32 cfs @ 12.11 hrs HW=278.85' (Free Discharge)
1=Culvert (Barrel Controls 11.32 cfs @ 4.42 fps)

Summary for Pond DMH-3:

[57] Hint: Peaked at 280.60' (Flood elevation advised)
[81] Warning: Exceeded Pond P8 by 0.62' @ 24.68 hrs

Inflow Area = 91,851 sf, 99.77% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 8.04 cfs @ 12.14 hrs, Volume= 33,751 cf
Outflow = 8.04 cfs @ 12.14 hrs, Volume= 33,751 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.04 cfs @ 12.14 hrs, Volume= 33,751 cf
Routed to Pond DI-8 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 280.60' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	279.10'	**24.0" Round Culvert** L= 37.1' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 279.10' / 278.91' S= 0.0051 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=7.93 cfs @ 12.14 hrs HW=280.59' (Free Discharge)
1=Culvert (Barrel Controls 7.93 cfs @ 4.41 fps)

Summary for Pond DMH-9:

[57] Hint: Peaked at 275.91' (Flood elevation advised)
[79] Warning: Submerged Pond DI-4 Primary device # 1 INLET by 0.76'

Inflow Area = 63,845 sf, 93.76% Impervious, Inflow Depth = 4.25" for 10-Year event
Inflow = 6.50 cfs @ 12.08 hrs, Volume= 22,625 cf
Outflow = 6.50 cfs @ 12.08 hrs, Volume= 22,625 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.50 cfs @ 12.08 hrs, Volume= 22,625 cf
Routed to Pond DI-105 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.91' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.61'	**24.0" Round Culvert** L= 48.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.61' / 274.36' S= 0.0052 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=6.43 cfs @ 12.08 hrs HW=275.90' (Free Discharge)
1=Culvert (Barrel Controls 6.43 cfs @ 4.27 fps)

Summary for Pond DMH101:

[57] Hint: Peaked at 278.44' (Flood elevation advised)
[81] Warning: Exceeded Pond AD104 by 0.44' @ 12.12 hrs
[79] Warning: Submerged Pond DMH-2 Primary device # 1 INLET by 1.62'
[79] Warning: Submerged Pond RL-4 Primary device # 1 INLET by 0.67'

Inflow Area = 132,657 sf, 97.46% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 11.56 cfs @ 12.11 hrs, Volume= 48,233 cf
Outflow = 11.56 cfs @ 12.11 hrs, Volume= 48,233 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.56 cfs @ 12.11 hrs, Volume= 48,233 cf
Routed to Pond DMH102 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.44' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.55'	**24.0" Round Culvert** L= 49.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.55' / 276.30' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.47 cfs @ 12.11 hrs HW=278.43' (Free Discharge)
1=Culvert (Barrel Controls 11.47 cfs @ 4.83 fps)

Summary for Pond DMH102:

[57] Hint: Peaked at 278.19' (Flood elevation advised)
[81] Warning: Exceeded Pond AD105 by 0.15' @ 12.12 hrs
[79] Warning: Submerged Pond DMH101 Primary device # 1 INLET by 1.63'

Inflow Area = 142,394 sf, 97.63% Impervious, Inflow Depth = 4.37" for 10-Year event
Inflow = 12.51 cfs @ 12.11 hrs, Volume= 51,815 cf
Outflow = 12.51 cfs @ 12.11 hrs, Volume= 51,815 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.51 cfs @ 12.11 hrs, Volume= 51,815 cf
Routed to Pond DMH103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.19' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.20'	**24.0" Round Culvert** L= 64.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.20' / 275.88' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.38 cfs @ 12.11 hrs HW=278.17' (Free Discharge)
1=Culvert (Barrel Controls 12.38 cfs @ 4.96 fps)

Summary for Pond DMH103:

[57] Hint: Peaked at 277.60' (Flood elevation advised)
[81] Warning: Exceeded Pond AD106 by 0.25' @ 12.12 hrs
[79] Warning: Submerged Pond DMH102 Primary device # 1 INLET by 1.39'
[81] Warning: Exceeded Pond RL106 by 0.05' @ 12.12 hrs

Inflow Area = 153,225 sf, 97.80% Impervious, Inflow Depth = 4.37" for 10-Year event
Inflow = 13.57 cfs @ 12.11 hrs, Volume= 55,799 cf
Outflow = 13.57 cfs @ 12.11 hrs, Volume= 55,799 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.57 cfs @ 12.11 hrs, Volume= 55,799 cf
Routed to Pond DMH104 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.60' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.78'	**30.0" Round Culvert** L= 72.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.78' / 275.42' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=13.41 cfs @ 12.11 hrs HW=277.58' (Free Discharge)
1=Culvert (Barrel Controls 13.41 cfs @ 4.95 fps)

Summary for Pond DMH104:

[57] Hint: Peaked at 277.31' (Flood elevation advised)
[81] Warning: Exceeded Pond AD108 by 1.32' @ 12.12 hrs
[81] Warning: Exceeded Pond AD113 by 0.24' @ 12.12 hrs
[79] Warning: Submerged Pond DMH103 Primary device # 1 INLET by 1.51'

Inflow Area = 166,007 sf, 96.94% Impervious, Inflow Depth = 4.35" for 10-Year event
Inflow = 14.80 cfs @ 12.10 hrs, Volume= 60,239 cf
Outflow = 14.80 cfs @ 12.10 hrs, Volume= 60,239 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.80 cfs @ 12.10 hrs, Volume= 60,239 cf
Routed to Pond DMH105 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.31' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.32'	**30.0" Round Culvert** L= 26.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.32' / 275.19' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=14.60 cfs @ 12.10 hrs HW=277.29' (Free Discharge)
1=Culvert (Barrel Controls 14.60 cfs @ 4.84 fps)

Summary for Pond DMH105:

[57] Hint: Peaked at 277.08' (Flood elevation advised)
[81] Warning: Exceeded Pond AD114 by 1.64' @ 12.12 hrs
[79] Warning: Submerged Pond DMH104 Primary device # 1 INLET by 1.74'
[81] Warning: Exceeded Pond RL110 by 1.40' @ 12.12 hrs

Inflow Area = 172,492 sf, 97.05% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 15.44 cfs @ 12.10 hrs, Volume= 62,624 cf
Outflow = 15.44 cfs @ 12.10 hrs, Volume= 62,624 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.44 cfs @ 12.10 hrs, Volume= 62,624 cf
Routed to Pond DMH106 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.08' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.09'	**30.0" Round Culvert** L= 53.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.09' / 274.82' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=15.24 cfs @ 12.10 hrs HW=277.06' (Free Discharge)
1=Culvert (Barrel Controls 15.24 cfs @ 5.04 fps)

Summary for Pond DMH106:

[57] Hint: Peaked at 276.84' (Flood elevation advised)
[81] Warning: Exceeded Pond AD115 by 1.73' @ 12.12 hrs
[79] Warning: Submerged Pond DMH105 Primary device # 1 INLET by 1.73'
[81] Warning: Exceeded Pond RL111 by 1.47' @ 12.12 hrs

Inflow Area = 178,919 sf, 97.16% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 16.18 cfs @ 12.10 hrs, Volume= 64,988 cf
Outflow = 16.18 cfs @ 12.10 hrs, Volume= 64,988 cf, Atten= 0%, Lag= 0.0 min
Primary = 16.18 cfs @ 12.10 hrs, Volume= 64,988 cf
Routed to Pond DMH107 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.84' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.72'	**30.0" Round Culvert** L= 16.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.72' / 274.64' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=15.87 cfs @ 12.10 hrs HW=276.82' (Free Discharge)
1=Culvert (Barrel Controls 15.87 cfs @ 4.88 fps)

Summary for Pond DMH107:

[57] Hint: Peaked at 276.61' (Flood elevation advised)
[81] Warning: Exceeded Pond AD116 by 1.64' @ 12.12 hrs
[79] Warning: Submerged Pond DMH106 Primary device # 1 INLET by 1.86'

Inflow Area = 180,971 sf, 97.19% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 16.39 cfs @ 12.10 hrs, Volume= 65,743 cf
Outflow = 16.39 cfs @ 12.10 hrs, Volume= 65,743 cf, Atten= 0%, Lag= 0.0 min
Primary = 16.39 cfs @ 12.10 hrs, Volume= 65,743 cf
Routed to Pond DMH108 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.61' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.54'	**30.0" Round Culvert** L= 51.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.54' / 274.28' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=16.07 cfs @ 12.10 hrs HW=276.58' (Free Discharge)
1=Culvert (Barrel Controls 16.07 cfs @ 5.10 fps)

Summary for Pond DMH108:

[57] Hint: Peaked at 276.33' (Flood elevation advised)
[81] Warning: Exceeded Pond AD117 by 1.77' @ 12.12 hrs
[79] Warning: Submerged Pond DMH107 Primary device # 1 INLET by 1.77'
[81] Warning: Exceeded Pond RL112 by 1.45' @ 12.12 hrs

Inflow Area = 189,999 sf, 97.32% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 17.31 cfs @ 12.10 hrs, Volume= 69,064 cf
Outflow = 17.31 cfs @ 12.10 hrs, Volume= 69,064 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.31 cfs @ 12.10 hrs, Volume= 69,064 cf
Routed to Pond DMH109 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.33' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.18'	**30.0" Round Culvert** L= 46.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.18' / 273.95' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=16.97 cfs @ 12.10 hrs HW=276.31' (Free Discharge)
1=Culvert (Barrel Controls 16.97 cfs @ 5.14 fps)

Summary for Pond DMH109:

[57] Hint: Peaked at 276.00' (Flood elevation advised)
[81] Warning: Exceeded Pond AD118 by 1.51' @ 12.12 hrs
[79] Warning: Submerged Pond DMH108 Primary device # 1 INLET by 1.80'

Inflow Area = 196,020 sf, 97.41% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 17.93 cfs @ 12.10 hrs, Volume= 71,278 cf
Outflow = 17.93 cfs @ 12.10 hrs, Volume= 71,278 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.93 cfs @ 12.10 hrs, Volume= 71,278 cf
Routed to Pond DMH110 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.00' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	273.85'	**30.0" Round Culvert** L= 81.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.85' / 273.44' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=17.57 cfs @ 12.10 hrs HW=275.97' (Free Discharge)
1=Culvert (Barrel Controls 17.57 cfs @ 5.33 fps)

Summary for Pond DMH110:

[57] Hint: Peaked at 276.03' (Flood elevation advised)
[81] Warning: Exceeded Pond DMH109 by 0.04' @ 12.08 hrs
[81] Warning: Exceeded Pond WQU103 by 0.45' @ 12.12 hrs
[81] Warning: Exceeded Pond WQU104 by 1.52' @ 12.08 hrs

Inflow Area = 316,837 sf, 96.26% Impervious, Inflow Depth = 4.33" for 10-Year event
Inflow = 30.19 cfs @ 12.09 hrs, Volume= 114,364 cf
Outflow = 30.19 cfs @ 12.09 hrs, Volume= 114,364 cf, Atten= 0%, Lag= 0.0 min
Primary = 30.19 cfs @ 12.09 hrs, Volume= 114,364 cf
Routed to Pond DMH112 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.03' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	273.34'	**36.0" Round Culvert** L= 92.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.34' / 272.88' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=29.63 cfs @ 12.09 hrs HW=276.00' (Free Discharge)
1=Culvert (Barrel Controls 29.63 cfs @ 5.95 fps)

Summary for Pond DMH111:

[57] Hint: Peaked at 274.82' (Flood elevation advised)
[79] Warning: Submerged Pond AD119 Primary device # 1 INLET by 0.46'
[81] Warning: Exceeded Pond DI-101 by 0.14' @ 12.08 hrs
[79] Warning: Submerged Pond RL114 Primary device # 1 INLET by 0.12'

Inflow Area = 11,712 sf, 91.03% Impervious, Inflow Depth = 4.23" for 10-Year event
Inflow = 1.19 cfs @ 12.08 hrs, Volume= 4,133 cf
Outflow = 1.19 cfs @ 12.08 hrs, Volume= 4,133 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.19 cfs @ 12.08 hrs, Volume= 4,133 cf
Routed to Pond DI-102 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.82' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.13'	**12.0" Round Culvert** L= 26.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.13' / 274.00' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.18 cfs @ 12.08 hrs HW=274.81' (Free Discharge)
1=Culvert (Barrel Controls 1.18 cfs @ 2.90 fps)

Summary for Pond DMH112:

[57] Hint: Peaked at 275.61' (Flood elevation advised)
[81] Warning: Exceeded Pond AD120 by 1.96' @ 12.08 hrs
[79] Warning: Submerged Pond DMH110 Primary device # 1 INLET by 2.26'
[81] Warning: Exceeded Pond RL117 by 2.18' @ 12.08 hrs

Inflow Area = 333,439 sf, 96.44% Impervious, Inflow Depth = 4.34" for 10-Year event
Inflow = 31.90 cfs @ 12.09 hrs, Volume= 120,471 cf
Outflow = 31.90 cfs @ 12.09 hrs, Volume= 120,471 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.90 cfs @ 12.09 hrs, Volume= 120,471 cf
Routed to Pond DMH113 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.61' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	272.79'	**36.0" Round Culvert** L= 69.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.79' / 272.44' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=31.32 cfs @ 12.09 hrs HW=275.58' (Free Discharge)
1=Culvert (Barrel Controls 31.32 cfs @ 5.96 fps)

Summary for Pond DMH113:

[57] Hint: Peaked at 275.08' (Flood elevation advised)
[81] Warning: Exceeded Pond AD121 by 2.49' @ 12.08 hrs
[79] Warning: Submerged Pond DMH112 Primary device # 1 INLET by 2.28'
[79] Warning: Submerged Pond RL120 Primary device # 1 INLET by 2.39'

Inflow Area = 335,011 sf, 96.46% Impervious, Inflow Depth = 4.34" for 10-Year event
Inflow = 32.07 cfs @ 12.09 hrs, Volume= 121,049 cf
Outflow = 32.07 cfs @ 12.09 hrs, Volume= 121,049 cf, Atten= 0%, Lag= 0.0 min
Primary = 32.07 cfs @ 12.09 hrs, Volume= 121,049 cf
Routed to Pond P7 : SSIB

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.08' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	272.19'	**36.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.19' / 272.00' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=31.48 cfs @ 12.09 hrs HW=275.05' (Free Discharge)
1=Culvert (Barrel Controls 31.48 cfs @ 5.83 fps)

Summary for Pond DMH13:

[79] Warning: Submerged Pond DMH6 Primary device # 1 OUTLET by 1.13'

Inflow Area = 441,210 sf, 92.63% Impervious, Inflow Depth = 3.03" for 10-Year event
Inflow = 15.06 cfs @ 12.26 hrs, Volume= 111,452 cf
Outflow = 15.06 cfs @ 12.26 hrs, Volume= 111,452 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.06 cfs @ 12.26 hrs, Volume= 111,452 cf
Routed to Pond DMH16 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 265.94' @ 12.26 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	264.19'	**36.0" Round Culvert** L= 53.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 264.19' / 263.90' S= 0.0055 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=15.05 cfs @ 12.26 hrs HW=265.93' (Free Discharge)
1=Culvert (Barrel Controls 15.05 cfs @ 5.08 fps)

Summary for Pond DMH14:

Inflow Area = 183,934 sf, 92.22% Impervious, Inflow Depth = 3.25" for 10-Year event
Inflow = 10.49 cfs @ 12.21 hrs, Volume= 49,759 cf
Outflow = 10.49 cfs @ 12.21 hrs, Volume= 49,759 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.49 cfs @ 12.21 hrs, Volume= 49,759 cf
Routed to Pond DMH15 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 266.68' @ 12.21 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	264.32'	**18.0" Round Culvert** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 264.32' / 264.00' S= 0.0064 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=10.47 cfs @ 12.21 hrs HW=266.67' (Free Discharge)
1=Culvert (Barrel Controls 10.47 cfs @ 5.92 fps)

Summary for Pond DMH15:

Inflow Area = 183,934 sf, 92.22% Impervious, Inflow Depth = 3.25" for 10-Year event
Inflow = 10.49 cfs @ 12.21 hrs, Volume= 49,759 cf
Outflow = 10.49 cfs @ 12.21 hrs, Volume= 49,759 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.49 cfs @ 12.21 hrs, Volume= 49,759 cf
Routed to Pond DMH16 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 261.78' @ 12.21 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	259.44'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 259.44' / 258.91' S= 0.0070 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=10.47 cfs @ 12.21 hrs HW=261.77' (Free Discharge)
1=Culvert (Barrel Controls 10.47 cfs @ 5.92 fps)

Summary for Pond DMH16:

[81] Warning: Exceeded Pond DMH15 by 0.08' @ 13.00 hrs

Inflow Area = 625,144 sf, 92.51% Impervious, Inflow Depth = 3.09" for 10-Year event
Inflow = 25.47 cfs @ 12.22 hrs, Volume= 161,211 cf
Outflow = 25.47 cfs @ 12.22 hrs, Volume= 161,211 cf, Atten= 0%, Lag= 0.0 min
Primary = 25.47 cfs @ 12.22 hrs, Volume= 161,211 cf
Routed to Pond DMH17 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 261.21' @ 12.22 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	258.87'	**36.0" Round Culvert** L= 105.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 258.87' / 258.37' S= 0.0048 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=25.37 cfs @ 12.22 hrs HW=261.20' (Free Discharge)
1=Culvert (Barrel Controls 25.37 cfs @ 5.93 fps)

Summary for Pond DMH17:

[79] Warning: Submerged Pond DMH16 Primary device # 1 INLET by 0.87'

Inflow Area = 743,486 sf, 92.77% Impervious, Inflow Depth = 3.11" for 10-Year event
Inflow = 30.91 cfs @ 12.23 hrs, Volume= 192,403 cf
Outflow = 30.91 cfs @ 12.23 hrs, Volume= 192,403 cf, Atten= 0%, Lag= 0.0 min
Primary = 30.91 cfs @ 12.23 hrs, Volume= 192,403 cf
Routed to Pond DMH18 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 259.74' @ 12.23 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	257.23'	**36.0" Round Culvert** L= 142.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 257.23' / 256.41' S= 0.0058 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=30.86 cfs @ 12.23 hrs HW=259.74' (Free Discharge)
1=Culvert (Barrel Controls 30.86 cfs @ 6.62 fps)

Summary for Pond DMH18:

[79] Warning: Submerged Pond DMH17 Primary device # 1 INLET by 1.67'

Inflow Area = 940,428 sf, 86.74% Impervious, Inflow Depth = 2.60" for 10-Year event
Inflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Outflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf, Atten= 0%, Lag= 0.0 min
Primary = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Routed to Pond DMH19 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 258.90' @ 12.28 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	256.34'	**36.0" Round Culvert** L= 86.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 256.34' / 255.10' S= 0.0144 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=34.96 cfs @ 12.28 hrs HW=258.90' (Free Discharge)
1=Culvert (Inlet Controls 34.96 cfs @ 5.45 fps)

Summary for Pond DMH19:

Inflow Area = 940,428 sf, 86.74% Impervious, Inflow Depth = 2.60" for 10-Year event
Inflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Outflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf, Atten= 0%, Lag= 0.0 min
Primary = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Routed to Pond DMH20 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 250.13' @ 12.28 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.57'	**36.0" Round Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.57' / 243.60' S= 0.0722 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=34.99 cfs @ 12.28 hrs HW=250.13' (Free Discharge)
1=Culvert (Inlet Controls 34.99 cfs @ 5.45 fps)

Summary for Pond DMH2:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	269.50'	**36.0" Round Culvert** L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 269.50' / 268.15' S= 0.0110 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond DMH20:

[79] Warning: Submerged Pond DMH19 Primary device # 1 OUTLET by 0.07'

Inflow Area = 940,428 sf, 86.74% Impervious, Inflow Depth = 2.60" for 10-Year event
Inflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Outflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf, Atten= 0%, Lag= 0.0 min
Primary = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Routed to Link DP-3 : HEADWALL

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 243.67' @ 12.28 hrs
Flood Elev= 267.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.60'	**36.0" Round Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.60' / 240.40' S= 0.0036 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=34.98 cfs @ 12.28 hrs HW=243.67' (Free Discharge)
1=Culvert (Barrel Controls 34.98 cfs @ 6.01 fps)

Summary for Pond DMH3:

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH4 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 268.06' @ 0.00 hrs
Flood Elev= 280.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	268.06'	**12.0" Round Culvert** L= 67.6' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 268.06' / 267.61' S= 0.0067 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=268.06' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond DMH4:

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond DMH 5 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 267.52' @ 0.00 hrs
Flood Elev= 283.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	267.52'	**12.0" Round Culvert** L= 68.3' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 267.52' / 267.20' S= 0.0047 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=267.52' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond DMH6:

[79] Warning: Submerged Pond DMH 5 Primary device # 1 INLET by 1.57'

Inflow Area = 390,811 sf, 94.35% Impervious, Inflow Depth = 3.10" for 10-Year event
Inflow = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf
Outflow = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf
Routed to Pond DMH13 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 267.67' @ 12.39 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	266.00'	**24.0" Round Culvert** L= 133.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 266.00' / 264.80' S= 0.0090 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=12.35 cfs @ 12.39 hrs HW=267.67' (Free Discharge)
1=Culvert (Inlet Controls 12.35 cfs @ 4.40 fps)

Summary for Pond P1: RAIN GARDEN

Inflow Area = 4,688 sf, 0.00% Impervious, Inflow Depth = 0.23" for 10-Year event
Inflow = 0.01 cfs @ 12.43 hrs, Volume= 89 cf
Outflow = 0.01 cfs @ 12.46 hrs, Volume= 89 cf, Atten= 2%, Lag= 1.9 min
Discarded = 0.01 cfs @ 12.46 hrs, Volume= 89 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link DP-2 : FES

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 255.50' @ 12.46 hrs Surf.Area= 1,502 sf Storage= 1 cf
Flood Elev= 262.50' Surf.Area= 5,957 sf Storage= 12,809 cf

Plug-Flow detention time= 1.8 min calculated for 89 cf (100% of inflow)
Center-of-Mass det. time= 1.8 min (995.1 - 993.3)

Volume	Invert	Avail.Storage	Storage Description
#1	255.50'	1,352 cf	**Custom Stage Data (Irregular)** Listed below (Recalc) 4,506 cf Overall x 30.0% Voids
#2	258.50'	11,457 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
		12,809 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
255.50	1,502	208.0	0	0	1,502
258.50	1,502	208.0	4,506	4,506	2,126

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
258.50	1,502	208.0	0	0	1,502
262.00	4,037	274.0	9,335	9,335	4,170
262.50	4,455	283.0	2,122	11,457	4,593

Device	Routing	Invert	Outlet Devices
#1	Primary	253.71'	**15.0" Round Culvert** L= 32.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 253.71' / 253.36' S= 0.0109 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#2	Discarded	255.50'	**8.270 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 251.50'
#3	Device 1	259.40'	**20.0" x 10.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	261.50'	**24.0" x 24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.29 cfs @ 12.46 hrs HW=255.50' (Free Discharge)
└**2=Exfiltration** (Controls 0.29 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=255.50' (Free Discharge)
└**1=Culvert** (Passes 0.00 cfs of 5.04 cfs potential flow)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond P10: SSIB

Inflow Area = 210,833 sf, 61.28% Impervious, Inflow Depth = 3.45" for 10-Year event
Inflow = 18.62 cfs @ 12.09 hrs, Volume= 60,543 cf
Outflow = 6.76 cfs @ 12.35 hrs, Volume= 57,880 cf, Atten= 64%, Lag= 15.9 min
Primary = 6.76 cfs @ 12.35 hrs, Volume= 57,880 cf
Routed to Link DP-5 : EAST SIDE WETLAND

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 281.35' @ 12.35 hrs Surf.Area= 8,270 sf Storage= 20,331 cf
Flood Elev= 284.75' Surf.Area= 8,270 sf Storage= 36,031 cf

Plug-Flow detention time= 99.3 min calculated for 57,816 cf (95% of inflow)
Center-of-Mass det. time= 75.2 min (867.4 - 792.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	278.00'	13,194 cf	**55.75'W x 148.34'L x 6.75'H Field A** 55,823 cf Overall - 22,837 cf Embedded = 32,986 cf x 40.0% Voids
#2A	278.75'	22,837 cf	**ADS_StormTech MC-4500 b +Cap**x 210 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 210 Chambers in 6 Rows Cap Storage= 39.5 cf x 2 x 6 rows = 474.0 cf
		36,031 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	278.00'	**24.0" Round Culvert** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.00' / 277.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	278.75'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	280.75'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	284.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=6.75 cfs @ 12.35 hrs HW=281.34' (Free Discharge)
└**1=Culvert** (Passes 6.75 cfs of 20.66 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 5.47 cfs @ 6.97 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.28 cfs @ 2.62 fps)
  └**4=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond P10: SSIB - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-4500 b +Cap (ADS StormTech® MC-4500 with cap volume)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= 39.5 cf x 2 x 6 rows = 474.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

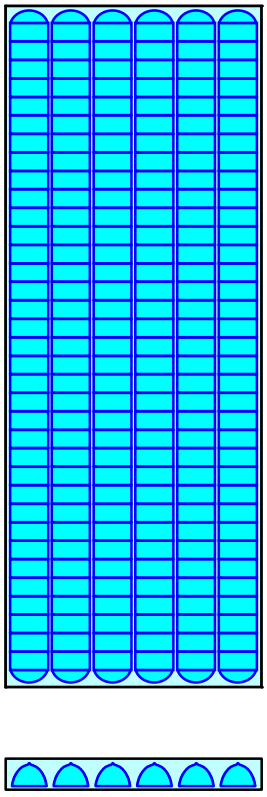
35 Chambers/Row x 4.02' Long +2.73' Cap Length x 2 = 146.34' Row Length +12.0" End Stone x 2 = 148.34' Base Length
6 Rows x 100.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 55.75' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

210 Chambers x 106.5 cf + 39.5 cf Cap Volume x 2 x 6 Rows = 22,837.0 cf Chamber Storage

55,822.8 cf Field - 22,837.0 cf Chambers = 32,985.8 cf Stone x 40.0% Voids = 13,194.3 cf Stone Storage

Chamber Storage + Stone Storage = 36,031.3 cf = 0.827 af
Overall Storage Efficiency = 64.5%
Overall System Size = 148.34' x 55.75' x 6.75'

210 Chambers
2,067.5 cy Field
1,221.7 cy Stone



Summary for Pond P11: SSIB

Inflow Area = 57,181 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 5.91 cfs @ 12.08 hrs, Volume= 21,032 cf
Outflow = 3.49 cfs @ 12.20 hrs, Volume= 21,032 cf, Atten= 41%, Lag= 6.8 min
Discarded = 0.05 cfs @ 3.96 hrs, Volume= 4,573 cf
Primary = 3.44 cfs @ 12.20 hrs, Volume= 16,459 cf
Routed to Pond DMH14 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.93' @ 12.20 hrs Surf.Area= 2,053 sf Storage= 4,074 cf
Flood Elev= 279.00' Surf.Area= 2,053 sf Storage= 7,536 cf

Plug-Flow detention time= 59.4 min calculated for 21,009 cf (100% of inflow)
Center-of-Mass det. time= 59.6 min (808.9 - 749.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	273.00'	2,503 cf	**40.25'W x 51.00'L x 5.50'H Field A** 11,290 cf Overall - 5,034 cf Embedded = 6,256 cf x 40.0% Voids
#2A	273.50'	5,034 cf	**CMP Round 54** x 12 Inside #1 Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf Overall Size= 54.0"W x 54.0"H x 20.00'L 12 Chambers in 6 Rows 38.25' Header x 15.90 sf x 2 = 1,216.7 cf Inside
		7,536 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	273.00'	**36.0" Round Culvert** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.00' / 272.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Device 1	273.80'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	275.10'	**8.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	278.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Discarded	273.00'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.05 cfs @ 3.96 hrs HW=273.06' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=3.44 cfs @ 12.20 hrs HW=275.93' (Free Discharge)
└**1=Culvert** (Passes 3.44 cfs of 34.39 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 2.25 cfs @ 6.46 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.19 cfs @ 3.40 fps)
  └**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P11: SSIB - Chamber Wizard Field A

Chamber Model = CMP Round 54 (Round Corrugated Metal Pipe)
Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf
Overall Size= 54.0"W x 54.0"H x 20.00'L

54.0" Wide + 27.0" Spacing = 81.0" C-C Row Spacing

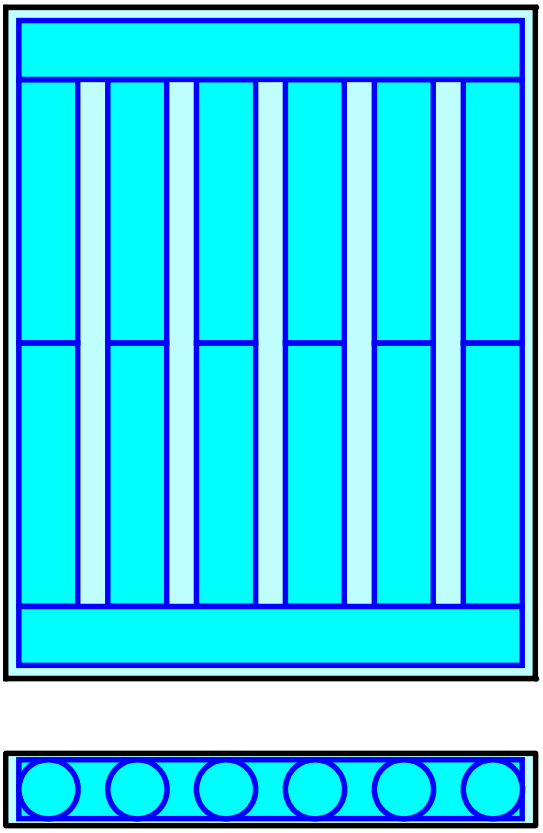
2 Chambers/Row x 20.00' Long +4.50' Header x 2 = 49.00' Row Length +12.0" End Stone x 2 = 51.00' Base Length
6 Rows x 54.0" Wide + 27.0" Spacing x 5 + 12.0" Side Stone x 2 = 40.25' Base Width
6.0" Stone Base + 54.0" Chamber Height + 6.0" Stone Cover = 5.50' Field Height

12 Chambers x 318.1 cf + 38.25' Header x 15.90 sf x 2 = 5,033.7 cf Chamber Storage

11,290.1 cf Field - 5,033.7 cf Chambers = 6,256.4 cf Stone x 40.0% Voids = 2,502.6 cf Stone Storage

Chamber Storage + Stone Storage = 7,536.3 cf = 0.173 af
Overall Storage Efficiency = 66.8%
Overall System Size = 51.00' x 40.25' x 5.50'

12 Chambers
418.2 cy Field
231.7 cy Stone



Summary for Pond P12:

Inflow Area = 118,342 sf, 94.12% Impervious, Inflow Depth = 4.26" for 10-Year event
Inflow = 12.02 cfs @ 12.08 hrs, Volume= 42,017 cf
Outflow = 5.62 cfs @ 12.25 hrs, Volume= 42,017 cf, Atten= 53%, Lag= 10.0 min
Discarded = 0.10 cfs @ 4.84 hrs, Volume= 10,825 cf
Primary = 5.52 cfs @ 12.25 hrs, Volume= 31,192 cf
Routed to Pond DMH17 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 293.93' @ 12.25 hrs Surf.Area= 4,337 sf Storage= 11,863 cf

Plug-Flow detention time= 108.9 min calculated for 42,017 cf (100% of inflow)
Center-of-Mass det. time= 108.8 min (865.3 - 756.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	290.00'	5,793 cf	**29.50'W x 147.00'L x 6.00'H Field A** 26,019 cf Overall - 11,536 cf Embedded = 14,483 cf x 40.0% Voids
#2A	290.50'	11,536 cf	**CMP Round 60** x 28 Inside #1 Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf Overall Size= 60.0"W x 60.0"H x 20.00'L 28 Chambers in 4 Rows 27.50' Header x 19.63 sf x 1 = 540.0 cf Inside
		17,329 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	290.00'	**1.020 in/hr Exfiltration over Surface area**
#2	Primary	290.00'	**18.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 290.00' / 289.75' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#3	Device 2	291.25'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	292.50'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 2	293.75'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 2	295.25'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.10 cfs @ 4.84 hrs HW=290.06' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=5.51 cfs @ 12.25 hrs HW=293.92' (Free Discharge)
└**2=Culvert** (Passes 5.51 cfs of 14.92 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 3.22 cfs @ 7.30 fps)
  ├**4=Orifice/Grate** (Orifice Controls 2.18 cfs @ 4.93 fps)
  ├**5=Orifice/Grate** (Orifice Controls 0.11 cfs @ 1.41 fps)
  └**6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P12: - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L

60.0" Wide + 30.0" Spacing = 90.0" C-C Row Spacing

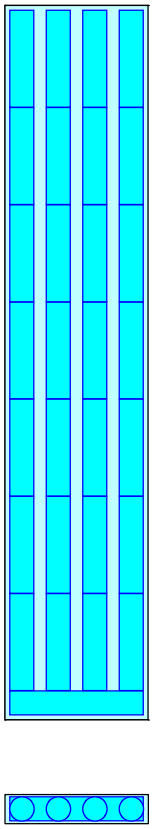
7 Chambers/Row x 20.00' Long +5.00' Header x 1 = 145.00' Row Length +12.0" End Stone x 2 = 147.00' Base Length
4 Rows x 60.0" Wide + 30.0" Spacing x 3 + 12.0" Side Stone x 2 = 29.50' Base Width
6.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 6.00' Field Height

28 Chambers x 392.7 cf + 27.50' Header x 19.63 sf = 11,535.5 cf Chamber Storage

26,019.0 cf Field - 11,535.5 cf Chambers = 14,483.5 cf Stone x 40.0% Voids = 5,793.4 cf Stone Storage

Chamber Storage + Stone Storage = 17,328.9 cf = 0.398 af
Overall Storage Efficiency = 66.6%
Overall System Size = 147.00' x 29.50' x 6.00'

28 Chambers
963.7 cy Field
536.4 cy Stone



Summary for Pond P2: SSIB

Inflow Area = 171,019 sf, 71.68% Impervious, Inflow Depth = 3.83" for 10-Year event
Inflow = 16.52 cfs @ 12.09 hrs, Volume= 54,600 cf
Outflow = 3.96 cfs @ 12.47 hrs, Volume= 54,600 cf, Atten= 76%, Lag= 23.2 min
Discarded = 0.43 cfs @ 9.20 hrs, Volume= 35,769 cf
Primary = 3.53 cfs @ 12.47 hrs, Volume= 18,830 cf
Routed to Link DP-2 : FES

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 267.87' @ 12.47 hrs Surf.Area= 7,766 sf Storage= 22,219 cf
Flood Elev= 270.75' Surf.Area= 7,766 sf Storage= 33,916 cf

Plug-Flow detention time= 229.4 min calculated for 54,539 cf (100% of inflow)
Center-of-Mass det. time= 229.6 min (1,010.6 - 781.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	264.00'	12,337 cf	**55.75'W x 139.30'L x 6.75'H Field A** 52,420 cf Overall - 21,579 cf Embedded = 30,841 cf x 40.0% Voids
#2A	264.75'	21,579 cf	**ADS_StormTech MC-7200 +Cap** x 120 Inside #1 Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap 120 Chambers in 6 Rows Cap Storage= 39.5 cf x 2 x 6 rows = 474.0 cf
		33,916 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	264.00'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 5	266.50'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 5	268.00'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 5	270.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Primary	264.00'	**30.0" Round Culvert** L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 264.00' / 263.90' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Discarded OutFlow Max=0.43 cfs @ 9.20 hrs HW=264.07' (Free Discharge)
└─**1=Exfiltration** (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=3.53 cfs @ 12.47 hrs HW=267.87' (Free Discharge)
└─**5=Culvert** (Passes 3.53 cfs of 30.21 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 3.53 cfs @ 4.49 fps)
  ├─**3=Orifice/Grate** (Controls 0.00 cfs)
  └─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P2: SSIB - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-7200 +Cap (ADS StormTech®MC-7200 with cap volume)
Effective Size= 91.2"W x 60.0"H => 26.68 sf x 6.59'L = 175.9 cf
Overall Size= 100.0"W x 60.0"H x 6.95'L with 0.36' Overlap
Cap Storage= 39.5 cf x 2 x 6 rows = 474.0 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

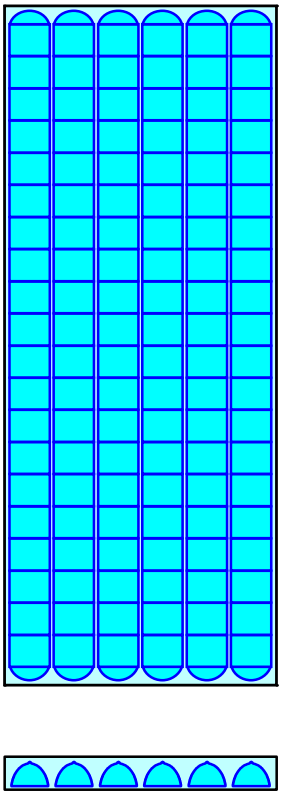
20 Chambers/Row x 6.59' Long +2.73' Cap Length x 2 = 137.30' Row Length +12.0" End Stone x 2 = 139.30' Base Length
6 Rows x 100.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 55.75' Base Width
9.0" Stone Base + 60.0" Chamber Height + 12.0" Stone Cover = 6.75' Field Height

120 Chambers x 175.9 cf + 39.5 cf Cap Volume x 2 x 6 Rows = 21,579.1 cf Chamber Storage

52,420.3 cf Field - 21,579.1 cf Chambers = 30,841.3 cf Stone x 40.0% Voids = 12,336.5 cf Stone Storage

Chamber Storage + Stone Storage = 33,915.6 cf = 0.779 af
Overall Storage Efficiency = 64.7%
Overall System Size = 139.30' x 55.75' x 6.75'

120 Chambers
1,941.5 cy Field
1,142.3 cy Stone



Summary for Pond P3: SSIB

Inflow Area = 120,083 sf, 81.23% Impervious, Inflow Depth = 3.34" for 10-Year event
Inflow = 6.67 cfs @ 12.32 hrs, Volume= 33,398 cf
Outflow = 4.69 cfs @ 12.56 hrs, Volume= 33,398 cf, Atten= 30%, Lag= 14.3 min
Discarded = 0.19 cfs @ 9.44 hrs, Volume= 17,308 cf
Primary = 4.50 cfs @ 12.56 hrs, Volume= 16,090 cf
Routed to Link DP-1 : HEADWALL

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 271.43' @ 12.56 hrs Surf.Area= 3,420 sf Storage= 11,646 cf
Flood Elev= 272.00' Surf.Area= 3,420 sf Storage= 12,448 cf

Plug-Flow detention time= 226.1 min calculated for 33,398 cf (100% of inflow)
Center-of-Mass det. time= 226.1 min (1,042.9 - 816.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	266.50'	4,241 cf	**20.00'W x 171.00'L x 5.50'H Field A** 18,810 cf Overall - 8,207 cf Embedded = 10,603 cf x 40.0% Voids
#2A	267.00'	8,207 cf	**CMP Round 54** x 24 Inside #1 Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf Overall Size= 54.0"W x 54.0"H x 20.00'L 24 Chambers in 3 Rows 18.00' Header x 15.90 sf x 2 = 572.6 cf Inside
		12,448 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	266.50'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 3	269.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	266.00'	**24.0" Round Culvert** L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 266.00' / 265.50' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#4	Device 3	271.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.19 cfs @ 9.44 hrs HW=266.56' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=4.48 cfs @ 12.56 hrs HW=271.42' (Free Discharge)
└**3=Culvert** (Passes 4.48 cfs of 25.12 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 1.22 cfs @ 6.23 fps)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 3.26 cfs @ 1.92 fps)

Pond P3: SSIB - Chamber Wizard Field A

Chamber Model = CMP Round 54 (Round Corrugated Metal Pipe)
Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf
Overall Size= 54.0"W x 54.0"H x 20.00'L

54.0" Wide + 27.0" Spacing = 81.0" C-C Row Spacing

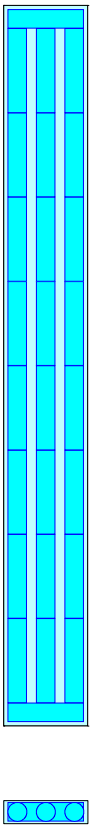
8 Chambers/Row x 20.00' Long +4.50' Header x 2 = 169.00' Row Length +12.0" End Stone x 2 = 171.00' Base Length
3 Rows x 54.0" Wide + 27.0" Spacing x 2 + 12.0" Side Stone x 2 = 20.00' Base Width
6.0" Stone Base + 54.0" Chamber Height + 6.0" Stone Cover = 5.50' Field Height

24 Chambers x 318.1 cf + 18.00' Header x 15.90 sf x 2 = 8,206.6 cf Chamber Storage

18,810.0 cf Field - 8,206.6 cf Chambers = 10,603.4 cf Stone x 40.0% Voids = 4,241.3 cf Stone Storage

Chamber Storage + Stone Storage = 12,448.0 cf = 0.286 af
Overall Storage Efficiency = 66.2%
Overall System Size = 171.00' x 20.00' x 5.50'

24 Chambers
696.7 cy Field
392.7 cy Stone



Summary for Pond P4: SSIB

Inflow Area = 196,942 sf, 63.99% Impervious, Inflow Depth = 3.69" for 10-Year event
Inflow = 18.58 cfs @ 12.09 hrs, Volume= 60,628 cf
Outflow = 6.28 cfs @ 12.37 hrs, Volume= 60,628 cf, Atten= 66%, Lag= 17.2 min
Discarded = 1.26 cfs @ 11.20 hrs, Volume= 49,234 cf
Primary = 5.02 cfs @ 12.37 hrs, Volume= 11,394 cf
Routed to Pond DMH18 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 265.95' @ 12.37 hrs Surf.Area= 6,572 sf Storage= 18,386 cf
Flood Elev= 267.75' Surf.Area= 6,572 sf Storage= 25,224 cf

Plug-Flow detention time= 74.3 min calculated for 60,628 cf (100% of inflow)
Center-of-Mass det. time= 74.3 min (861.4 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	262.00'	8,377 cf	**31.00'W x 212.00'L x 5.75'H Field A** 37,789 cf Overall - 16,847 cf Embedded = 20,942 cf x 40.0% Voids
#2A	262.25'	16,847 cf	**CMP Round 60** x 40 Inside #1 Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf Overall Size= 60.0"W x 60.0"H x 20.00'L 40 Chambers in 4 Rows 29.00' Header x 19.63 sf x 2 = 1,138.8 cf Inside
		25,224 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	262.00'	**8.270 in/hr Exfiltration over Surface area**
#2	Device 3	264.90'	**20.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	260.50'	**24.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 260.50' / 260.25' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#4	Device 3	267.25'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=1.26 cfs @ 11.20 hrs HW=262.06' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.26 cfs)

Primary OutFlow Max=5.00 cfs @ 12.37 hrs HW=265.94' (Free Discharge)
└**3=Culvert** (Passes 5.00 cfs of 25.18 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 5.00 cfs @ 3.48 fps)
  └**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P4: SSIB - Chamber Wizard Field A

Chamber Model = CMP Round 60 (Round Corrugated Metal Pipe)
Effective Size= 60.0"W x 60.0"H => 19.63 sf x 20.00'L = 392.7 cf
Overall Size= 60.0"W x 60.0"H x 20.00'L

60.0" Wide + 36.0" Spacing = 96.0" C-C Row Spacing

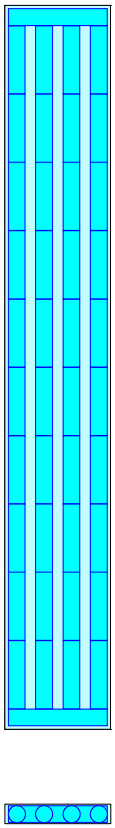
10 Chambers/Row x 20.00' Long +5.00' Header x 2 = 210.00' Row Length +12.0" End Stone x 2 = 212.00' Base Length
4 Rows x 60.0" Wide + 36.0" Spacing x 3 + 12.0" Side Stone x 2 = 31.00' Base Width
3.0" Stone Base + 60.0" Chamber Height + 6.0" Stone Cover = 5.75' Field Height

40 Chambers x 392.7 cf + 29.00' Header x 19.63 sf x 2 = 16,846.8 cf Chamber Storage

37,789.0 cf Field - 16,846.8 cf Chambers = 20,942.2 cf Stone x 40.0% Voids = 8,376.9 cf Stone Storage

Chamber Storage + Stone Storage = 25,223.7 cf = 0.579 af
Overall Storage Efficiency = 66.7%
Overall System Size = 212.00' x 31.00' x 5.75'

40 Chambers
1,399.6 cy Field
775.6 cy Stone



Summary for Pond P5: SSIB

Inflow Area = 50,399 sf, 79.28% Impervious, Inflow Depth = 3.96" for 10-Year event
Inflow = 4.98 cfs @ 12.08 hrs, Volume= 16,644 cf
Outflow = 3.63 cfs @ 12.16 hrs, Volume= 16,346 cf, Atten= 27%, Lag= 4.7 min
Discarded = 0.05 cfs @ 6.96 hrs, Volume= 5,753 cf
Primary = 3.57 cfs @ 12.16 hrs, Volume= 10,593 cf
Routed to Pond DMH13 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 273.59' @ 12.16 hrs Surf.Area= 2,197 sf Storage= 4,427 cf
Flood Elev= 274.25' Surf.Area= 2,197 sf Storage= 5,012 cf

Plug-Flow detention time= 185.1 min calculated for 16,328 cf (98% of inflow)
Center-of-Mass det. time= 174.6 min (950.1 - 775.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	270.50'	2,152 cf	**21.25'W x 103.40'L x 3.75'H Field A** 8,240 cf Overall - 2,861 cf Embedded = 5,379 cf x 40.0% Voids
#2A	271.00'	2,861 cf	**ADS_StormTech SC-800 +Cap** x 56 Inside #1 Effective Size= 45.0"W x 33.0"H => 7.11 sf x 7.12'L = 50.6 cf Overall Size= 51.0"W x 33.0"H x 7.55'L with 0.43' Overlap 56 Chambers in 4 Rows Cap Storage= 3.4 cf x 2 x 4 rows = 27.4 cf
		5,012 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	271.00'	**18.0" Round Culvert** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 271.00' / 270.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	272.20'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	273.75'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Discarded	270.50'	**1.020 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.05 cfs @ 6.96 hrs HW=270.54' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=3.56 cfs @ 12.16 hrs HW=273.59' (Free Discharge)
└**1=Culvert** (Passes 3.56 cfs of 9.79 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 3.56 cfs @ 4.54 fps)
  └**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P5: SSIB - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-800 +Cap (ADS StormTech®SC-800 with cap volume)
Effective Size= 45.0"W x 33.0"H => 7.11 sf x 7.12'L = 50.6 cf
Overall Size= 51.0"W x 33.0"H x 7.55'L with 0.43' Overlap
Cap Storage= 3.4 cf x 2 x 4 rows = 27.4 cf

51.0" Wide + 9.0" Spacing = 60.0" C-C Row Spacing

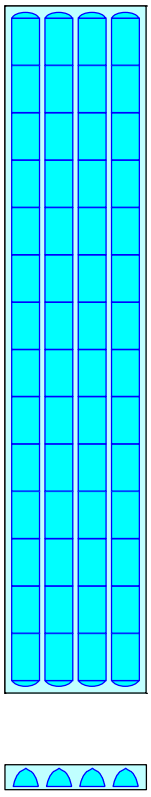
14 Chambers/Row x 7.12' Long +0.88' Cap Length x 2 = 101.40' Row Length +12.0" End Stone x 2 = 103.40' Base Length
4 Rows x 51.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 21.25' Base Width
6.0" Stone Base + 33.0" Chamber Height + 6.0" Stone Cover = 3.75' Field Height

56 Chambers x 50.6 cf + 3.4 cf Cap Volume x 2 x 4 Rows = 2,860.5 cf Chamber Storage

8,239.7 cf Field - 2,860.5 cf Chambers = 5,379.2 cf Stone x 40.0% Voids = 2,151.7 cf Stone Storage

Chamber Storage + Stone Storage = 5,012.2 cf = 0.115 af
Overall Storage Efficiency = 60.8%
Overall System Size = 103.40' x 21.25' x 3.75'

56 Chambers
305.2 cy Field
199.2 cy Stone



Summary for Pond P6: SSIB

Inflow Area = 126,753 sf, 88.71% Impervious, Inflow Depth = 4.12" for 10-Year event
Inflow = 12.66 cfs @ 12.08 hrs, Volume= 43,532 cf
Outflow = 7.16 cfs @ 12.21 hrs, Volume= 43,532 cf, Atten= 43%, Lag= 7.4 min
Discarded = 0.11 cfs @ 5.52 hrs, Volume= 10,232 cf
Primary = 7.05 cfs @ 12.21 hrs, Volume= 33,300 cf
Routed to Pond DMH14 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.29' @ 12.21 hrs Surf.Area= 4,468 sf Storage= 10,070 cf
Flood Elev= 278.50' Surf.Area= 4,468 sf Storage= 16,285 cf

Plug-Flow detention time= 80.4 min calculated for 43,532 cf (100% of inflow)
Center-of-Mass det. time= 80.3 min (843.8 - 763.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	273.00'	5,525 cf	**40.25'W x 111.00'L x 5.50'H Field A** 24,573 cf Overall - 10,759 cf Embedded = 13,813 cf x 40.0% Voids
#2A	273.50'	10,759 cf	**CMP Round 54** x 30 Inside #1 Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf Overall Size= 54.0"W x 54.0"H x 20.00'L 30 Chambers in 6 Rows 38.25' Header x 15.90 sf x 2 = 1,216.7 cf Inside
		16,285 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	273.00'	**1.020 in/hr Exfiltration over Surface area**
#2	Primary	273.00'	**36.0" Round Culvert** L= 100.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.00' / 272.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#3	Device 2	274.00'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	275.50'	**12.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 2	277.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 2	278.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.11 cfs @ 5.52 hrs HW=273.06' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=7.03 cfs @ 12.21 hrs HW=276.28' (Free Discharge)
└**2=Culvert** (Passes 7.03 cfs of 39.88 cfs potential flow)
  ├**3=Orifice/Grate** (Orifice Controls 5.05 cfs @ 6.43 fps)
  ├**4=Orifice/Grate** (Orifice Controls 1.98 cfs @ 3.01 fps)
  ├**5=Orifice/Grate** (Controls 0.00 cfs)
  └**6=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond P6: SSIB - Chamber Wizard Field A

Chamber Model = CMP Round 54 (Round Corrugated Metal Pipe)
Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf
Overall Size= 54.0"W x 54.0"H x 20.00'L

54.0" Wide + 27.0" Spacing = 81.0" C-C Row Spacing

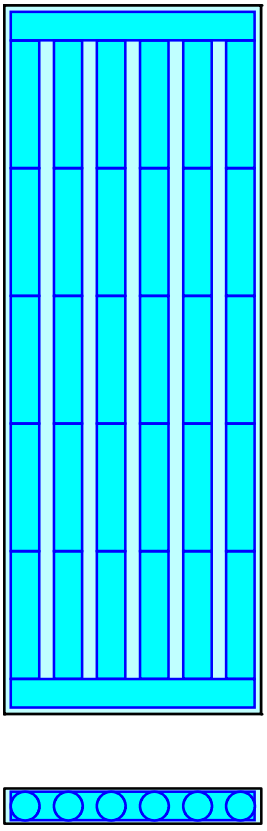
5 Chambers/Row x 20.00' Long +4.50' Header x 2 = 109.00' Row Length +12.0" End Stone x 2 = 111.00' Base Length
6 Rows x 54.0" Wide + 27.0" Spacing x 5 + 12.0" Side Stone x 2 = 40.25' Base Width
6.0" Stone Base + 54.0" Chamber Height + 6.0" Stone Cover = 5.50' Field Height

30 Chambers x 318.1 cf + 38.25' Header x 15.90 sf x 2 = 10,759.3 cf Chamber Storage

24,572.6 cf Field - 10,759.3 cf Chambers = 13,813.4 cf Stone x 40.0% Voids = 5,525.3 cf Stone Storage

Chamber Storage + Stone Storage = 16,284.6 cf = 0.374 af
Overall Storage Efficiency = 66.3%
Overall System Size = 111.00' x 40.25' x 5.50'

30 Chambers
910.1 cy Field
511.6 cy Stone



Summary for Pond P7: SSIB

Holding 2.41 in/hr for infiltration - restrictive layer shown in TP-10 as loamy sand.

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[81] Warning: Exceeded Pond DMH113 by 5.10' @ 12.52 hrs
[81] Warning: Exceeded Pond WQU5 by 0.75' @ 12.44 hrs

Inflow Area = 390,811 sf, 94.35% Impervious, Inflow Depth = 4.27" for 10-Year event
Inflow = 37.49 cfs @ 12.09 hrs, Volume= 139,194 cf
Outflow = 12.81 cfs @ 12.39 hrs, Volume= 139,194 cf, Atten= 66%, Lag= 18.3 min
Discarded = 0.46 cfs @ 6.08 hrs, Volume= 38,335 cf
Primary = 12.35 cfs @ 12.39 hrs, Volume= 100,859 cf
Routed to Pond DMH 5 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.65' @ 12.39 hrs Surf.Area= 8,262 sf Storage= 43,724 cf
Flood Elev= 281.00' Surf.Area= 8,262 sf Storage= 53,977 cf

Plug-Flow detention time= 74.2 min calculated for 139,194 cf (100% of inflow)
Center-of-Mass det. time= 74.3 min (831.9 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	271.65'	12,593 cf	**54.00'W x 125.00'L x 9.33'H Field A** 63,000 cf Overall - 31,516 cf Embedded = 31,484 cf x 40.0% Voids
#2A	271.98'	31,516 cf	**CMP Round 96** x 30 Inside #1 Effective Size= 96.0"W x 96.0"H => 50.27 sf x 20.00'L = 1,005.3 cf Overall Size= 96.0"W x 96.0"H x 20.00'L Row Length Adjustment= -5.00' x 50.27 sf x 5 rows 52.00' Header x 50.27 sf x 1 = 2,613.8 cf Inside
#3B	271.65'	2,830 cf	**21.00'W x 72.00'L x 9.33'H Field B** 14,112 cf Overall - 7,037 cf Embedded = 7,075 cf x 40.0% Voids
#4B	271.98'	7,037 cf	**CMP Round 96** x 6 Inside #3 Effective Size= 96.0"W x 96.0"H => 50.27 sf x 20.00'L = 1,005.3 cf Overall Size= 96.0"W x 96.0"H x 20.00'L Row Length Adjustment= +10.00' x 50.27 sf x 2 rows
		53,977 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	272.00'	**36.0" Round Culvert** L= 16.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.00' / 271.83' S= 0.0103 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Discarded	271.65'	**2.410 in/hr Exfiltration over Surface area**
#3	Device 1	272.65'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	274.15'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	275.65'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 1	276.15'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#7	Device 1	278.65'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir**

Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.46 cfs @ 6.08 hrs HW=271.74' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.46 cfs)

Primary OutFlow Max=12.35 cfs @ 12.39 hrs HW=278.65' (Free Discharge)
└**1=Culvert** (Passes 12.35 cfs of 77.21 cfs potential flow)
- **3=Orifice/Grate** (Orifice Controls 5.04 cfs @ 11.42 fps)
- **4=Orifice/Grate** (Orifice Controls 4.32 cfs @ 9.77 fps)
- **5=Orifice/Grate** (Orifice Controls 1.57 cfs @ 7.98 fps)
- **6=Orifice/Grate** (Orifice Controls 1.42 cfs @ 7.22 fps)
- **7=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond P7: SSIB - Chamber Wizard Field A

Chamber Model = CMP Round 96 (Round Corrugated Metal Pipe)
Effective Size= 96.0"W x 96.0"H => 50.27 sf x 20.00'L = 1,005.3 cf
Overall Size= 96.0"W x 96.0"H x 20.00'L
Row Length Adjustment= -5.00' x 50.27 sf x 5 rows

96.0" Wide + 36.0" Spacing = 132.0" C-C Row Spacing

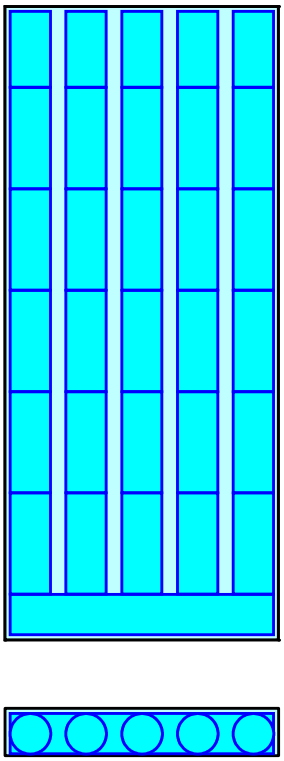
6 Chambers/Row x 20.00' Long -5.00' Row Adjustment +8.00' Header x 1 = 123.00' Row Length +12.0" End Stone x 2 = 125.00' Base Length
5 Rows x 96.0" Wide + 36.0" Spacing x 4 + 12.0" Side Stone x 2 = 54.00' Base Width
4.0" Stone Base + 96.0" Chamber Height + 12.0" Stone Cover = 9.33' Field Height

30 Chambers x 1,005.3 cf -5.00' Row Adjustment x 50.27 sf x 5 Rows + 52.00' Header x 50.27 sf = 31,516.5 cf Chamber Storage

63,000.0 cf Field - 31,516.5 cf Chambers = 31,483.5 cf Stone x 40.0% Voids = 12,593.4 cf Stone Storage

Chamber Storage + Stone Storage = 44,109.9 cf = 1.013 af
Overall Storage Efficiency = 70.0%
Overall System Size = 125.00' x 54.00' x 9.33'

30 Chambers
2,333.3 cy Field
1,166.1 cy Stone



Pond P7: SSIB - Chamber Wizard Field B

Chamber Model = CMP Round 96 (Round Corrugated Metal Pipe)
Effective Size= 96.0"W x 96.0"H => 50.27 sf x 20.00'L = 1,005.3 cf
Overall Size= 96.0"W x 96.0"H x 20.00'L
Row Length Adjustment= +10.00' x 50.27 sf x 2 rows

96.0" Wide + 36.0" Spacing = 132.0" C-C Row Spacing

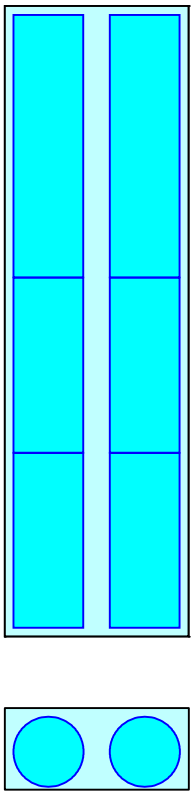
3 Chambers/Row x 20.00' Long +10.00' Row Adjustment = 70.00' Row Length +12.0" End Stone x 2 = 72.00' Base Length
2 Rows x 96.0" Wide + 36.0" Spacing x 1 + 12.0" Side Stone x 2 = 21.00' Base Width
4.0" Stone Base + 96.0" Chamber Height + 12.0" Stone Cover = 9.33' Field Height

6 Chambers x 1,005.3 cf +10.00' Row Adjustment x 50.27 sf x 2 Rows = 7,037.2 cf Chamber Storage

14,112.0 cf Field - 7,037.2 cf Chambers = 7,074.8 cf Stone x 40.0% Voids = 2,829.9 cf Stone Storage

Chamber Storage + Stone Storage = 9,867.1 cf = 0.227 af
Overall Storage Efficiency = 69.9%
Overall System Size = 72.00' x 21.00' x 9.33'

6 Chambers
522.7 cy Field
262.0 cy Stone



Summary for Pond P8: SSIB

Inflow Area = 90,966 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 9.41 cfs @ 12.08 hrs, Volume= 33,458 cf
Outflow = 7.96 cfs @ 12.14 hrs, Volume= 33,458 cf, Atten= 15%, Lag= 3.1 min
Primary = 7.96 cfs @ 12.14 hrs, Volume= 33,458 cf
Routed to Pond DMH-3 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 282.49' @ 12.14 hrs Surf.Area= 713 sf Storage= 1,999 cf
Flood Elev= 286.00' Surf.Area= 713 sf Storage= 3,729 cf

Plug-Flow detention time= 5.2 min calculated for 33,421 cf (100% of inflow)
Center-of-Mass det. time= 5.2 min (754.5 - 749.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	278.50'	1,221 cf	**11.50'W x 62.00'L x 8.00'H Field A** 5,704 cf Overall - 2,651 cf Embedded = 3,053 cf x 40.0% Voids
#2A	278.50'	2,651 cf	**CMP Round 90** x 3 Inside #1 Effective Size= 90.0"W x 90.0"H => 44.18 sf x 20.00'L = 883.6 cf Overall Size= 90.0"W x 90.0"H x 20.00'L
		3,872 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	278.50'	**18.0" Round Culvert** L= 32.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.50' / 278.34' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf
#2	Device 1	278.50'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	280.00'	**9.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	281.50'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	283.00'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Device 1	286.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=7.86 cfs @ 12.14 hrs HW=282.44' (Free Discharge)
└**1=Culvert** (Passes 7.86 cfs of 15.20 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 4.02 cfs @ 9.09 fps)
  ├**3=Orifice/Grate** (Orifice Controls 3.06 cfs @ 6.92 fps)
  ├**4=Orifice/Grate** (Orifice Controls 0.79 cfs @ 4.00 fps)
  ├**5=Orifice/Grate** (Controls 0.00 cfs)
  └**6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P8: SSIB - Chamber Wizard Field A

Chamber Model = CMP Round 90 (Round Corrugated Metal Pipe)
Effective Size= 90.0"W x 90.0"H => 44.18 sf x 20.00'L = 883.6 cf
Overall Size= 90.0"W x 90.0"H x 20.00'L

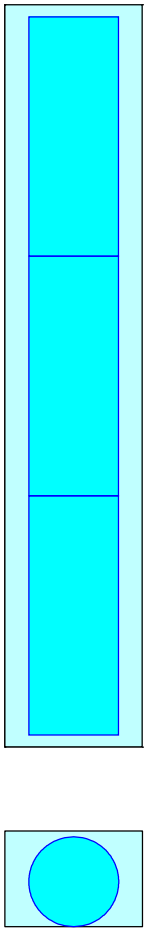
3 Chambers/Row x 20.00' Long = 60.00' Row Length +12.0" End Stone x 2 = 62.00' Base Length
1 Rows x 90.0" Wide + 24.0" Side Stone x 2 = 11.50' Base Width
90.0" Chamber Height + 6.0" Stone Cover = 8.00' Field Height

3 Chambers x 883.6 cf = 2,650.7 cf Chamber Storage

5,704.0 cf Field - 2,650.7 cf Chambers = 3,053.3 cf Stone x 40.0% Voids = 1,221.3 cf Stone Storage

Chamber Storage + Stone Storage = 3,872.0 cf = 0.089 af
Overall Storage Efficiency = 67.9%
Overall System Size = 62.00' x 11.50' x 8.00'

3 Chambers
211.3 cy Field
113.1 cy Stone



Summary for Pond P9: SSD

Inflow Area = 198,472 sf, 70.08% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 17.95 cfs @ 12.09 hrs, Volume= 61,415 cf
Outflow = 10.28 cfs @ 12.21 hrs, Volume= 60,362 cf, Atten= 43%, Lag= 7.4 min
Primary = 10.28 cfs @ 12.21 hrs, Volume= 60,362 cf
Routed to Link DP-5 : EAST SIDE WETLAND

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 281.33' @ 12.21 hrs Surf.Area= 5,240 sf Storage= 11,138 cf
Flood Elev= 286.20' Surf.Area= 5,240 sf Storage= 19,057 cf

Plug-Flow detention time= 44.0 min calculated for 60,295 cf (98% of inflow)
Center-of-Mass det. time= 33.6 min (804.1 - 770.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	278.20'	6,509 cf	**20.00'W x 262.00'L x 5.50'H Field A** 28,820 cf Overall - 12,549 cf Embedded = 16,271 cf x 40.0% Voids
#2A	278.70'	12,549 cf	**CMP Round 54** x 39 Inside #1 Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf Overall Size= 54.0"W x 54.0"H x 20.00'L Row Length Adjustment= -9.00' x 15.90 sf x 3 rows 18.00' Header x 15.90 sf x 2 = 572.6 cf Inside
		19,057 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	275.45'	**24.0" Round Culvert** L= 37.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.45' / 275.25' S= 0.0054 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	278.70'	**15.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	280.70'	**18.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	283.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=10.23 cfs @ 12.21 hrs HW=281.33' (Free Discharge)
└**1=Culvert** (Passes 10.23 cfs of 33.40 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 8.36 cfs @ 6.81 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.88 cfs @ 2.69 fps)
  └**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P9: SSD - Chamber Wizard Field A

Chamber Model = CMP Round 54 (Round Corrugated Metal Pipe)
Effective Size= 54.0"W x 54.0"H => 15.90 sf x 20.00'L = 318.1 cf
Overall Size= 54.0"W x 54.0"H x 20.00'L
Row Length Adjustment= -9.00' x 15.90 sf x 3 rows

54.0" Wide + 27.0" Spacing = 81.0" C-C Row Spacing

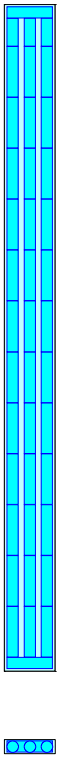
13 Chambers/Row x 20.00' Long -9.00' Row Adjustment +4.50' Header x 2 = 260.00' Row Length +12.0" End Stone x 2 = 262.00' Base Length
3 Rows x 54.0" Wide + 27.0" Spacing x 2 + 12.0" Side Stone x 2 = 20.00' Base Width
6.0" Stone Base + 54.0" Chamber Height + 6.0" Stone Cover = 5.50' Field Height

39 Chambers x 318.1 cf -9.00' Row Adjustment x 15.90 sf x 3 Rows + 18.00' Header x 15.90 sf x 2 = 12,548.5 cf Chamber Storage

28,820.0 cf Field - 12,548.5 cf Chambers = 16,271.5 cf Stone x 40.0% Voids = 6,508.6 cf Stone Storage

Chamber Storage + Stone Storage = 19,057.1 cf = 0.437 af
Overall Storage Efficiency = 66.1%
Overall System Size = 262.00' x 20.00' x 5.50'

39 Chambers
1,067.4 cy Field
602.6 cy Stone



Summary for Pond RL-4:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	277.77'	**12.0" Round Culvert** L= 6.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.77' / 277.74' S= 0.0044 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond RL101:

[57] Hint: Peaked at 279.41' (Flood elevation advised)

Inflow Area = 5,674 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.59 cfs @ 12.08 hrs, Volume= 2,087 cf
Outflow = 0.59 cfs @ 12.08 hrs, Volume= 2,087 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.59 cfs @ 12.08 hrs, Volume= 2,087 cf
Routed to Pond DI-9 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.41' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.94'	**12.0" Round Culvert** L= 12.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.94' / 278.88' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.58 cfs @ 12.08 hrs HW=279.41' (Free Discharge)
1=Culvert (Barrel Controls 0.58 cfs @ 2.36 fps)

Summary for Pond RL103:

[57] Hint: Peaked at 279.43' (Flood elevation advised)

Inflow Area = 5,631 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.58 cfs @ 12.08 hrs, Volume= 2,071 cf
Outflow = 0.58 cfs @ 12.08 hrs, Volume= 2,071 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.58 cfs @ 12.08 hrs, Volume= 2,071 cf
Routed to Pond AD102 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 279.43' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	278.97'	**12.0" Round Culvert** L= 16.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.97' / 278.89' S= 0.0050 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.58 cfs @ 12.08 hrs HW=279.43' (Free Discharge)
1=Culvert (Barrel Controls 0.58 cfs @ 2.43 fps)

Summary for Pond RL105:

[57] Hint: Peaked at 278.18' (Flood elevation advised)

Inflow Area = 7,852 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.81 cfs @ 12.08 hrs, Volume= 2,888 cf
Outflow = 0.81 cfs @ 12.08 hrs, Volume= 2,888 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.08 hrs, Volume= 2,888 cf
Routed to Pond AD105 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.18' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.63'	**12.0" Round Culvert** L= 21.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.63' / 277.52' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.80 cfs @ 12.08 hrs HW=278.18' (Free Discharge)
1=Culvert (Barrel Controls 0.80 cfs @ 2.63 fps)

Summary for Pond RL106:

[57] Hint: Peaked at 277.57' (Flood elevation advised)

Inflow Area = 7,862 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.81 cfs @ 12.08 hrs, Volume= 2,892 cf
Outflow = 0.81 cfs @ 12.08 hrs, Volume= 2,892 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.08 hrs, Volume= 2,892 cf
Routed to Pond DMH103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.57' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.00'	**12.0" Round Culvert** L= 6.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.00' / 276.97' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.80 cfs @ 12.08 hrs HW=277.57' (Free Discharge)
1=Culvert (Barrel Controls 0.80 cfs @ 2.53 fps)

Summary for Pond RL107:

[57] Hint: Peaked at 277.36' (Flood elevation advised)

Inflow Area = 3,759 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.39 cfs @ 12.08 hrs, Volume= 1,383 cf
Outflow = 0.39 cfs @ 12.08 hrs, Volume= 1,383 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.39 cfs @ 12.08 hrs, Volume= 1,383 cf
Routed to Pond AD107 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 277.36' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	276.99'	**12.0" Round Culvert** L= 28.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.99' / 276.85' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.38 cfs @ 12.08 hrs HW=277.36' (Free Discharge)
1=Culvert (Barrel Controls 0.38 cfs @ 2.19 fps)

Summary for Pond RL108:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	277.57'	**12.0" Round Culvert** L= 6.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.57' / 277.54' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond RL109:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	277.75'	**12.0" Round Culvert** L= 5.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.75' / 277.72' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Summary for Pond RL110:

[57] Hint: Peaked at 275.68' (Flood elevation advised)

Inflow Area = 5,257 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.54 cfs @ 12.08 hrs, Volume= 1,934 cf
Outflow = 0.54 cfs @ 12.08 hrs, Volume= 1,934 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.08 hrs, Volume= 1,934 cf
Routed to Pond DMH105 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.68' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.23'	**12.0" Round Culvert** L= 7.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.23' / 275.19' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.08 hrs HW=275.68' (Free Discharge)
1=Culvert (Barrel Controls 0.54 cfs @ 2.30 fps)

Summary for Pond RL111:

[57] Hint: Peaked at 275.36' (Flood elevation advised)

Inflow Area = 4,819 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.50 cfs @ 12.08 hrs, Volume= 1,772 cf
Outflow = 0.50 cfs @ 12.08 hrs, Volume= 1,772 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.50 cfs @ 12.08 hrs, Volume= 1,772 cf
Routed to Pond DMH106 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.36' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.94'	**12.0" Round Culvert** L= 23.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.94' / 274.82' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=275.36' (Free Discharge)
1=Culvert (Barrel Controls 0.49 cfs @ 2.33 fps)

Summary for Pond RL112:

[57] Hint: Peaked at 274.88' (Flood elevation advised)

Inflow Area = 7,732 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.80 cfs @ 12.08 hrs, Volume= 2,844 cf
Outflow = 0.80 cfs @ 12.08 hrs, Volume= 2,844 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 12.08 hrs, Volume= 2,844 cf
Routed to Pond DMH108 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.88' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.32'	**12.0" Round Culvert** L= 7.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.32' / 274.28' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.08 hrs HW=274.88' (Free Discharge)
1=Culvert (Barrel Controls 0.79 cfs @ 2.54 fps)

Summary for Pond RL113:

[57] Hint: Peaked at 274.66' (Flood elevation advised)

Inflow Area = 4,749 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.49 cfs @ 12.08 hrs, Volume= 1,747 cf
Outflow = 0.49 cfs @ 12.08 hrs, Volume= 1,747 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.08 hrs, Volume= 1,747 cf
Routed to Pond AD118 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.66' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.24'	**12.0" Round Culvert** L= 30.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.24' / 274.09' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.49 cfs @ 12.08 hrs HW=274.66' (Free Discharge)
1=Culvert (Barrel Controls 0.49 cfs @ 2.33 fps)

Summary for Pond RL114:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	274.70'	**12.0" Round Culvert** L= 73.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.70' / 274.33' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond RL115:

[57] Hint: Peaked at 275.01' (Flood elevation advised)

Inflow Area = 6,325 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.65 cfs @ 12.08 hrs, Volume= 2,326 cf
Outflow = 0.65 cfs @ 12.08 hrs, Volume= 2,326 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.65 cfs @ 12.08 hrs, Volume= 2,326 cf
Routed to Pond AD119 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.01' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	274.51'	**12.0" Round Culvert** L= 10.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.51' / 274.46' S= 0.0048 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.65 cfs @ 12.08 hrs HW=275.01' (Free Discharge)
1=Culvert (Barrel Controls 0.65 cfs @ 2.41 fps)

Summary for Pond RL116:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	274.04'	**12.0" Round Culvert** L= 8.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.04' / 274.00' S= 0.0045 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond RL117:

[57] Hint: Peaked at 273.42' (Flood elevation advised)

Inflow Area = 5,735 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.59 cfs @ 12.08 hrs, Volume= 2,109 cf
Outflow = 0.59 cfs @ 12.08 hrs, Volume= 2,109 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.59 cfs @ 12.08 hrs, Volume= 2,109 cf
Routed to Pond DMH112 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 273.42' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	272.95'	**12.0" Round Culvert** L= 14.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.95' / 272.88' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.08 hrs HW=273.42' (Free Discharge)
1=Culvert (Barrel Controls 0.59 cfs @ 2.38 fps)

Summary for Pond RL118:

[57] Hint: Peaked at 273.61' (Flood elevation advised)

Inflow Area = 5,814 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.60 cfs @ 12.08 hrs, Volume= 2,138 cf
Outflow = 0.60 cfs @ 12.08 hrs, Volume= 2,138 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.60 cfs @ 12.08 hrs, Volume= 2,138 cf
Routed to Pond AD120 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 273.61' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	273.13'	**12.0" Round Culvert** L= 12.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.13' / 273.07' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.08 hrs HW=273.60' (Free Discharge)
1=Culvert (Barrel Controls 0.59 cfs @ 2.38 fps)

Summary for Pond RL119:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	272.55'	**12.0" Round Culvert** L= 22.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.55' / 272.44' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
1=Culvert (Controls 0.00 cfs)

Summary for Pond RL120:

[43] Hint: Has no inflow (Outflow=Zero)

Device	Routing	Invert	Outlet Devices
#1	Primary	272.68'	**12.0" Round Culvert** L= 57.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.68' / 272.39' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Summary for Pond RL121:

[57] Hint: Peaked at 276.61' (Flood elevation advised)

Inflow Area = 31,120 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 3.22 cfs @ 12.08 hrs, Volume= 11,446 cf
Outflow = 3.22 cfs @ 12.08 hrs, Volume= 11,446 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.22 cfs @ 12.08 hrs, Volume= 11,446 cf
Routed to Pond DI-5 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 276.61' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.57'	**18.0" Round Culvert** L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.57' / 275.51' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.18 cfs @ 12.08 hrs HW=276.60' (Free Discharge)
1=Culvert (Barrel Controls 3.18 cfs @ 3.46 fps)

Summary for Pond RL122:

Inflow Area = 7,477 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.77 cfs @ 12.08 hrs, Volume= 2,750 cf
Outflow = 0.77 cfs @ 12.08 hrs, Volume= 2,750 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.77 cfs @ 12.08 hrs, Volume= 2,750 cf
Routed to Pond WQU103 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.78' @ 12.08 hrs
Flood Elev= 282.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	274.25'	**12.0" Round Culvert** L= 53.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 274.25' / 273.98' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.76 cfs @ 12.08 hrs HW=274.77' (Free Discharge)
1=Culvert (Barrel Controls 0.76 cfs @ 2.67 fps)

Summary for Pond RL123:

[57] Hint: Peaked at 275.36' (Flood elevation advised)

Inflow Area = 3,159 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 1,162 cf
Outflow = 0.33 cfs @ 12.08 hrs, Volume= 1,162 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.08 hrs, Volume= 1,162 cf
Routed to Pond AD123 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.36' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	275.02'	**12.0" Round Culvert** L= 15.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.02' / 274.94' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.32 cfs @ 12.08 hrs HW=275.36' (Free Discharge)
1=Culvert (Barrel Controls 0.32 cfs @ 2.06 fps)

Summary for Pond WQU103:

[81] Warning: Exceeded Pond DI-104 by 0.36' @ 12.08 hrs
[79] Warning: Submerged Pond DI-105 Primary device # 1 INLET by 1.33'
[81] Warning: Exceeded Pond RL122 by 0.81' @ 12.08 hrs

Inflow Area = 100,385 sf, 94.29% Impervious, Inflow Depth = 4.27" for 10-Year event
Inflow = 10.25 cfs @ 12.08 hrs, Volume= 35,745 cf
Outflow = 10.25 cfs @ 12.08 hrs, Volume= 35,745 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.25 cfs @ 12.08 hrs, Volume= 35,745 cf
Routed to Pond DMH110 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 275.59' @ 12.08 hrs
Flood Elev= 281.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	273.88'	**24.0" Round Culvert** L= 87.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.88' / 273.44' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=10.14 cfs @ 12.08 hrs HW=275.58' (Free Discharge)
1=Culvert (Barrel Controls 10.14 cfs @ 4.80 fps)

Summary for Pond WQU104:

[79] Warning: Submerged Pond DI-102 Primary device # 1 INLET by 0.60'

Inflow Area = 20,432 sf, 94.86% Impervious, Inflow Depth = 4.31" for 10-Year event
Inflow = 2.09 cfs @ 12.08 hrs, Volume= 7,341 cf
Outflow = 2.09 cfs @ 12.08 hrs, Volume= 7,341 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.09 cfs @ 12.08 hrs, Volume= 7,341 cf
Routed to Pond DMH110 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 274.50' @ 12.08 hrs
Flood Elev= 280.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	273.51'	**12.0" Round Culvert** L= 13.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 273.51' / 273.44' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.07 cfs @ 12.08 hrs HW=274.49' (Free Discharge)
1=Culvert (Barrel Controls 2.07 cfs @ 3.33 fps)

Summary for Pond WQU5:

[57] Hint: Peaked at 278.38' (Flood elevation advised)
[79] Warning: Submerged Pond DI-1 Primary device # 1 INLET by 0.70'

Inflow Area = 19,140 sf, 91.95% Impervious, Inflow Depth = 4.20" for 10-Year event
Inflow = 1.94 cfs @ 12.08 hrs, Volume= 6,695 cf
Outflow = 1.94 cfs @ 12.08 hrs, Volume= 6,695 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.08 hrs, Volume= 6,695 cf
Routed to Pond P7 : SSIB

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs
Peak Elev= 278.38' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**12.0" Round Culvert** L= 20.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.34' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.92 cfs @ 12.08 hrs HW=278.37' (Free Discharge)
1=Culvert (Barrel Controls 1.92 cfs @ 3.27 fps)

Summary for Link DP-1: HEADWALL

Inflow Area = 156,733 sf, 74.48% Impervious, Inflow Depth = 1.77" for 10-Year event
Inflow = 4.87 cfs @ 12.55 hrs, Volume= 23,150 cf
Primary = 4.87 cfs @ 12.55 hrs, Volume= 23,150 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-6 : WEST SIDE WETLAND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-10: OFFSITE EAST

Inflow Area = 18,695 sf, 0.00% Impervious, Inflow Depth = 2.13" for 10-Year event
Inflow = 1.05 cfs @ 12.09 hrs, Volume= 3,315 cf
Primary = 1.05 cfs @ 12.09 hrs, Volume= 3,315 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-2: FES

Inflow Area = 175,707 sf, 69.77% Impervious, Inflow Depth = 1.29" for 10-Year event
Inflow = 3.53 cfs @ 12.47 hrs, Volume= 18,830 cf
Primary = 3.53 cfs @ 12.47 hrs, Volume= 18,830 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-6 : WEST SIDE WETLAND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-3: HEADWALL

Inflow Area = 940,428 sf, 86.74% Impervious, Inflow Depth = 2.60" for 10-Year event
Inflow = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf
Primary = 34.97 cfs @ 12.28 hrs, Volume= 203,797 cf, Atten= 0%, Lag= 0.0 min
Routed to Link DP-6 : WEST SIDE WETLAND

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-4: KING ST

Inflow Area = 2,842 sf,100.00% Impervious, Inflow Depth = 4.41" for 10-Year event
Inflow = 0.29 cfs @ 12.08 hrs, Volume= 1,045 cf
Primary = 0.29 cfs @ 12.08 hrs, Volume= 1,045 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-5: EAST SIDE WETLAND

Inflow Area = 488,453 sf, 54.93% Impervious, Inflow Depth > 3.16" for 10-Year event
Inflow = 18.25 cfs @ 12.24 hrs, Volume= 128,506 cf
Primary = 18.25 cfs @ 12.24 hrs, Volume= 128,506 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-6: WEST SIDE WETLAND

Inflow Area = 1,350,926 sf, 78.59% Impervious, Inflow Depth = 2.28" for 10-Year event
Inflow = 41.66 cfs @ 12.31 hrs, Volume= 256,882 cf
Primary = 41.66 cfs @ 12.31 hrs, Volume= 256,882 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-7: SOUTH POND

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-8: SOUTH POND

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Summary for Link DP-9: OFFSITE WEST

Inflow Area = 66,615 sf, 0.00% Impervious, Inflow Depth = 2.07" for 10-Year event
Inflow = 3.62 cfs @ 12.09 hrs, Volume= 11,466 cf
Primary = 3.62 cfs @ 12.09 hrs, Volume= 11,466 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.04 hrs

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment0.1: Runoff Area=21,237 sf 0.00% Impervious Runoff Depth=2.34"
Tc=6.0 min CN=66 Runoff=1.30 cfs 4,149 cf

Subcatchment0.10: Runoff Area=612 sf 0.00% Impervious Runoff Depth=1.44"
Tc=6.0 min CN=55 Runoff=0.02 cfs 74 cf

Subcatchment0.11: Runoff Area=6,663 sf 16.21% Impervious Runoff Depth=1.01"
Tc=6.0 min CN=49 Runoff=0.13 cfs 561 cf

Subcatchment0.12: Runoff Area=8,597 sf 0.00% Impervious Runoff Depth=0.41"
Tc=6.0 min CN=39 Runoff=0.03 cfs 293 cf

Subcatchment0.13: Runoff Area=21,390 sf 84.71% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=2.65 cfs 8,809 cf

Subcatchment0.2: Runoff Area=78,058 sf 8.54% Impervious Runoff Depth=2.61"
Flow Length=125' Tc=22.3 min CN=69 Runoff=3.49 cfs 16,987 cf

Subcatchment0.3: Runoff Area=45,378 sf 0.00% Impervious Runoff Depth=3.37"
Tc=6.0 min CN=77 Runoff=4.07 cfs 12,728 cf

Subcatchment0.4: ROAD Runoff Area=2,842 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.37 cfs 1,334 cf

Subcatchment0.5: Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=3.37"
Tc=6.0 min CN=77 Runoff=1.09 cfs 3,416 cf

Subcatchment0.6: Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=2.89"
Tc=6.0 min CN=72 Runoff=0.42 cfs 1,306 cf

Subcatchment0.7: Runoff Area=23,835 sf 0.00% Impervious Runoff Depth=3.17"
Tc=6.0 min CN=75 Runoff=2.02 cfs 6,300 cf

Subcatchment0.8: WESTFORD PARCEL Runoff Area=55,313 sf 0.00% Impervious Runoff Depth=2.09"
Flow Length=115' Tc=21.2 min CN=63 Runoff=1.95 cfs 9,616 cf

Subcatchment0.9: Runoff Area=475 sf 0.00% Impervious Runoff Depth=1.44"
Tc=6.0 min CN=55 Runoff=0.02 cfs 57 cf

Subcatchment1.1: Runoff Area=4,688 sf 0.00% Impervious Runoff Depth=0.57"
Tc=6.0 min CN=42 Runoff=0.03 cfs 223 cf

Subcatchment2.1: ROAD Runoff Area=43,749 sf 83.75% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=95 Runoff=5.61 cfs 19,259 cf

Subcatchment2.2: Runoff Area=127,270 sf 67.53% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=15.75 cfs 52,411 cf

Subcatchment3.1: ABUTTINGLOTS Runoff Area=120,083 sf 81.23% Impervious Runoff Depth=4.50"
Flow Length=211' Tc=23.6 min CN=88 Runoff=8.89 cfs 45,039 cf

Subcatchment4.1: Runoff Area=132,411 sf 65.87% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=16.39 cfs 54,528 cf

Subcatchment4.2: Runoff Area=36,921 sf 57.08% Impervious Runoff Depth=4.72"
Tc=6.0 min CN=90 Runoff=4.44 cfs 14,520 cf

Subcatchment4.3: Runoff Area=27,610 sf 64.22% Impervious Runoff Depth=4.83"
Tc=6.0 min CN=91 Runoff=3.37 cfs 11,113 cf

Subcatchment5.1: ROAD Runoff Area=50,399 sf 79.28% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=94 Runoff=6.39 cfs 21,705 cf

Subcatchment6.1: Runoff Area=71,073 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=9.30 cfs 33,357 cf

Subcatchment6.2: Runoff Area=55,680 sf 74.30% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=6.89 cfs 22,929 cf

Subcatchment7.1: Runoff Area=1,738 sf 84.06% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=94 Runoff=0.22 cfs 748 cf

Subcatchment7.10: Runoff Area=9,074 sf 91.94% Impervious Runoff Depth=5.40"
Tc=6.0 min CN=96 Runoff=1.17 cfs 4,082 cf

Subcatchment7.11: Runoff Area=1,187 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.16 cfs 557 cf

Subcatchment7.12: Runoff Area=1,445 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.19 cfs 678 cf

Subcatchment7.13: Runoff Area=7,690 sf 86.83% Impervious Runoff Depth=5.40"
Tc=6.0 min CN=96 Runoff=0.99 cfs 3,459 cf

Subcatchment7.14: Runoff Area=5,580 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.73 cfs 2,619 cf

Subcatchment7.15: BLDG 1300 Runoff Area=7,477 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.98 cfs 3,509 cf

Subcatchment7.16: BLDG 1300 Runoff Area=4,749 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.62 cfs 2,229 cf

Subcatchment7.17: BLDG 1300 Runoff Area=4,819 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.63 cfs 2,262 cf

Subcatchment7.18: BLDG 1300 Runoff Area=3,759 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.49 cfs 1,764 cf

Subcatchment7.19: BLDG 1300 Runoff Area=7,852 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=1.03 cfs 3,685 cf

Subcatchment7.2: Runoff Area=7,404 sf 87.25% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=95 Runoff=0.95 cfs 3,259 cf

Subcatchment7.20: BLDG 1300 Runoff Area=5,674 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.74 cfs 2,663 cf

Subcatchment7.21: Runoff Area=885 sf 75.71% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=94 Runoff=0.11 cfs 381 cf

Subcatchment7.22: Runoff Area=1,572 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.21 cfs 738 cf

Subcatchment7.23: Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.66 cfs 2,372 cf

Subcatchment7.24: Runoff Area=5,584 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.73 cfs 2,621 cf

Subcatchment7.25: Runoff Area=1,272 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.17 cfs 597 cf

Subcatchment7.26: Runoff Area=1,296 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.17 cfs 608 cf

Subcatchment7.27: Runoff Area=2,052 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.27 cfs 963 cf

Subcatchment7.28: Runoff Area=1,608 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.21 cfs 755 cf

Subcatchment7.29: Runoff Area=1,228 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.16 cfs 576 cf

Subcatchment7.3: Runoff Area=2,453 sf 86.95% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=95 Runoff=0.31 cfs 1,080 cf

Subcatchment7.30: Runoff Area=2,023 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.26 cfs 949 cf

Subcatchment7.31: Runoff Area=1,682 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.22 cfs 789 cf

Subcatchment7.32: Runoff Area=968 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.13 cfs 454 cf

Subcatchment7.33: Runoff Area=1,396 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.18 cfs 655 cf

Subcatchment7.34: Runoff Area=666 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.09 cfs 313 cf

Subcatchment7.35: Runoff Area=2,969 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.39 cfs 1,393 cf

Subcatchment7.36: Runoff Area=1,885 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.25 cfs 885 cf

Subcatchment7.37: Runoff Area=1,644 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.22 cfs 772 cf

Subcatchment7.38: BLDG 1200 Runoff Area=5,735 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.75 cfs 2,692 cf

Subcatchment7.39: BLDG 1200 Runoff Area=6,325 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.83 cfs 2,969 cf

Subcatchment7.4: Runoff Area=6,397 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.84 cfs 3,002 cf

Subcatchment7.40: Runoff Area=3,136 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.41 cfs 1,472 cf

Subcatchment7.41: Runoff Area=3,026 sf 80.83% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=95 Runoff=0.39 cfs 1,332 cf

Subcatchment7.42: BLDG 1400 Runoff Area=7,732 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=1.01 cfs 3,629 cf

Subcatchment7.43: BLDG 1400 Runoff Area=5,257 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.69 cfs 2,467 cf

Subcatchment7.44: BLDG 1500 Runoff Area=7,862 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=1.03 cfs 3,690 cf

Subcatchment7.45: BLDG 1500 Runoff Area=5,631 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.74 cfs 2,643 cf

Subcatchment7.46: Runoff Area=11,125 sf 89.21% Impervious Runoff Depth=5.40"
Tc=6.0 min CN=96 Runoff=1.44 cfs 5,004 cf

Subcatchment7.47: Runoff Area=2,366 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.31 cfs 1,110 cf

Subcatchment7.48: Runoff Area=3,206 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.42 cfs 1,505 cf

Subcatchment7.49: Runoff Area=2,626 sf 100.00% Impervious Runoff Depth=5.63"
Tc=0.0 min CN=98 Runoff=0.40 cfs 1,232 cf

Subcatchment7.5: Runoff Area=1,148 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.15 cfs 539 cf

Subcatchment7.50: Runoff Area=3,609 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.47 cfs 1,694 cf

Subcatchment7.51: Runoff Area=2,490 sf 70.16% Impervious Runoff Depth=5.05"
Tc=0.0 min CN=93 Runoff=0.37 cfs 1,049 cf

Subcatchment7.52: Runoff Area=2,288 sf 25.00% Impervious Runoff Depth=4.18"
Tc=6.0 min CN=85 Runoff=0.25 cfs 797 cf

Subcatchment7.53: Runoff Area=2,435 sf 50.31% Impervious Runoff Depth=4.61"
Tc=6.0 min CN=89 Runoff=0.29 cfs 935 cf

Subcatchment7.54: Runoff Area=2,361 sf 80.09% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=94 Runoff=0.30 cfs 1,017 cf

Subcatchment7.55: Runoff Area=7,649 sf 88.60% Impervious Runoff Depth=5.40"
Tc=6.0 min CN=96 Runoff=0.99 cfs 3,441 cf

Subcatchment7.56: Runoff Area=6,258 sf 86.07% Impervious Runoff Depth=5.28"
Tc=6.0 min CN=95 Runoff=0.80 cfs 2,755 cf

Subcatchment7.57: Runoff Area=12,638 sf 84.25% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=94 Runoff=1.60 cfs 5,443 cf

Subcatchment7.58: Runoff Area=6,180 sf 95.97% Impervious Runoff Depth=5.51"
Tc=6.0 min CN=97 Runoff=0.80 cfs 2,840 cf

Subcatchment7.59: Runoff Area=31,120 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=4.07 cfs 14,606 cf

Subcatchment7.6: Runoff Area=928 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.12 cfs 436 cf

Subcatchment7.7: Runoff Area=3,159 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.41 cfs 1,483 cf

Subcatchment7.8: town green Runoff Area=36,660 sf 76.33% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=4.54 cfs 15,097 cf

Subcatchment7.9: Runoff Area=5,814 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=0.76 cfs 2,729 cf

Subcatchment8.1: BLDG B Runoff Area=90,966 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=11.90 cfs 42,693 cf

Subcatchment9.1: Runoff Area=80,109 sf 25.88% Impervious Runoff Depth=3.77"
Tc=6.0 min CN=81 Runoff=8.00 cfs 25,137 cf

Subcatchment9.2: Runoff Area=118,363 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=15.49 cfs 55,552 cf

Subcatchment10.1: Runoff Area=131,529 sf 70.82% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=93 Runoff=16.49 cfs 55,399 cf

Subcatchment10.2: Runoff Area=79,304 sf 45.45% Impervious Runoff Depth=3.87"
Tc=6.0 min CN=82 Runoff=8.12 cfs 25,560 cf

Subcatchment11.1: Runoff Area=57,181 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=7.48 cfs 26,837 cf

Subcatchment12.1: Runoff Area=27,231 sf 74.47% Impervious Runoff Depth=4.94"
Tc=6.0 min CN=92 Runoff=3.37 cfs 11,214 cf

Subcatchment12.2: Runoff Area=91,111 sf 100.00% Impervious Runoff Depth=5.63"
Tc=6.0 min CN=98 Runoff=11.92 cfs 42,761 cf

Pond AD102: Peak Elev=279.32' Inflow=1.02 cfs 3,578 cf
12.0" Round Culvert n=0.012 L=31.4' S=0.0051 '/' Outflow=1.02 cfs 3,578 cf

Pond AD103: Peak Elev=279.13' Inflow=1.23 cfs 4,627 cf
12.0" Round Culvert n=0.012 L=46.1' S=0.0050 '/' Outflow=1.23 cfs 4,627 cf

Pond AD104: Peak Elev=278.05' Inflow=0.22 cfs 772 cf
12.0" Round Culvert n=0.013 L=5.5' S=0.0055 '/' Outflow=0.22 cfs 772 cf

Pond AD105: Peak Elev=278.16' Inflow=1.27 cfs 4,570 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=1.27 cfs 4,570 cf

Pond AD106: Peak Elev=277.40' Inflow=0.39 cfs 1,393 cf
12.0" Round Culvert n=0.013 L=9.2' S=0.0054 '/' Outflow=0.39 cfs 1,393 cf

Pond AD107: Peak Elev=276.19' Inflow=0.76 cfs 2,714 cf
12.0" Round Culvert n=0.013 L=22.5' S=0.0049 '/' Outflow=0.76 cfs 2,714 cf

Pond AD108: Peak Elev=276.08' Inflow=0.98 cfs 3,503 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.98 cfs 3,503 cf

Pond AD109: Peak Elev=277.44' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.013 L=36.1' S=0.0050 '/' Outflow=0.00 cfs 0 cf

Pond AD110: Peak Elev=277.91' Inflow=0.25 cfs 797 cf
12.0" Round Culvert n=0.013 L=71.1' S=0.0051 '/' Outflow=0.25 cfs 797 cf

Pond AD111: Peak Elev=277.50' Inflow=0.34 cfs 1,110 cf
12.0" Round Culvert n=0.013 L=24.4' S=0.0049 '/' Outflow=0.34 cfs 1,110 cf

Pond AD112: Peak Elev=277.37' Inflow=0.52 cfs 1,765 cf
12.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=0.52 cfs 1,765 cf

Pond AD113: Peak Elev=277.14' Inflow=0.65 cfs 2,219 cf
12.0" Round Culvert n=0.013 L=28.4' S=0.0049 '/' Outflow=0.65 cfs 2,219 cf

Pond AD114: Peak Elev=275.46' Inflow=0.16 cfs 576 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.16 cfs 576 cf

Pond AD115: Peak Elev=275.13' Inflow=0.21 cfs 755 cf
12.0" Round Culvert n=0.013 L=6.9' S=0.0043 '/' Outflow=0.21 cfs 755 cf

Pond AD116: Peak Elev=274.99' Inflow=0.27 cfs 963 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.27 cfs 963 cf

Pond AD117: Peak Elev=274.56' Inflow=0.17 cfs 608 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.17 cfs 608 cf

Pond AD118: Peak Elev=274.54' Inflow=0.79 cfs 2,826 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.79 cfs 2,826 cf

Pond AD119: Peak Elev=275.03' Inflow=1.13 cfs 3,985 cf
12.0" Round Culvert n=0.013 L=26.9' S=0.0048 '/' Outflow=1.13 cfs 3,985 cf

Pond AD120: Peak Elev=273.74' Inflow=1.42 cfs 5,100 cf
12.0" Round Culvert n=0.013 L=18.7' S=0.0048 '/' Outflow=1.42 cfs 5,100 cf

Pond AD121: Peak Elev=272.61' Inflow=0.21 cfs 738 cf
12.0" Round Culvert n=0.013 L=9.9' S=0.0051 '/' Outflow=0.21 cfs 738 cf

Pond AD123: Peak Elev=275.27' Inflow=0.53 cfs 1,918 cf
12.0" Round Culvert n=0.013 L=65.1' S=0.0051 '/' Outflow=0.53 cfs 1,918 cf

Pond AD124: Peak Elev=274.80' Inflow=0.19 cfs 678 cf
12.0" Round Culvert n=0.013 L=37.4' S=0.0051 '/' Outflow=0.19 cfs 678 cf

Pond AD22: Peak Elev=278.50' Inflow=0.15 cfs 539 cf
12.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.15 cfs 539 cf

Pond CB-10: Peak Elev=279.11' Inflow=0.95 cfs 3,259 cf
12.0" Round Culvert n=0.013 L=61.5' S=0.0050 '/' Outflow=0.95 cfs 3,259 cf

Pond DI-1: Peak Elev=278.79' Inflow=2.47 cfs 8,629 cf
12.0" Round Culvert n=0.013 L=27.6' S=0.0051 '/' Outflow=2.47 cfs 8,629 cf

Pond DI-10: Peak Elev=280.13' Inflow=12.36 cfs 51,852 cf
24.0" Round Culvert n=0.012 L=41.7' S=0.0050 '/' Outflow=12.36 cfs 51,852 cf

Pond DI-101: Peak Elev=274.72' Inflow=0.39 cfs 1,332 cf
12.0" Round Culvert n=0.013 L=23.9' S=0.0050 '/' Outflow=0.39 cfs 1,332 cf

Pond DI-102: Peak Elev=274.81' Inflow=1.93 cfs 6,789 cf
12.0" Round Culvert n=0.013 L=57.1' S=0.0051 '/' Outflow=1.93 cfs 6,789 cf

Pond DI-103: Peak Elev=275.28' Inflow=1.71 cfs 6,000 cf
12.0" Round Culvert n=0.013 L=11.5' S=0.0052 '/' Outflow=1.71 cfs 6,000 cf

Pond DI-104: Peak Elev=275.47' Inflow=2.70 cfs 9,459 cf
12.0" Round Culvert n=0.013 L=54.9' S=0.0049 '/' Outflow=2.70 cfs 9,459 cf

Pond DI-105: Peak Elev=275.82' Inflow=8.61 cfs 30,319 cf
24.0" Round Culvert n=0.013 L=55.3' S=0.0051 '/' Outflow=8.61 cfs 30,319 cf

Pond DI-11: WQU-101 Peak Elev=279.92' Inflow=12.73 cfs 53,357 cf
24.0" Round Culvert n=0.012 L=17.7' S=0.0051 '/' Outflow=12.73 cfs 53,357 cf

Pond DI-12: WQU-102 Peak Elev=279.03' Inflow=1.94 cfs 7,553 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=1.94 cfs 7,553 cf

Pond DI-13: Peak Elev=278.95' Inflow=1.70 cfs 6,321 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=1.70 cfs 6,321 cf

Pond DI-2: Peak Elev=278.77' Inflow=1.17 cfs 4,008 cf
12.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=1.17 cfs 4,008 cf

Pond DI-3: Peak Elev=278.70' Inflow=0.99 cfs 3,541 cf
12.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=0.99 cfs 3,541 cf

Pond DI-4: Peak Elev=276.62' Inflow=8.27 cfs 29,084 cf
24.0" Round Culvert n=0.012 L=89.0' S=0.0049 '/' Outflow=8.27 cfs 29,084 cf

Pond DI-5: Peak Elev=277.14' Inflow=7.28 cfs 25,643 cf
18.0" Round Culvert n=0.012 L=32.9' S=0.0049 '/' Outflow=7.28 cfs 25,643 cf

Pond DI-6: Peak Elev=277.37' Inflow=2.41 cfs 8,283 cf
12.0" Round Culvert n=0.012 L=170.9' S=0.0050 '/' Outflow=2.41 cfs 8,283 cf

Pond DI-7: Peak Elev=277.32' Inflow=0.80 cfs 2,840 cf
12.0" Round Culvert n=0.012 L=67.3' S=0.0051 '/' Outflow=0.80 cfs 2,840 cf

Pond DI-8: Peak Elev=280.54' Inflow=10.18 cfs 43,075 cf
24.0" Round Culvert n=0.012 L=44.5' S=0.0049 '/' Outflow=10.18 cfs 43,075 cf

Pond DI-9: Peak Elev=280.43' Inflow=12.08 cfs 50,742 cf
24.0" Round Culvert n=0.012 L=46.5' S=0.0049 '/' Outflow=12.08 cfs 50,742 cf

Pond DMH 5: Peak Elev=269.88' Inflow=26.67 cfs 138,260 cf
30.0" Round Culvert n=0.011 L=199.7' S=0.0001 '/' Outflow=26.67 cfs 138,260 cf

Pond DMH-2: Peak Elev=279.29' Inflow=14.41 cfs 60,910 cf
24.0" Round Culvert n=0.013 L=34.6' S=0.0049 '/' Outflow=14.41 cfs 60,910 cf

Pond DMH-3: Peak Elev=280.84' Inflow=10.18 cfs 43,075 cf
24.0" Round Culvert n=0.012 L=37.1' S=0.0051 '/' Outflow=10.18 cfs 43,075 cf

Pond DMH-9: Peak Elev=276.11' Inflow=8.27 cfs 29,084 cf
24.0" Round Culvert n=0.012 L=48.0' S=0.0052 '/' Outflow=8.27 cfs 29,084 cf

Pond DMH101: Peak Elev=278.81' Inflow=14.61 cfs 61,682 cf
24.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=14.61 cfs 61,682 cf

Pond DMH102: Peak Elev=278.62' Inflow=15.79 cfs 66,252 cf
24.0" Round Culvert n=0.013 L=64.4' S=0.0050 '/' Outflow=15.79 cfs 66,252 cf

Pond DMH103: Peak Elev=277.88' Inflow=17.13 cfs 71,335 cf
30.0" Round Culvert n=0.013 L=72.4' S=0.0050 '/' Outflow=17.13 cfs 71,335 cf

Pond DMH104: Peak Elev=277.62' Inflow=18.67 cfs 77,057 cf
30.0" Round Culvert n=0.013 L=26.2' S=0.0050 '/' Outflow=18.67 cfs 77,057 cf

Pond DMH105: Peak Elev=277.40' Inflow=19.48 cfs 80,101 cf
30.0" Round Culvert n=0.013 L=53.3' S=0.0051 '/' Outflow=19.48 cfs 80,101 cf

Pond DMH106: Peak Elev=277.17' Inflow=20.29 cfs 83,117 cf
30.0" Round Culvert n=0.013 L=16.6' S=0.0048 '/' Outflow=20.29 cfs 83,117 cf

Pond DMH107: Peak Elev=276.94' Inflow=20.55 cfs 84,080 cf
30.0" Round Culvert n=0.013 L=51.9' S=0.0050 '/' Outflow=20.55 cfs 84,080 cf

Pond DMH108: Peak Elev=276.68' Inflow=21.69 cfs 88,318 cf
30.0" Round Culvert n=0.013 L=46.1' S=0.0050 '/' Outflow=21.69 cfs 88,318 cf

Pond DMH109: Peak Elev=276.36' Inflow=22.45 cfs 91,143 cf
30.0" Round Culvert n=0.013 L=81.4' S=0.0050 '/' Outflow=22.45 cfs 91,143 cf

Pond DMH110: Peak Elev=276.51' Inflow=38.03 cfs 146,460 cf
36.0" Round Culvert n=0.013 L=92.0' S=0.0050 '/' Outflow=38.03 cfs 146,460 cf

Pond DMH111: Peak Elev=274.93' Inflow=1.51 cfs 5,317 cf
12.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=1.51 cfs 5,317 cf

Pond DMH112: Peak Elev=276.13' Inflow=40.19 cfs 154,252 cf
36.0" Round Culvert n=0.013 L=69.0' S=0.0051 '/' Outflow=40.19 cfs 154,252 cf

Pond DMH113: Peak Elev=275.61' Inflow=40.39 cfs 154,989 cf
36.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=40.39 cfs 154,989 cf

Pond DMH13: Peak Elev=266.89' Inflow=30.51 cfs 153,675 cf
36.0" Round Culvert n=0.011 L=53.0' S=0.0055 '/' Outflow=30.51 cfs 153,675 cf

Pond DMH14: Peak Elev=267.58' Inflow=13.49 cfs 67,779 cf
18.0" Round Culvert n=0.011 L=50.0' S=0.0064 '/' Outflow=13.49 cfs 67,779 cf

Pond DMH15: Peak Elev=262.70' Inflow=13.49 cfs 67,779 cf
18.0" Round Culvert n=0.011 L=76.0' S=0.0070 '/' Outflow=13.49 cfs 67,779 cf

Pond DMH16: Peak Elev=262.33' Inflow=43.90 cfs 221,454 cf
36.0" Round Culvert n=0.011 L=105.0' S=0.0048 '/' Outflow=43.90 cfs 221,454 cf

Pond DMH17: Peak Elev=261.15' Inflow=51.68 cfs 264,239 cf
36.0" Round Culvert n=0.011 L=142.0' S=0.0058 '/' Outflow=51.68 cfs 264,239 cf

Pond DMH18: Peak Elev=261.12' Inflow=61.63 cfs 287,515 cf
36.0" Round Culvert n=0.011 L=86.0' S=0.0144 '/' Outflow=61.63 cfs 287,515 cf

Pond DMH19: Peak Elev=252.35' Inflow=61.63 cfs 287,515 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0722 '/' Outflow=61.63 cfs 287,515 cf

Pond DMH2: Peak Elev=0.00'
36.0" Round Culvert n=0.011 L=123.0' S=0.0110 '/' Primary=0.00 cfs 0 cf

Pond DMH20: Peak Elev=245.51' Inflow=61.63 cfs 287,515 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0036 '/' Outflow=61.63 cfs 287,515 cf

Pond DMH3: Peak Elev=268.06' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=67.6' S=0.0067 '/' Outflow=0.00 cfs 0 cf

Pond DMH4: Peak Elev=267.52' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=68.3' S=0.0047 '/' Outflow=0.00 cfs 0 cf

Pond DMH6: Peak Elev=270.11' Inflow=26.67 cfs 138,260 cf
24.0" Round Culvert n=0.011 L=133.0' S=0.0090 '/' Outflow=26.67 cfs 138,260 cf

Pond P1: RAIN GARDEN Peak Elev=255.51' Storage=3 cf Inflow=0.03 cfs 223 cf
Discarded=0.03 cfs 223 cf Primary=0.00 cfs 0 cf Outflow=0.03 cfs 223 cf

Pond P10: SSIB Peak Elev=282.10' Storage=24,916 cf Inflow=24.60 cfs 80,959 cf
Outflow=9.86 cfs 78,291 cf

Pond P11: SSIB Peak Elev=276.46' Storage=4,946 cf Inflow=7.48 cfs 26,837 cf
Discarded=0.05 cfs 4,711 cf Primary=4.27 cfs 22,126 cf Outflow=4.31 cfs 26,837 cf

Pond P12: Peak Elev=294.55' Storage=13,901 cf Inflow=15.29 cfs 53,975 cf
Discarded=0.10 cfs 11,191 cf Primary=7.78 cfs 42,785 cf Outflow=7.88 cfs 53,975 cf

Pond P2: SSIB Peak Elev=268.82' Storage=27,194 cf Inflow=21.36 cfs 71,669 cf
Discarded=0.43 cfs 38,828 cf Primary=7.22 cfs 32,841 cf Outflow=7.65 cfs 71,669 cf

Pond P3: SSIB Peak Elev=271.69' Storage=12,029 cf Inflow=8.89 cfs 45,039 cf
Discarded=0.19 cfs 18,553 cf Primary=8.67 cfs 26,486 cf Outflow=8.86 cfs 45,039 cf

Pond P4: SSIB Peak Elev=266.64' Storage=21,621 cf Inflow=24.19 cfs 80,161 cf
Discarded=1.26 cfs 56,885 cf Primary=10.03 cfs 23,276 cf Outflow=11.28 cfs 80,161 cf

Pond P5: SSIB Peak Elev=273.99' Storage=4,783 cf Inflow=6.39 cfs 21,705 cf
Discarded=0.05 cfs 5,944 cf Primary=5.52 cfs 15,416 cf Outflow=5.57 cfs 21,360 cf

Pond P6: SSIB Peak Elev=276.83' Storage=11,974 cf Inflow=16.19 cfs 56,286 cf
Discarded=0.11 cfs 10,634 cf Primary=9.23 cfs 45,653 cf Outflow=9.33 cfs 56,286 cf

Pond P7: SSIB Peak Elev=279.63' Storage=49,143 cf Inflow=47.39 cfs 178,715 cf
Discarded=0.46 cfs 40,455 cf Primary=26.67 cfs 138,260 cf Outflow=27.13 cfs 178,715 cf

Pond P8: SSIB Peak Elev=283.51' Storage=2,559 cf Inflow=11.90 cfs 42,693 cf
Outflow=10.08 cfs 42,693 cf

Pond P9: SSD Peak Elev=281.91' Storage=13,509 cf Inflow=23.49 cfs 80,689 cf
Outflow=15.19 cfs 79,637 cf

Pond RL-4: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.8' S=0.0044 '/' Primary=0.00 cfs 0 cf

Pond RL101: Peak Elev=279.48' Inflow=0.74 cfs 2,663 cf
12.0" Round Culvert n=0.013 L=12.6' S=0.0048 '/' Outflow=0.74 cfs 2,663 cf

Pond RL103: Peak Elev=279.49' Inflow=0.74 cfs 2,643 cf
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.74 cfs 2,643 cf

Pond RL105: Peak Elev=278.26' Inflow=1.03 cfs 3,685 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0051 '/' Outflow=1.03 cfs 3,685 cf

Pond RL106: Peak Elev=277.65' Inflow=1.03 cfs 3,690 cf
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Outflow=1.03 cfs 3,690 cf

Pond RL107: Peak Elev=277.41' Inflow=0.49 cfs 1,764 cf
12.0" Round Culvert n=0.013 L=28.2' S=0.0050 '/' Outflow=0.49 cfs 1,764 cf

Pond RL108: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Primary=0.00 cfs 0 cf

Pond RL109: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=5.8' S=0.0052 '/' Primary=0.00 cfs 0 cf

Pond RL110: Peak Elev=275.75' Inflow=0.69 cfs 2,467 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.69 cfs 2,467 cf

Pond RL111: Peak Elev=275.42' Inflow=0.63 cfs 2,262 cf
12.0" Round Culvert n=0.013 L=23.6' S=0.0051 '/' Outflow=0.63 cfs 2,262 cf

Pond RL112: Peak Elev=274.96' Inflow=1.01 cfs 3,629 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=1.01 cfs 3,629 cf

Pond RL113: Peak Elev=274.72' Inflow=0.62 cfs 2,229 cf
12.0" Round Culvert n=0.013 L=30.5' S=0.0049 '/' Outflow=0.62 cfs 2,229 cf

Pond RL114: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=73.6' S=0.0050 '/' Primary=0.00 cfs 0 cf

Pond RL115: Peak Elev=275.08' Inflow=0.83 cfs 2,969 cf
12.0" Round Culvert n=0.013 L=10.4' S=0.0048 '/' Outflow=0.83 cfs 2,969 cf

Pond RL116: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=8.8' S=0.0045 '/' Primary=0.00 cfs 0 cf

Pond RL117: Peak Elev=273.49' Inflow=0.75 cfs 2,692 cf
12.0" Round Culvert n=0.013 L=14.1' S=0.0050 '/' Outflow=0.75 cfs 2,692 cf

Pond RL118: Peak Elev=273.67' Inflow=0.76 cfs 2,729 cf
12.0" Round Culvert n=0.013 L=12.2' S=0.0049 '/' Outflow=0.76 cfs 2,729 cf

Pond RL119: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=22.3' S=0.0049 '/' Primary=0.00 cfs 0 cf

Pond RL120: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Primary=0.00 cfs 0 cf

Pond RL121: Peak Elev=276.77' Inflow=4.07 cfs 14,606 cf
18.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=4.07 cfs 14,606 cf

Pond RL122: Peak Elev=274.85' Inflow=0.98 cfs 3,509 cf
12.0" Round Culvert n=0.013 L=53.7' S=0.0050 '/' Outflow=0.98 cfs 3,509 cf

Pond RL123: Peak Elev=275.41' Inflow=0.41 cfs 1,483 cf
12.0" Round Culvert n=0.013 L=15.7' S=0.0051 '/' Outflow=0.41 cfs 1,483 cf

Pond WQU103: Peak Elev=275.90' Inflow=13.02 cfs 45,906 cf
24.0" Round Culvert n=0.013 L=87.6' S=0.0050 '/' Outflow=13.02 cfs 45,906 cf

Pond WQU104: Peak Elev=274.70' Inflow=2.66 cfs 9,410 cf
12.0" Round Culvert n=0.013 L=13.6' S=0.0051 '/' Outflow=2.66 cfs 9,410 cf

Pond WQU5: Peak Elev=278.56' Inflow=2.47 cfs 8,629 cf
12.0" Round Culvert n=0.013 L=20.2' S=0.0050 '/' Outflow=2.47 cfs 8,629 cf

Link DP-1: HEADWALL Inflow=9.65 cfs 36,149 cf
Primary=9.65 cfs 36,149 cf

Link DP-10: OFFSITE EAST Inflow=1.55 cfs 4,853 cf
Primary=1.55 cfs 4,853 cf

Link DP-2: FES Inflow=7.22 cfs 32,841 cf
Primary=7.22 cfs 32,841 cf

Link DP-3: HEADWALL Inflow=61.63 cfs 287,515 cf
Primary=61.63 cfs 287,515 cf

Link DP-4: KING ST Inflow=0.37 cfs 1,334 cf
Primary=0.37 cfs 1,334 cf

Link DP-5: EAST SIDE WETLAND Inflow=27.39 cfs 173,842 cf
Primary=27.39 cfs 173,842 cf

Link DP-6: WEST SIDE WETLAND Inflow=75.39 cfs 373,492 cf
Primary=75.39 cfs 373,492 cf

Link DP-7: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-8: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-9: OFFSITE WEST Inflow=5.37 cfs 16,877 cf
Primary=5.37 cfs 16,877 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 761,888 cf Average Runoff Depth = 4.74"
30.85% Pervious = 594,679 sf 69.15% Impervious = 1,332,852 sf

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment0.1: Runoff Area=21,237 sf 0.00% Impervious Runoff Depth=3.20"
Tc=6.0 min CN=66 Runoff=1.80 cfs 5,671 cf

Subcatchment0.10: Runoff Area=612 sf 0.00% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=55 Runoff=0.03 cfs 108 cf

Subcatchment0.11: Runoff Area=6,663 sf 16.21% Impervious Runoff Depth=1.58"
Tc=6.0 min CN=49 Runoff=0.24 cfs 876 cf

Subcatchment0.12: Runoff Area=8,597 sf 0.00% Impervious Runoff Depth=0.77"
Tc=6.0 min CN=39 Runoff=0.08 cfs 550 cf

Subcatchment0.13: Runoff Area=21,390 sf 84.71% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=3.21 cfs 10,793 cf

Subcatchment0.2: Runoff Area=78,058 sf 8.54% Impervious Runoff Depth=3.51"
Flow Length=125' Tc=22.3 min CN=69 Runoff=4.73 cfs 22,858 cf

Subcatchment0.3: Runoff Area=45,378 sf 0.00% Impervious Runoff Depth=4.37"
Tc=6.0 min CN=77 Runoff=5.27 cfs 16,509 cf

Subcatchment0.4: ROAD Runoff Area=2,842 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.44 cfs 1,601 cf

Subcatchment0.5: Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=4.37"
Tc=6.0 min CN=77 Runoff=1.41 cfs 4,431 cf

Subcatchment0.6: Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=3.83"
Tc=6.0 min CN=72 Runoff=0.55 cfs 1,733 cf

Subcatchment0.7: Runoff Area=23,835 sf 0.00% Impervious Runoff Depth=4.15"
Tc=6.0 min CN=75 Runoff=2.64 cfs 8,242 cf

Subcatchment0.8: WESTFORD PARCEL Runoff Area=55,313 sf 0.00% Impervious Runoff Depth=2.90"
Flow Length=115' Tc=21.2 min CN=63 Runoff=2.78 cfs 13,371 cf

Subcatchment0.9: Runoff Area=475 sf 0.00% Impervious Runoff Depth=2.12"
Tc=6.0 min CN=55 Runoff=0.03 cfs 84 cf

Subcatchment1.1: Runoff Area=4,688 sf 0.00% Impervious Runoff Depth=1.00"
Tc=6.0 min CN=42 Runoff=0.08 cfs 389 cf

Subcatchment2.1: ROAD Runoff Area=43,749 sf 83.75% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=95 Runoff=6.73 cfs 23,354 cf

Subcatchment2.2: Runoff Area=127,270 sf 67.53% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=19.07 cfs 64,216 cf

Subcatchment3.1: ABUTTINGLOTS Runoff Area=120,083 sf 81.23% Impervious Runoff Depth=5.59"
Flow Length=211' Tc=23.6 min CN=88 Runoff=10.94 cfs 55,973 cf

Subcatchment4.1: Runoff Area=132,411 sf 65.87% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=19.84 cfs 66,810 cf

Subcatchment4.2: Runoff Area=36,921 sf 57.08% Impervious Runoff Depth=5.82"
Tc=6.0 min CN=90 Runoff=5.41 cfs 17,916 cf

Subcatchment4.3: Runoff Area=27,610 sf 64.22% Impervious Runoff Depth=5.94"
Tc=6.0 min CN=91 Runoff=4.09 cfs 13,664 cf

Subcatchment5.1: ROAD Runoff Area=50,399 sf 79.28% Impervious Runoff Depth=6.29"
Tc=6.0 min CN=94 Runoff=7.69 cfs 26,410 cf

Subcatchment6.1: Runoff Area=71,073 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=11.10 cfs 40,043 cf

Subcatchment6.2: Runoff Area=55,680 sf 74.30% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=8.34 cfs 28,094 cf

Subcatchment7.1: Runoff Area=1,738 sf 84.06% Impervious Runoff Depth=6.29"
Tc=6.0 min CN=94 Runoff=0.27 cfs 911 cf

Subcatchment7.10: Runoff Area=9,074 sf 91.94% Impervious Runoff Depth=6.52"
Tc=6.0 min CN=96 Runoff=1.41 cfs 4,933 cf

Subcatchment7.11: Runoff Area=1,187 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.19 cfs 669 cf

Subcatchment7.12: Runoff Area=1,445 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.23 cfs 814 cf

Subcatchment7.13: Runoff Area=7,690 sf 86.83% Impervious Runoff Depth=6.52"
Tc=6.0 min CN=96 Runoff=1.19 cfs 4,181 cf

Subcatchment7.14: Runoff Area=5,580 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.87 cfs 3,144 cf

Subcatchment7.15: BLDG 1300 Runoff Area=7,477 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=1.17 cfs 4,213 cf

Subcatchment7.16: BLDG 1300 Runoff Area=4,749 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.74 cfs 2,676 cf

Subcatchment7.17: BLDG 1300 Runoff Area=4,819 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.75 cfs 2,715 cf

Subcatchment7.18: BLDG 1300 Runoff Area=3,759 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,118 cf

Subcatchment7.19: BLDG 1300 Runoff Area=7,852 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=1.23 cfs 4,424 cf

Subcatchment7.2: Runoff Area=7,404 sf 87.25% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=95 Runoff=1.14 cfs 3,952 cf

Subcatchment7.20: BLDG 1300 Runoff Area=5,674 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.89 cfs 3,197 cf

Subcatchment7.21: Runoff Area=885 sf 75.71% Impervious Runoff Depth=6.29"
Tc=6.0 min CN=94 Runoff=0.14 cfs 464 cf

Subcatchment7.22: Runoff Area=1,572 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.25 cfs 886 cf

Subcatchment7.23: Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.79 cfs 2,847 cf

Subcatchment7.24: Runoff Area=5,584 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.87 cfs 3,146 cf

Subcatchment7.25: Runoff Area=1,272 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.20 cfs 717 cf

Subcatchment7.26: Runoff Area=1,296 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.20 cfs 730 cf

Subcatchment7.27: Runoff Area=2,052 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.32 cfs 1,156 cf

Subcatchment7.28: Runoff Area=1,608 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.25 cfs 906 cf

Subcatchment7.29: Runoff Area=1,228 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.19 cfs 692 cf

Subcatchment7.3: Runoff Area=2,453 sf 86.95% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=95 Runoff=0.38 cfs 1,309 cf

Subcatchment7.30: Runoff Area=2,023 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.32 cfs 1,140 cf

Subcatchment7.31: Runoff Area=1,682 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.26 cfs 948 cf

Subcatchment7.32: Runoff Area=968 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.15 cfs 545 cf

Subcatchment7.33: Runoff Area=1,396 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.22 cfs 787 cf

Subcatchment7.34: Runoff Area=666 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.10 cfs 375 cf

Subcatchment7.35: Runoff Area=2,969 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.46 cfs 1,673 cf

Subcatchment7.36: Runoff Area=1,885 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.29 cfs 1,062 cf

Subcatchment7.37: Runoff Area=1,644 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.26 cfs 926 cf

Subcatchment7.38: BLDG 1200 Runoff Area=5,735 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.90 cfs 3,231 cf

Subcatchment7.39: BLDG 1200 Runoff Area=6,325 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.99 cfs 3,564 cf

Subcatchment7.4: Runoff Area=6,397 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=1.00 cfs 3,604 cf

Subcatchment7.40: Runoff Area=3,136 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.49 cfs 1,767 cf

Subcatchment7.41: Runoff Area=3,026 sf 80.83% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=95 Runoff=0.47 cfs 1,615 cf

Subcatchment7.42: BLDG 1400 Runoff Area=7,732 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=1.21 cfs 4,356 cf

Subcatchment7.43: BLDG 1400 Runoff Area=5,257 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.82 cfs 2,962 cf

Subcatchment7.44: BLDG 1500 Runoff Area=7,862 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=1.23 cfs 4,430 cf

Subcatchment7.45: BLDG 1500 Runoff Area=5,631 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.88 cfs 3,173 cf

Subcatchment7.46: Runoff Area=11,125 sf 89.21% Impervious Runoff Depth=6.52"
Tc=6.0 min CN=96 Runoff=1.72 cfs 6,048 cf

Subcatchment7.47: Runoff Area=2,366 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.37 cfs 1,333 cf

Subcatchment7.48: Runoff Area=3,206 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.50 cfs 1,806 cf

Subcatchment7.49: Runoff Area=2,626 sf 100.00% Impervious Runoff Depth=6.76"
Tc=0.0 min CN=98 Runoff=0.48 cfs 1,480 cf

Subcatchment7.5: Runoff Area=1,148 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.18 cfs 647 cf

Subcatchment7.50: Runoff Area=3,609 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.56 cfs 2,033 cf

Subcatchment7.51: Runoff Area=2,490 sf 70.16% Impervious Runoff Depth=6.17"
Tc=0.0 min CN=93 Runoff=0.44 cfs 1,281 cf

Subcatchment7.52: Runoff Area=2,288 sf 25.00% Impervious Runoff Depth=5.25"
Tc=6.0 min CN=85 Runoff=0.31 cfs 1,001 cf

Subcatchment7.53: Runoff Area=2,435 sf 50.31% Impervious Runoff Depth=5.71"
Tc=6.0 min CN=89 Runoff=0.35 cfs 1,158 cf

Subcatchment7.54: Runoff Area=2,361 sf 80.09% Impervious Runoff Depth=6.29"
Tc=6.0 min CN=94 Runoff=0.36 cfs 1,237 cf

Subcatchment7.55: Runoff Area=7,649 sf 88.60% Impervious Runoff Depth=6.52"
Tc=6.0 min CN=96 Runoff=1.18 cfs 4,158 cf

Subcatchment7.56: Runoff Area=6,258 sf 86.07% Impervious Runoff Depth=6.41"
Tc=6.0 min CN=95 Runoff=0.96 cfs 3,341 cf

Subcatchment7.57: Runoff Area=12,638 sf 84.25% Impervious Runoff Depth=6.29"
Tc=6.0 min CN=94 Runoff=1.93 cfs 6,623 cf

Subcatchment7.58: Runoff Area=6,180 sf 95.97% Impervious Runoff Depth=6.64"
Tc=6.0 min CN=97 Runoff=0.96 cfs 3,421 cf

Subcatchment7.59: Runoff Area=31,120 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=4.86 cfs 17,533 cf

Subcatchment7.6: Runoff Area=928 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.14 cfs 523 cf

Subcatchment7.7: Runoff Area=3,159 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.49 cfs 1,780 cf

Subcatchment7.8: town green Runoff Area=36,660 sf 76.33% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=5.49 cfs 18,497 cf

Subcatchment7.9: Runoff Area=5,814 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=0.91 cfs 3,276 cf

Subcatchment8.1: BLDG B Runoff Area=90,966 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=14.21 cfs 51,251 cf

Subcatchment9.1: Runoff Area=80,109 sf 25.88% Impervious Runoff Depth=4.81"
Tc=6.0 min CN=81 Runoff=10.14 cfs 32,077 cf

Subcatchment9.2: Runoff Area=118,363 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=18.49 cfs 66,687 cf

Subcatchment10.1: Runoff Area=131,529 sf 70.82% Impervious Runoff Depth=6.17"
Tc=6.0 min CN=93 Runoff=19.91 cfs 67,642 cf

Subcatchment10.2: Runoff Area=79,304 sf 45.45% Impervious Runoff Depth=4.92"
Tc=6.0 min CN=82 Runoff=10.24 cfs 32,489 cf

Subcatchment11.1: Runoff Area=57,181 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=8.93 cfs 32,216 cf

Subcatchment12.1: Runoff Area=27,231 sf 74.47% Impervious Runoff Depth=6.05"
Tc=6.0 min CN=92 Runoff=4.08 cfs 13,740 cf

Subcatchment12.2: Runoff Area=91,111 sf 100.00% Impervious Runoff Depth=6.76"
Tc=6.0 min CN=98 Runoff=14.23 cfs 51,333 cf

Pond AD102: Peak Elev=279.39' Inflow=1.23 cfs 4,331 cf
12.0" Round Culvert n=0.012 L=31.4' S=0.0051 '/' Outflow=1.23 cfs 4,331 cf

Pond AD103: Peak Elev=279.21' Inflow=1.48 cfs 5,611 cf
12.0" Round Culvert n=0.012 L=46.1' S=0.0050 '/' Outflow=1.48 cfs 5,611 cf

Pond AD104: Peak Elev=278.07' Inflow=0.26 cfs 926 cf
12.0" Round Culvert n=0.013 L=5.5' S=0.0055 '/' Outflow=0.26 cfs 926 cf

Pond AD105: Peak Elev=278.24' Inflow=1.52 cfs 5,486 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=1.52 cfs 5,486 cf

Pond AD106: Peak Elev=277.43' Inflow=0.46 cfs 1,673 cf
12.0" Round Culvert n=0.013 L=9.2' S=0.0054 '/' Outflow=0.46 cfs 1,673 cf

Pond AD107: Peak Elev=276.25' Inflow=0.90 cfs 3,258 cf
12.0" Round Culvert n=0.013 L=22.5' S=0.0049 '/' Outflow=0.90 cfs 3,258 cf

Pond AD108: Peak Elev=276.15' Inflow=1.17 cfs 4,205 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=1.17 cfs 4,205 cf

Pond AD109: Peak Elev=277.44' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.013 L=36.1' S=0.0050 '/' Outflow=0.00 cfs 0 cf

Pond AD110: Peak Elev=277.94' Inflow=0.31 cfs 1,001 cf
12.0" Round Culvert n=0.013 L=71.1' S=0.0051 '/' Outflow=0.31 cfs 1,001 cf

Pond AD111: Peak Elev=277.54' Inflow=0.42 cfs 1,377 cf
12.0" Round Culvert n=0.013 L=24.4' S=0.0049 '/' Outflow=0.42 cfs 1,377 cf

Pond AD112: Peak Elev=277.41' Inflow=0.63 cfs 2,163 cf
12.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=0.63 cfs 2,163 cf

Pond AD113: Peak Elev=277.19' Inflow=0.79 cfs 2,709 cf
12.0" Round Culvert n=0.013 L=28.4' S=0.0049 '/' Outflow=0.79 cfs 2,709 cf

Pond AD114: Peak Elev=275.48' Inflow=0.19 cfs 692 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.19 cfs 692 cf

Pond AD115: Peak Elev=275.16' Inflow=0.25 cfs 906 cf
12.0" Round Culvert n=0.013 L=6.9' S=0.0043 '/' Outflow=0.25 cfs 906 cf

Pond AD116: Peak Elev=275.02' Inflow=0.32 cfs 1,156 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.32 cfs 1,156 cf

Pond AD117: Peak Elev=274.59' Inflow=0.20 cfs 730 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.20 cfs 730 cf

Pond AD118: Peak Elev=274.60' Inflow=0.94 cfs 3,392 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.94 cfs 3,392 cf

Pond AD119: Peak Elev=275.10' Inflow=1.35 cfs 4,801 cf
12.0" Round Culvert n=0.013 L=26.9' S=0.0048 '/' Outflow=1.35 cfs 4,801 cf

Pond AD120: Peak Elev=273.83' Inflow=1.70 cfs 6,123 cf
12.0" Round Culvert n=0.013 L=18.7' S=0.0048 '/' Outflow=1.70 cfs 6,123 cf

Pond AD121: Peak Elev=272.64' Inflow=0.25 cfs 886 cf
12.0" Round Culvert n=0.013 L=9.9' S=0.0051 '/' Outflow=0.25 cfs 886 cf

Pond AD123: Peak Elev=275.31' Inflow=0.64 cfs 2,303 cf
12.0" Round Culvert n=0.013 L=65.1' S=0.0051 '/' Outflow=0.64 cfs 2,303 cf

Pond AD124: Peak Elev=274.82' Inflow=0.23 cfs 814 cf
12.0" Round Culvert n=0.013 L=37.4' S=0.0051 '/' Outflow=0.23 cfs 814 cf

Pond AD22: Peak Elev=278.52' Inflow=0.18 cfs 647 cf
12.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.18 cfs 647 cf

Pond CB-10: Peak Elev=279.17' Inflow=1.14 cfs 3,952 cf
12.0" Round Culvert n=0.013 L=61.5' S=0.0050 '/' Outflow=1.14 cfs 3,952 cf

Pond DI-1: Peak Elev=279.06' Inflow=2.96 cfs 10,423 cf
12.0" Round Culvert n=0.013 L=27.6' S=0.0051 '/' Outflow=2.96 cfs 10,423 cf

Pond DI-10: Peak Elev=280.41' Inflow=14.66 cfs 62,293 cf
24.0" Round Culvert n=0.012 L=41.7' S=0.0050 '/' Outflow=14.66 cfs 62,293 cf

Pond DI-101: Peak Elev=274.76' Inflow=0.47 cfs 1,615 cf
12.0" Round Culvert n=0.013 L=23.9' S=0.0050 '/' Outflow=0.47 cfs 1,615 cf

Pond DI-102: Peak Elev=274.94' Inflow=2.30 cfs 8,183 cf
12.0" Round Culvert n=0.013 L=57.1' S=0.0051 '/' Outflow=2.30 cfs 8,183 cf

Pond DI-103: Peak Elev=275.39' Inflow=2.04 cfs 7,236 cf
12.0" Round Culvert n=0.013 L=11.5' S=0.0052 '/' Outflow=2.04 cfs 7,236 cf

Pond DI-104: Peak Elev=275.83' Inflow=3.23 cfs 11,416 cf
12.0" Round Culvert n=0.013 L=54.9' S=0.0049 '/' Outflow=3.23 cfs 11,416 cf

Pond DI-105: Peak Elev=276.01' Inflow=10.31 cfs 36,558 cf
24.0" Round Culvert n=0.013 L=55.3' S=0.0051 '/' Outflow=10.31 cfs 36,558 cf

Pond DI-11: WQU-101 Peak Elev=280.20' Inflow=15.11 cfs 64,099 cf
24.0" Round Culvert n=0.012 L=17.7' S=0.0051 '/' Outflow=15.11 cfs 64,099 cf

Pond DI-12: WQU-102 Peak Elev=279.15' Inflow=2.33 cfs 9,124 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=2.33 cfs 9,124 cf

Pond DI-13: Peak Elev=279.06' Inflow=2.04 cfs 7,645 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=2.04 cfs 7,645 cf

Pond DI-2: Peak Elev=278.85' Inflow=1.40 cfs 4,863 cf
12.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=1.40 cfs 4,863 cf

Pond DI-3: Peak Elev=278.77' Inflow=1.18 cfs 4,251 cf
12.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=1.18 cfs 4,251 cf

Pond DI-4: Peak Elev=276.79' Inflow=9.90 cfs 35,075 cf
24.0" Round Culvert n=0.012 L=89.0' S=0.0049 '/' Outflow=9.90 cfs 35,075 cf

Pond DI-5: Peak Elev=277.51' Inflow=8.72 cfs 30,917 cf
18.0" Round Culvert n=0.012 L=32.9' S=0.0049 '/' Outflow=8.72 cfs 30,917 cf

Pond DI-6: Peak Elev=277.61' Inflow=2.89 cfs 10,043 cf
12.0" Round Culvert n=0.012 L=170.9' S=0.0050 '/' Outflow=2.89 cfs 10,043 cf

Pond DI-7: Peak Elev=277.38' Inflow=0.96 cfs 3,421 cf
12.0" Round Culvert n=0.012 L=67.3' S=0.0051 '/' Outflow=0.96 cfs 3,421 cf

Pond DI-8: Peak Elev=280.75' Inflow=12.05 cfs 51,715 cf
24.0" Round Culvert n=0.012 L=44.5' S=0.0049 '/' Outflow=12.05 cfs 51,715 cf

Pond DI-9: Peak Elev=280.69' Inflow=14.33 cfs 60,960 cf
24.0" Round Culvert n=0.012 L=46.5' S=0.0049 '/' Outflow=14.33 cfs 60,960 cf

Pond DMH 5: Peak Elev=272.13' Inflow=44.30 cfs 173,677 cf
30.0" Round Culvert n=0.011 L=199.7' S=0.0001 '/' Outflow=44.30 cfs 173,677 cf

Pond DMH-2: Peak Elev=279.88' Inflow=17.15 cfs 73,223 cf
24.0" Round Culvert n=0.013 L=34.6' S=0.0049 '/' Outflow=17.15 cfs 73,223 cf

Pond DMH-3: Peak Elev=281.05' Inflow=12.05 cfs 51,715 cf
24.0" Round Culvert n=0.012 L=37.1' S=0.0051 '/' Outflow=12.05 cfs 51,715 cf

Pond DMH-9: Peak Elev=276.29' Inflow=9.90 cfs 35,075 cf
24.0" Round Culvert n=0.012 L=48.0' S=0.0052 '/' Outflow=9.90 cfs 35,075 cf

Pond DMH101: Peak Elev=279.32' Inflow=17.38 cfs 74,149 cf
24.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=17.38 cfs 74,149 cf

Pond DMH102: Peak Elev=279.16' Inflow=18.82 cfs 79,635 cf
24.0" Round Culvert n=0.013 L=64.4' S=0.0050 '/' Outflow=18.82 cfs 79,635 cf

Pond DMH103: Peak Elev=278.14' Inflow=20.42 cfs 85,738 cf
30.0" Round Culvert n=0.013 L=72.4' S=0.0050 '/' Outflow=20.42 cfs 85,738 cf

Pond DMH104: Peak Elev=277.91' Inflow=22.30 cfs 92,652 cf
30.0" Round Culvert n=0.013 L=26.2' S=0.0050 '/' Outflow=22.30 cfs 92,652 cf

Pond DMH105: Peak Elev=277.71' Inflow=23.27 cfs 96,305 cf
30.0" Round Culvert n=0.013 L=53.3' S=0.0051 '/' Outflow=23.27 cfs 96,305 cf

Pond DMH106: Peak Elev=277.51' Inflow=24.37 cfs 99,926 cf
30.0" Round Culvert n=0.013 L=16.6' S=0.0048 '/' Outflow=24.37 cfs 99,926 cf

Pond DMH107: Peak Elev=277.28' Inflow=24.69 cfs 101,082 cf
30.0" Round Culvert n=0.013 L=51.9' S=0.0050 '/' Outflow=24.69 cfs 101,082 cf

Pond DMH108: Peak Elev=277.06' Inflow=26.08 cfs 106,169 cf
30.0" Round Culvert n=0.013 L=46.1' S=0.0050 '/' Outflow=26.08 cfs 106,169 cf

Pond DMH109: Peak Elev=276.76' Inflow=27.01 cfs 109,561 cf
30.0" Round Culvert n=0.013 L=81.4' S=0.0050 '/' Outflow=27.01 cfs 109,561 cf

Pond DMH110: Peak Elev=277.08' Inflow=45.65 cfs 176,221 cf
36.0" Round Culvert n=0.013 L=92.0' S=0.0050 '/' Outflow=45.65 cfs 176,221 cf

Pond DMH111: Peak Elev=275.02' Inflow=1.81 cfs 6,416 cf
12.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=1.81 cfs 6,416 cf

Pond DMH112: Peak Elev=276.89' Inflow=48.24 cfs 185,575 cf
36.0" Round Culvert n=0.013 L=69.0' S=0.0051 '/' Outflow=48.24 cfs 185,575 cf

Pond DMH113: Peak Elev=276.30' Inflow=48.48 cfs 186,461 cf
36.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=48.48 cfs 186,461 cf

Pond DMH13: Peak Elev=268.29' Inflow=50.21 cfs 193,645 cf
36.0" Round Culvert n=0.011 L=53.0' S=0.0055 '/' Outflow=50.21 cfs 193,645 cf

Pond DMH14: Peak Elev=268.68' Inflow=16.18 cfs 84,676 cf
18.0" Round Culvert n=0.011 L=50.0' S=0.0064 '/' Outflow=16.18 cfs 84,676 cf

Pond DMH15: Peak Elev=263.80' Inflow=16.18 cfs 84,676 cf
18.0" Round Culvert n=0.011 L=76.0' S=0.0070 '/' Outflow=16.18 cfs 84,676 cf

Pond DMH16: Peak Elev=264.15' Inflow=66.23 cfs 278,321 cf
36.0" Round Culvert n=0.011 L=105.0' S=0.0048 '/' Outflow=66.23 cfs 278,321 cf

Pond DMH17: Peak Elev=263.64' Inflow=75.54 cfs 331,980 cf
36.0" Round Culvert n=0.011 L=142.0' S=0.0058 '/' Outflow=75.54 cfs 331,980 cf

Pond DMH18: Peak Elev=265.00' Inflow=91.25 cfs 367,398 cf
36.0" Round Culvert n=0.011 L=86.0' S=0.0144 '/' Outflow=91.25 cfs 367,398 cf

Pond DMH19: Peak Elev=256.23' Inflow=91.25 cfs 367,398 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0722 '/' Outflow=91.25 cfs 367,398 cf

Pond DMH2: Peak Elev=0.00'
36.0" Round Culvert n=0.011 L=123.0' S=0.0110 '/' Primary=0.00 cfs 0 cf

Pond DMH20: Peak Elev=249.26' Inflow=91.25 cfs 367,398 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0036 '/' Outflow=91.25 cfs 367,398 cf

Pond DMH3: Peak Elev=268.06' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=67.6' S=0.0067 '/' Outflow=0.00 cfs 0 cf

Pond DMH4: Peak Elev=267.52' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=68.3' S=0.0047 '/' Outflow=0.00 cfs 0 cf

Pond DMH6: Peak Elev=275.52' Inflow=44.30 cfs 173,677 cf
24.0" Round Culvert n=0.011 L=133.0' S=0.0090 '/' Outflow=44.30 cfs 173,677 cf

Pond P1: RAIN GARDEN Peak Elev=255.52' Storage=8 cf Inflow=0.08 cfs 389 cf
Discarded=0.08 cfs 389 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 389 cf

Pond P10: SSIB Peak Elev=282.94' Storage=29,486 cf Inflow=30.14 cfs 100,131 cf
Outflow=12.18 cfs 97,458 cf

Pond P11: SSIB Peak Elev=277.00' Storage=5,798 cf Inflow=8.93 cfs 32,216 cf
Discarded=0.05 cfs 4,795 cf Primary=4.94 cfs 27,421 cf Outflow=4.99 cfs 32,216 cf

Pond P12: Peak Elev=295.21' Storage=15,809 cf Inflow=18.32 cfs 65,073 cf
Discarded=0.10 cfs 11,414 cf Primary=9.51 cfs 53,658 cf Outflow=9.61 cfs 65,073 cf

Pond P2: SSIB Peak Elev=269.85' Storage=31,128 cf Inflow=25.80 cfs 87,570 cf
Discarded=0.43 cfs 41,168 cf Primary=10.78 cfs 46,402 cf Outflow=11.22 cfs 87,570 cf

Pond P3: SSIB Peak Elev=271.80' Storage=12,170 cf Inflow=10.94 cfs 55,973 cf
Discarded=0.19 cfs 19,346 cf Primary=10.71 cfs 36,627 cf Outflow=10.90 cfs 55,973 cf

Pond P4: SSIB Peak Elev=267.58' Storage=24,771 cf Inflow=29.35 cfs 98,390 cf
Discarded=1.26 cfs 62,972 cf Primary=16.43 cfs 35,419 cf Outflow=17.69 cfs 98,390 cf

Pond P5: SSIB Peak Elev=274.13' Storage=4,910 cf Inflow=7.69 cfs 26,410 cf
Discarded=0.05 cfs 6,075 cf Primary=7.30 cfs 19,968 cf Outflow=7.35 cfs 26,043 cf

Pond P6: SSIB Peak Elev=277.39' Storage=13,774 cf Inflow=19.45 cfs 68,137 cf
Discarded=0.11 cfs 10,882 cf Primary=11.23 cfs 57,255 cf Outflow=11.34 cfs 68,137 cf

Pond P7: SSIB Peak Elev=280.36' Storage=51,907 cf Inflow=56.92 cfs 215,381 cf
Discarded=0.46 cfs 41,705 cf Primary=44.30 cfs 173,677 cf Outflow=44.77 cfs 215,381 cf

Pond P8: SSIB Peak Elev=284.46' Storage=3,055 cf Inflow=14.21 cfs 51,251 cf
Outflow=11.94 cfs 51,251 cf

Pond P9: SSD Peak Elev=282.48' Storage=15,710 cf Inflow=28.63 cfs 98,764 cf
Outflow=19.12 cfs 97,712 cf

Pond RL-4: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.8' S=0.0044 '/' Primary=0.00 cfs 0 cf

Pond RL101: Peak Elev=279.53' Inflow=0.89 cfs 3,197 cf
12.0" Round Culvert n=0.013 L=12.6' S=0.0048 '/' Outflow=0.89 cfs 3,197 cf

Pond RL103: Peak Elev=279.55' Inflow=0.88 cfs 3,173 cf
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=0.88 cfs 3,173 cf

Pond RL105: Peak Elev=278.33' Inflow=1.23 cfs 4,424 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0051 '/' Outflow=1.23 cfs 4,424 cf

Pond RL106: Peak Elev=277.72' Inflow=1.23 cfs 4,430 cf
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Outflow=1.23 cfs 4,430 cf

Pond RL107: Peak Elev=277.45' Inflow=0.59 cfs 2,118 cf
12.0" Round Culvert n=0.013 L=28.2' S=0.0050 '/' Outflow=0.59 cfs 2,118 cf

Pond RL108: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Primary=0.00 cfs 0 cf

Pond RL109: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=5.8' S=0.0052 '/' Primary=0.00 cfs 0 cf

Pond RL110: Peak Elev=275.80' Inflow=0.82 cfs 2,962 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.82 cfs 2,962 cf

Pond RL111: Peak Elev=275.47' Inflow=0.75 cfs 2,715 cf
12.0" Round Culvert n=0.013 L=23.6' S=0.0051 '/' Outflow=0.75 cfs 2,715 cf

Pond RL112: Peak Elev=275.03' Inflow=1.21 cfs 4,356 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=1.21 cfs 4,356 cf

Pond RL113: Peak Elev=274.76' Inflow=0.74 cfs 2,676 cf
12.0" Round Culvert n=0.013 L=30.5' S=0.0049 '/' Outflow=0.74 cfs 2,676 cf

Pond RL114: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=73.6' S=0.0050 '/' Primary=0.00 cfs 0 cf

Pond RL115: Peak Elev=275.14' Inflow=0.99 cfs 3,564 cf
12.0" Round Culvert n=0.013 L=10.4' S=0.0048 '/' Outflow=0.99 cfs 3,564 cf

Pond RL116: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=8.8' S=0.0045 '/' Primary=0.00 cfs 0 cf

Pond RL117: Peak Elev=273.54' Inflow=0.90 cfs 3,231 cf
12.0" Round Culvert n=0.013 L=14.1' S=0.0050 '/' Outflow=0.90 cfs 3,231 cf

Pond RL118: Peak Elev=273.73' Inflow=0.91 cfs 3,276 cf
12.0" Round Culvert n=0.013 L=12.2' S=0.0049 '/' Outflow=0.91 cfs 3,276 cf

Pond RL119: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=22.3' S=0.0049 '/' Primary=0.00 cfs 0 cf

Pond RL120: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Primary=0.00 cfs 0 cf

Pond RL121: Peak Elev=276.90' Inflow=4.86 cfs 17,533 cf
18.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=4.86 cfs 17,533 cf

Pond RL122: Peak Elev=274.92' Inflow=1.17 cfs 4,213 cf
12.0" Round Culvert n=0.013 L=53.7' S=0.0050 '/' Outflow=1.17 cfs 4,213 cf

Pond RL123: Peak Elev=275.44' Inflow=0.49 cfs 1,780 cf
12.0" Round Culvert n=0.013 L=15.7' S=0.0051 '/' Outflow=0.49 cfs 1,780 cf

Pond WQU103: Peak Elev=276.24' Inflow=15.59 cfs 55,331 cf
24.0" Round Culvert n=0.013 L=87.6' S=0.0050 '/' Outflow=15.59 cfs 55,331 cf

Pond WQU104: Peak Elev=274.93' Inflow=3.18 cfs 11,329 cf
12.0" Round Culvert n=0.013 L=13.6' S=0.0051 '/' Outflow=3.18 cfs 11,329 cf

Pond WQU5: Peak Elev=278.81' Inflow=2.96 cfs 10,423 cf
12.0" Round Culvert n=0.013 L=20.2' S=0.0050 '/' Outflow=2.96 cfs 10,423 cf

Link DP-1: HEADWALL Inflow=12.11 cfs 48,847 cf
Primary=12.11 cfs 48,847 cf

Link DP-10: OFFSITE EAST Inflow=2.03 cfs 6,356 cf
Primary=2.03 cfs 6,356 cf

Link DP-2: FES Inflow=10.78 cfs 46,402 cf
Primary=10.78 cfs 46,402 cf

Link DP-3: HEADWALL Inflow=91.25 cfs 367,398 cf
Primary=91.25 cfs 367,398 cf

Link DP-4: KING ST Inflow=0.44 cfs 1,601 cf
Primary=0.44 cfs 1,601 cf

Link DP-5: EAST SIDE WETLAND Inflow=34.59 cfs 216,783 cf
Primary=34.59 cfs 216,783 cf

Link DP-6: WEST SIDE WETLAND Inflow=111.10 cfs 485,505 cf
Primary=111.10 cfs 485,505 cf

Link DP-7: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-8: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-9: OFFSITE WEST Inflow=7.07 cfs 22,180 cf
Primary=7.07 cfs 22,180 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 935,263 cf Average Runoff Depth = 5.82"
30.85% Pervious = 594,679 sf 69.15% Impervious = 1,332,852 sf

Time span=0.00-36.00 hrs, dt=0.04 hrs, 901 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment0.1: Runoff Area=21,237 sf 0.00% Impervious Runoff Depth=4.30"
Tc=6.0 min CN=66 Runoff=2.44 cfs 7,618 cf

Subcatchment0.10: Runoff Area=612 sf 0.00% Impervious Runoff Depth=3.03"
Tc=6.0 min CN=55 Runoff=0.05 cfs 155 cf

Subcatchment0.11: Runoff Area=6,663 sf 16.21% Impervious Runoff Depth=2.36"
Tc=6.0 min CN=49 Runoff=0.38 cfs 1,312 cf

Subcatchment0.12: Runoff Area=8,597 sf 0.00% Impervious Runoff Depth=1.31"
Tc=6.0 min CN=39 Runoff=0.21 cfs 939 cf

Subcatchment0.13: Runoff Area=21,390 sf 84.71% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=3.87 cfs 13,191 cf

Subcatchment0.2: Runoff Area=78,058 sf 8.54% Impervious Runoff Depth=4.66"
Flow Length=125' Tc=22.3 min CN=69 Runoff=6.29 cfs 30,294 cf

Subcatchment0.3: Runoff Area=45,378 sf 0.00% Impervious Runoff Depth=5.61"
Tc=6.0 min CN=77 Runoff=6.72 cfs 21,198 cf

Subcatchment0.4: ROAD Runoff Area=2,842 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.53 cfs 1,923 cf

Subcatchment0.5: Runoff Area=12,178 sf 0.00% Impervious Runoff Depth=5.61"
Tc=6.0 min CN=77 Runoff=1.80 cfs 5,689 cf

Subcatchment0.6: Runoff Area=5,430 sf 0.00% Impervious Runoff Depth=5.01"
Tc=6.0 min CN=72 Runoff=0.72 cfs 2,268 cf

Subcatchment0.7: Runoff Area=23,835 sf 0.00% Impervious Runoff Depth=5.37"
Tc=6.0 min CN=75 Runoff=3.39 cfs 10,662 cf

Subcatchment0.8: WESTFORD PARCEL Runoff Area=55,313 sf 0.00% Impervious Runoff Depth=3.95"
Flow Length=115' Tc=21.2 min CN=63 Runoff=3.84 cfs 18,225 cf

Subcatchment0.9: Runoff Area=475 sf 0.00% Impervious Runoff Depth=3.03"
Tc=6.0 min CN=55 Runoff=0.04 cfs 120 cf

Subcatchment1.1: Runoff Area=4,688 sf 0.00% Impervious Runoff Depth=1.61"
Tc=6.0 min CN=42 Runoff=0.16 cfs 631 cf

Subcatchment2.1: ROAD Runoff Area=43,749 sf 83.75% Impervious Runoff Depth=7.76"
Tc=6.0 min CN=95 Runoff=8.08 cfs 28,291 cf

Subcatchment2.2: Runoff Area=127,270 sf 67.53% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=23.05 cfs 78,483 cf

Subcatchment3.1: ABUTTINGLOTS Runoff Area=120,083 sf 81.23% Impervious Runoff Depth=6.92"
Flow Length=211' Tc=23.6 min CN=88 Runoff=13.39 cfs 69,252 cf

Subcatchment4.1: Runoff Area=132,411 sf 65.87% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=23.98 cfs 81,654 cf

Subcatchment4.2: Runoff Area=36,921 sf 57.08% Impervious Runoff Depth=7.16"
Tc=6.0 min CN=90 Runoff=6.57 cfs 22,030 cf

Subcatchment4.3: Runoff Area=27,610 sf 64.22% Impervious Runoff Depth=7.28"
Tc=6.0 min CN=91 Runoff=4.96 cfs 16,750 cf

Subcatchment5.1: ROAD Runoff Area=50,399 sf 79.28% Impervious Runoff Depth=7.64"
Tc=6.0 min CN=94 Runoff=9.26 cfs 32,087 cf

Subcatchment6.1: Runoff Area=71,073 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=13.27 cfs 48,093 cf

Subcatchment6.2: Runoff Area=55,680 sf 74.30% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=10.08 cfs 34,336 cf

Subcatchment7.1: Runoff Area=1,738 sf 84.06% Impervious Runoff Depth=7.64"
Tc=6.0 min CN=94 Runoff=0.32 cfs 1,107 cf

Subcatchment7.10: Runoff Area=9,074 sf 91.94% Impervious Runoff Depth=7.88"
Tc=6.0 min CN=96 Runoff=1.68 cfs 5,959 cf

Subcatchment7.11: Runoff Area=1,187 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.22 cfs 803 cf

Subcatchment7.12: Runoff Area=1,445 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.27 cfs 978 cf

Subcatchment7.13: Runoff Area=7,690 sf 86.83% Impervious Runoff Depth=7.88"
Tc=6.0 min CN=96 Runoff=1.43 cfs 5,050 cf

Subcatchment7.14: Runoff Area=5,580 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.04 cfs 3,776 cf

Subcatchment7.15: BLDG 1300 Runoff Area=7,477 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.40 cfs 5,059 cf

Subcatchment7.16: BLDG 1300 Runoff Area=4,749 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.89 cfs 3,213 cf

Subcatchment7.17: BLDG 1300 Runoff Area=4,819 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.90 cfs 3,261 cf

Subcatchment7.18: BLDG 1300 Runoff Area=3,759 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.70 cfs 2,544 cf

Subcatchment7.19: BLDG 1300 Runoff Area=7,852 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.47 cfs 5,313 cf

Subcatchment7.2: Runoff Area=7,404 sf 87.25% Impervious Runoff Depth=7.76"
Tc=6.0 min CN=95 Runoff=1.37 cfs 4,788 cf

Subcatchment7.20: BLDG 1300 Runoff Area=5,674 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.06 cfs 3,839 cf

Subcatchment7.21: Runoff Area=885 sf 75.71% Impervious Runoff Depth=7.64"
Tc=6.0 min CN=94 Runoff=0.16 cfs 563 cf

Subcatchment7.22: Runoff Area=1,572 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.29 cfs 1,064 cf

Subcatchment7.23: Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.94 cfs 3,419 cf

Subcatchment7.24: Runoff Area=5,584 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.04 cfs 3,779 cf

Subcatchment7.25: Runoff Area=1,272 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.24 cfs 861 cf

Subcatchment7.26: Runoff Area=1,296 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.24 cfs 877 cf

Subcatchment7.27: Runoff Area=2,052 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.38 cfs 1,389 cf

Subcatchment7.28: Runoff Area=1,608 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.30 cfs 1,088 cf

Subcatchment7.29: Runoff Area=1,228 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.23 cfs 831 cf

Subcatchment7.3: Runoff Area=2,453 sf 86.95% Impervious Runoff Depth=7.76"
Tc=6.0 min CN=95 Runoff=0.45 cfs 1,586 cf

Subcatchment7.30: Runoff Area=2,023 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.38 cfs 1,369 cf

Subcatchment7.31: Runoff Area=1,682 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.31 cfs 1,138 cf

Subcatchment7.32: Runoff Area=968 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.18 cfs 655 cf

Subcatchment7.33: Runoff Area=1,396 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.26 cfs 945 cf

Subcatchment7.34: Runoff Area=666 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.12 cfs 451 cf

Subcatchment7.35: Runoff Area=2,969 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.55 cfs 2,009 cf

Subcatchment7.36: Runoff Area=1,885 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.35 cfs 1,276 cf

Subcatchment7.37: Runoff Area=1,644 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.31 cfs 1,112 cf

Subcatchment7.38: BLDG 1200 Runoff Area=5,735 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.07 cfs 3,881 cf

Subcatchment7.39: BLDG 1200 Runoff Area=6,325 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.18 cfs 4,280 cf

Subcatchment7.4: Runoff Area=6,397 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.19 cfs 4,329 cf

Subcatchment7.40: Runoff Area=3,136 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,122 cf

Subcatchment7.41: Runoff Area=3,026 sf 80.83% Impervious Runoff Depth=7.76"
Tc=6.0 min CN=95 Runoff=0.56 cfs 1,957 cf

Subcatchment7.42: BLDG 1400 Runoff Area=7,732 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.44 cfs 5,232 cf

Subcatchment7.43: BLDG 1400 Runoff Area=5,257 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.98 cfs 3,557 cf

Subcatchment7.44: BLDG 1500 Runoff Area=7,862 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.47 cfs 5,320 cf

Subcatchment7.45: BLDG 1500 Runoff Area=5,631 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.05 cfs 3,810 cf

Subcatchment7.46: Runoff Area=11,125 sf 89.21% Impervious Runoff Depth=7.88"
Tc=6.0 min CN=96 Runoff=2.06 cfs 7,305 cf

Subcatchment7.47: Runoff Area=2,366 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.44 cfs 1,601 cf

Subcatchment7.48: Runoff Area=3,206 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.60 cfs 2,169 cf

Subcatchment7.49: Runoff Area=2,626 sf 100.00% Impervious Runoff Depth=8.12"
Tc=0.0 min CN=98 Runoff=0.58 cfs 1,777 cf

Subcatchment7.5: Runoff Area=1,148 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.21 cfs 777 cf

Subcatchment7.50: Runoff Area=3,609 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.67 cfs 2,442 cf

Subcatchment7.51: Runoff Area=2,490 sf 70.16% Impervious Runoff Depth=7.52"
Tc=0.0 min CN=93 Runoff=0.53 cfs 1,560 cf

Subcatchment7.52: Runoff Area=2,288 sf 25.00% Impervious Runoff Depth=6.56"
Tc=6.0 min CN=85 Runoff=0.38 cfs 1,251 cf

Subcatchment7.53: Runoff Area=2,435 sf 50.31% Impervious Runoff Depth=7.04"
Tc=6.0 min CN=89 Runoff=0.43 cfs 1,429 cf

Subcatchment7.54: Runoff Area=2,361 sf 80.09% Impervious Runoff Depth=7.64"
Tc=6.0 min CN=94 Runoff=0.43 cfs 1,503 cf

Subcatchment7.55: Runoff Area=7,649 sf 88.60% Impervious Runoff Depth=7.88"
Tc=6.0 min CN=96 Runoff=1.42 cfs 5,023 cf

Subcatchment7.56: Runoff Area=6,258 sf 86.07% Impervious Runoff Depth=7.76"
Tc=6.0 min CN=95 Runoff=1.16 cfs 4,047 cf

Subcatchment7.57: Runoff Area=12,638 sf 84.25% Impervious Runoff Depth=7.64"
Tc=6.0 min CN=94 Runoff=2.32 cfs 8,046 cf

Subcatchment7.58: Runoff Area=6,180 sf 95.97% Impervious Runoff Depth=8.00"
Tc=6.0 min CN=97 Runoff=1.15 cfs 4,120 cf

Subcatchment7.59: Runoff Area=31,120 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=5.81 cfs 21,058 cf

Subcatchment7.6: Runoff Area=928 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.17 cfs 628 cf

Subcatchment7.7: Runoff Area=3,159 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=0.59 cfs 2,138 cf

Subcatchment7.8: town green Runoff Area=36,660 sf 76.33% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=6.64 cfs 22,607 cf

Subcatchment7.9: Runoff Area=5,814 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=1.09 cfs 3,934 cf

Subcatchment8.1: BLDG B Runoff Area=90,966 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=16.99 cfs 61,554 cf

Subcatchment9.1: Runoff Area=80,109 sf 25.88% Impervious Runoff Depth=6.08"
Tc=6.0 min CN=81 Runoff=12.72 cfs 40,607 cf

Subcatchment9.2: Runoff Area=118,363 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=22.11 cfs 80,092 cf

Subcatchment10.1: Runoff Area=131,529 sf 70.82% Impervious Runoff Depth=7.52"
Tc=6.0 min CN=93 Runoff=24.00 cfs 82,425 cf

Subcatchment10.2: Runoff Area=79,304 sf 45.45% Impervious Runoff Depth=6.20"
Tc=6.0 min CN=82 Runoff=12.79 cfs 40,988 cf

Subcatchment11.1: Runoff Area=57,181 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=10.68 cfs 38,692 cf

Subcatchment12.1: Runoff Area=27,231 sf 74.47% Impervious Runoff Depth=7.40"
Tc=6.0 min CN=92 Runoff=4.93 cfs 16,792 cf

Subcatchment12.2: Runoff Area=91,111 sf 100.00% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=98 Runoff=17.02 cfs 61,652 cf

Pond AD102: Peak Elev=279.48' Inflow=1.48 cfs 5,239 cf
12.0" Round Culvert n=0.012 L=31.4' S=0.0051 '/' Outflow=1.48 cfs 5,239 cf

Pond AD103: Peak Elev=279.30' Inflow=1.78 cfs 6,799 cf
12.0" Round Culvert n=0.012 L=46.1' S=0.0050 '/' Outflow=1.78 cfs 6,799 cf

Pond AD104: Peak Elev=278.10' Inflow=0.31 cfs 1,112 cf
12.0" Round Culvert n=0.013 L=5.5' S=0.0055 '/' Outflow=0.31 cfs 1,112 cf

Pond AD105: Peak Elev=278.33' Inflow=1.82 cfs 6,589 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=1.82 cfs 6,589 cf

Pond AD106: Peak Elev=277.47' Inflow=0.55 cfs 2,009 cf
12.0" Round Culvert n=0.013 L=9.2' S=0.0054 '/' Outflow=0.55 cfs 2,009 cf

Pond AD107: Peak Elev=276.31' Inflow=1.08 cfs 3,912 cf
12.0" Round Culvert n=0.013 L=22.5' S=0.0049 '/' Outflow=1.08 cfs 3,912 cf

Pond AD108: Peak Elev=276.23' Inflow=1.39 cfs 5,051 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=1.39 cfs 5,051 cf

Pond AD109: Peak Elev=277.44' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.013 L=36.1' S=0.0050 '/' Outflow=0.00 cfs 0 cf

Pond AD110: Peak Elev=277.98' Inflow=0.38 cfs 1,251 cf
12.0" Round Culvert n=0.013 L=71.1' S=0.0051 '/' Outflow=0.38 cfs 1,251 cf

Pond AD111: Peak Elev=277.59' Inflow=0.51 cfs 1,702 cf
12.0" Round Culvert n=0.013 L=24.4' S=0.0049 '/' Outflow=0.51 cfs 1,702 cf

Pond AD112: Peak Elev=277.47' Inflow=0.77 cfs 2,646 cf
12.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=0.77 cfs 2,646 cf

Pond AD113: Peak Elev=277.25' Inflow=0.95 cfs 3,301 cf
12.0" Round Culvert n=0.013 L=28.4' S=0.0049 '/' Outflow=0.95 cfs 3,301 cf

Pond AD114: Peak Elev=275.51' Inflow=0.23 cfs 831 cf
12.0" Round Culvert n=0.013 L=6.0' S=0.0050 '/' Outflow=0.23 cfs 831 cf

Pond AD115: Peak Elev=275.18' Inflow=0.30 cfs 1,088 cf
12.0" Round Culvert n=0.013 L=6.9' S=0.0043 '/' Outflow=0.30 cfs 1,088 cf

Pond AD116: Peak Elev=275.05' Inflow=0.38 cfs 1,389 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.38 cfs 1,389 cf

Pond AD117: Peak Elev=274.61' Inflow=0.24 cfs 877 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=0.24 cfs 877 cf

Pond AD118: Peak Elev=274.67' Inflow=1.12 cfs 4,074 cf
12.0" Round Culvert n=0.013 L=7.3' S=0.0055 '/' Outflow=1.12 cfs 4,074 cf

Pond AD119: Peak Elev=275.19' Inflow=1.61 cfs 5,783 cf
12.0" Round Culvert n=0.013 L=26.9' S=0.0048 '/' Outflow=1.61 cfs 5,783 cf

Pond AD120: Peak Elev=273.94' Inflow=2.03 cfs 7,353 cf
12.0" Round Culvert n=0.013 L=18.7' S=0.0048 '/' Outflow=2.03 cfs 7,353 cf

Pond AD121: Peak Elev=272.66' Inflow=0.29 cfs 1,064 cf
12.0" Round Culvert n=0.013 L=9.9' S=0.0051 '/' Outflow=0.29 cfs 1,064 cf

Pond AD123: Peak Elev=275.36' Inflow=0.76 cfs 2,766 cf
12.0" Round Culvert n=0.013 L=65.1' S=0.0051 '/' Outflow=0.76 cfs 2,766 cf

Pond AD124: Peak Elev=274.85' Inflow=0.27 cfs 978 cf
12.0" Round Culvert n=0.013 L=37.4' S=0.0051 '/' Outflow=0.27 cfs 978 cf

Pond AD22: Peak Elev=278.54' Inflow=0.21 cfs 777 cf
12.0" Round Culvert n=0.013 L=14.0' S=0.0050 '/' Outflow=0.21 cfs 777 cf

Pond CB-10: Peak Elev=279.25' Inflow=1.37 cfs 4,788 cf
12.0" Round Culvert n=0.013 L=61.5' S=0.0050 '/' Outflow=1.37 cfs 4,788 cf

Pond DI-1: Peak Elev=279.29' Inflow=3.55 cfs 12,586 cf
12.0" Round Culvert n=0.013 L=27.6' S=0.0051 '/' Outflow=3.55 cfs 12,586 cf

Pond DI-10: Peak Elev=280.87' Inflow=17.35 cfs 74,863 cf
24.0" Round Culvert n=0.012 L=41.7' S=0.0050 '/' Outflow=17.35 cfs 74,863 cf

Pond DI-101: Peak Elev=274.80' Inflow=0.56 cfs 1,957 cf
12.0" Round Culvert n=0.013 L=23.9' S=0.0050 '/' Outflow=0.56 cfs 1,957 cf

Pond DI-102: Peak Elev=275.14' Inflow=2.76 cfs 9,862 cf
12.0" Round Culvert n=0.013 L=57.1' S=0.0051 '/' Outflow=2.76 cfs 9,862 cf

Pond DI-103: Peak Elev=275.52' Inflow=2.45 cfs 8,724 cf
12.0" Round Culvert n=0.013 L=11.5' S=0.0052 '/' Outflow=2.45 cfs 8,724 cf

Pond DI-104: Peak Elev=276.20' Inflow=3.87 cfs 13,774 cf
12.0" Round Culvert n=0.013 L=54.9' S=0.0049 '/' Outflow=3.87 cfs 13,774 cf

Pond DI-105: Peak Elev=276.24' Inflow=12.35 cfs 44,075 cf
24.0" Round Culvert n=0.013 L=55.3' S=0.0051 '/' Outflow=12.35 cfs 44,075 cf

Pond DI-11: WQU-101 Peak Elev=280.61' Inflow=17.89 cfs 77,032 cf
24.0" Round Culvert n=0.012 L=17.7' S=0.0051 '/' Outflow=17.89 cfs 77,032 cf

Pond DI-12: WQU-102 Peak Elev=279.33' Inflow=2.80 cfs 11,018 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=2.80 cfs 11,018 cf

Pond DI-13: Peak Elev=279.19' Inflow=2.45 cfs 9,241 cf
12.0" Round Culvert n=0.012 L=39.4' S=0.0051 '/' Outflow=2.45 cfs 9,241 cf

Pond DI-2: Peak Elev=278.94' Inflow=1.69 cfs 5,894 cf
12.0" Round Culvert n=0.013 L=65.0' S=0.0051 '/' Outflow=1.69 cfs 5,894 cf

Pond DI-3: Peak Elev=278.84' Inflow=1.41 cfs 5,105 cf
12.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=1.41 cfs 5,105 cf

Pond DI-4: Peak Elev=277.01' Inflow=11.86 cfs 42,294 cf
24.0" Round Culvert n=0.012 L=89.0' S=0.0049 '/' Outflow=11.86 cfs 42,294 cf

Pond DI-5: Peak Elev=277.84' Inflow=10.44 cfs 37,271 cf
18.0" Round Culvert n=0.012 L=32.9' S=0.0049 '/' Outflow=10.44 cfs 37,271 cf

Pond DI-6: Peak Elev=278.35' Inflow=3.47 cfs 12,166 cf
12.0" Round Culvert n=0.012 L=170.9' S=0.0050 '/' Outflow=3.47 cfs 12,166 cf

Pond DI-7: Peak Elev=277.44' Inflow=1.15 cfs 4,120 cf
12.0" Round Culvert n=0.012 L=67.3' S=0.0051 '/' Outflow=1.15 cfs 4,120 cf

Pond DI-8: Peak Elev=281.00' Inflow=14.25 cfs 62,117 cf
24.0" Round Culvert n=0.012 L=44.5' S=0.0049 '/' Outflow=14.25 cfs 62,117 cf

Pond DI-9: Peak Elev=281.11' Inflow=16.96 cfs 73,262 cf
24.0" Round Culvert n=0.012 L=46.5' S=0.0049 '/' Outflow=16.96 cfs 73,262 cf

Pond DMH 5: Peak Elev=275.48' Inflow=61.95 cfs 216,813 cf
30.0" Round Culvert n=0.011 L=199.7' S=0.0001 '/' Outflow=61.95 cfs 216,813 cf

Pond DMH-2: Peak Elev=280.72' Inflow=20.32 cfs 88,050 cf
24.0" Round Culvert n=0.013 L=34.6' S=0.0049 '/' Outflow=20.32 cfs 88,050 cf

Pond DMH-3: Peak Elev=281.30' Inflow=14.25 cfs 62,117 cf
24.0" Round Culvert n=0.012 L=37.1' S=0.0051 '/' Outflow=14.25 cfs 62,117 cf

Pond DMH-9: Peak Elev=276.51' Inflow=11.86 cfs 42,294 cf
24.0" Round Culvert n=0.012 L=48.0' S=0.0052 '/' Outflow=11.86 cfs 42,294 cf

Pond DMH101: Peak Elev=279.71' Inflow=20.61 cfs 89,163 cf
24.0" Round Culvert n=0.013 L=49.4' S=0.0051 '/' Outflow=20.61 cfs 89,163 cf

Pond DMH102: Peak Elev=279.68' Inflow=22.32 cfs 95,752 cf
24.0" Round Culvert n=0.013 L=64.4' S=0.0050 '/' Outflow=22.32 cfs 95,752 cf

Pond DMH103: Peak Elev=278.46' Inflow=24.24 cfs 103,081 cf
30.0" Round Culvert n=0.013 L=72.4' S=0.0050 '/' Outflow=24.24 cfs 103,081 cf

Pond DMH104: Peak Elev=278.27' Inflow=26.49 cfs 111,432 cf
30.0" Round Culvert n=0.013 L=26.2' S=0.0050 '/' Outflow=26.49 cfs 111,432 cf

Pond DMH105: Peak Elev=278.11' Inflow=27.66 cfs 115,821 cf
30.0" Round Culvert n=0.013 L=53.3' S=0.0051 '/' Outflow=27.66 cfs 115,821 cf

Pond DMH106: Peak Elev=277.96' Inflow=28.95 cfs 120,170 cf
30.0" Round Culvert n=0.013 L=16.6' S=0.0048 '/' Outflow=28.95 cfs 120,170 cf

Pond DMH107: Peak Elev=277.77' Inflow=29.33 cfs 121,558 cf
30.0" Round Culvert n=0.013 L=51.9' S=0.0050 '/' Outflow=29.33 cfs 121,558 cf

Pond DMH108: Peak Elev=277.67' Inflow=30.99 cfs 127,667 cf
30.0" Round Culvert n=0.013 L=46.1' S=0.0050 '/' Outflow=30.99 cfs 127,667 cf

Pond DMH109: Peak Elev=277.46' Inflow=32.10 cfs 131,741 cf
30.0" Round Culvert n=0.013 L=81.4' S=0.0050 '/' Outflow=32.10 cfs 131,741 cf

Pond DMH110: Peak Elev=277.89' Inflow=54.42 cfs 212,065 cf
36.0" Round Culvert n=0.013 L=92.0' S=0.0050 '/' Outflow=54.42 cfs 212,065 cf

Pond DMH111: Peak Elev=275.14' Inflow=2.17 cfs 7,740 cf
12.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=2.17 cfs 7,740 cf

Pond DMH112: Peak Elev=277.49' Inflow=57.51 cfs 223,299 cf
36.0" Round Culvert n=0.013 L=69.0' S=0.0051 '/' Outflow=57.51 cfs 223,299 cf

Pond DMH113: Peak Elev=276.83' Inflow=57.81 cfs 224,363 cf
36.0" Round Culvert n=0.013 L=37.0' S=0.0051 '/' Outflow=57.81 cfs 224,363 cf

Pond DMH13: Peak Elev=269.89' Inflow=70.39 cfs 242,325 cf
36.0" Round Culvert n=0.011 L=53.0' S=0.0055 '/' Outflow=70.39 cfs 242,325 cf

Pond DMH14: Peak Elev=270.73' Inflow=20.25 cfs 105,168 cf
18.0" Round Culvert n=0.011 L=50.0' S=0.0064 '/' Outflow=20.25 cfs 105,168 cf

Pond DMH15: Peak Elev=265.85' Inflow=20.25 cfs 105,168 cf
18.0" Round Culvert n=0.011 L=76.0' S=0.0070 '/' Outflow=20.25 cfs 105,168 cf

Pond DMH16: Peak Elev=267.15' Inflow=88.98 cfs 347,493 cf
36.0" Round Culvert n=0.011 L=105.0' S=0.0048 '/' Outflow=88.98 cfs 347,493 cf

Pond DMH17: Peak Elev=267.83' Inflow=102.74 cfs 414,337 cf
36.0" Round Culvert n=0.011 L=142.0' S=0.0058 '/' Outflow=102.74 cfs 414,337 cf

Pond DMH18: Peak Elev=275.42' Inflow=143.19 cfs 465,605 cf
36.0" Round Culvert n=0.011 L=86.0' S=0.0144 '/' Outflow=143.19 cfs 465,605 cf

Pond DMH19: Peak Elev=266.65' Inflow=143.19 cfs 465,605 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0722 '/' Outflow=143.19 cfs 465,605 cf

Pond DMH2: Peak Elev=0.00'
36.0" Round Culvert n=0.011 L=123.0' S=0.0110 '/' Primary=0.00 cfs 0 cf

Pond DMH20: Peak Elev=259.68' Inflow=143.19 cfs 465,605 cf
36.0" Round Culvert n=0.011 L=55.0' S=0.0036 '/' Outflow=143.19 cfs 465,605 cf

Pond DMH3: Peak Elev=268.06' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=67.6' S=0.0067 '/' Outflow=0.00 cfs 0 cf

Pond DMH4: Peak Elev=267.52' Inflow=0.00 cfs 0 cf
12.0" Round Culvert n=0.011 L=68.3' S=0.0047 '/' Outflow=0.00 cfs 0 cf

Pond DMH6: Peak Elev=283.58' Inflow=61.95 cfs 216,813 cf
24.0" Round Culvert n=0.011 L=133.0' S=0.0090 '/' Outflow=61.95 cfs 216,813 cf

Pond P1: RAIN GARDEN Peak Elev=255.54' Storage=16 cf Inflow=0.16 cfs 631 cf
Discarded=0.15 cfs 631 cf Primary=0.00 cfs 0 cf Outflow=0.15 cfs 631 cf

Pond P10: SSIB Peak Elev=284.28' Storage=34,493 cf Inflow=36.78 cfs 123,413 cf
Outflow=16.80 cfs 120,736 cf

Pond P11: SSIB Peak Elev=277.75' Storage=6,851 cf Inflow=10.68 cfs 38,692 cf
Discarded=0.05 cfs 4,860 cf Primary=5.75 cfs 33,832 cf Outflow=5.80 cfs 38,692 cf

Pond P12: Peak Elev=295.85' Storage=17,068 cf Inflow=21.95 cfs 78,444 cf
Discarded=0.10 cfs 11,600 cf Primary=16.52 cfs 66,844 cf Outflow=16.62 cfs 78,444 cf

Pond P2: SSIB Peak Elev=270.75' Storage=33,916 cf Inflow=31.13 cfs 106,774 cf
Discarded=0.43 cfs 43,377 cf Primary=21.36 cfs 63,397 cf Outflow=21.79 cfs 106,774 cf

Pond P3: SSIB Peak Elev=271.92' Storage=12,343 cf Inflow=13.39 cfs 69,252 cf
Discarded=0.19 cfs 20,037 cf Primary=13.15 cfs 49,214 cf Outflow=13.34 cfs 69,252 cf

Pond P4: SSIB Peak Elev=274.54' Storage=25,224 cf Inflow=35.51 cfs 120,434 cf
Discarded=1.26 cfs 69,166 cf Primary=43.12 cfs 51,268 cf Outflow=44.37 cfs 120,434 cf

Pond P5: SSIB Peak Elev=274.25' Storage=5,012 cf Inflow=9.26 cfs 32,087 cf
Discarded=0.05 cfs 6,187 cf Primary=8.93 cfs 25,512 cf Outflow=8.99 cfs 31,699 cf

Pond P6: SSIB Peak Elev=278.17' Storage=15,701 cf Inflow=23.36 cfs 82,429 cf
Discarded=0.11 cfs 11,093 cf Primary=14.52 cfs 71,336 cf Outflow=14.63 cfs 82,429 cf

Pond P7: SSIB Peak Elev=280.96' Storage=53,896 cf Inflow=67.98 cfs 259,556 cf
Discarded=0.46 cfs 42,743 cf Primary=61.95 cfs 216,813 cf Outflow=62.41 cfs 259,556 cf

Pond P8: SSIB Peak Elev=285.90' Storage=3,695 cf Inflow=16.99 cfs 61,554 cf
Outflow=14.11 cfs 61,554 cf

Pond P9: SSD Peak Elev=283.34' Storage=18,302 cf Inflow=34.82 cfs 120,699 cf
Outflow=23.99 cfs 119,646 cf

Pond RL-4: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.8' S=0.0044 '/' Primary=0.00 cfs 0 cf

Pond RL101: Peak Elev=279.60' Inflow=1.06 cfs 3,839 cf
12.0" Round Culvert n=0.013 L=12.6' S=0.0048 '/' Outflow=1.06 cfs 3,839 cf

Pond RL103: Peak Elev=279.61' Inflow=1.05 cfs 3,810 cf
12.0" Round Culvert n=0.012 L=16.0' S=0.0050 '/' Outflow=1.05 cfs 3,810 cf

Pond RL105: Peak Elev=278.41' Inflow=1.47 cfs 5,313 cf
12.0" Round Culvert n=0.013 L=21.5' S=0.0051 '/' Outflow=1.47 cfs 5,313 cf

Pond RL106: Peak Elev=277.80' Inflow=1.47 cfs 5,320 cf
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Outflow=1.47 cfs 5,320 cf

Pond RL107: Peak Elev=277.50' Inflow=0.70 cfs 2,544 cf
12.0" Round Culvert n=0.013 L=28.2' S=0.0050 '/' Outflow=0.70 cfs 2,544 cf

Pond RL108: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=6.4' S=0.0047 '/' Primary=0.00 cfs 0 cf

Pond RL109: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=5.8' S=0.0052 '/' Primary=0.00 cfs 0 cf

Pond RL110: Peak Elev=275.86' Inflow=0.98 cfs 3,557 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=0.98 cfs 3,557 cf

Pond RL111: Peak Elev=275.53' Inflow=0.90 cfs 3,261 cf
12.0" Round Culvert n=0.013 L=23.6' S=0.0051 '/' Outflow=0.90 cfs 3,261 cf

Pond RL112: Peak Elev=275.11' Inflow=1.44 cfs 5,232 cf
12.0" Round Culvert n=0.013 L=7.9' S=0.0051 '/' Outflow=1.44 cfs 5,232 cf

Pond RL113: Peak Elev=274.82' Inflow=0.89 cfs 3,213 cf
12.0" Round Culvert n=0.013 L=30.5' S=0.0049 '/' Outflow=0.89 cfs 3,213 cf

Pond RL114: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=73.6' S=0.0050 '/' Primary=0.00 cfs 0 cf

Pond RL115: Peak Elev=275.21' Inflow=1.18 cfs 4,280 cf
12.0" Round Culvert n=0.013 L=10.4' S=0.0048 '/' Outflow=1.18 cfs 4,280 cf

Pond RL116: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=8.8' S=0.0045 '/' Primary=0.00 cfs 0 cf

Pond RL117: Peak Elev=273.61' Inflow=1.07 cfs 3,881 cf
12.0" Round Culvert n=0.013 L=14.1' S=0.0050 '/' Outflow=1.07 cfs 3,881 cf

Pond RL118: Peak Elev=273.79' Inflow=1.09 cfs 3,934 cf
12.0" Round Culvert n=0.013 L=12.2' S=0.0049 '/' Outflow=1.09 cfs 3,934 cf

Pond RL119: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=22.3' S=0.0049 '/' Primary=0.00 cfs 0 cf

Pond RL120: Peak Elev=0.00'
12.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Primary=0.00 cfs 0 cf

Pond RL121: Peak Elev=277.07' Inflow=5.81 cfs 21,058 cf
18.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=5.81 cfs 21,058 cf

Pond RL122: Peak Elev=274.99' Inflow=1.40 cfs 5,059 cf
12.0" Round Culvert n=0.013 L=53.7' S=0.0050 '/' Outflow=1.40 cfs 5,059 cf

Pond RL123: Peak Elev=275.49' Inflow=0.59 cfs 2,138 cf
12.0" Round Culvert n=0.013 L=15.7' S=0.0051 '/' Outflow=0.59 cfs 2,138 cf

Pond WQU103: Peak Elev=276.87' Inflow=18.66 cfs 66,684 cf
24.0" Round Culvert n=0.013 L=87.6' S=0.0050 '/' Outflow=18.66 cfs 66,684 cf

Pond WQU104: Peak Elev=275.14' Inflow=3.80 cfs 13,640 cf
12.0" Round Culvert n=0.013 L=13.6' S=0.0051 '/' Outflow=3.80 cfs 13,640 cf

Pond WQU5: Peak Elev=279.02' Inflow=3.55 cfs 12,586 cf
12.0" Round Culvert n=0.013 L=20.2' S=0.0050 '/' Outflow=3.55 cfs 12,586 cf

Link DP-1: HEADWALL Inflow=14.93 cfs 64,656 cf
Primary=14.93 cfs 64,656 cf

Link DP-10: OFFSITE EAST Inflow=2.61 cfs 8,231 cf
Primary=2.61 cfs 8,231 cf

Link DP-2: FES Inflow=21.36 cfs 63,397 cf
Primary=21.36 cfs 63,397 cf

Link DP-3: HEADWALL Inflow=143.19 cfs 465,605 cf
Primary=143.19 cfs 465,605 cf

Link DP-4: KING ST Inflow=0.53 cfs 1,923 cf
Primary=0.53 cfs 1,923 cf

Link DP-5: EAST SIDE WETLAND Inflow=44.13 cfs 269,268 cf
Primary=44.13 cfs 269,268 cf

Link DP-6: WEST SIDE WETLAND Inflow=175.58 cfs 623,952 cf
Primary=175.58 cfs 623,952 cf

Link DP-7: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-8: SOUTH POND
Primary=0.00 cfs 0 cf

Link DP-9: OFFSITE WEST Inflow=9.15 cfs 28,815 cf
Primary=9.15 cfs 28,815 cf

Total Runoff Area = 1,927,531 sf Runoff Volume = 1,146,003 cf Average Runoff Depth = 7.13"
30.85% Pervious = 594,679 sf 69.15% Impervious = 1,332,852 sf

B

Water Quality Data

Location: **Treatment Train #1**

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Water Quality Unit	**0.80**	**1.00**	**0.80**	**0.20**
Infiltration Basin	**0.80**	**0.20**	**0.16**	**0.04**

Total TSS Removal = **96%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **550 King Street**
Prepared By: **TEC, Inc.**
Date: **11/26/2025**

*Equals remaining load from previous BMP (E) which enters the BMP

Location: **Treatment Train #2**

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Water Quality Unit	**0.80**	**1.00**	**0.80**	**0.20**
Infiltration Basin	**0.80**	**0.20**	**0.16**	**0.04**

Total TSS Removal = **96%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **550 King Street**
Prepared By: **TEC, Inc.**
Date: **11/26/2025**

*Equals remaining load from previous BMP (E) which enters the BMP

Location: **Treatment Train #3**

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Water Quality Unit	**0.80**	**1.00**	**0.80**	**0.20**
Infiltration Basin	**0.80**	**0.20**	**0.16**	**0.04**

Total TSS Removal = **96%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **550 King Street**
Prepared By: **TEC, Inc.**
Date: **11/26/2025**

*Equals remaining load from previous BMP (E) which enters the BMP

Location: **Treatment Train #4**

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Water Quality Unit	**0.80**	**1.00**	**0.80**	**0.20**
Infiltration Basin	**0.80**	**0.20**	**0.16**	**0.04**

Total TSS Removal = **96%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **550 King Street**
Prepared By: **TEC, Inc.**
Date: **11/26/2025**

*Equals remaining load from previous BMP (E) which enters the BMP

Location: **Treatment Train #5**

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Water Quality Unit	**0.80**	**1.00**	**0.80**	**0.20**
Infiltration Basin	**0.80**	**0.20**	**0.16**	**0.04**

Total TSS Removal = **96%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **550 King Street**
Prepared By: **TEC, Inc.**
Date: **11/26/2025**

*Equals remaining load from previous BMP (E) which enters the BMP

CDS Project Details

Description

The CDS hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains 100% of floatables and neutrally buoyant debris 4.7 mm or larger, effectively removes sediment, and incorporates a non-blocking screen.

Project Information

Project Name	93388 - WQU101
Location	Littleton, MA
Date	November 26 2025

Design Parameters	
System Type	CDS
Particle Size D50	110
System Model	CDS3035-6
Sizing Method	Water Qlty Flow Rate
Treatment Rate	3.06ft³/sec
Peak Conveyance	15.11ft³/sec
100% Trash Capture?	No
Primary Access Casting	Grate Inlet
Target Removal %	80%

Outlet Pipe Information	
# of Pipes	1
Outlet Diameter	24 inches
Outlet Invert Elev	276.95 ft
Outlet Angle	180°
Outlet Material	RCP
Inlet Pipe Information	
# of Pipes	1
Inlet Diameter	24 inches
Inlet Invert Elev	277.05 ft
Inlet Angle	0°
Inlet Material	RCP

CDS Project Details

Description

The CDS hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains 100% of floatables and neutrally buoyant debris 4.7 mm or larger, effectively removes sediment, and incorporates a non-blocking screen.

Project Information

Project Name	93389 - WQU102
Location	Littleton, MA
Date	November 26 2025

Design Parameters	
System Type	CDS
Particle Size D50	110
System Model	CDS2025-5
Sizing Method	Water Qlty Flow Rate
Treatment Rate	0.96ft³/sec
Peak Conveyance	2.8ft³/sec
100% Trash Capture?	No
Primary Access Casting	Grate Inlet
Target Removal %	80%

Outlet Pipe Information	
# of Pipes	1
Outlet Diameter	12 inches
Outlet Invert Elev	281 ft
Outlet Angle	180°
Outlet Material	RCP
Inlet Pipe Information	
# of Pipes	1
Inlet Diameter	12 inches
Inlet Invert Elev	281.1 ft
Inlet Angle	0°
Inlet Material	RCP

CDS Project Details

Description

The CDS hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains 100% of floatables and neutrally buoyant debris 4.7 mm or larger, effectively removes sediment, and incorporates a non-blocking screen.

Project Information

Project Name	93391 - WQU103
Location	Littleton, MA
Date	November 26 2025

Design Parameters	
System Type	CDS
Particle Size D50	110
System Model	CDS3035-6
Sizing Method	Water Qlty Flow Rate
Treatment Rate	2.62ft³/sec
Peak Conveyance	18.66ft³/sec
100% Trash Capture?	No
Primary Access Casting	Grate Inlet
Target Removal %	80%

Outlet Pipe Information	
# of Pipes	1
Outlet Diameter	24 inches
Outlet Invert Elev	277.88 ft
Outlet Angle	180°
Outlet Material	RCP
Inlet Pipe Information	
# of Pipes	1
Inlet Diameter	24 inches
Inlet Invert Elev	277.98 ft
Inlet Angle	0°
Inlet Material	RCP

CDS Project Details

Description

The CDS hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains 100% of floatables and neutrally buoyant debris 4.7 mm or larger, effectively removes sediment, and incorporates a non-blocking screen.

Project Information

Project Name	93392 - WQU104
Location	Littleton, MA
Date	November 26 2025

Design Parameters	
System Type	CDS
Particle Size D50	110
System Model	CDS2015-4
Sizing Method	Water Qlty Flow Rate
Treatment Rate	0.53ft³/sec
Peak Conveyance	3.8ft³/sec
100% Trash Capture?	No
Primary Access Casting	Grate Inlet
Target Removal %	80%

Outlet Pipe Information	
# of Pipes	1
Outlet Diameter	12 inches
Outlet Invert Elev	279.9 ft
Outlet Angle	180°
Outlet Material	RCP
Inlet Pipe Information	
# of Pipes	1
Inlet Diameter	12 inches
Inlet Invert Elev	280 ft
Inlet Angle	0°
Inlet Material	RCP

CDS Project Details

Description

The CDS hydrodynamic separator uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. CDS captures and retains 100% of floatables and neutrally buoyant debris 4.7 mm or larger, effectively removes sediment, and incorporates a non-blocking screen.

Project Information

Project Name	93384 - WQU105
Location	Littleton, MA
Date	November 26 2025

Design Parameters	
System Type	CDS
Particle Size D50	110
System Model	CDS2015-4
Sizing Method	Water Qlty Flow Rate
Treatment Rate	0.48ft³/sec
Peak Conveyance	3.55ft³/sec
100% Trash Capture?	No
Primary Access Casting	Grate Inlet
Target Removal %	80%

Outlet Pipe Information	
# of Pipes	1
Outlet Diameter	12 inches
Outlet Invert Elev	277.44 ft
Outlet Angle	180°
Outlet Material	RCP
Inlet Pipe Information	
# of Pipes	1
Inlet Diameter	12 inches
Inlet Invert Elev	277.54 ft
Inlet Angle	0°
Inlet Material	RCP

C

NRCS Soil Resource Report

United States Department of Agriculture

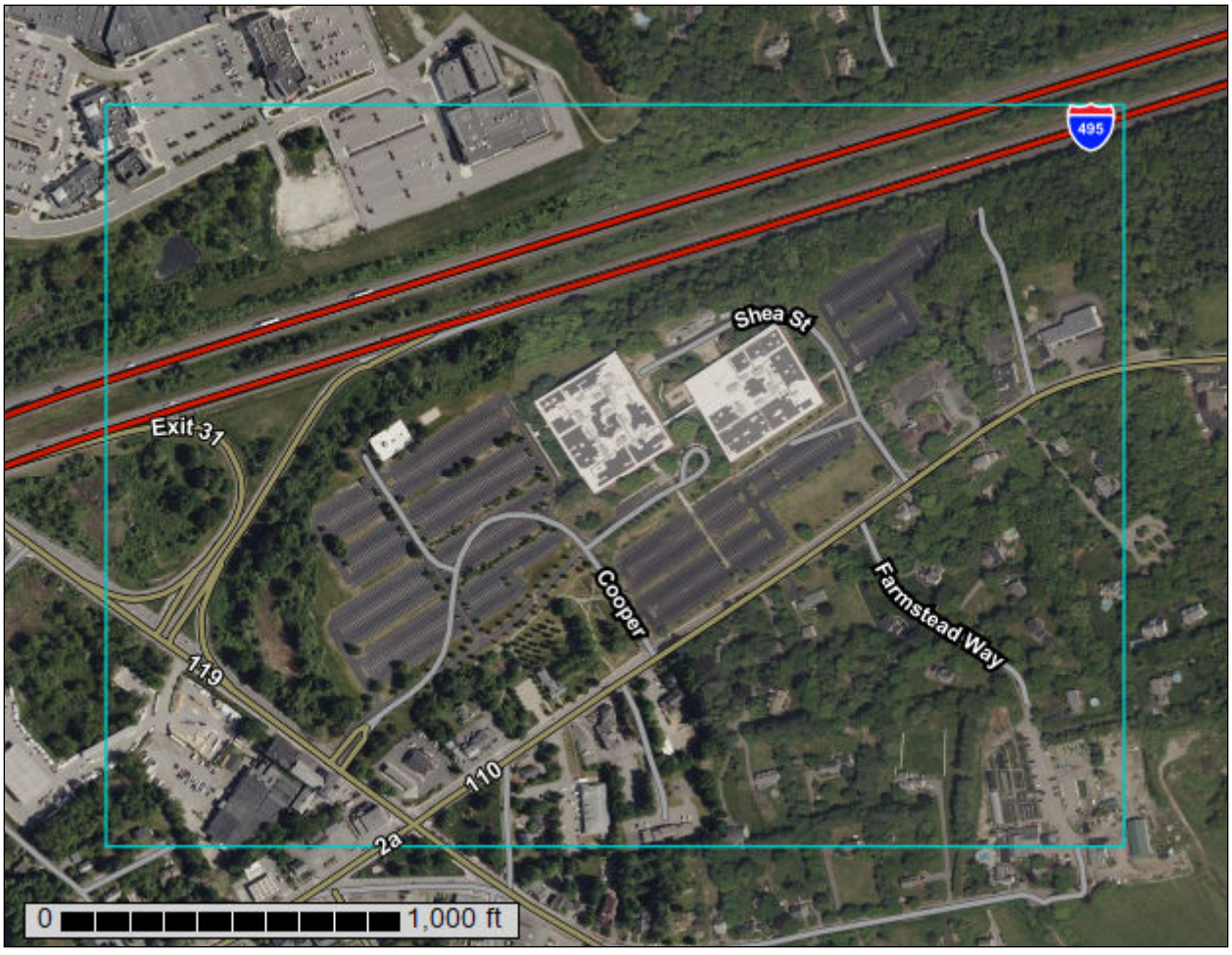
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Middlesex County, Massachusetts

550 King Street



August 15, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:5,620 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 22, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	3.5	2.3%
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes	0.2	0.1%
307B	Paxton fine sandy loam, 0 to 8 percent slopes, extremely stony	2.9	2.0%
307E	Paxton fine sandy loam, 25 to 35 percent slopes, extremely stony	4.1	2.7%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	30.2	20.1%
310C	Woodbridge fine sandy loam, 8 to 15 percent slopes	8.8	5.8%
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	3.5	2.3%
422B	Canton fine sandy loam, 0 to 8 percent slopes, extremely stony	7.3	4.8%
422C	Canton fine sandy loam, 8 to 15 percent slopes, extremely stony	0.1	0.1%
622C	Paxton-Urban land complex, 3 to 15 percent slopes	10.3	6.9%
623C	Woodbridge-Urban land complex, 3 to 15 percent slopes	0.3	0.2%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	12.6	8.4%
654	Udorthents, loamy	3.2	2.1%
655	Udorthents, wet substratum	7.3	4.9%
656	Udorthents-Urban land complex	56.1	37.3%
Totals for Area of Interest		**150.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named

according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Middlesex County, Massachusetts

6A—Scarboro mucky fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svky
Elevation: 0 to 1,320 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Drainageways, outwash deltas, outwash terraces, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial deposits derived from schist and/or sandy glaciofluvial deposits derived from gneiss and/or sandy glaciofluvial deposits derived from granite

Typical profile

Oe - 0 to 3 inches: mucky peat
A - 3 to 11 inches: mucky fine sandy loam
Cg1 - 11 to 21 inches: sand
Cg2 - 21 to 65 inches: gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 0 to 2 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F144AY031MA - Very Wet Outwash
Hydric soil rating: Yes

Minor Components

Swansea

Percent of map unit: 10 percent
Landform: Bogs, swamps
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Wareham

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Walpole

Percent of map unit: 5 percent
Landform: Deltas, depressions, outwash terraces, depressions, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

103C—Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wzp1
Elevation: 0 to 1,390 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton, extremely stony, and similar soils: 50 percent
Hollis, extremely stony, and similar soils: 20 percent
Rock outcrop: 10 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton, Extremely Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear

Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Hollis, Extremely Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges, hills
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Woodbridge, extremely stony

Percent of map unit: 8 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Canton, extremely stony

Percent of map unit: 5 percent
Landform: Moraines, hills, ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Chatfield, extremely stony

Percent of map unit: 5 percent
Landform: Ridges, hills

Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Ridgebury, extremely stony

Percent of map unit: 2 percent
Landform: Hills, drainageways, drumlins, depressions, ground moraines
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

307B—Paxton fine sandy loam, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w675
Elevation: 0 to 1,580 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton, extremely stony, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Extremely Stony

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge, extremely stony

Percent of map unit: 10 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Charlton, extremely stony

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury, extremely stony

Percent of map unit: 4 percent
Landform: Drumlins, drainageways, depressions, ground moraines, hills
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Whitman, extremely stony

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

307E—Paxton fine sandy loam, 25 to 35 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w67q
Elevation: 0 to 1,400 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton, extremely stony, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Extremely Stony

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 25 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Charlton, extremely stony
Percent of map unit: 8 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge, extremely stony
Percent of map unit: 1 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Chatfield, extremely stony
Percent of map unit: 1 percent
Landform: Ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

310B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2t2ql
Elevation: 0 to 1,470 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Woodbridge, fine sandy loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting

Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 8 percent
Landform: Depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

310C—Woodbridge fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w689
Elevation: 0 to 1,370 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 4 percent
Landform: Depressions, ground moraines, hills, drainageways, drumlins
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 1 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

311B—Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2t2qr
Elevation: 0 to 1,440 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge, very stony, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Very Stony

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope

Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 9 inches: fine sandy loam
Bw1 - 9 to 20 inches: fine sandy loam
Bw2 - 20 to 32 inches: fine sandy loam
Cd - 32 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 19 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton, very stony

Percent of map unit: 10 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Ridgebury, very stony

Percent of map unit: 8 percent
Landform: Hills, drainageways, drumlins, depressions, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

422B—Canton fine sandy loam, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w818
Elevation: 0 to 1,180 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Charlton, extremely stony
Percent of map unit: 6 percent
Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Scituate, extremely stony
Percent of map unit: 6 percent
Landform: Hills, ground moraines, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Montauk, extremely stony
Percent of map unit: 4 percent
Landform: Recessionial moraines, ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Swansea
Percent of map unit: 4 percent
Landform: Marshes, depressions, bogs, swamps, kettles
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

422C—Canton fine sandy loam, 8 to 15 percent slopes, extremely stony

Map Unit Setting
National map unit symbol: 2w815
Elevation: 0 to 1,310 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton, extremely stony, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton, Extremely Stony

Setting

Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 5 inches: fine sandy loam
Bw1 - 5 to 16 inches: fine sandy loam
Bw2 - 16 to 22 inches: gravelly fine sandy loam
2C - 22 to 67 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Scituate, extremely stony

Percent of map unit: 6 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Montauk, extremely stony

Percent of map unit: 5 percent
Landform: Recessionial moraines, ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Charlton, extremely stony

Percent of map unit: 5 percent
Landform: Ridges, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Hollis, extremely stony

Percent of map unit: 4 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

622C—Paxton-Urban land complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w67k
Elevation: 0 to 930 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 45 percent
Urban land: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear

Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile
Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities
Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Description of Urban Land

Typical profile
M - 0 to 10 inches: cemented material

Properties and qualities
Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Woodbridge
Percent of map unit: 9 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear

Hydric soil rating: No

Charlton

Percent of map unit: 6 percent
Landform: Hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Udorthents

Percent of map unit: 4 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 1 percent
Landform: Drumlins, depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

623C—Woodbridge-Urban land complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w68b
Elevation: 0 to 550 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodbridge and similar soils: 58 percent
Urban land: 28 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Paxton

Percent of map unit: 9 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 5 percent
Landform: Hills, drainageways, drumlins, depressions, ground moraines
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

626B—Merrimac-Urban land complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyr9
Elevation: 0 to 820 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Merrimac and similar soils: 45 percent
Urban land: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Outwash plains, outwash terraces, moraines, eskers, kames
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Crest, side slope, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Description of Urban Land

Typical profile
M - 0 to 10 inches: cemented material

Properties and qualities
Slope: 0 to 8 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Windsor
Percent of map unit: 5 percent
Landform: Outwash terraces, dunes, outwash plains, deltas
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Sudbury
Percent of map unit: 5 percent
Landform: Deltas, terraces, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley
Percent of map unit: 5 percent
Landform: Deltas, kames, eskers, outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, nose slope, crest, side slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

654—Udorthents, loamy

Map Unit Setting

National map unit symbol: vr1l
Elevation: 0 to 3,000 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, loamy, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Loamy

Setting

Parent material: Loamy alluvium and/or sandy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy marine deposits and/or loamy basal till and/or loamy lodgment till

Properties and qualities

Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Minor Components

Udorthents, sandy

Percent of map unit: 10 percent
Hydric soil rating: No

Urban land

Percent of map unit: 5 percent
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear

Udorthents, wet substratum

Percent of map unit: 5 percent

Hydric soil rating: Yes

655—Udorthents, wet substratum

Map Unit Setting

National map unit symbol: vr1n
Elevation: 0 to 3,000 feet
Mean annual precipitation: 32 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 110 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, wet substratum, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Wet Substratum

Setting

Parent material: Loamy alluvium and/or sandy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy marine deposits and/or loamy basal till and/or loamy lodgment till

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Minor Components

Urban land

Percent of map unit: 8 percent
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear

Freetown

Percent of map unit: 4 percent
Landform: Depressions, bogs
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Swansea

Percent of map unit: 3 percent

Landform: Depressions, bogs
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

656—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 995k
Elevation: 0 to 3,000 feet
Mean annual precipitation: 32 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 110 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 45 percent
Urban land: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Parent material: Loamy alluvium and/or sandy glaciofluvial deposits and/or loamy glaciolacustrine deposits and/or loamy marine deposits and/or loamy basal till and/or loamy lodgment till

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: More than 80 inches
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Excavated and filled land

Minor Components

Canton

Percent of map unit: 10 percent
Landform: Hills

Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Side slope, base slope
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent
Landform: Terraces, plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Paxton

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

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D

Operation & Maintenance Plan

Stormwater Management Operations and Maintenance Plan

KING STREET COMMONS
MIXED-USE SUBDIVISION

ASSESSORS MAP U08, LOT 10-0
550 KING STREET
LITTLETON, MASSACHUSETTS

Prepared for:

550 King Street, LLC
280 Merrimack Street
Lawrence, MA 01843

Prepared by:

TEC, Inc.
282 Merrimack Street
Lawrence, MA 01843

November 26th, 2025

Stormwater Management Operation and Maintenance Plan
November 26th,2025

Name of Owner: **550 King Street, LLC**
Name of Facility: **King Street Commons**
Location: **550 King Street, Littleton, MA**

A detailed, written log of all scheduled preventative and corrective maintenance performed for the stormwater management measures must be kept by the Applicant, including a record of all inspections and copies of maintenance-related work orders. An "Inspection and Maintenance Check List" shall be maintained as a record of regularly scheduled inspection and maintenance items as outlined below for every year. Maintenance required and actions taken shall be recorded in an "Inspection and Maintenance Log". The funding, operation, and maintenance of all stormwater management Best Management Practices (BMPs) shall be provided by the Owners, or their appointee.

Maintenance routine and schedule: Routine inspections will be conducted on a monthly basis and thorough investigations will be conducted twice a year. Tasks that are common to all systems include regular removal of accumulated sediments, floatables and debris. Inspections will be conducted by a qualified person experienced in drainage design and stormwater management systems.

Subsurface systems have access points located within the parking lots and roadways for ease of access by both personnel and vehicles necessary for maintenance. The BMP locations allow for safe vehicle and pedestrian travel across the site during maintenance activities. Please see Figure 1 for the BMP locations and maintenance areas. The routine inspection and maintenance of BMPs will ensure public safety by preventing clogging and failure of the system.

Annual reports will be prepared detailing the status of the stormwater system and the maintenance performed. A copy of the annual report will be sent to the Town of Littleton Conservation Commission, if requested. Please refer to the Site Plans submitted to the Town of Littleton Conservation Commission for BMP locations.

The Owner agrees to comply with a minimum maintenance schedule as follows:

1. Inspection and cleaning of catch basins

Catch basin grates shall be inspected monthly and cleared of debris to maintain inlet capacity. Sumps and inlets shall be cleaned four (4) times per year and inspected monthly. All sediments shall be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations.

2. Inspection and cleaning of drainage pipes and manholes

All retained and proposed drainage pipes and manhole structures shall be inspected and cleaned of sediment at least every five (5) years or as required to maintain adequate functionality of the stormwater conveyance system. All sediments shall be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations.

3. **Annual cleaning of outlet control structure.**
   Sumps and inlets shall be cleaned once per year and inspected on a monthly basis. All sediments shall be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations.

4. **Quarterly street sweeping of all parking lots and roadways**
   The parking lots and roadways shall be swept on a quarterly basis. Sweepings shall be concentrated in the late spring after winter sanding and late fall after the leaves have fallen.

5. **Semi-annual inspection and maintenance of Contech Cascade Separator water quality units**
   The water quality units shall be inspected every six months (spring and fall) for the first year to determine oil and sediment accumulation rates. Subsequent inspections will be planned based on the first year's inspection observations, and after any oil or chemical spill. All maintenance including removal and disposal of sediments shall be performed at the time of inspection. All sediments shall be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations. Please see the attached Cascade Separator® Inspection and Maintenance Guide provided by Contech.

6. **Semi-annual inspection and maintenance of Contech CMP Detention structure**
   The CMP detention structure shall be inspected every six months (spring and fall) for the first year. Subsequent inspection frequency shall be based on the first year's inspection observations, after any oil or chemical spill, and no less than once per year. All maintenance including removal and disposal of sediments shall be performed at the time of inspection. All sediments shall be properly handled and disposed of in accordance with local, state, and federal guidelines and regulations. Please see the attached Contech® CMP Detention Inspection and Maintenance Guide provided by Contech.

7. **Landscaping**
   Landscaping will be inspected after every major storm event for two (2) months after seeding to ensure functionality. Thereafter, inspections should take place every six (6) months in the spring and fall and after severe storm events. Grass and mulched landscaping showing signs of wear and erosion will be re-loamed/re-seeded or re-mulched as necessary to prevent further erosion from taking place.

8. **Snow Removal**
   Snow will be stored within the landscape islands onsite. Salting and/or sanding will be performed as necessary to promote the public's safety.

Public Safety Features

The stormwater infrastructure has been designed to collect and treat surface runoff from the development to prevent negative impacts to the resource area on site and groundwater. Measures shall be taken to prevent surface flooding and erosion as outlined in the Stormwater Operation and Maintenance Plan and the Site Plans.

The Long-Term Pollution Prevention Plan

The Owner agrees to comply with the following Long-Term Pollution Prevention Plan to ensure long-term stormwater quality discharge from the site:

- Good housekeeping practices: The site will be maintained by the owners, including snow removal, de-icing, street sweeping and BMP inspection/maintenance.

- Provisions for storing materials and solid waste products inside or under cover: Residential, retail, and restaurant produced waste will be stored in dumpsters onsite prior to regularly scheduled removal. Hazardous wastes are not anticipated to be produced on this site.

- Vehicle washing controls: Vehicle washing is not anticipated as a reasonably foreseeable use of the site.

- Requirements for routine inspections and maintenance of stormwater BMPs: BMPs will be inspected and maintained by qualified personnel as described in the Stormwater Management Operation and Maintenance Plan.

- Spill prevention and response plans: There are no proposed uses at the site that would provide an opportunity for a spill of oil or hazardous materials, other than a sudden, catastrophic, vehicle failure. If a vehicle release is the result of an accident, the police and fire department will respond and address any release.

- Provisions for maintenance of lawns, gardens, and other landscaped areas: The owner will provide long-term maintenance for the landscaped areas and stormwater BMPs.

- Requirements for storage and use of fertilizers, herbicides, and pesticides: At this time there would be no foreseeable need for the storage of fertilizers, herbicides, and pesticides.

- Pet waste management provisions: Pet waste will be removed by individual dog owners. The site is not anticipated to host a large number of pets.

- Provisions for operation and management of septic systems: Not Applicable.

- Provisions for solid waste management: Solid waste will be stored in dumpsters onsite prior to regularly scheduled removal.

- Snow disposal and plowing plans relative to Wetland Resource Areas: No snow will be stored or disposed of in surrounding resource areas.
- Street sweeping schedules: The owner will be responsible for quarterly street sweeping with sweepings concentrated in the Spring and Fall as stated in the Operations and Maintenance Plan.

- Winter road salt and/or sand use and storage restrictions: Road salt and/or sand will be stored off site or under cover to prevent runoff.

- Street sweeping schedule: The owner will perform street sweeping that is consistent with the Town of Littleton's current scheduled sweeping.

- Provisions for prevention of illicit discharges to the stormwater management system: Only stormwater is proposed to be conveyed through the stormwater management system. No illicit materials will be permitted. The owners will be responsible to maintain this system.

- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL: The project location is not considered a point source LUHPPL.

- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan: Prior to implementation of the LTPPP, the owners shall provide an on-site meeting with the maintenance personnel to present the contents and requirements of the Stormwater Operation and Maintenance Plan and the LTPPP.

- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan:

  550 King Street, LLC
  280 Merrimack Street
  Littleton, Massachusetts 01460

  Signature: _____

INSPECTION AND MAINTENANCE CHECK LIST –
King Street Commons at 550 King Street, Littleton, MA 01460

For Year: _____

	Inspection Item	Inspection Frequency* Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1	Rain Garden												
2	Catch Basin Inlet												
3	Drainage Pipes and Manholes	at least every 5 years											
4	Outlet Control Structure	at least 1 time per year											
6	Contech Cascade Separator Water Quality Units												
7	Contech CMP Detention												
8	Landscaping												

	Maintenance Item	Maintenance Frequency* Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1	Rain Garden												
2	Catch Basin Cleaning	at least 4 times per year											
3	Drainage Pipes and Manholes	at least every 5 years											
4	Outlet Control Structure	at least once a year											
6	Street Sweeping	at least 4 times per year											
6	Contech Cascade Separator Water Quality Units												
7	Contech CMP Detention												
8	Landscaping	as needed, at least once a year											
9	Snow Removal												

* Actual time of inspecting and maintaining items may vary. Chart shall be used to indicate frequency of events.

** This chart shall be used in conjunction with the attached "Stormwater Management Operation and Maintenance Plan", dated November 26th, 2025.

Name of Applicant: 550 King Street, LLC

Name of Project: King Street Commons

Location: 550 King Street, Littleton, MA 01460

Inspection and Maintenance Log

Inspection No.	Date	Inspections Performed	Maintenance Actions Taken
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

Additional Sheets shall be added as needed

E

CPPP and Erosion Prevention & Sedimentation Control Plan

CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN
November 26th, 2025

Name of Owner: **550 King Street, LLC**
Name of Facility: **King Street Commons**
Location: **550 King Street**
Littleton, MA

This plan presents the minimum measures for the contractor to utilize in preparation of the Stormwater Pollution Prevention Plan (SWPPP) as required by the EPA National Pollutant Discharge Elimination System (NPDES) Construction General Permit. Contractor to provide SWPPP to the Conservation Commission and EPA at least fourteen (14) days prior to start of construction.

Good Housekeeping BMPs

Goals

Minimize the potential for contaminants to enter or runoff the site during construction activities. Fuel and other equipment related fluids will be properly stored. The Contractor shall establish secure storage areas that collect any spillage to meet requirements of the Town of Littleton Fire Department regarding the storage of flammable materials. The Contractor shall complete and submit the plans to the Engineer.

General Requirements

The following presents a proactive approach to all of the best management practices, erosion and sedimentation controls, mitigation measures, and monitoring activities for this Project.

Compost Filter Sock

A compost filter sock is a type of contained compost filter berm. It is a mesh tube filled with composted material that is placed perpendicular to sheet-flow runoff to control erosion and retain sediment in disturbed areas. The filter sock can be used in place of a traditional sediment and erosion control tool such as a silt fence or straw bale barrier.

Compost filter socks are flexible and can be placed along the perimeter of a site, or at intervals along a slope, to capture and treat stormwater that runs off as sheet flow. Filter socks can also be used on pavement as inlet protection for storm drains and to slow water flow in small ditches. Filter socks used for erosion control are usually 12 inches in diameter, although 8 inch, 18 inch, and 24 inch– diameter socks are used in some applications. The smaller, 8 inch–diameter filter socks are commonly used for stormwater inlet protection. The outer shell of a compost filter sock is typically biodegradable and can remain on pervious surfaces post construction versus having to be removed as construction waste.

Pavement Sweeping
Paved areas within the active construction site can be swept on a regular basis to remove larger sediment particles from construction activities. Pavement areas adjacent to the Site will be swept if dirt and debris is tracked from the construction site.

General Maintenance
Refer to the Inspection and Maintenance Checklist (at the end of this section) identifying inspection and maintenance measures for each specific practice.

The contractor or subcontractor will be responsible for implementing each control shown on the Plan. In accordance with EPA regulations, the contractor must sign a copy of a certification to verify that a plan has been prepared and that permit regulations are understood.

The onsite contractor will inspect all sediment and erosion control structures weekly and after each rainfall event meeting the minimum requirements as defined in the Plan. Records of the inspections will be prepared and maintained onsite by the contractor as required by the Plan.

- Silt shall be removed from behind barriers if greater than 6-inches deep, 2/3rds the height of the erosion control barrier, or as needed.
- Damaged or deteriorated items will be repaired immediately after identification.
- The underside of the compost filter sock should be kept in close contact with the earth and reset as necessary.
- Contractor to use rip-rap stone when necessary to manage stormwater during construction.
- Contractor to use erosion control blankets (ECBs) to stabilize sloped areas as necessary to minimize erosion during construction.
- Soil stockpiles in grass areas shall be enclosed by a silt fence and soil stockpiles in paved areas shall be enclosed by compost filter sock or straw bales. All soil stockpiles are to be covered with tarps.
- At a minimum establish good housekeeping BMPs for:
    - Material handling and waste management
    - Staging areas
    - Designate washout areas
    - Equipment vehicle fueling and maintenance

- Spill prevention and control

Erosion control structures shall remain in place until all disturbed earth has been securely stabilized. After removal of structures, disturbed areas shall be regraded and stabilized as necessary.

Spill Prevention and Control

The Contractor will actively maintain and manage the site activities with the procedures outlined in this Plan. In the event of petroleum or other deleterious substance spill, action will be taken by the Contractor to contain and remove the spill. The Contractor will comply with the relevant section(s) of the Oil Pollution Prevention Act, 40 CFR 112.7.

Responsibility

All project personnel share the responsibility for the initial control and reporting of the oil and other substance spill, especially the personnel that first discover the spill. The Site Safety and Health Officer (SSHO) will be responsible for determining the necessary safety equipment and for establishing safety practices to be followed by the Contractor during the clean-up operations. All personnel will be trained in the use of and location of this equipment, prior to the commencement of the construction.

The Contractor's goal is to provide effective, efficient and coordinated action to minimize or mitigate damages to the environment and public health and welfare from oil or other substance discharges, conforming to applicable federal, state, and local regulations, as well as other provisions and restrictions. In the event of spills or releases that may occur during the Project, a representative on-site qualified by OSHA training requirements (29 CFR 1910.120) for a Level 3 Hazmat Technician will be provided and will have the responsibility and authority for supervising the cleanup. If the representative determines that the clean-up operations are beyond the capacity of the Contractor, assistance shall be requested from its Subcontractor.

In the event of an emergency spill, the Contractor will be responsible for retaining the environmental Subcontractor. The selected environmental subcontractor will develop a Hazardous Materials Health and Safety Plan, which will be referenced when a spill or release is discovered, and the control of the spill or release is beyond the scope of the Spill Prevention Control and Countermeasure plan. The Contractor's Project Manager is responsible for giving the SSHO directions for initiating the Hazardous Materials Health and Safety Plan.

Alert and reporting procedures will become effective immediately upon observance and indication of a spill or discharge of oil or other substances on the project.

Reportable observations are:

1. Leaks or spills
2. Soils which are discolored or have an odor
3. Discharge of oil or other similar substances from drain pipes

The Engineer will be informed immediately of all substantial spills, releases, or other substance discharges. All telephone numbers for the Emergency Response agencies will

be posted on site. The Contractor or its Subcontractors will implement control and countermeasures immediately.

Fuel and Oil Delivery Trucks

The equipment superintendent or designee will monitor all truck unloading procedures to verify all hoses are tight and do not leak, and if necessary, will tighten, adjust, or replace them to prevent a release of any kind. In the event of a major spill, alert and initial report procedures will be implemented, and an emergency response contractor will be called in to perform the cleanup.

Equipment

Motorized equipment that require fuel and oil to operate will be inspected prior to the start of each work shift by the operator (in the field) to ensure there is no leakage of oil, fuel, or other material. Trucks will be inspected prior to use for potential leaks or drips. If a leak is found, repairs will be made immediately, and spillage will be cleaned up manually using sorbent material. Vehicles that are found to be leaking will be immediately taken out of service until repairs can be made.

Drum Storage

Drum storage, if any, will be located in a secure area within the Project limits away from environmental areas of concern. Petroleum liquids and other substances stored in drums will be kept in a drum container that consists of a drum rack and drip containment pan that is capable of containing 110% of the stored volume should the drum rupture.

Lubrication / Oil Maintenance

Replacement lubrication will be directly deposited from the lubrication truck to the equipment lubrication reservoir. No other container system will be used to transport oil to the equipment. Mobile equipment will be serviced off site or in the lay-down area. Equipment that cannot be moved will be serviced in the field. The Contractor will place a containment pan or absorbent below the service area prior to initiating service activities in the field. Waste disposal will be completed by the Contractor or by a waste disposal firm. Miscellaneous lubricants for operating equipment will be limited to daily quantities.

Spent Oil

Oil that has already been used on the job will be disposed of via a certified waste disposal firm. Spent oil will be stored in a labeled (hazardous waste signs) and vented fuel storage cell located at the staging area awaiting disposal by a certified waste disposal firm (i.e. Enpro, Inc.). The staging area will be located within the boundary of the project and inspected daily for leaks or spills. The storage cell will be bermed to contain 110% of the largest container or 10% of the total volume in storage, whichever is greater.

Special Oil Spill Equipment

Sorbent Pads

Sorbent pads will be available to absorb oil and petroleum compounds. If necessary, the pads will be used to absorb oil spills or leaks by placing them on the oil and giving

them antiquated time to absorb it. The sorbent pads will be stored in equipment box located in the maintenance area. The pads shall float and be water repellent, so they can absorb oil on water. Saturated/contaminated pads will be placed in an appropriate container and stored within the maintenance area. A certified waste disposal firm will dispose of the approved containers.

Sorbent Compound

The compound will be used for contaminants spilled on decks or hard surfaces. In most cases, it can be applied directly to spills, but if the spill is large, it can be used to form a dike around the spill to prevent further migration.

Construction and Erosion Control Sequencing Plan

1. Selectively remove vegetation for compost filter tube installation;
2. Install compost filter tube;
3. Install construction fencing at limits of work, and no-disturb/tree save areas, if any;
4. Stabilize construction entrances;
5. Prepare construction trailer/staging location;
6. Strip and stockpile topsoil and pavement;
7. Temporarily stabilize topsoil stockpiles (seed and silt fence (grassed area) or compost filter tube or straw bales (pavement area) around toe of slope);
8. Conduct earthwork cuts and fills to bring site to grade;
9. Construct utilities (water, sewer, storm drain, etc.);
10. Construct roadway/parking/sidewalk pavement areas through binder course;
11. Finish grade landscaping area;
12. Permanently stabilize landscaping areas with seed/landscaping;
13. Construct roadway/parking areas through top course; and
14. Remove all temporary soil erosion and sediment control measures upon permanent site stabilization and approval by the engineer and Town of Littleton.

Best Management Practices – Maintenance/Evaluation Checklist
Construction Practices

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning/Repair Needed ☐yes ☐no (List Items)	Date of Cleaning/Repair	Performed by
Compost Filter Sock	Inspect at least once per week and after each rainstorm of 0.25 inch or greater.			• Ensure that compost filter sock is intact and the area behind the sock is not filled with sediment. If there is excessive ponding behind the filter sock or accumulated sediments reach the top of the sock, an additional sock should be added on top or in front of the existing filter sock in these areas, without disturbing the soil or accumulated sediment. • If the filter sock was overtopped during a storm event, the operator should consider installing an additional filter sock on top of the original, placing an additional filter sock further up the slope.			
Catch Basin Silt Sack	Inspect at least once per week and after each rainstorm of 0.25 inch or greater.			• Ensure that silt sack is intact. The silt sack should be removed, emptied, and replaced into the catch basin as needed for proper functioning.			
Pavement Sweeping	To be monitored as needed.			• Paved areas within the active construction site can be swept on a regular basis to remove larger sediment particles from construction activities. Pavement areas adjacent to the Site will be swept if dirt and debris is tracked from the construction site.			

Stormwater Supervisor Contact Information:

_____

_____

_____

_____

F

Illicit Discharge Compliance Statement

Illicit Discharge Compliance Statement

Name of Owner: **550 King Street, LLC**
Name of Facility: **King Street Commons Mixed-Use Development**
Location: **550 King Street, Littleton, MA 01460**

The Subdivision Plans and Drainage Report for the Proposed Site Development, located at 550 King Street, Littleton, MA, meets the requirements of Standard 10 of the Massachusetts Stormwater Handbook.

The Site Plans were prepared by qualified personnel at the direction of 550 King Street, LLC. The Site Plans identify the location of stormwater management and utility systems. As designed, the systems do not allow for any connections between stormwater management and sanitary sewer utilities.

Signature: _____
(To be signed prior to occupancy)

G

Test Pit Logs

N

TP-35
TP-5
TP-34
TP-12
TP-4
TP-23
TP-24
TP-25
TP-26
TP-3
TP-16
TP-33
TP-17
TP-32
656 Udorthents-Urban land complex
TP-31
TP-30
TP-29
622C Paxton-Urban land complex
TP-2
TP-7
TP-27
TP-28
TP-6
TP-1
TP-13
TP-14
TP-8
TP-20
TP-18
TP-9
310B
Woodbridge
fine sandy
loam
TP-21
626B Merrimac-Urban land complex
TP-19
TP-10
TP-11
TP-22
TP-15

150 0 150 300

SCALE IN FEET

TEC
The Engineering Corp

Test Pit Plan

King Street Commons
550 King Street
Littleton, Massachusetts
November 19th, 2025

282 Merrimack Street, 2nd Floor
Lawrence, MA 01843
978.794.1792
TheEngineeringCorp.com
Create | Design | Innovate

Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 150'+ **Zone II:** 310'+ **Soil Symbol:** 626B **Soil Name:** Merrimac-Urban land Complex **Soil Class:** A

Test Pit: TP-1 **Elevation:** 259.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-48"	Fill	-	-	-	-	-	-	-	-	-	Pipes, bricks, stone curbs, and stones
48-102"	2C	10YR 5/4	-	-	-	Gravely Sand	35	20	SG	Loose	-

Parent Material: Loamy glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** 96" **ESHGW:** -

Additional Notes:

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Lawrence, MA 01843
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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 115'+ **Zone II:** 260'+ **Soil Symbol:** 626B **Soil Name:** Merrimac-Urban land Complex **Soil Class:** A

Test Pit: TP-2 **Elevation:** 257

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-48"	Fill	-	-	-	-	-	-	-	-	-	Gravel, Sand, Stones, and Ash
48-50"	Apb	10YR 2/1	-	-	-	Sandy Loam	5	-	Massive	Friable	-
50-57"	Bw	10YR 3/6	-	-	-	Sandy Loam	10	-	Massive	Friable	-
57-96"	2C	10YR 5/4	-	-	-	Gravely Sand	35	20	SG	Loose	Large Stones

Parent Material: Loamy glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** 93" **ESHGW:** -

Additional Notes:

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 135'+ **Zone II:** 200'+ **Soil Symbol:** 626B **Soil Name:** Merrimac-Urban land Complex **Soil Class:** A

Test Pit: TP-3 **Elevation:** 260.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-8"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
8-108"	Fill 2	10YR 8/4	-	-	-	Sand	10	-	SG	Loose	See add. notes

Parent Material: Loamy glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** Not encountered

Additional Notes: Sand (Fill 2) collaprisng around excavation, with no water observed. Test pit located approximately 50' away from existing leach field.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 190'+ **Zone II:** 180'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-4 **Elevation:** 262

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-42"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
42-102"	Fill 2	10YR 8/4	-	-	-	Sand	5	-	SG	Loose	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** Not encountered

Additional Notes: Sand (Fill 2) collaprisng around excavation, with no water observed. Test pit located approximately 30' away from existing leach field.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Lawrence, MA 01843
978.794.1792
TheEngineeringCorp.com
Create | Design | Innovate

Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 235'+ **Zone II:** 180'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-5 **Elevation:** 262

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-10"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
10-102"	Fill 2	10YR 4/3	-	-	-	Sand	30	10	SG	Loose	Gravel, stones, bricks, and filter fabric

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 72"

Additional Notes: Filter fabric present at 72", with water seeping at all sides of filter fabric "layer". Majority of fill 2 material comprised on sand material. Test Pit Located appoximately 100' from existing leach field.

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 350'+ **Zone II:** 500'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-6 **Elevation:** 267.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-25"	Fill	-	-	-	-	-	-	-	-	-	Topsoil material
25-29"	Apb	10YR 2/1	-	-	-	Loamy Sand	5	-	Massive	Friable	-
29-37"	Bw	10YR 3/6	-	-	-	Loamy Sand	10	5	Massive	Friable	-
37-78"	2C	10YR 5/4	60"	7.5YR 6/8	10	Gravely Sand	40	10	SG	Loose	Very Gravely

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** 70" **ESHGW:** 60"

Additional Notes: Redoximorphic features present at 60"

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 720'+ **Zone II:** 800'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** C/D

Test Pit: TP-7 **Elevation:** 284

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-114"	Fill	-	-	-	-	-	-	-	-	-	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** 112" **ESHGW:** -

Additional Notes: Fill material made up of topsoil, stones, brick, branches, trash, and gravel.

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 1/3/2024 **Wetlands:** 730'+ **Zone II:** 850'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** C/D

Test Pit: TP-8 **Elevation:** 280

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
6-24"	Fill 2	-	-	-	-	-	-	-	-	-	Dense material
24-44"	Apb	10YR 2/1	-	-	-	Loamy Sand	10	-	Massive	Friable	See add. notes
44-52"	Bw	10YR 4/6	-	-	-	Gravely Sand	30	10	SG	Loose	-
52-120"	Cd	10YR 4/4	-	-	-	Gravely Sand	30	40	SG	Loose	-

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** Not encountered

Additional Notes: No signs of redoximorphic features within test pit. Dense layer (Cd) contained large bolders/stones. Apb layer contained a mixture of "natural" A-layer soil with topsoil fill material (similar to Fill 1).

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 1/3/2024 **Wetlands:** 770'+ **Zone II:** 900'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** C/D

Test Pit: TP-9 **Elevation:** 279.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
6-54"	Fill 2	-	-	-	-	-	-	-	-	-	See add. notes
54-102"	Cd	10YR 4/4	58"	10YR 8/3	50	Gravely Sand	50	30	SG	Loose	-

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** 102" **Standing Water:** - **ESHGW:** 58"

Additional Notes: Fill 2 contained large boulders and dense material. Dense, bedrock-like material reached at 102". Large gray depleations observed between 58-64", with the color of the depleations noted above.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 1/3/2024 **Wetlands:** 800'+ **Zone II:** 950'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** C/D

Test Pit: TP-10 **Elevation:** 277

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-8"	Ap	10YR 2/2	-	-	-	Loamy Sand	10	-	Massive	Friable	-
8-30"	Bw	10YR 5/4	-	-	-	Loamy Sand	20	-	Massive	Friable	-
30-84"	C	10YR 6/3	42"	10YR 5/6	5	Sand	30	20	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 42"

Additional Notes: C horizon contained gravel, fine sand, and cobbles/stones. Sand collapsing around bottom of test pit. Thin redoximorpic feature line observed within C horizon.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 1/3/2024 **Wetlands:** 850'+ **Zone II:** 1000'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** C/D

Test Pit: TP-11 **Elevation:** 277

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
6-36"	Fill 2	-	-	-	-	-	-	-	-	-	See add. notes
36-102"	Cd	10YR 6/3	42"	5YR 4/6	10	Gravely Sand	40	30	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** 102" **Standing Water:** - **ESHGW:** 42"

Additional Notes: Fill 2 contained sandy fill with organics present. Cd horizon contained large stones, gravel, and sand. Dense material located across bottom of test pit, with sandy collapsing in at bottom of test pit. Small amounts of trash present within Fill 1 material.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 12/21/2023 **Wetlands:** 910'+ **Zone II:** 930'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** C

Test Pit: TP-12 **Elevation:** 289.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-24"	Fill	-	-	-	-	-	-	-	-	-	Topsoil material
24"-90"	Cd	10YR 5/4	-	-	-	Sandy Loam	50	20	Massive	friable	-

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** 88" **ESHGW:** 46"

Additional Notes: TP-12 approximately 20' off parking lot corner, and 15' from fence line. Water observed seeping from sidewall at 46"

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Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 1/3/2024 **Wetlands:** 950'+ **Zone II:** 1000'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-13 **Elevation:** 289

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-10"	Fill	-	-	-	-	-	-	-	-	-	Topsoil Material
10-90"	Cd	2.5Y 4/2	-	-	-	Gravely Sandy Loam	50	10	Massive	Firm	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** Not encountered

Additional Notes: Side slopes of test pit started to collapse at bottom of excavation. Cd horizon contained dense, gravel filled soil.

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Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 1/3/2024 **Wetlands:** 350'+ **Zone II:** 1000'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-14 **Elevation:** 287.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-14"	Fill 1	-	-	-	-	-	-	-	-	-	Topsoil material
14-36"	Fill 2	-	-	-	-	-	-	-	-	-	See add. notes
36-40"	Apb	10YR 2/2	-	-	-	Loamy Sand	5	-	Massive	Friable	-
40-108"	C	10YR 4/4	44"	5YR 5/8	10	Sand	20	5	SG	Loose	-

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 44"

Additional Notes: Fill 2 contains organic material, trash, old pipes, and stones. Redoximorphic features observed just below the Apb horizon.

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Client: 550 King Street, LLC
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Date: 1/3/2024 **Wetlands:** 300'+ **Zone II:** 1000'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-15 **Elevation:** 282

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-12"	Ap	10YR 2/1	-	-	-	Loamy Sand	5	-	Massive	Friable	-
12-30"	Bw	7.5YR 4/6	-	-	-	Loamy Sand	10	-	Massive	Friable	-
30-84"	C	10YR 4/4	48"	5YR 4/6	5	Gravely Sand	40	10	Massive	Friable	-

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** 82" **ESHGW:** 48"

Additional Notes: Water was observed seeping at approximately 54".

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 4/10/2025 **Wetlands:** 650'+ **Zone II:** 660'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-16 **Elevation:** 273.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	-	-	-	-	-	-	-	-	-	See add. notes
6"-13"	Fill 2	7.5YR 8/1	-	-	-	Sand	-	-	SG	Loose	See add. notes
13"-36"	Fill 3	10YR 6/3	-	-	-	Sand	-	-	-	-	See add. notes
36"-72"	Fill 4	10YR 4/4	-	-	-	Loamy Sand	-	-	Massive	Friable	See add. notes
72"-74"	Fill 5	10YR 2/1	-	-	-	Loamy Sand	-	-	Massive	Friable	See add. notes
74"-102"	C	10YR 3/1	-	-	-	Loamy Sand	-	-	Massive	Friable	-

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** -

Additional Notes: Fill 1 contains asphalt and gravel. Fill 2 contains sandy material. Fill 3 contains sandy material, bricks, and trash. Fill 4 contains gravel and cobbles. Fill 5 contained what appeared to be topsoil material.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 4/10/2025 **Wetlands:** 620'+ **Zone II:** 660'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-17 **Elevation:** 273.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	-	-	-	-	-	-	-	-	-	See add. notes
6"-28"	Fill 2	10YR 4/4	-	-	-	Sand	10	10	SG	Loose	See add. notes
28"-66"	Fill 3	7.5YR 6/1	64"	7.5YR 4/6	5	Loamy Sand	20	10	Massive	Friable	See add. notes
66"-92"	C	10YR 4/1				Sandy Loam	-	-	Massive	Firm	See add. notes
92"-96"	2C	10YR 2/1				Loamy Sand	-	-	Massive	Friable	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 64"

Additional Notes: Fill 1 contained asphalt, and sandy fill material. Fill 2 contained a sand fill material. Fill 3 contained a sand fill material mixed with gravel, cobbles, and silty material. Small pockets of redoximorpic features observed within the lower portion of Fill 3. C layer contianed heavly depleated material. C Layer Material was notably wet but did not have standing water present. 2C Layer was notably darker than the layer present above it, with no standing water observed.

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 730'+ **Zone II:** 900'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** A

Test Pit: TP-18 **Elevation:** 277.45

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
6-44"	Fill 2	10YR 4/4	-	-	-	Gravely Sand	30	10	SG	Loose	See add. notes
44-98"	Cd	10YR 6/4	-	-	-	Gravely Sand	30	40	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** -

Additional Notes: No redoximorphic features observed. Till material with large stones and sand observed in C Horizon. Sand and stones collapsing at bottom of test pit.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 700'+ **Zone II:** 880'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** A

Test Pit: TP-19 **Elevation:** 273.65

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-4"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
4-18"	Fill 2	10YR 5/6	-	-	-	Loamy Sand	10	-	M	Friable	See add. notes
18-23"	Apb	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
23-32"	Bw	7.5YR 5/8	-	-	-	Loamy Sand	10	-	M	Friable	See add. notes
32-56"	C	10YR 5/1	48"	5YR 4/6	10%	Gravely Sand	50	10	SG	Loose	See add. notes
56-108"	2C	10YR 6/4				Gravely Sand	30	40	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 48" (269.65)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contains loamy sand-like material with fines. Till material noted at bottom of test pit. Redoximorphic features noted in a "line" starting at 48". Sand and stones collapsing at bottom of test pit.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 860'+ **Zone II:** 960'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** B

Test Pit: TP-20 **Elevation:** 279.99

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-10"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
10-92"	Cd	10YR 4/6	-	-	-	Sand	20	40	SG	Loose	See add. notes
92-128"	2C	2.5Y 4/4	94"	5YR 5/8	20%	Sandy Loam	10	10	M	Friable	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 94" (272.16)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contains dense sandy material mixed with large stones. 2C horizon was moist with spots of redoximorphic material observed throughout.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 925'+ **Zone II:** 1000'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** B

Test Pit: TP-21 **Elevation:** 281.95

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-24"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
24-60"	Cd	10YR 5/6	-	-	-	Sand	20	30	SG	Loose	See add. notes
60-120"	2C	10YR 5/3	66"	5YR 4/6	5%	Sandy Loam	10	20	M	Friable	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** 120" (271.95) **Standing Water:** - **ESHGW:** 66" (276.45)

Additional Notes: Fill 1 contains topsoil material. Boulder at bottom of test pit, preventing further excavation. Pipe (4" Transite) noted at elevation 277.6 (top of pipe) at the northern side of the pit. Cd horizon contained sand and gravel material. 2C horizon contained mostly sandy loam with small pockets of redoximorphic features present.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 870'+ **Zone II:** 1,000'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** A

Test Pit: TP-22 **Elevation:** 281.3

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-24"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
24-36"	Fill 2	10YR 6/4	-	-	-	Sand	10	20	SG	Loose	See add. notes
36-126"	C	10YR 5/3	66"	5YR 5/8	10%	Sand	20	30	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 66" (275.8)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained fine sand with mixed gravel/stones. C horizon contained sandy material with large stones. Redoximorphic features noted in pockets around 66".

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 940'+/- **Zone II:** 880'+/- **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** A

Test Pit: TP-23 **Elevation:** 290

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-8"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
8-44"	Fill 2	10YR 6/4	44"	5YR 5/8	15%	Loamy Sand	30	10	M	Friable	See add. notes
44-148"	Cd	2.5Y 4/4				Loamy Sand	20	40	M	Friable	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 44" (286.33)

Additional Notes: Concrete duct bank (approximately 4' wide) and sewer line (4" clay) found directly abutting test pit, running from the northern parking lot corner to the western building corner. Fill 1 contains topsoil material. Fill 2 contained loamy sand material with silt present. Redoximorphic features noted between this bottom of this horizon, and throghout the Cd horizon. Cd horizon contained large boulders, stones, and gravel.

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 1,000'+ **Zone II:** 1,000'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** -

Test Pit: TP-24 **Elevation:** 313.8

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-8"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
8-42"	Fill 2	10YR 4/4	-	-	-	Loamy Sand	20	10	M	Friable	See add. notes
42-120"	Fill 3	10YR 6/4	60"	5YR 5/8	5%	Loamy Sand	20	30	M	Friable	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 60" (308.8)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained loamy sand-like material with fines. Redoximorphic features noted in pockets throughout test pit starting at 60". Fill 3 contained loamy sand-like material.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 1,000'+ **Zone II:** 1,000'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** -

Test Pit: TP-25 **Elevation:** 321.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	10YR 2/1	-	-	-	Loamy sand	-	-	M	Friable	See add. notes
6-30"	Fill 2	10YR 4/4	-	-	-	Loamy sand	20	-	M	Friable	See add. notes
30-120"	Fill 3	2.5Y 5/6	72"	5YR 5/8	5%	Sand	20	30	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 72" (315.5)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained loamy sand-like material mixed with trash. Fill 3 contained sandy fill material with small pockets of trash.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 1,000'+ **Zone II:** 1,000'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** A

Test Pit: TP-26 **Elevation:** 318

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-10"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
10-48"	Fill 2	2.5Y 7/4	-	-	-	Sand	20	20	SG	Loose	See add. notes
48-108"	Cd	2.5Y 5/4	-	-	-	Sand	10	40	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** 108" (309.0) **Standing Water:** - **ESHGW:** -

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained sandy fill material. Cd horizon contained dense gravely sand with stones. Test pit hit refusal at 108" due to bolder. Electric and steam line utilities located at roadside edge of test pit (approximately 5' from face of curb).

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 1000'+ **Zone II:** 1000'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** -

Test Pit: TP-27 **Elevation:** 297

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-4"	Fill 1	-	-	-	-	-	-		-	-	See add. notes
4-34"	Fill 2	-	-	-	-	-	80	20	-	-	See add. notes
34-112"	Fill 3	10YR 5/6	-	-	-	Sand	20	20	SG	Loose	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** 112" (287.67) **Standing Water:** - **ESHGW:** -

Additional Notes: Fill 1 is asphalt. Fill 2 is gravel roadbase material. Fill 3 is sandy fill with small cobbles. Large boulder present at 112" causing refusal of additional excavation. No redoximorphic features or standing water observed.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 1,000'+ **Zone II:** 1,000'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** -

Test Pit: TP-28 **Elevation:** 301.2

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
6-120"	Fill 2	10YR 4/4	-	-	-	Loamy Sand	5	5	M	Friable	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** -

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained loamy sand-like material with a small portion of cobbles & stones. No standing water or redoximorphic features observed.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 960'+ **Zone II:** 1,000'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** B

Test Pit: TP-29 **Elevation:** 293.2

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-20"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
20-70"	Fill 2	10YR 6/4	-	-	-	Fine Sand	20	20	SG	Loose	See add. notes
70-124"	C	2.5Y 5/4	82"	7.5YR 5/8	5%	Sandy Loam	20	10	M	Friable	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 82" (286.37)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contains fine sand with gravels and some stones. C horizon was moist, with small pockets of redoximorphic material present.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 700'+ **Zone II:** 750'+ **Soil Symbol:** 310B **Soil Name:** Woodbridge fine sandy loam **Soil Class:** -

Test Pit: TP-30 **Elevation:** 282.36

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-20"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
20-48"	Fill 2	10YR 8/1	-	-	-	-	100	-	-	-	See add. notes
48-72"	Fill 3	7.5YR 2.5/1	-	-	-	Fine Sand	-	-	SG	Loose	See add. notes
72-120"	Fill 4	10YR 6/4	-	-	-	Sand	10	-	SG	Loose	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** -

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained 3/4" drainage stone and fabric. Fill 3 contained fine sand. Fill 4 contained sandy/gravely material. No redoximorphic features or standing water observed.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 930'+ **Zone II:** 950'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** -

Test Pit: TP-31 **Elevation:** 288.6

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-6"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
6-94"	Fill 2	10YR 6/4	54"	5YR 5/8	5%	Loamy Sand	20	10	M	Friable	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 54" (284.1)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contains loamy sand-like material. Test pit could not be continued due to soil collapsing from hillside. Redoximorphic features oberved in pockets.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 830'+ **Zone II:** 850'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** A

Test Pit: TP-32 **Elevation:** 282.81

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-18"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
18-48"	Fill 2	10YR 3/4	-	-	-	Sand	20	10	SG	Loose	See add. notes
48-120"	C	10YR 6/4	84"	5YR 5/8	10%	Loamy Sand	20	10	M	Friable	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 84" (275.81)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contains sandy fill material. Redoximorphic features noted in spots throughout bottoom of pit.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Project: King Street Commons
Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/19/2025 **Wetlands:** 950'+ **Zone II:** 950'+ **Soil Symbol:** 622C **Soil Name:** Paxton-Urban land complex **Soil Class:** -

Test Pit: TP-33 **Elevation:** 292.46

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-20"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	10	10	M	Friable	See add. notes
20-120"	Fill 2	10YR 6/4	-	-	-	Loamy Sand	20	20	M	Friable	See add. notes

Parent Material: Coarse-loamy lodgement till **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** -

Additional Notes: Fill 1 contains topsoil material. Fill 2 contains loamy sand-like material down to the bottom of pit. No redoximorphic features or standing water encountered.

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 860'+ **Zone II:** 770'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** A

Test Pit: TP-34 **Elevation:** 284

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-9"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
9-64"	Fill 2	10YR 6/4	-	-	-	Loamy Sand	10	10	M	Friable	See add. notes
64-74"	Fill 3	5G 5/2	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
74-84"	Apb	10YR 2/1	84"	5Y 5/8	10%	Loamy Sand	-	-	M	Friable	See add. notes
84-120"	C	10YR 6/4				Loamy Sand	20	10	M	Friable	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 84" (277)

Additional Notes: Fill 1 contains topsoil material. Fill 2 contained loamy sand like material. Fill 3 contained a mixture of loamy sand-like material with additional fines. Redoximorphic features noted from border of Apb horizon to throughout C horizon.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752

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Location: 550 King Street, Littleton, MA 01460

Client: 550 King Street, LLC
Address: 290 Merrimack Street, Lawrence, MA 01843

Date: 11/20/2025 **Wetlands:** 360'+ **Zone II:** 280'+ **Soil Symbol:** 656 **Soil Name:** Udorthents-Urban land Complex **Soil Class:** A

Test Pit: TP-35 **Elevation:** 265.5

Depth	Soil Horizon	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Soil Texture	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
0-24"	Fill 1	10YR 2/1	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
24-36"	Fill 2	10YR 4/4	-	-	-	Loamy Sand	-	-	M	Friable	See add. notes
36-96"	Fill 3	7.5YR 2.5/1	60"	10YR 8/1	30%	Sandy Loam	10	30	M	Firm	See add. notes
96-120"	C	10YR 5/6				Sand	20	10	SG	Loose	See add. notes

Parent Material: Loamy alluvium & glaciofluvial deposits **Depth to Bedrock:** - **Standing Water:** - **ESHGW:** 60" (260.5)

Additional Notes: Water observed seeping at approximately 60" Fill 1 contains topsoil material. Fill 2 contained a fine sandy loam-like material. Fill 3 contained fines, waste wood, cobbles, and sandy loam-like material. No standing water observed at bottom of test pit.

Test Pit Performed by: William Burnham, E.I.T. **Soil Evaluator Number:** 14752